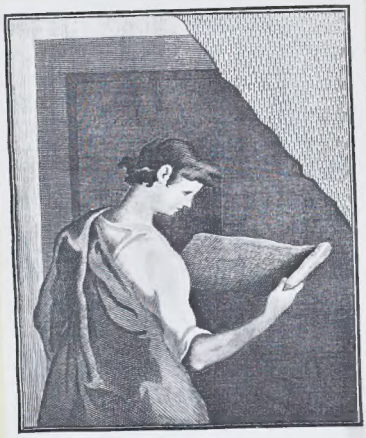
The Builder



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The Builder.

AN

ILLUSTRATED WEEKLY MAGAZINE,

FOR THE

Architect, Engineer, Archæologist, Constructor, & Artist,

CONDUCTED BY

GEORGE GODWIN, F.R.S.

Fellow of the Royal Institute of Architects, and Honorary Member of several Societies.

"Every man's proper mansion-house, and home, being the theater of his hospitality, the seate of selfe-fruition, the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private princedome, nay, to the possessors thereof, an epitome of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned."

"Architecture can want no commendation, where there are noble men, or noble mindes."——SIR HENRY WOTTON.

"Our English word To BUILD is the Anglo-Saxon Byldan, to confirm, to establish, to make firm and sure and fast, to consolidate, to strengthen; and is applicable to all other things as well as to dwelling-places."——DIVERSIONS OF PURLEY.

"Art shows us man as he can by no other means be made known. Art gives us 'nobler loves and nobler cares,'—furnishing objects by the contemplation of which we are taught and exalted,—and so are ultimately led to seek beauty in its highest form, which is GOODNESS."

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BUILDERS' BENEVOLENT INSTITUTION.—SPECIAL and IMPORTANT.—A Plot of Five Acres of Freehold Land, near Slough, Bucks, having been presented by Mr. HENRY DODD, of Coty Wharf, Heaton, for the purpose of Building Almshouses, an extraordinary SPECIAL MEETING of the SUBSCRIBERS is hereby called, to be held at the Freemasons' Tavern, on THURSDAY, 21st JANUARY, 1858, at THREE o'clock P.M. precisely, to receive the Report of the Directors thereon, and to consider the propriety of commencing the building forthwith.

A. G. HARRIS, Sec.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 8, Craig's-court, Charing cross.

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ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.—An EXHIBITION of the COLLECTION for 1857, will be OPENED at the GALLERIES in SUFFOLK-STREET, Pall-mall East, on THURSDAY, JANUARY 7, 1858, at an Evening Conversazione. The chair will be taken at HALF-PAST SEVEN o'clock, by the President, C. R. COCKERELL, esq. R.A. The Exhibition will continue open daily till February 24. Subscribers will be entitled to make their selections from the objects exhibited, for which purpose a card of admission and catalogue will be sent to each.

ROBERT HESKETH, Hon. Sec.

93, Wimpole-street, W.

ARCHITECTURAL EXHIBITION, Suffolk street Galleries, Pall mall East, will OPEN to the Public on TUESDAY, JANUARY 5th. Admission, One Shilling. It includes the chief competitions of the year, an interesting collection of building materials, patents and inventions, and (for the first time) the Exhibition of the Architectural Photographic Association.

Lectures as advertised will take place on the TUESDAYS, as before. Subscriptions may be paid, and season tickets (admitting at all times, half a crown each) may be obtained at the Galleries.

JAS FERGUSSON, F.R.A.S. } Hon Secs.
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THE METROPOLITAN BUILDING ACT, 1855, Sec. 33.

THE INSTITUTE of BRITISH ARCHITECTS hereby give notice, that an EXAMINATION of PERSONS desirous of OBTAINING a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the ROOMS of the INSTITUTE, No. 16, Grosvenor-street, Grosvenor-square, on TUESDAY, the 26th day of JANUARY, at TWELVE o'clock at NOON. Persons desirous to be examined, must, on or before FRIDAY, the 15th day of JANUARY, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

January 1, 1858. C. C. NELSON, } Hon. Secs.
M. D. WYATT, }

THE FREE EXHIBITION of ARCHITECTURAL, MECHANICAL, and ORNAMENTAL DRAWINGS, executed by the Students in the Drawing-class at the LONDON MECHANICS INSTITUTION, Holborn, will be open in the large READING ROOM, on Wednesday, Thursday, Friday, and Saturday, the 6th, 7th, 8th, and 9th of January, from Ten till Ten each day. Those students who have not sent their drawings are requested to do so before the 6th, to Mr. T. J. Hill. W. S. SIMMONDS, Hon. Sec.

CONTRACTS.

THE GREAT NORTHERN RAILWAY COMPANY.—CONTRACT FOR SLEEPERS.—The Directors are prepared to receive TENDERS for the SUPPLY of FORTY THOUSAND RECTANGULAR SLEEPERS, at Boston. Parties disposed to Tender may obtain the specification and forms of Tender (on which forms only Tenders will be received), at this Office, on and after THURSDAY, the 31st DECEMBER instant. Tenders, sealed up, and marked "Tender for Sleepers," must be lodged at this Office before TWELVE o'clock at noon on TUESDAY, the 12th JANUARY, 1858, when parties tendering must be in attendance.

N.B.—The Directors do not bind themselves to accept the lowest, or any Tender.—By Order,

J. E. MOWATT, Secretary.

Secretary's Office, King's-cross Station, London, 29th Dec. 1857.

TO CONTRACTORS.—THE DIRECTORS of the NEWPORT (Mon.) GAS COMPANY are prepared to receive TENDERS for the CONSTRUCTION of a BRICK GAS-HOLDER TANK, 92 feet in diameter, 22 feet 3 inches deep. The drawings and specification may be inspected, and further information obtained on application to the Company's Engineer, at the Works. Sealed Tenders indorsed "Tender for Tank," to be sent in on or before the 9th day of FEBRUARY, 1858, addressed to the Directors of the Newport Gas Company, Newport, Monmouthshire. The Directors do not bind themselves to accept the lowest or any Tender.—By order,

JOSEPH BRYAN, Engineer.

Newport (Mon.), 22nd Dec. 1857.

CONSERVATIVE LAND SOCIETY.—

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Viscount Ranelagh
Right Hon. R. A. C. N. Hamilton.
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TO ROAD CONTRACTORS, &c.—The Executive Committee are prepared to receive TENDERS for CONSTRUCTING the ROADS, &c. on the Battersea Estate, Surrey. The drawings and specification may be seen at the Offices of the Surveyor, Mr. GEORGE MORGAN, 32, Norfolk-street, Strand, on and after MONDAY, the 4th of JANUARY, between the hours of ELEVEN and TWO. Tenders are to be delivered on or before TWELVE o'clock on SATURDAY, JANUARY 16th, to the Surveyor, at his Offices, and endorsed "Tenders for Roads, &c. Battersea Estate." The Executive Committee do not bind themselves to accept the lowest or any Tender

CHARLES LEWIS GRUNEISEN,
33, Norfolk street, Strand, London.

LOCAL BOARD of HEALTH, KINGSTON-UPON-HULL.—To PAVIORS, MASONS, and CONTRACTORS. The Works Committee of the above Board are prepared to receive TENDERS for the execution of Works for the MAINTENANCE and REPAIRS of the PUBLIC HIGHWAYS throughout the Borough for the ensuing year. For the purposes of this contract, the borough will be divided into three districts, viz

1. The parishes of Holy Trinity and St. Mary.
2. The parishes of Sculcoates
3. The parishes of Sutton within the Borough, Southcoates, and Drypool, and the Extra-parochial Districts, situated to the east of the River Hull

But the Dock Company's Streets are portions of Turnpike-roads repaired by other persons are not included The Works may be divided into two classes:—

1. Repairs to Roadways, and
2. Repairs to Footways.

Parties desirous of contracting may offer for either one or both of these services in any one or more of the above named districts. Provided that all works of the same class in such district be included therein. Specifications may be seen, and every information obtained, at the Offices of the undersigned, between the hours of TEN and FOUR daily. Tenders to be sent in, duly sealed, and to "Tender for Repairs," and addressed "To the Chairman of the Works Committee," on or before NOON of the 12th JANUARY, 1858. The lowest or any Tender will not necessarily be accepted By order,

C. S. NEWMAN, C.E. Surveyor to the Local Board.

Sculcoates-hall, Hull, 23rd December, 1857.

SEWERAGE WORKS.—BOROUGH of CHELTENHAM.—The Cheltenham Improvement Commissioners desire to receive TENDERS for the EXECUTION of certain SEWERAGE WORKS within their Borough. The Contract will comprise the formation and completion, both in labour and materials, of about 14 miles of Brick Sewers of from 18 inches to 3 feet 3 inches in diameter; and of about 1¼ mile of Pipe Sewers, both labour and materials, from 9 inches to 15 inches in diameter; and for the Maintenance of the said Works in Repair and good working condition for twelve months after completion. A printed form of specification, conditions of Contract, and form of Tender may be had, on payment of 5s. of Mr HENRY DANGERFIELD, the Borough Surveyor, and the plans and sections of the several works may be inspected at the Public Offices, Cheltenham, on and after THURSDAY, the 31st day of DECEMBER instant. The Tenders are to be sent in on or before THURSDAY, the 21st day of JANUARY, 1858, in sealed envelopes, endorsed "Tender for Sewerage Works," and addressed to "The Sewage and Drainage Committee," Public Offices, Cheltenham. Securities will be required for the due performance of the works; and the Commissioners do not bind themselves to accept the lowest Tender.

GEORGE EDMUNDS WILLIAMS, Clerk to the Commissioners.

Public Offices, Cheltenham, December 24, 1857.

TO ROAD CONTRACTORS.—TENDERS are required on or before TUESDAY, 12th JANUARY, at noon, for the FORMATION of new ROADS, on the Moore Park Estate, Fulham. Section of the levels and specification of the materials to be used, may be seen at the Offices of Messrs. WALES and SPARKS, 8, Great St. Helen's, E.C.

CONTRACTS.

ROYAL ENGINEER CONTRACT.—The War Department being about to enter into a CONTRACT for RENEWING the CENTRE ROOF, CEILINGS, and part of the WINDOWS; and also for Repairing, Whitewashing, Colouring, and Painting, the Military Chapel at the Royal Artillery Barracks, Woolwich; Persons desirous of Tendering for the work may inspect the plans and specification, and receive forms of TENDER, &c. on application to Mr. C. REES, Clerk of Works, at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, between the hours of TEN and FOUR daily, up to the 11th JANUARY, 1858, after which no Tender will be issued. The Tenders to be delivered prepaid, at the Office of the Director of Contracts, War Office, Pall Mall, London, on the 12th of JANUARY, 1858, at NOON. The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, December, 1857.

ROYAL ENGINEER CONTRACT.—The War Department being about to enter into a CONTRACT for the immediate EXECUTION of putting on ONE-INCH BOARDING of FIR, with a COVERING of ASPHALTED FELT, to the Roofs of thirty Hut Stables on Woolwich Common, Persons desirous of Tendering for the work, may inspect the drawing, buildings, and specification, and receive forms of Tender, &c. on application to Mr. CLARKE, Clerk of Works, at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, between the hours of TEN and FOUR daily, up to the 11th JANUARY, 1858, after which no Tender will be issued. The Tenders to be delivered, prepaid, at the office of the Director of Contracts, War Office, Pall mall, London, on the 12th of JANUARY, 1858, at NOON. The War Department reserve the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, 31st Dec. 1857.

WEST HAM LOCAL BOARD of HEALTH SEWERAGE, 1857.—CONTRACT No. 1.—To BRICK MAKERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of West Ham, in the County of Essex, hereby give Notice that they are prepared to receive TENDERS from parties willing to undertake the following named CONTRACT, or any portion of such CONTRACT.

Contract No. 1.—For the SUPPLY of about TEN MILLIONS of BRICKS.

The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained on or after MONDAY, the 21st day of DECEMBER, 1857, on a payment of 1*l.* sterling, on application at the office of WILLIAM JAMES BARSHAM, Solicitor and Clerk to the Local Board, Stratford-green, E.; or at the Office of the Engineer, No. 34, Parliament-street, Westminster, where any further information relative to the proposed Contract may also be obtained. Sealed Tenders, to be delivered at the Clerk's Office, Stratford-green, aforesaid, on or before THURSDAY, the 7th day of JANUARY, 1858, endorsed "Tender for Bricks, Contract No 1"—and

W. J BARSHAM, Clerk to the Local Board.

Stratford-green, 15th December, 1857.

TO BUILDERS.—Persons desirous of CONTRACTING for the ALTERATION and RESTORATION of the GRAMMAR-SCHOOL and MASTER'S HOUSE, at Guilsborough, in the county of Northampton, may see the plans and specifications, and obtain a bill of the quantities, at the Office of Mr. E. F. LAW, Architect, Northampton. TENDERS to be delivered to the Architect on or before FRIDAY, the 15th day of JANUARY next

N.B.—The Trustees do not bind themselves to accept the lowest or any Tender.

Northampton, December 24th, 1857. E. F. LAW, Architect.

TO BUILDERS.—EXTENSION of TIME. Parties willing to TENDER for the BUILDING of the first of two new WESLEYAN CHURCHES, about to be erected in Liverpool, may now see the drawings and specifications in the Upper Vestry of Bethesda Chapel Seaforth-road, addressed to the Committee, to be delivered at the Offices of Mr. E. HEALEY, 16, Berry-street, Liverpool, on or before the 7th day of JANUARY instant. Neither the lowest nor any Tender will necessarily be accepted. The quantities can be obtained on payment of 10s

JAMES WILSON, F.S.A. Architect, Bath.
GEORGE CURNOCK, }
ELKANAH HEALEY, } Hon. Secs to the Committee.

TO BRICKMAKERS, SCAVENGERS, and OTHERS.—The Crown Estate Paving Commissioners do hereby give Notice, that they are ready to receive TENDERS from parties willing to CONTRACT for the REMOVAL, during the year 1858, of DUST, DIRT, CINDERS, and ASHES, from the Public buildings, and premises under their jurisdiction in that respect.—Forms of Tender and further particulars may be obtained on application to me here, where Tenders, according to such forms, sealed, addressed to the Crown Estate Paving Commissioners, and endorsed "Tenders for Dust," are to be left at or before THREE o'clock on WEDNESDAY, the 6th day of JANUARY, 1858.

FRANCIS ADAMS, Clerk to the Commissioners

1, Whitehall-place, December 24, 1857.

EGHAM CEMETERY.—To BUILDERS and CONTRACTORS.—Notice is hereby given, that the BURIAL BOARD of the PARISH of EGHAM, in the county of Surrey, are willing to receive PLANS, SPECIFICATIONS, and CONTRACTS, for ENCLOSING the intended CEMETERY of FOUR ACRES, which is to be formed by the Chertsey and Egham Road on or before the 14th day of JANUARY, 1858, of which full particulars may be obtained.—The Board do not pledge themselves to accept the lowest or any Tender

Egham, December 29, 1857.

TORQUAY WATERWORKS.—The Local Board of Health are desirous to receive TENDERS for the SUPPLY of about 800 TONS of CAST-IRON PIPES, &c. of various sizes and weights: also for SLUICE COCKS. Specifications are deposited for inspection at the Town-Hall, Torquay, Devon, and at the Offices of Messrs EASTON and AMOS, Grove, Southwark, London. Sealed Tenders, addressed to the undersigned, to be delivered at the Town Hall, Torquay, on or before FRIDAY, the 8th day of JANUARY next, by NINE o'clock, a.m. The Board do not bind themselves to accept the lowest or any Tender

GEORGE HEARDER, Clerk to the Local Board.

Torquay, Devon, December 21st, 1857.

[For remainder of Contracts see next page.

CONTRACTS.

BUILDERS willing to CONTRACT for the carrying out the remaining WORKS to TEN SMALL HOUSES in Kentish Town, may see the specification on and after MONDAY, 4th instant, at Stringfield Blyth's office, Banger wharf, Camden-town. Tenders to be delivered by the 11th.

PELICAN LIFE INSURANCE COMPANY, established in 1797.
70, Lombard-street, City, and 57, Charing-cross, Westminster.
DIRECTORS.

Robert Gurney Barclay, esq. — Henry Grace, esq.
William Cotton, D.C.L. F.R.S. — Kirkman D. Hodgson, esq. M.P.
Octavius Edward Coope, esq. — Henry Lancelot Holland, esq.
John Davis, esq. — Benjamin Shaw, esq.
William Walter Fuller, esq. — Matthew Whiting, esq.
Jas. A. Gordon, M.D. F.R.S. — M. Wyvill, jun. esq. M.P.

This Company offers

COMPLETE SECURITY. Moderate Rates of Premium with participation in four-fifths or eighty per cent. of the profits. Low Rates without participation in profits.

LOANS in connection with Life Assurance, on approved security, in sums of not less than 500l.

ANNUAL PREMIUM required for the Assurance of 100l. for the whole term of life.

Age.	Without Profits.	With Profits.	Age.	Without Profits.	With Profits.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
15	1 11 0	1 15 0	40	2 18 10	3 6 5
20	1 13 10	1 19 3	50	4 0 9	4 10 7
30	2 4 0	2 10 4	60	6 1 0	6 7 4

ROBERT TUCKER, Secretary.

THE LONDON WARMING and VENTILATING COMPANY, Limited (Offices, 30, Great George-street, Westminster.—Manager, WM. WOODCOCK), undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament. Economy and effectiveness are the advantages offered. Particulars and Testimonials forwarded on application.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH, OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY
May be secured by an Annual Payment of 3l. for a Policy in the
RAILWAY PASSENGERS ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 27,988l.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London, E.C.

MUTUAL LIFE ASSURANCE.
THE WHOLE PROFITS DIVIDED AMONGST THE ASSURED.
THE SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.
INSTITUTED 1831.
Incorporated by special Act of Parliament.

The Fund accumulated from the Contributions of Members exceeds ONE MILLION STERLING.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVENTY SIX THOUSAND POUNDS.

The Amount of Existing Assurances exceeds FOUR MILLIONS and THREE QUARTERS.

The Amount paid to the Representatives of Deceased Members is upwards of Nine Hundred Thousand Pounds, of which One Hundred and Twenty Thousand Pounds consisted of Bonus Additions.

A Division of Profits is made every Three Years, the next Division being at 1st March, 1859.

Head Office:—26, ST. ANDREW-SQUARE, EDINBURGH.
ROBERT CHRISTIE, Manager.
WILLIAM FINLAY, Secretary.
LONDON OFFICE—26, POULTRY, E.C.
ARCHD. T. RITCHIE, Agent.
WESTERN LONDON OFFICE.
6A, James's-street, Westbourne-terrace, W.
CHARLES B. LEVER, Solicitor, Agent.

NORWICH UNION LIFE INSURANCE SOCIETY. Instituted 1808.—Invested capital exceeding 2,000,000l. sterling.

This Society is one of the very few purely Mutual Insurance Offices, the whole of the Profits being divided among the Policy-holders.

The rates are considerably below those usually charged. Thus, at the age of forty the sum of 32l. 1s. 3d., which at the ordinary rate ... will insure 1,000l. with the NORWICH UNION WILL insure 1,0... giving an immediate bonus in addition to subsequent accumulations.

Annuities and Special Risks undertaken on favourable terms.

For Forms of Proposal and Prospectuses apply at the Society's Offices, 6, Crescent, New Bridge-street, Blackfriars, E.C. and Surrey-street, Norwich.

CREOSOTE, NAPHTHA, and PITCH.—Buyers can be supplied with articles in quantities.—For terms, apply to G. ARMITAGE and SON, Tar and Ammonia Works, Saltley, near Birmingham.

SEE DENNETT'S NEW PATENT for the Invention of COMPOUND ARCHES, in which there is a saving of fully 25 per cent. on any plan of construction now in use for FLOORS and CEILINGS of COTTAGES.

This is also the cheapest FIREPROOF construction for warehouses, mills, and factories, superseding the use of the heavy brick arch; and the best and cheapest construction for preventing the communication of SOUND between floors and ceilings.

For particulars, apply to C. G. and A. DENNETT, Nottingham.

N.B.—Estimates given for construction in any part of the country.

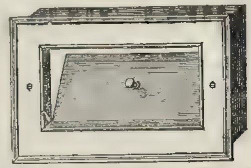
TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.—H. PIGGOTT, 115, Fore-street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, Ludgate-hill, Manufacturer, supplies Cocoa-nut Fibre Matting, Door-mats, Hassocks, &c. of the best quality, on the lowest possible terms.—Warehouse, 42, Ludgate-hill, E.C.

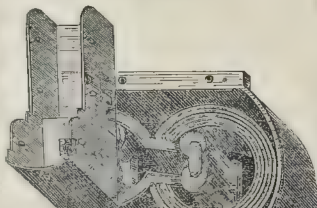
TO ENGINEERS, SHIPBUILDERS, and OTHERS interested in Sheet-iron Structures.—BERTRAM'S PATENT WELDING PROCESS.—This simple and efficient process for uniting wrought-iron plates in the construction of boilers, ... tanks, ... girders, ... the ... of rivetting ... strength ... and free from leakage. This ... which has been constructed under his immediate direction, and may be seen at the Works of the ... Company. Engineers and Shipbuilders ... Licenses ... of works ... may be obtained at the Office, 12, Buckingham-street, Adelphi, W.C., where ... of the welding may be seen. The welding furnaces will be supplied by the Patentee's Agent.

THOMAS PUGH and CO. WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, CITY, LONDON, INVITE ATTENTION TO THEIR
NEW PATENT ECONOMIC SELF-ADJUSTING MORTICE AND RIM LOCK FURNITURE.
Also, to
GREEN AND JACKSON'S
NEW PATENT MORTISING, TENONING, BORING, AND DRILLING MACHINE,
Which may be seen and tried at 13, KING-STREET, SNOW HILL.—Illustrations and particulars of both sent upon application.

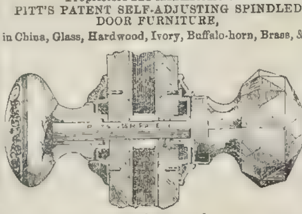
HART AND SON,
53 to 58, WYCH STREET, Strand, London, W.C.
IRONMONGERS AND MANUFACTURERS
OF ARNOTT'S, SHERINGHAM'S, AND OTHER VENTILATORS.



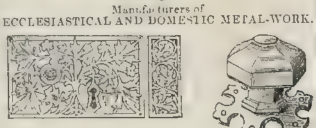
WARRANTED SPRING CENTERS FOR SWING DOORS.

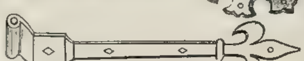


Proprietors and Manufacturers of
PITT'S PATENT SELF-ADJUSTING SPINDLED DOOR FURNITURE,
in China, Glass, Hardwood, Ivory, Buffalo-horn, Brass, &c.



Manufacturers of
ECCLESIASTICAL AND DOMESTIC METAL-WORK.



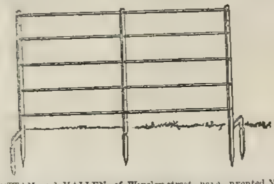


Specimens at the Architectural Exhibition, Suffolk-street, Pall-mall.

DESIGNS AND ESTIMATES FURNISHED.
Illustrated catalogues free on application.

COLLINGE'S PATENT HINGES.—Manufacturers, CHARLES COLLINGE and CO. 64 and 65, Bridge-road, Lambeth, where a great variety are always on view for church, park, railroad, coachhouse, and other gates and doors of large and small dimensions, a ton weight moving with these hinges as easily as a wicket. Ornamental hinges, adapted for drawing rooms, &c., doors fitted with them may be removed and replaced in an instant. Rising and double-acting spring hinges, and superior gate fastenings, at moderate prices. None genuine unless marked "Charles Collinge, Patent, Lambeth." Plain and ornamental cast and wrought iron work, for building and other purposes. Engines, machinery, patent axle-trees, sugar-mills, &c.

IRON HURDLES, FENCING, &c. made by MACHINERY.



COTTAM and HALLEN, of Winsley-street, have invented Machinery for making Hurdles, &c. The bars, instead of being pointed by hand in the old fashioned style, are nippled down by the machine, leaving a shoulder, so as to more effectually tighten the standards when riveted. They are made of superior iron only, and will compete in price with those made by hand from cinder or common iron, which so frequently break. Iron fencing gates and ironwork of all kinds, both plain and ornamental, conservatories, hot water apparatus, and garden implements.—Illustrated Catalogues free on application to COTTAM and HALLEN, Ironfounders, 2, Winsley-street, Oxford-street, W.

IRON FOUNDRY, Harrow-street, Lant-street, Southwark, S.E.—W. R. BARTLETT, Manufacturer of Girders, Columns, Cantilevers, Railing, Baluster and Newel Bars, Iron Coping, Panels, Tomb Enclosures, Area Gratings, &c. Also Fly and other Wheels, Riggers, Engine and Machinery Castings; Forge Backs, Furnace Bars, Kilns, Pans, Pipes, Tank Plates, Soap Frames, and other Castings, to patterns or drawings.

PATENT WROUGHT-IRON WINDOWS. Manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited). HENRY RODGERS, Manager. Lyon's Wharf, and 43, Upper Thames street, London. These Windows combine the advantages of great strength with lightness and cheapness; they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and lunatic asylums, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE.—This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials, of the highest possible character, are gladly given by the parties who have them in operation.—Price, No. 1, 2l. 3s.; No. 2, 3l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with unqualified approval. These articles may be had of all Ironmongers, and of the General Iron Foundry Company (Limited), 43, Upper Thames street, Makers of Gas and Water Pipes, Hot water Pipes and Connections, Chemical and Soap Pans, Furnace-bars, and all other kinds of Castings for manufacturing and building purposes.

FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of Fenders, Stoves, Ranges, Fire-irons, and General Ironmongery as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright stoves, with bronzed ornaments and two sets of bars, 4l. 14s. to 13l. 13s.; ditto, with ormolu ornaments and two sets of bars, 5l. 5s. to 33l. 10s.; bronzed fenders, with standards, 7s. to 5l. 12s.; steel fenders, 2l. 15s. to 11l.; ditto, with rich ormolu ornaments, 2l. 15s. to 18l.; fire-irons, from 1s. 9d. the set to 4l. 4s.

The BURTON and all other PATENT STOVES, with radiating hearth plates.

GASELIERS in GLASS or METAL.—The increased and increasing use of gas in private houses has induced WILLIAM S. BURTON to collect from the various manufacturers in metal and glass all that is new and choice in Brackets, Pendants, and Chandeliers, adapted to offices, passages, and dwelling-rooms, as well as to have some designed expressly for him; these are ON SHOW over his SIXTEEN LARGE ROOMS, and present, for novelty, variety, and purity of taste, an unequalled assortment. They are marked in plain figures, at prices proportionate with those which have tended to make his Establishment the largest and most remarkable in the kingdom, viz. from 12s. 6d. (two light) to 16l. 16s.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Stoves, Fenders, Marble Mantelpieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c. &c. with Lists of Prices and Plans of the Sixteen large Show Rooms at 39, Oxford-street; 1, 1a, 2, and 3, Newman-street; and 4, 5, and 6, Perry's-place, London.—Established 1820.

PEALS of CAST-STEEL BELLS. Messrs. NAYLOR, VICKERS, and CO.'S PATENT CAST STEEL BELLS, for churches, schools, factories, &c. from 30 lbs. to 6,000 lbs. in weight; and also in peals, as at foot, may be obtained of their

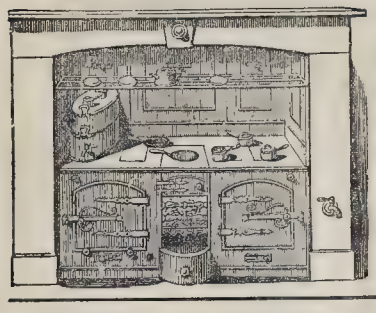
SOLE AGENTS,
MESSRS. WHITE and BATES,
OOZELLS STREET, BIRMINGHAM.

Specimens can be seen on application. They are only one-third the price of bronze ones, hitherto used, and are superior in the purity and melody of their tone, and in their non-liability to break.

PEALS OF FOUR.		FOUR.	FOUR BELLS.
Weight about	2,000 lbs.	3,000 lbs.	5,... lbs.
The Tenor	32 in.	42 in.	52 in. diameter
Price about	85l.	120l.	247l.

PEALS of SIX		SIX.	EIGHT.	TEN BELLS.
Weight about	5,700 lbs.	7,000 lbs.	7,400 lbs.	11,800 lbs.
The Tenor	42 in.	52 in.	52 in.	64 in. diameter.
Price about	155l.	290l.	310l.	490l.

BENHAM AND SONS, WIGMORE-STREET, LONDON,



Having completed the Alterations and Enlargement of their Premises, invite attention to their extensive Suite of Show-rooms.

STOVES, FENDERS, & FIRE-IRONS

THE LARGEST AND BEST SELECTION IN LONDON.

KITCHEN RANGES and COOKING APPARATUS, Gas Fittings, Baths, &c. for Large or Small Establishments.

CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS, and BEDDING, and every Description of General Furnishing Ironmongery.

FLAVEL'S PRIZE KITCHENER,

The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition of 1851.

Flavel's Prize Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

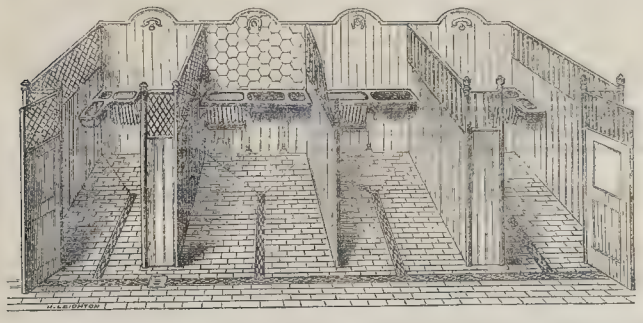
BENHAM and SONS, Wigmore-street, Cavendish-square, London;
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

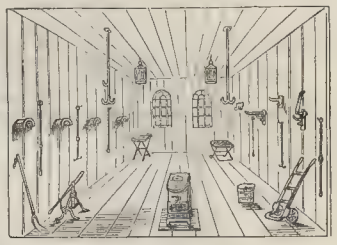
COTTAM AND HALLEN, 2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

PATENTEES AND ORIGINAL INVENTORS OF

THE IMPROVED SYSTEM OF FITTING UP STABLES.

PATRONISED BY THE ENGLISH AND FRENCH GOVERNMENTS, AS WELL AS BY THE PRINCIPAL NOBILITY, GENTRY, AND HUNTING ESTABLISHMENTS IN THE KINGDOM.





SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top Plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the mangers and troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the fittings, and by means of the Patent Portable Seed-Box, are some of the peculiar recommendations of Cottam's Patent Composited, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

COTTAM'S PATENT COMBINED SADDLE and HARNESS BRACKETS; IMPROVED SURFACE GUTTER, WITH MOVEABLE SAFETY COVERS; Sanitary Traps, Cheap and Durable Corn-Bins, and every article requisite for the Stable and Harness-Room.

IRON GATES, FENCING, and HURDLES MADE by MACHINERY.

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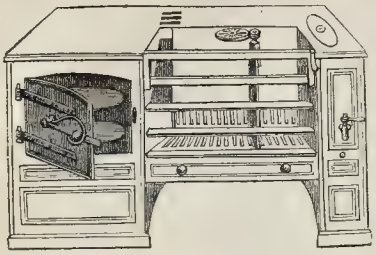

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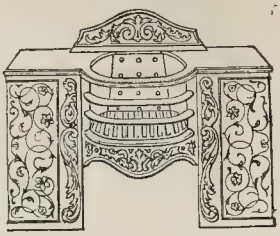

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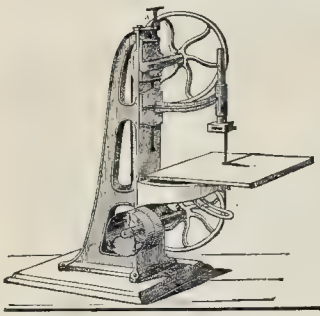

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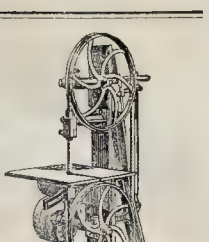

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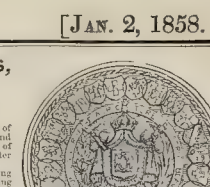

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FAIRLY looked at, it must be admitted that Architecture is making a considerable advance in England. The great question is, how will that progress be best assisted: must we go back in order to advance, or shall we proceed from where we now are? The battle of the styles has long raged violently in our pages, and has now become so general a question out of doors as even to be made the subject of the Latin Epilogue of the last Westminster Plays.* To aid in arriving at a right decision the *Builder* has long striven. We have a love and reverence for the glorious works left us by our Mediæval forefathers: these have been our study and delight through life; and, personally, we might humbly claim to be considered as amongst those who have applied the principles of their architecture in new works, sought to adapt its forms to modern requirements, and rendered widely known the best efforts of others in the same direction. With all this love, however, for the architecture of the Middle Ages, with true reverence for the genius and free working of mind shown in it; finding, as we do, delight in the application of it, and aware that, through circumstances and early journeyings, our knowledge and command of other styles may be even less than of this, we cannot bring ourselves to the conviction that it is the architecture for the nineteenth century, or that the only chance of improving the ordinary buildings of the day, and creating a new and fitting style, is to go back to it in every thing. We have got past it in many respects: we quarry large stones, we manufacture vast sheets of glass, we seek to give the greatest amount of comfort and accommodation to the greatest numbers at the smallest possible expenditure. Moreover, we have an architecture more universally practised, and into which modern appliances and inventions have more largely entered than is the case with Gothic architecture, and it would be contrary to analogy, and in opposition to experience, to expect that this should be altogether put aside, and the forms of Gothic architecture adopted in all things as a starting-point. Depend upon it, we must "accept the situation," and that which *is* must be taken as the foundation of that which is to be: on this, purified and improved, we must engraft and incorporate.

Mr. Scott, in his work on "Secular and Domestic Architecture," to which we referred on its appearance, maintains that a thoroughly erroneous impression exists as to the principles on which the revival of Pointed architecture is founded and carried on:—

"That it is an antiquarian movement, and seeks to revive all that is ancient, instead of being, as is really the case, pre-eminently free, comprehensive, and practical; ready to adapt itself to every change in the habits of society, to embrace every new material or system of construction, and to adopt implicitly and naturally, and with hearty good-will, every invention or improvement, whether artistic, constructional, or directed to the increase of comfort and convenience."

These are, certainly, the principles on which the revival should be carried on, and would, doubtless, result in a style adapted to, and representing the age, but which, we are disposed to think, would not have very much in common with fourteenth-century Gothic. Mr. Scott would employ round arches, or pointed arches, or no arches; would have mullions in his windows, or no mullions; casements or sashes; diamond glazing, or "plate-glass, as undivided as possible;" a high roof or a low roof; and, in fact, if the argument be looked at very rigorously, only fights for those principles which ought to belong to every sound, honest, and mindful system of architecture.

But, it will be asked, are these the principles on which the revival *has* been conducted? And the answer must be in the negative. Precedent, and precedent alone, has governed: the most slavish adherence to prescribed forms has been insisted on, and any architect who ventured on a departure from these, who dared to try the effect of a new combination, or sought to display a spark of invention, was hounded down in the most virulent and contemptuous manner. "Once master the principles of the style," says Mr. Scott, "and work *as freemen*, divesting yourselves of all feeling of being fettered by precedent, and there is no limit to the noble things which may be produced." No limit: and this we have urged for years, suggesting that architects should think more of art and less of style, and begging for protection of those who were anxious to be inventive rather than *correct*.

Looking through Mr. Scott's book, we fall again on his observations on plaster, and are reminded that the author considers we have brought upon him a number of undeserved raps, by stating in our first notice of his book, without explanation, that he had pronounced plaster an "accursed thing." It is only fair, therefore, that we should give the context, though the fact will remain the same. The writer begins the passage by saying, it is a natural reaction, that when a material has been much misused and made the great vehicle for deception, it should be treated as an *immedicabile vulnus*, and proscribed altogether, and goes on:—

"This has been, in some degree, the case with plaster. No material has either so sinned, or been so sinned against. It is the grand vehicle for the abominable and contemptible shamming which has degraded the architecture of our age, and it is natural that we should cast it off as an *accursed thing*. As, however, we are compelled to admit it for encrusting plain internal walls and for plain ceilings, it may be well that we should take the pains to define its proper use as distinguished from its misuse, rather than condemn the innocent with the guilty."

And the author then proceeds to investigate what is the use and what the abuse of the material. There, nevertheless, is the epithet; whether rightly or wrongly applied we did not wait to inquire. This, however, we will say in deprecation of any *personal* abuse of the author for his sentiments, that so far as we have seen, he has carefully avoided expressions which could cause pain to, or in any way injure, any person. He has spoken boldly and unflinchingly against systems, but has hardly named or indirectly alluded to an individual but with praise. We will further add in this place, that the book deserves to be extensively read, and, as urging architects to work like *free* men, cannot fail to be productive of a large amount of advantage.

None will dissent from his condemnation of the ordinary house-building of the day.

"Look," says he, "at the vernacular cottage-building of the day,—not the ornate specimens which are seen near the park-gates of our nobility, nor those admirable attempts which are now happily becoming frequent, to raise the habitation of the labourer both in comfort and character,—but the spontaneous productions of our builders, where no external influence is brought to bear upon them. Can anything be more execrable? Can anything be more utterly at variance with what one would think should be the character of a country village, or more deadening to all the natural feelings of the labourer for his home?

Look, again, at the rows of miserable houses in the suburbs of our country towns, and at the wretched creations of speculating builders in the neighbourhood of London: are they not vile beyond description? Look at the houses which grow up like mushrooms round the Crystal Palace, and which appear wherever a needy landowner begins to let out his ground on building leases: are they not perfect plague-spots on the landscape, instead of heightening its beauties, as they ought to do? And yet these display the vernacular style of house-building more truthfully than the forced productions of persons of more ambitious notions, and are, for the most part, much the same things denuded of a few ornaments, by which their natural ugliness is in a measure disguised."

This, indeed, is but a repetition of our oft-repeated lamentation on the subject; but the condition of things referred to has little to do with style. These frail tenements are the result of the endeavour to produce the greatest amount of house accommodation with the least possible expenditure. Architects have seldom anything to do with these structures, and when they have are forced to comply with certain conditions which often prevent much departure

* This will be found in an English dress on another page.

from ordinary routine. No one, however, who has looked at recent erections in London, who has examined Leeds and Nottingham, who knows the warehouses, and some of the villas in the neighbourhood of Manchester, or the new buildings, to curtail the list, rising in Liverpool, can affirm that in these special cases, at any rate, our architecture altogether fails to reflect the condition, character, and intellect of the people, or wholly lacks the attributes of living art. We might, indeed, also instance the evidence which every year our own pages afford, of the growth and prevalence of an order of taste, neither belonging to the developement of Mediævalism, nor slavishly adhering to any form of precedent, though indebted to many sources. Bad architecture, both under the name "Italian," and the designation "Gothic," is still to be found in abundance, in town or country; but as we have just now and on many occasions had to remark, the works are not generally those of architects, or at least not fairly to be taken as exemplifying the opinions and capabilities of our body. The buildings we have alluded to, may find no favour with those who—in the face of all reason and experience—teach that there can be no advancement, except by first going back for a basis; but they may cheer and animate others who believe that the true basis is ever the actual and the present—the foundation which it is not possible to get rid of, however rightly we enrich the structure raised upon it, by new resources, the additions and corrections of the advancing time, or rediscovered past. But, it would be hard to argue with opponents who ever shift their ground—disputing in words, though day by day their better sense prevails, and they become less and less Mediæval, and more and more in real accordance with us by their acts. We claim, from them especially, a just appreciation of what is doing to consummate a national and nineteenth century phase of architecture, in buildings in no sense "Mediæval" or "Gothic," in school or style.

We instance the works we have mentioned, as showing that without departing violently from the *style* of the day,—without calling upon the observer to suppose himself not in England, or living in any other period than this nineteenth century,—yet, on the one hand, without neglecting any lesson, or passing by any beautiful form wheresoever found, as, on the other hand, without running counter to accustomed tastes, and presenting *mere* novelty,—the true architect in our day may leave some works which will reflect honour on himself, and on his age and country. The Manchester warehouses, for example, are neither Mediæval, Gothic, nor rightly to be styled "Italian,"—a term applied now often in mere want of a correct one, and not fairly to be cast back as a reproach,—the fact being that such terms are used only in the difficult effort to represent that which, by the very nature of it as art, is incapable of verbal description. Than the term "Italian," no word is used more erroneously. The very error of the application is consistent with the fact of merit in the art. The best art will be always that which it is most difficult to describe.

The buildings of the class alluded to are based on a style which came originally from foreign countries, as did every other which obtained a footing and was developed amongst us,—on a style which became, if the admission be worth anything, emasculated and enfeebled, and of which the better features were at length allowed to glide away,—still, on a style which had become a style of our country, and became the style of our day, though a style which nevertheless, like every other, was capable of being made a foundation for new creations and fresh embodiments of beauty and art. That basis in the buildings of which we have spoken may be the style called "Italian," yet the works themselves include materials from all sources. From having some basis there is a consistent whole; and from adopting the particular basis, the result is art-work such as the largest number of persons can most readily appreciate. Yet Classic precedent; Mediæval principles; Byzantine forms; all are enlisted into the service of the architect who knows how to avail himself of them,—to modify and combine,—who apprehends both the quantities and the limits of his materials, and the scope and power of his creative art.

Let us hope that the truth is dawning: we shall yet have an honest architecture of our own.

TOMB OF THE FAMILY TAILLEPIED DE BONDY.

CEMETERY OF PERE LA CHAISE.

THE cemetery of Père la Chaise (so called from the name of its founder, the last but one confessor of Louis XIV.) is, as most of our readers know, the most considerable of the three places of repose which are used for the sepulture of the inhabitants of Paris, and contains many elegant tombs and monuments.

The tomb of which we give here a drawing is erected in that place for the family Taillepied de Bondy.

M. Ruprick Robert, its architect, owes to his serious studies, and to his many productions of good taste, the honour of being chosen "Professor of Architecture" to the Gratuitous School of Drawing of the Rue de l'Ecole de Médecine,

SOCIAL APPLIANCES IN MANCHESTER.

STREETS AND PAVING; DWELLINGS; WATER-SUPPLY; GAS.

IN recent numbers of our journal, we have been able to afford some needed information as to the buildings and sanitary works of the manufacturing districts, and the prospects for the further advancement of our art and science within those localities, and by transmission of influence on the country generally. We have supplied certain materials for a comparison which we thought might, with advantage, be made, between the sanitary provisions deemed requisite in the north of England and in the metropolitan districts. We last referred to the question of sewerage, and we have still to notice many of the sanitary works, as also the architectural features of the principal recent buildings of Manchester.

Although, with the present outfalls, the sewerage cannot yet be considered as in a satisfactory condition, much has been done during the last twelve years, in many public works, of which the corporation of Manchester may be justly proud. The city has the advantage of Acts of Parliament which have been drawn with great care, and with such attention to requirements of public health as the metropolis has scarcely begun to feel the advantage of. The "Police Regulation Act," passed in 1844, and the "Improvement Act," of 1845, with a later Improvement Act (1851), and a "New Streets Act," of 1853, are the chief of the acts that we refer to, but there are others for particular objects, as the Markets' Act, and the Water-Supply Act. Besides the clauses relating to sewerage and removal of refuse, there are provisions in the Acts, for the regulation of slaughter-houses, lodging-houses, cellar dwellings, and street-paving; for the abatement of smoke; for public clocks, illuminated—with which the town is well supplied;—for removal of nuisances, and the whitewashing and cleansing of houses; and for the reparation or removal of ruinous buildings, and others. There appear to be no regulations as to the original structure of buildings, except so far as connected with drainage of streets and passages, and the height of buildings abutting thereon; with projections, outside cranes, water-spouts, and ash-pits; and matters which have already been referred to; * but the builder is obliged to give notice of works, and the town-surveyor is to see that the "Regulations" are observed. Drainage of streets and houses is well maintained in practice,—the chief refuse, however, being got rid of by other means, as before described.

The invention of the egg-shaped fire-clay sewer, with the traps of the same material, has been claimed for Mr. Francis, an officer of the Paving, Sewering, and Highways' Committee. The amount expended in one year—1855-6—for paving and sewerage, in the chief township, was 22,239*l.* 1s. 10d.

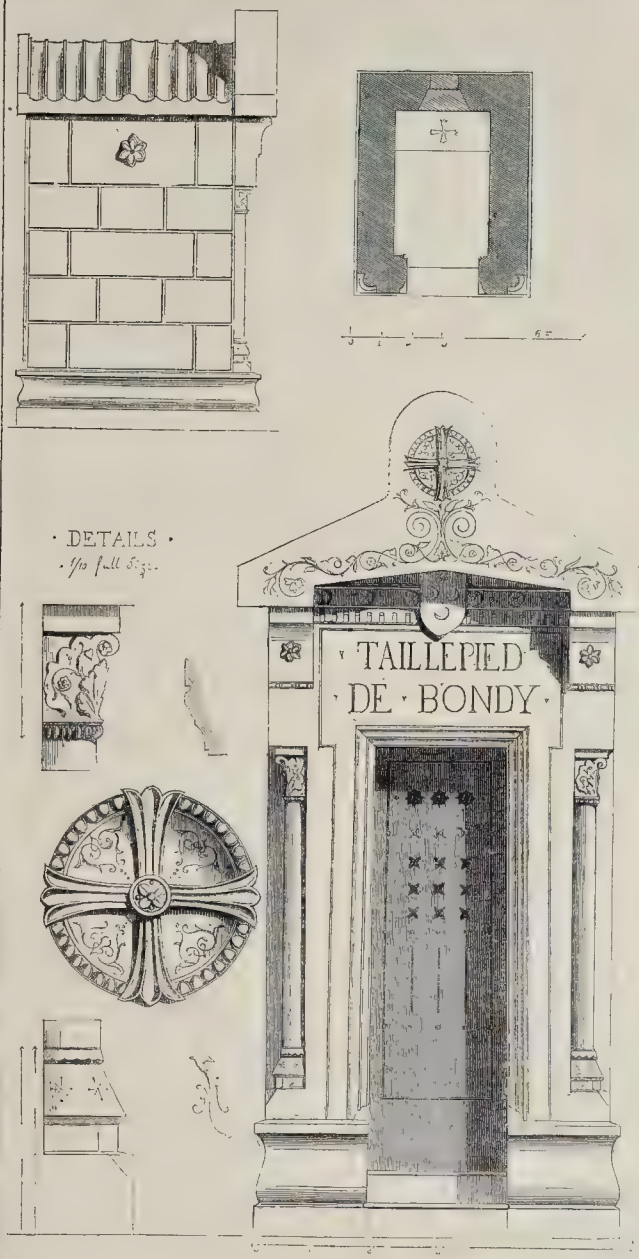
The council have power to close all cellar-dwellings; and no place of the kind, built subsequently to the passing of the Act of 1853, is allowed to be let or occupied; but, as now, a large number of people have no better habitations, certain "Regulations" have been put forth, and are being enforced gradually. There is an important distinction between cellar-dwellings in London and Manchester: in the latter town, what are little better than underground cellars are general; the wide open area being never used. In warehouses, the basement story is elevated considerably; but, in other cases, the cellar receives insufficient light and air, through the mere grating in the footway. The entrance, however, is often direct from the street; and, as to this arrangement, we may say that the powers given by the Acts, as to the covering or fencing of the openings, require to be put into full operation: in some of the principal streets there are cellar entrances that are very dangerous. The "Regulations" require that each cellar shall be at least 6 feet 6 inches in height; that it shall be provided with "either a doorway, window, chimney, or flue, so constructed as to afford means of ventilation," and that "the window of every cellar shall contain not less than 8 square feet of glazed surface;" that in the absence of an area of 2 feet 6 inches in front, the tops of windows shall be at least 12 inches above the footpath, and not higher than the ceiling line; that the floors shall be of flags at least 2 inches thick, laid on sand or cinders 6 inches in thickness, or be boarded on sleepers, with boards at least 1 inch thick; and that the cellars shall be drained, provided with stench-traps, and have the walls dry.

The London cellars generally, whilst they are better as habitations (except where the drainage remains bad), are occupied by a class much higher in the social scale than that found in the cellars of Manchester. In London, the tenant of what seems a good house, may be found, with his whole family, sleeping in the basement—being obliged to let off all the chief rooms. This results from the absurd practice of building houses, constantly, for a single large family; whilst, in the majority of cases, that is the precise description of occupancy which the house will not receive. It is certainly an important fact,—that of the immunity from cholera, of places which have not cellar-dwellings. With the alternative of the residences, on better principles of plan and construction,—which there is so much difficulty in getting in London,—or such small houses as may be easily accessible in and about Manchester—the class of our industrious artizans and small shopkeepers would be greatly benefited, morally and physically. It must not be supposed that the structural and sanitary arrangements of the smaller houses in Manchester are all that could be desired: but, the artizan there has at least the option of much greater comfort than he can get in London, and at a low rent.

Besides the advantage from small houses in the town, or that of moderate distance to the outskirts, the omnibuses in Manchester must be of great service for the object we are considering. The London conveyances practically are of no service, to the working-man, for reducing the inconvenience of a suburban residence. The Manchester omnibuses are convenient and comfortable vehicles, carrying as many as forty passengers, the fare outside being 2d. No time is lost in the journey, the fares being collected on the *route;* and the mode of conveyance is used by all classes, including those not habitually met with in the London omnibuses. It may be a new ground to take, in favour of the improvement of public conveyances, to say that the social and moral state of large classes could be ameliorated through such agencies: but it is clear that improved habitations are wanted, for London, without delay; and neither town nor country singly will suffice. The vehicles have been improved under the recently-altered management; but the facilities otherwise—at least as to conveyances in the early morning—seem to be reduced. We hope that, with the introduction of the tramways, it may be worth while to provide conveyance at such early hours as would serve for men going to their work. Very soon indeed, something of this sort will be amongst the crying wants of London.

Amongst the more important works of improvement in Manchester, must be mentioned those connected with the paving. Till within a recent period, many streets could be found wholly unpaved. Where this was not the case, they were perhaps pitched with boulders,—a description of pavement which, whilst it interferes with the soakage into the soil, retains foul matter in the hollows. The objections to the use of these boulders, for yards and courts, are specially referred to by Mr. Ranger, in the Report on Dukinfield. We have shown again and again, how constantly a high rate of mortality has accompanied a bad condition of *streets* and dwellings. The highest mortality is found in streets which, in addition to other defects, are unpaved and undrained; and though it has been evident that the mortality there was more influenced by the nature of the houses, than by that

* See pp. 685, 717, and 749 of last volume.



TOMB OF THE FAMILY OF TAILLEPIED DE BONDY.
M. RUPRICK ROBERT, ARCHITECT.

of the street, comparison between houses of the same inferior class but in different streets, shows that the state of the street operates very largely in increasing the mortality. The paving now in Manchester is done in a manner which appears to be highly successful. A foundation of gravel and cinders is first laid; the stones, (which seem larger than those used in London), are then set somewhat widely apart; gravel is scattered over in such manner that large pebbles get wedged in the interstices; and, lastly, asphalte, or pitch and gastar, hot, is poured carefully into the interstices. The whole work is got through with great rapidity. In the borough of Salford, when streets are found to be laid out and formed without proper sewerage and paving, the town clerk gives, by public advertisement, three months' notice to all parties interested, for works to be completed in a specified manner, after which time the council will cause the works to be done, recovering the costs. Crawshaw Booth stones, not less than 5 inches, nor more than 7 inches long, on a foundation 15 inches thick, of gravel or broken stones and cinders; footways of Rochdale flags, of 3 inches thick; curb-stones to the footways, 4 inches thick and 18 inches broad; curb-stones to cellar windows, 10 inches broad and 7 inches thick, and drains and sewers of oval glazed earthenware pipes, here are amongst the matters specified. The Mottram sets have been largely used in Manchester. From some reason or other, a portion of the paving between Bank Top and the Infirmary is more dangerous than the London granite; it is probably not laid on the improved system. The substitution of new pavement for Penmaenmawr or Welsh blue sets, in a single street, it has been asserted was followed by a diminution in the number of falls of horses, from at least one a day to one during eighteen months. The material appears to have been considered less important in subsequent works, than the laying with the open joints.

In journeying by the Manchester and Sheffield Railway, amidst the picturesque scenery of Longdendale, referred to in a former article, the traveller passes for a distance of about five miles, near Woodhead, along the margin of a series of lakes. These belong to the Manchester corporation, and are the principal reservoirs for the water-works, which are in many respects the most remarkable works of the kind, of modern times. The gathering ground amounts to about 19,000 acres; the reservoirs, altogether ten in number, cover upwards of 400 acres, and contain about 600,000,000 cubic feet of water; and they have been constructed in the main valley by embankments, from 80 to 100 feet in height. The water conducted to Manchester passes through a distance of about twenty miles. The town is now abundantly supplied, though the reservoirs are not quite completed. The gathering ground is formed by the hills. These rise to the height of nearly 2,000 feet, and abound with springs of pure and soft water, which, united, form the Etherow, the main source of the river Mersey. The rain of the district is between 50 and 60 inches per annum, of which about 40 inches, on the average, flow off the ground, and are available for waterworks purposes. The pure water of the springs is separately conveyed to Manchester, or to reservoirs appropriated specially to the storage of pure water while the turbid water of floods is stored in other reservoirs, for compensation to the mills or the stream, or for the use in the city, after standing and precipitation. Each stream liable to discolouration, is made to separate itself by simple self-acting means,—the turbid portion passing into the large store reservoirs. Ample means are considered to have been provided for the passage of heavy floods, and security against accident; but if any test as to that point were required, we believe it has been abundantly afforded, —as on or subsequent to the date of the calamity at Holmfirth. When quite finished, the works will be capable of furnishing about 25,000,000 gallons of water per day to the 500,000 persons at present within the limits of supply, besides 17,000,000 per day as compensation to the river on which the works have been constructed. The water, conveyed by aqueducts and tunnels, reaches first a reservoir at Godley, about eight miles from Manchester; thence it is again conveyed to two service reservoirs at Denton, and to the reservoirs of the old waterworks at Gorton, about four miles from the city; and from these, the supply is given on the constant service system. The use of fire-engines in the town is considered hardly necessary, the pressure on the mains allowing of contrivances for the protection of buildings, by fire-cocks, to which hose may be attached.

The history of the undertaking of these works is an instructive one. The town was formerly supplied by the Manchester and Salford Waterworks' Company, established in 1808, with water from the Medlock, which was filtered, and conveyed by stone pipes. The stone was porous and friable, so that the pipes did not answer. In 1823 reservoirs and gathering-grounds were provided at Gorton, when the whole supply was probably 1½ million gallons per day. When this proved insufficient, the company endeavoured to increase the supply by sinking a shaft into the new red-stone. The addition which they thus got—less than 1,000,000 gallons per day,—was also insufficient, and in dry weather they had to seek assistance from the canal companies. To remedy these evils, and acting on the advice of Mr. J. F. Bateman, they endeavoured, in 1845, to secure powers for a very comprehensive scheme for obtaining water from the hills behind Staley-bridge, about ten or twelve miles to the east of Manchester. But after passing through the House of Commons, they abandoned their intention; and in the following year, they sold their works to the corporation, who at once

adopted a scheme on a greatly extended scale—in part a modification of that of the company, but with the addition of a larger drainage area. This latter project is that which has been pursued in the works that we have described. They are highly creditable to Mr. Bateman. The same engineer is now engaged in the construction of works for the supply of Glasgow from Loch Katrine, and has completed some at Chester and other places.

The total cost of the Manchester undertaking, to this time, including the purchase of the old works, and the distribution of water within the city and the district supplied, has been about 1,300,000*l.**

The total length of pipes laid in Manchester and adjoining townships (exclusive of Salford), some years ago had reached to about 120 miles, their diameter varying from 2 inches to 28 inches; and in 1853, 4,092 hydrants had been fixed to the new and old mains, and upwards of 25,000 houses had been supplied. Ornamental iron posts, or granite basins, are placed in some of the principal open spaces of the town, where the water is constantly flowing.

The money expended has been borrowed on security of the water rates, which are compulsory upon all owners and tenants of property within the city, and otherwise in the ordinary way of a water company in the surrounding district. The occupiers of dwelling-houses are charged a rate of sixpence in the pound on the poor-law assessment, and the owners of property a rate of twopence; but the largest return is produced from the rental of water used for trading purposes. The receipts, however, leave a very large deficiency; but the gas-works being also the property of the corporation, the profits from that source are available in aid of the rates. Towards the beginning of 1856, it was understood that the expenses of working and management were about 20,000*l.* per annum, and the payments of interest on money about 60,000*l.* Besides the borough of Salford, some places in the neighbourhood are supplied by the corporation of Manchester.

The management of the gas-works has been often referred to as embodying the principle which should be adopted in other places, inclusive of the metropolis. A large profit is derived from the supply of gas, and can be devoted to the public improvements. Gas was first introduced into the neighbourhood, for the lighting of a mill in Salford, in 1805, three years after its introduction in England, by Boulton and Watt. The first public gas-works were erected in Water-street, in 1817: there are now four stations (besides those of the borough of Salford); and it was lately stated by Mr. Alderman Shuttleworth, that out of the real profits there had been spent for public improvements considerably more than half a million sterling. The chimney to the works in Gould-street, St. George's-road, is 300 feet in height, and consumed about a million bricks. Mr. John Ashton, of Blackley, the bricklayer who has constructed the principal chimneys in the neighbourhood, and who is about seventy-five years of age, on himself laying the last brick, was presented by the corporation with a silver medal. This chimney is surpassed by one at Bolton, which is 368 feet high, and required about 1,300,000 bricks.

Some of the street improvements have been of a very important character. The expenditure of the Improvement Committee, as given by Mr. James Wheeler in his "History of Manchester," was, in the years 1833, 1834, and 1835, 46,822*l.* 14s. 3d. for the three years; and the same authority gives the amounts for which certain plots of ground in central situations were sold about that time, whereby it appears that the prices varied from 2s. 6d. to as much as 5*l.* per square yard. The Victoria-bridge, opened in 1839, cost in building 10,800*l.* and for widening the approaches, 10,000*l.* This bridge is disfigured by an appendage to the parapet in the shape of a ball and cross, which the town-council would do well to remove. The practice of throwing refuse over the parapet should be put an end to.

The rateable value of the property in the townships in 1839-40 was 669,934*l.*; whilst in 1855-6 it had increased to 1,147,643*l.* The corporate property of the borough of Salford amounted on the 31st August, 1856, to 88,014*l.* 17s. 2d. For some of our figures we are indebted to Mr. Perrin's Manchester Handbook. We there find the population of Manchester and Salford set down as 127,000 or 128,000, instead of the much smaller number which might be supposed from a statement in a former article, made on the authority of the Appendix to the Report on Metropolitan Drainage. The discrepancy probably arises from considering the population of the borough of Manchester apart from that of Salford.

The Borough Prison, noticed by us during the progress of its erection, has, we believe, just lately been extended. The first portion was completed in 1850, for 500 prisoners, at a total cost as stated of 88,903*l.* 11s. Ten millions of bricks are said to have been used. The ground, eighteen acres, in the Hyde-road, had cost 210*l.* per acre. The new addition was intended to raise the accommodation to the number of 832 separate cells.

The principal market, called Smithfield, in Shude hill, of an area of nearly four acres, has lately been covered with a roof of iron and glass, and otherwise improved. The cost, to October, 1855, was 31,073*l.* 9s. 3d.

* In July, 1855, the sum then spent contained the following as items:—

Purchase of land, compensation, &c....	£103,802	12	8
Paid contractors,—works, reservoirs, water-courses, weirs, and bridges ...	239,861	11	8
Paid for ironwork	16,811	17	3
,, trench-cutting	5,088	16	2
,, iron pipes, &c.....	63,310	8	6
,, valves	6,820	11	0
,, lead for pipe-laying	2,163	8	2
Work done under direction of Mr. Bateman.....	69,785	5	2
Engineer's charges	11,950	0	0
Damage by flood	2,760	17	11
Miscellaneous payments.....	28,566	9	10
Expenses of pipe-laying in the city.....	30,577	12	10

HASTY NOTES AT ROME AND ON THE ROAD.

THE following extracts, which we are enabled to give from two letters by a travelling architect, dated the 10th and 13th of December, were not written for publication, but will interest many of our readers:—

"We passed a night at the grand Hôtel du Louvre, at Paris, and were struck with the magnificence of the dining-room and *salon*, decorated and painted in the richest style for a palace. The driving into a large court covered with glass, and having only one door of ingress, is certainly good for an hotel, and very much to be preferred to setting down in the street, with a lot of idle persons to interfere with one's luggage, but the management was much too complicated and troublesome. To get a cup of tea it is necessary to write it down on a card, with one's name, number of room, &c. This card one gives to a waiter, who sends it down to the kitchen, and at last arrives a cup of tea. Now, for a tired person, this writing is very annoying, as first one must call a waiter to get a card and pencil. The accounts are kept so regularly and fine, in large books in a large office, with many clerks, that it takes an hour to get one's account before leaving. It is the French military system applied to an hotel, and cannot answer. There are some fine churches at Dijon, worth a day's visit. From Dijon we went to Neufchâtel, by Besançon and Portarlier, a very beautiful route, sufficiently hilly without being too mountainous. The land all the way was cultivated, and the vintage was being gathered in as we passed. The grapes this year are reported throughout to be fine, and that the wine will be very good. From Neufchâtel we went to Berne, where a very large hotel is being built close to the railway station. The arrangement is so different from our inns, I would have taken a tracing of the plan had there been time. A very large building is nearly completed at Berne, in the Tuscan palace style, for the Government Offices and Parliament House. As a general whole, it is fine and well executed, but, unfortunately, the cornice is similar to that of the Palazzo Vecchio, &c. at Florence, not Italian, while the windows and lower part are similar to the Strozzi, &c. From Berne we went to Thun, Interlaken, Bunig, &c. to Lucerne, all of which you know about: the latter remains, as it has always been, grand and natural. We were in the same hotel as the Prince of Wales, a gentlemanly young person, who went into the shops like other people to buy prints, &c. and carried them home in his hand. From Lucerne we went over the St. Gothard, in a diligence: there was no snow at all, even on the top of the mountain: we ascended on a fine day, and descended by moonlight to Bellinzona, a dirty place, beautifully situated under the mountains.

After visiting the lake Como we got to Milan. The Milan cathedral is in beautiful order, inside and out: in fact, I have never seen a cathedral so exquisitely kept up: it appears to me that much must have been done since my former visit. The covering a great church with white marble is very nice. I mounted to the top. Prints are published, naming all the churches, mountains, &c. seen from the roof,—a good idea. There is a project to bring into shape the great *place d'armes*, where Napoleon's amphitheatre is. A new large church has been built, dedicated to St. Carlo Borromeo, in the *Roman* style; that is, a great dome with a small body, and front stuck on. From Milan we worked our way to Venice, there being a railway open all the way. We visited Brescia, Verona, Mantua, Vicenza, in the way. I never thought Palladio deserved the very high position given him: my opinion is not changed on a second visit. His style is too unnatural: he is to me too clumsy and heavy. I do not admire his Venetian church fronts, of great three-quarter columns stuck on high pedestals, or his palace fronts with columns the height of two or three stories. Those men appear to me better who kept the columns the height of the separate stories, as at the library of St. Mark's, the palaces on the Grand Canal, &c. I have some mosaics from St. Mark's, with the gold under the glass covering as at St. Sophia's, and which Minton has as yet been unable to make. Venice is as interesting on a second visit as a first, and I think it improving. From Venice we went to Padua, Ferrara, and Bologna, examining the separate schools of painting in the way. The theatre of Bologna is very handsome, and solid, and unlike in internal arrangement and decoration all others, being treated architecturally, and not upholsterally. * * * * *

In the *coupé* of a diligence we went from Bologna to Pistoia, starting at the early hour of two a.m. arriving at about two p.m. From Pistoia we went to Florence by railway, which is open from Leghorn through Pisa to Florence. Florence is not much altered: the old palaces remain as sombre and grand as usual. The quay has been lengthened from the Carraja bridge, where it formerly stopped, nearly to the Cascine, and fine large houses have been built facing the Arno. A new gate and road are being formed to enter the Cascinè. Workmen have commenced putting a marble front to Santa Croce. The exterior of the Duomo and the whole of the campanile have been beautifully restored with variegated marbles, and mosaic work to match the old: an iron railing has been put round the Duomo, to prevent people polluting it. The front remains naked as before. Several of the palaces facing the Arno have been turned into hotels, the number of visitors having greatly increased. A Protestant English church has been opened near the Porta San Gallo. Several new rooms have been opened at the Public Gallery above the Uffizi, one containing sketches by the old masters. A "Last Supper," certainly by Raffaelle, has been discovered on a wall of a suppressed convent: the premises have been purchased by Government, and an Egyptian museum opened. The cupola of the Medici chapel, in San Lorenzo, is covered with frescoes by Benvenuti, very clever: the subjects, Adam and Eve, Deluge, Birth of Christ, Last Judgment, &c. are painted in eight compartments, with moulded styles separating them, which I think preferable to painting the whole cupola in one large confused picture, that cannot be seen well from anywhere. These pictures were in progress when I was at Florence twenty-two years ago. A capital carriage-road has been made up to Fiesole: you may remember that the last or upper part you had to walk. The way the money was raised was by selling patents of nobility at about 100*l.* or upwards, according to the rank selected. It seems they have an old right of creating nobles at Fiesole, so if you would like to be Lord ——, send me 100*l.* and I will see if I can get you enrolled in the golden book of this ancient town. There are now two suspension-bridges at Florence over the Arno. In re-paving the streets they are adopting the English mode of high in the middle, with foot pavements, instead of the continental plan of low in the middle, without footways, still retaining the large flat blocks. Gas is laid on to the streets and shops.

Now let us be off to Rome as fast as possible. We stop a day at Sienna, where nothing is doing or done. There are some very interesting pictures by the early masters in the academy. By diligence we get to Rome in thirty hours, instead of four days, by Vett. and put up at the Hôtel ——, very large, very comfortable, and near the Via Condotti, built since I was here. Other large hotels have been opened. Caffe Greco is as thick in smoke as of old, and there is not one in Rome fit to take a lady into. A foot pavement has been laid to the Corso, too narrow for people to pass, so they still walk in the middle. Gas is laid on. I know of little other change, unless it be that Rome may be a little nastier than formerly, or probably Paris and other continental towns have advanced, while Rome has stood still. The entrances to palaces and houses are still dirty

and disgusting. The Raffaelle at the loggie of Vatican have been enclosed with glazed sashes between the piers on the three stories, on the three sides of the court-yard. The famous Vatican pictures are moved up into a cold, dull attic, and are never open without payment. The rooms where they were are being painted in fresco, by Podesti—the whole history about the Immaculate Conception, as settled by the present pope. A marble column, with bronze reliefs, has been set up in the Piazza di Spagna, commemorative of the dogma of the Immaculate Conception. The pillar is too small for the substructure. I yesterday walked out six or seven miles along the Via Appia, between the ruined tombs, not one of which retains its form and original appearance, except our old friend Cecilia Metella. Poor Canina must have been a man of a very lively imagination to have made the fine restorations shown in his work, out of the little that remains, as, *generally* speaking, *all* the exterior carvings are gone clean away. In our way we visited three very interesting columbaria just inside the Porta Sebastiana, the first opened about twelve years ago, and the last about one and a half year ago. This last retains a considerable part of its ancient vaulting, with simple rough arabesques on the surface. The interior workmanship of all of them is very rough: the stucco was painted in colour, as at Pompeii. If we have not correct measurements of these, I think it would be interesting to get one of the Corresponding members here to measure them, showing the ancient colouring and the marble caskets placed in some of the niches, as a communication to the Institute. You must distinguish these from the columbarium opened about 1831, near the Porta Latina. In the grounds of the Villa Pamfili Doria I have also visited a columbarium, smaller than the above, but nearly perfect in its interior, which has been opened about eighteen years, and consequently since our time. A section showing a side of this, with its ancient staircase, might be added to the communication. A large monument has been erected in the Villa Doria by the prince, over the bodies of the French killed in the late revolution, with a figure of the Virgin in the centre. The casino of the Villa Corsini, near, was destroyed, and the Prince Doria has bought the estate, and, it seems, purposes rebuilding the casino. We say villa for house in England; but here villa means the place, park, and gardens, the house being called casino, casa, or palazzo, according to size. This you know; but Englishmen often do not. G. A.

TRANSLATION OF THE LATIN EPILOGUE TO THE "ADELPHI" OF TERENCE.

PERFORMED AT WESTMINSTER, DECEMBER, 1857.

The subject of the Epilogue occasioned by the inauguration of new Greek Scenery—is a discussion upon the rival styles of Classic and Gothic.

(*Enter* ÆSCHINUS, *examining the new scenes critically, with the "Seven Lamps of Architecture" under his arm.*)

Æsc.—This street, I hear, has been but just restored,—[*after some shrugs of dissatisfaction*]
What ancient barbarisms will our times admit!
Another Greek example! Oh! how flat,
Tame, and offensive all things have become!
How dense and dead a surface! Nought sublime
Or graceful can one trace in it! Alas!
Dull bosoms of our countrymen! The sun
Rises, yet note they nothing from his rays.
But thou, illustrious author, [*holding up his book*] shalt dispel
The darkness thickly cast around!

(*Enter* CTESIPHO.)

Ct.—Good morrow!
What seek'st thou here? Oh, oh! I do suspect
Some fair attraction here resides: beware
Lest thy young bride should learn thy secret.

Æsc.—Hush!
No commonplace desires my breast inflame;
I follow through the world the one ideal καλον

Ct.—Content with shades?

Æsc.—Æsthetical, indeed,
I woo the polish'd and æthérial arts.
To know the inmost depths of beauty's laws,
Form, figure, colour; which should be applied
To which,—this truly is to have true taste.
This, as a solace to sick mortals, comes,
A cure for care: divine Æsthesis!

Ct.—I
Would rather the Æsthetics of an ass
With plenty of sweet hay in meadows broad.
Carest thou not for supper?

Æsc.—O unfit
E'en for brute life;—thou never wilt become
An Esoteric Doctor:—thou dost bear
An earthly soul:—and in a painting wrought
By Zeuxis e'en, wouldst nothing see but paint!

Ct.—What more ought one to see?

Æsc.—The hidden depths
And mysteries of things lie there reveal'd
To cultivated minds: there follow I
Art thus *concealed* within,—effects aerial,
Space, strength, proportion, pathos, and bathos too!
With caution I distinguish 'twixt the times
Præ-Raffaellite and those that follow'd them.
Go, visit Manchester her treasures scan;
These with soft stimulants the crowd instruct.

Ct.—You greatly err—the man of Manchester
Exclaims, "Why feed'st thou me with empty paintings?
Give me the tin."

Æsc.—'Tis cotton blunts their minds:
But drop the paintings, and the topic change.
One parent art all others has excell'd:
'Tis architecture.

Ct.—I agree with you.

Æsc.—I am entirely in it.

Ct.—I presume
Thou art a Freemason.

Æst.—A mistress mute
Rules the whole tenour of this human life,
Both intellect and sense.

(*Enter* MICIO *and* DEMEA, *who remain behind, listening to the discussion.*)

Upon this rule,
So just and gentle, everything depends;
We suit the habitation to the man.

Ct.—What if he has no habitation, though?

Æsc.—Happy are we who live to-day at all,
When the pure style of Mediæval times
Is held in just esteem! Thou art aware
That antiquated Athens is despised,
And Doric and Ionic styles detested.

Ct.—Greece, in this matter, always bears the palm.

Æsc.—With simpletons. There is an inert load
Upon its form of nude simplicity.
Art Mediæval, on the contrary,
With unjust law and limit not content,
Branches *ad libitum* on every side.
Besides, whate'er we build, there is diffused
Throughout its limbs a spirit deep and pure,
Expressed *symbolically*: 'tis a matter
Conducing to the morals of the people.

Ct.—Do brick and stone teach really right and faith?

Æsc.—Nought more *immoral*, haply, can be found
Than Greek and Roman architecture: look
At page the sixth, for thus my author speaks.

Ct.—Scarce can I understand these things.

Æsc.—It is
Because, untutor'd and unhappy, thou
Art wanting in Æsthetics.

Ct. Surely thou
Wilt not find fault with temples beautiful,
Which Burlington (a man of equal rank
By birth and intellect) has rear'd for us!

Æsc.—Be civil, prythee,—sometimes 'tis the cue
Of a wise man to keep his mouth close shut.

Ct. At all events he opens it to eat.

Æsc. [*Hesitating, and surveying the walls of the dormitory*]. This building is inferior, and not
A little barbarous.

Ct.—I say 'tis false!

Æsc.—What if we pull it down?

Ct.—Oh monstrous!

Æsc. And
By Gothic rule, [*Producing a plan of the College façade Gothicised.*]

Ct.—If!

Æsc.—Prythee have a care
For things pertaining to the Middle Age.
Elizabeth was founder of this school:
Barry approves the scheme—but the expense!

Ct.—Don't mention that [*with a shrug*].

(MICIO *and* DEMEA *now advance.*)

Æsc.—Ah! with all joy I hail
The presence of these gentlemen. Right welcome!
Just in the nick of time have you arrived:
To your calm judgments shall our contest yield.

Mic.—All your objections I have heard and know:
With the permission of your great authority [*pointing to his book*]
(For I allow him certainly to be
An author high-soul'd and grandiloquent)
Thus I determine.—Neither shouldst thou blame
In all respects the judgment, Æschinus,
Formed in thy brother's mind;—nor should he thine:
For surely none of us exist so rude,
So void of culture, (whilst the scene renew'd
So skilfully relates to ancient Athens)
But in whose breast the chaste and beauteous forms
Of Grecian art would cause a joyous throb.
Or would that hinder that the self-same man
Should feel his senses struck with holy awe
When entering St. Peter's neighbouring pile,
Which lifts alike its sacred pinnacles
And hearts of its beholders to the skies?
Begone these envious controversies all!
To Greeks and Goths be equal homage paid.
(ÆSCHINUS *advancing*)
Well, then! "the Brothers" of our play have sent
This oracle of our Æsthetics true.
Do you confirm it now by your applause.

A. F. A.

A PLEA FOR THE BEAUTIFUL IN ART.

IT has been truly said, that the question—"What is beauty?" is the question of a blind man. And, endowed as a man is with a mind capable by cultivation of embracing not only purely intellectual pursuits, but also gifted with the faculty of conceiving and craving after the most refined imaginations; his education, to be complete in any degree, must comprise at least some knowledge of, or feeling for, the fine arts, however his power of enjoyment may be influenced or modified by the period, place, or circumstances of his existence.

In the various ages of the earth's history, man must necessarily have entered upon his career under as strangely varying auspices, and have been influenced by as widely differing aims.

Could we penetrate into the private history of remote antiquity, to the days when Tubal Cain, "the father of all who worked in iron," first erected his forge, or to those when the Chaldeans first essayed to decipher the face of the heavens, how utterly different might we expect to find all their associations and tendencies, acting as they did as the pioneers of the whole civilised world—feeling their way on the very threshold of art and science, with no guide but their own unassisted reason to direct their course; from the children of the present generation, on whom the ends of the world are come, and whose mission, it seems, is to build up and decorate with a minuteness of finish not dreamed of by their forefathers, superstructions which, after all, have sprung from, and rest on, the foundations of much of what was discovered and called into being in those early times.

These first labourers, indeed, had a vast field stretched out before them. It was theirs to possess, and to subdue to the purposes of human use and enjoyment, the realms of nature, presented to their hands in all the rugged grandeur and undiscovered attributes of their primæval condition. Theirs was the task first to extract iron from the rock, and to dig brass from the mountain, and by practical experience to learn the nature and capabilities, in simple and compound forms, of the materials which labour and investigation developed to their use.

Step by step we may imagine them to have proceeded, from the toil of procuring what was absolutely necessary to their existence, to the search after the comforts and conveniences of a higher civilization; and gradually, as their minds opened to comprehend something of refinement, with doubt and uncertainty timidly advancing in the first steps of mental cultivation.

Who shall say with what sensations the pioneers of art and taste in their respective countries first entered upon their task? The real capacity of the human mind in such pursuits had hitherto been as a sealed book; and it was theirs to develope, in some degree, its wonderful powers of thought and imagination; to kindle and exhibit to the world the first spark of artistic talent—the first glimmering ray of genius.

But their day was short, their fruition small; without experience or established rules of art, they had all these to learn and apply for themselves. No wonder, then, if the shadows of the evening closed upon the labours of succeeding races of these patriarchal artists, ere they had fashioned the first link of the mighty chain, which, from their time to ours, serves to illustrate the history of the noblest minds in their respective generations.

Perhaps the most extraordinary phase of the history of the ancient world, which time has spared, is the existence of the vast remains of architectural art which abound in almost every quarter of the East—of temples, mosques, palaces, and monumental buildings; "many of which puzzle the mind while contemplating mysterious wonders springing out of darkness and oblivion." These, indeed, are the worthy memorials of departed dynasties. The fitting mementoes of "the kings of the nations who lie in glory,"—enshrined amid their ruins.

These and similar remains afford ample evidence of the fact, how early the sons of Adam were impelled to depart from mere utilitarianism, and to aspire in the use of their materials to the inventions of structures and forms possessing the attributes of beauty, and suggesting by their appearance something of the solemnity or dignity of their purposes. How nobly and earnestly they pursued this object these relics equally attest; and we may well assume, that the furniture and internal decorations of their great buildings were gorgeous, and their appointments luxurious, in proportion to the grandeur of their exteriors. That they were in very early times no strangers to the use of "pleasant pictures," and the charms of "instruments of music," we are aware from sacred writ and other historic records.

How much are we indebted to the earliest essayists in art for the dignity of their conceptions, though we may have to select their beauties from amid much that appears crude and barbaric to our more educated tastes. For let us in imagination trace the course of time from the generations of old up to our own days, and contemplate the successive discoveries and advances in science, art, and literature, which are opened out to our view, and on what a pinnacle of accumulated wisdom and experience we seem to stand! And though a Galileo, a Michelangelo, a Milton, a Shakspeare, or a Newton, may flash across our path as we proceed, and impart an unwonted lustre to their respected eras, yet how almost imperceptibly does secret upon secret appear to have unfolded itself to the steady and persevering investigation of truth, and how comparatively little any one single generation seems to have advanced in the pursuit.

The older the world becomes, and the greater proportion the period embraced in the records of the past, bears to the fleeting years of a single life, so much the more strongly must the conviction impress itself upon the mind, of our obligations to those who have preceded us. And what a strange and mysterious sympathy and brotherhood seems thus to be awakened between the living and the dead! For we form but one of the connecting links of the vast chain of human existence. The great world viewed in this aspect, its knowledge, its wisdom, its experience, seems almost as it were to consist of the mighty dead!

We contemplate their works, we discuss their opinions, and often possess the transcript of their mind's best gifts, from youth through the vigour of manhood to old age; and though absent in body, their influence thus still survives and dwells among us. This union may be traced in almost every element of thought and learning, although perhaps often invisible in its operation.

"The most familiar words and phrases," says Professor Whewell, "are connected by imperceptible ties with the reasonings and discoveries of former men and distant times. Their knowledge is an inseparable part of ours; the present generation inherits and uses the scientific wealth of all the past. And this is the fortune not only of the great and rich in the intellectual world, of those who have the key of the ancient storehouses, and who have accumulated treasures of their own, but the humblest inquirer, while he puts his reasonings into words, benefits by the labours of the greatest. When he counts his little wealth, he finds he has in his hands coins which bear the image and superscription of ancient and modern intellectual dynasties, and that in virtue of this possession acquisitions are in his power, solid knowledge within his reach which none could ever have attained to, if it were not that the gold of truth once dug out of the mine circulated more and more widely among mankind."*

The practical development of the fine arts, forming, as it does, a most interesting portion of the annals of the civilized world, although it has been so gradual during many succeeding periods of its history, has nevertheless been marked by such various striking and sudden revolutions at others, that in forming an estimate of the state of art at any particular era, our judgment should always be *comparative*. We should be careful to examine of what the most distinguishing features of the practice of professors of each distinct generation consisted, as compared with the works of their immediate predecessors, as well of their successors and pupils: by such an investigation we may generally arrive at a tolerably just conclusion, and form some opinion as to whether artists were then advancing in the true principles of their study, according to their light and knowledge, reaching forward to higher excellencies of conception and execution than had been before attained; conquering difficulties, and discovering and avoiding former imperfections;—or whether, disregarding or mistaking the true and noble aim of high art, they were suffering technical routine to usurp the place of imagination and invention, and relapsing from the better promise of their fathers;—whether, in short, under their guidance, art was in the ascendant or in the decline.

In considering the actual merits of any individual artist, we should also, I think, be careful to bear in mind the general state of art in his country during his lifetime. In the hopeful years of its growth, as well as in the high and palmy days of its most distinguished triumph, cheered onward by the patronage of princes, and stimulated by the example and influence of successful genius, it is natural to expect that the progress of its honoured disciples should be proportionably striking and rapid. But it always appears to me, on the other hand, that the energy and perseverance of a single man, who, opposing himself to the debased taste of his day, arrests art in some degree in its downward tendency, is entitled to almost more respect and to the deeper gratitude of prosperity, though his success may be small, than he who, being endowed with rare gifts, has had also rare opportunities, and has run his brilliant career amid the approval and acclamations of his fellow men, protected and caressed by the great, and surrounded by a willing and enthusiastic crowd of admirers, anxious to tread in his footsteps, and to advance the cause of their common mistress.

If, in illustration of what I mean, we take into consideration the favourable auspices as regards patronage and public feeling under which such men as M. Angelo and Raffaelle worked, compared with the difficulties against which at a later period the Caracci had to contend, I think we shall recognise and admire the earnest and deep love for the beautiful which animated the latter to attempt the revival of the true principles of their profession, at a time when it had confessedly relapsed into mannerism and feebleness, and become utterly debased and degraded by false taste.

The former great masters no doubt advanced art, in sculpture, painting, and architecture, far beyond the state in which they found it. In their hands the realistic and comparatively prosaic manner of the school of their masters Ghirlandaio and Pietro Perugino, and their contemporaries, expanded into a style of ideal and poetic beauty; but they entered on their career at a time when the star of art was already in the ascendant, and were not only encouraged by the most munificent patron of the fine arts whom Italy, and perhaps the world, ever saw, but were also seconded by popular feeling, which seems to have caught the flame from the example of the higher powers, and to have kindled into enthusiasm in the cause. Far different was the epoch during which the talents of Ludovico Caracci and his kinsmen were first called into operation. The golden age of Italian art had then departed. The vigour of her perfection had lapsed into weakness; her invention into mannerism and imitation.

"The establishment of the famous *Academia*, or school of painting, at Bologna, which restored the art in its last state of degeneracy, originated in the profound meditations of Ludovico." "He travelled to inspect the works of the elder masters." "Returning to Bologna, he found his degenerate brothers in art still quarrelling about the old and the new school; and thus, in the midst of opposition, he propounded the principle on which he hoped to remodel art—that of combining a close observation of nature with the imitation of the great masters, modifying both, however, by the disposition of the artist himself; and Ludovico lived to realise his project in the reformation of art, and witnessed the school of Bologna flourishing afresh when all the others had fallen." The posthumous results of this grand experiment were no less noble than were its immediate fruits during the lives of its authors, for "the great masters of this last epoch of Italian painting were their pupils."* The names of such disciples alone as Guido and Domenichino are sufficient to attest the purity of their teaching, and to establish their claim to the gratitude of posterity.

It is much the fashion of the present day to disparage this school, and to apply the term "eclecticism" as one of reproach to any style of art which is supposed to be obnoxious to it. No doubt a painter without genius who attempts to combine the several beauties of all the schools, is very likely to lose character, and to produce an insipid concoction of other men's ideas without any of their beauties; but if he be capable of carrying out the maxim of the Caracci in its integrity, not only combining "a close observation of nature," with "the imitation of the great masters," but have also sufficient individual imagination and power to enable him further "to modify it by his own disposition," he surely does no more than avail himself of his knowledge of the teaching and experience of the past, in a manner perfectly legitimate, and in accordance with the true principles of his art.

That after the days of their more immediate disciples, painting again languished into a state of feebleness, is no more chargeable upon the principles taught by the Caracci, than is the fact that before their day it had lost the prestige which it possessed during the lives of the great masters, is a reproach upon them. In each case the result is referrible to the same cause,—the restlessness of the human mind, which is never stationary, and in its fluctuations subjects the pursuits of art and taste to periodical changes, and revolutions otherwise unaccountable.

It is not unreasonable to suppose that these ebbings and flowings in the tide of mental progress may, as regards some periods of the world's history at least, have the effect of rendering our knowledge of the real state of the arts at those times very imperfect; for may not succeeding generations often lose sight of even great principles, which have been familiar to their more illustrious ancestors, and which, as time advances, may again be recovered as it were from the secret storehouse of nature, and adapted anew to their original purposes? It is difficult to conclude, for instance, that such accomplished mathematicians as the Greeks were, should have been wholly ignorant of the rules of linear perspective, or that the more perishable of their works of art, their paintings, many of which were, as history infers, held in high esteem among themselves, should have been very inferior to their sculptures. Yet, if they did possess this science, its knowledge certainly died with them for a time; and if we refer to the best of the pictorial remains of Herculaneum and Pompeii, we find most unmistakable evidence that they had no more conception of it than the Chinese exhibit in such designs as their "willow pattern," which, from the strange perversity of taste of our manufacturers, still continues to haunt our dinner-table and tea services.

In these specimens of Pompeian art we find associated sometimes with figures possessing considerable merit, the strangest jumbles of ill-drawn buildings and distorted landscape, with so total a disregard of such small matters as the position of points of sight, vanishing points, horizons, and the like, as would satisfy the last strange teaching of an accomplished but most eccentric critic of our own day. Now it has always struck me as a very extraordinary fact in the history of the fine arts, that apparently the very last style which attains perfection in any country is that of landscape painting. The Pompeians, while possessing a very respectable power in figure painting, had evidently not reached it; and even among the great masters we shall often find very crude representations of external nature,—Salvator Rosa, Gaspar Poussin, Claude, Cuyp, Berghem, Both, Hobbema,—were not the exponents of an early stage of art in their

* "Philosophy of the Inductive Sciences."

* D'Israeli's "Curiosities of Literature."

ARCHITECTURAL REBUSES.

FIG. 3.

FIG. 4.

FIG. 5.

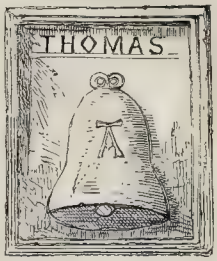


FIG. 2.

FIG. 1.

FIG. 6.

respective schools; but, on the contrary, did not flourish until it had attained a very high state of development.

I am not going to claim for the landscape artist a place above or equal to that of the historical painter. The latter, I am aware, must ever rank highest, for the power of delineating the human figure, whether single or in composition, under its varying phases of passion, emotion, and attitude, which he is supposed to possess, is the noblest aim of the painter's art; but I do say, most confidently, that landscape painting of a really high character, is only the product of the most advanced and refined state of mental and artistic cultivation. In our own country its practice is of comparatively recent date, and Richard Wilson and Gainsborough may be said to be among our first successful essayists in it. To what extent, if at all, landscape painting may have been practised by such a people as the Greeks, is a question, I apprehend, which must ever remain among the mysteries of the past; but arguing from analogy, I venture the conjecture, that if such works ever did exist, they formed some of the latest triumphs of the days of their highest artistic splendour.

The particular form in which the artist sets forth his genius to the world is generally very much influenced by the prevailing habit of thought and tone of feeling of his day; thus we have classical and ecclesiastical eras of art, in various stages of its history, each of which manner, in its turn, seems to have monopolised the pencil to the exclusion of almost any other; but in this respect the artist is, as it were, the creature of his time, and we must judge of his individual peculiarities not so much by his choice of subject, as by his mode of treatment; and if he be a man of note, we shall be pretty sure to find some predominating characteristic prevailing throughout his works. As, for instance, in the works of one we may detect a feeling for the sublime and lofty in expression overbearing all others; in those of another we may find great power of composition; in those of another harmony of colouring; in another an exquisite perception of the elegant and fanciful; in another a marvellous management of light and shadow, and so on. And though in all cases, no doubt, the production should be so far perfect in all essentials of a work of art as to remove the impression of glaring defect in any one of them, yet I think that in almost every instance of a vigorous and successful embodiment of the artist's pursuit,—be he sculptor, painter, or architect,—we may without difficulty discover its predominating attribute, and feel that its peculiar merit—in spite, it may be, of subordinate imperfections—is referrable to the consistent carrying out of this ruling idea, whatever it may be.

In the late Art-Treasures Exhibition was a picture attributed to Michelangelo, of a Madonna, and four angels holding a scroll: two of the figures are unfinished,—there is little attempt at composition, and not much that is remarkable in colour. Passing over the subject, which was in accordance with the taste of his times, I do not think that I ever saw a work that so deeply impressed me as bearing internal evidence of having come from the easel of a great genius. The lofty expression of the principal figure; the beauty of the heads of the angels, especially of one in profile; the rotundity of the limbs, and the vigorous and correct drawing throughout—seemed irresistibly to impress the mind with the conviction, that one stood before a genuine picture by the greatest master of his art, and suggested a regret that it was not the property of the nation.

The tendency and aim of any work pretending to be classed as one of high art should be the illustration of the sublime or beautiful in nature in some of their phases. There is a well-known department of art consisting of a class of pictures whose mission it is to portray broad humour or familiar and domestic scenes. Such works can never claim to rank as high art, but they possess their peculiar beauties; and Wilkie has proved that these may be highly characteristic without running into caricature, and jocose without descending to indelicacy, which is more than can be said for many of the Dutch painters in their treatment of similar subjects.

In some of their subordinate features, and as mere accessories, it is true that facetious incidents may be introduced with advantage into pictures of the highest class; but they should always be carefully kept secondary to the main subject to be illustrated, and be so disposed and arranged as to assist the artist in explaining his story—care being taken that they shall not so far obtrude themselves upon the eye as to interfere with the general composition of the picture, or convert it from a serious to a comic or vulgar work.*

"TRIFORIUM."—With reference to the origin of this term, already referred to, a correspondent suggests that the Italian verb *traforare*, "to pierce through," may have given rise to it, especially if the Lombardy architects assisted in the early introduction of the Gothic style.

* Read before the Liverpool Architectural and Archæological Society, by Mr. Francis Horner.—To be continued.

NAMES AND ARCHITECTURAL REBUSES.

PRIOR BOLTON, BECKINGTON, ABBOT ISLIP, CASTLETON, THOMAS ABEL, T. HARPER.

MUCH has been said and written respecting the origin of surnames. The Johnsons and Robertsons,—these varied according to circumstances into Jacksons and Robinsons—indicate names of English origin, while the Jack and Robin smack of a more northern source. Of names of this description, we have Thompson (Tomson), Richardson, Gilbertson, Watson, and a host besides: we have names which have been derived from the complexions Blacks, Browns, Greys, Reids, Whites, Orange, &c.: there are also Blacklocks, Whitelocks, &c. Other surnames have been handed down from past times in consequence of the trade or profession of the parent—such as Smith, Goldsmith, Archer, Husbandman, Carpenter, Butler, Harper, and so forth: some surnames have arisen in consequence of persons, in times when travelling to a distance was less common than now, being called after their native towns: and it should be noted, that until a century back, and for long before, it was customary to call friends and neighbours more frequently by their Christian than by their surnames. Foundling children have been the cause of many new names, in commemoration of the places, in which the unfortunates have been found. As an instance, it may be mentioned that not very long ago a child was found amongst some whins on a moor, and was called "Whin Bob." He afterwards became Mr. Robert Whin, and was the ancestor of a race of Whins. The Strongs, the Armstrongs, Percys, Shakespears, Wardells, and such-like, commemorate former prowess or warlike deeds. In schools and remote places the practice of calling nicknames has not yet gone out of use; and it has, no doubt, been the application of these to personal peculiarities which has led to the names of Fox, Roebuck, Pyke, Dove, Buck, Cocks, &c. Then we have Springs, Summers, and Winters: we do not remember the name of Autumn. Some surnames are extraordinary,—for instance, Death, Grabb, Coffin, and others equally melancholy and unpleasant. However, instead of directing notice to the peculiarities of names, we ought rather to have drawn attention to the ingenuity which was displayed by men of the olden time in arranging their names in cunningly-devised monograms, or exhibiting them in such devices as are shown in the engravings. From the plentiful use which has been made of the rebus of Prior Bolton, of St. Bartholomew the Great (fig. 1), in that building, and also on various portions of the possession-

of the Priory at Canonbury, it is evident that the worthy prior felt a pleasure in seeing it,—a bolt (or arrow)* and ton. The ton appears also in that of Beckington (fig. 2), a beacon and ton; and of Castleton (fig. 4). Thomas Abel's (5) and T. Harper's (6) speak for themselves. Fig. 3, from Abbot Islip's Chapel, in Westminster Abbey, gives the rebus twice,—in the figure slipping from the the tree, and the hand plucking a slip, with the representation of an eye adjoining.

ON A NATIONAL COLLECTION OF ARCHITECTURAL ART †

I HAVE, I fear, undertaken a subject which is beset with more difficulties than might at first be suspected. If it were that I had to insist on the advantages of a picture or sculpture gallery, the task would be easy, inasmuch as the reasons for making collections of these objects are so obvious that every Government of Europe has long ago admitted and acted upon them; and not only the the great metropolitan cities, but even the capitals of most of the provinces of the great European empires possess collections of these objects more or less extensive or perfect. Few, however, have attempted architectural collections, though an impression is certainly stealing over the public mind that they too are wanting to complete the cycle of the arts, and that something in this direction must be done before an art collection is complete.

It is, nevertheless, true, that there is a vast and material distinction between the two classes of objects. Pictures and statues are things complete in themselves, easily removed, and made to be placed in galleries; while, on the other hand, buildings are made to remain fixed on the spot where they are originally erected, and are of such a scale that they cannot be collected together in any gallery, however large; and it may be objected that a collection of capitals or cornices and fragments or details is like a collection of fingers and toes of sculpture, or eyes and ears out of paintings, and can have no real interest or value either to the architect or to the general public.

I hope, however, to be able to show that this is not a correct view of the matter; but before going further, you must allow me to try and explain to you what architecture really is, and to endeavour to present to you a definition of the art which will render the sequel intelligible.

First, then, let me state broadly one fact which requires no proof. It is that, up to the age of the Reformation, in the sixteenth century, every nation of the earth, from the remotest antiquity to that time, had a national style of its own, beautiful in itself, and perfectly appropriated to the wants of the country where it is found, and that the same phenomena still exists in all countries to which European influence has not yet extended.

Since that epoch, we have in Europe followed a different system. With the revival of classical literature we attempted to revive classical art, and all the architecture of Europe down to the end of the last century was an attempt to restore, with more or less minute exactness, the style of the Roman empire.

It is easy to see how this worked, if we compare the literature of England with its architecture. Chaucer, for instance, is as essentially English as any of the cathedrals or buildings of his day,—such a poem as the Fairy Queen of Spencer is the exact counterpart in the admixture of Gothic feelings with classical details of such a building as Burleigh or Nonsuch. Shakspere's Plays are as classical as Longleat or Wallaton; English in feeling and original in substance, but mixed with classical forms and details to a bewildering extent. Milton completed the revival, his great poem being as essentially classical as St. Paul's Cathedral, both being classical in form, but Christian in reality and purpose. Had we persevered a little longer in this track, we might have emancipated our architecture, as we have our literature, from these classical trammels. We were on the point of doing so when, at the beginning of this century, we were captivated with the exquisite purity and elegance of the Greek style, and seized on it with avidity, in the belief that it contained the element that was unsatisfactory in the Roman. We found it, however, far less flexible and less adapted to our purposes, and might have found out from this that all copying was a mistake; but our chains were riveted by the experiment, and now it is the fashion to decry both these, and to assert that pure Gothic is our national style, and more beautiful and appropriate to our wants than any other. Crinoline and correct Gothic are the fashions of the day, and no doubt are very beautiful things in themselves, but, like all fashions, are liable to be carried to excess; and when this is so, their manifest inconvenience inevitably leads to their abandonment, and a return to common sense, till the mania breaks out again in some new and, perhaps, equally inappropriate form.

Already symptoms of a change are manifesting themselves, inasmuch as some, even of the most enthusiastic advocates of our *national* style, are beginning to copy the bastard Gothic of the Italians; thus abandoning their strongest ground of the style being our own national type; and adopting one as foreign to our wants and feelings as the Classical style, on whose ruins it arose. If it be once admitted that we may copy Italian Gothic, we are again loose in the sea of styles, and may adopt any one we please, and no doubt we should again have to run through the cycle in which we have been turning for the last three centuries.

But if neither Classical nor Mediæval forms are architecture, *what is?*

To try and explain this, let me refer to the diagrams. The first division is mere building, in its simplest and most utilitarian form; the second is better, and might be designated, if we had such a word, as "well-building," or engineering; the third has much more pretention to architectural beauty.

The last is so far ornamental, that whether it be good architecture or not, it is still most undoubtedly an object of architectural art, yet, though the floors, the dimensions, and all the arrangements are identical with the first, and indeed differ from it only in a slight grouping of the lateral position of the windows, and the addition of a certain amount of ornament, this is sufficient to make the distinction between an object of fine and one of mere utilitarian art.

The definition, therefore, that we derive from this diagram is, that architecture is *ornamental and ornamented construction*; or, to be more explicit, any building, whatever its purpose or whatever its form, may become an object of architecture by a slight re-arrangement or grouping of its parts so as to give some evidence of design, and by the addition of ornament may become as purely architectural as we please; all that is required being that the ornament should be beautiful in itself, should be applied with taste, and be appropriate to the purposes of the building. This is all that was done in the most artistic ages of the world, and all that is required to make good architecture now; and if set about in the right manner there is no building, from a pigsty to a palace, that may not be a pleasing object of architectural art, and no form of construction that may not be made an object of beauty.

To take an example of this:—In this diagram I have a style of construction that excited the indignation of some of my architectural friends to no small extent. "Here," they said, "is a man who is so conscious of the flimsiness of his construction that he begins to shore up his walls before he dares to put the roof on." And so it certainly is; but in principle it is identical with that adopted in every Mediæval cathedral in Europe. If analysed, nothing can be more monstrous than the stone shores which prop up every aisle and roof, and nothing more ungraceful than this acknowledged type of instability. Yet we all know into what forms of beauty the architects of the Middle Ages wrought their flying buttresses, and how pleasing their effect is at Amiens, Cologne, and our own Henry VII.'s Chapel.

If the "shores" of the Bermondsey warehouses were trussed and carved, and ornamented, as they might easily be, they might be made as beautiful in themselves as the tresses in the roof of Westminster Hall; and if they were applied to a hall built wholly of wood, they would be not only the most appropriate, but, so far as I know, the only mode of acquiring the requisite stability without encroaching on the internal space; and there is no reason whatever against their being applied even to the most ornamental buildings.

In fact, there is no reason why wood should not be used as well as stone and iron. All that is required is, that wood should be used with carpentry forms, stone with masonic, and iron as the founder or forger thinks most appropriate. Each is excellent when used in its proper place, and so as to tell its own story; but each is bad when used with the forms or applied to the purposes of the others. And plaster, too, is a most excellent architectural material when used for itself, though a detestable one when used either for stone or any other material.

But granting all this, and few would be inclined to deny it, we only now approach the great difficulty of the question, which is, what forms or what style of ornament we are to apply.

In the abstract it is easy to reply that ornaments are valuable in direct proportion, first, to the quantity, and then to the quality of the thought invested in them. The Corinthian order, for instance, has the thoughts of hundreds, perhaps of thousands of minds invested in it, and those of the highest quality, and in the best age of the artistic world. The Gothic arch has, perhaps, an equal quantity of thought invested in it, but it belongs to a less artistic age, and though bold and picturesque in the highest degree, its quality is certainly not equal to that of the Classical school.

Of all styles, that known as the Grecian Doric is perhaps the one most remarkable for the quality of the thought invested in it; but it was practised for so short a time that the quantity was insufficient to bring it to perfection, as is evidenced by the wooden forms which still disfigure its design and limit its flexibility. Had the Greeks persevered a few centuries longer in its use, it would have become the most perfect of all. But it was too pure for the Romans, and was left in the incomplete state we now find it in.

The Modern Italian is an immense inheritance of rich fragments, which have never been worked together sufficiently to make a complete style out of them.

All this, however, does not answer the question further than to show that we cannot and must not neglect the investment of thought that we have inherited, but must base our proceedings on what has been done before our time. We must commence from some established starting point, and the question is, from what point shall we set out in search of a new style suited to our wants?

If you ask one section of our architects, and that perhaps the most enthusiastic, certainly the most energetic, they reply instantly, "Pure Gothic" is our national style, and the only one that combines beauty with appropriateness to our wants and climate; but another, an older, and more experienced section point in triumph to the superior elegance and purity of Classical details, and can point to innumerable instances of that style being made to bend without violence to the varied exigencies of modern life.

There is still a third class, who repudiate both, and boldly assert that we ought not to copy either Classic or Gothic styles, but, like all other nations, have a style of our own, appropriate to our feelings and wants, and to them only.

These last are, no doubt, right in theory, but they are hardly aware of the difficulty of reducing their principles to practice; in fact, how nearly impossible it is, when we bear in mind, the ignorance and impatience of the public in these matters.

To explain how difficult the invention of a new style is, let me refer to the history of such an object, for instance, as the Corinthian capital. Its invention is certainly due to the Egyptians at least 1,000 years before Christ. It was thence imported into Greece, and they adapted it to their own beautiful acanthus, first using it with a water leaf, then with miniature Ionic volutes, but never attaining a perfectly balanced capital. That was reserved for the Romans, who, by employing Greek artists, and basing their endeavours on the experience of their predecessors, at last produced the capital known as that of the Temple of Jupiter Stator.

It thus took these nations more than 1,000 years to arrive at this point; and of these the last 300 were the most active and best directed in an artistic point of view of any that have occurred before or since.

So, too, it was with the Gothic pier and arch. Based on Roman experience, the Christians early commenced to try to invent something more appropriate to their purpose, and, after 1,000 years of earnest and uninterrupted progress, they at last succeeded in wholly emancipating themselves from former styles, and in creating that exquisite and beautiful combination of parts which is now enthralling the greater part of our architects; but this was not accomplished by one man, or one set of men, nor at one period, nor indeed in one country; but by slow, steady, and persevering efforts continued by generation after generation steadily progressing, and with a well-defined view through ten centuries of time. During the greatest part of this period, the art was not confined to builders or architects, but statesmen and priests, the poet, the man of science, and man of learning, worked hand in hand with the builder

* "A fool's *bolt* is soon shot."

† The following address was read by Mr James Fergusson, M.R.I.B.A. at the Brompton Museum of the Department of Art, on the 21st of December. We have given it in full.

and the stonemason to produce the great result. They went to work in the only way in which a great success was ever achieved by mankind, and the only way in which man will ever succeed in this, or in anything else that is worth our while trying after.

The one question that remains is, Can we do this now? Can we shake off our allegiance to the Gothic and Classical styles, and begin *de novo*, and work on steadily and progressively for years till we create a new style for ourselves?

It is easy to answer to this, that unless we do so our style is a plaything for the antiquary and the archæologist, and not for the true architect, and never will either really interest the nation or be worthy of it, or of our civilization; and it is easy to add that the first and most important thing to enable us to do this is a more general diffusion of knowledge with reference to the forms of art that have gone before, and a more correct appreciation of its aim and object.

And this brings me really to the subject of this lecture, namely, the means by which this knowledge may be best attained and diffused; for it will not suffice that architects or archæologists should be correctly informed on these matters, the information must be diffused through all classes; and all must lend a hand, either by influence or by practice, to inaugurate this great regeneration of art.

If not the only means, certainly one of the very best, is the institution of architectural museums, provided, of course, that they are established on cosmopolitan and scientific principles, and so as really to fulfil the object for which they are intended.

I am aware that professional architects are sometimes inclined to overlook or despise the advantages to be derived from these museums, as they have passed the stage of instruction at which they are most useful. Most architects travel in their youth, and study the more important buildings of the world on the spot, and they become familiar with plans and sections and drawings of details, all of which tell to them a clearer story and enable them to realize a building more perfectly than any cast or moulding, or model can do. Such a plate, for instance, as the diagram of the mouldings of Heckington Church is the delight of the professional architect; but not one unprofessional person in a hundred can comprehend what it is all about, whilst a cast of one of those mouldings would at once tell a story which all could judge of, and whose beauties and defects all could appreciate. Few, however, except those destined for the architectural profession have the advantage of scientific travel in their youth, and fewer still have leisure in after-life to master the technicalities of art, and to make themselves so familiar with the secrets of the craft as to be able to derive either pleasure or instruction from the technical modes of expression which are indispensable for the conveyance of really scientific knowledge. The consequence is that architecture has become the privilege and the exclusive property of a small and limited class of persons, and has consequently been narrowed into the reproduction of some technical or archæological form of art, rather than becoming the expression of the nation's wants and feelings, which is the only form in which it can be worthy of the nation's care, or of the attention of any man of true intellect or real artistic feeling.

So far as I can see, there is no institution so likely to forward this most desirable object as the establishment of an architectural museum on a proper scale, and with such means and appliances as are now available to the purpose; and if established on a sufficiently broad basis, and carried out with a proper cosmopolitan liberality of feeling, it must most materially contribute to the attainment of an object which all lovers of art so earnestly desire.

As in most instances, the French have perceived the desirability of this object before we were even well aware of its importance; and in the collections at the Palais des Beaux Arts, and at the Hôtel de Cluny, a foundation has been laid for the purpose. The latter, however, can hardly be called a strictly architectural collection, and the other has not yet received that development which must entitle it to a high rank in this *spécialité*.

Among ourselves, one of the earliest attempts was that of Sir John Soane, who brought together in his private residence in Lincoln's-inn-fields, a very extensive collection of architectural casts and illustrations, and built for them a gallery which is certainly about the best thing of the kind that has yet been done; though its effect, it must be confessed, is somewhat marred by the quirks and quiddities which he indulged in, in carrying out his architectural designs. This collection he left to the nation, and though he encumbered the gift as he did the style with incongruities which have considerably marred its usefulness, it is still well worthy of a visit from all, and should be most attentively studied by any one who proposes to do anything in the same direction.

Other private collections have been made, perhaps as extensive and useful as this, but they have been dispersed, and therefore need not now be referred to. It was principally out of the *débris* of that of Mr. Cottingham that the Architectural Museum in Canon-row arose, and, as far as it went, this was a step entirely in the right direction; but, like the parent institution, it was too exclusively Mediæval to perform, even in a limited degree, the functions of an institution to improve the taste of the nation, though, located as it now is under the same roof with the other collections of this department, it assumes a character of usefulness it never could have attained in its original locality.

The next great public effort that was made was at the Crystal Palace, and in its peculiar line of restoration it is by far the most complete and perfect that has ever yet been attempted. No one is less inclined than I am to find fault with what has been done there. It has filled a great void in the most perfect manner, and supplied *a* great want, though not exactly *the* want which was most particularly felt by the student of architectural art.

When the various casts and models were first brought to the Palace, and were arranged and labelled on the shelves of the workshops,—the capitals in one place, the pinnacles, the mouldings, the foliage, the canopies, &c. each in its own class and according to its date, they were far more interesting to the student, and conveyed far more information, than they do now that they are pieced into a modern design and all made to fit each other and toned together so as to lose the greater part of their own distinctive individuality. By reference to the Handbooks, it is true, you may disintegrate the greater part of the design, and, if you can forget the colour and the repairs and restorations, truth may be arrived at at last. But this is a painful, painstaking process, and the very reverse of what is wanted. Where architecture is the main object, truth ought to be presented in its simplest and purest form, and the facts conveyed in the most direct manner to the mind of the student. The process followed in the Crystal Palace is something like transposing the problems of Euclid into lyric verse, or teaching theology by means of the religious novel. There are some minds that can only be approached by having their wholesome food clogged with sweetness or so savoured with spices as almost to destroy its nutritious qualities, and it is well to provide instruction even for these; but the wholesome and real learning which will fructify to good is that which is conveyed in its most unsophisticated form and without any artificial stimulants whatever.

Notwithstanding this, there is no doubt but that the Architectural Courts at the Crystal Palace have done a great deal of good in awakening attention to the subject, and thus conveyed to many an amount of instruction they never would have imbibed had it not been presented to them in the enchanting form which it wears under the crystal roof at Sydenham. Besides this, the Alhambra Court and the Pompeian House are reproductions so complete and perfect as to give the best possible idea of the two objects they represent, and a far better idea of the two styles than can be obtained by any other means, except a visit to the places themselves; and the other Courts, though not reproductions, are most pleasing reminiscences of the various styles whose names they bear.

Though this has, therefore, been done, and so well done, there still remains the want of a more scientific museum, which ought perhaps to have preceded, but must now be considered as the complement to this, and together they will enable us to boast of having a more complete illustration of architectural art than any nation of Europe.

The museum which I am now referring to ought, in the first place, to consist of a collection of casts of architectural ornaments, not only of one style, but of every style of art, certainly not every ornament, but only a selection of the best, and of those most typical of the style. Colour should never be introduced except where it now actually exists, and only to that extent. I need hardly add that they must be arranged chronologically, and in such distinct groups as to prevent any confusion amongst them. This will form, so to express it, the only full-sized or original part of the museum. But if the collection stopped here, however interesting it might be to the architect or stone-carver, it would be of little use to the general student, and models of the entire buildings, or at least of those parts to which the ornaments belong, must be supplied; for no architectural detail is of any value except with reference to the purpose for which it is used, or its appropriateness to the place where it is found. Where models are not attainable, drawings, and especially photographs, must form part of the collection. From its accuracy and truthfulness the latter forms a most invaluable adjunct to such a museum as this, and supplies a desideratum which a few years ago was practically unattainable, but without which such a collection would lose one half its value.

One further adjunct is required, which is a good Architectural Library. With these, the student of the fine-art architecture may master the subject. He may see what form in art is most pure and elegant in itself; and from all being reduced to a common denominator—the plain unvarnished plaster cast—his judgment will not be biassed by the religious enthusiasm so inseparable from the precincts of a cathedral, or by the stirring associations which surround the Forum or Capitol of Rome. He will be able to form his own judgment, not only as to the intrinsic beauty, but also as to the appropriateness of any particular style; and this, as I have already explained, is the true province of the architect in his quality of artist.

But, as I have also attempted to explain, there still remains the more material, but equally essential, qualification of "good building," and the application of common sense to the arrangement and construction of buildings; and a National Museum would not be complete without also comprehending this great department. This should consist of a selection of the best building materials, with such information as may be admissible with regard to their properties, and more especially of any new inventions, or new applications of older forms; and this again, like the fine art branch, should be accompanied by models of roofs, floors, foundations, and other difficult parts of construction, more especially those which are of importance in a sanitary or fire-proof point of view. These two great divisions, placed side by side, would convey a mass of information which has never yet been accessible to the public, and convey it in a form which all could comprehend and make use of.

I need hardly add that such a museum as I have been speaking of, could hardly be attempted by any private individual or association. The Institute of British Architects, it is true, possesses a fair library, a few ornamental casts, some models, and a few specimens of building materials. The collection, however, is far too small to be considered as a representation of the art, and there is no hope of their ever being able to extend it so as to make it generally useful or interesting to the public, for the simple reason that it would never pay.

Numbers may be attracted by the pleasing pictures of the Crystal Palace; but the votaries of plain, unvarnished truth are too few to make a paying public, and in the present state of society and of feeling towards architectural art, people are by no means inclined to take much trouble, still less to pay for such information as such a museum would afford, and it is only a Government that can do it, and they must look to the improvement in taste and general diffusion of knowledge for their reward, and certainly not to the pecuniary success of the undertaking.

This I am afraid is only too forcibly illustrated by the history of the Architectural Museum in Canon-row. No men could be more enthusiastic than those who set it on foot; none could have worked more earnestly; and funds were subscribed with a liberality which is not often obtainable for such institutions. But notwithstanding all this, it could hardly have gone on much longer without Government aid, which was supplied, in this instance, by affording it a habitation under this roof. During its brief existence elsewhere, a very large and interesting collection of casts was got together; but owing to the tastes and feelings of its principal supporters, almost exclusively derived from Mediæval art. In itself, this collection, though useful and valuable, can only be considered as a fragment of what a national museum must eventually become. Placed where it now is, its value is immensely increased, for, besides this, there is a collection of models prepared for Mr. Nash, brought from Hampton Court, and a still more valuable collection of models of the works of Sir Christopher Wren, brought from St. Paul's and Westminster Abbey, and a variety of miscellaneous specimens, which only require completing and the gaps filling in,

to make this department a reality, and a potent means of conveying instruction of the best class.

In the building department also a great deal has been done. Numerous specimens of bricks and terra cotta of various forms, and adapted to various purposes, have already been brought together, and the collection of models is rapidly increasing; so that in every point of view the work may be said to be fairly in hand, and with the energy displayed in every department of this Institution, and the means at their disposal, there can be no doubt but that an Architectural Museum will shortly be brought together on a scale worthy of the nation.

All that is now wanted is a well-digested scheme, and the exercise of a sound discretion in regard to what should be admitted and what rejected. An "*omnium gatherum*" of every sort of thing would not only be useless, but would defeat its own object, by rendering the search after any peculiarity or point of information so fatiguing that few would attempt it; besides that it would take up such a space that the scheme would break down under the immensity of its own requirements.

It would be tedious, if it were possible (which I very much doubt), to attempt to sketch out such a scheme in a single lecture. The great guiding principle should be, that nothing should be admitted to the Fine Art Department but what is conducive to the diffusion of a correct knowledge of architectural art, and to the general improvement of taste in these matters; and nothing into the more utilitarian department which is not conducive to a sound knowledge of construction, or promises to be advantageous in a utilitarian point of view.

If these principles are kept in view, selection carefully applied, and rejection sternly enforced, among the thousands of specimens which are sure to be offered to an institution like this, it is almost impossible but that in a few years we must have a museum of architectural art worthy of the nation; and if the Government will only support it as they ought to do, they will, through the medium of one of the most important of the fine arts, do more to improve and elevate the taste of the people of England than by any other means which, so far as I know, are at present available for the purpose.

THE HOUSES OF PARLIAMENT OF VICTORIA.

IT may not be generally known to English readers that their brethren at the Antipodes have been paying some attention to the arts, and employing a portion of their riches in adorning their capitals with buildings in which both design and first-rate executive talent are combined. Foremost in this good work are the Victorians, whose capital, Melbourne, will, if we may judge from what is now doing, in a few years be as famed for architectural works as the colony is for varied and valuable resources.

The independence of the colony having been declared only a short time previously to the gold discovery, the newly-formed Legislature had to rent St. Patrick's Hall for holding its sessions in, until suitable buildings could be erected. The revenues being so ample, and the prevailing taste being in favour of an expenditure in order to obtain something worthy of her golden reputation, competition designs were advertised for, and, after considerable pains had been taken, those of Messrs. Knight and Kerr were adjudged the first prize, and these gentlemen were subsequently engaged as the superintending architects, under the orders of Capt. Pasley, R.E. who is the commissioner of public works now, but at that time was colonial engineer. The new constitution of the colony requiring two chambers, instead of one as formerly, full scope was given for architectural display, both in the size of the building and its internal arrangements.

The city of Melbourne stands upon two hills, and is considerably elevated at both extremities above the level land next the river. On the eastern hill, and immediately opposite the end of Bourke-street (a noble street of 100 feet wide) stands the pile containing the two chambers of the Legislature of Victoria, the principal façade of which will be seen from any point in this street. The site is one of the finest in the whole city, and being so highly elevated, and surrounded by the principal public gardens and ornamental grounds reserved for recreation, will be seen to great advantage, and the view on all sides will not be in any way obstructed by blocks of unsightly buildings, as is but too often the case in older cities. The plan of the whole is rectangular, and will, when complete, measure about 320 feet in length, 200 feet in depth, and 66 feet in height. As yet the centre block of building is the only part completed; but this will be surrounded on all sides by the principal exterior design. This centre block, however, contains the two chambers of the Legislature, with committee-rooms, and other necessary apartments for carrying on the public business. An area or yard will separate the north and south sides of this block from the external shell; and on the other two sides a corridor, roofed in, will divide it from the principal front building, and that facing the east. This corridor will run round the outer buildings.

The basement story contains store and record rooms, and apartments for various offices. The roofs of these and the passages are formed of groined arches, giving great strength and adequate support to the principal floor above, as well as security in case of fire.

Ascending either of the flights of stone stairs leading to the halls, we shall begin with the Assembly Chamber, where the principal business of the country is transacted. This is a fine room of 72 feet by 40 feet, within the walls, and 38 feet high. The style of architecture adopted for this hall is the Roman Ionic; the compartments on the side walls being divided, and the entablature above supported by fluted Ionic pilasters. At either end, coupled columns of the same order are ranged across, immediately in front of the reporters' and strangers' galleries. The Speaker's chair is placed in an alcove at the east end; and between the pilasters on the side walls are panels intended to be filled with fresco paintings, while below, and on a line with the pedestals of the pilasters, are other panels of a smaller size, intended for bas-reliefs.

The ceiling is formed in three curves, the centre portion being raised above the radius of the sides, and filled with enriched plaster work. The sides are filled with curved glass lights, divided out by guilloched ribs. The house is lighted entirely from this ceiling, the light from the upper windows being thrown through the curved sashes above-named. Passing through this medium, the rays of the sun never penetrate the house: the ventilation is kept under control, and the dust is prevented from entering.

Colour has been applied to increase the effect of the decorations of this hall. In such interiors the effect of colour is absolutely indispensable, and when tastefully applied, produces a marvellous effect.

The Upper House, or Legislative Council Chamber, is of a character more highly ornamental than the Hall of Assembly before described; the order of architecture employed being enriched Corinthian. Full columns of this order are ranged round the walls, standing out about 5 feet. There being fewer members to sit in this chamber, a much greater space has been devoted to architectural embellishments. Galleries for ladies occupy the whole length of the side walls, and on the floor of the house, without the bar, accommodation is provided for the House of Assembly. At the back of the ladies' gallery, are niches between the columns, intended for statues, we presume, of those eminent statesmen who *may* benefit the country by their talents, none of whom have, as yet, however, made their appearance in the golden colony. Below these niches are panels suitable for frescoes, and which we hope will in due time be filled with examples in the highest style of art.

The ceiling of this hall is elaborate: arches, springing from column to column, intersect the elliptical curve of the centre span, which is coffered and highly enriched. The spaces between the arches springing from the columns are filled in with life-size figures in mezzo-relievo, the subjects symbolized being Justice, Mercy, Liberty, Plenty, Poetry, &c. As in the other chamber, the light comes through the upper windows, and enters the chamber through a semi-dome of glass in diamond-shaped panes, formed over the arches before described. This is a peculiarly elegant and novel mode of throwing in the light, and has a very rich effect. The spaces in this ceiling are filled with a diaper pattern in plaster, and the various mouldings and ornaments are all of that character which is the distinctive feature of the Corinthian order of architecture. The galleries are supported by brackets of iron, but cased over with wood.

When the writer of this paper left the colony, the external buildings had not been commenced. Through the courtesy of the architects, he was enabled to inspect the designs. The style is the Italian, the main features in the principal façade being a noble piazzo, and magnificent Ionic columns, rising to nearly the whole height of the building. Over the centre portico, a richly ornamented tower, 250 feet high, is intended to be erected, a feature which will add much to the grandeur of the whole structure. This expensive part of the building may not be erected for some time yet, but the foundation and base will be incorporated in the present front, and the work can then be completed at any time. When this tower is finished, it will form a prominent object all round, and, from its elevated position, will be an excellent landmark in approaching the bay.

The delay in building the external and more ornamental parts of the building has arisen from the difficulty of obtaining stone of the proper kind for such work. The work already executed is done with the dark-blue stone so abundant in the neighbourhood of Melbourne, but, though of the most durable kind, it is quite unsuited for any ornamental work. Granite of fine quality, both grey and red, can be had in any quantity, but the expense of working it is too great where labour is so high. The architects hope, however, to accomplish their object by employing a limestone or marble which is found not far off from the site of the works, and if they succeed in this the effect of the design will be good. There is no want of stone in the colony of almost every kind suited for building, but some of the best is only found in localities where it is not very accessible; and, though a difficulty of the kind is easily surmounted in this country, it is different in a colony like Victoria.

Until this public building afforded an opportunity of calling for executive talent and skill, few in the colony were aware of the existence of that amount of skill which has been displayed in the works already executed. Until there was a demand for skilled workmen, the colony did not know they were within reach. Sculptors, modellers, and carvers appeared, each well fitted for undertaking the higher departments of their respective arts. What is already done has been well done, and gives promise for the future: so that it is not too much to say that the Victorian Houses of Parliament will be one of the finest buildings in the opposite hemisphere.

NATIONAL DISCOUNT COMPANY'S OFFICES, CORNHILL.

THIS building is in course of erection for the National Discount Company, on the south side of Cornhill, at the corner of Birchin-lane. The business of the company will be carried on on the ground floor, all the inner walls of which are supported on columns, to render the whole area available. The public office is large and lofty, 44 × 25, and 19 feet high. There is a good board-room, 20 feet square, with manager's and waiting rooms, secretary's offices, and other conveniences. The dividing partitions are of iron and glass.

The basement is also appropriated to the use of the company, and includes luncheon rooms, lavatories, &c. for clerks, living and bedroom for porter, and extensive strong room accommodation; also a boiler-room for the apparatus intended to warm the public office and other parts of the building.

A separate entrance with staircase at the western corner leads to the upper floors, which will be let either to public companies or as offices, and will, it is expected, prove largely remunerative.

The Cornhill and Birchin-lane fronts are faced with Portland stone; the roof is of iron, partly wrought and partly cast, and covered with slab slate; the floor construction throughout is fire-proof, consisting of brick arches on girders, levelled in concrete.

The style is Italian, with details of the Renaissance period, and the position one of the best in the city of London, standing as the building does immediately opposite the open space eastward of the Royal Exchange. The frontage in Cornhill is 60 feet.

The builder is Mr. Myers, who is bound to complete, ready for occupation, by the end of next July.

The architects are Messrs. Francis, whose plans were selected by the directors in a limited competition.

A LOFTY CHIMNEY.—Messrs. Crossley, of Halifax, are just completing a new chimney in connection with their works at Dean Clough, which will be of extraordinary dimensions and weight, and will outstrip every other that has ever been built, even in Lancashire. Although placed in a valley, it has attained a level with the summit of Beacon-hill. Its height is 127 yards, the width at the bottom being 10 yards. The weight of brick and stone used in the erection is estimated at 9,685 tons.

NATIONAL DISCOUNT COMPANY'S OFFICES, CORNHILL.—Messrs. Franc[illegible], Architects.

THE ARCHITECTURAL EXHIBITION.

THE hanging of the collection, effected under many difficulties, is now completed, and next week the Exhibition will be opened to the public. One side of the large room, and part of one in the small room, are wholly occupied by designs for the Government Offices, including those of Messrs. Barry, Kerr, Porter, Hirst, Papworth, Rennie, J. P. Jones, and others. In the third room are some of the designs for the Constantinople church; the Brotherton Memorial; Brighton Pavilion; and the Blackburn Infirmary. The selected design for Lille Cathedral is exhibited for the first time, very fully illustrated; and one of the authors of it, Mr. Burges, has a quaint design, set forth in imitation of an ancient "pattern" for a fountain. Mr. Digby Wyatt shows a Corrugated Iron Church, built for exportation to Rangoon by the East-India Company; and the Public Hall of the Calcutta Post-office. The Floral Hall, to be attached to Covent Garden Theatre, is illustrated. There is a fair show of churches and schools, and a large number of house-fronts, introducing coloured bricks and some invention. Much of value, too, will be found in the small sketches scattered about, including those by the "Sketching Class." Architectural photographs cover screens in the centre of the large room; and building appliances fill two rooms as heretofore.

ENGINERING AND OTHER WORKS ABROAD.

OWING to the late financial crisis, the Southern Company of France (*La Compagnie du Midi*) some time ago suspended their works on the Pyrennean lines, and dismissed all their staff. We are happy to learn that the company, foreseeing a more favourable position, have rescinded their order, and recalled most of their *employés* into active service under M. Salles, engineer-in-chief of construction. Thus the works of that group will be soon recommenced. The works of the same company between Narbonne and Perpignan were to be opened on the 15th inst. This branch, though it is no actual part of the Pyrennean group, will form one of its first "feeders" from the southern French line.

The line from St. Etienne to Saint-Lambert is again urged forward by the "*Courrier de la Loire*" as a necessity, it having been voted by the council-general of the Loire on their last sitting.

The porcelain works of Baudour (formerly belonging to the late M. Defuisseaux) will commence working on the 1st January next under a French company. It may be recollected that this is the important establishment that first tried (and it succeeded!) to bake white china by coal. Their gilt and painted porcelain is still baked by wood alone.

A French engineer, M. Darblay, has obtained from the Ottoman Government the necessary authorization to put up steam-mills for grinding corn at Salonica. The company is to be formed with a capital of 20,000*l.* divided into 100 shares of 5,000 francs each. The same engineer has also founded an Egyptian Mill Company, consisting of nine merchants from Paris, Etampes, Alexandria (Egypt), and Marseilles, who form the directory. Their office has just been opened.

The works of the Ardennes Railway have been pushed forward with the greatest vigour in the neighbourhood of Rethel. The bridges over the canal and the supply are terminated, also the bridge over the Vouziers road.

In Sardinia, the Alexandria and Aqui Railway is shortly to be opened. Trial trips have already taken place as far as Cassino.

The Italian Railway Company (*Compagnie du Chemin de Fer de la Ligne d'Italie*) has obtained from the Sardinian Government and the State Council of the canton of Geneva the following concessions:—

1. Line from Geneva to the Sardinian frontier.
2. The Chablais line, from the Genevese frontier to the extremity of the lake of Geneva.
3. The lines of the Haut and Bas Valais, from the eastern end of the lake of Geneva to Brigg at the foot of the Simplon.
4. The Simplon Pass Railway, from Brigg to Domo d'Ossola.
5. The Lac-Major Railway, from Domo d'Ossola to Arona.

The Sardinian Government have given up the high road pass over the Alps, in order that the company may construct a tramway similar to that projected by the Victor Emmanuel Railway Company for the passage of Mont Cenis during the construction of the tunnel under the Alps in Savoy.

The Valais line is expected, from the extraordinary activity which reigns on those works, to be open next summer. Thus the Alps are likely to have three railway passes,—that of the Col de Frejus, near the Mont Cenis, traversing the Graian Alps by a tunnel 12 kilomètres long, in course of execution; that of the Simplon, under the Pennine Alps, shortly to be commenced; and a third likely to be decided upon somewhere in the Cottian Alps, to join Gap in France with Pignerol in Piedmont.

The inauguration of the line from Albi to Carmaux took place on the 10th ult. with much state. The prefect of the Tarn, and many other functionaries, assisted at the ceremony, at which M. Eugène Manuel, the Marquis de Soulages, and the Marquis de Naurois, directors of the railway, did the honours. The special train made the trip of 17 kilomètres in twenty minutes.

On the 1st of January the line from Alençon to Argentan is to be opened.

The Caen and Cherbourg line is to be opened on the 1st of July next. A splendid inauguration will be accompanied by a *fête* at Cherbourg.

The ancient and beautiful forest of Chantilly, the property of Messrs. Jyverland and Probert, London bankers, is about to be cut in two by a deviation of the present *Chemin de Fer du Nord*, which, starting from *La Brèche-St.-Denis*, near the fort, will abut upon the line again at the Creil branch. This "*rectification*" will save the enormous distance of from 20 to 25 kilomètres. The works are nearly completed, and are to be opened shortly.

The engineers of the Lyons and Geneva line have at last been able to arrest the progress of the slip of the Surjoux Hill, mentioned in the *Builder*, p. 706. Owing to the favourable state of the weather the sand holds firm, and the vaulting continues; but, as soon as the thaw sets in, their efforts will be put to the severest test.

In the Grand Duchy of Baden the Upper Chamber will soon be called upon to decide as to various railway projects. The result is watched for with the greatest anxiety. The lines in vogue are the following:—Waldshut to Constance; Durlach by Pforzheim to Muchlacker; Odenwald de Heidelberg to Wurzbourg. The line projected from Kinzig appears to have been abandoned.

In Hanover, the Royal Commission have reported that a line from Vienenburg to Hildesheim, by Goslar, would pay 4 per cent. net profit, estimating the working expenses at 50 per cent.

THE NEW EXHIBITIONS AT THE BRITISH MUSEUM.

DURING the last few days, crowds of holiday-makers have visited and been delighted by the book and manuscript department of the British Museum. The galleries of antiquities and natural history have long been freely thrown open to all. There was, however, within the walls of the Institution, a rich mine of the most interesting description, which, so far as the mass of visitors to the British Museum were concerned, was unworked. The treasures of the great collection of printed books and manuscripts were only known to a limited number of persons. Some time ago we directed attention to the general interest which must be felt in such a collection as this, and advocated the necessity of making it more available to the multitude. This, we are glad to say, has now been done, and the chief treasures of this famous library have been placed permanently before the eyes of all visitors, and made quite as accessible as the other marvels of the Museum. We strongly advise an early visit.

On entering the Museum, a doorway, on the right-hand side of the hall, leads to the Grenville library, an apartment which does not occupy much ground, but is remarkable for the choice nature of its contents. This portion of the British Museum is, by the will of the Hon. Mr. Grenville, the munificent collector, to be kept together and considered as a distinct library, in the same manner as that formed by George III. It has, however, been considered advisable to borrow certain valuable copies, and place them out of the room, in order to complete the arrangements which we will presently describe. Some discussion may be raised on this point, but we cannot imagine that, provided the donor could have formed an idea of the use which would be made of his gift, he would have raised any objection. This splendid collection is said to have cost Mr. Grenville upwards of 54,000*l.* for the books and manuscripts alone; and large sums may be added for binding, some volumes having cost as much as 30*l.* each. It was the labour of years to gather these books together; and by the care taken in the purchase the Grenville library has become a lasting memorial of the liberality, industry, and taste of the collector, and for centuries yet to come will be useful not only to English scholars, but also to the world at large.

In this room are arranged in cases specimens of the earliest printed books: here is to be seen a first attempt at printing, before the use of moveable types of metal or wood. Amongst the most rare of the books here shown is "The Bible of the Poor," in which the letters and illustrations are printed from carved blocks of wood the size of a page. These are thought to be the work of the card-makers of the fifteenth century. In this volume we see the first step from the manuscript books to the rapid production of them by mechanical means. The coloured letters, and other illuminated parts, have been added by hand. It is curious to compare these volumes, and to examine the brightness of the colours, which now strike the eye after they have been applied upwards of 300 years. Admitting the work to belong to the fifteenth century, the prevalence of semi-circular and segmental arches is curious. The costume, also, would seem to be a little later.

Amongst the books here may be noted a German Calendar, by Magister Johann von Kunspeck, that is, Johann Müller, called Regiomontanus,—a block book produced at the press of the celebrated astronomer Regiomontanus, at Nuremburg, about 1474. This is the earliest printed almanac.

The Seven Ages of Man, also a coloured work from blocks, will attract attention. The other early examples of wood-engraving and printing in these cases have considerable artistic merit, and contrast favourably with the book-illustrations which were in use two centuries afterwards: the expression of the faces in some of the block-books—the Apocalypse of St. John, for example—is excellent.

Next to the Grenville Library is the manuscript-room, and in order properly to trace the progress of printing, we should pass through this spacious apartment to the King's Library, which leads from it. We will, however, take the matters as they come, and really it would not be easy to pass by the manuscript department without notice, where, in addition to the long rows of volumes which are ranged along the walls, are displayed, in glass-covered cases, relics of the most distinguished personages of English and other history: for instance, in one part are autograph letters of eminent Englishmen and foreigners: amongst them are letters of Sir Thomas More, Sir Walter Raleigh, Philip Sidney, Cardinal Wolsey, Cranmer, John Knox, Sir Isaac Newton, and a host of others, all suggestive. We pass on, however, to a letter by Sir Christopher Wren, written in a neat and careful hand. The contents are as follows:—

"In pursuance of an order of the committee for City lands, I doe herewith offer the several designs which, some months since, I showed His M^tie^ for his approbation, who was then pleased to think a large ball of metal, gilt, would be most agreeable, in regard it would give an ornament to the town at a very great distance; not that His M^tie^ disliked a statue, and if any proposal of this sort be more acceptable to the City, I shall most readily represent the same to His M^tie^.

I cannot but commend a large statue as carrying much dignity with it, and that which would be more valuable in the eyes of foreigners and strangers. It has been proposed to cast such a one in brass of 12 foot high, for 1,000 lb. I hope (if it be allowed) we may find those who will cast the figure for that money of 15 foot high, which will suit the greatness of the pillar, and (as I take it) the largest at this day extant; and this would undoubtedly be the noblest finishing that can be found answerable to soe goodly a work—in all men's judgment.

A ball of copper 9 foot diameter, cast in several pieces with the flames, and gilt, may well be done, with the ironwork fixing for 350 lb.; and this will be most acceptable of any finishing inferior to a statue, by reason of the good appearance at a distance, and because one may goe up into it, and upon occasion use it for fireworks.

A phœnix was at first thought of, and is the ornament in the wooden model of the pillar which I caused to be made before it was begun, but, upon second thoughts, I rejected it, because it will be costly, not easily understood at that height, and worse understood at a distance, and, lastly, dangerous, by reason of the sayle the spread wings will carry in the wind. The balcony must be made of substantial well-forged work; there being no need at that distance of filed work; and I suppose (for I cannot exactly guess the weight) it may be all prepared and fixed, according to a good design for fourscore and ten pounds, including

painting. All which is humbly submitted to your consideration.—CHR. WREN."

This refers, it will be seen, to the "monument."

Not far from the above is a business account in the handwriting of Hogarth, the painter. It stands thus:—

	£	s.	d.
"Marriage-à-la-mode; a last Payment	0	10	6
Four Times of the Day, and Strollers dressing in a Barn	1	5	6
The Fair	0	5	6
The Midnight Conversation	0	5	0
Enraged Musician	0	3	0
Distrest Poet	0	3	0
Before and After, two prints	0	5	0
Sleeping Congregation	0	1	0
Mr. Garrick in the Character of Richard III.	0	7	6
	3	5	6"

Below the above, written in a more clerkly style than that of the famous painter, is the receipt of Anne Hogarth.

A step or two further are royal autographs, letters by Mary of Scotland, Ann Boleyne, and other of the queens of Henry VIII. who could write. Here may be seen the elegant writing of poor Lady Jane Grey; the different styles of the Princess and Queen Elizabeth,—that delicate Italian hand which she could pen to her loving cousin, Edward VI.; the huge signature of state occasions, and those characters which were used with vigour when the virgin queen threatened to "unfrock a bishop." Amongst the autographs of royal personages that of Oliver Cromwell will not be overlooked.

We scarcely in a restricted space know what to mention, for on all sides we are tempted by such matters as Nelson's pen-and-ink sketch of the battle of Aboukir, made with his left hand; the late Duke of Wellington's enumeration of the cavalry, made on the field of Waterloo; the manuscript of Sir Walter Scott's novel of "Kenilworth;" Pope's manuscript translation of the "Iliad," most of which is written on the backs of letters; the agreement between Milton and his bookseller; the MS. of the "Masque of Queens," by Ben Jonson; Sterne's "Sentimental Journey;" the diary of John Locke; Dr. Johnson's tragedy of "Irene;" the note-book of Leonardo da Vinci, in which are many drawings; and a sketch-book, with copious and most valuable drawings and written notes by Albert Durer.

Some of the illuminated documents are very beautiful, and amongst the most remarkable is the richly illuminated dowry deed, drawn for Ludovico Maria Sforza Visconti, Duke of Milan, to his wife Beatrice d'Este, 28th January, 1494. Here, also, are curious charters, &c.; and the Alexandrian manuscript of the fifth century must not be passed over without notice, for it is the most ancient copy of the sacred Scriptures. There are in the Museum some records of those events, on Papyrus, which are said to have been written about the lifetime of our Saviour, but they are not of such importance as the above-named manuscript.

St. Cuthbert's manuscript, as it is called, but which was written by Eodfrith, Bishop of Lindisfarn, 698—720, is well worthy of notice.

The illuminated books, the production of different countries of the fifteenth and sixteenth centuries, form an interesting study. There is also the famous Latin Bible, which was probably written in the reign of Charles the Bald, king of France, about 845. Some deeds on Papyrus date as far back as 592. Besides the interest of the contents of the interior of the volumes, the ancient binding of many of them is both curious and beautiful. There are also Oriental books of various dates, and volumes on rolls, and in other singular shapes; and a collection of the great seals of England, from the time of Edward the Confessor to Queen Victoria: the latter has just been added, and enables us to compare the skill of English artists at different periods. There is also a collection of ecclesiastical seals that may be usefully studied.

We overlook many matters which are worthy of mention, and proceed to the King's Library, in the spacious interior of which are arranged in cases along each side the continuation of the books which show the progress of printing, beginning with the Mazarin Bible, the first book printed from moveable types, supposed to have been printed at Mentz about 1455; the first Psalter, date 1457; examples of printing, 1459—1462, &c. We find arranged in due order the earliest copies produced by the famous printers of Nuremburg and Strasburg. The goodness of the ink of the early printers is very noticeable. "The Game and Playe of the Chesse" (the first book printed in England); "Cronycles of the Lond of Englond," printed by Caxton, in Westminster Abbey, will be found; and there are several works by this worthy, and by Wynken de Worde, and other English printers. The fine copy of Livy, printed at Rome, in 1496, was purchased by Sir Mark Sykes, for 903 guineas. The first book illustrated by copper plates, various editions of the works of Shakspeare, Milton, &c.; illustrations by Bewick, and fifty other masters, will attract attention.

Some books have an additional interest, in consequence of their having been in the possession of eminent men. Amongst these is a Bible which belonged to Martin Luther in 1542, and afterwards to Melancthon, both of whom have written in it. Each book is ticketed with a brief description, and the public have reason to thank those who have afforded them this intellectual treat. We trust that it will not be long before means are contrived for exhibiting the rare contents of the "Print Room," in an equally satisfactory manner.

PROVINCIAL NEWS.

Hallow (Worcester).—New national schools for boys and girls have been opened here. The building is in the Middle-pointed style, from designs by Mr. W. J. Hopkins, of Worcester, architect, and consists of two school-rooms, each 33 feet by 16 feet, and 23 feet high, with class-rooms, 14 feet by 11 feet 6 inches, cloak-rooms, &c. Each group of rooms is comprised under a steep-pitched roof, covered with Broseley tiles, one end of which is finished with stone coping, and contains a three-light pointed window, the other end being hipped and having a square-headed window,—thus distinguishing the school from the subordinate rooms. The side windows are of three and four trefoil-headed lights. The exterior is ornamented with polychromatic brickwork; but the appearance is marred by the absence of a bell-turret, the committee not having sufficient funds to carry out this feature at present. No material used in the building is concealed from view or made to appear other than what it is. The real doors, &c. are merely varnished, and the brickwork in the interior, instead of being plastered or colour-washed, as usual, is rendered in patterns (white, red, and blue). The rooms have open-timbered roofs, ceiled between the rafters.

Burton-upon-Trent. — The principals of the new schools for Christ Church district have been raised and fixed, and show the extent of the schools. The boys' school-room will be 75 feet long and 34 feet wide, without division. This room will, doubtless, be made available for public purposes, as it nearly doubles in area the town-hall: the height from floor to underside of roof, which will be open, and the woodwork stained, is 40 feet. The bell-turret will be 50 feet in height. Mr. G. E. Street, of London, is the architect; and the designs are being carried out by Mr. Wm. Clarke, of Burton-upon-Trent, builder.

Inverness.—The town council of Inverness have resolved to erect public slaughter-houses, and at a recent meeting of the town council estimates for the work were approved of. The estimates in all amount to 1,240*l.* 11s.

CHURCH-BUILDING NEWS.

Foulmire.—A Perpendicular window has lately been placed in the west end of Foulmire Church, by Messrs. Rattee and Kett, of Cambridge. The cost has been defrayed by the Hon. and Rev. Arthur Savile, the rector.

Datchet.—The new parish church of Datchet was opened for Divine service on the 22nd ult. by the Bishop of Oxford. The original church, an inconvenient and dilapidated structure, was pulled down, with the exception of the tower, chancel, and part of the north wall. A south aisle has been added, and the church lengthened towards the west. The work is in the Decorated style, and includes a pulpit, reading-desk, communion-table, and rails, in carved oak, and a font of veined alabaster. The cost will be 2,400*l.* Two stained windows for the chancel have been given, and the flooring within the rails is to be laid with Minton's encaustic tiles. The funds are being raised by voluntary subscription, but there was lately a deficiency of about 400*l.* Mr. R. Brandon was the architect, and Messrs. Dove, of Islington, contractors for the building. Among the contributions were—100*l.* from the Queen, 10*l.* from the Duchess of Kent, 150*l.* from the Duke of Buccleuch, 150*l.* from the Dean and Canons of St. George's Chapel, Windsor, patrons of the living, &c.

Hinton St. George.—A design for a mural monument has just been selected by the Countess Poulett, to be erected here, in memory of her children. It consists of a figure, to be executed nearly life-size, in white marble, of Resignation under Bereavement; one foot resting upon a plinth, which is inscribed with the words, "Not my will, but Thine, be done;" while beneath, with architectural detail, will be arranged the inscription panels. It was designed, and is now being executed by Mr. Physick, of London, sculptor.

Thelwall.—A new chancel has been added to Thelwall Church, Cheshire, and the windows have been filled with stained glass. Two of the latter were the gift of Mr. James Nicholson, of Thelwall Hall, near Warrington: they were produced at the stained glass works of Messrs. Edmundson and Son, of Manchester. The windows contain the following subjects, viz.—in that on the south side, a two-lighted one, is illustrated Abraham offering up Isaac, typical of our Lord's sacrifice, with an angel below bearing a scroll: in the other light is represented Moses lifting up the serpent in the wilderness, typifying the Crucifixion, with text: in the window on the north side are two representations of the Prodigal Son. The floor is laid with Minton's decorated tiles, and the walls, roof, &c. are painted, and enriched with texts and symbolical designs.

Worsbrough-Dale (Barnsley.)—The foundation-stone of a new church has been laid at Worsbrough-Dale, near Barnsley. Mr. Wentworth, of Wentworth Castle, the lord of the manor, has subscribed 2,000*l.* towards its erection, and 1,000*l.* towards its endowment. The site was contributed by Mr. John Jeffcock, of Cowley Manor, near Sheffield, lord of the manor of Darley, and a large coal-owner in the township. The architects employed are Messrs. Flockton and Sons, of Sheffield. The church will be in the Early English style of architecture, and will consist of a nave 43 feet high to the ridge of the open timbered roof, chancel, south aisle, porch, and tower and spire, and is so arranged that a north aisle may be added. The nave, aisle, and chancel will be seated with open benches for 300 adults and 150 children on the ground-floor, there being no galleries. The vestry will be in the tower. The whole of the interior woodwork will be of deal, stained and varnished. The nave and aisle will have between them an arcade of stone in four bays, carrying the clerestory. The total length of the interior will be 92 feet 6 inches; breadth across nave and aisle, 35 feet 4 inches; and across the chancel 19 feet. The tower and spire will rise to a height of 125 feet. The contractors for the several departments of the work are, Mr. James Taylor, Worsbrough-common, mason; Mr. Goodwin, of Tinsley, near Rotherham, joiner and carpenter; Mr. Wm. F. Brown, plumber and glazier, and slating; Messrs. Hall and Jenkinson, plastering; and Mr. Charles Rogers, staining and varnishing, all of Barnsley.

Dundee.—The Wallacetown Free Church has been opened for Divine service. The building is a Gothic structure; as yet, for want of funds, minus the intended spire over the north-west entrance. Mr. C. Edward was the architect.

THE WAGES OF OPERATIVES.

HONOURED SIR, Having read an article in your widely-circulated paper, entitled "The Joiners of Manchester and London," signed Thomas Preedy, I am anxious for you to insert in your useful columns an answer to the said article, which may not be out of place in the present crisis, hoping it may be good for the employer and employed. The masters of Manchester made an agreement formerly, but nine or ten weeks' since they wished to alter the said agreement; but the men stood to the old agreement, and were opposed for eight weeks. Some men were locked out, to weaken their power of unity, and your correspondent "T. P." says they ought to accept any reasonable agreement. Was the old agreement unreasonable the masters made? He states his condition. But I remind "T. P." that there are plenty of such men, when trade is good, working on such unreasonable terms as he describes himself! I will explain the effects of such terms. First, it enables some contractors to put in a price at an advantage to another, and a good London master is baffled through the men in other places working so much lower than when employed by him. But another effect is, that these men enrich their employer, as the latter charge as much to the proprietor, in proportion to the quality of the contract, as if a good London master had done the work, who respects his men who earn their proper wages! How does "T. P."

nd such like mean to do? Do they intend to go n constantly at such low wages? (for London!) Let them learn a lesson by the Spitalfields weavers. Do they intend to go constantly to the pawn-hop, when they are out of work? Do they ntend to make me, and other anxious men with constant struggle, to pay poor-rates for them oon? If we do not get proper money to support our wives and families, how are the shopkeepers nd others to sell their commodities? If one *reat* portion of the working classes do not get proper money for working, it is impossible to deal with those that employ them And I attribute his present crisis partly to the want of money among the labouring classes: the cause of deficiency is, there has been so much speculation! Men trying to enrich themselves too fast, making the labour-market their instrument! Therefore, in the end, a great many hoarders of money; and that money got by the labourers of the country; and the people that ought to have money to spend, to buy the things made, are in a state near the workhouse, and ready to receive support from those excessive hoarders, who invest their money in houses, lands, railways, mines, &c. instead of looking to the industrious for support. Excuse this long piece. Hoping you will see the oppressed go free. W. WILLANS.

P.S.—I could have said something on the bad workmanship and bad materials of speculative buildings in Islington and Hoxton, but time and space are short.

HELP ONE ANOTHER.

A WORD IN SEASON.

UP to this time fortunately the weather has permitted many building operations and other works to go on, which could not be carried forward at this time last year. The canals and rivers are open, and thousands are able to follow agricultural pursuits. Nevertheless, there is a dreary prospect for a few months to come. The panic, which has stricken various departments of business, has passed away: the wealth of the land, the corn and other necessaries of life, are abundant: so are the materials for industry, both here and America; and the unfortunate entanglements which now exist will soon be set right. In the mean time thousands are suffering. In the iron and coal districts of Staffordshire, Wales, and other parts, those who a short time since were in a prosperous state, are reduced to great privation. In part of the latter district the evil has been added to by a strike of the workmen against any reduction of the wages which have been lately given. The value of iron has descended immensely, and in consequence the masters have offered to reduce the wages of the workmen in a proportion which, perhaps, under the circumstances, is not unreasonable. Instead of coming to an arrangement, the workmen have given up altogether, and threaten even to prevent the enginemen from pumping the water from the pits. This would cause serious destruction of property, and render many collieries useless for months when a busy time may have arrived. It is to be hoped they will carefully consider the position of affairs. It is necessary, in a time like the present, that both masters and workmen should duly feel for each other, and mutually strive to get over difficulties.

The chief object just now is to direct attention to the necessity which there will be during this winter of lending a helping hand to large numbers in the metropolis, and elsewhere, who will be unfortunately situated. Those who know the extent of poverty which prevails over large parts of London in the best times, can appreciate the additional privation which must be felt, when all the branches of the building trade, the manufacturers of fancy cabinet-work and musical instruments, the silk weavers of Spitalfields, and many other branches of business, are greatly depressed. It is only those who have the opportunity of judging by personal examination of the numerous classes of persons who are affected by such a panic: artificial florists, the threaders of bugles, and similar ornaments of ladies' dresses—those worst paid of all, the needlewomen—and other trades too numerous to mention, who are driven out of employment in thousands,—can estimate the evil rightly.

It is with the knowledge which we have of the under-current of a large branch of London society that we offer these brief statements, with a view towards directing the attention of those who are able, and who have on so many occasions readily assisted in relieving the sufferings of others less fortunate, from want which we fear will increase.

Committees might be usefully formed in each parish division, to which the clergy of different denominations, scripture readers, and medical men, might have an opportunity of reporting deserving cases for relief.

It should be borne in mind, that the judicious distribution of food, firing, and the arrangement, when necessary, of house rent, are generally much more beneficial than gifts of money.

Those who are situated in the neighbourhood of ragged schools and reformatories might usefully inquire how they are circumstanced as regards firing, &c.; and in most instances the masters and mistresses of these establishments could point out persons who might be beneficially relieved. A five-pound note put into the hands of a hard-working London curate, who visits the dwellings of the poor, will do a world of good.

Moreover, a vigorous endeavour should be made to preserve the homes of those who are temporarily distressed, and prevent families from being turned into the street, and forced to seek shelter in the workhouses or in worse places.

It would be well for rich corporations and wealthy charitable institutions to consider if they might not be able to devise useful works, which could be now carried out, and afford that best of all assistance, work, for those who would be glad to undertake it.

This would be the means of preventing many from falling into that hopeless pit of poverty out which it is generally so difficult to get, and from which the "dangerous classes," who live in the shadows of London and other large populations, draw their recruits.

WHITE LEAD AND LAMP-BLACK.

MOST of the old notice-boards at the entrances of towns, if rightly considered, would be found capable of affording a lesson of considerable architectonic importance. Please to imagine an inscription in *black* letters, having, as is usual in such cases, a smooth, even surface, with well-defined outlines, but the letters standing out in clearly raised relief from an uneven corrugated ground of bare weather-worn, woody tissue. Should any one say, "What stupid people, to paint an inscription on a deal board without first protecting its surface with a good solid, durable ground of white lead!" I would tell him that if he were to scrape away the black surface of any one of the letters, he would find that we are not such stupid, eccentric, or presumptuous people as he supposed. The worst that can be said of us is, that in this matter, as in most others, we have been playing at the old and almost universal game of "follow my leader," in which thoughtless diversion some of us now and then get a practical illustration of the sad consequences of "following a multitude to do evil." Beneath the still smooth and perfect black surface of the letters will be found in a wonderful state of preservation the white lead ground which had once extended over the whole board, being, as it were, embalmed in an almost imperishable kind of cere-cloth, composed of vegetable oil and pure carbon; the white-lead *soap*, for it was nothing better, having long ago gone the way of all soapy compounds. So much for that custom-honoured favourite, the strong, solid-bodied white lead as a protector of exposed surfaces against the combined or alternating effects of wind, rain, sunshine, and frost. On the other hand, though, as regards "body," it has next to none at all, what a value ought we to set upon lamp-black!

The thing chiefly to be avoided in paints for the *protection* of exterior work is the mixture of anything having a tendency to deprive the oil of its elasticity, and consequent integrity of surface, a tendency inherent in many metallic oxides, but in none perhaps to such an extent as in lead, the effect of which is at once to harden the oil, and to render it soluble. The compound of white lead and oil very soon loses its elasticity, and consequently becomes filled with innumerable cracks resulting from the expansion and contraction of the surface it covers: thus water is imbibed as by a sponge, and the saponaceous compound in due time leaves bare the surface which it had insidiously helped to destroy, whilst pretending to protect it.

The value of such a material as lamp-black consists in its inertness: it neither acts nor is acted upon by the oil with which it is combined. The remarkable durability of a single coat of lamp-black and oil is sufficiently proved by the facts which are patent on the face of almost any old notice-board. In buying black paint care must be taken that we do not get some cheap mixture of metallic oxides or sulphurets, instead of carbonaceous matter. Lamp-black, by reason of its fine texture, goes farthest, and is in other respects preferable; though ground charcoal is equally free from objections on purely chemical grounds. Some of the varieties of carbonaceous matter found in the coal-measures would doubtless prove valuable as protective pigments, but they ought to undergo analysis by a competent chemist before using them extensively. M. I. H.

HACKNEY AND HOMERTON.

I AM much surprised and amused to find that a notice of such now forgotten and secluded places as Hackney and Homerton found a place in the *Builder*, although their ancient reputation stood high. Both Edward VI. and Queen Elizabeth were born there, and Henry Earl Percy, who was alleged to have been engaged to Anna Boleyn, and several other remarkable historic charcters, are buried there. The family vault of the Marquis of Downshire and others, adorned with interesting effigies in black marble and gold, is in what was once the chancel of the church, and now covered by a most hideous building, which the visitor must have considered a perfect blot. If the most honourable Marquis would provide a Crystal Palace covering, so that the monuments could be seen by the public, it would be a great boon. A subscription is now on foot for repairing the tower.

I was further surprised that the "Visitor" found any difficulty in discovering "an old inhabitant" in a place so remarkable for longevity. Three persons occur to me at this moment, and there are others who at the age of ninety and above are transacting both public and private business with as much activity as they did thirty years ago. I have resided fifty-four years in this neighbourhood, twenty year's in my father's house at Hackney, who died at the age of eighty-eight, and thirty-four years in my own house at Homerton, and have had fourteen children; so that I have some experience.

Homerton is particularly salubrious, and not at all affected by the marshes, as some suppose. Indeed the lowest part of the marshes is 13 feet above high-water mark,—the same level as Buckingham Palace,—and the lowest part of the street at Homerton is 48 feet, and the highest 52 feet. Homerton is one of the few places near London where country is yet to be found: less than five minutes will suffice for the inhabitants to walk to green fields in abundance; and this is owing to its not being a regular coach or cart-road thoroughfare. It is true you can pass through it into Essex, but only by fording the Lea at Temple Mills. The back windows of my house look straight across to Leyton, Walthamstow, and Woodford without any interruption. The market-gardens are by no means a nuisance; they are covered with a pleasing variety of green crops in succession.

The brook-nuisance at the back of the houses in Church-street, Hackney, was laid before the Metropolitan Board, but they refused to do anything in it, as they intend to cover in the whole brook and what is now done must then be undone.

JAMES EDMESTON,
Churchwarden of Homerton.

COMPARATIVE COST OF ROADWAYS.

A REPORT to the Board of Works for the Westminster district by their surveyor, Mr. R. R. Arnst, has been printed, in which an attempt has been made to determine the circumstances under which, with a view to economy, paved and Macadamized road-ways should respectively be formed.

Mr. Arnst had for many years past kept accurate accounts of the expenditure incurred in paving, making, and repairing the carriage-ways under his charge as surveyor to the Paving Boards for the parishes of St. Margaret and St. John, Westminster, and more recently as surveyor to the Westminster Board of Works, and hence gained a large experience as to the practical working of many differently constructed roadways, both in an economical and a useful sense; and with this report he has presented two tables in which he has set down the names of forty-three paved streets and forty Macadamized streets, with the materials, areas, gross, annual, and average cost, &c. &c.; and the final conclusion to which he comes from a consideration of the whole question is, "that while streets of small traffic may, on economical grounds, be Macadamized with great advantage; those of large traffic should, upon like grounds, undoubtedly be paved."

From the table of Macadamized roadways it appears that, while the annual average expenditure per square yard on streets of minor traffic ranged from less than 1*d.* to 3*d.* 4*d.* and 7*d.*, that of the great thoroughfares of Parliament-street and

Bridge-street is no less than 27·882*d.* and 12·165*d.* respectively. On the other hand it appears, from the table of paved carriage-ways, that no paved thoroughfare in the Westminster district reaches the annual average expenditure per square yard of 9*d.*, while in most instances the cost is 1*d.* and under.

COMPETITIONS.

Ulster Bank, Belfast.— Your correspondent "First Gem of the Sea," complains with justice of his drawings being sent to him crushed and completely spoiled, and then mentions "the premium was given back to Glasgow, where the branch-bank is to be erected." This must be a mistake, as it is not intended to form a branch-office at Glasgow. But, sir, you will be surprised to learn that the plans, of which each competitor was supplied with a lithographic copy, were prepared by Mr. Hamilton, of Glasgow, the successful competitor; and I am informed, on good authority, the directors did not award any drawing as second in merit, but marked a drawing with the motto "Justum Perficito Nihil Timeto," as No. 3, which looks suspicious. Is there no redress to be had for such conduct? I should be glad to hear of these statements being contradicted on authority.—A COMPETITOR.

Stapleton Workhouse.—It is stated that ten designs were received for the proposed enlargement of Stapleton Workhouse. The chosen design was selected by the casting vote of the chairman. Correspondents complain that this and the second rewarded design are not in accordance with the conditions. The selected design is by Mr. Henry Crisp; the second by Mr. J. A. Clarke, both of Bristol.

THE CRYSTAL PALACE.

THOSE who have watched the erection and formation of the Crystal Palace, with its architectural Courts, unrivalled though ill-placed, and its fine collection of casts, not to be found together elsewhere in the world, and view it as a noble educational institution, would have grieved bitterly if they had been present on Monday last at the first of the Christmas Revels. When the multitude were dancing (the police, with their truncheons, having at last cleared a space, not without blows and struggles), the bray only of a few of the loudest instruments being heard in the hubbub, while little boys were shooting at targets for sweetmeats, men and maids were struggling under mistletoe, and swings and roundabouts were seen in full action, a gong every now and then being heard above all, it had very much the aspect of Greenwich fair, only worse. We have pinned together, for the edification of our children hereafter, the printed programme of these revels—truly, a precious document—and that of the opening day at Sydenham, when Blessed Majesty presided, and ministers of state and church dignitaries attended. How are the mighty fallen!

DO SEWAGE MANURE WORKS ANNOY?

IN answer to your correspondent "Inquirer," I would say that, in 1855, I was in Brazil, superintending the erection of Sewage Manure Works, in the city of Rio de Janiero. There we had duplicate tanks: our mixing machinery was worked by hand-power, the powder-distributor being self-acting. These works were in immediate contiguity to the town, and the heat far exceeds our hottest weather here. The mixing chamber was covered in: the precipitating-tanks were open; *yet in the building where the process was conducted* there was an entire absence of effluvium. The Emperor and his ministers paid us a visit; and so well were they satisfied with the entire working of the apparatus, that a Government concession has since been granted for an application of the system on an extensive scale. The powders used were a mixture of lime, charcoal, and sulphate of alumina (known as Stodhert's patent).

Precipitation was caused *immediately*.

The feculent matter thrown down was perfectly sweet and inodorous.

That it possessed valuable fertilizing properties I am convinced, from experiments with Indian wheat, &c.

The supernatant water ran off clear, bright, colourless, and without scent. It was as pure as pump water, as far as appearance went; and although it ran along an open channel, exposed to a hot sun, it created no nuisance whatever.

Illness has of late prevented me from engaging in business, and I am entirely uninterested pecuniarily in this or any other drainage scheme. Still it is amusing to me to contemplate from a distance the bickerings and disputings of the scientific world on the question of utilization of town sewage, respecting which it is impossible for me to entertain a doubt.

EDWARD A. COPLAND.

REFUGE FOR DECAYED BUILDERS.

WE are glad to hear that a commencement is likely to be made in the erection of a Refuge for the Builders' Benevolent Institution, through the liberality of Mr. Dodd, of Hoxton, who has presented to the directors, as we mentioned some time ago, a plot of land (five acres), near Slough, Bucks.

The members of a sub-committee appointed on the subject, namely, Messrs. George Bird (the treasurer), T. Cozens (the founder of the institution), J. Morris, T. Stirling, Wm. Ellis, Wm. Hutchons, and J. Soward, jun. accompanied the donor on the 16th ult. to view the spot, and they report upon it as eligible in every respect. We sincerely hope, now that the nucleus of success has been formed, that our wealthy and influential builders and others connected with them will come forward and assist the directors by their advice and money towards carrying out so desirable an object.

COUNTRY-HOUSES NOT ALWAYS HEALTHY.

I LATELY had an opportunity of noticing the danger which there is to health in many country dwellings, situated in open and pleasant places, which by most persons would be considered healthy. I could refer to several, but will confine these observations to one example.

The house to which I refer is situated in the midst of fields, is sheltered by a clump of trees, and consists of several rooms on the ground, and attics above. Below a considerable portion of the premises is a dark cellar, which is not much needed, there being plenty of outhouses in the garden for coals, fuel, and other matters. The cellar is without light, and very imperfectly ventilated. During various visits, I found an unpleasant atmosphere, and that the inmates frequently complained of ill-health. On inquiring, I was shown the cellar, which seemed to be filled with a damp, heavy air, which had a sour, unwholesome smell. I then learnt that a drain ran through the cellar, put there, as I was told, to keep it dry; and that this drain also carried off the refuse of a large farm, which was close by, and that it passed into an old closed coal-pit, at a little distance. It must be evident that no house can be wholesome under such circumstances, and this arrangement shows the need of sanitary education to which you have so often referred.

As regards those ancient mine works which in most instances are filled with water, it appears that certain villages drain into them, and that in some cases the water supply of a large population is taken from those pent-up mines, whose contents I should imagine could be scarcely wholesome even when not used as cesspools.

EYES.

DEFINITIONS OF CHRISTIAN ART AND POINTED ARCHITECTURE.

YOUR readers have been often appealed to for clear and simple definitions of "Christian art," and "Pointed architecture." Some writers seem to question whether these arts have any real existence at all, or whether they are not phantasias called up by dealers in occult arts to delude the rising generation, which is too enlightened to be taken in but by an exceedingly good semblance of straightforwardness, honesty, and truth; whilst others content themselves with merely asking apparently simple questions, which, from their nature, are not capable of a simple solution, or which, from their want of point, are hardly worth answering.

It is easy enough to ask questions; nay, it is easy to ask them in such a way as apparently to require only a simple negative or affirmative in order to refute or confirm a proposition. It is, moreover, very easy to state propositions in such a way as to make it appear either to casual or to partial readers that there can be but one alternative (which, of consequence, forces his antagonist into a fancied dilemma), whilst there may be in reality a thousand; and, in fact, to argue upon fallacies as if they were truths. And it needs to read but little of what has lately been written on these matters to see in what a shallow way arguments of this sort are put forward. Thus, one writer affirms that for the proof of the religious condition of the artist, either (1) we must accept all the works by any persons professing to be Christians, as Christian art; or (2) we must ask the advocates of Christian art to draw up an authoritative list of all the works of art that were conceived and executed under the influence of inspiration! But why may we not add a third alternative and say, or (3)—We must ask them rigidly and mathematically not only to state wherein it is that every feature of Christian art and every expression of Christian feeling is exhibited in all existing works, but also to define wherein it is that Christian art in the abstract consists, and to the very utmost minutiæ; so that there can be no doubt about any given work, whether or not it may be comprehended in the category; and this not only as regards the past, but as regards every possible future work too? And why again the arbitrary acceptation of "professed" Christians to a claim in the production of Christian art? Why not extend it also to all those who are brought up in an age when, or in a country where, Christian influences predominated? Or again, why not, on the other hand, limit it to those who really and truly *are* Christians? Wherefore that simple but plausible alternative?

Now, from the changeable and unperfected nature of all art, containing as it does the very elements of change within itself, and all works of art being capable of the greatest variety and combination of good and bad, of home and foreign qualities, as well as being subject to every species of physical and moral influence, it is difficult to define what Christian art or what Pointed architecture really is, or to lay down the law respecting its existence and origin in such a way as to prevent cavil; although at the same time one may be able to discern and appreciate its beauties; and I would advise anybody who attempts it first of all to try his hand at giving such a definition of "beauty" as shall be generally received by all those who are capable of enjoying beauty in any object, and who may be able to demonstrate many of its features in objects which are acknowledged to be beautiful. What some of these features are, as regards "Christian art" and "Pointed architecture," I will hereafter endeavour briefly to state. BACK BONE.

THE LONDONDERRY BRIDGE COMPETITION.

SIR,—Though I do not see your publication here in the jungle, I have just been informed that there has recently been a discussion in its pages relative to the Londonderry Bridge competition of last autumn, in which statements not accordant with truth are made to my prejudice. Though when this reaches you the matter will probably have passed away from the memories of many of your readers, you will not, I am sure, find in that any reason for denying my right to speak for myself.

I leave others who are more directly assailed to defend themselves, as doubtless, unless they despise the attack, they have already done. The statements relating to me, which I understand to have been made in the number of the *Builder* for June 13th, by an anonymous writer, signing himself "C. E." and repeated on the 27th by another, are as follows:—

1st. That the first premium was awarded to Sir William Cubitt's "drawing clerk."

2nd. That the same person was employed some years before by Mr. Charles May to make a design for Londonderry Bridge.

3rd. That this design closely resembled that which obtained the premium.

I will answer these in order.

1st. I object to the description given of me. It is true that I was for some years in Sir William Cubitt's employment, and during that time made for him many designs, drawings, and tracings,—therein acting the part of drawing clerk: I also wrote and copied many letters and papers, therefore was writing-clerk: I received callers, and, if unknown to me, inquired their business:—"C. E." might therefore say that the premium was awarded to Sir William's *porter*. His object in calling me "drawing-clerk" is evidently to produce a belief, in which I will suppose that he shares, that I am not a regular member of the profession, having a right to compete for any prizes that may offer,—but one who, having been taken into an engineer's office, has learnt to draw, and continued to get his living by so doing, without any more extended education. But I was regularly articled to the profession, after two years at University College, and have worked in it for ten years: I am therefore of the guild, and entitled to dub myself C.E. if I choose; though, when I do so, at least in attacking others, I will prefix my *name*.

I had left Sir William Cubitt some months before this competition was advertised, otherwise I should have thought it dishonourable to join in it. I used every precaution to prevent his suspecting the authorship of my design, and that successfully, for I am informed, and believe it as the word of a gentleman, that he had no suspicion of the person to whom he was awarding the prize till days after the secretary had notified it to me.

2nd. That I was employed some years ago by Mr. Charles May to make a design for Londonderry-bridge. This is false: I never made a design for any bridge for Mr. May, and never made any design for Londonderry-bridge before that for this competition.

3rd. That this design closely resembled that which obtained the prize.

This also is false, -or at least not true within my knowledge. I have seen a block plan and an elevation of Mr. May's design, but no cross section or other drawing, explanatory of construction; and as far as I am aware, the following are the only points in which mine resembles it, beyond those which, being required by the commissioners, must be common to all the competition designs:—

1st. Mr. May's design has a foundation of cast-iron cylinders, and so has mine.

2nd. Mr. May's appears to be on the wrought-iron girder principle, and mine is the same.

3rd. Mr. May's opening span appears to be on the bascule and not the swing-bridge principle, and so is mine.

None of these are claimed as original by Mr. May: they are not sufficient to make one design "closely resemble" another; and I certainly did not adopt any of them because it was in Mr. May's, but from independent reasons easy to give. I, therefore, deny all "imitation" of Mr. May's design. GEORGE ROGERS LONG.

Colgong, Bengal, October 31, 1857.

*** We insert this communication unwillingly, not desiring to re-open the subject; but the writer's friends press for it, and we do not like to refuse the opportunity of explanation to one so far away.

IS THE PRACTICE OF GLASS-PAINTING AN ART?

SIR,—Your article on the subject of stained glass, in impression of 19th Dec. induces some few remarks, which may not be considered perhaps apart from the interests of the general question. First, then: Is the practice of glass painting, *per se*, an art or an art manufacture? I am inclined to think the latter, for this reason, viz. that what the artist does not really perform *himself*, must come under this head. Now, the process of producing a stained glass window has various ramifications, which are as follow: first, that portion which appears to me the artist's portion, for which he ought to have all credit, viz. the production of design, and subsequent full-sized picture or cartoon. This being done, it is not the practice for him personally to execute the same on glass (by the word artist, I mean men who are fairly entitled to that term, not those who are mere draughtsmen): it is a process that would not pay him, unless, indeed, a very high price were given for the window. Economy and the intricacies of the case, therefore, render necessary a staff of *employés*, consisting of glass painters, glaziers, &c. the business of the former being faithfully to render the artist's cartoon in all its bearings upon the glass, which can, before leaving such hands, be supervised by the artist; that of the latter, to cut out the pieces of glass in all their various colours as desired by the artist, then to bring them altogether in leadwork,—processes occupying both much time and care. I think when I add, that after the production of the cartoon, a completed stained glass window requires four other stages of operation, viz.—1st. Cutting the glass to required shapes and desired colours, to suit the particular design; 2nd. The painting of each individual piece with such pigments as are necessary to vitrify and produce various tints; 3rd. Passing such through a kiln, a process requiring the greatest possible management and care, or the whole will be spoiled; and 4th. The glazing process, by which means, as before stated, all the pieces are brought together, and the effect of the window produced,—enough has been said to prove that in this department alone there is ample scope for those alluded to in your article, as being men of purely trade instincts and commercial adventure. These men, then, I conceive are not altogether unfitted for carrying out the pursuit of glass painting, especially those whose great aim, when windows are commissioned of them, is to obtain the highest talent that can be procured, not to pay the artists engaged at so much *per diem*, but the fee that he may himself set upon his production; not only this, but so far from sinking his name, introducing it wherever he may have the opportunity; and there are men of this kind to be found in the business, men who are content to derive their income from the process of manufacture, and to let the artist derive his from the full flow of his invention and aspiration, without for a moment wishing to deprive him of his fair share of the credit attached to the work.

Can such a work, then, be called anonymous art? Is it not quite possible, under such circumstances, for the artist to hold himself responsible for the proper production of such a work? Does it not strike you, sir, that an artist's time may be far better applied than by giving personal attention to the details I have described? Should not the executant's name appear in conjunction with the artist's of a painted glass window, equally as much as a publisher's with a poem or other literary work, or a builder's with the construction of an edifice from the designs of an architect?

Such a position is but fair, and is, I am quite convinced, sufficient to stimulate the manufacturer in his share of the work in hand. I quite agree that much that is bad has been done in stained glass, and shall be only too pleased to see artists (men of reputation in their profession) turn their ability and study to the improvement of the subject before us. If they are content with reasonable emolument, no doubt it will be forthcoming: the patrons of art will take care of this; but in too many cases artists require such premiums for their works, as effectually to prevent artistic glass becoming more extensively adopted as a means of chromatic decoration, and so men of inferior ability have perhaps done the mischief alluded to in your article. JUSTITIA.

THE DEPARTMENT OF ART.

ART PUPIL TEACHERS.

NEW rules have been made relating to the appointment of art pupil-teachers, the principal object of which is described as being "to encourage the teaching of the children of the poor through these art pupil-teachers; and, on this account, it has been determined to increase their annual payments from 10*l.* to 20*l.* a year," with the advantage of free instruction in the school to which the appointment is attached:—

"In future, every candidate must have taken the certificate of proficiency of the second grade in free-hand drawing, geometry, perspective, and drawing from models: thus it will be seen the prize-studentship is the preliminary step to these appointments.

He must also have obtained a local medal of the department.

He will give lessons in drawing in schools for the poor to the extent, if required, of two lessons per week to each school or class, whilst the total number under teaching by one art pupil-teacher ought not to be less than 200 pupils

He will also, under the direction of the master, act as monitor and assistant-teacher in the school of art, and attend every day regularly.

At the annual visit of the inspector to the school of art, the art-master will be required to bring up children instructed by the art pupil-teachers for examination, when a payment of 3*s* on each prize obtained will be made to the art-master for his general supervision and charge of such instruction."

CONSTRUCTION OF FLUES AND VENTILATION.

SIR, I am not surprised that *your notice* of my Improvements in "Construction and Ventilation," should have elicited the letter published in your last number.

All inventions, however original, are generally claimed, or closely copied; but the efforts of such persons are never commercially valuable, as they must of necessity be ignorant of the details on which the true inventor based his improvement.

So much of comfort and health depends on the the perfect ventilation of buildings, that any step made in the right direction, if not wholly successful, may induce thought in others and ultimately produce results beneficial to the general public.

The "rule" *now is*, that every house should have a plentiful supply of water, *properly distributed*, with receivers and drains at convenient points, for taking it off *after use*.

As this is *now* perfectly understood, why should not the same apply in the case of air? The one fluid being quite as essential to health as the other.

The best way to correct an evil is to show that it exists. Then, let any of your readers imagine *twelve persons*, after a good dinner, in a modern room, 14 feet square, all giving off, with the lights, the products of combustion: any one of the twelve persons so happily placed would reject a glass of cold water if *slightly discoloured!* when, at the same time, each and all would be inhaling an atmosphere a thousand times more destructive to human life.

If your space was not so valuable, I could enlarge on this subject, so important to all, but I trust I have said sufficient to induce others more able to take the matter up.

In conclusion I would observe, that I am aware of the kind of drain and flue pipes made by your correspondents in the north, but neither are those invented and patented by

GEORGE JENNINGS.

CURRENT NOTES UPON IRON.

THE Preliminary meeting of the iron trade was held at Dudley on Wednesday last, when, according to our expectation stated last week, a reduction was determined upon in the price of iron, and also in the wages of the workmen employed at the several iron-making establishments throughout the districts represented by the masters who assembled in quarterly meeting. It was determined that the prices at "trade" houses should in the ensuing three months be a reduction upon those nominally prevailing in the past quarter of 20*s.* per ton, and that the workmen's wages should be reduced ten per cent. The quotations at such houses will therefore be—bars, 8*l.*; hoops, 9*l.*; sheets and plates, 9*l.* 10*s.* The South Staffordshire and East Worcestershire iron trade was well represented at the meeting. Opinions concurred in considering the condition of the trade as improved in the past few weeks: a true report of the present state of affairs would be that trade continues quiet, and orders scarce; but such a report would have to be made at the close of almost every year. In the prospect, however, the gloom which has for some time overshadowed the iron trade is fast passing away.

The Americans—the best customers for British iron—are rapidly righting themselves. Special payments are being resumed at their banks, they are receiving large importations of gold, and they are sending corresponding remittances.

RECENT BUILDING PATENTS.*

W. RICHARDSON.—*Improvements in the use of Iron, or any other Metal, by itself, or in combination with other Materials, for Structural Purposes.* Dated Feb. 13, 1857.—This consists in the use of metal in segments bolted together in combination with a lining of bricks, tiles, or any kind of pottery, or concrete, or wood. The whole, it is said, forms an air and water-tight structure of great strength.

T. NEWCOMB.—*Improvements in Machinery for Manufacturing Nails.* Dated Feb. 16, 1857.—The machinery is arranged first to cut off a length of metal which has parallel sides, and which is next passed between two rollers, one of which is placed eccentrically on its axis, or is fixed concentrically and its axis has a motion to and fro. These rollers taper the length of metal to a point. As it passes from the rollers it comes against a fixed die, between which and a movable die it is held whilst the heading die (acted on by a cam) produces the head.

J. DANGERFIELD.—*Improvements in the Manufacture of Chains.* Dated Jan. 27, 1857.—The object here is to effect a saving in the manufacture of links for chain cables, by making, bending, and scarfing the lengths of iron required for each link, or a length sufficient to produce several links, during the operation of rolling the iron into chain-bars out of the puddled bar, thus avoiding one heating of the iron.

HENRY ELLIOTT HOOLE, Sheffield.—*Stove-grates.* Dated May 5th, 1857.—The first part of this invention relates to that description of stove-grate in which the fuel is supplied by a coal-box below the fire, and is raised up to the fire-bars as the upper part of the fuel burns away. The next improvement relates to the construction and mode of operating the valve through which the gaseous products of combustion pass from the fire or grate to the flue or chimney. The form and mode of working the valve which the patentee prefers is a kind of flap valve placed in an upright, or nearly upright, position, and hinged or otherwise supported at or near its base. He claims, first, the use, as described, of a movable coal-box, and the application thereto of a movable bottom, which may be drawn away when required to let the ashes fall into the ash-pit or pan below. Second, he claims the application to the coal-plate of anti-friction wheels, rollers, or other equivalent contrivances for preventing or reducing the friction of the coal-plate

* Selected from the lists published in the *Mechanics' Magazine* and other journals.

against the sides of the box, and also the mode of raising or lowering the said coal-plate. Thirdly, he claims the mode or modes set forth of constructing, applying, and operating the valve or valves for the purpose of regulating the draught of the chimney or flue.

J. FORTESCUE.—*Improvements in the Construction of the Furnaces of Bakers' Ovens, for the purpose of consuming Smoke, which Improvements are also applicable to the Consumption of Smoke in other Furnaces.* Dated Jan. 26, 1857.—The furnace has outer and inner doors, and at the top, at the end next the oven, a block or bridge extending downwards across the furnace. Over the inner door is an opening across the furnace, and the outer door has a projecting block, which, when that door is closed, fits into the opening and renders it air-tight. When fresh fuel is supplied to the furnace, the outer door is left open, and air admitted. The admission of the proper quantity of air is regulated by opening or closing the outer door.

CALEB TAYLOR, Deptford, Kent.—*Manufacture of Sheets of Material suitable for Covering Floors, and for other useful purposes.* Dated May 8th, 1857.—This invention consists, first, in the combination of caoutchouc, gutta percha, and jinta wan, in variable proportions, by means customarily practised, and incorporating therewith certain vegetable matters, either in a fibrous or in a divided state, like saw-dust, adding particular mineral and colouring ingredients when desired; second, in manufacturing such compound material into sheets by the application of machinery usually employed, making the same to any required thickness.

H. CHAMBERLIN, Jun.—*Improvements in Paving or Covering the Surfaces of Roads, Streets, or Ways.* Dated Jan. 28th, 1857.—This relates to forming surfaces of cast iron offering a good foothold for horses, reversible when one side is worn out, and permitting a free passage for water and dirt from the surface. It consists of a grated structure of iron.

C. COWPER.—*Improvements in making Drains, and in Machinery for that purpose.* Dated Feb. 17th, 1857.—Claims: 1. Making drains by making a series of vertical holes, and a horizontal hole from one vertical hole to another by a boring tool worked from above the surface of the ground by means of apparatus communicating with it through the vertical holes, as described. 2. Making drains by making the vertical and horizontal holes as aforesaid, and drawing in the drain-pipes by attaching them to the boring-bar, as described. 3. Making drains by making the vertical and horizontal holes as aforesaid, and then lining the inside of both the vertical and horizontal holes, or either, with a plastic composition introduced round a mandril, which is afterwards withdrawn, as described. 4. Making drains by making the vertical and horizontal holes as aforesaid, and then baking or hardening the lining of the holes by means of fire, as described. 5. A combination of parts forming a machine for boring the vertical holes, as described. 6. A combination of parts forming a machine for boring the vertical holes, as described. 7. Various combinations of parts forming different machines for boring the horizontal holes, as described.

Books Received.

Metropolis Management, in reference to the Gas and Water Companies; with Suggestions. By S. HUGHES, C.E. London: Stanford, Charing-cross. 1858.

THIS is an able and important tract, chiefly on a subject to which we lately called special attention, namely, the dangerous and tyrannical project entered into by the Metropolitan Gas Companies, for monopolizing and parcelling out the gas consumers amongst themselves, so as to prevent them from having any choice in the gases, of various qualities and prices, which may run in the mains passing their doors. Mr. Hughes's main object is to draw attention to the subject as it affects the parochial and public interests in the lighting of the various districts of the metropolis. He is of opinion that the gas companies of London are resolved to rush upon their own destruction in this matter; and if the public indignation be aroused, as it ought to be, to the imminent danger, to *their* interests, threatened by these proceedings, the companies may soon have reason to repent bitterly of their present course; for Parliament, when appealed to on such a subject, has already shown how ready it is to look to the public interests, and to curb the undue greed of self-seeking and monopolizing gas companies.

Among the suggestions offered by Mr. Hughes, for meeting the encroachments complained of, he proposes that the local Boards should combine to erect gas-works of their own on the outskirts of the metropolis, or that the Boards should introduce a Bill into Parliament to bring all the London gas companies under the immediate operation of the Gas-works Clauses Act, and to give power of arbitration to the Board of Trade, or some similar authority, in cases of dispute between the local Boards and the gas companies.

On the subject of the metropolitan water-supply, attention is called to the fact that ever since July last it has been in the power of any householder in London, on the requisition of himself and four-fifths of his neighbours having houses on the same main, to insist on the Water Company keeping the main from which his house is supplied constantly charged with water at high pressure a pressure sufficient to force a jet of water far above the top of his house.

"I bring this subject forward in this prominent manner," adds the author, "and invite public attention to it, and especially that of the District Boards throughout London, because I think it is their duty to aid by every means in their power in securing to every ratepayer in their district the blessings of this plentiful and constant supply of water at high pressure."

The overcharges for watering the streets is another point worthy of the attention given to it by Mr. Hughes.

VARIORUM.

In a pamphlet, titled, "Extract from Report of Committee of Works and Improvements on the Reconstruction of a Portion of the Victoria-street Sewer, and Report to the Committee by the Engineer," which has been printed by order of the Metropolitan Board of Works; the committee alluded to states that Mr. Simpson, C.E. who reconstructed part of the Victoria-street sewer after its former settlements "inclines strongly to a plan of lining that portion of the main line of the sewer [where further settlements have taken place] with iron at the places where the sand-boils are going on, and to delay the execution of permanent works until the main drainage plan is carried out, and recommending that that portion of the sewer at the junction of the sewer from Whitehall-place, be re-instated permanently without delay." The Committee, however, having received a further report from the engineer of the Board, as to the condition of the sewer, are of opinion that it would not be desirable to execute any merely temporary works, but that immediate measures should be taken for reinstating that portion of the sewer in a permanent and efficient manner, as recommended by the engineer. The cost is estimated at 6,000*l*.——In a second edition of the tract titled "Brief Account of the Provisional Arrangement and Proposed Development of the Society of Arts' Collection of Illustrations of Every-day Life for the Working Classes, or Economic Museum, by T. Twining, jun. V.P. Society of Arts," it is stated that "To carry out to the full contemplated extent the illustrations of every-day life, must, under the most favourable circumstances, be a work of years; moreover, considerable obstacles have been presented by the want of suitable space and by Mr. Twining's ill-health. Nevertheless, a portion of the food department has been carried out on a small scale, so as to give an idea of the kind and amount of usefulness which might ultimately be expected from this and other portions of the museum. This provisional specimen having been favourably received by the public and the press, the development of this class will be in a short time pursued with the aid of the scientific referee, Dr. Lyon Playfair, C.B." Those of our readers who perused what we formerly said on the subject of Mr. Twining's philanthropic efforts on behalf of the working classes, do not require to be told that the collection referred to may be seen gratis almost at any time at the Brompton Museum.——"A Century of Suggestions, addressed to the Sleepy; by One of Themselves" (published at Mountcastle's Library, 14, King-street, Covent-garden), contains many really good hints on various subjects, such as railways, metropolitan improvements, &c.; but the author, if not "sleepy," sometimes, is evidently not always wide awake, as where he speaks of the newspaper stamp and the penny stamp stuck on a newspaper as a distinction without a difference, and recommends, accordingly, the abolition of the former as a public improvement. The newspaper stamp will allow of the transmission and the retransmission of a newspaper over and over again by post (for a limited number of days, certainly), but a penny stamp on a newspaper is at once obliterated, or only carries the paper once by post. This is clearly a distinction, with a considerable difference in favour of the newspaper stamp, and against *its* abolition.——In a "Prospectus of the British Floating College for Naval Instruction and Marine Engineering," Captain Robinson proposes to do for our mercantile marine what has already been successfully tried in the navy. Such a college, if conducted on practical and proper principles, as we have no doubt it will be, would be of immense benefit, not only to the mercantile, but to the naval service itself, the mercantile being the well-known nursery of our naval tars. The prospect of a self-supporting, and in every sense a profitable establishment for such a college, is a promising one, when the desirability of such an institution to the parents of those thousands of respectable youths who are eager to go to sea is considered. The acquisitions of such youths at the floating college would be, as it were, a permanent capital to them, laid by for future need, even were they to cool for the time being of their juvenile enthusiasm. The advantages which pupils must have in future promotion, too, would form another great inducement for parents to patronise such a college as this,—an institution which, indeed, it is strange such a nation as ours, above all others, should still be without. Lord Dundonald and Sir Charles Napier, it appears, speak highly of Captain Robinson's scheme.

Miscellanea.

EDINBURGH ARCHITECTURAL INSTITUTE.—A meeting of this institute was held on Monday evening, the 21st December, in George-street Hall, for the purpose of hearing a paper read "On the Prize Designs for the New Government Offices," by Mr. Alexander Christie, Mr. Duncan M'Laren in the chair. After some general remarks on the proposed site and buildings, and on the number and merits of the designs sent in competition, Mr. Christie referred to the evident influence which the Louvre had had on many of these plans, and maintained the non-necessity of congruity of the new with the surrounding buildings, such as Westminster Palace, &c.—referring to the Grand Square in Venice as a notable instance of magnificence in incongruity. He then commented upon the prize designs (still exhibited on the walls) individually and in detail, pointing out the styles and leading features.

IMPROVEMENTS IN STABLE FITTINGS.—From a published statement of the merits of the stable fittings patented in May last, by Mr. Louis le Chevalier Cottam, of the firm of Cottam and Hallen, it appears that by a simple arrangement these fittings are made to revolve either forward into use, or back and out of the way, so as to present a plain surface, thus not only preventing the food from being constantly breathed upon and made unwholesome by the horses, but also providing against the possibility of the animals injuring themselves, as with the mangers and troughs generally in use.

WAGES, STRIKES, &c.—Some iron moulders at Blackburn have struck work on a reduction of wages from 31s. to 32s. a week. A reduction is being made in the wages of joiners at Ayr, from 22s. per week of fifty-seven hours, as in summer, to 20s. per week of sixty hours, the reduction being thus equivalent to 3s. a week. An effort is being made, however, to have the week of fifty-seven hours retained. Many of the Greenock shipwrights have struck on wages being fixed at a maximum of 24s. a week, yielding the workmen, on an average it is said, only 16s. a week for the winter. Since the strike of carpenters took place, many joiners, blacksmiths, and other workmen have been discharged. A peculiarly Irish strike has occurred at Drogheda. The operatives there being in great distress, a subscription of 600*l*. was got up for their benefit, in the shape of employment, in repairing the alleys and foot pavements of the town, and about 350 were accordingly set to work at 1s. a day. The number of men out of work, however, having increased, they also were set to work to keep something like life in the lot till better times, and the interim wages were necessarily reduced to 10d. a day. This did not suit the ideas of the original 350, however, and they accordingly struck work in high dudgeon for the original shilling.

TAKE CARE OF YOUR BRASSES.—I learn from your pages that it is intended to restore the church of Higham Ferrers, Northants. During the restoration or repairing of a church, the monumental brasses are generally purloined,—at least, such has been the case in this city. Will you, therefore, allow me, through the medium of the *Builder*, to express a hope that the church authorities at Higham Ferrers will take all possible care to preserve from such sacrilege the several interesting brasses of which they are the guardians.

JOHN L'ESTRANGE.

MANCHESTER AND SALFORD SANITARY ASSOCIATION.—The annual meeting of this very useful association was held on Monday, in last week, in the Manchester Town Hall, when there was a numerous audience of its members and friends present. The Bishop of Manchester presided, and the meeting was addressed by his Lordship, and by the Revs. Canons Richson and Stowell, Mr. Simon, medical officer to the General Board of Health, Dr. R. Angus Smith, and other gentlemen, and appropriate resolutions were passed.

ELECTRO-TELEGRAPHIC PROGRESS.—An extraordinary telegraphic feat was last week performed in the transmission of the nine columns of President Buchanan's Address to the United States Congress, from Liverpool to London, by the magnetic wires. The whole was delivered in five hours and a half. A letter from St. Petersburg states that there is every reason to expect that the line of telegraph between that capital and the principal towns in the Crimea will be very shortly completed. The whole will have been constructed by Russian workmen, under the superintendence of Russian engineers.

PROFESSOR BLACKIE ON ARCHITECTURE.—Professor Blackie has been lecturing, on the architecture of Edinburgh, at Leith. The Professor informed his hearers of the many foreign cities he had visited, not forgetting, of course, that one which forms with him a never-failing theme of discourse —Athens. Many of these cities had finer sites: others had more beautiful surrounding scenery; but not one of them had both fine site and fine scenery combined in such a remarkable degree as Edinburgh. He enlarged on the topic that every town ought to have a distinct character and expression:—"Those towns which have the least chance of looking well are manufacturing towns and mercantile seaports; and three of the ugliest towns I know are Newcastle (speaking of it twenty or thirty years ago), Hull, and Leith; but where mere utility has formed a town, and where beauty hardly dares to appear, there we have the lowest character of a town. Some towns have a distinctly historical character, full of historical recollections, such as Nuremberg, Augsburg, and the majority of Flemish towns. Some derive a peculiar character from the mixture of an altogether different world with the present living world,—I allude only to Rome and Athens as examples. Then you have what is called in Germany the 'Residenz-stadt,' where a princeling, with a domain no larger than the county of Clackmannan, resides with his court, has a army, and all the machinery of state. This is always a remarkable town: it is a neat, tame, cold, very proper little thing, but essentially small. Some towns, again, have a sort of military expression: all their streets are marshalled exactly like the rank and file in an army. That expression struck me very much in Berlin, which is essentially a military despotism. Some towns have an expression of solidity and of stability: that may arise from the style of architecture, or even from the material, as in the case of Aberdeen, which is one of the few towns that I know built wholly of granite, and which, therefore, always gives you the idea of that sound sense and hard-headedness for which the inhabitants are so remarkable. Some towns, again, have a theatrical expression, as if the streets were putting themselves into attitudes for the purpose of being seen to the best advantage. Go to Paris, and you will understand what I mean."

COPYRIGHT IN PICTURES.—The committee of the Society of Arts for considering this subject held their first meeting on Thursday, 24th December. There were present Sir Charles Eastlake, R.A., the president of the Society of British Artists, the president of the Society of Painters in Water-colours, the president of the Portland Gallery, D. Roberton Blaine, C. Wentworth Dilke, Roger Fenton, Wm. Fladgate, George Godwin, John Leighton, and Richard Redgrave, R.A. It is understood that the committee are anxious to obtain particulars of individual cases, as illustrations of the injury arising from the want of legal protection in the way of copyright in works of the art.

GREEN SLIME ON RED BRICKS.—A correspondent complains of the growth of vegetable matter on the north aspect of a house, and asks for a remedy, at the same time suggesting whether paint of the same colour as the bricks would answer, or turpentine applied to the green bricks. Such questions have been again and again asked and often alluded to, but it is impossible for us in all cases to refer to what has been said. A solution of corrosive sublimate (a very powerful poison, by the way) has, we believe, been recommended in such cases; but what precise effect it might have on the colour of red bricks (if any) we are not prepared at this moment to state.

IMPROVEMENTS IN STEAM-ENGINES.—Mr. W. H. James, C.E., has invented and patented some improvements in steam-engines, whereby he states that he is enabled to effect a great saving in the prime cost, time for manufacture, weight, space, time in getting up steam, water in boilers, and fuel. He generates the steam by forcing and circulating the water through a long length of very strong small tube, coiled and exposed to the immediate heat of the fire, in suitable furnaces, by double-acting force-pumps, actuated by the machinery of the engine, in combination with certain means of separating the water from the high-pressure steam so generated, and of storing up a sufficient quantity of each in receivers and reservoirs of a tubular or cellular structure. He condenses high-pressure steam by the injection of a portion of water derived from the steam-generating apparatus itself, after having been sufficiently refrigerated whilst passing thence under pressure through a long length of very small tubing, exposed to the action of cold water, or of currents of cold air passing to the fire, or otherwise produced: the water, after having been used for condensing, is forced back to the generator.

LATTICE BRIDGE.—The new iron lattice bridge crossing the River Taff, at Pontyrhun, of about ninety feet span, has now been completed. The work was executed by the Usk Side Iron Company, under the direction and superintendence of Mr. J. Wm. Harrison, surveyor to the Merthyr-Tydfil Board of Health.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.—The committee have given notice, that a special meeting of the subscribers will be held on Thursday, the 7th January next, at the Galleries, in Suffolk-street, to substitute for an existing rule, the following:—"An exhibition shall take place once in every year, of photographs, from which subscribers shall be entitled to make their selection, subject to such conditions as the committee shall from time to time consider it expedient to make." On and after that day, an exhibition of photographs belonging to the Association will be held at the Galleries in Suffolk-street, Pall Mall East, and will continue open till the latter part of February. From this subcribers will select.

THE SURVEYORSHIP OF THE CHELMSFORD BOARD OF HEALTH.—The Local Board of Health in Chelmsford, it appears, is about to lose the services of Mr. Fenton, who, having completed the scheme of general drainage there, has been appointed surveyor at Croydon, after a strong competition. The list of candidates numbered fifty-four, many of them standing high in their profession, and six of them having been surveyors to boards of health.

TESTIMONIAL TO THE MASTER OF THE WOLVERHAMPTON SCHOOL OF PRACTICAL ART.—A number of the students attending the School of Practical art at Wolverhampton, according to the local *Chronicle*, met together on Wednesday in last week, at the institution, and presented the head master of the school, Mr. Chittenden, a testimonial, in the shape of a silver inkstand, and an address. The inkstand cost nearly 10*l.*; and the address bore the signatures of a large number of students.

THAMES TUNNEL.—During the week ending 26th December 17,480 passengers passed through the tunnel, and paid 72*l.* 16*s.* 8*d.*

PUBLIC STATUARY.—Can any of your correspondents explain how it is that the bronze works by the late eminent artist, Rauch, at Berlin, retain their brightness and colour and beautiful polish, while ours in London soon look no better than lead or iron?* While I am writing on this subject, may I express surprise that the authorities should allow Mr. Lough's statue of the Queen, in the centre of the Royal Exchange, to remain for years without even so much as cleaning her face, streaming as it is down with soot and dirt! This neglect is not emblematical of our loyalty in the eyes of foreigners, who resort there daily.—J. F.

DECIMAL ADMEASUREMENT.—It would, indeed, be very desirable if such a system as that pointed out by your correspondent last week could be adopted, in reference to lineal and other measurement, and some practical plans should be formed for carrying it into effect. Our neighbours, the French, have for a long time used a decimal system for measures as well as the coinage; and as there is some chance of the latter being eventually carried out in this country, the subject should not be allowed to drop until the former is also. Your correspondent does not say in what manner he proposes to subdivide the inch. I should think into thousandths would be the best.

WILLIAM H. ELLIS.

* Coal-smoke.

ART-EXHIBITION AT DUNDEE.—This exhibition was open twenty-one-days, and the attendance was about 7,000. The daily attendance increased so much, and during the latter days of its being open it was so crowded, that great regret was felt at its early termination, especially as the working classes had shown themselves its most valuable patrons. At the formal closure of the Exhibition, a meeting of the committee was held in the Exchange-rooms, where the Exhibition had been held, Mr. D. Hunter, of Blackness, the chairman, presiding, when the meeting was addressed by the Bishop of Brechin, the chairman, and Mr. Leng and other gentlemen, and various appropriate resolutions were passed.

DISCOLOURATION OF HOUSE FRONTS.—Some years since, it may be recollected, a peculiar discolourment of the paint on London house fronts appeared, and some correspondence as to it took place in the *Builder*. We have to note that the same sort of stains has re-appeared in many places, as in St. Pancras and the extreme west of St. James's, at Brompton and other places. The marks seem to be merely superficial, and to be removable, but they very much disfigure the houses on which they alight. Could not some analytical chemist examine the traces, and discover the cause? Such a discovery might prove to be of more use than merely enabling painters to obviate these disfigurements.

VALUATION OF THE CITY OF EDINBURGH.—The total valuation of the property within the burgh of Edinburgh for the year 1857-8, is 790,706*l.* 0*s.* 6*d.* The valuation for last year was 775,433*l.* 0*s.* 7*d.*

TENDERS

For building a house and premises near the junction of Denmark-hill and Cold Harbour-lane, Camberwell, for Mr. James Smith. The quantities were supplied by Mr. J. Thomas, architect:—

Jacob	£1,185	0	0
Tarrant	1,157	0	0
Crawley	1,126	10	0
Pickford	1,119	0	0
Roycroft	1,110	0	0
Soper	1,093	0	0
Colls	1,087	0	0
Thompson	980	0	0

For premises, Dock-street, Newport, Monmouthshire, for Messrs. G. W. Jones and H. Morse. Mr. A. O. Watkins, architect:—

Thos. Richards	£1,793	0	0
James and Roberts	1,674	0	0
L. B. Moore	1,628	0	0
Wm. Jones	1,625	0	0
Wm. Hanley	1,596	0	0
Wm. Williams	1,596	0	0
Whitaker and Co.	1,590	0	0
J. Griffiths	1,588	0	0
D. Fraser	1,503	0	0
A. Robbins	1,343	0	0

For erecting a new building for the Eastern Dispensary, Goodman's-fields. Mr. G. H. Simmonds, architect. Quantities supplied:—

Dolley	£4,144	0	0
Pitcher	4,074	0	0
Smith and Read	4,024	0	0
Pritchard and Son	3,999	0	0
Hill, Wm.	3,971	0	0
Little and Son	3,938	0	0
Outhwaite, Jno.	3,777	0	0
Single	3,741	0	0
Ashby and Horner	3,740	0	0
Hall and Son	3,730	0	0
Piper and Son	3,662	0	0
Jacobs, Jno.	3,656	0	0

For building a house in Carnaby-street, Great Marlborough-street. Messrs. Finch Hill and Paraire, architects:—

Keyes and Head	£1,116	0	0
W. Hill	1,012	10	0
Hall and Son	1,009	0	0
Patrick and Son	994	10	0
Dove	994	0	0
Elston	955	0	0

TO CORRESPONDENTS.

THE SMELL FROM KITCHENS.—Can any of your readers inform me how to prevent the smell of cooking from pervading the upper part of a house, which is situated directly over the kitchen? Can it be done by putting large ventilators in the front and sides of the kitchen-chimney wall, where it projects into the kitchen at the top of the ceiling, in order to convey away the upper stratum of foul air by means of connection with a warmer medium in the chimney? At present, the warm foul air remains at the top of the kitchen, and mixes with the mass of air that gets displaced by the entrance of colder air through the open door, when it escapes into the passage. If an aperture for a ventilator be made sufficiently large, will it interfere with the draught of the fire, and let the smoke and soot descend into the kitchen, as Arnot's ventilators do? If any one will answer this satisfactorily, I think it will benefit builders generally, for every one will desire an alteration that is similarly troubled A SUBSCRIBER.

*** Ventilation, either in the way described or otherwise, will materially lessen the evil complained of.

A Subscriber.—W. F.—F. C.—T. P.—S. L.—F. L.—E. T. B.—B. B.—J. H. (to recommend a chimney-top to serve for all cases would be use us)—H. L. (look to the Act of Parliament under which the work has been done).—A. O. W.—C.—E. A. C.—G. G.—J. T. (two lists, received from different hands, contained the name in question).—W. H.—A. G. H.—A. M. D.—K. and H.—J. S.—L. W.—W. S. S.—J. E. W. (in type). G. T J. C. W. E.—S H. J K.—W. G.—F.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

NOTICE.—All communications respecting advertisements should be addressed to the "Publisher," and not to the "Editor;" all other communications should be addressed to the "Editor," and not to the "Publisher."

ADVERTISEMENTS.

THE FREEMASONS' MAGAZINE and MASONIC MIRROR for DECEMBER 30, 1857 (supplementary Number), is now ready. Price 1s.

Contents:

I. TO OUR SUBSCRIBERS.
II. GRAND LODGE.
III. MARK MASONRY.
IV. THINGS FROM THE CRAFT IN THE UNITED STATES.
V. LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.
VI. REVIEWS OF NEW Books —
The Masonic Review — Most Thoughts on Many Things, being a Treasury of Reference adapted for the Workings of the Known Secret and the Great Unknown — The Quarrel of God's Covenant. — History of the British Empire in India — Systematic Philosophy, and New Theories of Light and Heat — Dr. Irving's Statement of General Knowledge — Our Life Boat.
VII. MUSIC.
VIII. POEMS. THINK NOT OF WRONGS, THE LEVEL AND THE SQUARE.
IX. CORRESPONDENCE.
THE MASONIC MIRROR.
Masonic Mems — Grand Lodge. London Lodges — Provincial Lodges — Royal Arch — London and Provincial Chapters — Knights Templar — Royal Arch — London and Provincial Conclaves — Masonic Festivities — Mark Masonry — Scotland — Ireland — Colonial. — Masonic Festivities — Summary of News for December. — Obituary. — Notices and Answers to Correspondents, &c.
London: HENRY GEO WARREN, 2, Red Lion-court, Fleet street; and GEO ROUTLEDGE and CO Farringdon street.

NORTHAMPTON IMPROVEMENT COMMISSIONERS. Notice is hereby given, that the Commissioners for Improving, &c the Borough of Northampton, will, at a Meeting to be held at the Guildhall, in the said town, on WEDNESDAY, the 3rd day of FEBRUARY next, APPOINT a SURVEYOR, in the room of Mr. F. M. Jones, who has resigned The said Surveyor will be 200l per annum, and the person appointed must devote the whole of his services to the Commissioners, and will not be permitted to carry on any private business No application will be received from any person resident in the town of Northampton. Printed particulars of the duties of the office may be had on application to the Clerk to the Commissioners — Applications for the office must be sent to the Clerk, on or before the 12th day of JANUARY, and no candidate will be allowed to make a personal canvass

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LOCAL BOARD of HEALTH, KINGSTON-UPON-HULL. — SURVEYOR WANTED. — Notice is hereby given, that the Local Board of Health of Kingston upon Hull intend to meet after the 14th day of JANUARY, 1858, to ELECT a SURVEYOR to the said Board, under the provisions of the Public Health Act, 1848. The salary will be 200l per annum, and the Surveyor will be required to be practically conversant with sewerage works, engineering, and surveying, and to be able to draw, make, and carry out plans for the same, and be must be qualified to test materials and prices of the same He will be required not to engage in any other practice of business whatever while in the possession of the Board, and his whole time will be constantly devoted to or required by the Board His appointment will not be absolute until he shall have obtained the approval of the General Board of Health, in London, at the request of the Local Board Candidates are requested to send in written applications, with testimonials of qualifications and ability, under seal, addressed to "The Clerk of the Local Board of Health, Hull," on or before FRIDAY, the 15th day of JANUARY, 1858 any other,

ROBERT WELLS, Clerk to the said Board.

Hull, December 24, 1857.

THE WARRINGTON GAS-LIGHT and COKE COMPANY — MANAGER WANTED. — The Directors are prepared to appoint a MANAGER, who must combine a practical knowledge of, and experience in, all the details connected with the manufacturing, supply of gas, and book keeping relating thereto. The existing make or supply of gas is about 40 millions per annum. Satisfactory security will be required. Salary will be 150l per annum. Satisfactory accounts will be required. Applications in writing, under seal, with testimonials, must be addressed to the Directors, on or before the 14th day of JANUARY, 1858, under cover, to Mr JAMES BARRATT, Solicitor, Warrington.

Warrington, December 18th, 1857

TO ARCHITECTS AND BUILDERS.

WANTED, by the Advertiser, aged 34, a SITUATION As a good draughtsman, and accountant can take out quantities, measure, and superintend works, and perform the routine generally, of an office References first-class — Address, J. E. 49, Blackman street, Borough, S E

WANTED, by a YOUNG MAN, a SITUATION, as CLERK to an ENGINEER or IRON-FOUNDER Can keep books by single or double entry, and is willing to make himself useful If unexceptionable reference will be given. — Address, I. M. Mr. Evans, Chemist, 81, High street, Camden-town, N W

WANTED, a SITUATION as PLUMBER, GLAZIER, and GAS-FITTER, can fill up his time by Zinc-working. —Address, J. S. No. 11, Aland-road, Kentish-town, N.W.

WANTED, a STOREKEEPER in an ENGINEER'S WORKS in Town. Some previous experience in a similar situation desirable. — Apply by letter, stating age and previous employment, to B. Scadding's Library, Belgrave-road, Pimlico.

TO BUILDERS

WANTED to place with a respectable Builder, a YOUTH, to be employed in the COUNTING HOUSE and in the Works Address free, stating terms, A. L. Post-office, Stoke Newington road

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TO BUILDERS AND OTHERS

WANTED by an Experienced Man, aged 45, a SITUATION as FOREMAN of BRICKLAYERS The most satisfactory reference will be given from his last employer, for whom he has served a period of twenty years as overlooker to the country work — Address, W. Y. 13, Rotherfield-street Low road, Islington

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WANTED, as FOREMAN in a Retail Mahogany Yard, an active young MAN who has filled a similar situation. — Apply, by letter, post-paid, to X. G. Mr. Murgett 12, Leith Mansions, Leith-walk.

TO SURVEYORS

WANTED EMPLOYMENT in the OFFICE of a SURVEYOR, in ASSISTING MEASURING, or VALUING Salary not so much an object as efficiency. — Address A Z Office of "The Builder"

WANTED, a YOUNG MAN, from 16 to 18 years of age, to ASSIST in an ENGINEER'S OFFICE, where most of the work is carried out Must be well versed in arithmetic, and have had some knowledge of drawing Also, a YOUTH, about 15 years of age, to be employed in errands, &c. Applications (which must be in the handwriting of the parties) to be addressed to Messrs. Easton and Anderson, Engineers, Southampton-buildings, Chancery-lane, London. The Youth must live with his parents, as no lodging can be given him.

WANTED, by a YOUNG MAN, a SITUATION in an ENGINEER'S OFFICE, or in the Workshop, where he would have an opportunity of acquiring a practical knowledge of engineering and surveying; and if he could draw a little, he would be preferred. A small salary will be given. Apply, by letter, post-paid, R. H. D. at the Office of "The Builder"

PARTNERSHIP

WANTED, a PARTNER, to join the Advertiser in an old-established business in town; must have from 200l. to 300l. capital required. None but principals need apply Address, A B Mr. Lewis's, Bookseller, Leamington, Warwickshire

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TO PLUMBERS, BUILDERS, &c.

WANTED, by a good PLUMBER, a SITUATION. Has no objection to fill up his time in any part of the plumbing or glazing. Can have good reference — Address, J. B. Mr. Sheffield's, Bookbinder, Banner-street, St. Luke's.

TO FOREMEN OF STONEMASONS.

WANTED, in the country, immediately, a thoroughly practical WORKING FOREMAN He must be well acquainted with all the branches of his trade Apply, stating wages to Messrs J and W GAGGS, Stonemasons, Neath

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WANTED, by a Timber Merchant, in a country Town in Lincolnshire, where a steam saw mill is attached to the concern, a MARRIED MAN, as SALESMAN, BOOK-KEEPER, and GENERAL MANAGER One who has filled a similar situation preferred A house, coal free, and other allowances Married apply who can produce undeniable testimonials and security Apply, by letter, with references, &c., to A Z Mr Noble's, bookseller, Boston, Lincolnshire

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WANTED, in Town, a Respectable Young Man with some experience, as a BOOK KEEPER, who would also be required to attend to the Counting House and Office of an Auctioneer and Agent. No personal application will be regarded, nor any letter that has not the name and address of the writer. The advertiser is open to an early engagement. — Apply, prepaid, to A J B. at Mr Deacon's Advertising Agency Office, 164, Leadenhall street

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TO BUILDERS AND OTHERS

WANTED, EMPLOYMENT, by a respectable Man, aged 32. Can prepare workings and execute first-class Joiners' work, or would take charge of the same in Town or Country — Address P. L. Office of "The Builder"

WANTED, a YOUTH, of respectable Parents, about 15 or 16 years of age, who has some knowledge of ornamental drawing, in a BRASS MANUFACTURER'S OFFICE; one who has attended the School of Design preferred. Salary to commence at 20l. per annum. — Apply, by letter only, to A. B. Mr. Twells, Enfield-street, Long-acre.

TO CARPENTERS AND JOINERS.

WANTED, at Shadwell Court, near Thetford, Norfolk, HALF-A-DOZEN GOOD JOINERS. None but good workmen need apply Apply on the works personally, or by letter, addressed to Clerk of Works, as above

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TO ENGINEERS, SURVEYORS, AND OTHERS

WANTED, by the Bangor Local Board of Health, a GENTLEMAN competent to undertake the duties of CLERK, SURVEYOR, and INSPECTOR of NUISANCES, under the Public Health Act, 1848. Salary, 150l per Annum. Applications, accompanied by testimonials, to be sent in on or before the 8th day of JANUARY next, addressed to the Clerk to Local Board of Health, Bangor

Bangor, December 18, 1857

TO ARCHITECTS, &c

WANTED a SITUATION by a quick practical Clerk of Works, who has been many years employed on first-rate buildings The advertiser is a first-rate rapid Draughtsman, and possesses a thorough knowledge of construction, &c. & First-class reference Address, C & C Office of "The Builder"

TO CONTRACTORS, MANUFACTURERS, AND OTHERS

THE Advertiser, a middle-aged Man, who writes a good, expeditious hand, is a good accountant, understands surveying and measuring, is desirous of obtaining a SITUATION in an Office or Counting House Direct, prepaid, X B at the Office of "The Builder."

TO MODEL and PATTERN-MAKERS.

WANTED, a PATTERN-MAKER, capable of Managing and Working this Department, for a country foundry — Apply, by letter, prepaid to A. B. care of Mr. Francis Ford, Iron and Metal Agent, 8, Laurence Pountney-hill Cannon-street, City, E.C.

TO SURVEYORS AND OTHERS

THE Advertiser, aged 20, who can land survey, take out quantities, and measure timber, having all instruments requisite, is desirous of an ENGAGEMENT His been articled three years to an accountant and surveyor. Reference as to ability given. Salary moderate — Address, W. W. Office of "The Builder"

TO ARCHITECTS

THE Advertiser a first-rate Draughtsman, who thoroughly understands construction, is also perspective, and is a fair colourist, is desirous of obtaining a SITUATION in an ARCHITECT'S OFFICE — Address, H W Office of "The Builder."

TO ARCHITECTS AND SURVEYORS

THE Advertiser, who is a first-rate Draughtsman, and quick at figures, is open to an ENGAGEMENT. — Address, G. W. 1, Brackley street, Islington, N

TO CARPENTERS and JOINERS. — A BARGAIN — TO BE DISPOSED OF, a large CHEST of TOOLS, containing every article used in the trade all in first rate order, the property of a tradesman lately deceased Also, several Doors, &c —Apply at 50, Gloucester street, Queen's square, Bloomsbury.

TO BUILDERS OR TIMBER MERCHANTS.

THE Advertiser, aged 30, of considerable experience in builders' accounts, and office business, is desirous of an ENGAGEMENT, as CLERK to a BUILDER or CONTRACTOR, or as WHARF CLERK to a TIMBER MERCHANT. Satisfactory references — Address, B. O Office of "The Builder."

TO ARCHITECTS, &c

PARTNERSHIP or OTHERWISE. — A Gentleman is desirous of entering an office, with a view ultimately to PARTNERSHIP, or one where the present proprietor retiring. — Address, in confidence, G H. 8, Kilburn Priory, Edgware-road, W

TO ARCHITECTS AND SURVEYORS

OCCASIONAL ASSISTANCE offered by the Advertiser, 3 years' experience in the profession —Address A Z 38, Duke street, Grosvenor square

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ASSISTANT SURVEYOR WANTED, who thoroughly understands taking off quantities, measuring up works, estimating and making specifications, in every branch of the building business Salary £ per annum None but a thoroughly competent person need apply — Address, with full particulars of previous employment, &c., to J G, 16, Sise-lane, Bucklersbury, E.C

TO PARENTS AND GUARDIANS

AN APPRENTICE WANTED, in a MASON'S YARD, where he would have an opportunity of learning the trade and the Drawing Address, S. H. G, 8, Mountrow, New Kent-road, S E — A premium required

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A FIRST-CLASS DRAUGHTSMAN, of good, practical experience, wishes to obtain a SITUATION, in the OFFICE of an ARCHITECT or BUILDER Apply, W. W. 51, Lavery street, Bermondsey

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TO ARCHITECTS, SURVEYORS, LAND AGENTS, &

A GOOD DRAUGHTSMAN, LAND and RAILWAY SURVEYOR, is desirous of meeting with EMPLOYMENT. He is a first-rate mapper, can take and plot levels, with sections and longitudinals Specimens of mapping and of required, and every particular, to be had on application to the employers — Address, J. P. Office of the Builder

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A PRACTICAL BRICKLAYER having just finished an extensive job, is desirous of a SITUATION as FOREMAN. Can be highly recommended for sobriety, industry, and ability Has had the management for some years with plans — Address, H. R. 1, Ledbury-street, Blackfriars-road, S.W

A FOREMAN of SMITHS wants EMPLOYMENT; is thoroughly competent, age 39, good references —Address, I J 4, Stephen street, Tottenham-court road, London.

TO PARENTS AND GUARDIANS.

AN Architectural Firm in the City, whose works are of an extensive public and private character, is DESIROUS of receiving as PUPIL a well-educated Youth; the premium required will be a matter for after consideration. — Address, in the first instance by letter, to A. B. care of Mr. Neilly, 1, St. Swithin's-lane, King William-street, City.

TO ARCHITECTS AND ENGINEERS

A FIRST-CLASS DRAUGHTSMAN, with good practical experience, wishes to obtain a SITUATION on moderate terms Good references and high testimonials from former employers. — Apply to J. J. 37, Sebastopol-road, London.

TO ARCHITECTS, &c.

A YOUNG MAN, lately from an eminent office, is open to immediate TERMS being conversant with the pointed styles, details, finished drawings, and usual routine, understands perspective, and has a good practical knowledge, can assist at quantities, ready at figures and the pen, surveying, and measuring. — Address, SCRUTATOR, Office of "The Builder."

CIVIL ENGINEERING AND SURVEYING.

A PROFESSIONAL GENTLEMAN, of a studious and practical attainments, who has for some years held a responsible, and executed extensive public works, will be at liberty in February next, and is desirous of obtaining an ENGAGEMENT in PRIVATE PRACTICE, if possible, with a view to taking the whole of the business, in charge of which he would have part thereof as a partner. Having a knowledge of French and German, would not object to take the superintendence of works on the Continent. — Address, C. E. 8, 3, Portland-place, Hammersmith road, London. W.

A. Z. having been engaged upwards of Twenty Years in an Old Established Building firm, measures and values work, prepares day bills, &c. at 2½ per cent. Quantities measured from 1s 6d The above done in the manner and at prices charged by the leading builders. Rule of reference arranged for Architects Address, A. Z. Mr. Preece's, 2, Theberton-street, Islington, N.

TO BRICKMAKERS, BUILDERS, AND OTHERS.

A WORKING FOREMAN wishes an ENGAGEMENT, Contract or otherwise. Can be well recommended. — Direct, D. H. 21, Carlton-hill-villas, near the Brecknock, Holloway

N.B A PLANT for TWO STOOLS, with about 270 feet of Iron

TO ARCHITECTS, &c.

A THOROUGHLY EFFICIENT ASSISTANT, with thirteen years' constant and varied experience, in the offices of some of the most eminent Architects in Town, a first rate draughtsman and Draughtsman (geometrical, ornamental and perspective), is desirous of an ENGAGEMENT, either temporary or otherwise, or to undertake any description of professional work at his own residence. — Address A. B. 8, Otto-street, Royal-road, Kennington, near S

TO ENGINEERS, SURVEYORS, &c.

AN ASSISTANT, five years with a late eminent architect and engineer, is desirous of an ENGAGEMENT. Has had considerable experience, having assisted in the survey of the most important metropolitan parishes, also in the preparation of several sets of railway plans for counsel. Understands accounts and keeping books. Permanent employment being an object, a moderate salary would be accepted Good references — Address, A B 8, seymour place, Camden town.

AS ENGINE-DRIVER, a steady and experienced Man, age 36 With several years' excellent character Address W. P. 3, Red Tree-street, Waterloo-road.

TO ARCHITECTS, &c.

A FIRST-RATE DRAUGHTSMAN, accustomed to prepare finished, working, and detail drawings, perspectives, and superintend works, wishes for a RE-ENGAGEMENT, either in the OFFICE or CLERK of WORKS Is well up in construction and fittings; also understands gas-works and levelling Salary moderate. — Address, A. B. 54, Aldersgate-street.

TO CIVIL ENGINEERS AND SURVEYORS.

A YOUNG GENTLEMAN, aged 19, wishes for an ENGAGEMENT in an office of good practice in town. Has moderate surveying and levelling, making finished plans, &c. &c. and wishes to make himself generally useful As his object is improvement, no remuneration required Address, B. A. care of Mr. Harben, 9, Hanway-street, Oxford-street, London, W.

PAINTERS of TRANSPARENCIES in honour of the Marriage of the Princess Royal — MESSRS. WILLS, of the Academy of Arts, Painters of artistic works for Clubs and public and private buildings, in town or country, 13, Harrison street, Gray's Inn-road.

DRAUGHTS round Doors and Windows EFFECTUALLY PREVENTED by GREENWOOD'S PATENT INDIA RUBBER MOULDINGS, the leaden tube of which contains a simple and effectual method of making air-tight joints to panels or cabinet work OLD or NEW The moulding Spring Strips, for the bottoms of doors The most imperfect door can be made air-tight without removing The Trade supplied

JOHN GREENWOOD, Patentee, 10, Arthur street West, London Bridge

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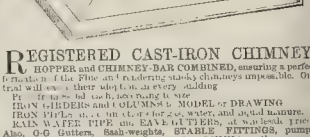
IMPORTANT TO BUILDERS.



REGISTERED CAST-IRON CHIMNEY HOPPER and CHIMNEY-BAR COMBINED, ensuring a perfect ventilation if the Flue and rendering sinky chimneys unsmokable. Original and only Patentee and Manufacturer

Prices and testimonials on application to the Sole Proprietor,

IRON GIRDERS and COLUMNS, MODEL or DRAWING

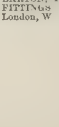
IRON HURDLES for Fencing Cattle, Sheep, &c.

RAIN WATER PIPE and EAVE GUTTERS, at wholesale Prices

Also, O-G Gutters, Sash-weights, STABLE FITTINGS, pump Cocks, Bridging and Railing Designs, and COLUMNS, with caps and bases, and every kind of Builders' Castings, in stock, at LYNCH, WHITE'S Iron Wharf, Upper Ground-street, London, near Blackfriars Bridge.

LEATHER MILL-BANDS, HOSE-PIPES BUCKETS, &c.—Railway Companies, Engineers, Contractors and Builders can be supplied with the above articles, of the very best quality, and on the most moderate terms, by applying to the Manufacturers, Leather Merchants, 33, Great Dover-road, London, S.E. Wholesale Harness Manufactory.

SMOKY CHIMNEYS. — The best REMEDY is PATENT VENTILATING and SMOKE-CURING CHIMNEY CANS, ALBERT CHIMNEY CANS, in the style of those now on BUCKINGHAM PALACE, and at Windsor Palace, and very generally used at the Queen's Palace, and on the Western Heights Barracks, Dover; in use also on the halls and buildings of the nobility, Government Offices, Churches, &c., and other extensively adopted by the public. Several Prices 2s. 3s. 4s. and 5s. each



Drawings and testimonials forwarded on application to JAMES BARRON, Ironworks and Manufactory for the PATENT STABLE FITTINGS and ENAMELLED MANGERS, 350, Oxford-street, London, W

CHARLES RICHARDSON, BRUNSWICK WHARF, VAUXHALL, and 6, SOUTH WHARF, PADDINGTON BASIN.
COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from wharf
SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door Jambs, Coping, &c. DARK RED FACINGS, Rubbers, &c. BRIGHT YELLOW MALM FACINGS and Cutters, of the first quality. Likewise Mean and Pale Malm Seconds, Pickings, Facers, &c.
STAFFORDSHIRE BLUE, VITRIFIED, and CHANNELLED STABLE BRICKS, red, blue, and buff Terra-Metallic Paving Tiles, of different sizes and patterns Also plain, flanged, rolled top, and ornamental Ridge Tiles, Block Headers, glazed and unglazed.
All descriptions of FIRE GOODS, including Newcastle, Stourbridge, and Welsh Bricks, Tiles, Lumps, and Fire Clay
TERRA COTTA CHIMNEY-POT and FLUE LININGS
BLUE LIAS LIME, ground and unground.
GREY STONE and CHALK LIME, Roman, Portland, Parian, Lias, Bath, and Keene's Cement, Plaster, BANGOR SLATES.
YORKSHIRE PAVING, Sinks, Sills, Copings, &c.
ROAD MATERIALS—Broken and Unbroken Guernsey Granite, Kentish Flints, and Kentish Rag Stone, in any quantities.
All kinds of Building Materials sent by rail the same day as ordered
N.B. Landing Wharf and Drawing Dock at Vauxhall.
IMPORTER OF DUTCH CLINKERS.

COLES, SHADBOLT, and CO. CEMENT and PLASTER MANUFACTURERS, LIME BURNERS,
Brick, Tile, Drain-pipe, Hair Lath, and Fire Goods Merchants,
ST JAMES'S and THORNHILL WHARFS, Caledonian-road, London
ROMAN CEMENT, made at the above works, may be had fresh from the kilns daily—a great advantage to dealers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and Colour, manufactured in Kent This cement will carry more sand than any of the Lias Cements, so much of which is now brought into the market and sold as Portland.
PLASTER of PARIS, direct from the quarries, both coarse and fine, wholesale and retail.
LIME, Grey Stone, Chalk, and Blue Lias Lime, fresh and well burnt, a constant and regular supply of which may be had by the barge or yard.
A large assortment of Glazed Stoneware Drain-pipes, of the best Lambeth make; Yorkshire Plain, Pan, and Paving Tiles; Welsh Fireclay, Lumps, and Tiles, Hair and Lime, always kept in stock
These goods are of the best quality, and sold at the lowest possible prices.
N.B. Shipping orders promptly executed

MESSRS. J. and W. EASTWOOD are SOLELY engaged in the SALE of the well-known BALLINGDON WHITE and RED SUFFOLK FACINGS With Splays, Door jambs, and all kinds of Shaped and Moulded BRICKS manufactured in different colours for ornamental brickwork; the EWELL DEEP RED and BLACK RUBBERS, and also the well-known
HERTFORDSHIRE YELLOW and PALE MALM FACINGS The best Malm Cutters, Seconds, Mean Seconds, Facing Facers Paviors, and Pickings, of very superior quality.
They have also always on hand the same descriptions of Malm Facings at their
BRICKFIELDS, QUEEN'S-ROAD, PECKHAM,
As well as STOCKS and other BRICKS.
WELLINGTON WHARF, Belvedere-road, Lambeth; and Surrey Canal Bridge, Old Kent-road.

BLUE LIAS, GREY STONE, and CHALK LIME.
PORTLAND, ROMAN, AND OTHER CEMENTS, PLASTER, HAIR, LATHS, &c.
Sand and Ballasts, Bricks, Tiles, and all kinds of BUILDING GOODS.
and W. EASTWOOD, Belvedere-road, Lambeth; and Surrey Canal-Bridge, Old Kent-road.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs Blue and Red Plain and ornamental Roofing Tiles in great variety Plain, Rolled, Capped, and Pinnacle Ridge Tiles of different patch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, grooved, of various sizes Blue Facing Bricks, &c
FIRE BRICKS, LUMPS, and TILES of every description Patent goods wrought to order.
FIRE GOODS of every description Importers of DUTCH CLINKERS.
J. and W. EASTWOOD, Belvedere-road, Lambeth.

COWLEY and KENT BRICKS, IN ANY QUANTITIES, BY BARGE ALONGSIDE.
J. and W. EASTWOOD, Belvedere-road, Lambeth.

PORTLAND and ROMAN CEMENT, PLASTER OF PARIS,
Manufactured by J. M. BLASHFIELD, at Millwall, Isle of Dogs. Warehouse, No. 1, Wharf, Paddington basin.

PARIAN CEMENT, reduced from its original price 25 per cent. This article is valuable for inside stucco, and especially for skirtings, for the coving on brick arches, &c. &c. It lasts out in a few hours after its application on walls or laths, is without efflorescence and may be papered in a couple of days. A finer quality forms a beautiful roughcast, with any admixture of colour. Manufactured by FRANCIS, BROTHERS, and PUTT, Cement Works, Nine Elms, London.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. CLTON, can be had in any quantity, wholesale and retail, at his Wharf, 8, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.—N.B. These Cements supplied for shipment, on advantageous terms.

PORTLAND CEMENT WORKS, NORTHFLEET, Kent.—KNIGHT, BEVAN, and STURGE, Manufacturers only of first-class quality. For the home and foreign trade Portland Cement is manufactured at these works with especial reference to the destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.—London Wharf, Belvedere-road, Lambeth

LONDON and WEST of ENGLAND CEMENT WORKS, Dartmouth, Bridgwater—Hydraulic, Portland, Roman, and Roman Cements, Blue and White, Lias Lime, lump and ground.—KIALLMARK and CO. Dunball, Bridgwater, and 9, North Yard-road Paddington

BLUE LIAS LIME.—Messrs. GREAVES and KIRSHAW having completed their Works on the Birmingham and Oxford Line of the Great Western Railway, at Harbury, are now prepared to supply LUMP and GROUND LIME of the best quality, direct from the kilns, to all the Stations on the Great Western Railway Greaves's Blue Lias Lime. Portland, Bath, and Lias Cements Works at Harbury, Stockton and Wilmcote.—Office at Warwick

JOHNS & CO.'s PATENT PERMANENT STUCCO WASH (perfectly non absorbent), STUCCO, CEMENT, STUCCO PAINT, CLARK and BENGOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

GEO. and THOS. EARLE, CEMENT MANUFACTURERS, HULL. Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates and Slate Slabs, Fire bricks, Grindstones, Cement Chimney-tops, ditto Vases, Rubbing &c Paints, Stucco, &c. Marble Merchants and Importers of Pozzolah

THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT.—Messrs ROBINS and CO to WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all the purposes to which Cement is applicable. Orders received at Great Scotland yard, and at the Works.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements read at the Institute of Civil Engineers, to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

KEENE'S and PARIAN CEMENTS and FRENCH PLASTER, for internal uses These well known hard Stuccoes dry quickly, and can be painted upon within a few days —Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster

O. McCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars-street, City. Sand from above or below Bridge, delivered by the yard or by barge Ballast, screened or unscreened, by the yard or per barge. Stocks, lime, and old bricks. Dry rubbish delivered, per barge, in any quantity, alongside the Thames

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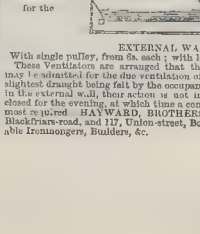

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With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required HAYWARD, BROTHERS, sole Manufacturers, 196, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

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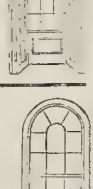

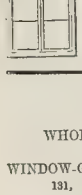

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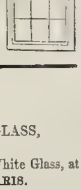

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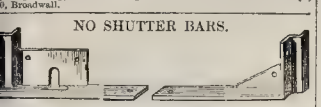

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48 and 49, Cornwall-road, Stamford street, Lambeth, S.
N.B. Price-list on application.

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory (the first of its kind ever established), a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from inch to 1½ inch thick, in Wide or Yellow Deal, Oak, or Pitch Pine. Also Dry Deals, in all the thicknesses, Slating Battens, Puttle Laths, Oak Sills, Plank, and Scantlings. Mouldings in clean Pine, to any design. A pattern list forwarded on application.—Address, E. SIMMS, Planing Manufactory, and Sawing, Planing, and Moulding Mills, King's road, Chelsea.

ALFRED ROSLING begs to inform his Customers and the Building Trade generally, that he is enabled to allow a discount of 15 per cent upon his list prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Blackfriars.

PREPARED FLOORING! PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	½	⅝	¾	1	1¼	
Spruce	12s	13s.	15s.			per square
White	12s 9d.	13s. 6d.	15s 6d	17s		"
Yellow	13s. 6d.	14s 6d	16s. 6d	18s. 6d.		"

Delivered within three miles free of cartage.
STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices:—

¼-inch prepared Flooring	£0 11	6 per square.
Inch ditto	0 15	0 per square.
Yellow Battens	11 10	0 per 120.
Spruce Deals, from	0 2	9 each.
Fine ditto, from	0 3	0 each.
Yellow ditto, from	0 3	3 each.

Mahogany, in logs and planks, from 5d. per foot.
All Sawn Goods delivered three miles free of cartage.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

SEASONED MAHOGANY, WAINSCOT, ASH, and BIRCH.—JOHN COUMBE solicits an inspection of a large STOCK of guaranteed DRY WOOD, which he is selling at prices generally charged for wet.—Address, Wood Seasoning Works, Holly Lake's grove, Mile-end-gate.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for readily useful sorts:—

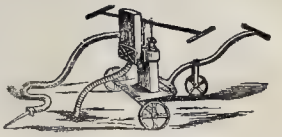
¼ Prepared Flooring	13s.	per square.
Inch Yellow ditto	17s.	" "
¾ Ditto ditto	18s.	" "
Good Yellow Deals	19l. 10s.	per 120.
Spruce Deals	18l.	" "
Fine Planks	21l.	" "
Yellow Battens	11l. 10s.	" "

Mahogany, in logs and planks, from 5½d per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal green-road, N.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Wilton-road, Pimlico, to the KING'S-ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor-street.

STEAM PUMPING ENGINES.
PATENT PORTABLE STEAM-ENGINES,
From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,
For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON & SONS,
Engineers and Contractors, JOHN'S-PLACE, HOLLAND-STREET, Southwark, London.

BENJAMIN FOWLER and CO.
FIT UP HEATING APPARATUS OF ALL KINDS,
For Public Buildings, Private Mansions, Offices, Manufactories, and Horticultural Buildings,
And for every purpose where artificial heat is required.
They also erect DRYING-ROOMS for ASYLUMS, UNIONS, DOMESTIC and MANUFACTURING PURPOSES, upon the most improved principles, and upon the largest or smallest scale.
STEAM-COOKING AND BATH APPARATUS FIXED;
Also PUMPS for DEEP or SHALLOW WELLS,
To be worked by Hand, Horse, or Steam Power,
AND ALL KINDS OF
ENGINEERS', MILLWRIGHTS', or SMITHS' WORK, for Public or Private Establishments.
The most ample references from along experience in the above branches can be given.
BENJ. FOWLER & CO. WHITEFRIARS-STREET, FLEET-ST.



B. FOWLER, HOLMAN, and CO.
SOLE MANUFACTURERS OF
HOLMAN'S PATENT DOUBLE-ACTION CESSPOOL, SEWER FLUSHING, LIQUID MANURE, AND UNIVERSAL FORCE-PUMP.
The simplest, cheapest, and best thing of the kind before the public; admirably adapted for thick substances; valve-ways three times usual size, made to suit liquors of all kinds, hot or cold; is portable, or can be fixed with perfect ease. Delivers a large quantity at small labour. A really good article, commanding extensive home and export sale.

FLOORING AND MATCHED BOARDING.
R. SLADE
Begs to inform Builders and the Trade that he has now on hand a well-seasoned Stock of the above, in Yellow or White Deals and Battens, at considerably reduced Prices. Also
MAHOGANY, MOULDINGS, WAINSCOT
AND ALL KINDS OF TIMBER REQUIRED FOR BUILDING PURPOSES.
ADDRESS—R. SLADE (LATE EDWARD SIMMS), WILTON-ROAD, PIMLICO BASIN.

NOTICE OF REMOVAL,
From Opposite the London Docks.
PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish
BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works.
HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW-WHITE ZINC DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.
THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

DAMP WALLS.
STENT'S COMPOSITION FOR PREPARING NEWLY-PLASTERED OR DAMP WALLS FOR PAPERING,
Is the result of practical experiments and long experience; it is unfailing in its application. Entire houses have been papered a few days after plastering. In repairs of old plastering it is invaluable. A moderate room can be papered for 2s. 6d.
Prepared only by W. J. STENT, Warminster.
London Agents: Messrs. GEO and THOS. WALLIS, 64, Long-acre. Agent for Ireland: Mr. S. BOYD, 46, Mary-street, Dublin.

AT the LOWEST PRICES.—TIMBER, DEALS, MAHOGANY, and WAINSCOT. A large assortment of seasoned prepared FLOORING and MATCH BOARDING, of all descriptions. Also an extensive stock of Dry White, Yellow, and Pine Cut Stuff, Slating, Battens, Puttle Laths, Oak Plank, Sash Cills, &c. Timber of all kinds. Planks, Deals, and Battens fetched from the docks, sawn by patent machinery in the best manner, and delivered at the shortest notice.—THOMAS JACKSON, Sawing and Planing Mills, Commercial road, Pimlico, London.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d; Spruce, 2s. 9d.; Fine Plank, 3s. 6d.; Mahogany and F. Walnut, 5½d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ do. 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ do. 13s. Bird's-eye Maple Veneer, 2d. Cartage free to any part of town. T. FORMAN, 1, Walnut tree-walk, Walcot-place, Lambeth, S.

MOULDINGS by MACHINERY.
Capping, Sash bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to
E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA

ACORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge-street, Old St. Pancras-road.—GEORGE BENGES and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash:—
¼-inch white, 12s. 6d. per square; ¾-inch white, 15s. per square; 1-inch white, 18s. per square; ¾-inch yellow, 15s. per square; 1 inch yellow, 16s. 6d; 1-inch yellow, 20s.
Timber, deals, battens, &c. at the lowest remunerative prices. A liberal discount allowed. Mouldings for exportation. Book of designs forwarded on application.

LETTS'S WHARF PATENT SAWING, PLANING, and VENEER KNIFE CUTTING MILLS, Commercial-road, Lambeth. The Proprietors beg to announce to the Trade that they have completed their extensive arrangements, and will be happy to execute all orders entrusted to their care with despatch and punctuality. Wet and dry docks, and powerful cranes for landing heavy goods, offer facilities not to be obtained elsewhere.
A LARGE ASSORTMENT OF SEASONED PREPARED FLOORING, MATCH BOARDING, &c. &c. ALWAYS IN STOCK AT REDUCED PRICES.

FIDENT, sole Successor to E. J. Dent in all his Patent Rights and Business, at 61, Strand, and 34 and 35, Royal Exchange, and the Clock and Compass Factory at Somerset Wharf, Chronometer, Watch, and Clock Maker to the Queen and Prince Albert, and Maker of the GREAT CLOCK for the HOUSES of PARLIAMENT. Ladies' Gold Watches, Eight Guineas; Gentlemen's, Ten Guineas; strong Silver Lever Watches, Six Guineas; Church Clocks, with Compensation Pendulum, 85l. No connection with 33, Cockspur-street.

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter:—FROM SIR RAYMOND JARVIS, Bart. YENTNOR, ISLE of WIGHT.—Second Yentnor, and—"March 19th, 1857.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and others per sea have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pumps to give one hundred per cent. of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET RINGS, for H Coaster pipes. Vulcanized Rubber Dead springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Ingatelle tables.
Driving dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.
Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows, and Cushions inflating Portable Baths, Invalid Cushions, and Art. les of this kind made to any pattern to order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURHAM'S PATENT ANTI-FRICTION GREASE, for lubricating the axles of railway and other carriages, machinery, &c. may be had in large or small quantities at the Works, No. 21, Suffolk-grove, Southwark, London; where may be had, on application, printed results of the great economy and value of its use as compared with other greases.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 8d. per gallon; Boiled Oil, 2s. per gallon; Turpentine, 2s. 8d. per gallon;
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill-street, Pimlico.
Every article for the Trade at the lowest price.

HECKETHORN'S PATENT LIQUID COLOUR, for external and internal stuccoed or plastered walls; primings for in and outside woodwork (to prevent blistering), and a composition (in lieu of size), for floor-cloth and table-cover manufacturers.—J. HUDDEN and CO. Proprietors, No. 561, New Oxford-street.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than brick flues. By their use THE DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE; THEY ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

the use of which THE CONNECTION BETWEEN PIPE-DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

or the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

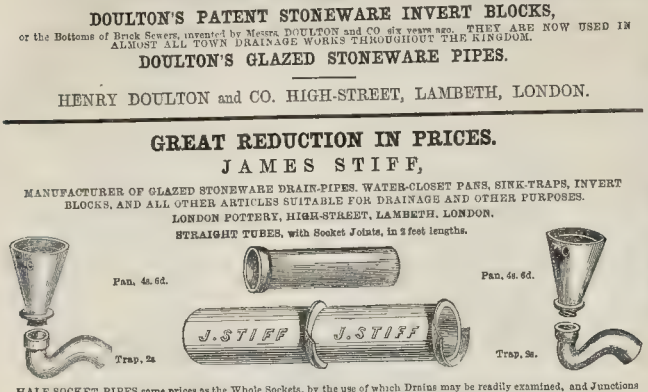
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES. WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar'-acre, Westminster-bridge-road; City-road Wharf, City-basin; Dockhead-wharf, Bermondsey; Danvers-wharf, Chelsea; Pratt-wharf King's-road, Camden-town.
Messrs. COLLS, SHADBOLT, and COX, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Downte-wharf, Canal-road, Hoxton.
Messrs. COLWILL, BROTHERS, 22, Bridges-street, Covent-garden.

Drawings, with Prices, will be forwarded free, on application.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

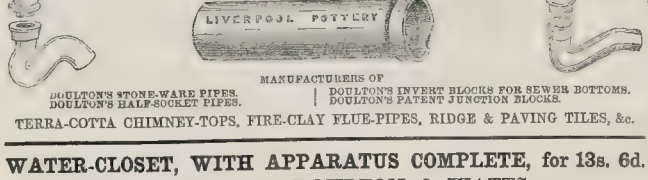
7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire Internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONE-WARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE & PAVING TILES, &c.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,
AND
LAMBERT'S PATENT HIGH-PRESSURE VALVE-COCK,
With Handle, Lever, and Weight, ready for fixing.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.

CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire brick Works, near Leeds. Net price per foot, socketed:—

30-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
15s	9s. 3d.	9s. 6d.	5s. 6d.
24-inch	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time, and the Pipe is guaranteed to stand better than any Brickwork.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, by Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

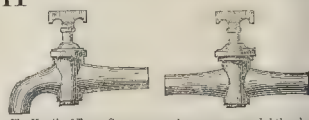
3-in	4 in	6-in	9-in.	12-in	15-in
2d	2½d	3½d	5½d	9d	1s 3d per foot.

Samples may be had at Falcon Wharf, Battersea, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it may materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

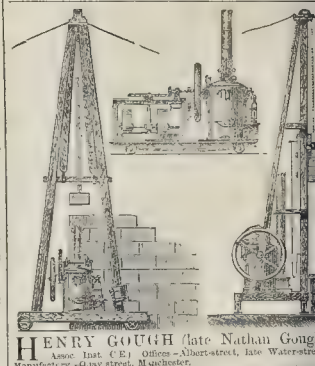
HIGH-PRESSURE COCKS & CLOSETS



The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Cheeks and Basins with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London



HENRY GOUGH (late Nathan Gough), Assoc. Inst. C.E. Offices—Albert-street, late Water-street, Manufactory—Quay street, Manchester.

PATENT PORTABLE STEAM-ENGINES, and other Machines well adapted for exportation. These Engines have been found of great value for Railway, Railway contractors, Miners, and Engineering purposes, in raising building materials, earth-work from excavations, pumping water, grinding mortar, driving piles, circular saws, and sewing for cutting marble, stone, &c. They have been employed in building the New Houses of Parliament, Lambeth, and for the Russian Government, for the great Suspension-bridge over the River Dnieper at Kieff, in Russia, where six of these engines are now employed with apparatus attached for driving piles, grinding mortar, raising building materials, pumping water, sawing timber, stone, &c. and most of the railways and public works in England and on the Continent.

TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to

JOHN WARNER & SONS'
PATENT VIBRATING
STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price comparatively less than the Pumps made on the old plan.

Beer and Water Engines for raising fluids from a depth not exceeding 28 feet; also Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

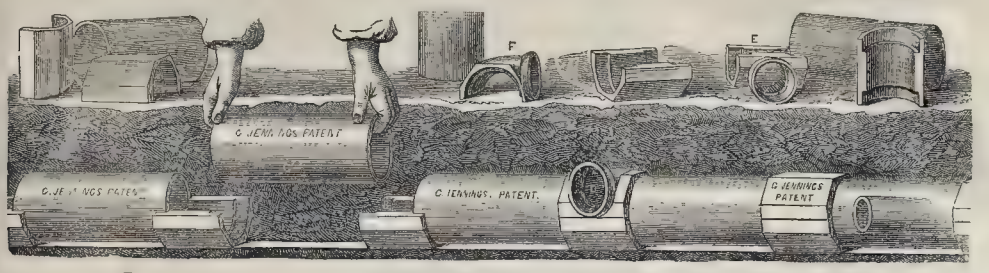
TO DRAUGHTSMEN AND CIVIL ENGINEERS

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade:

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use.
H H	for engineering.	B	black for shading
H	for sketching.	B B	ditto ditto
H B	hard and black for drawing.	B B B	ditto ditto.
		B B B B	ditto ditto.

Memorandum.
Sold by all the principal Stationers in town or country.



JENNINGS'S PATENT DRAIN PIPES.

These Pipes offer many advantages. They are largely described in Specifications relating to Public and Private Works; and as regards QUALITY AND TRUTH OF FORM, they will bear comparison with any Pipes before the Public.

They can be had at the following Prices, per foot, run :—

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
5d.	6d.	8d.	1s. 1½d.	1s. 10d.	3s.	4s.

DISCOUNT FOR CASH—20 PER CENT.

JENNINGS'S PUBLIC URINAL

FOR

RAILWAY STATIONS, SCHOOLS, ASYLUMS, AND OTHER PUBLIC WORKS.

This Urinal, within a circle of 4 feet, will contain six persons; it is much more private, and offers less soiling surface than any other. Sectional views, prices, &c. can be had on application.

JENNINGS'S DOUBLE-SEATED VALVE-CLOSETS, SELF-ACTING WATER-CLOSETS, LAVATORIES,

SLUICE-VALVES, FIRE AND OTHER COCKS, PUMPS, &c.

Would well repay a visit to his

SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS-ROAD.

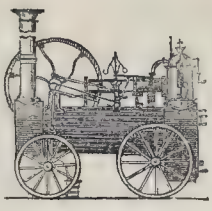
N.B. JENNINGS'S Improvements in Construction and Ventilation will shortly appear.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

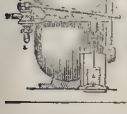
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispense with Cisterns, Service Boxes, Valves, Levers, Cranks, &c &c.; much time is saved in fixing, and a better flush of water obtained in use

Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works They are very cheap, their efficiency is guaranteed 5,000 of them have been sold, and no instance of failure has occurred.



These Stool valves are cheaper, stronger, and more ornamental, than any other Many thousands are in use, and greatly approved of.

Manufactured by
CHARLES BOTTEN and SON,
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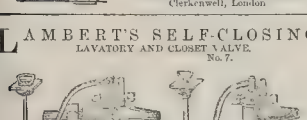

Is adapted for high or low pressure, and for any kind of BASIN Many hundreds are in use under conditions of pressure of 100 to 200 feet; they are found to be extremely durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

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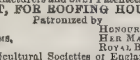
By Her Majesty's  Royal Letters Patent.

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SALES BY AUCTION.

TO ENGINEERS, MACHINISTS, MILLWRIGHTS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs. Musto, Fullerton, & Co. to SELL by AUCTION, on MONDAY, JANUARY 18th, 1858, and following day, at ELEVEN o'clock, at the EAST LONDON IRON WORKS, Cambridge-road, Mile-end, in lots, suited for trade, the superior MACHINERY and TOOLS of an Engineer's Factory, principally by Smith, Beacock, and Tannett, and other eminent makers, including two self-acting planing machines, to take in respectively 18 inches and 24 inches in width, self-acting screwing machine, a 24-inch centre self-acting surfacing lathe, with 6-feet bed, to swing 12 inch and 15-inch self-acting screw-cutting lathe, 11 feet 6 inches, and 18-feet bed, two 6-inch self-acting lathes, pattern makers' lathe, foot lathe, powerful self-acting bridge-planing, three wall drilling machines, 6-horse high pressure steam engine, with Cornish boiler, new 10-horse horizontal steam engine, nearly complete, 20-feet shafting, fifty fingers and dividing, fifty fly or hand punches, bolt-cutting machine, a new tobacco engine, circular saw-bench, 30 cwt. steel tools, six pairs hand shears, with taps and dies, ratchet braces, copper-work-benches, quantity of new engineering stores, quantity of manufactured bolts and nuts, four forges and bellows, anvils and tools, 10 tons rod and bar iron, scales and weights, 50 drum tubes, part bolts and nuts, 6 cwt. cast and shear steel, grindstones, quantity of hornbeam plank, brass stock, a large assortment of patterns, and numerous other effects. To be viewed 2 days previous, and catalogues had on the premises: of P. JOHNSON, Esq., Official Assignee, Basinghall-street, E.C.; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

A Pair of Thirty-horse power Steam-engines, and Three Four-feet Iron Boat Machines.

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs. Musto, Fullerton, & Co. to SELL by AUCTION, on MONDAY, the 18th of JANUARY, 1858, at TWELVE o'clock, at the EAST-LONDON IRON WORKS, Cambridge-road, Mile-end, in Four lots, a PAIR of LOW-PRESSURE, EXPANSIVE, and CONDENSING UPRIGHT STEAM ENGINES, one of manufacture by Messrs. Musto, and lately competed. These engines are equal to 30 horses' power each, with 54-inch cylinders, 9-inch stroke, slide valves, condenser, air-pump, and massive cast-iron framing, the total weight of cast iron being about 40 tons. The purchaser shall be entitled to copies of the drawings and specification. The estimate for the completion of the engines, irrespective of the fixing, amounts to 225*l*. The engines are from the design of an eminent engineer, and the materials and the workmanship are of the best description. Also will be sold Three Four-feet Paddle-nuts, with cast-iron cases. The engines may be viewed at any time by special order. Detailed descriptive particulars will be ready fourteen days prior to the Sale, and with orders to view may be had of P. JOHNSON, Esq., Official Assignee, Basinghall-street, E.C.; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

CARRARA WHARF, PIMLICO.—First Annual Sale of Marble, suitable for Sculptors, Marble Masons, and Builders

MESSRS. EVERSFIELD and HORNE are instructed by B. Fabbricotti, esq. to SELL by AUCTION, on the PREMISES, Carrara wharf, near Vauxhall bridge, Thames-bank, Pimlico, on WEDNESDAY, JANUARY 13, at TEN for ELEVEN, an extensive assortment of MARBLE BLOCKS, comprising statuary, shelf length and bust blocks, vein, Sicilian, dove, black and gold Sienna, purple veined statuary and other slabs and marbles. Also 8,000 feet of Carrara and Sicilian marble slabs, suitable for terraces and gardens, well-executed monuments, &c.

N.B.—Approved bills at four months will be taken on payment.—May be viewed three days previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament street, and Coal Exchange

KNIGHTSBRIDGE.—Extensive Sale of Building Materials

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, in Wilton-place, on MONDAY and TUESDAY, JANUARY 18th and 19th, at TWELVE o'clock, the excellent MATERIALS of the Building lately occupied by Mr. Spackman, recently built for the Chinese Exhibition, a coach factory, showrooms, and dwelling house, with iron railings and gates, in Wilton-place, together with the warehouse-fittings, forming the entrance to the yard, including stabling for thirty horses, loose boxes, seventeen lockup coach houses, a beer shop, and various tenements and sheds, to be cleared away for the erection of large residences on the ground of St. Paul's church. May be viewed Catalogues on the Premises, of Messrs. HAINES and SON, Auctioneers, Moorgate street; and at the Auctioneer's Offices, No. 12, High street, Kensington, and Grosvenor-street West, Eaton square, S.W.

DOVER, KENT.—To ENGINEERS, CONTRACTORS, and OTHERS.

MR. W. JACOBS has been honoured with instructions from Mr. Joseph Diggle, to submit by PUBLIC AUCTION, at the CONTRACTOR'S YARD, Chapel-place, Dover, on THURSDAY, FEBRUARY 4, 1858, the whole of the PLANT from the contract for works at the Fortifications of Dover Castle, consisting of scaffold poles, barrows, trucks, sundry tools, a number of very useful draught horses, carts, waggons, &c. A new 12-horse portable engine, with mill-stones and machinery for grinding, and superior machinery for making mortar. Catalogues to be obtained at the Office of the Auctioneer, 4, Townwall-street, Dover, and at the Bull Inn, Maidstone; Rose Inn, Canterbury and Commercial Hotel, Ashford.

MARBLE TILES.—The Italian Marble Company have now on their Wharf, FOR SALE, at very reasonable rates, a quantity of superior MARBLE TILES, admirably adapted for halls, corridors, conservatories, and dairies.
Bridge-wharf, Millbank. GEORGE BAXTER, Foreman.

BUILDERS, ARCHITECTS, AND MASONS.

MARBLE.—The ITALIAN MARBLE COMPANY beg to call the attention of Architects, Builders, and others connected with the trade, to their large and well-assorted STOCK of VEIN, SICILIAN, and other MARBLES. The liberal system of business adopted by this company, the superior quality of their Marble, and their moderate scale of prices are combined, to form an inducement to buyers. An inspection is solicited at the Depot Bridge Wharf, Millbank, adjoining Vauxhall-bridge, where no other persons are authorised to sell for the Company. Mr. BAXTER, Wharf Foreman, or the undersigned.

WILLIAM W. BONNIN, Manager
At Liverpool, to Messrs. G. H. FLETCHER and Co.
At Glasgow, to Messrs. GOURLAY and Co.

MARBLE GALLERIES, 17, Newman-street, Oxford-street.—Mr. ALFRED E. EDWARDS, (upwards of ten years with the London Marble Company), has opened the above premises, lately in the occupation of Baily, the celebrated sculptor, under the firm of EDWARDS, EDWARDS, and COMPANY, with the largest stock of BRITISH and FOREIGN MARBLE CHIMNEY PIECES, &c. &c. Mr. EDWARDS, EDWARDS, and Co. solicit the favour of an inspection of their stock by architects, builders, and others connected with the trade, and beg to assure them the few articles of exceptional merit only will be found unrivalled. Estimates for every description of marble work.

TO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), importer of all sorts of Marble, keeps a constant well supplied stock of Marble in block at the Underground wharf, Chelsea, for STATUARY, VEINED, VEINED PAONAZZO, SICILIAN, DOVE, and BLUE, the choice of his own Quarries at Carrara. Bardilla, Black and Gold, Sienna, Grecita, St. Ann's, Vert des Alpes, Breccia, &c. &c. Vases, Monuments, Garden and Gallery Statues manufactured in Italy; and takes contracts for all the above sorts of Marble to any extent connected with the trade.
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BUILDERS and CONTRACTORS.—Observe!—The cheapest Depot in London for the Sale of Marble Chimney pieces is at the WESTMINSTER MARBLE COMPANY'S WORKS, Eaton-street, Hyde-park-corner. A large stock on view to select from. Vein Marble Box Chimney-pieces from 30*s* upwards. The trade supplied on liberal terms.
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Marble of all kinds and of best quality, in block and slab, Marble Mortars, &c.

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall.
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Manager—Mr. THOMAS JAS. NETHAN, Liskeard.
The Granite is now in hand for the New Westminster bridge.

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DARLEY DALE STONE.—One of the Stones selected for the New Houses of Parliament, and highly commended by Sir Charles Barry, is supplied direct from the Quarry, or at the Darley Dale Stone Wharf, City road Basin. In addition to numerous other works, it is the stone of St. George's Hall, Liverpool, and the Staircase at the Grocers' Company's Hall, Broad street.
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VALENTIA SLATE SLABS.—The Valentia Slab Company invite attention to their Slabs, now supplied of very large dimensions, and of superior quality. They have been used at the British Museum, National Gallery, Belgrave Hospital, various Lunatic Asylums, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire Breweries, the Race Stands at Brighton, Portsmouth Barracks, and are kept in stock in large quantities by Messrs. FREEMAN, Millbank-street; and at Messrs. Braby's, Belvedere road, where form may be obtained.

VALENTIA SLATE SLABS.—A considerable reduction having taken place in the prices of Valentia Slate Slabs, we beg to submit the subjoined list as our selling prices from this date—June 10, 1857.

	1 inch	1½ inch.	1¾ inch.	2 inch.
Under 6 feet by 3 feet 6 in.....	6d.	7d.	9d.	11d.
" 8 feet by 3 feet 6 in.....	6½d.	7½d.	9½d.	1s.
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Prepared for every description of Building, Railway, and Agricultural Work.
Tempered for every purpose, situation, and export to every climate
The Trade supplied on advantageous terms; and estimates given for works of any magnitude; also for laying
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FROM 2*s* 3*d* PER SQUARE YARD
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J. & W. MEYMOTT, Solicitors to the Trustees.
5, Albion place, Blackfriars bridge, 1st January, 1858.

TO BUILDERS and OTHERS.—BICKERTAARTEN ESTATE, 2, MOUNT-ROW, Westminster-road, TO BE LET, by PUBLIC AUCTION, by Messrs. CRISP and BURGESS, at the Mart, on THURSDAY, JANUARY 28, 1858.—Full particulars for Tender and specification of the repairs, which the tenant will be required to undertake, may be seen at the Offices of Messrs. WALES and SPARKS, 2, Great St. Helen's, E.C.

YORK-ROAD, LAMBETH.—TO BE LET, extensive PREMISES, with four-horse power steam-engine, suitable for a manufactory, or builder's workshops. The steam for the engine supplied by the landlord.—Inquire on the premises, York-road leaving Mead, Lambeth

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TO GLASS-CUTTERS, OIL and COLOUR MERCHANTS, and OTHERS.—The Executrix of the late Mr. Jones, of No. 17, High-row, Knightsbridge, has instructed Mr. PETER BRADY, to DISPOSE OF the old-established and profitable BUSINESS.—The returns are 2,000*l*. per annum; lease, eighteen years, at a low rent. To effect an immediate disposal, only moderate terms are requested.—Apply to Mr PETER BROAD, Auctioneer, 23, Poultry

TO BE SOLD.—An ARCHITECT'S PRACTICE, Twelve Years established in a flourishing country-town, yielding an income of 340*l*. per annum.—Apply to Mr. REARDEN, 91, Piccadilly.

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LOAN and INVESTMENT AGENCY ASSOCIATION.—CHIEF OFFICE, 9, ADAM-STREET, STRAND, W.C. Loans of any sum, from 20*l* on real and other securities. Deposit trust funds ready to be invested.
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Facsimile and Warehouses, 65, 65 to 68, and Carpenters' Hall, London-wall; City Depot, 24 and 25, Birchin-lane; Western ditto, 49, Parliament street, London.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 2, 1858.

The Builder.

A JOURNAL FOR THE Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—SPECIAL and IMPORTANT.—A Plot of Five Acres of Freehold Land, near Slough, Bucks, having been presented by Mr HENRY DODD, of City Wharf, Hoxton, for the purpose of Building Almshouses, an extraordinary SPECIAL MEETING of the SUBSCRIBERS is hereby called, to be held at the Freemasons' Tavern, on THURSDAY, 21st JANUARY, 1858, at THREE o'clock P.M. precisely, to receive the Report of the Directors thereon, and to consider the propriety of commencing the building forthwith.

A. G. HARRIS, Sec.

THE METROPOLITAN BUILDING ACT, 1855, Sec. 33.

THE INSTITUTE of BRITISH ARCHITECTS hereby give notice, that an EXAMINATION of PERSONS desirous of OBTAINING a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the ROOMS of the INSTITUTE, No. 18, Grosvenor-street, Grosvenor-square, on TUESDAY, the 26th day of JANUARY, at TWELVE o'clock at NOON. Persons desirous to be examined, must, on or before FRIDAY, the 15th day of JANUARY, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the Rooms of the Institute.

C. C. NELSON, M. D. WYATT, } Hon. Secs.

January 1, 1858.

ARCHITECTURAL EXHIBITION, Suffolk-street, Pall-mall East, including the Collection of Building Manufacture and Inventions, and also the Exhibition of the Photographic Association, OPEN from NINE till DUSK. Admission One Shilling; or at all times, and to all the Lectures, by Season Ticket, Half-a-crown each First Lecture, TUESDAY, JANUARY 12th, at EIGHT o'clock, by Professor DONALDSON, "On the Origin and Progress of Expression in the Monuments of Architecture."

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, Jun.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM.—On WEDNESDAY next, JANUARY 13th, at EIGHT o'clock, an EVENING MEETING will be held in the Theatre of the Museum Building, Prof. COCKERELL, R.A. in the chair. Mr. RUSKIN will PRESENT his PRIZE for STONE CARVING, with an ADDRESS. The conditions of competition for further prizes will be announced.

GEORGE GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

January 7th, 1858.

LECTURES to WORKING MEN.—The following courses of EVENING LECTURES will be delivered at the Museum of Practical Geology, Jermyn-street, during the present session:—

1. On Naturally Philosophy, by G. G. Stokes, M.A. F.R.S.
2. On the First Principles of Chemistry, by A. W. Hofmann, R.D. F.R.S.
3. On Metals, by John Percy, M.D. F.R.S.
4. On Mining, by Warrington W. Smythe, M.A.

The first course of SIX LECTURES on Electricity and Magnetism will be commenced at EIGHT o'clock, on MONDAY, JANUARY 18. Tickets may be obtained by working men only, on and after MONDAY, the 11th instant, from TEN to FOUR o'clock, upon payment of a registration fee of sixpence. Each applicant is requested to bring his name, address, and occupation, written on a piece of paper, for which the ticket will be exchanged.

TRENHAM REEKS, Registrar

SIX LECTURES to WORKING MEN, "On the USES of the ANIMAL MUSEUM at SOUTH KENSINGTON," will be delivered by Professor OWEN, F.R.S.; Dr. LYON PLAYFAIR, F.R.S.; Dr. E. GRAY, F.R.S.; F. BUCKLAND, Esq Surgeon, 2nd Life Guards; Professor HUXLEY, F.R.S.; and R. SMITH, Esq. of Southmolton, on MONDAY Evenings, commencing the 18th JANUARY, at EIGHT o'clock.

Cards of admission for the Six Lectures, to working men only, Sixpence; to other persons, Five Shillings.

May be had of Messrs. CHAPMAN and HALL, Agents, &c. 193, Piccadilly; and at the Museum.—By order of the Committee of Council on Education.

PROPOSED MEMORIAL of the GREAT EXHIBITION.—The Committee are led to believe that the accommodation which could be afforded by the Society of Arts will be insufficient, and have to announce, that the Lords of the Committee of Council on Education have granted space for the EXHIBITION of DESIGNS in the SOUTH KENSINGTON MUSEUM, to which place, therefore, the Models and Drawings of all books competitors must be sent on or before TUESDAY, the 2nd of FEBRUARY next.—Daniel Maclise, Esq. R.A. William Tite, Esq. M.P. and Richard Westmacott, Esq. R.A. have consented to co-operate with the Committee in the selection of a design.

THOMAS CHALLIS, Alderman, Chairman.
JAMES BOOTH, } Hon.
GEORGE GODWIN, } Secs.

444, West Strand, January 4, 1858.

COMPETITIONS.

TO ARCHITECTS. Proposed CHURCH, TOTTENHAM. Architects are invited to send in DESIGNS for a CHURCH, to accommodate 800 persons (100 free), at a cost of between 1,500*l.* and 2,000*l.* It is desirable that there be no internal obstruction to sight or sound. A premium of 30*l.* will be given for the most approved design; but should the cost of the first selected, on being offered for tenders, exceed the sum above mentioned, it will be rejected in favour of another. A plan of the site may be obtained on application to the Rev. D. J. HARRISON, Northumberland-park, Tottenham; to whom also designs should be forwarded on or before FEBRUARY 10th, 1858. Scale, 8 feet to the inch. Motto only. The successful competitor will be advertised in subsequent numbers of "The Builder."

CONTRACTS.

CONSERVATIVE LAND SOCIETY.—TRUSTEES.

Viscount Ranelagh.
Right Hon. R. A. C. N Hamilton.
Hon Colonel Lowther, M.P.
J. C. L. Sibbold, esq. M.P.

TO ROAD CONTRACTORS, &c. The Executive Committee are prepared to receive TENDERS for CONSTRUCTING the ROADS, &c. on the Battersea Estate, Surrey. The drawings and specification may be seen at the Offices of the Surveyor, Mr. GEORGE MORGAN, 30, Norfolk-street, Strand, on and after MONDAY, the 4th of JANUARY, between the hours of ELEVEN and TWO. Tenders are to be delivered at or before TWELVE o'clock on SATURDAY, JANUARY 16th, at the Surveyor, at his Offices, and endorsed "Tenders for Roads, &c. Battersea Estate." The Executive Committee do not bind themselves to accept the lowest or any Tender.

CHARLES LEWIS GRUNEISEN,
34, Norfolk-street, Strand, London.

TO ROAD and SEWER CONTRACTORS. CONSERVATIVE LAND SOCIETY.—BATTERSEA ESTATE. Copy, quantities, plan, sections, and specification, for new roads and drains may be had on payment of 1*l.* 1*s.*

MOORE PARK ESTATE, FULHAM.—Copy, quantities, plan, sections, and specification, for the new roads, may be had on payment of 10*s.* of Messrs. GARDNER and CO Surveyors, 1 and 2, Southampton-street, Addington-square, Camberwell, S.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a DOUBLE COTTAGE and OFFICES at Pudsey may see the drawings and specification on and after MONDAY, the 11th instant, at "The Steam Shop" Messrs. Naylor, Pudsey. Tenders to be delivered by TWO o'clock on MONDAY, JANUARY 18th, 1858, addressed to Mr. H. SMITH, Bull Inn, Aldgate, London, E. The proprietor does not bind himself to accept the lowest or any Tender, and no Tender will be received after TWO o'clock. For further information apply to Mr. R. SMITH, Architect, Dickleburgh, near Scole, Norfolk.

LOCAL BOARD of HEALTH, KINGSTON-UPON HULL.—To PAVIORS, MASONS, and CONTRACTORS. The Works Committee of the above Board are prepared to receive TENDERS for the execution of Works for the MAINTENANCE and REPAIRS of the PUBLIC HIGHWAYS throughout the Borough for the ensuing year. For the purposes of this contract, the borough will be divided into three districts, viz.—

1. The parishes of Holy Trinity and St. Mary.
2. The parish of Sculcoates.
3. The parishes of Sutton within the Borough, Southcoates, and Drypool, and the Extra-parochial Districts, situated to the east of the River Hull.

But the Dock Company's Streets and portions of Turnpike-roads repaired by communications are not included. The Works may be divided into two classes:—

1. Repairs to Roadways, and
2. Repairs to Footways.

Parties desirous of contracting may offer for either one or both of these services in any one or more of the above-named districts, provided that all works of the same class in such district be included therein. Specifications may be seen, and every information obtained, at the Offices of the undersigned, between the hours of TEN and FOUR daily. Tenders to be sent in, duly sealed, endorsed "Tender for Repairs," and addressed "To the Chairman of the Works Committee," on or before NOON of the 14th JANUARY, 1858. The lowest or any Tender will not necessarily be accepted.—By order,

C. S. NEWMAN, C.E. Surveyor to the Local Board.
Sculcoates-hall, Hull, 23rd December, 1857.

TO CONTRACTORS.—THE DIRECTORS of the NEWPORT (Mon.) GAS COMPANY are prepared to receive TENDERS for the CONSTRUCTION of a BRICK GAS HOLDER TANK, 92 feet in diameter, 22 feet 3 inches deep. The drawings and specification may be inspected, and further information obtained on application to the Company's Engineer, at the Works. Sealed Tenders indorsed "Tender for Tank," to be sent in on or before the 8th day of FEBRUARY, 1858, addressed to the Directors of the Newport Gas Company, Newport, Monmouthshire. The Directors do not bind themselves to accept the lowest or any Tender.

By order,
JOSEPH BRYAN, Engineer.

Newport (Mon.), 22nd Dec. 1857.

CONTRACTS.

ROYAL ENGINEER CONTRACT.—The War Department being about to enter into a CONTRACT for RENEWING the CENTRE ROOF, CEILINGS, and part of the WINDOWS, as also for Repairing, Whitewashing, Colouring, and Painting, the Military Chapel at the Royal Artillery Barracks, Woolwich; persons desirous of Tendering for the work may inspect the plans and specification, and receive forms of TENDER, &c. on application to Mr. C. REES, Clerk of Works, at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, between the hours of 11 and FOUR daily, up to the 11th JANUARY, 1858, after which no Tender will be issued. The Tenders to be delivered prepaid, at the Office of the Director of Contracts, War Office, Pall Mall, London, on the 12th of JANUARY, 1858, at NOON. The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, December, 1857.

ROYAL ENGINEER CONTRACT.—The War Department being about to enter into a CONTRACT for the immediate EXECUTION of putting in ONE INCH BOARDING of FIR, with a COVERING of ASPHALTED FELT, to the Roofs of thirty Hut Stables on Woolwich Common, Persons desirous of Tendering for the work, may inspect the drawing, buildings, and specification, and receive forms of Tender, &c. on application to Mr. CLARKE, Clerk of Works, at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, between the hours of TEN and FOUR daily, up to the 11th JANUARY, 1858, after which no Tender will be issued. The Tenders to be delivered, prepaid, at the Office of the Director of Contracts, War Office, Pall-mall, London, on the 12th of JANUARY, 1858, at NOON. The War Department reserve the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, 31st Dec 1857.

TO ROAD CONTRACTORS.—TENDERS are required on or before TUESDAY, 12th JANUARY, at noon, for the FORMATION of new ROADS, on the Moore Park Estate, Fulham. Section of the levels and specification of the materials to be used, may be seen at the Offices of Messrs. WALES and SPARKS, 8, Great St. Helen's, E.C.

TO BUILDERS. TENDERS are required for the ERECTION of a VICARAGE-HOUSE at Great Kimble, Bucks. The drawings, specification, conditions, and bills of quantities, may be seen at the Office of the Architect, Mr. E. B. LAMB, 3, Hinde-street, Manchester-square, on and after MONDAY, the 11th instant. Sealed Tenders must be sent to the Architect, on FRIDAY, the 22nd instant. The lowest Tender will not necessarily be accepted.

TO BUILDERS. The Scarborough Cliff-bridge Company are prepared to receive TENDERS for the ERECTION of the proposed NEW MUSIC HALL at the Spa. Plans and specifications of the same, as prepared by Sir Joseph Paxton, may be seen at the Spa Saloon, Scarborough. Bills of quantities may be obtained, at the cost of the Architect, of Messrs. BALLAM and LEE, Surveyors, 10, Buckingham-street, Strand, London. Sealed Tenders must be sent in to me, on or before the 25th day of JANUARY, next endorsed "Tender for Music Hall, Spa Saloon, Scarborough." The Committee do not bind themselves to accept the lowest or any of the Tenders.—By order of the Cliff-bridge Company,

Scarborough, January 7, 1857. ROBERT WARD, Secretary.

TO ENGINEERS and OTHERS.—TRINITY-HOUSE, LONDON, January 1, 1858. This Corporation, being desirous of obtaining TENDERS for the CONSTRUCTION of a LANTERN for the LIGHTHOUSE now building upon the Outer Needles Rock, hereby give notice thereof, to Engineers and others, who may be desirous of executing the work. The plans, specifications, form of Tender, and conditions of contract are deposited at this House, and may be inspected any day before the 10th instant, between the hours of TEN o'clock a.m. and FOUR o'clock, p.m. The Tenders must be delivered at this House, addressed as required, on or before TEN o'clock, a.m. of TUESDAY, the 19th instant.—By order,

P. H. BERTHON, Secretary.

TO BUILDERS and CONTRACTORS, &c. ESTIMATES WANTED for the various works to be executed in the ERECTION of a NEW CHURCH at Berwick-upon-Tweed, for the Rev. John Cairns. The drawings and specifications may be seen any day after the 10th instant, at the Vestry of the present Church, Golden-square, between the hours of NINE a.m. and SIX p.m. The estimates to be sent in addressed to T. ROGUE, Esq. on or before the 11th of FEBRUARY next. The Committee do not bind themselves to accept of the lowest offer. Estimates will be received

1. For the excavating, brick and mason work
2. For the carpenter, joiner, smith, and iron work.
3. Slater and plaster work
4. Plumber work
5. Painter and glazier work.

Copies of the plans and specifications may be seen at the Offices of Messrs. HAY, the Architects, St. George's Chambers, 4, Cable-street, Liverpool.

January 6, 1858.

SAINT MARY, ISLINGTON, Middlesex. Metropolis Local Management Act.—The Vestry of this Parish hereby give Notice, that a Committee will meet at the Offices, 21, Milner-square, in said Parish, on WEDNESDAY, the 20th day of JANUARY instant, at TEN o'clock in the morning, precisely, to receive TENDERS for the CONSTRUCTION, about 1,040 FEET of SEWER, 3 feet 2 inches high, and 2 feet 8 inches wide, and other Works connected therewith, in and along part of St. Paul's-road and Upper-street, in the said Parish. The form of Tender which alone will be received may be obtained, and the Specification and Plans seen at the Vestry Offices (Surveyor's Department), between the hours of TEN and FOUR o'clock. Persons desirous of contracting must attend at the time and place above stated, with sealed Tenders endorsed "Tenders for Sewer Works in St. Paul's-road and Upper-street, Islington." The Vestry do not bind themselves to accept the lowest or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the Works.

JOHN LAYTON, Vestry Clerk.

21, Milner-square, January 7, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

PARISH of STOKE-UPON-TRENT.—SURVEY and VALUATION. An order having been received from the Poor Law Board for a new SURVEY and VALUATION of this PARISH, the Board of Guardians are ready to receive TENDERS from parties desirous of contracting for the same. The parish is partly [illegible], manufacturing, and agricultural. It contains about 11,70[illegible] [illegible] and according to the last census there were about 11,224 houses, besides [illegible] factories and mills, which [illegible] [illegible] [illegible]. There are [illegible] plans of the several townships within the parish. These, so far as relates to the [illegible] part, would be required to be [illegible] [illegible] upon the new plans the various alterations which have been made in the various [illegible] so that the new references [illegible] agree with the numbers upon the plans. The Guardians will receive Tenders for the survey and valuation of the land, buildings, and [illegible] together, or a separate Tender for the [illegible] and also a separate Tender for the buildings and [illegible] property. The Guardians do not bind themselves to accept the lowest or any Tender. The party contracting will be required to enter into a bond with two sureties for the due performance of the contract. It is [illegible] [illegible] parties tendering [illegible] the names of two [illegible] sureties, together with references. Tenders [illegible] [illegible] [illegible] to the Clerk of the Guardians [illegible] [illegible] TEN o'clock in the morning of WEDNESDAY the [illegible] [illegible]. By order, THOS. GRIFFIN, Clerk to the Guardians.

Parish Office, Stoke-upon-Trent, Staffordshire, Jan. 6, 1858.

METROPOLITAN BOARD of WORKS.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Council Chamber, Guildhall, in the City of London, on FRIDAY, the 15th instant, at TWELVE o'clock at Noon precisely, and will be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of a BRICK SEWER, [illegible]75 feet in length or thereabouts, with Works in connection therewith, along part of the Caledonian road, in the parish of St. Mary, Islington, and county of Middlesex, and for the maintenance of such works in complete repair for the term of twelve calendar months. Plans, sections, and a specification of the works, together with the form of Tender, may be inspected, and other particulars obtained, at the Office of the Board, No. 1, Greek street, Soho square, between the hours of NINE a.m. and FOUR p.m. until THURSDAY, the 14th instant. Tenders, addressed to the Metropolitan Board of Works, must be delivered at the Office of the Board before FOUR o'clock on the last mentioned day, and no Tender will be received after that hour. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

E. H. WOOLRYCH, Clerk of the Board.

No. 1, Greek-street, Soho-square, Jan. 1, 1858.

METROPOLITAN BOARD of WORKS.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Council Chamber, Guildhall, in the City of London, on FRIDAY, the 15th instant, at TWELVE o'clock at noon precisely, and will be prepared to open TENDERS by parties who may be willing to CONTRACT for the EXECUTION of certain WORKS in, upon, and in connection with the MAIN SEWER in Great and Middle Scotland yard, &c. in the county of Middlesex, called the Victoria street Sewer, and for the maintenance of such works in complete repair for the term of twelve calendar months. A specification of the works, together with the form of Tender, may be inspected, and other particulars obtained, at the Office of the Board, No. 1, Greek-street, Soho-square, between the hours of NINE a.m. and FOUR p.m. until THURSDAY, the 14th instant. Tenders addressed to the Metropolitan Board of Works, must be delivered at the Office of the Board before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

E. H. WOOLRYCH, Clerk of the Board.

No. 1, Greek street, Soho square, Jan. 5, 1858.

SEWERAGE WORKS.—BOROUGH of CHELTENHAM.—The Cheltenham Improvement Commissioners desire to receive TENDERS for the EXECUTION of certain SEWERAGE WORKS within their Borough. The Contract will comprise the formation and completion, [illegible] of about 14 miles of Brick Sewers of from [illegible] [illegible] in diameter, and of about 14 miles of Pipe Sewers [illegible] [illegible] materials, of from [illegible] inches to 12 inches in diameter, [illegible] the Maintenance of the said Works in Repair and good working [illegible] for twelve months after completion. A printed form of specification, conditions of Contract, and Form of Tender [illegible] [illegible] [illegible] of Mr. HENRY DANGERFIELD, the Borough Surveyor, [illegible] the plans and sections of the several works [illegible] [illegible] Public Offices, Cheltenham, on or after THURSDAY, [illegible] day of DECEMBER instant. The Tenders are to be sent in on or before THURSDAY, the 21st day of JANUARY, 1858, in sealed envelopes endorsed "Tender for Sewerage Works," and addressed to the Sewage and Drainage Committee," Public Offices, Cheltenham. Securities will be required for the due performance of the works, and the Commissioners do not bind themselves to accept the lowest Tender.

GEORGE EDMUNDS WILLIAMS, Clerk to the Commissioners.

Public Offices, Cheltenham, December 24, 1857.

IMPORTANT BUILDING GROUND.—CITY of LONDON.—The Merchant Taylors' Company are prepared to receive TENDERS for a BUILDING LEASE of a PIECE of GROUND on the north side of Church street, Minories: also a repairing Lease of a Messuage, No. 5, Great Trinity lane, Cannon street. [illegible] [illegible] obtained of Mr. I'ANSON, Surveyor, [illegible] [illegible] [illegible] and at the Clerk's Office, Merchant Taylors' Hall, Threadneedle street, where Tenders, under seal, [illegible] [illegible] [illegible] MONDAY the [illegible] day of JANUARY [illegible]. The Company [illegible] [illegible] [illegible] [illegible] Tender.

SAMUEL FISHER, Clerk to the Company.

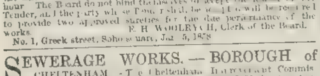
MEDIEVAL METAL FURNITURE. JOHN [illegible] [illegible] [illegible] Show [illegible] 13, KING WILLIAM-STREET, STRAND, W.C. [illegible]

MEDIEVAL METAL WORK, in GOLD, SILVER, BRASS, and IRON; MONUMENTAL BRASSES [illegible] TABLETS, STAINED GLASS WINDOWS.

Designs and Estimates [illegible] [illegible] [illegible] Representative.

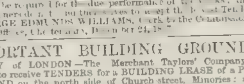
[illegible] THOMSON, [illegible] 13, KING WILLIAM STREET, STRAND.

HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS.



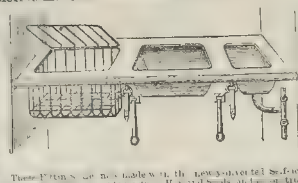
[illegible] plan, effectually prevent [illegible] [illegible] [illegible] [illegible] and seed box, [illegible] safety with the greatest economy, both in cost and use.

ANGLE LOOSE-BOX FITTINGS, with guard-rollers, and every [illegible] furniture for stables. Engravings and Prices forwarded on application.



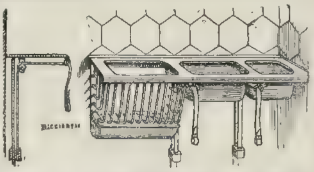
HOOD and SONS' STABLE [illegible], [illegible] [illegible] and free from the danger caused by the frequent derangement of [illegible] plates; are easily cleaned; and with their CHEQUERED DOUBLE [illegible] [illegible] [illegible] in use.—West London Iron Works, Notting-hill; and Castings Warehouse, [illegible] Upper Thames street, London.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY RACK.



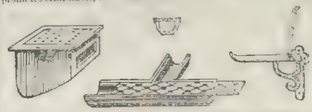
These Fittings are now made with the new [illegible] Self-acting Hay [illegible] which prevents waste of Hay and Seeds [illegible] [illegible] [illegible] [illegible] Hay [illegible] the Rack [illegible] [illegible] [illegible] [illegible] [illegible] with these [illegible] [illegible] unaccomplished, with Patent Halter [illegible] [illegible] [illegible] [illegible] in action, thus forming [illegible] the most [illegible] and perfect Fittings ever offered to the public. New Loose Box Fittings and all kinds of Stable Furniture in stock. New Illustrated Catalogues forwarded on receipt of two postage stamps.—JAMES BARTON, Ironfounder & [illegible] Oxford-street, London.

COTTAM'S PATENT INVENTIONS for STABLE REQUISITES, awarded a prize at the Paris Exhibition, and patronised by the English and French Governments.



COTTAM and HALLEN, of Winsley-street, are the original inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an iron top plate, and forming one complete and [illegible] fixture, having Cottam's patent [illegible] halter guide and collar [illegible] [illegible] the ball of which is taken [illegible] the back of the manger, and works with ease and freedom up or down the guide bar.

COTTAM'S NEW PATENT SEED BOX is an important addition to the above fittings, being simple in construction, light, and durable, promotes cleanliness, and is economical in its results.



COTTAM'S PATENT SADDLE and HARNESS BRACKET [illegible] [illegible] can be used with great advantage where space [illegible] [illegible], as it can be turned up out of the way [illegible] [illegible].

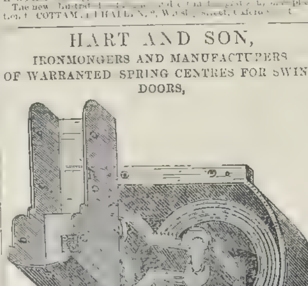
COTTAM'S IMPROVED SURFACE GUTTER, with [illegible] [illegible] moveable cover, the [illegible] of which prevents accidents, and [illegible] be easily cleaned out.

COTTAM'S CAST IRON SANITARY TRAP, from its improved construction, [illegible] [illegible] [illegible] [illegible] [illegible] to ascend from the drain.

PATENT LOOSE BOX FITTINGS, and every article for the harness-room and stable, [illegible] [illegible], plain, galvanised, and enamelled. Iron gates [illegible] [illegible] &c.

The new Illustrated [illegible] [illegible] [illegible] [illegible] [illegible] COTTAM and HALLEN, [illegible], Winsley street, Oxford-street.

HART AND SON,
IRONMONGERS AND MANUFACTURERS OF WARRANTED SPRING CENTRES FOR SWING DOORS,



MEDIEVAL METAL-WORKERS, &c.

53 to 58, WYCH-STREET, Strand, London, W.C.

Illustrated catalogues free on application.

HAWKINS'S REGISTERED SASH CHAIN, in Brass, Iron, and Copper Wire, is greatly approved for its [illegible], durability, and facility in running over pulleys [illegible] [illegible] [illegible] [illegible] and efficient [illegible] for hanging windows [illegible] [illegible] to 4 cwt. [illegible] [illegible] [illegible] Lamps, [illegible] [illegible] by [illegible] [illegible], 27, [illegible]

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. A large assortment of the newest designs always in stock [illegible] [illegible] [illegible] [illegible] manufacturers of the [illegible] [illegible] [illegible] Complete [illegible] price list, [illegible] [illegible], High Holborn.

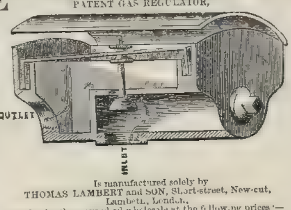
IRON DOORS for STRONG-ROOMS and PARTY WALLS, ALWAYS IN STOCK AT JOHN TANN'S Patent Reliance [illegible] [illegible] [illegible], [illegible], WALBROOK, CITY.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper and Zinc; Patent Locks of all descriptions, [illegible], Glass, and Wood Furnitures of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, 4s.; and the new registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.

J. H. BOOBYER (late STURCH and BOOBYER), established nearly 2[illegible] years, for the supply of Goods from the best Manufactories, at the lowest prices.—14, Stanhope-street, Clare Market, London.

CHUBB'S LOCKS, with all the recent Improvements, Strong Fire-proof Safes, Cash and Deed Boxes. Complete lists of Sizes and Prices may be had on Application.—CHUBB and SON, 57, St. Paul's-churchyard, London; 28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley fields, Wolverhampton.

ESPLIN'S, commonly called JUDKIN'S PATENT GAS REGULATOR,



Is manufactured solely by THOMAS LAMBERT and SON, Short-street, New-cut, Lambeth, London.

And is by them supplied wholesale at the following prices:—

½-in. for 5 lights, 15s. 6d.	¾-in. for 10 lights, 25s. 6d.	1-in. for 20 lights, 34s. 6d.
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A saving in the consumption of gas of from 20 to 25 per cent. is effected by the use of this Regulator.

A liberal Discount allowed to the Trade.

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Castings of every description at reduced prices.

No charge for the use of Patterns.

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FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of Fenders, Stoves, Ranges, [illegible] [illegible] and General Ironmongery as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright stoves with bronzed ornaments and two sets of bars, [illegible] [illegible] 1[illegible]s.; ditto with ormolu ornaments and two sets of bars, [illegible] [illegible]; bronzed fenders, with standards, 7s. to 5l. [illegible]; [illegible], 2l. [illegible] to 11l.; ditto, with rich ormolu ornaments, from 2l. 15s. to [illegible]; fire-irons from 1s. 9d. the set to 4l. 4s.

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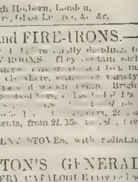
J. W. and SONS having of late years devoted much time and study to the long neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has hitherto been [illegible].



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, [illegible] cast for any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

[illegible] and wheeled ready for fixing. Old Bells [illegible] [illegible] taken in exchange.

MUSICAL HAND-BELLS [illegible] to the Chromatic Scale, with [illegible] [illegible] [illegible] [illegible] [illegible], which give superior tone and [illegible] for ringing.

The great [illegible] Bell for the Houses of Parliament was made by JOHN WARNER and SONS, 1856, under the [illegible].

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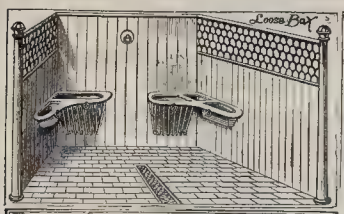

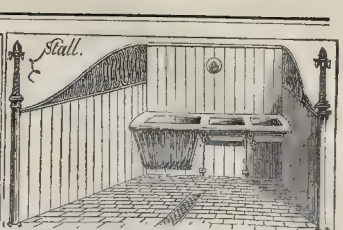

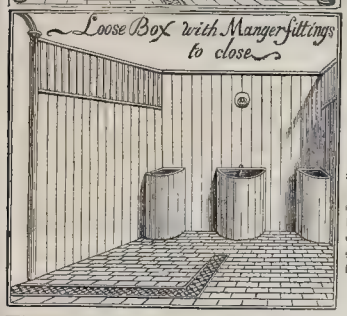

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PROFESSOR VARNELL'S
MANGERS AND STABLE FITTINGS,

PLAIN, GALVANIZED, and ENAMELLED, obtained the commendation and the SILVER MEDAL of the ROYAL AGRICULTURAL SOCIETY of ENGLAND, and the ROYAL AGRICULTURAL SOCIETY of IRELAND; are adopted by the ROYAL VETERINARY COLLEGE, and Professor Spooner (of that Institution), states that they should be used by all who value the comfort and health of their horses.

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is devoted entirely to EVERY DESCRIPTION of Stable Furniture, and full-sized Stalls and Loose Boxes, are erected for inspection at

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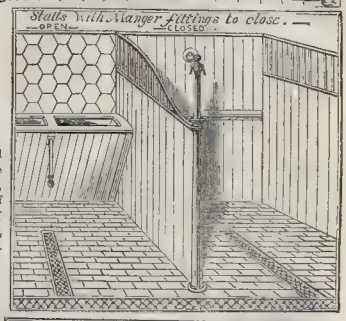

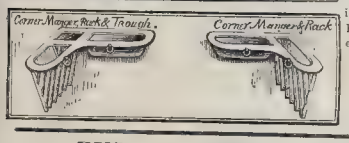

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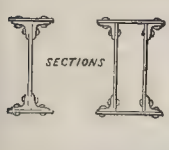

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Also, to
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NEW PATENT MORTISING, TENONING, BORING, AND DRILLING MACHINE,
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TO IRONMONGERS, BUILDERS, &c.
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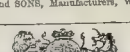
HEATING BY  HOT WATER.

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This Stove is the nearest approach to warming by hot water.
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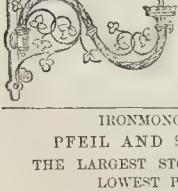

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Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
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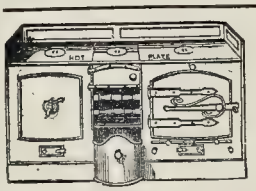

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GALVANIZED SHEETS, plain, corrugated, and curved, in all gauge, always on hand
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PLAIN or CORRUGATED, and Curved, of all Gauges.
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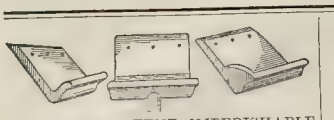

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The Builder.

VOL. XVI.—No. 779.

Conversazione at the Architectural Exhibition.

PROFESSOR COCKERELL presided at the *Conversazione* held at the opening of the Architectural Exhibition, on Monday evening, the 4th instant, in the new gallery of the Society of British Artists, in Suffolk-street. The attendance was very numerous, perhaps more so than on the last occasion, including,—to name some we happen to remember,—Messrs. Donaldson, Fergusson, Mayhew, Hesketh, Chas. Buxton, M.P. Charles Hill, Papworth, Jennings, H. Kendall, M. D. Wyatt, Penrose, Marrable, W. Burges, G. Truefitt, Habershon, E. Hall, Kerr, Norton, Pugin, Edmeston, W. P. Griffith, J. J. Cole, C. H. Smith, Hadfield, F. P. Cockerell, J. Wilks, Watson, Arntz, Goldie, Norton, Tarring, Garling, Chas. Gray, E. B. Lamb, Jas. Wylson, Collmann, R. R. Rowe, Horace Field, Thos. Smith, Street, H. H. Burnell, Hansom, Penfold, H. Williams, Knightley, Laxton, Barnes, Francis, S. Wood, Dwyer, Capes, W. White, Cates, Clayton, S. Hughes, Wigley, Twining, Messenger, Hebb, Rennie, Nicholl, Mylne, Tarn, Horace Jones, Teulon, Morgan, Scoles, Sibley, Colling, Wm. Burn, Currey, Fairholt, Cantwell, and many others.

The Professor, in opening the proceedings, congratulated the meeting on the recurrence of the present Exhibition,—the fourth anniversary, in series, since its foundation. There were few who would not feel that the Exhibition and its objects were peculiarly interesting, inasmuch as there were designs of works upon its walls which had already, even in the chrysalis of their conception only, earned for their authors name and renown. First he would advert to the drawings and designs for the Lille competition, which had won for English architecture so favourable a footing in France, and which had succeeded in achieving a prize that, while it redounded to the architectural genius of this country, had been won in the very heart of France itself, their rival in all ennobling pursuits. Then there were the designs for the Government Offices, which offered a very remarkable competition, with which they were well acquainted, and which they could not have witnessed without approbation, seeing that this Government of ours had, in the true spirit of free trade, invited the architects of all countries in Europe to compete for the construction of those glorious works, which were destined to add another pile of stately structure to the architecture of the metropolis. They had not there the prize drawings of those designs that were selected by the judges, but on the other hand they had the drawings of those that were not so selected; so that, possibly, in the critical process of comparison, they might be led, in forming their own individual judgments, to reverse the decisions of the judges. There were also the drawings for the designs of the Church at Constantinople, a memorial and monument of great international interest. There were also interesting collections which would well repay attention and study, of works from foreign and classic countries, and of designs for modern mansions, which would form excellent architectural studies and exemplars. And lastly, there was a valuable collection of modern architectural materials and inventions, illustrative, in various departments, of utility and taste, of the employment of a multitude of new and admirable agents, which were peculiar, almost, to the age in which we lived, whether in metallurgical, fictile, or concrete composition and construction. This department of the Exhibition would be viewed with peculiar interest, for these materials formed the elements and the means whereby to work out the great problem of this nineteenth century—the development of a new style and character in architecture. And it was not, he thought, utopian, to suppose that this new style and stamp of novelty in architecture would some day be attained by some such means as these new materials presented. Neither was it, after the example that had been set us in other directions, by engineers, impossible to suppose that the acquisition and application of new materials might be made to produce those new effects and new types and characters which would tend to constitute a new style, and become characteristic of our era. The Architectural Exhibition, as they all knew, had been originated by gentlemen warm in love for their art, and who felt the necessity of asserting the dignity and importance of their art. With this view they thought fit to form an illustrative exhibition on its own account, separated from all other exhibitions, and one of *spécialité* in their own art. This, he thought they would agree with him, they had successfully accomplished. They hoped, by their continuance in well-doing, to merit the approbation of their subscribers, and to raise the Exhibition to a level in dignity and importance with the best exhibitions in the country. Towards this end the voluntary lectures that were given last year had succeeded admirably; and praise was due to those who, out of a feeling of liberality, and a desire to promote their art, had conferred such popularity and success on the undertaking. He had omitted to mention one important feature in the Exhibition, comprised in the admission of mechanical inventions, which belonged to the minor departments of their art, but which were, nevertheless, of value and great importance, as subsidiary to their ends. Were he to report to them the sacrifices which had been made by the patrons of the institution, by its voluntary officers, and especially by its generous treasurer, who, he regretted to say, was not there that evening, he was sure they would feel a deep interest and a kind sympathy in the pains they had taken to promote the undertaking, and that it would kindle a claim on their regard which they would endeavour to discharge by all possible means. Their institution, thus established, was now progressing in a self-producing, self-sustaining spirit, growing up by its own natural strength and effort; and long might it continue to do so, now that the original sacrifice of money and time were no longer so essential as at first; for it was a gratifying fact to note, that last year the Exhibition paid its own expenses, proving in a most satisfactory manner the wisdom of its founders and the just estimate in which their undertaking was held. In these remarkable times, while discoursing on the growth of an institution like their own, it was fitting that they should not altogether forget the debt they owed to the Government of this country,—in its establishment of Schools of Design, in its Museum at Brompton, and in its recent free trade (if he might so speak) competitions and rewards. Herein they worked simultaneously,—they with their small ability, Government with its larger power; and he thought they must never forget, while asserting their own claims,—they must never forget the obligations in these matters that the country was under to the Government. In conclusion, he would earnestly recommend their attention to the galaxy of architectural beauty round and about them, which could not fail to enlist their sympathy and admiration.

Mr. Digby Wyatt, in proposing a cordial vote of thanks to Professor Cockerell for presiding, observed that the words that had just been spoken by the Professor were alike cheering and heartfelt. His wisdom was the wisdom of age, but at the same time his heartiness and earnestness were the heartiness and earnestness of youth. In saying that the Architectural Exhibition had developed itself, and that it had attained to a pitch of considerable strength, he thought they might recognise a very hopeful element for the future. It was impossible to see the active graphic power manifested in the various drawings around them, without feeling that one of the great elements in the production of high art was strongly developed among us. When our young men were able to handle the pencil in the admirable manner they had shown themselves to possess, we felt that they had not arrived at this result without accumulating in their minds those stores of form which, by means of good memory and intuitive talent alone, they could succeed in so successfully placing upon paper. Out of these multitudinous elements and materials, it would indeed be difficult to believe that they would not in the future be able to obtain something like originality and novelty. By this means, and the collection of architectural photographs, our stores were daily increasing; and it was for us to show ourselves the wise disposers and users of these stores, rightfully and in consonance with the wants that enlightened men, burthened with artificial necessities, could not but feel they were admirably intended for. He remembered his friend Scott Russell, some time ago, endeavouring to develop the use of a new keel in ship-building—to illustrate the principle of stand-upishness. Now he thought that the principle of stand-upishness in the architectural profession was showing a good effect, because, before another year he trusted that the principle of union amongst the architectural societies and profession generally, would be carried out to its fullest extent in the operations of architecture. That was a great and hopeful fact, inasmuch as the principle of union was necessary to the members of the profession, and in order hereafter to obtain that union of the professions of painting and sculpture with that of architecture, by which alone the graces and glories of the three sister arts could be properly developed, and their rich and radiant energies brought out. He believed that the one art was entirely essential to the other, and that the highest form of all the three was only to be found when these three were blended into union. These arts, however, could not be satisfactorily developed without a correspondingly combined prosecution of the mere technical arts; and it was one of the very hopeful features of the Architectural Exhibition, that it embraced those very elements of technical excellence through which alone the architect, the sculptor, and the painter, could successfully realize those bright imaginings and passionate aspirations that they had indulged in from their youth upwards, and which were practically portrayed in the pictures around them. He believed, with Professor Cockerell, that in the new materials now applicable to architecture, there was a fine and hopeful future, and that the day would come when the great problem would be realized of an original style, consistent with the wants, the spirit, and im-

portance of this our nineteenth century. He was sure they would all join in cordially thanking the Professor.

Professor Cockerell, in acknowledging the compliment, observed that the greatest good must in time result from the Architectural Exhibition, in diffusing a correct public taste, and assisting in the formation of sound judgment in architectural economy, and in the designs connected with their lasting and noble art,—an art exceeding in importance, reputation, and honour, any other art that could be named. Artists themselves had here, within the walls of the Exhibition, the valuable advantage of comparing their own productions with those of others, and so of being enabled to inform themselves as to what was the proper solution of the problems that from time to time appeared before them. There was no other mode on which they could study and become acquainted with the ancient classic types and styles of architecture which had prevailed in the remoter eras, when Assyria and Egypt, Greece and Rome, raised their unrivalled structures. Here, in the Exhibition, these styles and types might be studied in juxtaposition with the more modern schools of architecture, and the artist and the student were enabled to arrive much sooner at a knowledge of them, and of perfection in his art, than by the study of isolated examples.

The circulation of visitors, amongst whom were a large number of ladies, immediately afterwards commenced, in tours of inspection round the gallery, and was continued until nearly eleven o'clock.

The works of the new roof and ceiling light, done under the direction of Mr. F. H. Fowler, and referred to at p. 621 of our last volume, unfortunately were in an unfinished state; but the improvements in the effect of the principal room, and in the lighting, were considerable. Whether the light afforded by day, as well as that by night, will be quite sufficient, it would, in the present state of the works, be scarcely safe to say; but, in the latter case, the cost of gas (amounting, we have heard it said, to as much as 4*l.* or 5*l.* a night) might be an obstacle to the introduction in other rooms, of the method of lighting here chosen. This method is that for which the designation "*exclusive* lighting" may be used; that is to say, the several rows of gas-burners are placed between the ceiling and roof-covering, the light being directed by large reflectors through the panels of ground glass, on to the walls, as nearly as possible in the same direction as the light by day. As to the want, hitherto, in the lighting of public rooms in London, of means for the escape or exclusion of products of combustion, we have lately had occasion to make some remarks—in continuation of others of an early date. As to the system here before us, the chief question would be one to which we have just alluded; but a different arrangement of the reflectors, and the use of a more reflecting material or surface for them, might allow the economy of the system to become more manifest than it is at present. Overheating of the roof timbers is prevented by ventilating apertures in the outer glazed roof. As regards the lighting by day, one long panel in the middle of the ceiling is left closed, so that the *direct* rays of sun light may be intercepted, and reflection from the paintings avoided. This latter contrivance has been adopted after many experiments. The general arrangement involved the use of a collar-beam roof,—the original height of the walls having to be maintained,—and care was therefore needed in the avoidance of great weight, and of failure at the joints, and sagging, and in providing a substitute for the ordinary tie to the feet of rafters of a king-post or a queen-post truss, and in the case of a span amounting to 42 feet. The provision which was chiefly relied upon was that of iron strapping at the ends of the collar, connecting it with the principal rafters, following the lines of a right-angled triangle, and extending also downwards to the springing. To that, the district surveyor added a piece of iron, placed in the *obtuse* angle formed by the collar with the rafter: but this, we believe, the architect considers, by its weight, may have weakened rather than strengthened the roof. It is to be regretted that the decorative details in works of this kind are so often hurried, and that in this case more time was not allowed by the society for the design: the details of the ceiling are mere fillings-in of common-place patterns of composition-ornament maker's work. The best architectural *art* of the day should surely be provided in such a place.

The small rooms remain as before, and, on the night of the *conversazione*, were even worse in lighting than usual. It is to be hoped that the experiences of the present gallery will be turned to good account in the new home of the Exhibition in Conduit-street. This year we can only repeat some of the observations we have made in former years, as to the peculiar disadvantage to *architectural* drawings, of hanging them so far from the eye as many of the works, with minute details, are hung in the present exhibition. The lesson, as to height, and lighting, and general principles in the design and construction of the future gallery, is obvious. The committee, however, appear to have done as well as the space would permit; and greater care is observable in the catalogue.*

THE BANK OF BENGAL, IN CALCUTTA.

WHILE the general press teems with accounts from India of mutiny and murder, heroic gallantry, and acts of retributive justice (let us drop a tear in passing to the memory of the gallant Havelock!), we must fulfil our narrower mission, and record what is still being done there in the arts of peace. A new face has been put upon the old Bank of Bengal in Calcutta, and further accommodation provided under the direction of Messrs. Mackintosh, Burn, and Co. architects. The old building was a plain block, having no particular architectural pretensions, with a very ungainly portico to the principal front, which faces the west. On the south side was a colonnade or verandah to each floor, which, as there was no corresponding feature on the north side, destroyed what little symmetry the building otherwise possessed; and the effect was rendered worse in consequence of the upper story of this verandah being lower than that of the main building. At first it was proposed to remove this south verandah; to build north and south wings, containing the extra accommodation required; to remove the old porch, and build a new one; and to connect the new porch with the wings by arcades, which should form verandahs to the front rooms of each floor, and at the same time conceal every portion of the old front. But it was discovered there were legal objections to building on the unoccupied ground to the south, so that the architects were compelled to limit the width of the south wing to that of the old verandah, and to make the north wing to correspond. This alteration reduced the length of the principal front by about 40 feet. Being restricted in the widths, and the heights of the different floors being of course determined by those of the old building, the general outline of the principal front was beyond control. It now appears *contracted*: the wings are too close to the porch, but there was no help for this. This defect is more apparent on looking at the building itself than in the elevation, on account of the great projection of the porch and wings. The projection of the porch from the main building is nearly equal to its width, the side arches corresponding exactly with the front one: the wings project about half as much as the porch. The ground story being rather low, the height of two stories was given to the porch and vestibule, so that arches could be put in sufficiently wide to admit carriages, and of proportional height. The inner arch of the porch leading to the vestibule is of the same dimensions as the outer ones, and is filled with an ornamental iron screen. The two centre divisions of this screen fold back; and at a distance of about 6 feet within is a second screen of mahogany and plate glass. This opens into the vestibule and staircase, the only portion of the old building which has been altered. The old staircase was of wood, and not nearly spacious enough for a large public building. This was removed, and a flight of stone steps 12 feet in width leading directly into the centre of the principal floor, where all the bank business is transacted, substituted; the lower floor being occupied by treasure-rooms, guard-rooms, and minor offices.

The upper floor of the building contains the private apartments of the secretary. These are now entirely surrounded by arcaded verandahs, the whole of the upper-floor of the additions being devoted to that purpose, rendering it one of the coolest residences in Calcutta. The new wings extend the entire depth of the building, so that no portion of the old building is visible except the back, which is of little consequence, as it is surrounded by other buildings, and not in sight of any public street.

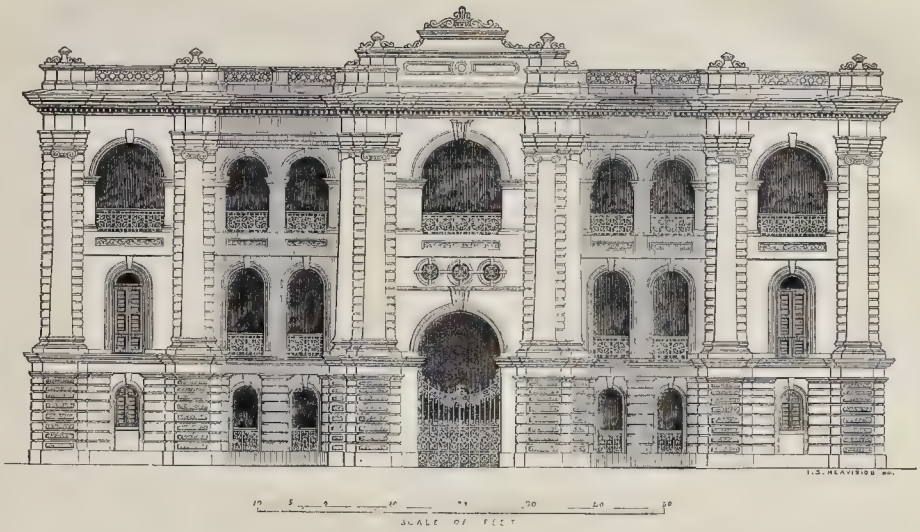
* Why, however, cannot these matters be got through, absolutely without errors? At page 31 we are, in point of fact, told that the Lille Cathedral *Competition* "obtained the first prize;" and in the list of lectures, an omission of the definite article from the title of Mr. Kerr's "discourse," has the effect of misdirecting as to the real scope of the subject.

THE WORKS IN THE ARCHITECTURAL EXHIBITION.

THE chief space in the collection at Suffolk-street, is occupied by some of the drawings which were sent in the competitions of the year,—these competitions having been more than usually numerous, as well as important in themselves; and those which are in some measure represented at the Exhibition, include the competitions for the Government Offices, Blackburn Infirmary, Lille Cathedral; Memorial Church, Constantinople; Ulster Bank; Wellington Testimonial, Liverpool; Islington Vestry-hall, Brighton Pavilion alterations; Brotherton Memorial, Salford; and Crimean Memorial, Sheffield. How far the object contemplated by the promoters of the Architectural Exhibition, in some of their early advertisements—namely, the institution of a check on the decisions of committees — may be attained, we cannot say; but the very meagre selections from works prepared in such cases, obviously reach to a short distance, comparatively, in the diffusion of information amongst the public. There are but fifty-one drawings out of the hundreds that were in Westminster Hall, and nine-tenths of which no one but the authors can have examined. The best managed exhibition of competition drawings was that at King's College, of the designs for the Memorial Church, Constantinople, which was kept open for a length of time sufficient to allow every author's work to be properly understood; and where the arrangements generally, made under many disadvantages of space, were such as showed consideration for the competitors. The exhibition of two or three drawings, from each design, is a very unsatisfactory mode of representation; and as one author sends perspective views, and another elevations, and sometimes without any plans, or other explanatory drawings to a small scale on the margin, anything like a fair estimate, individually or comparatively, must, under existing facilities in Suffolk-street, be out of the question.

In our last year's volume, however, a notice at some length will be found of the designs for the Memorial Church, as well as descriptions compiled with much care, of many of the designs for the Government Offices, including the chief of those which are now exhibited. A real presentment of the circumstances of the great occasion last referred to, can now never appear: a vast superficies of paper is all that comes up from the mist of the past; and of the mind-labour which sought expression, there is no actual apprehension: we know only the futility of the aims, and in every point of view the barrenness of the result. In future, competitors will perhaps think it well to ascertain whether what they give themselves so much trouble about, will be even seen. The Architectural Exhibition cannot provide the space on each annual opening of its rooms. If an exhibition can be guaranteed by a committee, to be provided in a manner proportionate to the extent of contributions and the requirements of the occasion,—one object for the struggling or aspiring architect is answered: otherwise all parties had better be spared the labour of design and selection, and the certain irritation which will attend the decision. Some limitation to a much smaller scale and size of drawings seems to be unavoidable, if competitions are to go on; that is to say, unless each committee can find a Crystal Palace at hand, in which to look at drawings.

Seventeen authors of designs for the Memorial Church exhibit portions of their sets of drawings,—the principal works selected for reward or approval being amongst the number,—comprising Messrs. Burges, Street, Bodley, Slater, Gray, Pullan (one design), Robinson, Goldie, Ridsdale, Prichard and Seddon, Scrby, Nicholl, Hill, Truefitt, Aitchison, jun. and White; and Mr. Druce exhibits a sketch (224) for a "design not sent in." As the subject of decoration in colour excited so much attention in connection with the proposed church, let us take this opportunity of directing attention to a very interesting drawing (245) of a stained-glass win-



THE BANK OF BENGAL, IN CALCUTTA. MESSRS. MACKINTOSH, BURN, AND CO. ARCHITECTS.

dow at the east end of the Mosque of Sultan Suleiman, at Constantinople, ascribed to the date 1520—1566 (with a portion of another window), made on the spot by Mr. Burges. Windows of this kind are "formed of a plaster framework, with pieces of very thin glass cemented behind;" and in the lantern light of the room is placed a copy, by Mr. Lavers, of a portion of the window, produced under the direction of Mr. Burges and Mr. Winston. Mr. Burges has also brought home, specimens of the building materials in use at Constantinople (448), including the Marmora, and some coloured marbles.

The designs for the Government Offices, exhibited, do not include several that were deserving of notice and commendation; and the majority of those which are represented in Suffolk-street were not amongst the best of the works at Westminster Hall. This is very much to be regretted. There is little opportunity for again testing the grounds of the claim put forth for the pre-eminent merit of certain Gothic designs; but the "Italian" style, as referred to, is not shown under its most favourable aspects. The designs exhibited are portions of those by Messrs. J. P. Jones, E. B. Lamb (Grande Certamen), G. O. Lane, E. M. Barry (Δελτα, 27), R. Kerr (Omicron), J. W. and W. Papworth, D. Rhind, A. T. Rovedino ("Confido" in a wreath), S. Huggins (Meo Judicio), W. Bardwell (Palmyra), and others, all of which we were able to speak of. Mr. John Dwyer's design, which received one of the premiums, is shown in a photograph (173). It was not described by us so fully as its merits—in the sculpture at least—deserved. We also find the design "Probitate," G. B. Rennie; designs by Messrs. Morgan and Phipson, to suit their general and block plan, which gained a premium; and Mr. Tarring's design (Nec temere nec timide).

The design of Messrs. Hirst and Lysaght (Palmam qui Meruit ferat), though bearing the appearance of haste—as in the form and details of the "dome," or central feature of the mass, rising from a glazed roof—yet well merited attention, both for portions of the plan, and for its treatment of the subject in a comprehensive whole. The drawings displayed much ability. In one of them, here numbered 188, what was the main principle of the plan is separately shown. The drawing is an interior perspective view, "showing part of one of the four internal glazed streets," which met in the centre; and where the principal entrances were. Statues were proposed to be placed under the side arches. Mr. Fergusson's design (Dulcius ex asperis), for the offices collectively (here numbered 192 to 194), was imbedded somewhere amongst the plans in the alley devoted to works treating merely the general arrangement, and was not noticed. Mr. F. P. Cockerell's design (Latericium invenit marmoream reliquit), here represented in numbers 201 to to 203, was an excellent development of the peculiar Greco-Italian style of the Manchester and Liverpool Banks, and some other buildings by his father; though, in respect of convenience, exception must be taken to the small windows of the podium, which appear to be the only means of lighting the basement on one side of the War Office. The plan, in the case of this Office, had a court next Parliament-street, inclosed by a double colonnade and entrance. The wings were terminated by three-quarter columns, bearing an attic story, and a pediment with horizontal cornice interrupted, giving space for windows and ornament in the attic and tympanum, and by antæ rusticated with coins of alternating dimensions in their depth. The columns also were rusticated, in a different manner; and in the podium, subject to the observation above made, the *bossages* and small circular windows contributed much to the general effect. The Foreign Office front to the park displayed salient columns supporting sedent statues, to the blocks forming the centre and ends, and loggias of columns to the upper stories of the recessed portions of the front. The principal features here referred to are old acquaintances, but the separate details have been, evidently, well studied.

The designs for the Ulster Bank (as shown) are ten in number, three of them, however, being due to one authorship. The design which appears to have on the whole, most merit, is that of Messrs. Pugin and Murray (252 to 254). Like nearly all the other designs, it is in style to be classed with the Italian; but it well shows how much art may be combined with the use of details, such as, in a description, would appear to be not individually new. The design consists of two principal stories, on an elevated basement, the latter concealed by the area enclosure; and the decorative treatment otherwise, consists mainly in the grouping of the coupled pilasters and rusticated work to them, in the two stories, and in the prominent centre with massed angles, and a semicircular arch lighting the upper story, and spanning an order of columns coupled in the thickness of the wall, to the entrance, which is reached from the street by a bold flight of steps. The building is terminated by a weathered cornice and low blocking course, with breaks as pedestals for vases or similar accessories. The lighting, as shown in section, and the details generally, display taste. Other designs, which there are amongst the ten, are rather correct in details taken piece-meal, than characterised by those essential attributes, grouping and breadth, which make the real difference between a work of art and a mere conglomeration of individualities. The design numbered 250, C. Kirby, is, however, noticeable for a good portico, introduced in the recessed centre, the height of one story. It is itself formed with a centre and wings, or side porticoes, somewhat on the principle of that of the Capitol at Washington, though, of course, on a much smaller scale. Mr. J. James's design (257 and 258) in many respects displays the right feeling, as in the treatment of the base and enclosing area—the point to which we have so often drawn attention, and in the portico of coupled columns; but internally, a good effect is impaired by the excessive height of the arches of communication between two rooms, by the unfinished appearance of the oval ceiling lights, and by the columns round the room—which last, instead of what seems here their proper office, the support of the ceiling, are used only in the manner of pedestals for statues; and externally even, there is some little deficiency observable, that is to say, a lack of art, or of novelty of grouping and detail. In proportion, the lower story appears excessive in height as compared with that above.

It has become a sort of habit, from the ordinary arrangements in London houses, to make the first floor prominent externally, and the other dimensions subordinate; but any story may be treated as principal, and any dimensions of such story may be handled, if proper attention be given to the other features in the front. We here just observe, though this may apply more to London buildings than to the designs for the Ulster Bank, that also, we cannot divine why it need be that mere number of stories should entail difficulty, and result, as we so constantly see, in the repetition of details and the absence of "breadth." When he has got more stories than three to manage,—the London architect, or rather builder, seems not to know what to do with them: should he have four, he will inevitably make one an attic, apparently under the idea that this is the only thing he can do. We are improving, but very slowly. Look at the drawing, close by, (286) the "New Warehouse in Coleman-street, City, in course of erection," by Mr. C. Laws. The design is very superior to what was done even ten years ago, in the City; but why are there window dressings to two of the stories exactly alike? Why are there string courses to three stories, and exactly alike? The cornice of coupled trusses with the attic, and the arcuated basement are not very novel; and it was a mistake to join the mouldings of the arches instead of springing each archivolt directly from the impost capitals. But these matters, though such as usually are to be studied, are trifles compared with the other requirements of a good design. Our observations must take the tone used in former years: to a great extent this may continue to be unavoidable; but we marvel that many of these observations should ever be needed. There is no quality then, so important to the effect of architecture, or which is yet so much wanted, as that of grouping and

"breadth." It is one of which valuable lessons can be learned in the practice and use of the pencil and water-colour brush.

Reverting to the Ulster Bank drawings, in No. 255, by Mr. J. P. Jones, the best feature is the centre formed by loggias, one to each story. The chief details of the windows and orders resemble those of Venetian models, reproduced in Pall-mall. The design (256) by Mr. R. J. Johnson, gives proper attention to the accessories of the basement, but is spoiled by its eccentricity. It is Gothic as to the use of pointed arches to the windows and doorway, and Italian in other details, such as a cantilever cornice. Of the designs by Messrs. W. J. Green and L. de Ville (251, 259, and 260), "No. 2" is decidedly the best; and in this case the relative proportions of the two stories are properly attended to. The design may be classed *in style* with that of Messrs. Pugin and Murray; whilst "No. 1" of the alternative designs, is more Roman, or of columnar Palladian character—with, however, a good recessed portico, and an attic grouped in masses; and "No. 3" is Venetian, with order above order, arch-headed windows, and visible roof-covering.

We have just spoken of a drawing of a warehouse-building in London, and in No. 45 we have a representation of a much larger work of the kind, now erecting in Manchester. The design in this last is a sad failure, though for reasons different to those in the other case. We have no cause to say the design is common-place, but we complain of the faults in the opposite direction. In short, we have here pure novelty,—a thing for which there is reason when it is combined with art; but than which, approved forms are better, if there would be novelty without the art. The majority of the window-openings and other features are certainly the reverse of beautiful; portions of the window-heads are so corbelled out as to give the appearance of structural weakness; and the doorway, besides having very bad details, is so unnecessarily large as to dwarf the whole building. Fortunately the fame of the Manchester architects does not depend upon the representation of them in this year's Architectural Exhibition. Mr. Salomons, the architect of the warehouse, has himself done much better things, some of which are slightly shown in the same drawing (15); as, for example, the Jews' Synagogue (a work which we may have to mention hereafter), though it manifests a tendency towards the same error. Mr. Salomons also exhibits interior views of the Art-Treasures Exhibition Building (Nos. 8 and 11).

A design for the Wellington Testimonial, Liverpool (No. 285), is obviously by Mr. E. B. Lamb, though the name is omitted from the catalogue. The "instructions" to architects stated that a columnar form of monument would be preferred; and the present design endeavours to observe those instructions, and at the same time to apply the Gothic style. Whatever success the author here may have attained, much advantage may accrue to art from efforts of a somewhat similar character. The base of the monument, which is very prominent, resembles an old market-cross. Over the arches are seated figures; above, in eight niches, are statues of Wellington, in "the succeeding gradations of his military and political career;" in another stage there is emblematic and heraldic sculpture; and on the summit is a statue of the Duke.

Of the four designs for the rebuilding or restoration of Bawdon Church, three of the number have merit. Perhaps the most successful is that of Messrs. Dean and Bellhouse (273), as retaining best the original character, with improvements. The "debased" Gothic of the old building, shown in the drawing No. 271, however, has a distinctive interest, which we are sorry to be deprived of. Each window of the south aisle filled the whole space of the bay.

The collection includes perhaps fewer drawings than usual in the general class, but at the same time several meritorious works, which we shall notice in another week. The rooms devoted to building materials contain some new contrivances which will have our attention; and the metal-work, by Messrs. Hart and Son, and Hartman and Co., comprises a large number of good designs.

EXTENSIVE FIRE IN LEEDS. The *Leeds Intelligencer* of Saturday last reports the destruction by fire, on the previous night, of the saw-mill occupied by Mr Joseph Bulmer, Aire-street. Except the engine-house, all was completely destroyed. Mr. Bulmer was not insured, and he estimates his damage, by loss of wood and machinery, at 1,000*l*. The damage to the building will probably be 400*l*. or 500*l*.

LONDON SLAUGHTER-HOUSES.

THE report of the medical officer of the Strand Union shows that the statements made some time ago by us are rather undercoloured than otherwise, although there were some who entertained a different opinion. The officer of health of this crowded district discovered the slaughtering of animals required for human food going forward in cellars, in which were water-closets and these we know in several instances communicated with cesspools, from which there was only an imperfect drainage of the liquids from the surface. In one instance the body of a dead sheep was found by the inspector actually suspended in the closets.

It is evident that such a practice as this is attended with the greatest danger to those living near, but it is also injurious to the food which is to be offered for sale to the public.

The atmosphere of those places is of the most poisonous description, and here the animals, after they have been pushed down the staircases and trap-door, are, particularly in the summer time, kept "waiting for death" for three or four days. It is evident that this must deteriorate the market value of the meat, and cause a considerable loss in comparison to that which would take place in better-contrived slaughter-houses.

It is difficult to give an idea of the noise and confusion which are to be witnessed towards the close of each Smithfield market-day in the Caledonian-road, and other thoroughfares, caused by the passage of droves of animals which are sometimes not fit to pass in the daytime through the crowded streets of the metropolis. The shopkeepers are by no means unaccustomed to the visits of stately oxen: some are well behaved, and, after making a curious inspection of the interior of the premises, retire in a civil manner; others are more turbulent, and commit damage; others frisk over areas, and have to be hoisted out with much labour. The inconvenience to the regular passengers, both in carriages and on foot, although matters are better than formerly—is considerable.

The remedy for all this is simple. In the neighbourhood of the new cattle-market there is sufficient space for the erection of slaughter-houses, which, like the two or three at present raised, might be fitted with every convenience, and in which the oxen and sheep might either be killed by the buyer on the payment of a certain sum for each, or by competent persons who would attend to this business under a different arrangement. There should certainly be a dead meat-market in the immediate neighbourhood of slaughter-houses, from which retail butchers might purchase any quantity of meat ready for sale: those in a larger way of business could remove the beef, mutton, &c. in proper conveyances, very much improved in comparison to those now in use.

Cows during the immense circuit of the metropolis, it would be necessary to have several dead-meat markets in the central parts of various districts, and those when the cattle slaughtering in close streets of London becomes a thing of the past, will meet with proper support; and when the system of metropolitan railways becomes organised, it will be easy to remove this important article of food to the proper quarter at a small cost.

Those well acquainted with the management of the abattoirs in the suburbs of Paris know that the French butchers do not permit what is here considered refuse to be washed into the sewers, or allowed to putrefy in the dust-heaps. In slaughter-houses conducted on a large scale, the best prices would be obtained for the tallow, offal, &c. which, in a central site, could be bought up without the trouble which is just now experienced. The tripe-dressing should also be conducted away from crowded neighbourhoods, for, if ever so well managed, these places are very unpleasant and injurious.

The quantity of dead meat which is sent to London from a distance continues to increase, and we believe that when the prejudice which exists on this subject has been put aside, it will be found cheaper to bring the slaughtered animals to London by rail, than to incur the loss of weight and quality caused by travelling many miles, and also the cost of tolls and other expenses.

THE LATE FALL OF CHIMNEY AT HOWDEN.—At the inquest as to the cause of this accident, the construction of the chimney was particularly inquired into. The whole evidence having been exhausted, the coroner read over the statements given by the various witnesses; and, having done so, the jury considered as to their verdict. In about half an hour they gave it as their finding, "That the deceased persons had been accidentally killed by the falling of the chimney." Altogether, eight lives have been lost by the fall of this chimney.

PAYMENT OF ARCHITECTS.

SIR,—Can you oblige me with an answer to the following:—

"An architect is employed to make plans and specification of a building, and receives tenders from contractors; after which the party by whom he is employed declines going on with its erection; but, after the elapse of about two years (after making certain allowances), pays for the plans, and, about three months after payment, he claims to have possession of them."

Are they the property of the architect, or the party by whom he is employed? J. E. W.

*** It depends entirely on what the architect charged his client for. An architect's ordinary charge of 5 per cent. is for designing and superintending the execution of a building. His drawings are the tools he uses to effect this,—his means of communication,—and belong not to his employer, but to himself. It is clear of course, nevertheless, that an architect may be employed simply to make the design; and, in this case, having been paid accordingly, must hand the drawings to his client.

SIR,—The subject of architects' remuneration is manifestly one of considerable importance, both to the profession and the public, and one which it greatly concerns both, to have placed upon a firm and equitable footing. Desirous of obtaining authentic information as to what is to be regarded as the established rate of charges, I have searched carefully through nine or ten volumes of the *Builder*, and consulted a number of architectural works; and I must confess myself rather disappointed in the result. The numerous reports of actions at law, in which the question has been raised, do not afford any very definite information, the evidence presented being sometimes contradictory, and the decisions often totally irrespective of any established usage. I find allusion made, some years back, in your journal, to a document issued by the Royal Institute of British Architects, containing a statement of the charges authorized by that body, which, however, is mentioned as imperfect and unsatisfactory, and as requiring that the Institute should recur again to the subject.*

The sum total of the information to be obtained from other sources is, that "architects are remunerated by a commission of 5 per cent. on the cost of works executed under their direction," no further particulars being given. The legal value of this principle of remuneration does not seem either to be very clear, for in "Elmes's Architectural Jurisprudence," p. 87, it is stated that "this mode of charge has been ruled by two eminent judges, to be both legal and illegal."

I am not certain whether the Institute have since recurred to the subject or not; but if they have, you would confer a favour on a large number of your readers by publishing the scale of charges they may have adopted. I have been unable to obtain a copy of the document referred to above, but I append one issued some years ago by the Institute of the Architects of Ireland,—a society, I regret to say, now nearly defunct.† I think you will agree with me, that the several items in this document are stated in very loose and general terms, and from the rate mentioned for travelling expenses (one shilling per mile), it may be justly considered very far out of date.

I would, therefore, submit the following queries to which you or some of your correspondents may

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* Our correspondent is not quite correct. No allusion is made to a document *issued* by the Institute, but simply to certain papers on the subject in the hands of the Institute. Moreover, he rather understates the amount of information on the subject to be found in our previous volumes.

† "ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—The following are the regulated charges for professional services, adopted and determined upon by the Institute:—

For a design and working drawings, with superintendence and direction of the work,—5 per cent. on amount of expenditure.

For a design and working drawings, unaccompanied by superintendence or direction of the work,—2½ per cent. on amount of expenditure.

For a detailed estimate,—1 per cent. on its amount.

N.B. Where a detailed estimate shall be thus provided, and the work proceed, the per centage to be regulated by its amount; it being understood that a like charge is to be made on the amount of any additional works which may be undertaken in the progress of the business, and which were not contemplated or provided for in the estimate.

For a design and set of finished drawings, unaccompanied by instructions or working drawings,—regulated by the extent and nature of the subject.

For a design expressed in sketches, where the client may not desire to proceed further in the business,—three guineas a day for the time occupied in the business, the sketches remaining with the architect.

Travelling expenses, in every case, rated at one shilling per mile."

be able to furnish replies, carrying the weight of some authority :—

"1. Assuming that 2½ per cent. for design, including drawings and specification, and 2½ per cent. for superintendence, including detailed drawings, to be the established charges; are these to be considered as applying to every description of work on which an architect may be engaged; or are there not numerous occasions of limited cost in comparison with the amount of professional skill required to which they do not apply, as tombs, monuments, minor alterations and repairs, shop-fronts, &c.?

2. In cases where an architect furnishes designs for such works as chimney-pieces, furniture or internal decorations, for buildings erected under his direction,—are these to be considered as paid for by 5 per cent. upon the cost of the several works; or should they not form separate charges in proportion to the time and skill required for them?

3. Where alterations are intended to existing buildings, or works have to be carried out on irregular sites, so that measurements, surveys, levels, &c. of the old buildings are required, and such are taken by the architect,—is he not entitled to charge for them apart from the commission for design and superintendence of the new works?

4. Is a detailed estimate for any works in prospect, to be charged for independently of the commission for design and superintendence, and if so, at what rate?

5. When extra or other works are performed, subject to the architect's measurement and valuation,—is not the architect entitled to charge a commission for the measurement and valuation, besides the commission for design and superintendence?

6. Where architects have to travel to superintend their works, are they entitled to charge for 'time occupied in travelling,' in addition to travelling expenses, and commission for superintendence?

Lastly, supposing the usage of the profession on the above points to be ascertained, let me ask with the clown in Hamlet,—'Is that law?' or, in other words, supposing no specific agreement to exist between an architect and his client,—is the established usage of such force as to be legally binding upon both?"

JUSTITIA ET PAX.

ARCHITECTURE IN GENERAL, AND THE GOTHIC SECT.

SIR,—We hear much of the question between the Classicals and the Goths.

This is *not* the question.

The question lies between the Catholicity which admits the truthful portion of all styles, and the intolerant spirit which will only have truth in its own. We do not *begin* by denying the ability of the Gothic exclusionists to advocate the essential merits of their theme, because our reason for so doing is the result of many years' thought and practical examination; but we do open the question on a broader basis than that of a contest between two styles, asserting that, however it may have come to that, the decision can only be, or have been, deductively arrived at, by an examination entered upon without prejudice, and followed in candour to its issue. Now candour must admit that the Gothic mania originated with a religious movement, which operated on the minds of those first subject to it in a manner irrespective of all the laws which should govern the *architectural* designer. It was not an opinion growing out of the progressive observation common to all minds architecturally interested, but a particular creed suddenly adopted by a class of men who desired to subdue all things thereto, as sufficiently shown by their discontent at finding that men of artistic freedom will not allow *all* things to be thereto submitted. Not satisfied in having, with the concurrence of minds far more generally informed than their own, established the Gothic character as best suited to the church, they have sought to move heaven, though they have failed to move earth, in bringing about its application to purposes for which it is as unfit as those purposes may be unworthy of it.

With all their contemplation of the cathedral grandeurs of England and the Continent,—with all their study of general form, and their minute and worshipping examination of detail,—they have failed to discover those principles whose development would exhibit the *sublimity* of a style which they seem ever to consider, from its sublimity apart; and it would appear as if their habit of minute appreciation had rendered them entirely careless of that justly-measured distance from which grandeur can alone be adequately viewed, and of that simplicity of form and scale of magnitude without which, Gothic architecture, of all others, will fail in its capable expression.

Trite is the simile of the fly crawling over a vast surface, and reposing on nothing but the spot immediately before it; but no better suggests itself; and the confined operations of the insect much resemble those of very many who have, at least, made substantial grandeur less than a secondary matter in comparison with filigree elaboration and mural inlay.

It is asserted, then, that the *sectarian* obstinacy which now distinguishes the mere Gothic advocates from those who avow an architectural Catholicity, was the instant growth of a prejudice out of ignorance; and not even aiming to be a judgment derived from knowledge or foregoing thought. Up to the time of a certain Oxford movement, no party was more careless than the clerical as to the style in which additions or alterations were made to old churches, or in which new ones were to be built. "More church room" was the only cry; and, from the period when Queen Anne's churches were built, till the day alluded to, ecclesiastical architecture was anything, nothing, or worse than nothing, as Palladio, or Stuart and Revett, or Batty Langley, might afford matter for the designer. Within a short period of that date, however, a peculiar sentiment was attached to Gothic art, and its forms and details were made the rules and parts of speech—the signs and symbols of ideas which, as events have sufficiently proved, were more in accordance with the Church as it existed before the Reformation, than serviceable to Protestant stability. The question of architectural fitness, as applying to room for sitters and hearers, and to the form best adapted for their convenience, was made subject to an arbitrary determination in favour of a certain mystic expression, to be declared only in the language and phraseology insisted upon by the sect. Its advocates, ignorant, before, of any style of art whatever, continued the more to ignore any but that which they had adopted; and so long as it suited (for so it really and truthfully did) their especial purpose, they were right—as they were unquestionably not less sincere than zealous—in doing their utmost to promote its cultivation. The Puseyite chapel might have been a thing admirable in its way; and so long as its congregation confined themselves to the *ecclesiastical* appliance of their mediævalism, the most Catholic of architects might, with professional conscientiousness at least, have become a most intense Goth for the occasion. But when, on *all* occasions, they call upon such an architect to abjure his former knowledge and general intelligence, and to reduce himself to the level of their confined stage of view, it becomes the duty of every liberal mind to examine into their pretensions even as judges of that on which they profess to be competent.

He who only knows one thing, cannot know it well, unless it be in such case as that of a labouring artificer, whose only duty is to perfect one small part of a combined whole. There is one to cut the wire of the pin; another to form and fix its head, another to point it; but the designer of the pin, *in toto*, should be acquainted with every process from that of the wire-drawer to the finisher. So, it is admitted, the Diocesan Architectural Societies have brought about the knowledge of Gothic detail, to a most admired issue. The general intelligence even of a great architect may be beholden to the particular knowledge of the mere Gothic workman, but the latter is disqualified by his very particular perfection for an enlarged view of architecture as a fine art. He is to come forward when wanted; but is not wanted always to come forward. He is one of the instruments to work out a truth, having, it may be, many phases; but he is not to think that he alone holds the tools of truth's service. Had he come forth well informed, and practised from the arena of general knowledge, to conclude upon his final views, as deduced from patient examination and experience, he would not only have been respectfully received, but he might have been received triumphantly; but it is too much—too absurd and too offensively insulting—to think that a body of exclusionist sectarians are suddenly to emerge from the chaos of ignorance, and put into darkness all the pre-acquired knowledge of others, so that the solitary lamp of the former shall be the only luminary in the architectural world.

But the ability of the Gothic exclusionists to do justice to their own theme is denied; for the much good they have done, in rescuing a sacred language from lasting desuetude, is counteracted by their desired application of it to purposes which admit not of the sublime phraseology pre-eminently distinguishing it; and which should the more preserve it to divine uses, because the world is already well furnished with modes of expression admirably adapted to the various secular subjects which engage our feeling and taste. The opposition to the universality of Gothic art, rests not only on its unfitness to common ordinary wants, but on a reverential regard for its peculiar and exclusive suitability to themes of divine exaltation; not that other forms of expression are incapable of sublime application (as exemplified in the Roman and British cathedrals of St. Peter's and St. Paul's), but that the Gothic form is capable of *more* sublimity, and that it suffers infinitely more than the others in proportion to the subjection of its lofty qualities to lower objects of appliance.

The Gothic is, essentially, an architecture of stone, and not of carpentry; of piers, arches, and vaults, and not of posts, beams, and flat ceilings; the minute framework of its windows is of the same material with its body, of which, strictly speaking, not a particle should be of other material except its roof and fittings. A pre-eminent distinction exists in the sentiment of *infinity*, expressed in a proportional excess of length and height, and in the manner whereby it reaches the *point*, whose metaphysical definition contemplates no termination. In this regard, the true Gothic feeling can never be wholly developed in buildings of floor above floor, and of many chambers; and therefore its exceptional application should be at least confined to those secondary and minor structures, which, being intimately connected with the sacred temple (in which alone its distinctive qualities can be fully exhibited), have the reasonable privilege of its modified form. To this end the invention of the flat Tudor vaulting, and of the square-headed Gothic window, was most desirable; for nothing can be more offensive to an exalted sense of Gothic characteristic than a high pointed window approximating a horizontal eaves-course or flat ceiling. Even the Roman arch requires a considerable proportion of solid between its crown and the fascia, cornice, or ceiling above; but the said arch, after all, *does* terminate in a key-stone, the top and bottom of which may be properly horizontal.

It is repeated, then, that the Gothicists appear to be insensible to the high *privileges* of the style they advocate, as being "liable to serve" only under the most exalted circumstances which can operate on the genius of the architect. It is, that they are for degrading it to common uses which are opposed to its capability,—not that any other party, in reference to any other style, is oppugnant to its just appreciation. It is, that they are for subduing it to the carpenter and joiner, and for giving it pseudo-appliance by the very abuse of its principles. If they assert the superiority of its modifications in cases of secondary import, the liberally informed architect will only allow it in reference to co-nate examples, as in those of the bishop's palace, the parsonage-house, and other structures connected with church character and discipline; but he will otherwise deny it, in his acquired feeling for the superior graces of other modifications; and he will, furthermore, advance the incontestable fact, that the modifications of all other styles, necessary to their fitness for modern secular use, are less divergent from their prototypes than those required in Gothicising a Parliament House, a Government-office building, a Town-hall, or, in short, any structure, saving only the Church and its dependents, or family allies.

This impression (made upon opinion, formed under knowledge and examination, and perfected as a *feeling* in the very heart of the Catholic mind) is not to be effaced by a sect of men who, having studied only one thing, without prefatory intelligence, would ignore all things else as not worth knowing; and, if it be said that any of our present exclusively Gothic architects are converts from a former condition of Catholicity, it may be added with more weighty truth, that the main moving power towards Gothic revival, and the attempt to catholicise it, was not a professional, but an amateur energy. With but little exception, for a considerable period, architects were little more than the draughtsmen and builders under diocesan boards, and simply obedient to the gentlemen and *ladies*, who had got themselves well up in Mr. Parker's "Gothic Glossary." The question lay between those who certainly had acquired an architectural feeling of some sort, and the vast mass of the public in general, which had no such feeling of any sort. The architectural body, generally, remained either culpably supine or interestedly obedient; and what a very little body of sectaries may soon do, among the multitudes of the careless, was soon shown. At length, however, the profession began to exemplify, if not to speak or write; and important counter-arguments in stone, of striking scale and character, started up in many directions, to the honour of Athens, Rome, Venice, modern Italy, and the Anglo-Classic cause. The combinative organization of clerical lecturers and diocesan publications, allied with the potent influence of the Church Commissioners, was now to be met,—not by any *such* machinery,—but by such persuasive examples as the Liverpool Hall, and the club-houses, banks, insurance-offices, exchanges, and the palatial mansions or villas of those who were not to be bitten by any peculiar mania; and, now, the press is teeming with truths "well steeled with weighty

arguments," successfully combating for such results as may grow out of critical liberty. It is easy to see both the general tendency and the particular likelihoods of the question between those who have a fragmental, and those who hold a full and comprehensive, faith: between such as, in their limited perceptions, would *Gothicise* all things, and such as would give all things their suitable mode; reserving *Gothic art* for reverent appliance to sacred occasion. If Classic art, in its various modifications, has come to be chosen for all ordinary or non-ecclesial uses, the decision in its favour has been liberally and honestly deduced, even by those who would willingly see a new Gothic cathedral built for the Bishop of London; and Wren's matchless edifice converted into a mausoleum for our senators, warriors, poets, and painters. Such, at least, is the feeling of the author of this paper.

GEORGE WIGHTWICK.

THE ARCHITECTURAL PHOTOGRAPHIC SOCIETY.

A CONVERSAZIONE was held in the Suffolk-street Galleries, on Thursday evening, January 7th, to open the exhibition of photographs from which subscribers may select the number to which each is entitled. Professor Cockerell, who, relieved from professorial duties at the Academy, is coming out vigorously just now in the "assertion of architecture," took the chair, and the objects and proceedings of the society were put before the meeting.

The exhibition will be open to subscribers every Thursday evening up to February 18th, inclusive. The collection includes photographs of buildings in France, Italy, and many other foreign parts, as well as views of our own church and cathedral antiquities.

THE SITE NEAR ST. PAUL'S CATHEDRAL.

AFTER my return from a few days' sojourn in the country to my home in Westminster, I was sitting bemoaning the gloominess of this overgrown metropolis of ours, and making invidious comparisons between the dingy bricks, tiles, and chimney-cowls, which, huddled together, composed the prospect from my sunless window, and that of the clear blue sky and verdant meadows which I had just left, when I bethought myself I would take up your valuable paper, in hopes of finding something to "soothe my troubled breast" in the shape of news of improvements conducive to the beauty of this city and the health and convenience of its inhabitants. But you may imagine my chagrin when almost the first thing that met my eye was an advertisement bearing the significant heading of, "Cannon-street Improvements.—Building leases;" to the effect that the "committee for *Improvements within the City of London*" (a title which, judging from this case, one would almost think is held on the *lucus a non lucendo* principle) would meet on January 18th next, to receive tenders for *building leases of "sundry lots of ground," on the south-east of St. Paul's-churchyard*, according to plans to be seen at the office of the City architect. As to the exact position and extent of these "sundry lots," I have not had opportunity of obtaining information; but I fear that unless lovers of art are on their guard, the buildings erected on them may block up that splendid view of St. Paul's which for the last three years they have enjoyed. As to the desirability, in an artistic point of view, of the open space in question being left intact, there can be but one opinion; but the old tale of *want of funds* is urged as the all-powerful reason why they should not be so. 60,000*l.* is, it must be confessed, a large sum for the civic exchequer to sacrifice on the land; but the fine view which it affords of one of the finest cathedrals in the world is of an infinitely greater value to all admirers of architecture. But now for the practical question, "Whence is the money to be obtained?" I answer,—Let the city *at once* let out on building leases the lands rendered vacant by the removal of the Fleet Prison, and by the formation of Victoria-street (the continuation of Farringdon-street), without wasting another ten years in useless endeavours to find purchasers for them at above their market price, and thus losing many hundred thousand pounds several times as much as the value of the piece of land in question, which forsooth the corporation cannot afford to buy. But strong reasons (comprehensible alone to the superior intelligences of civic magnates), may be assigned why this should not be done which is proposed by me, who am but an inhabitant of Westminster, and neither a dignitary nor even free of the city; and admitting that 60,000*l.* is too immense a sum for the richest city in the world to raise for so excellent a purpose as letting in upon its magnificent cathedral air and daylight, nevertheless, it is certainly advisable that the money which it can afford should be laid out prudently, and in such a manner that the splendid view we now have from Cannon-street may not be injured more than must necessarily result from any part of the land being built upon. For this end is needed a skilful selection of that part of the ground which, when occupied, would least interfere with it. In my humble opinion, the best plan I have heard of is one proposed by Mr. Fergusson, in the *Builder* for Dec. 16, 1854 (Vol. XII. p. 641), viz. to purchase three houses in the Old Change, and to this site to add the useless roadway in front of them; this being done, to draw a convex-curved line from the north-west corner of Cannon-street to the west front of the warehouse adjoining St. Paul's School, thus cutting off a corner of the triangular piece of land, and deteriorating but very little the view of St. Paul's. The expense of this Mr. F. estimates at about 12,000*l.*

AN ADMIRER OF TRUE IMPROVEMENTS IN THE CITY.

THE LATE MR. WILLIAM ROGERS.

THE death of Mr. Rogers has left vacant the office of district surveyor of the southern division of Lambeth, and part of Streatham, for which there are, of course, a large number of candidates. Mr. Rogers was also the surveyor to many charities and estates, clever in railway compensations, and had much to do with ecclesiastical dilapidations. Architectural work came to him naturally from these sources, and various churches and other edifices, the church in Lambeth-marsh, for example, and, more recently, one in the Westminster-road, were executed under his direction. Mr. Rogers was a bachelor, and much esteemed by those who knew him.

PROFESSIONAL SYMPATHY.

SOME time ago we appealed to our readers in aid of the family of a promising young architect, Mr. T. Tinkler, who, by his death, had been left unprovided for. The widow now earnestly wishes to express, through our journal, her most grateful thanks to all those kind friends and strangers who have so willingly come forward to her aid by subscribing a sum of money towards her support. We print the following list, also, as requested:—

	£	s.	d.
Mr. Ewan Christian	5	5	0
Mr. Corderoy	2	0	0
Mr. Edwards	0	7	6
Mrs. Gabriel	5	0	0
Mr. C. Geoghegan	5	0	0
Messrs. Gudwin	5	5	0
Mr. C. Gray	0	10	6
Mr. R. Griffiths	0	10	6
Mr. W. G. Habershon	5	0	0
Mr. Harrison	0	10	6
Mr. Houghton	2	2	0
Mr. Humphries	1	0	0
Mrs. Martin	1	1	0
Mr. Joseph Messenger	1	0	0
Mr. George Morgan	1	1	0
Mr. W. Morphew	3	3	0
Mr. A. N. of Devonport	0	10	0
Messrs. J. and W. P.	1	1	0
Mr. F. C. Penrose	2	2	0
Mr. H. Prichard	1	1	0
Mr. S.	1	1	0
Mr. F. Truefitt	1	1	0
Mr. George Truefitt	3	3	0
Mr. J. B. Waring	2	0	0
Mr. C. W.	3	3	0
Messrs. B. S. and T.	0	6	0
Copies of Mr. T.'s work	3	3	0

QUANTITIES FOR TENDERS.

SIR,—Allow me to correct the views of your correspondent, H. J. Brown [vol. xv. page 760], relative to supply of quantities to builders. He admits the desirability of quantities being furnished to contractors, but objects to the employer having to pay for them, because, he says, "builders apply for and receive bills of quantities upon which they never send in a tender." If such is the case, who is to blame? Surely the architect, if he supplies copies to any one who applies without the chance of receiving an estimate in return. He certainly has it in his power to prevent this unlimited supply. Let the architect select a sufficient number of respectable men, and he will invariably obtain a price from each. If not, he need not trouble any defaulter to enter into competition a second time. The profit on competition jobs is now so small that in many cases, if the contractor had to pay for quantities out of his pocket, the cost would be equivalent to the profit, particularly as, under existing circumstances, he would be at the mercy of the architect as to the number of copies printed. As to deposits on quantities, no builder would object to it, provided always that the amount so deposited shall be returned to each competitor on his submitting a tender; but the necessity for this would be obviated by a proper selection of competitors being made. H. J. Brown proposes a clause to be inserted in all contracts, "That the competing contractors shall examine the quantities; and, if there are any errors, shall give notice of them before delivery of tender; and, without doing this, must take the responsibility of their correctness." Why, what a farce to supply quantities on such conditions. Why not require each party to take out his own quantities at first? It would be a much easier matter than checking the correctness of those supplied. Besides, in nine out of ten cases, builders do not get the last batch of the quantities before the day preceding the delivery of tenders—often precluding the possibility of even inspecting the drawings before attaching prices. It appears to me the best mode of dealing with the matter is that at present recognized by every leading architect, viz.—the quantities supplied by a surveyor, chosen by the competitors, the cost to be charged in the tender, and the surveyor held responsible for the correctness of the same. No one would, under these circumstances, expect the architect to be in any way answerable for them, and the competitors would always have the power in their hands of appointing trustworthy men, and thereby prevent the necessity of applying for redress. Builders know too well the delicate position they are placed in, not only with surveyors, but oftentimes with architects, in matters of this nature.

J. KENSHOLE.

MONTREAL CATHEDRAL.

IN Montreal a cathedral is rising which we believe will be the largest completed edifice of our communion in America. The accompanying engraving represents it as seen from the south-west. The old parish church of Montreal having been destroyed by fire, Mr. Frank Wills was commissioned to design a more important structure. This he did, and the foundations were laid, when, unfortunately, Mr. Wills died. Mr. T. S. Scott, an architect residing at Montreal, then undertook to complete the designs and carry out the work. The style is the Decorated, and the plan cruciform. The *Ecclesiologist* enables us to give some further particulars. The nave is furnished with aisles. The choir has a north aisle only. The material is the local grey limestone. The extreme external length is 201 feet 3 inches, while internally the nave measures 112 feet by 70 feet, inclusive of the aisles. The transepts are 103 feet 6 inches from north to south externally, and 99 feet 1 inch internally, and 25 feet from east to west. While the "choir," called less correctly "chancel," in the plan, is 46 feet in length by 28 feet. The excess of external over internal length is caused by the existence of an open projecting western porch of three arches, the example for which Mr. Wills found at Snettisham Church, Norfolk, the prototype of the nave of Fredericton Cathedral,—but of which a more notorious example exists in St. Germain l'Auxerrois, at Paris. It is a feature not unsuited to a church of more than parochial dignity, and not undesirable, we should imagine, in the Canadian climate, save that there a closed porch might, we should imagine, be still further preferable. We agree with the writer we have quoted, that the remaining *ordonnance* of the west end—four equal lights, and a late rose window above, the nave flanked by octagonal spirelets, and three-light windows to the aisle—seems rather wanting in dignity. The nave is of eight bays, the pillars being alternately circular and octagonal, with foliated capitals. The clerestory is a range of spherical triangles, and the aisle windows are of three lights. On the south side is a porch in the second bay from the west. The two transepts are lower in their roofs than the nave, and terminate in four-light windows, with a door beneath. The central tower rises with a clear stage above the roof-ridge, containing a two-light belfry-window, and capped by a bold stone broach, with a single range of spire-lights and two bands above. The altitude of the whole steeple will be 224 feet. The choir has a clerestory of three two-light windows. The choir is flanked by roomy vestries to the south, having the external aspect of an aisle, and corresponding to the north aisle, which opens by an arcade of three arches into the choir. Moreover, a very picturesque octagonal vestry, as it is called, or chapter-house, has been already built to the south, connected with the cathedral through the vestries by a short passage. With its high conical roof, this adjunct adds materially to the cathedral-like aspect of the pile.

MONTREAL CATHEDRAL.—MR. FRANK WILLS AND MR. T. S. SCOTT, ARCHITECTS.

CHURCH-BUILDING NEWS.

Bayswater.—A committee is at work in raising the requisite funds (1,250*l.*) for the improvement of St. Matthew's Church. The chief alterations and improvements are the re-arrangement of the pews and provision of free sittings, erection of stone staircases to the galleries, enlargement of the chancel and removal of the organ, alteration of the east front and erection of a bell-tower, improvement of ventilation and warming, &c. A promising beginning has been made with the subscription list.

Stamford.—All Saints' Church here has been restored at a cost of 2,000*l.* and reopened. The stone-work of the interior has been repaired and scraped, and the columns and capitals of the early portions of the church restored. The floors of the nave, aisle, and chancel, have been laid with encaustic tiles. St. Mary's Chapel has been re-roofed in oak, and the ancient carved bosses and panels refixed. The whole of the windows of the church and chancel have been reglazed with fluted green-coloured glass. During the execution of the works, several remains of Early English work were discovered (15 inches below the modern floor line), of base mouldings and screen walls of stone, indicating the existence of dedication chapels in the south aisle. Portions of the original chancel floor were found, consisting of glazed tiles, deep orange and black, about 1 inch thick and 7 inches square, in a perfect state. In the St. Mary's Chapel were discovered a piscina of the early church, on the south side of the altar, and also one of Perpendicular date, inserted by John Brun. The whole of the pews have been removed, and new seats substituted. The new fittings are executed in English oak. A new chancel-screen has been put up, consisting of a series of ogee arches, with double featherings and carved spandrils, divided by solid projecting buttresses, with isolated pinnacle terminations: this screen serves as a prayer-desk. Under the east window has been erected a sculptured reredos in Caen stone. The works have been carried out by Mr. Bradshaw, of Stamford, builder; and the carving chiefly executed by Mr. Matthew Irving. The architect employed was Mr. Edward Browning, of Stamford.

Epwell.—On the 22nd ult. the parish church of St. Anne, Epwell, was reopened for divine service. The east window of the chancel is of stained glass, of unpretending character; the four side windows of the chancel, of quarry glass, supplied by Mr. N. W. Lavers. The seats in the church are of stained pine, those in the chancel of oak, all open. The builder was Mr. H. Franklin, of Deddington.

Winterbourne Bassett (Wilts).—Mr. Phillips, of Swindon, builder, under instructions of Messrs. Field and Hilton, of London, architects, has completed the restoration of Winterbourne Bassett parish church, which is of ancient date, probably about the time of Edward III. The present western tower is of the Perpendicular style. It has a nave and northern chapel: the north window of the latter is especially notable, being in the best period of the Decorated style. The chancel is large for a village church. It has four side-lights of Flamboyant work; to which has been added a fine new east window. A curious specimen of Early English art is seen in the font under the western tower.

Heanor.—The cemetery here is now completed. It is four acres in extent. The chapels are built in the shape of a cross. The cemetery is equally divided into two parts, the east side being appropriated to the Church, and the west side to the Dissenters. That portion set apart for the Church was consecrated on the 24th ult. by the Bishop of Lichfield.

Raglan.—A memorial window, executed by Messrs. Bowden and Co. of Bristol, is about to be erected in the Raglan Chapel to the memory of the late Lord Raglan, at the cost of various sergeants and other officers of the Land Transport corps. The window is Tudor in design. It consists of four small lights, and is to be fixed in the east window of the chapel. An appropriate inscription is fixed under the four lights.

Cardiff.—The niches or window openings around the communion-table in St. Mary's Church are being filled in with painted glass, in the style of the twelfth or thirteenth century, by subscription, the Marchioness of Bute giving twenty guineas towards the object. The artist is Mr. J. N. Pearce, of Bristol. The work has been done under the superintendence of Mr. G. C. Chittenden, of Cardiff, architect.

Melton.—A new stained east window has been put up in Melton Church. Mr. Wailes, of Newcastle, was the artist. The window consists of fifteen cartoons, representing the parables. At the top of the light, towards the left hand as the chancel is entered, is a representation of the parable of "The Sower." The next group represents "The Pearl of Great Price." At the top of the centre light there is the parable of "The Good Fish and the Bad." At the top of the next light is the "Pharisee and the Publican," and at the top of the right-hand compartment is a picture of "The Good Shepherd." The parable of "The Prodigal Son" is shown in five groups in the centre of the window. The parable of "The Good Samaritan" is also represented in five groups across the lower part of the window. The tracery of the window is filled with foliage and angels bearing shields, with inscription. The whole has been given by Mr. Robert Day, of Wymondham.

Colne.—Some restorations have been effected in St. Bartholomew's Church. In 1855, the congregation entered into a subscription for the purchase of a new organ, and in order to obtain a suitable place for it, the north aisle of the church was widened and raised, and twenty-eight new additional pews have been erected in the new aisle, the organ being placed at the west end of it. The huge west gallery has been entirely removed, and a pair of doors, of ecclesiastical character, has been made out of some of the old oak taken out of it. The pulpit and desk have been removed from the centre aisle, and placed against the south pier of the chancel arch, their original position. The plaster ceilings of nave and chancel have been taken down, and the ornamented timbers of the roofs repaired, cleaned, and varnished. The church being now cleared from the west tower windows to the east windows, and the tower arch displayed, its aspect is changed. Except a grant of 70*l.* by the Manchester Diocesan Church Building Society, the funds for these works have been raised by voluntary contributions. The Rev. J. Henderson and his wife have had a stained glass window erected in the tower. It is a Perpendicular Gothic window of three lights, 13 feet in height. In the left-hand light there is a cross fleurey, surrounded by a glory, with the sacred monogram in the centre of the cross. In the centre light is the "Baptism of Christ;" and in the right-hand light is an open Bible, with the inscription "Preach the Gospel." The window is filled with a Geometric pattern. It has been designed and executed by Mr. Burrows, of Milnthorpe, Preston.

Slaithwaite.—The original chancel of Slaithwaite Church was taken down in October last, and has been rebuilt on an enlarged scale. The present chancel has been restored in the Italian style, but with side windows, having circular heads. The interior is divided (under the strings of the windows) into a series of arches, forming a reredos under the east window, and stalls on the north and south sides. The artificers' works, except the plaster work, have been executed by Slaithwaite workmen, the plaster by Messrs. Wilson and Sons, of Leeds, and the arches finished in Parian marble; the whole under the superintendence of Mr. R. W. Moore, of Leeds, architect. The tables, creed, &c. re being written by Mr. John Woodhead, of Leeds, painter.

Shields.—The New United Presbyterian Church, in Northumberland square, North Shields, has been completed, and opened for public worship. The edifice occupies an area of 76 feet by 50 feet, and will afford accommodation for 660 persons. The front portion, which is built with Pendham stone, is about 34 feet high, and is of an ornamental Roman character, with six inserted Doric columns, the angles terminating with pilasters, having an entablature, finishing with a balustrade battlement, and having circular windows between the columns, with imposts and archivolts; the whole standing on an ornamented rustic basement and door-case. The entrance to the chapel is in the centre, with a staircase on each side, leading to a gallery. The building was designed by Mr. John Dobson, of Newcastle, architect; and the work has been performed by Messrs. James and Matthew Robson, of North Shields, the contractors.

Newcastle-upon-Tyne.—The new cemetery buildings for the parish of St. Nicholas are just about completed from the designs and under the superintendence of Mr. Archibald M. Dunn, of Newcastle, architect. The principal entrance is from the south, through a carved gateway. The buildings present the appearance of a hollow square, the superintendent's house forming the centre, connected with the chapel on either side by corridors and lych-houses. In the centre of the range is a broad archway, above which is a representation of the spire of St. Nicholas, sculptured in stone. Both chapels are alike; and on the gable of each, and facing each other, are two octagonal bell-turrets, projecting forward upon small arches and moulded bases, which, gradually tapering down, finally rest upon the outstretched wings of angels projecting from the wall. Under these, and at the other ends of the chapels, are traceried windows of varied designs. The moulded cornices on the exterior are filled at intervals with carved heads and figures of fantastic design, through some of which the rain-spouts project. The chapels are lined with oak, and the whole of the fittings are of the same material varnished. The ground, which is upwards of five acres, is surrounded by a low wall and iron railing. The contract was taken by Messrs. Iveson and Welton, and the ironwork supplied by Messrs. Elliott and Sons.

ASHFORD CEMETERY COMPETITION.

THE number of applications in answer to the advertisement were 117, but, as no chapels were to be erected at present, only 10 designs were sent in, but many of these were so elaborate and well executed, that the Board agreed to place tables in the market room, where they occupied nearly 300 feet of tables, and remained for public inspection for one week, when nine were selected, as named below: subsequently the number was reduced to the three first, and ultimately the design of Mr. C. H. Edwards, of Camden-town, was considered as the most approved, the design of Messrs. Peck and Stephens, of Maidstone, being the next favourite, and that of Mr. J. T. Lepard, of Cloak-lane, being also approved.

The following were the nine first selected:—

C. H. Edwards, Peck and Stephens, J. T. Lepard, Holden and Sons, J. H. Browne, Morphew and Green, F. Strouts, A. J. Baker, C. H. Cooke.

The Board resolved to return the plans, carriage paid, to London, and with a letter of thanks to all the competitors.

PROVINCIAL NEWS.

Shaftesbury.—The sanitary condition of the union workhouse here has been improved by works just completed by order of the board of guardians, according to the plans and under the superintendence of Mr. James Soppitt, architect. The ventilation of the entire building is insured by the whole of the roofs above the ceilings being made accessible to free currents of air, and slide-valves are placed in the ceilings of all the sick and infectious wards, the turrets upon the ridges of the roofs being the newly-invented double-chamber ventilators. The water-closets that were formerly under the first-floor of the building are now placed externally, and ventilated, the ceilings being hopper shaped, and terminating in turrets, and a system of soil and water drainage is laid down. The drains are of the glazed stoneware pipes, with moveable sockets, manufactured by Mr. G. Jennings, of Poole; and the registered flushing-pans, for closets, were made by Mr. S. Green, of Lambeth. A supply of rain-water is obtained from the roofs, by pipes leading to a tank holding 6,200 gallons.

Clifton.—The scheme for completing the suspension-bridge has been abandoned, it seems, for the present session, from want of sufficient time for obtaining the amount required to be deposited in compliance with the Parliamentary standing orders.

Pembroke.—The various works for the extension and improvement of Pembroke dockyard are proceeding at a rapid rate, about 800 men being constantly employed by the contractors. The whole of the work is executed under the supervision of the Government inspectors. The principal work is the widening and lengthening of the dry dock: the entrance dock is also being widened, and a new boat slip is in progress. The clearing away of the banks to improve the navigation, and widen and deepen the channel in front of the dockyard, will itself cost 10,000*l.* A new roof is being placed over slip No. 11, at a cost of 4,000*l.*

Walton-le Dale.—Roman Catholic schools have been erected here, and opened both as schools and as a temporary chapel. The building, as described by the *Preston Guardian*, consists of boys', girls' and infants' schools, porches, and cloak rooms. The two larger schools are 18 feet wide, and 51 feet long; the infant school, 16 feet square, and all of proportionate height, with open timber roofs, plastered between the spars, and supported by trussed principals on stone corbels. The walls are of brick with Longridge stone dressings. The windows, of the same material, are in three compartments divided by stone mullions and transoms. The upper middle division of every window is furnished with a wrought-iron casement, and all filled in with strong rough plate-glass. The end wall of the infant-school carries a belfry. The architects were

Messrs. Harrison and Hughes. Mr. Armstead, of Preston, was the contractor.

Scarborough.—The local poor-law guardians have decided to build a new workhouse here, and a building committee has been appointed.

Jarrow.—The blast furnaces at Jarrow are rapidly approaching completion. Three hydraulic cranes have been erected by Messrs. Armstrong and Co. and the various buildings, such as blacksmiths' shops, engine-houses, &c. connected with the works, have been erected, or are nearly finished.

THE SOULAGES COLLECTION.

ACTING on the suggestion which the Earl Granville gave to the deputation that waited on him to recommend the purchase of the Soulages collection for public instruction, several influential associations are being formed to convert the Chancellor of the Exchequer and the Government, which, it is said, still exhibit a disinclination to invest any public money in this collection, although it is reported they are negociating for others of like kind, but consisting of more ancient examples.

Authorities like the Institute of Architects, and the most distinguished producers of decorative manufactures, rarely concert together to strengthen a Government with their authority in purchasing works of art, and it would seem probable that any Government already spending some hundreds of thousands of pounds annually for education, art, and science, would welcome such co-operation. But it is doubtful if it be so. It does not often happen that competent judges agree as in this proposed purchase. It may be questioned if any would be so willing to urge the sending a frigate, at the public expense, to collect Greek fragments in the Greek islands, or to recommend the expenditure of several thousand pounds on such a picture as that by Pollianolo, recently placed in the National Gallery. But they do recommend the Soulages collection, because it affords practical suggestions which all our manufacturers feel to be of direct and positive value in the improvement of their productions. Accordingly, several movements for urging the necessity of the purchase are now maturing. At Birmingham and Manchester a move has been made. A trades' union has been formed in the metropolis, of which Mr. J. G. Crace is the honorary secretary, whilst the council of the Society of Arts has granted the use of its room in the Adelphi for any meetings which may be requisite, and the subject will be brought effectively before Parliament, unless the Chancellor of the Exchequer should give way beforehand.

MILITARY ENGINEERING.

IN the course of Mr. Henry Conybeare's introductory lecture to a course on Civil Engineering to be delivered at the Royal Engineer Establishment for Field Instruction at Chatham, the lecturer made some observations on the difficulty they would have to encounter through the necessity they would sometimes be under of carrying on civil engineering works with soldier labourers, and continued thus:—

During the Crimean campaign, an attempt was made to obviate this difficulty by raising a special corps, called the 'Army Work Corps,' composed of navvies and officered by civil engineers for the performance of the civil engineering work incidental to the campaign. But a corps of this description is an expedient too costly to be resorted to, except under the pressure of disaster, and, under such circumstances, it would usually come too late. Moreover, such an expedient must be very limited in its application, for, in actual campaigning, *every* division of an army in the field could not be furnished with such a corps: in most cases, whatever civil engineering work an army requires in the field must be done, if at all, by soldier labour—and it is, therefore, of the utmost importance that soldier labour should be raised to as high a degree of efficiency as possible, by special training and special organization when actually employed on working parties.

There is no stronger proof of the marvellous effect of training and organization than is afforded by the physical ascendancy of a handful of regular troops over a mob ten times their number; but the best organization for fighting is not necessarily the best for spade and pickaxe labour, and, when employed on the latter description of work, a military working party produces an useful effect singularly small as compared with that of the same number of ordinary workmen similarly engaged.

It is a mistake to class spade and pickaxe work as unskilled labour, the efficiency of which cannot be materially increased by training and organization; for the difference that training makes in the efficiency of such labour is very much greater than is usually supposed. It is not to be expected that the amount of earth moved by a soldier, labouring in the trenches and under fire, should equal that moved by civil labour employed under ordinary circumstances: the two cases do not admit of comparison. But it has been ascertained, by those who have had extended experience in measuring the work done by working parties of soldiers employed, out of fire and under ordinary circumstances, on road making, that the work done per head per man amounted to less than one-fifth the average of an ordinary workman similarly employed; and it may be inferred that, if by training and organization the work done by a soldier, working under ordinary circumstances, could be increased four or five fold, the efficiency of his work in the trenches would be increased, if not commensurately, at least very largely.

It is not to be expected that a soldier's labour should ever attain so high a degree of efficiency as that which long habitude to the use of shovel and pick has given to the English navvy; but it would be generally supposed that an English soldier's labour should be at least as efficient as that of a French workman or of an Irish emigrant in America, yet experience proves that this is very far from being the case.

It is clearly of the utmost importance that the highest degree of efficiency, attainable by training and organization, should be given to the pick and shovel labour of the soldier; for, if it could be raised to the same degree of efficiency as that of the ordinary workman, a given amount of work might be executed by one-fifth the number of men found necessary for its performance in the Crimea. And had the efficiency of the labour of such soldiers as could be spared for working parties in the Crimea been increased to anything like this extent, sufficient labour might have been available for the entrenchment of the position held by Sir De Lacy Evans's division before Sebastopol, and the slaughter of Inkermann might have been prevented; and also a good road to Balaklava might have been completed in time to prevent the distress which the want of one occasioned after the setting in of the bad weather.

The division and organization of labour obtaining in working parties of navvies employed on earthwork has been already described; and you may, probably, have opportunities in this neighbourhood of observing it for yourselves, and judging to what extent the adoption of a similar system would be calculated to increase the efficiency of military working parties. 'To the Roman legionaries, the use of the spade and the pickaxe was as familiar as that of the sword or pilum;' and there is no obvious reason why a British infantry soldier should not be taught 'navvy drill' as well as gun drill, without any detriment to his military efficiency: it would, of course, wear out his fatigue-dress faster, but surely that is a consideration of comparatively trifling moment.

The present appears a favourable opportunity for trying the experiment of an army work corps, on a large scale, in India. Throughout the Upper Provinces, the cantonments and public buildings of almost every civil and military station have been destroyed: they have all to be rebuilt on a new model, with increased accommodation for English troops, and probably with a mud fort at each, to serve as a citadel in case of another *émeute*. This is the work that has to be done.

And the men to do it are the Sikhs of the levies raised in the Punjaub to replace temporarily the late Bengal army. These Sikhs have a *spécialité* for earthwork: all the battles they gained, under Runjeet Singh, were won more by their universal practice of strengthening their positions by entrenchment than by arms. As Major Edwardes relates, they are capital hands at building mud forts; and with a little training, and the assistance of brick machines, portable saw-mills, and mortising machines, would readily and economically perform every description of work required for the erection of barracks; and, as idleness is the root of all evil, such occupation would be as advantageous to their *morale* as its results would be economical to Government.

It has been already observed that the absence of the organisation and division of labour incidental to the development of the contract system, and the want of practical subordinates versed in the minor details of work, are amongst the principal difficulties with which the military engineer has often to contend when employed on civil engineering work in British India or in the colonies.

The principal civil engineering works at present in progress in India—the East-Indian and the Great Indian Peninsular Railways—are being executed by contractors, according to the usual English practice; and, consequently, the civil engineers entrusted with their execution enjoy all the facilities incidental to the employment of competent English contractors, and to the presence on the works of practical subordinates versed in the minor details of work; and I am convinced that the public works carried out by the Government of India can never be carried on economically, *on a scale, and with a speed commensurate to the requirements of so vast and so roadless a country*, until similar facilities are afforded to the civil and military engineers employed by Government in the Public Works' department.

But the concession of such facilities is, by no means, *all* that is required to ensure the attainment of a maximum useful effect from the money expended on public works. The first essential is *totality* of system, and adaptation of means to ends. That each road executed should be "the right thing in the right place;" that it should form an essential component of ONE complete and thoroughly digested system of ways of communication, embracing the whole country; and that the character, cost, and order of sequence in execution, of each particular road, should be determined by its position in such general system, and by the amount and nature of the traffic it is intended to accommodate.

In your future service, you may often have occasion to advise the governments you serve regarding the best system of ways of internal communication by which an undeveloped district may be opened out; or, you may be called on to report on the comparative merits of rival road projects proposed to be carried out either by Government or by private enterprise. It is, therefore, desirable, that we should inquire what are the general principles and considerations that ought to regulate both the *general design* of a complete and comprehensive system of ways of internal communication, and also the *especial character*, and *order of sequence* in execution, of each of its component parts. The comparative failure, in result, of the sums expended on public works in India, affords a striking example of the ill consequences that inevitably follow whenever the indispensability of system is ignored, and the necessity of adherence to first principles disregarded.

BRAINS *versus* COMMON SENSE.

CEMENT.

SIR,—I have read with patient attention, "the most accessible and easily-learned facts," with the recapitulation of which, in your number for December 26, 1857, that great champion of the truth, Mr. Garbett, condescendingly favours *Aristides*. I find, whether facts or fictions, that I was previously well acquainted with every one of the arguments which he has advanced in his loose and discursive letter.

Claiming "Aristides" as the creation of my stucco brains, I ask, with all the humility due from a "young architect," a little space in your columns for his vindication, and at the same time tender my thanks to Mr. Garbett for departing from his dignified resolve, and helping me.

What he aims to prove by this ostentatious display of *facts* and *brains*, I have had some difficulty in comprehending. The following, however, I think contain the main body of his arguments: if not, he will, perhaps, set me right.

That there is no cry against cement, but against its abuse;—that it depends on paint for its cheerfulness, if it have any; but that the colour usually chosen is not cheerful, and that cement is never employed for its cheerfulness;—that what he objects to in the use of cement is the imitation in it of other materials,—to its being jointed,—together with all other "structural falsities," and to the use of it for the reproduction of forms usual in stonework,—to its being made, in fact, a vast "sham." All this is nothing new to me, for, when I had the pleasure of reading his little treatise, which abounds in original matter, and is admirable in many respects, I followed closely the subtle distinctions and hair-splitting by which he so ingeniously works out his ideas and theories on honesty. Mr. Garbett, like Fuseli, I thought to myself, is the slave of his ideas. No sooner does he conceive an analogy than without more ado, or more logic, he embodies it, and,—nay, more pertinaciously sticks to it. In this manner has arisen his absurd prejudice against transverse strain; his utilitarian philosophy of art, which we had a slight glimpse of in his last controversy; and his ridiculous distinctions respecting what constitutes honesty of purpose. As these distinctions form the substratum which underlies all his arguments against the use of cement (or rather the mode in which it is ordi-

narily used), it will be well to state a few of them for a basis of operations, especially as, from the vague manner in which they are hinted at in his last letter, we are left almost in the dark respecting his meaning.

"Internally, though common sense would hardly have attached this heavy non-elastic matter to yielding elastic woodwork, the inability of our architects to make real structure fit to be seen, seems to have long driven us to the present total investure of *lath* and plaster,—a sham building within a building, air-tight, noisome, not to be touched, cracking, left to the mercy of a little water, or a shake, or a loud noise. To this cuticle are stuck, under the notion of ornament, masses representing the same things as those without."—*Students' Guide to Measuring.*

"What possible reason, then, can there be for stucco or paint to represent anything but stucco or paint? They never represent anything else in the works of the Greeks, Romans, Gothicists, or Arabs."—*Treatise on Design.*

"Gilding," we are told, is honest upon wood or plaster; but is deceptive upon metals, "and upon these we shall accordingly never find it applied in times of good taste,—at least, never as a *total* covering."

We are also told that the human figure, being a whole, may be depicted in painted decoration; but a vegetable form, used in the same manner, being only a part, *i. e.* as you cannot show the roots, is contrary to sound orthodoxy.

I will leave it to the reader to judge on whose side lie the "ingenious arguments."

Among the few facts put forward by Mr. Garbett in his letter is the following: "Coats on buildings have been used everywhere 5,000 years without it ever occurring till the last 50, or perhaps 100, to pass them for no coats but buildings."

Turning to the earliest accessible source at the present moment, Knight's "Pompeii," I find that the basilica or court of justice in the Forum, had a roof supported by a peristyle of twenty-eight large Ionic columns, constructed of brick, *stuccoed*. Also that the external walls are quite plain; but in the interior, courses of masonry are represented in *stucco*, painted with various colours, *in imitation* of marble. The following are *verbatim* extracts from the same work:—

"A portico surrounds three sides of the space in the Forum. The pillars are of three materials; of fine white Caserta stone, resembling marble; of ancient yellowish tufa; and of *brick, plastered.*"

"The archway (on the Appian Way) is constructed of brick and lava, in alternate layers, and covered with a fine white stucco. It is evidently the work of the Romans. This, although the principal entrance to the city, is not striking for its beauty, and is small in its dimensions. The stucco is covered with nearly illegible inscriptions of ordinances."

Now let us turn to Sir Gardner Wilkinson's account of the ancient Egyptians. I find the following: "Both in the interior and exterior of their houses, the walls were sometimes portioned out in large panels of one uniform colour, flush with the surface, or recessed, not very unlike those at Pompeii; and they were red, yellow, or *stained*, to resemble stone or wood." This was 2,800 years ago! The Gothic builders, I think, were the only class who did not imitate material (excepting in the colouring of their figures or statuettes). This is certainly a distinguishing feature of their architecture, and a good feature, too, in many respects; but will "E. L. G." be bold enough to reiterate his assertion, that no others did, till within the last 100 years,—or can a man be depended upon whose facts are based on such poor foundations?

"E. L. G." says that there is no cry against cement, that he is aware of, and then alludes to it as the "noble art of mud-spreading:" is this not inconsistency? The theories put forward by him would *all but* prohibit its use, except to those who possess his own great powers of design. What moral distinction there can be between covering plain wall with plain cement, or rough brick cut mouldings with fine cement, I confess myself quite unable to conceive. It is not merely the jointing of the stone that is objected to: it is the imitation in cement of *forms* usual in stonework. In shaping his theory of no imitation of the forms belonging to one material in another, he seems to take no cognizance of the "fact" that it has been done from time immemorial, from the Greeks to the Goths. The Goths — as we may see by visiting any cathedral containing oak stalls copied, for ornamentation in other materials, even their *structural* forms—even the buttress, the most structural of all structural forms, with its thrust-balancing pinnacles and flying buttress. Most people will agree that it is much more honest to give structure a coat than to copy it in another material; and that is what I should do with cement. The disrepute cement has fallen into is more the result of *bad design* than dishonesty, for it is the material invariably chosen by builders and others of the same type for their perpetrations,—but we should not on that account condemn it when "rightfully used." Mr. Bartholomew hesitates not to put down the low state of art to the extensive use of cement: this is mere nonsense.

Mr. Garbett first says, that there is no cry against cement, and then asks where certain gentlemen he names have disregarded it. I confess myself totally unable to comprehend such depth of reasoning. If any of those four gentlemen have employed lath-and plaster ceilings, or partitions, they have offended against their principles, for they have practised deception. They have tried to pass off flimsy construction for real solid walling, or given solid expression to fictitious lath and plaster. If they have executed external cornices in plaster, still worse, for they have copied a form belonging rightfully to stonework. We do not know of any lath and plaster in the good old time work; therefore it should never be used. To carry out *their* principles, they should make the partitions of wood, and varnish it: their ceilings should *always* display the joists: these also should be oiled and varnished,—not even stained, though staining has, strangely, come into fashion during these times of truth. I could multiply example after example, but shall not, for it is quite evident that if you push any principle to the extreme that they push this to, it becomes ridiculous. Therein lies the difference between my views and Mr. Garbett's. We both agree that cement may be used legitimately, but in what that legitimacy consists we differ. "Aristides," says that cement is fitted for Italian, whereas for Gothic it is not,—and setting aside all quibbling, it is as he states.

Cement may be used to fill in between timber framing; but that sort of construction is a thing of the past. It may also be employed as rough cast, to fill in between the stone dressings of a country church; but would not even rubble work be better? It might possibly, by being stumped and coloured, be made to suit as an external coat for a building of more pretensions; but when you begin to copy tracery or Gothic structure, it becomes villanous, because it is not Gothic. Now, in Italian, the case is different; for, as "Aristides" has stated of the Classic, it is of a more artificial nature. Is it not evident that we must judge of the practicability of the employment of cement from other reasons besides that of truth? Very few except the ultra-everything party will object to the ornamentation of the great room in St. George's Hall, Liverpool; yet, on Mr. Garbett's own showing, it is the very essence of latitudinarianism: it has sham coffers in the vaulting, sham cornices, sham channelling, and sham groins; in fact, sham everything; yet, oh! ye depraved people of the nineteenth century, ye continue to admire it! Elmes said he would sacrifice a great deal to have bronze foliage to the capitals of the granite shafts; and he was right, for plaster is such a mean material compared to polished granite, and the hall is of such noble proportions, that there is a sense of disappointment when we discover that those who have been prodigal in everything that could conduce to the nobility of the building should be driven to such an extremity. Plaster is likewise of such a friable nature when moulded into foliage, and granite so firm, solid, and lasting, that the contrast between the two ideas offends us; and also what would in common parlance be termed the penny wise-and-pound-foolish policy of the affair.

"E. L. G." says cement is never chosen for its cheerfulness. That is only one of his multitudinous assertions, not a fact. Even if it were as he states, it would not materially affect the case: its cheerfulness would then only be an additional reason for its employment. "Aristides" did not assert that drab is a cheerful colour—there is very little colour in it—nor did he even advocate that colour. But will "E. L. G." attempt to deny that *light* is cheerful? If he does there is an end of the matter at once; if he does not, then even the common and "holy drab" gives a liveliness of appearance to our streets from the amount of light which it reflects, independently of any *polish* from *new* paint, which I object to as much as he does. Cement does not give one the idea (when properly applied) of the building being constructed upon different statical principles to those of the reality: it merely gives a surface to the work. Columns, architraves, cornices, have long been objects of ornamentation, as well as structure. Even if the joints are shown the statical effect is that of simple repose, or in an arch oblique pressure. If, as in all cases where cement is "rightfully" employed, it gives only a surface to the structure beneath, it is no sham,—no more so than a tight-fitting garment. I am not advocating the imitation of stone in cement externally; for much labour employed in that direction is a waste of time: it does not last, and it would be cheaper to use the real materials at once. Such is the common-sense view of the matter which mankind generally take in like questions, and such, I believe, is the really true principle we must work upon.

Mr. Garbett seems to be under the impression, in every thing he writes, that no one except himself is *fully* acquainted with the true principles of art or mechanics. It is also very strange that those who fight most stoutly for truth should deal so largely in clap-trap. I suppose he intends "brains" for himself and "stucco" for "Aristides:" if so, I can only say, in conclusion, that his *reasons* for not reading Mr. Scott's book are, to say the least, excessively ludicrous.

T. MELLARD READE.

A PLEA FOR THE BEAUTIFUL IN ART.*

OF all the gifts with which man is endowed, the appreciation of the beautiful, in its widest and most comprehensive sense, is, perhaps, the one from which, in his present estate, he derives more true solace and enjoyment than from any other of the mental faculties of his nature; but as this is one of the highest gifts, so we may expect, in its most surpassing development, to find it comparatively rare. The investigation of the natural and artistic combinations of beauty have formed the theme and employment of the thoughts and lives of the greatest men of their generations. The real business of artists has ever been the perception and illustration of her magic powers; and if we trace the results of their efforts from the first rude conception of elementary art (the true and severe Pre-Raffaellitism of honoured patriarchs who were indebted alone to the teaching of nature and their own invention for their ideas, and earnestly worked out those ideas, however crudely, to the utmost of the light and knowledge they possessed) to the practice of our own day, or rather let me say to within the last ten years—we shall find that the progress of their success is the progress of the development of the beautiful and the true—the truth of beauty, and the beauty of truth, simultaneously interpreting and illustrating one another.

If, then, the efforts of all the best schools of art have thus been centred in the right appreciation of the beautiful, and their noblest works appeal to the mind, and command our soul's best sympathies through the medium of this, art's chiefest element, we may well feel astonishment at the spectacle of any body of men, calling themselves professors of the fine arts, attempting to introduce into their practice a system of painting, one of whose most distinguishing marks virtually is the abnegation of anything approaching to beauty, dignity, or sentiment in any of their phases. Yet such a system we have presented to us in both the teaching and results of the so-called Pre Raphaelites of the present day. I have no pleasure in entering upon this unpalatable topic, and shall touch upon it as shortly as possible, and only as it has immediate reference to my subject.

* * * * *

It is one of the most distinguishing traits of real genius that the mind is capable of conceiving ideal beauty of a far higher order than the hand can execute. It is related of Thorwaldsen the sculptor, that when advanced in years, a friend found him in his studio, in a state of deep melancholy: on inquiring the cause, the old man declared that he felt his genius was leaving him, "because," said he, "I become far too easily satisfied with my works; my imagination seems no longer able to lead my hand, but my hand seems readily to compass my ideal." Was not this the confession of a great man? and is it not the case, that we must form our estimate of an artist rather by his power of perception of the beautiful, than from his power of hand, however great? For the former is the high and real end of art; the latter only the means to its more fluent utterance. The fire of genius may often be too impatient to spend time over minute finish; but if the inspiration of beauty be there, the mind will be more influenced by a hasty production from such a hand, than it ever can be by any exhibition of

* By Mr. Francis Horner. See p. 5, *ante*.

elaborate manipulation or practical knowledge possessing no corresponding evidence of mental vigour.

The musician who has succeeded in composing a melody, however simple; the poet who has written a stanza, however unadorned; the painter who has contributed a sketch, however slight,—which, from their suggestive beauty, affect the imagination, and are capable of awakening deep emotions of the heart—has each, in his vocation, achieved a higher triumph than he who, possessing the greatest technical knowledge and manual dexterity, produces a work which, however correct according to all the rules of harmony and rhythm, or perfect in finish, yet, from a deficiency in that sentiment which constitutes the essence of every effort which aspires to be ranked as illustrative of any one branch of high art, appeals merely to the intellect rather than the feelings.

True art may, and ought to provide the means of gratifying varying tastes. Admitting subdivinity to be one of its highest aims, there are still other, and almost innumerable phases and combinations of the beautiful, which are well worthy, in their degree, of the admiration and study of all; and by the influences of which differently constituted minds are variously affected. Thus we frequently, I think, meet with highly-cultivated women, who, while they do not sympathise very cordially with the sublime and awful, in nature or art, but rather shrink from them with the characteristic gentleness of their sex, yet possess a finer perception of the softer and more elegant and graceful forms of beauty than the bolder but less tender mind of man often attains to. * * * *

No section of the fine arts has on the whole, perhaps, been more earnestly pursued in this country in late years, than architecture since its revival. Yet it seems generally admitted, strange as it appears, that architects are now, and have been for the last 200 years, living as it were upon the relics of the old world, without making any further advance in the way of novelty and invention than by varied combinations and arrangements of principles and forms which the ancients of the Eastern world, the more modern Italians, and our own remote ancestors have bequeathed to us. Where is the true cause of this to be found? Is it that the materials at the architect's disposal are so inflexible, the conditions by which he is bound as to construction and the fitness of his erection to the purposes of utility, so perplexing, as to fetter his ingenuity and restrain his invention? Is it that the sources of architectural character, expression, and beauty, have already been so thoroughly exhausted by those who have gone before, that the very act of endeavouring to strike out any supposed novelty commonly results in a plagiarism or the production of a work without form or comeliness? How is it that we scarcely ever, I may say I believe that we never, meet with any modern building, however unique in general character and nondescript in particular parts, that does not carry with it, as a whole, the type of some well-known order, style, or date? Of necessity, the great amount of invention that has been brought to bear on this art in bygone times, must have left the modern architect much less scope for the display of originality than was the case formerly. But, may it not also be that, even now, new elements are gradually and imperceptibly creeping into existence, in combination with the commonly adopted modes, which in time may lead to the development of a style, as distinct from anything at present known as the two grand divisions of the art,—Classical and Gothic,—which now seem as by common consent to be universally recognised among us as the exponents of architectural character, differ from one another?

Whatever may be the ultimate destination of architecture in England, I cannot help hoping that these two great subsisting divisions of style may be preserved to us in their integrity, for they confessedly contain within themselves more striking elements of beauty and distinctive character than any novelty of style or mode that might be suddenly or violently invented, whether compounded of their joint peculiarities, or otherwise, could possibly possess.

Classical and Gothic art are the growth of the genius of centuries, and their loss would be irreparable. And surely there is sufficient variety and elasticity to be found in their numerous dates and orders yet to afford scope for much originality of treatment; an originality which, in the lapse of years, may develop new principles, exactly as they were developed by the silent workings of successive generations.

I cannot, I confess, look upon Elizabethan architecture as worthy of any very high consideration in comparison with these. Deprive it of the characteristics it derives from one or the other of the former, and I venture to think that few elements of beauty will be found to remain. Take from it, for instance, the general proportion which it may derive in common from either the justly-proportioned columns, the bold cornice, and other details copied from the Italian, and the mullioned window, the high-pitched gable, and other peculiarities of the Pointed style, and we have little left that is beautiful or agreeable that can really be called its own; unless columns of all shapes and proportions, from gouty and plethoric obesity to attenuated atrophy, placed, at the caprice of the architect, down side up, and up side down, and strap ornament *ad infinitum*, are to be considered such.

If the Elizabethan were, indeed, the marriage of the Italian and Gothic, I think these styles were far happier while reposing in a state of single blessedness in their respective countries, and have again wonderfully thriven, since modern practice has brought about their divorce, and restored each to its true and native character.

It is a strange thought how much of what constitutes the pride of our own country is due to the genius of remote and stout-hearted ancestors, who wrought in the dark ages. Deprive England of their mighty relics—her abbeys, her cathedrals, her Westminster-hall, her parish churches, her ancient castles, and city walls and what of really great architectural interest would be left on her surface?

In the midst of intestine commotions, and frequently of civil war, without the aid of commercial wealth, how firmly must those bands of masons have been knit together—how vigorously and faithfully must they have laboured—with what a lofty genius must they have been fired! In emerging from the comparative restraint of the feudal times, and entering on a career of foreign commerce and private enterprise, England, while she gained the blessings of unrestrained liberty, lost, in a great measure, the mighty power of combination and organisation which that system, in its best days, so strikingly illustrated; and it is not difficult to perceive why the disappearance of its last relics should have contributed, as it is said to have done, in combination with other events, to produce the deep melancholy which settled down on the mind of Queen Elizabeth in her latter years. Froude, the historian, speaking in reference to the great social and domestic revolution which England was undergoing at this period, makes the following beautiful comment:—

"For indeed a change was coming upon the world, the meaning and direction of which even still is hidden from us,—a change from era to era. The paths trodden by the footsteps of ages were broken up; old things were passing away, and the faith and the life of ten centuries were dissolving like a dream. Chivalry was dying. The abbey and the castle were soon together to crumble into ruins; and all the forms, desires, beliefs, convictions, of the old world, were passing away, never to return. A new continent had risen up beyond the Western sea. The floor of heaven, inlaid with stars, had sunk back into an abyss of immeasurable space; and the firm earth itself, unfixed from its foundations, was seen to be but a small atom in the awful vastness of the universe. In the fabric of habit which they had so laboriously built for themselves mankind were to remain no longer.

And now it is all gone, like an unsubstantial pageant faded; and between us and the old English there lies a gulf of mystery which the prose of the historian will never adequately bridge. They cannot come to us, and our imagination can but feebly penetrate to them. Only among the aisles of our cathedrals—only as we gaze upon their silent figures sleeping on their tombs, -some faint conceptions float before us of what these men were when they were alive; and perhaps in the sound of church bells, that peculiar creation of Mediæval age, which falls upon the ear like the echo of a vanished world."*

It might be expected that in countries which have arisen amid the increase of knowledge and education of modern times, we should find a corresponding increase of intelligence, in their estimation and practice of the fine arts; but where are we to look for any evidence of such a fact? If we turn to America, that new continent that has "risen up beyond the western sea,"—a country which has attained in an unprecedentedly short time to political and commercial greatness—whose citizens are possessed of almost boundless wealth, and whose fame for mechanical skill is world-wide—with all her power and luxury, what has she to show as her contribution to art? and more particularly what in architecture? Where is her spirit of artistic genius to attest that her sons are indeed the descendants of those mighty men, whose remains sleep amid the aisles of the magnificent cathedrals which their own hands builded in the olden time? I fear that the commercial and speculative atmosphere, which seems to envelope all men and things in that busy land, is far from being favourable to the development or growth of any branch of high art. And even in our own country, as regards our feeling for what is great in art, are we not a degenerate race? "Men go to and fro in the earth, and knowledge is increased." Does *wisdom* keep pace with that knowledge? Are not our times characterised rather by constant restless action than by deep thought? Man seems to consider he has no time to pause and contemplate what is beautiful—he can but afford it a passing glance, if he deigns it even that.

But human nature is the same in all ages, and is ever affected by the same sympathies; and never, perhaps, did man require, more than at present, some extraneous aid, to minister repose to his anxious mind, and to refresh and sustain his imaginative faculties.

"It seems to me," says Sir Joshua Reynolds, "that there is but one presiding principle which regulates and gives stability to art. The works, whether of poets, painters, moralists, or historians, which are built upon general nature, live for ever; while those which depend for their existence on particular customs and habits, a partial view of nature, or the fluctuations of fashion, can only be coeval with that which first raised them from obscurity."

No great artist was ever ashamed of confessing the influence of beauty over his mind; nor will any man ever become a great artist who does not by nature possess a keen susceptibility to its charms.

Feeling, in art, is the great key to truth, and it cannot be too carefully cherished. It is too much the fashion of the present day, among a certain class of smart, self-sufficient writers, to ridicule anything approaching to high sentiment on the part of the artist; but they who do so will generally be found to be men of too superficial minds to entertain any such emotions and sympathies themselves. Yet an attack conveyed in the form of a sneer is often harder to bear, and more galling to a sensitive mind, even when the source from whence it comes is comparatively insignificant, than the less offensively-expressed censure of a competent authority:—

"Like Æsop's lion, Burns cries sore I feel
All others' scorn, but oh! that ass's heel."

To a young man such treatment must be most disheartening; but I would say to him,—Never mind the "ass's heel;" persevere in your endeavours after what is great and good, in whichever branch of art you may have chosen as your pursuit, and you will soon place yourself beyond the reach of his vicious hoof. Rest assured that men who work without feeling are no artists, and that critics such as these have sadly mistaken their calling, and having been born short of a sense themselves, or having forfeited by abuse what they may formerly have possessed of it, they affect to deny the existence in others of that which they have not soul enough to comprehend.

Let a work be, as Sir J. Reynolds expresses it, but "built upon general nature," high in feeling, and pure in sentiment, and in spite of many defects, it may still possess qualities that will make it "live for ever." But this can never be the case where prosaic detail is the predominant feature, and obscures the sentiment; for then the imagination has nothing to carry it beyond mere execution. And pushed to the extreme, art so treated ceases to be fine art, and is debased to a bare display of mechanical skill.

Martin's historical pictures and epic landscapes I have always felt to be highly illustrative of the wonderful power which sentiment possesses in obscuring defects. In these amid ill-conceived figures, disagreeable foregrounds, and often very conventionally handled foliage, we shall seldom fail to find a grandeur of conception, and an almost magical effect of atmosphere and aerial perspective, which take captive the imagination, and leave a very elevating impression upon the mind. There is also another lesson to be learnt from these pictures, and that is, the great importance to the architect of the study of landscape, as leading him to judge of the style of building best adapted to any particular site it may be intended to occupy. I never see the great works of mediæval times without feeling convinced that our ancestors must

* Froude's "History of England." Vol. I. p. 51.

have studied very carefully the effect their architectural compositions were likely to have in combination with the surrounding scenery. True, association may assist such an idea, and in some instances the picturesqueness of decay may strengthen the impression, but in cases where the latter, at least, of these influences is not very apparent, as in many of our cathedrals and city walls, what forms or constructions could give greater dignity, or combine more harmoniously with external nature?

In the contemplation of the realms of nature, minds of the highest genius have ever found a field of inexhaustible wealth, from whence to draw supplies for the cravings of their most exalted aspirations after truth and beauty; and he who complains that he has failed to derive instruction from her teaching, may be assured that he has not studied her aright; either, overlooking broad principles, he has taken a partial or imperfect view of her charms, or, permitting his judgment to be warped by the fashion or the custom of his time, he has examined only the littleness of detail rather than the poetic greatness of her spirit, and so has marred the reflection of her true image in his soul.

> "Sweet is the lore that Nature brings:
> Our meddling intellect
> Misshapes the beauteous forms of things:
> We murder to dissect."*

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE usual monthly meeting of this Society was held on Monday, the 4th instant, Mr. Sheriff Steele in the chair. Mr. David Mackinlay read a descriptive and critical paper on the Bayeux Tapestry, after which he described *seriatim* the various scenes depicted on the roll, a full-sized copy of which, kindly lent by Dr. Bruce, of Newcastle, was exhibited to the meeting. A good deal of discussion followed; and, in deference to the opinion of the meeting that it would be well to give the public an opportunity of seeing the drawing, Mr. Mackinlay agreed to exhibit it in the City Galleries of Art on Tuesday next.

The chairman read an extract from the Foundation Charter of the College of Glasgow, relating to the election of the Principal,—a subject of considerable local interest at present. It was remarked that, although the Charter carefully describes the qualifications of a suitable Principal, and imposes considerable restrictions on his liberty, such as that he must reside within the said college "*neque inde pedem moveat,*" except under certain specified circumstances, no particular duties are mentioned, which is possibly the reason why no particular duties are ever performed! The election of the Principal lies in the first instance with the Crown; but, in the event of no suitable person being appointed within thirty days from the office being declared vacant, the right of election devolves upon the *Archbishop* of Glasgow, the Rector, the Dean of Faculty, and the ministers of Glasgow, Hamilton, Cader, Monkland, and Renfrew.

SCENERY AND THE STAGE.

AN old correspondent, who, like ourselves, views the stage as an educational institution of mighty power, as affording to thousands the only teaching obtainable by them in art and manners, and who knows the feelings of interest with which we regard all steps affecting it, seeks to know, through these pages, the truth as respects the so-called Festival performances, that are to take place presently, in honour of the marriage of the Princess Royal. He asks, pertinently enough, who is to have the profits of the house, with pit seats at 10s. and so on; who is it that the managers who have come forward are assisting,—of course, against themselves; and, further, have the court really anything in the world to do with the matter? We do not wonder at the inquiry: it is being made everywhere. The fact is, so far as we can learn, that the affair is simply and entirely the speculation of the well-known and most respectable librarian whose name is connected with it in the bills. Why then the announcement should have appeared in the *Court Circular*, why managers should be either praised or blamed, as it seems they are even in high quarters, for having agreed or declined to assist an *entrepreneur* who is seeking (quite legitimately of course) to draw London away for four nights from their own particular theatres, we do not pretend to explain. The affair is somewhat of a mystery, and the sooner it is understood the better. We have stepped a little out of our course perhaps in making these expressions, but whatever affects the position of the drama and its professors affects a journal devoted to the arts.

The Haymarket Theatre.—Christmas has given an opportunity to our scene-painters, and they have not neglected it: probably so many elaborate and effective mechanical scenes were never till now at the same moment placed before the public. For Mr. Buckstone's very excellent pantomime, "The Sleeping Beauty," Mr. William Calcott has provided not only a very elegant transformation scene of the character in question, but some other scenes, the Samphire Cliffs, for example, and Cloudland, from the turret of a palace, of great merit. In the Banqueting Hall of Silver Columns we must point out to him that an unpleasant effect is produced upon the rapidly growing minority who see with understanding, by the mixture of Italian and Gothic forms in the same scene.

The Princess's.—The pantomime here is noticeable rather for elegance, completeness, and neatness than for any one startling effect. The veteran Grieve maintains his place, and has produced, as a transformation scene, a Christmas tree occupying the whole height of the stage. Opening, this discloses nymphs and brilliant colours, which, in contrast with the cool green of the leaves, have a charming effect. The landscape preceding it, too—a lake with colonnade and trees—is a very elegant painting. Next week Mr. Kean is to revive "A Midsummer Night's Dream," with its remarkable view of Athens.

The Lyceum.—At the Lyceum, where this description of scene was invented, Mr. F. Fenton has executed for "Lalla Rookh" a very elaborate and beautiful arrangement, at first called "The Alcoves of the Peri's Garden," then changing to "the Golden Corridors of the Aërial Amphitheatre," wherein columns open, galleries descend, and a scene of gold gives place to one of silver, and light and colour and fair nymphs all concur to produce a glittering and gorgeous whole. Its only weakness is that it is too much crowded, and does not produce all the effect of space so desirable in stage works. Some of the other scenery, for example, the Lake of Pearls, is very nicely painted, and the piece, as a whole, is deservedly successful. Mr. Dillon, as an actor, is maintaining the position he had achieved.

DECIMAL STANDARD FOR ADMEASUREMENT.

I AM glad to see by the communication of Mr. Ellis that my remarks on this subject have met with some attention. My idea was to divide the inch into tenths on the measuring rods, or other instruments, and this division would be sufficient for ordinary calculations; but any extent of subdivision could be carried out, subject to one rule, viz. always keeping the decimal point after inches until the end of the calculation. Thus:—

100·0
10·0
1·0
·25
·125
—
111·375

The sum total = 1,1,1·375, or 1 rod 1 foot $1\frac{375}{1000}$ inches.

S. J. BARBER.

CURRENT NOTES UPON IRON.

MATTERS in connection with the iron trade have not that gloomy aspect which has for some time past pervaded them. Orders are coming slowly in, though not yet to any great amount; and the American accounts which have been kept back lately are arriving in a steady flow. So soon as the ice breaks upon the American canals and rivers leading to the interiors, and the navigation is thereby opened, the produce of the United States farms will be brought to the seaboard, and then orders also will be to hand as well as money. These orders will be the larger because of the price at which iron will now be exported—a reduction of 20s. upon the nominal and 10s. upon the real price at which a considerable quantity of the South Staffordshire iron has for some time past been sent across the Atlantic.

With bars at 8*l.* per ton, it has long been known that the American makers cannot compete with those of Great Britain. When it is remembered that of the 287,408 tons of iron exported from Liverpool in the past year, 130,313 tons went to the United States, it will be seen how large an influence the American market exercises over the trade in this country.

In explanation of the two terms "nominal" and "real," as used above, it may be added that, notwithstanding that the "trade" price of merchant bars in Staffordshire has been 9*l.* the average price of bars, free on board in Liverpool, was 7*l.* 15s. 9d. in 1857, and Staffordshire rails, 8*l.* 4s. 9d.

Pig-iron is firmer in price, and may be quoted at from 3*l.* 5s. to 3*l.* 15s.

Books Received.

A Handy Book on Property Law, in a Series of Letters. By LORD ST. LEONARDS. Edinburgh and London: Blackwood and Sons. 1858.

WE cannot convey a better notion of what this little volume contains, than by quoting a paragraph from Lord St. Leonards' own introduction. He says,—

"It is, unquestionably, a matter of profound regret, that so large a proportion of contracts respecting estates should lead to litigation. It is equally to be regretted that, however desirous the man of property may be to understand the effect of his daily contracts, there is no source to which he can apply for the desired information. You ask me to remove the cause of your complaint, and in particular to point out the precautions to which you should attend in selling, buying, mortgaging, leasing, settling, and devising estates. You express, besides, a desire to know something in a popular way of the nature of the different interests in property, and of the mutual rights of yourself and your wife, and your power over your children, which would lead me to introduce the new law of divorce to your notice. You further ask me to give you some general hints as to your conduct in the character of a trustee or executor, which may keep you from harm. In short, you want, in the form of familiar letters, what is now so much in vogue, a work upon an interesting subject calculated 'for the million,' whom I should be but too happy to assist. Such a work, whilst it imparts knowledge, may, perchance, beguile a few hours in a railway carriage. I have in my youth and in my manhood written much for the learned in the law: why should I not, at the close of my career, write somewhat for the unlearned? This I shall proceed to do concisely, and without encumbering my pages with many technical phrases. I must premise, that I shall say little which is not warranted by decided cases; but I shall not burden you with references to them, as they lie scattered in many a bulky volume to which you have not access."

It is, in truth, a very handy book, and a very valuable book; and, if extensively read, as its style fits it to be, and leads us to expect will be the case, will substitute a large amount of precise knowledge on points of great importance for the vague and often erroneous impressions which prevail. Lord St. Leonards has our thanks.

The Utility of Antiquarian Collections, as throwing Light on the Pre-historic Annals of the European Nations. An Address delivered to the Royal Irish Academy, February 9th, 1857. By (the late) JOHN MITCHELL KEMBLE, A.M. London: Reeve, Henrietta-street, Covent-garden.

THE power of archæology to aid in the expiscation of the knotty questions connected with the ethnology of pre-historic periods, and the routes of human progress in extreme antiquity, is ably indicated in this interesting and excellent address, in which are pointed out various special characteristics in the workmanship, the styles of ornamentation, and the materials used by different tribes and families of mankind in times of old. The aim of the address may be collected from the following quotation:—

"These are, in truth, the great characteristic differences to which I would, above all things, direct your attention. The engraved spiral line, with double winding, is found from America to the Baltic, from Greece to Norway; but the divergent spiral line (*repoussé*, in metal of a later date), and ornamented with *champlevé* enamel, is found in these islands alone, or in the neighbourhood of these islands: it vanishes in proportion to its distance from them. There is in all this not the slightest trace of the influence of what we call classical art. The trumpet pattern is neither Greek, nor Roman, nor Oriental. There is nothing like it in Etruscan art: there is nothing like it in German or Sclavonic art: there is little like it in Gallic or Helvetian art: it is indigenous, gentlemen;—the art of those Keltic tribes which forced their way into these islands of the Atlantic, and, somewhat isolated here, developed a peculiar, but not the less admirable system of their own. And let me beg you to compare with it some of those admirable specimens of Germanic art of which England furnishes so many examples in that county which was most subject to Frankish influence; and of which the finest examples of all are to be found in the cabinet of Mr. Mayer, of Liverpool. In these you have merely geometrical figures—circles and parts of circles, triangles and squares; lozenges, and horizontal zig-zags. Enamel has ceased: it is replaced by niello. Amber is unknown; but turquoises, and slabs of garnets, or coloured glass, have become common. Each form of art is beautiful in its way; but each has a character so peculiar that I will defy any observer to find any one point by which the two can be classed together, beyond the one that they both deal with metal, and are subservient to ornament."

This point of ornamentation Mr. Kemble appears rightly to regard as forming one of the most important and characteristic criterions by which to judge of the tendency of a race.

* To be continued.

VARIORUM.

IN a small tract titled "The Gas Ram, a hundred times more powerful than the Hydraulic Ram for launching the *Leviathan*," (Partridge, Paternoster-row), Mr. W. H. Phillips, the inventor of the Fire Annihilator, describes a new species of press, or "ram," as he erroneously calls it, consisting of a massive cast-iron cylinder and piston, with a chamber at one end for a charge compounded of nitré, charcoal, coke, gypsum, and water, and an igniter tube and valve, through which the charge is ignited, and the gas produced by the combustion then forces out the piston, with an expansive force, it is said, equal to that of many hundred horses, till the piston escapes from its chamber, during which action the pressure has been applied to the mass to be moved, the apparatus having its bearings fixed with sufficient strength in the ground adjoining. The inventor points out the advantages of such an instrument over the hydraulic press. The cost, he says, is only a few pounds each.—The Early Closing Association has published (Kent, Paternoster-row, &c.) some important "Practical Testimonies to the Benefits attending the Early Payment of Wages," with introductory remarks, addressed to employers of labour. There is now a goodly list of large firms who have adopted the system of paying wages either early on Saturday, or, as more generally practised, on Friday. The remarks appended by the employers themselves are uniformly favourable to the system adopted, and must be highly gratifying to all interested in the success of the early closing and early payment of wages scheme for the benefit of the working classes.——The application of steam and other machinery to agriculture is making rapid progress; and the day, we hope, is not far distant when this branch of manufactures will be as immensely developed and extended as the cotton manufacture itself has been in this country. In a tract just published by Ridgway, of Piccadilly, Mr. P. A. Halkett gives an account of his system of "Guideway Steam Agriculture," in which the soil is saved from trampling by means of rails, and in which various agricultural operations, from ploughing and sowing to hoeing and reaping, are performed by steam machinery. Appended is a favourable report on Mr. Halkett's inventions by Mr. Braithwaite, C.E. in which the reporter says,—"It will be as well to state at once my firm conviction of the principle you have so successfully developed, and there can be no question as to the ultimate success that will attend your patent process for steam agricultural tilling and reaping purposes, which cannot be problematical. The reaping by steam is quite novel. The various processes of hoeing, underground watering, ploughing, &c. were executed with astonishing accuracy, considering the machine to be the first of the kind, and running upon ground undulating, varying from nearly level to an incline of about 1 in 15, up which the agricultural locomotive ascended with comparative ease without any momentum, the whole being under perfect control."——"Where ought Christ to have suffered?" is "a biblical exercise on the true site of Calvary; by Henry S. Baynes, member of the French Protestant Historical Society" (Stevenson, Paternoster-row), in which the author rejects what we may call the *local* localization of the site of Calvary, over which the Greek and other sects of nominal Christians who meet at Jerusalem occasionally fight and squabble in so unseemly a manner. Mr. Baynes considers that he finds in the prophecies of the Old Testament and the typical rites of the Jews, especially those affecting castaways, scapegoats, sin offerings, &c. as well as in the words of the Evangelists recorded in the New Testament, and in other sources, cogent reasons for concluding that Calvary was an open place (not a mount) *to the north* of the city walls, and reached through the gate of Judah (afterwards called the gate of Ephraim because it faced the land of his tribe). It was in this vicinity that various priestly offices closely connected with sacrifice and death were practised, and these were admittedly typical of the great sacrifice himself, who *ought* therefore to have here suffered, and who in all probability did there suffer. This was even, he urges, the place of tombs, or cemetery, for the city, and here malefactors suffered, both under the Jewish and the Roman law. We are simply stating the author's argument, not our own, although we do not mean it, either, to be implied that we see any very weighty or decisive reasons against such an opinion.

Miscellanea.

REPORT BY MR. GURNEY ON THE THAMES.—Mr. Gurney, of the House of Commons, has reported to the Parliamentary Committee who attend to such matters, on the means of preventing any further pollution of the river and the atmosphere about the Houses of Parliament during the construction of any system of drainage that may be carried out. In the course of his observations the reporter says,—"I recommend that all the retrogrades and brattice cesspools be destroyed. That all obstructions to a uniform flow of the river at low water be removed. That the projections along shore be rounded off, and the hollows filled up. That the serrated edges of the river at low water be made plain, and continued along the whole line of low-water mark. That the width of the water-way, when the tide is at its lowest ebb, be not more than 140 yards from side to side; so that the river may run not only in a uniform current, but at a rate of no less than 225 feet per minute. That from low-water mark upwards the beach be so constructed that the shore may rise at about an angle of 3 degrees to 4 degrees with the horizon; or, in road-making language, of not less than one in sixteen, to facilitate the fall of the sewage into the bed of the river." He points attention to the fact, that insoluble sewage, being of a greater specific gravity than water, does not float, strictly speaking, but ever tends to sink and settle unless when kept in commotion, whereas it is believed by some to be specifically lighter than water, and at all events to float naturally in it or on its surface. The combustibility, the poisonous nature, and other properties of gaseous sewage, are dwelt upon, and means suggested for burning or otherwise getting rid of it. "If the retrogrades be destroyed," he remarks, "the mouths of the sewers trapped, and the sewage gases burnt, all cause of complaint of the atmosphere about the Houses of Parliament would cease;" and "a question would probably arise as to whether any drainage of London beyond the natural outcast power of the river would ever be required." The offensive vapours from manufactories on the south side, he adds, ought to be suppressed.

"THE BUILDER'S" SMOKELESS FIRE.—Everything in this oblivious world clearly runs in a circle. Ideas turn up, inventions are announced, discussed, and their merits settled, all in the press of the day, which then loses sight of them as they set in the unrecorded oblivion of the world's progress. Up they come again, however, at some future time, perhaps not far distant, and are treated of as something entirely new, in the very sphere of their previous notoriety, and again they go out of sight till the impression of familiarity fades, once more to go the circuit just as before. One would have thought, however, that "the *Builder's* smokeless fire" had so often met the eyes of newspaper conductors, in their own and many other columns, that some vague recollection at least would have even still recurred to their mind on such an occasion as an attempt to pass it off upon them once more as a novelty. Nevertheless, the daily press are now discussing the merits of this invention as if it were something not only not sufficiently tested by experience, but entirely new; whereas nothing has ever been more satisfactorily established already than the advantages, in many respects, of lighting household fires from the top, or, in other words, of "the *Builder's* smokeless fire.

PRESENT OF GOBELIN TAPESTRY TO THE BROMPTON MUSEUM.—Prince Napoleon has transmitted to the Committee of Council on Education a very interesting specimen of Gobelin tapestry, the subject being "Arria presenting the dagger to her husband Pœtus, after having stabbed herself." The work was commenced under Louis XVI. completed during the first republic, and bordered under the first empire. It was given, in 1807, to Jerome, King of Westphalia, by the emperor, his brother; and Prince Jerome gave it to his son, Prince Napoleon, to present to the Museum of Art at Brompton, as some proof of the interest which they both take in this museum. The money value is estimated at upwards of 2,000*l.*; but it is of far higher value as an evidence of friendly relations between the two countries, especially in the promotion of the arts.

FALL OF A HOUSE IN DUNDEE.—A house in the south-west corner of the High-street of Dundee, which has been for some time undergoing extensive repairs, suddenly gave way last week, and carried all the floors and joists down to the lower flat. Of nearly a dozen workmen engaged about the building, only four were injured, and only one very seriously hurt.

CONTRACTS WITH BUILDERS: THE WESLEYAN CHAPEL, AT LYNN.—In course of the legal proceedings in the case of Messrs. Purdy against the gentlemen forming the building committee of the new chapel at Lynn, the result of which proceedings (in an amicable and extra-judicial arrangement before they were fully completed) we gave on the 5th ult.; the judge made some remarks on the written contract, which it may be worth while to quote:—"It is especially provided (and it is an exceedingly valuable and important portion of this contract) that no extra work shall be done, and if done shall be charged for, *except under the written order of the architect*. What can be the meaning of that? The meaning of it plainly and obviously is that the committee shall have power from time to time to make such alterations and additions in the plans and specifications as they may find from the necessity of the case shall be expedient, and that there shall be a change accordingly in the amount of the contract money; but then they prudently say that no extra work shall be done, or, if done, it shall not be charged for, except under the written order of the architect; clearly, therefore, guarding themselves against the possibility of anything being done merely by the caprice of any individual of the committee, or of any person who may happen to come in and idly make suggestions to the contractor which he may consider, being made in the presence of the committee, are given by the committee. There is no provision here of any kind for any oral orders. Therefore, so far as one portion of the account is concerned, it is quite plain that it comes fairly within that provision."

EQUALIZATION OF THE POOR-RATES.—The unequal distribution of the poor-rates is at length pressing on the public attention, and various schemes are being brought forward for the settlement of the question. This is a subject which has been long in ripening, a sit were, into its present position, as a question of popular interest and discussion. The *Builder* has for many years advocated the equalization of the poor-rates. We observe, from some pamphlets of old date, that a veteran advocate in this just and equitable cause, is Mr. Thomas H. Willis, of Camden-town, who, so long ago as 1830, matured and published a scheme for the equalization of the poor-rates, county rates, and other taxes, and for the diminution of poor-houses and of pauperism, as well as the reduction of the poor-rates themselves by three-fourths of their then amount. Into the details of any one scheme we cannot here enter, but it would be well for those at present engaged on the discussion of such questions to revert, where they can, to what others have said and suggested on the same subject, perhaps before some of these our present young and active public men were born. A meeting of the Association for promoting the Equalization of the Poor-rates and Uniformity of Assessment throughout the Metropolis, was held on the 29th ult. at the Vestry-room of St. Andrew's, Holborn, for the purpose of considering a plan proposed by Mr. Ayrton, M.P. for partially equalizing the poor-rates. After some discussion, Mr. Ayrton's plan was negatived as not coming up to the mark; and it was resolved that a bill, framed by a committee of the association itself, should be submitted to some eminent counsel for his opinion.

PROPOSED LUNATIC ASYLUM, CARMARTHEN.—The counties of Carmarthen, Pembroke, and Cardigan, and the town and county of Haverfordwest, have united together for the purpose of erecting a Joint Lunatic Asylum, for which a site has been selected in the neighbourhood of Carmarthen, consisting of forty-seven acres of land. It was originally proposed to unite with these counties the county of Glamorgan, but great difficulty having been found in obtaining a sufficiently central position, it was ultimately determined that Glamorganshire should have a separate asylum. The names of three architects who had previously erected lunatic asylums, were proposed to the committee; and Mr. D. Brandon was requested to make plans for it, which have been approved of by the committee of magistrates for the joint counties.

SOMERSET ARCHÆOLOGICAL SOCIETY.—The second *conversazione* of this society for the season was held on 28th ult. at the Society's Museum, Taunton, under the presidency of Mr. R. G. Badcock. The meeting was numerously attended. Mr. J. Jeffrey, of Bath, gave a sketch of "A Walk round Lansdown," including the remains of an early British camp, two Roman camps and some earthworks, known as Waller's entrenchments. The Rev. A. C. Ainslie followed with a paper on "The Desert of Sinai," describing a personal journey he had made through the peninsula of Sinai.

BRIDEWELL HOSPITAL FOR THE CASUAL POOR OF LONDON.—Failing other efforts, it has been determined by the City guardians to place the whole circumstances before the ratepayers of the City of London in their several parishes; in order that if it be thought desirable by them to promote the claims upon Bridewell, and its surplus income for the relief of the casual poor, the necessary funds may be provided to obtain the final decision of the Court of Chancery on the subject. Should this not prove successful, it is hoped by those who are moving in it, that the guardians of the City Unions will revert, with the least possible delay, to their design to provide a *central* casual ward, or wards, in the City.

INSTITUTE OF BRITISH ARCHITECTS.—At the next ordinary meeting, to be held on Monday evening, the 11th, the following papers will be read:—"A few Notes on the Crannoges or ancient Lake Castles of Ireland," by Mr. M. D. Wyatt, honorary secretary; and "A Review of the Architecture and History of the Round Towers of Ireland," by Mr. Gordon M. Hills.

[ADVERTISEMENT.]

Foreign and Colonial Warehouse,
21, Lamb's Conduit-street, June 2, 1857.

GENTLEMEN,—We have great pleasure in stating that your Patent Shutters work exceedingly well, and have fully answered our expectations during the four years we have had them in use; and our surveyor (Mr. Herbert Williams), we have reason to know, has recommended them elsewhere.—We are, Gentlemen,

Your obedient Servants,
THOS. NUNN & SONS.

Messrs. CLARK & Co.,
15, Gate-street, Lincoln's-inn-fields.

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For building a Music-hall, High-street, Islington. Quantities supplied by Mr. Curtis. Mr. Bracebridge, architect:—

Wilson	£1,776	0	0
Batchelor and Ombler	1,709	0	0
Lemon	1,683	0	0
Case	1,660	0	0
Raby	1,597	0	0
Glenn	1,580	0	0
Bonell	1,567	0	0
G. Todd, jun.	1,545	0	0
Jarvis	1,540	0	0
Soper	1,520	0	0

For alterations and additions to House, at Lee, for Mr. T. M. Riley. Mr. E. I'Anson, architect:—

Todd	£959	0	0
I'Anson	946	0	0
Macey	920	0	0
Knotley	888	0	0
Ryder	820	0	0

For two Houses adjoining the New-street, Shoreditch, exclusive of plumbing, painting, glazing, &c. Mr. William Reddall, architect. Quantities not supplied —

Scott	£915	0	0
Heath and Son	760	0	0

For the erection of a Farm Homestead, and for additions, &c. to a Farm-house, &c. at Lolworth, Cambs. Mr. Robert Hutchinson, architect:—

	Homestead.			House.		
Naylor	£1,127	0	0	£418	0	0
Mills and Son	1,092	0	0	393	0	0
Thackeray and Son	1,085	0	0	334	0	0
Bunting	1,035	0	0	389	0	0
Piggot and Ingle	1,026	0	0	438	0	0
Gray and Son	998	0	0	375	0	0
Oates	995	0	0	378	6	0
Johnson and Feast	983	0	0	375	0	0

TO CORRESPONDENTS.

WORMS AND WOOD LICE IN WORK.—We have frequent inquiries on these subjects, and little time to refer to what has already been said in our columns on the subject. Perhaps some one may be able to inform our inquiring correspondents how to prevent the inroads of such pests, or how to kill them while at their destructive work.

E. B.—G. T. Jun.—W. F.—T. E.—M. B.—S. P.—R. H. S. J. W.—W. E. B.—J. W. B.—J. D. (we are afraid we must decline).—W. G. (forestalled).—W. H.—H. C.—W. L. E. (declined with thanks).—R. F. (shall have attention).—J. D. A.—B. B. S. H. (received number). Messrs. B.—E. J. P.—J. M.—J. T.—H. C.—W. R.—D. B.—Mr. P.—J. J. L.—Veritas.—Mr. M.—Mr. H.—W. W. (we cannot afford the space necessary: apply to some work on chemistry, or to a practical chemist for the ready-mixed article, which is cheap and abundant).—F. C. M.—E. A.—Military Engineering (in type).—R. G. (qy. in already).—E. A. [illegible] W. jun. (Index will be found in present number).

"BOOKS AND ADDRESSES." We are forced to decline pointing out books or binding addresses.

ADVERTISEMENTS.

LOCAL BOARD of HEALTH, KINGSTON-UPON-HULL.—SURVEYOR WANTED.—Notice is hereby given, that the Local Board of Health of Kingston-upon-Hull intend to meet after the 12th day of JANUARY, 1858, to ELECT a SURVEYOR to the said Board, under the provisions of the Public Health Act 1848. The salary will be 400*l* per annum. The Surveyor will be required to be practically conversant with sewerage works, engineering and levelling, and be able to draw, make, and carry out plans for the same, and be ready or qualified to test materials and pieces of work. He will be required to devote his time to engage in any other practice or business whatever, without the permission of the Board, and his whole time will be considered as engaged by the Board. His appointment will not be absolute until he shall have obtained the approval of the General Board of Health in London, at the request of the Local Board. Candidates are requested to send in written applications, with testimonials of qualification and ability, under seal, addressed to "The Clerk of the Local Board of Health, Hull," on or before FRIDAY, the 15th day of JANUARY, 1858. By order,

ROBERT WELLS, Clerk to the said Board.

Hull, December 23, 1857.

THE WARRINGTON GAS-LIGHT and COKE COMPANY.—MANAGER WANTED.—The Directors are prepared to appoint a MANAGER, who must combine a practical knowledge of, and experience in, all the details connected with the making and supply of gas, and book keeping relating thereto. The salary will be 150*l* per annum. Satisfactory security will be required. Applications in writing, under seal, with testimonials, must be addressed to the Directors, on or before the 14th day of JANUARY, 1858, under cover, to Mr JAMES BARRATT, Solicitor, Warrington.

Warrington, December 18th, 1857.

WANTED, by a Timber Merchant, in a country Town in Lincolnshire, where a steam saw-mill is attached to the concern, a MARRIED MAN, as SALESMAN, BOOK-KEEPER, and GENERAL MANAGER. One who has filled a similar situation preferred. A house (rent free), on the premises. None need apply who cannot produce unquestionable testimonials and security. Apply, by letter only (stating terms and particulars), to A. Z. Mr. Noble's, Bookseller, Boston, Lincolnshire.

WANTED, a WORKING FOREMAN, in a joiners' shop—a steady, active man,—who thoroughly understands the business—Apply personally, or by letter, stating age, terms, and previous employment, to J. BULL, Builder, Southampton.

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TO ARCHITECTS AND OTHERS.

WANTED, a RE-ENGAGEMENT, as CLERK of WORKS, or as a Builder's Superintending Foreman, by an efficient and thorough practical man, having just completed extensive public works, with the highest references.—Address, J. R. Mr. J. Lyon, 22, Princes-street, Storey's gate, Westminster.

WANTED, by a Young Man, a SITUATION as THREE-BRANCH HAND, and make himself useful in Gas-fitting or Zinc-work.—Direct J. W. 2, Byron-street, Blandford-square.

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WANTED, a SITUATION, by a DRAUGHTSMAN, who is competent to prepare fair and working drawings. Understands perspective, and the general routine of office work. Reference good. Many years' experience. Salary moderate. Address, A. M. Office of "The Builder."

WANTED, by a JOINER, of good experience, EMPLOYMENT, as STAIRCASE, or LEADING HAND in a SHOP where first-class work is done. Can set out work of any description. Good references given. Address, B. C. Deacon's News-room, 154, Leadenhall street.

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THE Advertiser, aged 23, requires a SITUATION; has been six years in the business, and fully understands the routine of the office; can take out quantities. Salary not first consideration.—Address, B. A. Office of "The Builder."

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THE Advertiser, who has been six years in the architectural profession, and is a good DRAUGHTSMAN, is desirous of entering into an ENGAGEMENT with a builder in good business, with a view to obtaining more experience in the practical part of the architecture.—Address, A. B. D. care of Mr. Ridsdale, 1, Wakefield-terrace, Caledonian-road, N.

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CLERKSHIP WANTED, in the Country, in either of the above capacities, perfectly acquainted with time, abstracting prime cost, material, &c. References of the highest order.—Address, A. B. care of Mr. Town, grocer, Londonderry road, Camberwell.

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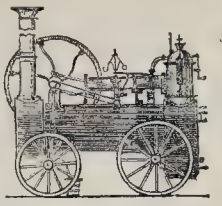

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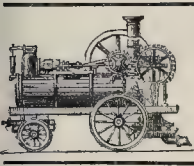

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3 ,,	ditto 3	or cast iron	2 8 0
3½ ,,	ditto 3	flanged pipe,	2 12 0
4 ,,	ditto 3	as required.	3 3 0
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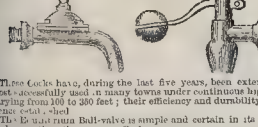

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BLOOMSBURY STAINED GLASS WORKS, 38, Bedford-square, London, W.C.—ALEXANDER GIBBS and COMPANY, Practical Artists in Stained Glass, and Ecclesiastical Decorators, beg to the attention of the nobility, clergy, architects, &c. to the facilities afforded by their long practical experience in every branch connected with the above art, and respectfully solicits the favour of a personal visit to their show-rooms, to inspect their large and varied selection of Cartoons and Water Colour Designs for Church and Domestic Windows. Designs and Estimates forwarded, on application, to all parts of the kingdom.

SHEET WINDOW-GLASS.—16oz. of good glazing quality, flat and clear. Sold by the undersigned, in cases, containing 200 square feet each up to size 44 by 26, at 45s. the case—for cash payment only.—Apply to EDWARD DRIVER, 18, Cullum street, Fenchurch-street.

E. and W. H. JACKSON supply PATENT PLATE, BRITISH PLATE, ROLLED PLATE, CROWN, SHEET, COLOURED and ORNAMENTAL GLASS, in every variety, of the best manufacture, at the lowest terms. WHITE SHEET and WHITE PATENT PLATE, English manufactured. The best articles ever produced for drawings, prints, and all purposes where perfect absence of colour is a requisite. All applications for estimates and lists of prices to be made at their Warehouse, 315, Oxford street, W.

WINDOW GLASS.

THOMAS MILLINGTON'S REDUCED PRICES

SHEET GLASS, fourths, very superior, in 100, 200, or 300 feet cases, at 15s. per 100 feet, or about 1½d. per foot

Ditto, thirds ditto, at 18s. 6d. ditto, or 2d. ditto.

Ditto, seconds, ditto, at 23s. ditto, or 2½d. ditto.

Ditto, firsts, ditto, at 42s. ditto, or 5d. ditto.

Boxes of 100 feet each, at 10s 12s 14s or 16s. according to size.

21oz. 26oz. 32oz and 42oz. in various qualities

Also, CRYSTAL SHEET GLASS

16oz. and 21oz Ground, Matted Glass of various patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

COLOURS, VARNISHES, &c.

Genuine White Lead, 24s.; seconds ditto, 22s. per cwt. Linseed Oil 2s. 6d.; Boiled ditto, 2s. 10d.; Turpentine, 3s. 6d. per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 24s. per gallon. Dry and Ground Colours, Brushes, &c.

The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.

LIFT PUMPS AND PUMPS FOR DEEP WELLS. PLAIN AND SUNK HANDLE WATER-CLOSETS.

Cocks and Valves of every description

Milled Sheet Lead and Pipe of all sizes; Old Lead bought or taken in exchange

T. MILLINGTON, 87, Bishopsgate street Without, London.

Established upwards of One Hundred Years.

THE COSMOPOLITAN GLASS COMPANY.

HELY and WARING, Managers;

296, OXFORD STREET, W.

The Cheapest and most Varied Stock of PLATE, CROWN, SHEET, CRYSTAL, and ORNAMENTAL WINDOW GLASS.

Tariffs of Prices free.

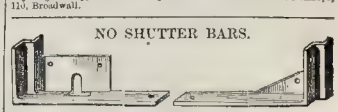
PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, 14, Stafford row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN STREET, Lincoln's-inn-fields. Estimates given for the Inlaying of Pulpits, Reredos, Fonts, &c. &c. Translated Pavements, with Patent Tesserae. The New Transparent Glass Mosaic. Descriptive circulars on application.

N.B.—56, GREAT QUEEN STREET, LINCOLN'S-INN.

A HANDSOME PLATE-GLASS DOUBLE SHOP FRONT, FOR SALE, with Brass Name Plates, outside Gas Lamps, complete. Was a Jeweller's.—Apply immediately, at No. 12, Cheapside.

J. MILLS (late Shop Foreman to Messrs. Lawrence and Sons), JOINER to the TRADE, 7, Princes-street, Stamford-street, Lambeth. Shop fronts, fittings, staircases, &c. Well-seasoned materials and superior workmanship, at the lowest possible prices. A quantity of doors and sashes always in stock.—By enclosing a postage-stamp, a full list of prices will be returned.—Workshops, 110, Broadwall.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London. Estimates for ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depot, Holland-street, Blackfriars road.

WEST and HUBBELL'S PATENT "OAK HALL" WINDOW, combining Sliding and Folding Sash. This improvement obviates the difficulties which have before existed in making French or folding sash weatherproof. They are also constructed so that they can be swung open, and raised or lowered, simultaneously. Among their advantages are the following:—

1. They are cheaper than French casements, and are free from the liability to rattle or shake; when closed they are entirely air-tight and weather proof
2. They require no box heads
3. Perfect ventilation can be instantaneously effected without exposure to draught.
4. They dispense with the use of French bolts or fastenings.
5. In short, they are elegance, convenience, economy, and utility, combined, as there is no portion of the sash which cannot be brought within distance for cleaning or reglazing

Licenses granted for the premises upon application, post paid, to CLEM. L. WEST, and T. B. HUBBELL, Architects; care of T. BRETTELL, Esq. 25, Rupert street, Haymarket, London. A model may be seen at 25, Rupert-street.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

S. A. JEFFS,

48 and 49, Cornwall-road, Stamford-street, Lambeth, S.

N.B. Price-list on application.

ENGINES for SALE.—TWO 8-horse power high pressure, horizontal STEAM ENGINES, 10-inch cylinder, 16-inch stroke, with boiler and connections complete, quite new, of excellent manufacture, and to be Sold on moderate terms.—To be seen at Messrs. C. D. YOUNG and CO.'s, 19, Great George-street, Westminster, S.W.

PATENT

SOLID PARQUETERIE,

for floors, walls, and furniture (inch thick is. per foot), as used by the eminent architects, Sir Charles Barry, Messrs. Burn, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice"—Tunes, May 29.

ARROWSMITH,

No. 89, New Bond-street.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, 104, New Bond-street, and 3, Queen-street, Cheapside, London, submit the following PRICES of WINDOW BLINDS, which they can recommend as being made in the best manner:—Venetian Blinds, per square foot, 9d.; best Holland blinds, on rollers, 6d.; best ditto, on spring rollers, 8d.; gauze wire blinds, in mahogany frames, 2s.; perforated zinc blinds, in ditto, 1s. 10d.; outside blinds of striped cloth, 2s. Transparent blinds in great variety. Engravings, with prices and discounts to builders and the trade forwarded on application, post-free

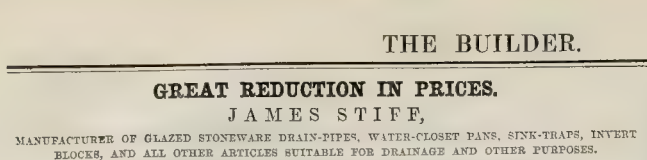
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's acre, Westminster-bridge-road; City road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's road, Camden town.

Messrs. COLES, SHADBOLT, and CO'S. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.

Messrs. RITCHIE and SMITH'S, Ranelagh Wharf, Greenwich.

Mr. LAVERS'S, Dorgate Wharf, Cattle-st., Hoxton.

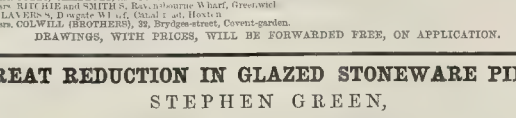
Messrs. COLWILL (BROTHERS), 32, Brydges-street, Covent-garden.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.



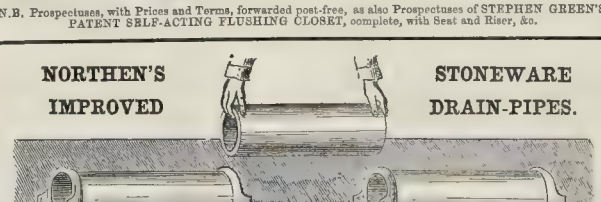
S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect an other drain, as every alternate pipe can be taken up without interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and superiority of easy access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than Brick Flues. By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE-DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices:—

¾-inch prepared Flooring	£0 11 6	per square.
Inch ditto	0 15 0	per square.
Yellow Battens	11 10 0	per 120.
Spruce Deals, from	0 2 9	each.
Fine ditto, from	0 3 0	each.
Yellow ditto, from	0 3 3	each.

Mahogany, in logs and planks, from 5½d per foot.

All Sawn Goods delivered three miles free of cartage.

Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

TO BUILDERS, CABINET-MAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾ Prepared Flooring	12s.	per square.
Inch Yellow ditto	17s.	,, ,,
¾ Ditto ditto	14s.	,, ,,
Good Yellow Battens	19/	10s. per 120.
Spruce Deals	18/.	,, ,,
Fine Planks	21/.	,, ,,
Yellow Battens	11/.	10s. ,, ,,

Mahogany, in logs and planks, from 5½d per foot.

A sawn goods delivered within three miles free of cartage.

ALFRED CARTER, Old Bethnal green-road, N.E.

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory (the first of the kind ever established), a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from 5-inch to 1¼-inch thick, in White or Yellow Deal, Oak, or Pitch Pine, Also Dry Deals, in all thicknesses, Sliding Battens, Panelled Lining, Oak Sills, Plank, and Scantlings. Mouldings in any Wood or Pine, to any design. A pattern list forwarded on application.—Address, E. SIMMS, Flooring Manufactory, and Sawing, Planing, and Moulding Mills, Kings-road, Chelsea.

ALFRED ROSLING begs to inform his Customers and the Building Trade generally, that he is enabled to allow a discount of 15 per cent. upon his list prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.

PREPARED FLOORING! PREPARED FLOORING!!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	¾	1	1¼	
Spruce	12s.	14s.	15s.	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	17s. ,,
Yellow	13s. 8d.	14s. 6d.	16s. 6d.	18s. 6d. ,,

Delivered within three miles free of cartage.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

SEASONED MAHOGANY, WAINSCOT, ASH, and BIRCH.—JOHN COUMBE solicits an inspection of his large STOCK of perfectly SEASONED DRY WOOD, which he is selling at prices generally charged for wet.—Address, Wood-Seasoning Works, Lady Lake's grove, Mile-end gate.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Walton-road, Pimlico, to the KING'S-ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor street.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned, and ready for use; also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes. Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton road, Pimlico.

DRY WAINSCOT in BOARDS and PLANKS.—Several Stocks of dry, well-seasoned WAINSCOT, cut between three and four years, FOR SALE, at Messrs. TUELY and CO'S. Mahogany Merchants, Bridge Wharf, City-road.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their last prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5d.; ¾-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ do. 11s. 6d.; 1 in. Yellow, 16s. 6d.; ¾ do. 12s. Bird's-eye Maple Veneer, 5d. Cottage free to any part of town.—T. FORMAN, 1, Walnut-tree-walk, Walworth-place, Lambeth, S.

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to

E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S-ROAD, CHELSEA.

ACORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge-street, Old St. Pancras-road.—GEORGE NORRIS and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash:

¾-inch white, 12s. 6d. per square; ¾-inch white, 15s. per square; 1 inch white, 18s. per square; ¾-inch yellow, 13s. per square; ¾-inch yellow, 16s. 6d.; 1-inch yellow, 20s.

Yellow Deals, planks, &c. at the lowest remunerative prices. A liberal discount allowed on mouldings forexported. Books of designs forwarded on application.

LETTS'S WHARF PATENT SAWING, PLANING, and VENEER KNIFE-CUTTING MILLS, Commercial-road, Lambeth. The Proprietors beg to draw the attention of the Trade to their newly-adapted DEAL CUTTER, for the manufacture, and will be happy to execute all orders entrusted to their care with despatch and punctuality. Wet and dry docks, and powerful cranes for loading heavy goods, offer facilities not to be found elsewhere.

A LARGE ASSORTMENT OF SEASONED PREPARED FLOORING, MATCH BOARDING, &c. &c. ALWAYS IN STOCK AT REDUCED PRICES.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter, received respecting the Gutta Percha Tubing for Pump Service, which will state with much satisfaction, it answers perfectly. Many Builders and other persons have lately examined it, and there is not the least appearance of decay since the first laying down, now six years, and I am informed that it is to be adopted generally in the houses that are being erected in.

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pump to give one hundred per cent. of duty, and render all engineering in the pumps a matter of impossibility.—Prospectuses, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and HOW, 66, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET RINGS, for Hot-water-pipes. Vulcanized Rubber Door-springs, and Sash Hom. Rubber Cord of all sizes of any length. Rubber Cloth, Sheet and Rubber Strips cut to any pattern for bagatelle tables.

Diving dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows, and Cushions, inflating Portable Baths, Invalid Cushions, and Articles of the kind made to any pattern to order.

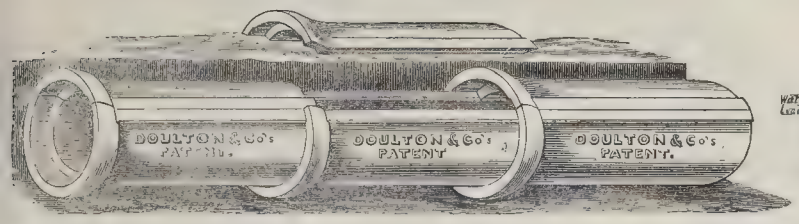
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell Mews, Goswell road, London.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Mortars and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.—H. PIGGOTT, 115, Fore-street, City. Manufacturer by appointment, to her Majesty's Honourable Board of Ordnance.

DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without disturbing any Part of the Invert of the Drain, or lessening its Capacity.

SOCKET JOINTS.



The intention of these Pipes is to afford those who desire it an opportunity of examining and cleansing them; and, unlike all other contrivances for this object, the entire length of pipe may be thrown open without any accompanying disadvantage.

The thickness and strength of the Pipes are increased by two ribs running lengthways, through which a partial division is effected in the process of manufacture, both internally and externally, leaving sufficient material to preserve strength and soundness. The Pipes are thus fired in one piece, and perfect accuracy of form is secured. By the insertion of a chisel at the ends, the upper pieces may, at any time, be detached without the slightest risk, and afterwards replaced, so as to form a perfect and accurately-fitting cover; or the lids can be removed when the Pipes are laid, and the Drain tested as to its fall, and the accuracy of the joints before they are replaced. Made with sockets, or with butt joints and chairs.

ADVANTAGES.

I. The Pipes may be laid whole, as ordinary Socket Pipes, and the covers need only be removed should necessity arise.
II. On the removal of the lids the Drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication which would allow either the escape of the liquid contents of the drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part, or cover, being fired in one piece with the pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. PERFECT TRUTH OF FORM IS SECURED, AND INCREASED STRENGTH OBTAINED.
VIII. SIMPLICITY OF CONSTRUCTION, and consequent CHEAPNESS.

MANUFACTURED BY HENRY DOULTON AND CO.

Offices: High-street, Lambeth, London.——Manufactories: High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,

LAMBETH POTTERY,

LONDON.

Price 6s. 6d. each.

BOURNE VALLEY POTTERY, NEAR POOLE, DORSET.

DEPOT, 8, BELMONT-PLACE, NINE-ELMS, LONDON.

EXTENSIVE REDUCTION IN THE PRICES OF SALT-GLAZED STONEWARE DRAIN-PIPES, FLUE-PIPES, BENDS, JUNCTIONS, CLOSET PANS, &c. &c.

The Proprietors of these Works are prepared to supply the various and improved drainage, &c. in any quantities. These pipes, &c. are made of the best clay by as first and experienced workmen, and with the most perfect machinery, at Lytes's thoroughly verified as to prevent the possibility of the accumulation of any Lead. They will be found superior, in all respects, to all the best goods manufactured in any part of the kingdom.

A list of prices, and any information required, may be obtained on application to the Manager, Mr. T. BOUNSALL, Bournemouth, near Poole; or of Mr. BROWN, at the Depot.

KINSON CLAY, POTTERY, AND BRICK COMPANY, LIMITED.

MANUFACTURERS OF EVERY DESCRIPTION OF SANITARY GLAZED SEWAGE-PIPES, CLOSET-PANS, FURNACE-BLOCKS, FIRE-BRICKS, GAS-RETORTS, CRUCIBLES, &c.

THE POTTERY is situate about a mile and a half from the town and port of Poole. It is worked by steam power, and the pipes are made of the most approved patent machinery, and will bear favourable comparison with any manufactured in the kingdom. The fire-bricks have been tested, and are found fully equal in all respects to those last manufactured for the Dowlais Works, South Wales. All articles are made from the clays and materials found on the estate. There is an inexhaustible quantity of all descriptions of Dorsetshire clay used for pottery purposes, which may be shipped at the Stadsbrook, Brownsea Quay, and Hamworthy Docks, upon moderate terms.

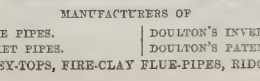
*** Lists of Prices, and all other information, will be supplied upon application to Mr. GILBERT E. MITCHELL, Manager, at the Works; or to Mr. JOSEPH COX, 1, 2, and 3, High street, Lambeth.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S,

STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

LAMBERT'S SELF-REGULATING and SELF-ACTING ENAMELLED IRON CLOSET PAN.

FIG. 18.

This arrangement consists of an Enamelled Cast-iron Basin and Syphon Trap, supplied by a Lambert's Patent Self-regulating Valve, bolted to the basin, adjusted so as to deliver any quantity of water required at each action of the seat, it is the cheapest, most durable, and efficient self-acting water closet yet produced, requiring no reservoir or intermediate cistern, the valve itself measuring at each action of the seat a given quantity of water into the pan.

Price complete, with enamelled iron syphon trap, 45s

Titos LAMBERT and SON, Patentees and Sole Manufacturers of their Flexible Diaphragm Water-valves, Cottage Closet-valves, &c. Short-street, New cut, Lambeth

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes

3 in.	4 in.	6 in.	9 in.	12 in.	15 in
2½d	3½d	5½d	9d.	1s. 3d.	per foot

Samples may be had at Falcon Wharf, Bankside and at Harrow Bridge Wharf, Stratford, Essex

Stoneware Pipes, Cemented &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

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PAPER-HANGINGS. — The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CROSS'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment

SALES BY AUCTION.

TO ENGINEERS, MACHINISTS, MILLWRIGHTS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs Munro to SELL by AUCTION, on MONDAY, JANUARY 18th, 1858, and following day, at ELEVEN o'clock, at the EAST-LONDON IRON-WORKS, Canning-road, Millend, in lots, without reserve, the superior MACHINERY and TOOLS of an Engineers' Factory, principally by Smith Beacock, and Tunnett, and other eminent makers, including: two self-acting planing machines, to take in respectively 18 inches and 24 inches in width, self-acting screwing machine, a 24-inch centre self-acting surfacing lathe, with 5-feet plate, one each 12-inch and 15-inch self-acting screw-cutting lathe, 11 feet 6 inches, and 18-feet bed; two 6-inch self-acting lathes, pattern makers' lathe, 6-foot lathe, powerful self-acting drilling-machine, three wall drilling machines, 6-horse high-pressure steam engine, with Cornish boiler, a new 14-inch horizontal steam-engine nearly complete, 26 feet shafting, fifty riggers and drums, fifty leather bands, a new bugle-cutting machine, a new tobacco engine, circular saw-bench, 18 cwt. steel tools, six pairs hand-stocks, vices, taps and dies, radial brace, benches, work benches, quantity of new teak boxing, centre of construction, hooks and falls, four forges and bellows, anvils and smiths' tools, 10 tons rod and bar iron, scales and weights, 8 dozen files, cwt. bolts and nuts, 6 cwt. cast and shear steel, grindstones, quantity hornbeam plank, benzarus, a large assortment of patterns, and numerous other effects. To be viewed on Saturday previous to the sale (the machinery in motion). Catalogues may be had on the Premises; of PERKINSON, Co. Offices, Assignees' Chambers, E.C.; and of Messrs FULLER and HORSEY, Billiter-street, E.C.

A Pair of Thirty-horse-power Steam-engines, and Three Four-feet Fan Blast Machines.

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs. Muste, Engineers, to SELL by AUCTION, on MONDAY, the 18th of JANUARY, 1858, at TWELVE o'clock, at the EAST-LONDON IRON-WORKS, Cambridge-road, Mile-end, in Four Lots, a PAIR of LOW-PRESSURE, EXPANSIVE, and CONDENSING UPRIGHT STEAM ENGINES, in course of manufacture by Messrs Muste, and nearly complete. The engines are equal to 30 horse power each, with 24 inches diameter, 30 inch stroke, slide valves, one lever air pump, and massive cast-iron framing, the total weight of cast-iron being about 40 tons. The purchaser shall be entitled to copies of the drawings and specifications. Estimate for the completion of the engines, irrespective of the fixing, amounts to 725l. The engines are from the design of an eminent engineer, and the workmanship of the whole is of the best description. Also will be sold Three Four-feet Fan-blasts, with cast-iron cases. The engines may be viewed at any time by special order of the Assignees, and the machinery will be ready for trial by the 1st of March. Further particulars may be had of P. JOHNSON, Esq. Official Assignee, Basinghall-street, E.C.; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

CHURCH ROAD, HOMERTON, opposite the Alma Tavern, five minutes' walk of the Victoria Railway Station

R. G. IBBETT is instructed to SELL by AUCTION, at the MART, Bartholomew-lane, at ONE o'clock, on WEDNESDAY next, JANUARY 13, in TWO LOTS, the unexpired term of 97 years' lease, less seven days, Lot 1 being the well-built CARCASES of TWO six-room COTTAGES in course of finish, the doors, sashes, and under-floors being attached, the value of 40l per annum when finished, at a ground-rent of 6l. Lot 2. Two other lots adjoining, planted similar, and built to the first story, ground-rent of 5s. to be continued and paid. May be had of the Solicitors, Messrs. LEWIS and SON, Wilmington-square, W.C.; at the Alma Tavern, Homerton; and at R. G. IBBETT'S, the Auctioneer, 11, Bridges-street, Strand.

TO BUILDERS, CONTRACTORS, AND OTHERS.—Notice of Sale under Bankruptcy

MESSRS. NICHOLSON and SONS have been favoured with instructions from the Assignees of Messrs Sanders and Webb, to SELL by PUBLIC AUCTION, on the PREMISES, Brandon mews, Guilford-street, Russell-square, on TUESDAY, JANUARY 12th, 1858, and two following days, at ELEVEN o'clock each day, the whole of the BUILDING MATERIALS, UTENSILS and STOCK IN TRADE, comprising well-seasoned prime clean yellow, white, and pine deals, boards, and planks; wainscot and mahogany; scaffolding, blocks and falls; joiners' benches, cramps, workmen's tools, desks, tables, &c.; a deal frame slate-cutting machine, and a mortising machine, glass tanks for aquaria, a forty light gas-meter, with iron piping and burners; ironmongery, and weights, &c.; a one-horse spring cart, with patent axles, two block ditto, and two trucks, and sundry other effects.—On view two days preceding the sale; and catalogues obtained of WILLIAM POWELL, Esq. Official Assignee, 5, Bucklersbury, Basinghall street; of Messrs. J. and W. SHEFFIELD, Solicitors, 68, Old Broad-street, City; on the Premises, Brewster-mews; and at the Auctioneers' Offices, High street, Wandsworth, S.W. Catalogues, 1s. each, which will be returned to purchasers.

DOVER, KENT—To ENGINEERS, CONTRACTORS, and OTHERS

MR. W. JACOBS has been honoured with instructions from Mr. Joseph Diggle, to submit by PUBLIC AUCTION, at the CONTRACTORS YARDS, Princes-street, Dover, on THURSDAY, FRIDAY, and SATURDAY, the 21st, 22nd, and 23rd inst., his contract for works at the fortifications of Dover Castle, consisting of scaffolding, boards, planks, trucks, and timber, A. A.; thirteen very useful draught horses, carts, waggons, &c. A new 12-horse portable engine, with pull-stone and machinery for grinding, and superior machinery for working chalk; also the Office and Counting-House in the Office of the Auctioneer, 4, Townwall-street, Dover; and at the Bull Inn, Maidstone; Rose Inn, Canterbury; and Commercial Hotel, Ashford.

CARRARA WHARF, PIMLICO.—First Arrival Sale of Marble, suitable for Sculptors, Mantle Makers, and Builders

MESSRS. EVERSFIELD and HORNE are instructed by D. Fabbricotti, esq. to SELL by AUCTION, on the PREMISES, Carrara Wharf, near Vauxhall Bridge, Pimlico, on WEDNESDAY, JANUARY 13, at TEN for ELEVEN, an extensive assortment of MARBLE BLOCKS, comprising strong, shelf lumps, and blocks, and slabs of white statuary and good second, purple veined bastard statuary and other coloured marbles. Also 6,000 feet of English and Italian sawn slabs, and other useful materials for terraces and gardens, well-executed monumentals, &c.

N.B. The credit will be as heretofore, viz. six months for blocks, and four months for slabs, to be viewed three days prior to the sale, and catalogues had on the Premises, and of the Auctioneers, 4, Parliament street, and Coal Exchange.

BUILDING MATERIALS.—Essex Wharf Strand

MESSRS. EVERSFIELD and HORNE are instructed by Mr. H. R. Abraham, architect to the Honourable Society of the Middle Temple, to prepare for SALE by AUCTION, during the present Month, the MATERIALS and FITTINGS of the CHAMBERS and PREMISES, Essex Wharf, comprising valuable sound timber roofing and flooring joists, rafters, and other fittings; slates of two and a-quarter and three inches lead, brass work, and other effects. To clear the site for the new library — 40, Parliament-street, Jan. 4, 1858.

TO BUILDERS, CARPENTERS, CABINET MAKERS, AND OTHERS

MR. LEREW will SELL by AUCTION, on the PREMISES, 42, Union street, Somer's town, on MONDAY, JANUARY 18th, at TWELVE, about 15,000 yards of white deal and spruce PLANKS, DEALS, and BATTENS, 7,000 feet inch pine boards, 100 squares of 1 in. 2 inch and 3 inch flooring, 8,000 feet sawn lime dry oak stuff, 1,000 cubic yards of rough and rubble stock.—May be viewed on Saturday prior to and morning of sale, and catalogues had on the Premises, and of the Auctioneer, Cardington street, Hampstead road, near the Euston station.

KNIGHTSBRIDGE.—Extensive Sale of Building Materials.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, in Wilton-place, on MONDAY, JANUARY 18, and two following days, at ELEVEN for TWELVE o'clock, the excellent MATERIALS of the principal portion of the spacious gallery recently built for the Chinese Exhibition, a coach factory, school rooms, and dwelling house with its palisadings and gates in Wilton place, together with the numerous outbuildings, forming the barrack yard, including stabling for thirty horses, loose boxes, seventeen lock-up coach-houses, a beer-shop, and various tenements and sheds, to be cleared away for the erection of large residences and schools, next St. Paul's Church. May be viewed 2 days prior to the Premises, of Messrs. HAINES and SON, Auctioneers, Moorgate-street; and at the Auctioneer's Offices, No. 12, High street, Kensington, and Grosvenor-street West, Eaton-square, S.W.

SALES BY AUCTION.

To Builders, Timber-merchants, Carpenters, Packing-case Makers, Dealers, and Others - New Deals, Timber, Pine Planks, Deals, Battens, &

MR. F. HALL will SELL by AUCTION, on WEDNESDAY, JANUARY 13th, at TWELVE for ONE, on the PREMISES, Russell-street, Westminster, opposite Charter House, 1,200 DEALS, 3-in. cut and mixed, 20-dry pine planks, cut to various thicknesses, 150 squares of 1 and 2 prepared floor battens, 400 deal ends, several lots battens, 150 pine slabs, suitable as a wall or quartering, spruce deals, and other effects, now lying on the Premises; and of Mr. F. HALL, Auctioneer, Chester street, Kennington

TO ENGINEERS, IRON and BRASS-FOUNDERS, and SHIPSMITHS.—TO BE DISPOSED OF, by PRIVATE CONTRACT, the LEASE of commodious PREMISES, situate at the east end of London, together with the valuable MACHINERY, IMPLEMENTS, and PATTERNS. The business has been established about twenty-five years, and in addition to the general engineering trade has a large connection among shipbuilding establishments, for the manufacture of anchors, chain cables, &c., and is in the most full and prosperous state. The returns are from 5,000 to 6,000 per annum. The present proprietor would be willing to take a partner to an equal share, or, as his health is rather impaired, would be willing to dispose of the entire concern. About 4,000 or 5,000 would be required for this purchase, a portion of which might remain on mortgage.—For further particulars, apply to Messrs FULLER and HORSEY, Billiter-street, Fenchurch-street, City, E.C.

FREEHOLD BUILDING GROUND.—TO BE SOLD, a PLOT of eligible BUILDING GROUND, containing 2 acres, with a frontage of two hundred feet to the Westbourne terrace West Road, Bayswater, adjoining the Paddington Cemetery, and close to the Paddington and Kensington Stations. The situation is one of the most healthy and desirable in the neighbourhood of London, and the land is of excellent quality for building purposes. Apply to Messrs. POOLE and MACILWRAY, Estate Agents, 24 and 25, Princes street, Cavendish-square, W.

SMALL HOUSES to BE LET on REPAIRING LEASES.—The Trustees of the Christ Church Charity Schools are ready to receive APPLICATIONS for REPAIRING LEASES for sixty-one years of THIRTY-SIX HOUSES, situate in Peter-court, Little Queen-street, Holborn, and Star Place. The Leases will be required to be taken of such property in equal portions, and certain sums will be allowed to the Trustees towards the repairs of three of the Lots. Sealed Tenders in writing, may be sent to the Office on or before TUESDAY, the 19th JANUARY.—Printed particulars, and a plan of the premises, and the specimen of repairs to be executed, and the draft of the proposed Lease, may be seen at the Office as under

J. & W. MEYMOTT, Solicitors to the Trustees.

5, Albion-place Blackfriars-road, 1st January, 1858

YORK-ROAD, LAMBETH.—TO BE LET, extensive PREMISES, with four horse power steam-engine, suitable for a manufactory, or builder's workshops. The steam for the engine supplied to the tenant at a moderate charge.—Inquire on the premises, York Road Sawing Mills, Lambeth.

FREEHOLD LAND TO BE LET, on Building Lease for ninety-nine years. Money advanced to responsible parties. Eligible Land to be sold for building purposes in eligible situations.—Apply at the Offices of Messrs. MORGAN and PHIPSON, Architects, 3, Danes-inn, St. Clement's, Strand.

THE BRITISH and FOREIGN MARBLE GALLERIES, 7, Newman-street, Oxford-street. EDWARDS, EDWARDS, and SON, Marble and Stone Merchants, Sculptors, and Importers of EXPERIENCED MANUFACTURED STOCK of CHIMNEY PIECES in London. Every assortment of Marble, British, Foreign, and Colonial, for Building purposes, Monumental Works, Tablets, and Sculpture. Chimney-Pieces in Black, Black and Gold, Buhl, Boulle, Sienna, Verde Antique, Porphyry, Red, St. Anne's, and Statuary Marble, suitable for Dining Rooms, Libraries, Vestibules, and Entrance-Halls; and a great variety of others in Veined Sienna, Egyptian, Italian, and Antique Marbles, for Boudoirs, Breakfast-Rooms, Bed and Secondary Bed Rooms, &c.; also, Monuments, Busts, Tablets, and Pedestals for Busts and Statues, and Slabs for Cabinet Work, &c.; the whole executed from the most classical designs, and in all the new and recherché Italian and British Marbles at the lowest remunerative prices.

BUILDERS, ARCHITECTS AND MASONS.

MARBLE.—The ITALIAN MARBLE COMPANY beg to call the attention of Architects, Builders, and Others connected with the trade, to their large and well-selected STOCK of VEIN, SICILIAN, and other MARBLES. The liberal system of business adopted by this company, the superior quality of their Marble, and their very moderate scale of prices are combined, to form an inducement to buyers. An inspection is solicited at the Depot Brick-wharf, Mill-bank, adjoining Vauxhall bridge, where no other persons are authorized to sell except Mr. BAXTER, Wharf Foreman, or the undersigned.

WILLIAM W. BONNIN, Manager

At Liverpool, to Messrs. RATHBONE and CO.
At Glasgow, to Messrs. GOURLAY and CO.

TO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), importer of all sorts of Marble, keeps a constant well supplied stock of Marble in blocks of the undermentioned wharf, comprising STATUARY, VEINED, VEINED PAONAZZO, SICILIAN, DOVE.—All the quarries are his own Quarries at Carrara: Bardilla, Black and Gold, Sienna, Grotte, St. Anna, Vert des Alpes, Brocchi, &c. &c. Vases, Monuments, Gardon and Gallery Statues executed from the Antique and Modern. Estimates for all the above sorts of Marble to any extent connected with the trade

Carrara Wharf, Thames Bank, Pimlico, and 120, Leadenhall street, City.

BUILDERS and CONTRACTORS, Observe!—The cheapest Depot in London for the Sale of Marble Chimney-pieces is at the WESTMINSTER MARBLE COMPANY'S WORKS, Earl-street, Horseferry-road. A large stock on view to select from. Vein Marble Box Chimney pieces from 40s. upwards. The trade supplied on liberal terms.

N.B. The Westminster omnibuses pass the Works from the City

JOHN BAZLEY WHITE and BROTHERS, MARBLE MERCHANTS, MILLBANK STREET, WESTMINSTER. Marble of all kinds and of best quality, in block and slab, Marble Mortars, &c.

BANGOR WHARF, King's-road-bridge, Camden-town.—STRINGFIELD and COOPER, late W. W. Rawlins, beg to call the attention of Builders and others to their stock of Bangor slates, laths, plaster, Roman, Portland, and Keene's cement, blue lias, Dorking and chalk lime, plasterer's hair, Yorkshire plain, pan, and ridge tiles, glazed screw pipes, closet pans, and traps, Welsh fire-bricks, gravel and shells for garden paths, ballast, sand, &c. Materials landed, wharfed, and carted.

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall. London Agents TREGELLES and TAYLOR, 54, Old Broad-street. Manager—JAS. T. TRATHAN, Liskeard. This Granite selected for the New Westminster-bridge

GRANITE.—King William and Nelson Monuments, Plinth and Steps of the Royal Exchange, and Terraces at the Crystal Palace. Supplied by the Haytor Company under Royal Charter. For terms, apply to Mr. C. HOAR, Haytor Granite Office, 4, Millbank-row, Westminster

TO BUILDERS and OTHERS.—ONE THOUSAND CHIMNEY PIECES kept in stock, at prices from 6s. each.—W. B. WILKINSON and CO. Manufacturers, Pratt-line street, Newcastle on Tyne

DARLEY DALE STONE.—One of the Stones selected for the New Houses of Parliament, and highly recommended by Sir Charles Barry, as supplied direct from the Quarry, or at the Darley Dale Stone Wharf, City-road Basin. In addition to large orders now in hand for the New St. George's Hall, Liverpool, and the Strangers' at the Lyceum Chambers, 61A Broad street Office: 57, Millbank-street, Westminster.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. &c. to FRAS. and OCTS. N. SIMPSON, Stamford; and see specimens at the office of Messrs. PINDER, SIMPSON, and SONS, 24 Sauthe row, London

BATH STONE OF PEST QUALITY

RANDELL and SAUNDERS, QUARRYMEN AND STONE MERCHANTS BATH

List of prices at the quarries and depots, also cost of rail to any part of the kingdom, furnished on application to Bath Stone Office, Corsham, Wilts.

SAMUEL TRICKETT, general STONE-MERCHANT.—Masons and contractors supplied at the lowest wholesale prices, direct from the quarries, by sea, canal or railway. London depots—Victoria Wharf, Isle of Dogs, and No. 3, Stone-buildings, at Northern Railway, Kentish-town, where specimens of Bath, Chief Office, Millwall, Poplar, E. Sole Agent for Rawdon-Hall Stone

CAEN and AUBIGNY STONE.—C. P. FOUCARD, Stone Merchant and Quarryman. Carries on business in order to carry on his extensive Quarries. Contracts taken for any quantities. Depots—Granite Wharf, East Greenwich; Lett's Wharf, Waterloo-bridge. Office: 336, High-street, Southwark, near the Town Hall.

MARKET-WHARF, REGENT'S-PARK-BASIN.—WEST-END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. SCALES and WOOD and the different sorts of Bricks, Masons, and Paviers, their Stock as above, where everything will be arranged at the lowest prices. Headstones, ledgers, steps, landings, &c. cut on the shortest notice. Country orders promptly attended to.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and two First-class Medals at the Paris Exhibition.

To the imitations of this beautiful material are being refused upon the public, the Proprietors are requested to see that the name of "MAGNUS" is upon each article

Chimney-pieces, billiard-tables, table-tops, baths, wall-linings, &c. &c. A new illustrated price list may be had on application at the Enamelled Slate Works, 49 and 49, Upper Belgrave place, Pimlico, S.W.

RANSOME'S SILICIOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this new material, which can be had at a much reduced rate from ordinary cements. Full particulars furnished on application to Mr. FRED. RANSOME, Whitehall-wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for engineering and building purposes. Supplies direct from the quarries, by sea, canal, or railway, on the most favourable terms. The principal ports for EXPORTATION. Wharf prices, and estimates for special contracts including carry work or other labour, forwarded on application. Office, 27, Millbank street, London, S.W.

BATH STONE OF BEST QUALITY

I. SUMSION, QUARRY-MASTER, BATH, COMBE DOWN AND HAMPTON DOWN OF THE FINEST QUALITY, SENT TO ANY PART. PRICES ON APPLICATION

VALENTIA SLATE SLABS.—A considerable reduction having taken place in the prices of Valentia Slate Slabs, we beg to submit the subjoined list as our selling prices from this date.—June 10, 1857.

	1 inch	1¼ inch	1½ inch	2-inch.
Under 6 feet by 3 feet 6 in.....	6d.	7d.	9d.	11d.
" 8 feet by 3 feet 6 in.....	6d.	7½d.	9½d.	1s.
" 10 feet by 3 feet 6 in.....	7d.	9d.	10d.	1s. 1d.

W. and J. FREEMAN, 27, Millbank street, Westminster, S.W.

VALENTIA SLATE SLABS.—The Valentia Slab Company invite attention to their slabs, now supplied over a large area throughout the south of England. They have been used at the British Museum, National Gallery, Bethlehem Hospital, Lunatic Asylum, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Brewories, the Race Stand at Brighton, Parliament Bars, &c., and are kept in stock in large quantities by Messrs. FREEMAN, Millbank-street; and at Messrs Braby's, Belvidere road, where terms may be obtained.

SLATE CISTERNS, WITH THE PATENT JOINTS (rendering leakage impossible) Address the Patentees, DIXON and DODSON, DEANFIELD STEAM-POWER SLATE-WORKS, Railway Station, Bangor, N.W.

ROBINSON'S SLATE ROLL RIBBING, for HIPS and RIDGES

This Ribbing, being manufactured by Patent Machinery, is much superior to that made in the ordinary manner. It is much cheaper, neater, and more durable than lead, and not likely to be stolen, as metal often is. Price lists forwarded on application. A truck-load, of 6 tons, sent carriage free to any Station on the North Western Railway, or any line communicating with it. To be had of the principal slate merchants throughout England, and of A. A. ROBINSON, Beer Bridge, Stratford, London, E. and Victoria London Docks.

Roofing slates from the Welsh and every description of plain and enamelled slate work executed

LONDON.—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 9, 1858.

The Builder.

AN ILLUSTRATED WEEKLY MAGAZINE FOR THE

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 780. JANUARY 16, 1858. PRICE FOURPENCE. *Stamped, 5d.*

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BUILDERS' BENEVOLENT INSTITUTION.—SPECIAL and IMPORTANT.—A Plot of Five Acres of Freehold Land, near Slough, Bucks, having been presented by Mr HENRY DOUL, of City Wharf, Hoxton, for the purpose of Building Almshouses, an extraordinary SPECIAL MEETING of the SUBSCRIBERS is hereby called, to be held at the Freemasons' Tavern, on THURSDAY, 21st JANUARY, 1858, at THREE o'clock P.M. precisely, to receive the Report of the Directors thereon, and to consider the propriety of commencing the building forthwith.

A. G. HARRIS, Sec.

SIX LECTURES to WORKING MEN, "On the USES of the ANIMAL MUSEUM at SOUTH KENSINGTON," will be delivered by Professor OWEN, F.R.S.; Dr. LYON PLAYFAIR, F.R.S.; Dr. E. GRAY, F.R.S.; F. BUCKLAND, Esq. Surgeon, 2nd Life Guards; Professor HUXLEY, F.R.S.; and R. SMITH, Esq. of Southampton, on MONDAY Evenings, commencing the 18th JANUARY, at EIGHT o'clock.

Cards of admission for the Six Lectures, to working men only, Sixpence; to other persons, Five Shillings

May be had of Messrs. CHAPMAN and HALL, Agents, &c 193, Piccadilly; and at the Museum.—By order of the Committee of Council on Education.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION. The COLLECTION for 1857 is NOW OPEN at the Galleries of the Architectural Exhibition, Suffolk-street, Pall-mall East. Subscribers of 1/1 is. and upwards are admitted free for the purpose of selecting their Photographs

ROBERT RESKETH, Hon Sec 95, Wimpole-street, W.

ARCHITECTURAL EXHIBITION, Suffolk-street, Pall-mall East, including the Collection of Building Manufacture, and Inventions, and also the Exhibition of the Architectural Photographic Association, OPEN from NINE till DUSK. Admission One Shilling; or at all times, and to all the Lectures, by Season Tickets, Half-a-crown each. Second Lecture, TUESDAY, 19th JANUARY, by ROBT. KERR, Esq. "A Discourse on the Beautiful and Fine Arts." M. Digby Wyatt, Esq. will take the chair at EIGHT o'clock.

JAMES FERGUSSON, F.R.A.S. } Hon Secs.
JAMES EDMESTON, Jun. }

COMPETITIONS.

PLANS for SEWERAGE, ALDERSHOT. The Local Board of Health of the Parish of Aldershot hereby give Notice, that they offer PRIZES of 70*l* for the best scheme, and 30*l*. for the second best scheme, in each case accompanied by an approximate estimate, for the Sewerage of the Parish of Aldershot. The plans, sections, specifications, and estimates, are required to be sufficiently in detail to enable the Board, if they should think fit, to advertise for Tenders for carrying them out. The competitors will be allowed to obtain any information they require from the Ordnance Contoured Survey of Aldershot, as far as it goes. It is not be distinctly understood that the decision of the Board of Health with respect to the award of the prizes is final, and that the competitors will have no claim whatever on the Board after the award has been made, and the money paid to the successful competitors. The whole of the plans, &c for which prizes are awarded will become the absolute property of the Board of Health. The plans, &c must be sent in to the Chairman of the Local Board, on or before the 1st MARCH, 1858, and any further particulars may be obtained on application to Mr. R. ATTFIELD, Clerk of the Board, Aldershot

RICHARD ALLDEN, Chairman of Local Board of Health.

COMPETITIONS.

THE BURIAL BOARD of ST. JOHN and ST. MARY, in the Town of BRECON.—To ARCHITECTS, LANDSCAPE GARDENERS, and OTHERS.—The Burial Board for the above Parishes are desirous of receiving PLANS, DESIGNS, SPECIFICATIONS, and ESTIMATES (comprising ground plans, sections, and elevations), for the ERECTION of TWO CHAPELS, detached: one on the portion to be consecrated, the other on the portion to remain unconsecrated, but similar in character design. Entrance-gates and Lodge, all of the Early English style of architecture, together with a sufficient Boundary Fence, on a site selected for a burial-ground, on a part of the Court-farm, about a quarter of a mile from the said town of Brecon. Also, for laying out the land, which is five statute acres in extent, as and for a burial ground, in pursuance of the Home office instructions for burial boards in providing cemeteries, with a sufficiency of Roads and of Pathways, to afford access to the grave, and with every Grave space marked. The land is to be divided into two equal parts, as nearly as may be, the one for consecration, and the other to remain unconsecrated, and to be separated by a carriage-road. The cost of the chapels not to exceed 350*l*. each, and the cost of the lodge and entrance-gates not to exceed the sum of 250*l*. The lodge to contain the necessary apartments for a small family, as well as a small office for the clerk. The ground adjoining the high road to be fenced with a low wall 4½ feet high, above the surface of the said road, with coping thereupon, and the other sides thereof with a sunk fence, faced with a low wall, and surmounted with a quick set fence. The grounds to be tastefully laid out and planted. The Board will not bind themselves to employ or engage the person whose plans, designs, specifications, and estimates, or any or either of them, may be approved; but, in case he shall not be employed or engaged, the Board will pay him a premium of 25*l*. for the same, when all such plans, designs, specifications, and estimates (comprising ground plans, sections, and elevations) shall become and be the absolute property of the Board; but, should he be employed or engaged, he will only be payed a sum of 10*l*. in addition to whatever sum the Board will agree upon to pay him for commission and travelling expenses. A premium of 10*l*. will be given to the person whose plan shall be selected in the second in point of merit. The Board will not pay any charge or expense for preparing, and will not pledge themselves to adopt or approve of any plan, design, specification, or estimate. Although printed plan, with sections of the land, may be obtained gratuitously on application, either personally or by letter, to Mr JOHN EVANS, the Clerk, "Burial Board Office, Lion-street, Brecon." Designs, plans, specifications, and estimates are to be sent, free of expense, in a sealed envelope, with a motto or distinguishing mark attached, but without the name of the designer, which is to be sent in another sealed envelope, having a similar motto or mark, addressed to the Clerk to the Board, as above, on or before the 15th day of FEBRUARY next, and those not approved of will be returned in such way as the respective owners may request, and at their expense.

Burial Board Office, Lion street, Brecon, 11th January, 1858.

TO ARCHITECTS.—PLANS and SPECIFICATIONS are required for the BUILDING of a PRESBYTERIAN CHURCH, SCHOOLS, &c. in the City of Bristol.—To be sent in not later than FEBRUARY 15th next, to Mr DUNLOP, 34, Quay, Bristol, of whom particulars and conditions may be obtained

CONTRACTS.

LOCAL BOARD of HEALTH, KINGSTON-UPON-HULL.—To PAVIORS, MASONS, and CONTRACTORS. The Works Committee of the above Board are prepared to receive TENDERS for the Execution of Works for the MAINTENANCE and REPAIRS of the PUBLIC HIGHWAYS throughout the Borough for the ensuing year. For the purposes of this contract, the borough will be divided into three districts, viz.—

1 The parishes of Holy Trinity and St Mary.
2 The parish of Sculcoates.
3 The parishes of Sutton within the Borough, Southcoates, and Drypool, and the Extra-parochial Districts, situated to the east of the River Hull

But the Dock Company's Streets and portions of Turnpike-roads repaired by commissioners are not included. The Works may be divided into two classes:—

1. Repairs to Roadways, and
2. Repairs to Footways.

Parties desirous of contracting for either one or both of these services in any one or more of the above-named districts, provided that all works of the same class in such district be included therein. Specifications may be seen, and every information obtained, at the Offices of the undersigned, between the hours of TEN and FOUR daily. Tenders to be sent in, duly sealed, endorsed "Tender for Repairs," and addressed "To the Chairman of the Works Committee," on or before NOON of the 21st instant. The lowest or any Tender will not necessarily be accepted By order,

C. S. NEWMAN, C.E. Surveyor to the Local Board.

Sculcoates hall, Hull, 8th January, 1858.

TO BUILDERS.—THE LONDON GENERAL OMNIBUS COMPANY are prepared to receive TENDERS for ERECTING new STABLING for 100 horses, with SMITHY, &c., in Vestry's Mews, Ladbroke-terrace, Notting hill Plans and specification to be seen at the Office of their Surveyor, Mr SCLATER, No. 6, Salle-row-street, Strand, on and after MONDAY, the 18th inst. The Tenders to be sealed and endorsed, and sent to Mr. A. G. CHURCH, Secretary, 454, Strand, on or before TWELVE o'clock on the 22nd inst., and the works are to be completed by Lady-day next.—The lowest or any Tender not necessarily accepted.

A. G CHURCH, Secretary.

454, Strand, January 12, 1858.

CHURCH BUILDERS are requested to TENDER for REPEWING, ERECTION of a GALLERY and FORM of sundry alterations, to the Circular Chapel, Hersham, Surrey. The plans and specification may be seen on TUESDAY, the 19th instant, and the two days following, at the Vestry of the Chapel, from TEN a.m. till FOUR o'clock p.m. Tenders to be delivered on THURSDAY, the 28th, at TWELVE o'clock, at the above mentioned chapel. The Committee do not necessarily bind themselves to accept the lowest or any Tender. Apply for further information to the Rev. A. E. LORD, Hersham; or Mr JAMES G. STAPELTON, Sen. the Architect, Clapham; or at the Chapel, from ONE o'clock p.m. till FOUR p.m.

CONTRACTS.

PARISH of STOKE-UPON-TRENT.—SURVEY and VALUATION.—An order having been received from the Poor-Law Board for a new SURVEY and VALUATION of the PARISH, the Board of Guardians are ready to receive TENDERS from parties desirous of contracting for the same. The parish is partly mining, manufacturing, and agricultural. It contains about 11,703a. 2r. 21p. and according to the last census there were about 11,224 houses, besides manufactories and mills, which number has been since considerably increased. There are maps or plans of the several townships within the parish. These, so far as relates to the agricultural part, would be required to be altered so as to show upon the new plans the various alterations which have been made in the various fields, so that the new reference-book might agree with the numbers upon the plans. The Guardians will receive Tenders for the survey and valuation of the land, buildings, and mining property together; or a separate Tender for the land, and also a separate Tender for the buildings and mining property. The Guardians do not bind themselves to accept the lowest or any Tender. The party contracting will be required to enter into a bond with two sureties for the due and faithful performance of the contract. It is therefore requisite the party tendering should give the names of two respectable parties as sureties, together with references. Tenders, containing full and explicit terms, to be sent to the Clerk of the Guardians, on or before TEN o'clock in the morning of WEDNESDAY, the 27th inst.—By order,

THOS GRIFFIN, Clerk to Guardians.

Parish Office, Stoke-upon-Trent, Staffordshire, Jan. 8, 1858.

IMPORTANT BUILDING GROUND.—CITY of LONDON.—The Merchant Taylors' Company are prepared to receive TENDERS for a BUILDING LEASE of a PIECE of GROUND on the north side of Church-street, Minories. Also a repairing Lease of a Messuage, No. 5, Great Tripe-lane, Cannon-street. The form to be obtained of Mr. PANSON, Surveyor, Lauriston-villas, and at the Clerk's Office, Merchant Taylors' Hall, Threadneedle-street, until the Tenders, under seal, are to be delivered on or before MONDAY, the 25th day of JANUARY instant. The Company do not bind themselves to accept the lowest or any Tender

SAMUEL FISHER, Clerk to the Company.

FOLESHILL NEW WORKHOUSE.—To BUILDERS.—All Persons desiring to TENDER for the ERECTION of a NEW WORKHOUSE at Foleshill, are requested to send sealed Tenders to my Office, on or before the 9th day of FEBRUARY next, addressed "Tenders for New Workhouse." Plans can be seen, and bills of quantities obtained, at the Office of Mr. MOLMES, 25, Temple-row, Birmingham.

THOMAS DEWES, Clerk to Guardians.

Foleshill Union, January 6, 1858.

TORQUAY WATER-WORKS, &c.—To ENGINEERS, IRON AND BRASS FOUNDERS, &c.—The Local Board of Health are desirous of receiving TENDERS for the supply of certain Works in connection therewith, for the purpose of widening the road, Rectory grove, Chapel. Plans and specifications may be seen at the Offices of the Board. Tenders are to be sent in, under seal, on or before TUESDAY, the 19th inst. The Board do not pledge themselves to accept the lowest or any Tender. By order of the Board of Works for the Wandsworth District.

ARTHUR ALLEN CORSELLIS, Clerk to the Board.

Bolingbroke-grove, Wandsworth-common, S.W. Jan. 8, 1858.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for the ERECTION of a WALL, and other Works in connection therewith, for the purpose of widening the road, Rectory grove, Clapham. Plans and specifications may be seen at the Offices of the Board. Tenders are to be sent in, under seal, on or before TUESDAY, the 19th inst. The Board do not pledge themselves to accept the lowest or any Tender. By order of the Board of Works for the Wandsworth District.

ARTHUR ALLEN CORSELLIS, Clerk to the Board.

Bolingbroke-grove, Wandsworth-common, S.W. Jan. 8, 1858.

MIDDLE LEVEL DRAINAGE.—To CONTRACTORS for PUBLIC WORKS.—Notice is hereby given, that the Middle Level Drainage Commissioners are desirous of receiving TENDERS for the WIDENING and DEEPENING that PORTION of the NEW CUT through Marshland, extending from the Ouse Feet River, in the parish of Upwell, in the Isle of Ely, to about fifteen chains above Saint Peter's Drove bridge, in the parish of Saint Germains, in the county of Norfolk, being about nine miles and a half in length. Plans, sections, and a specification of the works, with the conditions and form of the proposed contract, may be seen at the Office of Mr. R. LUNN, the Superintendent of the Middle Level Works, March, Cambridgeshire, on and after MONDAY, the 18th day of JANUARY instant; and any further information may be obtained at the Offices of Messrs. WALKER, BURGESS, and COOPER, Engineers, 23, Great George street, Westminster. The Tenders must be sent to, or delivered at my Office at March aforesaid, on or before FRIDAY, the 26th day of FEBRUARY next. The Commissioners do not pledge themselves to accept the lowest or any of the Tenders.

F. J. WISE, Clerk to the Middle Level Drainage Commissioners.

Dated this 12th day of January, 1858.

TO BUILDERS and OTHERS. BICKERTON'S CAARTEN ESTATE, 2, MOUNT-ROW, Westminster-road, TO BE LET, by TENDER, for a term of twenty-one years, on THURSDAY, JANUARY 28, 1858. Full particulars for Tenders and specification of the repairs, which the tenant will be required to undertake, may be seen at the Offices of Messrs. WALES and SPARKS, 8, Great St. Helen's, E.C.

SEE DENNETTS NEW PATENT for the Invention of COMPOUND ARCHES, in which there is a saving of fully 25 per cent on any part of construction now in use for FLOORS and CEILINGS of COTTAGES

This is also the cheapest FIREPROOF construction for mansions, mills, and factories, superseding the use of the heavy brick arch; and the best as I cheapest construction for preventing the communication of SOUND between floors and ceilings.

For particulars, apply to C. C. and A. DENNETT, Nottingham.

N.B.—Estimates given for construction in any part of the country.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO., Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. [illegible] Patentees and manufacturers [illegible] High Holborn.

IRON DOORS for STRONG-ROOMS and PARTY WALLS, ALWAYS IN STOCK AT JOHN TANN'S Patent Reliance Lock and Safe Warehouse, 30, WALBROOK, CITY.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails, wrought and cut, Copper and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles. Dr. Arnott's Ventilator, 4s.; and the new registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.
J. H. BOOBYER (late STURCH and BOOBYER), established nearly 200 years for the supply of the best manufactures, at the lowest prices. 14, Stanhope-street, Clare Market, London.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c.—The Trade supplied on the best terms with Bell Zinc, Tubes and Copper Wire; Gas Pendants, Brackets, and Joints of all descriptions for Gas Fittings, in Brass and Iron, Tin, Composition, Iron, and Brass Tubing; Cornice poles, Rings and Lace; Brass Tube for Picture Rods, Desk Rails, &c. &c.
Superior Rolled Brass for Engravers, Castings in Fine and Common Brass, Gun Metal, &c. at
RICHARD EVERED'S, Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charles street, Long-acre, London.

NAILS and IRONMONGERY From BIRMINGHAM direct.
Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES.
A complete LIST of which will be forwarded upon application to FRANCIS BIANCHI, late Blyth and Bianchi, Nail Manufacturer and General Factor, BIRMINGHAM; and at 16, Gresham street, LONDON, E.C.

PATENT WROUGHT-IRON WINDOWS. Manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited). HENRY RODGERS, Manager. Lyon's Wharf, and 43, Upper Thames-street, London. These Windows possess the advantages of great strength with lightness and cheapness, they have been very highly approved by many of the most eminent architects of the day. They are gradually well adapted for factories, railway stations, prisons, and in the assistance of the [illegible], as it is impossible to break them by fair means. Lists of prices can be had on application.

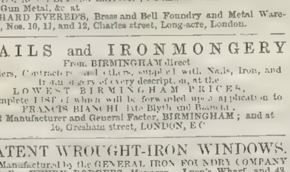
"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE.—This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials, of the highest possible character, are gladly given by the parties who have them in operation.—Price, No. 1, 2l. ; No. 2, 3l. 10s. for furnaces done complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with unqualified approval. These articles may be had of all Ironmongers, and of the General Iron Foundry Company (Limited), 43, Upper Thames street, Makers of Gas and Water Pipes, Hot water Pipes and Connections, Chemical and Soap Pans, Furnace bars, and all other kinds of Castings for manufacturing and building purposes.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT IRON WELDED TUBE for GAS; galvanized ditto for water; high pressure cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT and CO., 55, High Holborn.

IRON HURDLES, FENCING, &c. made by MACHINERY.



COTTAM and HALLEN, 2, Winsley-street, have invented Machinery for [illegible] and of the [illegible] style, [illegible] Fences [illegible] ornamental work of all kinds, [illegible] COTTAM and HALLEN, Ironfounders, 2, Winsley-street, Oxford-street, W.

IMPORTANT TO GAS-FITTERS, LAMP MAKERS, &c.—HAWKINS'S REGISTERED CHAIN is universally approved [illegible] up to any weight. Sold by every [illegible]
Manufactory, [illegible] Birmingham.

CAST IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c. F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c. [illegible] Pipes and Connections, Sash Weights, and other castings [illegible] for Bakers' ovens of every description, fitted [illegible]. Prices equal to all competitors. [illegible] Goods landed. A powerful crane.

WANTED, second-hand, a HOT-WATER APPARATUS, &c. for conservatory; also an extra coil of pipes [illegible]

FOR SALE, at the Water-works, Lewes, [illegible] ENGINE, with [illegible] 6 in. diameter, and fittings complete [illegible] horse Cornish direct [illegible] Hawthorn and Co. Newcastle, [illegible] 1,200 gallons per minute [illegible] are all in good working [illegible] Bond street, Brighton; and full particulars can be obtained of Messrs. EASTON and AMOS, Grove, Southwark, London, S.E.

SAVING IN GAS.—D. HULETT, INVENTOR and PATENTEE.—The [illegible] Regulator is the only one [illegible] and [illegible] this pressure, and preventing any irregularity in the height of the flame.
D. HULETT and Co., High Holborn, London.
Manufacturers of Gas Chandeliers, Gas Lustres, &c. &c.

HART AND SON,
IRONMONGERS, MANUFACTURERS,
ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,
MALLEABLE IRON AND BRASS FOUNDERS,
53 to 58, WYCH-STREET, Strand, London, W.C.

Specimens at the Architectural Exhibition, Suffolk-street, Pall-mall.
Illustrated catalogues free on application.

JOHN WALKER, Corrugated Iron Manufacturer, Iron Founder, Iron Roof, Bridge, and Portable Building Contractor, IRON MERCHANT, &c.
Offices and Works—Millwall, Poplar, London.

GALVANIZING WORKS, MILLWALL, POPLAR. Offices and Warehouse, Arthur street West, London-bridge.—JOHN WALKER begs to inform Merchants and the Trade in general, that he is in a position to galvanize, in the lowest possible terms, and with the best material. A large stock of sheets always on hand.

THE PATENT GALVANIZING and CORRUGATING IRON WORKS, GLASSHOUSE-YARD, opposite the entrance to the London Docks.
GALVANIZED SHEETS, plain, corrugated, and curved, in all gauges always on hand.
CASTINGS and every description of IRONWORK GALVANIZED with care and despatch, and delivered free within three miles of the City.
Arrangements have been made for GALVANIZING LARGER WORK than was hitherto practicable.
ESTIMATES given for IRON ROOFS, Buildings, &c. for erection in this country, or packed for exportation.

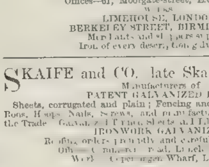
MOREWOOD and CO. (late Morewood and Rogers), Dowgate Dock, Upper Thames street, London, and Baskerville Works, Birmingham.
PATENT GALVANIZED TINNED IRON, and GALVANIZED IRON, in Sheets, PLAIN or CORRUGATED, and Curved, of all Gauges.
Manufactured articles always kept in stock, such as pails, scoops, bowls, riddles, skips, &c. of all sizes.
Also the Patent Galvanized Tinned Iron Tiles, Gas and Water Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Hoop, Nails, Rivets, &c.
Estimates given for Roofs, and every description of Galvanized Building, at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

TUPPER AND COMPANY, Manufacturers of GALVANIZED IRON and GALVANIZED TINNED IRON, In Sheets, Tiles, Iron Roofs, Houses, Cisterns, Tanks, Iron Fences, Telegraph Wire, and Stores.
Offices—61, Moorgate-street, E.C. London.
Works—LIMEHOUSE, LONDON, BERKELEY STREET, BIRMINGHAM.
Merchants and shippers supplied.
Iron of every description galvanized.

SKAIFE and CO. (late Skaife and Pollock) Manufacturers of PATENT GALVANIZED IRON.
Sheets, corrugated and plain; Fencing and Telegraph Wire, Bars, Rods, Hoops, Nails, Screws, and manufactured articles supplied to the Trade. Galvanized Iron Sheets and Tiles for Export.
IRONWORK GALVANIZED.
Roofing, orders promptly and carefully attended to.
Office: [illegible] Road, Limehouse, London.
Works: Copenhagen Wharf, Limehouse.

JOHN HENDERSON PORTER, ENGINEER AND CONTRACTOR, IRON BUILDING AND ROOFING WORKS, GAS-STREET, BIRMINGHAM.
LONDON OFFICE: 1, RICHES-COURT, LIME STREET.

CLARK and HUNT'S IRONMONGERY, STOVE, and METAL WAREHOUSE, 159, Shoreditch.
A great variety of Elliptic, Register, and other Stoves, Cottage and best [illegible] always in stock.



Improved Self-acting Cottage Ranges, with Large Oven and Boiler, [illegible]
Best Self-acting Ranges, with Oven and Back Boiler, [illegible]
[illegible]
Register Stoves, [illegible]
Cast Rain-water Pipe [illegible] per yard.
Cast Gutters—4 inch, 8d. per yard.
O G Gutters ... [illegible] per yard.
[illegible]

$1\frac{1}{4}$ in.	$1\frac{1}{2}$ in.	2 in.	$2\frac{1}{2}$ in.	3 in.	
16s.	15s. 6d.	15s.	14s.	13s. per cwt.	

Best Sheet Cut Floor Brads .... 19s. 6d. per cwt.
Best Cut Lath Nails .... 15s. "

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Drawings and estimates furnished.
Architects' designs accurately executed.
MANUFACTORY, 190, HIGH HOLBORN, LONDON.

IRONMONGERY.
PFEIL AND STEDALL.
THE LARGEST STOCK AT THE LOWEST PRICE,
5 AND 6, BROAD-STREET, BLOOMSBURY.

LIGHTNING CONDUCTORS. R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths-inch diameter .... 1s. 0d. per foot.
Half-inch diameter .... 1s. 6d. "
Five-eighths-inch diameter .... 2s. 0d. "

R. S. Newall and Co.'s Patent Copper Rope Lightning Conductor is being supplied by architects, engineers, and scientific men in all parts of the world.

Offices: Gateshead on Tyne.
" 130, Strand, London.
" 27, Dale-street, Manchester.
" Broomielaw, Glasgow.
" 14, Goree piazza, Liverpool.
" Exchange buildings, Dundee.
" 7, Frederick street, Aberdeen.

GOTHIC GAS CHANDELIER EIGHT-LIGHT BRASS CHANDELIER, Second hand, price 25l. London made; recently sold for 50l.; suitable for a church or large public room. The chandelier is in excellent condition, and of the best workmanship.—On view at HODGE and REED'S, Chandelier and Lamp Manufactory, 101, Hatton-garden, E.C.

TO ENGINEERS, SHIPBUILDERS, and OTHERS interested in Sheet Iron Structures.—BERTRAM'S PATENT WELDING PROCESS.—This simple and efficient process for uniting wrought iron plates in the construction of marine locomotive and land boilers, ships, boats, caissons, tanks, pans, bridge-beams, girders, and sheet iron structures generally by welding instead of riveting, combines with great economy of labour and material the certainty of greatly increased strength, permanent soundness, and freedom from leakage. This invention having been most satisfactorily tested, the Patentee is prepared to grant Licenses for the use of his process, and invites the inspection of a high-pressure tubular boiler which has been constructed under his immediate direction, and may be seen at the Works of the Victoria Foundry Company, Engineers and Shipbuilders, Greenwich.—Applications for Licenses, and particulars of works required, may be obtained at the Office, 12, Buckingham street, Adelphi, W.C. where samples of the welding may be seen. The welding furnaces will be supplied by the Patentee's Agent.

IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 23, Davies-street, three Doors from Oxford-street, for the supply of Builders, Carpenters, Upholsterers, Smiths, Bellhangers, and the Trade in general at wholesale prices. In connection with his old establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

STOCKS and DIES.—WILLIAMS and FULLER'S PATENT STOCKS AND DIES, cut 2, 3, and even 4 different sizes, with one pair of dies. No shifting of dies is necessary, consequently the loss of dies and injury from their lying about is entirely obviated. Sold by the following houses, by whom prospectuses, with prices, will be forwarded upon application:—
Boulton and Co. Bagnigge Wells road;
Hulett and Co. 55, High-Holborn;
Lambert and Son, 28, New-cut, Lambeth;
Mane and Son, Crescent place, New Bridge-street, and at Edinburgh;
Tylor and Sons, Warwick-lane, Newgate-street;
Warner and Son, Jewin crescent, Aldersgate street;
Dell, Brothers, Bristol;
And by the Sole Patentee and Manufacturer,
JOHN H. FULLER, 70, Hatton-garden, London.

BUILDERS' IRONMONGERY.—BRASS FOUNDRY and an immense STOCK of GENERAL IRONMONGERY, including bright and black Register Stoves, close and open Ranges, and many gross of Brass and Iron Axle Pulleys are now selling off without reserve at WALMSLEY'S, 127, London road, Southwark.—The Premises to be Let.

TO BE SOLD, the large FURNACE-FITTINGS, formerly in use of the late Sir FRANCIS CHANTREY. To be seen on the premises, Eccleston-place, Pimlico.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter:—FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pumps [illegible] Prospectuses, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 10, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET RINGS, for Hot water pipes. Vulcanized Rubber Door springs, and Solid Round Rubber Cord for [illegible] Billiard Cushions and Rubber Strips cut to any pattern for bagatelle tables.
[illegible] and improved Vulcanized Rubber [illegible]
[illegible] from three to four feet wide, and [illegible] inflating Portable Beds, [illegible] articles of this kind made to any pattern to order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS, OLD ST. PANCRAS-ROAD, LONDON.
NOTE.—THE ST. PANCRAS IRON-WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH.

PROFESSOR VARNELL'S ENAMELLED MANGERS, STABLE FITTINGS, AND SWING MANGERS.

Cleanliness, Comfort, Economy, Imperviousness to Infection, Prevention of Crib-biting, and other Diseases, together with the better thriving of the Horse by the adoption of these Mangers, are some of the characteristic Advantages of this Invention.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND;
AND ADOPTED BY
THE ROYAL VETERINARY COLLEGE.

"This invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.
(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

FULL-SIZE STALLS AND LOOSE BOXES, AND EVERY DESCRIPTION OF STABLE FURNITURE ON VIEW.

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INVITE ATTENTION TO THEIR EXTENSIVE SUITE OF SHOW-ROOMS,

STOVES, FENDERS, & FIRE-IRONS,

THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, BATHS, &c. For Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.
HOT WATER APPARATUS, GAS-FITTING, &c.

BENHAM'S IMPROVED KITCHENER.

The Kitchener is strongly recommended for its simplicity of construction and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c.
It is an effectual cure for Smoky Chimneys.

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ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

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THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
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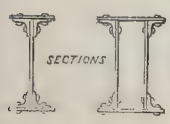
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
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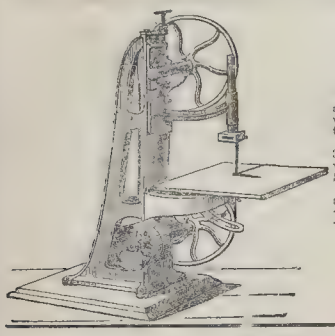
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.



POWIS, JAMES, AND CO.

ENGINEERS AND MANUFACTURING IRONMONGERS,

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POWIS, JAMES, and CO. beg to call the attention of House and Coach Builders, Cabinet and Chair Makers, and others using such Machinery, to their improved ENDLESS BAND-SAW, both of HAND and STEAM POWER, which are well adapted for every variety of work, CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT, of any thickness: the TABLES are swinging so as to CUT to any ANGLE.
Also, their CIRCULAR SAW-BENCHES, for HAND or STEAM POWER. The HAND POWER one will RIP UP 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and it is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.
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IMPROVED PATENT PLANING, TONGUEING, and GROOVING MACHINE,

doing SEVENTY FEET per minute of board of any thickness, and GOOD WORK.
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With full set of solid Cast-Steel Tools, complete,
IS NOW REDUCED TO FOURTEEN POUND

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TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.

ADOPTED BY THE GOVERNMENT.

EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.
THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

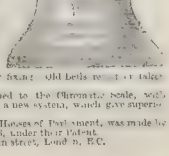
BELL AND BRASS FOUNDERS TO HER MAJESTY

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE Bells.

J. W. and SONS having for many years devoted much time and study to the improvement of Bells and Chimes, have recently invented and patented a new process, by which they are enabled to produce Bells of any size, note, or weight, of superior tone, truer in tune, and at less cost than has hitherto been accomplished.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast to any size, note, or weight, with or without Frames.

TUNED BY MACHINERY.



Stocked and wheeled ready for hanging. Old Bells received or taken in exchange.

MUSICAL HAND-BELLS tuned to the Chromatic scale, with improved Clappers, and hung on a new system, which gave superior tone and facility for ringing.

The great 16-ton Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, in 6, under their Patent.

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PIERCE'S CELEBRATED PYRO-PNEUMATIC FIRE-LUMP WARMING AND VENTILATING STOVE GRATES,

WITH THE CHEERFUL, OPEN FIRE, PRODUCING HEALTHFUL WARMTH, WITH CONTINUOUS, SELF-ACTING VENTILATION,

FOR CHURCHES, SCHOOLS, PUBLIC BUILDINGS, BANKING-HOUSES, &c.

These Grates are manufactured solely by PIERCE, the Inventor, for which he received the Prize Medals of London, in 1851, and of Paris, in 1855.

Price, from £7 10s.

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THOMAS PUGH and CO. WHOLESALE BUILDERS' IRONMONGERS

13, KING-STREET, SNOW-HILL, CITY, LONDON, INVITE ATTENTION TO THEIR NEW PATENT ECONOMIC SELF-ADJUSTING MORTICE AND RIM LOCK FURNITURE.

Also, to

GREEN AND JACKSON'S

NEW PATENT MORTISING, TENONING, BORING, AND DRILLING MACHINE,

Which may be seen and tried at 13, KING STREET, SNOW HILL.—Illustrations and particulars of both sent upon application.

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ENGINEERS,

IRON AND BRASS FOUNDERS AND MANUFACTURERS,

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FOR THE

ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,

With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;

WATERWORKS FOR THE SUPPLY OF TOWNS, WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.

Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.

Gas Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.

DEVICES FOR GAS ILLUMINATION.

IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.

These Turnstiles were selected for the Entrances of the Great Exhibition, New York.

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Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.

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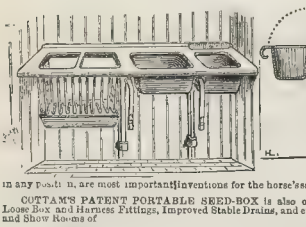
CHUBB'S WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

PATENT IMPROVEMENTS IN STABLE FITTINGS.

COTTAM'S PATENT COMPONIZED MANGERS, WATER, OR GRUEL TROUGHS.



The application of this NEW PATENT METHOD of LINING IRON MANGERS being inexpensive, will greatly increase their adoption; they possess all the advantages of Cottam's celebrated Enamelled Mangers, are equal in appearance, cleanliness, and durability, the Lining is warranted to stand any amount of fair wear, and will neither chip nor change its colour by use.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER for the above, is a most essential addition to their fittings; it is never in the way, can be placed and replaced in an instant while its cheapness, simplicity, and utility in keeping the contents of the trough clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

The NEW CROSS BAR TOP PLATE, to prevent the horse wasting the hay, by tossing it out of the rack, and the IMPROVED CURVED FRONT PLATE, by which means all sharp projections are obviated. Likewise COTTAM'S PATENT NOISELESS HALTER GUIDE and COLLAR REIN, with the NEWLY INVENTED SWIVEL RING, for allowing the strap free work in any position, are most important inventions for the horse's safety and comfort.

COTTAM'S PATENT PORTABLE SEED-BOX is also of great utility in these fittings. The above, as well as the Patent Loose Box and Harness Fittings, Improved Stable Drains, and every description of Stable Furniture, can be seen at the Manufactory and Show Rooms of

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Illustrated Catalogues on application.

FIRE-PROOF CONSTRUCTION.—

FOX and BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system embraces ECONOMY, with great simplicity of construction, perfect security from fire, decreased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the patent.

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CANNON IRON FOUNDRY, 80, Goswell-

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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. Always in stock.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

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FOR

SAWING, PLANING, MOULDING, &c

Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55l.

Price of Band Saw Machine, with 24-inch pulleys and light framing, 32l.

A descriptive Catalogue, with Drawings, may be had on application to

SAMUEL WORSSAM and CO.

Engineers, &c.

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PANY, Manufacturers of the Crown Wrought Nails and Spikes, which are about twenty-five per cent. cheaper than hand made. Orders of from one to fifty tons will be at once executed direct from the works, in sizes varying from 1½ to 8 inches. Price lists and sample cards can be obtained on application by letter to the Company's Works, at Dunstan, near Gateshead on Tyne.

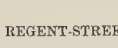
ARNOTT'S SMOKELESS GRATES, with

BOILERS, are peculiarly adapted for heating greenhouses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.

Manufactured by D. and E. BAILEY, 372, High Holborn, W.C.

BATHS and HOT-WATER APPARATUS.

J. TYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application. Estimates and Plans for Fixing given.—J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate street, London

HEATING BY  HOT WATER.

JOHN WEEKS and CO., King's-road,

Chelsea, HOT-WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give unimpeachable references of Churches, Dwelling-houses, Warehouses, &c. where they have fixed their Hot water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

IMPROVEMENTS IN HEATING, &c.

MUSGRAVE'S PATENT

SLOW-COMBUSTION STOVE, for warming Public Buildings, Halls, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, avoiding attention during the hours of worship. In Halls, will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of 2d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

This Stove is the nearest approach to warming by hot water.

MUSGRAVES PATENT SLOW-COMBUSTION COOKING RANGE on the same plan.

MUSGRAVES PATENT STABLE FITTINGS.

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AIR WARMER.—Every information may be obtained, and references given to churches, schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Rokeo-place, Sheffield, or to their London Agent, Mr. B. BARBER, No. 20, John-street, Adelphi.

HOT-WATER APPARATUS, on HAM-

MOND'S improved principle, for heating horticultural works, mansions, churches, public buildings, in fact, everywhere that heat is required. Also his improved Ventilating Greenhouses, which can be erected at 1s. per foot, and entirely prevents the possibility of scorching the vines or plants.—Estimates at No. 18, George-street, Portman-square. Workmen sent into the country.

NEW GLASS GAS STOVE.—NEALL'S

PATENT; unique, elegant, efficient, and inexpensive; price only 5s. This useful invention combines the important advantages of light and heat, with perfect freedom from smoke or smell; forms an ornament to a drawing-room or gentleman's hall, and is equally available for public or private offices.—DEANE, DRAY, and CO. Gas Engineers, London-bridge, and Lord's Agents.—The Trade supplied.

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BROWN and GREEN, Manufacturers, Luton, Bedfordshire.

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The BURTON and all other PATENT STOVES, with radiating hearth plates.

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Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work

Cast Iron Goods, and

STEWART'S PATENT CAST-IRON GAS and WATER PIPES.

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Manufacturers, CHARLES COLLINGE and CO. 64 and 65, Bridge-road, Lambeth, where a great variety are always on view for church, park, railroad, coachhouse, and other gates and doors of large as well as small dimensions, a ton weight moving with these hinges as easily as a wicket. Ornamental hinges, adapted for drawing-rooms, &c. doors may be with them hung, removed and replaced in an instant. Rising and double acting spring hinges, and superior gate fastenings, at moderate prices. None genuine unless marked "Charles Collinge, Patent, Lambeth." Plain and ornamental cast and wrought iron-work, for building and other purposes. Engines, machinery, patent axletrees, sugar-mills, &c.

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THE WHOLE PROFITS DIVIDED AMONGST THE ASSURED.
THE SCOTTISH EQUITABLE LIFE
ASSURANCE SOCIETY,
INSTITUTED 1831.
Incorporated by special Act of Parliament
The Fund accumulated from the Contributions of Members exceeds ONE MILLION STERLING.
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THE LONDON WARMING and VENTILATING COMPANY, Limited Offices, 36, Great George street, Westminster—Manager, WM WOODCOCK, undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr Goldsworthy Gurney in both Houses of Parliament. Economy and effectiveness are the advantages offered.
Particulars and Testimonials forwarded on application.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF SO PER WEEK
IN THE EVENT OF INJURY
May be secured by an Annual Payment of 3l for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.
A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.
It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 27,988l
Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.
NO CHARGE FOR STAMP DUTY
WILLIAM J. VIAN, Secretary.
Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London, E.C.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices:—

4-inch prepared Flooring	£0 11	6 per square.
Inch ditto	0 15	0 per square
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Spruce Deals, from	0 3	9 each.
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Mahogany, in logs and planks, from 5d. per foot.
All Sawn Goods delivered three miles free of cartage.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane

AT the LOWEST PRICES.—TIMBER, DEALS, MAHOGANY, and WAINSCOT. A large assortment of seasoned planks, FLOORING and MATCH-BOARDING, of all descriptions. Also an extensive stock of Dry White, Yellow, and Pine Cut stuff, Moulding Battens, Laths, Deals, Planks, and Battens fetched from the docks, sawn by patent machinery in the best manner, and delivered at the shortest notice. THOMAS JACKSON, Sawing and Planing Mills, Commercial-road, Pimlico, London.

TO BUILDERS, CABINETMAKERS, and OTHERS ALFRED CARTER submits the following very reduced prices for really useful sorts:—

4-inch Prepared Flooring	£0 11	6 per square.
1-inch Prepared Flooring	0 13	0 per square.
Inch Prepared Flooring	0 15	0 per square.
Good Yellow Deals	0 3	3 each.
Spruce Deals	0 3	0 each.
Pine Planks	0 3	6 each.
Yellow Battens	11 10	0 per 120.

Mahogany, in logs and planks, from 5d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

AT WM. APEDAILE'S TIMBER-YARD, bottom of DRUMMOND-STREET, near Euston Station.

12 feet 3 by 11 Fine Planks, from 2s.	each.	
12 feet 3 by 9 Spruce Deals, " 2s. 6d.	"	
12 feet 3 by 9 Yellow Deals, " 2s. 9d.	"	
3 by 7 Prepared Flooring, 11s 0d.	per square.	
Inch by 7 Do 14s 6d	"	

EDWARD SIMMS begs to inform Builders and the trade that he has lately purchased the manufactory, the first of its kind ever established, a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from ¼ inch to 1¼ inch, in W. E. or Yell. Deals, Oak, or Pitch Pine. Also Dry Deals, in all thicknesses, plain & Battens, Planks Laths, Oak sills, Plank, and Scantlings. Mouldings in Clean Pine, to any design. A pattern list forwarded on application.—Address, E SIMMS, Flooring Manufactory, and Sawing, Planing, and Moulding Mills, King's road, Chelsea.

ALFRED ROSLING begs to inform his Customers and the Building Trade generally, that he is enabled to allow a discount of 15 per cent. upon his list prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside

PREPARED FLOORING! PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	¼	½	¾	
Spruce	12s.	13s.	13s.	per square
White	12s 9d	13s 6d.	13s 6d.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	18s 6d "

Delivered within three miles free of cartage
STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

SEASONED MAHOGANY, WAINSCOT, ASH, and BIRCH.—JOHN COUMBE solicits an inspection of his large STOCK of guaranteed DRY WOOD, which he is selling at prices generally charged for wet. Address, Wood Seasoning Works, Lady Lake's-grove, Mile-end gate.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Wilton road, Pimlico, to the KING'S ROAD, CHELSEA, where the orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor-street.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from ¼ inch to 1¼ inches thick, seasoned, and ready for use, also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton-road, Pimlico.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 2s. 3d; Spruce, 2s. 9d.; Pine Plank, 2s. 6d.; Mahogany and F. Walnut, 5d.; ¼-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ do. 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ do. 13s. Bird's-eye Maple Veneer, 2d Cartage free to any part of town. T. FURMAN, 1, Walnut-tree walk, Walcot-place, Lambeth, S.

MOULDINGS by MACHINERY.—Capping, Sash bars, Beads, &c. to any design, can fully packed and sent to all parts of the country. A Pattern List sent on application to
E SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA.

ACORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge-street, Old St. Pancras-road.—GEORGE NOKES and CO. invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING, at the following prices, for cash:—

¾-inch white, 12s 6d per square; 1-inch white, 15s. per square; 1-inch white, 18s. per square; ¼-inch yellow, 10s. per square; ¾-inch yellow, 12s 6d.; 1 inch yellow, 15s	

Timber, deals, planks, &c. at the lowest remunerative prices. A liberal discount allowed on mouldings for exportation. Book of designs forwarded on application.

LETTS'S WHARF PATENT SAWING, PLANING, and VENEER KNIFE CUTTING MILLS, Commercial-road, Lambeth. The Proprietors beg to call the attention of the Trade that they have completed their extensive arrangements, and will be happy to execute all orders entrusted to their care with despatch and punctuality. Wet and dry docks and powerful cranes for loading heavy goods, offer facilities not to be obtained elsewhere.
A LARGE ASSORTMENT OF SEASONED PREPARED FLOORING, MATCH BOARDING, &c. &c. ALWAYS IN STOCK AT REDUCED PRICES.

BRICKS.—Messrs. OATES and INGRAM inform Brick makers on an extensive scale, that their PATENT SOLID BRICK MACHINE is now thoroughly and efficiently tested, and they are prepared to offer the following contracts to the trade, in DISTRICTS, either by ROYALTY or PURCHASE:—MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, HERTFORD, BUCKS, HUNTS, LONDON, DEVON, CORNWALL, DORSET, WILTS, HANTS, and ISLE of WIGHT. With the Patent Machine the ordinary surface-clay requires no preparation whatever; whilst that of a rocky nature has merely to be passed through rollers in the usual way, and thence, WITHOUT ANY TEMPERING, INTO THE MACHINE, FROM WHICH THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Machine is now making upwards of THIRTY BRICKS PER MINUTE, at the Works of Messrs. Kirk and Perry, Gravesend, Contractors, Fort Essex, near Gosport; and also at the Patent Solid Brick Works of T. Wells Ingram, Oldbury, near Birmingham.—Application for orders to see the Machine in operation (of course) to OATES and INGRAM, Bissell-street, Birmingham. Samples of clay may be sent and passed through the Machine, and the bricks burnt, or a sample brick will be sent to any party writing to the makers.

BRICKS.—Main Cutters, Yellow and Pale Seconds, Paviors, and Paviors, of good and sound quality, constantly on sale at H. DODD'S Brickfields, which are only a quarter of an hour's walk from the City. H. D. earnestly requests Builders to favour him with a visit, in order to inspect his stock, and to judge for themselves.
Malm Place, half washed Stocks, and Place Bricks, also on sale. These bricks are sound, well burnt, and unusually free from defects. A very large proportion of the stock being available for external use.
Apply to HENRY DODD and CO. at the Company's Office, Hoxton Brickfields, Grange walk, near the Rosemary Branch, Hoxton.
N.B. Light coloured Pitfaced Paviors supplied with despatch on rule upon reasonable terms. The Sand, from its not containing any saline matter, is acknowledged to be preferable to river sand

LIME, BRICKS, TILES, CEMENT, GLAZED DRAIN PIPES, FIRE GOODS, LATH, HAIR, and every description of BUILDING MATERIALS. J. HARRISON and SON, Page's walk and Wild's walk, Bermondsey, near the Brighton and South-Eastern Railway Goods Station.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire Bricks, Lumps, and Tiles of every description (seventeen years with James Newton, of Falcon Brick Works, by whom erected the principal buildings, Gas Cisterns, Engineers, Builders, &c. &c.). Depot for Robinson's Silver Sand—Nesbitt's Fire Bricks, Clay Retorts, & Sanitary Pipes. Chimney Pots, Dutch Clinkers, & all the largest patent Shipping orders executed with despatch.

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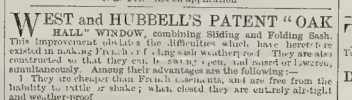
NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the PRESENTLY and IMPERFECTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the Inside and FINISHED THICKNESS of Shutters, and the way they are hung.
Sold by all Ironmongers, and by the Inventor,
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48 and 49, Cornwall road, Stamford street, Lambeth, S.
N.B. Price list on application

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1. They are cheaper than French casements, and are free from the liability to rattle or shake; when closed they are entirely air-tight and weather-proof.
2. They require no box heads.
3. Perfect ventilation can be instantaneously effected without exposure to draught.
4. They dispense with the use of French bolts or fastenings.
5. In short, they are elegance, convenience, economy, and utility, combined, as there is no portion of the sash which cannot be brought within distance for cleaning or reglazing.
Licenses granted for the provinces upon application, post-paid, to CLEM. L. WEST, and T. B. HUBBELL, Architects; care of T. BRETTELL, Esq. 25, Rupert-street, Haymarket, London.—A model may be seen at 25, Rupert-street.

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TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—H. PIGGOTT, 113, Fore-street, Cripplegate, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSS'S WHOLESALE WAREHOUSE, 29, GREAT PORTLAND-STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, perfectly new and fashionable, at from ONE-THIRD to ONE-HALF THIRTY PER CENT CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

CLARIFIED VELLUM.—A novel and beautiful fabric, manufactured entirely from animal matter, possessing the tenacity and durability of Vellum, with the transparency and finished surface of the finest Tracing Paper. For permanent Tracings for Patents, &c. it will be found invaluable. 36 by 24, 1s. per sheet. Also, every article required by the Engineer, Draughtsman, and Artist of the best quality, at wholesale Prices.
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MOUNTED DRAWING PAPERS always in Stock.
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Wholesale and Export Stationers and Manufacturers.
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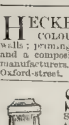
IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.;
Linseed Oil, 2s. 8d. per gallon; Boiled Oil, 3s. per gallon;
Turpentine, 2s. 8d. per gallon;
Fine Pale Oak Varnish, 7s 6d per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Colebill street, Pimlico.
Every article for the Trade at the lowest price.

HECKETHORN'S PATENT LIQUID COLOURS, for external and internal stuccoed or plastered walls; permanent in and outside woodwork (to prevent blistering), and a composition (in lieu of steel) for floor-cloth and table-cover manufacturers.—J. HUDDEN and CO. Proprietors, No. 551, New Oxford-street.



SMOKY CHIMNEYS. The best cure is KITE'S PATENT VENTILATING and SMOKE CURING ALBERT CHIMNEY CAPS, suited to any style of architecture for cottages, BUCKINGHAM PALACE, 350 on St. James's Palace, 80 on Clarement Palace, 70 on Windsor Castle, 200 on the Western Heights Barracks, Dover; in use also on the halls and mansions of the nobility, Government offices, Club houses, &c.; also extensively adopted by the public in general. Price 10s. 6d. and 21s. each.
Drawings and testimonials forwarded on application to JAMES BARTON, Ironworks and Manufactory for the PATENT STABLE-FITTINGS and ENAMELLED MANGERS, 379, Oxford street, London, W

SMOKY CHIMNEYS.—PILBEAM'S PATENT DOUBLE CHAMBERED SMOKE PREVENTING CHIMNEY POTS. Prospectuses and full particulars on application to the Office of Mr. A. PILBEAM, Architect, 18, Adam street, Adelphi, London.

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SOLID PARQUETERIE,

for floors, walls, and furniture more than ½ as per cost of wood blocks. Patentee, Sir Charles Barry, Messrs. Burn, Hardwick, Digby Wyatt, &c. &c. Scott, T. H. Wyatt, &c. &c.

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No 90, New Bond-street.

F. DENT, sole Successor to E. J. Dent in all his Patent Rights and Business, at 61, Strand, and 4 and 36, Royal Exchange, and the Clock and Chronometer Factory at 34 and 35, West Smithfield, Manufacturer of Turret Clocks for the Queen and Prince Albert, and Maker of the GREAT CLOCK at the HOUSES of PARLIAMENT. Ladies' Gold Watches, Eight Guineas; Gentlemen's, Ten Guineas; strong Silver Lever Watches, Six Guineas; Church Clocks, with Compensation Pendulum, 7l.

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TO MANUFACTURERS, BUILDERS, ENGINEERS, AGRICULTURISTS, &c.
PROTECTION of WOODEN BUILDINGS from FIRE.
The Silicate of Soda, in a condition for immediate use, in conjunction with lime, according to directions received from the Chemist to the Wax Paper Company, and supplied to the various Military Stations, is prepared by SIMPSON, MAULE, and NICHOLSON, Manufacturing and Export Chemists, 1 and 2, Kensington-road, London.
A pamphlet, containing instructions for use, is supplied on application.

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To CONTRACTORS and OTHERS SENDING GOODS by RAILWAY, and for GENERAL PURPOSES
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The printed results of trials with other greases may be had on application at the
WORKS, No. 21, SUFFOLK GROVE, SOUTHWARK, LONDON.

ENGINES for SALE.—TWO 8-horse power high pressure, horizontal STEAM ENGINES, 8-inch cylinder, 16-inch stroke, with boiler and connections complete, quite new, of excellent manufacture, and to be Sold on moderate terms. To be seen at Messrs C. D. YOUNG and CO.'s, 19, Great George-street, Westminster, S.W.

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SQUARES. STANLEY and

MOTION by GRAVITATION.—An

AN ARCHITECT, retiring from a London

Office, 148, Fleet street,

The Builder.

VOL. XVI.—No. 780.

Materials and Inventions at the Architectural Exhibition.

THE list of exhibitors in this department has not increased to the extent that might be expected, which is so much the better for those who do avail themselves of the opportunity afforded, and from which many of them have derived great advantage on previous occasions. When the new galleries are formed and opened in Conduit-street, manufacturers and patentees will be blind to their own interests if they do not send their wares. Several manufacturers feel the importance of obtaining good accommodation for such an exhibition so strongly that they have taken shares in the company. Many others might wisely do the same thing. In the new galleries the various articles exhibited should be classified and kept together. At Suffolk-street the committee are unable to effect this: thus we find clay wares, for example, scattered over both rooms. Eastwood and Sons (No. 1) exhibit some good bricks and crest ornaments. R. and N. Norman, in similar articles, (3) show they have a fine clay to work on. The Ornamental Brickwork (15) exhibited by Lewis Tonson is excellent. Every line is true; and truth, whether in bricks or men, is a fine thing. James Luff, who sends Moulded Bricks and Terra-cotta Panels from a design by Mr. Buxton, M.P. (26) obtained honourable mention from the jury at the Exhibition of 1851. The panels have on the face of them branches of the hop-plant. No. 8 is a collection of bricks and tiles, mostly the blue ware, a very hard material, by W. Gilbert, of the Tividale Works, South Staffordshire. The price should be given with all bricks exhibited, as upon this depends the use that can be made of them. What very different things the word "brick" stands for! On one hand, a compact regular form that would hold its own under a weight of 60 or 70 tons, and would last for ever; on the other, a coarse, friable, twisted, party-coloured, half-burnt piece of earth, that breaks in the handling, and is utterly worthless.

Referring to the finer uses of clay; we have (No. 5), the Tesselated and Mosaic Tiles, and the Glazed and Coloured Bricks, of the Poole Architectural Pottery Company. The specimen of mosaic tiles exhibited by the company seems to show a considerable improvement on previous specimens as respects truth of lines. Of the Specimens of Geometrical Mosaic, sent by Maw and Co. (16), we must speak in the highest terms: the works are the best they have yet produced, both in respect of colour and excellence of finish. The carved line design is, we believe, a novelty in *Mosaic*, at 7s. 6d. a square yard. In figured or encaustic tiles, it could not be executed under nearly three times that price: they circulate a very useful pattern-book, containing some designs of a superior character.

Marked No. 4, are articles manufactured in Scott's patent cement. This cement came into question on the occasion of the Tottenham-court-road accident. It has strong testimonials in its favour. An example of impressed ornament in this material is suggestive. The Decorated Organ-front, 5 A, by S. Fisher, would be ineffective at a distance, a point often not sufficiently considered in decorations of this kind. The Stove exhibited by the London Warming and Ventilating Co. (Mr. Woodcock, secretary), is founded on Mr. Goldsworthy Gurney's views. It is similar in some respects to what is known as the Gill Stove. The museum and buildings of the Department of Art, at Brompton, are warmed by these stoves, and they are well spoken of there. Two of the stoves have been at work during the winter, at St. Andrew's Church, Pimlico. Mr. Pierce, we may here say, exhibits a selection of fresh air and other fire-lump grates, the reputation of which is established.

Amongst the specimens of Parquet Floors and Borders exhibited by the London Parquetry Works (7), is some patent waterproof veneered panelling. "By this system," says the exhibitor, "the dampest walls can be lined with panels of *any size*, in wainscot, walnut, mahogany, rosewood, maple, or other fancy woods, with solid mouldings, at about one-half the cost of the old solid panelling, and without the disadvantage of continual warping, shrinking, and cracking."

The Lizard Serpentine Company are gradually getting their beautiful material into use. They have sent a number of specimens of the stone (No. 9) as applied in the manufacture of chimney-pieces, pedestals, balusters, and other ornamental works. We have before now expressed our admiration of it. The workmanship of some of the specimens, by the way, is very good.

We were asked in the room how marbles and similar materials are turned. The first process is to level one face of the piece selected, and, with a pair of dividers, strike a circle round the outer edge; then, with a mallet and pointed chisel, roughly to work it to a circular form. It is then ready for the lathe, and being fastened with resinous cement to an iron chuck, it is screwed to the lathe spindle, and a very slow motion given to it. The only tool used is a bar of fine steel, about 30 inches long by ¾ in. square, drawn to a point, and well tempered. This is forcibly applied to the marble, which it reduces to the proper form by spelching off small pieces. After the right outline is acquired with this tool, it is ready for the grinding process, the first step being to apply a piece of coarse and hard sandstone, with water (the lathe now having a rapid motion), until all the tool marks are ground out. A finer piece of sandstone is then used to remove the coarse scratches of the previous one, and so on with a few other and still finer stones, until all the scratches are quite obliterated. This prepares it for polishing. A piece of cotton cloth, washed quite clean, and well rubbed with flour-emery, is applied to the marble, and polishes it to a certain extent. A similar piece of cloth is then rubbed over with putty-powder, which gives a very high polish.*

Of enamelled slate G. E. Magnus exhibits several specimens in the shape of chimney-pieces, baths, and stoves (10); but we have nothing to add to former expressions of commendation.

George Jennings, amidst a large collection of his closets, shutter-fasteners, stench-traps, earthenware sleeper-blocks, and sluice-valve (of which latter he states there are more than 1,100 in use), exhibits a length of the Flue-pipe, with extraction chambers (or, as we should rather call them, extraction pipes), for taking off vitiated air, concerning which we lately admitted some letters. If this double flue, so to speak, can be produced with soundness, and at moderate price, it offers a means of ventilation which ought to be largely taken advantage of. A somewhat similar arrangement, we are told, was once attempted at Manchester. Charles Botten and Son's Regulator Closets (14), and H. Tyler and Co.'s brasswork for plumbers (24), are known to most of our readers.

The specimens of Ransome's Patent Silicious Stone (25), shows an inattention to design, as has been the case on previous occasions. The large chimney-piece, if that be its purpose, displaying in its ornamentation an elliptical arch, cherubim, rococo shield, and the conventional fourteenth-century ball-flower, all jumbled together, jars sadly. Cox and Son, who end the catalogue, have some good oak carving (No. 28). This firm has recently issued a fully illustrated trade list.

Messrs. Hart's stand will be found in the left-hand apartment at the end of the large room, and includes some very excellent specimens of brass-work. Some of the house-fittings, knobs, bell-pulls, and other works, are very good. In the adjoining apartment J. Hardman and Co. have some mediæval church and domestic metal-work, which may be fairly regarded as showing the present position of the art of working in metals: in other words, it is as good as anything we have yet done in these days. Rees's patent "self-shadowed glass," as it is called, displayed over the fire-place in this room, might be effectively used as wall diapers. The iron-work of a Jewel Casket (449), executed by Potter, is a skilful production: the ornaments would have been the richer in effect if there had been a second plate of iron introduced on the face: cost, however, had of course to be considered. The casket itself, designed by W. Burges and painted by E. Poynter, presents subjects relating to the extraction and history of gold and the precious stones, and is an artist-like and interesting result. The metal-work we have spoken of will not be the least attractive part of the exhibition,—

> "For since the birth of time, throughout all ages and nations,
> Has the craft of the smith been held in repute by the people."

* Reports by the Juries on Works in the '51 Exhibition.

THE WORKS IN THE ARCHITECTURAL EXHIBITION.*

THE meritorious qualities, and some of the defects, of the modern Gothic school of architecture in England, are exemplified in the series of drawings (371 to 382) representing the design for the Lille Cathedral, by Messrs. Clutton and Burges, which obtained the first premium in the competition. The quantity of design which they contain—for all the features of the plan of a cathedral, the complete decoration in ornament and sculpture; in mural painting, tapestry, lead-lights and stained glass, and tile-paving; and for every kind of fitting and furniture in stone, wood, iron, and brass-work—is really enormous; and the beauty of conception in many of the details, as in figure subjects, and in the mixture of animal life and trefoliated ornament, is most commendable. Everything seems to be shown, that could be needed to complete the structure and furnishing of such a building; and the precision and skill of the drawing throughout, are worthy of all praise. With this it is curious to observe in some of the sculpture, a studious ungainliness of attitude and determined contradiction to anatomy, quite sufficient to justify the satire of *Punch*; and some of the fittings, as the font-cover in mimicry of a castellated structure, seem to be copied line for line from the typical and symbolical, rather than representative drawings of old manuscripts, or from card-board chimney-piece ornaments of recent date. The organ, though deserving of illustration in the *Annales Archéologiques*, by M. Didron (the engraving is shown in 382), if somehow suitable to its location, is surely ugly and bad, itself architecturally considered, and redeemed only by the poetry of the connected story and series of the sculpture. The plan of the cathedral in the design, is cruciform, with

See page 22, *ante*

western towers and spires, apsidal east end and surrounding ambulatory and chapels,—and a larger chapel to the Virgin in the usual position, —and there are also the features of the crypt, double rood-screen; three large western doorways, and one to the north transept; and the triforium, clerestory, groined ceilings, flying buttresses, and massive wall buttresses. The organ is placed in a western gallery. The general style is that of the Early French Gothic; and this is exhibited, not only by the decorative sculpture of the great portals, the central *flèche*, the cluster of chapels at the east, and similar features, but in the character of the carved ornament before alluded to. The nave piers are square, with respouds or engaged shafts. The buttresses are carried up to a considerable height, and terminated by a weathering as well as a tabernacle with square crocketed capping. Amongst the internal fittings may be named the *baldachino* of the high altar, tastefully enriched with colour; and having the figure of an angel bending forward, and holding the chain which suspends the burning lamp. As a piece of hand-work, the drawings are most admirable.

The Brighton Pavilion alterations competition is represented by portions of three sets of drawings; that is to say, we have three external perspective views, two views of the Antheum, and two of the Music-hall, as proposed by different authors. The interiors, as might be expected in the peculiar style, form the most satisfactory portion of the designs; and they indeed display a considerable amount of cleverness in the use of sparkling colour. From the deficiency of plans and other drawings, it is difficult to judge of real merits, as in the case of this modification of an existing building; but, looking merely to the exterior, in the views, the design of Messrs. Manning and Scott (357) appeared to be the best, though it would be improved by some use of colour. One principal addition is that of a lofty tower at an angle of the buildings. The design of Messrs. W. J. Green and L. De Ville, for which the first premium of 200*l.* for this conversion of the riding-house, stables, &c. into public buildings, was awarded, is decorated on the exterior (356) with narrow bands, and arabesque or Indian ornament to the spandrils of the arches, in red; and Mr. Webbe's design alters the exterior (361) greatly, by the addition of porches and verandahs with red-tiled roofs, turrets, and towers—some with large bulbous domes—and decoration of lattice-work pattern in blue colour to the spandrils. The interior of the Antheum, by Messrs. Manning and Scott (358) and by Mr. Webbe (360), is in each case effectively treated, with a fountain in the centre, and decoration in positive colour in elaborate patterns. No. 358 has a simple gallery within the columns of the upper story, whilst No. 360 brackets out the same feature, introducing ornamental standards for lights. The Music-hall, both of Messrs. Green and De Ville (355) and Mr. Webbe (359) is effective; but the latter is the best, except in the management of the orchestra end. In No. 355 the projection in the centre of the orchestra front, with the steps to it from each side, fills up effectively what is often a blank, or an ungainly feature in the very centre of the view. Each design takes the elliptical form for the main ribs or arches of the ceiling. No. 355 fills in the bays, or divisions of the length, with circular lights, and groins in with transverse arches for the windows: 359 makes long lantern-lights the prominent feature, rising from a cove on each side, into which the side windows groin. Both views are elaborate in colour and gold. The ornament in 355 has the character of that of the Alhambra.

Those who think that competition affords the means of calling forth talent that otherwise would be dormant, could scarcely instance the designs for the Islington Vestry-hall which there are in the Architectural Exhibition, in evidence of their argument. There are thirteen here, and we are compelled to say a few words about the drawings, though the whole subject of this competition may be fresh in our readers' recollection. It will be remembered, that the committee began by rejecting, indiscriminately, all designs which had towers. Now, as a tower of some sort might consistently appear in a building of the kind proposed,—especially considering that a clock was not unlikely to be deemed necessary, considering also that town-halls, as for example those of the Netherlands, have generally towers, to object to designs on such ground alone, would have appeared as reasonable as the rejection of a design for a church on account of its showing a steeple. A collateral point in the case, going to make up the sum of absurdity and injustice, was, that no stipulation as to the omission of such a feature as the tower, occurred in the instructions. Many of the designs in the Architectural Exhibition belong to the number that were rejected on the ground referred to. Some of the designs without towers, are mere blocks, with no effect of outline or general grouping, or any produced by recesses or projections, or new combinations of detail. Such a design is that shown in Nos. 303 and 304, which exhibits only long arch-headed windows to the principal room, in an upper story. Mr. Wagstaff's design, A B C (306) "one of the four selected by the committee, and especially recommended to the Vestrymen," is still, little more than a mere block, though with the addition of decorative details—Italian, but common-place. Another design to a similar general plan, appears to be shown by the same author in No. 317. No. 305—Driver and Webber—is, we think, injured by the slight introduction of coloured materials amongst the general stone-work. The other details, of Italian character, may be inferior in themselves to those of the last-named designs: it is, however, quite consistent with this observation, to say that in certain respects the design is better,—as generally, and in regard to a doorway which there is in the clock-tower at the angle. No. 307—Finch Hill, and Paraire ("Islingtonian")—has a tetrastyle Ionic portico with a pediment of too great height, and a tower with a high truncated roof. Mr. J. W. Papworth's design (308 to 310) relies for its chief effect on the combination of yellow and red brick with white stone dressings,—the red bricks, however, being used for angles and strings, rather than in patterns. The square tower at the angle wants height, or a proper termination. The best feature is a portico of five arches on columns: the rest of the design wants decorative character.

It would be difficult to offer less evidence of *design* than there is in Mr. Goodchild's drawing (311): the Italian details are of poor character; and the four salient columns, placed very far apart, which form the chief decorative feature, have no obvious purpose. Mr. Rovedino's design, "Utilitas" (312 and 313), is in the very different manner lately in vogue, namely, that substituting arcades, with shafts or moulded jambs and coloured bricks to the arches (which last are pointed on the extrados), in the different stories, for the features of architraves and the like Italian details. The manner is already getting over-done. Mr. Rovedino's design, however, is more commendable than many. The basement is of red and yellow bricks, in courses; the main wall-surface above is of white brick, with the coloured decoration to the windows and recesses, and cornice, as before described: there is a porch of three arches on columns; and a central feature to the flank, roofed square on the plan, and surmounted by a clock turret. Mr. Edmeston's design, "Progress" (314 to 316), is perhaps the best of those exhibited. A square tower, with a diminished upper stage and a high roof, projects at the angle; and it is flanked by a porch of three arches on columns of coloured marble or granite, on steps, to inclose the entrance, and form a balcony stage above, which is surrounded with ornamental iron railing. The decorative character otherwise, is given by the long arch-headed windows of the meeting-room in the upper story, which have stone arch-volts, and red brick voussoirs, rising from continuous impost-strings; whilst each opening has a central shaft and spandril ornament in iron. Mr. Dwyer, "Islington" (318 and 319), is one of those from whom more might have been expected. His manner is recognizable from the combination of French and Elizabethan peculiarities with details generally of Italian character; but the slightest attention to examples in the latter style, could not but have warned the author from the use of weak and attenuated mouldings—questionable both in architecture rustic, and *boutiquierian* (if we may invent a word for the architecture of shops and shopkeepers), and utterly indefensible in, and destructive to, the expression of a public building. The interior of the Vestry Hall, with galleries, and lighted with rose-lights, is better. The character of a public building, and meeting-hall, is what several of these designs do not express; and generally, in subjects of this kind, we may say that the defect appears to exist in designs which, from whatever arguments, depart from the basis of style long in use, giving us *mere* novelty, *mere* coloured pattern-work, or *mere* quaintness, in place of new combinations of even known features, —as of the style called "Italian," which can be enriched with materials from any and every source, but so long as the basis and general harmony are maintained. To Mr. C. Gray's design (320) some of these remarks would be properly applied. The drawing shows some excellent Italian details, conjoined with others different in style, and productive of inharmonious effect. Such features are the heads to the lower windows, *quasi*-cuspidated in form, and the twisted shafts and mouldings introduced in jambs and window-heads. The structural principles which, even in decoration, are to be observed, also are departed from in the omission of the coins to the top story,—considering that those below are of massive appearance, and that there is apparent weight in the cluster of chimney-shafts to be supported; whilst the modification from the usual profiles of window-trusses, to a line bellying outwards, is of no advantage, and quite indefensible. The porch of clustered columns, the balconies, string-courses and cornice, have, however, merit, — which would have characterized the whole design, had the merely eccentric features of detail been less prominent. We may here mention Mr. Gray's "Woburn Chambers, Henrietta Street, Covent Garden" (75), as injured by many of the like errors. It offers some good details; and the desire of its author, in each of his works, to do something better and something new, is one such as, duly regulated, would lead to the results that are wanted. He has in this last work, chosen cement as a vehicle of his design, in place of decorative brick-work. What his manner before wanted, was not novelty of detail, but proportion in the separate window-openings, and grouping of them, or of the stories, in the height of the building.

There are still two more of the designs for the Islington building in the catalogue. The design by Mr. J. P. Jones (321), may claim to be the best of these, on the score of general character,—which, however, as nearly belonging to the style of Chelsea Hospital, is hardly desirable for adoption now, and in the case of the present required structure,—but the centre of the entrance front, with a loggia with rusticated piers, on steps, and pilasters and arch-headed windows in the upper floor, is well managed. A square portion of the plan at the angle is carried up as a low tower, and has the clock faces in what would be the position of dormers to the curb-roof. Red brick, and stone for dressings, of course are used. The large segmental pediment to a principal feature of the plan, is one of the defects of the old style, and architects should not imitate it. The design of Messrs. Lander and Bedells (322), is an illustration of the singular character of the works in this competition. Bad drawing and misconception of all relative proportion in details,—as witness the Brobdignagian buttresses to the ground story,—are conjoined, and seem to have acted and re-acted to produce a result which we could hardly have looked for from architects of whose works it has been our fortune at other times to speak with approval. We have no liking for damnatory criticism: in some cases, however, it is a duty; and certainly we have not lately had so little cause for congratulation in reference to the progress of our art, as that which has been afforded by incidents of the Islington Vestry Hall competition.

The designs for the Crimean Memorial, Sheffield, are seven in number, and all are in the Gothic style, and in the general outline belong to the same class as the Eleanor crosses. The same remark will apply to the principal designs for the Brotherton Memorial. Some of the number, however, include a statue, the main portion of the structure forming the canopy or tabernacle. Mr. Goldie's "Selected Design" for the Crimean Memorial (324), differs from the other works in style, inasmuch as it belongs to the Italian version of Gothic. It consists, as we have elsewhere said, of a square base with angle pedestals, supporting tabernacles and statues, with a central canopy or tabernacle, quadrangular in plan, over a seated figure; the latter being supported on a cluster of shafts of red and slate coloured marble. An illustration of this design will be found in our present number. The design by Messrs. Driver and Webber (325), has an upper stage to the base or pedestal, with canopied panels for sculpture: the character of the whole is that of the English Decorated Gothic, the outline is less obtusely pyramidal than the first design, and the spirelet is crocketed and enriched with lucarnes. No. 326—J. Robinson—has a square base, supporting tabernacles, and an octagonal shaft and spire-capping. No. 329—W. G. Smith—has considerable variety of feature in the plan at different stages, and in the details, but makes little use of sculpture or ornament. It has a base surmounted in each face by duplicated gables, enclosing panels and niches above these, are various weatherings and panels and a square tower-like stage, with pinnacles, and a crowning spirelet, octagonal and crocketed

No. 331—S. J. Nicholl—diminishes directly from the base to an octagonal stage surrounded by canopies and statues, and crowned by a spirelet. The base has angle buttresses, and openings with overhanging fronts which support the tabernacles. The design for the Brotherton Memorial (327), by Messrs. Pritchett and Sons, is in the Decorated Gothic style, and has a square base with crocketed gables, buttresses and pinnacles, and a niche for a statue under an ogee canopy. The last-named feature is distorted in the drawing. Above, are two octagonal stages, surmounted by a crocketed spirelet, and surrounded by niches and canopies, with statues. The general outline is good. Mr. Smith's design for the same monument (328) has a square base, gabled, with panels and buttresses, above which is an octagon stage, with duplicated gables; and this is surmounted by a tall ogee capping on an octagonal base. Both Mr. Smith's designs would have been improved as monuments, by being made more sculpturesque in character. The design by Mr. Nicholl (330) has a peculiar plan: the principal front has a wide arch, and the back of the monument a cluster of arches on octagonal plan, the whole forming a canopied shrine over a raised sarcophagus or tomb, which is reached by lateral flights of steps. No. 332, by Mr. Robinson, is a structure with bearing shafts and cusped arches, raised over a tomb. The miniature gables to the cornice and heads of the arches, are very unsightly: the arches appear to have no office of support, and the effect is that of structural weakness.

VISITS TO MANUFACTORIES CONNECTED WITH BUILDING, DECORATION, AND FURNISHING.

FLOOR-CLOTH.

MAKING general inquiry, it is suprising to find how little is known of the history of, and the mode of producing, many articles of general use, which are almost constantly in view: for instance, we have met with house-painters who had been engaged on that work for a number of years and had no idea of the manner of manufacturing white-lead or the other pigments which their occupation constantly called them to use; and it is this ignorance which often causes loss of both health and life. Independently, however, of such important considerations, knowledge seldom fails to convey pleasure, and induce feelings of interest in connection with the objects concerned. A notice of some of the more important manufactures connected with building and furnishing may therefore interest our readers. In such a wide field it is not easy to determine the order of subject, but, guided by chance on the present occasion, we will proceed to

The Oil-cloth Works of Messrs. Smith and Baber, at Knightsbridge, which form a prominent and well-known feature in the neighbourhood. The building is of considerable height and extent, and is not destitute of a certain amount of merit as regards its outward architectural design. An inscription on the outside of the building announces that this manufactory was originally founded in 1754, by Nathan Smith (it was on a comparatively small scale): it has been destroyed by fire, but, phœnix-like, has risen of increased size from the ashes.

On entering the building the necessity for such large area is at once evident, for, suspended from a great height, with space between to admit the passage of air, is an immense number of webs of oil-cloth undergoing the process of drying, and each of which is from 60 feet to 100 feet in length, and 24 feet in breadth. Without, however, at present particularly noticing these immense productions, and somewhat overpowered by the oily smell of the atmosphere, we will follow our guide to inspect some large bales of stout canvas, which, we are told, is manufactured by Thomas Bell, of Dundee, without a seam, of size sufficient for the sheets of oil-cloth to which we have alluded.

In order to commence this manufacture, a piece of the canvas of the size required is laid upon the floor of the large drying apartment, and attached to a strong roller of the necessary width, and then hoisted aloft by a crane provided for that purpose. We will follow the web up sundry steep staircases, from which we have views very like the upper part of the stage of our large theatres; and having reached a considerable elevation, find that the long side of the canvas (the short side is fastened to the upright roller) has been fixed into a frame. We then perceive that there are substantial uprights of wood at a distance from each other, corresponding with the width of the roll, to which the canvas is tacked: it is then fastened at the bottom, and is strained by the movement of the roller, until the whole has a firm and resisting tightness. Having noticed this operation, we perceive that there is a considerable number of sheets strained in a similar manner, which are placed at about a yard apart, and that between each are galleries formed by a plank of wood, with posts at intervals, that can be climbed by ledges which are fixed upon them.

Having seen the pieces of canvas which have been raised and fixed, we notice that the surface is somewhat rough and downy, and has certain knots, that would not be likely to admit of the reception of a smooth surface of paint. This, however, is remedied by the workmen, who rub each side vigorously with wet pumice-stone. After this process the hand may be passed pleasantly over without interruption, and the grain of the cloth is so good, that a higher class of artists than those here employed would feel tempted to have a portion of it to operate upon. After this is dry, the sheet is covered by a coat of oil paint, in the same manner as in ordinary house-painting, on each side. When that is dry it is pumiced again, and, in consequence, the surface is still further improved; and then, in due course, three more layers of paint are laid on, on one side, and two on the other, that is, for the best work.

The manner of laying on the last coats of the colour is peculiar. The pigments are mixed until they have such a body that when the mixed tint is dashed from the pail by an ordinary painting-brush, it sticks in something of a limp putty form upon the canvas. The workman having with some force daubed on a quantity of his material, proceeds with an elastic trowel to spread it evenly about; when this has been done over the whole, and it is dry, the original canvas is of thick substance, and presents a beautifully flat and even surface. It is a work of time to dry these coats of paint; but when all is finished, each piece is removed once more to the floor of the drying-room, unrolled, and receives two square lines for guides in washing. By a skilful contrivance it is again hoisted to a horizontal table, over which, when the process we are about to describe has been completed, the sheet can be again passed to the depths below.

We have now one of the large sheets prepared with the groundwork of suitable colour, to receive the pattern, and this process is so simple and certain that it is pleasant to see it in operation.

In the printing-loft the sheet of canvas, prepared, as already described, by a tint of suitable colour, is spread over the table, and workmen are engaged at slabs, on each of which are the different tints required to complete the design: engraved wood blocks, similar to those used for letter-press printing, are each thickly covered with the colours needed to complete the design. This is managed in the same way as the registered colour printing of wood engraving and lithography. Some designs require four or five, or even more blocks of different colours to complete the pattern. Each block used for this purpose is from 18 inches to 2 feet square; at every corner is a sharp point, and the prepared canvas being passed over the top of the table, it is easy to fix the blocks covered with paint, and by pressure transfer the patterns to the cloth. When one of these sheets has been thus finished, and any imperfections in the printing removed by touching neatly with pencils, the cloth is hung in the drying-room for at least six months, when it is fit for use.

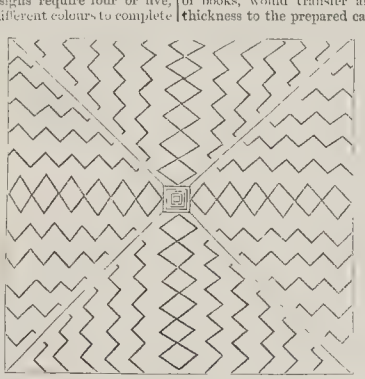
On descending towards the ground-floor we are shown a large collection of the blocks required, which, in order to prevent them from splitting, are kept well oiled and in an even atmosphere. Leading from the drying-ground are large tanks of oil, powerful mills for grinding and crushing colours, and other large tanks filled with the preparations of suitable thickness. Very little turpentine is used in this manufacture, and that only in extremely frosty weather.

Having thus briefly glanced at the means by which the oil-cloth is prepared, it is worth while to examine the numerous specimens which are ready for use in the drying-room. Some consist of imitations of marble floors, of divers colours, and of diamond and square forms; others are copies of marqueterie. There are also imitations of Roman mosaic pavements and mediæval encaustic tiles. Some patterns are designed in imitation of Turkey carpets. Some of the work is very admirable, but an entirely different style of design might be added with advantage.

In former times, richly embossed leather and other heavy substances were used for wall-hangings. Cases occur wherein oil-cloth, of suitable design, might be made available for the walls of apartments: it would have the advantage of durability, be easily cleansed by washing, and at times, when necessary, removed for the examination of the walls.

The use of a home-made description of oil-cloth is probably of considerable antiquity, but in a mercantile point of view, it was, about a century ago, in little demand, and was made in very small sheets. The idea of a whole piece of oil-cloth 100 feet by 60 feet would then have been looked upon as an impossibility as great as travelling sixty miles an hour.

To Mr. Nathan Smith this branch of art is deeply indebted. Before the year 1754, this persevering manufacturer was accustomed to manufacture floorcloth in pieces of two or three yards square by the only method known at that time; the plan of laying on the tints of the pattern was the same as that used in the stencilling of wall patterns, viz.: either by cut cardboards or thin metal; through the insterstices the colours were applied: by this means it was difficult to get a sufficiently thick body of colour upon the cloth. In order to obviate this fault, Mr. Smith devised the use of blocks of pear-tree wood, on which he engraved a pattern, and which, like the type and wood blocks used by the printer of books, would transfer an impression of some thickness to the prepared canvas.*



Mr. Dodd, the author of a very useful book on certain English manufactures, published by Charles Knight, says that Mr. Smith kept the discovery of the application of block-printing for a long time a secret, and that he used to print all the oil-cloth done in this way with his own hands. Less than a century ago, most traders had, or pretended to have, certain secrets which were carefully hidden from their brother professors of the same craft, and also from the curious stranger. This state of affairs is now, however, to a considerable extent changed, and manufacturers depend rather on their skill of production and the protection of the laws which foster ingenuity, than on the old-fashioned method of secret manufactures though this is not altogether given up even now.

* The adjoining engraving shows the pattern on the first wood-block used for this purpose, and which is still retained as a curiosity in Smith and Baber's establishment.

REVIEW OF THE ARCHITECTURE AND HISTORY OF THE ROUND TOWERS OF IRELAND.*

Of the subjects which have fallen within the range of architectural inquiry, few have been attended with the degree of mystery which has attached to that which we now propose to examine. Works which claim an origin in the remotest ages of the world, and which are found in regions once civilized—now lost in barbarism, have had their due share of examination and discussion, and at the present day there are very few architectural monuments in any part of the world whose use and object are not fully understood. Even the long unsolved problem of the Pyramids of Egypt has been unravelled. It is, therefore, most remarkable that the purpose of these monuments of former ages existing in our sister island should still be to many a doubtful question. The ground for examination is not so extensive as to preclude a close scrutiny of the whole of it, which makes it the more surprising that it should not have been attempted until quite in our own times, although there has been more theory and more writing upon it than perhaps any other single vexed question of an architectural nature has received. We have before us illustrations of fifty-seven of the round towers; to this number must be added five more, which will, I believe, include all that are to be found in various stages of existence, from the mere foundation or pile of stones to the complete building. I may say that these five which are wanting to us are among the least perfect remaining. Then we have to unite, in the examination, with the towers, the buildings in conjunction with which they are invariably found, and further, to make the survey complete, it should include those places at which the particular kind of building is known to have existed. The largest list that I have been able to find or make gives 120 sites, which either have, or are reputed to have had, round towers. My own visits have as yet extended to 104 of these places, and the inspection of the places, and of the authorities which have attributed towers to several of them, has shown that the number of which anything is known is something less than 120. I propose, then, to see whether it is not possible, by the architectural features of the buildings, to assign a chronological order to them, and to test and confirm this arrangement by reference to historical authorities.

Before doing so it may not be amiss, as I believe the subject has not before been brought prominently before this Institute, to sum up the various opinions that have been advocated as to the origin and use of the Irish pillar tower.

The question was first raised in 1662, by John Lynch, who wrote to overthrow the misstatements of the celebrated Geraldus Cambrensis, who, in the twelfth century, had produced a topography of Ireland. Lynch remarked that the Danes are *reported* to be the first builders of these towers. In 1684, the author of the "Prospect of Ireland" adopts this report, and announces it as a fact, and, in the beginning of the next century, Dr. Molyneux, chiefly on the wrong assumption that the native Irish were ignorant of the use of lime-mortar, again attributes them to the Danes. In 1790, Dr. Ledwich, whose opinion had considerable effect at the time, followed in the same theory, and sharply contested the ground with counter theories which had then sprung up. I believe it is now on all sides conceded that these Scandinavian invaders, who held only posts on the sea-side, who are noticed in the Irish annals almost wholly for their savage and plundering habits, from the year 795, their first invasion, till the great battle of Clontarf, in 1013, when their power was finally broken, could not have erected structures which are equally spread over the entire island. It will also occur to most, that if the towers had originated with this people, similar structures would be found in Britain, and on the Continent, where they governed or settled, and this we know is contrary to the fact.

The antagonist of Dr. Ledwich was General Vallancey, who, in 1772, suggested that the round towers were the remains of a people of fire-worshippers, and that these buildings were erected to preserve the fire of the Arch-druids. He supposed, also, that they were used for making celestial observations, and for other purposes derived from Eastern worship. Vallancey was supported by others of his own time, and, within the present century, by a very learned and discriminating writer, Dr. Lanigan, by Dr. Charles O'Connor, the learned Librarian of Stowe, whose theories nearly agree with Vallancey's, although on different foundations; and by several other writers, including Thomas Moore, and some who are still living, to combat for these views, and whose ingenuity has, besides, brought in additional articles, such as that the towers were erected as places of sepulchre in Pagan times. This last idea is the result of the excavation to the foundation of several of the towers, in which human remains have unquestionably been found. Very precise accounts of the results of the operations are to be found in the *Ulster Journal of Archæology*, and in the proceedings of the South Munster Antiquaries, but it is difficult to discover in them anything which is not readily accounted for by the fact that every one of the round towers is planted in a graveyard of ancient date. As to the theories concerning fire-worship, it is to be observed that they would assign to the towers an extraordinary antiquity, not in itself impossible, but which can hardly be yielded on the very slight ground of remote affinities in ancient languages, respecting which I do not pretend to judge, but which a living writer, Dr. Petrie, has very closely examined and dismissed, and as to any analogy between these towers and existing structures, which are now and have been devoted to fire-worship, none whatever has been established, although attempted.

It has besides been put forth that the pillar towers were anchorite columns of early Christian date, in imitation of those of the Eastern ascetics, who retired to lead their lives in solitude, in a sort of pulpit forming the top of a pillar. This opinion originated with an Irish clergyman, and was warmly supported by the editor of Sir James Ware's works at the beginning of last century, and later by Dr. Milner and Mr. King.

A somewhat similar opinion in the middle of the last century gave to these towers the use of penitential prisons; and this opinion was adopted in 1806 by that distinguished antiquary Sir R. Coll Hoare.

Of these able and learned writers it may be observed, that scarcely any display the least knowledge of architecture, and they had not the advantages for the study of this branch of the subject which have since been developed. We now come to a period when this important element was introduced into the inquiry; and one of the first instances is found in "Bell's Prize Essay on Gothic Architecture in Ireland," published in 1829. He visited thirty-two of them, and gives them a place in Early Christian architecture. Then we have Mr. Wilkinson's work, giving some particulars of thirty two of these edifices; and lastly we have the laborious and splendid work of Dr. Petrie, "The Ecclesiastical Architecture of Ireland, and the Origin and Uses of the Round Towers." Dr Petrie combats at great length, and with great learning, the whole of the theories which I have sketched as preceding him, and designs to establish that they are of Christian and Ecclesiastical origin, erected at various periods during the fifth and thirteenth centuries; that they probably united the purposes of belfries, places of strength for the preservation of relics, sacred utensils, and valuables, and may have been used occasionally for beacons and watch-towers. He gives a vast amount of information and illustration, but his work is avowedly wanting in illustrations of the round towers themselves, which, though promised, have never been published. On the early architecture of Ireland he throws a flood of light, which shows it to have been far more important than any before his time had supposed.

I may now proceed to speak of the general characteristics of the monuments themselves, of which it is admitted by the advocates of every shade of opinion, almost without exception, that the towers were in early Christian ages used for belfries, as some say, after their original purpose was forgotten; and further, that the buildings found with them were from the first churches; when these buildings have been noticed at all; but a majority of the theorists have left them entirely out of the question.

I have stated that the number of towers of which I have any information does not amount to 120. Of course many more must have existed in earlier times; and some idea of the loss sustained may be formed by the knowledge that nine have disappeared since the commencement of the eighteenth century, and four of them were deliberately destroyed. The towers are without exception, placed in the immediate vicinity of other buildings, which now stand together with them in graveyards. In the few instances in which by lapse of time the other buildings have disappeared or the situation may seem to be different, it can be shown on sound evidence that these adjuncts were once with them, as in the great majority of instances we still find them.

We shall see presently what evidence there is to show that these adjuncts were churches from the first; and for the present assume that they are. Usually, then, we have at each site one church and one tower; and at places where the churches are numerous, still the tower seems to belong to one in particular. Examples of this are at Inniscattery, where now six distinct buildings or churches are found, besides the round tower; and at Inniscaltra and other places which are reputed to have had the mystic number of seven churches. I have determined the position of sixty-six of the the towers in respect to their adjunct churches, of which I find thirty occupy a position to the north-west of the churches, twelve are placed to the south-west, and of the remainder five are, or were, in contact with the adjunctive buildings, and are in most respects so exceptional that I shall not further notice them at present; and the others placed to the west, north, and south. None that I have seen occupy an eastern position. Omitting the five exceptional attached towers, all are cylindrical shafts, tapering towards the top, but not always in the same ratio. Ardmore has the greatest taper. The shaft is diminished at the top by two-fifths of its lower diameter, whilst the least diminution is found in the tower at Turlough, the taper being in this case scarcely more than an eighth of the lower diameter. We have towers remaining with part or the whole of their original roofs of stone, brought into a conical form by corbelling over, so as to form, when entire, as nearly as possible, an equilateral triangle in section. In dimension, the highest towers have not always the greatest diameter. Ferlagh, Kilkenny county, is the highest; it is 100 feet to the commencement of the roof, which, when perfect, must have raised it as nearly as possible to 111 feet: the diameter at the base is 15 feet 8 inches. Kilmacdugh, the next in height, and still nearly perfect, is 96 feet 8 inches to its cornice, and must have been 109 feet complete: it is 18 feet 6 inches in diameter. Turlough, which is only 62 feet 6 inches to the cornice, and has the roof nearly perfect, was 74 or 75 feet complete, and is 18 feet diameter. This one is much below the average height of the perfect ones remaining; but there is one on a little island in the Atlantic, 6 miles from the coast of Donegal, Tory Island, which is only 40 feet to the cornice, must have been 51 or 52 feet complete, and is 16 feet 4 inches in diameter at the base. This is the least altitude that has been used, and it may have been adopted in this case from the severe trials which, from the nature of its situation, on a solitary rocky island, it was necessary it should be prepared to sustain in the Atlantic tempests. Many of the towers spring from a plain plinth, which rises 2 to 3 feet above the ground, sometimes in two steps. The entrances to the towers are invariably raised considerably from the ground, —that at Kilmacduagh so much so as to be seen in the view above the walls of the ruined cathedral when viewed from beyond that building. The height is 29 feet in this instance; usually it is not less than 10 feet. In some instances entrances have been made in later times at the ground level, but are readily to be distinguished from the original ones. The entrance to the tower always faces towards the church, where a church of corresponding construction is co-existent. The form of the door admits of only two varieties, viz. the circular arch and the flat head, and of these two the circular form is found three times for every one of the rectangular in forty-three existing examples. All openings, both doors and windows, have the jambs inclined, so as to contract the width of the opening at the top, and likewise both doors and windows have the jambs parallel in plan, *i. e.* without any splay, but many of the doorways have a reveal on the inside for a door;—in some cases means for securing the door by means of a bar let into projecting stone sockets; and this, it is to be observed, could only be used by persons who would thereby fasten themselves inside the building. In one case there is provision for two bars. The hinges seem always to have had iron hooks let into the stone in the modern way, but in almost every instance these hooks have been removed by violence.

Of the arched doors, that of Glendalough may be taken for an example as to size. It is 2 feet wide at bottom, 1 foot 9½ in. at springing, and 5 feet 8 in. high to the crown of the arch. Of the flat-headed doors, Lusk is 2 feet 1 in. wide at bottom, 19½ at top, and 5 feet 11 in. high; and the variation from these dimensions in other examples is very slight.

In the interior the towers were divided into stages. In a few instances there is very little

* Read by Mr. Gordon M. Hills, at the Royal Institute of Architects, as elsewhere mentioned.

mark of these stages or floors left, but usually a sailing course of stone, or a set-off in the walls, formed a rest for the floor. Only three or four ancient floors remain, and three of these are formed by a very flat arch or dome rising less than a foot, and of rough stone grouted with mortar. The fourth is of slabs of slate: of its antiquity I am not certain. Taking seventeen examples of perfect, or nearly perfect, towers, we have six of them divided into eight stages, seven into seven stages, three into six stages, and one—that on Tory Island—into four stages; one tower, now imperfect, seems to have had nine stages. The ground stage, or stage below the door, is sometimes filled up to the door, but I think was never built solid so high as that: rarely it may have been so for 3 or 4 feet above ground. Mostly this story is vacant, and only one instance occurs of a light, which is a circular hole on the outside 6 inches diameter, and splayed on the inside to ¼ inch wide, with inclined jambs 9 inches high, and a flat segmental head cut in a single stone. The second, or door stage, has in a few cases a window over the door. The other stages, except the top one, have one window each, and the only rule followed in them seems to have been to place them at from 8 to 18 inches from the several floors; thus, from the small size of the windows, placing the upper part of each apartment almost in darkness. Instances occur rarely in which there is no window in a stage. In the upper stage of the tower are found two instances with eight windows, both of which, however, are not original, but have been altered to their present state. Of pure examples, two towers have six windows at the top, one has five, and all others have four; and these four face the cardinal points very nearly, but a distinct variation from that direction can be detected in one or two cases. In the form of the windows three distinct modes appear, viz. with semi-circular heads, with flat heads, and with angular heads, such as in England are considered usually, though not always, to designate work of an age before the Norman Conquest, and we have sometimes a window which takes one of these forms on the outside, and another of them on the inside. When a window occurs over the door, it is the largest in the lower, approaching the door in size; otherwise the top windows, except in one example, are the largest. Those of Ardmore, which unite the arched and angular form in the head of three of them, are 1 ft. 5 in. wide at the sill, 1 ft. 2 in. at the springing, and 3 ft. 5 in. high to that point, the sills being 1 ft. 8 in. above the floor. The fourth window is flat-headed. These are a fair example for size and position of the whole. The windows in the various intermediate stages are smaller: 1 ft. wide at the bottom, 10 in. at the top, and 2 ft. high, will give a fair average, and placed, as before observed, very close to the floor, with very few exceptions. In only one example have we an enrichment on the windows, but many of the doors are more or less decorated, as we shall presently have to consider, and at the same time to see the manner in which the material is worked and used. The material is always that of the neighbourhood. In the north we have basaltic rock, granite, and whinstone and slate; in the central districts, limestone of various qualities, but always hard. I have seen nothing like our oolite stones. The only building I have seen of oolite is Killola Tower, which is constructed of a very hard dark grey stone, and stands on a rock of the same. There is one of the Towers in Mayo, of sandstone, although within the limestone district. In the south, sandstone is the prevailing material used, still we have towers situated amidst slate rock, and built of slate and granite used under similar circumstances. Where the native rock is not suitable for chiselled work, sandstone and granite have been used for the doors and windows.

The decoration of the doors is usually of a very simple kind. Of eleven with flat heads, only one has any ornament, which is a flat band or architrave, made to extend all round the door on its face, but apparently never finished. The others are, the most of them, of wrought masonry, but the beds not parallel, and the stones curiously notched and fitted together, and the remainder of rudely hammered stones. The walls of the towers are 3 feet 6 inches to 4 feet 6 inches thick, and it is not uncommon to find the jamb-stones go quite through the wall. The head and sill are each frequently in one through stone, 6 feet by 7 feet in length, and of proportional thickness. Of thirty-two arched doors, again, a large proportion are without ornament, viz. sixteen; the other half of them have, four of them, plain flat architraves, all round, as Kilree and another (Kell's Meath) differs only in having had a human face in relief on one jamb, and a small block left for carving on the other; another has the centre of this band architrave, sunk out, the sinking stopped at the springings and centre of the arch, and this arch is constructed with horizontal and not radiating joints. Aghavallie has the band relieved by a single groove, near the outer edge of the face. Cashel has the plain architrave on the face, and a plain blocking impost running through the doorway at the springing. O'Ruark's Tower, at Clonmacnois, has the impost and not the architrave. The first approach to ornament is in that of Rattoo, a very well-wrought doorway, with a plain architrave, and curious scroll, in very low relief, over the head. Donaghmore, Meath, is remarkable, and is one on which the advocates of a Christian origin have greatly relied to support their cause. It has the band architrave, with a bead on each edge, and a sculpture of the Crucifixion on the keystone with "human head on each jamb; making a total of ten to this class of architrave, with the round arch, as compared with one example only, to the flat head. The remaining five doors (Antrim, Dysart, Kildare, Timahoe, Ardmore) are shown on the diagrams. Antrim belongs to the first and largest class of the arched doorways, being only remarkable for the cross in relief over the head, and from the manner of the execution, evidently coeval with the tower, which is built of basaltic rock, and the door of large blocks of porphyry, well wrought. Dysart has the band architrave increased, to project 4 inches instead of only 1 inch, and it is moulded, and, except the sill and the head, is further enriched with pellets, or spherical ornaments, in the centre of the mouldings. This lower is wholly of sandstone, and the door is of a red sandstone of inferior quality, and has suffered greatly from time and violence. Kildare and Timahoe are extraordinarily rich with zig-zag and sculpture, all in very low relief, the capitals and bases of the jamb-shafts very peculiar. Timahoe is quite perfect, but Kildare has been greatly mutilated in the external parts. It retains, however, a feature peculiar to itself in the remains of a gable canopy over the head of the door outside, and which is unquestionably original; both are constructed of sandstone, which also enters largely into the construction of both of the towers. The last to be noticed is the doorway of Ardmore, which has merely a large bead, and rises on the angle of the jamb, and a flat projection on the face of the sill, in which some have thought two channels were caused by the wear of bell-ropes passing out of the door, and pulled from the ground. I believe they mark where it has been the custom at some time, to place a ladder against the tower for access to the door. This tower is remarkable for having round it three string courses (a torus each of them), and which do not correspond to the divisions of the internal stages. The apex is shown in several prints of the last century, with a cross or finial upon it; whatever it was has disappeared. The material of this tower is all a very good sandstone, wrought in regular ashlar, and in very good condition. Another singularity in this tower is that in several of the stages (which in most other towers are furnished with one or more rough projecting corbels, quite irregularly placed), the corbels are variously sculptured, and the whole interior of the tower is as carefully finished as its exterior. Another tower, which should now be specially noticed, is Devenish. The doorway has been already included in the four plain banded architraves. On the apex is a stone of a swelling shape, as if it were the base of a finial; and I have somewhere seen it described, by a writer of the last century, as then possessing an ornament which he likens to a crescent, and which was, doubtless, imperfect. At the base of the conical roof, where in all the other towers is a plain projecting blocking, or sailing course, we have here a richly-wrought band, with four human faces upon it. My diagram is taken from Dr. Petrie's book, and I believe his drawing was made some years ago, when a scaffold was erected to execute some repairs to the roof. It is impossible to speak too well of the execution of the masonry of this tower; it is wholly in sandstone of an exceedingly rich and warm colour; and, although the beds and joints are not parallel, and the courses consequently irregular, the whole is fitted together with the greatest truth and accuracy. The Tower of Swords yet retains on its summit a small plain stone cross, but not the original finial. About eighty years since the tower was very injudiciously repaired, and the present cross erected, but the old one taken down, and of which it appears to be the counterpart, is pointed out at the head of a grave in the churchyard. I have elsewhere, myself, observed in the churchyard the summit stone of the fallen roof, mortised, to receive a finial. To conclude the detail of the towers, we have only to notice Kinneh, which is hexagonal in plan to a certain height above the door, where the form changes to the usual cylinder, having the haunches at the angles of the hexagon finished by pyramidal weatherings.

The construction of the walls, as might be expected, depends greatly on the nature of the stone, and the facility of working it. It is in some cases wholly of rough stone, and uncoursed, whilst in others the stone, though undressed, is ranged into courses, and in these instances the material belongs to granite and other plutonic rocks. The greater number of towers are of coursed work, in which very large stones, chopped or chiselled to the curve on the face, but the beds and joints inmost. Near the base of the tower, it is not uncommon to find stones 7 and 8 feet long, and even more. This construction is usually of limestone, and the best example of it, showing great accuracy in the filling together of the work, is in the tower of Kilmacduagh: others are in sandstone, and a few in the harder rocks. Another class is where the stones are jointed as well as faced, but not brought to parallel beds and joints: examples of this are Aghadoe, Devenish, Cashel, and two or three others. A still more advanced style of work of ashlar, in squared courses, is found in Ardmore and at Clonmacnois. These two last classes are executed in sandstone.

In association with sixteen of the existing towers, or where there is undoubted authority for their past existence, I find churches exhibiting in their doors and windows and walling the same peculiarities as the towers. The doors are flat-headed, the jambs incline inwards; the flat band architrave is applied on the face. The windows are exceedingly small, and are flat, angle and round headed, but differ from the towers in being splayed inwards, most usually having an arched head on the inside, but sometimes a flat one. The jambs are inclined as in the doors. Where this character is wanting, I have met with nineteen instances of decidedly Romanesque church character, exhibited in the zigzag and other ornament common to the style which throughout western Europe arose with its present chief monarchies and divisions. The remainder of the churches belong to the era of Pointed architecture, which style I am inclined to think was not practised in Ireland till after the first introduction of the English, which took place in 1167. At this date Pointed architecture in England was just emerging into a distinct style. Salisbury Cathedral was not commenced till fifty-three years later. The Pointed arch had appeared in unison with Norman characters, as in Dunstable Priory, erected between 1131 and 1135, and was so used still later, as in the circular part of the Temple Church, which, as Britton shows, was dedicated in 1184.

Before this period, circular belfries had been erected in England. Of these a very good account was given to the Society of Antiquaries by Mr. Hudson Gurney, in 1829. He examined above fifty, chiefly in Norfolk and Suffolk, but saw others in Cambridgeshire, Essex, Sussex, and Berkshire. He finds them to be chiefly of Romanesque architecture, but also of the various dates of the Pointed styles. To only one does he assign a date earlier than the twelfth century. The curious circular turret at Brixworth is not mentioned by him, it is earlier than any of his. There can be no doubt of the correctness of Mr. Gurney's conclusions that these towers have nothing in common with those of Ireland, except their roundity. The English round towers are always attached to the churches, generally at the west end, opening to them by an archway, but there is usually no doorway in the tower. The windows are frequently numerous in each story. In these particulars there is no analogy, and the dimensions do not improve it: the highest of the English towers being only 56 feet, whilst the usual diameter exceeds that of the largest found in the Irish towers. In Scotland, however, we are presented with two examples precisely agreeing with the Irish towers. They are found at Brechin and Abernethy; both places are situated on the east side of Scotland, the most remote part from Ireland; both of them have been drawn, and descriptions published, at various times. It is now well ascertained that the Scots were an Irish people, who first established themselves in Caledonia during the third century of the Christian era. At the beginning of the sixth century, these Irish Scots raised their colony into a kingdom of small extent, on the western side of what is now Scotland, and, in 843, they finally mastered the Picts, and thenceforward held the sovreignty of the whole of the north of this island. It was not,

therefore, till 843 that the two places on the east coast where towers exist came into the possession of the Irish, and this may seem a reason for assigning a date after this period to these two towers; but it is by no means a conclusive one, for there had previously been a church at Abernethy, which was the metropolitan see of the Picts, and whence it was removed to St. Andrew's, by the first Irish sovereign, in 840. Still, that these two edifices are purely Irish can hardly be doubted, since it was from Irish missionaries, and from the great Apostle of Ireland and Scotland, St. Columb-kill, that the Picts had derived their Christianity; and it happens that in the Irish annals there is one case on record of a church at Apurcrossan (now Applecross, in Rosshire, as pointed out by Dr. O'Donovan), which was erected in Scotland, in 671, by an Irish ecclesiastic, of which there are remains to this day. Other churches were of course built by the same people, and it is likely other towns have existed. It was stated by a Mr. Hughes, in the *Builder*, in the year 1852, that others do exist, and he describes one at Dunrobin, in Sutherlandshire, but he is so evidently mistaken as regards the type of those he has seen in England, that I doubt if this one would not, on examination, prove to be of a different character and era.

To the Irish, then, it seems these towers are peculiar, and to Irish history must we resort for records of them. The mention of them in the Irish annals are few; they are there designated by a name which Dr. O'Donovan, and the best Irish scholars of this day, agree in translating "bell-house," although it has been attempted by advocates of the Pagan theories to give it a different meaning.

It is not necessary for me, and I am unqualified to do so, to enter into this question. I can only say that by the independent testimony of the earlier translations made from the Irish the word was understood to mean and was always translated "steeple," by those who had no theory on the subject to favour or maintain. Dr. Petrie has very learnedly demonstrated the errors of others and his own views in support of this interpretation, and has corrected the translation of other names of ecclesiastical structures which had before been involved in obscurity.*

A BUILDING LIFE SKETCH.

Scene—New Bridge-street. Time—Noon.

It was twelve o'clock, and the ring of the trowel
No longer was heard on the brick;
And the workmen all had deserted the wall,
Where they late were so busy and thick.

Cast from shoulders a wide ell—the hod rested idle
On the wall where the mortar was drying;
And the mattock and hammer had ceased their clamour,
And around were confusedly lying.

For bricklayer, mason, and joiner had each
Himself to his dinner betaken;
With an appetite keen which needed, I ween,
No Burgess's sauce to his bacon.

Some sought the "Red Cow," some the "Barley Mow,"
And others the Bricklayers' Arms;"
As Barclay's, or Whitbread's, or Meux's "Entire,"
Had for each its particular charms.

I glanced around, and heard not a sound,
And I fancied that I was alone,
Till I happened to look in a darkish nook,
And there, on a block of stone,

Were seated, in life, a man and his wife;—
He scarcely grown out of the lad;
While she was fair, though with rather red hair,
And not very blithely clad.

And, this couple between, a delf basin was seen,
Into which they both were dipping: –
Potatoes a few, with a bone or two,
A crust of stale bread, and some dripping.

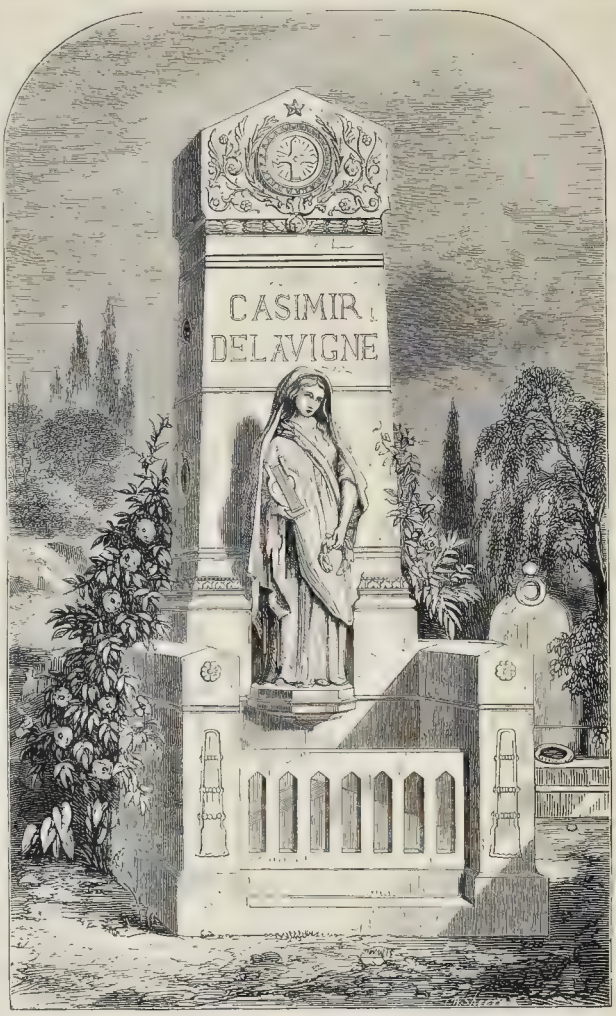
They spoke little and low, but their looks, I trow,
Told Love's unmistakeable story:—
O, a "dinner of herbs," which no strife disturbs,
Beats an alderman's feast in its glory!

'Twas a scene for Sterne (who'd for pathos a turn)
In a "sentimental journey;"
But (alas! for such) I've about as much
Sentiment as an attorney.

So I said (for deeds I greatly prefer
To words to express what I feel with)
"Here's twopence, old fellow! –go fetch thee a pint
Of porter to moisten thy meal with."

W. H. HARRISON.

* To be continued.



TOMB OF CASIMIR DELAVIGNE. —MONS. ABEL BLOUET, ARCHITECT.

PARIS FUNERAL MONUMENTS.

We add to the examples already given in our pages, of monuments erected in France, a view of the Tomb of Casimir Delavigne, which is in the Cemetery *de l'Est*, Paris. It was designed by M. Abel Blouet, architect, and executed by M. Seurre.

APPLICATION OF STEAM-POWER TO BUILDING AT MARSEILLES.

The following particulars respecting the application of steam-power to building, as exhibited in the cases of some magnificent houses now in course of erection on the Quai de la Joliette, at Marseilles, can hardly fail to prove of general interest.

The scheme, which comprehends nothing less than the building of an entire new town on the ground formerly occupied by the Lazaretto, adjoining the old town, is matter of notoriety. It is to be carried out by a company formed under the auspices of M. Mirès; the space to be covered consisting of 400,000 square mètres. We shall, however, confine our observations to a single block of houses, the building of which, by the application of steam power, is being pushed forward with a rapidity absolutely marvellous, and unattainable by any other means. The houses, which are of grand elevation, and which form part of a series of buildings intended to face the quay, were designed by M. Pigny, of Paris. The builder is M. Borde, a civil engineer of considerable railway reputation, under whom are employed MM. de Curel and Corso, architects, of Marseilles. These houses, which stand at the angle formed by the intended Boulevard des Dames with the Quai de la Joliette, are seven in number. They consist of five stories, each house having a frontage of seven windows. They cover a superficial area of 3,318 square mètres, being 108 mètres in length, and 31 in depth. They are built entirely of stone, with walls of great thickness. The ground being below the level of the sea, they are erected on piles, and under the whole are lofty cellars. M. Borde has contracted to finish them by next April, or in less than a year from their commencement; and he has no doubt of being able to fulfil his contract. It is by the application of steam power in a manner as novel as it is ingenious and simple, that he will be enabled to accomplish within this period a work which, in the ordinary course, would have occupied three years. Steam power was employed from the very beginning of the operations. 3,000 piles were driven in by pile-

driving machines, weighing 750 kilogrammes, falling from a height of 8 mètres, worked by steam. This was accomplished in twenty-three days.

The same power was then used to work up 3,000 cubic mètres of mortar.

The weight of materials to be raised was not less than 40,000,000 kilogrammes; and, as this was performed in *seven months*, the great weight of 190,500 kilogrammes has been raised daily to an average height of 15 mètres. Had this been effected by the ordinary process, the raising of the materials alone would have required 70 men on each stage, with the same number to carry and place. This labour, however, was performed by the same steam-engines which had previously been used to drive the piles and work the mortar. The following is the method of application. A railway is laid along both the frontages of the houses, with a turning plate at the angle: upon this runs a four-wheeled carriage with the engine and the raising machinery. The latter consists of a frame of light construction, 14 mètres high, terminating in a crane, which reaches to the tops of the houses. By this machine the materials are raised easily and rapidly, and deposited where required,—the stones *in the exact spot on which they are to remain*. It is calculated that the produce of 130 stone-cutters has thus been raised and placed daily. The machine runs to and fro on the railway, first serving one house and then another.

In addition to this engine there are two others fixed to wooden frames in the inner courts of the houses, which, by aid of lofty poles and the proper tackle, raise lighter materials of various sorts. The saving of labour thus effected in the raising of materials is said to amount to 65 per cent. By the aid of the electric light the men work night and day.

Let us add, that for all purposes of ordinary calculation, the mètre may be taken at 1¼ yard; the kilogramme as 2 lbs.

FATAL BOILER EXPLOSION IN THE CHURCH OF ST. SULPICE, PARIS.

THE following particulars have appeared in the French papers relative to the bursting of the hot-water apparatus on the morning of the 8th inst. in the Virgin's Chapel.

This chapel, spacious and lofty, is placed behind the grand altar, and is heated by two "caloriferes," or hot-water apparatus, placed at the entrance, one on each side, just above the steps: they are square pedestals, of cast-iron plate, about 5 feet high, and contain the water vessels necessary for its distribution. They are each surmounted by a figure of an angel, standing on a marble slab. The walls of the church into which the apparatus is built are cased with marble panels at these points.

At about eleven in the forenoon many were assembled at prayer, and the priest had hardly begun when the leaves of his book were blown about by some invisible agency—all currents of air having been provided against by closing the windows. This circumstance was noted by him and others, but he proceeded, and immediately afterwards the left-hand pedestal exploded horizontally, smashing the little pulpit, or reading-desk, to atoms, and rolling up the *débris* of the iron casing in the mat with which the floor was covered, along with the remains of three of the congregation. The pedestal and marble slab of the opposite side were struck by the fragments, and displaced, and some injury was done to the marble panelling. As soon as the stupor caused by the event had subsided, it was found that fifteen persons were thrown down by the hot water and fragments of metal: eight were without movement: two died immediately—females; one, a man, soon after; and the rest are so severely injured that one or two of them alone can recover.

The cause of the explosion is as yet a mystery. The apparatus was put up some years ago at the expense of 60,000 f. (2,400*l.*) and worked well ever since. Its erection was superintended by a committee composed of scientific men and architects. As soon as the inquest is published we shall learn the particulars of the explosion of one of those apparatus, with which so many public buildings are heated, and what measures the authorities take to prevent as much as possible the recurrence of the calamity.

CAMBRIDGE.—We are asked to mention that the Report of the Cambridge Architectural Society was wrong in the name of the architect of the new houses near St. Michael's Church. Trinity College suggested the style, and Mr. Whitaker carried out the suggestion.

A QUESTION FOR ALL.

OUGHT not judicious sanitary arrangement of human habitations to be compulsory, whether in cities, towns, or villages?

The question has been mooted, whether the drainage of London ought not to be a national undertaking; and as, in these days of rapid transit, the majority of Great Britain's subjects are interested in a wholesome focus, he would indeed be churlish who would grumble at being somewhat taxed towards the sanitary, if not the moral, improvement of our glorious metropolis. Such an advent would be but a step towards a national embodiment of an independent, unprejudiced staff, comprehensive in its detail, unswayed by local prejudices, and beyond the control of vested interest or close-purse parties, who, so long as they choose to maintain becoming dignity by due administration of the duties reposed in them, need apprehend no interference from the central board, which should be armed only to act when the local authorities shall have "left undone those things which they ought to have done." It is a great mistake to think that rural districts are less in want of drainage than London, and in proof of this I send you an extract from the *Devizes Gazette* of last week, by which it will be seen that the neighbourhood of Box Tunnel, on the Great Western Railway line, has given sad proof of what mal-arrangement in sanitary matters will produce. I bitterly feel the wicked determination of influential persons to continue the wholesale slaughter which, around me, has for years made the deaths double in number what they ought to be, situated as our little community is in a spot which would, under wise arrangement, be one of the most healthy in the world.

In the hope to find that you will not relax in the talented advocacy you have ever displayed to aid the nation's good,—I am, CHLORIDE.

"The vicarage at Box has (it seems by the paragraph referred to) been suddenly alarmed by the death of two ladies at the vicarage, viz. Mrs. Hurlock, wife of the Rev. Dr. Hurlock (the vicar), and her sister. Four of the domestic servants were seized with symptoms similar to those which deprived the ladies of life. All six were ill at one time, but the servants have recovered. The two medical attendants—gentlemen of eminence from Bath—and a talented surgeon, who made *post mortem* examination, agreed in their evidence, that the deaths had arisen from gastric fever, caused by some malaria in or near the house. The jury recommended that Dr. Hurlock would make a searching examination of the drains and water-courses of his house and premises, and that the same investigation and inquiry should be made as to the church-yard, and a report sent to the churchwardens and other proper authorities as to the propriety of discontinuing to bury the dead there."

ON THE ORIGIN AND PROGRESS OF EXPRESSION IN THE MONUMENTS OF ARCHITECTURE.*

I FEEL that I owe some explanation for once more offering myself to deliver a lecture from this place to such an assembly. My more fitting position is rather in the class-room of my college with my young friends around me, and explaining the first elements of my art. But here I have to submit a technical subject to a mixed auditory,—to treat on matters as well, if not better, known to many of those whom I now see before me. I wish to follow a new and perhaps a questionable analysis, in which I may be obscure to some and justly differed from by others. It will be found to be, I believe, a new point of view, from which to consider the oldest, and I trust I may be permitted to say, the noblest of the fine arts. For is not every monument a page of history?—Does not every ruin speak to us of the genius and noble aspirations of the past?—Is not architecture an eloquent and impressive interpreter of a nation's religion, its taste, its civilization, its scientific status, its power and magnificence?—Does it not call in the aid of the twin sisters, painting and sculpture, to ennoble its forms and adorn its surfaces?

Such is the nobility of my theme, that I must crave the indulgence of your patience and forbearance, as I attempt to trace some of the hidden mysteries, the inner life, which dwell in the monuments of all ages, the moral characteristic beauty of Coussin ("Du Génie de l'Architecture," p. 16), reflecting the workings of the soul of the artist, and appealing with irresistible influence to the feelings and impressions of the beholder, who is often unconscious of the source of those impressions that elevate his thoughts, charm the sense, and hold his feelings in wonderment and delight.

* The following paper was read by Professor Donaldson at the Architectural Exhibition on Tuesday, the 12th inst. Henry Thomas Hope, esq. took the chair, and briefly introduced the lecturer.

ON THE ORIGIN AND PROGRESS OF EXPRESSION IN THE MONUMENTS OF ARCHITECTURE.

It is a humiliating and discouraging circumstance, connected with architecture, to consider, that after nearly forty centuries of experience, with the finest examples before our eyes of all epochs and of all countries, we are still at sea as to principles of taste; and that our public buildings are confessedly inferior to the finest monuments of antiquity. Is this deterioration a portion of the curse inherited from our first parents, "one of the infirmities that flesh is heir to?" And so short-sighted are we in our aims, and so narrow-minded in our prejudices, that but few have largeness of souls sufficient to appreciate and to admire "*pro tanto*" all styles of all countries.

In order to understand the progress of architecture and contribute to its development, it is necessary to embrace a wide and extended view of its operations throughout the world, and to be acquainted with its noblest works,—to take our stand on an elevated spot, as it were, and to scan with philosophic eye the whole range of the past in one glance. If we confine ourselves to one period, or nation, or race, or empire, our narrowed vision will comprehend the workings of only a limited time and space. But, if we look abroad and let our observation expand itself to all times and all countries, we shall see the influences at work in the widest sphere of human intelligence, and ascertain to some extent the world-wide march of progress in harmonic beauty and physical unity, that has been made in our art. For each previous period has influenced more or less the preceding one, and each style has had its infancy, its youth, and its decay. Thus, step by step, has architecture developed its latent claims and powers from its faintest glimmerings in Egypt and Nubia to the superbest of its creations in North-Western Europe.

EGYPTIAN ARCHITECTURE.

To appreciate this style I must first lead you to the Banks of the Nile as high up as Thebes. We must there penetrate into the rock-cut galleries of the tombs of the kings in the valley of Biban-al-Molook, with their richly-decorated walls and ceilings, their noble halls rich in varied embellishments of elaborate art, with their stupendous and costly sarcophagi of alabaster granite or basalt. Or we will contemplate together the rock-cut temple tomb of Rameses at Aboo Simbal, so well illustrated at the Crystal Palace, with its four colossal seated figures 65 feet high, from its stupendous façade of gigantic proportions, and its inner vestibule and halls, as of a subterranean palace, with the superb decoration of its surfaces and solemn, mysterious gloom. And, thence let us again descend to Thebes and land on the flight of steps, which lead by an avenue of sphinxes up to Luxor with its stately propylon or entrance-gate, its vast courts, and halls, and porticos, and temple, and gardens, fit to be a wonder of the world, were not its glories, its vastness and nobility surpassed by the Temple of Carnac in the adjoining quarter of Thebes. Both temples were united by a dromos or causeway 60 feet wide, a mile and a quarter long, lined on either side by sphinxes, those monstrous creations of the wildest superstition. And here we enter the sublime portal 350 feet long, 180 feet high, the mere wall in front of the fane, and then we proceed through a court lined with colonnades; and, traversing another of these gigantic portals, pass through a hall of eighty-one columns, the central avenue of which has pillars nearly 11 feet in diameter. To the right and to the left there were monolithal obelisks, 80 feet or 100 feet high, and sedent or erect statues of deities or kings or heroes 30 feet to 50 feet high. You then approach the full blaze of the front of the fane itself uprising with majestic dignity on one side of a court, whose columns tend to enrich, but not to eclipse, the grandeur of the Temple, in which profusely-decorated columns, walls and ceilings, shining with azure, green, red, yellow, and gold, almost bewilder the beholder. But the worshipper enters the solemn gloom, which presents itself within:—the dimly-obscured light—the mysterious solemnity and colossal size of all around—strike him with awe; and the thick walls and masses of the ceilings impress him with a religious wonder and veneration for every strange object in whose presence he stands and before whom he shrinks into nothingness. The very monstrous

statues, with hawks, cats, and other animals, speak to him of another world of creation, and strike a terror into his soul, combined with the grandeur and majesty of the architecture. The whole mass of building is made up of straight lines, and not a curve exists, but in the cylinders of the columns. All is rigid, ponderous, and overpowering, and massive in its construction: its æsthetical qualities are gloom, rich decoration, mystery, and idolatry; its sentiment superstitiously religious.

GREEK ARCHITECTURE.

The individual character of the Greeks had a development essentially different from that of the Egyptian: they were naturally of a more lively and joyous temperament, the result of their free institutions. It is difficult to trace the origin of their theogony. The gods of Olympus are the spiritualised embodiments of the virtues, the passions, the wants, or the acts of men. Pindar and Homer among the earliest of the poets seem almost to create their own gods; who were adopted by the people, and thus got confirmed in the reverence of succeeding ages. There is not a river or a fountain, a mountain, a valley, a plain, or a wood, which has not its tradition and peculiar divinity. And this ideality pervaded not only natural objects but all works of art, and essentially their temples, which abounded in the production of the painter and sculptor, as well as being the highest efforts of the architect. Their exquisite susceptibility and their intellectual intelligence caused them to refine in all their sciences to the utmost degree, so as to correct with great subtlety optical effects. Thus in the Parthenon every line horizontal or vertical is partially curved —there is not a straight one of any length throughout the building. The brilliant effect of the natural whiteness of marble did not satisfy them, and they covered the surface with various tints, now delicate, now of deeper tone; and introduced elegant enrichments with the richest colours and even gold itself: nay, the colossal statue of the goddess was of ivory and gold with parts highly coloured:—their psychological tendencies demanded more than the mere architectural features of the columns, the entablatures, the beams and ceilings, the portals and bronze-gilt railings. The architecture became the framework of the most exquisite productions of the sculptor. The metopes, the friezes, and the tympana of the pediments glowed with the sculptured groups, which recorded the birth of Minerva, the contests before the gods of Olympus between Minerva and Neptune to give a name to the city, or the combats between the Minotaurs and Lapithæ, the Amazons and Athenians, or the labours of Hercules. Everything was gay, brilliant, and attractive, and imbued with art. The vases buried in the tombs with the dead, the tombs themselves, the commonest utensils of life, the armour of the warrior, the cups and the tazze of the banquet were instinct with the purest forms and most exquisite compositions—but chiefly revealed the myths, which had taken a vigorous hold upon their Early imaginations: and the Naos or cella itself was considered as the habitation for the deity rather than intended as a receptacle for the worshippers. With very rare exceptions, the temples of the Greeks were of inconsiderable size. Their importance in their eyes consisted in the purity of their form and their elegant adherence to recognised types. But they were seldom of the gloomy or solemn religious character, which is the proper characteristic of the Christian place of worship. All was generally gay, cheerful, and brilliant. As Grote says (Hist. of Greece, vol. iv. p. 72): "Each city and every village had its peculiar religious festivals wherein the sacrifices to the gods were usually followed by public recreations of one kind or another—by feasting on the victims, processional marches, singing, dancing, or competition in strong and active exercises," and I may add dramatic representations. (Dr. Smith.) To keep the temple separate and distinct from the vicinity of profane objects, it was situated within a precinct of greater or less extent, as the case might be, and surrounded by an enclosure, the entrance to which might be by a magnificent propylæa. Frequently it was surrounded by a sacred grove, and besides the temple itself, there were other consecrated buildings, as chapels, treasuries, &c. and the cella itself was generally crowded with votive offerings of the most costly and costly nature.

Sturdy columns and thick walls gave an enduring stability to the construction, which, as it consisted of horizontal beams that threw the weight vertically on the points of support, would have easily resisted decay, or invasion, but for the fury of conquerors or the blind zeal of the despoiler involved them in ruin.

The same refined taste accompanied the Greek, wherever he went and formed colonies. Along the coast of Asia Minor, in Sicily, in Southern and Middle Italy the wandering Greek bore with him the arts of the mother country, and still carried them out in their new race with the like skill and the like success.

ROMAN ARCHITECTURE.

The transition from Greek to Roman art is less abrupt than that from Egyptian to Greek. There cannot be a doubt, but that the commercial and military intercourse of the two must have influenced the Greek mind. The Egyptian was earlier in perfecting the arts of civilization. We have monuments in the valley of the Nile of the highest perfection long before the date of any known Greek example. All their forms had been thus matured and the most brilliant pigments, laid on with refined taste, gave expression and splendour to the architectural features. We may therefore conclude that, in point of decoration at least, the Greek owed much to the monuments already existing in Egypt. But there was a wide difference between the essential character of the architecture of his own country and that on the banks of the Nile.

A more intimate relation existed between Greek and Roman architecture. The Greeks had their offshoot colonies established in Etruria and Magna Græcia, the middle and south of Italy. So that Italy before the Romans had its cities at Pæstum, whither the Greek had transplanted his customs and his arts. These guided the crude and early productions of the ruder Roman; and served as his types and bore their impress upon all the future development of the Roman taste. It was the Roman translation of Greek art, modified by the tastes and wants of the people, who had adopted it, and yet sufficiently characteristic to constitute a style apart.

The martial spirit of this young people, and even the consideration of their own safety, led the Romans to subjugate the adjoining states, and to extend their conquests far abroad. Amid various reverses they still remained conquerors, subjugated foreign provinces, brought home vast spoils, received considerable tributes, enriched their monuments with the works of art of which they despoiled Greek cities and monuments; and anxious to excel in the grandeur and pomp of their buildings as they did in arms, they spared no expense, and imported all the choicest materials, the products of foreign lands. Thus their monuments became gigantic in scale, vast in extent, profuse in ornament; but less refined in conception, less pure in execution than those of the Greeks. Their temples, their fora, their theatres, amphitheatres, circi, basilicas, triumphal arches, commemorative pillars, the palaces of their emperors and nobles, and their thermæ, were not limited to the mere purposes of use and convenience. They were raised to a *monumental* importance, they were made the more splendid to gratify the senses, and their *decoration* served to display the vast wealth which poured into Rome from foreign conquest. Emperors, consuls, and prætors all sought to leave the impress of their name and deeds to posterity, and by rendering Rome the magnificent capital of the civilized world, to buy the golden opinions of the people. Rome was a city of palaces, a *pompous* group of superb buildings. Display contended with use for usefulness was also one of the marked characteristics of the Roman mind, as we see in their fora, their thermæ, their aqueducts, their public roads, their bridges, and their ports. The same nobility and spirit of usefulness attended all their operations, as well abroad in their distant provinces, as at home in Italy itself. If the traveller visits even Athens, he finds monuments of Roman munificence: if he goes to Syria, he is struck by stupendous remains, as the temples and cities of Balbec and Palmyra; and in the rocky defiles of Petræa,—

> "Where rose the gorgeous sepulchre, and where
> Sumptuary pagan lung as best of wear,
> And Roman arts with Roman arms arose."
> *Burgon's Petra.*

Along the northern coast of Africa, on the banks of the Rhone in Gaul, as at Arles, Vienne, Nimes, and Orleans, and in remote Spain, ruins of stupendous aspect, vying in importance as to size, destination, and construction, with those of the imperial city itself, show that the noble-minded Roman imbued even the inhabitant of his distant possessions with the same grand ideas of magnificence and the like enlarged notions of public utility.

It is to be remarked, however, that their temples did not impress the worshipper with the religious awe which results from distant vistas, solemn effects of chiaroscuro, and intricacy of parts; but rather from majestic simplicity, a certain vastness, and a profusion of costly sumptuous material.

This vastness pervaded all their monuments, and when one contrasts the "*Thermes*" at Paris, or the antiquities of Trêves, with the modern architecture around, they convey an imposing evidence of the simple grandeur of the Roman monuments.

This vastness also necessitated scientific means to attain its end. Hence the vaulted principle brought into general use in the Pantheon at Rome, and the halls of the public baths, and other gigantic erections, where we hear of areas 80 feet wide spanned by vaultings; and hence the thick and solid walls constructed to uphold these cylindric roofs carried in mid air.

I cannot more emphatically conclude this hasty review of Roman architecture, than by quoting the words of Mr. Fergusson, in his admirable "Handbook of Architecture," vol. i. p. 298.:—

"The Roman buildings display far more evidence of wealth and power than of taste and refinement, and all exhibit traces of that haste to enjoy, which seems incompatible with the correct elaboration of anything that is to be truly great. Notwithstanding all this, there is a greatness in the mass, a grandeur in the conception, and a certain expression of power, in all these Roman remains, which never fail to strike the beholder with awe, and force him to admire in spite of his better judgment. These qualities, coupled with the associations that attach themselves to every brick and every stone, render the study of them irresistibly attractive. It was with imperial Rome that the ancient world perished: it was in her dominions that the new and Christian world was born. All that was great in heathendom was gathered within her walls; tied, it is true, into an inextricable knot, which was cut by the sword of the barbarians, who moulded for themselves, out of the fragments, that polity and those arts which will next occupy our attention. To Rome all previous history tends: *from* Rome all modern history springs: to her therefore, and to her arts, we inevitably turn, if not to admire, at least to learn, and if not to imitate, at least to wonder, to contemplate a phase of art as unknown to previous as to subsequent history; and, if properly understood, more replete with instruction than any other form hitherto known. Though the lesson we learn from it is far oftener what to avoid than what to follow, still there is such wisdom to be gathered from it as should guide us in the onward path, and might lead us to a far higher grade than it was given to Rome herself ever to attain."

EARLY CHRISTIAN.

During the three first centuries of the Christian era, Roman art had risen to perfection, had passed through a period of wild search for novelty, and, consequently, coarser impressions; and at length, from political struggles from within and without, Rome itself had reached its lowest deterioration under Diocletian, although still retaining some features of impressiveness and grandeur, not altogether eclipsed, the inheritance of past ages of noble and refined taste.

During this period a new impulse, a higher and more truly glorious principle, instinct with the purest morality and highest aspiration, was making progress with the people. St. Paul's impressive teachings had not been without fruit. Christianity counted its thousands among the people. Let us imagine ourselves in the Campagna of Rome, amidst all the funereal pomp of the proudly-rising tombs of the Romans, we see scattered groups of serious individuals approaching from all sides, and cautiously passing on, are lost in some obscure alley. They are families of Christians, who come to worship near the tombs of the early martyrs. In one of the dark recesses is a descending path, which, with winding steps, leads through dim turnings, and the daylight, entering in at the mouth of the cavernous vault, somewhat illumines the first part of the way; but the darkness grows deeper as the worshippers advance, till they meet with shafts cut in the roof of the passages, admitting light and air from above. Long subterraneous galleries pursue their courses into the very heart of the solid rocky foundation of Rome itself, excavated by the labour of man to abstract the Pozzolana, or furnish materials for the gorgeous constructions above. These gloomy recesses are now the refuge of the persecuted—the tombs of martyrs and saints—the churches of the living. The sides of the galleries were cut to form recesses which received the bodies of the dead, and thus preserved the crumbling remains. Slabs closed the orifices, and were in-

scribed to record a name or a pious ejaculation. The emblems of Christianity—as the cross, the palm, the dove, the ship, &c. are cut in the face of the rock, and rude sculptures and paintings of religious subjects were the decorations of the sacred architecture of the Catacombs of Rome—a troglodyte temple and tomb, enshrined by the simple *devotional* affection of the persecuted victims to the rage of the Roman emperors and Roman people.

But a happier epoch opens upon these sufferers. In 323 Constantine, the Roman emperor, embraced the Christian faith, erected places of worship, or converted old buildings for the purpose. Transferring the seat of empire to Byzantium, a new and an unfettered world opened to the artist. Greece and Rome became fused into one. The sites of ancient cities which had been laid waste, the remains of the noblest monuments of antique art that were in ruins, were ransacked for materials. Basilicas, baptisteries, and other edifices, sacred and profane, were carried up with indiscreet haste by men who were rather artisans than artists, and who relied for their decoration upon the pillars, capitals, friezes, and other ornamental features, ill-assorted, which they gathered up from the materials of old buildings. Hence resulted a style which, from that circumstance, we may call Materialistic. The horizontal line was still the predominant principle, and the semicircular arch, as seen in the Palace of Diocletian, at Spalatro. Devoid of the powers of originating, these rude artists looked back to the works which had preceded their time for guidance and suggestion. It was a fragmental architecture,—sometimes rich, from the insignificance of its detail; occasionally it rose to solemnity, from the vastness of its pile; and now and then had an air of dignity, from the associations in the mind, excited by the magnificent columns and marble with which these edifices were occasionally erected, as Sta. Sofia and St. Paul's without the walls at Rome, from the *débris* of the pompous buildings of antiquity.

This style, if style it may be called, assumed the name of Byzantine, and has also been called Romane and Romanesque. Its chief seat was Constantinople; it reached to Lombardy, and there assumed a distinctive expression; and it had its development in Germany and the south of France, with various peculiarities of character, due to the country in which it was practised. At one time the purely Greek type assumed the form in plan of the equal armed cross, apsidal terminals at the east end, domes crowning the central crux and the ends of the arms. The interior, devoid of architectural cornices, bands, or mouldings, had its vaultings brilliant with mosaics and the walls with paintings—the subjects scriptural, and every portion, according to Mons. Didron, bound down by a strict conventional canon of ecclesiastical art. The Roman, or Western type, generally assumed in plan the form of the ancient Basilica, with its three or five aisles, divided by rows of columns torn from ancient buildings. At the east end were generally apsidal niches, the central one the largest, and its dome enriched with mosaics also, and filled with the head or figure of the Saviour or Creator, and sometimes with groups of the Apostles and Evangelists.

In the North of Europe an immense modification took place; and here the Byzantine type, with its semicircular arch, merged into the Saxon and Norman, such as we see at St. Alban's or Durham, or in the glorious churches of William the Conqueror at Caen.

The column still retained its ancient division of base, shaft, and capital of antiquity, somewhat of the Doric or Tuscan cast, but more ponderous in its proportion. The entablature, frieze, and cornice of the Greek and Roman canon ceased, and were lost entirely; and arch sprung from capital to capital, and spanned the space between each column; and arches rose upon arches, two and sometimes three tiers in height. The doorways were profusely decorated with columns and recesses and vaulted headways; and windows also received a little enrichment, but less profuse. The façades were often adorned with tiers of columns, arcades, and apertures profusely elaborated, and were surmounted by the pediment end of antiquity, but with outlines of continuous cornice. A profusion of sculpture with personages of holy writ, and occasional statues of emperors, kings, or heroes, completed the imposing elevation of the entrance front.

This was the acme which Christian art had then attained, still retaining some of the features, and still guided by some of the elementary rules of the antique. The dome remained in Byzantium and in Greece, and was occasionally seen in the more northern parts of Europe, as in Venice in St. Marc's, and in Western France, as at Perigueux, and the immediately neighbouring provinces. It never appeared in Germany, in the North of France, nor in England; but the Norman buildings retained the horizontal tendency, the semicircular arch, and impost moulding, and the solid construction of the Classic periods. With the twelfth century, however, passed away all affinity between the architecture of the Old World of Art and the New.

POINTED ARCHITECTURE.

Never in the history of architecture has occurred so abrupt a change as took place towards the end of the twelfth century. Within the short period of about thirty years a distinct and peculiar style superseded the previous one. The pointed arch instead of the semicircular; the lancet window instead of the somewhat squarely proportioned one of the Norman: acutely-pointed vaulting instead of the cylindrical; piers, consisting of small shafts, frequently detached, in lieu of the solid pillar before in use; instead of flat buttresses, boldly-projecting ones, topped by lofty pinnacles, and often carried with a flying arch from the wall of the clearstory to that of the side aisles—a structural expedient to resist the thrust of a more daring construction; a new assemblage of mouldings, and, with profiles, more widely differing than those of Greece and Rome. Every feature had a vertical tendency, upshooting, as the pious prayer of the worshipper, heavenward—instead of robust proportions, light and airy forms. Whence sprang this new light of art, this advance into a new field of expression and sentiment? The last was a retrospective glance to ages past; this was an aspiration for progression onwards to new sensations. Was it a natural inspiration of the artist's mind? or did it arise from a suggestion derived from external sources? The question has been handled with much ingenuity by many gifted writers as Thomas Hope, Dr. Whewell, Professor Willis, Milner, Rickman, and De Caumont who have variously attributed the origin of the style to the intersection of groinings in cylindrical roofs; to the form produced by overhanging trees in avenues; and to its having been introduced by the Crusaders on their return from the East, anxious to commemorate their sufferings, their sacrifices, and victories in the Holy Land, by transplanting to the buildings of their own countries so distinctive a feature of the native architecture of Palestine as the Pointed arch of the Saracens, and thus perpetuating impressions which they held most dear. I shall not enlarge upon this curious topic further than by noticing the remarkable contemporaneous coincidence of the Pointed arch and the Crusader, and of the general influence which the latter had upon the arts, the sciences, the manufactures, customs, and manners of the European nations, as has been well observed by Monsieur Guizot, in his "Histoire de la Civilization Européenne." Once, then, the minds of the artists were turned in a new direction, and every effort became progressive; arched construction assumed also a new development in the high-pitched vaultings of the nave and side aisles, and numerous intersections, conveying impressions of lightness and elegance. Instead of the square tops to the towers of the Normans, they were finished with lofty sharp-pointed spires, with crockets on the ribbed edges, to break the monotony of the outline; and the gables also rose high up to a more acute angle. Salisbury and Westminster Abbey are the happiest and most complete instances of this style in England, with the west front and towers of Lincoln. And in the north of France, also, there are numerous elegant specimens of the Lancet or Early Pointed style.

The same change took place in domestic as in ecclesiastical architecture; and although hardly an instance occurs of a house of the lancet period in this country, there still remain specimens of them abroad.

For seventy or eighty years this style was vigorously carried out in England, and the numerous examples given in Mr. E. Sharpe's admirable work of parallels show how rich and varied were the applications of it to the buildings erected during the thirteenth century. But the thirst for something new, and the vivid imaginations of the architects of the period, produced a further expansion in the erections of the thirteenth, fourteenth, and fifteenth centuries, which my subject compels me to condense under one head.

THE OGIVAL.

It would require several lectures, and each one full of instructive matter, to analyze the peculiarities of the several steps in artistic decoration of the several divisions into which writers have divided the movements of these three centuries, as the Decorated, the Tudor, the Perpendicular, the Flamboyant, and the like phases of English and foreign Gothic.

The apertures of windows, hitherto simple openings, were now subdivided into several lights, and the heads were filled in with a tracery, flowing, fanciful, and intricate. Richly-sculptured cornices were introduced, and tracery pierced parapets above. Elaborate panelling covered the faces of the walling inside and out. Niches became more abundant, and decoration more profuse. Each distinct object and feature had its own ornamentation; and the very furniture was not deemed unworthy of artistic treatment. Glorious combinations of buildings were carried out to the utmost extent of splendour and convenience.

> Hail, countless temples! that so well befit
> Your ministry; that, as ye rise and take
> Form, spirit, and character from Holy Writ,
> Give to devotion, wheresoe'er awake,
> Patrons of high and higher sweep, and make
> The unconverted soul with awe submit.
> *Wordsworth's Ecclesiastical Sonnet*, ix.

Cathedrals had their baptisteries, chapels, sanctuaries, choirs, screen, treasuries, chapter-houses, and cloisters. The convents and monasteries their abbot's dwellings and cells, or rooms for the monks or nuns, refectories, libraries, strangers' quarters, courtyards, and extensive precincts. The palaces of the sovereign and princes, the houses of the nobles, and dwellings of the middle classes, the hospitals; nay, the very barns of the priesthood reflected the like feeling for art. The town-halls of Belgium, with their glorious towers or spires, show how universal was the feeling, and that buildings—municipal, charitable, domestic, or commercial, were designed and carried out with all the like regard for magnificence as was revealed in sacred edifices. The example of the priesthood had a teaching influence in the ordinary objects of life, as well as in things spiritual. Art was a necessary enjoyment not a vulgar caprice—but a refined, enlightened, and elegant necessity, in which all classes combined, as in the best classic periods; and as then, and at this time, no monuments which have come down to us of any moment, betray vulgarity, commonness, or a rash departure from the accepted canons of taste, that were then considered essential to high art.

TYPES.

From the earlier, but not in the earliest ages, the imaginative churches of the south of Europe transferred, or rather expanded, the spiritual typism of the mysteries of the faith into the material circumstances of its ritual, its services, and even of its buildings. Each successive age added something, until at length, as we see in the "Rationale Divinorum Officiorum" of the fanciful Durandus, by the "Catena Symbolica" of the Rev. J. Mason Neale, and in the works of M. Didron, typical symbolism assumed its apogee in the ogival period. The piers of the cathedral, and the doors, symbolized the Apostles; the windows, the Doctors; the columns, the Bishops and also the Doctors, who upheld the fabric of human invention. The form of the plan assumed that of the Cross of the Redeemer's sufferings, with the upper arm diverging on one side, to imitate the inclination of the head of the Saviour, at Whitby; the nave represented the body of the faithful—the ship of salvation; the chancel, with its altars and choir, the Holy of Holies; and in the eyes of the worshipper the crypt was, as it were, the confessional of the sanctified martyr: the very figures of the gargoyles had their meaning;—in fact, there was no object which had not its sacred signification, even to the vestments of the priests, and the colours of the altar-cloths, of the robe of the Virgin. The imaginative fancy of the lively Greeks commenced the spiritualistic tendency, and it was readily seized upon and enlarged by the Western Church.

And another pleasing element the genius of this period admitted into its graceful imagery of expression—the Roses of the Plantagenets, the Lion of England, the Thistle of Scotland, and the Shamrock of the Sister Isle, the portcullis of Henry VII. and a thousand other devices of baron, priest, and knight, were interwoven with the flowers and leaves of the sculptured enrichments. The rebus of Islip, Wheathamstead, Ramridge, Skelton, Bolton, and other names, had their emblems modelled in the brick, or carved in the stone or wood, and gave a vivid, practical expression to the homes of our fathers, the tombs of the illustrious and wealthy, or the sanctuary of the worshipper, in whose eyes the lily was the special emblem of the Mother of the Saviour.

EQUILIBRATION.

In the structural arrangements of this last period the science of constructi[on] had assumed

a daring almost presumptuous. The nicest calculation approached as nearly as it could to the impossible. Vaults of lofty proportions spanned immense widths, themselves pierced by intersecting arches, and the lines of solid bearing lost in the multiplicity of feature. The roofs were upheld on the slenderest piers, the walls being perforated with broad apertures for a blaze of light through the thousand hues of the glorious painted windows. Equilibration was the touchstone of the highest excellence, and the apparently tottering and insecure fabric was maintained in mid-air by a power that did not itself appear to the wandering beholder from within. But on the outside the series of solid buttresses were carried down, apparently for artistic purposes, to break up the monotony of the mass, as in the pile of King's College Chapel, Cambridge, or in the glorious towers of Somersetshire, covered with tracery panels, niches, and sets-off, and weatherings; or flying off in graceful contours for the apsidal ends, as at Notre Dame, Paris, and Cologne Cathedral, with crockets, finials, and fanciful penetrations, trifling, as it were, with the duty they had to perform. The bishops were not disheartened, nor the architects or builders dispirited by the ill success of their first efforts. Twice did the roof of Beauvais fall to the ground. No faint heart for such work as this. Each time it was restored with greater hardihood of conception, till the third time it stood, and now stands a miracle, rather than a work of man's creation.

Equilibration attained its acme of perfection in the fair traceried ceilings of King's College, Cambridge, of Henry the Seventh's Chapel, Westminster, and of St. George's, Windsor, and in scores of our sacred edifices scattered throughout the land, without a rival or equal on the continent. There it seems to have been unpractised. The equipoised arch rising from its vaulting shaft, stretching across with its main rib, which serves as the spire to the crafty combination, with its domical arrangements, and its pendentives, and its panellings, and its horizontal and radiating ribs, enwrap the attention, and bewilder it almost with the variety and charms of its magic poetry of construction, the keystone of which is equilibration.

The architects of the Middle Ages, from the twelfth to the fifteenth century, for a period of 300 years, during which the Pointed style reigned, seem to have been guided by a wild enthusiastic impression of beauty peculiarly their own. Amidst so many creations, that convey the sublimest and most graceful impressions, the reason cannot but recognise the most opposite intentions and results, as though the imaginative faculties of those artists had been carried away by a wild uncontrollable instinct, which they had not the force to regulate. The pillars and supports, made to lose all appearance of solidity by being cut up into multiplicated shafts, presented long, deep, vertical lines of shadow. Columns, abandoned as an apparent principle of upholding strength or support, were degraded to a mere ornament, drawn out into thin wiry shafts, with an insignificant base and an unimportant capital. Breadth was entirely effaced by covering the surfaces with panellings and divisions, so that the eye had no repose. There was an eager desire to banish every semblance of solidity and strength, by diminishing the thickness of the walls, or reducing every appearance of depth. All the elements of obviously sound construction, as the grand aim, being set at naught, a daring reduction of necessary supports, and the introduction of a doubtful system of counterpoise, leave too many of those noble structures, menacing ruin, or necessarily kept together by iron ties, as our own Westminster Abbey, or upheld by huge projecting buttresses.

There are many monuments of classic antiquity -as, for instance, the Pantheon, Rome, which have survived the crushing efforts of past times to destroy or appropriate, the neglect of centuries, the corroding influence of weather, and the spoliating spirit of ruthless vandalism. But too often the noblest of our cathedrals, under all the fostering influences of care, religious zeal, and unbroken occupation, and instant reparation, present rents and fissures, threatening ruin less from decay than from inherent vices of original construction; so defective was their system of wood framing, and so unsound the principle of stone construction, carried to the very verge of tottering stability and unsoundness, which the slightest neglect or casualty might overturn. It was an epoch of impetuous instinct, abrupt resolution, uncontrollable taste, and disregard of the matter handled. Yet there is so much of loftiness, grandeur, and extent — such a bewilderment of the senses by multiplicity of beautiful parts and divergencies of lines, crowding of ornament, luxury of decoration, and vastness of conception, that the mind is entranced by the glorious profusion of effects, and cannot stop to analyse its sensations, and reason is lost in delight.

Neither intellect, nor energy, nor daring, nor imagination, nor skill was wanting in the works of those ages. For a long time they were deprived of their due appreciation. They have in our own times been praised to excess, and as unreasonably decried. In fact, the architecture of the Middle Ages succumbed to that want of fixedness of principle, which created an appetite for novelty and continued variety of change; not so much a perfecting as a superseding of an established style of taste.

I am thus arrived at the conclusion of the main topic of my theme. It would be useless now merely to glance at the ultimate decline of Mediæval, and the revival of the (quasi) Classic taste. Still more perplexing would it be to attempt to dive into the chaos of our own century, and delineate glimmerings of light in the dense mist that surrounds us. But I claim permission to trespass further for a moment upon your indulgent patience. I have endeavoured to render due homage to the genius of all periods and of all countries. The Fine Arts have been ever considered as arts of peace; but at this time the attempt is made to render them arts militant, and to range in hostile array the Classicists and the Mediævalists. Instead of brothers we are to be intolerant rivals, and to produce this a certain tone is assumed of dogmatic severity and bitter depreciation. Is it generous to foster hatred between the followers of the two ideas? We cannot always be reciting our penitential breviary, nor ought we always to be giving way to mirth and pleasantry. And so in architecture; may not the two movements of the mind find their apt responses and representatives? And may we not be allowed, without the suspicion of heresy, to be religious with the Mediævalist apart from his bigotry and superstition, and sumptuous, gay, and free with the Classicist without his pedantry and heathenism?

EPOCH	STYLE.	ÆSTHETICS	SENTIMENT	CONSTRUCTION
		HEATHEN.		
B.C. 2500 to 100	Egyptian	Ideal Massive Gloomy Mysterious Richly Decorated.	Religious	Ponderous.
500 to 200	Greek	Real or Ideal Intellectual Psychological	Mythological.	Stable.
200 B.C. to 300 A.D.	Roman.	Material Sensuous Decorative.	Pompous	Substantial and Wasteful.
A.D		**CHRISTIAN.**		
IIIrd to Xth Century		PERIOD OF DECAY & PREPARATION.		
EARLY CHRISTIAN		Sepulchral. Traditional. Mystic.	Devotional	Trapezoïde.
Xth Cent. to XIIth	Byzantine or Romanic	Horizontal Tendency Semi-circular Arch	Retrospective	Solid and Diagonal
XIIth to	Transitional	Vertical Tendency Pointed Arch Mixed with	Prospective	Arch.
XIIIth to XIIIth	Ogival.	Developing Typical Conventional.	Spiritual.	Equilibrated
XVth Century		Decline of Mediæval and Revival of Quasi Classical.		
XIXth.		**CHAOS.**		

All reference to Eastern or Indian Architecture is omitted, the object of this Table being to analyse those styles alone which have had influence upon European Art.

THOS. L. DONALDSON, Profess. Arch., Univ. Coll. Lond.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.

THE collection of photographs at Suffolk-street, from which subscribers may select, contains a number of very fine examples. The arrangements made by the committee, however, have not pleased all the members. In the first place, the photographs are put down at a price, so that a more commercial aspect is given to it than is desirable, and the Association seems to resolve itself into simply a means of enabling the public to obtain photographs at a somewhat lower price than ordinary. Further, to meet the arrangements with the various photographers who have supplied the subjects, subscribers are requested to take only one subject from the same screen, which prevents them selecting what some would desire, namely, a connected series, such as three or four from the Italian specimens on Screen B (by Alinari), a charming collection,—notice particularly 34, the door on right side of the cathedral at Orvieto, and 38, the principal door of the same building,—or a like number from Mr. Fenton's collection (G) of our own cathedrals, such as 140 and 144, from York Minster, and 146, the West Doorway of Lincoln. Doubtless, however, in time the best mode of conducting the society will be hit on. It ought to *produce* works for itself. 8, The Temple of Olympus, and 210, Gate of New Palace at Constantinople (A and K), 74, Santa Cruz door, Toledo (C); 85, Principal Entrance of Rheims Cathedral; and 97, Statues in North Door of the same building (D); 112, Fountain at Nismes; and 120, Place Napoleon (F), are all capital specimens of the art.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

AT the usual fortnightly meeting of this society, Mr. S. Huggins in the chair, the society's prize for success in the competition in sketching was awarded to Mr. John Pepper, and presented to that gentleman by the chairman.

A letter was received from the Master Builders' Association, stating that it was the intention of that body to invite the members of the architectural profession to a meeting to be held at the Clarendon-rooms, on the 6th of January, for the purpose of considering how the strikes of workmen might be avoided, and requesting that the society would call attention to the fact.

A short conversation took place upon the subject, in the course of which the secretary remarked that the society should not, while giving publicity to the letter, be understood to identify itself either with masters or workmen.

Mr. Picton took occasion to object to the practice of one of the body publishing anonymous comments on their proceedings in the newspapers, as tending to prevent the younger members from expressing opinions.

After some discussion on the subject, the paper for the evening, "A Shower of Parthian Arrows discharged against the Errors of the great Competition," by Mr. W. H. Leeds, was read.

THE CRIMEAN MONUMENT AT SHEFFIELD.

THE monument of which we this week present a view is now fairly in progress of erection, the foundations having been got in, with an ashlar bed to avoid all risk of settlement. On the advice of the well-known geologist, Professor Phillips, the architect, Mr. Goldie, of the firm of Messrs. Weightman, Hadfield, and Goldie, has decided on the adoption of the Darleydale stone as the only material calculated to withstand the destructive influence of the gases pervading the Sheffield atmosphere. The shafts will be of red and green Connemara and Derbyshire marbles, and Aberdeen granite. Messrs. Lane and Lewis, of Birmingham, are the contractors.

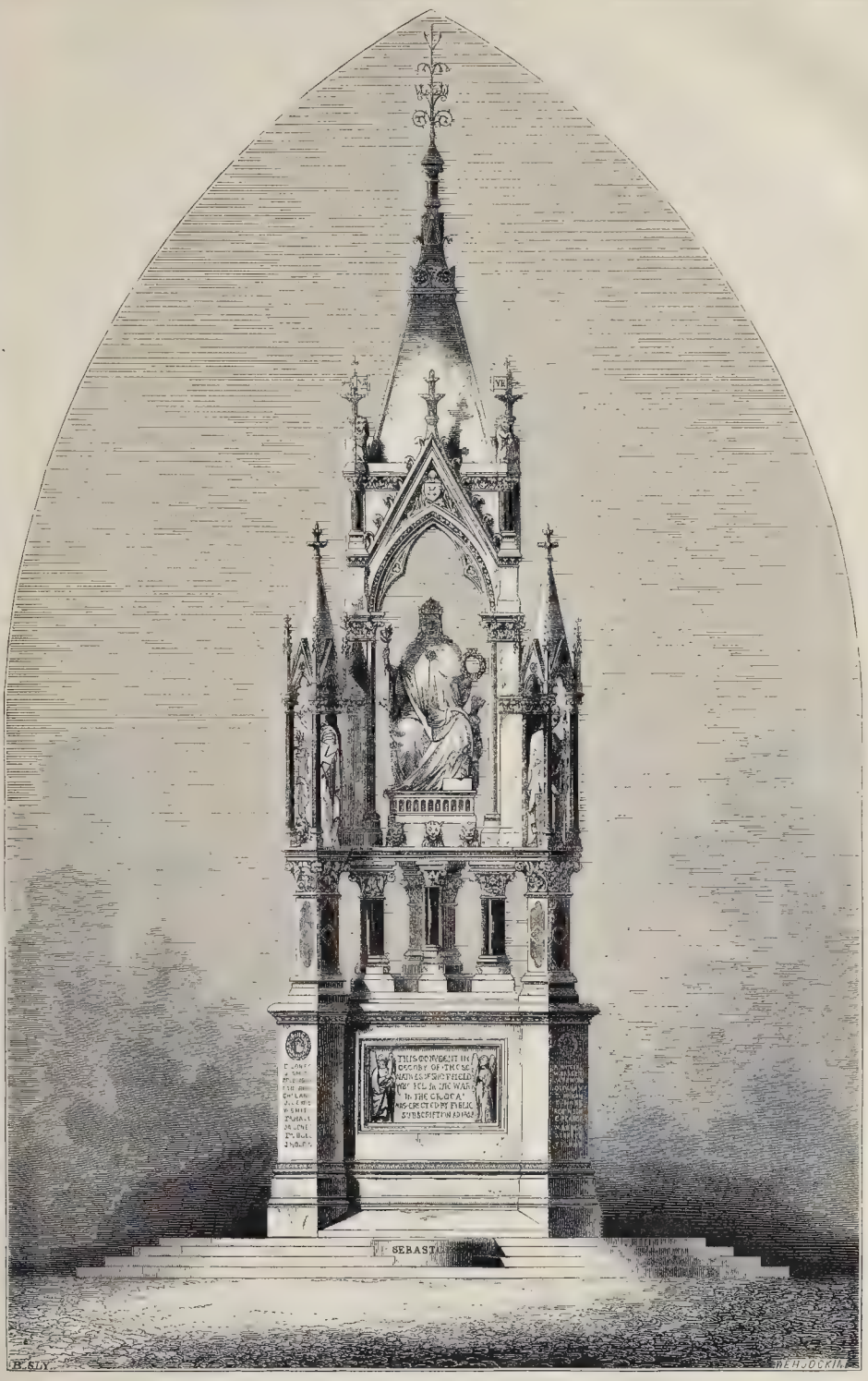
The base of the monument is octagonal. There will be four ascents of steps, with four bastions interposed, each bastion supporting cannon. The pedestal has four faces or panels. One of these will be devoted to the inscription commemorative of the intention of the memorial: the other three will contain bas-reliefs of the battles of the Alma, Balaclava, and Inkermann, to be executed in bronze if the funds will admit of the extra cost. The base of the pedestal will be moulded (with) stone seats between the buttresses), and its cornice sculptured with the national emblems.

At the four angles over the buttresses will rise square detached pedestals, inlaid with marble, and having moulded bases and foliage capitals. These will support niches formed by marble shafts, and protecting statues, 7 feet high, representing the allied kingdoms.

The main feature of the design will rise in the centre of the four niches. Upon a cluster of coloured marble columns, with an octagonal granite shaft in the centre, there will be a large canopied niche, richly moulded, arched, crocketed, &c. with angels bearing the shields of the allied kingdoms in the pediments of the canopies, and lions on marble shaftlets supporting gilded vanes at the angles. The canopy will consist of a pyramidal stone roof, bearing as its finial the crown of England. Beneath the groined roof of this canopy, enthroned upon lions, will be a colossal female figure representing England victorious, resting on her half-sheathed sword, and crowning her heroes. It is proposed to adopt the portrait of the Queen as the head of this ideal figure of Britannia. The total height will be about 60 feet.

The site of the monument is an open space, with streets all round, but very ordinary three-storied brick houses about it. There are a few trees in the enclosure, but they are smoke-dried town trees. The monument will face "The Lamp," so as to look towards "South-street."

WALSALL FREE LIBRARY COMPETITION.—The town council have selected the design of Messrs. Nichols and Morgan, of West Bromwich. There were thirty-eight competitors.



THE CRIMEAN MONUMENT AT SHEFFIELD. MR. G. GOLDIE, ARCHITECT.

OPENING MEETING OF THE ARCHITECTURAL MUSEUM.

MR. RUSKIN'S ADDRESS.

ON Wednesday evening, the 13th, the opening meeting of the session was held in the theatre of the Museum, at Brompton, Professor Cockerell, R.A. presiding. The theatre was crowded in every quarter.

The Professor said he felt greatly gratified in presiding at this the first meeting of the members of the Museum, first established in Cannon-row, in the new and elegant theatre of its present magnificent locality. The museum had thus become associated in its new sphere of usefulness with every department of subsidiary art that could be of service to the interests of architecture—the *ars-regina*. It was his duty to announce to them that on this occasion the prizes that had been offered by Mr. Ruskin, to those worthy artificers who gave the best examples of their skill, would be presented; and he was quite sure they would hail with interest the institution of a prize of this sort, introduced by a gentleman so illustrious in the world of letters and of art, noted not only as an eminent theorician, but as a practical artist, in whose works we were deeply interested, but who came forward individually on this occasion as a liberal and practical patron. As an old practitioner and veteran in these arts for upwards of half a century, he had only to express his admiration and astonishment at the stride they had taken during the course of his career. Literally speaking, he, the professor, was born and bred in the last century, and he was, therefore, in a position to speak of the great and glorious progress that the art of architecture and its sister arts had displayed during that important period. At one time he thought it was but a dream of the imagination, but now he found it confirmed as a reality. Now that the Government of this country—tardy at all times on the advance of those things that were not absolutely essential to the well-being of the country—had taken up the patronage and promotion of one of the noblest arts of a country that had been so long famed, in other ways, for its philosophers, its poets, its prowess, and scientific attainments. The noble art that conferred such glory, decoration, and beauty on a country, was now recognized as one of its indispensable institutions, and that art, the art of architecture, which had been the glory of Athens, of Rome, of the Revival and the Middle Ages, was now felt to be a national point of honour to this country. He gloried in this, having devoted for so many years his best energies and efforts to the advancement of their noble and beautiful art. Government for upwards of thirty years had been engaged in the promotion of this consummation for the advancement of art in its schools of manufacture and design, which were more or less connected with their own art, and which had made remarkable advances. His Royal Highness Prince Albert, with his enlightened mind, and most strenuous and sincere ardour for the honour of this country and the glory of those arts which he understood so well, had put himself forward on all occasions for their promotion, and had planted the institution they were assembled to do honour to in the position in which it then stood. He had heard that in this Museum of Arts no fewer than 250,000 persons had been visitors during the past year, and they would readily see from this how the efforts of the Department had been seconded by the ardour of the people. Thanks therefore be to his Royal Highness, and to the Government; and let us hope that, under such auspices, we might, in all that appertained to art, follow the bright examples of Athens, of Rome, of the Revival, of the Middle Ages, and of Leo X., and thereby confer upon our own country the impress of immortality and grandeur which gave such glory to theirs.

MR. RUSKIN then addressed the meeting. It was a matter of the greatest gratification, he said, to him to be associated in any way with the efforts that had inaugurated and brought the Architectural Museum to the position it now occupied in that admirable building; and the more so, as it was under the presidency and auspices of our Professor of Architecture—one of the most graceful and distinguished designers in the school of classical architecture, a style in which grace and beauty of design are most required. He felt this the more deeply because he knew that our Professor of Architecture could not countenance some of those things that he (Mr. Ruskin) had audaciously, and perhaps ignorantly, advanced in the haste of a young man, or in a state of mind in which he struck at things which he definitely felt to be false and evil, and where one did not perceive that which was associated with them of the wise or of the good. He knew that there was much to forgive in him, and he felt the Professor's forgiveness, though he could not adequately express it; and as he could not tell them just then how he felt it, he would go on with the business on hand. That business, he was sorry to say, had for his own part been somewhat of a failure. And yet he was not so sorry for it as he might otherwise be, because he well knew that things that took long for the doing very often did not turn out at first altogether prosperous. There was oftentimes some unforeseen difficulty to disappoint—some dread Nemesis in the state of human things to thwart and interfere; and he had frequently noticed, that when affairs began too swimmingly, and went on well at first, they did not always come to a prosperous issue. These disappointments, however, served only as correctives to make one cautious, and taught us to tide on unwearedly, in the face of difficulty to the winning-post of our effort and ambition. Now he had met, he confessed, with considerable disappointment in the case of the prizes he had offered for sculpture; and he was afraid he had been instrumental in doing injury to persons to whom he wished purely to do good. He hoped this might prove otherwise, but he would explain the circumstances under which they were invited that evening, to witness the giving away, not of a prize, but some compensation to two intelligent men for the loss of time they had sustained, owing to his fault rather than theirs. The circumstances were briefly these. In common with nearly all interested in architecture of the rising school, he felt that a building differed from all other works of art; that it was the work of many instead of one; and in this he conceived consisted the essential difference between architecture and all the other arts. Whatever was done by the other arts was done by a single hand, operating under the influence of a single mind; whereas, in architecture, many hands operated and were pressed into the service of one guiding mind, that regulated them all. Now he did not think this should be so. He thought that in bringing many hands to bear on the subject, you should bring the heart and the brain to bear on it; also, that in every hand you occupied you should interest a heart, that you should elicit the value of the heart, and the whole value of the man, as well as of his work. Recompense him, not only for his time and labour, but for his thought and spirit; and in that way you would get the most fruit out of all the efforts made, and the result would redound to the advantage alike of art itself, and of those that were employed. It appeared to him that for a long time we had wholly neglected these peculiar characteristics of architecture. We had thought it was impossible. It seemed to us that it was one ruling mind only that should be employed, and that all inferior workmen should bring to bear subsidiarily their dexterity and manual skill. Now, whether the man was skilled or not, the best part of him was always his thought; the most interesting part of a man, and that which we always liked to get at, was his thought. It would be better, instead of making those parts of your building wholly uninteresting, and in which you could not bring the first-rate mind of the architect to bear, if you employed in the subsidiary places the operations of the inferior art-workman mind, by means of which you would both educate that mind, and bind the whole of your building into a sublime expression of the mind and soul of the multitude. In order to this end, it was, of course, necessary that the workman should be accustomed to express himself in stone; and then as one of the objects of the Architectural Museum, and it was one of his objects, to ascertain exactly where the English workmen were at this moment, to ascertain precisely what they can do and what they understand, by expressing themselves with the chisel, so as to open up the mind of the art-workman, and develop his executive skill and intellect in dealing with the inferior and subordinate departments of a building. Accordingly, in 1855, he offered a prize for a small capital of original design. There were five competitors. One of the capitals was very beautiful; workmen were accustomed to carve capitals more than anything else, and he had great delight in giving that prize. Last year he offered a prize for a carved panel, and in order to make the test more complete, he asked that it should give a representation of some historical event that had taken place during the year; and he thought that, interested and cognizant as our workmen were in all the leading national events, it would surely be the means of bringing their intellects out, and that they would seize the opportunity, proudly, for displaying their artistic talent. But he was disappointed, only two responded to the offer; and he regretted to say that neither of these competitors, though zealous and intelligent workmen, produced a piece of sculpture to which he could feel himself justified in awarding a definite prize. He believed, however, that their failure was owing, in a great measure, to his not having explained to them the principles on which architectural sculpture was based; and as he had omitted to do this on a former occasion, he would now make up for that omission by explaining precisely what he meant. Mr. Ruskin then read an elaborately prepared and eloquent paper, in which he first descanted at great length on art as it existed in its attributes of capacity and power, in the two widely-different art-parallels of the Highlands of Scotland and India, and tracing in a somewhat novel manner the differences that exist between the art and mental disposition of the two nations. He had, while passing through the north of Scotland on a recent occasion, been impressed with a peculiar painfulness at the total want of all manifestation of high art in the midst of romantic and magnificent natural scenery. He had looked with delight on the carved cottages of Switzerland; on the noble cathedrals of Germany; on the fantastic houses and pretty pictures of Flanders,—and in them he traced the handiwork of art. Not so, however, in the north of Scotland, with nothing but its rude Highland cottages, heaps of grey stone covered with thatches of black wheat, or of withered heather; the only approach to rude beauty, or to art, being the diagonal arrangement of the lines on the roof; and even these looked as though the surface had been scored over by some gigantic claymore.—While meditating and lamenting over this absence of art among the Highlands, and wandering by the shores of one of the loveliest estuaries in the world, placed between the crests of the Grampians like a rich jewel clasping the mountains to the blue zone of the sea, he was led, in a mood of truant contemplation, arising out of the events that were going on in India, to compare this condition of art in Scotland with that of art in the less civilized region of India, where a love of art seemed to be inherent in the race, whether in colour, wool, marble, or metal, or in decorative works, which were inimitably beautiful, enriching with a profusion of enchanted iridescence the dome of the pagoda, the edge of the girdle, or the sheath of the sword. Here was a curious and remarkable contrast. In the one case you had all the national capabilities opposed, as it were, to the development of art, and in the other devoted to its most magnificent expression. When, however, they came to consider the moral and social character of the two countries, they would find that the difference was as vast as was that displayed in their capacity for art. India, with all its barbaric art, was barbaric in moral and social science, while Scotland was rich in all the dearest duties of life, and in all the heart's richest charities. Out of the peat cottage of the Highlander came forth love, self-sacrifice, piety, bravery, devotion, death;—attest it, ye noble sons of Scotland, on Crimean and Indian soil! Out of the ivory palace came treachery, cruelty, cowardice, and all the elements of hell;—attest it, fiendish sepoy and Cawnpore! And this led him to observe upon the apparent fatalism that seemed to exist in connection with all great successes in art, with subsequent national degradation. We found in the annals of the past that those nations who were foremost in refined art were always subdued by those who had none. The Lydians were conquered by the Medes, the Medes by the Spartans, and the Romans by the Goths; and from the moment of the meridian of art its sun declined and set. There ensued a species of art-paralysis. Art had appeared principally in connection with superstition in Egypt, Babylon, Greece, and Italy, and was developed under strong excitement and gross superstition in the worship of Osiris, Minerva, and the Queen of Heaven. It would be difficult to show that art ever existed in our energetic school, unless engrafted on either superstition, sensuality, luxury, or cruelty; and if this, paradoxical as it might appear, could be mathematically demonstrated, was it not doubtful whether in this nineteenth century they were assembled in that Museum for any good purpose, and whether they might not be looked upon as so many Catalines assembled to promote the degradation of our country. Mr. Ruskin then proceeded to pass a high eulogium on the Scotch character, from his own view-point. All the loftiest parts of the Scotch character were derived from the pure elements of their own country, from the association

of natural scenery with the passions of the people, and this was beautifully portrayed in the pages of Scott and Burns. He then proceeded, in general terms, to discourse on the principles that should guide art-workmen in the study and execution of sculpturesque art, and on the effect of art on the mind of nations and of men. Everything in the way of a healthy and pure state of art depended on the exercise of the important function of the interpretation of facts. True art, while it really imitated, described and explained nature. Our art-workmen were not sufficiently accustomed to increase this principle, or to display this power. The first element was a love for nature, leading to the effort to observe and report her truly. The lecturer then proceeded to reply to the difficulty he had, but the answer was of too subtle a character to be seized in our notes. No great skill in art was ever yet attained, in which we had not the representation of some series of natural facts, whether in the Athenian, the Florentine, or the Venetian school. The Athenian or Greek school, in the pursuit of truth of form, proposed the perfect representation of the human body, and did it well, as was witnessed on the Theseus of the Elgin marbles. The Florentine school pursued truth of expression, as in Raffaelle and Michelangelo. The Venetian school pursued truth of colour, and light and shade, as in Veronese's Marriage in Cana, in the Louvre, which gave the most perfect representation of colour and chiaroscuro. As regarded the school of Gothic art, it had been too much the fashion to consider it as one of form rather than of fact – as a school of pinnacle and buttress, of disguise and of grotesque; but this was an unquestionable mistake. If they went back to the beginning of Gothic art, they would find that it was based upon the same stern faithfulness that characterized the resources of the Classic, or of any other school. Recently, in one of the professional papers, he had lighted on a quotation, by one of the lecturers of Aristotle's definition of the principles of beauty, and the doctrine derived from it was the doctrine of an architect who did not acknowledge the want of sculpture in architecture, and did not employ it in buildings, because he had no power over it, but who endeavoured to substitute for it mathematical proportions. The lecturer then caused to be uncovered, to the great amusement of the audience, two drawings or illustrations of early grotesque barbarisms in sculpture—one intended for the representation of an angel, and the other the serpent beguiling Eve; the one an "invention," so to speak, the other a rude attempt to lay hold of the heart of the event and represent facts—the one the work of a mind that never would progress, the second of one that would improve with every attempt. These were early barbarisms, and served as milestones to measure the advance of art; but if we wished to see Gothic art in all its grandeur, we must look at the Norman architecture, not of Northumberland, but of Normandy, and in the once absolutely beautiful north transept of the cathedral at Rouen, though, he regretted to say, that existed no longer – it had been restored! Chartres also furnished beautiful illustrations. Gothic was an art for England and the world. It was not an architecture of tradition, but of fact and stern reality—it was not an architecture for churches, but for cottages and houses: whosoever built in it, or worked in it, as an ancient thing or a formal thing, for its ecclesiastical tradition or its geometrical science, knew nothing of its essence or its power. Cast away the mysticism, the symbolism, the one-sided geometricism and legalism that surrounded it. Seize hold of God's hand and you were sure of support and victory. We all viewed with love the Gothic, all that ever was done in it, all that ever would be done. Adverting to the more immediate matter before them, he certainly did expect some better response to the prize that he had offered, in these days, when every publication teemed with illustrative designs, from which our art-workmen might derive ideal design. The workman in the present instance, had expended all his time and attention on the stone-cutting, instead of on the historical topic. The panels were too much undercut, and in the action of the figures there was a want, though in other respects there was skill. He should, however, feel great pleasure in the presentation of the prizes by the Professor.

Professor Cockerell then in a few phrases presented the prizes to Mr. Chapman and Mr. O'Shea, the workmen who had submitted carvings.

Mr. Ruskin again rose, and made some supplementary remarks. He hoped to have another opportunity of entering on the question of [illegible]. It was to be looked upon as a cardinal principle, that whatever was great in human art was the expression of man's delight in the works of God.

Professor Cockerell, in moving a vote of thanks to Mr. Ruskin, said he had felt almost inclined to call Mr. Ruskin to order when he characterised them as an assembly of Catalines, had not the observation, as was quite clear from what subsequently fell from him, been made in admirable irony Mr. Ruskin had referred to the decline and final extinction of art in the case of other nations; but he thought if there was one thing in the world that conspired to prevent such a catastrophe in connection with art, in this country, it was *liberty*,—liberty, which would ever be a watchword and an advance-guard in the high march of art; and he could not better illustrate his feeling on the subject of the arts than by quoting these noble lines of Thompson:—

"However puff'd with power, and gorg'd with wealth,
A nation be; let trade enormous rise,
Let East and South their mingled treasure pour,
Till, swell'd impetuous, the corrupting flood
Burst o'er the city and devour the land:
Yet these neglected, these recording arts,
Wealth rots, a nuisance; and, oblivious sunk,
That nation must another Carthage lie.
If not by them, on monumental brass,
On sculptur'd marble, on the deathless page,
Impress'd, renown had left no trace behind:
In vain, to future times, the sage had thought,
The legislator plann'd, the hero found
A beauteous death, the patriot toil'd in vain.
Th' awarders they of Fame's immortal wreath,
They rouse ambition, they the mind exalt,
Give great ideas, lovely forms infuse,
Delight the general eye, and, dress'd by them,
The moral Venus glows with double charms."

The Hon. Mr. Cowper, M.P. President of the Council of Education, briefly proposed a vote of thanks to the chairman, and the meeting separated.

CHURCH-BUILDING NEWS.

Colchester.—A project is on foot for restoring and ornamenting the tower of the church of St. Mary-at-the-Walls, Colchester, by heightening it several feet, and surmounting it with pinnacles, and providing a clock to chime the hours. At a private preliminary meeting of a few friends at the rectory recently plans and drawings were submitted by Mr. C. Hayward, architect, and resolutions were adopted for carrying out the restoration, if the required sum of 750*l.* could be raised. The sum of 113*l.* was subscribed by a few gentlemen, and a provisional committee appointed for carrying out the resolutions.

Tunbridge Wells.—St. John's church, on the Lew, was consecrated on Tuesday in last week. The site is a piece of ground presented by the Conservative Land Society, and sufficient in extent for the erection of a parsonage in connection with the church. The foundation stone of the church was laid on the 1st of June last. The architect was Mr. A. Gough, of London. The church is built of brick and stone, and about one-third of the latter material, which has been used in the internal construction of the walls, was presented by Mr. C. J. Fisher, and was hewn from a quarry belonging to him in the neighbourhood. The facing is of Kentish rag stone, with Bath stone dressings. The building is cruciform, consisting of nave, north and south transepts, and chancel; but the form is somewhat obscured by other arrangements, the angle formed by the intersection being occupied on the south side by the tower and vestry, and on the north side by smaller gabled bays with arched openings into the nave and transept of the church. The entrances are at the west end, and in the tower on the south side. The ornamental ironwork is throughout in the Decorated style of the fourteenth century. The entire length of the church is 82 feet, the width of nave 23 feet 6 inches, and across the transepts 48 feet. Externally, the chief features which present themselves are the windows, especially the one over the western entrance. It is of circular form, carved, with tracery of plain, buoyant character. The whole of the windows are glazed with Hartley's semi-opaque glass, of small trellis pattern, so as to avoid the necessity for using blinds. In the nave, on both sides, are six windows, of three compartments each, the heads of which are filled in with flowing tracery. The north and south transepts are lighted by single five-light windows, with carved tracery corresponding with the other windows. The entrance to the tower consists of plain splayed jambs and arched head, surmounted by a crocketed gablet and finial. The upper part of the buttresses terminates with gablet water tables. The height of the spire above the tower is 86 feet to the top of the vane. In the interior of the church the roof is open. The timbers are stained in oak colour. The gangways are paved with red and grey Staffordshire tiles, and the chancel is inlaid with ornamental encaustic tiles in lozenge compartments. The church will afford accommodation to about 470 persons; but the accommodation can be extended by the erection of galleries at the west end of the transepts. The church is lighted with gas, and warmed by means of five gas stoves. The seats are open benches, with plainly-moulded cut elbows, and stained throughout.

Cattistock (Dorset).—The parish church of St. Peter and St. Paul, Cattistock, near Maiden Newton, Dorset, has been restored by Mr. Scott, and re-opened. The restored chancel and nave and new aisle are in the Early Decorated style. The chancel windows, of stained glass, are by Mr. Lavers, designed by Mr. A. Bell. The wrought-iron gates for chancel screen are by Mr. Skidmore, of Coventry, and the rest of the iron ornamental hinges, &c. have been executed by Mr. L. Curtis, blacksmith, of Maiden Newton. The Hamhill stone was supplied from the quarry of Mr. J. Trask, of Hamhill. The builder was Mr. John Wellspring. The ornamental carving was contracted for by Mr. William Farmer, of London, and was executed under his directions by Mr. William Brindley, who also, under the same master, executed that of Woolland Church. Mr. Irony was clerk of the works. This church, no doubt, says the *Dorset Chronicle*, was one of the wooden erections incident to the times preceding the Conquest: fragments of charred wood were found in the lowest foundations. One of the discoveries, continues our authority, was the most remarkable we have ever heard of in connection with a church site: it consisted of portions of the plaster coloured in fresco, and pieces of fine and wall tiles, evidently belonging to a Roman villa. The explanation must be, that the remains of a Roman villa exist somewhere in the immediate neighbourhood of the church site—so close, indeed, that the fragments of plaster, tiles, &c. must have been appropriated, on the rebuilding of the church, from being thus at hand. Of the Norman church rebuilt on the ruins of the Saxon, evidence was found showing that the chancel arch was existing down to 1600—having evidently been altered about the period when the chancel was rebuilt by the Strodes. A number of the carved heads from the Norman corbel table, round the exterior of the church, were found, and have been preserved, by being rebuilt into the interior of the staircase of the tower The east window of the Early English chancel, consisting of two lights, with a circle over, having been discovered taken to pieces, and used up for walling stone, has been rebuilt into the west wall of the new aisle—this chancel having been lighted by two single-light windows on each side, and having a door on the north. An old lethnoscope, or squint, existed in the south wall: it has been preserved. Mr. Scott's restoration consists of the nave, new south aisle, and chancel, leaving the two transepts and the tower, which is Tudor and battlemented. He has added a sort of covered entrance, or cloister, forming a west porch for the entrance of the clergyman. The nave is reseated with open benches. The roof is open timbered and of high pitch. The piers are monoliths of Hamhill stone, having Bath stone moulded caps and bases. The west window is filled with geometrical tracery. The chancel is lofty, and consists of three Gothic orders, the inner of which is red stone, the next white, and the next white and red in alternate blocks, and having outside a label of red stone. The chancel windows have all columns of serpentine.

Stradishall.—The ancient church of this parish has been again opened for divine service, although the repairs and restoration in progress are not yet completed. The interior of the nave has been cleared of its unsightly pews, and has been fitted with open seats, with oak ends and poppy heads. Six new clerestory windows have been inserted, with Bath stone dressings, in addition to two decorated windows on the south side, presented by the churchwardens.

Bromsgrove.—The contractor, Mr. Cooper, has commenced the internal restorations of the parish church.——The grounds are now laid out for the new cemetery of this town. The land appropriated for the site is in extent six and a half acres, contiguous to the churchyard. A broad path from the parish church to the principal entrance to the cemetery will be constructed, so that a corpse, after the service, can be carried direct from the church to the grave. A red brick and stone building has been erected near the principal gates for the residence of the clerk and sexton. It is in the Elizabethan style, has a tower, and possesses accommodation for the meetings of the Burial Board and the transaction of business con-

nected with the cemetery. The builder was Mr. Walker, of Evesham. The burial ground is disposed in geometrical sections, intersected at convenient distances by broad gravel paths in accordance with a design furnished by Mr. Cooke, the architect. The portion of the ground reserved for Dissenters will be approached through a lich-gate, facing Church-street.

Worcester. — The Angel-street Independent Chapel is to be rebuilt. Five gentlemen of this city have subscribed 3,000*l.* and the whole subscription is already upwards of 4,000*l.* The expense of rebuilding, according to the *Chronicle*, is roughly estimated at 5,000*l.* 500*l.* of which, it is calculated, will be covered by the sale of the old materials. The new chapel, it is proposed, shall have a frontage to the street, instead of being thrown back as at present, and by pulling down a house, adjacent to the entrance to the existing structure, a tolerable width will be gained for this purpose.

Burlescombe (Devon).—A window has been executed for Burlescombe church, by Mr. Toms, of Wellington. It is of the later Tudor style of architecture, and is of four lights, with six tracery lights, besides small quatrefoils and trefoils. The ground of the glass is ruby: in the lower lights this is covered by a pattern, formed of the interlacing boughs of a vine and clematis, or traveller's joy, which spring from the extreme sides of the window: this pattern varies in each light. The branches are formed of white glass, but the leaves, bunches of grapes, and flowers, are in their natural colours. Under the branches, as under a bower, is represented the adoration of the Magi, adapted from an oil painting, by Bonifacio, the Venetian. The figures are placed on turf, with a purple curtain hanging behind them. In openings in the foliage above, which form panels, appear figures symbolical of the after history of the Gentile Church. These are in white, with starry crowns, winged, showing the various stages of the combat the church sustains with the evil one. These panels are of blue ground: the ruby ground extends to the tracery lights, which are filled with figures of angels. The window is almost entirely in glass, manfactured by Messrs. Powell. The design is said to be due to a gentleman in the neighbourhood.

Swindon.—A stained glass memorial has been put up in Broad Town Church. It fills the central light of the east window, which is a triplet, and has been erected to the memory of Mr. Thomas Gale, by his daughter, Mrs. Stiles, of Ham. The window was designed and executed by Messrs. Baillie and Co. of London, by commission of Mr. W. Hopkins, of Swindon.

SCHOOL-BUILDING NEWS.

Bristol.—The opening of the St. Nicholas and St. Leonard Schools, in Back-street, Bristol, took place on Thursday in last week. The buildings consist of an infants' school-room, separated by folding doors from the girls' school-room. There are separate entrances for the girls and infants and the boys, a house for the master and mistress, and a play-ground. The cost of the site had been 650*l.*; the buildings, 1,300*l.*; and the fittings, &c. 150*l.* making a total of 2,100*l.* Government gave 1,150*l.* and the subscriptions amounted to 800*l.* leaving still due between 200*l.* and 300*l.*

Swindon.—A movement has been made here by the Rev. A. Morrison, for the erection of new schools, to be commenced early in the spring. A site has been presented by the trustees of the Broad Town Charity.

Oldbury. The new school in connection with Christ Church, Oldbury, and which is situated near the Parsonage, was opened on Tuesday in last week. The building is in the Gothic style. The material is red brick, with stone dressings, the fittings inside being of stained deal. The school-room measures 45 feet by 12 feet, and has a class-room belonging to it. Adjoining the building is a residence for the infants' schoolmistress. The architect of the school was Mr. William Bourne, of Dudley; and the builders were Messrs. Chambers and Marsh, of Oldbury. The total cost was 893*l.* The grant from Government and other sources amounted to 344*l.* A balance of about 50*l.* still remains to be subscribed.

Altrincham.—New schools have been erected at Bowdon, in connection with St. Margaret's Church. The schools, which are situated between Ashley-road and the Downs, were designed by Mr. Roscoe, architect and surveyor to the Earl of Stamford, and built of stone by Messrs. Bowden and Edwards, of Manchester, in a style of architecture to correspond with the church—the Decorated Gothic. The boys' and girls' rooms will accommodate 200 scholars each. The total cost of the erection has been 1,640*l.* The Earl of Stamford gave the land, valued at 352*l.* the committee of council on education a grant of 756*l.* and the remainder was raised by subscription from the parishioners.

Selby.—New national schools have been opened here, on a site in New-lane. They are three in number, namely, the boys' school, which is said to be 64 feet 9 inches in length by 18 feet in breadth, and in connection with it is a class-room, 18 feet by 13 feet: the girls' school 65 feet by 18 feet, with a class-room similar to that attached to the boys' school; and the infant school-room 54 feet long by 18 feet in breadth. Immediately adjacent to the schools are two houses, one of which is to be the residence of the master and the other that of the mistresses. The buildings are of the Gothic style of architecture, and the plans were prepared by Mr. R. Gould, of York, architect, under whose superintendence the work has been executed. The schools are built of red brick, with stone dressings, and some of the windows are traceried. The roof is timbered, and the rafters stained and varnished in imitation of old oak. The desks and seats are fixed upon cast-iron standards. Outside the schools there is space allowed for playgrounds, and the ground fronting New-lane is enclosed by a palisading, with moulded piers and stone copings. The contractors for the execution of the work were—bricklayers and stonemasons, Messrs. Young and Biscomb, York; joiner, Mr. W. Cook, York; plasterer, Mr. H. Young, York; slater, Mr. Ellis, York; plumber and glazier, Mr. J. Underwood, Selby; painter and stainer, Mr. Bulmer, York. The site of the buildings, valued at about 300 guineas, was given by Lord Londesborough, the lord of the manor, and his lordship also subscribed 100*l.* towards the erection of the schools, which cost about 2,400*l.* subscriptions to which were given by the Rev. F. W. Harper, the perpetual curate of Selby, and the principal families of the town and neighbourhood. A grant of 1,000*l.* was received from the Committee of Council on Education, and the funds were also aided by grants from the National Society, the York Diocesan Board of Education, and a sum of 100*l.* from the feoffees of pious uses in the parish of Selby. The whole sum necessary for defraying the cost of the schools has been obtained.

PROVINCIAL NEWS.

Alcester.—The corn-exchange here has been opened. The building is 66 feet long, 30 feet wide, and 33 feet high. There is a gallery, with an open front of ornamental ironwork at the west end. The central and principal entrance is from High-street. The whole space above is occupied by a committee-room; this room and the gallery being approached by a flight of stairs from the main passage. The building fronting High-street is described as being somewhat in the Italian style, of brick with Batli-stone dressings. It is divided into four recesses by stone pilasters, extending the whole height of the building to the main cornice: these pilasters are finished with moulded caps, which support the entablature; a moulded cornice, supported by trusses, surmounting the front. The windows, eight in number, are finished with stone dressings, moulded strings separating the upper from the lower only. The architect was Mr. Edward Holmes, of Birmingham; and the contractor, Mr. Joseph Hardwick, also of Birmingham.

Cheltenham.—A project set on foot by Mr. J. P. Knight, architect, and backed by the approval of a number of owners and occupiers of property in the borough of Cheltenham, has been laid before the Town Commissioners, for the formation of a new street, commencing at the western end of Clarence-street, and terminating on the eastern side of St. James's-square. It is intended as a means of better communication with the Great Western Railway, by affording a shorter and more agreeable route than exists at present.

Stratford-upon-Avon.—There has been recently built, at the cost of Miss Mercy Newland, at the Guild Pits, in this town, four almshouses, which are already occupied by five widows and a man, to each of whom she allows 4*s.* per week. The previously existing almshouses were built by the Bishop of Chichester, in 1296. They are twenty-four in number.

Droitwich.—A new national school for boys has this week been occupied. The school was built by subscription, assisted by a Government grant, and is the result chiefly of the exertions of the Rev. W. Lea, vicar of St. Peter's, Droitwich. The building consists of a school-room, 51 feet 3 inches, by 20 feet; a class-room, 24 feet by 14 feet; a hat-room, lavatory, &c. The roofs are high-pitched, covered with slates having ornamental ridge, and the timbers are open to view in the interior. Externally the building is of red bricks, relieved by white and blue in patterns. The jambs of windows, &c. are in alternate courses of red and white; and the plinths, label mouldings, string-courses, copings, &c. are in blue materials. The chimneys are prominent features, and are formed, in plan, by intersecting squares. The school was built by Mr. Jno. Shilworth, from the designs of Mr. J. Smith, of this town. In several farm-houses in this neighbourhood, recently erected or repaired by the same architect, ornamental brick-work has been employed to a considerable extent, more especially in the chimneys. In the new bath-rooms, also recently built, on the property of Lord Ward, in this town, Mr. Smith has made the chimneys more than usually conspicuous. The design of this building partakes of the Italian character, and the bracketed cornices to roofs and chimneys are the most marked features.

Liverpool.—Tenders for the building and completion of the Free Library and Museum have been opened. A considerable number of tenders were given in, and the successful competitors were found to be Messrs. Holme and Nichol, of Liverpool, whose tender was the lowest (30,700*l.*). Mr. Browne has imposed on himself all the pecuniary obligations. The various tenders, according to the *Journal*, were very nearly on a par.

South Shields.—Mr. John Ayris has resigned the borough surveyorship of South Shields, to accept the appointment of manager of the Norwich Waterworks.

SCHOOLS AND REFORMATORIES.

THE necessity for a movement of sufficient importance to meet the monstrous social evils which exist amongst a considerable portion of our population is now generally acknowledged. But as to the means of remedy, doctors differ; and of such great importance is this subject, that it is worth while to consider some of the opinions which are given, and also to glance at a few of the attempted means of improvement which are in progress.

As regards jails, houses of correction, and convict establishments, which have grown up to an enormous size, and are still unfortunately increasing more than in just proportion to the advance of the population, it has, we think, been clearly shown, that while they fulfil the necessary purpose of confining criminals, they are but of little account in promoting reformation, and that but a tithe of those who have been once condemned to imprisonment within the walls of these expensive national institutions become, when set at liberty, useful members of society.

Then as to the parish workhouses and unions scattered over the metropolis and the country, in which many thousands of children are annually reared, and where an immense number of all ages find shelter, observation and inquiry force us to state that the method of rearing and training pursued in these establishments has generally failed to produce a useful body of able and willing working men.

Besides the above, there are numerous schools of a charitable description, of various grades, into the poorest of which it is considered a privilege to obtain admission, and to be dismissed from which would be considered a matter of disgrace; and in these places many a bright man has been provided with the means of commencing, with some chance of success, the battle of life.

The penitentiaries for females must not be overlooked; and it should be remarked that the chief of those which have effected the greatest amount of good are the institutions which are open for the reception of such as voluntarily offer themselves, and from which they are at liberty to depart when they think proper.

The attendance at the ragged schools, and the reformatories connected with them, is voluntary; and to this circumstance we are inclined to attribute the chief part of their usefulness.

The reformatory in Great Smith-street, Westminster, which is one of the oldest and most extensive in London, is a remarkable instance of the success which has attended this voluntary treatment of some of the worst criminals. It is interesting and instructive to trace the origin and progress of this reformatory, which has been the means of placing a large number of the worst characters in a position of society useful to themselves and others.

It is now some time since we had an opportunity

of listening to the account of Mr. Nash, the founder (who is unfortunately dead), of the formation and progress of this reformatory. Mr. Nash was a man of gentlemanly address, and remarkable for his kind yet firm manner. He was in early life an assistant to a linen-draper in the Borough, and devoted his spare time to teaching in the Sunday-schools, and in visiting the dwellings of the ignorant and poor, and while thus engaged was overwhelmed with the extent of the distress and vice which came under his notice. Two boys, totally desolate, and in the most miserable condition—worse, in fact, than any he had before seen—and who had been imprisoned for stealing food, and begging, induced him to rent a small room in a miserable neighbourhood, as a shelter, until he could determine what should be done with them. The beneficial change which he observed in their manner, after a short period of kind treatment, induced him to take a larger number of youths who were totally cast without the pale of society, and without a chance of acquiring anything but evil. Mr. Nash's means were very limited, and he had besides a family of his own; notwithstanding, he supported these lads; and it seemed stranger than the pages of romance to hear his description of this early idea of a reformatory. The house in which he had taken a room was a large one, let out in tenements, every one of which was occupied by thieves and prostitutes; and from morning till night, and sometimes all night through, the most vile language was in use, and scenes of strife were constantly occurring.

The food supplied by Mr. Nash to his lost flock was of the plainest description, and yet, so far as he was able to judge, no contact took place with those who had come under his charge and the bad characters who were in the other rooms. Other youths attracted Mr. Nash's notice, and he determined to sleep on the premises and devote a large part of his time amongst them. The room was whitewashed by the boys; the floor constantly cleaned; economical yet homely methods adopted to prepare coffee, &c. "The clothing," said Mr. Nash, "was the most difficult part of all; they were perfect scarecrows; and when we went out together for a walk, or to take a bath in the Serpentine, it was a sight which every one turned round to look at. I could not have begged for myself: but somehow I became bold in the cause of these lads, who seemed to be placed in my charge by a wise Providence to save them from destruction. I asked every one I could think of, and, by one means or another, got them cleanly and comfortably clad. It is true that the fitting of the garments was extraordinary; and perhaps we attracted even more attention when in this improved guise we appeared in the public streets than formerly. The numbers constantly increased, and I was obliged, most unwillingly, to turn away many. My children, as I called them, continued good; and, being helped by some pecuniary contributions, I was induced to engage more rooms, and eventually undertake the rent of the whole house, which is situated in one of the streets adjoining the present reformatory." So uncertain for a length of time were the supplies of money, that the little fraternity would have been often reduced to complete want, but for the kindness and faith of a neighbouring baker, who at times allowed his bill to run up to upwards of 30*l*. In order to remedy this scarcity, and also to place the institution in a more permanent and extensive condition, Mr. Nash determined, very much against his inclination, to print an account of his institution, and sally forth without any particular recommendation, the matter then being little known or understood, and feeling sure that his motives would be in most instances mistaken and suspected.

Mr. Nash said, that on his first expedition he felt, in the Strand (where he had determined to make his first attempt—something like a man who had come out to pick pockets or commit some shabby action, and that he wandered along the length of the street several times, glancing earnestly at the countenances of the shopkeepers before he could venture to go in and state his business. In some instances he had dog-like treatment, but in most cases civility, and in some, help; and he soon became so much emboldened, that he succeeded in raising a considerable sum: and, eventually, with the assistance of the Earl of Shaftesbury, and others, a public meeting was held. In course of time, the present premises were taken, which, from time to time have been extended and improved, and where a large number have been saved from the prisons, enabled to learn a means of earning a livelihood; and after a time of probation, assisted to the colonies or to other places for honest employment. There can be no doubt of the satisfactory working of the plan adopted here, and that it has been the means of reforming a very large number, in comparison with those who have passed through the prisons.

Most of the inmates have been punished in various ways for crime three, four, five, and some even upwards of eight times. When driven by distress, or, perhaps, some better feeling, they have here sought admission. We have before alluded to the circumstance, but will again mention, that on any one applying for a home here he is offered a solitary closet, in which are a few good books. Here his diet is limited to bread and water, and he is required to remain without visitors, with the exception of the manager and clergyman, a week. The difference between this solitude and the jail is, that the door is unlocked, and that at any hour he feels at liberty to depart. Several fail in this ordeal, and pass into their former condition; but those who conform to these regulations, are introduced amongst the inmates, where they choose some trade, such as printing, shoemaking, tailoring, &c.: this occupies a considerable part of the day. The plain yet wholesome meals are regularly served, the premises are systematically cleaned, prayers and homely discourses are delivered by the superintendent. Nor is music or useful education omitted. They are also allowed without surveillance to walk for a time each day in the streets and parks, and in few instances is this liberty abused.

We have from time to time seen letters, and heard accounts from, young men who, when admitted here were in the most hopeless and degraded condition, and are now in thriving and comfortable circumstances, and who, but for such help as is here offered, would have been preying upon the public, or supported at great cost by the nation.

Mr. Nash firmly believed, and often stated in strong terms his belief, that it was the voluntary nature of this and other similar reformatories which caused the good to arise. When here, the inmates do not feel oppressed with the restraint. They are treated with trust and kindness, and are induced by the better feelings of humanity to make honourable return for the benefits they have received, and they have also hope from the example of those who have started from the place to a new life. He believed that the introduction of inmates into those places by the committal of magistrates or by other forcible measures, would be attended with bad consequences, and render them as ineffective, as a means of reformation, as the prisons. It is to be hoped that these means of saving a large portion of our criminal population will be still further tried.

Some objection has been made to the comforts and cost of these establishments, thinking that they hold out a sort of encouragement to crime. It should, however, be considered, that many are driven to bad acts by circumstances in which they have been born, and which we have often endeavoured to describe.

Many criminals, such as servants, clerks, and those who have not learned any manual trades, are often, for a small fault in the first instance, driven to wrong; and even in connection with the worst criminals, it is evidently a matter of wise policy to save them, if possible, by even a little exercise of kindness and expenditure, than to have the perpetually-recurring cost of imprisonment and prosecution.

Provision should be made for the reception of very youthful offenders in institutions which should not be considered places of disgrace. Those left by bad parents in the street must be also cared for, but we hope that the voluntary reformatories, which have already done good service, may be allowed without change to carry out their useful mission.

STAINED GLASS IN WESTMINSTER ABBEY.

THE five windows which have been recently fixed in the south side of the clear story of Westminster Abbey, executed by Messrs. J. R. Clayton and Alfred Bell, are the first instalment towards the realization of Mr. Scott's scheme for illustrating, in the entire series of clear story windows around the building, the "Te Deum laudamus." The five windows to which we now allude contain representations of the "Prophets" David, Solomon, Isaiah, Jeremiah, Ezekiel, Daniel, Hosea, Joel, Amos, and Obadiah. The figures are each nearly 10 feet in height, and are pointed to by the artists as the most colossal work in stained glass that has been done in England in modern times. This colossal size, however, is, as it seems to us, a mistake, and serves very materially to lessen the apparent height of the building. The drawing is good, and the colours for the most part sparkling. Green, however, is too predominant, and we would suggest that the arrangement by which some parts of the figure are made to break into the border, so as to give it the effect of standing out, is open to criticism.

MILE END OLD TOWN WORKHOUSE, COMPETITION OF TERMS!

IT is stated that, when the guardians of Mile End Old Town wanted a workhouse, some short time since, they applied to a number of gentlemen to tender for the appointment of architect, and six did so. The "East London Observer" says,—"The merit of any particular man as a ground of selection was tacitly given up, and the question of cost left as the only one to be decided. The tenders came in. The terms varied, but *one-and-a-half per cent.* on the whole cost of the building was the lowest. The guardians selected one at two-and-a-half per cent., and nominated Mr. Dobson as the surveyor, the difference on an outlay of 40,000*l.* being 400*l.*" And then the local journal in question goes on to scold the guardians for wasting the ratepayers' money by paying 2½ per cent. to their architect when they might get one who would "do the job for 1½."

Architects may see what they are bringing themselves to.

THE LATE MR. GRIMSDELL, BUILDER.

WE have this week to record the death of Mr. Samuel Grimsdell, of Sun-street, Bishopsgate, and Bell-lane, Spitalfields, one of the oldest contracting builders in the metropolis. He commenced business contemporarily with the Messrs. Cubitt, and during his long and useful career of upwards of forty years, gained, by his gentlemanly manners and right feeling, the respect and esteem of all who came in contact with him. Previous to his retirement from business, about two years since, he became a director of the City Bank, then about commencing, and has since devoted his energies to the establishment of that undertaking. Like very many who retire from business late in life, he has lived but a short time to enjoy the fortune accumulated by his industry. He expired at his residence, Clapham-common, on the 9th inst. in the seventy-first year of his age. He was a supporter of all the principal charities connected with the building trades.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Monday, January 11th, the ordinary meeting was held at the rooms in Grosvenor-street Mr. J. J. Scoles, V.P. in the chair. Various donations were announced, including from Mr. W. Tite (fellow), M.P. "A Letter to the Committee for Raising the Naval Pillar, or Monument, under the patronage of H.R.H. the Duke of Clarence," by John Flaxman, sculptor (4to.: London, 1799); and from Mr. Wadmore, a bust of Canova.

Mr. C. C. Nelson, hon. sec. in drawing attention to the bust of Canova—a noble life-size of the original,—said the Institute would be glad to recognise the reception of the bust of so distinguished a sculptor, who had done so much in stone and marble towards embellishing and beautifying the sister art of architecture, and confirming thereby the opinion lately expressed by Mr. Digby Wyatt, as to the necessity of the arts of architecture, sculpture, and painting, going hand-in-hand in building. A tour through London would lead the most casual observer to note the general tendency that now prevailed towards the introduction of sculptured ornament into buildings generally; and it was not improbable that the higher branch of sculpture would in like manner be hereafter introduced.

Mr. Digby Wyatt, in alluding to a donation from Mr. Wyld, a catalogue of the works belonging to the Royal Irish Academy, characterised as a valuable presentation, said he had at Mr. Wyld's request sent him everything that could be had in London relative to British antiquities, but he regretted to say that almost the only thing he could furnish under that head was the miserable synopsis of such works in the British Museum.

Professor Donaldson would take that opportunity of stating that the Architectural Exhibition of Scotland were desirous of making the exhibition for the present year more attractive and distinguished than the last, and he had received from his friend, Mr. Hamilton, a letter, in which he urged the desirableness, and stated how grateful that society would be to receive contributions from their professional brethren in London. Any

contributions would be received in London, and forwarded to Scotland, and returned free of expense. Professor Donaldson, in calling attention to a work of St. Charles Borromeo, presented by Mr. Wigley, associate, said the profession was much indebted to Mr. Wigley for translating and reviving so valuable a work. It formed an essential addition to the library of the architect, and introduced them intimately to all the peculiar canons of Roman Catholic ecclesiastical architecture.

The Chairman also commended the work, and more particularly for that frequent injunction contained in it, where St. Charles Borromeo directed his readers on all occasions "to consult the architect." The chairman announced the decease of Mr. Rogers, one of their members.

Professor Donaldson wished to add a few words to the brief eulogy contained in the *Builder*, on this subject. Mr. Rogers was a man who, in a practical point of view, was held in the highest respect. He was a man of great and sound judgment, and true and just in all his transactions. In *personnel* he did not display those qualities, but they were inherent elements of the man, and in works of charity and well-doing, he was always prominently forward.

Thanks having been voted to the various donors,

Mr. Digby Wyatt read "A few Notes on the Crannoges, or ancient Lake Castles of Ireland," to which we shall return.

Mr. Gordon M. Hills then read a "Review of the Architecture and History of the Round Towers of Ireland," which we give *in extenso*, on another page.

Both the papers were illustrated, the latter profusely and admirably so, with about fifty drawings of towers, and many sheets of details.

Mr. Godwin, in moving a vote of thanks to the readers of the respective papers, expressed his admiration of the perseverance and skill exhibited by Mr. Hills in the work he had undertaken. It was to be regretted, he thought, that the architectural antiquities of Ireland were not more known and studied by young English architects than they were. They were not so well known as they should be. No sight had impressed him so much as, on his first visit to Ireland, did these romantic relics of remoter times,—these picturesque and striking groups of churches and crosses, with the lofty round tower rising boldly in the centre. At Monasterboice, for example, you found yourself, after traversing an extensive tract of country, wading through grass and weeds 4 or 5 feet high, and you came suddenly upon the ruins of two or three ancient churches, immense crosses, covered with figures, one of the latter 20 feet high, and, towering and tapering upward over all, one of these mystical-looking round towers, which had an unspeakably imposing and picturesque effect, as it stood out in the landscape, with the clouds sailing rapidly by overhead. A study of the architectural characteristics of these extremely interesting towers suggested the analogy and the connection that appeared to exist between the works of early peoples, the Pelasgic character of the openings and of the masonry, the occurrence of the angular head to windows, or straight-sided arch, and the mode of covering some of the vaults and passages in the mounds,—the stones overlapping one another, and one ultimately covering in the top, as in the early treasuries of Greece,—afforded instances of what he meant. These towers of past times suggested to his mind another illustration of the fact, that all architectural forms have been arrived at step by step, a fact that tended to establish the unlikelihood that existed of our jumping at once into a new style. What he meant to say was this — we found the germ of the vast Egyptian pyramid in the simple mound of earth or the heap of stones thrown upon the grave of a departed friend, in all countries. In like manner we may trace the ancient Greek temple in all its elegance and purity to a simple altar-stone, with a few stones round and about, to maintain the sacredness of the precinct; while, in the round towers, as he wished to suggest, we saw the elaboration of the simple pillar of memorial. These memorial stones were scattered all through Ireland. One of the first things done by the children of Seth, as mentioned by Herodotus, they would remember, was the raising of two pillars. Jacob set up a stone on many occasions. Many still remained. At Tara there was one; and coming to Yorkshire there was one of some height at Rudstone. A round tower was an ultimate elaboration. The crannoges described by Mr. Wyatt, were a character of structure also but little known, but of a remarkable era, when men were obliged to make their own land in the water, to get out of the way of their fellow-men. He concluded by moving a cordial vote of thanks to both gentlemen.

Mr. Lewis seconded this, and inquired of what material the floors were composed. Was it to be supposed from the frequency of fires that they were of wood?

Mr. Hills said he only knew of three floors remaining, and they were imperfect.

Mr. Fraser thought it would be interesting to determine whether these round towers were intended as monuments, means of defence, or light-houses. It did not appear quite clear to him, that they were intended for ecclesiastical purposes.

Professor Donaldson had come to the conclusion, from a tour he took in Ireland three years ago, that these towers were intended for bell-towers attached to the churches, hand-bells being used, and for places of defence; the parapets of the roofs of the churches were all fenestrated and fortified, and he (the Professor) hoped to be able during the session, to give a paper on some of the peculiar antiquities of Ireland, showing that they were intended both for ecclesiastical purposes and purposes of defence.

Thanks having been accorded, the meeting adjourned to January 25th (but as that day is fixed for the marriage of the Princess Royal, it is doubtful whether the members will then assemble).

REMOVAL OF FOUL AIR FROM KITCHENS.

SIR,—In reply to your querist, who wishes to be informed how to remedy the nuisance of having the foul air from the kitchen pervading the upper rooms and passages of his house, I beg to suggest that, instead of the openings in the sides of the chimney-breast, which he sagaciously doubts the efficiency of, if he were to provide each fireplace in the upper rooms with an independent and sufficient supply of fresh air, the draught from the lower passages (the doors or windows of which are generally open), would be very materially lessened, if not entirely cut off; and he should also provide an exhausting-pipe, of wood or any other of the numerous materials of which piping is made now-a-days, having its inlet orifice at the ceiling of the passage leading to the upper rooms, and immediately over the door, and the other end opening either into the ashpit immediately under the bottom of the grate, or over the fire, just above the bottom of the mantel-frieze, I think there is little doubt as to the efficiency of such an arrangement; and the whole, being self-acting, is not likely to be injured by the stupidity or dislike of servants, to which, I believe, must be attributed more than one failure of sanitary appliances.

I must add that it is of course intended to confide the work to an intelligent person, who will be able to see the exact supply and exhausting power required, and the most eligible position for each.

ANTI-KITCHEN-STUFF.

THE ANOMALIES IN THE PRACTICE OF GLASS-PAINTING.

THE recent exposure, in your editorial columns, of the "anomalies" in the present state of glass-painting in England, has, I perceive, evoked the opposition of "Justitia," who would fain sanction the tyranny of commerce over art, and attempts to justify the promoters of the system.

With many of your readers I think the interest of the factor of sacred art would have been better served by "Justitia's" silence than by such advocacy as he has set forth. His pleadings, I find, amount to these:—

Firstly.—That the practice of stained glass work is less a matter of art than manufacture; and this, because it happens to involve mechanical aid in a portion of its process; "Justitia," deducing from this circumstance the propriety of artists of repute working under the patronage of art-factors,—men who are confessedly innocent of even elementary executive skill.

Secondly, that the practice, which is devoted to the expression of the most sacred subjects that can fall within the province of art, may be delegated, consistently, to men of commercial mind, who, as far as art in glass is concerned, stand in the position of a kind of hybrid between modified Barnumism and energetic clerkship.

Thirdly, that "*artists of repute*" are of necessity the men to whose labours must be due the resuscitation of the art of glass-painting.

Fourthly, that the artists engaged in the pursuit may not be the most righteous guardians of their own fame, and that this matter is one which may properly be left to the care of him who, as "Justitia," with innocent *naïveté*, informs us, "will introduce their names wherever he has the opportunity."

Fifthly, that an "artist's time" *can be far better applied* than by his giving personal attention to the details of the process which involve the realization of his own ideas, and that he, moreover, is unable to afford to undertake this supervision.

We are then asked to note that artists of reputation require "such emolument as cannot be yielded to them out of the prices paid for glass-work," but that, notwithstanding this difficulty, art-factors obtain "*the highest talent that can be procured*," and pay to the artist the price that he may "himself set upon it," the inference being, that 5 times 2 may come out of 6, and that the art-factor (of all other people) is utterly indifferent to emolument altogether.

Now, the idea that stained glass-work is not an art, as you, sir, have asserted it to be "in the strictest sense," will be startling to those who are aware of the fact that the practice of the *sculptor* involves a process perfectly parallel in its art and mechanism to the one in question. In each pursuit the artist himself represents the invention, the art, the control, and the responsibility of his work. Next in order come, on the one hand, the artist-carver, and in the other case the artist draughtsman; then the "painters," and the "glaziers," the "moulder," and the "kilnman." Has the absence of the art-factor, as a mediator between the sculptor and *his* patron, been any bar to the progress of sculpture in England? Have Foley and Gibson felt it inconvenient to accept commissions *direct* from their patrons? Have they found it awkward, or unprofitable, to execute their work by surrounding themselves with assistants and scholars? Have these "artists of repute" placed themselves in the tender harness in which "Justitia" recommends artists of repute to trot barren supernumeraries to affluence and fictitious reputation?"

Conceive a sculptor of reputation, deriving his commissions by the process which "Justitia" thinks beneficial to glass painting! As to the theory that the name of an artist of acknowledged repute is a guarantee for the worthiness of a work in stained glass, it is only necessary to point to the signally unsuccessful works produced in this way, for a practical commentary on this head. Sir Joshua Reynolds was an artist of repute; yet witness the notoriously unfortunate result of *his* essay in stained glass design in the window at Oxford. John Flaxman, an artist also of repute, attempted the art of Cellini; and, while producing with this view his sculpturesque "shield of Achilles," developed scarcely one of the native characteristics of the goldsmith's art.

The well-informed patrons of art are not likely to be misled by this new-fangled "artist of repute" theory. In all likelihood the Barnums of glass-painting, profiting by "Justitia's" suggestion, may bait their hooks with "artists of repute," and wheedle the unwary with the alluring morsel. There are, however, those who will understand that the artist who shall do good service to art in glass must, like the goldsmiths of old, be master not only of deep art, of the human form, and of the study of drapery, but he must also be fluent in ornamental design, and must know well the peculiar properties of colour in glass, and the office and due restrictions of his materials; also he must be imbued with the art of the architect, and possess much other technical knowledge down even to work of the glazier. Are matters like these the concomitant studies of artists of repute in these days?

"Justitia's" statement, in *couleur de rose*, of the conscientious care observed by the art-factor in rendering the intentions of the artist, is somewhat irrelevant to the *fact*, that, like slop-tailoring, such execution is not unfrequently "put out to do," and thus removed from the supervision described by Justitia. Presuming, however, that artists of repute could be found capable of adapting their talent to the technical necessities of glass painting, are the terms, as stated by "Justitia," likely to seduce the artist from his independent position, and the influences which encouraged him to reputation?

The incompleteness of "Justitia's" analogy leaves, moreover, a doubt as to how a work produced, under such circumstances, at one time, affords any guarantee, to purchasers and the public, that works of similar excellence or character will continue to issue from the same establishment, seeing that the artist of repute in question may find it convenient and agreeable to shun the possible cupidity and caprice of the commercial man, his employer, and return to the position in which his reputation was at first nourished.

Your declaration, that selection and due discrimination of true art competency and technical knowledge will offer the best encouragement to those followers of the art who have devoted to it the study due, will, by reason of its truth, remain unassailable; for not only do you thus champion the real interest of the art, and its patrons, but also that of the pupil; and furthermore, you show that by no other process can the stagnation of the art be avoided, or *emulation*, that mainspring of all intellectual action, bring forth in the matter its natural results.

Art, rightly viewed, is a sacred trust, and artists, as they will be held accountable in the future, may not delegate any of their functions to those who in art live only for the present. In this matter "all hinders that does not help." Shall, then, the universal pandering to mercantile considerations, which so unhappily distinguishes our age, be chronicled in one of the most enduring testimonies, for good or evil, which it is in our power to transmit to posterity? VERITAS.

THE CHATEAU OF BLOIS.

THERE are few places in France of greater interest to the historical or architectural student than the ancient town of Blois. Its time-honoured château,—the cathedral,—the picturesque old church of St. Nicholas,—the episcopal palace, with its gardens and terraces overhanging the river Loire,—the baths of Catherine de Medici,—its steep streets and quaint old houses,—all combine to render Blois one of the pleasantest places of sojourn for an idle week or two. But it is only with a description of the château that I intend to trouble your readers at present.

This celebrated castle, which, in the words of a French writer, has served as the residence of more than a hundred crowned heads, princes and princesses, has been converted into military barracks, and is at present garrisoned by a battalion of the 96th regiment of infantry. The chapel, too, which was once used exclusively for the devotions of royalty, is now converted into the workshop of the regimental tailor. Surely if there ever were "sermons in stones," it is here.

Notwithstanding its occupation by the military, visitors are admitted—as indeed may be said of all buildings of any interest in France, whether they are the property of the Crown or of private individuals. It stands on a precipitous rock, and is approached from the east by an esplanade. Except that the rock is not nearly so steep or grand, its position is not unlike that of Edinburgh Castle. It was built at different periods, and forms, on the whole, a quadrangle with a large court in the centre.

The east front, which was restored by Louis XII. is built with red bricks and stone dressings, and is a fair specimen of Flamboyant architecture. This style is interesting to the student of the Renaissance, as having many points in common with it, and as immediately preceding it. The Flamboyant, or Burgundian architecture, as it is sometimes called, is remarkable for the richness and profusion of its detail, and in that respect resembles the Florid English or Tudor style, from which, however, it differs in many other important respects. One of its principal features (from which, indeed, it derived its name of Flamboyant) is the divergence of mullions into flowing wavy lines resembling flame.

Above the circular archway, which leads through this façade into the quadrangle, there is a double arched recess, with a very elegant canopy, in which there formerly stood an equestrian statue of Louis XII. in bronze. The Latin inscription still remains. The windows on either side of the archway are deeply inbedded in the wall, and have corbelled balconies. On the top is a richly carved parapet, with dormer windows appearing behind. Immediately after passing through the archway a cloister, every pillar of which is ornamented with Gothic lace-work of a different design, extends the whole length of that end of the quadrangle. Within this lace or trellis work, there were originally gilt *fleurs-de-lis*, which have been obliterated in the course of time. These pillars are alternately circular and octagonal. In the corners of this side of the building, two square towers are placed. Louis XII.'s grand staircase is situated in the north corner tower. This staircase, which is turnpike, has a groined arched roof, supported in the centre by a large stone newal, which is beautifully carved, and divided into compartments. The ribs of the roof spring from a coronet, formed on the top of the newal. Before leaving this part of the château, I must take notice of a peculiarity in the ornamentation, which must certainly now-a-days be considered a blemish. The grand staircase which in other respects is truly admirable, is defaced in many places by ornaments of the most indelicate description. The same remark applies to the ornamentation of many of the windows in the exterior of the façade.

Louis XII. died here in 1504. While he lay on his deathbed, prayers were offered up for his recovery in the churches in Blois, as well as throughout the kingdom. I cannot refrain from quoting a passage from a contemporary writer, as showing the affection with which this good prince was regarded by his subjects. It also affords an insight into the peculiarity of some of the religious observances of the period. "On eut vu," says Saint Gelais, "jour et nuit à Blois, à Amboise, à Tours, et partout ailleurs, hommes et femmes aller tout nus par les églises et aux saints lieux, afin d'impétrer envers la divine clémence grâce de santé à celui que l'on avoit si grand peur de perdre, comme s'il eût été le père de chacun."

The north side of the quadrangle, which overhangs the most precipitous part of the rock, was erected by Francis I. and is one of the most beautiful examples of the debased Italian style. A staircase-tower, which leads to the suite of rooms known as Catherine de Medici's, arrests the attention by its extreme elegance. The restoration, or rather the renovation, of this staircase, and other parts of the building, was commenced in 1845, by Louis Philippe; the architect to whom the task was entrusted having devoted to it two years of preliminary study.

As this staircase is remarkable for beauty and design, a particular description of it may not be uninteresting. The tower is of an octagonal form, and the stair turnpike, with an ornamental stone newal in the centre. On the side next the quadrangle the stair is open, each of the angles of the octagon being formed by pilasters, which run the whole height of the building, and on the exterior of which there are niches, with statues and beautiful canopies. Between the pilasters there is open stone railwork, which takes the rake of the stair. The compartments of this open balustrade are filled either with Francis I.'s Salamander and F, encircled with the crown, or with a swan pierced by an arrow and three C's interlaced. The latter was the device of Claude of Lorraine, the letters recalling her name and her motto—*Candida candidis*. All the details are Italian; and the whole of the ornaments are so delicately executed as to seem to have been intended for a drawing-room chimney-piece rather than for a large building. Although in Italian architecture we do not find gurgoyles or spouts employed, they are here introduced with a remarkably fine effect. The interior of the staircase is ornamented with the same delicately-carved niches and canopies.

Beyond the staircase tower to the west there runs a piazza. The dormer windows of this range, which are flanked by pilasters terminating in tall crocketed pinnacles, are similar in character to those at Chambord, and are very elegant. The mullions of the windows are flat in front, and beautifully panelled, instead of being moulded as they generally are in English architecture. There is another peculiarity which I ought to mention. Instead of the half mullion and splay moulding round the sides and lintels of the windows, which we generally see in English buildings, there is merely a bede or quarter round not very deeply cut.

Above the cornice of this façade there runs an ornamental balustrade, which is formed of the letters F and C, while the top of the roof, which is very high pitched, is crowned with an ornament composed of *fleurs-de-lis*

On the first story of the exterior façade—that which overhangs the rock—there is a range of oriel windows; and on each succeeding story, an open arcade extends the whole length of the building: on the highest, however, it becomes a colonnade with balustrading. From the pedestals of the columns, which form this gallery, project enormous gurgoyles. There is a peculiarity in the corbelling of the oriel windows, which I must notice, as it differs altogether from anything we find in English architecture of the same period. The mouldings are purely Roman, and follow the octagonal line of the oriel at the upper part of the moulding; but, as it descends, each compartment of the figure takes a triangular form, the point of which extends to the centre of the front of the octagon, and in this way forms the half of a star on the horizontal plan. The effect is very beautiful, and the form exceedingly simple, though from the difficulty of explaining it without a drawing, the reader may be inclined to suppose otherwise.

The whole of this range is built of beautiful cream-coloured stone, with the exception of the chimney-stalks, which have stone dressings, and are filled in with brick. The tesselated porcelain floors, and the ceilings, which are ornamented with arms, badges, and initials, have all been restored after the original plans. Some of the latter are so gorgeous as almost to fatigue the eye. No doubt this glaring appearance would in a great measure be subdued and softened down, if the apartments were furnished. We learn from a writer in the reign of Francis I. that the walls were hung with either tapestry or leather, the gloomy aspect of which was relieved by gold. In one or two instances the ceilings were covered with tapestry. The same writer tells us, that the columns which help to support the roof of the magnificent room known as the *Salle des Etats*, were covered with purple velvet, studded with numerous *fleurs-de-lis* in gold. The ceilings of the apartments of this range are formed by the joists which support the floors of the rooms above. The chimneys, like those at Chambord, are very high, and highly ornamented with arabesque work.

The spot where the Duke of Guise was murdered by the minions of Henry III. is pointed out to the visitor. He was struck down as he was raising the arras to enter the king's room. The particulars of this dastardly murder, which was followed by that of the Cardinal of Lorraine, the duke's brother, are too generally known to require more than this passing notice. The west side of the quadrangle was built by Gaston, Duke of Orleans. It is Palladian, but possesses little architectural beauty, although designed by Mansard, the architect of Versailles. The northern gable was formerly connected by a bridge with the gardens of the château, which lie on the opposite side of the deep ravine on the north of the building.

A little behind the south end, which has never been completed, stands a detached square tower, known as the *tour de foix*, where Catherine de Medicis, striving to penetrate the inscrutable future, was in the habit of consulting the stars. Over the door which opens on to the flat paved roof is the inscription "*Uraniæ sacrum.*"

J. M.

"QUANTITIES" FOR TENDERS.

I agree to a certain extent with your correspondent (Mr. H. J. Brown) in his letter of the 26th ult. on the subject of "Quantities" being a matter requiring revision both by professional men as well as the building trade in general. At the same time I wish to express my opinions in a somewhat different light from that of the gentleman before alluded to, who evidently writes as an architect; allow me, therefore, to venture an opinion on the builder's side of the question.

Common sense must dictate that he who desires to build a house should necessarily pay all expenses attendant thereon—the architect receiving instructions from his client to publicly advertise, which is, in fact, to obtain an unlimited number of tenders for such works from builders, who may be responsible or irresponsible parties. Then comes the query, who is the most competent man to take out the quantities? Most assuredly the architect; who, knowing his system of construction and specification, must produce a more correct bill of quantities than can be produced by the builder, who in many cases is without any specification to enable him to price correctly the estimate in detail.

I may mention quantities are now before me on which I am expected to tender without any specification, and for which 5*l.* have been left as evidence of good faith for receipt of tenders, or as deposit for such quantities (which I am not aware), for an estimate of works amounting to about 1,000*l.* Surely this is a matter worthy of consideration, as all must be fully aware that, however explicit a bill of quantities may be, it is not sufficient data to estimate upon, unless accompanied by its twin document the specification. The writing and supplying of specifications after acceptance of tender, is investing the architect with additional power, for by his detail of specification it may prove a matter of 20 per cent loss or gain to the approved builder. Hence such wide tenders as have appeared of late in your columns are not so much the fault of "blind builders," as may be generally imagined; but that a prudent contractor would price out his quantities at prices for the best quality and workmanship (in the absence of the specification), whilst others would estimate at cheapest of both labour and materials—putting aside the chances of a rogue or fool being in the market. Does it therefore not appear sufficient that a contractor should lose his time

in preparing the estimate, &c., instead of, as your correspondent proposes, that each party pay a sum equivalent to his share of the expense of preparing such quantities. I feel confident that the trade will agree with me *en masse*, as to an excessive item which would require to be added to the cash account yearly for such charges, as to demand some consideration as to the value received for such moneys paid out.

It appears evident that until some definite course be adopted, we shall ever have our mind and vision alike distressed by witnessing such lists of tenders as have appeared of late. I do not allude to particular cases; but the fact proves itself, that where some half-dozen firms of similar position in the trade are called upon to tender, as in the list of Cancer Hospital tenders which appeared in your journal of the 26th ult., the average between highest and lowest does not exceed 10*l.* per cent.

Anxiously waiting your able opinion on this all-important subject, which, if neglected, must ultimately destroy all affinity which should exist between the profession and the trade,

FRED. C. MORRIS.

*** Mr. H. J. Brown writes to complain that Mr. Kenshole (p. 26, *ante*), misunderstands and misquotes him. We have not space to repeat statements, and must leave our readers to compare the two letters for themselves.

APPOINTMENTS UNDER THE HEALTH ACT.

SIR,—I should hope in the amended Public Health Act some clause will be inserted to compel Local Boards of Health to appoint properly qualified officers as engineers or surveyors to those Boards, as is the case with the "Metropolitan Building Act." In some instances that have recently occurred men having no pretensions for either profession have been appointed, to the exclusion of experienced, competent men, merely from caprice, or from the heterogeneous materials of which those Boards are composed, not having the proper knowledge to select a competent officer. It is absurd that Boards of Health should be allowed to appoint mere land-surveyors, or even masons or carpenters (as it is well known many of these offices are filled by men of this class) to offices that require the experience of an engineer; or that Boards of Health should advertise for qualified engineers, and then appoint a mere mechanic at mechanic's wages. It is a great stretch of imagination to suppose, that by merely appointing a man to such an office they confer upon him (by inspiration) the requisite professional knowledge. I think it is exceedingly unfair to professional men, and conduct that requires the loudest condemnation of the press that protects their interest. Complaints are frequently made of the unfair way in which architectural competitions are generally conducted, but I think in that and the instances I have alluded to the words of our great dramatist are literally fulfilled by these public Boards when he says,—

> "Vain man, dress'd in a little brief authority,
> Plays such fantastic tricks before high heaven
> As make the angels weep."

AN ENGINEER.

THE PROPORTIONS OF ANCIENT BUILDINGS.

SIR,—A vast amount of nonsense is being written and spoken about "Christian architecture," stating that the elaborate works we possess grew out of the abstract enthusiasm of its professors, and that the fine examples of Gothic architecture with which this land and the Continent are studded are the result of a mysteriously prompted mission to erect temples to the Deity; that symbolism pervaded the whole design,—the choir, the heart,—the chancel, the head, &c.; and that love for the work on the part of the handicraftsman produced the beautiful details we have in the sculptured decorations. All this is simply moonshine; and if you will invite one or more of the societies to which you belong to carry into practice the following scheme, the flimsiness of these writings and speeches will be apparent, and you would arrive at the secret of that success which we see in the works of the ancients.

How those great workers would have laughed to hear their labours and success described as the result of enthusiasm or religious fervour! They knew better. They knew that in order to design a fine structure they required well-studied mathematical demonstration of quantities,—or, to speak in other words, their well-digested and infallible laws of proportion. These laws and rules (simple, no doubt, in themselves) are lost to us; and to rediscover them is the task set before us: and I want you, sir, who have influence with the architectural societies, to move them to issue a commission to measure exactly, accurately, and mathematically, the internal and external proportions of the following buildings (I select these because they are perfect buildings, unmixed in style or period of construction), and when these are exactly obtained and verified by separate examination, to submit the results to the most eminent mathematicians of the day, and they will soon furnish you with the *laws of proportion* regulating the design of all buildings, whether Classic, Mediæval, or Revival.

In measuring Gothic buildings internally, a vertical plumb line should be dropped from the apex of the arch to be measured, and measurements made at every 6 inches space on the vertical line to the nearest face of the column, &c. I believe a very beautiful but well-defined entasis would be found pervading the entire arch, entirely lost sight of in modern works.

The buildings to measure are Salisbury Cathedral; St. Ouen, at Rouen; Stone Church, Greenhithe; York Minster; Cathedral of Cologne; the Pantheon, Rome; and the Parthenon, Athens.

Reduce them all to one scale and compare the results.

COMMON SENSE.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

GROUND LANDLORDS LIABLE FOR DISTRICT SURVEYOR'S FEES.

ON Thursday, at the Greenwich Police-court, Mr. W. J. Evelyn, M.P. was summoned by Mr. Whichcord, district surveyor, to show cause why an order should not be made upon him for fees amounting to 10*l.* 15s. due on the building of six houses.

Mr. Tucker (of the firm of Messrs. Smith and Tucker, Greenwich) attended in support of the summons; and Mr. Roumieu (of the firm of Messrs. Roumieu, Walters, and Young, Lincoln's-inn) for the defendants.

Mr. Tucker, in opening the case, said that the summons had been taken out against the defendant under the 51st section of the Metropolitan Building Act, which enabled the surveyor to come upon the builder, owner, or occupier of houses, for fees chargeable on any buildings. On looking at the interpretation clause of the Act as to what constituted an "owner," he found it to be a person in the receipt of the whole or any part of the rents or profits. In the present case, the builder, a Mr. Searle, had become bankrupt in the month of July last, and therefore any proceedings against him would be of no avail. It then became necessary to apply to the owner, and the defendant, as the ground landlord, he contended, was liable to pay the fees. He believed it would be said, that no part of the rents or profits, in money, was now receivable by Mr. Evelyn, but if this were to be held an argument against the payment of surveyors' fees, he need hardly say, from the trouble of ascertaining who the lessees were, and the many changes which occurred, that it would be putting it in the power of the ground landlord to enter into such agreements that the fees could never be received by the surveyor. He then came to the question of what "rent" consisted; and quoted Woodfall's "Landlord and Tenant," and also from Coke and Blackstone. The reservation of a peppercorn rental was the creation of a tenancy, and if the freeholder took advantage of that which constituted him a ground landlord, he contended that he ought also to take the consequent liabilities.

Mr. Roumieu said, in appearing that day for Mr. Elevyn, he did not attend to dispute the payment of the fees claimed on account of the sum of money in question; but the defendant being the owner of considerable house property, and holding large quantities of land which would be let for building purposes, he desired that the point might be settled. He then contended that defendant was not the owner within the meaning of the Act of Parliament; and that, if he were so, he was not actually in receipt of profits or rent, wholly or in part.

Mr. Traill said, it was the intention of the Legislature that the surveyor should be paid his fees, otherwise the Act of Parliament would not have given him the power of coming upon the builder, owner, or occupier. The ground landlord, he held, was sufficiently protected by being enabled to charge the money to be paid upon the property, as for money laid out for the ground tenant. An order was then made for payment of the money. It is understood that a case will be drawn up for the decision of the Court of Queen's Bench upon the point.

CURRENT NOTES UPON IRON.

THE current series of quarterly meetings commenced at Wolverhampton on Wednesday, and there was a tolerably numerous attendance of the leading members of the trade. There were not, however, many merchant and other buyers from a distance at the meeting, consequently no great amount of business was transacted in finished iron. There was an evident disposition on the part of buyers to obtain a reduction, even upon the fall of 20s. determined upon at the preliminary meeting. Makers, however, expressed their determination not to sell at less than 8*l.* for bars. But we incline to the impression, that although the leading firms have issued circulars announcing that their terms will now be for bars 8*l.*, hoops, 9*l.*, and sheets and plates, 9*l.* 10s.; yet so small is the demand, and so disproportionate the stocks of puddled iron, that there will be some submission to the demands of merchants, without, at the same time, any alteration being made in the quotations already made. In many cases, orders are urgently needed, and if they are not soon forthcoming, the consequences will be of a very distressing character. Already a very large number of hands are unemployed in connection with the raising of coal and the making of iron in South Staffordshire. Hitherto, however, they have borne their privations nobly, and in a manner which shows that they are not, as a class, so improvident as was at one time supposed. There is however, a limit to endurance.

The best pig iron, customarily used in South Staffordshire, is selling at 3*l.* 15s.

Books Received.

Some Account of the Origin and Objects of the New Oxford Examinations for the Title of Associate in Arts. By T. D. ACLAND, Esq. London: Ridgway, Piccadilly. 1858.

MR. ACLAND'S volume on the "New Oxford Examinations for the Title of Associate in Arts," contains a good deal of information which may be interesting to all who are engaged in architecture and the arts of design.

The immediate object of the publication appears to be to call the attention of parents, schoolmasters, and others interested in the education of the middle ranks, to certain points necessary to the successful working of the Oxford examinations, to awaken local interest in remote parts of the country, and to secure a good supply of well-prepared candidates for the honours of the university in June, 1858.

The author traces the history of middle-class education from the beginning of the century, and points out the great change in the relations of society produced by railways and scientific bodies; and the folly of attempting to ignore the social status earned for themselves by engineers, architects, and others engaged in the successful cultivation of practical science and art.

This branch of the subject is specially discussed in a sort of postscript preface, called forth by a debate at Cambridge, in which the term Associate in Arts seems to have grated on the ears of the Dons, although the term does most appositely express the facts to which it is intended to certify. "But it is needless to dwell on the particular force of the word used," as the author pointedly says,—"after all, what is the peculiar significance of the term Bachelor, that it should be so jealous of the contiguity of Associate? The English are a practical people, and, as Mr. Harvey Goodwin remarks, within a few weeks after the appearance of the first A.A. the public press will assign its own estimate to the mark." (p. xv.)

It is manifest that the author, and those with whom he has been acting, take a deep interest in the arts. When the subject was brought before the universities, in April last, the author especially adverted to the fact that the universities have neglected the subject of art in general education, in which he was supported by his brother, Dr. Acland, the present Regius Professor of Medicine at Oxford. "Many of us," he says, "long felt it to be a serious evil that we have no professor of art. That we have not can only depend on a misunderstanding of his functions. What could he have to do? is asked by some. The truth is, on the contrary, there is scarcely any single man who could properly discharge the duties of the office. Art is the largest mode of expression of human thought, ranging through almost all ages, spoken in every country, and delivered in nearly every material. In buildings, on medals and coins, in porcelain and earthenware, on wood, ivory, parchment, paper, and canvas, the graver or the pencil has recorded the ideas of every form

of society, every variety of race, and every character of mind. It may be confidently said the office can only be adequately filled by one who, having pre-eminent mental qualifications, has also had a thorough classical education in the widest sense, and then enjoyed the greatest and most varied opportunities of research and observation, both of art and of nature. Now, think of the national evil, that our students have this never put before them. What a different thing the public opinion, which judges of our art exhibitions, would become if our patrons when young had hung on the lips of one able to teach, in the temper of a great artist, this most humanizing of all aspects of human life!" (p. 83.)

In the questions set at an examination at Exeter, under the auspices of the promoters of the Oxford plans, will be found some very practical questions on the arts (p. 173), which bear the impress of the hand of the accomplished architect whose name appears in the list of the examiners.

Perhaps the most interesting part of the volume is a series of letters from Mr. Hullah, Mr. Dyce, and Mr. Ruskin, on the connection of the arts with general education, together with two most remarkable letters from Mr. Temple, the master of Rugby. These letters lift the curtain from the gradual working out of the Oxford scheme of examination in one of its most important parts. As to the result, we are disposed to agree with Mr. Richmond, that "the very best thing that could have been done by Oxford to further a knowledge of art is accomplished" in the proposed scheme of examination. Drawing is not only treated as a distinct subject for honorary distinction on its own account, but is specially encouraged in its useful applications, under the head of mechanics, botany, and physiology. This is the true way to promote reality and truth in art. This part of the arrangements is evidently due to the advice of Mr. Ruskin, which is expressed in a letter characterized by fewer peculiarities than usually flow from his somewhat vehement but always thought-giving pen

We should be glad to aid the circulation of Mr. Acland's well-timed and clearly-written book.

The Burial Acts. By CHARLES GREENF, Clerk to the Burial Board of St. Pancras, Middlesex. H. Mitchener, Eversholt-street, London. 1857.

THIS appears to be a very complete compilation of the Burial Acts passed since 1852, with an elaborate analysis of the whole, the regulations of the Home-office as to the management of burial-grounds, and a general description of the metropolitan cemeteries, the fees and charges for interments, and other useful practical and legal information. The volume also contains a copious index and explanatory notes. It is chiefly designed to afford information on the establishment of parochial cemeteries. The fact that there are already something like from four to five hundred burial boards established throughout the country, proves how fully alive the public are becoming to sanitary improvement, and to the importance and advantage of extramural sepulture in connection with that improvement.

Amongst a series of suggestions to burial boards at the end of the volume it is remarked that "one of the easiest ways of increasing the beauty of a burial-ground is to select a number of good designs for monuments, and to admit none else without special permission, on the design being appointed by the burial board." If the selection were made with taste, of course there cannot be a doubt but that the beauty of our cemeteries would thus be increased; and even where not much taste existed amongst the members of the burial board in respect of special cases, many ugly and absurd memorials of the dead might thus be excluded.

VARIORUM.

UNDER the title of "The Architect, Engineer, and Builder," the first number of a journal, addressed to these professions, has been published in Dublin, which promises to be very useful in the sister kingdom. It announces, amongst other things, the proposed formation of a new Architectural and Archæological Institute for Ireland. The two departments of the journal, architectural and engineering, are kept distinct. —— The new number of the "National Magazine" contains some good writing and some pleasant tales. It may be safely recommended for family reading. —— The "British Workman" is still published, with an influence of good cuts, at a price which cannot cover the cost. An excellent lady tells us she finds the loan of it very acceptable in the lodgings of the working classes in her district. Other visitors may do good two ways by circulating it. —— The "Post Magazine Almanack" (Pateman, Wine Office-court, Fleet-street) contains the names of forty Insurance Companies that have failed during the past year, also the changes of every description that have taken place during the same period, the particulars respecting thirty-eight Insurance Companies that have been brought into the Court of Chancery under the Winding-up Act, and a list of the directors of all the Insurance Companies in the United Kingdom. A summary shows that the largest number of Assurance Offices was founded in 1854 (35), and that the year in which the largest number ceased to exist (78) was 1857. The amount of ruin and misery involved in this simple statement would scarcely be guessed by those unacquainted with the facts. —— The "Art Journal" begins the new year well with two fine engravings, after Frost and Stanfield, original designs for manufactures, a sketch of the life and works of William Linton, an engraving of a charming monument (to the late Miss Hutton) by J. Edwards, who ought to take a high place in his art, and a continuation of Mr. and Mrs. S. C. Hall's charming "Book of the Thames." Add to these a number of smaller articles, with all the art-news of the month, and the result will be seen to be a number of great excellence. —— "The Royal Gallery of Art," by the same editor (published by Colnaghi and Co.), has reached its 28th number, and this contains Eastlake's "Good Samaritan," the "Storm," by Van der Velde, very carefully engraved by W. Miller; and the "Infant Christ," by C. Maratti, cleverly conveyed by Lecomte. What is to become of the fine set of water colour copies of the Royal Collection which has been made for the work? It is to be hoped that they will be kept together. They would make any house worth a visit.

Miscellanea.

COMBUSTIBLES MADE FIREPROOF.—It was long since suggested in the *Builder*, that the dresses, curtains, and other combustible properties in theatres, might easily be rendered incombustible. "A wonderful discovery" is described in the French papers, which appears to be a fresh realization of this suggestion, A Mons. Carteron is the inventor, it is said, of a new kind of "paint," which renders everything to which it is applied perfectly fireproof. In presence of the Emperor and Empress a series of experiments to test the value of this invention was lately made. Fire was applied to some ladies' dresses, but without any effect, thus proving that articles of the lightest texture may be rendered non-combustible. An attempt was afterwards made to set fire, by means of torches, to the tent of a superior officer, completely fitted up with muslin curtains to the bed, &c. but without effect. A hut built of wood, and thatched with straw, was operated on; but the half to which the new invention had been applied remained uninjured. A small theatre, with all the scenery, &c. prepared with the composition, resisted every attempt to set fire to it.

IMPROVED UNIONS FOR LEAD AND COMPOSITION PIPES.—A good union of soft metal pipes, effected without either heat or solder, and at one half the usual cost, is certainly an improvement; and this is what a patent obtained by Messrs. Stoneham and Lees professes to give. The process appears to be a simple one, effected by a couple of small tools, together with the patent union, and a screw cut on the end of one of the pipes to be united. The other pipe end is beaten out into a sloping or conical mouth, which fits into one end of the union, while the other end of the same union receives the screw end of the pipe to be united with the conical mouthed one. Between the two a washer of wood is placed, which is designed to make the joint complete when screwed up by the tongs or vice supplied for the purpose.

THE PRICE OF COMPLETING THE BIRKENHEAD DOCKS.—We understand that the estimates for the completion of the dock works at Birkenhead have been forwarded to the dock committee. The amount is 1,700,000*l.*: this, with the present debt of 1,300,000*l.* will raise the debt on the Birkenhead docks to about 3,000,000*l.* sterling.

COLLEGE FOR THE WORKING CLASSES.—It is proposed to found colleges in various parts of the metropolis for working men and their families. The first of these institutions will be forthwith established in the parish of St. Anne, Soho. Attached to the college will be a free library and reading-room for the working-men, a public lecture-hall, and a chapel.

FEVER IN LINCOLN.—For a considerable time fever has been exceedingly prevalent in the city, occasioned mainly, as the medical gentlemen have demonstrated, by want of better sanitary regulations. Few towns are more conveniently circumstanced for a complete system of drainage; and six or seven years since the corporate body got an experienced engineer (Mr. Giles), who had executed extensive drainage works in Holland upon the modern system (which admits of slushing out the drains periodically), to make a survey of the city, and to provide plans. But when the town was appealed to, the small property owners and freemen caballed, and threw the proceedings of the meeting into such riotous disorder, that the mayor was compelled to close the meeting. For some months all the medical men have been actively busy, in all quarters of the city, in attendance upon fever cases; and so numerous have been the deaths distinctly traceable to preventible causes, that in every clear case a coroner's inquest is now held, with the view of getting the state of the city plainly before the Government, in order that, should narrow-minded possessors of property continue to persist in staving off the remedy, Government may be induced to exact compulsory provisions for the security of health.—*Manchester Guardian.*

MACHINERY FOR DRIVING PILES.—Messrs. Sissons and White, of Hull, have provisionally specified an arrangement of machinery for driving piles where steam is used as a motive power. They attach to an ordinary pile-driving machine a steam winch, worked with one or two cylinders, attached to the raking part of the winch frame and to a spiked winding barrel. A flat linked chain revolves round this barrel and a spiked wheel at the top of the pile frame. In order to lift the monkey or hammer, a pair of nippers are attached to the horns of the hammer, which clip a hook into the chain while in motion, and carry up the hammer, and these nippers or catches may be struck off at any height either by hand or by self-acting machinery, in order to disengage the hammer. The invention also comprises other improvements.

MONUMENTS IN WINCHESTER CATHEDRAL.—Two new mural monuments have been placed in the east end of the south aisle and the south transept of Winchester Cathedral. The first is by a Maltese artist, named Darmanin, and consists principally of inlaid work, for which that island is famed. The monument is semicircular at the top, alabaster on a dark dove ground. The second is pyramidal in outline, and of alabaster on a dark marble background, and was executed by Mr. E. Richardson, of London: they are both Crimean mementoes, as detailed in the *Hampshire Independent.*

TO LESSEN COST OF AREA NEAR ST. PAUL'S.—I would suggest, to make this spot a source of profit, and at the same time meet the wishes of those who are in favour of retaining the present view of St. Paul's, that the whole space should be let for some business, such as that of wine merchant, dining-rooms, heavy goods' warehouse, &c. where an excavation to a moderate depth, and a limit to 4 feet in height above the present pavement, might not be objectionable; horizontal flues leading to an ornamental chimney, might be constructed, or even led away to one some distance off.—W. H. B.

HEATING BY GAS.—Mr. Thompson, the Duke of Buccleuch's gardener at Dalkeith, has invented and patented an apparatus for heating apartments and greenhouses by gas, consisting of an upright tubular boiler, in which a coil of pipe is carried round and round to the top, conveying the heat from two jets of gas below, the water heating the air in the chamber within, as well as on the surface without, and the smoke from the gas being carried outside the building by a pipe. The cost of heating a room 16 feet square is said to be about 3d. a day.

ARCHÆOLOGICAL DISCOVERIES. — M. Léon Fallue, says *Galignani*, lately communicated to the Academy of Inscriptions and Belles-Lettres some curious discoveries which he had made at Epinay-sur-Seine, near St. Denis, of vestiges of a Gallo-Roman village and burial-place on the Manoir du Mont, the property of M. Crénnieux. Ten yards below the surface a gallery was found, eight yards in length by two in height and breadth. From this gallery doors lead to two lateral passages, each in the form of a Greek cross. At another spot, near the principal street of Epinay, he found a crypt, composed of two galleries crossed by a third, the latter of which opens into a subterranean church, constructed of masonry, of great antiquity. All appear to belong to the Merovingian period.

HOW TO EXAMINE WELLS.—The following simple mode of examining a well, to ascertain whether it contains any offensive substances, has been recommended as efficient:—Place a common mirror over the well in such a position as to catch and throw the rays of the sun to the bottom of the well, which will be immediately illuminated in such a manner that the smallest pebbles, &c., at the bottom, can be distinctly discerned as if in the hand. The sun is in the best situation to be reflected in the morning or afternoon of the day."

FALL OF PART OF A NEW BUILDING AT LIVERPOOL.—On Wednesday in last week, an accident of a serious nature occurred at the large pile of buildings in course of erection on the north side of the Sailors' Home at Liverpool. The building, which is intended to be an arcade, called the Custom-house Arcade, has only progressed as yet up to the second floor, to which height extend a series of large arches of ornamental bricks, and upon which arches the upper portion of the building is to be supported. As the foreman bricklayer and three joiners were removing the striking centre of one of the arches, the whole arch came tumbling down, tearing with it the woodwork of the second and first floors, the iron girders, &c. The men were not killed, but are suffering from concussion of the brain and bruises all over the body.

PUBLIC WALKS FOR LARGE TOWNS IN SCOTLAND.—A Parliamentary return shows that of 10,000*l.* granted in 1841 for forming public walks in the neighbourhood of large towns in Scotland, 8,037*l.* 10s. have been expended, leaving a balance of 1,962*l.* 10s. unappropriated.

THE UNION CLUB, OXFORD.—The new debating room for the Union at Oxford has been completed from the designs of Mr. Woodward; and several artists of the pre-Raffaelite school have undertaken to adorn its walls with paintings in distemper, on subjects from Arthurean romance. Some are already finished; others only begun. There are:—King Arthur receiving the Sword Excalibur from the Lady of the Lake, by J. H. Pollen; Sir Palomides's Jealousy of Sir Tristram and the Fair Isulte, by W. Morris; Merlin allured into the Pit by the Lady of the Lake, by E. Jones; Nimüe bringing Sir Peleas to Ettarde after their Quarrel, by V. Prinsep; Sir Launcelot Asleep before the Shrine of the Sangreal, by D. G. Rosetti; and the Corpse of Arthur conveyed by weeping Queens to Avalon, by Arthur Hughes. Mr. Pollen is, we believe, an amateur; but every one who has seen Oxford will recollect with pleasure his paintings on the roof of Merton Chapel. It is proposed to adorn the new Museum with similar decorations.

NEW CHURCHES IN EDINBURGH.—A number of new churches, all of them of some "mark and likelihood," as described in the *Scotsman*, are now in different stages of progress in Edinburgh. In point of magnitude and cost, the edifice intended for the Rev. Dr. Alexander's congregation, at George IV.'s Bridge—the foundation-stone of which was laid a few weeks ago—is the most prominent. A new church for the congregation of Baptists under the pastoral charge of the Rev. Jonathan Watson, is also rapidly approaching completion in Dublin-street. It is to be seated for 750 persons. The style is the Geometrical. Internally the plan assumes the form of a cross. Between the double transepts on each side of the nave are iron-moulded pillars with foliated capitals. Lightness, combined with strength, is exhibited in the entire form of the roof, which, as well as the seats, doors, and other timber furnishings, are to be stained and varnished. At the north the nave ends in a large gable, the chief feature of which is a traceried rose or wheel window, some 17 or 18 feet in diameter. This window is to be filled with stained glass. Other windows are filled with geometrical tracery, in each instance varied in design. A pinnacle or spirlet, of rich design, rises at the intersection of the two gables, and terminates in a gilt cross. The cost of the edifice is understood to be 3,000*l.* The South College-street United Presbyterian congregation have erected a church on the site of their former place of worship. The new building is Italian in style. The nave, about 50 feet high, terminates at the south end in an alcove, painted a cream colour, relieved by crimson lines. The galleries are supported by cast-metal pillars, with Corinthian capitals, brightened up in the shafts and flutings by touches of gilt. Another row of pillars, designed and gilt as the others, support the arches on which depend the clerestory. A green colour of delicate tint has been chosen for the walls. The edifice will accommodate nearly 1,600 sitters. The cost is stated to be about 4,000*l.*

ACCIDENT BY FIRE IN A CHURCH.—A somewhat alarming accident happened at Christ Church, Spa, on Sunday before last. The sexton had made a large fire in the apparatus for warming the church, and the heat was so great that one of the brass ventilators in the aisle, about 20 feet from the apparatus, set fire to the matting over it, which burst into a flame. The congregation became so alarmed that many of them rushed from the church, and the incumbent terminated the service without preaching the sermon.

SHOCKING ACCIDENT IN WARREN STREET FITZROY-SQUARE.—An inquest has been held at Tottenham Court-road, before Mr. Wakley, touching the death of Mr. Henry Hunt, a builder, who, whilst giving his directions to bricklayers repairing a house in Warren-street, Fitzroy-square, went towards the coping stone in front, when, unfortunately, some portion of it, upon which he was standing, gave way, and he was precipitated off the roof, nearly 40 feet in height. He was conveyed to an hospital, where he died. The jury returned a verdict of "Accidental Death."

BUILDERS AND BACHELORS.—Some of the provincial papers state that M. Jacquet, a large builder and contractor, of Namur, who recently died, has left his fortune, estimated at 300,000 f. for the foundation of an asylum for unmarried men, not ecclesiastics, who have attained the age of fifty-five. He has regulated by his will all the conditions for the management of this establishment, which is to have inscribed over the gateway the words "Maison d'Asile de François Jacquet."

NEW HOSPITAL AT BAYSWATER. We learn that active endeavours are now being made under the patronage and with the co-operation of the Bishop of London, to establish a hospital in the neighbourhood of Bayswater. This new institution will be entirely of a special character, devoted solely to the treatment of cases nearly, if not altogether, neglected in the existing general hospitals of the metropolis, and will besides be partly self-supporting. In order to enable the proprietors of this much-wanted institution to carry out their laudable designs, some amount of public support will be necessary.

COPPER MARKET. *Redruth, December* 31.—Average standard, 123*l.* 3s.; average produce, 7⅛; average price per ton, 5*l.* 19s. 6d.; quantity of ore, 3,745 tons; quantity of fine copper, 265 tons 13 cwt.; amount of money, 22,417*l.* 1s. 6d. Last sale: average standard, 127*l.* 5s.; average produce, 6¾; standard of corresponding sale last month, 127*l.* 14s.; produce, 6¾.

DEATH OF MR. JOHN HENDERSON.—We deeply regret to announce the death of Mr. John Henderson, a member of the late firm of Fox & Henderson. The lamented gentleman expired in the 47th year of his age, at Kelvin Grove, near this town, on Monday afternoon, after a few days' severe illness. The loss of this enterprising and charitable gentleman will be extensively regretted. The poor will regret a loving friend, and society at large will mourn the sudden demise of an excellent and valued man.—*Birmingham Daily Press.*

ARCHITECTURAL SOCIETY OF THE ARCHDEACONEY OF NORTHAMPTON.—The ordinary committee meeting was held on Saturday, Dec. 19th, the Rev. Lord A. Compton in the chair. The plans for the rebuilding of Hazelbeech church, by Mr. Slater, were examined. It is proposed to take down the present walls and piers, which are considerably out of the perpendicular, and entirely reconstruct the church on the old plan, preserving every available stone in its own place. Plans for a new south aisle at Creaton, in place of a most disfiguring shed-like addition of former times, were sent for exhibition by the architect, Mr. W. Smith, of London, and drawings for various other works. The committee expressed a wish that immediate steps should be taken to carry out the often-recorded wish of the society to offer a prize for the best cottage design for the Midland counties. For this purpose a sub-committee will be appointed at the next meeting. The invitation to the great architectural meeting at Oxford, in June, 1858, was accepted on behalf of the society.

ARTISTS' AND AMATEURS' CONVERSAZIONE.—The evenings of meeting for this agreeable *réunion*, at Willis's Rooms, St. James's, are fixed for Thursdays, Feb. 4th, March 4th, April 1st, and May 6th. The list of members is a very strong one, and the prospects of the session are very promising. An annual subscription of 1*l.* 1s. entitles to four visitor's tickets of admission, which may be used all at one time, or otherwise, as desired. Mr. Henry Ellis, of Bernard-street, Russell-square, is the honorary secretary.

THE SMEDLEY VIADUCT, MANCHESTER. At a special meeting of the city council, held on Wednesday in last week, the Improvement Committee's minutes included a report from Mr. J. G. Lynde, city surveyor, as to the state of the Smedly Viaduct. In this report, presented to the committee on 7th December, the surveyor stated that, taking all circumstances into consideration, he believed the brickwork in the pier was now loaded to the extent of about 25 tons to the superficial foot. The rubble wedges were now evidently being acted upon by the superincumbent weight, and this tended to thrust the brick facing outwards, taking part of the load. As regarded the strength of the brickwork, he was of opinion that the bricks made use off would crush with a pressure of 18 tons to the superficial foot; and if this estimate was correct, the work was manifestly unsafe. Mr. Lane (under whose superintendence the work is being performed) was of opinion that the crushing weight of the bricks was 20 tons. In order to insure the ultimate stability of the viaduct, the bearing surface of the piers must be either equalized or increased, or the structure would continue unsafe. The only mode of equalizing the bearing surface would be to rebuild the pier, which would necessitate the pulling down and rebuilding of the other arches, a course involving a large expenditure, and which should be avoided if the structure could be rendered equally secure by any less expensive remedy. Two of the other piers, which had failed in a similar manner, had been repaired under Mr. Lane's direction. In consequence of the surveyor's report, the committee made arrangements with Mr. Lane for securing the two piers on the Manchester side of the river, as recommended, with the addition of extra iron braces and a facing of ashlar stone in the river course.—At another meeting of committee, held on Dec. 11, a letter was read from Mr. J. M. Bennett (a member of the council), protesting against the "fearful responsibility upon themselves in ordering the viaduct to be patched up after receiving the report of the surveyor." The minutes of the committee, however, were confirmed, Mr. Lane having stated that no further indications of failure had occurred.

NEW RAILWAY TERMINUS AT LIVERPOOL.—It is said that the Manchester, Sheffield, and Lincolnshire Railway Company are about to apply to Parliament for powers which include, amongst other things, a railway-terminus at Liverpool, the terminus to be at the top of the Arcade, Bold-street, communicating by a tunnel with the outskirts of the town at the end of Upper Parliament-street. The plan involves the junction of Bold-street and Renshaw-street at Newington, and other improvements in that locality.

THE ARCHITECTURAL ASSOCIATION. — At a meeting held January 8th a paper "On Chimneys" was read by Mr. S. Egan Rosser, to which we shall return.

POPLAR. — The foundation-stone of a ragged-school was laid on the 11th inst. by Mr. William Black, to be erected under the superintendence of Messrs. Morris and Son, architects, Poplar.

GAS A SANITARY AGENT AT LISBON.—The *Medical Gazette* of Lisbon asserts that all the persons of that city who reside in houses lighted by gas escaped the yellow fever, a very notable and important fact if established on a sufficiently broad basis. No attempt at an explanation of the special cause of so sanitary an influence appears to have been made; but it may be worth while for us here to note by way of contribution towards such an explanation, that for many years it was the practice, if indeed it be not so still, for Government officers in this and other countries to fumigate *with burning sulphur*, everything likely to carry infection from ports "foul" from yellow fever or from plague; and that if the 15-burn gas, during the epidemic, was very *bad*, from being loaded with sulphur, it may turn out to have been a very valuable sanitary agent on this account alone.

GEOGRAPHICAL PAPER-HANGINGS.—Can you or any of your readers inform me where geographical paper-hangings can be purchased? I mean those papers whose patterns are maps, plans of towns, &c. It is much to be regretted that our school-rooms and nursery-walls are not papered with such patterns; they would form a most valuable and irresistible means of conveying knowledge. The impression thus made on the memory through the eye would last while life itself lasted. Such paper-hangings might be supplied as cheaply as other descriptions. At present I know of a large boarding-school where the school-room, bed-rooms, studies, &c. would be papered with such patterns, if they could be obtained well executed, and at moderate prices.

PATER FAMILIAS.

THE OPEN SPACE AT SMITHFIELD. It is to be earnestly hoped that, whatever may be done with Smithfield, a portion at least of the open space will be preserved for purposes of public health and recreation. This ought to be watchfully and jealously kept in view till everything be arranged for the final disposal of the Smithfield ground; and we are glad to observe that the committee of the Play-ground Society are fully alive to the great importance of this point, and are not likely to allow a march to be stolen on the public as to it. They shall have our cordial aid in the matter as often as it may be required.

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TO CORRESPONDENTS.

Gargoyle the church in question, St Mary's, Bermondsey, is not by Welch. F and A.—R B.—C A W. N. W L.—H P H. Trs. vass dem wledge if the language would, if course be "an assistance," but we doubt the probability of getting such an engagement.—J S. G.—W. W.—A Dull Boy.—H. C. W.—J. E. J.—C. H. D. (an engraving of St. Chrisdt's has appeared in our pages).—A. B.—A Subscriber (we are forced uniformly to decline).—J. S.—W. H. T. (declined with thanks).—J. S. R.—R. K.—W. P.—J. S. (we know of no such offer as to India).—W. H. H.—P. B. (the effect of some soft water on lead has been often discussed in our pages).—Mr M. M. and Son.—C P.—A Contributor.—S. E. R.—J. H.—E. H.—Mr. S.—S. H.—M. G.—H. J. B.

NOTICE TO SUBSCRIBERS.—A title-page in colours for the last volume may be obtained gratis, on personal application at the office; to those who prefer it to that which accompanied the index in the number for Jan. 9. Covers for the volume may be obtained at the office, price 3s. 6d. or the Publisher will bind it for 3s. 6d. The complete volume may be obtained, price 21s.

"BOOKS AND ADDRESSES." We are forced to decline pointing out books or finding addresses.

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IF JOHN CURTIS, the STONEMASON, who worked at the Cemetery-buildings, in the City of Ely, will apply to Mr FREEMAN, Builder, Ely, he can have employment January 14, 1858.

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WANTED, in a Builder's Office, a CLERK, who has been accustomed to the business. Can write a good hand, keep accounts and measure works, if required. Hours.—Six to half past Five. Address, prepaid, P. Q. R. Office of "The Builder," stating particulars, amount of salary, &c

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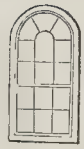

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SHEET GLASS, fourths, very superior, in 100, 200, or 300 feet cases, at 10s. per 100 feet, or about 1½d. per foot.
Ditto, thirds ditto, at 12s. 6d. ditto, or 2d. ditto.
Ditto, seconds, ditto, at 15s. ditto, or 2½d. ditto.
Ditto, firsts, ditto, at 22s. ditto, or 3d. ditto.
Boxes of two feet each, at 10s. 12s. 14s. or 16s. according to size.
21oz. 26oz. 32oz. and 42oz. in various qualities.
Also, CRYSTAL SHEET GLASS

16oz. and 21oz. Ground, Muffed, Glass of various patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

COLOURS, VARNISHES, &c.

Genuine White Lead, 34s.; seconds ditto, 32s. per cwt. Linseed Oil 3s. 6d.; Boiled ditto, 3s. 10d.; Turpentine, 3s. 6d per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c.

The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.

LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUN & HANDLE WATER CLOSETS
Cocks and Valves of every description.
Milled Sheet Lead and Pipe of all sizes; Old Lead bought or taken in exchange.

T. MILLINGTON, 87, Bishopsgate-street Without, London.
Established upwards of One Hundred Years

THE COSMOPOLITAN GLASS COMPANY
HELY and WARING, Managers;
296, OXFORD STREET, W.
The Cheapest and most Varied Stock of PLATE, CROWN, SHEET, CRYSTAL, and ORNAMENTAL WINDOW GLASS
Tariffs of Prices free.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shades.

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use.
H H	for engineering.	B	black for shading
H	for sketching	B B	ditto ditto.
H B	hard and black for drawing	B B B	ditto ditto.
		B B B B	ditto ditto.
M	medium.		

Sold by all the principal Stationers in town or country.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS.

Suitable for Lifting Water, Oils, Acids, Sheep Dressing, Gardening, Steep Liquor, Manure, Sugar, Brewers' Wash, &c., and adapted for every Depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

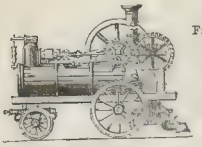
PUMPS ON HIRE.

Pumps of any Size, Single or Double Barrel, up to Double Hand, for water, kept ready for use, at reduced Rates.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

PORTABLE STEAM PUMPING-ENGINES,



From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,

For Pumping, Sawing, Pile driving, Raising Materials, &c. &c.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

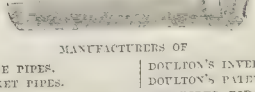
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S,

STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
TERRA-COTTA CHIMNEY-TOPS, FIRE CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Good Size with the Body of Linseed Oil.
BODY PAINT, in all colours, for Metal, Fencing, Sign-boards, Deal Buildings, &c.
HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW WHITE ZINC.
DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments, gives an elegant surface, resembling the finest Alabaster, &c.
powerful Reflector of Light, and is unchangeable by Gas.

THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

CHARLES RICHARDSON,

BRUNSWICK WHARF, VAUXHALL.

And 6, SOUTH WHARF, PADDINGTON BASIN.

COWLEY and KENT BRICKS, per barge, on wharfs, or delivered in any quantities, direct from quarries.
SUPERIOR WHITE SUFFOLK FACINGS, Plain, Door-Jambs, Copes, Bricks, Stable Quoins, &c.
DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c.
BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Hexagons, Pole Malms, Seconds, Pickings, Pavions, &c.
BLACK HEADERS, Glazed and Unglazed.
BEART'S PERFORATED BRICKS.
STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Chamfered Sill Bricks. Red, Fawn, and Buff Terra Metallic Paving Tile. Plain, flanged, rilled Quoins, and Chamfered and Rounded Ridging & Bressley Tiles.
FIRE GOODS, Newcastle, Stourbridge, and Welsh Fire Bricks. Tile, Lumps, Fire Clay, Fire Bricks, and any Pattern Brick, &c. to order.
TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border, Edging, &c.
SLATES, best quality from the Bangor quarries.
YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c.; Sawn Slab for Hearths, Jambs, &c.
TILES Pan, Plain, Ornamental Roofing. Paving, Oven, Mathematical, &c. A great variety of Red and White Tiles always kept in Stock.
GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c.
GREY STONE and CHALK LIME.
BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.
CEMENTS, Roman, Portland, Parian, Lias, Bath, Keene's, &c.
PLASTER of Paris, fine and coarse, of best quality, at reduced prices.
HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials sent by Rail to any part of the Country, ordered
ROAD MATERIALS — Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken.
To be obtained of any Coal Merchant.
N.B. Landed Warehouse and Drawing Dock at Vauxhall.

BLUE LIAS LIME.—Messrs. GREAVES

and KIRKSHAW having completed their Works on the Birmingham and Oxford Line of the Great Western Railway, at Hatbury, are now prepared to supply LUMP and GROUND LIME of the best quality, direct from the kilns, to any station on the Great Western Railway. Greaves's Blue Lias Lime. Portland, Bath, and Lias Cement.—Works at Hatbury, Stockton and Wilmcote.—Office at Warwick.

PORTLAND and ROMAN CEMENT,

PLASTER OF PARIS,

Manufactured by J. M. BLASHFIELD, at Millwall, Isle of Dogs Warehouse, No. 1, Wharf, Paddington-basin.

THE PORTLAND CEMENT WORKS,

NORTHFLEET, KENT (Messrs ROBINS and FOORD, Wharf), THE PRIZE MEDAL WAS AWARDED for the superior quality of the only PORTLAND CEMENT, manufactured at the Works for all the purposes which a first-rate cement is required, and at the Lowest Market Prices.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, and SturgeS, Manufacturers only of first-class quality, for the home and foreign trade. Portland Cement manufactured at these works with especial reference to its destination, whether for Damp or Brick Work, Thick or Light Brickwork, Cold Weather, or otherwise.—London Wharf, Belvedere road, Lambeth.

JOHNS & CO.'s PATENT PERMANENT

STUCCO WASH for Outside Work, PATENT STUCCO CEMENT, STUCCO PAINT.—CLARK and LENGTH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road, S.E., and Queen-street, Cheapside, London.

GEO. and THOS. EARLE, CEMENT

MANUFACTURERS, HULL.—Light, Dark, and Portland Cements, Roman and Parian. Manufacturers also of Ladies' Plasters, Paris White, Modelling Plaster, Lime, Cement, Sand, Bricks, Pantiles, Gothic Tiles, Coloured Ornamental Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Foreign

LONDON and WEST of ENGLAND

CEMENT WORKS, Dunball Bridgwater.—Hydraulic Lime, Roman Cement, Blue Lias Lime, Portland Cement.—KALMARS, of the Dunball, Bridgwater, and 7, Newman-street, Portland-stone.

COLES, SHADBOLT, and CO.,

CEMENT and PLASTER MANUFACTURERS, LIME BURNERS,

Brick, Tile, Drain-pipe, Hair-cloth, and Fire Goods Merchants,

ST. JAMES'S WHARF, CHELSEA, and at the BATTERSEA WHARFS, Cadogan-road, London.

KEENE'S and PARIAN CEMENTS and

FRENCH PLASTER, for pattern Lime. These well-known Cements are quicker and stronger than any other, and are manufactured by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

O. M'CARTHY, CARMAN, and SAND

and CEMENT MERCHANT, Wharf and Office, Wharf-street, City-road. Sand screened or unscreened, by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, fine and fair bricks. Drystocks delivered per barge at any quantity, at or near the Thames.

ATKINSON'S CEMENT, so long known

and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no sand. Sold in casks only by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster, and Nevy street, Liverpool.

CEMENT.—ROMAN and PORTLAND

CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at the Wharf, No. 9, Upper Thames-street, London, and also at the Manufactory, Faversham, Kent. N.B. These Cements supplied for shipment, on advantageous terms.

MESSRS. JOHN and WM. EASTWOOD

are SOLELY engaged for SALE of Messrs. R. A. ALLEN and CO.'S WHITE and RED FACING BRICKS, as SELECTED GOODS, from their Belvedere Yard to all Wharves on the Lower Pool, S.E., the TWELFTH and BRANCH BRINDLE STOCK BRICKS, Ancaster EWELL and HADDONSTONE Dressings. RED RUBBING BRICKS.

Also, the SOLE DEPOT for the SALE of Messrs. C. HITCH and CO.'S MALM FACING BRICKS and KILN GOODS, from their Goods at Wade, Rotherhithe.

COWLEY and KENT BRICKS,

from their extensive and very large Yards

The usual Quantity of each to be had of the trade from the Wharf by the Proprietors.

WELLINGTON WHARF, Belvidere-road, Lambeth; and KENTISH TOWN BRIDGE.

BLUE LIAS, GREY STONE, and CHALK LIME

PORTLAND, ROMAN, AND OTHER CEMENTS, PLASTER, HAIR, LATHS, &c.

STAFFORDSHIRE PAVEMENTS & RIDGING.

Blue, Red, and Buff Terra Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Ridge Tiles in great variety. Plain, Rebed, Cable, Chamfered, Rounded, Hollow, Tables of Deverell's Blue and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red. Chamfered and Rounded Quoins. Vitrified Stable Paving, Grooved, of various sizes. Blue Facing Bricks, &c.

FIRE BRICKS, LUMPS, AND TILES

of all kinds. Pattern goods made to order.

RED GOODS of every description. Importers of DUTCH CLINKERS.

J. and W. EASTWOOD, Belvedere road, Lambeth, and Kentish Town Bridge.

N.B. Every description of Building Goods always in Stock.

TO CIVIL ENGINEERS AND SURVEYORS

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT

combines the absolute requirements of the natural Cement with the additional advantage that it can be made to possess those intermediate properties, that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS in the strength of this and other Cements read at the Institute of Civil Engineers, to be obtained from the Makers, JOHN BAZLEY WHITE, and BROTHERS, Millbank street, Westminster, of whose make quality only of Portland Cement.

BEADON'S PATENT IMPERISHABLE SLATE TILE.

To [illegible] Roofs [illegible] Weather-tight, [illegible] and Durable.

Sole Agent, J. BEADON, 3, Adelaide-place, London-bridge.

This is the cheapest kind of roofing known; for, besides its lower cost, it will last without paint or repair as long as the building itself. It will bear the weight of any ladder [illegible] of a large amount of roofing, effecting a great saving in slates, tiles, &c. It is especially applicable to [illegible] buildings [illegible] size of about 13 inches long; stopends and outlets, 6d. [illegible] can send them per [illegible] to be had in London, Gloucester, Bridgwater, and Madeley, Staffordshire, Suffolk, &c. Licenses granted.

GARRETT, BROTHERS (late H. and R.

[illegible] METALLIC TILES, PIPES, &c. [illegible] and [illegible] Roofs, [illegible] and [illegible] Roofing, [illegible] and [illegible] Pipes, [illegible] and [illegible] Tiles, [illegible] and [illegible] Bricks, Channel bricks, coping, fireproof flue linings, &c. all of a very [illegible] Tilesbridge, Staffordshire; or their London Depot, 12, South Wharf, Paddington.

MINTON and CO.'S ENCAUSTIC and other PATENT TILES, for Churches, Entrance Halls, Conservatories, Hearths, &c. Also, the Geometrical Mosaic Pavement in the Nave of Worcester Cathedral, and extreme durability [illegible] Tiles, Do. [illegible] Tesselated Pavements, Wall Tiles of every description, Tesselated Borders, Plain Tiles, &c. Orders [illegible] Minton, Campbell, Athlon place, Blackfriars-bridge, London; and at the Works, Stoke-upon-Trent, Staffordshire.

IMPERISHABLE TESSELATED PAVEMENTS,

combining a highly decorative and economical substitute for [illegible] Tiles, [illegible] Marble, &c. [illegible] MAW and CO'S patent [illegible] Tesselated Pavement with [illegible] Borders, [illegible] Hall, Passage, Conservatory, Veranda, Grate, &c. [illegible] sent on application to [illegible] Broseley, Salop.

PEAKE'S TERRO-METALLIC TILES

PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this ware is REMOVED to No. 21, WHARF Macclesfield-street North, City-road Basin (N.). Sadly, that the true term "TERRO METALLIC," is the exclusive right of the Proprietors and [illegible] that the Reports on the Glass Tile, No. 21, of the Great Exhibition, made the grant of a First-class Medal, and [illegible] the Manufactory [illegible] Tilery, Tunstall, Staffordshire, the first of the kind in the world.

CREOSOTE, NAPHTHA, and PITCH.—

Buyers can be supplied with articles, in quantities. For terms apply to the ARMITAGE and WOOD, Tar and Asphaltum Works, Saltney, near Birmingham.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than Brick Flues By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

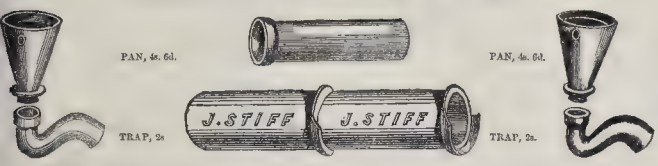
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

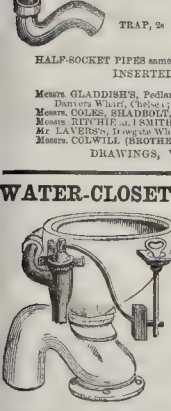


HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's road, Camden town.
Messrs. COLES, SHADBOLT, and CO 'S. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bryd ges-street, Covent-garden.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED, AND

LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

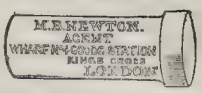
Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

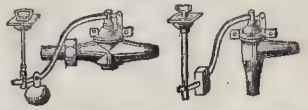
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d	8s 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s 3d	3s	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time, and the Pipes guaranteed to stand better than any Brickwork.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.

No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 12s. 6d. each.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

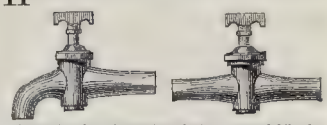
3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

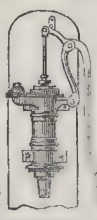
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each; with sounding pulley, from 6s. 6d.

These Ventilators are arranged that the requisite quantity of air may enter the room for the due ventilation of an apartment without the slightest draught being felt by the occupants, and as they are placed in the external wall, their action is not impeded when the house is closed over the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 190, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

DRAUGHTS round Doors and Windows

EFFECTUALLY PREVENTED by GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS, the neatest, most simple, and effectual method of making air-tight joints to passers or cabinet work, OLD or NEW. Self-acting Spring stops, for the bottoms of doors. The most imperfect door can be made air-tight without re-hanging The Trade supplied

JOHN GREENWOOD, Patentee,
10, Arthur street West, London-bridge.

SALES BY AUCTION.

TO SHIPWRIGHTS, COACHMAKERS, TIMBER DEALERS, &c.—IMPORTANT SALE OF TIMBER, WOODHOUSE EAVES, near Loughborough, Leicestershire. To be SOLD by AUCTION, by

S. HORTON, on FRIDAY, the 29th day of JANUARY, 1858, at the BULL'S HEAD INN, Woodhouse Eaves, 347 OAK, 273 ASH, 81 ELM, 5 WILLOW, and 2 ALDER TREES, of large size and excellent quality, standing upon lands in the occupation of Messrs. Angrave Stores, Foxoak, and others. Dinner on the table at TWO o'clock Credit will be given on the usual conditions. The above timber is situated about two miles from the canal and four miles from the Loughborough Station.—Catalogues may be had of the Auctioneer, Mowsley, Market Harborough; the "Advertiser" Office, Leicester; King's Head and Bull's Head, Loughborough; and at the Place of Sale, where parties will be in attendance to show the timber.—NATHL. C. STONE, Land Agent.

TO IRON FOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, FEBRUARY 1, 1858, at ELEVEN o'clock, on the PREMISES, Nos 61 and 62, Tavern-lane, Hackney, in lots, with many of the property of retiring partners, the valuable and extensive PLANT and IMPLEMENTS of an IRON FOUNDRY, three foundry cranes, two cupolas, erection of drying stove, 9 trucks, 12 tons overhead travelling crane, 3-horse power steam-engine, Cornish steam boiler (10-horse), loam mill, steam crab timgings, blocks and falls, crane, shank and hand ladles, 30 tons iron flasks and boxes, 20 tons loam, rings, and flask weights, large trolly, two crabs, force pump, scales and weights, 10 tons iron patterns, large assortment of wooden patterns, and other effects To be viewed on Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E C

BRICKS

MR. EDWIN FOX will SELL by AUCTION, at the BRICKFIELD, Devon's-lane, Bow-common, Middlesex, on TUESDAY, JANUARY 19th, at TWELVE, The capital and well-made BRICKS, consisting of about 1,000,000 stock, place, and Grinsel. The lots can remain three months in the ground, and the canal is adjacent thereto.—Catalogues at Mr EDWIN FOX'S Offices, 41, Clement street, Bank

DOVER, KENT -TO ENGINEERS, CONTRACTORS, and OTHERS.

MR. W. JACOBS has been honoured with instructions from Mr Joseph Diggle, to submit by PUBLIC AUCTION, at the CONTRACTOR'S YARDS, Princes-street, Dover, on THURSDAY, FEBRUARY 4, 1858, the whole of the PLANT from his contract for works at the fortifications of Dover Castle, consisting of sawmill pulley, barrows, trucks, and timber, &c. Also fourteen very useful draught horses, carts, waggons, &c. a new 15-horse portable engine, with mill-stones and machinery for grinding, and a superior machinery for making mortar —Catalogues may be obtained at the Office of the Auctioneer, 4, Townwall street, Dover, and at the Bull Inn, Maidstone; Rose Inn, Canterbury and Commercial Hotel, Ashford.

KNIGHTSBRIDGE.—Extensive Sale of Building Materials.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, in Wilton-place, on MONDAY, JANUARY 18, and two following days, at ELEVEN for TWELVE o'clock, the excellent MATERIALS of the principal portion of the spacious gallery recently built for the Chinese Exhibition, a coach factory, school-rooms, and dwelling-house, with iron railings and gates, in Wilton place, together with the numerous outbuildings, formerly the barrack-yard, including stabling for thirty horses, nine boxes, seventeen lock-up coach-houses, a beer-shop, and various tenements and sheds, to be cleared away for the erection of large residences and schools, next St. Paul's Church. May be viewed.—Catalogues on the Premises; of Messrs HAINES and SON, Auctioneers, Moorgate street; and at the Auctioneer's Offices, No 12, High street, Kensington, and Grosvenor-street West, Eaton-square, S W.

TO BUILDERS, CARPENTERS, CABINET-MAKERS, AND OTHERS

MR. LEREW will SELL by AUCTION, on the PREMISES, 49, Union-street, Somer's town, on MONDAY, JANUARY 18th, at TWELVE, about 150 yds. white, pine, and spruce FLANK DEALS and BATTENS, 7 inches wide and under, 100 squares of 1in. and 2in prepared flooring, 8000 feet seasoned, dry oak stuff, 1000 feet mahogany, cedar, and other stock.—May be viewed on Saturday prior to or morning of sale, and catalogues had on the Premises, and of the Auctioneer, Cardington street, Hampstead road, near the Euston Station.

TO TIMBER MERCHANTS, BARGE BUILDERS, CABINET and PIANOFORTE MAKERS, ENGINEERS, WOOD CUTTERS, HOP GROWERS, &c Valuable Oak, Ash, Elm, Cherry, Sycamore, and other hard and soft wooded Timber Trees and Underwood, standing on the Wimbledon Park Estate.

CHINNOCK and GALSWORTHY will SELL by AUCTION, at the SPREAD EAGLE HOTEL, WANDSWORTH, on MONDAY FEBRUARY 1st, at TWELVE for ONE o'clock precisely, TWO HUNDRED superior Timber Trees, several lots of Ash, Elm, Cherry, Sycamore, Chestnut, and other Trees Hop Poles, and Underwood, growing on the Wimbledon Park Estate, in convenient situations for removal, and including a few fine large sound Oak, for which the park is celebrated.—May be viewed, and catalogues obtained at the Spread Eagle; at the Lodges on the estate; and of the Auctioneers, 28, Regent-street, Waterloo-place

NOTICE.—To MAHOGANY and TIMBER MERCHANTS, CABINET MAKERS, MACHINE MAKERS, AND OTHERS. THE NEXT LIVERPOOL PERIODICAL TWO DAYS' AUCTION-SALES, comprising cargoes of Honduras, Belize, and Mexican Rare, City of Dunning and Cuba Mahogany, Havannah Logwood, Satinwood, &c., will take place on THURSDAY the 28th instant, at ELEVEN o'clock, precisely, Of Baltic and American Fir, &c the SALES will be held on FRIDAY, the following day, at TWELVE o'clock, at the Queen the Wood Sales Sheds, Brunswick and Toxteth Docks Liverpool For Catalogues and further particulars apply to EDWARD HARANER, Wood Broker and Measurer, No. 6, East Side, Queen's Dock, Liverpool.

TO LET, in PADDINGTON, OXFORD MEWS, Edgware-road, LARGE BUSINESS PREMISES, consisting of two floors, both wood, 42 feet long by 21, and the upper 16 feet high, with a range of fifty workbenches and fitted drawers, with plenty of room beneath for stowage A small House adjoining.—Apply, 20, Cambridge terrace, Edgware-road.

TO ENGINEERS, IRON and BRASS-FOUNDERS, and SHIPSMITHS.—TO BE DISPOSED OF, by PRIVATE CONTRACT, the LEASE of commodious PREMISES, a manufactory of considerable extent, and the valuable MACHINERY, IMPLEMENTS, and PATTERNS —The business has been established about twenty five years, and in addition to the general engineering trade has a large connection among shipbuilding establishments, for the manufacture of an article of general use, both in the national and mercantile marine. The returns are from 5,000l. to 6,000l. a year, and the profits considerable. The present owner wishes a partner to an equal share, or, as his health is rather impaired, would be willing to dispose of the entire concern. About 1,000l. or 2,000l. would be required for the purchase portion of such, might remain on mortgage For further particulars, apply to Messrs FULLER and HORSEY, Billiter-street, Fenchurch-street, City, E C.

FREEHOLD LAND TO BE LET, on Building Lease for ninety-nine years. Money advanced to responsible parties Freehold Land to be Sold for building purposes in eligible situations Apply at the Offices of Messrs MORGAN and PHIPSON, Ar Intects, 3, Danes Inn, st Clement's, Strand.

CANNON-STREET IMPROVEMENT. BUILDING LEASES The Committee for Improvements within the City of London, HEREBY GIVE NOTICE that they will meet at Guildhall, on MONDAY, the 18th day of JANUARY next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing, agreeably to a form to be obtained at the Office of the City's Architect from parties willing to take BUILDING LEASES of sundry Lots of Ground on the south side of St Paul's churchyard.—Plans can be inspected and conditions seen upon application at the Architect's Office, Guildhall. MEEWETHER.
Guildhall, Dec. 1857.

WANTED to PURCHASE, for occupation, a DETACHED, SEMI-DETACHED, or PAIR of SEMI-DETACHED HOUSES, containing Eight or Nine Rooms each, with good sized Gardens, either Freehold or Long Leasehold, within Four, or not Five Miles from Temple Bar Address, stating terms, &c. to M S Y S, 58, Seymour street, Grosvenor-road, W C.

COMMANDING PREMISES TO BE LET, in the best part of the Mile-end-road, near Charrington's, suitable for a gasfitter, plumber, paperhanger, &c.—Apply to Mr. FRANCIS, No 24, Mile-end-road, near the mile-stone

NOTICE.—THE LIZARD SERPENTINE COMPANY never had any connection whatever with the Penzance Serpentine Company, now under process of being wound up. The Lizard Serpentine Company continues to carry on its business successfully at the Poltesco Factory, Lizard, Cornwall; also at No. 29, Surrey-street, Strand, London -By order,
FREDK W. RUFFLE, Agent.

Chimney-pieces, fonts, columns, slabs, &c. on sale. Estimates given.

TO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), importer of all sorts of Marble, keeps a constant well supplied stock of Marble in blocks at the modern, about 1 wharf, comprising STATUARY, VEINED, VINED PAONAZZO, SICILIAN, DOVE—also the produce of his own Quarries at Carrara. Bardilla, Black and Gold, Sienna, Greotte, St. Ann's, Vert des Alpes, Breccia, &c. &c. Vases, Monuments, Garden and Gallery Statues manufactured in Italy and takes contracts for all the above sorts of Marble to any extent connected with the trade
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BUILDERS and CONTRACTORS, Observe. The cheapest Depot in London for the Sale of Marble Chimney pieces is at the WESTMINSTER MARBLE COMPANY'S WORKS, Earl-street, Horseferry-road. A large stock on view to select from. Vein Marble Box Chimney-pieces from 30s. upwards. The trade supplied on liberal terms.
N.B. The Westminster omnibuses pass the Works from the City.

THE BRITISH and FOREIGN MARBLE GALLERIES, 37, Newman-street, Oxford-street, EDWARDS, EDWARDS, and CO proprietors. The largest and most superior stock of CHIMNEY PIECES in Europe on view at the above named establishment —Manufactories, Carrara (Italy) Belgium, and 37, Newman street, London. Estimates for every description of Marble work

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BRAMLEY FALL! BRAMLEY FALL! Rawmarsh, Pottern-wton, and Lidl kinds of Yorkshire Stone supplied on the most liberal terms. TRICKETT and PERKIN'S Quarries being in the main line, no delay takes place in delivery to any part. Large Stocks are kept at the Depots, No 3, King's cross Railway, and Victoria Wharf, Isle of Dogs.
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TRICKETT and PERKIN, Headingley, near Leeds; or,
SAMUEL TRICKETT, Victoria Stone Wharf, Isle of Dogs, London, E

GRANITE.—The Cheesewring Granite Company (Limited), Lskeard, Cornwall
London Agents—TREGELLES and TAYLOR, 84, Old Broad-street.
Manager—J. H. TRATHAN, Lskeard.
The Granite is selected from the New Westminster bridge

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TO BUILDERS and OTHERS.—ONE THOUSAND CHIMNEY PIECES kept in stock, at prices from 8s to 8l WILKINSON and CO. Manufacturers, Pratt-street, Somers-town, N.W.

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Office: 27, Millbank-street, Westminster.

LITTLE CASTERTON FREESTONE.
Apply for prices, &c. &c. to
FRASER and GOTCH, Bridge, STAMFORD, Stamford;
and see specimens at the Office of
Messrs PINDER, SIMPSON, and SONS,
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RANDELL and SAUNDERS, QUARRYMEN AND STONE-MERCHANTS.
BATH
List of prices at the quarries and depots, also cost for transit to any part of the kingdom, furnished on application to Bath Stone Office, Corsham, Wilts

CAEN and AUBIGNY STONE.—P. POUCARD, Stone Merchant and Quarryman Cargoes shipped to meet in Caen to any port Contracts taken for any quantities Depots Quay to Wharf, East Greenwich; by Letts Wharf, Waterloo-bridge. Office: 246, High-street, Southwark, near the Town Hall.

MARKET-WHARF, REGENT'S-PARK-BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Bridge Stone, Ranges, Slates, Sills, &c. &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. MOULDS and WOOD cut to the direction of Builders, Masons, and others, to their stock and sizes, where everything will be charged at the lowest prices Headstones, ledgers, slips, landings, &c cut on the shortest notice. Country orders promptly attended to.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and two First-class Medals at the Paris Exhibition

Trial panels of this beautiful material are being painted upon the premises Artists are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney pieces, billiard tables, table-tops, baths, wall linings, &c. &c. a new illustrated catalogue of which can be had at the Pimlico Slate Works, 30 and 40, Upper Belgrave-place, Pimlico, S W

RANSOME'S SILICIOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material, at prices not exceeding the ordinary contents Full particulars furnished on application to Mr. FRED. RANSOME, Whitehall-wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for engineering and building purposes. Supplies direct from the Quarries, by vessel or railway Direct communication with the principal ports for EXPORTATION Wharf rents and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, Westminster, S.W.

VALENTIA SLATE SLABS.—A considerable reduction having taken place in the prices of Valentia Slate Slabs, we beg to submit the subjoined list as our selling prices from this date,—June 19, 1857.

	1-inch.	1¼ inch.	1½ inch.	2-inch.
Under 6 feet by 3 feet 6 in.....	6d.	7d.	9d.	11d.
" 8 feet by 3 feet 6 in.....	6d.	7½d.	9½d.	1s.
" 10 feet by 3 feet 6 in.....	7d.	8d.	10d.	1s. 1d.

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VALENTIA SLATE SLABS.—The Valentia Slab Company invite attention to their Slabs, now supplied for very large dimensions and of superior quality They have been used at the British Museum, National Gallery, Bethlem Hospital, various Lunatic Asylums, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stand at Brighton, Portsmouth Barracks, and kept in stock in large quantities by Messrs. FREEMAN, Millbank-street; and at Messrs. Braby's, Belvidere-road, where terms may be obtained.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls and Lining Iron Houses. 2, DOWGATE HILL, London; and 2, GOREE PIAZZA, Liverpool.

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The Trade supplied on advantageous terms; and estimates given for works of any magnitude; also for laying TAR PAVEMENT.

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Canal ridge heath Wharf, Hackney;
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City Offices, 19, London-street, E.C. (opposite the Blackwall Railway).

ASPHALTE, FOREIGN and BRITISH, for FLAT ROOFING and every description of PAVING, especially in damp situations,
FROM 2s. 9d. PER SQUARE YARD
Country Builders supplied with Asphalte for footings and barn floors, with instructions for using it.
Apply to JOHN PILKINGTON, Poloneeau and Limmer Asphalte Office, Monument-chambers, 14, Fish-street-hill, London.
N.B. Importer of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover

THE ROYAL POLYTECHNIC. CHRISTMAS HOLYDAYS This institution, which has for twenty years delighted the public, will present the following novelties:—1st. A New Musical and Pictorial Entertainment, by G. Arnytage Cooper, esq (the accomplished Buffo Singer), entitled Home for the Holydays, with Buffo Songs written by J C Brough, esq and very beautiful Dissolving Views Mornings, except Tuesday and Friday, at Half-past Two; Evenings, at a Quarter past Eight 2nd Remarkable Phantasmagorial Illusions, produced with entirely new apparatus The Misses Greenfield will accompany these effects on the piano, violin, and violoncello. Morning Performances at Half-past Two o'clock at Half-past Two. 3rd Lecture and Curious Experiments on Natural Magic, by J. D. Malcolm, esq. Tuesdays Thursdays, and Saturdays, at Half-past One. Every evening (except Tuesday) at Half-past Seven. —4th. New Views in the Oxford-street Exhibition Mornings at Twelve, Evenings at Seven. 5th Increase of the present celebrated Dissolving Scenery, illustrating the Rebellion in India, with portraits of Clyde, Lord Canning, H.R.H. the Duke of Cambridge, Generals Wilson, Nicholson, Neill, and Havelock, and Grand Optical Effects. Mornings at Four, Evenings at Half-past Eight, and Quarter-past Nine. -6th. New Lectures Entertainment by J. B. Pepper, esq entitled "A Scuttle of Coals from the Pit to the Fireside." Tuesday and Friday Evenings at Half-past Two. 7th "The Leviathan" steam-ship, rendered in a new series of Dissolving Pictures, with instructive description by Mr. Malcolm. Monday, Wednesday, and Friday Mornings at Half-past One.—8th The Giant Christmas Tree will exhibit unusual quantities of knives and toys for the boys, and pretty things for the girls, at the Fourth-grand Juvenile Festival, on Tuesday, Monday, and Thursday Evening, the 21st of January.—Admission to the whole, 1s.; Children under ten and Schools, half-price.

PROFESSOR WILJALBA FRIKELL, Physician to their Majesties the Emperor and Empress of Russia.—ST. JAMES'S THEATRE PHYSICAL and NATURAL MAGIC, without the aid of any apparatus, TWO HOURS of ILLUSIONS Wednesday and Saturday Afternoons at Three, and every Evening at Eight. Stalls, 5s.; Balcony Stalls, 4s.; Boxes, 3s.; Pit, 2s.; Gallery, 1s. Private Boxes, Two Guineas; One Guinea and-a-half; and One Guinea. Places to be secured at Mr MITCHELL'S Royal Library, 33, Old Bond-street.

TO BUILDERS and OTHERS.—MONEY can be obtained on Freehold Property Mortgage, or Personal Security—Loans can be obtained in any amount at the London Discount and Loan Office, 102, High Holborn, five doors west of Day and Martin's, W.C. All applications to be made, daily, between Twelve and Five, except Saturdays

CONSERVATIVE LAND SOCIETY.—THE SIXTH YEAR
PRESIDENT.
The Viscount Ranelagh
Hon Colonel L. Wyner, M.P.
Right Hon R A C N Hamilton.
J. C. Cobbold, esq. M.P.

Five per cent. interest per annum is paid half-yearly on all investments of 5l and upwards, but all the annual profits may be invested, and thus the liability of the investors, and the making of plots of freehold land on the Society's estates, being quite optional, are advantages which have rendered the Society the favourite ideal of investing capital and savings —Prospectuses sent free to any part of the world. CHARLES LEWIS GRUNEISEN, Secretary.
Offices—33, Norfolk-street, Strand, W.C.

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R. T. JOPLING, Actuary.

FOR SALE, a handsome CARVED HALL TABLE, date about 1630; fitted up with "Magnus's patent slate" top, 6 feet by 2 feet 6 inches—1¼ inch thick.—Inquire of Mr. USHER, Architect, Bedford.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No 1, York-street, in the Parish of St Paul, Covent-garden, both in the County of Middlesex.—Saturday, January 16, 1858.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 781. JANUARY 23, 1858. PRICE FOURPENCE. Stamped, 5d.

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ARCHITECTURAL EXHIBITION

Suffolk-street, Pall Mall East, is open to the Collection of Building Models, Drawings, Inventions, and Sculpture. The architectural Photographs were taken by MESSRS. BEDFORD, BISLEY, &c. Admission 1s. Catalogue 6d. Open from NINE till SIX. Admission on Sundays, after 2 o'clock, 6d. Open at all times, and to all the Lectures, by season Tickets, Half-a-crown each. Third Lecture, TUESDAY, 26th JANUARY, by W. BURGES, Esq., Architectural Fine Arts in Mediæval Style." A. D. BERESFORD HOPE, Esq., M.P., will take the chair at EIGHT o'clock.

JAMES FERGUSSON, F.R.A.S.,
JAMES EDMESTON, Jun. } Hon. Secs.

THE ARCHITECTURAL MUSEUM.

SOUTH KENSINGTON MUSEUM.—On WEDNESDAY, JANUARY 27th, at EIGHT o'clock, a LECTURE, on "Ancient and Modern Architectural Ornament Contrasted," will be delivered in the theatre, by JOHN P. SEDDON, Esq., F.S.A.

GEORGE GILBERT SCOTT, A.R.A., Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

ARCHITECTURAL PHOTOGRAPHIC

ASSOCIATION.—Many non-subscribers, after visiting the Exhibition of the Collection of Photographs for 1857, have inquired whether, on their becoming subscribers, they may select subjects therefrom: they are informed that they will have that privilege, it being understanding that their subscription of a guinea or upwards is paid for 1857, when a card and catalogue will be forwarded. Post-Office order payable to ROBERT HESKETH, Hon. Sec. at 9, Old Queen-street, Westminster, W.

THE MECHANICS' PRACTICAL DRAWING CLASS.

DRAWING CLASS.—Architectural, Mechanical, and Ornamental Drawing Classes held at the London Mechanics' Institution, Hall of Science, every MONDAY and FRIDAY EVENINGS, from EIGHT till TEN o'clock. Fees for the half-quarter (now commencing on), Members of the Institution, 1s. 6d.; Non-Members, 2s. 6d.

W. S. SIMMONS, Hon. Sec.

COMPETITIONS.

PLANS for SEWERAGE, ALDERSHOT.

The Local Board of Health of the Parish of Aldershot hereby give Notice, that they offer PRIZES of 70*l.* for the best plans, and 30*l.* for the second best scheme, in each case accompanied by an approximate estimate, for the Sewerage of the Parish of Aldershot; the plans, sections, specifications, and estimates, are required to be sufficiently in detail to enable the Board, if they should think fit, to advertise for Tenders for carrying them out. The competitors will likewise obtain any information they require from the Ordnance Land Survey of Aldershot, so far as it exists. It must be distinctly understood that the decision of the Board of Health with respect to the award of the prizes is final, and that the competitors will have no claim whatever on the Board after the award has been made, and that no one but the successful competitors will be made aware of the plans, &c., which prizes are awarded will become the absolute property of the Board of Health. The plans, &c. must be sent in to the Chairman of the Local Board, on or before the 1st MARCH, 1858; and any further information may be obtained on application to Mr. R. ATTFIELD, Clerk of the Board, Aldershot.

RICHARD ALLDEN, Chairman of Local Board of Health.

TO BUILDERS and CONTRACTORS, &c.

ESTIMATES WANTED for the various works required for the ERECTION of a NEW CHURCH at Berwick-upon-Tweed, for the Rev. John Cairns. The drawings and specifications may be seen by any day after the 10th instant, at the Vestry of the present Chapel, Bridge-street, between the hours of NINE and SEVEN. The estimates to be sent in addressed to T. BOGUE, Esq. on or before the 1st of FEBRUARY next. The Committee do not bind themselves to accept of the lowest offer. Estimates will be received—

1 For the excavating, brick and stone work.
2 For the carpenter, joiner, smith, and iron work.
3 For slater and plaster work.
4 Plumber work.
5 Painter and glazier work.

Copies of the plans, &c. may be seen at the Offices of Messrs. MAY, C.E., and [illegible] Chambers, 1, Cobourg-street, Westminster.

January 8, 1858.

COMPETITIONS.

TO BUILDERS. — ESTIMATES required for BUILDING TWO HOUSES, OAKFIELD ROAD DOWNS, Clapton.—The specifications and drawings may be seen from TEN till FOUR, on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY next, at the Office of Mr. M. A. GLIDDON, Surveyor, 9, Churchyard, Hackney.

EGHAM BURIAL BOARD.—The Board are desirous of receiving PLANS, accompanied with SPECIFICATIONS and ESTIMATES, for the ERECTION of TWO CHAPELS detached, an ENTRANCE LODGE, GATES, and RECEIVING HOUSE, with a BOUNDARY-FENCE, on a site selected at Englefield-green, near the National Schools, and for LAYING OUT the LAND as and for a Burial Ground. The Board will not bind themselves to employ the person whose plans, &c. may be approved, but in case he should not be employed, the Board will pay him a premium of 15*l.* when such plans shall become the property of the Board. Should he be employed, a commission of 5 per cent. on the buildings (except the boundary fence) will be given, but on no other account. The Board do not pledge themselves to accept any plans, &c. sent free, in a sealed cover, with a motto or mark attached, but without the name of the designer, which is to be sent in another sealed envelope having a similar motto or mark, addressed to the "Chairman of the Egham Burial Board," on or before the 10th day of FEBRUARY, 1858, and those not approved will be returned. By order of the Board,

G. P. HEYWARD, Chairman.

Egham, 14th January, 1858.

CONTRACTS.

PARISH of STOKE-UPON-TRENT.

SURVEY and VALUATION.—An offer having been received from the Poor Law Board for a new SURVEY and VALUATION of this PARISH, the Board of Guardians are ready to receive TENDERS from parties desirous of contracting for the same. The parish is partly mining, manufacturing, and agricultural. It contains about 11,265a. 2r. 21p., and according to the last census there were about 11,215 inhabited houses. Manufactories and mills, which number has been since considerably increased. There are maps or plans of the several townships within the parish. These, so far as relates to the agricultural part, would be required to be altered and corrected upon the new plans the various alterations which have been made in the various fields, so that the new reference book might agree with the numbers upon the plans. The Guardians will receive Tenders for the survey and valuation of the land, buildings, and mining property together; or a separate Tender for the land, and also a separate Tender for the buildings and mining property. The Guardians do not bind themselves to accept the lowest or any Tender. The party contracting will be required to enter into a bond with two sureties for the due and faithful performance of the contract. It is therefore requisite the party tendering should give the names of two respectable parties as sureties, together with references. Tenders, containing full and explicit terms, to be sent to the Clerk of the Guardians, on or before TEN o'clock in the morning of WEDNESDAY, the 27th inst.—By order,

THOS. GRIFFIN, Clerk to Guardians.

Parish Office, Stoke-upon-Trent, Staffordshire, Jan. 6, 1858.

IMPORTANT BUILDING GROUND.—CITY of LONDON.—The Merchant Taylors' Company are prepared to receive TENDERS for a BUILDING LEASE of a PIECE of GROUND on the north side of Church street, Minories: also a repairing Lease of a Messuage, No. 5, Great Trinity-lane, Cannon-street. The form to be obtained of Mr. TANSON, Surveyor, Lawrence Pountney-lane, and at the Clerk's Office, Merchant Taylors' Hall, Threadneedle-street, where Tenders, under seal, are to be delivered on or before MONDAY, the 25th day of JANUARY instant. The Company do not bind themselves to accept the lowest or any Tender.

SAMUEL FISHER, Clerk to the Company.

FOLESHILL NEW WORKHOUSE. To BUILDERS.—All Persons desiring to TENDER for the ERECTION of a NEW WORKHOUSE at Foleshill, are requested to send sealed Tenders to my Office, on or before the 8th day of FEBRUARY next, addressed "Tenders for New Workhouse." Plans can be seen, and bills of quantities obtained, at the Office of Mr. HOLMES, 20, Temple-row, Birmingham.

THOMAS DEWES, Clerk to Guardians.

Foleshill Union, January 8, 1858.

MIDDLE LEVEL DRAINAGE.—To CONTRACTORS for PUBLIC WORKS.—Notice is hereby given, that the Middle Level Drainage Commissioners are desirous of receiving TENDERS for the WIDENING and DEEPENING that PORTION of the NEW CUT the Middle Level Drainage, extending from the Sixteen Feet River, in the parish of Upwell, in the Isle of Ely, to about fifteen chains above Saint Peter's Drove-bridge, in the parish of Saint Germans, in the county of Norfolk, being about nine miles and a half in length. Plans, sections, and a specification of the works, with the conditions and form of the proposed contract, may be seen at the Office of Mr. R. LUNN, the superintendent of the Middle Level Works, March, Cambridgeshire, on and after MONDAY, the 18th day of JANUARY instant; and any further information may be obtained at the Offices of Messrs. WALKER, BURTON, and COOPER, Engineers, 23, Great George-street, Westminster. The Tenders must be sent in, or delivered at my Office, at March aforesaid, or otherwise, on or before FRIDAY, the 5th day of FEBRUARY next. The Commissioners do not pledge themselves to accept the lowest or any of the Tenders.

E. J. WISE, Clerk to the Middle Level Drainage Commissioners.

Dated this 12th day of January, 1858.

TO BUILDERS.—Persons willing to CONTRACT with the Board of Guardians, Clerkenwell, for the ENLARGEMENT of COLLEGE HOUSE, Highgate, may inspect the drawings, specification, &c. at College House, Archway-place, Highgate, from MONDAY, the 25th inst. to SATURDAY, the 30th inst. between the hours of TEN and FOUR o'clock. Further information may be obtained of the Architect, Mr. W. P. GRIFFITH. Tenders to be delivered at the Workhouse, Coppice-row, under seal, to me, on or before FIVE o'clock (afternoon), on MONDAY, FEBRUARY the 1st. Sureties must be provided for the due performance of the works, and the Board do not bind themselves to accept any Tender.

By order,

EDWD. SCARGILL, Clerk to the Guardians.

January 9th, 1858.

CONTRACTS.

PROPOSED NEW CHURCH, Tottenham.

As every Architect is supplied for EXTENSION of WIDTH, 40 feet wide, grants a site of 80 feet. The pews must be at least 20 inches wide.

TO BUILDERS.—Parties wishing to TENDER for the ERECTION of NATIONAL SCHOOLS for 120 boys, 72 girls, and 100 infants, at Upton-on-Severn, Worcestershire, should notify their intention to the Architect at once, so that the requisite number of quantities may be lithographed. An enclosure of 2*s.* will ensure a copy of the same. Drawings and specification may be seen at the present school buildings, at Upton-on-Severn, on and after MONDAY, FEBRUARY 1st.—G. E. CLARKE, Architect, 27, Great James-street, Bedford-row, London, W.C.

January 21, 1858.

IN CHANCERY.—DIXON *v.* JACKSON.

To ROAD MAKERS, SEWER CONTRACTORS, and OTHERS.—Notice is hereby given, that (with the sanction of the Vice-Chancellor Kindersley), the Judge to whose court the above suit is attached, TENDERS will be received from persons wishing to CONTRACT for the EXECUTION of certain WORKS on the estate of the late Thomas Jackson, at the Hermitage, Holloway, a MAKING ROADS and SEWERS, according to a plan and specification which have been approved by the said Judge. Such Tenders are to be addressed "Dixon *v.* Jackson," Tudor Tree Works, and are to be delivered, sealed, to Messrs. WIGG, SON, and OLIVER, of Bedford-row, Holborn, on or before the 10th of FEBRUARY, 1858, after which time no Tender will be received, and no Tender will be entertained which does not contain the names of two sufficient parties, to be approved of by the said Judge, as sureties with the contractor, unless such parties bond for the due performance of the contract, the costs of such bond to be borne by the contractor. After the last-named day, and forthwith, the several Tenders which may have been sent in will be submitted to the said Judge, who will decide whether any one of such Tenders is to be accepted. Copies of the specification may be obtained from the said Messrs. WIGG, SON, and OLIVER, on payment of 10*s.* which will be returned to each person making a Tender.

N.B.—So soon as the roads and sewers are completed, it is proposed, with the sanction of the said Judge, to let the land on building leases.

W. P. GRIFFITH, Solicitor,
Surrey-street, Lincoln's-inn.

TO ROAD-MAKERS and OTHERS.—TENDERS are required by the Woodchurch Company of Iron Mongers for MAKING PIPE and PATHS, A.C. on the Great Barnfield Estate, Isle of Dogs. A plan and specification can be seen at Iron Mongers' Hall, Fenchurch street, where the Tenders are to be delivered, on or before MONDAY, the 25th inst., when the Company do not pledge themselves to accept the lowest or any of the Tenders.

By order, H. HALL, Jan. 19th, 1858.

NEW CATHOLIC CHURCH of OUR LADY and ST. MICHAEL, Abergavenny, Monmouthshire.—Builders and those desirous of CONTRACTING for the ERECTION of the above new CHURCH, may view the plans and specifications for the same at the residence, either of the Rev. C. PRICE, Frogmore-street, Abergavenny, or of the Architect, E. BUCKNALL, Esq., Rodborough, near Stroud. Tenders to be sent in to the Rev. C. PRICE, on or before the 9th of FEBRUARY next.—The lowest Tender will not necessarily be accepted.

LONDON and NORTH-WESTERN RAILWAY.—TO CONTRACTORS and BUILDERS.—The Directors of the London and North Western Railway Company invite proposals or receiving TENDERS for the ERECTION of a NEW LOCOMOTIVE ENGINE SHED, at the Monument Lane Station, Birmingham. Also for the ENLARGEMENT of the QUEEN'S HOTEL, at the new-built Station, Birmingham. Plans and sections of the building may see the drawings and specifications, and bills of quantities, at the Engineers' Office, Euston Station, on MONDAY, FEBRUARY 1, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary at the Office, to be sent in before THURSDAY, FEBRUARY 11, at TEN o'clock. The Directors do not bind themselves to accept the lowest Tender.—By order,

CHAS. E. STEWART, Secretary.

Secretary's Office, Euston Station, January 20, 1858.

BOARD of WORKS for the LIME-HOUSE DISTRICT LOAN.—The Board of Works for this district are desirous of RECEIVING TENDERS for persons willing to ADVANCE 3,000*l.* (in one sum, or in sums of not less than 500*l.*), upon the security of the sewer rates authorized to be raised in the parish of Limehouse, in the said district, under the Metropolis Local Management Act. The said loan will be repaid, by instalments, within twenty years, in such sums, and at such times, as the Board may determine, with interest half-yearly, per centum. Tenders, specifying the amount to be advanced, and the rate of interest required, to be delivered, sealed, at my Office, Local Board Offices, White-horse-street, Commercial-road East, on or before TWO o'clock in the afternoon of WEDNESDAY, the 10th FEBRUARY, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

TO BUILDERS and CONTRACTORS.—The Directors and Committee of the Ulster Banking Company invite TENDERS for the ERECTION of a NEW BANK HOUSE in Belfast. The plans and specifications have been prepared by JAMES HAMILTON, Architect, 1, Donegall-quay, and are intended to embrace separate Estimates for the following portions, viz.:—

Stonemasons' }
Bricklayers' }
Carpenters' } Work and Materials.
Plumbers' }
Slaters' }
Plasterers' }

Or any one party may tender for the whole. The lowest Tender not necessarily accepted. Detailed schedules, containing quantities and specifications, may be had on and after WEDNESDAY, the 27th instant; and the plans may be seen on and after WEDNESDAY, the 27th instant, on application to WILLIAM THOMPSON, Esq., Secretary of the Ulster Bank, Belfast. Such detailed schedule to be returned priced, signed, and addressed to the Secretary on or after the 11th of next. Approved security will be required.

Ulster Bank, Belfast, Jan. 20, 1858.

SOLID PARQUETERIE,

for floors, walls, and furniture from thick 3s. per foot, executed by the most eminent artists. Sir Charles Barry, Messrs. Burn, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Times, May 7.

ARROWSMITH, 8, New Bond-street.

THE BEST GREASE.—IMMENSE SAVING.

CONTRACTORS, OTHERS SENDING GOODS by RAILWAY, and GENERAL PURPOSES.

DURHAM'S PATENT ANTI-FRICTION GREASE.

The printed results of trials with other greases may be had on application at the WORKS, No. 21, SUFFOLK GROVE, SOUTHWARK, LONDON.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, 14, New Bond-street, one door from Queen-street, Cheapside, London, submit the following PRICES of WINDOW BLINDS, which they consider are unequalled as being made in the best manner:—Venetian Blinds, per square foot, 9d.; best Holland blinds, on rollers, 8d.; best ditto, on spring rollers, 9d.; gauze wire blinds, in mahogany frames, 2s.; perforated zinc blinds, in ditto, 4s. 6d.; outside blinds of striped cloth, 2s. Transparent blinds in all the Patents. Estimates, with patterns of blinds to suit any window, forwarded by return of post, post free.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD and every description of Rope and Sailcloth Work kept on the lowest terms. Manufactured and for ready Money only, at 17, Ivy-lane, Paternoster-row. Orders per post receive the most prompt attention. H. PROUDLOVE, Tarpaulin Manufacturer, Tent, Awning, and Sail Maker, to her Majesty's Honourable Board of Ordnance.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CROSS'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford-street, where can be seen from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT CHEAPER, than any other House in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit the celebrated mart.

GLOVER, BROTHERS, FOUNDERS, ENGINEERS, and SMITHS, 103, DRURY-LANE, And 9, ST. MARY-AXE, SPARROW, BLACKMORE, Engineers, Millwrights, and all other descriptions of Machinery. A large stock of patterns for bending and other purposes, for the Trade. Estimates on application. Iron, Brass, Lead, and Spelter Merchants.

SMOKY CHIMNEYS.—PILBEAM'S PATENT DOUBLE-CHAMBERED SMOKE-PREVENTING CHIMNEY-POT.—Price 3os. A prospectus will be forwarded on application to the Offices of Mr A. PILBEAM, Architect, 18, Adam-street, Adelphi, London.

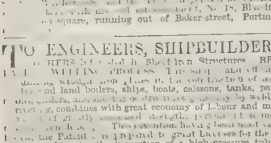
IMPERISHABLE GALVANIZED WROUGHT-IRON WATER TANKS, CATTLE TROUGHS, &c., the cheapest and most durable, and free from all pernicious matters. Fifty Gallons, 20s.; Sixty Gallons, 20s. FROST, England's Patent Galvanizer, 4, Bolton Row, Piccadilly, London. Lists, prices, and designs for Roofing, &c., sent free.

N.B.—On the ordinary work of the trade in flat plates, to screw together.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINE can be obtained of all IRONMONGERS, MILL WRIGHTS, FACTORS, and WINDOW BLIND MAKERS, in TOWN or COUNTRY. Established 1771.

VULCAN IRON FOUNDRY, SMART'S-BUILDINGS, DRURY LANE. Castings of every description at reduced prices. Makers of the Improved Patterns.

VULCAN FORGE, Crown street, Soho. WROUGHT GRADILS AND HURDLES.



And all kinds of Smiths' Work.

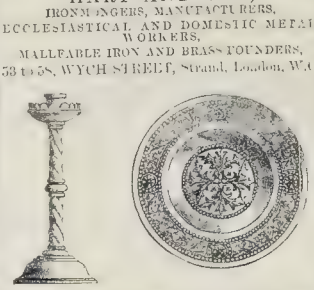
STOVE and RANGE MANUFACTORY. The only Maker of Town-cast Self-acting Kitchen Ranges, 14, Tottenham Court-road. G. BARRETT, Proprietor.

NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 2, [illegible], three doors from Oxford-street, [illegible], Upholsterers, Cabinet-makers, and Bedding Manufacturers, Nos. 18, 19, Blue Boar-street, Oxford-street, and 21, Princes-street, Soho-square, running out of Baker-street, Portman-square, London.

TO ENGINEERS, SHIPBUILDERS, and others.—HERBERT'S Patent Malleable Iron Sheets in Structures. BERTRAMS LIMITED, WHITE CROSS-STREET, LONDON, are now prepared to supply the Patent Malleable Iron Sheets in Structures of every description, including locomotive and tubular boilers, ships, boats, caissons, tanks, pans, bridges, roofs, and constructive ironwork generally, by which the cost of riveting is reduced 50 per cent, combining with great economy of labour and material the greatest strength, lightness, and durability. The extension of the Patent is prepared to grant Licences for the use of his process, and invites the inspection of a high-pressure tubular boiler 7 feet diameter, 30 feet long, under the Patent, at the Works of the Vauxhall Iron Company, Engineers and Shipbuilders, Greenwich.—Applications for Licences, and particulars of the Patent, may be addressed to Messrs. [illegible], Solicitors, 10, Buckingham-street, Strand, London. The Sheets, Rivets, and Bolts will be supplied by the Patentee's Agent.

IRONMONGERY. PFEIL AND STEDALL. THE LARGEST STOCK AT THE LOWEST PRICE, 5 AND 6, BROAD-STREET, BLOOMSBURY.

HART AND SON, IRONMONGERS, MANUFACTURERS, ECCLESIASTICAL AND DOMESTIC METAL WORKERS, MALLEABLE IRON AND BRASS FOUNDERS, 53 to 58, WYCH STREET, Strand, London, W.C.



Specimens at the Architectural Exhibition, Suffolk-street Pall-mall.

Illustrated catalogues free on application.

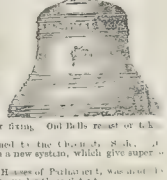
BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and Sons have availed of late years the full time, and strictly to the Ling neglected art of Bell Casting, have recently invented and patented a new process connected therewith by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, both in purity and perfection of the Harmonic Scale.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, strictly in tune.

TUNED BY MACHINERY.



Stocks and wheels ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND BELLS tuned to the Chromatic Scale, improved Cuppers, and hugged on a new system, which give superior tone and capacity for [illegible].

The Great Tenor Bell for the Houses of Parliament, was cast by JOHN WARNER and SONS, 1858, under their Patent.

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THE LONDON WARMING and VENTILATING COMPANY, Limited,

(Offices, 9, Great George-street, Westminster)

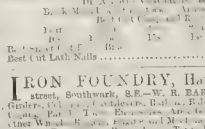
Manager WM. WOODCOCK,

undertake the Warming of Churches, Buildings, &c. by adoption of the Improvements in the principles which during the Patent have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.

Economy and effectiveness are the only ends proclaimed.

Particulars and Testimonials forwarded on application.

CLARK and HUNT'S IRONMONGERY. STOVE, and METAL WAREHOUSE, 139, Strand. A great variety of Slightly, Register, and other Stoves, Cottage and Best Kitchen Ranges, Hot-plate Stock.



Register Stoves, with Solid Backs, per inch 7/6
Improved New Pattern Ditto, Ditto with Ornamental Backs and Trivets, complete
Bright Ditto, with Ornamental Backs
Ditto, with Tea Pot, Kettle, and Backs, complete
Cast Bar Fenders, with Standards, Backs, and Bright Bars, 18 inches, with Turned Ends, Backs, and Standards
Ditto 20 24 30 36 42 48 54 60 66 72
Best Bar Fenders, Pol. Steel Curbs, Standards, and Bright Bars, 18 24 30 36 42 48 54 60 66 72
Cast Iron Fenders, Pol. Steel Curbs, Standards, and Bright Bars, 18 24 30 36 42 48 54 60 66 72
O G Gutters 2 1 3 4 5 6 per yard
Plain Ditto 1 1 1 2 2 3 per yard
Ditto Bell Mouth, with Best Standards, and Patent Syphon 2 10 each
Ditto Ditto, with Wrought-iron Standards, and Patent Syphon 3 10 each
Best Cast Lead Traps, with Screw Cap and Dip 1 1 1 2 2 3 each
Best Cast Lead Pipe 1 1 1 2 2 3 per yard
Best Cast Lead Nails 1 lb.

IRON FOUNDRY, Harrow-street, Lambeth-street, Southwark, S.E.—W. R. BARTLETT, Manufacturer of Girders, Columns, Pillars, Bridges, Roofs, and Wrought Iron Lintels, Cooking, Pot, Tank, Chamber, Area, Garden, & Allotment Fronts, Wheel Rings, Frames, and Mill-work Castings, Palisade Posts, Furnace Bars, Bars, Tank Plates, Sash Frames, and other Castings and Wrought-ironwork.

SAVING IN GAS.—D. HULETT, INVENTOR and PATENTEE.—The Mercurial Gas Regulator is the only efficient instrument for ensuring wholesome and uniform lights, reducing the consumption, preventing accidents, and [illegible] of the Meter. D. HULETT and CO. 55, High Holborn, London. Manufacturers of the Mercurial Gas Regulator.

IRONMONGERS AND THE TRADE GENERALLY.

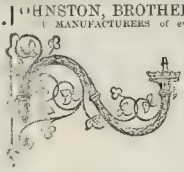
D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LANTERNS, &c. &c. A large assortment of the newest designs always on view, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete pattern-book and [illegible] 55 and 56, High Holborn.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c.—The Trade supplied on the best terms with Bell Wire, Zinc, Tube, and Copper Wire. Gas Pendants, Brackets, and Chandeliers of all descriptions for Gas-fitting, in Brass and Iron. Compensating, Rising, and Plain Gas Tubing, Cornice poles, Rings, Patent Improved Cane Tube for Picture Rods, Desk Rails, &c. &c. Polished Brass for Engravers, Castings in Fine and Common Metal, &c. &c.

RICHARD EVERED'S, Brass and Bell Foundry and Metal Ware House, 11, and 12, Charles-street, Long-acre, London.

HAWKINS'S REGISTERED SASH CHAIN, in Tanned Iron, and Copper Wire, is greatly superior in its strength, durability, and facility in running over the pulley, and is allowed to be one of the most useful and efficient inventions for hanging window sashes, of any weight, up to 4 cwt. Registered Chain for Lamps, Chandeliers, &c. Sold by every respectable Ironmonger in the Kingdom.—Manufactory, 27, Dale-street, Manchester.

JOHNSTON, BROTHERS, GASFITTERS, MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished

Architects' designs accurately executed.

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PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited), HENRY RODGERS, Manager, Lyon's Wharf, and 43, Upper Thames-street, London. These Windows combine the advantages of strength with lightness and cheapness, they have been highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, mews, and private residences, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application.

ALLEN'S PATENT SMOKE-CONSUMING VAPORIZER and REGULATING VALVE.—This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials of the highest possible character, are daily given by the parties who have them in operation.—Price, No. 1, 20s.; No. 2, 3l. 10s. for furnace-door complete, with the Valve.

H. ROGERS'S REGISTERED SEWER, STABLE and DRAIN TRAP. The cheapest and most effective trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have received the highest approval. These articles may be had of the General Iron Foundry Company (Limited), Henry Rodgers, Manager, Makers of Gas and Water Pipes, Hot water Apparatus, Cornice Poles, Cramped and Soap Pans, Furnace bars, and all kinds of Castings for manufacturing and building purposes.

TO IRONMONGERS, BUILDERS, &c. PATENT WROUGHT IRON WELDED TUBE for GAS; galvanised ditto for water; high-pressure Steam Tubing; Dr Arnott's Improved Ventilators. HULETT and CO. 55, High Holborn.

FOR SALE, at the Water-works, Lewes-road, Brighton, a 20 horse-power High-pressure Table ENGINE, with cupola boiler 28 feet long, 7 feet 6 in. diameter, and fittings complete. The Cornish direct-acting high pressure Engine, with a plunger-pump at the bottom of well 70 feet deep; a direct-acting high-pressure Pumping Engine, erected in 1856, with [illegible] steam-cylinder, complete with all pipes, capable of raising 1,200 gallons per minute to the height of 200 feet, also a capital Stand Pipe, 60 feet high, complete with all the above are all in good working order, and are to be sold [illegible] a non-expective of an entire alteration in the system of the Water-works. The Engines may be seen at the Water Company's Yard, Bond-street, Brighton, and full particulars can be had of Messrs. EASTON and AMOS, Grove, Southwark, London, S.E.

MOREWOOD and CO. (late Morewood and Rogers), Dock, Upper Thames-street, London, and Bankerville Works, Birmingham PATENT GALVANIZED TINNED IRON, and GALVANIZED IRON, in Sheets, PLAIN or CORRUGATED, and Curved, of all Gauges. Articles always kept in stock, such as pails, scoops, bowls, trunks, skips, &c. (flat sizes). Patent Galvanized Tinned Iron Tiles, Gas and Water Pipes, Moulded Gutters, Wire, Wire Netting, Hooping, &c. &c. Estimates given for Roofs, and every description of Galvanized Building at the WAREHOUSE, DOWGATE DOCK, LONDON.

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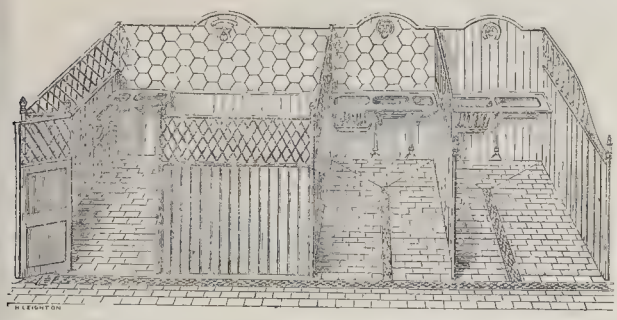

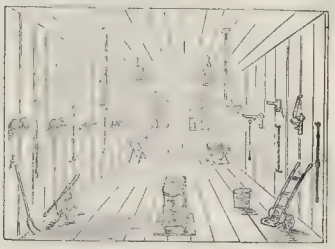

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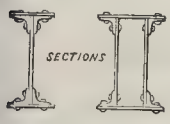

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"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

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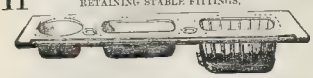

Enamelled or plain, effectually prevent the waste of hay or corn, are fitted with guard rollers and seed lips, and combine the most perfect safety with the greatest convenience both in use and use
ANGLE LOOSE-BOX FITTINGS, with guard rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.

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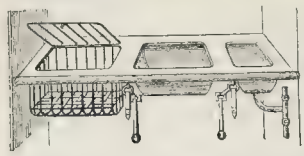

These Fittings are now made with the newly invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, presenting an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. New Illustrated Catalogues forwarded on receipt of two postage-stamps.—JAMES BARTON, Ironfounder, &c. 270, Oxford-street, London

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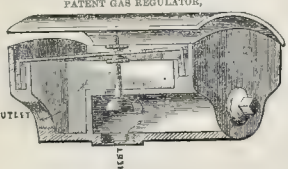

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1¼-in. for 30 lights, 1½-inch, for 60 lights, 2-in. for 100 to 150 lights,
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A saving in the consumption of gas of from 20 to 25 per cent. is effected by the use of this Regulator
A liberal Discount allowed to the Trade.

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FOR
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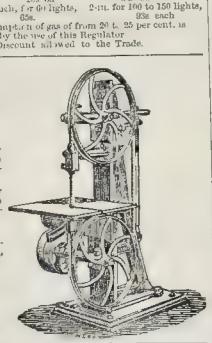

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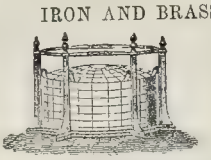

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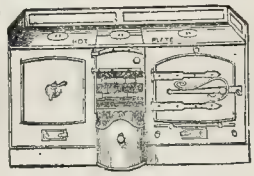

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The Builder.

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Government Art-Education—The Past

WHEN looking back, progress must be our aim. It must ever be a matter of interest to watch the efforts made by a people in the establishment of an national institution, especially when difficulties have to be surmounted, prejudices overcome, and an untrodden path to be tried. No less is the source of instruction, and perhaps, pleasure to cause a retrospective glance at the infant struggles of such an establishment, and, noting successes and failures, endeavour to arrive at fair conclusions concerning the use of both.

In the present instance our intention to take a glance at the Government Schools of Design, institutions which, under that name, have for several years been extinct; and we may now make some observations concerning them without much danger of being accused of prejudice, either for or against them. Our object in doing so is, in the first place, to preserve the experience which we have acquired of such subjects by their operation; and secondly, in order that we should thoroughly understand the antecedents of an establishment of the present day, concerning which every man interested in the advancement of the arts and sciences should know something.

The Schools of Design originated from the report of a Parliamentary committee, which sat in the year 1836, and the Head School at Somerset-house was first opened, for the admission of students, in the following year. The prospectus issued at that time states, that the establishment of this school was effected, in order to give instruction to such persons as were engaged in preparing designs for the various branches of the manufactures of this country,—to give an art-education to the ornamentist. The rules for the conduction of the school, and the table of fees, were decided on by the Committee of Schools of Design, consisting of Chantrey, Eastlake, and other influential men, of the past and present time. The committee transacted, at the weekly and monthly meetings, all the necessary business connected with the scheme.

Hitherto nothing of the kind had been attempted in England, so that the arrangements at first were necessarily experimental, alterations and improvements were continually taking place, in order that the school might adapt itself to all classes of students, who sought admission. It was apparently not intended that the school should be an idle or easy one, for the rules required that "each person [entering it] should have made a reasonable proficiency in drawing." However, it was soon discovered that nothing but commencement from the simplest examples, would give the necessary foundation for what was afterwards to be expected of the student; and this was not all. The school had to create its own simple examples, a task it entrusted to Mr. Dyce, who successfully accomplished it some time afterwards.

"The education of the designer is emphatically the business of the Schools of Design, and it should therefore be the constant object of those entrusted with their conduct, that they do not dwindle into fine-art academies, into Royal Academy nurseries, or mere elementary drawing-schools." This, from the pen of Mr. Wornum, well expresses the aim of the schools, and from this we gather that the workman would be received in them with more welcome than the professional man or fine-art student. To raise up a class of men able to furnish good designs for the manufacturers, and to produce others, well skilled and competent, to carry such designs into execution—this was the mission of the schools. It was conjectured that if sufficient encouragement were offered, some few out of a large body of students would distinguish themselves; and by receiving the exhibitionerships it was proposed to give, be enabled to continue their studies, so as to obtain a knowledge of design, and a thorough practice of it, such as would render them immediately available to the manufacturer. Others not so able, by attaining a certain amount of technical art-power, would be valuable as skilled workmen in the carrying out of designs suggested by their more highly educated fellow students.

These were the principles on which the head school was founded, and to supply a want of provincial designers which had been greatly felt by our manufacturers. That an institution of this character was required, was attested by the number of students who immediately joined the classes, which number continually increasing, many were refused admission through the want of accommodation. Morning, as well as evening classes, were opened, though, as in all such cases, the evening were the best attended. As the school progressed, prizes were liberally offered in all the stages laid down (from outline from copies to the applied design for manufacturing purposes), consisting of sums of money, and these prizes were periodically competed for. Manufacturers were invited to put themselves in communication with the students, for mutual advantage: exhibitionerships were given to successful students, and in 1842 a lending library of works upon art and design, was established, and brought into operation. Many changes took place in the masters, who were selected as teachers of the various branches of drawing, painting, and modelling; but, on the whole, the first few years of the schools' operation were promising and satisfactory.

When the London school had thus proved a successful experiment, it was deemed advisable to offer the advantages of a School of Design to those of the more important provincial towns who were supposed to be capable of supporting it, and accordingly, in the year 1841, a circular letter was issued to the authorities of seventeen of the provincial towns, distinguished either by wealth, population, or manufactures, inviting them to co-operate with the London committee in the introduction and establishment of Schools of Design in their several localities. Now, although the amount of outlay was almost wholly borne by the Government, yet the response to this invitation was of the most tardy description; for in 1842, only two schools, Manchester and York, had availed themselves of the valuable aid thus voluntarily offered by the London committee. In 1844, three years after the issue of the circular, seven schools only had been established. This is the more to be wondered at, inasmuch as the salaries of the masters were in all cases voted by the Government grant, the masters themselves provided, and each town was required to furnish a set of rooms for the accommodation of the school, properly supplied with the necessary lighting, &c. requisite for the conduction of evening as well as morning classes. The business of each school was transacted by its own provincial committee, composed of the leading men in the neighbourhood, as well as those distinguished in manufactures and art. The Government granting a liberal subsidy, the direction of the school's affairs being in the hands of those immediately interested in their success, it is certainly a matter of some surprise, that with so fair a prospect, such a slight proportion of the provincial towns should have responded to and co-operated with the London committee. It may be well to observe that some of the first-established schools resolutely maintained their lead as schools of art, and the zeal displayed in founding them, points out the demand there existed for such a means of learning, as we should not expect either Sheffield or Nottingham to undertake a task of this kind as a toy, or unless the want of it had been previously felt.

To return to the head school at Somerset House. In the year 1845 the original character of the school had become entirely changed. By this time there were classes of painting and applied design, those of the study of the human figure being especially successful; and it was owing to their success that the school had become changed. It was discovered that painting from the Life, and drawing from the antique, were regarded by the students as the *ultimatum*, and that few would forsake these classes for that of applied design, which was, nominally, the highest class, and the one to which the more advanced students ought to have particularly given their attention. At this time there was a director, who was master of the designing class, and a head master, who was professor of the human figure and painting. The director felt his class so sensibly affected by the attraction of the more favourite study, that the school was speedily assuming the character of a painting academy. This occasioned a dispute between the two masters, and raised much ill blood amongst the students who were the partisans of one or other of the disputants. The result of an appeal to the Council by the two professors was a decision that as "design" was the retail interest of the school, and there seemed no likelihood of the matter being amicably arranged, the council would in future dispense with the services of the professor of painting, whilst it retained those of the designing master. A large number of the students supporting the defeated master petitioned the council against its proceeding in a manner not exactly agreeable to the disposition of that body. They were all summarily expelled. A full account of all that transpired at this period may be found in our pages for the year 1845. Whoever takes the trouble to consult our journal of that date will see numerous communications from students of both parties, some of them tinged with violent party spirit; but these statements were the nearest approach to the truth that could then be obtained, and who knew anything of the subject had but little array either for Mr. Wilson, the director, or Mr. Herbert, the head master. We have said that the result of an appeal to the council was a decision in favour of Mr. Wilson, the designing master, and the expulsion of the students. The matter did not rest there. A constant ferment was kept up by the expelled students, who established an academy on the principles they fought for in Middlesex-street. The result of this ferment was an inquiry, which ultimately reinstated Mr. Herbert, while Mr. Wilson was appointed to the Glasgow School of Design.

We prefer giving the outline of this affair to quoting the arguments used by either party, for the statements of neither were to be implicitly depended on. Regarding the matter in an entirely impartial light, we may decide that the quarrels between the two masters were nothing more than the war of two principles,—design and painting. The first result of the conflict was the triumph of design, as the council, bearing in mind the mission of the schools, determined on fostering ornamental design rather than fine art. A further inquiry resulted in the triumph of painting as a higher branch of design; and from this we see that ornamental design and its improvement, as a means of national prosperity, were no longer the prime object of the Schools of Design: the system was at once broadened and made more general, departing from its original character by including the higher branches of fine art. The relation of these circumstances will give a better notion of the recognized and specific character of the schools than any mere tabular statistics of results. It shows us what the idea of the school was before the change, and the change that then took place is a key to all that succeeded it, even up to the present day.

When fine art was once more engrafted upon the system, it augured something besides its mere introduction. "The education of the designer" was no longer "emphatically the business of the Schools of Design;" and it certainly was not longer the care of those entrusted with their conduct, that they should not "dwindle into fine art academies, or Royal Academy nurseries." On the contrary, they had apparently *expanded* into fine art academies; and it was certainly a subject of emulation amongst the students as to who should first get to the Royal Academy, and a boast that school-of-design students were then, as now, the most successful students in the competitions for medals there.

We may truly say that from this period the new element commenced the subtle removal of the old, and date the gradual extinction of the Schools of Design from the change which then took place. Their death stroke was given in 1845, and in 1852 they were in name and original character defunct. After a brief existence of sixteen years, it was discovered that they were inefficient and unsuited to our wants, and upon their ashes rose a new institution. This institution inheriting the Schools of Design, made use of them as lumber to be broken up for and applied to new purposes: it took new conditions of existence, adopted entirely novel subjects for operation upon, and invented new means for the carrying on of its work. In 1852, the date of the creation of the Department of Practical Art, Schools of Design were spoken of as things of the past,—as failures, warnings, and subjects of reformation; and the newly-fledged Department commenced a crusade of practical information, authoritative advice, or actual extermination, which has continued unceasingly to the present hour.

Our journal has been the battle-field in which many struggles and causes concerning these subjects have been made. When difficulties have arisen, or apparent mismanagement has been exhibited, we have always thought it our duty to air the matter, as the best means of its satisfactory settlement, but we have ever scrupulously avoided belonging to any of the belligerent parties. So far as an institution fairly and effectively carries out its scheme, and does what it is intended to do, so far we would speak well of and encourage it—not condemning it entirely because it has not done what requires a more expansive scheme to accomplish. With these views we have undertaken our present subject, endeavouring to derive some practical benefit from the experience which the past years have enabled all to acquire.

In 1836 our manufactured articles certainly did not shew much artistic influence. If the Great Exhibition of 1851 had taken place in 1836, we should not have occupied even as good a position in it as we artistically did. Few would assert that ornamental art was in as good a position at the period of the establishment of the schools as at the time of their extinction; and the few years intervening between 1845 and 1851, could not have been entirely the date of our improvement. Mr. Herbert, however, gave in his evidence before the committee of inquiry of the House of Commons, the statement that he believed the Schools of Design had had no effect upon the manufactures of this country. This was contradicted by other witnesses, who asserted that although it would be impossible to define by instances the exact effect of the schools, yet that insensibly they had exerted a refining influence on manufactures. We are disposed to agree with the latter conclusion, and from good reasons. It is worthy of remark, that the most successful schools were those in the centres of great branches of manufactures—take, for instance, those at Sheffield, the Potteries, Birmingham, and Nottingham. The majority of the students in these schools were those who in some capacity or other, remotely or intimately, were connected with, and practically engaged upon, the manufactures of the various localities. We know also that these places hold increasingly high positions in their special branches of manufactures; and it may reasonably be supposed that the refinement of the works was caused by the previous improvement of the art powers of their originators and producers. We will not argue from this, that the schools were all that could be wished, but that as mere drawing-schools they laid the foundation for improvement. The man whose eye and hand had been educated by the graceful curves and elegant outlines of Dyce's examples, could not well tolerate a broken curve or awkward line in the work which was to proceed from his own hand. Even if he had not the power to originate graceful and beautiful objects, yet his powers of reproducing them, when designed by others, must have been increased by a knowledge and practice of the graceful and beautiful in the School of Design copies. Artizans and mechanics, who previously depended alone on their own hard work and inventive experience for the attainment of success in their professions, could now see the direct and important connection of art with success in their works, and practically found that the better they drew the curves of the school copies, the more easily could they accomplish those parts of their works which required an extra amount of precision in lines, surface, or symmetry; and thus the art-knowledge which the schools gave them acted as a guiding power, and the result was to increase the beauty of the works produced. An improvement in the manner of executing common trinkets by a Sheffield brassworker, was a more satisfactory result than if the same man had exhibited a picture in the Royal Academy as a fruit of his study, because the mission of the schools was better fulfilled in the former than in the latter case; and as such improvements undoubtedly resulted from the schools' operation, we are the less willing to regard the Schools of Design as totally ineffective.

But it will be said, that the proportion of successful schools, and those which exerted an influence on manufactures, was slight in comparison with those in operation for a similar purpose; for we should have previously stated, that as time progressed new schools were established, until, in 1851, eighteen schools were at work, besides the head school. We are willing to allow that few out of this number were successful, and an inquiry into their cause has given us our experience of their defects. The explanation of the deficiencies may easily be found. If we wished to elevate a particular branch of manufacture, through drawing as a primary means, and the superior practice of design as a secondary, and its application as an end, and sent, at a cost to the nation of, say, 500*l.* a-year, a man who was to accomplish this improvement, what sort of man should we send to the seat of the special manufacture on this art apostolic mission? Should we send a landscape painter to Birmingham, or a portrait painter to Manchester? Common sense would tell us it would be folly, and experience would prophesy a failure. We should naturally say, that however successfully these gentlemen may practise their branches of art, and however well they may teach drawing in the abstract, yet when they come to the actual end in view, viz. the improvement of cotton printing and metal working, they will be lost; and with remunerative branches of art in their hands, it is unlikely they will spend their time in adapting themselves to their position by the acquirement of the technicalities of manufactures, and then devote their lives to improving their special subjects. Yet misappointments of the kind spoken of were made in all directions.

Here we are disposed to think is the key to many of the failures. Masters were appointed without due regard to their qualification for the improvement of the branch of art they were sent to improve. The consequence was, that drawing was taught, and painting was taught, and there was an end of the mission. The same amount of knowledge was given to scores of students, and where the master's real duties should have begun, they ended. When a manufacturer went to the school for a good paper designer, he was told there were several good outline draughtsmen at his service; and when a metal-worker applied for an art-workman to improve his style of chasings, a first-rate chalk draughtsman was handed over to him.

This, then, was a fundamental error in the school-of-design system. A certain and liberal salary was given to the masters, for which they had to instruct their pupils in a cast-iron course of drawing, which made no deviations, and bore no direct connection with their several professions. In our own particular profession, the instruction given was nominal rather than real, for amongst the masters who were appointed few indeed knew anything of the simplest kind of architectural drawing, and had we sent a pupil to one of the schools requesting that he might be taught the modelling of conventional ornament for the decoration of buildings, he must verily have been his own instructor. If designs were worked out in the schools, they were suggested and carried on through the out-of-doors experience of the students, and not by the fostering hand of the master,—whose salary depended neither on the success of his school nor the number of his pupils.

It is some comfort to find in the present day that a master's salary does bear some proportion to his success, though we have had occasion to remark that the Department has gone to the other extreme with regard to masters' salaries; and, at a future time, we may shew that the error of misappointments is not yet altogether avoided.

Who can, then, wonder that the schools of design were less successful than the nation anticipated? In how many cases were they actually, as well as nominally, schools of design? Let us repeat that the London committee who appointed the provincial masters, and some of the masters themselves, who were imbeciles as far as practical art went, were the grand causes, with others that we have remarked, of the failures, and it has given us a warning at no slight cost which we should do well to profit by.

But let us sum up the evidence,—what has been gained by our inquiry?

In 1836, the ornamental and decorative arts in England were at a low ebb. To improve them the Schools of Design were established. The nation, at its own cost, undertook the education of the designer, as a means of raising the arts as applied to manufactures, and thereby increasing national prosperity. The schools did not preserve their original character. New elements were introduced, and gradually the first cause was lost sight of. In the ferment which the antique marbles caused, the masters of schools shared, and on the plea of broadening the system, new branches of study were introduced, and others highly developed, which sapped away the distinct characteristic of the schools. In 1852 they died a natural death, their skeletons were clothed afresh, but with new proportions, new features, and new names.

Many causes conspired in their destruction, some of which we have already pointed out. They were never popular either with the public or manufacturers. The public regarded them as a great national expense, for which they saw no general good resulted,—too much based on narrow principles to exert any influence on the education of the masses, and not sufficiently

ANCIENT DOMESTIC ARCHITECTURE: SHREWSBURY.

vell organised to bear upon any branch or ranches of art-manufactures. Thus, want of realth and liberality made them useless to the ublic at large, and an ill-defined aim for their ident dwindled down the good that might have esulted to special manufactures.

There was always a jealousy between the chools of manufacturing towns and the manufacturers themselves. The latter found them useless to their own purposes, and there was always an inactivity and absence of earnestness on the part of the former, to adapt themselves to the immediate wants of the localities in which they were placed. The last fatal error resulted from misappointments, which we fear were very general. The sole government was given to no one person, so that no individual was responsible for the blunders committed.

Thus we have briefly glanced at the history of the Schools of Design extending over a period of sixteen years. One of the results of the Great Exhibition of 1851 was to call attention to their condition, and ultimately the sole management of them was given to Mr. Henry Cole, who had been intimately connected with the Exhibition. The schools thus blocked together under one head received the name of the Department of Practical Art.

It would be too tedious a task now to enumerate the various names which the Department has successively assumed. Suffice it to say that the Science and Art Department of the general Board of Education is the living representative of the Schools of Design; and under the head of "Art-Education—The Present," we hope at a future time to examine its present character and operation, as we have now examined the past features of its inheritance.

NEW CHURCH NEAR THE VICTORIA DOCKS.—This new iron church was opened on Wednesday in last week. It will accommodate about 500.

ANCIENT HOUSES AT SHREWSBURY.

THERE are few towns in England which can more interesting than Shrewsbury, which have many historical and other associations, and present such numerous features of the past, with so many indications of modern advancement. It is pleasant, in this capital of "fair Salopia," too, to find general intelligence, and so much of the old-fashioned kindness to strangers.

The ancient castle close to the railway station the old market-place, where Shakspeare has probably in former days figured as an actor, when Her Majesty's servants wandered in this direction the churches in which are quaint tombs and monuments, and the picturesque streets, are sure to afford pleasure to visitors. The surrounding neighbourhood is also full of places of the greatest interest. A walk of about three or four miles leads to the battle-field of Shrewsbury, where fat John, "if I may be believed," fought three hours by the clock of the neighbouring town. On a quiet summer's day, seated on a stile in this once terrible scene of strife, listening to the rustling of the wind, and the humming bees, and watching the sheep feeding on the large mounds, which cover the dead, near the ruined church, we have listened in vain to catch a sound of the clock by which Sir John, in the noise and turmoil of the battle, timed his warlike performances. It is certain that Shakspeare had visited this battle-field, or he could scarcely have described the "husky hill," and other features of the scenery, which are mentioned in the play so exactly.* When in this direction, it is scarcely possible to resist the temptation to stray towards the blue Welsh mountains which rise in the distance.

In the villages which surround Shrewsbury, the churches have peculiar interest, and on the clear and pleasant river the ancient coracle of old British times is still in use. The examples of the domestic architecture of former days are well worthy of examination. In the change of houses shown in the engraving, very little change has taken place for the last three centuries. The

* First part "Henry IV." act 5, scene 1.

shops, some of which [illegible] have still the upper [illegible] of Henry VII.'s time.

THE WORKS IN CONNEXION WITH THE ARCHITECTURAL EXHIBITION.*

THE general collection of drawings [illegible] comprising drawings (some of which we have mentioned) not connected with the competitions—is of less importance than usual. Of the class of public buildings, those in course of erection here shown, are few, comparatively. If we might generalize from the works of a different class, which, mainly, are what are presented in the drawings,—we should record as incidents in taste, the still-prevalent use of pointed arches to windows; and of voussoirs to arches, and stripes and patterns, in coloured materials; and the disuse, in works of the Mediæval class, of stone mullions and transoms, and other characteristics of the Tudor Gothic buildings, in favour of forms that are in a marked degree Byzantine or Saracenic. The Tudor Gothic manner, indeed, prevails amongst the Mediæval class of designs, and generally, along with the use of simple red brick and stone: several of the works of this kind might be mentioned for views of old buildings: and this we think chiefly is what is manifested in those designs which have been made for actual execution. Amongst such works may be named "Gunnergate House, Yorkshire," of which two views (Nos. 30 and 43) are exhibited by Messrs. Pritchett and Son, in which there is some admixture of styles, the [illegible] general effect, [illegible] also the "Dwelling House [illegible] W. Weatherly, Esq. Chartham, Kent," now erecting (79) by Mr. J. Messenger, which has wooden mullions and stone jambs; and the "Mansion now erecting at Wantage, Berks, for Thomas Brown, Esq." (53), by Mr. J. Brooks, and "The Mill House," at Wantage (82), by the same architect, where the use of an octagonal projection at the gable end, assists the effect. In stone, only, as the material, the Gothic is well exemplified in the house at "Hinderton, Cheshire;" the residence of Mr. C.

* See pp. 22 and 33.

Bushell, by Mr. A. Waterhouse. The drawing (37), on tinted paper, is one of the best in the exhibition. In a somewhat earlier style, using red brick and stone, may be named Mr. R. H. Pope's "Grammar Schools, Sudbury, Suffolk" (69), where flat "Decorated" tracery to the principal window-head, and a good porch with centre-gable, and side arches, are used.

If there be deficiency of invention in such works, unless in the effective grouping of mere gables and chimney-shafts, there is evidence of the [illegible] in the old English style as compared with the manner which appears to have [illegible]. We say *appears*, because it may be doubted often, whether that which first presents the [illegible] of novelty, has not derived it, merely through resorting to a fresh model,—one perhaps inferior, contrasting the art of the two periods, [illegible] abandoned. More of real novelty, and [illegible] with good art, might be developed through a course directly progressing, [illegible], no matter what may now exist, [illegible] experimental efforts, affording the [illegible] rather than the substance. We refer [illegible] to the efforts to modify the Medieval [illegible] art,—to the *propriety*, indeed, of modification,—yet also to a loss, through particular modification, of characteristic elements, [illegible] perhaps our most valuable [illegible], as well as the essence of the qualities admired in the style; but we refer also [illegible] and progressive modification as [illegible] architecture and in any style taken as a basis.

The Byzantine and Saracenic element (the [illegible] the one style out of the other, and the similarity [illegible] in [illegible] speaking of the styles [illegible] has become more developed [illegible] the competition for the Constantinople [illegible], when attention was [illegible] the Italian Gothic. On that [illegible] both on the inferiority of the [illegible], judged by the Medieval standard, and on the fact that the very elements referred to, which the competitors were told to exclude, [illegible] essential part of the style [illegible], and as such appeared in the drawings, a portion of which are now in Suffolk-street. We do not improve the current architecture, or give the impress of beauty or originality to the [illegible] by making it more Byzantine, more Saracenic, or [illegible] Italian, [illegible] be seen, for example, in the design for the "Congregational Church, [illegible]," by Mr. T. Oliver, jun. which being, it would [illegible] Gothic, was [illegible] required "not to be English Gothic." Neither do we gain the [illegible] by the more lavish [illegible] Weeley, Essex" (3), by Mr. C. F. Hayward, an [illegible] the Medieval sort, are all at the opposite pole of [illegible] News Rooms" (28), where, as a study for a building [illegible] design displays considerable merit. This arises [illegible] decoration, so that the effect is readily gathered [illegible] rounded by a border in blue and white, to a loggia of five round arches on marble, or granite [illegible] the upper windows have pointed arches; and [illegible] are coupled together with a central [illegible] what of "Italian" character, is also enriched with [illegible] glaring. A square tower rises at one angle, with turrets corbelled out, a gable on each face, and a crowning octagonal capping with lucarnes, [illegible]

towers, apparently detached, and the purpose of which in association with the main structure, is not exactly clear, are shown in the "Design for the proposed Roman Catholic Church" (64), by Messrs. J. P. Jones and Barber, where the influence of the Italian Gothic, peculiarities of detail such as were prominent in the designs for the Constantinople church, and the plan and arrangement of the church in Margaret-street, Cavendish-square, are combined with much that is excellent in detail,—we may especially instance the loggia, or cloister, enclosing the front of the church-yard. The "Two Houses to be erected near Liverpool" (61), by the same architects, are in the version of Gothic last referred to. They have plain gables in the front, pointed arches to the openings, with red and black bricks as jambs and voussoirs; in some cases ornament in the *tympana* of arches, as well as sub-arches and a central shaft; and the general wall-surface in yellow bricks, or other light-coloured materials, with a few red stripes. Oriels, one at the angle, are corbelled out; and, as a prominent feature in the design, there is in the first-floor story, a loggia of arches with balcony. Great industry in Mr. Jones, and commendable exertion, are made manifest by his different contributions. A work in a modified character of Gothic, but without the polychromy as a characteristic of the exterior, is the "Design for a Marine Château at Kilpayson," Milford Haven (65), by Messrs. Prichard and Seddon. It has, however, a porch formed of pointed arches, on columns, as a very prominent feature. Mr. W. Papworth exhibits a "Sketch" (93) "offering a reply to the question,—Are synchronism and uniformity essential to beauty and propriety in architecture?" in a supposed building which may have been first erected about the year 1100, and afterwards reconstructed and remodelled in parts, at various periods extending into the eighteenth century, the general style adopted being described as "Italianized Gothic and Gothicised Italian." The drawing has generally been seen by us in so bad a light, that we have hardly been able to do it justice; but the "question" is still an open one. We may however, say that there is a growing disposition to recognise as meritorious, works which have little of what was at one time thought most essential, namely, what is conveyed by the phrase "unity of style." Not to mention the beautiful Loggia dei Lanzi, [illegible] to the particular character which Mr. Papworth seems to have had in his mind; our best periods of Gothic art have been "transitional;" whilst the success of the works of one [illegible] Renaissance, many [illegible] liarities of our own Elizabethan not excepted,—and [illegible] that what is understood by "synchronism" is not "essential," though a certain "uniformity," to [illegible] so. There is a curious exemplification in the [illegible] complete disregard of synchronism; we refer [illegible] anomalies; the study of the architecture, historically, becomes thereby difficult; but the richness [illegible] the wall, and the grouping of the windows of two [illegible]

We must return to [illegible]

Bourges.—The *Athenæum* says, [illegible] Government has bought, for the sum [illegible]

ON THE BEAUTIFUL, AND THE DEVELOPMENT OF THE FINE ARTS.*

There is, in nature, *beauty*: there is, in man, *the sense of beauty*, for its appreciation. Above the sense of mere luxury,—beneath the moral sense,—there is this beauty sense. *Fine art* is the invention of the beautiful for its enjoyment. It is a thing whose fulfilment is an important purpose in man's earthly destiny: it is inferior to nothing else which is of the earth alone. The possession of the beauty sense seems to afford the best definition of the superiority of man. The human race possess it universally: inferior animals are no less universally devoid of it. The beauty sense may even some day be proved to be the germ of all intellect. Virtue is beautiful. Our conceptions of the Divine are all only beautiful.

Of the five senses, the eye and the ear convey to man a superior enjoyment, and to the lower animals none at all. These are the senses of the beautiful, of fine art. The beautiful would seem to be in something of concordance or harmony. But, as it is a thing of infinite variety, variety and unity give amount of beauty. There is no distinction between the beautiful and the picturesque, or the sublime. The converse of the picturesque is the severe. The sublime is an [illegible] attribute.

Fine art springs up naturally, inevitably. [illegible] so far it goes but a little way. It creeps with the [illegible] of knowledge and the inventions of science.

[illegible] is the presentment of an act of the [illegible] by mind to mind. The operations of presentment by mind to mind are language [illegible] description, delineation, construction: add expression, and the [illegible] complete. In all the [illegible] instinctively.

SCHEME OF THE FINE ARTS.

Architecture is an art of construction with expression of form.

The Ornamental Arts of manufacture, decoration, costume, &c. are of the same class, involving also expression of colour.

Sculpture and Painting are arts of delineation, in part involving expression of action.

Poetry is an art of description alone.

Music is an art of expression of tone; in vocal music combining description therewith.

Eloquence, or oratory, is an art of description—aided by expression both of tone and gesture.

Romance, or fictitious narrative, and *belles lettres* generally, belong to the art of description [illegible]

The Drama is the art of romance aided by the expression of oratory, the delineation of scenery, the ornamental art of costume, and, in the opera, [illegible] music.

[illegible] we gather that the beautiful did not at first acquire any influence: self-indulgence was supreme: the corruption of the world [illegible] in the Flood, and with a single [illegible] human nature began the world anew. [illegible] years after this, Moses was in Egypt, at a point of maturity in the first great [illegible] of fine art. The Egyptian period [illegible] 1,600 years. During this [illegible] made little show; [illegible] little progress we take it as [illegible] school of art. Its extant examples are the architecture, sculpture, and painting of Egypt and [illegible] the occasion: the rise of nationality and wealth [illegible] the Egyptians themselves may have been small. [illegible]

instruments were used for unison accompaniment. The Hebrews obtained variety in their dull, slow measure, by division of choirs. The musicians and others moved to the measure in a slow, and, perhaps, vehement dance. Of delineative art, the natural first step is presentment in the solid: sculpture. The presentment of the solid on the flat is a complex act. Sculpture, therefore, always rises before painting, and is more tenacious of existence in the fall. Egyptian basso relievo comes up subsequently to architecture: colour, afterwards applied, originates painting, subsequently carried out by itself. Painting went no further, but sculpture progressed.

In architecture the [illegible] was simple and grand, with heavy ornament, crude colouring, and a mysterious [illegible] of [illegible]. We already perceive three laws.

1. That every period and every people, in respect of art, will be found to display a certain uniformity of style or manner, not only in any one [illegible] by itself, but in their [illegible] as a whole.

2. That this manner or style corresponds, in its characteristics, with the characteristics of the people at the time.

3. That the several departments of fine art do not, however, advance at an equal pace.

If it be said the efforts of this period were poor in merit, remember that all art merit is only comparative. So also is art influence. Art is a thing that suits itself to all ages, all classes, all climes.

Did Greece derive her arts from Egypt, or from Assyria? If neither, some will say, from whence? The principle here involved is erroneous: it is no law. There are cases against it. The arts of the Greeks were original and native: any suggestions they may have received were lost in the preliminary period.

The influence of national peculiarity of intellect is clearly evidenced: the Greek worshipped the *beau ideal* of the world present; witness the public games, where manly virtue and mental vigour were tested by the multitude.

Primitive remains are rude. These came with Thales, Solon and Pythagoras, Sappho, Homer, Anacreon, Thespis. Then the age of Æschylus, Sophocles, Euripides: when Socrates and Plato lived; when Pericles governed; when Phidias and Apollodorus, Polygnotus and Zeuxis, to be followed by Praxitiles and Apelles carried the culmination of art across the face of Hellas like a dream.

Architecture was perhaps pedantic but exquisitely refined; and sculpture was at a perfection still [illegible]. Painting was statuesque and less advanced: in poetry the ancient epics of Homer were first collected as the standard: the drama was finished, but crude and pedantic: music perhaps stood still.

Every school of art will exhibit a long preliminary period of vague effort, a somewhat sudden awakening, a rapid culmination, and a long and sure decline.

How does uniformity of style arrive? If fancy be so free, why any such dependence?

The mind of the artist is a mill. Nothing is uncertain or arbitrary;—here the material—there the product. What, then, is genius? No necromantic thing, but judgment of the best; better than riches or nobility, but to be gratefully cherished and humbly worn.

Greek art had not quite died out when the Romans [illegible] it to [illegible] empire. This is the [illegible]. The Romans made collections of the sculptures and paintings [illegible], carried the artists to their own city, [illegible] the [illegible], and took Homer [illegible]. But they adopted [illegible] the religion of [illegible] the Greek arts became [illegible] the [illegible]: they adopted [illegible] the same essence as their own: the Romans were the [illegible] of the Greeks. Under the Romans [illegible], the art of the [illegible] was [illegible]; sculpture, only in portraiture: painting stood still: poetry [illegible] gladiatorship: music was still behind.

The Roman [illegible] Byzantine [illegible] of the Christian [illegible] mind became the ecclesiastical mind, because the priestal [illegible] came into form, and new [illegible]: the Crusaders carried these [illegible] the East, chivalry arose: Constantinople was plundered: the troubadours [illegible] Europe fine art arose.

It was because religion had [illegible]

again. Europe [illegible] with great cathedrals and abbeys in a new style of design, which reigned for 400 years; evolving at length all the elaboration of decoration, carving, statuary, tapestry, and paintings. If anything was borrowed from the East, it was [illegible] to the Western mind. Gothic art was in obedience to the law, one homogeneous whole.

Architecture was the favourite form of art. I do not admire Gothic architecture for present use in any shape: its time has gone by; but its character was perfectly suitable to the period, to the wilder energies of Northern blood, the more picturesque associations of Northern climate, and the sublime sympathies of Christian faith. Painting and sculpture were behind their sister art; chiefly ornamental arts. Poetry had little encouragement from the monks. Music progressed from the measureless intonation of the early Christians to the Gregorian chant, the organ in unison, simple concords; and at length, in the thirteenth century, primitive harmony as a science, advanced steadily to the present day.

Towards the close of the Gothic period in the West, Italy was again receiving art. This is not properly a revival, but a new original national genius. A new development of society was afoot, the basis of modern Europe. [illegible], the mother of modern freedom. The republics of Italy led the way: Italy became the head-quarters of a new intellect. The Byzantine refugees brought a gleam of art light: it was enough. Cimabue, Dante, and Petrarch, and presently Brunelleschi, opened new schools of art. Philosophy also knocked at the door of scholasticism. It was this last which gave rise to the reference to antiquity: Plato was called up against Aristotle. But Italian art was free for ages: the idea of [illegible] was not drawn out of: the model was not antiquity, but nature.

At this time religion did in the West what learning was doing in Italy. The Reformation brought the Gothic mind to an end; and the Italian school of thought spread over Europe. With Bacon, Descartes, and Newton, came Vandyke, Rembrandt, Claude Lorraine, Inigo Jones, and Wren, Shakspeare, Dryden, Molière, and Racine, to be succeeded by the well-known names of the eighteenth and nineteenth centuries. At this moment the new light of Europe shines so brightly over England that the Anglo-Saxon thinks it will follow him for ever. But it will not.

Copyism is the great feature of a new age. The revival of letters led to a revival of art; and when the Italian modern mind became idle, dogmatism became law.

The revival of philosophy soon passed away before positive science. Ancient letters are still struggling in our schools against useful knowledge. Ancient poetry had but a poor and pedantic reign; and the drama is but schoolboy's play. Ancient music was incapable of revival; so also painting. Ancient sculpture was referred to, but it only directed art to nature. In architecture Palladio led to Vitruvius, Vitruvius to Rome, Rome to Athens, till we stopped aghast on the borders of Egypt. But revivalism could not be then dispensed with: we revived Gothic. It made no way for a time; and the art was turning to the natural Italian or modern European again, when there arose a new ecclesiastical mind. The law of [illegible] was [illegible], and [illegible] triumphed. But its votaries now are [illegible] backward just as the Classicists did, and are already in sight of the darkness of the tenth century.

The Gothicists are chargeable with betraying the [illegible] into the hands of the [illegible] as the Classicists [illegible].

The vocation of art is not yet finished: there are other [illegible] for a [illegible] age. [illegible] [illegible] [illegible] days [illegible].

[illegible]

THE SITE NEAR ST. PAUL'S.

SIR,—I have suggested to the late Lord Mayor [illegible] that the most [illegible] application of the vacant space in St. Paul's Churchyard would be to erect a noble statue of Sir Christopher Wren; a measure that would be [illegible] for which I [illegible] would [illegible].

If [illegible] the [illegible] your notice in the *Builder*, you will assist in advocating the subject. MATTHIAS GILBERTSON.

[illegible] The [illegible] suggestion was made at an earlier period in the agitation, but we gladly assist to reiterate it. Our [illegible] is [illegible] to prevent the erection of buildings on the site.

THE MARRIAGE OF THE PRINCESS ROYAL: ART AND THE DRAMA.

As the day approaches for the marriage of the Princess Royal, desire on the part of the public to see something of the proceedings increases, and great disappointment is felt that the opportunities will be so few and unimportant. A multitude will doubtless assemble in the neighbourhood of Buckingham Palace and St. James's, and it is evident that all the available space between the two places just mentioned will only afford accommodation for a small portion of those who will flock to the park: moreover, they will see very little when there.

Many have expressed a wish that this royal marriage, which forms such an important event in the lives of both her Majesty and the youthful Princess, should have been celebrated within the walls of Westminster Abbey. It is said that this would have involved considerable expense; but surely the fitting up of the Abbey need not have been made a costly affair. We would not have had the fair proportions of the building disfigured by unsightly galleries and upholstery, but would have allowed the architectural features of the interior, the grey tints and glorious lights and shades, to produce their sure effect by contrast with the bridal bravery. Without scarcely any change, accommodation might have been afforded to at least a thousand persons to see and hear the marriage ceremonial, and a vast number might have had the opportunity of seeing the procession pass along the nave. Cost, on such occasions, ought not to be alone considered: the loyal and kindly feelings of the people, and the provision of pleasure and a cheerful heart, even for a day, for the toiling masses, are surely worth money.

"Why," writes an artist, "all this mean and pitiful employment of our money? Should the public be deprived of the only pleasure they can have in the ceremony? Why should it not take place in Westminster Abbey? Why should there not be a procession, at least within the building, which thousands could see, exhibiting their appreciation of the nuptials, and obtaining the last faint glimpse of the eldest of England's Queen? In days of yore a royal wedding was a sight to have feasted all eyes in London: now it will read to the future antiquary as if it had taken place before a 'Registrar.'"

The Chapel Royal, with all the contrivances which can be brought to bear, will afford room for only a very limited number; and, in the other inconvenient passages and chambers, which are being fitted up, the space for the reception of visitors is so limited, that it is to be feared the unavoidable exclusiveness will lead to much discontent, which will be increased if the convenience of the general mass of the people be not more consulted than it would be by the close packing in the Mall. This certain inconvenience and probable danger of such a dense crowd as may be expected, could easily be avoided by ordering the route of the procession to be by the Birdcage-walk, and so round through the large space in front of the Horse-guards, to St. James's Palace, and to return to Buckingham Palace by St. James's-street, Piccadilly, and Constitution-hill. Along this route, three or four hundred thousand loyal Londoners and others might find comfortable accommodation, to see just so much as can be seen. In Prussia, the arrangements seem to be much more democratic: the streets will be "dressed," the trades will be out, and a large procession of citizens will go forth to meet the newly married pair. Just imagine the [illegible] London [illegible] other things [illegible] have suggested would be taken, and that equestrians appearing at a certain hour at a fixed place would be marshalled and [illegible] the procession accompanying the bride and bridegroom! There would be such a [illegible].

[illegible] of the [illegible], [illegible] the multitude, is being thrown away. We do not [illegible] the theatres [illegible] free. As to the [illegible] Festival [illegible] whereto the public are being admitted [illegible] of say 5l. a-piece in a box, and 15s. a-piece for a rush into the pit, we can only characterize them as the most [illegible] trafficking in a [illegible] that, for the [illegible] or three [illegible] that ever occurred [illegible] even what appears on the surface. For what [illegible] reason,

SELECTED DESIGN FOR THE ISLINGTON VESTRY-HALL: PLANS.

barring the artificial excitement produced, should the public be required to pay the prices advertised, to see the respectable company from Sadler's Wells play "Macbeth?" With the admirable exception of Miss Faucit's performance,—a noble piece of acting,—the tragedy has not been so ill played in London for many years. On his own little stage, Mr. Phelps is in many parts most excellent: here and in this part chosen, he proved himself to be wholly inadequate to the position. It was a dull, drawling, pointless exhibition. The scenery was beneath contempt, and, when it is remembered what has been done in this respect, an insult to the public, and a slur on the state of art amongst us. "Macbeth" is a pre-Norman piece, as every one knows: here we had a fifteenth century Gothic apartment with an eighteenth century screen running across it; and in the banquet scene, pedestals for indescribable ewers bearing *Greek wreaths!* and then as to the proprieties, the sleep-walking scene, exquisitely rendered by Miss Faucit, was performed in an apartment with broad daylight seen through the window!

We have spoken, however, of the price as supposed to be asked. But what really took place? Why the well-known Colosseum Dodge happens, which some people innocently think belongs to a past time. "All sold," was the reply, when tickets were applied for, "but you may get them over the way for a crown."

Just let us turn to an applicant who modestly wishes a pit ticket, price 10s. 6d. the sum he has seen advertised in the *Times* that morning. "All sold," says Mr. Mitchell: "all sold," they say to inquiry at the theatre itself, with the additional information that there were twice as many applicants as the pit could hold. Fully convinced, therefore, that no tickets will be admitted, and, after inquiry at two or three shops, and finding them all in the same story as to price, he pays 1*l.* for a card, goes in with the rush, with a mixed feeling of being a lucky individual after all, and a great fool for spending his money, and has the further great satisfaction of seeing "Pay here," marked up in large letters, and all who choose to put down 10s. 6d. admitted, notwithstanding the applicants for tickets had been twice as many as the pit would hold. The Court, who pay, it is said, a large sum, have been made, unsuspectingly, the means of enriching a few speculators. With a strong feeling for the interests of art and the enjoyment of the multitude, we repeat our protest against these festival performances.

THE SELECTED DESIGN FOR ISLINGTON VESTRY-HALL.

WE have had occasion at various times to speak of the designs for the Vestry-hall proposed to be built in Islington, which were submitted to the vestry in competition, in answer to advertisement. The proceedings of the vestry led us to conclude that the design by Mr. H. E. Cooper, selected for the first premium, was about to be carried out, and we accordingly engraved a view of the building as designed, and plans of the ground floor and first floor, which will be found in our present number. It is necessary to say, however, that at a meeting of the vestry, held on the 15th inst. a motion, that the resolution of the 4th of December last, by which this design was adopted for the building, be rescinded, was carried; so that the whole question is again thrown open.

The business department of the design we publish embraces the whole area of the ground floor, and comprises the usual offices required in the transaction of the parochial business. The principal entrance is from the high road, but a side entrance, approached from the street, is provided, and can be used for the purposes of the working department, or exclusively as the entrance to the large hall.

Passages communicating with the several rooms, and with a stone staircase leading direct to the hall, are placed behind the offices, so as to be kept distinct.

The first floor comprises the large hall, a spacious apartment, embracing two-thirds of the area of the building. The committee and waiting rooms are on this floor in immediate connection with the hall and staircase, and are approached by a corridor round the latter.

The basement includes a residence for office-keeper and strong rooms in immediate connection with vestry clerk's office.

It is proposed to warm the several passages and the large hall with hot water, all other rooms have open fire-places. Open areas are avoided, and a direct light provided for each apartment.

DR. JOHNSON'S STAIRCASE AND APARTMENTS.

FORMERLY IN THE TEMPLE.

ALL traces of Dr. Johnson's residence have now, I learn, been removed from this ancient precinct, and the parts have been all carefully marked and numbered, and delivered as a gift to the Crystal Palace Company for erection in some part of the grounds of that establishment. Some will remember that when the crypt of Gerard's Hall was removed, notwithstanding the urgent remonstrances of many who took an interest in the antiquities of Old London and in buildings like the residence of Dr. Johnson, which have literary or other associations, the materials of that beautiful crypt were, as I understand, marked and numbered in the same way as it is reported those of Dr. Johnson's house are now, and presented by the corporation of London to the Crystal Palace Company, who, it is to be feared, looked upon it in something of the same light as the gift of an elephant in the East. I have inquired for the stones of Gerard's Hall at the Crystal Palace, but have not seen any restoration. Perhaps some of your correspondents could inform your antiquarian readers. It is to be hoped that Dr. Johnson's house will not meet with similar neglect.

OLD LONDON.

NEW CHURCH AT CHELSEA.—A new church is about to be built near the Roman Catholic establishment at Chelsea. A site has been purchased, and nearly 5,000*l.* obtained by the Rev. R. Burgess. Mr. J. Peacock has been appointed the architect. The parsonage house is also to be provided.

STAINED GLASS.

Two windows have recently been executed at the establishment of Mr. N. W. Lavers, viz. one for Lamorran church, Cornwall, a three-light window, the cartoons for which were drawn and painted under the supervision of Mr. W. White, architect, representing the Birth, Adoration, Circumcision, Baptism, Crucifixion, Resurrection, and Ascension of our Lord, with rich mosaic back ground and borders, and the second for St. Winnow's, Cornwall, a window representing the Angel and Marys at the Tomb, with canopy and pedestal from cartoon designed by Mr. H. Stacey Marks, artist.

Oldham.—The church of St. Thomas, Lees [illegible], has lately received an addition, in the shape of a painted window, presented by Mrs. Elliott, in memory of the late Mr. Elliott, long known as a surgeon in Lees and its neighbourhood. It occupies the east end of the south aisle, and consists of two large principal lights, with tracery above. The subjects filling these lights are figures of "St. Luke, the beloved Physician," and "St. Paul, the Apostle of the Gentiles," in canopied niches of white and gold, with blue [illegible] background. The figures [illegible] embroidered [illegible], and are in Mediæval character, though not in Mediæval drawing. A border of white and yellow [illegible], set in ruby and blue, [illegible], and the space not occupied by figures in canopies is filled with painting in geometric glazing. The tracery [illegible] is interlaced with [illegible] ornamentation. The glass has been executed at the works of Mr. Shaw, of Saddleworth.

Burgh Castle.—A stained glass window of three compartments has been placed in the east end of the chancel of the church of Burgh Castle, near Great Yarmouth, to the memory of the late Rev. Charles Green, formerly a Fellow of Jesus College, Cambridge, and many years rector of Burgh Castle, [illegible] of the district, and honorary canon of Norwich cathedral. The glass is by Wailes, of Newcastle. Each compartment comprises a group of figures, representing, in the right compartment, the Prodigal Son; in the centre, the miracle of the loaves and fishes; and in the left the Good Samaritan. St. Peter, the patron saint of the church, is represented in the lower portion of the central compartment.

CHURCH-BUILDING NEWS.

Norwich.—The authorities of Norwich cathedral contemplate the replacement of some of the flying buttresses which support the roof east of the transepts. One buttress has recently been removed, a new one of the same kind of stone being substituted for it, and two others are to be renewed in the course of the present year. The base of each of the buttresses has a figure of one of the apostles; but these are much defaced, and it is understood that they will only be gradually renewed. The restoration of the sides of the tower supporting the spire of the cathedral has been [illegible] in progress, at last [illegible] completed. These works, together with the renovation of St. Luke's Chapel and the west and south [illegible], which has been effected during the last twenty years, show a continuous attention on the part of the Dean and Chapter to the exterior of the cathedral. [illegible]

[illegible]

surmounted by a cross, and the roof has a ridge-

[illegible]

In the interior a considerably larger space is gained

[illegible] Rev. Wm.

Manning. It has four principal subjects in the lower lights, the Nativity, the Crucifixion, the Entombment, and the Resurrection of our Lord. The tracery in the upper portion of the window contains the four evangelists and the heavenly host. The smaller window in the south side is a pattern one with borders and small medallions, chiefly of ruby glass, representing the instruments and accessories of the Crucifixion, with the Agnus Dei in the centre. In the vestry is another painted window of two lights, containing the arms of England, the see of Norwich, Fitzwalter the founder, and other benefactors. The roof of the enlarged part of the church is of oak, and in continuation of the design of the older part. The cornice is carved and painted. The principals are supported by stone corbels, carved with flowers. The floor is paved with Minton's tiles, mostly red, black, and buff; and a line of wall-tiles in various colours runs below the windows to mark out the space within the rails. The east end, with its memorial window, has been erected at the joint expense of the widow and children of the late Rev. Wm. Manning; and the rest of the work at the cost of the present rector, the Rev. C. R. Manning. A small window in the north chantry has been filled with pattern glass by Mr. Lavers, at the expense of Mr. C. F. [illegible], and the Rev. [illegible], the curate; and there is much opportunity for others to improve their church in a similar way, whether by memorial windows, or by supplying a font, pulpit, and reading-desk, &c. which are much needed.

Abingdon.—The restoration of the tower of the church of St. Helen is drawing towards completion. The process of strengthening the tower by large iron screw bolts and trussed timber [illegible] work, has been finished under the direction of Mr. W. W. Wilkinson, of Oxford, architect. As an additional security, the buttresses on the east side have been considerably enlarged with solid masonry. The work has been executed by Mr. Wyatt, under the superintendence of Mr. J. W. [illegible], clerk of the works.

[illegible] (Gloucestershire).—The church here is about to undergo restoration by Mr. Teulon. It consists of a chancel, nave, and western tower. The works of the chancel are already undertaken by Mr. Jackson, of Uley, and Mr. Whitfield, of Wotton-under-Edge. The chancel will be comparatively rebuilt upon the old foundation, and the type adopted will be early Middle Pointed, having a three-light east window, two-light south window, and the north, which has a singular transept projection, into which Mr. Teulon proposes to introduce a rather striking spherical triangle. The roof will be a kind of timber vaulting. The character of the work will be rather elaborate as to architectural detail, but of local material throughout. This section will be at the sole cost of the rector, the Rev. Alan Gardner Cornwall.

Market Harborough.—The church has been reopened, after having undergone some extensive repairs and alterations. The [illegible] has been [illegible] in order to [illegible] the old materials, but with a new top rail or capping; and the [illegible] of English oak. The [illegible] gallery at the west end has been removed [illegible]

[illegible]

so soon as funds can be procured, to fill the church

[illegible]

position that could be found, without materially [illegible] within the tower area, and here many difficulties as well as mechanical difficulties presented themselves, the [illegible]

least one-third of the tone, and the sill of the west window being under 10 feet in height necessarily involved keeping the centre portion of the instrument exceedingly low. This is taken advantage of by introducing three dwarf arches, supported by columns, surmounted by open tracery, and corresponding with the three-light memorial window to the Leigh family. The extreme sides form canopied towers about 20 feet high, and supported with light columns, the whole constructed of oak.

THE FRENCH RAILWAY SYSTEM.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting on January 12th, the president, Mr. Joseph Locke, M.P. commenced the proceedings by an address, on taking the chair for the first time since his election, in which he confined his observations to one portion of professional duties with which circumstances had induced personal experience,—the principles and character of the French railway system;—and this he was encouraged to attempt in consequence of the late president Mr. Robert Stephenson having so fully discussed the main features of English railways,—the origin, progress, and results of which were in many respects strikingly dissimilar to those of the Continent.

The practical results, in England, had been immense convenience and advantage to the public who used, and inadequate profit to those who had constructed, the railways;—but in France the terms were reversed; the capital invested yielded a good profit, whilst the service to the public, although far in advance of all former means of conveyance, was still very limited.

The essential characteristics of the French system were, first, the determination by the state of the [illegible] and direction of the main arterial lines of railway; and, [illegible] the process which the state, whilst adhering to its general rule, of absolute control over the selection of lines, had thought proper to employ, in order to obtain the desired progress in their construction.

The terms of concession had undergone great variation [illegible] the French railway history, but the [illegible] had been invariably sustained by the conservation [illegible] the [illegible] principle, and it was this which had given to the French system the main advantage over the more liberal course pursued in England. In the former case, the state absolutely determined the lines, favouring exclusively main arterial communications, and forbidding competition in certain special districts, whilst in the latter case the principles of competition had been not only admitted, but encouraged, with ruinous results to the shareholders.

In the first projection of a line in France, the English system of Parliamentary notices, deposit of plans, standing orders, committees, examinations, &c. was entirely dispensed with. The Government took the initiative in everything relating to public works. All railways must originate with or be sanctioned by the state, and when a ministerial decision was pronounced in favour of the "public utility" of any line, the Minister of Public Works was authorised to satisfy himself of the "*bona fides*" and ability of the several competitors, to select the most eligible offer, and to enter into a preliminary treaty, which, when approved by the Government, and the Chamber, or Senate, was ultimately signed by the emperor and became law. The "cahier des charges," fixing the conditions of the concession and the powers of the company, was settled at the same time. The Government furnished such plans, sections, and other data relative to the line, as were in its possession, and the railway was then laid out. The "cahier des charges" allowed considerable latitude in the selection of the line. The preliminary survey or "avant projet," containing a general description of the line, with details of the curves, gradients, &c. was presented by the company to the Minister of Public Works, who, after consulting with the "Conseil des Ponts and Chaussées," signified his approval through the Préfet to the company.

Meanwhile public enquiries were prepared for each "commune," or parish, showing how the roads, rivers, &c. were [illegible], or deviated, which, being sent to the Préfet, were [illegible] the [illegible] ordinance, and they [illegible] days for inspection by all who were interested. A procès-verbal was then drawn up of all objections, for submission to the [illegible]

[illegible] all plans, &c. to the Minister of Public Works, his final decision was obtained. The Préfet then made his *arrêté* [illegible]

[illegible]

of getting a Bill through Parliament, at a cost which ever after remained a dead-weight on the company.

[illegible] and 1828, other lines from the same district to Roanne and to Lyons, were granted; these were all constructed entirely at the expense of the promoters. In 1838, the lines from Strasbourg to Basle; Paris to Havre; Paris to Orleans, and Lille to Dunkerque, were conceded to

private companies, but the funds not being provided, the concession has partially lapsed.

The total cost of 7,950 miles conceded was estimated at about 2,6*l.* per mile, of which 19,600*l.* was to be provided by the companies, and 5,000*l.* by the state: what the actual cost would ultimately be was not yet ascertainable.

The fluctuations in the amount granted at different periods by the state were shown to have arisen from the necessary modifications of the law—the abandoning the state's pecuniary interest in the railways—the guaranteeing 4 per cent. interest, and the remission of the right to a share in the profits after a certain dividend had been paid on the capital guaranteed by the state had, in 1855, reached nearly sixty millions, applicable chiefly to six principal lines, and amounting to altogether 2,200 miles.

The current description, which had so generally replaced nearly all the railways founded on the law of 1842, had been generally abandoned; so that it now only applied to five companies, owning 3,500 miles of railway.

Thus it was shown, that from the commencement, the railways had in some shape always received a certain amount of direct assistance from the state, in addition to the protection afforded whilst exercising a general principle of control.

The most important element in the finance of French railways was the proportion which the share capital bore to the amount raised on obligations, or bonds. In this respect the French system differed essentially from that of the English companies.

To the whole of the capital engaged to be provided by the French companies, amounting, in 1856, to 147,960,000*l.* there was then 50,000,000*l.* in shares; or only about 37 per cent.; whilst the remaining 63 per cent. had to be raised on obligations, or bonds. Of this several marked fractions were given.

The effect of this mode of providing the funds, was evident on examining the *net* receipts of the French railways from 1841 to 1854, and the per-centage of dividend which has resulted.

The per-centage paid on the whole capital expended—

In 1841	.. was	..	3·11 per cent.
„ 1847	.. „	..	6·30 „
„ 1854	.. „	..	6·58 „

If the operation of subventions the rate paid to the company—

In 1841	.. was	..	3·11 per cent.
„ 1847	.. „	..	7·17 „
„ 1854	.. „	..	9·0 „

thus the state assistance, at the latter period, gave a benefit of 2½ per cent. on the whole of the remaining capital.

The largest amount of that capital was, however, raised on loan at a fixed rate of interest, and thus, according as the dividend on the whole capital varied from the interest paid to the bondholders, a profit or a loss would accrue to the company. In order, then, to a just comparison with English railways, the per-centage of net income must, in both cases, be taken on the whole capital raised,—by which the per-centage would be considerably reduced on the French side and raised on the English the rate of interest on loans being taken at 5 per cent. on both sides. It followed, then, that it depended on the ratio of net profit to the whole capital expended, whether any portion of it, raised by loans at a fixed rate of interest would increase or lower the rate of dividend on the remaining portion.

Taking two railways, each having cost a million; one producing a net profit of 4 per cent. and the other of 8 per cent: if the first had borrowed half its capital at 5 per cent. the sum left for dividend on the half million in shares was reduced to 15,000*l.* or 3 per cent.; whilst the second, by also borrowing half its capital at 5 per cent. would raise its dividend on its half million in shares to 55,000*l.* or 11 per cent.

Assuming the same premises, and the interest of borrowing to be about one-third of the cost as in England, and in the other case two-thirds, as in France, the operation would be that in the former the share dividend would be raised to 3¼ per cent.; and in the latter case it would be raised to 14 per cent.

It thus appeared, that the decrease of dividend on both was the ratio of net profit to the whole capital spent in a given undertaking; and that the reason of French dividends being so exceedingly low, was solely because the rate of profit, earned on the entire [illegible] was so much inferior to that [illegible]

The Nord	14 per cent
„ L'Est	14 „
„ L'Ouest	10 „
„ Paris to Lyons	16 „
„ Orleans	15 „
„ Lyons to the Mediterranean in 1855	17 „
and in 1856	23 „

The [illegible] "amortisement," so reading it over ninety-nine years at the rate of about one-eighth or one-fourth per cent. was [illegible] result of the [illegible] French railways was not quite so high as had been represented. [illegible]

A comparison of the expense of construction of the [illegible] being about 24,6es*l.* per mile, whilst that of the latter was [illegible]

In return for its aid and protection from rivalry, the [illegible]

Several instances were given by the president of his own personal experience in the construction and maintenance of French railways. He found it, at the beginning, indispensable to secure the co-operation of experienced contractors, and this induced the introduction by Messrs. Brassey and McKenzie of the machinery and skilled labour at their command, in order eventually to instruct others in similar works. The success which attended their efforts, particularly those of Mr. Brassey, not only in France, but in nearly every part of the globe, fully justified the importation of Englishmen to France for the intended purposes.

One of the most striking consequences was the introduction of the class of "navvies," whose appearance, habits, manners, and mode of work were equally novel to the French, yet they soon became perfectly at home, and imparted such confidence among the native labourers, that they would not undertake any task-work unless the gang was headed by a "navvie." The force of the example of these men was manifest, in the improved style of work on the French lines, so that there was now little, if any difference in the relative values of the labour obtained from each. Thus the introduction of English labour, far from causing a grievance, as was assumed, and, as previously in the case of the iron trade and machinery manufacture, considerably improved the condition of the French working class.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

THE council have published their eighth report, read at the annual general meeting of the Institute, on the 8th December last, in the course of which they say, speaking of Glasgow, that—

"Latterly, the smallness of the attendance at the meetings held in that city has been so discouraging, that with the approbation of the Council of Management, the reading of papers there has been for some time suspended. This is a falling off in the usefulness and influence of the Society, which the council deeply regret; and they are at present in communication, upon this subject, with their Glasgow secretary, and with some of the more active members of the Society connected with the West of Scotland. Various suggestions have been made, more especially with the view of substituting exhibitions in lieu of the reading of papers in that city; and the council have every reason to hope, that with the intelligent co-operation of several of the Glasgow members, who are still, amid many discouragements, true to the cause of the Institute in Glasgow, and through the active energy of their respective secretary, Mr. William Maclean, to whom their best thanks are due, for the zeal and attention which he has shown in the discharge of his duties, they will be enabled, in the next report, to congratulate the Society upon a return of that vigour and practical support on the part of their Glasgow friends, with which the Architectural Institute was in Glasgow at first so auspiciously inaugurated."

The council have discussed a motion, "That it would be conducive to the progress of architecture and to the prosperity of the Institute, that select examples of buildings, ancient and modern, should be engraved for distribution among the members, as recommended by the council in their last report, and that a remit be made to the council to carry a resolution to this effect into operation, to such extent as the funds will permit, and in such manner as shall seem most expedient and desirable;" but the expense, and the delay of a large number of members, principally in Glasgow, have led to its abandonment for the present. It appears, that in Glasgow alone there is an arrear of no less than 453*l.* 12*s.* the greater part of which, it is feared, must be written off as a loss to the society.

The council [illegible] medal [illegible] designs, &c. in connection with architecture and the kindred arts, and have selected the following as the subjects for this year's competition:—

"1. For the best specimen of geometrical drawing of an architectural subject, [illegible] to be made for a [illegible] of any Scottish architect.

2. For the best specimen of [illegible] architectural subject, to be completed [illegible] by any [illegible] of a Scottish architect.

3. For the best original design—to be competed for by [illegible] a pulpit; style, Gothic; scale, one and a half inch to the foot [illegible]

[illegible] or apprentice of any trade or profession.

5. For the best model, or cast of a model, being an [illegible]

[illegible] and arrear[illegible]

LIVERPOOL ARCHITECTURAL SOCIETY.

AT the usual meeting of this society, held last [illegible] Picton read part of a paper on "Modern German [illegible] the conclusions of Mr. [illegible] arrived at from personal observation [illegible] Saxony, Bavaria, Wurtemburg, and [illegible] minor states of Germany. After [illegible] Leipsic, Dresden, Munich, and [illegible] the [illegible] museums, the [illegible] of Munich and exhibited excellent [illegible] views. He did not [illegible] Switzerland, and [illegible] remarked generally that in German towns sanitary provisions were neglected; the sewerage was imperfect, and in many places unknown. Berlin sinned grievously in this respect. Situated on a flat plain, with scarcely any undulation, it was certain that a complete system of sewerage would be difficult; but there was no doubt that with the engineering talent at hand much might be done. As it was, the finest streets were left with deep foul channels holding stagnant and offensive drainage, waiting until the next falling shower should give an impulse to the sluggish current and carry its foul contents into the Spree. The modern German towns were well supplied with water, which bubbled into fountains and flowed along the streets; but the convenience of pipes and cisterns was almost unknown. The labour of carrying water consequently diminished the use of it, and restricted the principal source of cleanliness and health. In describing at length the churches of Germany, Mr. Picton said that these built within the last century were chiefly of pseudo-Classic architecture. He had never seen anything to equal the polychromatic richness of the Roman Catholic churches of Munich. The mania for the revival of Gothic architecture had extended in Germany, but it was not indigenous, and it had been developed differently there from what it had been in this country. There, the aim seemed to be to resolve the Gothic forms into their primitive elements, which it ought to be the province of the artist to recombine into new forms of beauty: hence, what would be here considered the grossest solecisms were perpetrated by the Germans without the slightest feeling of compunction.

Mr. Verelst, in proposing the thanks of the meeting to Mr. Picton, called attention to some of the principal characteristics of the German architecture showing its originality of adaptation from the Greek.

SCRAPS FROM AMERICA.

THE Worth monument has been for some time in progress of erection. An immense square base block of granite, weighing 61,500 lbs. has been adjusted on its bed. The entrance to the vault has been walled up, a battery of foundation-stone built over it, and the whole covered with earth. Its completion may shortly be expected. An iron railing will surround the structure, and, with the lettering, will form extras beyond the amount of contract, which is 25,000 dollars, or thereabouts. The bronze castings are being attached to the monument. The design is said to be creditable and appropriate.

A coroner's jury at New York, after a careful investigation relative to the causes of a recent building accident, by which two men lost their lives, passed a verdict of censure on an *amateur* architect and builder (many of whom exist in this country likewise) and to whom this may serve as a warning) for "having taken the supervision of a building, he not being an architect or builder," and requiring him to give bail to answer. The particulars of the accident are as follows: It occurred in the malt-house of Mathew White, at the corner of West and Bethune streets, and was occasioned by a weight of 2,000 tons of malt on a fourth-floor, constructed of beams of insufficient strength. Mr. White stated that he had considered the floor "strong enough," and himself sufficiently competent to superintend a building without the aid of any architect. Alderman William Tucker (an experienced builder), and a Mr. Hone, testified that the cause of the falling of the floor was that the beams were of hemlock instead of pine, the former being the cheaper [illegible] of weight equal to the latter. [illegible] Ledger's work was [illegible] jected to.

A fearful explosion, owing to a leakage in gas-[illegible] and having [illegible] the introduction of a lighted candle, took place at the [illegible] Nine buildings, including six stores, value [illegible] were [illegible] at Ripley, Jackson county; also a large distillery [illegible] [illegible] loss to the [illegible]

[illegible] Monument Report gives [illegible] for the last three years, and with [illegible] The spaces in the ceiling under [illegible] disposed in five rows. Each square has, concentric with it, a smaller square, on which are disposed twenty eight burners. [illegible] [illegible] The entire lighting [illegible] comprises only twenty seconds, and the [illegible] designed by Capt. Meigs, in charge of the Capitol extension. The quantity

of pipe in the skylight is three-quarters of a mile.

The Tiffany House and a number of small buildings adjacent, at Iowa, were destroyed by fire, and the total loss is estimated at 50,000 dollars.

A monument is proposed to be erected to the memory of Thomas Crawford, the American sculptor, and a cast made in bronze of his statue of an Indian, to be put in some suitable place. He died in London, on the 10th of October, 1857, and his remains were conveyed by the ship *South* to New York, where they were interred in Greenwood Cemetery.

The strike on the Erie Railroad, occasioned by the reduction of wages of 150 labourers at Piedmont, is at an end, and the old hands set to work, but without concessions being made by the company.

A fine marine "aquarium" has been constructed at the Smithsonian Institution, Washington. The bottom is an imitation of the bottom of the sea, composed of silver sand, coarse sand, and pebbles. In the centre is a mass of rock giving shelter and concealment.

The American Institute had a very successful "fair" (exhibition in our parlance) this year, considering the "hard times."

The projected Little Rock and Fort Smith Railroad will be 155 miles in length, running along the south side of the Arkansas River, from Van Buren, to Fort Smith, situated on the border of the Indian territory.

Vast tracts of fine fertile states are springing up on the western frontier, and comprehend a superficial area of upwards of 1,807,000 square miles. A wealthy landed proprietor founds a town, calls it (mostly) after himself, and with magic rapidity buildings rise, the population increases to an important extent, and civic authorities are formed which soon become clamorous for all the privileges enjoyed by their neighbours. As an instance of this, a petition is now pending in Dakota County, Minnesota, to be addressed to the Legislature, praying that the town of Dakota may be incorporated, and gradually swelling into what is destined to be a great commercial depôt; and several fine public buildings are in progress of erection. Thus do our Yankee brethren go a-head!

THE BUILDERS' BENEVOLENT INSTITUTION.

YESTERDAY (Thursday) a special general meeting of the friends and subscribers to this valuable Institution, founded for the purpose of granting pensions and giving relief to aged and decayed builders and their widows, was held at the Freemasons' Tavern, Great Queen-street, for the purpose of taking into consideration the report of the directors relative to the gift of a piece of five acres of freehold land by Mr. Henry Dodd, for the building of almshouses upon, and also to consider the propriety of commencing the building forthwith.

Mr. George Bird, the treasurer, presided, and having briefly opened the proceedings, called upon Mr. A. G. Harris, the secretary, to read the report, which, having stated that Mr. Dodd had kindly presented the land in question, contained the following extract of a letter from that gentleman:—

"I beg to say that the sooner it will be convenient to the Building Committee to decide as to the ground named by me, as a gift for the purpose of building almshouses thereon for the institution, and to survey the same, that I may have it off my mind, the better, and then it will rest with the committee to persevere in carrying out so desirable a purpose. Let a day be appointed, and I will be there to show it to them. I have made it of more value, my neighbour Brocklesby having kindly said that he will draw me out a road to the boundary a straight line, and which will be a great advantage."

The committee, having viewed the ground, considered it in every way eligible. The report also stated that Mr. Dodd stipulated that he should have a life presentation to the almshouses, and also that a person, to be named by him, should have the same privilege, upon condition that that person should pay to the institution the sum of 200*l.* within thirteen months of Mr. Dodd's decease, and upon his nominee failing to do so, the presentation to lapse.

Mr. T. Cozens, in moving the reception of the report, expressed himself in graceful terms to the donor of the land, and moved the following resolution:—"That the report of the directors now read be received and adopted, and that the best thanks of this meeting be presented to Henry Dodd, Esq. for his munificent gift of the land near Slough for building the almshouses, and that the directors be requested to make the necessary legal arrangements for having the land conveyed to the trustees of this institution."

Mr. Joseph Bird, in seconding the above resolution, said there were many questions arising with respect to this grant of land which amounted to objections, the principal being that of the distance from town, which would prevent the relatives from being able to visit the inmates. Having next alluded to the large outlay which would be necessary to put the works in operation, to which their funds were inadequate, he added that he believed, however, their generous benefactor did not require them to begin immediately, and concluded by seconding the resolution.

Mr. Hewitt (solicitor) said he attended on behalf of Mr. Dodd, and was sure that gentleman did not wish them to proceed immediately. Mr. Dodd would not interfere with the rules of their institution, or inflict any stress upon their regular proceedings. In offering the gift to the institution, he was sure he would be the last man to wish anything that was contrary to their rules.

Mr. Isaac Bird thought the intentions of the donor could not be carried out. He thought the distance from town was too great. He instanced several institutions of a similar description, the generality of the recipients preferring an allowance of, say, 5*s.* a week, and remaining with their friends, to retiring to an almshouse in a distant place. It prevented the children from going to see their grandfathers. The recipients themselves would rather live with their children, and the money allowed would assist in keeping them. It appeared to him that if almshouses were to be had, they ought to be had in a more convenient locality. In the case of a recipient occupying an almshouse, the money expended in travelling expenses in visiting would go some little way in providing for the comforts of the grandfather, and if such visits could be frequently repeated, the infirmities of old age would be [illegible] on the [illegible] of the institution. He was sure that Mr. Dodd [illegible] and generous conduct, but he [illegible] expressed that by the erection of almshouses at such a distance as twenty miles from town, they were robbing the recipient of such consolation to leave the poorest and dearest friends they had, he was sure they would not be the intention, upon due reflection and consideration, to deprive the poor man of one of the greatest and brightest ornaments which bound families together; viz., domestic ties. He concluded by moving the following amendment:—"That the best thanks of the subscribers and friends of the Builders' Benevolent Institution be presented to Mr. H. Dodd for his noble and munificent offer to give about five acres of freehold land, if not near Slough, Bucks, for the purpose of building the almshouses in connection with the benevolent institution; but, in consequence of its being situate so far from the metropolis, it is considered by this meeting indigible for the comfort and convenience of the proposed inmates; they therefore, with much regret, respectfully decline his generous and noble offer."

Mr. Hicks seconded the above amendment, and said for many years past he had wished to see almshouses established, in order that those who had fallen into decay might be rendered comfortable and happy in their latter days. He somewhat entered into the feelings of the previous speaker, and thought the distance from town was too great. He also very reluctantly thought the meeting must decline the offer of Mr. Dodd's generosity under that circumstance.

Mr. Head begged to differ with the remark of the last speaker, and thought the offer ought to be accepted, and for his own part he should support the adoption of the report.

Mr. Barratt referred to the expenses the inmates would be trammelled with in having almshouses at so great a distance. They would probably have to pay a man to pump up water, and have to pay a gardener and other expenses, which the institution was unprepared to meet.

Mr. Newson, Jun. thought that if the meeting did not accept Mr. Dodd's kind offer, that gentleman would not take back the land, but allow them to sell it, and with the produce purchase some more convenient spot.

Mr. Grason could not sit there and give a silent vote. He was most anxious to see almshouses, and so much a week for the inmates to live upon. They had now 1,900*l.* in the Three per Cent. Consols; but after the preliminary expenses were paid, they would not have more than 1,800*l.* Were they then in a position to commence the building? With all due respect and gratitude to Mr. Dodd, he must certainly vote against the motion.

Mr. Cozens having spoken very warmly in favour of the reception of the report,—

The Chairman proceeded to give a summary of the opinions placed before the meeting, concluding by putting the amendment to a show of hands, which was lost by two, and the motion was ultimately carried by thirteen to eleven. He (the chairman) then expressed his regret that they had not come to a unanimous vote, and was sorry he had not entered more largely into his own sentiments, as he intended to have submitted to the meeting the propriety of adjourning for two months for further consideration. The report, however, was to be received and adopted.

Mr. Hewitt having replied on behalf of Mr. Dodd,

A vote of thanks to the chairman concluded the proceedings.

We are very much disposed to agree with those who consider the site to far from town.

DEFINITIONS OF CHRISTIAN ART AND POINTED ARCHITECTURE.

No. II.

SIR,—Your correspondent "Justitia" (Jan. 2) has casually called attention to another instance of plausible but fallacious alternatives,—an instance which, singularly enough, I had in view also when complaining in my last letter of the way in which alternatives were often put forward in order to settle a question off-hand. The apparently simple question whether the practice of stained glass is an art or a mere matter of manufacture, very speciously ignores the possibility of its being defined by any other term; such, for instance, as the one which many persons most reasonably advocate as more correct and more expressive, an "art manufacture." And if your article of Dec. 19th be *a* fair view of the case, there is yet abundance more in favour of considering that it is not the only one,—as "Justitia" very justly urges.

It is now, however, with your position, that I have now to do, but with some of the characteristic beauties of Christian art and Pointed architecture as opposed to Classic; opposed, I mean, not by way of antagonism, nor yet of comparison,—for the two are hardly to be accounted of as in the same class,—and it would be as difficult to deny the beauties of Classic (*true* Classic, of course) as to deny the superiority of the Pointed for our own use; and the spurious imitations of it everywhere springing up under this title, but the few of really Pointed spirit which are occasionally to be met with (of which more hereafter).

"F. A. M." has very happily anticipated me in several of the notes which I meant to make. The "life of the workman," the teaching of a true system instead of a false, and the sincerity of art-convictions, are inseparable from a living art. Again, the constructive benefit of the steep and the æsthetic value of the visible, roof; the strength of the pointed arch under certain conditions; and, above all, the "endless modification of proportion" of which it is susceptible, and its consequent adaptability to all circumstances; the character of the "Pointed" mouldings, and suitability for natural foliage, are, as he observes, proper characteristics of the true teaching carried out. But many other points, very materially affecting the main question, have again and again been urged from time to time, and these, so far as I have been able to make out, no one has ever even attempted to gainsay, or even to explain away. For instance, "The freedom of the Gothic style, which allows of windows being placed only where they are wanted, and of their being made only of the needful proportion and size, is generally far more advantageous having to domestic requirements than the employment, for almost every purpose, of windows of an oblong shape and uniform position." Again, "The Gothic style is in nowise dependent upon the size of stones, or even upon the nature of materials at all, for effective treatment; whilst Classic architecture, when truly carried out, does depend very much for its effect upon the largeness of the materials used; the majority of such buildings now being constructed of bricks and small stones cemented over to represent larger blocks. And, seeing that bricks are abundant, and that small stone is much the more easily procured, brought, and fixed, the Gothic can claim considerable advantage over the Classic in this respect." Not to be tedious, I will briefly refer to a higher branch of Christian and Classic art, viz. sculpture and painting. The Classic spirit delights in naked humanity, for the purpose of displaying (1), mere animal properties, such as force of muscular formation and strength of frame; (2), passions and intellectual powers, such as courage,

energy, perseverance, sorrow, grief, and so forth;—but chiefly any attribute of power, power of any kind being the heathen idea of divinity; whilst Christian art clothes, and, as far as possible, withdraws from view, all that is merely animal and earthly, and aims at giving expression to the graces which shine forth in the features of those who have truly higher hopes than ever were or could be enjoyed by any that have occupied the highest posts of earthly ambition.

How far, and in what way, these several qualities are discoverable, and appreciable by all who have, or fancy they have, an eye for beauty, I will, with your leave, reserve for a future occasion.

BACK-BONE.

WEYMOUTH TOWN COUNCIL.

THE Town Council of Weymouth advertised a few weeks ago for a borough surveyor, in answer to which nine persons tendered their services to fill the vacancy: however, the Council decided on rejecting the whole of the candidates on the ground of disqualification. A correspondent directs attention to the professional talent (?) of some of those who offered themselves.

METROPOLITAN BOARD OF WORKS.

THE VICTORIA-STREET SEWER.

AT a meeting on the 15th inst. Mr. Leslie, pursuant to notice, moved, "That at the time appointed for receiving the tenders for the works in and upon the Victoria-street sewer, those tenders be not opened; and that the entire subject of the Victoria-street sewer, the whole outlay incurred, and the various reports relative thereto, be taken into consideration by the Board, on a day to be specially appointed for that purpose;" and in doing so referred to the many disasters which had attended the progress of this sewer.

The motion was ultimately withdrawn, as not in accordance with the bye-laws.

The tenders were then opened, and after a warm discussion, a motion was made and seconded, "That the Board should resolve itself into a committee of the whole Board to consider the subject." This, however, was not agreed to.

Mr. Leslie objected to the tenders being received upon a schedule of prices which might carry the expenses to an unlimited extent.

The tender of Mr. Yeoman, which was 6 per cent. below the schedule prices, was preferred by the Board, as being the most satisfactory to their engineer.

It appeared from explanations given by the engineer of the Board, that that gentleman in the first instance advised the Board, in consequence of the great difficulty of the work, not to advertise for tenders, but to allow him to select the names of three contractors to be submitted to the Board, and to one or more of whom the execution of the work should be confided. His reason for recommending that course was, that he feared that the most competent persons to undertake the contract would not make any tender. The Board, however, overruled the suggestion, and tenders were advertised for.

CURRENT NOTES UPON IRON.

ONLY a little movement has characterised the iron trade in the past week. That little, however, has been in the right direction. There are more orders afloat now and in hand than there have been for some time past. One house at Wolverhampton, which has been fortunate enough to obtain a large proportion of the order recently advertised by the East-India Company, has put the whole of its machinery into operation,—a state of things which has not prevailed there, and scarcely at any other similar establishment in South Staffordshire, for several weeks past. The railway companies also, availing themselves of the present low quotations for iron, are coming into the market rather fast for rails. Some orders have been accepted, and specifications are yet to be taken up for several quantities, varying from 500 to 2,000 tons.

The houses in the district whose iron is of the highest repute, possess orders for sheets and plates that will carry them into June; and a firm at Wednesbury, who are engaged extensively in the railway trade, are said to possess three months' orders.

These cases are, however, exceptional, for, with reference to the trade generally, the report must be that it continues exceedingly flat, the majority of houses having not sufficient orders to keep more than a very small portion of their machinery in gear.

Speaking generally, the prices at which orders have been accepted at first-class houses are those determined upon at the preliminary meeting, but there are exceptions to this rule. Whilst this is the case, offers, at prices induced only by the necessities of an existence, are powerless to obtain orders. Nevertheless, as some few large works are becoming better employed, and as the buying season is fast approaching, a more general distribution of orders is looked for at no distant day. Soon the Americans will be in the market; but at present these are acting upon the honest principle of first paying their debts before they "begin again."

Participating in this improvement in the malleable iron-trade, the pig-makers are realizing better prices in a few instances, to the extent, say of half-a-crown, as compared with the beginning of last. Higher sums have been mentioned, but the instances in which they have occurred are so few that they are not worth recording.

A new difficulty has arisen. It has reference to the workmen, and to the puddlers in particular. Some of these refuse to go on at the reduced wages.

DECISIONS UNDER BUILDING ACT.

EXEMPTED BUILDINGS.

THE QUEEN *v.* BADGER was a case stated for the opinion of the Court, and which raised the question, at the Queen's Bench, on the 16th, whether certain stables which had been made under the arches of a viaduct of the North Kent Railway were a building to which the provisions of the Metropolis Building Act (the 18th and 19th of Vict. cap. 122) applied?

It appeared that the stables in question were constructed under one of the arches in question by the erection of two walls, which, together with the walls supporting the viaduct, completed the enclosure. Over the stables and under the same arch was a loft for hay. The district surveyor, considering this as an alteration under the 9th section which required his superintendence, superintended the alterations, and subsequently applied to magistrates to enforce payment of his fees. The present case was then stated for the opinion of this Court.

Lord Campbell called on Mr. Badger, who appeared in person, to support the conviction.

Mr. Badger stated that in many instances the arches under viaducts had been converted into private dwelling-houses and other buildings, and had thus become rateable to the poor-rate, and he contended that though while used for the purposes of a railway they would be exempt from the provisions of the Building Act, still, if they were converted into private dwellings or used for other purposes, they became "buildings" to which the Act applied.

Mr. J. Wilde, Q.C., on the other side, relied on the express language of the 6th section, which enacted that certain buildings and works should be exempt from the operation of the first part of the Act, among which were enumerated "the buildings belonging to any canal, dock, or railway company, and used for the purposes of such canal, dock, or railway, under the provisions of any Act of Parliament."

Lord Campbell said, he thought the conviction was wrong, and ought to be quashed. His lordship thought that stables made out of the arches of a viaduct would be "buildings" within the scope of the Act, unless exempted; but he thought they came within the exemption contained in the 6th section. They were buildings belonging to, and used for the purposes of a railway under the provisions of an Act of Parliament.

The other Judges were of the same opinion.

Conviction quashed.

THE '51 MEMORIAL.

DEAR MR. EDITOR,—As the proposed monument in Hyde-park in celebration of the '51 Exhibition is intended to commemorate the industry of *all* nations, and as it was at one time suggested in a high quarter, that an obelisk would be an elegant and eloquent memorial, why should not the funds collected for the purpose be expended in bringing to us our own beautiful obelisk, now lying, degraded and worse than useless, half buried in the Egyptian desert's sands?

I say *worse* than useless, because in its present position it is a lasting memorial of our disgraceful defeat. We Englishmen, who pride ourselves on our engineering skill, have been foiled in our attempt to bring home this beautiful trophy to embellish our fatherland, and have feebly given it up in despair; but our "more volatile" neighbours, as they have been termed, across the Channel, made effort after effort to secure their treasure, and at last successfully reared it in one of the most beautiful areas in their beautiful city, a pride and a pleasure for all time to come.

Surely no more worthy memorial of the energy and skill which are the peculiar characteristics of Britain's sons in the nineteenth century could be left to future generations than this.

When brought here, I would suggest the obelisk should be raised on a large, high, square plinth of British granite, on the sides of which a suitable inscription should be cut, and at the angles of which I would have placed four *real* sphinxes of granite, if such could be begged from the Museum, or be obtained elsewhere. By *real*, I mean Egyptian; no nineteenth century reproductions. Why should we lazily borrow ideas from the past, and thus shrink from our duty of providing a heritage for the future?

Grouping the obelisk and sphinxes does not fall under the above censure, because they are of the same age and feeling. That which I am now about to mention—the iron railing—must be of the present time, none, not even in bronze, having remained to us from the past. Perhaps the *gamins* of Egypt were not so mischievous as those of the present day, and therefore none were required.

I suppose it *would* be necessary to surround the monument with a railing. If so, it should be placed at sufficient distance not to intercept the view; and it might be made to add beauty to the whole, if it were wrought lovingly, to be a specimen of nineteenth century metal-work of first-rate excellence.

Allow me to subscribe myself one of the humble servants ever ready at your command,

A BRIGHT IDEA.*

Books Received.

Facts for Factories; being Letters on Practical Subjects; suggested by Experiences in Bombay. Printed at the Education Society's Press, Byculla, Bombay, 1857.

THESE very suggestive, useful, and practical letters were originally published in the *Bombay Gazette*, as letters addressed to the editor by Mr. William Walker, of Bombay, a gentleman, it appears, of varied experiences both by land and sea, and both abroad and at home.

For behoof of those engaged in the building trades, who have business transactions with India or the colonies, it may be worth while taking a note of a few of Mr. Walker's suggestions.

The breakage of stoneware water-pipes on the way to India, from imperfect package, is something serious. In a cargo exported in 1856, no less than 20 per cent. of the whole was broken. A good Staffordshire packer, as the author remarks, would have nestled them in crates, packed in straw, so that scarcely one would have arrived in a broken state; and more than that, by "wolding" the smaller pipes with hay-bands, they would have fitted into the larger, and thus have saved freight enough to pay for crates.

The breakage of iron water-pipes is a still more serious business. The Vehar Waterworks, about twelve months since, received a large number of 30-inch main and others broken. Here the shippers must have been in fault, but these should be compelled to take measures for their protection. Freight alone of one of the large pipes could not be less than 3*l.* and the weight of one was some 3 tons, cost say 8*l.* per ton. Yet a little offal fir would have effectually protected them from breakage in a gale, overriding being obviated by keeping down the upper tiers by a stout plank placed across them, strutted from the deck above, the struts secured by cleets.

The Bombay Commissioner of Customs is strongly recommended to get the old rattletrap crane removed from the Customs Bunder, and replaced by a fifteen-ton travelling crane. All purchasers of travelling cranes are advised to see them lift their reputed load before they part with their money.

In regard to ironmongery, the author says it has often occurred to him that a large and rapidly accumulating fortune awaits the man who will establish an extensive retail ironmonger's shop in Bombay. There are lots of Borahs who deal in this line, but they sell nothing but trash, one half of it picked up at auctions. What are wanted are tools made to cut, and (not like the famous razors of poor Moses Primrose, the Vicar of Wakefield's son) merely to sell.

"The articles for sale should be the best that are made for *every-day workers* (the amateur would no doubt give fancy prices for fancy articles). We want every description of planes, the wood of which will *not* warp, and the irons of which *will* cut; hammers that will not split in the face; anvils with good steel-hardened faces; screw augers with *slow* threads, to give them time to get through our hard, tough woods, and with their cutting edges something more than cold iron; pickaxes made of really good iron, and steel-pointed; medium-sized shovels; first-rate fine-toothed hand-saws (we have no use for "pine rippers"); whip, tenon, and all

* Without adopting the suggestion of this complimentary Spirit in respect of the Memorial of the Great Exhibition, in which we hope to see modern art nobly display itself, we willingly give the "Bright Idea" the wings of type, that it may draw attention to one of our possessions abroad, very ill protected. An elaborate account of the monolith, by Mr. Nathaniel Gould, will be found in an earlier volume, with a distinct proposal for its transport made by him to the Government.

other saws; the very best files, in large quantities; every sort of iron and wood drills, with boxes of gimlets not much used, a large assortment of wood screws; brass cocks from a common beer-tap to 4-inch. We want vast varieties of fancy and galvanized wire-work for seedlings, for windows, to keep out thieves and crows, and on which to train creepers and flowers; the same in larger sizes for verandahs, &c. &c. We want fancy lamp-posts and irons, scroll-work to span entrance-gates, and handsome lamps over them. But as our daily increasing wants are legion, I cannot pretend to give even an outline of the numerous articles which our ironmongers should have * * * Why will step in and enjoy this Cream of colonizing with rupees,—selling *good* ironmongery at moderate rates?"

The exporters of gutta percha or india rubber tubing on commission, who desire to create a permanent business, should be wary as to the quality of the articles sent out, the Indian climate being a very trying one to such articles.

On the subject of roof-tiling there are some remarks. The disadvantages of the kind of roof tiling used in Bombay are pointed out, especially its absorption of wet and the great increase of weight upon the timbers thus produced. Galvanized corrugated iron roofing for house roof coverings are suggested; these to be made of the form of our old English pantile, only larger. The price, however, would require to be moderate. As to iron tiles, the writer says,—"Most of my readers may think that our inhabited roof would be too hot to hold us; but this fear will only be realised if the roof is not ventilated by means of louvres. It is really astonishing that the houses we inhabit in this hot climate are not properly ventilated from the roof. When this shall be done, the heat from iron tiles will cause a strong upper current of air to ascend through the ventilator, and of course an equal current or cool air will flow into the lower part of the house to supply its place. Besides this, the roof must be all covered with a thick coat of heat-reflecting whitewash in a day with two men's labour and one rupee's worth of lime. I intend to write home to inquire at what price 100 square feet of 1 16th galvanized iron, 24 gauge, could be had also the weight of it, when I intend to communicate on this subject again; and as this 'Fact' may possibly catch some 'Government' at home, we may possibly entice a little wholesome competition to serve so great a want as is aimed at—*if the price suits.*"

The Patentees' Manual; being a Treatise on the Law and Practice of Letters Patent; especially intended for the Use of Patentees and Inventors. By JAMES JOHNSON, of the Middle Temple, and J. HENRY JOHNSON, Solicitor and Patent Agent. Second edition. Longman and Co. London, 1858.

IN reply to various correspondents who have asked us where they can obtain a reliable work on the Patent laws, we may point attention to the work under notice as perhaps one of the best. The edition just issued is not only revised, but greatly enlarged. It also contains a summary of the patent laws of various foreign states, and of such of our colonies as possess patent laws of their own. The latest statutes and decisions of the courts have been incorporated in its pages, and there are several new chapters on other matters not touched upon in the first edition.

St. Charles Borromeo's Instructions on Ecclesiastical Building, translated from the original Latin, and annotated, by GEO. J. WIGLEY, Architect. London: Dolman. 1857.

A WORK, coolly dedicated, as this is by Mr. Wigley, "To the first Metropolitan of the Revived Catholic Hierarchy of England," and avowedly published to "serve the great work of the ecclesiastical reorganization of this country," in other words, handing it over to Rome, will not commend itself very strongly to members of the established church, who will be led, and not without reason, to look very suspiciously at all its teachings. However, there is a large body of Romanists in England who will like it all the better for this, and there are others who will find it curious, and not without value in an antiquarian point of view. If the same minuteness be observed through all the translation, as in the index of dimensions, no fault can be found in this respect, for that we see resulting in instructions to make the height of the altar above Predella, from 2 feet 2½ inches, to 3 feet 3¾ inches, the aumbry for vestments to be 3 feet and $\frac{7}{16}$ of an inch high; the confessor's seat to be about 1 foot $\frac{9}{16}$ of an inch high, and 2 feet and $\frac{3}{4}$ inch long, and so on. The illustrations are by Mr. S. J. Nichell.

Miscellanea.

STRIKES.—We are glad to be able to intimate that the carpenters' strike at Greenock is at an end, the men having agreed to accept of 24s. for a week's work from daylight till dusk; and that the Weer Shipbuilders' Association have unanimously resolved to comply with the demands of the workmen on strike there, by paying the old wages of 5s. a day. To resist the proposed reduction to 4s. 1,100 men were on strike for five weeks. The nailmakers at Oldhill, Oldswinford, to the number of 500 or 600, have been on strike for several weeks, in consequence of a proposed reduction of their wages by 2d. per 1,000, which amounts to about 1s. 6d. or 2s. a week for each man. Some acts of violence have been committed, and workmen compelled to quit their employment.

THE DUNDEE ROYAL INFIRMARY CONTRACT AND ARBITRATION.—A meeting of the governors of the Dundee Infirmary was held last week, "to consider a report to be presented by the building committee with reference to an award now proposed to be issued by Mr. James Leslie, C.E. Edinburgh, in the submission between the infirmary and the contractor for the new building, and to give instructions to the committee thereanent." The report referred to was read. From this report it appears that the contractor claimed 7,407*l.*; and that the result of the arbitration was that he was allowed, and agreed to accept of 1,167*l.* The arbiter found that the contractor, Mr. Robertson, was bound, for the contract sum of 9,050*l.*, to execute, without extra charge, the whole work shown and described on the signed plans, &c. As for extra work, which was enumerated in all to 1,594*l.* odds, the arbiter allowed 1,685*l.* odds, from which a claim made by the corporation of 120*l.* was deducted, leaving the balance due to the contractor 1,265*l.* less 100*l.* paid to account of extras. Each party to pay their own expenses and one half of the reference fees and costs. The governors unanimously adopted the report, and gave to the arbiter's decision.

THE SANITARY CONDITION OF NEWCASTLE-UPON-TYNE.—In the Newcastle town council last week, Dr. Robinson drew attention to what he considered a special committee should be appointed to inquire into the most efficient and economical means of improving the sanitary condition of this borough, and that they be instructed to report the result of such inquiries to the council as soon as practicable." Sir Matthew White Ridley seconded the motion. In course of the discussion which followed, the mover and seconder of the resolution were reproached with their inactivity during the days when they were on the Town Improvements Committee. Dr. Robinson replied that he had never attained a seat on that committee would have compromised his own reputation. The resolution was finally rejected by a majority of 21 to 15, the mayor voting with the majority.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The Royal marriage, on the 25th inst. has led, as was anticipated, to the postponement of the meeting appointed to be held on that evening, to the 1st of February, when Mr. Edward M. Barry will give an account of the New Houses of Parliament and their construction.

ENGRAVING OF BOW STEEPLE.—Mr. J. T. Christopher is about to publish an engraving by Mr. John Le Keux of his drawings illustrating in detail the tower and spire of Bow church, Cheapside, a masterpiece of design, proportion, and constructive skill. These drawings were warmly commended in our pages at the time the silver medal of the Royal Academy was awarded to Mr. Christopher for them. The work will consist of the north elevation (Bow, Cheapside) slightly shaded; a complete section showing the constructive detail so far as possible, and eight plans of the different stages or stories; all to a uniform scale of 8 feet to an inch, and with the dimensions figured. A small plan of the whole church will also be given.

EXHIBITORS AT ARCHITECTURAL EXHIBITION.—Sir: The committee of the Architectural Exhibition have treated the exhibitors very cavalierly this season, in raising their free admission to the rooms. Last year they began to charge exhibitors for a catalogue of their own works, and this year they charge them for admission as well as for catalogues. The Royal Academy and other art-exhibitions in London give the exhibitors free admission and a catalogue gratis; and why should not the contributors of designs to the Architectural Exhibition receive the like benefit, which is conferred only on certain favoured persons?

AN EXHIBITOR.

MONUMENT TO THE MEMORY OF GENERAL HAVELOCK AT HIS NATAL TOWN OF SUNDERLAND.—Several of the influential inhabitants of the county of Durham have determined to erect a monument to General Havelock's memory on the sea coast which closely adjoins the place of the hero's birth—and we are glad of it. It is said to be the wish of those who have commenced this movement to confine the subscription to those dwelling within the county. There is much to be admired in this, and no doubt by exertion a large subscription will be collected. It would, however, be a pity to allow local considerations to risk the chance of a monument being raised not quite adequate to the occasion. This monument, which is to be placed on an elevation overlooking the sea, should be of colossal proportions—larger even than that of Lord Collingwood's, at the mouth of the Tyne—and in the general design the effigy of the soldier should be conspicuous; for there is, we think, something particularly grand in the idea, when an opportunity serves, of placing along our sea-girt shore the representations of those who have ably aided in the defences or advancement of the country.

EXTINGUISHMENT OF FIRES.—It is astonishing in how many instances the teachings of science are disregarded or forgotten altogether. The purer water is, the more oxygen and hydrogen gases it contains; the impurer it is, the more azote or nitrogen (N)—so I was taught in days long past: yet, for the supply of water at a fire, recourse is had to the mains supplying us with water for domestic uses, and therefore of the purest kind (at least it ought to be so). Common sense points out to us that the more impure and foul water may be, the greater its adaptability for the extinguishment of conflagrations. For the accumulation of a sufficiency of foul water for this purpose, tanks could be constructed at certain equal distances from each other to supply and fill these, the waste liquid refuse from most or all the manufactories in or about the suburbs of London would suffice probably, thus usefully employing that which now helps to poison the river Thames, rendering its watermen's trade decidedly attractive to the health, &c. especially those who unfortunately dwell near its noxious banks. It is a well-known fact, that the discharge of water from the main upon a house on fire has at first and for a short time the effect of increasing its vivid power, and only when a considerable body of water has been thrown upon the flames that its strength is reduced, this is owing to its comparative purity. Impure water, from containing azote or nitrogen to a great extent, would probably reduce the fire of a fire immediately.—SCRUS.

STEAM HAMMERS.—Mr. John M'Dowall, Walkinshaw Foundry, Johnstone, has provisionally specified an invention which relates to the arrangement of the parts of steam hammers, and to the system or mode of actuating the hammer. The stationary parts of the machine consist of a rectangular cast-iron base, which supports a column or pillar. To the upper part of this column is bolted a plummer block, which carries a segmentally-ended level, or a beam somewhat similar to the beam of the early pumping engines, and in like manner vibrating upon a central axis. The beam projects over the front part of the base, and in a vertical line below it is a grooved plate, which forms the guide for the hammer-block to work in. The guide-plate is fixed to a frame, which projects from the front part of the fixed column or standard. The hammer-block is attached by a bevel strap, or by a chain or suitable flexible connection, to an eye at the outer end of the oscillating lever, and is raised by admitting the steam to the cylinder upon the upper side of the piston, which is thereby forced downwards, and carries with it the belt or chain, which is attached to the segmentally-ended lever connected to the hammer block.

WYSE AND HOWELL'S PATENT "OAK HALL" WINDOW.—In this window sliding and folding sashes are combined: while both the upper and lower sash slide, the lower sash opens in a easement from a joint at the head on each side, as in another patent mentioned by us not long ago. The patentees assert they have obviated the difficulties which have heretofore existed in making French or folding sashes weather-proof, and show several advantages in the use of their patent. They are *cheaper* than French casements, they allow the use of inside blinds, either when open or shut, and permit very thorough ventilation. We have not yet seen a full-sized window in operation.

ARCHITECTURAL ASSOCIATION.—A *conversazione* will be held at Lyon's inn-hall, this (Friday) evening, the 22nd instant.

DRAWING AT THE LONDON MECHANICS' INSTITUTION.—At this long-established and deserving institution in Southampton-buildings, Holborn, a collection of architectural, mechanical, ornamental, and perspective drawings have been open to the public in the large room. The students are chiefly working men engaged in building matters, and artisans engaged in the metal or book-binding trades. The class is conducted by Mr. T. J. Hill, architect, under whose care it appears to have made good progress. The terms are within the reach of working men.

ARSENIC IN GREEN PAPERHANGINGS. — Notwithstanding the *Lancet's* recantatation of the charge made against the use of arsenic in paperhangings, it is still reiterated that deleterious effects have been experienced from the presence of arsenic in the colours of wall papers, and Dr. Hulley writes to the *Times*, not only stating this as his own personal experience, but that microscopic crystals of arsenious acid were found upon a test paper after exposure to the air of the room complained of. From experiments afterwards made by means of an aspirator, to discover the law of the volatilization of the arsenic, it appears that, although at ordinary temperatures, with common atmospheric air, the amount of arsenic given off is inappreciably small; that even at a somewhat higher temperature with common air the effect on these papers is not very marked;—"The products of the combustion of gas, passed through an 'aspirator' filled with the arsenical paper, gave distinct evidence of the imbibition of arsenic in the passage of the air through the paper, crystals of arsenious acid being obtained from it."

THE FORUM OF ROME.—A writer in the *Critic* says,—"A few days ago, walking this way, I was astonished to see six columns, all newly placed, and partly of new material, sprung up since my last visit to that arena of renowned antiquities! The idea, I understand, is to restore the Portico of the Dii Consentes, or Twelve Major Deities, according to the classical topography of Rome from Etruscan mythology, on the platform now reduced to a form almost parallelogram, by the abutment of the western wall supporting the descent to the right from the Capitol to the Forum and the antique substructure of the Tabularium above which stands the modern Palazzo Senatorio. * * * In the restoration have, up to this day, been erected ten columns, four with antique and fluted shafts of marble, the rest of light grey stone, not fluted, but all except two with antique capitals, of a composite order, varied from the Corinthian. On these is to be raised also the original entablature, fragments of which, in a massive and simple, rather than decorative style, lie on the pavement around. The effect does not please: it is the new clothes on an old garment, wanting harmony, both in composition and proportions, with the grandeur of antiquity that gives consecration to this spot, as embodied in the assemblage of ruins proximate."

PRACTICAL ENGINEERS.—We understand, says the *Mining Journal*, that measures are being adopted to organise an engineering club in London. A preliminary meeting will shortly be held, at which, among other matters, it will be proposed to include every branch of engineering science, whether in mining, railways, or canals. Amongst the objects in contemplation are an extensive library and lecture theatre.

PROTECTION OF ART-WORKS IN CAST-IRON.—In order to protect works of art executed in castiron from the effects of the atmosphere, a method, the invention of M. Oudry, has just been tried on one of the fountains of the Champs Elysées, Paris. Instead of depositing the copper directly upon the cast-iron, the latter first receives a coating which both prevents its contact with the copper and prevents a conducting surface; so that the mass, when introduced into a bath of sulphate of copper, receives a coating of that metal upon this surface, and not upon the iron itself.

[ADVERTISEMENT.]

23 & 24, St. George's-place, Hyde Park-corner, September 26th, 1849.

SIRS,—Having occasion for some large Shutters (the largest in London) for several shop Fronts, we took considerable pains to ascertain which principle was the best, and are glad to say we decided on yours, and now, having put them in use for some time, we can most confidently, and with great pleasure, recommend them, particularly for their great strength and roll-up in small space, and intend applying them to other houses in course of erection. We must also add our satisfaction at your punctuality in executing our orders.

We are, Sirs,
Your most obedient Servants,
ROGERS & DEAR.

Messrs. CLARK & Co.,
15, Gate-street, Lincoln's-Inn-Fields.

TENDERS

For the new Ragged Schools, Derby. Messrs. Giles and Brookhouse, architects, Derby. Quantities supplied:—

Rickard	£707	0	0
Meadly	790	0	0
G. Thompson	772	0	0
Pemberton	769	0	0
Moore and Son	764	0	0
Dusantoy	760	0	0
J. Thompson	759	0	0
E. Thompson	749	0	0
R. Bridgart	709	0	0

For alterations to premises, No. 4, Finsbury-place, Finsbury-square. Mr. Thomas Burton, architect:—

Symons	£1,225	0	0
Axford	1,098	0	0
Davis	1,063	0	0
Elsen	1,057	0	0
Ashby and Sons	999	0	0
Heeps	975	0	0

For building granaries of timber, at Cambridge Railway Station, for Mr. C. F. Foster. Mr. R. Ritchie, architect. Quantities not supplied:—

Quinsee and Attack, Cambridge	£4,300	0	0
Myers, London	4,200	0	0
Gray and Son, Cambridge	4,079	0	0
Bullock, Cambridge (accepted)	3,895	0	0

TO CORRESPONDENTS.

A. P.—The library of the Royal Academy is open to architectural students every Monday except during the vacations, from ten till six, and on Monday and Thursday evenings, from five till seven o'clock.

R. H. D.—L. B.—Apply to [illegible]—W. W.—J. W.—J. S. M.—Rev. J. G.—H. E. C.—J. P. W.—J. A. (interest with the Postmaster-general is the main point).—G. and B.—T. P.—W. H. S.—Thanks; [illegible] may be done by making your ability and willingness to exercise known.—C. C. N.—C. C.—M. W.—[illegible]—P.—J. W. A.—J. E. C.

Continuation of Mr. Gordon Hill's paper on the Round Towers will [illegible]

[illegible] We are forced to [illegible]

[illegible] addressed to the "Editor," and not to the "Publisher."

[illegible] for the last volume [illegible] the Office, by those [illegible] may be obtained at the Office, [illegible] and 1*l.* for 3*s.* 6*d.* The complete [illegible]

ADVERTISEMENTS.

SAINT MARY, Islington.—To CLERKS of WORKS. The Committee of Sewers, Drains, and Buildings, will meet on WEDNESDAY next, the 27th instant, at TEN o'clock, A.M., to appoint a CLERK of WORKS to superintend the erection of [illegible]

Vestry Offices, 21, Milner-square, Islington, Jan. 22, 1858. JOHN LAYTON, Vestry Clerk.

DRAUGHTSMAN REQUIRED in a Manufacturing Establishment at the West-end of London. [illegible]

TO SURVEYORS.

TEMPORARY ASSISTANCE rendered by the Advertiser, either at theirs or at the advertiser's offices.—Address, A. Y. Z. care of Mrs. Pullen, Newsagent, 99, High Holborn, W.C.

WANTED, an experienced CLERK of WORKS. He must be thoroughly acquainted with the building trade in all its branches, and well versed in [illegible] competent to take the [illegible] Those only of these [illegible] qualifications need apply.—Address, stating salary, W. J. Office of "The Builder."

TO BUILDERS' FOREMEN.

WANTED, by a London Builder, a FOREMAN, to take the entire management of the carpenters' shop. He must have a thorough knowledge of the trade in all its branches, and [illegible] Unexceptionable references will be required. Apply personally, stating terms, &c. to T. C. C., 149, Leadenhall-street, E.C.

TO PAINTERS, &c.

WANTED, a GRAINER and WRITER, a Young Man, and to make himself useful.—Apply, by letter, post-paid, to H. KELLY, Plumber, &c., High-street, Shadwell. An Improver [illegible] WANTED.

TO SCULPTORS.

WANTED immediately, a good SCULPTOR, to execute some FIGURES in Caen Stone.—Apply to J. B. ROBINSON, Carving Works, Derby.

WANTED, in a Land-agent's Office in the Midland Counties, a YOUTH as JUNIOR CLERK, whose age must not be less than 17. One who has had sufficient experience to [illegible] and writing is indispensable.—Apply, by letter only, to A. Z. Mr. Parke's, Stationer, Wolverhampton.

TO TEACHERS AT SCHOOLS OF DESIGN, PARENTS, &c.

WANTED, an OUT-DOOR APPRENTICE, to a decorative business. One having a taste for geometrical drawing would be preferred. A premium required.—Apply, by letter, to S. 86, Great Queen-street, W.C.

WANTED, an active Married Man, without encumbrance, as TIME and STORE KEEPER, to Brick-making Machines, and also occasional repairs to [illegible] Apply, by letter only, to A. B. 93, East-lane, Bermondsey, S.E.

TO CLERKS AND BOOK KEEPERS.

WANTED, a CLERK, acquainted with the duties of a Builder's Office, and writes a neat hand. A [illegible] preferred.—Apply by letter only, stating age, last employed, and amount of salary required, to J. H. No. 1, Earl-street, Westminster, S.W.

TO POTTERS, LIME AND CEMENT MERCHANTS, &c.

WANTED, by a respectable Young Man, who is employed as cash [illegible] at a large Pottery at the present time, a similar SITUATION, or in the LIME TRADE, in which he has been also several years.—Good references.—No objection to the country.—Address, G. P. Mr. Dodd's, Post-office, Brixton-road, Lambeth.

TO BUILDERS, JOBBING-MASTERS, &c.

WANTED, by a respectable Young Man, aged 21, an ENGAGEMENT. He is well acquainted with town and country trade in general, and has a good knowledge of cabinet work.—No objection to [illegible] country, where [illegible] Wages moderate. Good testimonials given, if required.—Address to A. B. 41, Denmark-street, Camberwell.

TO BUILDERS AND PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION as a good PLUMBER, and will fill his time up in painting, if required. Two years' good character from his present master.—Address, Joseph [illegible], 4, A. B. C., East-street, Manchester-square, London.

WANTED, by a Young Man, CONSTANT EMPLOYMENT, or otherwise; is a good three-branch hand, and can work at bellhanging. Wages moderate. Town or country.—Address, X. Y. Z. M. Tidmarsh's, No. 6, Bedford-place, Commercial-road, London, N.W.

TO BUILDERS AND PLUMBERS.

WANTED, by a steady and experienced PLUMBER, a SITUATION. Aged 38 years. Can fill up time at painting and glazing if required.—Address, H. M. N. 13, Eastcastle-street, Oxford-street, W. Good reference if required.

WANTED, Employment as PLUMBER and GLAZIER, or CLOSET MAKER.—Address, C. B. No. 12, Clark's-row, Old Ford-road, Bow.

WANTED, by a respectable Young Man, aged 20, EMPLOYMENT, for eighteen months, as IMPROVER, in a first-rate LONDON PLUMBING [illegible] Wages no object, Improvement. Address, G. D. Lansdown, Hatch-[illegible]

WANTED, by a respectable Young Man, aged 27, a SITUATION as PLATTER, LOCKSMITH, and BELLHANGER. Has had good experience in all [illegible] Good character from [illegible] Address, Y. Z. Office of "The Builder."

WANTED, a SITUATION, by a JOINER of experience [illegible] FOREMAN [illegible] JOBBING HAND [illegible] to make himself generally useful. Wages not [illegible] Can have [illegible] Address, JOIN., care of [illegible] Lambeth, S.

TO CARPENTERS, PLUMBERS, PAINTERS, &c.

WANTED, a SITUATION as CARPENTER and JOINER [illegible] a good hand.—Address, J. P. [illegible] Wales [illegible]

TO ARCHITECTS AND CIVIL ENGINEERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT in an OFFICE as above. Has been five years in the profession. Is a good draughtsman and competent to get out plans under the direction of the [illegible] Address, C. H. 1, Fulham-place, Harrow-road, W.

TO PUBLISHERS AND OTHERS.

WANTED, by a respectable, steady Man, who is about to leave his present situation, a RE-ENGAGEMENT, as SHOP or OUT-DOOR [illegible] Has been [illegible] years in the [illegible] Can be highly recommended by [illegible] Address, [illegible] Lambeth, S.W.

TO ARCHITECTS, BUILDERS, &c.

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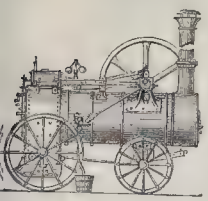

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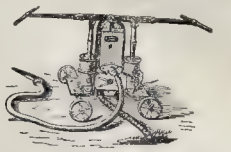

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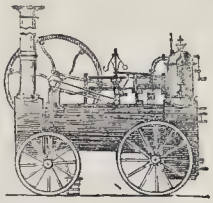

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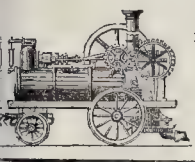

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KINSON CLAY, POTTERY, AND BRICK COMPANY, LIMITED.
MANUFACTURERS OF EVERY DESCRIPTION OF SANITARY GLAZED SEWAGE-PIPES, CLOSET-PANS, FURNACE-BLOCKS, FIRE-BRICKS, GAS-RETORTS, CRUCIBLES, &c.
THE POTTERY is situate about a mile and a half from the town and port of Poole. It is worked by steam power, and the pipes are made of the most approved patent machinery, and will bear favourable comparison with any manufactured in the kingdom. The fire-bricks have been tested, and are found fully equal in all respects to those manufactured at Stourbridge and Newcastle. All articles are made from the clays and materials found on the estate. There is an inexhaustible quantity of all descriptions of Dorsetshire clay used for pottery purposes, which can be supplied to the Staffordshire, North Country, and London markets, upon favourable terms.
*** Lists of Prices, and all other information, will be furnished upon application to Mr GILBERT E. MITCHELL, Manager, at the Works, or to Mr. JOSEPH COX, 1, 2, and 3, High-street, Lambeth.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor. 2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c preventing the radiation of Heat, saving 25 per cent of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices :—

¾-inch prepared Flooring	£0	11	6 per square.
1-inch ditto	0	15	0 per square.
Yellow Battens	11	10	0 per 120.
Spruce Deals, from	0	2	9 each
Pine ditto, from	0	3	0 each.
Yellow ditto, from	0	3	3 each.

Mahogany, in logs and planks, from 5½d. per foot.
All Sawn Goods delivered three miles free of cartage
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

TO BUILDERS, CABINETMAKERS, and OTHERS—ALFRED CARTER submits the following very reduced prices for really useful sorts :—

¾-inch Prepared Flooring	£0	11	6 per square.
1-inch Prepared Flooring	0	13	0 per square.
Inch Prepared Flooring	0	15	0 per square.
Good Yellow Deals	0	3	3 each
Spruce Deals	0	3	0 each.
Pine Planks	0	3	6 each.
Yellow Battens	11	10	0 per 120.

Mahogany, in logs and planks, from 5½d. per foot
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory (the first of its kind ever established), a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from ½-inch to 1¼-inch thick, in White or Yellow Deal, Oak, or Pitch Pine. Also Dry Deals, in all thicknesses, Slating Battens, Pantile Laths, Oak Sills, Plank, and Scantlings. Mouldings in clean Pine, to any design. A pattern list forwarded on application.—Address, E. SIMMS, Flooring Manufactory, and Sawing, Planing, and Moulding Mills, King's-road, Chelsea.

PREPARED FLOORING! PREPARED FLOORING!!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring :—

	½	¾	1	1¼	
Spruce	12s.	12s.	16s.	—	per square
White	12s. 9d.	13s. 6d.	17s. 6d.	18s.	,,
Yellow	13s. 6d.	14s. 6d.	18s. 6d.	19s. 6d.	,,

Delivered within three miles free of cartage.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list-prices for Mouldings. A large stock of dry flooring at low prices—Scathwark-bridge Wharf, Bankside, S.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Wilton-road, Pimlico, to the KING'S-ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor-street.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from ½ inch to 1¼ inches thick, seasoned, and ready for use; also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes. Address, R. SLADE (late E. Strand), Flooring Manufactory, Wilton road, Pimlico.

AT WM. APEDAILE'S TIMBER-YARD, bottom of DRUMMOND STREET, near Euston Station.

12 feet 3 by 11 Pine Planks, from 3s	each.	
12 feet 3 by 9 Spruce Deals,	2s 6d.	,,
12 feet 3 by 9 Yellow Deals,	2s 8d.	,,
¾ by 7 Prepared Flooring,	19s 6d.	per square.
Inch by 7 Do.	14s. 6d.	,,

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 8d.; 2½-inch White Battens, 9f. 10s.; Yellow, 11f. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ do. 11s. 6d.; 1-inch Yellow, 10s. 6d.; ¾ do. 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town. T. FORMAN, 1, Walnut tree-walk, Walcot-place, Lambeth, S.

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to
E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S-ROAD, CHELSEA.

ACORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

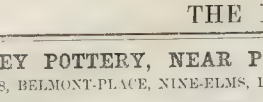
ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge-street, Old St. Pancras-road.—GEORGE NORES and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash :—
¾-inch white, 12s. 6d. per square; ¾ inch white, 15s per square; 1-inch white, 18s. per square; ¾-inch yellow, 15s. per square; ¾ inch yellow, 12s. 6d.; 1 inch yellow, 20s.
Timber, deals, planks, &c. at the lowest remunerative prices. A liberal discount allowed on mouldings for exportation. Book of designs forwarded on application.

LETT'S WHARF PATENT SAWING, PLANING, and VENEER KNIFE CUTTING MILLS, Commercial-road, Lambeth. The Proprietors beg to announce to the Trade that they have completed their extensive arrangements, and will be happy to execute all orders entrusted to their care with despatch and punctuality. Wet and dry docks, and powerful cranes for landing heavy goods, offer facilities not to be obtained elsewhere.
A LARGE ASSORTMENT OF SEASONED PREPARED FLOORING, MATCH BOARDING, &c. &c. ALWAYS IN STOCK AT REDUCED PRICES.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF 6*l.* PER WEEK
IN THE EVENT OF INJURY
May be secured by an Annual Payment of 3*l.* for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.
A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.
It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 37,988*l.*
Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.
NO CHARGE FOR STAMP DUTY.
WILLIAM J. VIAN, Secretary.
Railway Passengers' Assurance Company;
Offices, 3, Old Broad-street, London, E.C.

BOURNE VALLEY POTTERY, NEAR POOLE, DORSET.

DEPOT, 8, BELMONT-PLACE, NINE-ELMS, LONDON.



EXTENSIVE REDUCTION IN THE PRICES OF SALT-GLAZED STONEWARE DRAIN-PIPES, FLUE-PIPES, BENDS, JUNCTIONS, CLOSET-PANS, &c. &c.

The Proprietors of the above Works are prepared to supply the various articles used in drainage, &c. in any quantities. These goods are made of the finest clay, in the most substantial and expeditious manner, according to the newest patent machinery, and are well worthy the attention of persons desirous of the speedy removal or absorption of any liquid. They will bear comparison, in quality and strength, with the best goods manufactured in any part of the Kingdom.

A list of prices, and any information, may be obtained on application to the Manager, Mr J. T. BOUNSALL, Bourne Valley Pottery, Poole, or of Mr BROWN, at the Depot.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

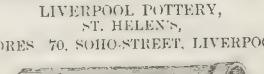
MANUFACTURED BY

DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

Price 6s. 6d. each.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES 70, SOHO-STREET, LIVERPOOL.



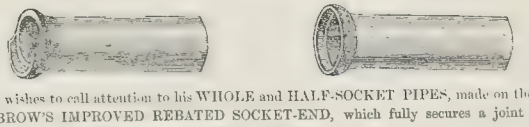
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

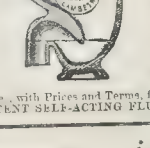
GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

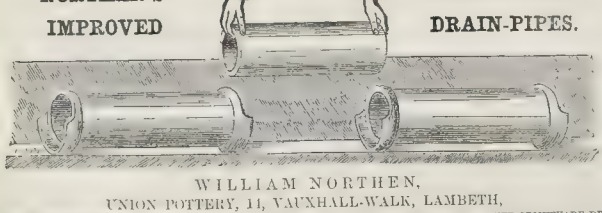
7s. each; if fitted with PATENT AIR TIGHT VALVES, 1s 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,
UNION POTTERY, 11, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Engineers, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE which possesses in a high degree every requisite for a perfect pipe. In case of stoppage, or to connect another drain, as every alternate pipe can be taken up with the greatest facility, with either the head or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity, combined with economy.

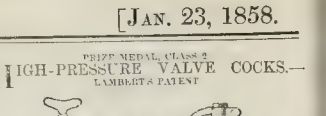
The above improved pipes will be supplied to Barge the SAME PRICE AS THE COMMON SOCKET PIPES.

W. N. being the first that introduced Stoneware Socket Pipes for House Drainage, has always made it his study to make the best and cheapest article that could be manufactured.

He has made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders with the greatest expedition.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT



These Cocks have, during the last five years, been extensively and successfully used in many towns under continuous high pressure, proving them to be of great value, their efficiency and durability is by experience established.

The Plug, from its Ball valve is simple and certain in its action, and the Cock is now in use.

Engineers, Iron, Soil pipe, and other Founders, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short street, New cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cease, or ware.

LEAD IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London.

WARNER'S PATENT

VIBRATING STANDARD PUMPS.—PATENT CAST IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Sliders, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s d
2½ in.	short	Fitted for lead,	1 1 0
2½ „	long	gutta percha	1 14 0
3 „	ditto	or cast iron	2 5 0
3½ „	ditto	flanged pipe,	2 12 0
4 „	ditto	as required.	3 3 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		2 14 0
2½	long ditto ditto		2 16 0

The short Barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or as lift, forcing, and plant for new, easy to work, fixed, when desired, in the shape. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin street, London. Every description of Machinery for Raising Water, by means of wheels, force, and pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

DURABILITY of GUTTA PERCHA

TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter:—FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 24th, 1852. In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump-purposes, I can state with satisfaction, it answers perfectly. Many builders have put it down in my neighbourhood, and I believe in the least satisfactory instance; on the contrary, in most cases it has given great satisfaction, and I am informed that it is to be adopted generally in the houses that are being erected there."

N.B. From the testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER

VALVES, for Feed Pumps of Steam Boilers, enable the pumps to give one hundred per cent. more duty, and render derangement in the pumps quite impossible. Full particulars, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO., Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED

INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot-water pipes. Vulcanized Patches, Corks, Springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Stair-carpet tenure patents for both the following:—

Double-lined Air-proof Hose, and Improved Vulcanized Rubber Suction Pipes for ditto.

Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness. Beds, Pillows, and Cushions inflating Portable Boats, Pontoons, and Articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

STAINING DEAL TO IMITATE ALL

KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather FIVE years per gallon. Varnishes for WAYLOR'S stains may be had at the Factory, 14, James street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT and at HALF

the COST. STEPHENS' DYES or STAINS for WOOD.—All STEPHENS' DYES recently permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHURNSIDE, of Oldbrough, near South Molton:

"The effect produced by the Staining Fluid and Varnish has given great satisfaction to the whole of the parishioners, who have requested me to procure for them the possibility of applying it, in order to finish the entire [illegible]."

Sold by [illegible], London.

IMPORTANT to BUILDERS and

PAINTERS.—Genuine White Lead, 22s. per cwt.;
Linseed Oil, 3s. 8d. per gallon; Boiled Oil, 3s. per gallon;
[illegible] per gallon;
[illegible] per gallon;
Fine Varnish, 4s. 6d. per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 42, Colechill-street, Pimlico.

Every article of the Trade at the lowest price.

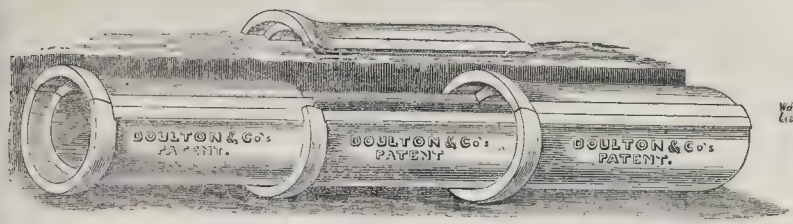
HECKETHORN'S PATENT LIQUID

COLOUR, for [illegible] renewed state of colour to [illegible] walls, [illegible] and a composition the like of steel, for floor-cloth and table-cover manufacturers.—J. RUDDEN and CO. Proprietors, No. 501, New Oxford-street.

DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without disturbing any Part of the Invert of the Drain, or lessening its Capacity.

SOCKET JOINTS.



The intention of these Pipes is to afford those who desire it an opportunity of examining and cleansing them; and, unlike all other contrivances for this object, the entire length of pipe may be thrown open without any accompanying disadvantage.

The thickness and strength of the Pipes are increased by two ribs running lengthways, through which a partial division is effected in the process of manufacture, both internally and externally, leaving sufficient material to preserve strength and soundness. The Pipes are thus fired in one piece, and perfect accuracy of form is secured. By the insertion of a chisel at the ends, the upper pieces may, at any time, be detached without the slightest risk, and afterwards replaced, so as to form a perfect and accurately-fitting cover; or the lids can be removed when the Pipes are laid, and the Drain tested as to its fall, and the accuracy of the joints before they are replaced. Made with sockets, or with butt joints and chairs.

ADVANTAGES.

I. The Pipes may be laid whole, as ordinary Socket Pipes, and the covers need only be removed should necessity arise.
II. On the removal of the lids the Drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication which would allow either the escape of the liquid contents of the drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part, or cover, being fired in one piece with the pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. PERFECT TRUTH OF FORM IS SECURED, AND INCREASED STRENGTH OBTAINED.
VIII. SIMPLICITY OF CONSTRUCTION, and consequent CHEAPNESS.

MANUFACTURED BY HENRY DOULTON AND CO.

Offices: High-street, Lambeth, London.—Manufactories: High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

HOW MUCH OF COMFORT AND HEALTH DEPENDS ON THE PERFECTION OF SANITARY APPLIANCES!

JENNINGS'S PATENT DRAIN-PIPES.
" " DOUBLE-SEATED VALVE WATER-CLOLETS.
" " EARTHENWARE WATER-CLOSETS.
" " SELF-ACTING WATER-CLOSETS.
" " LAVATORIES, SLUICE-VALVES, FIRE-COCKS.
" PUBLIC AND PRIVATE URINALS, &c. &c. &c.

HAVE been, and are NOW LARGELY DESCRIBED, IN BOTH PUBLIC AND PRIVATE WORKS, to which references are kindly permitted.

Architects and Engineers specifying JENNINGS'S various SANITARY APPLIANCES, WILL HAVE NO REASON TO REGRET HAVING DONE SO.

A visit is solicited to

JENNINGS'S ENGINEERING AND SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS, S.E. LONDON.

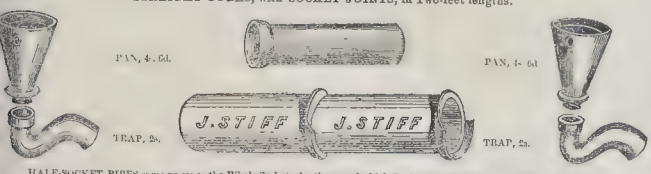
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
Messrs GLADDISH'S, Pellatt's-range, Westminster-bridge-road; City-road Wharf, City-basin; Dockhead Wharf, Bermondsey; Denyers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs COLES, SHADBOLT, and COLES, Stangate-wharf, Field Wharfs, Caledonian-road, Pentonville.
Messrs RICHELIEU and SMITH, Riverside-Iron Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Cambridge-road, Hoxton.
Messrs COLWILL BROTHERS, 46, Bridges-street, Covent-garden.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean more easily than Brick Flues. By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by which all the CONNECTION BETWEEN PIPE DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs DOULTON and CO. SIX YEARS AGO. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

LAMBERT'S SELF-REGULATING and

SELF-ACTING ENAMELLED IRON CLOSET PAN

FIG. 18.

This arrangement consists of an Enamelled Cast-iron Basin and Syphon Trap, supplied by a Lambert's Patent Self-regulating Valve, bolted to the basin, adjusted so as to deliver any quantity of water required at each action of the seat, it is the cheapest, most durable, and efficient self-acting water-closet yet produced, requiring no reservoir or intermediate cistern, the valve itself measuring at each action of the seat a given quantity of water into the pan

Prices as per list, with enamelled iron syphon tray, 45s.

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S. HORTON, on FRIDAY, the 29th day of JANUARY, 1858, at the BULL'S HEAD INN, Woodhouse Eaves, 307 OAK, 273 ASH, 81 ELM, 5 WILLOW, and 9 ALDER TREES, of large size and excellent quality, standing upon lands in the occupation of Messrs. Ambrose, Pearson, Phillips, and others. Dinner precisely at half-past One o'clock. Credit will be given on the usual conditions. The Sale to commence at the Inn at Woodhouse Eaves, and four miles from the Loughborough Station.—Catalogues may be had of the Auctioneer, Mowley, Market Harborough; the "Advertiser" Office, Leicester; King's Head and Bull's Head, Loughborough; and at the Place of Sale, where part will be on Sale, and at the Office of the timber.—NATHL. C. STONE, Land Agent.

TO IRON FOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, FEBRUARY 1st, 1858, at ELEVEN o'clock, on the PREMISES, No. 41 and 42, Tabernacle-walk, Finsbury, in lots, as may best suit the purchasers, the valuable MACHINERY, PLANT and IMPLEMENTS, belonging to the foundry business, viz.:—PLANT and IMPLEMENTS of an IRON FOUNDRY, three foundry cranes, two-power iron loam driving stove, 2 trucks, 12 tons coverd at traveling crane, 1 patent, steam crab traughts, 1 hoist and falls, crane chain, 1 pair ball balls, set cast iron flasks and boxes, 20 tons loam, rings, and dish weights, large trolly, two crabs, a shaft and weights, 3 cwt. iron patterns large assortment of wooden patterns and fire effects. To be viewed on Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs FULLER and HORSEY, Billiter street, E.C.

DOVER, KENT.—To ENGINEERS, CONTRACTORS, and OTHERS.

MR. W. JACOBS has been honoured with instructions from Mr. Joseph Diggle, to submit it by PUBLIC AUCTION, at the CONTRACTOR'S YARDS, Prince street, Dover, on THURSDAY, FEBRUARY 4, 1858, the whole of the PLANT in the Contract Works at the Eastern Entrance of Dover Tunnel, consisting of scaffold poles, barrows, trucks, and timber, &c. Also 6 inch very useful draught horses, carts, waggons, &c. A new 12-horse portable engine, with mill-stones and machinery for grinding, and superior machinery for making bricks. Catalogues may be obtained at the Auction Office of the Auctioneer, 4, Townwall-street, Dover; and at the Ball Inn, Midstoke; Rose Inn, Canterbury; and Commercial Hotel, Ashford.

RAINAULT FOREST TILE-YARD.

MESSRS. BEADEL, SON, and CHANCELLOR have received instructions from the Proprietor to SELL BY AUCTION, on the Premises of the commencement, unless previously disposed of by letting or by private sale, the whole of the very superior and convenient BUILDINGS and PLANT upon the above premises. The tile and white brick yard, comprising 30 acres of first rate earth, has been established and in working order for some time past, the evidence of that year being Two Millions of Pipes. The situation is admirably chosen, being in the centre of a large area of freehold land, which is being, or about to be, reclaimed, cleared, and drained, and is in immediate contiguity to the site of the proposed Rainault Forest Railway. The buildings are erected upon the most improved principles, and those drying by heat capable of containing 30,000 pipes, machine and engine buildings, drying sheds, stables, stores, fire kilns, capable of burning 170,000, and three labourers' cottages. The plant includes a very powerful thrashing machine, with clay rollers, which will manufacture 15,000 pipes a day; a nearly new 14-horse power horizontal steam engine and boiler, with oil filling and nigger's harness, rails, carts, harness, all the necessary implements and tools for carrying on a large trade, and about 100 stacks of cleft wood, principally oak. The whole of this property will be sold in lots to suit purchasers; and there will be will with out the slightest reserve the whole Premises, to let for one year next month, on less favourable proposal by private contract, or by letting and sale by auction, at the end of the year. For the letting or lease, or for the sale by private contract, and for further particulars, apply to Messrs. BEADEL, SON, and CHANCELLOR, Chelmsford.

BUILDING MATERIALS.—Essex Wharf, strand.

MESSRS. EVERSFIELD and HORNE are instructed by Mr. H. R. Abraham, Architect to the Honourable Society of the Middle Temple, to SELL by AUCTION, on the PREMISES, on THURSDAY, the 28th of JANUARY, at TEN for ELEVEN, the MATERIALS and FITTINGS of the MANUFACTURING PREMISES, at Essex Wharf, comprising and internal roads and flooring, doors, sashes, and other fittings, slates, tiles, coping, stone paving, lead, and other effects, to clear the site for the new Library. May be viewed one day previous, and catalogues had at the Auctioneers' Offices, 11, Howard-street; and of the Auctioneers, 40, Parliament-street, or Coal-Exchange

TO BE SOLD by PUBLIC AUCTION, on the PREMISES, Trinity Wharf, Rotherhithe, on THURSDAY, the 28th JANUARY, at ELEVEN o'clock precisely by order of the Trustees of the Estate of Messrs. Jno. Rawbridge and Son, the Entire STOCK consisting of well-seasoned Baltic white and yellow planks, deals and battens, first and second quality Quebec white pine planks, square deals, prepared flooring, Baltic and Swedish battens, pitch pine, yellow pine, and other timber, deck planks, spars, rackers, lathwood, dunnage, and various other goods, also several lengths of iron fittings, &c. &c. To be viewed two days prior to the Sale. Catalogues may be obtained on the Premises, and of CHURCHILL MACMILLAN and CO. Brokers, 20, Cannon-street, E.C.

SOUTHGATE, MIDDLESEX.—Capital Materials of a large Dwelling-house, Offices, Stabling, Conservatory, Six Tons of Lead, and Effects.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES, near Bourne-hill, Southgate, on THURSDAY, FEBRUARY 4th, at TWELVE o'clock, 150,000 STOCK BRICKS, timber of roofs, thirty squares of Countess' slates, forty squares of unusually sound deal boards and joists, sashes and frames, doors, oak and deal staircases, cupboards, marble chimney pieces, stone coping, sills and steps, 1,000 feet of paving, slate shelves, Dutch tiles and clinkers, iron guttering, and a variety of materials.—May be viewed the day preceding and morning of the Sale. Catalogues obtained on the Premises; and of the Auctioneer, Tottenham.

BOROUGH.—Building Materials of Two Houses

PULLEN and SON will SELL by TENDER, on TUESDAY, JANUARY 26, in one lot, the BUILDING MATERIALS of two houses, Nos. 1 and 2, FALCON-COURT, Lombard-street, Borough, comprising a sound brickwork, rafters, quarter joists, timber floors, sashes doors, portland stone dressings, front, plain and pan tiles, lead gutters and pipes, stairs, and various useful fittings of the houses, for particulars had of PULLEN and SON, 80, Fore-street, Cripplegate, where Tenders are to be sent, on or before TUESDAY, JANUARY 26

LEADENHALL STREET.—Extensive Sale of Building Materials.

PULLEN and SON are favoured with instructions from the Directors of the Permanent and Imperial Steam Navigation Company, to SELL by AUCTION, on the first week in FEBRUARY, in lots, all the valuable BUILDING MATERIALS of FIVE HOUSES, Nos. 121, 122, 123, 124, and 125, Leadenhall-street, opposite the India House. Catalogues are preparing, and will be had of HENRY CURREY, Esq. Architect, 4, Lancaster-place, Strand; and of PULLEN and SON, 80, Fore-street, Cripplegate.

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454, Strand, January 18, 1858.

THE ROYAL POLYTECHNIC.—Patron, H.R.H. the Prince Consort.—A grand Juvenile Fete will be given in honour of the Marriage of the Princess Royal, on Tuesday Morning and Evening next, the 26th instant, when there will be an Extra and Last Gratuitous Distribution of Pretty Gifts from the Grand Christmas Tree, to all the Juvenile Visitors, and the same Popular Lecture Entertainment and Dissolving Views that were given at the Mansion-house, on the occasion of the Lady Mayoress's Juvenile Ball will be repeated, viz.:—I. Popular Lecture Entertainment, entitled "The PECULIARITIES and CHARACTERS of the OAK FAMILY," illustrated with brilliant dissolving views, by J. H. Pepper, Esq. F.C.S. A. Inst. C.E. F.S.A. sole lessee and manager of the Royal Polytechnic Institution. 2. A beautiful series of Dissolving Views, described by Mr. Newman, and chiefly compiled by Mr. Hood, illustrating "Ye PITIFULL and DIVERTYNGE HISTORIE of ye BLEW BEARD," will appear this musical and original humorous descriptive Pantomime, entitled "HOME for the HOLIDAYS," including all the original Scenery, Dresses, Properties, and Decorations, as produced at the Lyceum Theatre. 3. A new Musical and Pictorial Entertainment, by G. Armitage Cooper, Esq. (the accomplished buffo singer), entitled "HOME for the HOLIDAYS," including all the original Scenery, Dresses, Properties, and Decorations, as produced at the Lyceum Theatre. 4. A beautiful series of Dissolving Views. Also, their Lunacy scene of "Bedlam Revived," will be filled up with the comic humours of the Asylum. Several other entertainments.—Admission to the whole, Is. Children under Ten, and Schools, Half price.

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The Builder.

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Architect, Engineer, Operative & Artist.

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THE BUILDER'S BALL in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION will take place at WILLIS'S ROOMS, St. James's, on the 18th of FEBRUARY next.

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Whom Tickets may be obtained. Also of the Hon. Sec. Mr. JOSEPH BIRD, 30, Hanover Cottages, Regent's-park, and at the Office of the Institution, 19, Southampton-street, Bloomsbury. Double Tickets, the Ladies' Gallery, 8s.; Gentlemen's ditto, 14s. For the convenience and comfort, the Tickets will be limited

ARCHITECTURAL EXHIBITION, Suffolk street, Pall mall East, including the Collection of Building Manufactures, and Inventions, and also the Exhibition of the Architectural Photographic Association, OPEN from NINE till DUSK from 10 to 6 o'clock. Half a Crown each. Fourth Lecture, TUESDAY, FEBRUARY 2d, by HENRY THOMAS BRAITHWAITE, Esq., B.A. and the Church." The Rev. BADEN POWELL, M.A., F.R.S. &c. will take the chair at EIGHT o'clock.

JAMES FERGUSSON, F.R.A.S. }
JAMES EDMESTON, Jun. } Hon. Secs.

COMPETITIONS.

YEOVIL CEMETERY.—PREMIUMS for PLANS.—The Council of the Borough of Yeovil, Somerset, are desirous of receiving detailed PLANS and ELEVATIONS, accompanied by SPECIFICATIONS and ESTIMATES, for CONSTRUCTING and COMPLETING the proposed NEW BURIAL-GROUND, five acres in extent, including the Erection of Two Chapels connected externally by a Gate Building, and also an Entrance Lodge and Gates, Planting, Draining, and Laying out the Ground, making Roads and Approaches, &c. A premium of £20 will be given for the most approved plan, and a £10 for the next best, and such designs will be returned; and sections of the ground can be seen, and any other information obtained, by application to Mr R F WILLIAMS, the Borough Surveyor, Wine street, Yeovil; and the plans must be delivered at the Town Clerk's Office, on or before the 20th day of FEBRUARY next.

April, January 26, 1858. JOHN BATTEN, Town Clerk.

CONTRACTS.

IN CHANCERY.—DIXON *v.* JACKSON. To BOAD-MAKERS, SEWER CONTRACTORS, and OTHERS.—Notice is hereby given, that (with the sanction of the Vice Chancellor Kindersley, the Judge to whose court the above suit is attached) TENDERS will be received from persons willing to CONTRACT for the EXECUTION of certain WORKS on the estate of the late Thomas Jackson, in the Hornsey-road, Holloway, in MAKING ROADS and SEWERS, according to a plan and specification which have been approved by the said Judge. Such Tenders are to be endorsed "Dixon v. Jackson, Tenders for Works," and are to be delivered, sealed, to Messrs WIGG, SON, and OLIVER, of Bedford-row, Holborn, on or before the 15th of FEBRUARY, 1858, after which time no Tender will be received; and no Tender will be entertained which does not contain the names of two sufficient sureties, to be approved of by the said Judge, and who, jointly with the contractor, must enter into a bond for the due performance of the contract, the costs of an hereof to be paid by the contractor. After the examination has obtained, the said Judge will declare which of the Tenders he shall think the most advantageous, and which of such Tenders he is prepared to accept. Copies of the specification may be obtained of the said Messrs WIGG, SON, and OLIVER, on payment of five shillings, which will be returned to each person making a Tender.

N.B. No sum in the roads and sewers are completed, at a proposed, with the sanction of the said Judge, to let the land in building leases.

W. F. BARNES, Plaintiff's Solicitor,
Carey street, Lincoln's Inn.

BOARD of WORKS for the LIME-HOUSE DISTRICT LOAN.—The Board of Works for this District are desirous of RECEIVING TENDERS from persons willing to ADVANCE £3000 (or any sum, or in sums of not less than £500), upon the security of the sewer rates collected or to be collected in the parish of Limehouse, in the said district, under the Metropolis Local Management Act. The said loan will be repaid, by instalments, within twenty years, in such sums, and at such times, as the Board may determine, with interest half yearly in the meantime. Tenders, specifying the amount to be advanced, and the rate of interest required, to be delivered, under cover, at my office, Colet-house, White Horse-street, Commercial-road, E. on or before TWO o'clock in the afternoon of WEDNESDAY, the 10th FEBRUARY, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

NEW CATHOLIC CHURCH of OUR LADY and ST MICHAEL, Abergavenny, Monmouthshire.—Builders and others desirous of CONTRACTING for the ERECTION of the above new CHURCH, may view the plans and specification as for the same at the residence, either of the Rev. T. PRICE, Frogmore street, Abergavenny, or of the Architect, B. BUCKNALL, Esq., Rosebrough, near Stroud. Tenders to be sent to the Rev. T. PRICE, on or before the 8th of FEBRUARY next.—The lowest Tender will not necessarily be accepted

BRISTOL LOCAL BOARD of HEALTH. To BUILDERS, CONTRACTORS, and OTHERS.—The Local Board of Health of the City and County of Bristol, hereby give Notice, that they intend to CONTRACT for LAYING DOWN, CONSTRUCTING, and COMPLETING and FINISHING certain intended BRICK SEWERS, within their district, viz.—in the Parish of St. Philip and Jacob, about 3667 yards in length; and in the parish of Clifton, about 3,400 yards in length, Persons wishing to contract for the same are requested to deliver in their Tenders at the Office of the said Local Board of Health, No. 13, Prince street, on or before THURSDAY morning, the 18th day of FEBRUARY next, at TEN o'clock, on which day the Committee will meet to determine upon the same. The plans and specifications of the Works to be done, and drafts of the Contracts, may be seen at the Office of the Local Board of Health, and any further information may be obtained either personally, or by letter, post paid, addressed to the Surveyor. Mr FREDERICK ASHMEAD, C.E. The party contracting will be required to give sufficient security, to be approved by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee,

JOHN G. HEAVEN, Clerk.
Local Board of Health Office, 13, Prince-street, January 14, 1858.

NORTH-EASTERN RAILWAY.—TO IRON MASTERS and OTHERS. The Directors are prepared to receive TENDERS for TWO THOUSAND TONS of IRON RAILS, of the weight of 80 lbs. per yard. All rails supplied under the contract will require to be guaranteed for seven years. Tenders will be received for the whole or a portion of the quantity required. Forms of Tender, with a pattern rail to be seen at the Offices of the Company, may be obtained on applicant is to the Secretary at York. Tenders addressed to the Secretary, and marked "Tender for Iron Rails," to be delivered not later than THURSDAY, the 4th of FEBRUARY next. The Directors do not bind themselves to accept the lowest or any Tender.

J. CLEGHORN, Secretary.
York, 27th January, 1858.

TO BUILDERS.—ESTIMATES required for ENLARGING N. DEFRIES'S DRY GAS-METER, BATH and STOVE FACTORY, Euston-road, near Trinity Church, where particulars may be obtained.

TO BUILDERS.—Persons desirous of TENDERING for a new CHURCH at WYNBRANE, near Newport, Monmouthshire, may see the plans and specifications on application to the Rev. J. T. CLARKE, Cwm Brane. The Tenders are to be sent to me on or before the 15th day of FEBRUARY next. The lowest or any Tender not necessarily accepted. The contractor will be required to give security.

PRICHARD and SEDDON, Diocesan Architects.
Llandaff, January 26th, 1858.

LONDON and NORTH-WESTERN RAILWAY.—CONTRACT for CAST IRON GIRDERS.—The Directors are prepared to receive TENDERS for the supply of SEVENTEEN CAST-IRON GIRDERS. Plans and specifications may be seen on application to Mr WOODHOUSE, at the Permanent Way Office, Railway Station, Stafford. Tenders, addressed to the Secretary, at this Office, to be sent in on or before MONDAY, FEBRUARY 8, 1858.—By order,

CHAS. E. STEWART, Sec.
Secretary's Office, Euston Station, January 21, 1858.

CONTRACTS.

NOTICE to BUILDERS.—The Commanding Royal Engineer, London District, hereby gives Notice, that sealed TENDERS, addressed to the Director-general of Contracts, will be received at the War-office, Pall-mall, on or before the 6th of FEBRUARY next, for the SALE of OLD BUILDINGS at the TOWER of LONDON. Specific at can may be obtained, and blocks can be seen, at the Royal Engineers Office, Tower, between the hours of TEN and THREE o'clock, from WEDNESDAY, 27th JANUARY, to FRIDAY, 5th FEBRUARY, inclusive. The War-office reserves to itself the right of rejecting the whole or any of the Tenders.

Royal Engineer's office, 11, James-street, Buckingham-gate, 22nd January, 1858.

TO MASONS and PAVIORS.—The Vestry of Bethnal-green-road, on THURSDAY, the 4th of FEBRUARY next, at ELEVEN o'clock in the forenoon precisely, to receive TENDERS, and then CONTRACT for the EXECUTION of certain MASONS' and PAVING WORKS, within the Parish, pursuant to written specifications, which may be seen at the Office of the Surveyor, Town-hall, as read, where printed forms of Tender, and any further information may be had, between the hours of NINE and TEN daily. No Tender, however, will be received, except in the Vestry's own printed form, nor after TWELVE o'clock on the said 4th FEBRUARY next. Neither the Vestry nor themselves to accept the lowest, or indeed any Tender.—By order of the Board,

R. BRITTON, }
R. VOSS, } Vestry Clerks.
Bethnal-green, 25th January, 1858

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for SEWERS.—Notice is hereby given, that the Sewers Committee will meet on TUESDAY, the 9th of FEBRUARY, 1858, to receive TENDERS from persons willing to CONTRACT for the CONSTRUCTION of certain intended BRICK and PIPE SEWERS, in Ormsan's-lane and Henry-street in the parish of Limehouse, and the hamlet of Ratcliffe, with other works in connection therewith, and for the maintenance of such works in complete repair for twelve calendar months. Plans, sections, and a specification of the works, together with forms of Tender, may be inspected, and other particulars obtained, at the office of the Board, White Horse-street, Commercial-road, E. between the hours of TEN and FOUR o'clock after TUESDAY, the 2nd FEBRUARY, 1858. Tenders, sealed up and endorsed "Tender for Sewers Works," are to be delivered at the said office not later than THREE o'clock in the said 9th FEBRUARY, and no other will be received unless accompanied by a bankers note, as evidence that the same is bona fide. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required. The contract will have to pay all costs of the contract. No Tender will be received after the time specified, nor unless strictly in accordance with the printed instructions. By order,

THOS. W. RATCLIFF, Clerk of the Board.
28th February, 1858

TO BUILDERS.—BICESTER NATIONAL SCHOOLS.—The Committee are desirous of receiving, on or before the 22nd day of FEBRUARY next, ESTIMATES and TENDERS for CONTRACTS for the ERECTION of the above SCHOOLS, which are intended to accommodate 200 children, with masters residence, according to plans and specifications which may be seen on application to the undersigned, who will be pleased to give any further information required. The Committee do not pledge themselves to accept the lowest or any other Tender

CHAS FOWLER WHITELANDS, Bicester, Hon. Sec.

METROPOLITAN BOARD of WORKS.—To CONTRACTORS, BUILDERS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet in the BOARD CHAMBER, Guildhall, in the City of London, on FRIDAY, the 5th of FEBRUARY, at TWELVE o'clock at noon precisely, and will be prepared to open TENDERS for the SUPPLY of MATERIALS and the EXECUTION of the DAY JOBBING, and MEASURED WORKS of the BOARD, in respect of the Main Sewers of the Metropolis, and incidental Works connected therewith, within the limits laid down upon a map now deposited at the Office of the Board, No. 1, Greek street, Soho square. Tenders must be made separately for each of the Areas shown upon such map, viz.—Area coloured Yellow, Area coloured Blue, Area coloured Green, and marked C. The Tenders are to be upon the basis of Schedules of Prices, and are to be made for the period of One Year from the date of the Contract, subject to determination in the manner stated in the conditions of contract to be contained in the printed forms of Tender, which may be obtained on application at the Office of the Board, between the hours of Nine and Four o'clock. Each Tender is to include neither more nor less than one Schedule of Prices for the Area to which it refers. No Tender for works in the Area shall be considered unless the description of the materials to be supplied, and the workmanship to be performed, in the execution of the Contract, be specified in the Schedule of Prices. Sealed Tenders must be delivered at the Office of the Board on or before THURSDAY, the 4th of FEBRUARY, at FOUR o'clock p.m. and none will be received after that hour, and any Tender which does not comply with the printed forms and conditions of the Board, and signed by the party or parties tendering, will be rejected. Any party whose Tender shall be accepted will be required to enter into a bond, with two approved sureties, to be bound jointly and severally in the sum of £5000 for the due performance of the Contract. The Board do not bind themselves to accept the lowest or any Tender.

E. H. WOOLRYCH, Clerk of the Board.
Office of the Metropolitan Board of Works,
1, Greek-street, Soho-square, January 27, 1858.

METHODIST NEW CONNEXION CHAPEL and SCHOOLS, GUERNSEY.—To BUILDERS and CONTRACTORS. Parties willing to CONTRACT for the ERECTION of the above BUILDING, may see the plans, elevations, and specifications, by COLLENETTE, Esq. L.S.A. Secretary to the Trustees, appointed to the Building Committee, not later than TUESDAY, the 2nd of MARCH, at FOUR o'clock, p.m. The lowest Tender will not necessarily be accepted.—Information and bills of quantities can be obtained, by applying to Messrs POULTON and WOODMAN, Architects, Gresham's-road, Reading

[*For remainder of Contracts see next page.*

THE BRITISH AND FOREIGN MARBLE GALLERIES,
17, NEWMAN-STREET, OXFORD-STREET.

EDWARDES, EDWARDS, and CO. PROPRIETORS,

The LARGEST and MOST SUPERIOR STOCK of CHIMNEYPIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

CONTRACTS.

TO BUILDERS.

PERSONS willing to CONTRACT for the ERECTION of a CHAPEL OF EASE, on Saint John's-hill, in the parish of Sevenoaks, Kent, may view the Plans and Specifications, and obtain every information, previous to the 20th of February next, at Mr HOLCROFT'S office, at our office, where tenders are to be delivered at or before Twelve o'clock on TUESDAY, the 2nd of MARCH next, at Mr HOLCROFT'S office, Sevenoaks. The advertisers do not bind themselves to accept the lowest or any tender.
MORPHEW and GREEN, Architects.
4, Queen-street Place, Cannon street, City.

TO BUILDERS AND OTHERS.

PARTIES willing to CONTRACT for the COMPLETION of the HOUSE, 7, Prince's-street, Cavendish square, may inspect the Plans and Specifications at the office of Mr. WILLIAMS, 8, Edwards street, Portman square.

CARDIGAN MARKETS and IMPROVEMENT ACT 1857.—To BUILDERS and OTHERS.—The Corporation of the Borough of Cardigan, hereby give NOTICE that they are ready to receive TENDERS for the execution of the various works to be performed in the erection of markets and public buildings. Separate Tenders will be received for the proposed Markets, Guildhall, and Grammar School. Plans and Specifications of the same, as prepared by the Architect to the Corporation, Mr R J WITHERS, 6, John street, Adelphi, London, will be for inspection at the offices of the Architect, from the 10th to the 27th day of FEBRUARY, inclusive, and duplicates thereof at the Town Clerks' Office, in Cardigan. Lithographed copies of the quantities may be obtained on application to the Architect by payment of 1s. 6d. Tenders are to be delivered at the Town Clerk's Office, Cardigan, on or before SATURDAY, the 27th day of FEBRUARY, in sealed envelopes addressed "Tender for Markets." The Corporation do not pledge themselves to accept the lowest or any other Tenders. The successful competitor will have to satisfy the Corporation with responsible securities for the proper completion of the works.
EVANS and MORGAN,
Town Clerks of the Borough of Cardigan.
Town Clerks Office, Cardigan, January 26th, 1858.

TO CONTRACTORS.—MARTIN, SAMUELSON, and CO. Engineers and Iron Ship Builders, Hull, are prepared to receive TENDERS for the CONSTRUCTION of a GRAVING DOCK (on their Premises, at the mouth of the River Hull), to be about 400 feet long with a 60 feet entrance. Plans and specifications may be seen at their office, Scott street, Hull, on and after MONDAY, FEBRUARY the first. Tenders to be delivered on or before the 21st proximo, and to be addressed to the firm, marked "Tenders for Graving Dock." Messrs. Martin, Samuelson, and Co. do not bind themselves to accept the lowest or any Tender.

ENLARGEMENT of the BAPTIST CHAPEL, King's-road, Reading.—Persons willing to CONTRACT for the ENLARGEMENT and REMODELLING of the Chapel, may see the Plans and Specifications at the Office of Mr J. O. COOPER, Surveyor, on and after TUESDAY next, the 2nd FEBRUARY, between the hours of TEN and FOUR o'clock. Tenders to be endorsed "Enlargement of King's road Chapel," and to be delivered at my Office by MONDAY, the 8th of FEBRUARY. The lowest Tender will not necessarily be accepted.
JOHN O. COOPER, Surveyor.
123, Castle street, Reading, January 27, 1858.

TO TIMBER MERCHANTS and MILL PROPRIETORS, JOINERS, SASH and DOOR MAKERS.—TENDERS are WANTED for the following:—About 250 loads of Memel, Dantzic, or Riga fir, cut into different lengths and sizes; about 346 squares of 1 inch seasoned white deal prepared and dressed flooring boards; about 24,900 feet superficial of seasoned yellow pine; about 35,700 feet superficial of seasoned yellow deals, cut into different lengths and thickness; about 12 loads of single laths. Also for about 130 flights of stairs; about 680 frames and sashes; about 1,200 frames and their doors. The above are required for cottages.—Particulars and specifications may be seen on application at the Londonderry Offices, Seaham Harbour. Part of the above will have to be delivered free at Seaham Harbour, and remainder at Rainton Meadows, near Fencehouses, on the North eastern Railway.

TO BUILDERS, MASONS, AND OTHERS.

THE largest STOCK in England of MARBLE, in Blocks and Slabs, Veined, Bardilla, Dove, Black, Black and Gold, Sienna, St. Ann's, Statuary, Serpentine, Verd Antique, &c. Portland, Harehill, Park Spring, and other Stone, in blocks, slabs, landings, and headstones. Yorkshire paving, granite curb, &c. All goods carefully packed and forwarded to any part of England. THOMAS JACKSON, Marble and Stone Sawing Mills, Commercial road, Pimlico, London.

TO SCULPTORS, MASONS, BUILDERS, &c.—B FABBRICOTTI, of Carrara (Italy), importer of all sorts of Marble, keeps a constant well supplied stock of Marble in blocks at the undermentioned wharf, comprising STATUARY, VEINED, VEINED PAONAZZO, SICILIAN, DOVE—all the produce of his own Quarries at Carrara. Bardilla, Black and Gold, Sienna, Granite, St Ann's, Vert des Alpes, Breccia, &c. &c. Vases, Monuments, Garden and Gallery Statues manufactured in Italy; and takes contracts for all the above sorts of Marble to any extent connected with the trade.
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This Granite is selected for the New Westminster bridge.

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Apply for prices, &c. &c. to
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Messrs PINDER, SIMPSON, and SONS,
29, Savile row, London.

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Country orders promptly attended to.

SAMUEL TRICKETT, general STONE-MERCHANT.—Masons and contractors supplied at the lowest wholesale prices, direct from the quarries or wharfs, by vessel or railway. London depots—Victoria Wharf, Isle of Dogs, and No. 3, Stone Depot, Great Northern Railway, King's cross, where large stocks are kept. Chief Office, Millwall, Poplar, E.—Sole Agent for Rawdon-hill Stone.

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Sheringham's Ventilator for the

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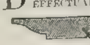

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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
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JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.
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ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,
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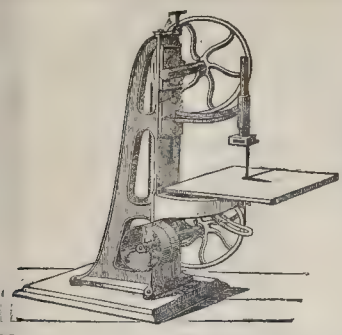

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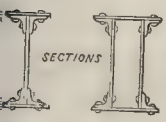

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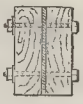

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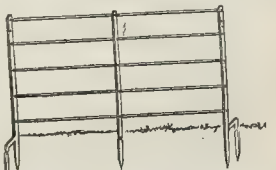

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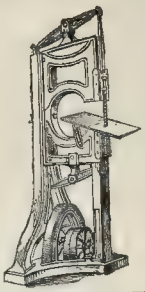

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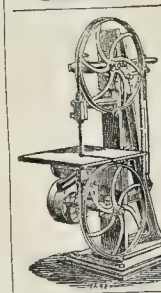

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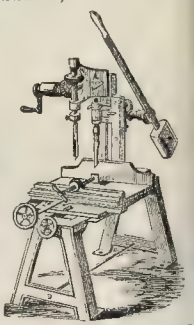

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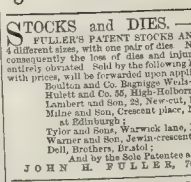

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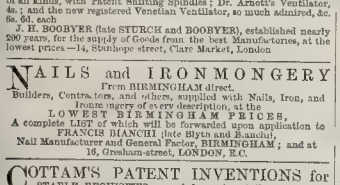
COTTAM'S PATENT INVENTIONS for STABLE REQUISITES, awarded a prize at the Paris Exhibition, and patronised by the English and French Governments.



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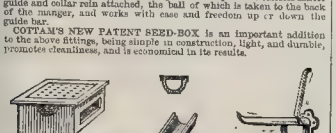

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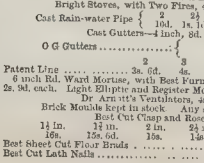

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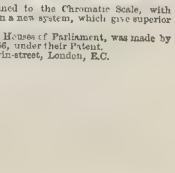

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The Builder.

VOL. XVI.—No. 782.

The Works in the Architectural Exhibition.

EXPRESSING, in continuation of our notices of the drawings at the Exhibition in Suffolk-street,* our view of the new interest which is given to the question of "synchronism" and *purity of style*, by the decline of one class of influence of models, and the infusion into current architecture of a large element of novelty culled from diverse fields of study,—we may proceed to say, that the value of "synchronism" in a composition of parts, can only be so far as it may conduce to harmony of the forms, or, at most, of the associations, — and irrespectively of any *vraisemblance* of antiquity and chronological accuracy. It is not the practice of imitative art,—not reproduction that we want,—we value models, and precedent, for use similar to that hich is to be made of the works of ture—that is, the former, for a sort of tant force to ideality which they have,—a ggestiveness on which originality itself de- nds,—and, the precedent, for the opportunity hich it affords for a sort of subtle com- rison of the mental imagery with an existing velopement and result. The moment that e source and the mental process are such as come vulgarly appreciable, we have *copyism*, d "precedent-rule;" but, a process, the mind every artist goes through; and the most illiant ideas are but the suggestions, refined comparison, derived from external objects.

The question whether synchronism is "essen- l to beauty and propriety in architecture," can ly be held applicable to old works: pertaining architecture of our own time, we have no busi- ss with it. Several years ago, when the question as first proposed by the Institute of British rchitects, some one wrote to ask the sense at was intended in "synchronism," and idst much laughter from the meeting, was ferred to Johnson's Dictionary, told that the ord was the opposite to "anachronism," and forth. It is just possible, however, that the quirer may have had excuse for his dulness; , he may have supposed the question had me immediate bearing of utility, and that ither "synchronism" nor "anachronism," as ually understood, had any concern with ture architecture, unless that should be only itative.

But, harmony such as there is in what at ngth becomes *style*, is a thing constantly to studied. It exists in styles that may be lled *pure*, and it exists, also, in many others at are of the nature of "transitions" or mbinations. But, as every step towards the blime is taken at the peril of the ridiculous, ch desirable effort after novelty but involves increasing duty of reference and comparison. is only when we find this reference wanting, at we ourselves feel called upon to utter a rning against novelty by itself. Without the other elements of art, novelty is the thing easiest to be attained in building. True, it is a thing that has been sadly needed in architecture, of late; and so also has the learning from the comprehensive study of different models,—the general view of all architectural history, and its subordinate and reciprocal influences. There are, however, separate styles which are peculiarly deserving of study,—from the extent to which rule and principle enter into their constitution, from the calibre of the minds that were exercised on them, and from the importance of the examples or the written treatises that are within reach. For example, the Greek architecture, and the Italian, in this point of view, would have somewhat better claim to attention than a style in which the objects of study are heapings-up of old materials, as the early Romanesque.

Now, whatever course the architecture of the day may be taking, if the appearance of the walls of the Architectural Exhibition be held conclusive, and assuming that the novelty there striven for is expressive of a certain healthful tendency in the art, we see cause for regret at the want of study apparently of any but a certain class of styles, and those hardly imbued with the qualities of reproductiveness and permanence. It was really a source of delight to us to find evidence—as in Mr. F. P. Cockerell's "Studies in Magna Græcia" (346)—that one student had given a thought to a class of works, not to know which is for the architect to leave his artistic knowledge and power sadly wanting. These studies, seven in number, are beautifully coloured. Mr. Lightly's Italian studies (154, 402, and 417 to 419) deserve to be spoken of approvingly. That it is to the disadvantage of art to be subject to the permutations of mere *fashion*, we suppose every one who has thought long on the subject admits; but such, we apprehend, is the sort of tendency that is manifested in many of the designs where desire for novelty, or its semblance, is the leading principle. There is just now the *spasmodic* school of architecture, like there is what is called the "spasmodic school" in poetry.

Yet it is remarkable how small a number of designs—unless those which are little more than copies—there are in the general collection, that can be classed under the heads of recognized styles. Both Gothic and Italian are modified, with gain in some respects, but to the loss, otherwise, of much of the original beauty. The art is evidently in a transition state, though a hopeful one; but the study of models must not be neglected, and especially of those of the Italian school.

In the pure Italian of the sixteenth century there are few designs. The principal work is the "Academy of Fine Arts, Bristol" (110), by Messrs. C. Underwood and J. H. Hirst. The building belongs, in style, to the Venetian Italian, and is remarkable for the advantage that has been taken of the site and the purpose of the building, to get effect by a prominent feature, and for the arrangement of the steps and the base of the composition. The chief element of the design is a loggia of five arches with three-quarter columns of the Corinthian order, the three centre arches being reached by a broad flight of steps from a balustraded landing and side flights. The order is continued with pilasters in the wings. These last are kept subordinate. Above the loggia is an attic, with pilasters and semicircular panels for *alto-rilievos* and inscriptions; and a group of sculpture emblematic of the town of Bristol, is at the summit. The podium, or basement to the landing, has an entrance-way to the lower story, in the centre; and the setting-back of the building and flights of steps, and disposition of the ground and accessories, are made conducive to the effect. The general grouping of the design is excellent; and the architectural character is worthy of the subject, and creditable to the time.

In the Roman Italian of the sixteenth century, Messrs. Banks and Barry exhibit two designs of superior character (5 and 14). The first, "A Street Façade," is remarkable for the good proportion of the mouldings, the variation in the string-courses, and the grouping of the window-openings, — the whole proving that effect does not depend so much upon the *novelty* of the separate features, as upon the manner in which parts are combined and arranged with reference to one another. The other design, one for the front of the "Mutual Life Assurance Society," submitted in competition, may be referred to in similar terms. Here, pilasters, features belonging to a class of decorative accessories which form the ground of objection to the whole style with some persons, -on the assertion that such accessories are constructed decorations rather than decorated construction,—are obviously appropriate, —the idea of strength in the narrow piers, no less than the fact of it, being required to satisfy the observer. Indeed, this *ideal* structural purpose, if we may so speak, has often greater effect on the mind than real knowledge as to strength and sufficiency,—as we shall have occasion to show a little further on. Similar reasons, with reference to apparent utility, would be found to justify the use of most of the Italian dressings. Not exactly so, however, in the design shown in the drawing entitled "Street Architecture" (68), by Mr. J. Wylson,—where there are three fronts,—one designed for stonework; one for stone, brick, and tiles; and the other for stone, brick, and terra-cotta. Here, in the Italian design, there is the fault,—not one of the *style*,—of constructed decoration, —for, the orders do not include the whole height of the front, and might well be open to the objection, unfairly brought against many of the Venetian works of the sixteenth century, namely, that the orders have no structural office, and apparently could fall off from the front. One of Mr. Wylson's designs is noticeable for the good treatment of the shop-front. The arching-over, getting a mezzanine story, so as to overcome the unstructural character which is general in buildings where the usual arrangement of the shop exists, is no fresh notion; but it, or some analogous method, should be resorted to in London street-architecture generally, instead of exceptionally. We have had occasion to say much, on former occasions, on this matter. The object is less satisfactorily attained, in the "Houses and Shops, Loughborough-place, Brixton" (76), by Mr. J. Johnson: there, though there is merit in the design, the brick piers of the mezzanine carried on iron columns, do not realise the character of treatment wanted: the arrangement only serves to show that an effect of weakness is inseparable from the use of slender iron columns bearing masses, and that however knowledge of the strength of materials may satisfy the mind of the observer in one respect, there will be no perfect idea of stability conveyed without massiveness and breadth of base, or the use of the arch having sufficient piers and abutments. Better effect may be attained when window and glass-surface form the feature of the whole front, as in Mr. T'Anson's "New Chambers in Fenchurch-street" (83), of which the drawing is exhibited by Mr. R. B. Marsh. Here is the very limit of the appropriate use of narrow piers. Still it may be doubted how far it is possible to produce all the "breadth" which good architecture has, without such obvious structural support as is so easily supplied to the eye by a predominance of wall surface. The complete failure of the Crystal Palace style of architecture, in this, — its dependence for external effect, upon mere outline and comprehensive bulk, —illustrates the character of the difficulty

* See pp. 22, 33, and 55, *ante*.

into which the demands in many of the City buildings are getting us; though, if from the narrowness of the streets, or peculiar wants in certain cases, greater light than usual is called for, it must be provided. A return to the use of mullions and transoms may afford the means of reconciling the demands of convenience and architectural beauty; and lessons from the Elizabethan houses—in which you did not know where to put yourself "to be out of the sun"—may be learned, better than rule of precedent,—or from the peculiar Venetian of San Michele—often characterized by a certain preponderance of the window surface. Mr. I'Anson's "Colonial Life Assurance Office, Lombard-street," some time since illustrated in our journal, and of which there is here a photograph (266), produces on the whole a better result. In another photograph (405) the same architect shows a house at West Kingston, which appears to have considerable merit.

Mr. Knightley's "London Master Bakers' Pension Society's Almshouses, Lea-bridge-road" (12), deserves notice for the effect which is gained there with very simple elements. It serves to show that there is no necessity, even in buildings of this class, for resorting to new *styles* to get variety of character. Mr. Knightley has, however, adopted the Gothic style in another design for the same building (52), with an excellent result. The "Design for the Bristol Lunatic Asylum," by Mr. J. H. Hirst, "to which the third premium was awarded," is marked, and in a greater degree, by qualities of the same kind. It has an extensive frontage; but the parts group and mass well together, and yet have sufficient variety,—the latter effect being attained chiefly by the roofs. Almost the only other design in the general collection that can be properly classed as Italian, is Mr. T. Worthington's interior of the "Proposed new Assembly-rooms at Manchester" (65).

It is easier to say what description of taste is wanting in the designs of the non-mediæval class, than to describe that which there is. A character which we call pure Italian—though not on that score deficient in freshness and art—is, we have intimated, observable in few cases, or in few works at least that are important in subject or treatment. The necessity, however, of a constant reference to the best examples—not for precedent, but for that correction, by comparison of ideas, which the most originative minds must need—is evidenced by several works in the collection, and those even such as offer the best auspices for future architecture. It is impossible to leave Mr. Edmeston's works out of this generalization: they have novelty and unquestionably merit; but some of the details are rather uncouth and ponderous, as, for example, the masses which he sometimes places on his capitals in lieu of architraves,—see the view of the exterior of No. 114, Piccadilly (16), —the work a capital one nevertheless, though best as to the picturesque effect and decoration of the interior (17 and 18). The architraves, or corbels, referred to, from which the arches spring, of course are derived from Byzantine models; but something of structural importance or ornamental requirement seems to have been lost in the transmutation. In the porches to houses at Canonbury (430), the pedestals seem as if they had been denuded of their mouldings at the fronts, and the "Sketches for Chimney Tops," on the same sheet, have hardly the boldness required for great elevation. Good designs suited to lofty shafts are much wanted.

Originality is not beauty: it is a thing essential for the expression of architectural art; but its presence alone does not necessarily involve the art. Let this simple truth be ever borne in mind, and we may escape much prejudicial exaltation of mere novelty, and much of inattention to the lessons open to us in the everywhere varied, but always useful, works of the past.

Mr. Lamb's works are of the class that often are the more meritorious, the more they are difficult of description. He certainly introduces original and picturesque features into most of his designs. His "Newton Hall, near Dunmow, now erecting for Sir B. Henniker, Bart." (88), is Gothic, so far as the use of gables with corbie steps and general character may justify such classification. The windows have segmental heads and reveals chamfered, and wooden mullions and transoms. The effect in the view is benefited by the good treatment of the red brick terrace-wall. The same architect also exhibits (94, "A Chapel about to be erected for the City of London Hospital for Diseases of the Chest, Victoria-park," a low building with octagonal projections in the place of transepts, a turret in the angle, and details of modified "decorated" Gothic character.

"The Minton Testimonial" (412), by Messrs. Pugin and Murray, is a good design, with more of the Italian character than there is in the works we have lately mentioned; and the same architects exhibit (Nos. 6 and 406 to 411), a number of illustrations of "the Cathedral of Dadizeele, near Bruges." The view and plan were engraved in our last volume. We have also given the Tower, Engine-house, and chimney of the Worthing Water-Works (133), by Mr. R. Rawlinson.

Church architecture is not very largely represented: there are, however, a few designs which we have not noticed. One of the best is Mr. M. Digby Wyatt's "Original Design for a Church now erecting [in another style], near Brentwood, Essex" (90). There is some freshness of thought in its main features, and in its details, which belong to the Early English class. The bays externally are coupled, with gables transversely to the aisles; and internally, the piers alternate in design; the minor piers carrying sub-arches to the main arches which spring from the main alternate piers. In the wooden roof, good effect is obtained by springing the principal or arched support to the collar, from a point very low down, and filling up the spandril below the clerestory, by a figure under a canopy. Mr. Wyatt's design for the "Corrugated Iron Church" (106 and 109), "built for exportation to Rangoon," externally bears the impress of an observance of the orthodox plan, but tends to show an apparent inherent inapplicability in some inventions and materials to the realization of beauty; internally, however, both novelty and good effect are obtained. The roof-covering seems to be double, and good arrangements are designed as to temperature and ventilation. The "Public Hall of the new Post-office, Calcutta" (87), by Mr. Wyatt, shows an adaptation of a style of the country; and the chief features in the view are large pointed arches, carrying a low lantern, or clerestory light.—Mr. T. Worthington's "Design for a Parish Church" (91), is a very well drawn and detailed elevation of a building, in the "Decorated" style. The same architect's "Section and Interior of Mayfield Baths and Laundries, Manchester" (78), represents a work of considerable importance amongst buildings of the kind. We shall probably give some further particulars of it. Messrs. Habershon exhibit views and plans of a number of churches which they have built or restored lately (29). Mr. Street exhibits a view of the Church at Hayley (46), and some "Sketches of Schools" (149), erected from his designs.

Amongst the Gothic works we might have named somewhat earlier, Mr. Truefitt's "Schools at Bryn Coch, Vale of Neath" (101), of which we give a view in our present number, "Additions to Manor House at Little Cawthorpe, Louth" (102), and "the Catholic Apostolic Church at Ware" (103), all good examples of decorative character produced by very simple elements. Mr. Truefitt's most prominent contribution, however, is "A Public Drinking-place for the Parks" (50), one of his applications of encaustic tiles in a framing of ornamental iron-work. Mr. Goldie contributes a drawing of the design for the High Altar, Lille Cathedral (396), one of the series to which "special honourable mention and diploma of merit" was awarded; and also a "series of drawings for the proposed church at Berne, which received a gold medal" (447).

The merits of Mr. Colling's "The Albany: Merchants' Offices," Liverpool, are known to our readers. The entrance vestibule, with coupled and clustered columns, and good ornament to the capitals and arches, is shown (81). Amongst the drawings illustrating existing buildings, or recording what is past, Mr. J. D. Wyatt's Tower of Taunton Church (97) deserves examination, as also Mr. W. P. Griffith's "Restoration of Anglo-Norman Doorway, St. Saviour's Church, Southwark" (145).

Mr. Ashpitel has an interesting contribution, namely, the "Suburban Model Cottages for persons in business, superior artizans, &c.; erected at Hackney" (47). Each cottage lets for 7s. a week, and is said to return 8 per cent.; and the accommodation provided consists on the ground floor, of a living-room, kitchen, scullery, and conveniences at the back, and on the first floor of three bed-rooms, and a small closet. The plan is necessarily brought within narrow limits, the entrance standing back from the line of front, and the way to the yard being through the kitchen and scullery; but the fittings as described, are of a superior sort; the stairs are of slate, and the external character is inviting. The doorway has dressings of Ransome's stone.

In noticing the competition drawings, we only mentioned those for the Blackburn Infirmary. Eleven drawings are here exhibited. Mr. J. J. Jackman's design (113) is one of the best of those in the Gothic style. It has a good feature in the arcade, carrying a wooden verandah to the floor above. Of the designs which are in Italian, or a derivate style, Mr. G. T. Jarvis's (115) appeared to us the best. The grouping of the portions of the building here is good; whereas in many of the designs, the details and the scattered blocks of the building produce a result which can be likened only to that where a band has every performer playing his own tune. Mr. J. P. Jones's design (122) in the French-Italian style, however, is not open to this complaint.*

The designs for objects of decorative and ornamental art are not numerous. Mr. Digby Wyatt's "Working Drawing from which the Mechi Testimonial, forming a Lamp and Candelabrum, was executed" (84), we are glad to see as evidence that these works are being put into proper hands. Lately, the naturalistic principle in such designs has exclusively prevailed; and no one knows better than Mr. Wyatt the necessity of a leading architectural or structural principle. Still, in this case, somewhat more of structural character in the stem and feet of the candelabrum, might have been introduced with advantage.

But here we must bring our notices to an end; hoping that next year the Exhibition may be established in its new quarters, with increased advantages to all. Let us add, that if competition drawings are to continue to form a leading part of the collection; some additional particulars for identification, and as to the original "instructions," might be usefully given in the pages of the catalogue.

MR. SCOTT'S LECTURE ON GOTHIC ARCHITECTURE AT THE ROYAL ACADEMY.

IN the introductory lecture which I had the honour of reading last year, I endeavoured to give an outline of the varied claims of the architecture which was developed in our own and neighbouring countries during the Middle Ages, upon the study both of architects and lovers of art at the present day.

I will not recapitulate what I then said, but presuming that by your honouring me with your presence you admit the subject to be well worthy of your attention, will crave your indulgence while I endeavour, at the risk of appearing to be going over a trite and almost exhausted subject, to give a brief outline of the rise and development of the architecture whose claims upon your study I then attempted to advocate.

My object is rather to trace out the reawakening of art in the eleventh and following centuries, from the slumber in which it had so long lain, than to chronicle its changes during the chaotic ages which followed the final catastrophe of the ancient world. Like the contemporary fable of the seven sleepers at Ephesus, its changes during this dreamy interval were but the turnings of the slumberer from the right side to the left, and little need is there to investigate such sluggish and disconnected movements: our concern is rather with

* The design for the Ulster Bank (250), mentioned in a former notice, should have been ascribed to Mr. C. Kirkby.

living and *energetic* art, and if we stop at all to inquire into its semi-dormant condition, it is rather for the sake of judging what were the elements of life which it retained, than from any really practical interest which attaches to its productions.

It is hardly possible to conceive of a state of things so utterly anomalous and contrary to all historical precedent as that of Western Europe after the deluge of northern barbarism had annihilated the mightiest empire the world ever saw, and almost swept from the face of the earth the arts and literature which it had taken the whole period of human history to generate. Like the giant-slayers of old romance, the barbarous conquerors must have been filled with awe in contemplating the stupendous proportions of their now lifeless victim; and while wandering amidst the mighty monuments of the people they had overthrown, they must have been inspired with deep veneration for their intellectual power, and with ardent longings to inherit some portion of their skill;—aspirations which, if we may judge from some of the structures erected by Theodoric, there can be little doubt would have been realized had not every wave as it subsided been succeeded by a fresh torrent of barbarism. The lamp of art was only saved from utter extinction by two surviving institutions—the Western Church and the Eastern Empire; the one seeming to absorb each succeeding wave of conquering barbarism, and the other to supply to each those elements of civilization by which its fury was in its turn to be abated.

As might be expected from the circumstances of their position, the architectural efforts of the new races were founded on the basis of the Roman monuments, with whose vestiges they were on every hand surrounded, aided by friendly and continuous importations of the still living art of the eastern empire: their elements were the Christianized Roman of the Western Basilica and the newly-developed architecture of the Byzantine church. Long, long, however, was it before any distinctive style was developed out of these elements. The efforts of Theodoric must be considered as rather Byzantine than *Gothic*; and for three centuries so little, if any, was the progress, that we find Charlemagne, the refounder of the empire, actually despoiling the palace of the early Gothic king to use its architectural fragments in his own structures!

There can be no doubt, however, that the efforts made by Charlemagne for the revival of art would have soon produced some great results, had he been followed by successors in any degree worthy of him; but, so far from this, the nations he governed seem to have fallen back into almost worse barbarism than before, while the incursions of Northmen, Huns, and Saracens long repressed every effort after better things. We know little of the actual state of architecture during this melancholy period. The notion of Charlemagne having found a distinctive style of architecture in Lombardy, and having transplanted it to the banks of the Rhine, seems to be little more than a myth, though I think it not improbable that the Lombards had already taken some steps towards the formation of a new style.

It is dubious whether a fragment of the structures erected by the Lombard kings now exists from which we may ascertain their style, and though it is possible that the subsequent architecture may have been influenced by them in some degree, it is certain that the models which the Frankish emperor more especially followed were rather found in Byzantine Ravenna than in barbarous Lombardy, and the few remains of his architecture seem to be imitations of either Classic or Byzantine structures.

In England the works of this period were a very rude and unintelligent imitation of those of the same period at Rome, united with a strange translation into stone of their own timber structures, and occasionally enriched with that primitive kind of ornamentation which it is customary to call Runic.

In the north of France it would not appear that the humbler class of churches were much better than those of which we find the remains in our own country. The remnants of one of the arches erected at that period on the site now occupied by Notre Dame, at Paris, are debased Roman, with Corinthian capitals; but the few remains of smaller churches, such as the old church at Beauvais, are not very unlike the Saxon structures in England. Of the latter, it is but right to state that the fragments which remain nearly all belong to merely rustic churches, and are hardly fair specimens of their style: they afford, however, sufficient proof of the rude state of art, though we have the witness of contemporary and succeeding historians to the fact that they were supposed and intended to be in the Roman style: meaning thereby, not that of ancient Rome, but that which prevailed at the period, and which we usually designate as Basilican style.

The dawn of better things may be dated from the commencement of the tenth century, and may be mainly attributed to the consolidation of the German empire under the three first Othos (936-1002), and their immediate successors, and more especially to the fact of these emperors having had Lombardy, equally with Germany, Switzerland, and portions of France, under their sway; and thus, in some degree, uniting in one that vast expanse of country which extends from the banks of the Po to those of the Elbe.

Though Charlemagne had been the first to establish this mighty empire,—and that on a yet grander scale,—and may claim the title of the founder of modern civilization, the seeds he had sown scarcely began to take root till the days of his German successors of the tenth and eleventh centuries; I say *German* successors, because the kings of France were his successors as *Frankish kings*, the others as *German emperors*, and from this time forward we find a sort of contest or competition ever going on, both in politics and arts, between those who represented him in these two capacities.

From the commencement of the tenth century we find one style of architecture for a time spreading over the plains of Lombardy, the valleys of Switzerland, and that of the Rhine, and extending itself over Saxony and all the civilized parts of Germany.

I do not say that the style was absolutely identical, but still it was essentially the same. It was promoted by the same all-pervading political influence, and there can be no doubt that the same ecclesiastics, and even the same artists, were engaged in carrying it out, and that even among those most remote from one another, a constant interchange of views as to taste and construction was ever going on, while the differences which we observe would arise rather from those of climate, material, and proximity to the relics of ancient art than from any essential or intended difference of style.

The force of the influence brought to bear at this period upon the furtherance of art, may be judged of from the accounts we have of the schools of art and science, established so far north as Hildesheim (in the neighbourhood of Brunswick and Hanover), by Bernward, bishop of that see, at the close of the tenth and the commencement of the eleventh century. Bernward was tutor, and afterwards chancellor, to Otho III., and there are extant portions of an elaborate treatise on geometry, from which he instructed that prince. He was himself skilled in many arts, as wall painting, the illumination of MSS. mosaics, working in metals, cutting and setting precious stones, as well as in architecture itself; and it is said that "whenever he found a youth with a feeling for art, he took him into his laboratory, and instructed him with the greatest kindness in giving the required forms to stubborn metals, hard stone, wood, and ivory. The most artistic of these young men he always took with him when he travelled, especially when he went to Italy, that their taste might be improved by seeing masterly works of art, and hence be enabled to execute similar works at home." Bernward rebuilt his cathedral, and erected the Church of St. Michael, at Hildesheim (still existing); and of his works in metal, there remain the gates and the spiral column (of which casts may be seen at the Crystal Palace), as well as the great Corona in the cathedral. I have dwelt the longer on these particulars, because we happen to have more complete records of Bernward than of most of his contemporaries in art, and because the sphere of his operations was at a point so distant from the recognized centres of art;—and when it is recollected that he was contemporary with the erection of many of the great Romanesque cathedrals of Germany, as Mayence, Spire, and Bamberg, and of multitudes of less important churches (at the dedication of many of which he was present),—and further, that he lived earlier than the erection of the Cathedral of Pisa, the Church of St. Mark at Venice, or St. Zeno at Verona,—it will be seen at once how early and energetic was the architectural movement in Germany under those emperors, who were also kings of Italy; and we need not wonder at the immense hold which the architecture, thus generated, had over the national mind of Germany.

It is probable that about the same period, a style somewhat analogous to the Lombardo-Rhenish, though more strongly tinctured with Classic detail, was growing up in Provence, and the other southern provinces of France, spreading itself northward, and thus meeting the German variety on the borders of Switzerland, and in Burgundy. The dates, however, of buildings in those districts seem too indefinite to be argued upon with confidence, though it is certain that at a date somewhat later, a very noble and refined variety of Romanesque, but with a strong classic admixture, prevailed there.

About the same time the development of a distinctive style, was promoted in the north by an apparently adverse cause. The northmen under Rollo, having ravaged and possessed themselves of an extensive province in the north of France, and having soon afterwards joined the Christian Church, set themselves vigorously about the task of repairing the sacrilege which, in the days of their ignorance, they had committed: nearly every ecclesiastical edifice in their new dominions had been destroyed, and never, perhaps, had a new and vigorous people a more perfect *carte-blanche* for generating a new phase of architecture. We accordingly find that they soon covered their land with edifices,—at first, it is true, rude and simple, but subsequently possessing elements of dignity, and massive grandeur of a very high order.

Of the central district of the Frankish monarchy at this period, we have few architectural relics. The weakness of the Carlovingian monarchs, and the almost entire dismemberment of their dominions, left them, probably, little able to carry out great works; yet it cannot be doubted that the active genius of the race—surrounded as they were by the Romanesque developments of Lombardy, Provence, Rhineland, and Normandy—could not have failed to have produced works fully proportioned in merit to those of their neighbours, though during the period of their subsequent greatness they were not deemed worthy to be detained.

We now arrive at the period at which the real subject of which I have undertaken to treat commences; and it may here be well to give a few moments' consideration to the intrinsic nature of the art at this time being generated.

The early architecture of Rome,—locally occupying a position between the Greek colonies to the south and the Etruscan cities to the north,—partook, as it would seem probable, of the characteristics of both, and was more especially marked by the union of the Greek orders and their trabeated structure with the arched construction shadowed forth by the buildings of Etruria. The whole history of Roman architecture seems to evince a competition, ever going on, between these rival systems. It was at first an unequal contest, for the arcuated system had never, when first taken up by the Romans, had the advantage of being treated as the vehicle for architectural decoration: it was as yet *mere construction*, while the trabeated system had passed through a refining process of two thousand years' duration, and had been brought by the Greeks to the highest pitch of beauty and perfection. The Roman structures display every step in this contest; some of their greatest structures being purely arcuated and merely constructive; others as purely trabeated,—mere imitations of Grecian architecture; but the majority uniting both in different proportions,—the Grecian element being very commonly little more than a decorative over-laying of the arched reality. As time moved on, the arched construction steadily gained ground; not only were openings arched over, but wide spaces vaulted, both domes, continuous cylindrical vaults, and those of the groined or intersecting form.

During the later ages of Pagan Rome, though architecture, as a decorative art, was on the wane, the triumph of arched construction became more and more complete. Columns hitherto used to support horizontal entablatures were employed directly to carry arches, the architrave being bent into a semicircle, instead of lying horizontally upon the column; while spaces of gigantic span were covered with groined vaulting, some reaching to a width never since attempted. In the Eastern Empire the Dome became subsequently the favourite form of vault,—though in each division of the Empire the arching over entire buildings in all its branches was practised with the greatest skill and success.

During the dark interval which followed the Gothic invasions, though constructive skill was immensely reduced, the preponderance of arcuated over trabeated architecture became yet more complete. The Greek element having during the later Roman period become merely decorative, and, therefore, no more than an artificial adjunct, it was natural that the overthrow of the ancient civilization should at once sweep it away as a

useless luxury, and that the real and useful portions of architecture should alone survive, though the actual skill in using them would be reduced. We find accordingly, that during this interval architecture became purely arcuated, though in Western Europe the more difficult forms of arcuation, such as the vaulting over of large spaces, were usually avoided. This art, however, was never forgotten nor lost, but simply disused from diminution of skill, and the grand characteristic of the re-awakening of architecture was the revival of these more difficult systems of construction; so much so, indeed, that nearly every structural change which we trace from the tenth to the thirteenth century arose, more or less, from the endeavour first to revive, and then to carry on to higher and higher perfection, the construction of arches and vaulting, and to elevate it from *mere* construction into the highest place among the means of producing beauty of decoration and sublimity of effect.

In the south of Italy the architecture continued all along to follow, in the main, the character of the Roman basilica, and for a long period it is probable, as I have before stated, that most of the northern churches were rude imitations of this type; but gradually in the countries north of the Po a new form came over the architecture, which ever after distinguished *northern* from *southern* buildings, and which may be designated by the family name of *Gothic*, not only as being the progenitor of the style which has generally received that title, but as being actually in a great degree the style of the nations of Gothic extraction as distinguished from those of Roman parentage. This style has generally received the name of Romanesque or Romane, to distinguish it from the Pointed-arched style which succeeded it, but is by Mr. Fergusson more philosophically termed the *round*-arched *Gothic*, while he transfers the term Romanesque to the Christianized Roman or Basilican style. This is far more correct than the usual nomenclature; but as the latter is established by custom, I shall not depart from it, but shall, for convenience, designate this round-arched Gothic style, as distinguished from the Christian Roman and from the Pointed style, by the customary name of *Romanesque*.

Of this style the following may be enumerated as the leading characteristics:—

1. Subordination of the arches.
2. Sub-division of piers to meet the subordination of arches.
3. Introduction of systems of moulding and decoration proper to sub-divided arches.
4. The use of shafts or colonettes as means of decoration and accentuation.
5. The entire relinquishment of classic proportions in the columns, which are henceforth proportioned in thickness to their *load* irrespective of their *height*.
6. A system of decoration of its own, founded on Roman and Byzantine, but worked up into a new character,—more or less independent of the original types, according to the locality and to its removal from, or proximity to, antique monuments.
7. Great thickness of walls to resist the thrust of vaulting, aided by flat pilaster-like buttresses in the principal plains of pressure.
8. In many cases,—indeed as a general rule,—an air of gigantic massiveness in the entire construction.
9. The vaulting at first exactly accords with that of Roman buildings embracing the barrel-vault, the groined vault, and the dome, in nearly all the hitherto attained varieties. The arches always either semi-circular or segmental.

The above characteristics are chiefly of a mechanical nature;—the style possesses, however, sentiments of an infinitely nobler kind than anything which these merematerial elements could impart. It possesses a sternness and dignity almost unearthly,—a majestic severity of sentiment which seems, as it were, to rebuke the unpitying barbarity of the age, and to awe its rude and lawless spirits into obedience to the precepts of the divine law. Its aspect is religious to the utmost extreme; but it expresses the stern uncompromising *severity* of religion, rather than its more winning and elevating attributes;—the asceticism of St. John the Baptist—the rebuker of sin, and the preacher of repentance and of righteousness, rather than the spirituality of St. John the Evangelist, the preacher of Christian love, devotion, and praise. The sentiment they would express seems not so much "Worship the Lord in the beauty of Holiness," as "Fear before Him all the Earth," and the task they prescribe to their ministers to be rather to proclaim "the day of vengeance" than "the acceptable fear of the Lord;" less "to bind up the broken-hearted, and comfort all that mourn," than "to lift up their voice like a trumpet, and show the people their transgressions."

This stern simplicity is not, however, universal; for the first of the Romanesque architects *occasionally* indulged in even rich ornamentation, and at a later date often carried it to profusion: yet even in the richest decorations they continued grave and severe,—their lines were hard and precise,—their foliage strong and harsh, and their figure-sculpture (unless intended to be grotesque) was the very image of sternness; rude in art, but often of great dignity of expression; and, though in an age like ours of technical perfection and in an age like ours of technical perfection and flippant criticism, it often provokes a smile, it was in its own simple and untechnical age, well calculated to produce wholesome and solemnizing impressions.

This is the style of which we should first treat when attempting to trace the history of Mediæval architecture. It is a mistake to imagine Pointed architecture to be severed by a great gulph from the Romanesque,—the Pointed Gothic from the Round:—it is its legitimate offspring, or rather *itself* in a more advanced stage of its development. The change from the Round-arched to the Pointed-arched Gothic, is no change of essential principles; it is but the carrying on to their inevitable results of the principles of refinement, purification, elevation, the perfecting of the construction, and the softening down of the asperity of expression which were going on during the whole of the Romanesque period. Nearly every characteristic of Pointed architecture finds its type or its perfected model in the Romanesque. They are not *two* styles, but *one*;—the earlier and the later phases of the *same* architecture: the latter being only the carrying on to perfection of the progression which had during every moment of its dominion, and in every province of its empire, been uniformly going on in the former.

Though the refining process went unceasingly on during the whole history of Romanesque architecture, and affected all its features, it would appear that the constant endeavours to bring to perfection its various systems of *vaulting* were the greatest causes of the change from the Round to the Pointed style. I will therefore endeavour to give a concise outline of the changes in this branch of construction during this period.

The churches of Western Europe, up to this time, like the early basilicas, were for the most part covered with timber roofs, and the task which the Romanesque builders proposed to themselves was to convert them into *vaulted* churches.

The most normal and readily-invented vault is that of the continuous barrel, or demi-cylindrical form, covering an oblong building from end to end, and the most readily conceived idea, where the building has to be roofed over such a vault, is to fill in the space between the arch and the triangle of the roof solid, and make at once the ceiling of the room and the support of the roof covering. Such a vault, however, has considerable outward thrust, and, being heavily loaded at the crown, would require walls of great thickness to stand against it. Let us suppose it applied to the nave of a basilica in the place of a timber roof, and it is obvious that, being balanced on two ranges of columns, it could not stand for a moment without some very effective contrivance in the construction in the aisles to buttress up the walls and pillars on which this barrel-vault is to rest.

In the baths of Diocletian, the basilica of Maxentius, and other great Roman halls, this was met by cross walls, pierced only by small archways, and placed at intervals, dividing the aisles into chambers, each of which was covered by a short barrel-vault, at right angles to that over the central space. This, however, would be inconsistent with the uses of a church, and, indeed, applies to a *groined*, rather than a barrel vault, though a very similar expedient was sometimes used by the Romanesque builders by covering the aisles with cross barrel vaults, as those above described, supported by arches across the aisles, instead of by cross walls. Another system was to cover the aisles by a half, or a little more than a half longitudinal barrel-roof, forming a continuous arched buttress to the continuous central vault. This gave them a perfectly vaulted building of trustworthy construction, provided only that the aisle walls were of sufficient strength. The barrel vaults were often both strengthened, and their monotony relieved, by arched ribs added to the thickness over each pillar of the nave, and *repeated* over the aisles, while these planes of extra strength were carried through to the exterior in the form of buttresses of small projection against the aisle walls.

The builders of such churches were not, however, ignorant of the principles of the *groined* or *intersecting* vault formed by the inter-penetration of two demi-cylinders, and so largely used by the Romans. They did not use them in such buildings, because their main vault rising into the roof, they could not, under the same roof plane, introduce the intersecting vaults, though this had been effected in Roman structures by a series of cross gables over the *cross* vaults. In churches of the same kind, however, we find the groined vault used to carry a gallery in the aisles, all the rest remaining as before.

It would appear that the obvious mechanical advantages it offered, led, at an early period, in the south of France, to the substitution of the *Pointed* for the round arch in the great vault of churches of this construction; but I will suppose, for the present, the semicircle to be strictly adhered to.

The great defect in such a church as I am supposing would be want of light in the nave, from the absence of clerestory windows; and as such windows had been in use from the days of the earliest basilicas, this loss would be fully appreciated.

The first idea for obviating it was to lower the springing of the vault for the sake of bringing the thrust to bear upon a portion of the wall more capable of resisting it, and, by raising the nave relatively to its aisles, to obtain space for a range of small windows between the roof of the aisle and the springing of the main vault. This, however, was a most unsatisfactory arrangement; it compromised the security of the structure, and gained but a very miserable range of lights.

This difficulty led to the somewhat unpalatable measure of lowering the springing of the main vault so much as to bring its crown below the level of the walls, and to convert it from a barrel into a groined vault. The springing being then level with the impinging line of the aisle roofs, a good abutment was obtained, while the cross vaults afforded ample space for clerestory windows. I called this an unpalatable expedient for two reasons:—1st, because it involved the loss of the entire height of the roof as a part of the interior; and, 2ndly, because it led to the relinquishment of the incombustible construction, by rendering it impossible to make the vaulting to form the actual roof, and the consequent necessity for a timber roof above it. In a northern climate, however, this was not an unmitigated loss; for a vault immediately under the roof-covering is always damp, and extremely difficult of repair; and we shall see that the loss of height was soon compensated for by a subsequent invention, while the substitution of a groined for a barrel vault not only introduced a beautiful in place of a comparatively dull form, but did away with the illogical characteristic of a *continuous* vault supported by *detached* pillars; the load being now collected together into points immediately over its supports. The same cause would naturally lead to the abandonment of the demi-cylindrical vaulting of the aisles, the need for abutment being now not continuous, but in detached points. The aisles were consequently covered with groined vaults, a cross wall being raised upon their transverse arches, or *arcs doubleaux*, which served as buttresses to the main vault, or would even carry external buttresses against the clerestory wall. The blank wall in the nave, caused by the space between the groining and roof of the aisles was subsequently occupied by a gallery, so well known as the "*triforium*."

A difficulty here presented itself which I must state before proceeding further, as much stress had been laid upon it, and it unquestionably exercised a strong influence upon the subsequent arrangements. It is this: the simple groined vault being formed by the intersection of demi-cylinders, demanded that the space covered by it should be divided into perfect *squares*. Now, the aisles of a church being usually about half the width of the nave, it follows that the groining of both cannot be *square*. If those of the aisles are so, those of the main vault must be about twice as wide as they are long; while if these are made square, those of the aisles will be twice as long as they are wide. The first alternative was that most usually adopted north of the Alps, though the second was more frequent in Italy. The difficulty was how to groin these oblong bays. It was not, however, a *new* difficulty: it had occurred in Roman structures, where it was met by the simple expedient of raising the springing of the narrower vault so high that its crown was level with that of the wider one. This answered the purpose, but it produced a most unpleasant line of intersection, reducing the vault, in fact, for a portion of its height, to a mere strip of the arc-doubleau, and giving a *winding* intersection for the remainder of

the height, as two cylinders of unequal diameter do not intersect in a *plane*.

The mathematical solution of the problem would have been to make the section of the narrower vault an upright *semi-ellipse*; but this does not appear to have been at any period adopted, or if at all, in exceptional cases only. The pointed arch would have been an approximate expedient, and its introduction has been very ingeniously attributed to this difficulty,—a theory to which I shall have again to allude.

Another solution of it would be to make all the arches semicircles, but to raise up the crown of the vaults of smaller diameter in a curve to meet the others, thus making it (roughly speaking) a portion of an *annulus* instead of a *cylinder*.

This had one great disadvantage: that it cut off a considerable portion of the space for the clerestory windows, or, if the level of the main vault was raised to obviate this, it became impossible to have a tie-beam to the roof. The system actually adopted in most instances would appear to have been a union of that last named with the Roman mode of stilting the narrow vaults, the difference of height being made up *partly* by raising its springing, and *partly* by elevating the crown.

While these perplexities, however, were under consideration several others arose, every one of which led to the introduction of features essential to the perfecting both of the style and construction. The first was the desire to elevate the central vault to a higher level, both for the sake of compensating for the loss sustained when it was brought down below the roof, and also to obtain a greater space for the clerestory windows. This involved again the difficulty as to abutment, through its raising the springing of the vault above the roof of the aisles. We have seen that, where reduced to a similar difficulty with the barrel vault, the architects of the south of France had at an earlier period resorted to the *pointed* vault as having less outward thrust. The same expedient was now had recourse to for *groined* vaulting; the main arches of which were now—inclanged from *semicircle* to the *pointed arch*. When the elevation of the clerestory above the aisles was but moderate, this was often found sufficient; but the construction was precarious, and in many instances failed, and a more perfect mode of meeting the case was required. What was demanded was the power to elevate the clerestory with the main vault to any reasonable height above the aisle without endangering the stability of the structure.

Here the recollection of an earlier expedient came to the rescue. It will be remembered that the early barrel-vaults were buttressed by *half-barrel* vaults over the aisles, thus doing away with the clerestory. A continuous vault demanded a continuous abutment; but, now that the pressure was concentrated into detached planes, it became sufficient that the abutment also should be in those planes; and though the continuous semi-*vault* would do away with clerestory windows, detached semi-*arches* would have no such effect. The thought accordingly occurred of erecting the flying-doubleau of the old semi-vault in open air as a buttress to the main vault of the groined church: and hence that much-admired, and of course also much-depreciated feature,—*the flying buttress*. The pressure being concentrated upon points, it became also necessary to fortify those points by detached buttresses of considerable projection, such as we henceforth find to have become a leading external characteristic of mediæval structures. The wall, in fact (where the system was carried to its extreme limits), became a mere *curtain*, needed rather for enclosure than for strength, and capable of being pierced with windows to any required extent;—a liberty which the contemporaneous development of stained glass caused to be unhesitatingly taken advantage of.

I must, however, return to the vaulting, having overstepped my chronology by not yet noticing another most important invention; I mean the introduction of *groin-ribs*—those narrow arches erected under the lines of intersection of the vaults. The early groins had no ribs excepting the transverse ones, or *arcs-doubleaux*; the edges at which the vaults cut one another were left raw, and were the weakest parts of the construction, often but faintly marked, and not necessarily lying in *planes*. In more complicated vaults, such as now became necessary, this system could scarcely be continued, and the introduction of a fine rib under every intersection may be viewed as the crowning fact in the development of vaulting.

It is impossible to lay too much stress upon its importance, for it *changed the entire geometrical system*. Up to that time the construction of groining was wholly governed by the forms of the vaulting *surfaces*;—the intersections being allowed to take their chance, and to present any irregularity of figure, while the wide surfaces of vaulting were apparently carried on mere *pins' points* at the springing,—correct enough as mathematical figure, but ill calculated for strength. Now, however, the *intersecting lines* assumed the government of the construction, and the form of the *surface* was made to accommodate itself to them. They were always in planes, and always true figures,—usually arcs of circles,—but the *panels* of vaulting became often irregular in their configuration, and could be twisted to meet contingent requirements without offending the eye; while the ribs, all meeting in a solid springer at the foot, brought down the pressure and deposited it firmly upon the points of support.

It will be seen from the above that the pointed arch was not introduced into mediæval structures from mere caprice—merely from seeing it elsewhere and taking a fancy to its form; but from the necessities of construction,—from its increased strength and diminished thrust. It was at first used for the main arch only of the greater vault: the same reason soon led to its introduction wherever great weight was to be carried, as under towers, &c; but for all small arches the semicircle was long retained. I have alluded to the very beautiful theory that it was introduced for the side arches of oblong groins, simply as a means of obtaining arches of equal height with only half the span with those of the main vault. True it is that, at a later date, it became most useful for this purpose, but a careful study of the monuments in which it is first systematically used clearly shows that its introduction was from *statical* and neither geometrical nor merely æsthetical motives; for in the face of that theory we find the narrower arch or wall-rib remaining round long after the wider arch had become pointed. Such is the case in nearly all the earlier of the French transitional churches, as at Noyon and St. Germain des Pres; and we see the same at Canterbury. In most of these buildings the narrow arch is stilted and its crown raised up as before described, thus losing a part of the clerestory wall, a disadvantage obviated when the pointed arch became more frankly acknowledged.

Although, however, the pointed arch was *actually adopted* from simple necessities of construction, its advantages in all points of view soon became apparent. In an essentially arcuated style it becomes necessary not only to have the command of a form of arch capable of carrying the greatest weights and of requiring the least abutment, but it is essential to have at command an arch of *variable* proportions. It carries absurdity on the very face of it, that while able to give our piers a greater or a less degree of height at pleasure, we should have no such power over the arch they sustain; not to mention the numerous cases in which we have to bring together arches of unequal span, and which, nevertheless, demand an equal height. The rules of harmony imperatively demand that the arch should be equally capable of modification in its proportions of height to width with all other features of the architecture.

In the above outline of the history of vaulting I have, for the sake of simplicity, omitted two modes actually adopted to avoid the difficulty of oblong groining over naves. The first, which was common in German round-arched churches, was to make the vaulting of the nave simply to comprise *two* bays of the aisles, thus bringing the main vault equally into squares with those of the aisles. The second was the use of what Dr. Whewell has entitled *sexpartite* vaulting, and which is common both in France, Germany, and England. It adopts the system last named, but subdivides the double bay by a triangular strip of vaulting, such as we see in several examples. The real solution arose, however, from the free and simple use of the pointed arch, which gave the result which is seen at Westminster and in nearly all the vaulted churches of the thirteenth century, the simple groined vault with arches of equal height through the side arches are sometimes stilted, not from necessity, but merely to afford greater space for clerestory windows.

On this plain and practical result M. Violet le Duc (of whose admirable essay on vaulting, together with those of Dr. Whewell and Professor Willes, I have made free use) makes the following striking remarks:—

"It had required fifty years for the architects of the end of the twelfth century to arrive, from the still Romanesque vaults of Autun and Vezelay, at this great result; and from this moment the entire construction of religious edifices was derived from the disposition of the vaults; the form and dimension of the pillars, their spacing; the window openings, their width and height; the position and direction of the buttresses, the importance of their pinnacles; the strength, the number, and the curvature of the arched buttresses; the disposing and the carrying off of the rain water; the system of covering,—all proceed from the combination of the vaulting. The vaults govern the *ossature* of the monument to a point to which it would be impossible to raise it otherwise than by commencing rigorously to plan them previously to laying the first courses of the structure. This rule is so well established that if we see a church of the thirteenth century destroyed to the level of the bases, and of which the plan alone remains, we can with certainty trace the plan of the vaults, and indicate the direction of all the arches, and their thickness. At the end of the fourteenth century the rigour of the system is still more absolute: we can trace in examining the base of an edifice, not only the number and direction of the arches of the vaults, and know their strength, but the number of their mouldings and even their profiles. In the fifteenth century it is the arch (mouldings) themselves which descend to the floor, and the pillars are only vertical *fasces* formed of all the members of these arches. After this we demand, How is it that serious men have been able to repulse, and still do repulse, the study of the architecture of the Middle Ages as having been only produced by chance?"

It will be seen from what I have above stated, that the order in which the Pointed arch was successively adopted for different parts of a building, and the motives which led to its adoption, may be roughly classified under the heads of *statical*, *geometrical*, and *æsthetical*; or positions in which it was demanded for soundness of construction,—for the mathematical agreement of part+—and for harmony and beauty of effect. The first head embraces all wide-spanned arches, especially those I have pointed out as the first in which it made its appearance, —the transverse arch is of wide vaulting, —also arches carrying towers, and others bearing great weight on their crown, and all which are defective in abutment, or demand the addition of buttresses (for, remember, that though buttresses were rendered sources of beauty, they originated in *necessity*, and the aim was to keep their projection within bounds, rather than unduly to increase it). The second or geometrical class includes, primarily, the narrower arches of oblong vaulting, for, even had the transverse section continued round, the pointed arch must soon have suggested itself for the narrow arches of the sides, —and though for a time the idea did not occur, the necessity of it is only the more apparent in the want of harmony, the undue stilting, and the loss of clerestory space which arose from its neglect. Under the same head come all other cases of irregularly formed vaulting in which the sides differ in width, and arches of varied proportion are therefore needed. Of the same kind are many other cases in which arches of different widths are in the same range, and where, though the *statical* view would demand that the widest span should have the strongest arch, *geometrical* agreement suggests the contrary; as, for instance, in the choir of St. Germain des Pres, at Paris, and many others, where the side arches are all round but those of the apse, being narrower, are pointed. These two pressing necessities having once established the use of the pointed arch in a large number of the most important positions, a natural feeling for harmony would come in to suggest its use in many others. First we may mention windows under the narrow compartments of groining as in clerestories, apsidal chapels, &c. where, as soon as the pointed arch was used for the vaulting, the round-topped window would present a certain degree of discord, as we see at St. Cross, and at St. Joseph's Chapel at Glastonbury. Then, again, as windows became more elongated, the round arch became ill-proportioned to the jambs; and, generally, as the architecture acquired a more aspiring tendency, the pointed arch was found more congenial with its spirit, so that, little by little, from being an exception, used from mere constructional expediency, it became the prevailing feature of the style; the semicircle being reserved for those positions only in which want of space forbade the more elevated form. Still, however, it was never abandoned, and in every period of Pointed architecture we find it occasionally making its appearance, used from motives of convenience alone, as the pointed arch had at first been by reason of its strength.

After this, it will be seen of how little importance

it is to inquire *whence* the form is derived; for it was introduced, *not* as a matter of *taste*, but of *utility*; not as a change of style, but to meet the practical requirements of that already in use. The pointed arch was, in fact, as early (or thereabouts) in its invention as the round; it is foreshadowed in the works of the Egyptians, the Pelasgi, and Etrurians. It was used by the Roman, and, I believe, by the Byzantine and other Oriental Christians, and by the Sassanian Persians; and was from an early period the prevailing arch among the Saracens. It is absurd, then, to suppose it unknown to the inhabitants of Western Europe, who were in constant communication with the East; and the most natural thing to expect was that, as soon as they wanted it, they would make use of it; though there is nothing unreasonable in the supposition that they were especially reminded of it in consequence of the two circumstances of the Crusades and of Norman conquest of Sicily. In the case last named, indeed, the conquerors had at once adopted it, simply because it was the prevailing arch of the country, and, as Mr. Gally Knight remarks, "with no scientific object, and without any reference to the vertical principle."

The wonder which has been expressed at the introduction of the pointed arch, reminds me of a very homely tale, which I must apologize for repeating before so grave an assembly. An unimaginative individual, on visiting the falls of Niagara, was greatly perplexed at the astonishment expressed by his companions; and on one of them exclaiming to him—"Is it not a most wonderful fall?" replied, "Wonderful? no! I see nothing wonderful in it; why, what's to hinder the water from falling?" Much the same reply is applicable to the wondering inquiries after the source of the pointed arch. When the builders of the twelfth century found they wanted it—when they had seen its form in the first proposition of Euclid—when they had actually used it hundreds of times in their intersecting arcades—when they knew that it was constantly used in the East, with which they were connected by trade, science, pilgrimage, and war,—and when they knew that their brethren had used it in Sicily, and their fellow countrymen in Provence,—we may well ask with our unsentimental friend, "What was to hinder them from using it?"

Simple, however, and obvious as were the means, the result was *magical!* It is not the *materials* of art to which its expression is due, but the sentiment—the heart—the soul of those who use it. This particular form of arch had long been used without one hint at such expression resulting from it. It had been highly conducive to beauty, but little, if at all, to elevation of sentiment: when, however, it came into use as an aid to the upward strivings of the architects of northern Christendom,—as an element placed in the hands of men who had been labouring for centuries with all their energy to render their architecture expressive of the ennobling sentiments of religion,—it became, in their hands, a means of perfecting that solemnity of expression which the Romanesque buildings possessed in so wonderful a degree, and of adding the most exalted sublimity to its hitherto stern and rigid grandeur; just as the simple action of gravity gives to the Niagara falls a sublime and overwhelming majesty, such as the same cause acting under different conditions has no tendency to produce.

I must apologize for having occupied so long a time on these merely preliminary and perhaps not very interesting topics. I hope in my next lecture to be able to give an outline of the transition as it showed itself in different countries, and also to point out and illustrate the changes in the decorative and more purely artistic features of architecture by which it was accompanied.

ANCIENT AND MODERN ORNAMENT CONTRASTED.*

BEFORE entering upon the subject which I have chosen, I would premise that I do not wish it to be thought that I desire to lay too great stress upon this or any other *branch* of architectural art, to the neglect of its higher and more important qualities; for I am willing to allow, nay, even anxious to assert, that the decoration of a building is but secondary to the treatment of the structure itself. I would far rather that our architects should rear buildings commanding attention by the majesty of their proportions, by the picturesqueness of their masses and outline, than that they should depend upon their detail, however excellent or abundant. But what I want to contend for now is, that such ornament that is employed should be good of its kind, and that there should be a right understanding as to what is good ornament and what is not. You have around you in this museum a noble series of examples of the ornamental art of all nations, classified and arranged in an admirable manner, and altogether such a collection as probably no students have before enjoyed. Paradox as it may appear, it is yet very questionable whether or not this be of any real advantage to you, for history reveals the somewhat curious fact that all ages of academies have been ages of decline in art, and that they have never succeeded in fostering more than mediocrity. This has arisen, however, from the abuse rather than the use of such advantages; partly from the natural tendency of men being towards the indolent saving of their own thought, and accepting that of others instead; partly from wrongheadedness in choosing the bad in lieu of good examples, and neglecting nature; and partly from their resting content with the storing of facts in place of seeking for principles. It is my present aim to stir you to the exercise of your own thought; to direct you to a right choice; to point out nature as your constant beacon; and, lastly, to urge you to lay hold on the principles upon which those before you have worked, that you may make good use of the advantages this museum offers, advantages of which I for one intend to make constant use, as I shall now have more opportunity of doing than I have had hitherto. I am well aware that, both here and elsewhere, the true principles of ornamental art have often of late been well explained, and I cannot ignore the many admirable lectures on the subject that have been given in this museum, nor the clear expositions in the published works of Messrs. Scott, Ruskin, Garbett, Fergusson, and others, who, however they may differ about some points, agree in the main in the advocacy of sound and healthy doctrine in art. Indeed, so much has been said and written on the subject, that I cannot hope to add anything new.

As yet, however, the leaven is acting but tardily in its task of rescuing even our own profession from the torpor in which it has lain for three centuries, and beyond, its effect is still less apparent.

Axioms and formulæ, however terse and convincing, will not rest in the mind when absorbed in the labour of actual practice, or amid the more ordinary avocations of those who have not occasion to put them into practice. If, then, I can set before you, by the *contrast* I propose to draw, some truths, though not unknown before, in such a light as may be likely to impress them in your memory;—if by a successive blow upon the nail that has been well planted by others before me, I should happen to drive home into the minds of some of you, one lesson so that you will act upon it,—my object in addressing you will have been gained.

It is not my intention to linger long on the metaphysical threshold of my subject, nor to burden your memories with many subdivisions and rules. I seek rather to bring the whole to the test of one golden rule, that of *common sense*; for I believe that neither the architect nor the artist needs much beyond this for his guidance, and that the critic would do well to adopt it for his crucible.

It must be understood, however, that I do not mean by the term the ordinary sense of the commonalty. I have elsewhere said, and see no reason to alter the definition, that common sense is a synonym for right sense; that it is the natural sense unprejudiced, yet refined by education; that which, however men may deride or act without reference to, they will at least acknowledge to be superior to their own.

Now, the dictates of common sense seem to require that ornament, like every work of art, should have these four essential qualities,—fitness, simplicity, beauty, and purpose, or expression.

Thus it must be *fit* for the particular object for which it is designed. A church must be fit for the performance of divine worship; a house for the conveniences of residence; and every ornament for its position and use.

It must be *simple*: for, however elaborate any composition may be, its elements must be few, and void of confusion for it to be effective.

It must be *beautiful*: otherwise it were a solecism in nature, though by no means so in modern art.

It must have *purpose* or *expression*: otherwise, however perfect in the former respects, it would be but as rythmical and elegant-nonsense verses.

By the presence or absence of these several qualities let us judge both ancient and modern art, and arraign them at the bar of *common sense*; where they stand let us learn to follow them, and where they fail let us learn to avoid the quagmires into which they fall.

If we cast a rapid survey over the earlier specimens of ornament now extant, we shall find them almost always *fit*, and generally *simple* and *specific* in their *purpose*, but various and progressive in their realization of *beauty*, which requires refinement and cultivation to assist it in its growth.

Thus the ornament of Egypt was stunted in this particular by the priestcraft to which it was subject: the principal care was to make it *fit* for its purpose as an instrument to convey such instruction as it chose to permit; it was kept *simple* to render it adapted to the comprehension of the masses, whom their rulers in religious matters trusted to enthrall, rather than the more enlightened few; and *expressive* it was necessarily, because symbolism and legendary lore it was their primary object to expound.

Every thought was by them stereotyped, and every art reduced to a system, and cast in a mould of calm and awful grandeur, and of stern and rigid character, repressing instead of developing individual intellect, and so perforce preventing all possibility of progress. Thus were built, as if to last through time, their soul-crushing temples and tombs, at the cost of myriads of lives poured out like water, on the walls of which the historic tale was told, careless often whether it were likely ever to be read or not, and in some cases with the intention that it never should be read by mortals, but simply as a relentless record of fate, a summary of evidence in favour of or against the monarch in honour of whom the tomb was made; to be sealed up as soon as his sarcophagus had been placed therein, and left there to himself and his judges.

The heart of the workman, therefore, is never to be seen in their art, which is absolutely passionless; yet in their ornament the idea is often more perfectly realized than is the case with the further refined, more beautiful and expressive art of later times.

The types that they usually selected were almost exclusively natural, but greatly conventionalized. The column represented a follized pillar of reeds, firmly rooted and bound together at the neck, and again expanding in the capital as the feathered palm, with mechanical and faultless precision, without a leaf displaced or a flower ruffled, possessing great beauty in the delicate curves of its contour, and proper subordination of the natural type to its architectural purpose.

You have not many examples of Egyptian ornament in the Museum, yet on the walls are some plates from Mr. Owen Jones's valuable work, which will perhaps supply enough for you to study its relation to the sequence of art. Those who desire to pursue the subject further may do so with facility in the unrivalled collection of Egyptian antiquities in the British Museum.

The architectural ornament of the Greeks reveals all the refinement of the polished nation who were its authors. But, if we except their higher "phonetic" sculpture, it is neither remarkable for originality nor for conveying the individual thought of the workman who executed it. It is sternly and strictly architectural, and also mechanical. (The types they selected, unlike those of the Egyptians, were never directly natural, but developed with marvellous skill and adaptation to its particular purpose from ruder suggestions found in Egyptian, or more frequently in Asiatic, earlier works.) It admits of little variety, the bossy egg-and-tongue enrichment is carried with unerring and unchanging precision around the entire building,—a perfect contrast to the budding, growing wreaths which creep and twine along the mouldings of Mediæval architecture; and, much as we must admire the patient and admirable thought of the architect who conceived it, deeply must we pity the unfortunate workman whose fate it was to execute it; no patent carving machine having then been invented.

The ornaments known as the lily and honeysuckle are exquisitely elaborated from Persian prototypes (there is a copy of one of the Nineveh slabs in the corridor, among the antique casts, on which may be seen distinctly, though after a rude fashion, the ornament known as the honeysuckle of the Greeks), but are continued with the same unvarying monotony from end to end of the buildings they decorate, and we must turn to the vases of Etruria to discover the lovely freedom with which they are capable of being treated.

The Ionic, as seen in the Erectheium at Athens, presents us with the purest example of the ornament of the Greeks in that very important and characteristic member, the capital of the column

* Read by Mr. J. P. Seddon at the Architectural Museum, Brompton, on Wednesday, the 27th inst.

(No. 48, in the Antique Greek department), and there is, unquestionably, considerable grace in its curves, and in the delicate decoration of the necking between the volutes; but it seems to me to be a presumption of which its author would never have been guilty, to canonize it as a precedent, since repetition renders it commonplace.

The idea of the caryatides of this temple (of one of which you have a cast, No. 119, in the Antique Collection) was a freak which it is certainly not desirable to imitate; it transgresses our canon of *fitness*. Had the figures been placed under the friendly shelter of niches, they would have commanded our admiration as sculpture legitimately ornamenting architecture; but made to support a ponderous architrave, they are ornament playing the part of members of the construction; and the condemnation of any females, even if slaves, to such a task, is shocking to our feelings of gallantry.

The Corinthian order can hardly be called purely Greek, although found in two small monuments at Athens—the Tower of the Winds and the Choragic monument of Lysicrates. The former has the capitals of its columns decorated with the Egyptian lotus-leaves in relief, and a range of acanthus-leaves beneath, springing from the necking of the column, a type taken from nature, very beautiful, and conventionalized very nobly, but one that has been hackneyed and run to the death in both Roman and modern times. It is also very gracefully and fanifully treated in the capitals, and in the crowning ornament of the Choragic monument of Lysicrates.

Greek ornament you may study with great advantages in this museum, as you have models and photographs of most of the principal temples and monuments of that land, as also casts of portions of their sculpture and ornamental details, so that you can perceive the mode and position in which they were applied. Thus, you have the Parthenon, the Erectheium, the Temple of the Ilissus, the Temple of Theseus, the Choragic monument of Lysicrates, the Propylæa, and the Tower of the Winds, with a good selection from the details of each, full size. You will find an attentive study of these will repay itself; and you should note, and may to a great extent imitate, the purity of line, the grace, and temperance which pervade the whole; but you should remember that their ornament was designed for and suited to very different circumstances and climate from ours, for which it must, therefore, be unsuited; and to reproduce it as it is done now, for every conceivable purpose and position, is treasonable against common sense.

It is not fair to dismiss the ornament of the Greeks without rendering homage to the way in which the higher art of sculpture is blended with, and made ornamental to, the architecture, by which means their monuments are rendered highly phonetic, and complete and noble poems, which convey clearly and with great intellectual power and delicacy, and beauty of execution, hardly since equalled by their legendary and mythological lore, but which are, nevertheless, inferior in the far higher spiritual qualities of Christian Mediæval art. This sculpture you may best study in the British Museum, where the noblest actual examples, the Elgin marbles, are preserved. There is a cast of a portion of the frieze in the Greek department here. The Romans, who were adepts in few arts but those of rapine and war, robbed from Greece her architectural ornament, and forced it to pander to their pomp and luxury. Uprooted thus rudely from its native soil, it flourished only as an exotic, with a forced and unhealthy exuberance. It became in their hands essentially vulgar. The acanthus is the usual type which they selected, and it is often carved upon their works with great freedom and boldness. A fine example is that from the Medici Villa, at Rome, of which there are casts in these museums, No. 125 in the Antique department. Its treatment of this class of foliage is particularly admirable, but in general their scroll-work curls without meaning, first to the right and then to the left, to the great embarrassment of sleepy incondescript griffins and Cupids, such as those on the frieze of the temple of Jupiter Stator, and of Antoninus and Faustina, of which there are casts in the Museum.

The capital of the Corinthian order, which was developed in Rome, was certainly a successful achievement, and were it not that a million repetitions and parodies have rendered it too well known to everyone, I might bestow more time on its description. The ornamental carved mouldings of this order are valuable principally as an example of what to avoid, being utterly deficient in repose, and having hardly a plain fillet to relieve their monotonous richness; otherwise many of the individual ornaments are carved with spirit and freedom. There is a characteristic example in this museum, a portion of the cornice of the arch of the Goldsmith's full size (No. 131) placed over a doorway in the corridor opposite the compartment of antique casts; the floriated egg and tongue ornament in the lower member of the bed-mould shows their depraved taste for richness without purity. The Greek egg and tongue they managed to spoil, but they left it for modern times to degrade it thoroughly, and to turn it into a by-word for poverty of idea.

The great invention, however, which is due to the Romans is the discovery of the possibility of constructing ornament (the opposite error to that of the Greek caryatides), and sticking a false front of columns and entablature against a wall without any connection with its structure. This atrocious absurdity was revived after the decay of Gothic art, and has been since the moving spirit of modern architecture. You may observe what I refer to in the models of some of the Roman triumphal arches, where columns are placed like idle sentinels in front of them, and entablatures broken round them above, only in order to give them something to support. In modern works this is done with still less reason, as the statues which are placed upon them in the Roman works are now replaced by useless vases.

Roman art must therefore be found guilty at the bar of common sense for lack of fitness and simplicity, and sometimes, not always, for coarseness such as to prevent any very high degree of beauty, and constantly for want of purpose, excepting that wrong purpose common to it with the Renaissance and modern work, of pomp and ostentation.

The Titus and Constantine arches, of which there are small models here, are among their architectural records, handing down to posterity what they ought to have blushed to tell, namely, their unscrupulous destruction and pillage of nations; but, as monuments of art, they are much less dignified and noble than the Parthenon, which the Greeks reared to commemorate their victorious struggle for freedom, and conquest of an oppressor.

When the vigour of the empire decayed, sapped by luxury and vice, the arts sank with it, until they became quite effete, and are thus seen, a melancholy spectacle, in the Baths of Diocletian at Spalatro. Roman art thus became degraded, and, when the barbarian hordes swept in successive waves from the north-east over Italy and Western Europe, they found the relics of antique art strewn like the remnants of a wreck over the lands they had won; they saw their utility for their own purposes, and set themselves to work a like record for themselves, bringing to the task their own indomitable energy, and in a true spirit of *renaissance*, unlike the feeble effort of later times, which has been dubbed with that title, wrought out a new style for themselves from the elements they found to their hand.

They chose the arch instead of the lintel to cover their openings, and, having common sense, instead of Vitruvius for their guide, chamfered or moulded its edge, instead of beading a sham architrave around it. They adapted the Classic column with the Corinthian capital, but were not content with the old thought-saving system of making one design serve for all; they gave motion and variety to the leaves, and set among them the birds of the air and the beasts of the field; and upon their walls they carved their own deeds of prowess in the battle or the chase, or storied thereon the quaint legions of their traditionary lore. Their ornament is, however, often founded on the acanthus type and well-known scrollwork of the antique, and, though more rudely executed and less workmanlike in a sense, has a quality which is unquestionably of a nobler kind—that of life.

This Romanesque style spread over the greater part of Christendom, and in its several local developments—the Lombard of Italy, the Romanesque of Germany and Rhineland, of Southern and Western France, and the Norman of England and Normandy—it displays everywhere the same general character in its ornament. It is sometimes rude, but always telling and effective and rightly placed, as where clustered about the doorways in order that it may be read easily. It is broad and bossy, and cut usually down below the surface of the mouldings, but preserving the same contour. The Architectural Museum is fortunately exceedingly rich in this class.

This ornament, being right in principle, needed but little change to become adapted to the spirit of the Gothic architecture which followed. In this next phase it seems to embody the idea of the growth of natural vegetation, shooting out from the recesses of the mouldings as if struggling to the light, and sprouting as crockets from the projecting ribs of the construction. But while it shows great study and perception of nature, it retains the conventional treatment adapted by the Romanesque from the antique.

The foliage of the Early Gothic presents us as it were with the young bud or unfolding frond, and if its simple trefoiled-shaped leaves are expanded, the stiff stem and the flow of all the lines have the same vigorous, youthful, and yet graceful feeling that we see in the foliage of spring. The series of Early Gothic ornament in the Museum is most valuable, and I beg to call your attention to several capitals from Llandaff Cathedral in the Museum, which, I am not too partial, have a finer character and less of the mannerism somewhat to be observed in the more well-known Early English foliage. A similar character obtains, I believe, in the carving at Wells Cathedral and in other places in the south-west of England. There is also a very valuable series of Early French Gothic capitals and ornament, which is remarkably finely treated.

The Middle, or Decorated Gothic, gives us rather the fully-formed foliage of summer more closely copied from nature; the type selected is no longer difficult to recognise; but the oak and the vine, the ivy and the maple, and the hawthorn, are rendered so that we cannot mistake them. They appear as if bound round, not springing from, the stone capital or member they decorate: conventionality is nearly lost, but they are yet free from the meagre and literal copyism of nature which we too often see in modern work. (Some admirable examples of this class, from Wells, Lincoln, and many other places, are to be seen here.)

In the late Perpendicular and Flamboyant Gothic, recourse is again had to conventionalism; the type, curiously enough, seems, as if to correspond with the unmistakeable decline in the architecture, to be taken from foliage in almost the lassitude of decay,—it is tossed and driven about as nerveless in the wind. It is generally rich and complicated, and often very beautiful. The thistle is a type which is often employed, particularly in Flamboyant, and is always effective with its large deep hollows amid the jagged spines of its leaves. (Some magnificent crockets from Bourges, in the Museum, are worthy of remark.)*

NEW MEMORIAL CHAPEL AT HARROW SCHOOL.—ITS NEW ORGAN.

HARROW SCHOOL was founded under letters patent of Queen Elizabeth, A.D. 1590, by John Lyon, a wealthy yeoman of Preston, in that parish; for the maintenance of which, &c. he bequeathed in trust to six governors certain lands in and about the town of Harrow. The statutes for the foundation and the future government of the school—drawn up with great perspicuity by the founder himself—directs the sum of 300*l.* to be laid out in the erection of a "school-house, with habitations attached for the master and usher," both to be "single men unmarried." For the master he provides a salary of 23*l.* 13s. 4d. with 3*l.* 6s. 8d. "towards his provision for fuel;" and for the usher a salary of 13*l.* 6s. 8d. with a like allowance for fuel: and stipulates that the school shall consist of a "meete and convenient number of schollers as well as poor to be educated freely" (which privilege he confines to the children of the inhabitants of Harrow), "as of others to be received for ye further profit and commoditie of the schooll master."

Two exhibitions to Oxford and two to Cambridge are directed, for which 20*l.* a year are appropriated for the four. In the selection of the recipients for this bounty, preference is advised for natives of Harrow. 10*l.* a year are to be given for "thirty good and godly sermons" to be preached in the parish church by either the vicar of the parish or the schoolmaster, "as the governers may think meete." 20*l.* are directed to be distributed every Good Friday among poor housekeepers of the parish in the proportion of 6s. 8d. each; and 4*l.* for the repair of roads. The governors are requited for their labours in executing the founder's intentions by a salary of 13s. 4d. per annum each being appropriated to them. The residue of the estate—if any overplus—is to be devoted, at the discretion of the governors, to the help and relief of poor marriages and other good and charitable purposes within the parish of Harrow.

This was the small beginning of this institution. The estate bequeathed by Mr. Lyon for meeting this expenditure—in the aggregate about 100*l.*

* To be continued.

per annum—is now of the improved annual value of 1,039*l.* 8s. 10d.

For a century Harrow School remained in the humble character of a parochial school, unknown except within the narrow circle of its immediate neighbourhood; but by the appointment, about the end of the seventeenth century, to the mastership of the Rev. Thomas Brian, M.A. the reputation of whose talents attracted the notice of persons unconnected with the parish of Harrow, and swelled the list of scholars with names foreign to the foundation; and from that time, under the direction of a succession of head masters eminent for their learning, the reputation of Harrow School became gradually raised to the position of one of the most prosperous institutions for classical education in the kingdom. Few of the class of persons for whose benefit the school was founded, now avail themselves of their rights. The scholars, as is well known, are chiefly the sons of the nobility and gentry, and now 140 in number.

There is a very remarkable incident connected with the settlement of Mr. Lyon—somewhat irrelevant, perhaps, to the subject matter immediately under consideration, yet of itself interesting—in the circumstance of similar bequests for precisely similar purposes proving so dissimilar in their results. It would seem this benevolent gentleman conceived that improved roads (doubtless in his day very bad) to approach Harrow, would be conducive to the prosperity of his favourite town, and he directs the sum of 2*l.* a year to be applied to the repair of the road from Gore-lane-gate to Hyde-house, and 2*l.* a year for the road between Deadman's-hill and Preston. These portions of the bequest are carried out with faithfulness, by the governors of the school continuing to expend annually on the said roads the exact sum of 4*l.* In addition to the before-mentioned charities, Mr. Lyon also bequeathed in trust to these same governors a small piece of land at Paddington and another small piece at Kilburn, the rents and profits of which he directs to be expended in the repair of the road from Harrow and Edgware to London. The extension of the metropolis having covered these lands with houses, the little estate which at the time of the bequest did not produce 10*l.* a year, now yields an annual revenue of 3,184*l.* (last year) solely applicable, less expenses of management, to the repair of the roads; the London terminus of the said road being St. Giles's-pound (which ancient noted land-mark was situate near the junction of Tottenham-court-road and Oxford-street), 500*l.* of the above sum are receivable on behalf of the parishes of St. Marylebone; St. George's, Hanover-square; St. James's, Westminster; and St. Ann's, Soho, as their quota in respect to the maintenance of that very expensive part of the line, Oxford-street, and a piece of the Hyde-park end of the Edgeware-road.

The establishment (being a grammar-school, and not a royal college) was for a long time destitute of a chapel. This was rectified during the head-mastership of Dr. Wordsworth, when a building for the purpose was erected under the direction of Mr. Cockerell, architect, and consecrated by his Grace the Archbishop of Canterbury, September the 24th, 1850. It was built of red brick, and the architecture was in the domestic style of the Elizabethan period, assimilating externally with the school-house and adjacent buildings. In 1854 this chapel was taken down and rebuilt in a beautiful manner, from a design by Mr. G. G. Scott, making use of the old foundations, but giving to the body of the chapel the plan of nave and aisles, and adding thereto a chancel. The separation of nave and aisles is by arcades carried on slender columns, having richly foliated capitals. The side windows are triple lancets, with traceried head. In the western gable are two double lancets and a foliated circle in the apex. The roofs are open, and the floor of the chapel is benched in light oak. The chancel—of great elevation—is of apsidal form, with a double lancet window in each of its five sides, and has a crypt beneath. This very elegant adjunct—considered to have been designed after the choir of Cologne cathedral—was the munificent offering of Dr. Vaughan, the present head-master. The whole of the southern aisle is specially dedicated to the commemoration of the officers educated at Harrow (twenty-two in number) who fell in the late Russian war. The windows in this part are designed to be filled with stained glass as memorials to some of the individual officers in whose collective honour the structure has been raised. It is intended, ultimately, that all the windows of the chapel shall be of stained glass, the work to proceed as circumstances will permit. The five in the apse have already been filled in—one of them a gift by an old Harrovian now at Oxford—and three others have been presented by boys resident in three of the master's houses.

The edifice is built of flints, richly faced with stone, and the style of the architecture may be said to be decorated. The funds for the erection have been supplied by subscription of old and present "Harrovians," and the friends of the deceased officers referred to. The expense has been about 10,000*l.* inclusive of the cost of the chancel—about 3,000*l.*—contributed, as before stated, by Dr. Vaughan. The ceremony of laying the first stone—General Williams, of Kars celebrity, performing the principal part—took place on the 20th of June, 1856, and the chapel was consecrated by Dr. Tait, Lord Bishop of London, on All Saints' Day, 1857.

The organ, purchased by a separate subscription of the boys at present in the school, is set up in a loft at the western end of the chapel (query, though, if the edifice stand in the orthodox position), in a case of oak, designed by the architect, in itself displaying little ornament, but is understood to be imitative of the appearance organs are known to have generally presented in our cathedrals and collegiate churches anterior to the time of the Great Rebellion. However, when the front pipes receive their illumination (at present they remain in their native colour, viz. tin, burnished), and the western windows of the chapel their stained glass, the view in this direction will be very effective. The instrument (first used in divine service on Sunday last) has been constructed by Messrs. Bishop, Starr, and Richardson, of Lisson-grove, successors to the business of the late Mr. James Bishop, the former being the son, and the others able workmen long in the employ of that ingenious artificer. It is of two uniform rows of keys and pedal, the scale and disposition of the parts being that of the old-established German usage, professionally distinguished in England by the term "C." The great organ contains nine registers, the swell six; the pedal a single rank of 16-feet open wood pipes; the swell stopping at tenor C; the keys of the octave below that note speak on the diapasons of the great organ.

Of the "C organ," just adverted to, it may be observed, that in Germany, the fatherland of organ-making, the particular constructional arrangement of the instrument implied in that term has been exclusively in use for several centuries past; that, introduced into England about twenty years ago, perhaps first through our native professor, Dr. Gauntlett, it has gradually worked its way into general approval, of both builders and performers, and seems likely, from its vastly superior capabilities, eventually to entirely supersede the old "shortcoming" English arrangement, which latter owes its origin and long continuance in use to the supposed necessity of preserving a uniformity of manipulation for the organ and harpsichord (now the pianoforte), in order that the mere performer upon the latter could at once be an organist. The peculiarity of this German plan of the organ, as distinguished from that of the English, consists chiefly in the addition of a pedal key-board, with a somewhat shortened compass of the finger key-boards at the bass end. Upon this *pedale*, which embraces a scale of 2½ octaves of notes, the organist plays the bass part of the music with his feet, whilst his left hand, released from having to play bass notes, is set at liberty for employment in the production of additional harmonies or distinctive parts on the tenor section of the finger key-board, thus dispersing the harmonies equally throughout the entire range of the scale, instead of their being confined, as is necessarily the case under the old English system, to close chords in the treble, at the top of the scale, and the bass at the extreme bottom. This change in the mode of performance upon the organ has, however, been attended with much inconvenience to very many excellent old organists, who, unable to accommodate their manipulation to the greater complexity of the new system, have suffered the mortification of seeing themselves eclipsed in executive skill by the young ones.

F. C.

THE USE OF THE SOULAGES COLLECTION OF ITALIAN ART IN MODERN ART.

SOCIETY OF ARTS.

ON Wednesday evening last, Mr. J. G. Crace read a paper on this subject at the Society of Arts, with the view of making known to the Government the desire which exists that the collection should be retained for public advantage. He said,—I think that the subject I bring before your notice can be discussed in no place more appropriately than this; and that it is also one peculiarly suitable for our consideration. In no possible manner can we more usefully advance the interests of art-manufacture than by seeking to acquire collections of works that have impressed upon them the genius and the skill of men who lived at a time when art abounded.

You may teach the rules of art, which serve like grammar to a language, but, without examples, it will be difficult (perhaps with few exceptions, impossible) for students to arrive at anything like perfection in the arts of design by rule alone: "Longum iter per preceptis, breve et efficax per exempla" is indeed a true saying, inscribed by Lord Bacon in his house at Gorhambury. I will preface what I am about to say respecting the "Soulages Collection" by a reference to art-manufacture, as it existed about the time that these examples were produced; for they are mostly of a period ranging from 1500 to 1600.

At this date society had just emerged from that chivalric barbarity which prevailed during the Mediæval period, which recognised the pre-eminence of brute force or military skill, rather than the refinements of literature or the arts. Commerce, too, that greatest of civilizers, now vastly extended its ramifications; and, bringing wealth and more genial desires for comfort or luxury, caused a general appreciation of art, and a greater desire for obtaining its productions. Then began to burst forth in Italy that revival of a love for art which had almost slumbered on the dry rules of tradition for so long a period; and then successively arose those great artist minds that brought such glory upon their country and their time.

Nor was it the higher branches of art, the painting, the sculpture, the architecture, that alone were exalted; but the more ordinary objects of daily use were equally affected by this growth of art. Metal work, pottery, glass, furniture, woven fabrics, all became the medium for exercising the taste that abounded, and which was demanded by that love for art which had so strongly inoculated the minds of the people.

And what a strong spirit, what a knowledge of and love for art had this revival, this "renaissance," of art produced! At no other time do we find such fancy, originality, and beauty, so abundantly exhibited in common things, as in the art manufactures of this period. Take up what specimen we may, we find something to admire and something to learn from. It is a period, of all others, valuable for instructing us in those fanciful combinations of ornamental art, a knowledge of which is so essential in art manufacture.

Most valuable to us, therefore, must be a collection of objects precisely of this kind, a collection affording characteristic examples of each branch of manufacture. Such is the Soulages Collection, of which I now propose to speak in detail.

The speaker then proceeded at some length to comment on the articles forming the collection, the Majolica ware, the decorative pottery, glass, enamels, and metal work.

The specimens of ornamental metal-work, he said, number about 100. They give examples of brass and bronze casting, engraving, and damascening, of the cinque-cento period. Most of these are of a class meriting careful study by our designers and workmen, for this is a branch of art-manufacture in which we are sadly in want of workmen of artistic feeling, the nature of the process requiring that, after the cast comes from the mould, the finishing should be done by men who comprehend the intention of the modeller. The French bronze trade is of great importance, it employs a vast number of hands, and, besides supplying an immense home demand, exports very largely to every country where a love for art exists.

The Italians of the fifteenth century were renowned for their artistic working in metal. Who has not read the life of Benvenuto Cellini, and been delighted with the burning enthusiasm he throws into all his artistic undertakings, and the vivid picture he gives of artist life as it was in his day?

Look at that beautiful door-knocker in bronze, said to be by Giovanni de Bologna, in which the figures are so gracefully entwined, so fancifully and artistically rendered. Then those brass ewers, alike elegant in form, and valuable for the art displayed upon them by the engraver; and the salver, too, covered with rich ornaments and groups of figures: more precious even are the exquisite bronze candlesticks, so elegantly ornamented with the delicate threading of silver damasquirerie, worked, I presume, after Moorish models.

There are many objects of great interest, such as the bronze fire-dogs, standing 4 feet high, rich in foliage and figures, and impressed with the

arms of Barberigo of Venice: there are clocks, inkstands, saltcellars, lamps, locks and keys, and various utensils, all bearing on them the stamp of artistic minds, and most valuable as models for our study.

The collection of furniture contains some interesting pieces, gems in their way, and several very curious, and useful for the suggestions to be derived from the study of them. At the time this furniture was made, people had not arrived at that appreciation of comfort and luxury which prevails at the present day: it must be studied, therefore, for its artistic quality, and not servilely copied.

The furniture of houses in the fifteenth century was generally limited to objects of immediate use, such as the bed, tables, chairs, buffets for the display of plate, and chests more or less ornamented, and all of these constructed somewhat rudely. As the revival of art and literature extended its influence, the demand for ornamented furniture increased, and we find it constructed with more care, and men of talent in art designed it. Vasari tells us that Banio d'Agnolo and his sons were celebrated as sculptors for furniture in the middle of the sixteenth century. Veneering, also, with rare woods was now introduced, and the re-invention of Tarsia work, or marquetry, as we now call it, allowed of very beautiful ornamentation.

This Tarsia work is the inlaying of various woods in ornamental forms, and Vasari informs us that Giuliano and Benedetto Maiano were renowned for this kind of work, and which was brought to a higher degree of perfection by Giovanni de Verona, who invented processes for shading and staining the woods.

All who visited the Soulages Collection must remember the thin mirror frames represented in the photographs. What an example of art-work is that circular frame said to have belonged to Lucrezia Borgia! how admirable is the carving of the delicate scroll blended with figures and animals typical of good and evil! Then the square frame mirror of such fine artistic design and masterly execution. And, thirdly, that elegant frame to a stand so simple and beautiful, so exquisitely detailed in the carving. This belonged to the famous Malatesta, Lord of Rimini. Such works as these inspire an art-workman to rise above common things, to be dissatisfied till his hand acquires a higher touch of art than it had before.

Now all the fine things in this collection which I have thus imperfectly brought before your notice can be acquired for the country, for the sum of 15,000*l*. Casts of the most important specimens can be sent to the provincial towns, and the collection itself sent occasionally. Lodged in the National Museum, they would carry with them a well of knowledge most essentially valuable to us as a manufacturing nation: to each and every art trade they offer something suggestive of beauty, and, therefore, of value.

A national museum of objects of tasteful art is a practically valuable property to the country. To raise the standard of taste, is to extend our commerce. I quote the words of the celebrated Necker, who says, "Le gout est le plus adroit de tout les commerces."

Taking the productions in which art gives the element of value, let us compare the exports to foreign countries, not colonies, from our own country, with those of France, in 1855:—

	France.	England.
Furniture	£1,000,000	Nil
Bronzes	300,000	Nil
Paper-hangings	100,000	Nil
Silks	5,000,000	£2,300,000

And in this last article of silk, if the value of the ornamented ones were abstracted from that of the plain, I fear it would give a comparison of about 20 to 1 against us.

But it does not end here. Our cotton and worsted fabrics, and many other goods, compete in many parts of the world: the most tasteful goods must carry the best price. We cannot afford to stand still: we must advance.

The British Museum has yearly grants, for obtaining objects of antiquarian interest or ancient art, of 15,000*l*. The National Gallery has a committee who obtain large grants for doubtful pictures of high art, for 14,000*l*. But for obtaining examples of art works applied to manufacture we have a minister with no funds. The only resource left to us is to address ourselves to those who, like ourselves, feel the necessity of advancing the arts of design as applied to the manufactures of our country, and together raise our voices to make known to our government what we consider essential towards developing its progress.

At the close of the paper Professor Donaldson, Mr. Henry Cole, C.B.; Mr. Redgrave, R.A.; Mr. J. Anderson Rose, Mr. W. B. Simpson, Mr. Peter Graham, and others addressed the meeting.

IRELAND.

An Insolvent Builder.—A case last week came for decision before the judge of the Insolvent Court, at Dublin, relative to the property of a builder, who had been recently discharged. It appeared that the insolvent had contracted to build a house for a certain sum, and within a certain time, under penalty of 5*l*. per week, and that in the event of non-performance of his contract, the proprietor might step in and take possession, and employ any other tradesman he thought proper to finish the work. The builder got into difficulties before he completed his contract, and his creditors seized the materials at the site of the house; but they afterwards, on learning the facts, relinquished them. Subsequently the builder filed his schedule, and claimed protection of the court: the official assignee, however, took possession of the materials as the insolvent's property, and the owner and proprietor applied to the court to have them returned. Counsel was heard on both sides at some length, but his lordship ruled that from the nature of the contract, the materials were *bonâ fide* the property of the proprietor, and not of the builder, who, of course, had he performed his contract, would have been paid for his work; and therefore they should be restored, and a sum of 5*l*. allowed out of the estate (but there was none), for costs.

Royal School, Enniskillen.—The Commissioners of Education (not National) in Ireland, have ordered alterations and additions to Portora House, to be made according to designs by Mr. John McCurdy, architect.

The Dublin Theatres. Both the Theatre Royal and Queen's will be shortly closed; the former to undergo thorough repair and decoration, with some alterations; the latter to be considerably enlarged, and almost entirely remodelled. They are not to be closed for more than five or six weeks. Mr. J. McCurdy is the architect to the former, and (we believe), Mr. Patrick Byrne for the latter. Both greatly required a thorough renovation.

Drogheda.—The grand jury of the county of the town of Drogheda have determined on enlarging and altering the prison according to designs by Mr. J. Neville, C.E. county surveyor, Dundalk.

Dublin.—A Widows' Alms-house has been built at Grantham-street, Dublin, Mr. John Lanch, architect. The building is of plain but substantial character, and commodious internally.

THE STREET PAVEMENTS OF LARGE TOWNS.

THE COMPARATIVE COST OF MACADAMIZED ROAD AND GRANITE PAVEMENT.

MR. DAWSON, the inspector of roads and nuisances of Newcastle-upon-Tyne, has in a report on the condition of that place given the following particulars, which are worthy of the consideration of the authorities of large communities; for the condition of the pavements in such places is matter of consequence, not only to the comfort, but also to the health of those who dwell in cities. It confirms very fully the view published by Mr. Arntz, recently noticed by us.

Mr. Dawson says, in his address to the authorities, of this ancient but sadly neglected borough, "I venture to draw your attention to the subject of the macadamized roads within the town, in the firm belief that an early change in the present system of maintaining them is indispensable to the carrying out of any economical scheme for limiting the expenditure. * * * I, therefore, beg to submit to your consideration a comparison of the annual expense of maintaining the macadamized roads of the borough."

There are 275,249 square yards of paved surface, the maintenance of which cost in one year, from August, 1854, to August, 1855, the sum of 365*l*. 1s. 5d.; or one farthing and one quarter of a farthing per square yard: of macadamized road, there are 115,096 square yards, the cost of maintaining which during the same period, was 2,083*l*.; *or fourpence half-penny per square yard.* If the same surface had been paved, the annual cost of its maintenance would have only been 149*l*. 17s. 3d.; showing clearly, that the committee must have expended nearly 2,000*l*. each year more than would have been required for paved streets.

During the year just mentioned, 4,864 tons of hard stones were broken and laid upon the macadamized roads in the borough exclusively of the townships.

This large item of annual expenditure is capable of immediate reduction, by simply substituting for the macadam the chip paving-stones made at less expense from the same materials.

The macadam, as it is generally taken from the surface of the street to make way for the pavement, may be carted away, and applied to repair the remaining macadam roads, instead of new small stones, until the process of replacing with pavement is completed;—so that, at the same amount of annual cost as at present for small stones, all the macadam and unfinished streets of the borough may be paved at about a mile in length per year.

The inferiority of macadam to paved streets in cleanliness and comfort, and almost in every point of view, is strikingly apparent in wet or in alternately frosty and fresh weather. Heavy rains, which generally cleanse and sweeten paved streets, and the sewers connected with them, on the contrary impair a macadam road, and choke with the heavy *detritus* the sewers into which they run; and, even in dry weather, the serious annoyance and damage the dust arising from the surface would cause to the inhabitants and their goods is only prevented, at a heavy expense, by irrigation with water.

It must be allowed that the foregoing remarks apply with strictness only to the streets of a town where the traffic is great, like Newcastle-upon-Tyne. In the country the conditions are different. The alternate influence of sun and rain, with light traffic, causes the surface to concrete and become a permanent structure, subject only to wear; but in this town this process never takes place, being prevented by the passage of enormous weights, and the whole of the valuable granite, instead of wearing away like a paving-stone, is crushed to powder and disappears.

MEMORIAL OF MR. BRITTON AT KINGTON ST. MICHAEL.

WE have already mentioned the "brass" which has been set up in memory of the late John Britton, in Salisbury Cathedral, by the Royal Institute of British Architects. We may now state that in the restored church of Kington St. Michael, Wilts, which was opened on the 14th, by the Lord Bishop of the diocese, with a numerous attendance of the neighbouring clergy and gentry, a memorial window (by Mr. A. Gibbs, of Bedford-square) has been erected in the south aisle, by subscription, to John Aubrey and John Britton. The window, we are told, consists of three lights, the centre one of which is filled by a representation of St. Michael overcoming the evil spirit; and the other two, with angels, bearing scrolls and texts. Above these is a canopy: the upper portion is in the form of a rose of five leaves, with a circle in the midst. In the leaves are the coats of arms, of persons historically connected with the parish; and in the centre, united by a knot, are the initial letters—J. A. and J. B. A brass-plate under the window states the object of the memorial. Another stained-glass window, of a single light, has been placed in the chancel to the memory of the late curate, the Rev. Edward Rowlandson. The church has been restored under the direction of Mr. J. H. Hakewill, architect, the work being executed by Mr. Edmund Miller, of Seagry. It had fallen very much out of repair, being 700 years old, and having undergone frequent ill-managed alterations. In the present restoration several debased windows have been taken out and replaced by others of a better style, the arches and walls strengthened by fresh masonry, the windows newly glazed, the roofs of the south aisle and nave renewed, the gallery and high ugly pews removed, and open, uniform sittings provided throughout. A vestry has been added on the north of the chancel. The church is paved with tiles, those of the chancel being of a superior description. The estimated cost of repairs (which, however, was considerably under the actual cost) was 800*l*., towards which the Earl of Mornington (the impropriator of the great tithes), the vicar of the parish, and the principal owners and occupiers of property contributed.

INSTITUTION OF CIVIL ENGINEERS.—At the meeting on January 19th, Mr. Joseph Locke, M.P. President, in the chair, the discussion upon Mons. Guérin's paper "On Railway Breaks," was continued throughout the evening.

SCHOOL AT BRYN COCH, GLAMORGAN.

The accompanying view represents a school just erected at Bryn Coch, near Neath, Glamorgan (mentioned in our notice of the Architectural Exhibition), for the Rev. D.H. Griffith, who has been indefatigable in building many schoolhouses in his neighbourhood. Divine service is to be performed here on Sundays, and the character of the building seems to denote as much. The local stone is used; the roofs are open; and there are appropriate seats, reading-desk, &c. The internal length is 47 feet 6 in.; width, 18 feet. The contract was taken by Messrs. Evans, builders, of London, for 300*l.*, exclusive of boundary walls and fittings.

THE '51 MEMORIAL.

THE FINE ARTS IN THE PARKS.

We are told that the Chief Commissioner has been urged to admit sculpture into the parks by gift, as pictures are accepted for the public galleries; and his views, if we may judge from the desire Sir Benjamin Hall has properly shown to improve the appearance of the parks, would doubtless be favourable to such an arrangement. The Crimean Monument, entrusted to Mr. John Bell, which is to be put up near Grosvenor-gate, and the Memorial of the Great Exhibition, for which the committee hope to obtain a standing on the site of the Exhibition Building, will be important contributions towards such an object, and will go far towards realizing those views in respect of the park to which we some time ago gave expression. It may be useful to artists to repeat that designs and models for the memorial of the Great Exhibition are to be sent to the Museum of the Department of Art at Brompton, by permission of the Committee of Privy Council, not later than Tuesday, February 2nd, after which the designs will be exhibited. The size of some of the models said to be in progress was too great for the accommodation that the Society of Arts could afford. The Right Hon Lord Monteagle, Mr. Maclise, R.A. Mr. Tite, M.P. and Mr. Westmacott, R.A. have kindly consented to assist the committee in making a selection. Several foreign artists have communicated their intention to forward designs.

MINCHIN HAMPTON CHURCH, GLOUCESTERSHIRE.

There are few more pleasant parts of England than that portion of Gloucestershire known as the Stroud valley: there, you have always a diversity of hill and dale rarely to be equalled: there, also, you seem to possess brighter skies and more sunny weather. When, individually, one has kind friends in the neighbourhood, the attraction is still greater; and if, in addition to all these advantages, good specimens of ancient art can be found, why then, surely, the enjoyment of any reasonable man must be complete.

And, taking up at once the professional part of the subject, let us say that Gloucester and Tewkesbury, Cirencester and Elkstone, will furnish the student with as much material as he can use for a time; and, if he does not fear a hilly walk, he will, about four miles from Stroud, find Minchin Hampton. We know from experience that the walk is trying, but we know also that the reward is very great.

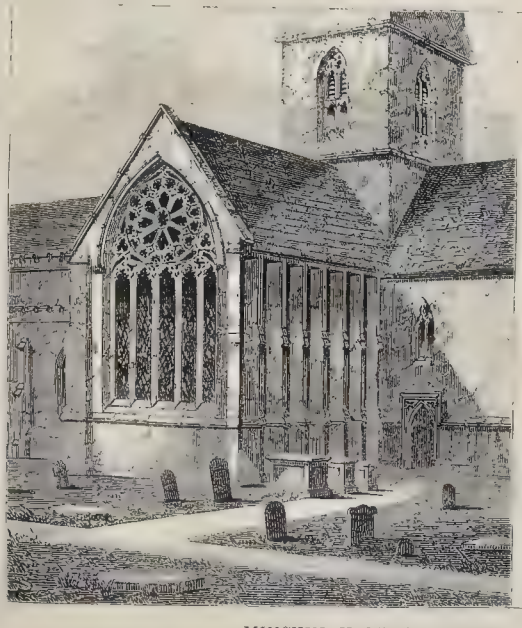
Once upon a time (that is, twelve years ago), the whole of the ancient parish church was in being: now, only the transepts and tower remain: the other portions of the building have been removed, only to be replaced by a wooden nave and chancel, which, to say the least, do not in any degree distract your attention from the transept and tower. These latter portions our engravings deal with. The south transept is particularly worthy of notice. The stone ribs of the roof are almost unique: there is one other specimen, on a very small scale, at Willingham, in Cambridgeshire, but the roof at Minchin Hampton stands alone for boldness of conception and execution. As will be seen by the illustration, the stone ribs are pierced, and the whole roof is covered with slabs of stone externally, these are concealed by tiles. The arrangement of buttresses is what would be expected from such a method of construction, and the whole effect, externally and internally, is striking and good.

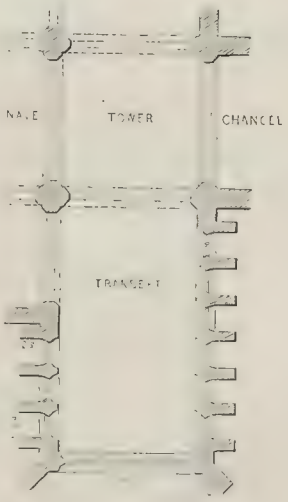
In the interior, below the large window, are two fine altar tombs, with the effigies of a knight and lady, and on the floor are some tolerable brasses.

In the original church there was much excellent carving in the shape of old pews: surely this might have been preserved in some way, instead of being scattered about the village.

A Want at the British Museum.—The British Museum, from its central position, is the most frequented of our national educational establishments, and the want of a good clock there is severely felt, both by the public and the officials. The scenes which take place on public days, when "time to go" is drawled out in every conceivable key by the attendants, are indescribable. A clock which, as in the Exhibition of 1851, shall strike at the hour when the establishment closes, is much wanted. There is an eight-day clock in the hall, and a small clock in the reading-room, both (?) dumb dogs.

CHRONOS.





MINCHIN HAMPTON CHURCH, GLOUCESTERSHIRE.

REVIEW OF THE ARCHITECTURE AND HISTORY OF THE ROUND TOWERS OF IRELAND.*

GIRALDUS CAMBRENSIS, who went to Ireland in 1185, in the train of Prince John, afterwards King John, has been referred to by all writers on this subject, as being the first foreigner to notice the round towers. His notice is merely a remark in his topography of Ireland, in describing the supposed origin of Lough Neagh, viz. that an ancient inundation had submerged the extent of country covered by it; and this tradition was supported by the natives, on the ground that they could still see beneath its waters those "ecclesiastical towers which, after the manner of the country, are narrow, lofty, and round." This notice, and another from the same writer, first pointed out by Dr. Petrie,—where by the same title, "ecclesiastical tower," he speaks of a tower at Kildare, where a round tower still exists, and relates a tale concerning a hawk, which was believed to have inhabited it from the days of St. Bridget—show that at the coming of the English into Ireland, these structures were regarded as ancient; and it may help to limit their antiquity, to know that of the sites which now possess them, or have done so, a great number can be traced as having been the sites of churches, or ecclesiastical establishments, founded after the arrival of St. Patrick, the great apostle of Ireland. He arrived in 432, when, although Christianity was not unknown, the ruling and prevalent religion was a system of Druidism very similar to what Julius Cæsar had found in England. Before the death of St. Patrick, the greater part of the population had, with extraordinary alacrity, embraced the new religion, which required for its rites buildings not necessary and useless in the religion of the Druids. In cromlechs and pillar stones, and similar monuments not peculiar to this island, we have abundant material evidences of the pre-existent religion, besides the records preserved in the various annals composed in the early ages of Christianity.

The less than 120 sites with which we are more particularly concerned, afford records, as far as I know at present, of the foundation of ten churches, or ecclesiastical establishments, in the first century of Irish Christianity. In the succeeding one, from 500 to 600, I find eighteen of these sites of which similar foundations are recorded, or where it is then first ascertained that they existed: from 600 to 700, I have nine new foundations: from 700 to 800, I have four: from 800 to 900, I have seven, of which probably only three were founded so late as this. In the two following centuries, I have only one place appearing on the list for the first time, but 1100 to 1188 brings five places on to my list, which, though then making their first appearance, were four of them older foundations; and the fifth, which was a new one, is one of the five places whose attached tower we set apart at the commencement for distinct consideration. We thus see that of fifty-four of these round tower sites, twenty-eight had ecclesiastical establishments before the expiration of the century following St. Patrick's arrival. The others became so furnished at various periods, down to probably the year 1000, or a little later. A further research would of course add to the list. Of the round towers themselves, under the term corresponding to "bell-house," the earliest notice which Dr. Petrie has found is at the year 948, which records the burning of Slane steeple, a steeple which has long ceased to exist. In 964 is the record of the death of an ecclesiastic, who it is noted had built the church and steeple of Tomgraney, which it is also recorded was repaired by King Brian Boroim, who lost his life in the great battle of Clontarf, in 1013. This steeple is gone, but the church remains. The next notices are in 996, 1020, 1039, 1050, which record injuries by accident or violence to these steeples, one of them being twice mentioned, and the destruction of its bells recorded. None of these towers now exist, but the next one, 1076, records the death of a chieftain in the steeple, at Kells, where he had taken refuge, and fell by the hands of a rival chief. In 1097 the injury by burning of the steeple of Monasterboice (now existing), with its books and treasures, is mentioned. In 1121 a tower, previously noticed, had its conical cap blown off; and in 1124 the finishing of the steeple of Clonmacnois is related, which again, in 1135, had the head, or conical cap, struck off by lightning; and in the same year another was similarly injured, and this one still exists in an imperfect state. In 1127 and 1147 we have steeples, which do not now exist, struck by lightning, or burned by marauding forces. Then in 1156, Fertagh steeple (now existing) was the scene of a murder: in 1170, the steeple of Aidbraccan fell; and in 1171, another one, not now existing, was burned, filled with people who had taken refuge in it from their enemies.

These notices speak of fourteen round towers between 948 and 1171, of which five remain to the present time. The conclusion that they were all of them round towers can scarcely be avoided. So far as I have seen or heard, there is not in existence a square belfry of so early a date. That they also contained bells is clear indeed at Clonmacnois: the bells remained till the place was pillaged and ruined in 1552. The earliest square towers of which I know are the two which hold the position of transepts to the remarkable church called Cormac's Chapel, on the rock of Cashel. This church was erected between 1101, when the King of Munster gave the site to "God and St. Patrick," and the year 1134, when the consecration of the church is recorded. From it we may now endeavour to arrange in a chronological scale the materials before us, only referring to one notice of later date, 1238, when it is recorded that the steeple of Annadown was erected. Nothing remains to show whether this was a square or a round belfry. It has usually been assumed that it was a round one.

Cormac's Chapel, finished about 1134, is very fully described by Dr. Petrie. In plan it consists of nave and chancel, with a recess for the altar, and the two towers placed as transepts. The nave is vaulted with a barrel vault and hoop ribs. The chancel is groined. The whole is roofed with stone carried on an upper vault, which is on the barrel principle but pointed, and the space between the vaults forms two apartments, one of which was provided with a fireplace. The south tower affords access to these crofts by the stone stairs it contains, and the north tower had a series of timber floors, all of which are destroyed. The whole internal length of the church is only about 47 feet. The north doorway exhibits well the general character of the work, which it is seen at once is different from that of the round tower at the same place, and which must be of earlier date. Another church, that of Aghadoe, where the stump of a round tower remains, is recorded as finished in 1158. Of the original church the only feature remaining is the beautiful west door, which serves to confirm our position. At the beginning of the preceding century Brian Boroim was monarch of Ireland. He died, as we have seen, in 1013, and of him it was recorded that he repaired the steeple of Tomgraney; and yet earlier, in 964, died the prelate who built this very steeple and the church of Tomgraney. The steeple is reported to have been traceable some forty years ago. The church remains, and is in use to this day: it is a simple parallelogram 84 feet in its extreme length, and 28 feet in width, and is of two very distinct periods of work. The western portion is of the irregular-coursed masonry, in large stones, which we have seen belongs to so many of the towers, and has buttresses projecting westward, in a manner not found in any of the later buildings; and, besides this, in the west end, is a door with a flat head, corresponding with the design which we have seen to be of such frequent occurrence in the towers. It is 6 feet 4 inches high, 3 feet 1½ inch wide at the top, and 3 feet 6 inches wide at the bottom, and is constructed in six stones, all of which go through the wall. The eastern portion of the church is of well wrought and squared ashlar, and the eastern angles of the church are ornamented with shafts, having capitals and bases, well carved. I cannot doubt that the western portion is a remnant of the church erected before 964, unless it should be shown to belong to a church which we know was here 200 years before this; and the eastern, it is likely, was the work of a later date, perhaps done when King Brian repaired the steeple. This conjecture is supported by the remains of a church on the island in Lough Derg, called Holy Island, or Inniscaltra: it is in sight from Tomgraney, and contains several churches and a round tower. The principal church, 45 feet from the tower, has likewise two distinct dates of work. The nave walls, and one small window, are of the more ancient description; but the other window, which is distinctly an insertion, and the chancel arch and west door, are of a later date, as well as the chancel, which is of squared ashlar. Of this church it is recorded, that it was erected by the same King Brian, whilst we also know that a church was founded here some 250 years before, which was plundered and burned more than once by the Danes; and may therefore fairly conclude that King Brian used so much as he could of the old walls, and that the chancel and ornamental features we have noticed were his. We shall, then, without difficulty, give the same date to the east end of the church at Tomgraney; and equally we shall give to the early work of the church, and to the round tower at Inniscaltra, a previous date.

A little earlier than the record of the erection of the tower and church of Tomgraney, in 964, is that of the cathedral at Clonmacnois, which, as pointed out by Dr. Petrie, was built by an abbot who died in 924. This building has been greatly altered in later ages: it is 72 feet long, and 35 ft. 6 in. wide. The principal mark of its early antiquity is in the peculiar buttresses at the ends, which we have seen are in the oldest part of Tomgraney Church, and of Inniscaltra. Almost the only other feature remaining of an early date is one capital and the jamb of the west door, to which I should have some difficulty, from the finished design and execution of the capital, in giving so early a date, but for the fact that we have at the same place two remarkable sculptured crosses, and the remains of a third, which are at least as old. The most ornamental one of the three is sculptured with subjects, some of which are readily identified as Scripture subjects; and it is shown, by ancient Irish inscriptions upon it, to have been erected as a monument (by the same Abbot Colman, who erected the cathedral) to the then reigning sovereign of Ireland. Clonmacnois was then, and had been from its foundation by St. Kieran, about 544, one of the most important religious establishments in Ireland; and its buildings, humble as they are, were proportionate to its dignity among the other establishments of the country. As a place of sepulture it was most famous, and we have present evidence of this celebrity in the forty ancient inscribed and ornamented gravestones, which, by the absence of surnames, are clearly earlier than 1100, and many bear the names of abbots, bishops, and others, who are elsewhere recorded to have lived in those early times. The earliest I have noticed thus identified is of the date 724, and the latest 1025. Of the other churches, one is probably of the beginning of the thirteenth century, another may be later still, but two are distinctly as old, and probably older, than the cathedral. There are also the two round towers, one of which was mentioned as finished in the year 1124—which may refer to several feet of limestone walling, and the eight windows at the top, which are of different workmanship to the sandstone below—and was struck by lightning in 1135. The other is attached to St. Finian's Church. The crosses have also appeared in the ancient records. They were first mentioned in 918, again in 957, again in 1060: one of them, doubtless the one to which a date is assigned above, is called the Cross of the Scriptures; and, lastly, in 1070. At the site of another of the round towers, Monasterboice, are three crosses, two of them richly sculptured, and one bearing an inscription, by which it may reasonably be assigned to the same date as the Abbot Colman's. At another of our sites, in 817 and in 1166, crosses are mentioned in the annals; and others are still found at the round towers elsewhere, agreeing in character and equal in beauty to those at Clonmacnois. Uniting all considerations, I think there is good ground for supposing the principal of the two round towers at Clonmacnois to be at least as old as the cathedral, and I incline to think it older, which is, I believe, the case with the little oratory or church which bears the name of the founder, St. Kieran.

It is not in my power to produce any other positive dates of this period, and I will therefore next call attention to one or two of the towers where there is at this day architecture corresponding with all the examples we have noticed.

Kilmacduagh, in Galway, founded by St. Colman Macduagh, about 620, has, besides the nearly perfect round tower, which for many years has been several feet out of the perpendicular, the cathedral of St. Macduagh, and three other churches. The cathedral has a west end, with masonry and doorway of the earliest era. The church was enlarged in the Romanesque period, to which the chancel arch belongs, and later still the chancel was rebuilt and transepts added. One of the other churches is of the earliest period: the remains are very slight. The third, which belonged to a monastery founded by a bishop who died in 1283, is an admirable specimen of work which retains the round arch in its windows, but in its mouldings, which are of great beauty and excellent workmanship, belongs to this date. The other church is a very small one, with small lancet windows.

Inniscattery, an island in the mouth of the

* See page 36, *ante*.

Shannon, had its foundation as a religious establishment from St. Senan, not earlier than 534, but during his lifetime it became celebrated. A building called the Grave of St. Senan still exists, besides five churches and the traces of a sixth; and a nearly perfect round tower, 76 feet west of the principal church. The original door of the tower is destroyed. The church opposite has a west door and other characteristic features of the earliest era; but the greater part of the building is of Pointed architecture. This building is undivided in its length, which is 75 feet; the width, 33 feet 8 inches. Immediately north of it, only 14 feet distant, is a small church, also of the earliest period. St. Senan's Grave has marks of great antiquity; and the small church close by, called St. Senan's Church, is of early Romanesque architecture. A fourth church has lost all its architectural features, and the fifth is of the earliest Pointed work.

Glendalough, seated amidst the wildest of the Wicklow mountains, is not surpassed in architectural interest by any of the places previously described. The first establishment of St. Kevin here was towards the end of the sixth century. It used to be an archiepiscopal city. It was repeatedly plundered by the Danes, and fell to decay soon after the English rule was established, but was not deserted for some centuries later. The cemetery is entered by a gateway nearly coeval with the round tower and the cathedral which it contains. The cathedral, in its doorway and part of the walling, belongs to the earliest period. It possessed some rich work of the Romanesque era in the chancel, but this has nearly disappeared, though fortunately preserved by drawings. The work of this date, too, is in an oolitic stone, probably brought from abroad. Of the other churches of the place, St. Mary's and the Reefert Church have doors of the earliest period, whilst the monastery exhibits rich details of Romanesque character. Here is also, in addition to the round tower just noticed, one of the attached round towers, which, it may now be observed, corresponds in its architecture to the others. It is placed on the barrel-vault of St. Kevin's Church, the history of which, seems to be, that originally it had a nave 22 feet 6 in. by 14 feet 6 in. inside, covered by a semicircular barrel-vault, and roofed with solid stone of slate rock carried on a pointed barrel-vault, forming an apartment between the vaults. To this was added afterwards a chancel, which has wholly disappeared, only leaving the groove in the end of the nave into which the chancel-roof fitted, but showing that the chancel did not bond to the nave, which is also the case with the sacristy (still standing), and which was coeval with the chancel. The original east window is still visible, blocked up in the end of the nave, and partly destroyed by the opening made for a chancel-arch, which was done merely by cutting out the wall without inserting any voussoirs, so that the courses run out horizontally to the edge of the circular-headed opening. Corresponding in its character with these additions is the round tower placed on the west end of the church, and measuring only 39 feet 10 in. from the ground to the base of its cone. The door and other features attest the antiquity of the building. A burning of this church is recorded in 1163.

Another of the exceptional towers was attached to the church now called Trinity Church, of this place. The tower existed at the end of the last century, but of it a fragment only of the base remains, containing one small and very early window. The antiquity of the church is attested by the west door and other features, which opened into the tower. The tower was square at the base and cylindrical above. Another tower square at the base and circular above exists at Killashee. It was from the first attached to the west end of a church, and opened to it by a large semicircular arch. The existing church is modern: the features of the tower possess the marks of great age, but are in many respects peculiar. Built into the walls is a piece of wrought and moulded stone of early date. On the whole, this would probably be a late erection of the kind, but there was a church here from the earliest introduction of Christianity, the founder of which died in 460. The fourth attached tower is that of the church of St. Finian, at Clonmacnois. It stands south of the chancel, and opens to it by a semicircular-headed door, with inclined jambs placed at the level of the chancel floor. The windows are most of them slightly recessed on the outside, and one of them splays on the inside. The usual four windows at top are here wanting. The masonry is in parallel courses, and is bonded to, and corresponds with, that of the church. The tower is only 45 feet high to the cornice and 11 feet diameter. The conical roof is much dilapidated, but the peculiar arrangement of the stones with herring-bone joints can yet be detected. The church has a very rich chancel arch, with zig-zag and other ornaments. The only remaining window is in the east end: it is very small, circular-headed, and quite plain. The only historical evidence I know of is that from the annals adduced by Dr. Petrie, showing that it existed in 1015. The church at Dungiven had an erection called a round tower on its south-west angle. This tower fell in 1784, and I know it only by two very inferior prints. The church was founded about the year 1100, and has some interesting remains of that date, but it was extensively altered in a later period of Romanesque work, and again in both the first periods of Pointed architecture; and from all appearance I think the round tower was only a small turret set on the south-west angle of the nave, and not coeval with the first church. I ought, perhaps, to allude to two others which have been called round towers, but which were evidently not of the same nature. Trummery Tower fell about twenty-five years ago. It was attached to the north side of a building, which does not seem to be old, but occupies the position of chancel to a ruined church. The whole remains are mere traces from which I could not attempt to define dates; but the published drawings and descriptions of the tower show it to have been very small, as compared with others; and that it was a stair turret is evident, from the lower steps of a spiral stair of the rudest construction still remaining. In this it agrees with the remaining one at Tamlaght Finlagan, where the commencement of the stair also remains. This one was square at the base, and attached to the north side of a church, at its west end: the fragment is only 7 feet or 8 feet high. The building is known to be as old as, and I think belongs to, the era of Pointed architecture; but a church was here in the seventh century. The broken walls which remain do not indicate date with any certainty.

I have for one moment to revert to the ornamental tower doors at Timahoe, Kildare, and Dysart, to remark, that having seen that ornamental architecture was in use about the year 1000, and judging by the sculptured crosses, and some other remains of still earlier date, there is good reason to suppose that these doors are only enriched specimens of the earliest era. The shape of the opening, and the low relief of the carving and peculiar caps and bases, show such a difference between them and the enriched specimens established to be of later date, that it seems to me we cannot be wrong in giving to Timahoe a date as early as 880, at which I first find mention of an abbot of the place, and to Kildare, which, from Giraldus Cambrensis, we know was reputed an ancient building in his day, at least an equal antiquity. Dysart door is probably older, as the ornament is only a slight advance on the band architrave. Of an oratory which existed at Timahoe in 1069, not a vestige now remains; nor, except the tower, is there any building there older than the Pointed era.

It has been seen that arched doorways prevail in the greater number of towers, and it might have been expected that doors of the same form would be found in the associated churches of the same period. It is curious, however, to notice that in every instance where we have the coeval church and tower, the tower door is arched, and the church door flat-headed. Churches with arched doors with inclined jambs do exist, and probably of equal age with the others; but I have never seen such churches in association with round towers.

One of the purposes for which the towers were intended will help to account for the destruction of many. That they were resorted to for defence and security, we have seen, and that they were intended to be so is evident from the means used to fasten the doors from the inside, and from the position of the door at a height above the ground. To this it has been objected that their inside diameter, not more than 8 feet, is so small, that they could not contain any number of persons. It may well be supposed that they were more especially intended for the clergy, with the relics, books, and valuables, which would not require much space; but some of their numerous floors would be available for others. It is only lately that a gentleman who has not favoured this view has published an old account of a siege of one of these, which took place so late as 1642. The castle adjoining the churchyard and the round tower were held by a force of whom 114 men, and 183 women and children, were in the castle, and forty men in the steeple. The castle was reduced when threatened with a piece of artillery, and afterwards the forty men with two muskets, who held the steeple, submitted. This shows how serviceable the building would have been in earlier times, and this use of them may account for the position of the windows in the shaft so near to the several floors, as it would expose the assailants when near the building, and the facing of each of these windows towards a different point of the compass would be another aid to the defenders.

The facts before us seem, then, to show that from the age of Cormac's Chapel, receding to the ninth century, ornamented architecture, partaking of the character of the Romanesque of other countries, was practised in Ireland; that this style, modified by the extensive intercourse which we know was maintained by the Irish clergy with the continental nations, had arisen out of a state of the art peculiar to the country, in the centuries between the ninth and the fifth; but common in many points to the efforts of other nations in the infancy of the art of building with stone; and that for the origin of this phase we must look to the builders who had the skill to raise the massive stone forts built without mortar, of which some remain to this day, whose antiquity is historically certain; and as there is no doubt, many of them are the work of the Pagan ages, it is also likely that their construction without mortar may have been continued afterwards, although mortar then came very generally into use, and the round towers and their churches were all built in mortar.

From this survey and review it may, then, I think, be concluded that the round towers, and churches which coincide with them, rose with the foundation of the establishments recorded in the early ages of Christianity; and, as those foundations belong chiefly to the era between 432 and 700, we shall not be wrong in supposing that the round towers and corresponding churches belong nearly in the same proportion to that period; but that others owe their origin to a later period, nearly down to the year 1000.

GORDON M. HILLS.

HOSPITAL VENTILATION.

THE LYING-IN HOSPITAL.

AN important question or dispute on a subject (that of hospital ventilation) to which the *Builder* has of late directed special attention, has arisen in reference to the General Lying-in Hospital. Dr. E. Rigby, lately the senior physician to this hospital, formally complains, in a letter addressed to the Earl of Galloway, as president, and published in the *Times* (which devoted a leading article to the subject), that great fatality has occurred of late years in the hospital in consequence of the frustration of his endeavours (at one period successful) to have it ventilated on Dr. Reid's system. Dr. Rigby's facts and statistics, however, are contradicted by the secretary, who replies to the effect that the governing committee have been guided, in anything they have done in reference to ventilation, by the opinions of the majority of the medical officers themselves. It would be well that some impartial investigation were made into the real state of affairs in this case, inasmuch as Dr. Rigby's charges against the management are of a very serious character, so much so as to place the secretary's *ex parte* reply much more in the position of a parole defence by a party criminally charged, than in that of a disinterested correction of errors or false statements made by a prejudiced or mistaken assailant. Dr. Rigby remarks that the wilful destruction of the system of ventilation adopted in the hospital, by the committee, in the face of such evidence as he adduces, "becomes an act verging so closely into one of a criminal character," that he would not lend himself, directly or indirectly, to anything of the kind, and accordingly resigned his office as senior physician to the hospital. And if Dr. Rigby's statistics be correct, notwithstanding their contradiction, such language cannot be regarded as too strong; for according to Dr. Rigby, four years and seven months without the ventilation showed sixty-one deaths, while seven years with it only yielded eight; so that it might "be fairly said that but for the ventilation, *cæteris paribus*, we should have lost ninety-three women instead of that magnificent result of only eight; and in the succeeding five years, instead of losing thirty by unwarrantably cutting off the ventilation, we should have lost only five."

"This," continues Dr. Rigby, "is not a solitary instance of the success of Dr. Reid's ventilation in a lying-in hospital: at Copenhagen the mortality from puerperal fever was even worse than at the General Lying-in Hospital; but the new hospital which has been built with the system of ventilation from plans furnished [he adds] by myself, has

shown results as striking and gratifying as in London."

The committee are said by the secretary to regret that Dr. Rigby should pertinaciously repeat statements so utterly unfounded and so often refuted;" and they deny the efficacy of Dr. Reid's system of ventilation altogether.

This is a question which obviously ought not to rest in its present position. Dr. Rigby should be called upon to verify his statistics and his facts, or the committee to exonerate themselves in the face of these, and before some impartial tribunal appointed to decide the question.

PROVINCIAL NEWS.

Sittingbourne.—A committee has been appointed at a public meeting here to consider as to the re-establishment of a corn market and the preparation of plans for the proposed building. An outlay of about 1,000*l.* appears to be contemplated.

Brighton.—At last (says the *Brighton Herald*) there is a fair prospect of the long-contemplated alterations in the Post-office, Ship-street, being carried into effect. Difficulties have been overcome, and invitations have been issued to builders, by circular, to tender for the work. The enlargement will be on rather an extensive scale. All the property at the corner has been purchased, as far as the Post-office Inn, which has not been secured, though in the market at a moderate price. The Post-office will extend over the entire area covered by these houses. It will present a semi-circular frontage, uniform in design, of about 80 feet in length, while the elevation will be some 8 feet above the present building. The architectural pretensions of the new structure will not be great.

Birmingham.—The foundation-stone of the new Temperance Hall, about to be erected in Temple-street, in this town, was laid on Tuesday in week before last by the Mayor. The building, which will be erected by Mr. Browning, from a design by Mr. H. R. Yeoville, will consist mainly of the large room to be used as a meeting-hall, not only for transactions of the Temperance Society, but for public meetings, concerts, &c. The hall will be 70 feet long by nearly 50 feet wide, and will be approached by a principal entrance in Temple-street, with the usual lobbies, staircases, &c. and will accommodate 800 persons,—500 on the ground-floor, and 300 in galleries, which latter are carried round three sides of the building. On the fourth side is the platform, which will also be available as an orchestra. In the rear of the platform will be committee and retiring rooms, &c. Underneath the hall is an extensive basement, suitable for a warehouse, with entrances from Temple-street and the adjoining passage. The external elevation will be arranged in two stories, the central one of the lower openings forming the principal entrance, the windows on either side giving light to staircases, lobbies, &c. The upper tier of windows (divided from the lower ones by an ornamental stone string) will consist of five semi-circular windows with pilasters, with enriched capitals, and moulded and enriched architraves and key-stones. The whole will be surmounted by a cornice and crowned by a balustrade, &c. This elevation will be worked with Rugby bricks, and dressings of cement or stone (a matter not yet decided upon): the elevation to Temple-street will be 50 feet wide and 50 feet high to the top of the balustrade. The internal elevation will be decorated with a series of pilasters supporting a groined coved ceiling, the flat part of the ceiling being divided into ornamental panels. Ventilation is proposed to be effected by Muir's patent. The total cost will exceed 2,000*l.*

Tunstall.—The town-hall has been reopened, after being closed for upwards of a year, during which time extensive alterations and repairs have been effected, both in the interior and exterior of the building. Its features exteriorly, however, as regards size and style, remain much as they were, with the exception of a circular front. The exterior has been covered with cement in imitation of stone.

Liverpool.—The name of Mr. Charles Melly, of the firm of Melly, Romilly, and Co. of Liverpool, remarks the *Albion*, has become familiar to the inhabitants of this town as a household word. The beautiful drinking-fountains which ornament the public streets are rightly considered as boons for which all men owe thanks to the donor. This work effected, Mr. Melly is casting about for something more to do. We find that among the "mayor's communications" to be submitted to the adjourned meeting of the town council, on Wednesday, is an application from Mr. Melly for permission to purchase a piece of corporation land within easy distance of the crowded streets, for the purpose of transforming it into a free recreative ground for the people, fitting it up with a gymnasium and other appliances. Would that we had more such men as Mr. Melly.

Tadcaster.—This ancient town, well known for its limestone quarries, whence York Minster was erected, has of late been considerably improved, by drainage, new house fronts, plate-glass, &c. It has of late years become the property of Lord Londesborough, who has drained every street, it is said, requiring it.

Penrith.—The wheel at the works of the Penrith Local Board, on the Eamont, says the *Carlisle Journal*, has not power sufficient to pump water into the high tank without straining the whole machinery and bursting the pipes. Several good houses have of late years been built which can only be supplied from the high reservoir, and one mansion has recently been erected by Mr. Lawrence Harrison under the impression that it would be supplied with water from the higher service. Mr. Robinson, of Pooley, bought a piece of ground on the side of the Beacon-hill, whereon it was his intention to build a house, but as the board would not guarantee him a supply of water, the project was abandoned. The proprietors in the district which can only be supplied from the high tank have been excused from the special district rate: they are, however, very anxious to be supplied. The Board of Health have no objections to the proprietors putting up an engine at their own expense, and in that case their rate for water would be merely nominal.

Edinburgh.—The range of buildings in Melbourne-place, commenced about twenty years since, has been completed by filling up the corner at Victoria-street. The new building partially overhangs Victoria-terrace, which is thus entered from Melbourne-place by an arcade, supported on the outer side by square pillars. The line of Victoria-terrace is now also completed, excepting a vacant site at the corner of the old West Bow.

STAINED GLASS.

St. Mary's, Newark.—A stained-glass window, from the manufactory of Messrs. Wailes and Co. of Newcastle, has just been erected in St. Mary's Church, Newark, to the memory of the late Mr. George Hodgkinson. The principal subjects are,—"Abraham entertaining the three Angels," "Abraham offering up Isaac," "Jacob's Dream," "Jacob's dying Charge to Joseph," "The Passage through the Red Sea," "Moses smiting the Rock," "The two Spies bearing the Grapes of Eshcol," and "The Return of the Ark."

St Philip's, Salford.—The design for a new and large stained-glass memorial window, to be placed in St. Philip's Church, Salford, by Messrs. Edmundson and Son, of Manchester, is described by the *Manchester Courier*. The window is 15 feet high and about 12 feet wide. It is divided into a principal centre light, and two side lights. The design in the centre is Christ blessing little children. Above is the Ascension of our Lord. The borders and angles are filled with tracery, angels holding palm-branches, &c. On the right is represented Philip baptising the eunuch. On the left is represented Philip preaching at Samaria. In circular compartments of the side lights the four evangelists are depicted, with their emblems. The window is to be erected by Mr. Whittaker, a member of the congregation, in memory of his deceased wife. It is expected to be finished during the coming summer.

Isleworth.—A stained-glass window has been presented to the new church of St. John the Baptist at Isleworth, by Mr. Williams, the steward of the Duke of Northumberland's manors of Isleworth, Syon, and East Bedfont. The subject occupies one of the principal windows of the chancel, and represents four events in the life of St. Matthew, viz.: His call from the receipt of customs, his writing the Gospel, his preaching, and his death. This window was designed and executed by Mr. Wailes, of Newcastle-upon-Tyne, under the superintendence of the architect of the church, Mr. Deason.

CHURCH BUILDING NEWS.

Norwich.—In connection with the paragraph in our last, relative to the restorations which have been carried out within the last few years at Norwich Cathedral, we would say that the works were carried out under the superintendence of Mr. John Brown, architect to the cathedral, and now under the firm of Messrs. Brown & Lowe.

Dalston.—The Church of All Saints, Stonebridge, was built by private benefactions from the late Countess of Pembroke. It is capable of seating 950, 450 of the seatings being free. It has been opened but a short time, yet it is now proposed to enlarge it. The style is decorated Gothic, and the design was by Mr. P. Hardwick. Over the altar are three allegorical designs in marble, collected in Greece and Italy by the late Countess of Pembroke. Since the opening an organ has been erected by Messrs Willis, at a cost of 330*l.*

Spetchley.—The old church of Spetchley has been restored and will shortly be reopened. The west window in the belfry of the tower, which had been half blocked up, is now restored, and, by the aid of another window just opened in the inner wall of the tower, introduces more light into the western end of the building. The old oak porch, the timbers of which show no signs of decay, is made to do duty again, with a quantity of plaster removed from above the arch of the principal entrance. The gallery has been entirely removed, and the pulpit translated from its central position to the north side of the chancel arch. Open seats with standard ends have taken the place of the old pews. Unfortunately the church walls are neither composed of ashlar nor good rubble work, and so it has been necessary to cover them internally with stucco; but the chancel arch, being of good work and material, has been scraped. The east window will probably be restored, and its arch reopened and filled with tracery and stained glass. The old oak reredos will be retained and varnished. Coloured tiles are being laid down on the floor, the Berkeley mortuary chapel cleansed and restored, and the font will be set up on a new plinth on the south side of the entrance door. In the progress of the works a trefoiled piscina, with stone shelf, was discovered in the south wall near the chancel arch, and will be preserved. The restorations were carried out (gratuitously) by Mr. Rowe, of Worcester, architect. The contractor for the whole was Mr. Edmonds, of Sidbury, builder. A deficiency of 80*l.* in the restoration fund still requires to be made up.

Hemington (Somerset).—The church of Hemington, which had fallen into a state of decay in many parts, has been entirely repaired and restored under the superintendence of Mr. Scott, architect. The masonry and woodwork were done by Mr. Mann and Mr. Burridge.

Cheltenham.—A vestry meeting of the parish of St. Mary has adopted the recommendations of a committee appointed to take the subject of the restoration of the parish church into consideration. The report recommended the removal of all the existing pews, galleries, and fittings in the church, and an entire restoration of the interior of the edifice, upon a plan which, while it preserved all the original features of the building, and would enable those now occupying sittings therein to be reinstated in nearly their present positions, would also afford considerable increased accommodation, the calculation being that, by the new arrangement, a gain of eighty-seven sittings would be secured. The expense of the proposed alterations is estimated at from 2,000*l.* to 2,500*l.*; and in order to raise this sum without levying any rate upon the parish, the members of the present congregation are to subscribe after the rate of 30s. per sitting for each sitting occupied by them.

Martin Hussingtree.—The church of this village has been restored and re-opened. The contractor employed was Mr. M'Cann, of Malvern; Mr. Preedy being the architect. The chancel is entirely new, and the old pews have been cut down and cleaned, a new pulpit and communion-rails provided, &c. Minton's tiles have been laid down in the chancel; and a new east window has been inserted in accordance with the Early English character of the church: it is of three lights, with the sacred monogram I. H. S. in the centre, alternate quatrefoils and circles, with a cross within a vesica piscis at top of the centre light, the ground-work of the window being a diaper pattern, of a wheat-ear and a flower representing a chalice, alternately, bearing the scroll "Emanuel." This is from an ancient example in Worcester Cathedral. A flowing border of foliage surrounds the whole. An Early English lancet on the north of the chancel has been restored, having been previously blocked up. A new transept has been opened on the south side of the chancel, which accommodates about twenty persons. In the chancel, new oak seats have been provided, with carved finials. On the south side of the nave a new window has been opened, of the Perpendicular style, in four lights. The gallery at the west end has been retained owing to want of room. A new porch of wood and stone has been erected; and also a bell-turret, with a spire of oak shingles. The turf in the churchyard has been levelled, and an open brick drain laid down at the

base of the walls, to keep the fabric dry. The probable cost of the restorations will be about 400*l.*

Coleshill —The old parish church of Coleshill is about to be restored. It is to be roofed throughout with oak, and new seated with same material. The stonework of the nave, aisles, and chancel is to be renewed. A new west window will be put in and a doorway made in the Tower. The restoration of the chancel will be carried out at the sole cost of the Rev. J. D. W. Digby, vicar of Coleshill: the remainder of the work is to be completed at the joint cost of the vicar, and Mr. W. Digby, of Sherbourne Castle, Dorset. The architect under whose superintendence the restoration will be effected, is Mr. William Slater, of London; and the execution of the work has been entrusted to Messrs. Robinson and Son, of Coventry, builders.

Wardle.—St. James's Church, Wardle, near Rochdale, the first stone of which was laid in May, 1856, has been opened and consecrated by the Bishop of Manchester. The cost of the new edifice has been 2,700*l.* being about 200*l.* more than the original estimate. The style of architecture is Early English, and the design consists of a deep chancel, nave, two side aisles, vestry, organ chamber, tower, and conical spire, the latter occupying the south-west angle of the church, and about 117 feet high. The roofs are open timbered, supported on five Roman arches, resting on circular columns with Roman capitals, and a clerestory above. There are no galleries, and the seats, which will accommodate about 500 persons, are open. The floor is laid with coloured tiles, and the windows are filled with white glass The principal entrances are at the west end and under the tower at the south side. The stone of which the edifice is erected has been got in the neighbourhood. The land has been given by Mr. James Whittaker. The architect was Mr. Shaw, of Saddleworth; the builder, Mr. Edmund Taylor, of Rochdale; the joiners, Messrs. Schofield, of Todmorden.

SCHOOL-BUILDING NEWS.

Ely.—It is reported that, simultaneously with the buildings for schools at the west end of Ely, on an extensive and ornamental plan, under the direction of the dean and chapter, infant schools will be erected in Broad-street, at the east end of the city.

Dalston.—The new national schools in connection with All Saints' Church, Stonebridge, have now been formally opened. They are in the Decorated Gothic style of the church itself, and were designed by Mr. J. E. Knightley, of London. They are built of brick, with stone dressings, and are capable of accommodating 400 children; being so constructed that the boys' and girls' compartments may be united, as for weekly meetings, for lectures, and other useful purposes. The cost of erection is 1,050*l.* Towards this outlay the Government have made a grant of 430*l.*: 500*l.* have been obtained by local and other contributions, and the balance has yet to be liquidated by voluntary benefactions. The schools were built by Mr. S. B. Hocken, of Dalston.

Croydon.—The Christ Church national schools, Croydon, have been opened. The Archbishop of Canterbury has made a free gift of the land at Broad-green, on which the schools stand, besides contributing towards the erection. The total cost is about 1,600*l.* about half of which sum has been raised by voluntary contributions; the remainder being made up by grants of 671*l.* from the Committee of Council on Education, 100*l.* from the Diocesan Board, and 50*l.* from the National Society. Mr. Mair was the architect.

Leicester.—The enlargement and restoration of St. Martin's schools have been completed, under the direction of Mr. Dain, architect; the builders being Messrs. Osborne.

Liverpool.—The new schools built in connection with the church of St. Saviour, in Upper Canning-street, at a cost of nearly 5,000*l.* have been opened. They will accommodate 800 boys, girls, and infants.

Dewsbury—A new infants' school, with teacher's house attached, has just been opened, in connection with the parish church. The school-room is 54 feet by 21 feet, with raised seats for children at one end, and a class-room on one side. It is lighted by a triplet window at the east end, and four pairs of trefoil-headed lights on the south side, filled with cathedral glass and red and purple margins; there are also four dormer lights which open on centres for ventilation. A porch is placed in the centre of the south side, and has a bell-turret over the door. The buttresses are of tooled masonry, panelled, and with gabled caps. The style adopted is the Early Gothic, and the masons' work has been executed by Messrs. Hampshire, of Huddersfield, at a cost of 576*l.* including fence walls, drains, &c. The stone used for walling is from the neighbouring Dawgreen quarries, and the hewn stone from Whitley, five miles distant. The roof is open hammer-beam, resting on carved stone corbels, and all the timbers and other woodwork are stained and varnished. The total cost was 950*l.* Mr. Tarn, of London, was the architect.

Scarborough.—The foundation-stone of St. Thomas's District Church Schools here was laid on the 12th inst. by Mrs. Woodall. About 650*l.* have been raised, the total required being 900*l.*

Darlington.—New schools in connection with the Wesleyan body have been inaugurated at Darlington. The building, which has been erected in Bondgate, in close proximity to the Wesleyan Chapel, is of the Gothic style of architecture, and faced with ornamental bricks. It is 102½ feet long, and 26½ feet broad. It consists of three large rooms—an upper one to be used as the boys' school, and which is capable of holding upwards of 300 children, allowing 8 square feet to each child; two lower rooms, intended as girls' and infants' schools, and each calculated to provide convenient accommodation for 140 children; four class-rooms, two for the boys and one each for the girls and infants; and a dwelling-house, &c. There is a play-ground, covering an area of 1,580 superficial yards. The residences of the ministers have at the same time been almost entirely rebuilt. The total cost of the erection of the new buildings and of the repairs of the old has been 3,916*l.* Of this amount 3,466*l.* have been obtained,—1,388*l.* from the Committee of Council on Education, 100*l.* from the Wesleyan Education Committee, and the residue from voluntary contributions.

PHOTOGRAPHIC PROGRESS.

SOME years since, it may be remembered, we published the outlines of a new theory of light, heat, and actinism, &c. with a categorical arrangement of these and other natural forces or powers, in relation to the substructural and superstructural forms of matter, such as that of the atom, the molecule, the polarcle, the crystlet, the mass, the stratum, the sphere, &c. In this category it was shown that light could be nothing more and nothing else than radiant or repulsive force of the most subtle order, namely, the radiant force operative in the minutest *atoms* of aggregate masses, while heat was radiant force operative in the *molecules* composed of these atoms, and actinism radiant force operative in the *polarcles* composed of these molecules. Moreover, that to each of these radiating or repelling forces was opposed a *special* concentrative or attractive force, such as cold is to heat. The analagous co-operative of light was named the *hezekal* force, from the Hebrew word "Hezek," signifying "darkness which may be felt." It thus appeared that light and hezek were forces co-operative and mutually counteractive in, and constitutional to, all matter made up primarily of atoms, and it naturally and necessarily follows from these principles, that such matter exposed to light will absorb light by the attractive power of its hezekal force, just as similar matter exposed to heat will absorb that heat by the attractive power of the force of cold in its molecules, and in the precise ratio of the intensity or amount of that cold. It further follows, from the same principles, that just as cold, or the force attractive of heat, may be increased in a body, by keeping it for a time out of the rays of heat, or in other words, in the cold; so hezek, or the force attractive of light, may be intensified, or increased in a body, by keeping it for a time out of the rays of light,—in other words, by keeping it for a time in darkness. It will then become more attractive of light, and more capable of absorbing it than before, just as a body in which the force of cold has been intensified becomes more capable of absorbing heat. We give this very curt explanation here merely as a preface to what follows:—M. Niépce de St. Victor, according to the *Art-Journal*, has just given an account of some curious and interesting experiments on light and darkness to the Paris Academy of Sciences, the result of which is, that if we "expose to the direct rays of the sun, during a quarter of an hour at least, an engraving which has been kept many days *in obscurity* (or *darkness*), and of which one-half has been covered by an opaque screen; then apply this engraving upon a very sensitive photographic paper;—after twenty-four hours' contact in darkness, we shall obtain, in black, a reproduction of the white parts of the engraving which in the process of insulation have not been sheltered by the screen. If the engraving has been kept for many days in profound darkness, and we then apply it upon sensitive paper without having previously exposed it to light, it is not reproduced." A new means for reproducing engravings will thus, it is hoped, be secured, and eventually the photographer may be able to reproduce in darkness the images of objects which have once been exposed to the light; for it is evident that some, if not all, bodies, after having been exposed to light, retain in darkness an impression of this light. In all further experiment and reasoning on this subject, *savans* would do well, we think, to recognise and keep in view the probability of the existence of the hezekal force as indicated,—that is, of a force *specially* antithetical to light—not mere darkness itself, but a positive operative force of an attractive or concentrative order, and operative most freely and absolutely in darkness, though co-operative with its own special antithesis, the radiative power of light in the atoms of matter.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

A MEETING was held on the 18th inst. Mr. Cousin in the chair, when Mr. Murray, of Murrayshall, in name of some of the members of the Institute, presented the honorary secretary with a large bound copy of Murphy's "Arabian Antiquities of Spain," inscribed as follows: "Presented by members of the Architectural Institute of Scotland to William Miller, esq. honorary secretary, as a mark of their appreciation of his zeal and energy in forwarding the objects of the Institute." Mr. Thomas Bloxham, assistant chemist, Industrial Museum, read a report on the practical results of an investigation into the composition of the chief building-sandstones used in Edinburgh and Glasgow, made under the direction of Professor George Wilson, which was followed by observations on the subject by various members. The secretary then read "A Description of the Plan of a Cottage or Gatehouse for Labourers or Farm Servants," by Dr. Fulton. Colonel Moody, R.E. who was present, afterwards made explanations, as far as he was at liberty to do so, with reference to the intended operations at the Castle, and mentioned that nothing would be done till it was submitted to the highest criticism.

MONUMENTS AND STATUES.

The Liverpool Wellington Testimonial.—The sub-committee met on the 21st inst. for the purpose of coming to a conclusion as to the site for the intended column, and the nature of its construction. The amount in the hands of the treasurer is 6,500*l.* which would be barely sufficient, it appears, for completing the column with Darley-dale stone, according to the original design. To erect a pedestal and column complete, of Darley-dale stone, with bronze statue, 12 feet high; and, in accordance with the model and design for which the prize was awarded, the estimated cost is 5,800*l.* If the steps up the base course of pedestal and architrave of door be of grey granite, and the remainder of pedestal and column of Darley-dale stone, estimate 6,030*l.* If the steps and whole of pedestal to the base of column (20 feet high) be of grey granite, and the column of Darley-dale stone, estimate 6,918*l.* If the entire monument be executed in grey granite, surmounted by a bronze statue of the duke, estimate 8,106*l.* In addition to the above, it has been suggested that, to render the monument complete, a bas-relief in bronze, representing the final charge, or other principal incident, in the battle of Waterloo, should occupy the front panel of the pedestal, and the names of Wellington's victories, in raised bronze letters, the side panels, together with four eagles in bronze, at the angles of the pedestals. If these be carried out, the extra cost would probably be about 820*l.* Thus, to execute the monument in granite, with bronze reliefs, the total cost would be about 9,000*l.* or 2,500*l.* more than at present in the hands of the treasurer The committee therefore appeal to the Liverpool public for the requisite additional funds.

Proposed Monument at Ashton-under-Lyne, to the late Mr. C. Hindley, M.P.—At a private meeting held in Ashton, "to consider the measures desirable to be adopted for perpetuating public regard for the memory of the late Charles Hindley, Esq. M.P." the mayor suggested that the most fit monument would be a colossal statue in bronze, say 10 feet high, with a pedestal 7 feet high, to cost 1,000 guineas. It should be thrown open to competition, and the models exhibited for criticism, as in the case of the Queen's statue in Salford Peel Park. He did not think there would be the least

difficulty in raising 1,000 guineas. The working classes, he had no doubt, would raise one-third of the money. It was resolved simply that "some public memorial be erected." The mayor and Mr. Henry Lees each promised 50*l*. A committee of the whole meeting was appointed to canvass for subscriptions.

Statue of Columbus.—A statue of Christopher Columbus is about to be erected in Genoa.

ARCHITECTURAL ASSOCIATION.

ON Friday evening, the 22nd, the members held a *conversazione* at Lyon's-inn Hall; Mr. Wigley in the chair. The Rev. Charles Boutell read some remarks on "The Progress and Development of Gothic Architecture," to which we shall if possible return; but, such is the rush of lectures just now, connected with the profession, that papers which do not reach us till the eve of publication are in danger of being omitted through sheer inability to find space for them.

A short discussion followed the delivery of the address. Amongst those who spoke,

Mr. Colling said he was pleased with the comprehensive way in which Mr. Boutell had treated his topic—a way that in its scope and comprehensiveness was too apt to be lost sight of by the professional architect, who was too frequently led away by details. The prospect of Gothic becoming as it were a national style by revival was very cheering; and it was curious to observe how in this metropolis Gothic architecture was being adopted and imported into the Classic. Gothic architecture, he thought, had the advantage in many of its features over the Classic; and he hoped to see the party spirit that at present ran so high between the Gothic and the Classic soon amalgamated, or brought together so as to produce a national style, which might in the long run be based on the Gothic, which they so wished to see adopted.

Mr. Fowler, with reference to style in architecture, could not help thinking that as in everything else in the present day, they were rather too much in a hurry. We could not expect to obtain anything like a new, uniform, or national style of architecture under half a century. We were yet as it were in the phase of childhood, learning the elements that were to form the basis of a future style. Gothic architecture, it appeared to him, required great study of detail; but he (Mr. Fowler) could not see why the very same arguments that had been used by the lecturer as to the revival of Gothic architecture might not be applied with the same force and fulness to Classic architecture. The Parthenon had been alluded to as the highest development of the Classic, and as the starting point of that style; but that was far from being the case, and although we could not trace the steps to that structure so minutely as we could in many Mediæval styles, we could sufficiently trace them as they led to the progressive perfection of architecture at that period. We could trace, moreover, its decadence much more rapidly and readily, and we should find in the Mediæval style that this to a great extent was reversed. He could not see why the same arguments applied to the Gothic should not be applied to Classic architecture in connection with the requirements of the present day, and some of these requirements seemed to point more particularly towards that style, more especially where large openings had to be treated, and where sufficient height could not be obtained for arcuation, though he was far from saying that this could not be well treated in the Gothic.

Mr. H. T. Hope had not heard all the lecturer's exposition, but came in while he was speaking of the introduction of the cupola as a great advantage in Gothic architecture. Now he thought the cupola had always been considered the especial property of Classic architecture, and one of its most beautiful features. He was neither an absolute opponent nor a supporter of either Gothic or Classic, but held them to be both beautiful in their way. They had heard, however, that evening, a certain amount of confusion of ideas between what was and what was not Gothic architecture. They were told they were to have a new style, — not the style of William of Wykeham, or of the Edwards and the Henrys, but a style of these our times, to be constructed of iron and glass, and capped with cupolas. Now until they had seen a practical illustration of this style, it would be impossible to pronounce an opinion upon it. As regarded the two styles, he would ask where, in the Gothic, they could find anything equal to the metope of the Parthenon, the spaces between the triglyphs of the Doric frieze filled in with beautiful sculpture, and than which nothing could be more simple and yet magnificent? The Parthenon was in the Doric style, and there was great beauty in the Corinthian; and as it was proposed to import cupolas into the Gothic, why not Corinthian columns also? There had been a development in this country, of what they might call a corruption of the Classic. Where could they find anything to excel St. Paul's for grandeur? St. Peter's was spoken of, and the Valhalla, but they sank into absolute subordination before its grandeur. The learned lecturer had told them that coalitions were hateful, and yet he advocated an architectural coalition between the Classic and the Gothic. Whatever was the result of the controversy of style, he hoped that in time the acerbity that distinguished the champions of their party, would be considerably softened.

The Rev. Mr. Boutell added, that what he intended to convey was the possibility of the cupola, and iron and glass being admitted into the Gothic, and that they were not antagonistic to that style. He had spoken of the Gothic as one style in all countries, but as susceptible of the introduction of new improvements and adornments, while maintaining its own essential principles and features. St. Paul's had been pointed to, on the one hand, as a *chef d'œuvre* of the Classic. He would point on the other to Westminster Abbey, as a *chef d'œuvre* of the Gothic.

Mr. Benwell briefly proposed a vote of thanks to Mr. Boutell, and the meeting separated.

THE GRAND TERMINUS IN WESTMINSTER.

AN arrangement has been made by the directors of the Brighton and South Coast Railway Company with the new company formed, as we have before noticed, for the construction of a short line, with terminus, at the Grosvenor-basin, Victoria-street, Westminster, and crossing the Thames to Battersea and the Crystal Palace West-end line. By this arrangement (subject to the sanction of the proprietors of the Brighton line) the bridge over the Thames, the line of railway, and the necessary site for the terminus, will be vested in the Brighton Company, the promoters reserving a right of way over the bridge and the railway, for the purpose of constructing a station on such portion of the site as will not be required by the Brighton Company. This company is to contribute 450,000*l*. with an annual payment of 1,500*l*. to the West-end Company. It has also been arranged that the West-end Company construct at the Grosvenor-basin the station buildings which, under an existing agreement with the Brighton Company, they had undertaken to erect at Battersea,—a much smaller station for the local and river traffic being all that will then be required at the latter spot; particularly as Parliament, although such measure was introduced and supported by Government, rejected the proposal made last session to allow all traffic to pass toll-free over the new bridge at Battersea. The traffic of the London and Crystal Palace Railway Company is worked by the Brighton Company, and the Crystal Palace Company itself has undertaken to pay to the Brighton Company one penny for every passenger booked at "the Victoria station" in Westminster for the Crystal Palace. As we some time since remarked, all that is further requisite, besides the terminus line, to complete the circle of connection, north and south, at the west-end of London, will be the short extension of the West of London line to the Grosvenor-basin or Victoria terminus.

THE ART-UNION OF LONDON.

OUR advertising columns show the scheme of operations for the present year, the medals, statuettes, bronzes, tazzas in iron, photographs, etchings, and engravings to be distributed, together with the right of selecting works of art from the various public exhibitions of the season in London, Dublin, and Edinburgh. The print of the year, which every member will receive for each guinea paid, is a large and important line engraving by J. T. Willmore, A.R.A. from the well-known original picture by the late J. M. W. Turner, R.A. "Venice," illustrating the conveyance of Bellini's Pictures to the Church of the Redentore.

The engraving is one of Mr. Willmore's best, full of air and light and life. We prefer, however, to give the opinions expressed of the work by some of our contemporaries. The *Athenæum*, for example, says:—"In spite of the loss of colour which engraving implies, Turner does engrave well, and Mr. Willmore, though a little over-liny, knows how to humour his iridescences and interfused reflections. The fly and roll of cloud, the welter and glimmer of water, are the peculiar enchantments of this picture. As for men, Turner paints them as if he had not had much to do with them, had not much regarded their outlines, did not much care for them, thought himself slighted by them, was rather ashamed of them, was glad to forget them. But he never forgot a single shadow of a palace stairs in water, a single wave of a flag in the stream, a single moving reflection of stately prow or gilded poop. It seems to us in this picture Mr. Willmore has done justice to water."

The *Observer* thinks "It is one of the best hitherto produced by this society. The subject is Turner's famous picture, namely, 'Bellini's Pictures conveyed to the Church of the Redentore in Venice.' In the centre of the picture are the brilliant state barges of the republic steering down the grand canal towards the Church of the Redeemer, where the precious freight they bear is to be deposited with every high ceremonial that can increase the solemnity of the scene." It is a sunny, radiant scene, and the engraver has known to seize its happiest features and transfer them to this production with unparalleled fidelity. The Art-Union has already given to its members many excellent engravings; but for texture, for beauty, and for artistic effect, this surpasses them all. The engraver is J. T. Willmore, A.R.A. and his work is worthy of Turner's picture.

And the *Spectator* says;—"The work which has been selected for presentation to subscribers of the current year is the 'Venice—Bellini's Pictures conveyed to the church of the Redentore,' engraved by Mr. Willmore. A scattered sky, darkening towards the zenith, with uncounted scuds of cloud, opens midway, and broods in majestic repose, a heap of luminous cloud-bank, over the horizon. The canal is all alive with brave barque and gliding gondola — pennons fluttering, oars dipping, decks thronged with the beauty and the manhood of Venice. The pictures of the great Bellini are being shifted from boat to boat, on their way up the carpeted steps of the cold and unenriched classical building which bears the name of the Redeemer. Mr. Willmore's engraving looks to advantage in the proof; but we fear that the stronger darks—as the reflections in the central water—will come out harshly and heavily in the later prints, and that some parts will exhibit a certain bareness, the right-hand corner especially. However it is not a time to find fault when we see the Art Union going to a mighty painter and a high class engraver for their subscription print."

We may add there are now no grounds for the apprehension here expressed. About 8,000 have been printed, and the last impression is as good as the first.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

EXEMPTED WORKS.

CHARLES R. BADGER *v.* J. DENN.—This was a special case, upon the construction of the Metropolitan Building Act, tried at the Court of Queen's Bench on the 20th inst. The respondent, Mr. Denn, a builder, had taken out the door-frame of a house at Lewisham, and put in another in its place, in doing which the brickwork around the doorway, forming a pier next the window, had been rebuilt. Mr. Badger, the district-surveyor, being of opinion that the work so done affected the construction of the building, and the builder not having given any notice to him, as required by the 38th section of the Act, Mr. Badger summoned him to the police-court, when the magistrate decided that the work done was for "necessary repairs," and within the exception contained in the 9th section. The complaint was therefore dismissed, and Mr. Badger being dissatisfied with this decision, a case was stated for the opinion of this court.

Mr. Wilde, Q.C. appeared as counsel for Mr. Denn, and contended that the work done was for the purpose of necessary repair, and did not affect the construction of any external or party wall, and that it was therefore within the exception.

Mr. Badger, in person, referred to the 39th section, to show what his duties were in this matter, and argued that the work in question was done to, in, and upon a building, and was *not merely a repair, but an alteration*, inasmuch as the doorway had been contracted from 2 feet 9½ inches to 2 feet 5 inches.

Lord Campbell said he concurred in the decision of the magistrates, that the work in question was done for "necessary repair, not affecting the construction of any external or party wall." If the

construction contended for by Mr. Badger were correct, the Act, which otherwise might produce great public good, would be the source of great vexation. It was merely a case of necessary repair, the construction of the wall remaining the same, and so it came within the reasonable exception introduced by the Legislature into the ninth section. The decision of the magistrates was quite correct; and he (Lord Campbell) thought the rule ought to be discharged, with costs. His lordship did not suppose that Mr. Badger interfered with a view to his own profit; but the Court must take care that others did not do so.

Mr. Justice Coleridge was of the same opinion. Common sense pointed out that the statute did not require the attention of the district surveyor on every alteration made in a house (?). The Act was intended for a good purpose, and if discreetly carried out would have a good effect; but otherwise it would be turned into a perfect nuisance. Like the man in Terence, who said, "Nihil humani a me alienum puto," Mr. Badger seemed to say, "Nihil constructionis aut reparationis a me alienum puto."

The other judges concurred. Decision affirmed with costs.

This decision will cause surprise to all who have given attention to the Metropolitan Building Act: work has been done which must have required shoring, the size of the doorway was lessened, the size of the pier between the door and the window increased, and brickwork on each side of the door at the bottom rebuilt, equalling in length more than the remainder of the back wall of the house of which it forms part; and yet it is said to be a repair "not affecting the construction of the wall." If this had been an isolated case, the district surveyor might, out of consideration for the owner, have taken the responsibility of allowing it to pass unchallenged, the work being comparatively small; but if it be one of a number of similar cases, as we are told it is, the district surveyor would have been guilty of neglect of duty had he not done as he has done. The 9th section enacts, that,—"Any alteration, or addition, or other work made or done for any purpose, except that of necessary repair not affecting the construction of any external or party wall, in, to, or upon any old building, or in, to, or upon any new building, after the roof has been covered in, shall, to the extent of such alteration, addition, or work, be subject to the regulation of this Act." How part of a wall can be taken down without affecting its construction, we do not understand. Moreover, we can say positively, from personal knowledge, that this was not the view taken by the committee of the House of Commons who introduced the exemption. Repairs, without qualification, were at first made exempt; but it was shown to the committee that in that case a wall might be taken down and rebuilt *of less than the proper thickness*, the district surveyor having received no notice, and having no control, and they at once agreed that when an external or party wall was cut into (when its construction was interfered with, in opposition to merely superficial repairs), the exemption should not apply, and they qualified the clause accordingly.

RANDOM NOTES IN ART.

DEPTH AND HARMONY IN ARCHITECTURE AND PAINTING.

THERE are certain features of both ecclesiastical and domestic architecture which have a peculiar charm from that variety of surface and arrangements which conveys to the mind a similar feeling to that experienced on looking at the harmonious and transparent depths which are to be found in the paintings of our greatest artists. In most of our fine Gothic cathedrals this peculiar and beautiful principle is evident, and in none more so than in the interior of the Abbey of Westminster, where fine forms and ornament are so managed that they convey eye and imagination to depth within depth, and give, by a sense of endless combinations, that charm which, like the distance of a landscape, "lends enchantment to the view."

The mind is seldom satisfied by objects in nature which are seen at one glance, and which fail to convey the imagination to something beyond. The great charm of Rembrandt's pictures is, that light is contrasted with delicate relief of other light, and that while such a contrast is made as is the means of concentrating both light and dark, the depths, like the lights, consist of a similar arrangement of dark masses, which penetrate to the most remote parts of his "dusky splendours." The same feeling of artistic arrangement is shown in Westminster Abbey. The clustered pillars, the groined roof, the bosses and capitals, the cutting on the arches repeated into the gloom of the deep recesses, the diaper patterns in the walls, the varied pavement, are materials which the famous architects of old time used, like the painters of more modern days, to charm the mind through the organ of vision.

As a picturesque arrangement of light and shadow in architecture, there is, perhaps, no portion of any building in this country which is so effective as the shrine of Henry the Fifth, and the entrance to Henry the Seventh's Chapel. Here the sculptures and ornaments are carried into the darkest shades; and Rembrandt would have gladdened his eyes at the shadow which gives such a a glory to the sun-light in Henry the Seventh's Chapel, or (looking the other way) to the play of light near the Confessor's shrine.

Many of the old mansions of England possess similar picturesque qualities to those which have been just referred to, and others, in former times, have been greatly aided by the tapestry hangings, stained glass, and other decorations, which kept the eye amused by leading it from object to object; and much damage has been done to the appearance of many of these places by the removal of the wall hangings and the exposure of large masses of plain and even tinted wall. This defect has often been remedied by the hanging of large pictures, which, to a certain extent, answer a useful purpose; but when these are hung on a large wall of light yellow or grey tint, as is often the case, the effect of both wall and pictures is damaged. In some of the state apartments of Lambeth Palace this defect is apparent, for there is no harmony between the dark oak roofs and the colour of the walls.

A skilful painter gathers together his materials and determines to which he is to draw the greatest amount of attention. He then skilfully conveys the eye from place to place in graceful lines, by colours and tints, avoiding as a blemish any large unmeaning mass which does not harmonise with others. If in a landscape his sky present a large surface of blue, he takes care that although it may appear an even tint to those uneducated in art, it shall be delicately varied and made to partake, in some degree, of the other colours of his picture; and he also coaxes the blue into all parts by shades of purple and grey, and by the principle of mixing tint into tint, producing that harmony which, like true music, entrances the senses of both the learned and the ignorant, and which causes that remarkable transparency and depth which are such commendable qualities in painting, and which also give so much beauty to architecture.

Miscellanea.

TO MAKE PAPER IMPERVIOUS TO WATER.—The following preparation for waterproofing paper intended for packages exposed to the weather is said to be recommended by Professor Muschamp, of Wurtemberg. Take 24 oz. of alum and 4 oz. of white soap, and dissolve them in 2lbs. of water: into another vessel dissolve 2 oz. of gum arabic, and 6 oz. of glue in the same quantity of water as the former, and add the two solutions together, which is now to be kept warm, and the paper intended to be made waterproof dipped into it, passed between rollers, and dried; or, without the use of rollers, the paper may be suspended until it is perfectly dripped, and then dried. The alum, soap, glue, and gum form a kind of artificial leather, which protects the surface of the paper from the action of water, and also renders it somewhat fire-proof. Merely to convert paper into artificial leather, this would be rather a complicated process compared with the dipping of the paper in diluted oil of vitriol, and then washing it immediately with water and drying; but the Professor's method may perhaps render paper more impervious to water.

SURVEYOR TO THE HULL BOARD OF HEALTH.—The appointment of surveyor to the Hull Local Board of Health took place on the 23rd instant. There were in all sixty-three candidates, from all parts of the country, and out of that number three were selected to go to the poll, viz. Mr. Marellier, Hull; Mr. Butler, Hull; and Mr. Francis Houghton, London. On going to the poll Mr. Marellier obtained the largest number of votes, and consequently was elected.

THE LIVERPOOL ACADEMY.—The exhibition of paintings, Old Post-office-place, closed on Saturday night. The number of pictures disposed of has been 140, and the amount of money which they have fetched, about 2,400*l*. The amount raised by the two Art Unions in Liverpool was 490*l*.

THE KILKENNY ARCHÆOLOGICAL SOCIETY.—The tenth annual general meeting of this society was held in the Tholsel, at Kilkenny, on Wednesday in last week, the Dean of Leighlin in the chair. Eight new members were elected. The annual report for 1858 was read. It congratulated the members on the continuance of the remarkable prosperity of the society. Ninety-eight new members had been elected during the past year. The concluding number of the first volume of the new series of the Society's Journal, with index and preface, was announced as about ready. It was resolved, as recommended in the report, to accept of 5*l*. in lieu of all future subscriptions so as to constitute those paying that sum each a life member of the society. The Rev. James Graves stated that he had received a letter from the honorary secretary of the Dublin Architectural and Archæological Institute, proposing a friendly intercourse between the societies. Various presentations were made, and objects of interest exhibited; among the latter the "Ormonde Red Book," restored in a masterly way by Mr. C. Tuckett, the bookbinder to the British Museum, after having been charred and much injured by fire and thrown aside. After some other procedure, it was resolved to form an Antiquarian Album, of matter not sufficiently important for printing in the Society's Journal. Several papers were then laid before the meeting.

CROWN PRIVILEGES AND FERRY RIGHTS.—A deputation of the Conservative Land Society had an interview, on the 22nd inst., with the Chief Commissioner of Woods and Forests, on the subject of the proposed foot bridge in connection with the railway bridge across the Thames at Richmond, to which we have before alluded, more than once. The Chief Commissioner has now virtually abandoned all notion of withholding the assent of the Crown to the landing, on the ground of the limits of the ferry. Distance, according to Mr. Gore, formed no element in the consideration of the question. Would the ferry at Isleworth be injured by the foot bridge? If so, the Crown was bound, according to his view, to see that the lessee of the ferry was indemnified. The ferry was leased up to 1868 at a rental of 60*l*. a year, paid to the Crown: it was by no means a productive lease, and by the erection of a foot bridge it would be injured seriously. Mr. Gore advised that means should be taken either to indemnify the leaseholder, or to purchase the lease, and then the Crown would be prepared to treat for the proposed improvement. After a long discussion, the deputation withdrew, on the understanding that the Chief Commissioner would, on application, make known the Government terms on which the proprietors would be allowed to erect a foot bridge, on the basis of compensation to the Crown and the leaseholders.

THE LIVERPOOL BOROUGH SURVEYOR.—It is said by some of the local papers that Mr. Weightman, who has been borough surveyor at Liverpool for eleven years, means to resign his situation in March next. The present salary attached to the office is 1,000*l*. per annum; but, in consequence of the recent change in the finances of the corporation, it is not thought likely that his successor will receive much more than half that amount.

STRIKE AT DUNDEE.—The bricklayers employed on the drainage operations at Dundee have struck work, in consequence of a feeling existing among them as to a fortnight's wages due them by Mr. Chappell, the defaulting contractor. They also demand an increase of wages. A number of the labourers are still engaged at the drains.

RESPONSIBILITY TO WORKMEN FOR LADDER ACCIDENTS.—The case of Ormond *v.* Holland, in the Queen's Bench, is an action by a bricklayer's labourer against his employers, builders, to recover damages for injuries sustained from the alleged negligence of their servants. While ascending a ladder in the discharge of his duty one of the rounds broke, and he was precipitated to the ground, and received severe injuries. After evidence had been adduced on both sides, Lord Campbell held that the action was not maintainable, and directed a verdict to be entered for the defendants; but the jury assessed the damages at 25*l*. and his lordship reserved leave to the plaintiff to move the Court to enter the verdict for him for that sum. Mr. Henley moved accordingly, and submitted that the relationship between a master builder and his labourer was such that the latter could not be supposed to have the requisite knowledge to understand the strength of the materials supplied for his use; and that if his master did not personally superintend and examine these materials, he ought to appoint some competent person to discharge that duty on his behalf. A rule *nisi* was granted.

CANDIDATES FOR DISTRICT SURVEYORSHIPS.—The Board of Examiners of candidates for district surveyorships met on Tuesday, the 26th. Present—Mr. Chas. Fowler, in the chair; Mr. Gibson, Mr. Godwin, Mr. Hesketh, Mr. Inman, Mr. C. C. Welson, Mr. Pennethorne, Mr. Smirke, R.A.R.A. and Mr. M. D. Wyatt. The Board recommended that certificates be granted to Mr. Henry Laxton, Mr. J. G. Hilton, Mr. G. Hobson, and Mr. G. Morgan. Feeling the responsibility thrown on district surveyors in respect of public buildings, the Board have raised their standard of proficiency.

ANTIQUARIAN DISCOVERY AT SHEPRETH.—A discovery of ancient stone coffins has recently been made at Shepreth, by Mr. Woodham and other gentlemen of the parish, who are rebuilding the church. In removing the old northern porch, it was found that its walls, east and west, rested on two stone coffins, lying in line with the church, at the depth of about 2 feet below the surface, so that a part of each of the coffins was within the porch, at which spot there seems to have been a much earlier entrance. These coffins are antique in form, and of Barnack stone. The most perfect is cut from an entire block, about 6 feet 6 inches in length. At the upper end is a circular cutting to receive the head of the corpse, and two Latin crosses are cut in a line down the bottom of the coffin. The lid is slightly ridged with a plain round moulding along the ridge. In this coffin there was found a skeleton, believed to be that of a man, the head to the west, and the arms straight by the sides. On the breast was placed an antique chalice of lead, or perhaps pewter, formed of a bowl and stem. This vessel is much broken and partially pulverised by age. The other coffin lay in a line with the first to the west. It was composed of several pieces of stone now broken into fragments, and appears to have been somewhat smaller than the first. What remains of the skeleton within seems to indicate the corpse of a woman. The lid was of the flat ridge form, embellished with a cross, in high relief, and ornamental in form. The head of this skeleton also lay to the west; but no metallic or other article was found with it.

THE "STANDING STONES" AT CLAVA.—At a meeting of the Society of Antiquaries of Scotland, held last week, Mr. Cosmo Innes described the "Standing Stones," circles of stones and cairns, at Clava, which are very curious and important. The Haugh of Clava is covered with cairns, some of them surrounded by erect pillars. Two of these cairns, which have been opened, disclosed chambers of a bee-hive shape, in one of which, slightly under the surface, were found fragments of sepulchral urns. Mr. Innes described the construction of these chambers, and mentioned that there now only remained one cairn which, from its size, might be supposed to contain a chamber similar to those already discovered.

HALF-TIMBERED HOUSES.—In the last *Builder* appears an illustration of "Ancient Domestic Architecture in Shrewsbury," and feeling considerable interest in the erection of half-wooded houses, I shall be obliged if some of your correspondents will give particulars of the construction of these ancient houses, such as the kind of timber used in their construction, its durability as compared with houses built entirely of brick or stone, with details of their construction or manner of framing, and any other information of a general character, such as would be useful to persons who may wish to perpetuate such built houses by erecting some in the present day. Are American yellow and red pine timber to be recommended for such purpose, or would Memel or Dantzic red timber be preferable; or would English oak and chestnut be preferable; and what would be the probable duration of each of these several kinds of timber, if preserved with ordinary care; also, what means of preservation should be adopted to prevent premature decay in the timber.—H.

WORTHING SURVEYORSHIP.—Mr. C. Hide, of the firm of Hide and Patching, architects and builders, who has acted as the surveyor of Worthing for the last twenty years, has resigned his office; and it is understood that candidates for the surveyorship will be advertised for by the Worthing Board of Health.

DESTRUCTION OF THE EXHIBITION RAILWAY PLATFORM AT MANCHESTER.—The whole of the roof of the Exhibition platform, at Old Trafford, has been blown down by a sudden gust of wind. The iron pillars on which it was supported were all thrown from their resting-places, and in a moment the platform, for a distance of about 400 feet, was entirely destroyed. It extended to a length of 800 feet, of which about one-half was covered with a light roofing of corrugated iron, supported on cast-iron pillars.

STEAM ROUND THE WORLD IN SIXTY DAYS.—The *European Times* (Liverpool) thus calls attention to Mr. John Clare's proposed "mammoth steamers," our previous notice of which excited some attention:—Our difficulties in the East have tended to bring under the notice of the British Government in a practical form the ideas of our enterprising townsman, Mr. John Clare, jun., for the mammoth steamers he contemplates carrying this service out with. Mr. Clare bases his views of iron ship-building on total efficiency, ostensibly to reduce the perils of the elements, and, by constructing the vessels upon his patent metallic principles, he strongly avers that they will be proof to wind, water, and fire. Mr. Clare's views for the steam communication in question are now undergoing the consideration of the Government. We have seen a tabular statement for the calculations that relate to what Mr. Clare has proposed, and which are admitted by the Admiralty department to be the ones upon which the Queen of England can alone hold her possessions in the East. Mr. Clare's ideas are to bring any part of the globe within thirty days of her Majesty's ministers by steam ships that can carry 20,000 troops each; in fact, they will be floating towns, and so secure and efficient is the principle upon which he proposes to construct the vessels, that the danger from loss by the force of the elements is very remote. This fine fleet of steam ships is to be the forerunner of placing Australia twenty-five days, New Zealand thirty-five days, China, Calcutta, and Bombay thirty-five days' direct transit of head quarters. Mr. Clare contemplates a speed of twenty-five miles per hour. The item for coals on one trip alone is 50,000*l.*

LECTURES AT THE ARCHITECTURAL EXHIBITION. On Tuesday evening, the 26th, Mr. Burges read a paper, entitled, "Architectural Experiences at Constantinople," which, as setting forth a style of art not generally known, we propose to illustrate in a future number. Mr. A. B. Hope, M.P. presided.

POISONING BY PAPER-HANGINGS.—In the kingdom of Prussia, in which free trade in poisons does not exist, the following regulation is in force:—"Green copper colours containing arsenic are not allowed to be sold as water or oil colours for painting in-door work, or for *printing paper-hangings*. If found on the premises of dealers in the latter articles, *they are confiscated*, and the *owner punished with fine or imprisonment*." We presume that such a regulation as this would not have been issued without some good reasons to warrant it; and that had the Prussian government referred the question to arsenical colour makers, no such regulation would have been made. Those who profit, however, by the slow poisoning of the public in adding green pigments to pickles, or spreading them in a loose form on paper-hangings, either altogether deny that injury can arise from this branch of industry, or assign it to other causes. —*Medical Times.*

NEW BRIDGE FOR RAILWAYS.—At the last meeting of the Franklin Institute, a combined counter-braced arch and truss bridge, designed by Major Robert Walker, in two spans of 150 feet each, was described. In practice this bridge has proved itself to be strong and stiff. The chief peculiarity in it is the arrangement of the truss rods: these are not only in pairs on each truss, but are divided at the arch, where they separately take hold of a cast-iron saddle, so that by acting upon screws cut both at top and bottom of the truss rods, the strains produced by the bridge and its load may at will be thrown either upon the arch, upon the truss, or divided between the two, so as to bring into play the utmost strength of both.

THE RIGHT TIME WANTED.—Being employed in the manufacturing locality of Clerkenwell, and having much to do with workmen, I find a great source of annoyance and often of dispute between master and man, respecting correct time in the variations of the different clocks in the neighbourhood. It has occurred to me, that your influence might be employed to remedy this defect by advocating the erection of Electric Clocks in various localities, parishes, or districts; these being united to the Greenwich Observatory; and that their usefulness may be more extensively promoted, I would suggest that time balls be attached to them: thus affording the means to the various employers of daily correcting their household or factory clocks. This appears to me to be the only method of equalizing and correcting our system of time-keeping. I am quite aware it may be urged that time-keepers can be obtained at a cheap rate to go with such accuracy, that they will not vary a minute in a week; but where there is one good one, are there not a hundred bad, cheap, showy clocks, not time-keepers. —TEMPUS.

FALL OF CAERHOWELL SUSPENSION-BRIDGE.—On Monday in last week the suspension-bridge, on Dredge's principle, erected over the Severn at Caerhowell, near Montgomery, gave way all of a heap, while two waggons loaded with lime were on it, and fell flat into the river. One man was killed or drowned, but a boy and all the horses were got out uninjured. This bridge was erected about four years ago, the old one having just before been much injured by a flood. The county surveyor, we learn, had protested against the erection of a suspension-bridge, but his protest was overruled by a majority of the magistrates, and a contract was entered into with Messrs. Dredge and Stephenson, of Glasgow, for the erection of a bridge on Dredge's patented principle for 2,500*l.* The contractors, it was said, instead of profiting by the job, lost about 1, 500*l.* in the outset, and had to repair the bridge when used for the first time, in 1854, when some of the works gave way. The repairs are said to have been guaranteed by the contractors for seven years. Doubts of the security of the bridge appear to have been entertained especially of late, from a peculiar rattling in the chains. The jury on the inquest, held on the body of the man who was killed, unanimously resolved that a scientific examination shall take place, and adjourned accordingly.

STRAIGHTENING CHIMNEYS IN HULL. — An operation of some interest, from the fact of a similar one having been lately productive of fatal effect at Howden, has just been brought to a successful conclusion at the steam saw-mills of Mr. S. Thornham, Scott-street, Hull. Attached to his works is a chimney 90 feet high, built in 1839, on a foundation formed on piles. About two months after its erection, it began to lean towards the south, and a timber prop was erected. In every gale, however, this prop being loosened by the vibration of the chimney, and thus gradually falling lower, sent it over towards the north or north-east. A further prop was then erected, and an iron collar was put round the chimney, at the height of about 7 feet, but it still had a set nearly due east. On a plan submitted by Mr. Stather, a bricklayer commenced by digging down to the old foundations, which he found quite decayed. A new concrete foundation, about 3 or 4 feet in depth, was laid down. A basement of brickwork was next built round the chimney, to within about 2 feet of the iron collar, and two pieces of timber, about 6 inches thick, were then placed, one on the thick basement, and the other under the collar. The chimney was next sawed across between these two pieces, and by the gradual introduction of wedges, which raised it bodily, the chimney was restored to the perpendicular. It had previously been ornamented with a stone coping, weighing several tons, but this was removed, and is not to be replaced. The *modus operandi* differed essentially from that pursued at Howden, and the danger was also greater, the Howden chimney having a set of only 10 inches in 120 feet, while Mr. Thornham's had a set of 2 feet 10 inches in an altitude of 90 feet.

TENDERS

For the rebuilding of Faverham Hall, in the county of Norfolk. Mr. D. Brandon, architect:—

Cubitt and Co.	£20,090	0	0
Piper and Son	19,687	0	0
Kelk	19,556	0	0

For building offices in Star-alley, Fenchurch-street. Messrs. Young and Son, architects. Quantities not supplied:—

Patman	£1,479	0	0
Richards	1,456	2	0
Outhwaite	1,398	0	0
Larke and Son	1,393	0	0
King	1,385	0	0
G. Todd, jun.	1,344	0	0
Palmer and Son	1,325	0	0
Wallbutton	1,283	0	0

For parsonage-house to be built at Great Kimble, Bucks. Mr. E. B. Lamb, architect:—

E. Callam (Risborough)	£1,480	0	0
C. W. Holland (Wycombe)	1,300	0	0
E. Smith (Lane-end)	1,298	0	0
R. Smith (Dicklebough)	1,161	0	0
Hind and Aldrid	1,100	0	0
McLennan and Bird	1,060	0	0
Thos. Hardy (Cowley)	1,025	0	0
J. Taylor	997	0	0
L. Whitby	969	0	0
G. Holland (Thame)	950	0	0
J. Black	879	17	0
Geo. Cooper (Aylesbury)	879	17	0

For alterations to premises at "The Green Man," Euston-road. Mr. Newman, architect. Quantities not supplied:—

Lawrence	£477	0	0
Matthews	457	0	0
McLennan and Bird	448	0	0

For building twelve houses near King's-cross station. Mr. H. J. Brown, architect. Quantities supplied by Mr. Curtis :—

Watt and Co.	£6,000	0	0
Thos. Rudkin, jun.	5,845	0	0
J. Tulley and Sons	5,400	0	0
James S. Lemon	5,399	0	0
J. and C. W. Todd	5,360	0	0
Wm. Downs	5,333	0	0
J. H. Tarrant	5,333	0	0
W. W. Dove	5,280	0	0
Colls and Co.	5,235	0	0
Thos. Ennor	4,998	0	0
J. G. Bishop	4,997	0	0
G. Todd, jun.	4,887	0	0
James Raby	4,870	0	0
James S. Lemon	4,749	3	0
John Barnes	4,748	0	0
W. J. Jarvis	4,500	0	0
J. H. J. Dove	4,490	0	0
J. and W. Barker	3,270	0	0
William Bishop	2,382	0	0
Glenn			

For alterations to the premises, 16, George-street, Mansion House. Mr. Joseph Springbett, architect :—

Chapman and Parsons	£694	0	0
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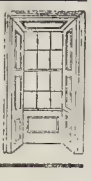

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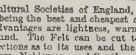
By Her Majesty's  Royal Letters Patent.

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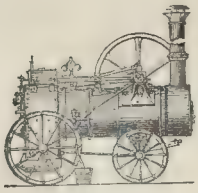
Established upwards of One Hundred Years.

PATENT and BRITISH PLATE GLASS. JAMES HEILEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

SUPERIOR BRITISH PLATE-GLASS, at VERY LOW RATES.—The Union Plate-glass Company, having recently completed considerable improvements and additions to their works, respectfully inform their friends that they are now able to supply orders without delay, and invite the attention of the trade to the low rates at which their now much esteemed manufacture is sold.—Lists of prices may be obtained on application at the Works, Pocket Nook, St. Helen's, Lancashire; the Warehouse, 99, Hatton-garden, London, and 45, Piccadilly, Manchester; Messrs. C. and J. MALLOCH, 30, Turner's-court, Glasgow; Messrs. JOHN DIX and CO. Bath-street, Bristol; Messrs. H. SHETHORPE and SON, Cork-hill, Dublin; Messrs. FORREST and BROMLEY, 23 and 25, Lime-street, Liverpool; Mr. WILLIAM HENRY HOLMES, Westgate-street, Newcastle-on-Tyne. Rough Plate-glass from ¼ in. to ¾ in. thick for windows, roofs, mechanics' shops, market-halls, railway stations, &c. Beautiful and highly-finished polished plate-glass for shop-fronts, and all other glazing purposes, and for silvering. Superior silvered plate-glass mirrors of all sizes.

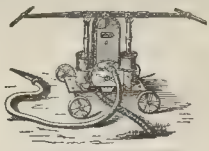
TO BUILDERS of TEMPORARY CHURCHES.—A CIRCULAR CHURCH, in wood or iron, is required to be built in the parish of Islington, capable of holding 1,000 persons.—Builders willing to contract for the same are requested to send particulars and price by letter, addressed to Mr. J. H. TAYLOR, The Limes, Upper Holloway.

"PUMPS." — FOWLER & CO.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.

YARD, FARM, AND HOUSE PUMPS.



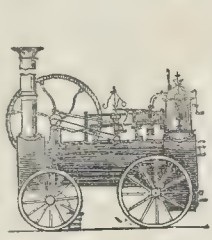
HOLMAN'S PATENT
CESSPOOL AND FORCING PUMPS.
CONTRACTORS' PORTABLE PUMPS.
PUMPS FOR MANUFACTURERS,
FOR STEAM OR HAND POWER.

MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE STEAM ENGINES,

FOR
HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

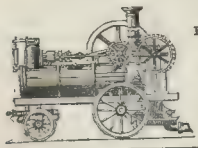


PUMPS

OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Sheds, Barges, Well sinking, &c. adapted for any depth
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, single or Double Barrel, up to Double 12-inch Diameter, kept ready for sale, at reduced prices
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

PORTABLE STEAM PUMPING-ENGINES,



From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,
For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish
BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works
HELIOTIC PATENT WHITE ZINC PAINT and SNOW-WHITE ZINC
DEFIANCE WHITE FOR CEILINGS, the whitest of all Pigments, gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable in use
THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.
W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, for supposing anything of the kind yet offered to the public.
SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.

ALFRED ROSLING and SONS beg to inform their Customers and the Trade, Private generally, that they are enabled to do a very great deal upon their list-price for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from W. Bell and Paul's, to the KING'S-ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw mills, Chelsea, opposite Manor-street

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to
E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA.

A CORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge-street, Old St. Pancras-road.—GEORGE NOKES and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash:—
¾-inch white, 13s. 6d. per square; ¾-inch white, 15s. per square; 1-inch white, 18s. per square; ¼-inch yellow, 13s. per square; ¾-inch yellow, 18s. 6d.; 1-inch yellow, 20s.
Timber, deals, planks, &c. at the lowest remunerative prices. A liberal amount allowed on mouldings for any job. A Book of designs forwarded on application

LETTS' WHARF PATENT SAWING, PLANING, and VENEER KNIFE-CUTTING MILLS, Commercial road, Lambeth. The Proprietors beg to announce to the Trade that they have completed their extensive arrangements, and will be happy to execute all orders entrusted to their care with despatch and punctuality. Wood and dry deals and powerful cranes for loading heavy goods, offer facilities to the trade for shipping.
A LARGE ASSORTMENT OF SEASONED PREPARED FLOORING, MATCH BOARDING, &c. &c. ALWAYS IN STOCK AT REDUCED PRICES.

AT the LOWEST PRICES.—TIMBER, DEALS, MAHOGANY, and WAINSCOT.—A large assortment of seasoned prepared FLOORING and MATCH BOARDING of all descriptions. Also an extensive stock of Dry White, Yellow, and Pine Cut Stuff, Slating, Battens, Pantile Laths, Oak Plank, Sash Cills, &c. Thoroughly well Yards Planks Deals, and Battens fetched from the docks on the shortest notice in the best manner, and delivered at the shortest possible.—THOMAS JACKSON, Sawing and Planing Mills, Caledonian-road, Pentonville, London.

AT the LOWEST PRICES.—SAMUEL PUTNEY begs the attention of Buyers to the greatly reduced prices:—

¾-inch prepared Flooring	£6 11 6 per square.
Inch ditto	0 15 0 per square.
Yellow Battens	11 10 0 per 120.
Spruce Deals, from	0 2 9 each.
Pine ditto, from	0 3 0 each.
Yellow ditto, from	0 3 3 each.

Mouldings, &c. executed with the best workmanship, and at the lowest possible prices.
Wood-yards, Timber-ponds, and Steam-saw Mills, Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

TO BUILDERS, CABINETMAKERS, and others.—ALFRED HILL begs to inform you that he has very large stock of well-seasoned PREPARED FLOORING, MATCH BOARDING, and DEALS, which he can supply at very low prices, and of the best quality. Orders by letter will receive prompt attention.

¾-inch Prepared Flooring	£0 11 6 per square.
¾-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each
Spruce Deals	0 3 0 each
Pine Planks	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Address, ALFRED HILL, Timber Merchant, Mill-yard, Arch-street, Old Kent-road, S.E.

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory (the first of its kind ever established), a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from ½-inch to 1¼-inch thick, in Whitewood, Yellow Deal, Oak, or Pitch Pine. Also Deals, in all thicknesses, Slating Battens, Pantile Laths, Oak Sills, Plank, and Scantlings. Mouldings in clean Pine, to any design. A pattern list forwarded on application.—Address, E. SIMMS, Flooring Manufactory, and sawing, Planing, and Moulding Mills, King's-road, Chelsea.

PREPARED FLOORING! PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Prepared Flooring:—

	½	⅝	¾	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	15s. 6d.	16s. 6d.	18s. 6d.	18s.	,,
Yellow	16s.	16s. 6d.	18s.	—	,,

Delivered to any part of London, or the Country.
STANGATE SAWING, PLANING, MILLS, Princes-road, Lambeth, S.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of PREPARED and MATCH BOARDING, ½ inch to 1¼ inches thick, seasoned, and ready for use; also, Mahogany, Wainscot, and Deals of all descriptions, cut for Builders' purposes.—Yard and Mills, R. SLADE'S, Pond's Mouse-yard, Walworth-road, Peckham.

ANOTHER GREAT REDUCTION. Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and E. Walnut, 5½d.; 24 inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1 inch White Flooring, 15s. 6d.; ¾ do. 13s. 6d.; 1-inch Yellow, 14s. 6d.; ¾ do 13s. Bird's-eye Maple Veneer, 2d. Cabinet work and Joinery of the best description, by FREEMAN, 1, Walnut-tree Walk, Wardour-street, Lambeth, S.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 3s. 8d. per gallon; Refined Oil, 3s. per gallon; Turpentine, 2s. 8d. per gallon.
Fine Pale Oak Varnish, 7s. per gallon
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Cheshill street, Pimlico
Every article for the Trade at the lowest price.

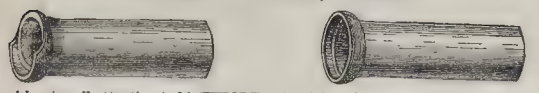
HECKETHORN'S PATENT LIQUID COLOUR, for external and internal stucco or plastered walls, paintings for out and outs work, prevent blistering, and a composition (in lieu of size), for floor-cloth and table-cover manufacturers.—J. HUDDEN and CO. Proprietors, No. 551, New Oxford-street.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, 14, New Bond-street, and 1, Queen-street, Grosvenor-square, beg to call attention to their WINDOW BLINDS, which they can recommend for durability as the best manufactured. Venetian Blinds, fitted complete, and Japanned blinds, on rollers, 6d.; best ditto, on spring rollers, 9d.; gauze wire blinds, in mahogany frames, 2s.; perforated zinc blinds, in ditto, 1s. 10d.; outside blinds of striped cloth, 2s. Transparent blinds in [illegible]

STEAM-ENGINES, BOILERS, SAWING MACHINERY, LATHES, DRILLING MACHINES, PUNCHING PRESSES; also a double Bone-mill, and other useful Machinery on SALE. Particulars may be had of TAYLOR and [illegible]

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than Brick Flues. By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE-DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

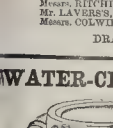
GREAT REDUCTION IN PRICES.

JAMES STIFF,

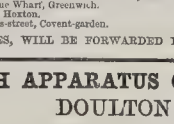
MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

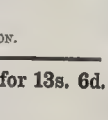
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



PAN, 4s. 6d.



PAN, 4s. 6d.



TRAP, 2s.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Fedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Downgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bryd̆ges-street, Covent-garden.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,

AND

LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	18-in.
2d.	3½d.	5½d.	5½d.	9d.	1s. 3d. per foot.

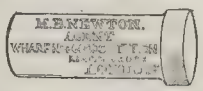
Samples may be had at Falcon Wharf, Bunksde, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

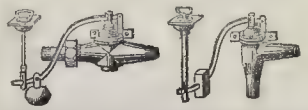
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time, and the Pipes guaranteed to stand better than any Brickwork.

LAMBERT'S SELF-CLOSING

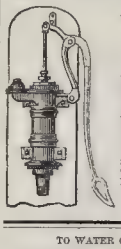
LAVATORY AND CLOSET VALVE.
No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short street, New cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced
Price, complete, 15s. each.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to

JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and gundes are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

DURABILITY of GUTTA PERCHA

TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter:—FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER

VALVES, for Feed Pumps of Steam Boilers, enable the pumps to give one hundred per cent. of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 38, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED

INDIA-RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot-water pipes. Vulcanized Rubber Door springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for bagnelle tables.

Diving-dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness. Air beds, Pillows, and Cushions inflating Portable Baths, Invalid Cushions, and Articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

SALES BY AUCTION.

DOVER, KENT.—T. ENGINEERS, CONTRACTORS, and OTHERS.

MR. W. JACOBS has been honoured with instructions from [illegible] to SELL by PUBLIC AUCTION, on CHARACTERISTIC VARIES, Picturesque Terms, on THURSDAY, FEBRUARY 4, 1858, the whole of the PLANT [illegible] contract for works at the [illegible] of Dover Castle, including [illegible] waggons, trucks, and timber, &c. Also fourteen very [illegible] horses, [illegible] and waggonette. A new 12 horse portable [illegible] with mill stones and hand gears for grinding, and superior [illegible] chaff cutting machine (designed by the Chairman of the [illegible] Engineer, 4, Townwall-street, Dover, and at the Hall Mills, Rose Inn, Canterbury and Cobham Hall, Ashford.

TO IRON FOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, FEBRUARY 1st, [illegible] ELEVEN o'clock, on the PREMISES, No. 91 and 92, Tabernacle-walk, Finsbury, in lots, without reserve, the property of [illegible] Engineer, in business, the PLANT and IMPLEMENTS of an IRON FOUNDRY, three [illegible] cast-iron [illegible] for drying stove, 2 trucks, 10 tons overhead travelling crane, loam moulding [illegible] trammels, blocks and falls, crane, shank and hand ladles, 50 tons iron flasks and bars, 20 tons brass, lines, and rack weights, large trolly, a useful bay part gelding, two sets of harness, [illegible] cart, two waggons, bedsteads, mattresses, large assortment of wooden pattern and other effects.—To be viewed on Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO ENGINEERS, MACHINISTS, MILLWRIGHTS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs Maple & Co. to SELL by AUCTION, on TUESDAY, FEBRUARY 2nd, 1858, and following day, at ELEVEN o'clock, at the EAST-LONDON IRONWORKS, Canning-town, Essex, adjoining the Victoria Docks, a very valuable MACHINERY and TOOLS of an Engineer's Factory, principally by Smith Beacock, &c. Tarbett, and other eminent makers [illegible] two self-acting planing machines to take in respectively 18 inches and 24 inches width, self-acting screwing machines, 2 to 5 inch centres of turning, screwing lathes, with 5 feet bed, 10-inch, 12-inch, and 14-inch; 16 inch screwing lathe, 11 feet in centres, 30 inches [illegible] feet long; two self-acting lathes, pattern makers lathes, foot lathes, grinding and drilling machines, fine wood drilling machine, chasers, horse high-pressure [illegible] engine, nearly new, 200 feet high-pressure steam pipes, [illegible] 200 feet high [illegible] steam and brass, fifty leather bands, a new bugle-cutting machine, nearly new engine, planing machine, 3 feet wide, 3 feet high, 7 feet 6 inches, with taps and dies, ratchet braces, ten vices, two useful quantity of new machinery in course of manufacture, blocks and falls, cast forges and bellows, anvils, 10 hundredweight of [illegible] and other iron, scales and weights, set of [illegible] weights, [illegible] 3 cwt. cast and sheet steel, grindstone, quantity [illegible] iron, [illegible] 4 cwt. assortment of patterns, and [illegible] other effects.—To be viewed on Monday previous to the sale, and the Machinery in motion. Catalogues may be had on the Premises; of P. JOHNSON, Esq. Official Assignee, Basinghall-street, E.C.; J. R. CHIDLEY, Esq. 10, Basinghall-street, E.C.; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO BUILDERS, TIMBER MERCHANTS, CONTRACTORS, AND OTHERS.—A valuable seasoned Timber.—Lett's Wharf, Commercial-road East, London.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION on MONDAY, FEBRUARY 22nd, 1858, at [illegible] precisely, at ELEVEN o'clock precisely, in the following lots, [illegible] viz.:—Lot 1, 1,000 yellow deals, 3 inches thick, 9 inches wide; Lot 2, 500 pine planks, 3 inches thick, 9 inches wide; Lot 3, 1,000 yellow battens, 3 inches thick, 9 inches wide; Lot 4, 1,000 yellow battens, 3 inches thick, 7 inches wide; Lot 5, 1,000 yellow battens, 3 inches thick, 6 inches wide; Lot 6, 1,000 yellow battens, 3 inches thick, 5 inches wide; Lot 7, 1,000 yellow battens, 3 inches thick, 4 inches wide; Lot 8, 1,000 yellow battens, 3 inches thick, 3 inches wide; Lot 9, 1,000 yellow battens, 3 inches thick, 2 inches wide; Lot 10, 1,000 yellow battens, 3 inches thick, 2 inches wide; Lot 11, 1,000 yellow battens, 3 inches thick, 2 inches wide; Lot

The Builder.

Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—In consequence of so few of the subscribers attending the Meeting held on the 21st ult. "to take into consideration Mr. H. Dodd's offer of a Plot of Land, near Shenley, for building Almshouses thereon, &c." the Directors have determined upon calling another SPECIAL GENERAL MEETING on the subject, to be held at the London Tavern, on WEDNESDAY, the 24th inst. at FOUR o'clock p.m. precisely, and at which they earnestly solicit the attendance of their friends and subscribers.

A. G. HARRIS, Sec.

February, 1858.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of PENSIONERS will take place in MAY next. Candidates may obtain forms of application to be returned on or before 8th March at the Offices of the Institution, 19, Southampton-street, Bloomsbury.—Pensions, 24*l.* per annum for males, and 20*l.* for females. Subscriptions are earnestly requested, and will be thankfully received by the Treasurer, Mr. GEORGE BIRD, 38, Edgware-road; the Secretary; and the Bankers, Sir SAMUEL SCOTT, Bart. and COMPANY, Cavendish-square.

A. G. HARRIS, Secretary.

February, 1858.

THE BUILDERS' BALL in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION will take place at WILLIS'S ROOMS, St. James's, on the 18th of FEBRUARY next

COMMITTEE OF MANAGEMENT.

Mr Stanley Bird	Mr J. Newson
Mr J. Chapman	Mr T. Stirling
Mr T. Cozens	Mr J. Seward
Mr W. Ellis	Mr I. Thorn
Mr. W. Hutchens	Mr W Todd
Mr R. J. Hickman	Mr J. Williams.

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The Right Hon. Sir B. Hall, Bart M.P.	Mr T G Howard
Mr. Alderman W. Lawrence	Mr Joshua Higgs
Mr. Alderman Rose, President	Mr T. Jackson
W. Lee, esq.	Mr. E. W. Jackson, jun.
Mr. J. Abbott	Mr. W H Jackson
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Mr W. S Burton	Mr. D. Nicholson
Mr W. H. Collins	Mr J. Peters
Mr. W. H. Cullingford	Mr. J. G. Pilcher
Mr. W. Dennis	Mr C. Richardson
Mr. H Dodd	Mr. R. Richardson
Mr C. Formby	Mr. W. Simpkin
Mr C Fish	Mr F Smith
Mr. J. Goulter	Mr. A Stanbury
Mr G. Grayson	Mr. W Stirling
Mr. W. Harrison	Mr. J. Tillott
Mr. J. N. Helling	Mr R Thomas
Mr. J. Herd	Mr. F. Tyerman
	Mr. J. Wagstaff

Of whom Tickets may be obtained. Also of the Hon. Sec. Mr. JOSEPH BIRD, 10, Hanover Cottages, Regent's-park; and at the Office of the Institution, 19, Southampton-street, Bloomsbury.

Double Tickets, 31*s.*; Ladies' ditto, 8*s.*; Gentlemen's ditto, 15*s.* including Refreshments. To insure comfort, the Tickets will be limited.

ARCHITECTURAL EXHIBITION, Suffolk-street, Pall-mall East, including the Collection of Building Manufactures and Inventions, and also the Exhibition of the Architectural Photographic Association. OPEN from NINE till DUSK. Admission One Shilling; or at all times, and to all the Lectures, by Season Tickets, Half a Crown each. Lecture for TUESDAY, 9th of FEBRUARY, by GEORGE SCHARF, Esq. "On the Sistine Chapel and its Decorations." ARTHUR ASHPITEL, Esq. F.S.A. F.R.A.S. &c. will take the chair at EIGHT o'clock.

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, Jun. }

TO PHOTOGRAPHERS.—The Council of the Art-Union of London give notice, in relation to the Photographs for which they have invited TENDERS, that the limitation as to size is removed.

GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.

444, West Strand, February 1, 1858.

THE ARCHITECTURAL MUSEUM.

SOUTH KENSINGTON MUSEUM.—On WEDNESDAY, FEBRUARY 10th, at EIGHT o'clock, a LECTURE will be delivered in the Theatre, by JOHN HENRY PARKER, Esq. F.S.A. "On the Domestic Architecture of the Middle Ages." Subscribers and Artizan workmen may obtain Cards at the Museum, and at the Office of "The Builder."—Arrangements have been made with the Committee for exhibiting in the Architectural Museum, the Designs for the Memorial of the Exhibition of 1851

GEORGE GILBERT SCOTT, R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

ARCHITECTS' BENEVOLENT SOCIETY.

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TRUSTEES.

Sir Charles Barry, R.A. | Charles Robert Cockerell, Esq. R.A.
Philip Hardwick, Esq. R.A.

TREASURER—William Tite, Esq. F.R.S.

The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 8, Craig's-court, Charing-cross.

J. TURNER, Hon Secretary, 15, Wilton street

CIVIL ENGINEERING and SURVEYING.—UNIVERSITY COLLEGE, London.—Prof. HARMAN H LEWIS, A.M. will commence his course on MONDAY, FEBRUARY the 8th, at SIX o'clock, p.m. The Lectures will be delivered during the months of FEBRUARY, MARCH, APRIL, and MAY.

CIVIL ENGINEERING on MONDAYS, WEDNESDAYS, and THURSDAYS. First division from SIX to SEVEN, p.m.; second division from a QUARTER PAST SEVEN to a QUARTER PAST EIGHT, p.m.

SURVEYING at times to be fixed at a meeting of the class on MONDAY, 22nd of FEBRUARY, at HALF-PAST ELEVEN o'clock.

Fees for the class of Engineering, each division, 5*l.*; for both divisions in one payment, 9*l.* Surveying: students of the class of Engineering, 3*l.*; others, 6*l.* College fee for students not entered to other classes, 10*s.*

EDWARD S. CREASY, A.M.
Dean of the Faculty of Arts and Laws.
CHAS. T. ATKINSON,
Secretary to the Council.

February 1st, 1858.

COMPETITIONS.

TO ARCHITECTS and OTHERS.—Wanted, PLANS and ELEVATIONS for SCHOOLS and TEACHERS' RESIDENCES, in conformity with the rules of the Committee of Council on Education, on a site near the Forest Hill station on the Croydon Railway. The cost of the whole not to exceed 2,500*l.* The site provided is about 200 feet in frontage, by 125 feet.—Further information may be obtained, and the site examined, on application to Mr. WETHERALL, Sexton, close to the Station; or to the Rev. J. M. CLARKE, Forest-hill, to whom the plans are to be sent on or before the 1st MARCH next.

YEOVIL CEMETERY.—In consequence of certain Alterations in the plans and an increase for the Cemetery, the ADVERTISEMENT inviting designs and estimates, is for the PRESENT WITHDRAWN

ROBT WILLIAMS, Borough Surveyor.

Yeovil, February 5, 1858.

CONTRACTS.

BRISTOL LOCAL BOARD of HEALTH. To BUILDERS, CONTRACTORS, and OTHERS.—The Local Board of Health of the City and County of Bristol hereby give Notice, that they intend to CONTRACT for LAYING DOWN, CONSTRUCTING, and COMPLETELY FINISHING certain intended BRICK SEWERS, within their district, viz.:—In the Parish of St. Philip and Jacob, about 2,897 yards in length; and in the parish of Clifton, about 3,420 yards in length. Persons wishing to contract for the same are requested to deliver in their Tenders at the Offices of the said Local Board of Health, No. 13, Prince-street, on or before THURSDAY morning, the 18th day of FEBRUARY next, at TEN o'clock, on which day the Committee will meet to determine upon the same. The plans and specifications of the Works to be done, and drafts of the proposed Contracts, may be seen at the Offices of the Local Board of Health, and any further information may be obtained, either on personal application at, or by letter, pre paid, addressed to the Surveyor, Mr FREDERICK ASHMEAD, C.E. The party contracting will be required to give sufficient security, to be approved of by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee,

JOHN G. HEAVEN, Clerk.

Local Board of Health Office, 11, Prince-street, January 14, 1858

NORTH-EASTERN RAILWAY.—To IRON MASTERS and OTHERS.—The Directors are prepared to receive TENDERS for TWO THOUSAND TONS of IRON RAILS, of the weight of 82 lbs. per yard. All rails supplied under the contract will require to be guaranteed for seven years. Tenders will be received for the whole or a portion of the quantity required. Parties desirous of contracting, with the particulars of the nature of the guarantee, may be obtained on application to the Secretary, at York. Tenders addressed to the Secretary, and marked "Tender for Iron Rails," to be delivered not later than THURSDAY, the 4th of FEBRUARY next. The Directors do not bind themselves to accept the lowest or any Tender.

J. CLEGHORN, Secretary.

York, 27th January, 1858.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for a new CHURCH at CWM BRANE, near Newport, Monmouthshire, may see the plans and specification on application to the Rev. J. T. CLARKE, Cwm Brane. Tenders are to be sent to the same on or before the 25th day of FEBRUARY next. The lowest or any Tender not necessarily accepted. The contractor will be required to give security.

PRICHARD and SEDDON, Diocesan Architects.

Llandaff, January 26th, 1858.

CARDIGAN MARKETS and IMPROVEMENT ACT, 1857.—To BUILDERS and OTHERS.—The Corporation of the Borough of Cardigan, hereby give NOTICE that they are ready to receive TENDERS for the execution of the various works to be performed in the erection of markets and public buildings. Separate Tenders will be required for the Butchers' Market, Guildhall, and Grammar School. Plans and Specifications of the same, as prepared by the Architect to the Corporation, Mr. R. J. WITHERS, 6, John-street, Adelphi, London, will be for inspection at the Town Clerk's Office, in Cardigan, and duplicates thereof at the offices of the Architect, from the 1st to the 27th day of FEBRUARY, in course. Lithographed copies of the quantities may be obtained on application to the Architect, by paying a cost of 10*s.* 6*d.* Tenders are to be delivered at the Town Clerk's Office, Cardigan, on or before SATURDAY, the 27th day of FEBRUARY, in sealed envelopes addressed—"Tender for Markets." The Corporation do not pledge themselves to accept the lowest or any other Tenders. The successful competitor will have to satisfy the Corporation with respectable securities for the proper completion of the works.

EVANS and MORGAN,
Town Clerks of the Borough of Cardigan.

Town Clerks' Office, Cardigan, January 26th, 1858.

BOARD of WORKS for the LIME-HOUSE DISTRICT.—LOAN.—The Board of Works for this district are desirous of RECEIVING TENDERS from persons willing to ADVANCE 5,000*l.* on the security of the sewer rates authorized to be raised in the parish of Limehouse, in the said district, under the Metropolis Local Management Act. The said loan will be repaid, by instalments, within twenty years, at such times, and at such times, as the Board may determine, with interest half-yearly in the meantime. Tenders, specifying the amount required, and the rate of interest required, to be delivered, under cover, at my office, Dean-street, Whitehorse-street, Commercial-road, E. on or before TWO o'clock in the afternoon of WEDNESDAY, the 10th FEBRUARY, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

MALLING UNION, KENT.—To BUILDERS, PLUMBERS, &c.—The Guardians of the Malling Union, at the Workhouse, West Malling, on WEDNESDAY, the 3rd day of MARCH next, to open TENDERS from persons willing to CONTRACT for ALTERATIONS and ADDITIONS to the UNION WORKHOUSE. The work consist of erecting two school-rooms, dormitories, and infirmaries for children, and a new infirmary for infectious cases, building yard walls, offices, &c. together with various alterations to the existing buildings, and are to be tendered for in two separate amounts, viz.

CONTRACT No. 1.—For the Builders' Work generally.

CONTRACT No. 2.—For the Plumber, Painter, and Glazier's Work.

All Tenders must be sealed, endorsed "Tender for Alterations and Additions to the Malling Union Workhouse," and delivered at the Guardians' Weekly Meeting to be held at ELEVEN o'clock in the forenoon of WEDNESDAY, the 3rd day of MARCH next. The plans and specification can be seen any day except Sunday, after the 15th instant, between the hours of TEN and FIVE, at the Office of Mr. MARTIN BULMER, Architect, Maidstone, where bills of quantities and the form of Tender may also be obtained, on and after the 22nd instant, upon payment of 2*s.* per copy. The Guardians will not be bound to accept either the lowest or any of the Tenders, and security will be required for the due performance of the works.—By order of the Board,

J. N. DUDLOW, Clerk to the Board of Guardians.

West Malling, February 1st, 1858.

CORNWALL RAILWAY.—CONTRACT for TIMBER.—SIX THOUSAND LOADS of TIMBER are required of the character hereinafter specified, and of any of the following descriptions, viz:—

First. MEMEL (or Baltic) or red wood Balk timber, from Memel, Stettin, or Danzig, equal in quality and character to second middling Memel red wood timber. Not more than one-fourth of the above sorts will be accepted of less than 16 inches square in length, and not more than one-fourth of the whole number of pieces are to be above 22 feet in length, and the average not less than 27 feet; and all must be of dimensions that will convert into straight timbers of not less than 10 inches square.

Secondly, or AMERICAN (Quebec) YELLOW PINE.—No timber of this description will be accepted that is less than 25 feet in length, and four-fifths of the whole number of pieces are to be above 25 feet in length, and all must be of dimensions that will convert into straight timbers of not less than 13 inches square.

Thirdly, or AMERICAN RED PINE. All the timber of whatever description shall be of the best quality of that description, and particularly straight and sound, and free from rotten knots, shakes, and other defects, and is to be subject to the approval of the Company's Engineer. The timber is to be delivered in the water or into barges alongside, at the Port of Fowey, in Cornwall, with such periods as may be named in the Tender. Payments will be made on delivery in bills at four months. The Tenders are to state the quantity of timber proposed to be supplied, which must not be less than 1,000 loads, its description, the periods of delivery, and the price per load delivered in the water or into barges alongside, at the Port of Fowey, to be addressed to the Secretary of the Cornwall Railway Company, and delivered at his Office at Truro on or before MONDAY, the 22nd day of FEBRUARY, 1858.

January, 1858.

TO ROAD CONTRACTORS.—TENDERS are required for executing the PARTIWORK of forming Roads upon Mr. J. Lanham's Estate, Upper Norwood, Surrey. The plan and specification may be seen at Mr. S. HEWITT'S Office, 22, Buckingham-street, Strand. Tenders received by the 17th inst.

[For remainder of Contracts see next page.

CONTRACTS.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—To IRONFOUNDERS and OTHERS.—TENDERS are required for the SUPPLY of about 400 tons of plain cast-iron GIRDERS, to be delivered at Shoreham. The drawing and specification may be seen at the Engineer's Office, London-bridge Station, and Tenders must be delivered to the undersigned, not later than WEDNESDAY, the 10th instant.
N.B. The Directors do not pledge themselves to accept the lowest or any Tender. FREDERICK SLIGHT, Secretary.
London-bridge Terminus, February 3, 1858.

BELPER BURIAL BOARD.—To BUILDERS.—The Burial Board of the Township of Belper are desirous of receiving TENDERS for the ERECTION and COMPLETION of TWO CHAPELS, LODGE, ENTRANCE GATES, and FRONT BOUNDARY WALL, according to drawings and specifications prepared by their architect, Mr. EDWARD HOLMES, of Temple-row, Birmingham, at whose Office all particulars may be obtained, on and after the 11th FEBRUARY instant.—Plans and specifications can be seen at the Town Office, Market-place, Belper, on and after the same day, and, at the same time, the printed bills of quantities may be obtained, at my Office, Bridge-street, Belper, on payment of one guinea, to be returned to each unsuccessful competitor.—The Tenders to be sent to me, free of expense, on or before the 26th day of FEBRUARY instant, sealed and endorsed "Tender for Building Chapels, &c."—The Board do not bind themselves to accept the lowest or any Tender.—
By order, GEORGE PYM, Clerk to the Belper Burial Board.
Belper, 1st February, 1858.

TO CARMEN, CONTRACTORS, and OTHERS.—The Board of Works for the Wandsworth District are desirous of receiving TENDERS for WATERING the ROADS in the parish of Clapham for six months from the 8th of MARCH next. The contract is to include the supply of water, carts, horses, men, and all other expenses incidental to watering roads. The specification, conditions, and form of Tender may be seen on application at the Offices of the Board between the hours of TEN and FOUR. Sealed Tenders addressed to the Board, and superscribed "Tender for Watering the Roads in Clapham," must be delivered at the Offices of the Board on or before TUESDAY, the 16th instant. Security will be required for the due performance of the contract. The Board do not pledge themselves to accept the lowest or any Tender.—By order of the Board of Works for the Wandsworth District.
ARTHUR ALLEN CORSELLIS, Clerk to the Board.
Bolingbroke-grove, Wandsworth-common, S.W.
2nd February, 1858.

TO BUILDERS.—TENDERS are required for ERECTING a new CHURCH at Putney, Surrey. The drawings can be seen at the Office of the Architect, Mr. LEE, 20, Golden-square. The Committee will not be bound to accept the lowest or any Tender.

TO BUILDERS, IRONFOUNDERS, &c.—The Committee of General Purposes of the Vestry of St. Giles, Camberwell, will meet on MONDAY, the 22nd FEBRUARY instant, at HALF-PAST SIX o'clock in the evening, to receive TENDERS for the ENCLOSURE of CAMBERWELL GREEN.—The specifications and drawings may be seen at the Vestry Clerk's Office, Vestry Hall, Camberwell, where further information may be obtained.—Tenders must be sent in on or before SATURDAY, the 20th instant.—The quantities will be furnished by the surveyor.—The Committee do not pledge themselves to accept the lowest or any Tender. All persons Tendering must be in attendance on the opening of the Tenders.
GEO. W. MARSDEN, Vestry Clerk.
Vestry Hall, Camberwell, 1st February, 1858.

TO ROAD and SEWER CONTRACTORS.—Dixon v. Jackson.—New ROADS and DRAINS in the Hornsey-road, Holloway.—Copy plan, sections, and quantities, may be had at Messrs. GARDNER and CO.'S, 1 and 2, Southampton-street, Addington-square, Camberwell, S. upon payment of 10s.

MEDWAY UNION WORKHOUSE.—To BUILDERS.—The Guardians of the Medway Union are desirous of receiving TENDERS for the ERECTION of a NEW WORKHOUSE at CHATHAM. The plans, specification, and conditions of contract may be seen, and bills of quantities obtained, on application at the Offices of Messrs. PECK and STEPHENS, Architects, Maidstone. Tenders to be sent to my Office, in Chatham, before TEN o'clock in the Forenoon of WEDNESDAY, the 17th inst. The Guardians will not bind themselves to accept the lowest Tender.
GEORGE BUCHANAN, Clerk to the Guardians.
Chatham, February 3, 1858.

TO BUILDERS.—The Town Council of Salisbury having resolved upon ERECTING a NEW POLICE STATION-HOUSE, including a RESIDENCE for the Superintendent of Police, persons desirous of TENDERING for the WORK may see the plans and specification at the Office of Mr. HENRY PENISTON, Surveyor, De Vaux-place, Salisbury, on and after the 8th inst. Sealed Tenders addressed to the "Watch Committee," to be deposited at my Office not later than the 1st of MARCH next.
CHAS. MARSH LEE, Town Clerk.
Salisbury, Town Clerk's Office, February 3, 1858.

COLES, SHADBOLT, and CO.
CEMENT and PLASTER MANUFACTURERS,
LIME BURNERS,
Brick, Tile, Drain-pipe, Hair, Lath, and Fire Goods Merchants,
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Caledonian-road, London.

ROMAN CEMENT, made at the above works, may be had fresh from the kilns daily—a great advantage to sewers and sewer contractors, especially in winter time.
PORTLAND CEMENT, of the best quality, strength, and Colour, manufactured in Kent. This cement will carry more sand than any of the Fine Cements so called, of which is now brought into the market and sold as Portland.
PLASTER of PARIS, direct from the quarries, both coarse and fine, wholesale and retail.
LIME.—Grey Stone Chalk and Blue Lias Lime, fresh and well burnt, a constant and regular supply of which may be had by the barge or yard.
A large assortment of Glazed Stoneware Drain-pipes, of the best Lambeth make; Yorkshire Plain, Pan, and Paving Tiles; Welsh Fire-bricks, Lumps, and Tiles; Hair and Laths always kept in stock.
These goods are of the best quality, and sold at the lowest possible prices.
N.B. Shipping orders promptly executed.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City.—Sand from above and below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the yard or per barge. Stocks, lime, and old bricks. Dry rubbish delivered, per barge, in any quantity, alongside the Thames.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement that requires no drying. Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster; and Seel-street, Liverpool.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 6, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.—N.B. These Cements supplied for shipment, on advantageous terms.

JOHNS & CO.'s PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT.—CLARK and BENGOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

CHARLES RICHARDSON,
BRUNSWICK WHARF, VAUXHALL,
And 6, SOUTH WHARF, PADDINGTON BASIN.
COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from wharves.
SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door-Jambs, Coping Bricks, Stable Clinkers, &c.
DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c.
BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.
BLACK HEADERS, Glazed and Unglazed.
BEART'S PERFORATED BRICKS.
STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles. Plain, flanged, rolled-top, and ornamental grooved Ridging, &c. Broseley Tiles.
FIRE GOODS, Newcastle, Stourbridge, and Welsh Fire Bricks; Tiles, Lumps, Fire Clay and Flue Linings, any Pattern Brick, &c. made to order.
TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c.
SLATES, best quality from the Bangor quarries.
YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c.; Sawn Slab for Hearths, Jambs, &c.
TILES—Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Goods always kept in Stock.
GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c.
GREY STONE and CHALK LIME.
BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.
CEMENTS, Roman, Portland, Parian, Lias, Bath, Keene's, &c.
PLASTER of Paris, fine and coarse, of best quality, at reduced prices.
HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials sent by rail the same day as ordered.
ROAD MATERIALS — Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken.
Tenders given for any quantity.
N.B. Landing Wharf and Drawing Dock at Vauxhall.

BLUE LIAS LIME.—Messrs. GREAVES and KIRSHAW having completed their Works on the Birmingham and Oxford Line of the Great Western Railway, at Harbury, are now prepared to supply LUMP and GROUND LIME of the best quality, direct from the kilns, to all the Stations on the Great Western Railway. Greaves's Blue Lias Lime. Portland, Bath, and Lias Cement.—Works at Harbury, Stockton and Wilmcote.—Office at Warwick.

KEENE'S and PARIAN CEMENTS and FRENCH PLASTER, for internal uses. These well-known hard stuccoes dry quickly, and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE, and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

MESSRS. JOHN and WM. EASTWOOD
are SOLELY engaged in the SALE of
Messrs. R. A. ALLEN and CO.'s
WHITE and RED FACING BRICKS, and SHAPED GOODS, from their Ballingdon and Californian Works, near Sudbury, Suffolk;
The EWELL and BLACK RUBBING and BUILDING BRICKS.
And the EWELL and CHALFONT dark and bright RED RUBBERS.
Also are SOLELY engaged in the SALE of
Messrs. CALEB HITCH and CO.'s
YELLOW and PALE MALM CUTTERS and FACING BRICKS, and KILN GOODS,
From their fields at Ware, Hertfordshire.

COWLEY and KENT BRICKS,
in any quantities, by barge alongside.
The usual commission allowed to merchants of the trade from the monthly price lists.
WELLINGTON WHARF, Belvidere-road, Lambeth; and
KENT ROAD BRIDGE.

BLUE LIAS, GREY STONE, and CHALK LIME.
PORTLAND, ROMAN, AND OTHER CEMENTS,
PLASTER, HAIR, LATHS, &c.
STAFFORDSHIRE PAVEMENTS & RIDGING.
Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
FIRE BRICKS, LUMPS, AND TILES
of all kinds. Pattern goods made to order.
RED GOODS of every description. Importers of DUTCH CLINKERS.
J. and W. EASTWOOD, Belvedere-road, Lambeth; and
Kent-road-bridge.

PORTLAND CEMENT WORKS, NORTHFLEET, Kent.—KNIGHT, BEVAN, and STURGE, Manufacturers only of first-class quality, for the home and foreign trade. Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.—London Wharf, Belvedere-road, Lambeth.

THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT.—Messrs. ROBINS and CO. (to WHOM THE PRIZE MEDAL WAS AWARDED in 1851), are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all the purposes to which Cement is applicable. Orders received at Great Scotland-yard, and at the Works.

GEO. and THOS. EARLE, CEMENT MANUFACTURERS, HULL.—Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates and Slate Slabs, Fire-bricks, Grindstones, Cement Chimney-tops, ditto Vases, Rustic Pots, Stucco, &c. Marble Merchants and Importers of Pozzolano.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, Bath, and Roman Cements, Blue and White, Lias Lime, lump and ground.—KIALLMARK and CO. Dunball, Bridgwater, and 9, North Wharf-road, Paddington.

BRICKS.—Mr. RYDON having made more Bricks than he requires for the buildings, on his Highbury New Park Estate, is willing to make arrangements with Builders and others for SUPPLYING a quantity of first-class BRICKS of every description.—Address, Estate Office, Dell's Farm, Stoke Newington-green.

BRICKS.—Malm Cutters, Yellow and Pale Seconds, Paviors, and Pickings, of good and sound quality, constantly on sale at H. DODD'S Brickfields, which are only a quarter of an hour's walk from the City. H. D. earnestly requests purchasers to favour him with a visit, in order to inspect his stock, and to judge for themselves.
Malm Place, half-washed Stocks, and Place Bricks, also on sale. These bricks are sound, well burnt, and unusually free from defects, a very large proportion of the stock being suitable for external facing.
Apply to HENRY DODD and CO. at the Counting-house, Hoxton Brickfields, Grange-walk, near the Rosemary Branch, Hoxton.
N.B. Light-coloured Pit Sand of approved quality constantly on sale upon reasonable terms. This Sand, from its not containing any saline matter, is acknowledged to be preferable to river Sand.

BRICKS.—Messrs. OATES and INGRAM inform Brick-makers on an extensive scale, that their PATENT SOLID BRICK MACHINE is now thoroughly and efficiently tested, and they are prepared to offer the following counties to the trade, in DISTRICTS, either by ROYALTY or PURCHASE:—MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, GLOUCESTER, HERTFORD, BERKS, HUNTINGDON, DEVON, CORNWALL, DORSET, WILTS, HANTS, and ISLE of WIGHT. With this Patent Machine the ordinary surface-clay requires no preparation whatever; whilst that of a rocky nature has merely to be passed through rollers in the usual way, and thence, WITHOUT ANY TEMPERING, INTO THE MACHINE, FROM WHICH THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Machine is now making upwards of THIRTY BRICKS PER MINUTE, at the Works of Messrs. Kirk and Parry, Government Contractors, Fort Elson, near Gosport; and also at the Patent Solid Brick Works of T. Wells Ingram, Oldbury, near Birmingham.—Application for orders to see the Machine in operation to be made to OATES and INGRAM, Bradford-street, Birmingham. Samples of clay may be sent and passed through the Machine, and the bricks burnt, or a sample brick will be sent to any party wishing to see one.

BRICKS.—IMPORTANT to BUILDERS.
Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	23s.	per Thousand.
Rough Stocks and Grizzles...	19s.	"
Place from .... 13s. to 15s.		"
Bright Stocks	29s.	"
Shippers	30s.	"

Address, GEORGE SMEED, Sittingbourne, Kent.
P.S. Up any of the Canals on payment of Dues extra.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description, seventeen years with James Newton, of Falcon Dock, Bankside, beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depot for Ramsay's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Chimney-tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this ware is REMOVED to No. 21, WHARF, Macclesfield-street North, City-road Basin, N.; 2ndly, that the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

PATENT TERRA-COTTA. Tracery for Parapets and Terraces, Mullions, Pinnacles, Moulded Bricks, Coats of Arms, Crosses, Label Mouldings, Friezes, Trusses, Vases, Balusters, Capitals and Bases of Columns, Paving, Facing Bricks, Coping, Kitchen and other Sinks, Chimney Shafts and Tops, and numerous other Articles, manufactured by J. M. BLASHFIELD, in Patent imperishable Terra Cotta, at Mill-wall, Isle of Dogs; and sold at No. 1, Wharf, Praed-street, Paddington-basin.

LIME, BRICKS, TILES, CEMENT, GLAZED DRAIN-PIPES, FIRE GOODS, LATHS, HAIR, and every description of BUILDING MATERIALS.—J. HARRISON and SON, Pages-walk and Willow-walk, Bermondsey, near the Brighton and South Eastern Railway Goods Station.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW and CO.'S pattern book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost, adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

MONEY to LEND.—The TEMPERANCE PERMANENT LAND and BUILDING SOCIETY has MONEY to LEND on mortgage of either freehold or leasehold property, redeemable by easy monthly instalments, at (in addition to a small premium) only 5l. per cent. interest upon the balance remaining each year.—Apply to HENRY J. PHILLIPS, Secretary, 34, Moorgate-street, London, E.C.

LOANS GRANTED WITHOUT SURETIES, from 5l. to 200l.; and with sureties or security up to 500l. repayable by instalments. No deduction for interest or expenses.—Particulars and forms on application, or by post, on receipt of four stamps. All communications strictly confidential.—TOWN and COUNTRY LOAN and DISCOUNT BANK, Orange-street, Leicester-square, London, W.C. Open from Ten to Six.
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TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
115, Fore-street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

GAS LAMP-POSTS and COLUMNS kept in STOCK, at ELMBANK FOUNDRY.—Warehouse, 4, Upper Thames-street, London.

LIGHTNING CONDUCTORS. R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	"
Five-eighths-inch diameter	2s. 0d.	

R. S. Newall and Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men in all parts of the world.

Offices—Gateshead-on-Tyne.
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Call attention to their **IMPROVED ENDLESS BAND-SAWS**, for Steam and Hand Power; **CIRCULAR-SAW BENCHES**, for Steam and Hand Power; **IMPROVED STEAM POWER PLANING, TONGUEING,** and **GROOVING MACHINE**, doing **SEVENTY FEET** per minute, and **GOOD WORK**. Also their **PATENT MORTISING, TENONING,** and **BORING MACHINE**, which is self-feeding, and doing the three kinds of work by One Machine, and of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone.

DRAWINGS AND PRICES TO BE HAD ON APPLICATION.

P. J. and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.

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IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,

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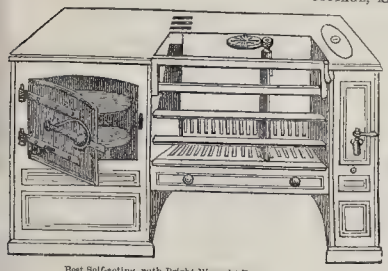
A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Best Self-acting, with Bright Wrought Bars
34 inches ..... 56s.
36 " ..... 56s.
38 " 58s
42 " ..... 90s.

Register Stoves, with Solid Bars, per inch, 5d
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 5d per inch.
Best Solar ditto, with Fire-brick Back, per inch, 10d.
Bright Stoves, with Two Fires, 40s to 100s each

2 in.	2½-in.	3 in
Cast Rain-water Pipe—10d	1s 1d.	1s 3d. per yard.

Cast Gutters, 4-in 8d. per yard

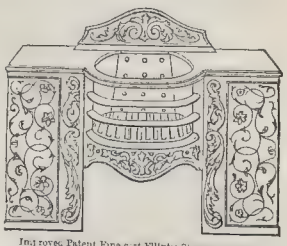
4-in.	4½-in.
O G Gutters,—1s.	1s. 2d. per yard.

2	3	4	5	6
Patent Line,—3s 6d.	4s.	5s.	7s	9s per gross

6-inch Rd Ward Mortise, with best Furniture and Patent Spindles, 2s 8d each Light Elliptic and Register Metal, 14s. per cwt.
Dr. Arnott's Ventilators, 4s 6d each.
Brick Moulds kept in stock. Any size made to order.
Best Cut Clasp and Rose Nails.

1½-inch	1¾ inch	2 in	2½ inch	3 in
16s	15s 6d	15s	14s	13s per cwt.

Best Sheet Cut Floor Brads, 12s. 6d. per cwt.
Best Cut Lath Nails, 16s. per cwt.

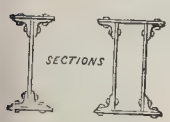


Improved Patent Fine cast Elliptic Stove, requires no fitting, 24d per inch.

Self-acting Cottage, with Oven and Back Boiler.
30 inches ..... 28s.
32 " ..... 30s.
34 " 32s
36 " ..... 34s.

Best Japanned Registers, 40s. Berlin Black, with Bright Mouldings, 60s. Bright Fronts, with Ormeau Ornaments and Two Sets of Bars, 80s; Improved Cast Mangers, with Wrought Hay-rack and Water-troughs, fitted, 45s.

AN ILLUSTRATED BOOK OF PATTERNS WILL BE SENT ON RECEIPT OF POSTAGE STAMP.



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For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

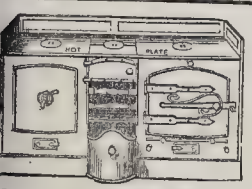
ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles

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WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.

COLLINGE'S PATENT HINGES.—

Manufacturers, CHARLES COLLINGE and CO 64 and 65, Ridge road, Lambeth, where a great variety are always on view for Church, Parsonage, Farm-road, Coachhouse, and other gates and doors of large and small dimensions, a full weight moving with these Hinges as easily as a wicket. Ornamental hinges, adapted for drawing-rooms, &c., doors fitted with them may be removed and replaced in an instant. Rising and double-acting spring hinges, and superior gate fastenings, at moderate prices. None genuine unless marked "Charles Collinge, Patent, Lambeth." Plain and ornamental cast and wrought iron-work, for building and other purposes. Engines, machinery, patent axle-boxes, sugar-mills, &c.

IRON DOORS for STRONG-ROOMS and PARTY-WALLS,

ALWAYS IN STOCK AT JOHN TANN'S
Patent Reliance Lock and Safe Warehouse,
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A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBYER at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron Safes, Factory, Brass Foundry, Nails (wrought and cut), Copper and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furnitures of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, 4s. 6d. each and the new registered Venetian Ventilator, so much admired, &c.
J. H. BOOBYER (late STURCH and BOOBYER), established nearly 30 years, for the supply of Goods from the best Manufactories, at the lowest prices. 14, Stanhope-street, Clare Market, London.

CHUBB'S LOCKS, with all the recent

Improvements, Strong Fire proof Safes, Cash and Deed Boxes Complete Lists of Sizes and Prices may be had on Application. CHUBB and SON, 57, St Paul's Churchyard, London; 28, Lord street, Liverpool; 16, Market street, Manchester, and Horsley-fields, Wolverhampton.

MEDIÆVAL METAL FURNITURE—

JOHN HARDMAN and CO Birmingham;
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13, KING WILLIAM-STREET, STRAND, W.C.]
Manufacturers of every description of
MEDIÆVAL METAL WORK, in GOLD, SILVER, BRASS, and IRON;
MONUMENTAL BRASSES and TABLETS;
STAINED-GLASS WINDOWS.
Designs and Estimates forwarded on application to the London Representative,
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TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of

GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show—every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete pattern-book and price list, 10s.—65 and 66, High Holborn.

PEALS of CAST-STEEL BELLS.

Messrs NAYLOR, VICKERS, and CO'S PATENT CAST STEEL BELLS, for churches, schools, factories, &c. from 35 lbs. to 6 tons lbs in weight, and also in peals, as at foot, may be obtained of their

SOLE AGENTS,
MESSRS. WHITE and BATES.
OZELLS-STREET, BIRMINGHAM.

Specimens can be seen on application. They are only one third the price of bronze ones, hitherto used, and are superior in the purity and sweetness of their tone, and in their non-liability to fracture.

PEALS OF FOUR	FOUR.	FOUR BELLS.
Weight about 2,000 lbs.	3,000 lbs	5,700 lbs.
The Tenor ..... 32 in.	42 in.	52 in diameter.
Price about .... 85l.	125l	207.

PEALS of SIX	SIX.	EIGHT.	TEN BELLS.
Weight about 3,700 lbs.	7,000 lbs.	7,400 lbs.	11,800 lbs.
The Tenor .. 42 in.	52 in.	52 in.	64 in diameter.
Price about ... 165l.	290l.	310l.	490l.

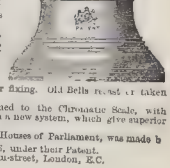
BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of

IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS have of late years devoted much time and study to the long neglected art of Bell Casting. Have recently invented and patented a new process connected therewith, by which they are enabled to make future Bells of any size, note, or weight of superior tone, truer in form, and at less cost than has hitherto been usual.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, a right of 40 years.



TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND-BELLS tuned to the Chromatic Scale, with improved Clappers and pegged on a new system, which give superior tone and facility for ringing.

The great 16-ton Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1856, under their Patent.

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ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS,
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NOTE.—The St. Pancras Iron-works are opposite the Old St. Pancras Church.

PROFESSOR VARNELL'S ENAMELLED MANGERS, STABLE FITTINGS, AND SWING MANGERS.

Cleanliness, Comfort, Economy, Imperviousness to Infection, Prevention of Crib-biting, and other Diseases, together with the better thriving of the Horse by the adoption of these Mangers, are some of the characteristic advantages of this Invention.

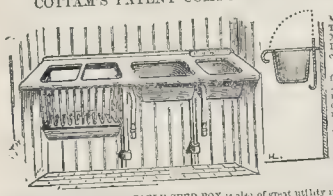
PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND;
AND ADOPTED BY
THE ROYAL VETERINARY COLLEGE.

"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.
(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

PATENT IMPROVEMENTS IN STABLE FITTINGS.

COTTAM'S PATENT COMPONIZED MANGERS, WATER, OR GRUEL TROUGHS.



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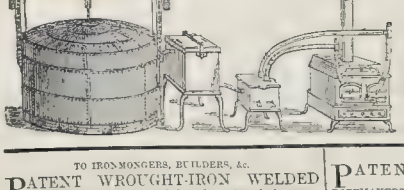
Which may be seen and tried at 13, KING STREET, SNOW HILL.—Illustrations and particulars of both sent upon application.



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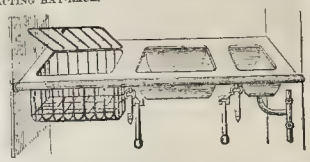

These Fittings are now made with the newly-invented Self acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. New Illustrated Catalogues forwarded on receipt of two postage-stamps.—JAMES BARTON, Ironfounder, &c. 370, Oxford-street, London.

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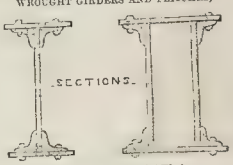

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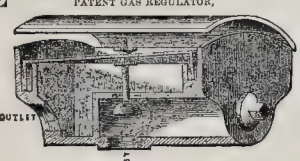

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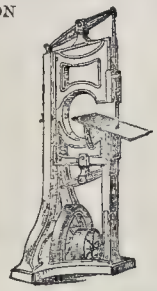

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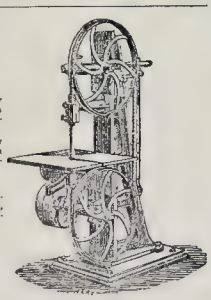

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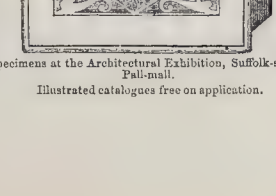

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Vol. XVI.—No. 783.

Occupation for Girls. Children's Toys and Future Men.

As the education and the training, so are the children; as the children, so are the men and women. If, for example, we would have the children of the struggling classes grow into orderly, sensible, and striving citizens, we must give them a road out of the slough, show them the value of order, and furnish them with weapons for the strife; and, to confine ourself to two points out of many, if we would have the easy classes, the well-to-do, alive to excellence, tasteful, and appreciating beauty, care must be taken that the senses of the children are early accustomed to beautiful forms, colours, and sounds. As poor London used to say years ago, the infant-school is the lever by which the improvement of society must be worked. Every effort to provide means of training for those who would otherwise be without it,—every endeavour to give the children of the poor knowledge of common things, and lead out their better parts, has our heartiest support. Let us offer a word of thanks, then, to Mr. Robert Hanbury, M.P. who is endeavouring, we hear, to form a laundry, where girls may be received and be instructed in such operations as would enable them to undertake engagements either in families or in washing establishments. It is proposed that the girls should be properly cared for, and receive necessary teaching of other descriptions.

It appears that it will require about 500*l.* to start the laundry, and a considerable part of this sum has already been subscribed. The great need of means for instructing young women in the proper execution of work which will enable them to earn an independent and respectable livelihood in all our large towns is evident, and several attempts have been made to provide this instruction for those whose homes are such that they have no opportunity of acquiring the knowledge and facility which would enable them to do their duty properly in decent families. This want leads many girls who are afterwards to become the wives of working men to flock to the various departments of needlework, and to such fancy occupations as bugle-threading and artificial flower-making, which so occupy them during some of the most useful years of their lives that they seldom have much liking for or know anything of the household duties necessary for the comfort of a family. Businesses of this kind give employment to large numbers of young children, but *profitable wages to very few adults.* For instance, girls are sent to assist in the manufacture of artificial flowers as young as six or seven years of age. The bulk of the work is mechanical, and can be easily acquired with but little practice. On the design of a flower being determined, the die sinker is set to work to engrave stamps, which, by the aid of a machine, strike through several sheets of muslin, or other material of the required colour, at the same time, the forms of the leaves or parts of flowers. The staining process varies some of the pieces, which are then distributed amongst the little workers. For instance, having all the materials for a number of violets prepared, some of the girls are provided with pieces of wire cut to the proper length, and these are covered with green paper, which has been already cut in strips: the petals of the flower are fixed to the top of the wire, and the other parts are rapidly gathered up and put in order, when it is passed to a superior hand, who pastes the whole together, and fashions it into shape. The staining of parts is not difficult, and the chief aim in this work seems to be to produce the greatest quantity in the shortest time. We are told that fresh designs, both single flowers and groups, are at times purchased in Paris, and then reproduced in London in a superior manner, and at a less cost than they can be produced in quantities in the French capital. It might be thought that those employed in this manner would have some knowledge of botany, and take an interest in the exact imitation of nature. This, however, is not the case, and many who have worked long at particular flowers are totally ignorant of their names and peculiarities. They simply work (we speak of the generality) in putting together so many forms which are already cut. We ask pardon for this apparent digression, but the bulk of our readers know as little of the system pursued in making such things as the young London workers know of the flowers they imitate; and what we would show is, that sending children of tender years to this and similar employments prevents them from acquiring the knowledge necessary for useful life. When the demand is brisk, they may earn from ten to twelve shillings a-week; but constant employment is not always to be had, and, taking into account the time lost, it is probable that the average wages of this class is not more than eight shillings a-week throughout the year,—a small sum to provide lodging, food, and clothing. Moreover, the wheel of fashion may turn, and artificial flowers, as an article of female adornment, may become as little in request as are the brilliant and richly ornamented brass buttons, which were once the glory of all true-born Englishmen.

Returning to Mr. Hanbury's project, we must note that there are difficulties in the way. At the foundation of the institution for destitute persons, near Field-lane, arrangements were made to provide the means of teaching girls who had been reared under bad conditions the art of spreading a tablecloth and arranging a room with neatness, to wash and iron linen, and so on; but the endeavour, although feasible in theory, did not succeed. Habits of neatness and cleanliness are not to be bestowed in a dozen lessons; moreover, there was a want of materials to work upon, and the whole had the aspect of a "make-believe." The present endeavour, however, will be differently conducted. The intention, at any rate, is excellent. The laundry should be made as nearly self-supporting as possible, and have such a character as would induce respectable working men to send their daughters for the instruction that would be afforded.

High up in a house in Percy-street, Rathbone-place, an attempt is being made by an earnest woman to employ and improve a few girls. What she seeks is by the manufacture of toy-furniture, during one half of the day—tables, chairs, beds, and sofas, mostly formed of wire, covered with various materials—to enable them to maintain themselves; and, during the other half of the day, to acquire some useful knowledge. The endeavour has not reached very far yet: the sale being comparatively limited, the number of girls is at present very small. The toys will be found at stands 59 and 60 in the Soho Bazaar. They are more tasteful than some of the toys sold for children, and not dear. Aid is deserved.

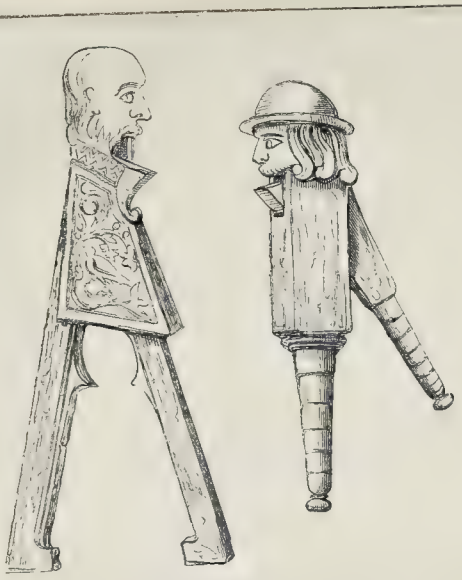
And this brings us to the second point of our observations. Toys ought to be made to advance education; whereas the majority of those furnished to children in this country must do a great deal more harm than good: half of them should be burnt ignominiously as early corrupters of public taste. It is impossible to estimate the extent to which the after-life is influenced by the earliest impressions. A child should see none but beautiful forms.

George Stephenson had few if any toys; but as intelligence dawned upon him he took the materials provided by nature, and fashioned them after such things as were about him. Sir Isaac Newton made mills and telescopes for toys. The father of the inventor of the steam-hammer, who was not only an able artist but also a man possessed of much constructive skill, provided his sons at a very early age with saws and hammers, and set them to work to construct their own toys. Many instances might be given of eminent men whose talents have been awakened in earliest childhood.

Foreign toys are generally much better than English toys. Look through a collection of the latter: you will find them flimsy and inartistic in the extreme; many of them hideously ugly, others made as if expressly to break—an evil in more ways than one, since they may actually engender a habit of destroying. Some of the toys in the German Bazaar display considerable artistic power: some of the small heads, for example, used as boxes, are forcible and clever; and there is a French infantry soldier rude but characteristic. The carts and drays are exceedingly well made, the horses full of spirit. Some of the best toys obtainable, "Noah's arks," for example, are made in Switzerland—in picturesque mountain regions: most of the animals are cut in soft white wood, and some are beautifully formed, with special disregard, nevertheless, to proportionate size. Whole families employ a large amount of their time in this manufacture. One man is famous for his antelopes, another for lions, some for cats and dogs; and we are told that they often go on, from boyhood to old age, carving dogs or lions as their taste may have led them to either one or the other in the first instance. Some toys seem to have afforded employment for several generations, and it is noticed that the gaily painted Swiss milk maids and similar figures have not been altered in form in the smallest particular for upwards of a century.

In many articles deterioration is evident: compare the nut-crackers to be found in some of the toy-shops, with two common specimens sketched on next page, which were made—one early in the reign of Queen Elizabeth and the other in the time of Charles II. They are not remarkable for purity of design or beauty of workmanship, but show that quaint feeling which existed in former days, and which caused our workmen to adapt with different degrees of finish picturesque and artistic forms to the most ordinary objects. They serve also to mark in some measure the change which took place in a certain interval. In the older may be seen a remnant of the mediæval spirit. The bird in the foliage picking the nuts well carries out the idea of the head-piece and jaw. On the other, beyond the head, there is no attempt at that kind of decoration which conveys any idea.

In the old days, the English people were not so fortunate as to have our famous contemporary, *Punch*, to cater for that quiet feeling for fun (which, in spite of all that has been said to the contrary, exists in this country to a remarkable extent), and to figure in a humourous yet philosophic manner the follies and abuses of the age. The spirit, however, which has led to the appreciation of *Punch*, showed itself in various other ways, in the carved stalls of



Nutcrackers: time of Queen Elizabeth and Charles II.

cathedrals and churches, the cunningly devised rebuses, and other portions of ancient architecture.

In examining the table vessels of the middle ages, we are struck by the extent to which this feeling of design has been carried. Amongst these may be noticed vessels shaped like bears, lions, and other animals, the crests of distinguished families, and which, when filled with the beverages of those days, were almost as powerful in the overthrow of man as the animals represented. Great ingenuity was displayed in the construction of drinking-cups, both those made of metal and of clay. Some are so contrived with holes, that if the thirsty soul do not understand the trick of the tankard, he finds the contents spilled upon the habiliments instead of entering the mouth; and some are so made, that when the jug is emptied, a peculiar and unpleasant croaking sound is heard, and the astonished drinker is still more surprised by the appearance of a frog, or some similar animal, with uplifted head and open mouth, at the bottom. Some of these flagons are of the shape of windmills, and others of human figures, the head and parts of the body of which can be lifted up, and serve the purpose of lids. Some cups are made without stands at the bottom, and can be replaced on the table only when the contents have been emptied. We might mention many other instances of the description of design above referred to, the "grey beards," and devices on bottles. But it is not necessary, nor to direct attention to the beautiful design and workmanship of the period referred to, exhibited in objects more important, conceived and executed with a more refined and a higher feeling. We are dealing with toys and their manufacture,—a business of enormous magnitude, and concerning which much more might be said. Our object, however, now is simply to urge, as we have more than once done before, that the toys of children offer a ready means of education, and probably exercise an important influence on the career of thousands. Some would have us leave the taste of the young to take its chance. "Thelwall," says Coleridge, "thought it very *unfair* to influence a child's mind by inculcating any opinions before it should have come to years of discretion, and be able to choose for itself. I showed him my garden, and told him it was my botanical garden. 'How so?' said he, 'it is covered with weeds.'—'Oh,' I replied, '*that* is only because it is not yet come to its age of discretion and choice. The weeds, you see, have taken the liberty to grow, and I thought it unfair in me to prejudice the soil towards roses and strawberries.'"

MR. SCOTT'S SECOND LECTURE ON ARCHITECTURE AT THE ROYAL ACADEMY.*

IN my last lecture it was my endeavour to illustrate the *mechanical* and *structural* portion of the process by which the Romanesque, or round-arched Gothic, became changed into the *Pointed* style; a change which I showed to have resulted primarily from causes purely constructional, and arising from the mere necessities of the case, though subsequently carried on into parts in which the change in the form of arch, though not *statically* necessary, was demanded from reasons of *geometrical* and æsthetic harmony. I further showed that the change was not by any means that abrupt revolution which it is often described as having been;—that a large proportion of the distinctive characteristics of Gothic architecture are common to its round-arched and pointed-arched varieties;—that these two forms of architecture are hardly to be called two styles, but, rather the grand division of one style,—the latter being the natural and logical result of the progression ever going on in the former, during every moment of its prevalence, and in every country where it prevailed.

The portion of the subject, however, on which I then treated, was only the mechanical framework of the style,—its mere ossature to use M. Viollet le Duc's expression, or, as a celebrated palæontologist who did me the honour of being present, said,—the "backbone" of the subject. My object this evening is to over-lay this skeleton with the muscles and sinew, and with the external expressions of its inner life;—to show that those dry bones lived; or, in other words, to show the changes in the decorative features of the architecture, and in the sculptural art which accompanied it. I have further to trace out the transition as exhibited in the structures of different countries,—and especially of France, England, and Germany;† and in a general manner to inquire both into their peculiar characteristics, and into the order of their chronological precedence.

The tendency I have so often mentioned to refine and to elevate the character of the Romanesque architecture is common to all the countries where it prevailed. In all we find the severe simplicity of its earlier productions gradually and steadily relaxing throughout the whole period of its history; the rudeness of its early decorations disappearing in favour of a more artistic treatment, its ponderous massiveness becoming lightened, its low proportions changed for more lofty ones, and the general asperity of its character becoming softened down, so that, in its later stages, it seems often to possess nearly every feature of the succeeding style, excepting the Pointed arch and the elevation and lightness which followed its introduction, though it also possessed features which its successor speedily discarded: I especially refer to those systems of ornamentation—most of them of Oriental origin—by which the Romanesque buildings may usually, irrespective of their arches, be distinguished from those of the succeeding periods.

The Pointed arch having, as I have before shown, been first introduced in the vaulting, where its particular statical advantages were most required, it naturally follows that the change would commence earliest in those countries in which the builders set themselves most actively about the solution of the problem,—the steps of which I somewhat at length traced out in my last lecture,—I mean the conversion of the basilica, with its timber roofs, into a completely vaulted structure; and I think that there can be no doubt that that country was France.

This, however, would not be the only condition on which the probable precedence among the different nations in taking the step which was necessary to generating a perfect form of arcuated architecture would depend. It seems necessary that it should *not* be a country already so thoroughly provided with noble churches as to preclude the probability of a great architectural movement, nor one which had already made so determined an effort in perfecting its national style as to have become too much enamoured of its successes to be in a position to strike out boldly in a new line: indeed, it should be a people of so active a spirit, and with so strong a tendency to progress and to change, as to render it improbable that they should ever settle down in quiet contentment with their own attainments. The question as to where the great stride forward was to be expected would naturally lie between France and Germany,—the dominions of the two great successors of Charlemagne in his *kingly* and his *imperial* capacities. Neither Italy nor England was so likely; the former from her too great proximity to classic monuments; while the latter, though her political power was equal to that of France, her continental possessions most extensive, and her architectural strivings most vigorous, had too newly risen from the position of a conquered country to take the first position in such a movement, and was also the less likely to do so from the fact of her builders having for the most part avoided the vaulted construction (on a large scale, at least) from which the first advance was suggested.

The matter lay, then, between France (I mean the actual centre of the Frankish monarchy, of which Paris was the focus), and Germany. The latter, however, had already made her great architectural movement, and was (not without cause), becoming self-satisfied with her achievements. She had generated a glorious style, and covered her land with monuments of which she might well be proud,—while the part of France immediately under the royal power had not yet been able to erect structures of a magnitude worthy of her position as the great representative state of Western Europe. The immense influence gained just at this time by the French monastic establishments, as well as their schools of learning and science, and still more the increase of the regal power, under the wise government of Louis VI., and by the annexation of the Southern Provinces, through the marriage of his successor, brought about the commencement of the great building period in France, a little before the middle of the twelfth century, and the active genius of the people decided the rest. The consequence was, that though the refinement and perfecting of the Romanesque architecture went on uniformly in all the countries I have named, and though its transition into the pointed style is as distinctly national in England and Germany as in France, the precedence as to the *time* at which the grand advance was made must be unhesitatingly awarded—I will not say to *France* (for some parts of it were particularly tardy), but to that district of France round Paris, the focus of the royal power; that portion of it, in fact, which

* Mr. S. commenced by apologizing for a mistake he had fallen into in having attempted to treat in one lecture of a subject requiring several, and for the consequent necessity of curtailing the more important point of his lecture,—its application to practical use.

† The length to which the lecture has extended itself, has rendered it necessary for the present to pass over the German transition with very slight notice.

was immediately under regal government, as distinguished from that of the great vassals of the Crown. We must further in justice admit, that though each country had its own transition, founded directly upon its own national, and even local variety of Romanesque, each was also in some degree tinged and influenced by the early developments arrived at in the royal domain of France.

I wish to be as specific as possible on this point, for the sake of steering between two exaggerated views. The one view is this:—Seeing the transitional style of each country to be distinctly national,—a logical and consistent transition from their own local Romanesque,—to conclude from this that the result was absolutely independently arrived at, though a considerable chronological interval may have intervened: the other is the conclusion, that as the central French architects had been the earliest in systematizing the pointed-arch developments,—all other countries had simply followed in their wake, and done no more than followed the fashions set at Paris. The truth lies between these contradictory views. The communication ever going on throughout Europe caused each country to know pretty perfectly what was going on in others: their Romanesque in each was about on a par as to advancement, and in each the want of the pointed arch must have been nearly equally felt. Each, then, had its national and logical transition; but the French having outstripped the others as to *time*, many of their minor developments were adopted ready-made (if I may say so); so that, though each transition is clearly national and distinct from that of other countries, we nevertheless find both in Germany and England features which have as clearly been borrowed from the French.

The English, though it would appear likely from their adherence to open timber roofs that they would have felt the want of the pointed arch less than the Germans, who more usually vaulted their naves, nevertheless outstripped their more phlegmatic kinsmen in its adoption. This may have arisen from two causes—the constant use in England of central towers the frequent failures of which when supported by round arches would have given them another reason to desire one of greater strength, and also their intimate connection with France and the vast domains in that country which came under the rule of our kings.

It is true that (with the exception of Anjou and Maine) the provinces held by Henry II. were those in which the Romanesque style held out the longest; yet the fact that the two countries were at the time almost as one—the English provinces of France being larger than, perhaps, either England itself or the independent domain of the French king—their ecclesiastical systems intimately united; the French language spoken by all the higher orders in England, who held possessions perhaps of almost equal extent in both countries,—it is hardly probable that the state of architecture should be greatly different in England and in France.

The Normans, however, and the Aquitainians, had both a strong affection for their own Romanesque styles, which had in each country more strongly-marked characteristics than that of the royal domain of France; and this predilection seems to have kept back their strivings for a short time, and to have produced a similar effect in England; which, nevertheless, was the next country to royal France and the parts immediately around it to make the change towards the Pointed style, leaving Germany to come on at the close of the century, when we had already matured our Early Pointed or Early English style, and Italy to adopt it still later; and through the medium of the Germans, as a return for the Lombardic Romanesque, which three centuries earlier she had imparted to Germany, "as if," to use the eloquent words of Mr. Petit, "that mighty river, that bore the tide of Roman civilization into the heart of Europe, had infused into the nations through which it flowed a veneration of Roman memorials; with a wish to preserve and perpetuate them, by establishing, according to the principles of their construction, a kindred and lasting style of their own;" but, as I may add, on finding at length those principles to be imperfect, desired to send back to the source of this early civilization those more advanced developments and increased beauties which these nations had generated from them.

Having thus roughly indicated the national order in which the transition showed itself, I will proceed to describe its characteristics and its productions in these different countries, beginning with France.

I have before mentioned that, in the south of France, there is reason to believe that the pointed arch was used for barrel vaults from an early date; and in the celebrated domical churches of Perigord and Angoumois, it is used below the pendentives of the domes, as well as in the section or the domes themselves: this, if the usually adopted opinion be correct, would bring them into the centre of France, early in the eleventh century. They are certainly found in the royal domain from the commencement of the next century; but it is from about 1140, that we must date their systematic introduction as a fully acknowledged architectural element.

I will not pretend to say what is the earliest work in which they are thus admitted, nor attempt to investigate the commonly received opinion which attributes the launching of the new style (if such it should be called), to Suger, the celebrated abbot of St. Denis. As, however, the architectural progress at this period was clearly most active within the influence of the Court of Paris, and as Suger was not only one of the wisest and greatest men in the kingdom, but was a great minister of State, it is not unnatural that his personal influence upon art should be powerful. In the year 1140, he had rebuilt the nave of his church, and also the west front as it existed previously to the wretched restorations, which have rendered nearly worthless the most valuable landmark in the history of the transition. So far as we can now judge of it, it presents very early transitional characters, the round and pointed arch being almost indiscriminately used. Of the three portals the central one has a round arch, the others are very slightly pointed. Their character is gorgeously rich, the shafts being either elaborately carved with surface ornamentation, or having full length figures attached to them, and the arches, replete with sculpture, agreeing indeed precisely in character with those of the west front of churches and some others. The parts which are original are beautifully executed, and the capitals are of that perfectly Byzantine variety of the Corinthianesque type, which I shall shortly have to describe more in detail. In the interior, the arches of the vaulting, and those carrying the towers, are all pointed, but contain some strictly Romanesque features. On the whole, the work has a decidedly Romanesque appearance, but nevertheless has the pointed arch so freely used in it, as to show that it was anything but the first essay.

In the same year (1140) Suger laid the foundations of the eastern end of the church, which, as it is said, "with stupendous celerity," he had so far completed by the year 1144, as to permit of its consecration, the king, with his capricious queen, Eleanor of Aquitaine, and a multitude of the great men of the country being present at the ceremony.

Of the church of Suger, the two ends, with portions of the transepts, are all that now remain, the whole of the intermediate portion, forming little less than the entire church, were rebuilt from the ground in the succeeding century, including even the pillars of the apse; so that we are not able to ascertain the design of an internal bay of his church. What remains of the eastern part embraces the pillars round the ambulatory of the apse, with all the apsidal chapels, including also their crypts. Of one of these chapels I exhibit an internal and external sketch. From these it will be seen that though the crypt, from want of height as much as from any other cause, has round arches; the upper chapels are purely pointed, and are very elegant in their design. The pillars are cylindrical, with Corinthianesque capitals, the windows and vaulting pointed, and the whole, though obviously early, has very little of a Romanesque air, much less so than our own transitional specimens of a much later date, and, what is more remarkable, less than many French churches of twenty years later. The chapels, however, in the crypt, are much more Romanesque, all their arches being round, and their vaulting without ribs, though the details agree with those of the chapels above.

The principal remnant beyond what I have here mentioned is the doorway of the north transept. This is pointed, and generally has a more advanced air than those in the west façade, though, on examination, the details differ but little. They have full-length figures attached to the shafts, and angels carved in the arch mouldings, as those last mentioned and as those at Chartres, and such parts of the foliage as have not been renewed, are most beautifully carved in the same Byzantine style. Of the same character, also, are a number of capitals from the monastic buildings, preserved in a neighbouring shed. I have had casts made of some specimens of the carving, which I now exhibit.

I will now crave your indulgence while I make a digression on the subject of the carving in French churches of this period. No one can have failed to notice the Corinthianesque outline of the capitals which prevail in France from early in the twelfth, to the end of the thirteenth century. It has, indeed, been remarked by writers on the subject, that this Corinthian character greatly increased *just before* the period of the transition. Though the effects of importations of Byzantine taste are evinced by Romanesque ornamentation throughout the whole period of its duration, it seems generally to have come in the form of manufactured goods, woven fabrics, jewelry, &c. &c.; and though the patterns, both of Byzantine and other Oriental manufactures, are to be traced in the Romanesque ornaments, and were the origin of many of those most familiar to us, actual architectural features of classic form, such as capitals, do not seem to have been very directly copied, excepting where the remains of antique buildings were at hand to offer models. The Romanesque capitals are, in many cases, of types belonging to no other, though in others they betray a distant descent from the Roman; and the cushion-capital, and perhaps others, seem derived from Byzantium; but generally their forms differ much from the original, till we approach the period of which I am treating, when suddenly they assume an almost classic form,—the acanthus being freely used, and that of a variety resembling that of ancient Greece, as distinguished from Rome; and the same Greek leafage being found in cornices, scroll-work, and almost every other position in which it could be used. Not having travelled in the South of France, I will not venture to be very dogmatic as to the cause of this sudden change. I fancy, from such drawings as I have seen, that this Byzantine capital prevails a good deal in the South of France, but I am not able with certainty to distinguish it from the capitals directly imitated from classic remains around. M. Viollet le Duc views them all as being of this origin, calling them Gallo-Romaine, as distinguished from the Romanesque capitals found side by side with them. I view those, however, I am treating of, as *distinctly Byzantine*; and the following facts suggest a route by which the purely Byzantine foliage may have reached the North of France.

The church of St. Mark at Venice was erected between the years 977 and 1071, and its capitals are many of them precisely of the kind I am naming, and are also identical with many at Constantinople. No one who has had a training in drawing the Corinthian capital will fail to recognise at Venice that variety of acanthus by which he has been accustomed to distinguish the Greek from the Roman Corinthian. According to Mr. de Verneill, the church at St. Frond, at Perigueux, was built at nearly the same time, in the centre of France, but under the influence of Venetian merchants. This church is a direct imitation of St. Mark's, at Venice; but, besides the distinctly Byzantine forms which characterise this and the numerous family of churches which imitate it, it contains capitals of exactly the same kind as those at Venice; and from shortly after this time we find them becoming prevalent in districts where the other Byzantine features of the Perigordian churches are not followed. I give a series of capitals from Constantinople, Venice, and Perigueux, which can be compared with those I exhibit from St. Denis, St. Martin des Prés, &c. &c. to show how indisputable and how direct is the importation, though, unlike the works of classic architects, we find no two capitals alike. They have other points of resemblance to the Corinthian capital, as the cauliculi, and a rudimental relic of the concave-planned abacus. This we find also in Pisan architecture, and in that of the Moors in Sicily, and probably in all styles which were influenced by the Byzantine; and it was, no doubt, derived from the practice which arose when the Corinthian capital began to be used directly to bear an arch (and that *overhanging* the column), of placing a strong square block over the more delicate abacus, to defend it against the fracture to which it would otherwise have been subject. These features will be found in nearly every church of the transitional period in the part of France of which I am speaking, and probably in nearly all parts, excepting, perhaps, Normandy and Brittany.

This Corinthianesque foliage became the originator of the magnificent capitals which pervade the finest French works of the thirteenth century, though the foliage became entirely altered: and in our own country, though the Byzantine original is seen, I believe, only in the work of William of Sens, at Canterbury, the *effects* of it are visible

in the outline of many of our finest Early English capitals, though these are so distinctly national, and differ so much in treatment from those in France.

Nearly contemporaneous with Suger's work, is the west front of the Cathedral of Chartres one of the very noblest productions of the style. It is not, I believe, exactly known when this façade was either commenced or completed, but the towers were actively progressing in 1145. The three central portals are of peculiar magnificence: they are too elaborate for me to venture upon illustrating them by drawings, but I exhibit some large photographs of the details. I also give a drawing of an enriched shaft, I believe from a similar doorway at Bourges, but which will serve as a type of this mode of decoration. The figures in the jambs are, as was usual at the period, in the same block with the shafts themselves, and their extraordinary elongation, and the long upright folds of their draperies were, no doubt, intended to harmonize with their position as parts of columns. The heads are of peculiar dignity and grace. These doorways are probably the finest remaining of the transitional period. Their excessive richness contrasts strikingly with the severe, though noble simplicity of the remainder of the façade, and displays not only that tendency to lavish all the resources of art upon the doorways which so especially characterize French art, but also illustrates, in the most striking manner, the absolute independence of the architecture upon mere ornamentation, and, at the same time, the freedom with which it avails itself of it; the rich doorways and the severely plain towers being equally glorious specimens of the style, and neither suffering in the least by juxtaposition with the other. I will just call attention to the singular ornamentation of the pedestal or basement of the doorways by means of fluting, &c. This was common in France at that period, though I am not able to trace it to its source. It is almost identical with that of the western doorway of St. Germain des Prés, and we find it carried out with still greater richness in the somewhat later doorways which flank the western façade at Rouen. The capitals in this façade (at Chartres) are of the kind I have above described, though most of them are simpler than those from which my specimens are taken. The southern tower and spire are most noble in their composition, and hardly exceeded in beauty by those of any subsequent period.

The next example I will allude to is the cathedral of Noyon.

The date of this cathedral is unknown; but the old church having been destroyed by fire in 1131, and the bishop (Beaudoin) who shortly after succeeded to the see being an intimate friend of Abbot Suger, it has been put down almost as a historical certainty that he commenced rebuilding the church not long after the erection of that of St. Denis, and that the designs were made under the advice of Suger. I am not prepared either to subscribe to this implicitly, or to dispute it. On first examining the church, my impression was adverse to this theory, but St. Denis itself looks so much later than it is, and the apparent anomalies in the dates of works of this period are so perplexing, that one is disposed to hesitate before disputing a theory supported by such men as Viollet le Duc. If, however, the idea be correct, I should limit the early date to the *lower portion* of the choir. The same intermixture of the round arch with the pointed obtains throughout the cathedral; but not only are the mouldings of later section in the western parts (as M. Viollet le Duc points out), but the capitals which prevail in the upper stories of the choir itself, are of a kind which I cannot think so early as the date assigned.

The capitals of the lower story (or the aisles and apsidal chapels), are of the Corinthianesque description, intermixed with others of interwoven stalks, &c., and are eminently beautiful. I give a sketch of one of the apsidal chapels, both within and without, as a parallel to those at St. Denis. The comparison will certainly tend to confirm the theory as to its date, as the prevalence of the round arch gives it an appearance of even earlier age; but we shall see from other examples that this evidence is not wholly to be relied on.

The plan of this church is exceedingly beautiful, having apsidal terminations, not only to the choir but to each transept. In this it is supposed to have been imitated from the noble transepts at Tournay, with which See Noyon was connected till the year 1153, almost the very year to which both of these works have been attributed, though the transepts at Tournay are still purely Romanesque, and that of the very grandest and boldest kind, excepting only the pointed vaulting, while those at Noyon (which, however, are somewhat later than the choir), are very light, and almost Gothic construction, and though containing many round arches, are in their whole aspect of the Pointed style.

The church at Noyon is of a construction to which I barely alluded in my former lecture; that in which the aisles are of two stories, both of which are vaulted. It is customary to call this second story a triforium; but I should rather term it a *gallery*, for the triforium proper occupies the interval between the roof and the vaulting of the aisle, a space which occurs *over* these galleries: so that a church of this construction has *four* stories—the aisle, the gallery, the triforium, and the clerestory; the triforium being, as its name seems to import, the *third* story, though in churches of the more customary type it is only the *second*. This construction is very common at this period in France and Germany, though in England I recollect only one instance, the choir of Gloucester, which, however, is so altered as almost to conceal its construction. The vaulting at Noyon is Pointed, but its side cells is, I think, in every case round.

The exterior of the apsidal chapels at Noyon is not unlike those at St. Denis, though without its crypt. Like it, it has columns used for buttresses, an idea inherited from those of earlier date, as those at Notre Dame du Pont, at Clermont, at Issoire, and many others.

There are noble portals on the east sides of the transepts, in which the carved foliage is of the most gorgeous description, and which were formerly replete with sculpture, every vestige of which is now gone, having been most carefully cut out at the Revolution. On the whole, this church is one of the best studies of the transition, though defective in one important element—a *date*.*

ARCHITECTURAL EXPERIENCES AT CONSTANTINOPLE.†

I INTEND on the present occasion to state simply, and in as few words as possible, what I saw and what I learnt during the last summer at Constantinople, putting aside entirely the history and antiquities; for so much has been written concerning them that a reference to the various authors would be far more satisfactory to the student than any abridgment I might make.‡

Now the Constantinople of the present day consists of three distinct cities, viz. Scutari, on the Asiatic side; Stamboul, on the tongue of land between the Bosphorus and Golden Horn; and Galata, placed opposite the Seraglio Point. Scutari occupies the site of the ancient Chrysopolis. Stamboul corresponds to the city of Constantine; its extreme point, now the Seraglio, representing the ancient Byzantium; while Galata, although a suburb in the time of Justinian, was only enclosed with walls in the fourteenth century.

Scutari contains but little that is interesting beyond its enormous cemetery, which owes its extent to the belief of the Turks that their European conquests are but temporary; they therefore generally prefer being buried in Asia, where their tombs will remain intact, and not be entirely obliterated, as at Athens, where every vestige of their occupation has been systematically destroyed. The richer Turks, however, mostly choose their tombs in the vicinity of the mosque erected over the grave of Eyoub, the standard-bearer of the Mohammedans in their first siege of the city. Scutari also contains the College of the Howling Dervishes, the large barracks late the English hospital, and the English burial-ground. At present there are no Europeans residing in the town, and everything is Asiatic except the names of the streets written in English.

Stamboul, of course, possesses the greatest attractions of all the three cities, and the first things worthy of notice are the walls surrounding it on all three sides. There is nothing very remarkable in those on the side of the Golden Horn; but on the Bosphorus side a number of small columns have been built in a little above the foundations.

I have often wondered what ever became of the vast number of columns contained in all the ancient cities. It would appear, however, from these walls, as well as from those of Galata, that they were often seized upon as the most compact material whenever the walls of a city had to be erected in haste. The same thing occurs in the fortifications of the Acropolis at Athens, where we see built in a good many of the frustra of the columns of the old Hecatompedon. As to the monoliths of precious marble, they were considered too valuable to break up, and were, therefore, taken from the outside of temples and placed in the inside of churches or mosques.

The walls towards the land side become triple, and are exceedingly picturesque. They also appear to have been more carefully constructed than those surrounding the other sides. The breach where the Mohammedans entered is still enclosed, and, according to the Greek tradition, will remain so, until the victorious Christians shall enter in that identical spot in overwhelming numbers, and drive the Moslem with great slaughter back to Asia, whence he came. As far as I remember the walls are defended by simple battlements, without machicolations. The citadel of Stamboul is the castle of the seven towers, situated at the angle formed by the meeting of the Bosphorus and land walls. There were originally but four towers. Mohammed II. added the other three. The building itself is very picturesque; but, at least in the Byzantine times, could not have been of any great strength, inasmuch as we hear of no stand being made there when the city was finally taken.

The Turks believe that an invisible fairy sits on the top of the square tower overlooking the sea, and holds in her hand a mirror, in which are reflected the images of any eight enemies about to threaten Stamboul.

On the capture of the city, Mohammed took all that part at the extreme point of the triangle for his seraglio, and separated it by another line of walls. Within these everything ancient appears to have been destroyed except the church of St. Irene, now used as a sort of armoury, where the stranger can see the swords of Omar Kaled and other Mohammedan worthies, besides the keys of sundry conquered cities.

Outside the containing wall of the Seraglio is the church of Sta. Sophia, at one period the most beautiful of all Christian churches, and the great pattern for the architects of the Dark Ages. It is not my purpose to enter into a long description of this church, for we have now the works of Messrs. Fossati and Saltzeman; the former giving a series of picturesque views, and the latter measured elevations, sections, &c. Again, owing to the avarice and bigotry of the Turks, the entry is exceedingly costly and difficult; and even when admitted, the time allowed is so short that it is almost impossible to take away anything beyond the most general impressions. It is very true, that during the late war the entry was free, but no sooner had our army withdrawn than all access was closed, except through the means of a very considerable fee to the keepers. Besides, to understand the construction of a building thoroughly, it is necessary to go into the roofs and into the gutters, and there commence one's study. To do this at the present time would be hopeless; and, therefore, with regard to the plan, &c. of Sta. Sophia, I must refer once more to the published works.

The grand feature is, of course, the flatness of the dome, which I am sorry to confess did not at all strike me as an improvement upon the old half-circle. It looks too much like a ceiling; and if it be true what the old authors tell us, that the first dome was still flatter than the present, I fear it must originally have looked still worse. The effect is by no means improved by a great number of internal projecting ribs, which, together with the absence of all figures, except the great figure of our Lord in the centre, make it look very like a gigantic umbrella; but after all, it is just probable that it might be intended to imitate a velarium. The mosaics which decorate the rest of the edifice, are entirely confined to the vaults, domes, and arches, besides the lunettes and pendentives above their springs, and do not come down upon the walls proper as at Monreale and Palermo.

In these decorations figures are very sparingly used, and there are very few groups, and no histories. At present they are all covered over, in deference to the religious opinions of the Mohammedans; but when they were discovered, during the repairs lately executed by M. Fossati, they turned out to be of various dates; some, indeed, being as modern as the Paleologi. Indeed, I am not certain whether any of them was proved to be contemporaneous with Justinian. It is just probable that the originals might have been destroyed during the iconoclastic troubles. The mosaic ornaments which still remain discoverable consist for the most part of diapers, exceedingly

* To be continued.

† The following is the first part of the paper read by Mr. W. Burges, at the Architectural Exhibition, mentioned last week. With the remainder of the paper we shall give the illustrations referred to, and some others.

‡ A very well read-up *résumé* of the antiquities of Constantinople, as well as a list of authors, may be found in the current number of the "Architectural Dictionary," under head "Constantinople."

carefully, and minutely worked: the tesseræ are very small, and the gold placed on a transparent white ground: there is also a great prevalence of silver tesseræ. Now, St. Mark's, Venice, is the only place where we find this silver mosaic, but there the tesseræ are very large indeed; and the whole work executed in a much coarser manner than at Sta. Sophia. At the same time it is only fair to acknowledge that any inferences drawn from the tesseræ sold to strangers by the boys at Sta. Sophia, are liable to great distrust; as I understood they very often derive their supply from other buildings.

The internal walls of Sta. Sophia are covered by a thin placage of the richest marbles, attached by iron cramps. The comparative smallness of these plaques is very successful in giving scale to the building: so that in this one respect, at least, it looks a very great deal larger than that unfortunate St. Peter's at Rome.

The columns of verd antique, porphyry, and granite supporting the arches are part of the spoils of the most renowned temples of antiquity. Some are from the Temple of Diana, at Ephesus; others, again, from that of the Sun, at Baalbec. The latter are of porphyry, and were the dowry of a lady, who made them over to Justinian.

Theophilus, in that part of his treatise where he discourses about jewellery, tells us that the first thing to do is to collect as many precious stones as possible: the Byzantine architects, when they had a building to erect, collected as many columns as possible in a similar manner, without much caring what buildings they destroyed to obtain them.

There is one thing, however, very noticeable about all the columns in Sta. Sophia, viz. that the first member of the base is invariably an annulet of metal. Most probably the column had either fallen or been pulled down with such want of care that the lower extremity was injured: hence the want of the annulet of bronze to keep it firm on the base. The Mohammedans copying the local art, copied also these annulets. We find them almost invariably applied to all the columns in the mosques, even those which were quite new.

The exterior of the church at the present time is plastered and painted, to represent the alternate courses of stone and brick to be found beneath. Mr. Fossati thinks that originally it was covered like the inside, with a placage of marble, which has all disappeared: a fact by no means improbable if the said placage was thin, and simply attached by iron or bronze holdfasts, as we find it at St. Mark's, and at the Fondaco dei Turchi, at Venice, where part of the marble casing has actually disappeared. Now, in the Turkish buildings, where marble is employed, the casing is seldom less than 4 inches and often 6 inches thick, so that with the help of occasional bond-stones it supports itself, and the buildings are thus always in good preservation.

The mosques at Constantinople are exceedingly numerous, but all follow the same plan, which is this:—First of all there is a large enclosure very often occupied by shops and stalls. Within is an oblong mass of buildings, consisting of an arcaded court with a fountain in the centre: this court is called the harem. Then there comes the mosque proper, which may be briefly described as an Arabic copy of Sta. Sophia; while the third division, called the garden, is a walled space containing the tomb of the founder and that of his wife within very rich and beautiful buildings.

Now, it is strictly allowed to sultans only who have been conquerors, to erect mosques, in order that their subjects should not suffer on account of their taste for architecture. No one, therefore, had a better right to build than Mahommet II. the conqueror. Accordingly, there is a large mosque, known by his name, which has a very fine interior, and containing a good many fine monolithes, said to have been brought from sundry Christian churches. However, there is nothing particularly remarkable about this mosque, as it has had the misfortune to be damaged by an earthquake, and beautified and restored during the last century.

But by far the most beautiful of all is the mosque next in order of chronology, built by Suleiman the Magnificent, between 1550 and 1553, and had it the advantage of possessing the mosaics, I should be inclined to prefer it to Sta. Sophia. It contains four of the largest columns in the city, which were anciently used to support statues. The dome has the same diameter as that of Sta. Sophia, and being higher, appears to my mind of a better proportion, looking more like a dome and less like a ceiling. It is in this mosque that we find the beautiful stained-glass windows, which I shall notice further on. Another large mosque, which owes its erection to Bayazid II. is very nearly as beautiful as that of Suleiman. The court or harem, with its porphery and verd antique columns, its incrustations of marble, its fountain, its trees supporting lattices covered by vines, and above all, the large flock of pigeons fed by the alms of the faithful (for the Mahommedans are excessively humane to all animals except man), make it one of the most delightful scenes I have ever witnessed. The only thing at all approaching it, is the west front of St. Mark's, at Venice; but there we are painfully impressed with the want of verdure. Here, on the contrary, we have all, the architecture, the coloured marble, the murmur of the fountain, the trees, and pigeons, besides the bright costume of the women.

The other two great mosques are those of the Sultan Achmed, and of the Sultana Valida. The former, situated close to the ancient Hippodrome, being remarkable for the immense pillars, cased with marble, which support the dome The latter, although erected about the middle of the seventeenth century, is quite as pure in its details as that of Mohammet II. or Suleiman, for arts and costume change much slower in the East than in the West.

Now, from the architecture of these mosques there is a very useful lesson to be learnt by the architect, and that is how admirably the details are simplified, and how great an effect of breadth is obtained by restraining the ornament to a very few places, such as the caps and cornices, and not covering the whole with reedy mouldings and fizzy crockets, and still more fizzy pinnacles. There is not much to be read about bases, which are generally composed of a few mouldings, the uppermost being, as I said before, of bronze. The shafts are generally taken from old buildings, and, consequently, diminish, a point upon which I would venture to think the Classic architects, were in the right. The cap is round at bottom to suit the column, and square at top to suit the arch. The surface is covered over with the icicle work, so peculiar to Eastern art. Here we see the ornament concentrated, and very sparingly used; but it is the very finest and most careful of its kind. The abacus has a hollow moulding, with a square nosing, and the arch very often comes very nearly flush with the outer edge of it, so that none of the height of the arch is lost to the spectator. In large arches and columns, however, as with us, the arch corresponds with the face of the bell of the cap. The arches have no mouldings at all, but simply plain soffits, and occasionally the voussoirs are of alternate differently-coloured or painted stones. There is no label, properly speaking; but the whole of the spandrils overhang the arch for 1 or 3 inches, according to the size of the building. In small edifices this soffit is left plain; but in great ones there is a moulding, which, at a distance, gives all the effect of a dripstone, without the disadvantage of depriving us of the view of any of the spandril space, as our Western labels do. The effect is to make the whole affair more massive, and to give the arch the idea of having more work to do. I should mention that there are three sorts of arches employed, viz. a stilted drop arch (such as we find used during the thirteenth century in Europe), a sort of four-centred arch, and a segmental arch. The latter is generally used for doorways.

The spandrils of a large arcade, and their sustaining mould are generally of marble, while the centre of the spandril is often occupied by an exquisitely-carved projecting boss, or three circles of inlaid marble, with a little projecting knob in the middle of the whole. Now the carved boss is not an affair of a lot of leaves going out anywhere and in all directions, but a stilted half sphere, with a rigorously-kept surface, indented with a bold and deeply-carved conventional ornament.

As to the cornice, it is formed of a rich icicle ornament, with very little projection. Upon this, if the eaves project, they project very much, so as really to give some shade, and are boarded on the under side, and decorated with paintings. If, on the contrary, the architect used a parapet, he pierced it with an ornament which, at first sight, looks very complex, but which can generally be resolved to the superposition of two or more geometrical figures. Each bay of an arcade is covered by a dome, protected from the weather by lead. In fact, where we should use quadrupartite groining, the Orientals use a dome, and it is for this reason that we see so many in every view of an Eastern city. The dome is finished by a kind of finial, often gilt; but as I was never able to get close to any of them, I am unable to say whether they are executed in stone or wood.

As to the minarets, they are nothing but corkscrew staircases, standing alone. The *windors* go right through the walls, which are about 6 inches thick. Near the *top* is a gallery, supported by corbelling, the ends of the corbel stones being kept down by the superincumbent weight of the upper part, which is merely a repetition of the lower portion, covered with a high pointed wooden roof, leaded. Some minarets have as many as three galleries, and sometimes the corbelling-out is cut into icicle work Other minarets are made entirely of brick, plastered, and some even of wood; but as I was not able to go inside them, I cannot speak concerning their construction.

There is no feature upon which the Mahommedan architect has devoted greater cost and attention than on his doors and shutters. One of the most elegant that I have seen is at present attached to a tumble-down house at Pera. It consists of two valves, each 1 foot 6 inches wide, made of fir, and covered with massive carving. The panels, with Arabic letters, form the principal feature, and work in very prettily; but in the great mosques we find much more elaborate work. Here the doors are panel-framed; but instead of the space between the rails and styles being filled with a single panel, it is filled up with a multitude of small rails and styles, enclosing minute panels of different coloured woods. In the richest doors these little rails and styles form intricate patterns; and their panels are carved, and occasionally made of ivory, to break the monotony. Marquetry work, of wood, ivory, and silver, is occasionally used, but very sparingly, and generally round the great panels. The doors are all strengthened behind by a strong skeleton framing.

The furniture is bronze, chiselled over with minute patterns, and gilt. Where the plate is pierced the wood behind is painted red, as in the Suleimanyah, or has a piece of red cloth behind it.

A different decoration with regard to the wooden furniture of the mosques was adopted. The desks for reading the Koran, the chests, &c. are made of walnut-wood, inlaid with mother-of-pearl and thin stripes of bone. The art is still practised by the Armenians, who, like the craftsmen of the Middle Ages, have a street all to themselves. At present, however, ornamental furniture is made by entirely covering the wood with mother-of-pearl and tortoiseshell. The pulpit and the more massive furniture, on the contrary, are composed of marble, and decorated with gilding,—in fact, as marble always was decorated in the Middle Ages.

The windows we find filled by round pieces of glass, set in the middle of a plaster framework, about 4 inches thick; this framework being set nearly flush with the external wall. Now, within this, and flush with the internal wall, is another window, composed of small pieces of very thin glass, fastened by means of lime and white of egg to the back of a very intricate plaster framework. Nothing can be finer than the effect of colour produced by this description of stained glass; indeed, I am not quite sure but that our most famous windows of the Middle Ages would suffer by the comparison. The excellence is due, firstly, to the double glazing, which subdues and diversifies the light; and, secondly, to the internal framework, the mullions of which are very narrow, but exceedingly projecting; so that a new effect is produced by every step taken by the spectator, for by reason of the projection of the mullions some pieces of glass are hidden and others revealed. The only mosque retaining its stained glass windows is the Suleimanyah. Some say, but I do not know upon what authority, that they were made by Persian artists brought to Stamboul by Suleiman after his Persian expedition. Unfortunately the mosque of Mohammed, the earliest of all the great mosques, has been so repaired that we cannot expect to find any of this most fragile work. But still it was excessively common in the upper parts of the windows of private houses, and is to be found in Syria and Egypt equally with Persia. If the art was introduced from Persia, it must have ended by becoming indigenous, as there are men who profess to make it at the present day. Upon the whole, I rather suspect that it arose in the imitation of the pierced marble windows in Sta. Sophia, which are supposed at one time to have been filled up with stained glass. Now, although marble is a very good material for simple geometrical forms, yet the labour of piercing an intricate curved pattern, as at the Suleimanyah, would probably be an inducement to execute it in plaster, while the fragility of the new material would be protected by the double glazing.

The patterns of these windows, although to the eye excessively complicated, can be explained by the same principle as the parapets, for there are

several patterns placed one upon another; but the principal pattern to which the most attention was paid was the white. Now, of all the colours employed in decoration, white is the most powerful, and should be used most sparingly. In the window, of part of which Mr. Lavers, of Southampton-street, has executed a reproduction, the white takes the form of a thin flowing line bursting out into leaves of pearls. In the other and more intricate window, of which I have drawn only the centre portion, it is applied as a powdering of flowers more or less frequent in various parts. The same principle is carried out in the frescoes at Assisi: there the white is used only in thin lines, and forms the true division of the pictures. Those who have seen these windows will confess that Aladdin's windows of jewels are no fable, but simply an exaggeration.

I should observe that the lower windows of the mosques, which are very few indeed, are not glazed, but simply protected by an iron grille, and a shutter to shut at night: the sun cannot enter, as they generally open into the arcade.

At Stamboul, as in Italy, all arcades have a thick tie-rod of iron at their springing. This may be justified in a constructional point of view, as tying the buildings together in countries subject to earthquakes. It also enables the builder to dispense with buttresses, which are very often fatal to all breadth of effect. I must confess to admiring the rods in an artistic point of view, as they appear to connect the capitals one with another, and to define the springing of the arch.

Some doors leading to external arcades, &c. are closed by bronze grilles, often of the most intricate patterns, but which pattern may still be explained on the same principle as the parapets, or the stained glass. A good deal of bronze casting is done at the present day in the street round the Soleimanyah.

The last thing I shall mention concerning the mosques, is their excellent and economic method of lighting. Iron bars are suspended from the ceiling by means of chains, the links of which are simply thin iron wire, twisted round several times, and covered with red rosin. The iron bars form various figures, such as intersecting triangles, octagons, &c. Sometimes they run round the building, sometimes between the pillars, and thus define the plan. To these iron rods are hung innumerable small glass lamps, and ostrich eggs, &c. and inasmuch as they are very numerous, and hung very low indeed, the whole effect must be that of walking under a sea of light. I am afraid in our modern buildings we do not light up quite enough, and when we do, it is with flaring masses of gas, which blind the spectator whenever his eye happens unfortunately to catch them.*

ELECTRO-MAGNETISM AS A MOTIVE POWER.

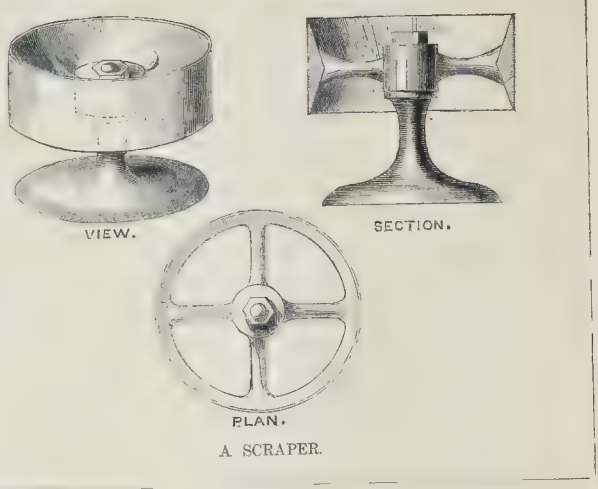
ABOUT five years since you did me the favour to insert some of my letters upon the subject of electro-magnetism as a motive power, in your truly valuable journal. If you can again find room, and will kindly excuse the rough and ungrammatical description of a working man, I shall feel obliged by your insertion of the following. In bringing forward electro-magnetism as the antagonist of steam, as a motive power, we must bear in mind that the former is in its infancy, while the latter has reached maturity, from which we may infer that it is reduced to its utmost simplicity in all its working parts. Electro-magnetic machines are, on the other hand, still far too complicated to be effective, or cheap to purchase, in comparison with the steam-engine. Every exertion is being made in France to introduce electro-magnetic power; and a premium is offered by way of encouragement. In England we have no prizes offered, except for fat cattle, to obtain which noble lords, nay, even royalty itself, have stooped and conquered.

In some respects electro-magnetism must be acknowledged as one of the most wonderful, if not the greatest, motive power in existence. For instance, I wish to raise 1 lb. 1 inch high. I am distant from it 1,000 miles. Would the united power of 100 steam-engines of 100 horse-power each effect this? No. Friction, that powerful opponent, would prevent it. With how much ease could it be effected in an instant of time by electro-magnetism! Simply a wire, in connection with an electro-magnet, the current supplied, the weight is raised; for whether the current of electricity traverses a circle of 1 mile or 1,000 miles, there is scarcely any perceptible difference in the time occupied in performing either journey. Surely something can be made out of this wonderful deviation from all other known mechanical actions, where every increase of speed must have a corresponding expenditure of power.

I beg leave to repeat that which I stated five years since in your columns. I can construct an electro-magnetic machine, composed of two small magnets, communicating direct rotary motion without the aid of wheels, pinions, crank, or piston (with the exception of three very small wheels to work the break). To its powers there can not possibly be any limit, as that is entirely regulated by the construction of the engine, its power being according to its size: hence six jars, Smee's battery, would raise 1,000 tons, if tackle sufficiently strong were provided. To accomplish this, I merely take advantage, in my arrangement, of the incalculable velocity of electricity to obtain motive power. I do not presume to say that I am prepared to supersede steam as a motive power, but that I can economically introduce electro-magnetism as a motive power, where the steam-engine, from great first cost and continued expense from wear and tear, and last, not least, its great danger, would point out the advantages to be derived from electro-magnetic machines or engines.

Methinks I hear you say, "How is it you have not brought out an invention so valuable as you describe?" If you will please, kind sir, to refer to your columns five years ago, you will find I stated I was a poor working mechanic. I am still that working mechanic, five years older and a great deal poorer. I hope you will consider my answer a sufficient reason. H. Z.

* To be continued.



A SCRAPER.

A SCRAPER.

THE accompanying figs. show a scraper, descried the other day somewhere in Austria, by my friend Mr. Shanks, engineer, who has a way of travelling with his eyes open.

It consists of a pulley, about 11 inches in diameter by 4½ inches, mounted and rotating on a stand affording a vertical axis. Further descriptive verbiage would be superfluous.

Pity we are not in a position to couple with honourable mention the name of the ingenious inventor thus mindful of the common weal.

JAMES WYLSON.

SECOND REWARDED DESIGN FOR THE PROPOSED CATHEDRAL AT LILLE.

MR. STREET'S design for the cathedral at Lille gained, it will be recollected, the second prize in the European competition in which it was submitted. The first three prizes were given respectively to Messrs. Clutton and Burges, Mr. Street, and M. Lassus. "Of these three plans," the judges state in their award, "one is conspicuous for a singular union of precedent and originality; the other for the manly energy of its design; the last for judgment and taste." Proceeding to notice in detail the second design, which they pronounce to be "treated with a remarkable energy and *élan*," wanting in the design to which they awarded the first place, the judges say, "To a profound knowledge of Pointed art its author adds a rare power of conception, which is shown as well in the details as in the *ensemble*. We recognise here, at first sight, the work of a great master. In particular, we must fairly congratulate the author on having complied with all the requirements of the programme, and on having faced more boldly than any other competitor the difficulties of employing brick as the material of a monumental edifice. If power rather than grace is the general characteristic of this magnificent creation of art, elegance finds its due place in the *ciborium*, in which it is combined with a true splendour of ornamentation. After a lengthened consideration, we have unhesitatingly raised this design to the second place; and little was wanting to its mounting to the first."

The towers and spires represented in our engraving were designed to be about 290 or 300 English feet in height. Their conception and planning are, as the nature of the work required, rather in the French manner, but at the same time the result is unlike any old French example. The architect's idea seems to have been to make the towers as high as possible, in proportion to the spires, in order to raise the belfries well above the roof—an invariable rule in all good steeples; and yet, by converting the belfry-stage into an octagon, the composition of the spires is brought down and blended with the towers, so as to diminish the apparent disproportion between the tower and the spire. The large rose window in the west front opened into the nave, and on each side, and below it, was arranged the great organ. One noticeable feature in the design, was the use of the same materials—red brick and stone—for the inside as well as the outside walls. The shameful end of this competition, which at first seemed to promise so fairly, is probably not generally known. The committee have preserved the designs, but rejected their authors; and we learn from a recent number of the *Ecclesiologist* that they are now constructing the church in a sort of hodge-podge, concocted from the first and second designs. The author of the latter has had the misfortune to be the first to be operated upon, and, under pretence of copying the cloister and buildings surrounding it, which formed part of his plan (seen to the right of the church in our engraving), they are erecting a wretched caricature with bad detail, rustic quoins, and other alterations which entirely ruin the effect of the building.

STAINED GLASS EAST WINDOW FOR WORCESTER CATHEDRAL.—A meeting was called by the mayor last week, at which it was resolved, with the consent of the dean and chapter, to open a subscription for the insertion of a stained glass east window for the cathedral. The cost has been estimated at 1,050*l*. The dean and chapter have no funds for the decoration of the edifice, but they have expended 8,200*l*. within the last three years in restorations and repairs.

THE SECOND REWARDED DESIGN FOR THE PROPOSED CATHEDRAL AT LILLE. —Mr. G. E. Street, F.S.A. Architect.

PROVINCIAL NEWS.

Banbury.—Subscriptions for the erection of an ornamental fountain here are in progress. The sum of 140*l.* has been already collected.

Brighton.—The plan laid down by Mr. Wright, C.E. for the preservation of our sea-frontage, says the local *Herald*, is being carried into effect under Mr. Oddy, surveyor *pro tem.* The groynes at Kemp-town have been repaired, and a second bank of beach, so to speak, is forming from Kemp-town down to the pier. Some fresh portions of the groynes have been washed away, but not to a sufficient extent to impede the general progress of the work. Rough weather has also delayed Mr. Fabian in the commencement of the new groyne opposite Junction House, beyond the driving of a few piles. Progress is being made in the formation of the sheltered walk under the sea-wall, which it is proposed to extend as far as Kemp-town. The removal of the battery is being proceeded with: the town contractor's men are levelling the ground, so that it may be thrown into the western promenade.

Stockport.—The committee appointed by the local council to establish baths for the working-classes have, it seems, agreed upon the site,—that of Lawrence-street, behind the Unitarian church, St. Peter's-gate,—and upon the style of building, and other details, and accordingly advertised for tenders. The plans have been prepared by Mr. S. Hunt, the corporation surveyor. The proposed building is to be of brick, timbered and slated in the ordinary way, with a lantern running through the whole length of the roof, glazed with thick rough plate-glass. Louvre boards are inserted for ventilation, and the roof is supported by metal columns. The arrangements internally are simple, consisting of one flat, with excavations in the rock. In addition to the boiler for heating the water in winter, there will be a swimming-bath, 50 feet 7 inches long by 33 feet 5 inches wide, capable of holding 17,400 gallons of water, the depth being 3 feet at one end, increasing gradually to 6 feet at the extreme. Several dressing-closets have been provided; and six washing-baths, one half being private and the other public. A platform of wood runs round the room. No warm baths (private) have been contemplated. The water will be supplied by the local Waterworks Company.

Halifax.—Some months ago steps were taken for the erection of a suite of public baths for Halifax. The site selected, and which has been gratuitously presented by Mr. Frank Crossley, M.P. is on the south-east corner of the Halifax People's Park. The cost of the erection is expected to be about 5,000*l.* The expense of external decoration (1,500*l.*) is to be raised by public subscription, and already some hundreds of pounds have been collected by a canvass of the town. Plans for the building are being furnished by competing architects; the conditions being that the "sum of fifty guineas will be awarded to the authors of the designs which the committee considered the best, and such designs will become the absolute property of the corporation." About a dozen architects had sent in designs, in a few days to be open to public inspection. The accommodation to be provided includes a first-class and a second-class men's swimming-bath (tepid), and a number of slipper-baths; together with waiting-rooms, water-closets, heating apparatus, superintendent's house and office, and other conveniences. The designs of the unsuccessful competitors are to be returned when the award is made.

Blyth.—The Central Hall in this town has been opened. The want of a town-hall or large building, in which to hold meetings, lectures, and other public assemblies in Blyth and Cowpen, induced a few individuals to originate a joint-stock company, the shares being 1*l.* each. These were soon nearly all taken up, and a site for the building was given by the trustees of the Thoroton and Croft estates. The structure itself, which is built of brick, is situated in Waterloo-place. The cost of its erection will be about 1,200*l.* The hall designed for public purposes is 76 feet long by 38 feet in width, and 18 feet in height. The walls at present are only plastered over. It is intended, however, to panel the whole. It is calculated to accommodate 1,000 persons, and, except St. Nicholas-square new buildings, the Music-hall, and Lecture-room, in Newcastle, is one of the largest in the district. At the west end of the room is a gallery. On the ground floor is a news-room, thrown open for the use of the public. There is also another room on the same floor, suitable for lectures and similar purposes, estimated to hold about 200 persons. The structure was designed by Mr. Jackson, of Newcastle, and the mason work was executed by Messrs. J. and E. Nairn, Amble. Messrs. J. and W. Armstrong, Bulman's Village, were the joiners; Mr. John Thompson, the plasterer; and Messrs. Henderson and Thompson, of Blyth, provided the gas-fittings. The erection of the hall was superintended by Mr. William Turner, of Blyth, shipowner, and formerly a builder.

Banff.—The *Banffshire Journal* mentions that a copartnery of foreign wood importers are about to erect a large saw-mill near Banff Harbour. They have bought the engine, boiler, and whole machinery of Messrs. Lobban and Co.'s Longmuir saw-mill, near Huntly. Complete boring gear has already been got, and planing and mortising machines are also to be wrought in connection with the mills, so that all sorts of roofing, flooring, grooved and feathered, &c. can be produced ready for use. It is also contemplated to have trenelling and block machines to prepare wood for shipbuilding. The mill is the first of the kind established in the town.

CHURCH-BUILDING NEWS.

Ipswich.—The Congregational Chapel in Tacket-street has been opened for public worship. The new building is in the decorated style. The principal entrance projects about 12 feet from the main building into the open court-yard, and consists of an open arcade of three arches with canopied gablets, flanked by two turrets, containing stone staircases to the gallery, surmounted with stone spires 65 feet high to the top of the vanes. The gable over the arcade contains a circular traceried window, 10 feet in diameter. Three windows, 20 feet high, between buttresses, and crowned with moulded cornice and traceried parapet, complete the south elevation, towards Tacket-street. The three other fronts, although consistent in character, are not so highly-finished. The external walls are faced with Kentish rag stone, pointed with blue mortar; the ornamental portions with Caen stone. The roof is covered with slates, finished with ornamental cast-iron ridge crest. In the west end there is a stained-glass window, erected by Mr. D. Haggar, of Ipswich, and consisting of flashed blue quarry, with cut flower and ground border; the prevailing colours blue and ruby. There are no pews, the seats being stained open benches, affording 1,200 sittings. The houses which obscured the former building have been removed, and a light palisading substituted. Mr. Barnes was the architect, and Mr. Whight the builder.

Godmanchester.—The three-light chancel window of Godmanchester church (Huntingdon) has been filled with a stained-glass memorial window to the late rector, the Rev. Charles Gray. The style of the window is early English: it contains seven subjects from the life of our Lord, and worked on a rich mosaic diapered background, with appropriate border. The window has been executed by Mr. Charles Gibbs.

Lyminge (Kent).—The operations for erecting the new Wesleyan minister's house here have been set aside, owing to the want of a unanimity of feeling amongst two or three of the leading members of the society in this place. Nearly the whole of the amount required for its erection had been promised, and a liberal donation had been offered on the part of Mr. J. Diggle, consisting of the timber to be used throughout. The building would have been erected in red and white brick, from designs by Mr. A. Laver, architect.

Preston.—An accident occurred last week at the new Baptist chapel, in Fishergate, Preston. The rope which was being used in hoisting a large cornice-stone upon the tower of the chapel broke, and the stone fell to the ground from a considerable elevation. Fortunately, however, no person was injured.

Silkstone.—A stained glass memorial window has recently been placed in this church by Mrs. Clarke, of Noblethorpe Hall, near Silkstone. The chancel has been rebuilt, and other improvements made in the church by the same lady. The window, which is at the east end of the chancel, is of the transition period from Early English to the Decorated style, and has five lights in the Perpendicular style. The painting of the window has been executed by Mr. O'Connor, of London, and consists of Mediæval figures. In the upper portion of the lights groups of saints are represented, in attitudes of adoration, to the right and left of a figure representing our Lord coming in glory, with the earth as his footstool. In the lower part of the lights are five representations of our Saviour when on earth,—being scourged, bearing his cross (surrounded by soldiers); upon the cross (this is the middle light); the descent from the cross, and his burial. On the right-hand wall of the chancel are two other new stained glass windows. One is divided into two compartments, with representations of St. Luke and St. John: the other is a representation of the Good Shepherd, our Saviour, carrying a lamb in his arms. At the left-hand side of the chancel is another window, divided into two compartments, containing figures of St. Matthew and St. Mark. At the terminus of the stained roof of the chancel, in a line with the corbels, is a broad string of deep blue, on which is to be written a text in Mediæval characters. The cost of the alterations is estimated at nearly 3,000*l.* which will be borne entirely by Mrs. Clarke. The east window is in memory of that lady's late husband.

Edinburgh.—The plans (advertised for by the Town Council) for the erection of a church in Trinity College parish, have all been sent in. They number about fifty, and will be exhibited to the public in the Police Board-room.

THE BOLTON COMPETITION.

THE local guardians, on Wednesday, in last week, determined to advertise for an architect to prepare plans for a new workhouse,—the Chorlton and Barnsley workhouses to be taken as models; the former as to the interior arrangements, and the latter as to the exterior;—the workhouse to be for 1,000 inmates, and the cost to be 18,000*l.* The advertisement, which is addressed "to architects," states that the guardians are "prepared to enter into a contract with some competent person, to make plans and general specifications," and "persons willing to contract with the guardians for making the plans and specifications referred to, are requested to send in their terms to the clerk;"—in other words, the "competent persons" are to be pitted against each other not only on their merits, but on the score of cheap "terms." This is a new feature in architectural competitions, which has naturally excited the ire of several of our professional correspondents, and it behoves all respectable architects to be wary how they countenance such an insidious system.

AMERICAN NOTES.

A STRIKE has taken place on the Cincinnati and Marietta Railway, owing to nonpayment of wages. The *employés* of the company were in open rebellion at the leaving of the last mail, and the engineers, firemen, and breaksmen had congregated at Chillicothe, where the workshops are located and the engines and cars repaired. They took possession of the shops, locked up every engine in the round-house, and as fast as the trains arrived, for a couple of days, took the engines and cars, and refused to allow them out again. The number of engines now held by the strikers is fifty, leaving only two to work on the road, which are totally insufficient, and all business is stopped. 200 men are on strike, and they hold forcible possession. The telegraph-wires have been cut by the strikers. The president of the road notified to the city authorities the circumstances, and steps were being taken to compel the strikers to yield up possession, and to arrest the leaders. Great excitement prevails, and much resistance, and perhaps loss of life, are expected.

A tabular statement of the fires in the United States, where the value of the property destroyed exceeded 20,000 dollars, shows that up to the 25th December there had been 230 of these fires, and the aggregate loss 15,792,000 dollars. In 1856 there were 227 fires; aggregate loss, 25,150,000 dollars. The loss in December alone—the least of any month—was 485,000 dollars. In addition are the losses by fire where each, individually, did not exceed 20,000 dollars, and the aggregate is increased to *twenty-seven millions in* 1856, *and to twenty millions in* 1857.

The president of the New York and Erie Railroad is said to have set out on a special journey to the King of Prussia, to raise money, to save the company from insolvency. It is understood that the king holds 1802 bonds, to the extent of 1,000,000 dollars.

Mr. B. Townsend Mix was the architect who designed and superintended the erection of the Newhall Hotel at Milwaukee, described in a previous number of the *Builder*.

The Asbury M.E. Church, Fifth-ward, Milwaukee, was dedicated on Sunday, January 17.

The La Crosse and Milwaukee Railroad Company have received from the governor of the State of Wisconsin a certificate that forty miles of the land-grant road is completed, and the company entitled to 230,000 acres of land. Some twenty miles more of the same road is under contract, and progressing rapidly to completion; to be finished on the 1st of March, and entitling the

company to 76,800 acres of land; making in all 307,200 acres the sole property of the company.

A monument to Ethan Allen is proposed by the Vermont Legislature, and will consist of a colossal statue of the hero, on a Tuscan column of granite between 40 feet and 50 feet high; the corner-stone to be laid on the 10th of May, the eighty-third anniversary of the surprise and capture of Ticonderoga.

The number of emigrants landed at New York during 1857 was 185,847, of whom 29,502 were from England, 62,098 from Ireland, 5,063 from Scotland, and 910 from Wales. Germany is highest on the list, numbering 78,800.

A monument, in imitation of a snow-peak, of immense height, and of white marble, of irregular shape, with four tablets in the base, appropriately inscribed, is proposed to be erected in the small park in front of the Cooper Institute, Milwaukee, in honour of Dr. Rand, the Arctic explorer.

A QUARTERLY ACCOUNT.

THE cost of crime is, we fear, much greater than that sum which is grudgingly bestowed upon the schoolmaster; and some who have not thought of the matter will feel surprised at the annual bill which is charged for the custody of prisoners who are confined for offences in Middlesex:—

Between the 7th of October, 1857, and the 2nd of January, 1858 (about three months), the Lords of the Treasury returned about 1,997*l.* 16s. 7d. for their share of criminal prosecutions. In this item is included prisoners under the Excise law, military prisoners, &c.

The House of Correction in Coldbath-fields costs in general expenses for the quarter, 8,772*l.* 10s. 9d.; Tontine Annuities, 256*l.* 3s. 8d.—in all 9,028*l.* 14s. 5d.

At the House of Detention, Clerkenwell, the general expenses and interest of money amounts to 2,231*l.* 9s. 3d.

The House of Correction, Westminster, costs 8,282*l.* 14s. 2d. In addition to the sum returned by the Lords of the Treasury, 550*l.* 19s. are paid for witnesses, prosecutions, &c.: altogether this amounts to 22,190*l.* 13s. 5d.; in the year to 88,760*l.* 3s. 8d.

From this must be deducted—

Materials worked up at Coldbath-fields	£638	5	7
Ditto at Westminster	153	1	8
Work done by vagrants	0	1	4
Garden produce, Westminster	1	5	4
	£792	13	11

Or 3,170*l.* 15s. 7d. a year. The total annual cost of the prisoners who are lodged in Middlesex amounts to 85,589*l.* 19s. 1d.

The interest of money granted to the Industrial Schools of this *populous county only amounts to* 167*l.* 3s. 4d.

In looking at the above account it should be borne in mind that it is only a portion of the great cost of crime in a certain district, for there is in addition the expense to the country at large of transports, police-rates, the pauperism of numbers of those connected with prisons, &c. Surely these figures should incline us to let the schoolmaster have fair play; and it is well worthy of consideration whether it might not be advisable to increase very much the small sum which seems to be set apart for the help of Industrial Schools.

CONDITION OF LONDON STREETS.

THE condition of the foot-pavement of the streets of London at this and even other seasons of the year, after a slight fall of rain, is both unpleasant and uncomfortable. Those who, for the sake of health or other considerations, wander on foot from the various suburbs to their business in town, complain with reason of the slippery mud which makes onward progress difficult. In the centres of the streets the scavengers may be seen busily at work sweeping up and carrying away the accumulated refuse; but on the footways, for weeks together, in not one instance in a hundred is there any attempt to prepare for a drizzling rainy day by the vigorous use of the broom and scraper. Owing to the want of simultaneous action, the good intentions of the cleanly people are made of no effect, by the treading of the mud from other parts.

After a thunder-storm and a deluge of rain (for it requires that), it is agreeable to go forth into the streets and see the clean colour of the pavements freed from all impurity; and how pleasant it would be to find them at all times in something approaching to the same condition! and this could be in a great measure effected by the careful sweeping of every house and shop front once a day. The police have, we believe, power to carry such a measure into effect, but refrain from acting, except in snowy weather. It would be for the benefit of all to have a general daily footpath cleansing carried out throughout the extent of the metropolis. It would be good for shopkeepers, and decidedly advantageous to every pedestrian, not to mention the great improvement which it would make in the appearance of our thoroughfares; and, with a little consideration, it might be the means of giving employment to a very large number of the description of boys for whom it is necessary to provide employment: for instance, arrangements might be made with managers of ragged schools and certain of the house and shop keepers to regularly perform this duty. Or this work might be done by adding it in some way to the duties of the crossing-sweeping brigade which has been lately established. In other ways, it might be the means of affording a large amount of employment to those who are not usefully occupied in the morning.

The foot pavements round the gardens of the squares, round large mansions, churches, and prisons, are generally in the worst condition, to improve which measures should be taken.

Few can pass through the various neighbourhoods of London without noticing the differences of the manner in which the scavenging work is done. Within the liberties of the City this important work seems admirably performed. The task is, however, easier there, owing to the small extent of macadamized pavement which is in use.

ROYAL DUBLIN SOCIETY.

THE building operations of this body during the spring and summer promise to be extensive, for we find that steps are being taken for the immediate commencement of the National Gallery of Painting, Sculpture, and the Fine Arts, and for the reception of Archbishop Marsh's library (hitherto located near St. Patrick's Cathedral), which is to occupy a position on Leinster Lawn, forming a corresponding wing, and in strict uniformity, externally, with the Society's new museum. The architect is Mr. Charles Lanyon, of Belfast, and the objections raised with reference to the original designs, furnished previous to December 5th, 1857, have been surmounted, and the amended plans fully approved of. The building will be faced with chiselled granite stone, having rusticated basement, string courses, pedimented niches, projecting roof, with ornamental eave course, and lantern running through. Messrs. Cockburn and Son are the contractors, and the same firm erected the museum, and have also commenced operations in re-arranging and roofing the cattle-yard, which it is said will cost 6,000*l.* though the instructions to competitors stated 2,500*l.* and the design acknowledged publicly to have been "the best" in the first competition already mentioned, was rejected in consequence, as it was alleged, of the amount being exceeded. In the second competition, the author of the approved plans procured a builder's tender to execute the work for the stipulated sum, but the premium in this case was not awarded either. We find now by a resolution of the Society, dated January 7th ult. that "the Committee of Council appointed to obtain plans and estimates for covering in the Cattle Show-yard of the Society beg to report that they have approved of the plans of Mr. F. V. Clarendon, which had been with others sent in for competition." A correspondent urges that Mr. Clarendon's name did not appear as the successful competitor in either instance.

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE February meeting of this society was held on Monday, the 1st inst.; Mr. Neil in the chair. Mr. Laurence Hill read and exhibited several interesting original letters, among others one written by John Earl of Marr, Regent of Scotland, dated 12th September, 1571; and another, with the superscription of James VII. dated from Dublin, 29th March, 1689, desiring assistance, and promising reimbursement of all expenses, and that "we will stand to our former declarations in favour of the Protestant religion, the liberty and property of our subjects, all which we will justly secure to them," &c.

Mr. Rochead read a paper on some of the more ancient examples of our ecclesiastical architecture, which was illustrated by several drawings.

Mr. Baird read a short description of St. Blane's Church, on the Island of Bute, several drawings of which were exhibited. He believed that the building belonged to the first half of the twelfth century. The chancel arch is remarkably small, being only 6 feet 4 inches from the bottom of the base to the top of the abacus; the total height of the opening being 8 feet 7½ inches. Alluding to a building in the immediate vicinity of the church, which by some was supposed to be the remains of a Druidical temple, he said that he considered it to be the remains of one of those remarkable circular domical buildings found in some parts of Ireland. The walls are 8 feet thick, built of large blocks of stone, without mortar. He had no doubt it was the cell of the original founder of the church.

Mr. Honeyman earnestly urged upon the members the duty of making a vigorous effort to preserve from oblivion the remains of our national architecture. What we wanted was not mere vague descriptions and picturesque views, but the plans and sections, the mouldings, and the sculpture of our ancient edifices, civil as well as ecclesiastical; and while, perhaps, the cathedrals and abbey churches afforded the most inviting field for study, he would warn the members against slighting the humblest vestige of mediæval art. He believed that the society could engage in no work which would prove so interesting to themselves, and so valuable to their brother archæologists in other countries, as that to which he had referred; and he hoped that the transactions of the next session would bear evidence of the zeal with which the good work had been pursued during the summer which was now approaching.

Dr. Stewart exhibited several Roman antiquities found in the vicinity of the Roman wall, near Glasgow.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

I SEND you a case under the Building Act, heard on Tuesday last, at the Southwark Police Court. It involves one of the most important provisions of the Act against fire; and I think it ought *not* to have been met—especially after a pledge given to the contrary by the defendant's architect—by a plea that the works do not yet constitute a building because the roof is not yet on. I confidently submit that a member of the Metropolitan Board of Works, aided by a district surveyor, ought not to have met the case in this manner, but on a fair argument on the substantial question to be raised, and which is now only postponed to a period when its decision may involve the defendant himself in much unnecessary trouble and expense.

I would beg also to call to mind that the Metropolitan Board of Works publicly censured a district surveyor for not having enforced a provision of the Act until the roof was on; but it is only fair to add that the defendant was not then a member.

One of the most obvious errors committed by the framers of the present Building Act was that of abolishing all means of obtaining a decision as to the legality of any work *before* it should be carried into effect, and perhaps have to be remedied at great additional cost. In endeavouring to render that error as little inconvenient as possible, it is clear that a district surveyor ought to be assisted by those who are chiefly benefited, and especially when they are members of the board under whom he holds office.

ROBERT HESKETH.

DIVISION OF WAREHOUSES, SEC. 27, RULE 4.

MR. ALDERMAN HUMPHERY is building a warehouse, corner of Mill-street and Compton-street, on the site of the Old Borough Compter. It is intended to be, according to the notice given to the district surveyor, 71 feet high from the lowest floor to the tie-beam, and covers an area of 6,227 superficial feet. The inclosing walls having been carried up 40 feet, and the ground and one and two-pair floors having been formed so as to show clearly that the capacity of 216,000 cubic feet was already exceeded by 35,080 cubic feet, without being divided by party-walls, as required by the Act, into divisions not exceeding such 216,000 cubic feet, the district surveyor deemed it his duty not to wait till the warehouse should be carried to its full height and be covered in, but to raise the question at the earliest possible moment.

At the hearing at the Southwark Police Court, on Tuesday, 2nd inst., he proved the above facts, and moreover showed that not only was no party-wall commenced, nor any intention shown of building a party-wall, but that if a party-wall should be built at a future period, it could only be done by removing and altering, at considerable expense, part of the works now being carried out. It was proved also that the lowest story was already used for storing oil-casks.

The notice given by the defendant to the district surveyor was also put in as *primâ facie* evidence (under sec. 40 of the Act), of his intention therein stated that the building should be 71 feet high, and that it should be a warehouse; according to which intention the capacity would be 442,117 cubic feet, or more than double that allowed by the Act.

Mr. Snooke, a district surveyor, appeared for Mr. Alderman Humphery, and was directed by him to put in the

plea that the work did not constitute a building till it was covered in, and could not be proceeded against by the district surveyor.

On the magistrate (Mr. Burcham) intimating his opinion in favour of that view, Mr. Hesketh said he should not press the case, as he was aware, and had told Mr. Humphery so, that he could not raise the question if that objection should be taken, but that Mr. Snooke had requested him, *before* the summons was issued, to raise the question as early as possible, promising that if such objection should be raised, but that the case should be decided upon the substantial question, whether fire-proof floors may be allowed instead of party-walls to subdivide warehouses, under the 27th section of the Act.

APPEAL CASES UNDER THE BUILDING ACT.

Recent decisions—some conflicting—by police magistrates and the Court of Queen's Bench on the-e matters only establish clearly the necessity of a "Court of Metropolitan Buildings," as proposed by Lord Seymour, to adjudicate on points requiring a certain amount of professional knowledge and acquaintance with building operations, and exactly to dispose of cases that cannot be satisfactorily dealt with or understood by a tribunal having no acquaintance with or knowledge of "building."

Apart, however, from this fatal and inherent defect in the tribunals appointed to decide on and adjudicate in "Building Act matters," some recent cases appear to have been decided in a manner wholly irreconcilable with law or fact, as in Mr. Badger's case, wherein you very forcibly review the decision arrived at, as presenting anomalies only to be accounted for by the supposition that these matters were not properly before the Court. The main point of interest was whether the work was a "repair affecting the construction," or a necessary repair *not* affecting the construction. A brick pier is taken down and rebuilt, and in rebuilding also reduced in width. This brick pier obviously supported the superincumbent work, and, as you very properly remark, how is it possible to take down and rebuild a wall, or portion of a wall, without, as in this case, materially affecting the construction of such wall? An appeal to any architect, or even disinterested builder, would put client one reply to such a query. Or suppose such a query addressed to any person or linarly conversant with building matters. Some confusion has been occasioned by the word "repair," or rather by the loose manner in which the expression has been use l. In all cases where the repair affects the construction, a notice is, under the terms of the Act, essential.

In underpinning a wall or pier, or the formation of openings in it, by cutting away any part of it for openings or enlargements of existing openings, the construction of such wall is thereby materially affected.

Take the case of the removal of decayed or defective story posts, in which case a house might be let down for want of sufficient shoring.

The point at issue, it cannot be too simply stated, is, not whether it be a *repair* or not, but whether it be a repair affecting the construction, or a repair *not* affecting the construction, in which latter case it would be exempt. By repair, however, not affecting the construction, the House of Commons' Committee clearly stated a *surface* repair.

Cavendo Tutus.

MILITARY ENGINEERING.

With reference to the letter of "C. E." in your paper of December 12th, it may be that "C. E." will be surprised to know that there are a large number of servants of the Crown in this same Royal Engineer Department (contemptuously styled clerks of works) who have frequently to submit to more indignities than that of being placed under the control of the most junior officer of the corps, mere school-boys, without whose services not a single project, either new works or repairs (excepting field works), can be matured, either as regards the plans, specifications, or estimates; and, strange to say, that such is the treatment these most practical architects and engineers are subjected to, that the fair copies of the estimates sent to Pall-Mall have their names, with the most sedulous care, excluded therefrom; and the officers who generally make the tracings of the plans for the fair copies of the estimate are allowed, it might be said instructed, to sign the tracing, omitting entirely the name of the clerk of works who produces the original plan.

In regard to the proposition of having a military architect appointed as resident over a district, "C. E." seems to come pretty near in principle to what is most essentially required in that branch of the public service: for there is no doubt that the very frequent changes of engineer officers and clerks of works from one station to another is most prejudicial to the public service; as on their joining a command, and having some six to twelve barracks or other stations to take charge of, a very great amount of local information is essentially necessary to be acquired with regard to these several establishments; and which is very frequently not sooner obtained, than off they are routed to some other point of the compass, there to commence the very same task that has, perhaps, only just been mastered at their former station.

By this migratory system much valuable local knowledge is lost to the public service, and no corresponding beneficial result obtained; but, on the contrary, the clerks of works are almost always impoverished by the great expense incurred in removing their families, for which they have not the least allowance excepting their own personal expense.

It is well known, that if a permanent residence of clerks of works at a station had been allowed in the engineer department, a saving of many thousands of pounds would have resulted to the Government; as at some stations, from peculiarities of climate, &c. most costly failures and reconstructions have taken place, that, with a proper local knowledge, might have been entirely obviated.

But if, as "C. E." suggests, a military architect should be appointed, let him be chosen from amongst the qualified clerks of works. Let his station be permanent: let his salary be a liberal one: let him be only subordinate to the general commanding and the inspector general of fortifications. Let engineer officers return to their own more congenial duties, and in a very short time it will be found that the troops are better housed, and a great deal of money will be saved annually to the public.

Another C. E.

FIRE-PROOF BUILDINGS.

Shall we ever give up building houses to burn,—brick shells filled with wooden floors, wooden partitions, and wooden stairs, all artistically disposed to connect the whole and prepare for complete destruction in the event of a casual spark? We have often commented on this before now. Under our present system of short leases of another man's ground, improvement in this respect will come very slowly. A writer in *Chambers's Journal*, commenting on the subject, describes a mode of construction much used in Italy. He says:—"It has happened to ourselves to watch the construction of large houses, locally called palaces, in the town of Pisa, for example, in which, we can vouch for it, there was not employed one square foot of timber of any sort from garret to cellar. The only timbers in the house were those of the roofing. Every staircase, partition, ceiling, and floor was made of brick; but brick used in such a way that the arches of the ceilings were scarcely thicker, relatively to their span, than a tolerably thick egg-shell is to its own.

No words can do justice to our surprise when we first realised the fact that arches so constructed will resist any ordinary pressure; and we had to recall to our recollection that no man is strong enough to break in an egg-shell, applying the pressure at the ends. The mere fact of thinness does not necessarily imply weakness, and, indeed, we had ample proof of this in pursuing our observations. The arches of which we now speak are built without centering, the mason striking out his work, to begin with, by horizontal lines along the wall at the required height. If it is intended that the arch should be 'coved up'—that is, sloped from each side to the centre—he draws a line all round the room, and chips away a little groove along this line, to receive the edge of his first row of bricks, or rather tiles, which are secured in place by a little gypsum of a cheap grey sort. After the first row is completed, a second is applied, as before, with a little cement between the edges. The tiles are kept in a bucket of water, out of which they are taken at the moment they are wanted for use. They struck us as being of a superior sort to the common red brick, harder, and more cohesive. These tiles, we also observed, are much of the same shape as if a common brick was split in two longitudinally; their dimensions being about 12 inches long by 1¼ inch in thickness. The scaffolding rests on high trestles, and extends over most of the surface of the room; and as the work proceeds, a bit of stick is here and there put on end between it and the advancing arch. When the sides have been thus brought almost to touch each other, the workman cuts away from a tile as much as will just allow it to fill the remaining void with the proper quantity of cement: this put in place, the arch is complete. We have formed one of a party who have walked fearlessly all over such an arch as we have described, a few minutes after its completion. The whole ceiling may, in fact, be considered as one piece; and its convex form not only prevents the tendency to give way from its own gravity, but it will also, like the egg-shell above alluded to, resist an enormous downward pressure besides.

The next process is to fill up the hollow sides of the arch with rubbish, gravel, or whatever is most convenient: with this material, the floor is brought to a level; and then it is carefully trodden down, giving vast solidity to the whole. A coat of mortar is next laid on, and in this are imbedded other tiles, more or less handsome, according to circumstances; or, in many cases, those beautiful compositions are employed in which the taste and skill of the Italians are so conspicuous. Thus the principle of which we speak is applicable, as we can testify from personal observation, to every sort of dwelling, from the cottage to the palace."

Thicker walls are wanted than the Building Act enforces: indeed, the writer goes on to say, "In Italy, houses are 'run up' now anyhow, to last a certain time; 'so that,' as a wag observed, 'they and the building leases may *fall in* together.' We thought the paper-house system was confined to England; but in conversing on our present topic with an intelligent Italian gentleman, he told us that in many places the mode of building with wooden joists and floors was fast superseding that which we had so much admired, and which we have attempted to describe. It is not pretended that it is better or safer, but it is cheaper; and why? Because the bond established between opposite walls, by timber joists and beams, enables the constructor to dispense with the good old quality of strength in these parts of the building—to run up, in short, his walls of mere pasteboard, which would not comport with the outward pressure of the brick arch; while the new plan dispenses with the transport and cost of material and labour on walls of proper thickness, and rubble to fill in the cavities between the sides of the arch and the floors."

NOTES UPON IRON.

The iron trade has not experienced any improvement since our last. In South Staffordshire the aspect of affairs is scarcely so satisfactory as then. Fears of other failures are rife.

A difficulty has been experienced in the past fortnight by a large number of firms in South Staffordshire from the puddlers refusing to work at a reduction of 1s. per ton in their wages. After several meetings, at which the attendance became fewer upon every adjournment, the last few "out" determined to accept the masters' terms.

A similar determination was come to by a deputation from Yorkshire, where some puddlers had joined in the South Staffordshire movement.

More iron may, therefore, be expected to be manufactured next than was made last week; for most of the houses whose men have been out, although they have not many orders, yet have a few that should be promptly executed.

ECONOMY AND COMFORT IN WARMING DWELLINGS.

WELCH'S PATENT CALORIFIC REGISTER STOVE.

A stove, whereby more than one room may be warmed by the same fire, has been patented by Mr. Edward Welch, architect, who, it may be remembered, was one of the firm from whose designs the Birmingham Town Hall was erected, his partner in that work being Mr. Hansom. The following description (somewhat condensed) of the stove alluded to was given by Mr. Bainbridge, on Wednesday last, at a meeting of the Association of London Ironmongers, held in John-street, Bedford-row:—The construction of the stove is much the same, in appearance, as that of the best registers, but the radiation of the fire is increased outwards, by larger angles of reflection, whilst the divergence of the heat upwards is checked by a plate on the top of the stove being fixed, air-tight, instead of being loose and open, as in ordinary stoves. On the top of this plate, which occupies the position of the usual register, is fixed a short iron pipe, six or seven inches in diameter, and say from three to four feet long, communicating from the top of the stove to the *brick flue*, and the bottom of which brick flue is made air-tight round the top of the iron pipe. The smoke and spare heat from the top of the fire pass up the pipe into the brick chimney, and, in consequence of its contraction, compared to the ordinary *gathering* in the chimney-breast, obtain a considerable upward force, counteracting all tendency to downward draught, and thereby removing the common nuisance of a smoky chimney. The stove, with the iron pipe on its top, is placed on the hollow chimney-breast, without any brickwork around it. The back, top, and pipe necessarily become heated (but never red hot) by the action of the fire and smoke within them, and the warmth passes through into the chamber in which the stove is placed. A stream of fresh cold air is led to the bottom of this chamber through the hearthstone, and as the air passes over the back and pipe of the stove, it becomes warmed to an agreeable temperature, and is then led through the chimney-breast into the room; and thus a continual stream of fresh pure warm air is supplied to the room, instead of cold draughts from doors or windows; and a constan

* It is not stated whether the door frame is set back the four inches as required. [It is now.—Ed.]

self-acting ventilation is thus also effected. By closing the air-valve in the chimney-breast, the flow of warm air into the room can be checked at pleasure, or, by arrangements for the purpose, it can be conveyed into the bedrooms above; thereby enabling one fire to contribute to the comfort of two or three rooms. The principle of this stove has also been applied to a kitchen-range, from which the hall, staircases, and passages of a house may be filled with warm air from the ordinary kitchen-range. Conservatories or greenhouses, and other outbuildings, doubtless, could easily be supplied with warm air in the same way.

SCENERY AND DEVICES AT DRURY-LANE.

IN several respects the pantomime at Drury-lane is a very remarkable production: the allegory on which it is constructed (the conquest of Ignorance by Intelligence), the scenery of Mr. Beverley, and the masks and devices invented by that curious artist (who admits he owes something to the *Builder*) Dykwynkin, are of great excellence. Mr. Beverley, who invented that mixture of mechanism and painting now displayed on these occasions at all our theatres, has never done anything more beautiful than the "Palace of Coral." It is a very charming invention, and is worth a long journey to see it. Of the devices, we would especially point to the incarnations of Arithmetic, Mensuration, and Grammar. These have never been surpassed: the fertility of invention displayed is wonderful, and deserves to be particularized.

Books Received.

Miscellanea Graphica: Representations of Ancient Mediæval, and Renaissance Remains in the possession of Lord Londesborough. Drawn, engraved, and described by F. W. FAIRHOLT, F.S.A. London: Chapman and Hall.

FAVOURED with a large fortune, a liberal spirit, good taste, and a love for the beautiful, Lord Londesborough has gathered together, within a comparatively-short space of time, a collection of ancient, mediæval, and *cinque-cento* carvings, jewels, armour, bronzes, implements, decorative drinking-vessels, and ornaments of various sorts, in some respects probably richer than any other in the country. Nor has Lord Londesborough been content merely to purchase: the collection contains numerous specimens of early art, the result of his own intelligent investigations and persevering burrowings. Many will remember with gratification pleasant days on Breach Downs, when, as "Lord Albert," he superintended the diggings, and dispensed unaffected hospitality. In publishing the work before us, now completed, Lord Londesborough has set an example which might be usefully followed by other possessors of art works. Mr. Fairholt, by whom the work has been executed, possesses, as our readers know, not simply power over the pencil, but much knowledge of art and its history, the whole of which he has brought to bear in the execution of his task. The result will be found valuable by many classes.

The twelfth part consists of an historical introduction from the practised pen of Mr. Thomas Wright, M.A. wherein the representations of the specimens forming the collection are made to illustrate an account of general progress. It strikes us that Mr. Wright does not admit sufficiently the influence exercised by the Byzantine artists. The essay, however, is full of knowledge, and is as pleasant to read as it is instructive. Mr. Wright has laboured long in the elucidation of the Mediæval period, and has all its literature at his fictive fingers' ends.

VARIORUM.

THE cat, the cock, and the butterfly, says an old proverb, do not find the same thing in the same field. While our acute and able contemporary, the *Leader*, remarks that the new number of the *Quarterly* is not so interesting as usual, because of the technical papers contained in it, we are able to say that it is a *particularly* interesting and useful number for that very same reason. Under the head of "Difficulties of Railway Engineering," there is a capital sketch of the achievements of modern English engineering, including a notice of the road over Chat Moss. Then we have a paper on "Wiltshire" (necessarily incomplete), and a long account by an able hand of "Woolwich Arsenal and its Manufacturing Establishments."——In the current number of the *Edinburgh Review* will be found some particulars of the "Hawkers' Literature of France,"—"*Littérature du Colportage*,"—which may serve to awaken attention to the condition of affairs at home,—the literature provided for our own poor. Much has been done within the last ten years to provide cheap good literature: the railway book-stall has worked a surprising revolution, but the movement has yet to go much deeper.——"A descriptive Catalogue of the Rock Specimens in the Museum of Practical Geology," by A. C. Ramsay, F.R.S. local director; H. W. Bristow, F.G.S. geologist; and H. Bauerman, assistant geologist, of the Survey of Great Britain, has been issued from her Majesty's Stationery Office. This is the first of a series illustrative of the several branches of science taught in the Government School of Mines. The present volume constitutes a detailed catalogue explanatory of the only public collection of specimens of the rocks of the British Isles, and must prove of real service, not only to the geological and mining student, for whom it is more especially intended, but also to architects and builders, from the amount of practical information in regard to building stones, slates, limes, &c. scattered throughout its pages.——"The Newspaper Press Directory and Advertiser's Guide," by C. Mitchell, for 1858, revised and considerably improved, has just been published at Mitchell's Advertising Office, in Red Lion-court, Fleet-street. To all advertisers, especially in the country newspapers, this "Guide" is indispensable.

Miscellanea.

INSTITUTION OF CIVIL ENGINEERS. — On January 26, Mr. Joseph Locke, M.P. president, in the chair, the papers read were "On Shearing, Punching, Riveting, and other similar Machinery, employed in the Manufacture of Steam Boilers," and "On the Self-acting Tools employed in the Construction of Steam-engines, &c." by Mr. T. S. Sawyer. A brief description of the machinery for forging rivets, &c. was given, and by one example it was shown that a ton of well-formed rivets, all exactly similar, could be produced in ten hours. The machinery for forging bolts, and other similar articles, was then described, together with the various arrangements of air-hammers suitable for larger work; the principal feature of which consisted in allowing a hammer, or block, to fall by its own gravity against the pressure of air in a cylinder, so as to produce an elastic blow. In the discussion, it was remarked that Mr. Richard Roberts had been one of the earliest introducers of self-acting tools, such as the planing, slotting, and machines for metals. Within the last few years he had also made improvements in punching and riveting machines. His "Jacquard," or multifarious perforating machine, was now employed at the Canada Works, Birkenhead, for punching the boiler-plates to be used in the construction of the Victoria bridge over the river St. Lawrence, Canada. The machine was now punching seventy-two holes in each plate of 10 feet in length, and 3 feet 6 inches in width, and 5-16ths of an inch in thickness. It could punch ninety of these plates per day of ten hours and a half, under the management of one mechanic, three labourers to lift the plates on and off, and one boy to oil the punches. The same sized plate, when punched by hand, would require four men marking with templates, and eight men at the machine itself, and yet it would not do anything like the same quantity of work as the Jacquard machine, especially when a large number of holes had to be made.

GAS.—The gas-works erected at Keynsham have been brought into operation, and the streets and shops illuminated. The whole has been executed by Messrs. T. Atkins and Son, of Chepstow, the company's engineers and contractors, these being the forty-third of similar works put up under their superintendence. The Keynsham works are capable of producing 24,000 cubic feet of gas in twenty-four hours: the gas-holder will deliver 15,000 cubic feet of gas in six hours: the distributing power of the mains is equal to 6,500 cubic feet per hour. The contract, including mains, was taken for 1,475*l*. The ovens are on Clift's patent principle.——At a recent meeting of the Royal Scottish Society of Arts, at Edinburgh, there was read a description of a machine for transporting and laying large gas and water mains, by Mr. William Proctor, engineer of the gas-works at Forfar. A working model was exhibited. The machine is a compound of mechanical appliances so arranged as to raise from the ground and to convey to any place required, also to lower into a trench, gas and water pipes of a large size. After some discussion, in which Mr. Leslie, C.E. and others took part, the paper was referred to a committee.

EAST-INDIAN RAILWAYS: CONSTRUCTION OF BRIDGES AND VIADUCTS.—A test, in reference to the strength of iron railway bridges for Indian railways, took place lately, at the works of Messrs. Westwood Baillie, Campbell, and Co. Isle of Dogs. Colonel Kennedy, the chief engineer of the Bombay and Baroda Railway Company, has in a series of papers pointed out the importance of completing a system under which all the bridges and viaducts should be carried out on a principle which will admit of the adaptation of the portions of any one of these structures to the repair or reformation of any other or all of them. Col. Kennedy's system is that the bridges and spans of all his similar works shall be identical in their parts—a system which, if it had been applied to the construction of such works in his country and to the building of our locomotives, would have effected a saving of some hundreds of thousands per annum in the repairs of our permanent ways and rolling stock. The iron bridge tested is of 60 feet span: the whole weight of it is within 21 tons. The entire load placed upon the bridge was 108½ tons. With 15¼ tons upon the centre the deflection was 3-16ths of an inch; with 31 tons, 5-16ths; with 46¼ tons, 7-16ths; and with the gross weight mentioned 11⅛-16ths. The test had reference to the Nerbudda-bridge on the Bombay and Baroda line, and it was one of a series of tests to which the parts of these structures are put as often as any large number of girders are prepared at the establishment. The principle adopted by the Bombay and Baroda Company is to manufacture both the superstructure and the piers of the bridges in the forges of England; and by the adoption of Warren's principles for bridges, and Mitchell's screw piles for piers, the least possible work has to be effected for placing them in their position, and masonry is to the utmost possible extent dispensed with. The line, it is said, will be completed at a cost little over 6,000*l*. per mile, including bridges and viaducts.

HOMES FOR THE WORKING CLASSES AT REDHILL.—The first annual general meeting of the Redhill and Reigate Cottage Improvement Society took place at the Infant School-room, Warwick Town, on Friday week, Mr. G. Lyall, M.P. in the chair. The report of the directors was read and adopted. It states that an eligible site having been obtained, in order to get the most suitable designs for the cottages to be erected, several architects were written to and offered prizes of 30*l*. and 20*l*. for the best two; and Mr. Baxendell's plan having been approved of, he was subsequently appointed architect to the society. The directors decided to build nineteen cottages in 1857-8, of various sizes in nine blocks, which will occupy about one-third of the ground at their disposal. The directors advertised for tenders from builders, and accepted one from Mr. Fisher, who agreed for 2,805*l*. to build and complete the cottages in every respect, including a large tank. This is at the average rate of 147*l*. per cottage. The cottages are now all roofed in, and by the terms of the contract they will be completed at the end of February.

SHUFFLING AS TO CONTRACTORS' "QUANTITIES."—A contractor complains of the conduct of the building committee for the erection of a Methodist Free Church at Wakefield. According to our correspondent, this committee advertised for tenders, stating that quantities would be supplied on application, from which the estimates were to be made out. He accordingly went to Wakefield and applied for the quantities, but they were withheld; and although a member of the committee ascertained specially from the architect that the quantities were to be supplied, our correspondent, on a second visit to Wakefield, was still refused a copy, and had to copy them out for himself. He was not surprised, he adds, after such treatment, to find that not only in every case were Wakefield tradesmen the successful competitors, but that some members of the committee themselves were engaged in the building branches. Our correspondent asks whether advertisers, under such circumstances, are not legally chargeable with the expenses incurred. If committees mean to restrict competitions to town tradesmen, why do they not frankly say so in their advertisements? But even town tradesmen are but too likely to be *done* by such managers.

SOMERSETSHIRE ARCHÆOLOGICAL SOCIETY.—The third *conversazione* meeting of this society for the present session was held on Monday in last week, at the Museum, Taunton. The company numbered between eighty and ninety. Three papers were read; viz. by Mr. Isaac, of Bath, on "Nunney Castle; by the Rev. F. Howse, on "The Habits and Instincts of Bees;" and by the Rev. J. M. Cox, on "The Topography of the Bay of Naples."

PROPOSED ISLINGTON VESTRY-HALL. — The motion carried at a meeting of the vestry, on January 27th, is as follows:—"That it be referred to a committee to prepare new instructions for the guidance of the architect who is to be engaged to erect the Vestry-hall and offices, and submit the same for the approval of the vestry." Who the architect is to be does not appear. A new committee of eleven was elected, viz.—Messrs. Timewell, Savage, E. Shepherd, Reddish, Price, Elt, Starling, Elsom, Witton, Downes, and Parkinson.

THE PROJECTED SUBMARINE TUNNEL ACROSS THE ENGLISH CHANNEL.—Our attention has been called to the circumstance that in 1841 a detailed description of a plan by a Mr. J. S. Morris, for a submarine cast-iron tunnel, was published in the Devonport newspapers, and that this description was briefly recapitulated in the *Builder* a few years since; and that M. Thome de Gamond, who recently projected a tunnel to cross the strait from Dover, is not the originator of such a scheme. We are not aware that M. de Gamond claims to be the first who has ever proposed such a tunnel; but if he does, there cannot be a doubt as to various projectors having at different times, and for many years, brought forward schemes to effect the same object. Whether Mr. Morris himself was the first to propose such a plan we do not know; but it rather appears that his object was to unite a part of Cornwall with a part of Devonshire, across the Hamoaze. One of the first specific projects we recollect of for a tunnel across the Channel was brought forward by a Mr. De la Haye (we think), of Liverpool. We observe from the *Engineer* journal that a Mr. Young, of Glasgow, has brought forward a plan of a cast-iron tunnel for the Channel, which he has described to the Glasgow Philosophical Society.

SOUTH SHIELDS SURVEYORSHIP.—The appointment of borough surveyor of South Shields, in the room of Mr. John Ayris, resigned, took place at the Town-hall, on the 26th ult. The gentlemen selected to go to the poll out of numerous applications were Mr. J. G. Brown, Sunderland; Mr. T. M. Clemence, Bedford; Mr. R. C. Hall, Newcastle; and Mr. J. Wakeford, Brighton. On the votes being taken, Mr. T. M. Clemence was elected unanimously.

THE BRIGHTON SURVEYORSHIP.—At a special meeting of the Brighton town-council, held last week, the town clerk read a report of the General Purposes Committee, as to the vacancy in the office of town surveyor, the concluding portion of which was as follows: "And your committee further recommend that the salary of the town surveyor shall be 300*l.* per annum; that an assistant surveyor, two clerks, and a messenger be provided (at the expense of the corporation), for the business of the office, at salaries not exceeding those undermentioned, viz.:—

Assistant surveyor.....	£150 per annum.
Drawing clerk	£1. 10s. per week.
Office clerk	£1. 10s. „
Messenger	15s. „

"That advertisements be forthwith inserted in the local papers, the *Times*, and the *Builder*, for applications for the office of town surveyor. And that the council reserve the power of appointing the assistant surveyor; approving of any appointment of clerks; and of altering or varying the salaries suggested to be paid to all or any of them." The adoption of the report having been moved and seconded, Mr. Alderman Alger moved, "That the report be referred back to the committee," and he did so because he thought the salary too small to command the talent that was required at the hands of the surveyor in a town like Brighton. They would have been wise if they had paid 500*l.* a-year long ago, instead of 250*l.* The duties devolving upon a surveyor were daily increasing, and they must continue to increase. They required a larger amount of experience, and a higher degree of talent than 250*l.* a-year would command. He would have the surveyor appoint his own junior officers. There were a great many works of magnitude now in abeyance, and they would remain so unless they appointed a competent surveyor. Mr. Slight also complained that they had been accustomed to pay too low salaries in Brighton. Referring to the Pavilion property, he said their late surveyor had not courage enough to report the necessity for repairs, which they could all see. It was also necessary for them to think seriously about their drainage,—a subject that would come on this country with such a force that they could not resist it. He did not believe they would find the "native talent" sufficient for it. After some other discussion, the amendment was put and lost, only five votes being given in its favour, and the original motion was then carried.

THE SOCIETY OF ARTS PRIZES AND EXAMINATIONS.—The Council of the Society of Arts have resolved to bring the examinations to the local institutions instead of appointing only a few centres as before; thus throwing open the prize fund to the students of every institution. The fund for 1858 has been opened, and it is anticipated that an increased amount will now be required. The Council have resolved to contribute a certain mileage towards the travelling expenses of those candidates who desire to receive their prizes personally and publicly, and also 5*l.* towards the travelling expenses of each pupil who, obtaining three of the Society's certificates of the first class in the subjects contained in the Oxford programme, is desirous to contend for the degree of associate at the Oxford examinations.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—At the next ordinary meeting, to be held on Monday evening, the 8th inst. a paper "On Natural and Architectural Foliage," by Mr. Jas. K. Colling, will be read.

[ADVERTISEMENT.]

Britannia Life Assurance Office,
London, June 8, 1849.

GENTLEMEN,—I have much pleasure in bearing testimony, after four years' experience, to the efficacy of the Patent Revolving Shutters, erected by you at this Office. They are capable of resisting great pressure, and are superior to anything of the kind I have seen.

I am, Gentlemen,
Your most obedient servant,
PETER MORRISON.

Messrs. CLARK and CO.
15, Gate-street, Lincoln's-inn-fields.

TENDERS.

For new Stabling at Victoria Mews, Notting hill, for the London General Omnibus Company. Mr. William Scurry, architect. Quantities supplied.

Dethick	£2,893	0	0
Rudkins	2,745	0	0
Todd, jun.	2,693	0	0
Hill	2,592	0	0
Wheeler	2,592	0	0
J. and C. W. Todd	2,466	0	0
Lemon	2,460	0	0
Deards	2,400	0	0
White	2,395	0	0
Raby	2,387	0	0
Richards	2,359	0	0
Palmer	2,319	6	0
Thompson	2,274	0	0
McLennan and Bird	2,260	0	0
Stevens	2,259	0	0
Rowe	2,258	0	0
Pearson	2,250	0	0
Woodruff	2,173	15	4
Purkess	2,159	0	0
Barker	2,152	0	0
Manu	2,134	0	0
Godbolt	2,083	0	0
Chapman and Parsons	1,994	0	0
Greig (accepted)	1,977	0	0

For the enlargement of College House, Highgate. Mr. W. P. Griffith, architect.

Gomme and Boss	£2,380	0	0
G. John Soper	2,369	0	0
J. G. Bishop	2,304	0	0
W. Palmer	2,200	0	0
John Glenn	2,150	0	0
W. H. Rose	2,097	0	0
Bowley, Brothers	2,087	0	0
Lemmant and Bird	2,085	0	0
Evans, Brothers	2,075	0	0
G. Godbolt	2,050	0	0
Robert Mann	1,998	0	0
John Ashton	1,995	0	0
W. Ebbage	1,950	0	0
G. S. S. Williams	1,918	0	0
W. Watson	1,900	0	0
W. Dove	1,857	0	0
D. Fowler	1,847	0	0
James Brake (accepted)	1,699	0	0

For the restoration of All Saints' Church, King's Lynn, Norfolk. Messrs. Medland and Maberly, Gloucester, architects.

Bell and Son, Cambridge	£2,546	0	0
Bambridge, Lynn	2,010	0	0
Rattee, Cambridge	1,970	0	0
Curtess and Balls, Norwich	1,680	0	0
Laird, Lynn	1,600	0	0
Brown, Lynn	1,550	0	0
Bennett, Lynn	1,550	0	0

For eight Cottages, on the Goodhart Estate, Homerton. Mr. H. J. Brown, architect. Quantities supplied.

Wilson	£1,100	0	0
Seagrave and Co.	1,060	0	0
Sutton	1,040	0	0
G. Todd, jun.	1,037	0	0
J. S. Lemon	1,020	0	0
Robinson	1,000	0	0
Raby	998	0	0
Barker	977	0	0
Tully and Sons	970	0	0

For building a pair of Houses at Oakfield-road Downs, near Clapton, for Mr. Shaw. Mr. M. A. Gliddon, architect. Quantities not supplied.

Skinner, Brothers	£990	0	0
Smith	970	0	0
Partridge and Crutch	900	0	0
Raby	877	0	0
Pelham	849	0	0
Case	837	0	0
R. Lawrence	795	0	0
Grey	750	3	0
Walker	650	12	0

For finishing ten Houses in Carleton-street, Kentish-town. Mr. Ledbury, architect.

Hardy and Green	£1,146	0	0
J. Boreham	1,115	0	0
A. Young	1,097	7	6
Herser	1,036	0	0
Willshaw	965	0	0
Timpson	880	0	0
Millage	824	0	0
Smith and Cann	803	2	4
R. Mann	798	0	0
Smee	797	0	0
Pelham	795	0	0
W. Jarvis	784	0	0
Hide	760	0	0
Copp	735	0	0
G. Day	695	0	0
Dunn	680	0	0
Fetham (accepted)	657	15	0

For building a Double Cottage and Offices at Poplar. Mr. Robert Smith, of Dickleburgh, Norfolk, architect.

Lemon	£594	0	0
Pelham	549	0	0
Chapman	499	0	0
Smith	491	0	0
Coomer	490	0	0
Godbolt	480	0	0
Reader and Mitchell	455	0	0
Adams	425	0	0
Watts	418	0	0
Fleming	396	0	0
Tanner (accepted)	390	0	0

TO CORRESPONDENTS.

IS TYPE.—Mr. Rawlinson's paper on "Masonry Construction," read at the Liverpool Architectural Society; "Military Engineering;" "Dearn v. Decimal;" continuation of "Ancient and Modern Ornament Contrasted," &c. &c.

A. Z. (the clause requires priming and two coats).—W. G. (the lofty chimney lately built in the Gray's Inn road is, we are told, for Messrs. Eley's Patent Cartridge Manufactory. Mr. Angel is the architect; Messrs. Calvert are the builders. We have no information as to the furnace. The height is called 140 feet).—M. and Co.—Subscriber.—X. Z. (we decline to recommend).—J. G. (the list we gave was verified by the architect).—L. B. (our list was from head quarters).—W. P. G.—T. P. T. A. (English glass is best).—"Architect's Pupil" (no limitation as to age appears in the laws).—One who thinks himself aggrieved (Yes).—J. E.—H. W.—M. S.—J. T. (thanks; next week).—"The Fowler, &c."—H. B. K.—E.—A Magistrate.—Smoothing Plane (the rate of wages is not to be easily settled).—A London Incumbent.—Ego—M. (there is no settled distance at which a wall may be built before a window that has been open "more than twenty years." It must be built so as not to be injurious by deprivation of light or air). -Q. P. -J. W. and Co.—to be injurious by deprivation of light or air). -Q. P. -J. W. and Co.—R. S.—W. R.—T. M. C.—C. C.—H. P. (tin type).—Mr. G.—M. S.—J. T. J. M. and J. N. (copy has not reached us).—J. G.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

NOTICE.—All communications respecting advertisements should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the "Editor," and not to the "Publisher."

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ADVERTISEMENTS.

BOROUGH of BRIGHTON.—The Council of the Borough of Brighton are prepared to receive applications for the Office of TOWN SURVEYOR, now vacant. The gentleman appointed will be required to undertake the direction and management of the surveying and architectural business of the Corporation, and not to be directly or indirectly engaged in any other business; to reside within the borough, and to devote the whole of his time to the service of the Corporation. Salary, 300*l.* per annum, and the services of an assistant and two clerks. Any further necessary information may be obtained on application at my Office.—Sealed applications, with testimonials, stating the age of the applicant, and endorsed, "Application for the Office of Town Surveyor," addressed to the undersigned, must be delivered at the Town-hall, Brighton, on or before MONDAY, the 1st day of MARCH, 1858.

C. SHAROOD, Town Clerk.
January 29, 1858.

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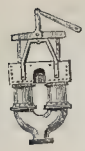

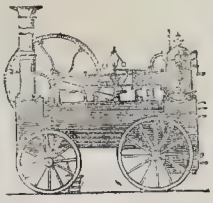

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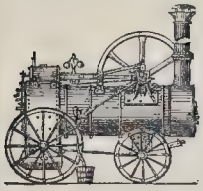

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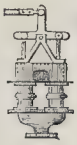

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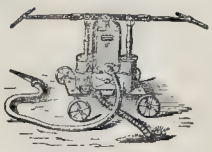

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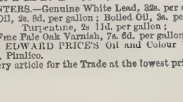

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THE POTTERY is situate about a mile and a half from the town and port of Poole. It is worked by steam power, and the pipes are made of the most approved patent machinery, and still bear favourable comparison with any manufactured in the kingdom. The fire bricks have been tested, and are found fully equal in all respects to those manufactured at Stourbridge and Newcastle. All articles are made from the clays and materials found on the estate. There is an inexhaustible quantity of all descriptions of Dorsetshire clay suited for pottery purposes, which can be supplied to the Staffordshire, North Country, and London manufacturers upon favourable terms.

*** Lists of Prices, and all other information, will be furnished upon application to Mr. GILBERT E. MITCHELL, Manager, at the Works; or to Mr. JOSEPH COX, 1, 2, and 3, High-street, Lambeth.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

Price 6s. 6d. each.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

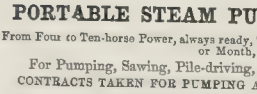
WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

BOURNE VALLEY POTTERY, near POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT GLAZED STONEWARE PIPES, Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every article required for Drainage purposes. CREEKE'S PATENT CAPPED SEWER PIPE, by the use of which Drains may be examined without the necessity of breaking a Pipe. SALT GLAZED and TERRA COTTA FLUE PIPES, by the use of which the Draught of Chimneys is much improved. TERRA COTTA CHIMNEY POTS in great variety, commencing at 2s. each. TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. BROWN, Town Agent.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.
BODY PAINT, a combination of Metals, forming a Paint cheaper than Paint. Being indestructible by heat, is well adapted for iron steam-ships and engineering works.
HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW WHITE ZINC.
DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments, gives an elegant surface, resembling the finest Alabaster; is a beautiful Reflector of Light, and is unchangeable by Gas.

THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,

For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

TO ENGINEERS, MILL-OWNERS, CONTRACTORS, and OTHERS.—TO BE DISPOSED OF by PRIVATE CONTRACT, a horizontal, high-pressure, condensing STEAM ENGINE, made by Messrs. James Watt and Co. in 1837: diameter of cylinder 28 inches length of stroke, 5 feet fitted with variable expansion gear; wrought iron crank shaft, feed pump, &c. The whole is contained in a small space, and carried upon an independent bed-plate. The engine is furnished with two Cornish boilers, each 20 feet long, 5 feet 6 inches diameter, with internal flue 3 feet diameter, and capable of working, safely, at 56 lbs. pressure per square inch; also, all the requisite boiler fittings and pipe connections: both the engine and boilers have been but a few days in actual use, and are as good as new. Also, a NEW CAST IRON TANK, 13 feet 6 inches square by 4 feet 9 inches deep, with round corners, and all the necessary bolts, nuts, and stay rods—May be viewed, and further particulars obtained upon application to Mr. WALLEN MAY, 3, Great George street, Westminster.

IMPORTANT SANITARY INVENTIONS.

ROGER SALTER'S PATENT SELF ACTING FLUSHING MACHINES, for drains and sewers, and for self-flushing privies of establishments, as barracks, dockyards, factories, schools, &c. These machines, when permanently fixed, require no manual supervision, being eminently self-acting; and those drains, sewers, privies, &c. to which they are applied, are always constantly self-flushed.

ROGER SALTER'S PATENT TIDAL VALVE effectually shuts out the flowing tide, but suddenly opens the pent-up water from the drain or sewer, when the tide has ebbed, to a level with the bottom of the outfall, thereby securing a thorough scour into the ebbing tide. Testimonials and descriptive diagrams forwarded on application to Mr. SALTER'S Offices, 42, Fleet-street, London; where self-acting models may be seen from Ten to Four.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices:—

¾-inch Prepared Flooring	£0	11	6 per square.
Inch ditto	0	13	0 per square.
Yellow Battens	11	10	0 per 120.
Spruce Deals, from	0	2	9 each.
Fine ditto, from	0	3	0 each.
Yellow ditto, from	0	3	3 each.

Mahogany, in logs and planks, from 5d. per foot.

All Sawn Goods delivered three miles free of cartage.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

TO BUILDERS, CABINETMAKERS, and OTHERS ALFRED CARTER submits the following very reduced prices for ready useful sorts —

¾-inch Prepared Flooring	£0	11	6 per square.
¾-inch Prepared Flooring	0	13	0 per square.
Inch Prepared Flooring	0	15	0 per square.
Good Yellow Deals	0	3	3 each.
Spruce Deals	0	3	0 each.
Pine Planks	0	3	6 each.
Yellow Battens	11	10	0 per 120.

Mahogany, in logs and planks, from 5d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER Old Bethnal green-road, N.E.

MAHOGANY, &c.—JOHN BRINSMEAD begs to call the attention of Cabinet Manufacturers, Railway Contractors, Builders, &c. to his immense Stocks of Honduras Mahogany, consisting of hal.-ad planks, 2½ and 3 inch, also boards, wide half inch, and 1 inch and half thick inches to 20 inches wide. Also, a first-rate selection of Rosewood, Maple, Black and Figured Ebony, Curls, and Figured Veneers.—Also the 1-inch Spanish Dining-table Boards.—7, Store-street, Bedford-square.

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory (the first of its kind ever established), a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from 1 inch to ¼ inch thick, in White or Yellow Deal, Oak, or Pitch Pine. Also Dry Deals, of all thicknesses, Sided Battens, Paddle Laths, Oak Sills, Plank, and Scantlings. Mouldings in clean Pine, to any design. A pattern list forwarded on application.—Address, E. SIMMS, Flooring Manufactory, and Sawing, Planing, and Moulding Mills, King's road, Chelsea.

TO BUILDERS and OTHERS. — FOR SALE, a quantity of good BALTIC LATHS, price 30s. the load. To be had at Mrs. TURNER'S, 2, North street, Dudley-street, Mile-end-road.

PREPARED FLOORING! PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	¾	⅞	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	,,

Delivered within three miles free of cartage.
STANGATE SAWING and PLANING MILLS, Lance road, Lambeth, S.

AT WM. APEDAILE'S TIMBER-YARD, bottom of DRUMMOND-STREET, near Euston Station.

12 feet 3 by 11 Pine Planks, from 3s. each.
12 feet 2 by 9 Spruce Deals, ,, 2s. 6d. ,,
12 feet 3 by 9 Yellow Deals, ,, 3s. ,,
¾ by 7 Prepared Flooring, 11s. 6d. per square.
Inch by 7 Do. 14s. 3d. ,,

ANOTHER GREAT REDUCTION. — Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ do. 13s. 6d.; 1-inch Yellow, 10s. 6d.; ¾ do. 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.—T. PORMAN, 1, Walnut-tree-walk, Walcot place, Lambeth, S

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 10 per cent upon their list-prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Witton-road, Pimlico, to the KING'S ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw mills, Chelsea, opposite Manor-street.

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to

E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA

ACORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Caledonian-road, Old St. Pancras-road.—GEORGE NOKES and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash:—

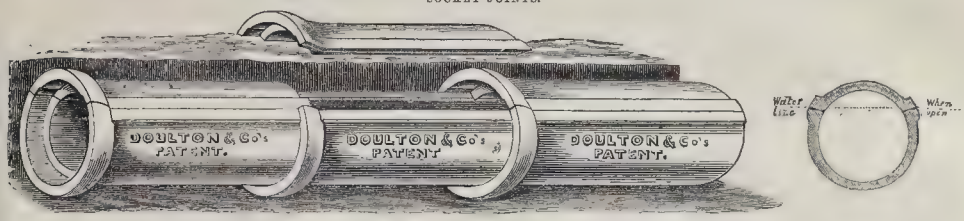
¾-inch white, 13s. 6d. per square; ¾-inch white, 15s. per square; 1-inch white, 18s. per square; ¾-inch yellow, 10s. per square; ⅞-inch yellow, 12s. 6d.; 1-inch yellow, 20s.

Timber, deals, planks, &c. at the lowest remunerative prices. A liberal discount allowed on mouldings for exportation. Book of designs forwarded on application.

DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without disturbing any Part of the Invert of the Drain, or lessening its Capacity.

SOCKET JOINTS.



The intention of these Pipes is to afford those who desire it an opportunity of examining and cleansing them; and, unlike all other contrivances for this object, the entire length of pipe may be thrown open without any accompanying disadvantage.

The thickness and strength of the Pipes are increased by two ribs running lengthways, through which a partial division is effected in the process of manufacture, both internally and externally, leaving sufficient material to preserve strength and soundness. The Pipes are thus fired in one piece, and perfect accuracy of form is secured. By the insertion of a chisel at the ends, the upper pieces may, at any time, be detached without the slightest risk, and afterwards replaced, so as to form a perfect and accurately-fitting cover; or the lids can be removed when the Pipes are laid, and the Drain tested as to its fall, and the accuracy of the joints before they are replaced. Made with sockets, or with butt joints and chairs.

ADVANTAGES.

I. The Pipes may be laid whole, as ordinary Socket Pipes, and the covers need only be removed should necessity arise.
II. On the removal of the lids the Drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication which would allow either the escape of the liquid contents of the drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part, or cover, being fired in one piece with the pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. PERFECT TRUTH OF FORM IS SECURED, AND INCREASED STRENGTH OBTAINED.
VIII. SIMPLICITY OF CONSTRUCTION, and consequent CHEAPNESS.

MANUFACTURED BY HENRY DOULTON AND CO.

Offices: High-street, Lambeth, London.——Manufactories: High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than Brick Flues. By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE-DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

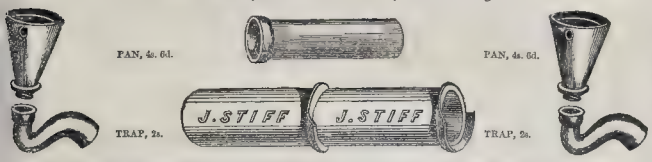
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTUREE OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'s, St. James's and Thorahill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 22, Brydges-street, Covent-garden.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

LAMBERT'S SELF-REGULATING and SELF-ACTING ENAMELLED IRON CLOSET PAN.

FIG. 18.

This arrangement consists of an Enamelled Cast-iron Basin and Syphon Trap, supplied by a Lambert's Patent Self regulating Valve, bolted to the basin, adjusted so as to deliver any quantity of water required at each action of the seat; it is the cheapest, most durable, and efficient self-acting water-closet yet produced, requiring no reservoir or intermediate cistern, the valve itself measuring at each action of the seat a given quantity of water into the pan.

Price complete, with enamelled iron syphon trap, 45s.

THOS. LAMBERT and SON, Patentees and Sole Manufacturers of their Flexible Diaphragm Water-valves, Cottage Closet-valves, &c. Short-street, New-cut, Lambeth.

UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispense with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fitting, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works. They are very cheap; their efficiency is guaranteed. 5,000 of them have been sold, and no instance of failure has occurred.

These Stool valves are cheaper, stronger and more ornamental, than any other. Many thousands are in use, and greatly approved of.

Manufactured by
CHARLES BOTTEN and SON,
Brass Founders, Crawford passage,
Clerkenwell, London.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MONTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
3d.	3½d.	3¾d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

DRAUGHTS round Doors and Windows

EFFECTUALLY PREVENTED by GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS, the neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW. Self-acting spring Stops, for the bottoms of doors. The most imperfect door can be made air-tight without re-hanging. The Trade supplied on liberal terms.

JOHN GREENWOOD, Patentee,
10, Arthur-street West, London-bridge.

SALES BY AUCTION.

TO BUILDERS, MASONS, AND HOUSE DECORATORS. IMPORTANT UNRESERVED SALE.

MR. W. HOLLINGSWORTH will SELL by AUCTION, peremptorily, on WEDNESDAY next, FEBRUARY 10, at his spacious SALE ROOMS, 13, High Holborn, the whole of the IRONMONGERY, requisite for several large houses, including seventy register stoves, ten kitchen ranges, [illegible] and furnacework, twenty elliptics, bolts, screws, locks, door furniture, butts, cross garnets, nails, &c. twenty-four superior marble mantel-pieces, thirty imitation stone ditto, builders' chain slings and brass pulley blocks, a patent copying-press, and 5,000 pieces of paper hangings, of good manufacture.—On view on Monday.
Auction Mart, 13, High Holborn.

WATERSIDE MANUFACTURING PREMISES, BELVEDERE-ROAD occupied by the General Wood Cutting Company.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION on WEDNESDAY, MARCH 3rd, at ELEVEN o'clock, on the PREMISES, without reserve, unless an acceptable offer is previously made by private contract, the LEASES of the extensive PREMISES situate in Belvedere-road, Lambeth, and having a frontage next the Thames of 120 feet, with excellent wharfs. The principal building is of two stories, 225 feet long by 4[illegible] feet wide, occupied as the saw and moulding mill; a building of three stories, 75 feet by 17 feet, six suites of offices, two excellent family residences, a spacious timber yard, 340 feet by 40 feet, stabling, ostler's cottage, cart-shed, chaise house, and other outbuildings. The property is held under two leases, at rents amounting to [illegible] per annum. To be viewed till the sale. Particulars may be had on the Premises; of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, Birchin-lane (late 11, London-street); of Messrs. MARTEN, THOMAS, and HOLLAMS, Solicitors, Commercial Sale-rooms, Mincing-lane; of Messrs. WILD and BARBER, Solicitors, Ironmonger-lane; of Messrs. TURQUAND and YOUNGS, 14, Old Jewry-chambers; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Sawing, Planing and Moulding Mill Machinery.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the WORKS of the GENERAL WOOD CUTTING COMPANY, Belvedere-road, Lambeth, on WEDNESDAY, MARCH 3rd, 1858, and following day, at ELEVEN o'clock, in lots, without reserve, unless an acceptable offer is previously made by private contract, the whole of the valuable MACHINERY and UTENSILS: a highly-finished condensing steam beam-engine, of 35-horse power, by Nasmyth; steam pumping-engine, two excellent Cornish steam boilers, 26 feet and 30 feet long, by Horton, with Prideaux's smoke-consuming apparatus; McDowall's patent steam saw frame for timber, four deal frames, rack bench, by Parsons, two planing machines, three moulding machines, with cutters embracing about 500 patterns; two batten saw-frames, three iron circular saw-benches, with 6 feet, 7 feet, and 8 feet 6 inch tables; American thicknessing machine, mortising machine, two trenailing machines, circular crop-cutting bench, with table 10 feet 9 inches by 7 feet; steam glue-chest, [illegible] feet wrought iron shafting, drums, and spur wheels; leather bands, 10-inch self-acting lathe, with 7 feet bed; three small foot-lathes, two cast-iron water-tanks, in plates; two powerful wharf cranes, about thirty loads of sound timber, in piling, stages, &c.; twenty rods brickwork, steam and water pipes, gasfittings, timber-carriage, carts, excellent counting-house furniture, iron repository, and numerous other effects.—To be viewed on Monday and Tuesday previous to the Sale (the machinery in motion). Catalogues may be had on the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Thirteen powerful Cart horses, Three valuable Nag horses, Two Gigs, Phaeton, Timber-carriages, Carts, Stone-trucks, Harness, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on FRIDAY, MARCH 5th, 1858, at TWELVE o'clock, on the PREMISES, Commercial-road, Pimlico, thirteen powerful young cart horses, including two teams of handsome grey and black horses, of perfect symmetry; three valuable nag horses, ten sets thill harness, six sets trace harness, gig and phaeton harness, seven timber carriages, three stone-trucks, three carts, two spring carts, two Irish carts, two gigs, phaeton, forty corn sacks, chaff boxes, stable utensils, and other items.—To be viewed on Thursday previous and morning of sale.—Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, MARCH 8th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the valuable and extensive STOCK of DRY SEASONED GOODS, carefully selected, including 2,000 yellow deals and battens, 5,000 white deals and battens, 3,000 pine planks, 2,000 red pine deals and battens, [illegible] pitch pine deals, 1,000 pine deal and battens, 1,000 spruce deals, 100 loads Dantzic timber, 2,000 squares prepared flooring boards, 300 squares matched boarding, 8,000 feet dry seasoned wainscot, 20,000 feet Honduras and Cuba mahogany, 36,000 feet moulding, 32 loads fir scantling, 3,500 bundles laths, 200 new scaffold-poles, 200 oak sills, [illegible] four panel doors, and other goods. To be viewed on Thursday, Friday, and Saturday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the extent of 50*l*. and upwards, or a discount of 1½ per cent. will be allowed for cash.

Black and Furnishing Ironmongery.

MESSRS. FULLER and HORSEY are instructed by Mr. Walmsley, who is retiring from business, to SELL by AUCTION, on the PREMISES, Nos. 126, 127, and 128, London road, Southwark, on THURSDAY, the 11th of MARCH, 1858, and following days, at ELEVEN each day, in lots, the entire STOCK of FURNISHING and BLACK IRONMONGERY, including best electro-plated goods, for which this establishment has been so long celebrated, in tea and coffee services; tea, table, and dessert spoons and forks, fiddle, thread, and king's pattern; cake and card baskets, cruet-frames, fish knives and forks, waiters, candlesticks, &c.; bronzed and copper goods, in urns, table kettles, scuttles, preserving pans, &c.; handsome French moderator lamps, gaseliers, hall lanterns, gas brackets, &c.; japanned ware, in toilet services, hip, open, and shower baths, cutlery, sets of papier mache and japanned trays, iron bed steads, [illegible] gas-bath, black hollow ware, open and close kitchen ranges, handsome steel and ormolu register stoves, gas cooking stoves, Rumford and pedestal stoves, 2,500 gross iron screws, 200 gross brass screws, 4 tons coach bolts, 30 gross axle pulleys, 200 dozen brass butt hinges, 50 gross brass flush bolts, 600 sets brass castors, [illegible] sets iron and wood bowl plate castors, 100 pairs ornamental bell levers, sunk pulls, &c.; large assortment of bell-hangers' materials, in cranks, &c.; [illegible] brass cornice poles, wrought and cut nails, stove metal, spades, shovels, and other effects.—To be viewed on Tuesday and Wednesday and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, 13, Billiter street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS.—Important Stock of Marble and Stone.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, MARCH 18, 1858, and following days, at ELEVEN o'clock each day, at the MARBLE WORKS, Commercial-road, Pimlico, in lots, the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in block, 100 feet Genoa green, 200 feet of statuary, 200 feet Emperor's red, 60 feet Sienna, 450 feet serpentine, 1,[illegible] feet veined, Sicilian, black, amber, dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles; 2,000 feet in slabs, of the same assortment, from [illegible] inch to 3 inches; [illegible] feet polished [illegible], a large stock of polished shelves, jambs, and trusses; mouldings; 3,000 feet Portland stone, in block; 400 feet of Caen stone, 1,400 feet French stone, 150 feet Wingerworth stone; 3,000 feet of 3-inch to 6-inch of York landings; 5,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 6 inches; 3,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, ¾ inch to 6 inches; head, and foot stones, 2,500 feet run of granite curb, 12 feet by 6 inches and 12 feet by 8 inches; five blocks of granite, and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES, TABLETS, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, MARCH 17th, 1858, at ELEVEN o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES of the most modern designs, and finished in the best style of workmanship, many of a very valuable description, in statuary, Genoa Green, Bardilla, Rouge Royal, St. Ann's, Serpentine, Dove, Black, Emperor's Red, Veined and Sicilian Marble; four Statuary Mural Tablets, two Caen Stone Gothic Tablets, with Statuary Inscription Plates; eleven polished Marble Slabs, &c. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, FEBRUARY 25th, 1858, and following day, at ELEVEN o'clock each day, on the PREMISES, Stoney-street, Southwark, in lots, without reserve, the PLANT and IMPLEMENTS of an Ironfounder and Engineer, [illegible] horse power high-pressure STEAM ENGINE, 8-horse power [illegible], a nearly new high pressure steam boiler, by Cater; two fan blasts, [illegible] centre lathe, with [illegible] bed, 2[illegible] feet long; two engine turning lathes, two drilling machines, vices and benches, steel tools, shafting and riggers, cast iron tank, in plates, 21 feet by 15 feet; four cupolas, [illegible] cast iron flasks, crane, shank, and hand ladles, loam mill, the erection of two drying stoves, two double purchase foundry cranes, double and single purchase crabs, weighing machine, scales and weights, pair of 4-feet granite edge runners, pug mill, two wrought iron forges, bellows, anvils, and smiths' tools; pair steelyards, pattern maker's lathe, large assortment of wood patterns, counting house fittings, iron bookcase, and numerous other effects. To be viewed on Wednesday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Spacious Manufacturing Premises, New Park-street, and Stoney-street, Southwark.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, FEBRUARY 25 1858, at ELEVEN o'clock, on the PREMISES, the LEASE of the valuable and extensive PREMISES, occupied by Messrs. Simmons, Ironfounders and Engineers; comprising several ranges of light and lofty ground-floor buildings, occupying a large area, and having entrances for carts from New Park-street and Stoney-street, Southwark. A lofty chimney-shaft has been recently erected, and a large sum of money has been expended in substantial repairs. The premises are arranged as an ironfoundry, engineers' shops, smiths' shops, warehouse, and lofts; and there is a dwelling-house, suitable for a manager, at present let off at 20*l*. per annum. The whole held on lease for a term of years, at a rent of 180*l*. per annum.—To be viewed till the sale.—Particulars may be had on the Premises; of Messrs. STURMY and SIMPSON, Solicitors, Wellington-street, London-bridge, S.E.; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Loose Tools and Stores of the Sawing-Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, MARCH 29th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 13 to 55 inches diameter; pit-saws, planing and adzing tools, a flooring-board, planing, and tonguing machine, by Parsons; leather bands, 1 ton cast and shear steel, 10 tons rod and bar iron, weighing machines, smiths' tools, anvils, top and bottom swages, mandrels, hammers, &c. 100 dozen files, [illegible] screws, brass lift pump, copper tubes, wrought and cut nails, spikes, sash weights, 10 cwt. old files, crown and sheet glass, dry and ground colours, 1 ton white and red lead and litharge, sash tools, ten trollies, 70 dozen hammered saw plates, saw poles and heads, buckles, sieves, 200 yards road grit, 20 yards marble and Portland sand, well pumps and pipes, pulley wheels and ropes, well boring apparatus, blocks and falls, barrows, two 4-ton and one 8-ton Haley's jacks, carpenters' benches, several tons of ironwork, a moveable travelling crane, 60 feet span, equal to 10 tons, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SOUTHAMPTON-STREET, CAMBERWELL, nearly opposite Addington-square.—To Contractors, Builders, Cabinetmakers, Packing-case and Box Makers, &c.

MR. PEAKE will SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, FEBRUARY 10th, 1858, at TWELVE, without the slightest reserve, the [illegible] STOCK of a TIMBER MERCHANT, comprising about 1,228 spruce planks and deals, 1,886 yellow pine ditto, 1,812 best and second yellow deals, 97[illegible] yellow battens, 714 yellow planks, 32 white deals, fifty loads sawn balk, 1,000 feet inch yellow pine board, 1,[illegible] feet half inch yellow pine panel board, &c. &c.—May be viewed the day previous and morning of Sale. Catalogues obtained on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.—Approved bills at four months will be taken for 20*l*. and upwards, or 2½ per cent. for cash, above that amount.—Luncheon at Two.

LAMBETH. BELVEDERE-ROAD.—Remaining portion of the Stock in Trade of the General Wood-cutting Company.

MR. PEAKE is directed by the Inspectors of the above Company to SELL by AUCTION, upon the PREMISES, on WEDNESDAY, FEBRUARY 17, 1858, and following days, at TWELVE o'clock each day, without the least reserve, about 1,500 yellow, white, and pine PLANK, 3,000 yellow and white deals, 500 battens, 1,400 square assorted flooring and match lining of very superior quality, a very large stock of prepared mouldings, comprising all the patterns of the Company's well known moulding sheet, a quantity of Dantzic and Swede timber, two timber-carriages, a four-wheel spring van with patent axles, town cart with ditto, two patent chaff-cutting machines, bean-crusher, trestles, a large quantity of gas-pipe and burners, &c.—May be viewed the day previous and morning of Sale. Catalogues obtained of Messrs. TURQUAND and YOUNG, 14, Old Jewry-chambers; on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley street, Southwark, S.E.

NOTICE.—To MAHOGANY and TIMBER-MERCHANTS, CABINET-MAKERS, MACHINE-MAKERS, and OTHERS.—THE NEXT LIVERPOOL PERIODICAL AUCTION-SALES, comprising a cargo of Mexican Baywood and other Furniture Woods, &c. will take place on FRIDAY morning, the 12th FEBRUARY current, at ELEVEN o'clock precisely, in the Wood Sales Sheds, Brunswick and Toxteth Docks, Liverpool. For Catalogues and further particulars, apply to EDWARD CHALONER, Wood Broker and Measurer, No. 6, East Side, Queen's Dock, Liverpool.

TO CABINET AND PIANOFORTE MAKERS, COACH BUILDERS, AND OTHERS.

MR. LEREW will SELL by AUCTION, on the PREMISES, No. 42, Union-street, Somers town, on MONDAY, FEBRUARY 8, at TWELVE for ONE o'clock, the excellent DRY STOCK, comprising about 5,000 feet Honduras mahogany, in planks and boards; 1,000 feet Spanish plank, 700 feet ½-inch and [illegible] board, 1,000 feet birch plank and board, 10,000 feet white pine board, 1,000 yellow, white, and pine planks, deals and battens, large quantity of cut pine and quartering, 100 squares prepared flooring, sashes, shop-front, and other useful stock.—May be viewed the Saturday prior and morning of Sale, when catalogues may be had on the Premises; and of Mr. LEREW, Cardington street, Hampstead-road, near the Euston Station.

Superior Chimney Pieces of Statuary Marble, some richly sculptured, and of Dove and Vein Marble, in great variety, ready for fixing.

MESSRS. ROBINS, will SELL by AUCTION at their ROOMS, Great Piazza, Covent garden, on TUESDAY, FEBRUARY 9th, at TWELVE, STATUARY MARBLE CHIMNEY PIECES, some richly sculptured, suitable for first-class drawing-rooms, others of a less expensive character, with trusses, Black and Sicilian Marble for dining rooms and libraries, several of Dove and Sienna Marble, and a great variety of Vein Marble of smaller size. On view, three days prior, at the Auction Rooms in Covent-garden.

SALES BY AUCTION.

French and English Paper-hangings, ornamental Borders, and Decorations of a first-rate firm dissolving partnership.

MESSRS. ROBINS will SELL by AUCTION, at their rooms in Covent-garden, on TUESDAY, FEBRUARY 9th, at ONE for TWO o'clock, elegant PAPER-HANGINGS, of rich designs, gold, on satin grounds, ornamental Borders, and sets of fancy Decorations of French manufacture; also a variety of superior English papers for drawing-rooms, sitting-rooms, and bed-chambers. On view two days prior, in Covent garden.

LEADENHALL-STREET.—Extensive Sale of Building Materials.

PULLEN and SON are favoured with instructions from the Directors of the Peninsular and Oriental Steam Navigation Company, to SELL by AUCTION, on the PREMISES, on MONDAY, FEBRUARY 8, at TWELVE, in lots, all the valuable BUILDING MATERIALS of FIVE HOUSES and SHOPS, 121, 122, 123, 124, and 125, Leadenhall street (opposite the India House); comprising 200,000 sound stock bricks, plain and pan tiles and slates, stout oak and fir timber in roofs and floors, nine tons of lead in flats, gutters, cisterns, and pipes, handsome plate glass and other sashes, mahogany and plate glass shop fronts, with large plates of glass, 74 by 57, 76 by 51, 85 by 52, 85 by 26, 66 by 28, 76 by 28, &c. with lobby and entrance doors, marble chimney pieces, flooring and lining boards, modern doors, partitions, and interior fittings up; two cast iron geometrical staircases, iron columns, balconies and railing, stone paving, coping, and sills, capital mahogany desks, counters, drawers, and office fittings, excellent range, stoves, gas-fittings, and various useful fixtures.—May be viewed on Saturday previous; and Catalogues had of HENRY CURREY, Esq. Architect, 4, Lancaster-place, Strand; and of PULLEN and SON, 80, Fore street, Cripplegate.

BUILDING MATERIALS, COVENT-GARDEN.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on THURSDAY, FEBRUARY 11, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS UP of TWO large DWELLING-HOUSES and SHOPS, Nos. 1 and 2, York-street, corner of Brydges-street, Covent-garden; comprising good sound brickwork; oak and fir timber, in roofs and floors, plain tiles, glazed sashes, useful doors, partitions, marble chimney-pieces, sound flooring boards, handsome mahogany and plate-glass shop-front, lead flats, gutters, cisterns and pipes, stoves, ranges, coppers, and other useful fixtures and fittings up.—May be viewed the day previous; catalogues had at Mr. BARNES'S Office, 19, Birchin-lane; and of PULLEN and SON, 80, Fore-street, Cripplegate.

Jordan's Patent Wood Carving Works, Belvedere road, Lambeth, close to the Hungerford Suspension-bridge.

MESSRS. OXENHAM will SELL by AUCTION, on the PREMISES, on WEDNESDAY, the 10th of FEBRUARY, and following day, at TWELVE for ONE o'clock precisely each day, without the least reserve (unless an acceptable offer be previously made by private contract), the whole of the valuable MACHINERY, manufactured by the eminent engineers, Messrs. Whitworth, Manchester, including eight wood and a stone carving machines, by means of which every description of carving is executed with the greatest nicety and extraordinary rapidity, at an exceedingly small cost; likewise applicable for the manufacture of gun-stocks, saw handles, and numerous useful purposes. Also, the valuable patent right for carving in wood and stone, a stone turning machine, a ditto lathe, drilling and slotting machines, engineers' and other lathes, three moulding-machines, circular saw-benches, ploughing-machines, a 20 horse-power steam-engine, with boiler complete, tools, anvils, &c. The stock of carvings comprise the splendid rood-loft screen for which the medal was obtained at the Exhibition of 1851, altar-tables, chair-frames, &c.; an immense quantity of patterns in wood and plaster. On the same day will be Sold, the Lease of the extensive Premises, held for a term, at a moderate rental. May be viewed by cards only until the 6th of FEBRUARY, and publicly the Monday and Tuesday antecedent and mornings of Sale. Cards to view, catalogues, and particulars may be obtained of Messrs. ATKINS, ANDREW, ATKINS, and IRVINE, Solicitors, 5, White Hart-court, Lombard-street; of G. W. K. POTTER, Esq. 7, Basinghall street (where the lease and patents may be inspected); and at Messrs. OXENHAM'S Offices, 353, Oxford-street, near the Pantheon.

PECKHAM.—Valuable BUILDING LAND in Hanover-park, containing nearly five acres, with house of modern erection, TO BE SOLD by order of the mortgagee.—Apply to Mr. MARSH, 2, Charlotte-row, Mansion House, City.

HAMPTON COURT.—In Matham-road, near the above station, several eligible BUILDING PLOTS TO BE LET. Advances to respectable parties.—Apply to Mr. F. LETT, Architect, 36, Essex street, Strand.

BUILDERS' PREMISES REQUIRED, in or near the City, or a Builder wishing to part with his Business and Premises, if any, may hear of a party willing to treat with him, by addressing Z. W. Mr. Bradshaw's, 103, Bishopsgate street Within, E.C.

FREEHOLD LAND.—WANTED, about Fifty Acres, within one hour's ride of London by railway, suitable for the erection of a Lunatic Asylum, and contiguous to a high road.—Particulars, stating locality, soil, quantity of land, and price, to be sent to the Clerk of the Peace for the City of London, Sessions House, Old Bailey, on or before MONDAY, the 8th FEBRUARY, 1858.

BUILDING LAND TO BE LET.—A few PLOTS for six and four-roomed houses, in a densely-populated neighbourhood at the East End. Ground-rent three guineas and two guineas per plot.—Apply to Mr. S. FRANKLIN, 194, Tottenham-court-road.

TO ENGINEERS, IRON and BRASS-FOUNDERS, and SHIPSMITHS.—TO BE DISPOSED OF, by PRIVATE CONTRACT, the LEASE of commodious PREMISES, situate at the east end of London, together with the valuable MACHINERY, IMPLEMENTS, and PATTERNS.—The business has been established about twenty-five years, and in addition to the general engineering trade has a large connection among shipbuilding establishments, for the manufacture of an article of general use, both in the national and mercantile marine. The returns are from 5,000*l*. to 9,000*l*. per annum. The present proprietor would be willing to admit a partner to an equal share, or, as his health is rather impaired, would be willing to dispose of the entire concern. About 4,000*l*. or 5,000*l*. would be required for the purchase, a portion of which might remain on mortgage. For further particulars, apply to Messrs. FULLER and HORSEY, Billiter street, Fenchurch-street, City, E.C.

TO BUILDERS, &c. ONE to EIGHT CARCASSES of FOUR-ROOMED HOUSES, in a largely populated neighbourhood, REQUIRE FINISHING. The cement work is done, and the sewers and road complete. Parties willing to take one or more in part payment for work to be done may apply to Mr. H. GAISFORD, No. 11, Portland place, Stepney, E.

YORK-ROAD, LAMBETH.—TO BE LET, extensive PREMISES, with four-horse power steam-engine, suitable for a manufactory, or builder's workshops. The steam for the engine supplied by the landlord. Inquire on the premises, York road Sawing Mills, Lambeth.

CASSLAND ESTATE, SOUTH HACKNEY. To BRICKMAKERS and BUILDERS.—A PARCEL of LAND, about 2 acres, TO BE LET by TENDER for Brickmaking on royalty, and houses to be built on about 1 acre, from 25*l*. to 30*l*. per ann. value. Particulars at Cassland Estate Office, Cassland-road; or at Messrs. WALES and SHARK'S Office, 8, Great St. Helen's, E.C. Tenders to be delivered before 9th FEBRUARY.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-Inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, February 6, 1858.

The Builder,

Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—In consequence of so few of the subscribers attending the Meeting held on the 21st ult "to take into consideration Mr. H. Dodd's offer of a Plot of Land, near Slough, for building Almshouses thereon, &." the Directors have determined upon calling another SPECIAL GENERAL MEETING on the subject, to be held at the London Tavern, on WEDNESDAY, the 24th inst., at FOUR o'clock p.m. precisely, and at which they earnestly solicit the attendance of their friends and subscribers.

A. G. HARRIS, Sec.

February, 1858.

BUILDERS' BENEVOLENT INSTITUTION.—An ELECTION of PENSIONERS will take place in MAY next. Candidates may obtain forms of application to be returned on or before 8th March) at the Offices of the Institution, 18, Southampton-street, Bloomsbury.—Pensions, 24l. per annum for males, and 20l. for females.—Subscriptions are earnestly requested, and will be thankfully received by the Treasurer, Mr. GEORGE BIRD, 38, Edgware-road; the Secretary; and the Bankers, Sir SAMUEL SCOTT, Bart. and COMPANY, Cavendish-square.

A. G. HARRIS, Secretary.

February, 1858

THE BUILDERS' BALL in AID of the FUNDS of the BUILDERS' BENEVOLENT INSTITUTION will take place at WILLIS'S ROOMS, St. James's, on the 18th of FEBRUARY next

COMMITTEE OF MANAGEMENT.

Mr. Stanley Bird	Mr. J. Newson
Mr J. Chapman	Mr. T. Stirling
Mr. T. Cowie	Mr. J. Seward
Mr. W. Edis	Mr. J. Thorn
Mr. W. Hutchons	Mr. W. Todd
Mr. R. J. Hickman	Mr. J. Williams.

STEWARDS

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Mr W H Collins	Mr J. Peters
Mr W H. Cullingford	Mr J. G Pilcher
Mr W. Dennis	Mr C. Richardson
Mr H Dodd	Mr. R Richardson
Mr C Formby	Mr. W Simpkin
Mr C. Fish	Mr F Smith
Mr J. Gaither	Mr A Stansbury
Mr G. Grayson	Mr W Stirling
Mr W Harrison	Mr J Tilott
Mr. J N Hehing	Mr R Thomas
Mr. J Herd	Mr F Tyerman
	Mr J Wagstaff

Of whom Tickets may be obtained. Also of the Hon. Sec. Mr. JOSEPH BIRD, 18, Hanover Cottages, Regent's-park; and at the office of the Institution, 19, Southampton-street, Bloomsbury.

Double Tickets, 21s.; Ladies' ditto, 8s.; Gentlemen's ditto, 14s. including Refreshments. To insure comfort, the Tickets will be limited.

SPECIAL APPEAL.—FUNDS are greatly needed for the CANCER HOSPITAL, London and Brompton.

Treasurer—Wm Loxham Farrar, esq. 66, Lincoln's inn-fields.

Bankers—Messrs. Coutts and Co.

Secretary's Office, 167, Piccadilly, opposite Bond-street, where reports and every information may be obtained.

By order, W. J. COCKERILL, Sec.

EXHIBITION FREE.

DESIGNS for the MEMORIAL of the GREAT EXHIBITION The Drawings and Models submitted in competition may now be seen at the ARCHITECTURAL MUSEUM, South Kensington Museum, FREE, on MONDAYS, TUESDAYS, and SATURDAYS, from TEN to FOUR o'clock, and on MONDAY and TUESDAY EVENINGS from SEVEN to TEN. On the Students' days, THURSDAY and FRIDAY, and on WEDNESDAY EVENINGS, the charge for admission to the Museum is SIXPENCE.

Subscriptions in aid of the Fund are invited.

JAMES BOOTH.
GEORGE GODWIN, } Hon Secretaries

ARCHITECTURAL EXHIBITION, Suffolk street, Pall-mall East.—Will CLOSE on the 24th inst.—Open from 9 till dusk Admission, One Shilling. Lecture for TUESDAY, the 16th, by J. G. CRAIG, Esq., "On Colour" SYDNEY SMIRKE, Esq. R.A. will take the Chair at EIGHT o'clock.

N.B All Articles exhibited must be removed on the 25th.

JAMES FERGUSSON, F.R.A.S. }
JAMES EDMESTON, Jun } Hon. Secs.

GOVERNMENT SCHOOL of MINES, Jermyn street.—The following COURSES of LECTURES are about to be commenced:—

Thirty Lectures "On Geology," by Professor RAMSAY, F.R.S. to be delivered on Mondays, Tuesdays, and Wednesdays, at two p.m., commencing on Monday, the 15th of February.

Fee for the course, 1l. 10s.

Forty Lectures "On Natural History, or the Principles of Zoology, Comparative Anatomy, and Paleontology," by Professor HUXLEY, F.R.S. to be delivered on Wednesdays, Thursdays, and Fridays, at Ten a.m., commencing on Wednesday, the 17th instant.

Fee for the course, 2l.

Thirty-six Lectures "On Applied Mechanics," by Professor WILLIS M.A. F.R.S. to be delivered on Wednesdays, Thursdays, and Fridays, at Twelve o'clock, commencing on Wednesday, the 17th instant.

Fee for the course, 2l.

Tickets and prospectuses of the school may be had on application

TRENHAM REEKS, Registrar.

COMPETITIONS.

DESIGNS for the ELLESMERE MEMORIAL.—The Committee for the Erection of a Monumental Memorial to the late Earl of Ellesmere on the high land near Wrenbury, to the westward of Worsley Hall, Lancashire, are now prepared to receive from Artists and others designs of competing MODELS or DESIGNS of a suitable MONUMENT (not being a statue) The amount at the disposal of the Committee is 1,800*l.* and the party whose design is selected will be expected to supply, erect, and complete the monument for that sum. Premiums of forty and twenty guineas will be respectively awarded to the parties who shall, in the opinion of the Committee, submit the second and third best designs or models. It is the wish of the Committee that the monument shall be substantial and durable rather than elaborate and ornamental, and that it shall be easily seen from a distance Models or designs must be forwarded to the Bridgwater Offices, Hulme, Manchester, addressed to the care of Mr FEREDAY SMITH, and delivered there not later than the 27th MARCH, 1858

ARCHBISHOP HOLGATE'S HOSPITAL, in HEMSWORTH, in the County of York To ARCHITECTS.—The TRUSTEES of the above CHARITY are desirous to obtain PLANS for the ERECTION of a NEW HOSPITAL for the accommodation of Ten Brothers and Ten Sisters, and for a Porter and Matron; together with a CHAPEL for the Master's family, and Twenty Brothers and Twenty Sisters, and the Officers of the Hospital, a Board-room, and other conveniences for the use of the Trustees, and a new House for the Master. In the preparation of such plans, parties are requested to keep in view the erection hereafter of uniform Buildings, for the accommodation of Ten additional Brothers and Ten additional Sisters. The structure is to be plain and substantial, of brick, with stone facings, and with all the requisite fixtures, not to exceed the sum of 5,000*l.* The plans are to be sent in on or before the 14th day of MARCH next The Master of the Hospital will shew the site selected, and every other information will be furnished on application to

EDWARD NEWMAN, the Clerk to the Trustees.

Barnsley, February 3, 1858.

N B The Trustees are not authorized to offer any premium for plans not adopted.

CONTRACTS.

TO PLUMBERS, CONTRACTORS, and OTHERS. The Local Board of Health, for the District of Dewsbury are prepared to receive TENDERS for the necessary EXCAVATION for, and LAYING DOWN of the CAST IRON MAINS, and for the fixing the Cocks, Hydrants, and other articles necessary for the supply of water in their district.—The drawings and Specification may now be seen at the Office of Mr ARTHUR TURTON, 6, Bank-street, Bradford.—Tenders, sealed and endorsed "Tender for Laying Mains, &c" to be sent under cover to me, before TWELVE o'clock at noon on the 19th instant No allowance will be made for Tenders, nor do the Board bind themselves to take the lowest or any Tender.

CHARLES OLDROYD,
Clerk to the said Local Board of Health.

Dewsbury, 11th February, 1858.

TO PAVIORS. The Board of Works for Holborn District will meet at the Workhouse, in Little Gray's-inn-lane, on MONDAY, the 22nd inst., at SEVEN o'clock in the evening, to receive TENDERS for REMOVING the present CARRIAGE WAY in Gray's-inn-lane (from Holborn to Verulam-street), and RELAYING with new Aberdeen Granite Cubes. A specification of the works and the form of Tender may be seen on application at the Office of the Board, in Little Gray's-inn-lane, between the hours of TEN and FOUR, daily. The Board do not bind themselves to accept the Lowest or any Tender

47, Chancery lane, February 9, 1858.

S. W. HOPWOOD, Clerk.

CONTRACTS.

BRISTOL LOCAL BOARD of HEALTH. To BUILDERS, CONTRACTORS, and OTHERS.—The Local Board of Health of the City and County of Bristol hereby give Notice, that they intend to CONTRACT for LAYING DOWN, CONSTRUCTING, and COMPLETELY FINISHING certain intended BRICK SEWERS, within their district, viz.:—in the Parish of St Philip and Jacob, about 5,097 yards in length; and in the parish of Clifton, about 3,450 yards in length. Persons wishing to contract for the same are requested to deliver in their Tenders at the Offices of the said Local Board of Health, No 13, Prince-street, on or before THURSDAY morning, the 18th day of FEBRUARY next, at TEN o'clock, on which day the Committee will meet to determine upon the same. The plans and specifications of the Works to be done, and drafts of the proposed Contracts, may be seen at the Offices of the Local Board of Health, and any further information may be obtained, either on personal application, or by letter, pre-paid, addressed to the Surveyor, Mr. FREDERICK ASHMEAD, C.E. The party contracting will be required to give sufficient security, to be approved of by the Local Board of Health, for the due performance of the Contract. The Local Board will not hold themselves bound to accept the lowest or any Tender.—By order of the Committee,

JOHN G HEAVEN, Clerk.

Local Board of Health Office, 13, Prince-street, January 14, 1858.

TO ENGINEERS.—The Guardians of the Poor of the Parish of Camberwell, Surrey, will, at their meeting, on WEDNESDAY, the 17th FEBRUARY instant, be ready to receive TENDERS for the ERECTION of a STEAM COOKING APPARATUS, at their WORKHOUSE, Harld-street, Camberwell. A specification of the works required to be done, can be obtained, on application here, and the present cooking apparatus (which is to become the property of the contractor, and to be allowed for in the Tender), may be seen at the Workhouse Sealed Tenders, endorsed "Tender for Cooking Apparatus," must be delivered here before TWELVE o'clock, on the aforesaid day, and the parties tendering, will be required to be in attendance at FOUR o'clock By order of the Board of Guardians, ALEX. LOD IRVINE, Jun, Clerk.

Vestry-hall, Camberwell, 8, February 5, 1858

CONTRACTS, 1858.—PARISH of SAINT GEORGE, HANOVER SQUARE. Such persons as are willing to CONTRACT with the Vestry of the said Parish, for the following WORKS and MATERIALS for one year, from the 25th day of MARCH, 1858, viz.:—

Supply of Flints and Gravel.
Supply of Guernsey Granite.
Purchase of the Cinders and Ashes.
Carting away the Slop and Sweepings of the Streets.
Farmshaw't ditto and Horses for Day-work.
Spreading Water in the Streets.
Masons' Work.
Paviors' Work.
Supply of Paving Materials.
Supply of Thames Ballast, Sand and Hogging
Supply of Workmen's Tools and Hammers, for Stone-breaking, and Repairs of the same.
Smith's Works
Gasfitters's Works.
Supply of Bass Brooms
Drain pipes

May deliver in PROPOSALS, sealed up, at the Offices at the Boardroom, Mount-street, Grosvenor-square, or at the Board-room, 43, Lower Belgrave place, Pimlico, on or before SATURDAY, the 6th of MARCH, 1858. Those tendering are desired to take notice that all proposals must be made upon and strictly in accordance with the printed forms of Tender, to be obtained at either of the above Offices Further particulars may be obtained on application to Mr. E. C RICHMAN, Surveyor, at the Office, 43, Lower Belgrave place, any morning between the hours of NINE and ELEVEN o'clock Contracts to be prepared by the Parish Solicitors, at the expense of the contractors, and the Vestry do not bind themselves to accept the lowest or any Tender.—By order,

T. H. CHAPPELL, Clerk to the Vestry.

CONTRACTS for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS.—Persons desirous of TENDERING for the Supply of Timber, Deals, Slates, Lime, Sand, Bricks, Glass, Wrought and Cast Iron, Ironmongery, Gas and Water Pipes, Whiteland, Oils, &c. for Twelve Months, from the 1st of APRIL next, to the 31st of MARCH, 1859, for Pentonville, Millbank, Brixton, Portland, Portsmouth, Dartmoor, Chatham, Lewes, and Parkhurst Prisons, and Fulham Refuge, are required to forward the same, addressed, "Directors of Convict Prisons, 45, Parliament street, Westminster," on or before SIX o'clock, p.m. on MONDAY, the 8th of MARCH, 1858 Forms of Tenders may be had on application at the several prisons, or at the Office of the Directors, 45, Parliament-street, Westminster, on and after MONDAY, the 22nd instant

45, Parliament-street, Westminster.

BAPTIST CHAPEL, BRIDGWATER.—The BUILDERS.—Parties desirous of TENDERING for the ENLARGEMENT of the BAPTIST CHAPEL and for the ERECTION of NEW SCHOOL and CLASS ROOMS, &c. in connection therewith, and also for the ERECTION of a DWELLING-HOUSE near the same, may see the plans and specifications, and obtain forms of Tender, together with all necessary information, at my Offices in Eastover, on and after WEDNESDAY, the 10th instant, where Tenders, sealed and endorsed, are to be delivered on or before MONDAY, the 22nd,

ROBERT DOWN, Architect.

Dated Bridgwater, 8th February, 1858.

COUNTY LUNATIC ASYLUM, GLOUCESTER.—To BUILDERS.—The Committee of Visitors are desirous of receiving TENDERS for the ERECTION of a detached RESIDENCE, with outbuildings and boundary walls, &c. for the superintendent of the above Asylum. Drawings, specifications, and conditions of contract may be seen at the Offices of the County Surveyor, Clarence-street, Gloucester, on and after MONDAY, the 22nd day of FEBRUARY Tenders to be sent, under seal, addressed to the Committee of Visitors, County Lunatic Asylum, Gloucester, on or before MONDAY, the 8th day of MARCH next, by TEN o'clock, a.m. endorsed "Tender for Superintendent's Residence."—The Committee do not bind themselves to accept the lowest or any Tender, unless satisfactory.

[*For remainder of Contracts see next page.*

CONTRACTS.

NEW CEMETERY, BAKEWELL. — [illegible] BUILDERS and OTHERS. — The Burial Board of the Township of Bakewell, are [illegible] of [illegible] TENDERS from [illegible] parties [illegible] for the [illegible] and Completion of Two Chapels, with [illegible] &c.

Secondly, [illegible] Works connected with the Excavation, Draining, Formation of Road, Retaining Walls, Fences, &c.

Tenders [illegible] the whole works, or for [illegible] of the two [illegible] as above [illegible]. The plans [illegible] on view at Bakewell, from the [illegible] FEBRUARY to the [illegible] MARCH [illegible] to Mr. JOHN TAYLOR, [illegible], Clerk to the Board, [illegible] Tenders [illegible] MARCH [illegible] Board [illegible] be furnished [illegible] the Architect [illegible] be returned [illegible] Tender.

THOMAS D. BARRY, Architect, Liverpool.

February [illegible], 1858.

TO CONTRACTORS. — MARTIN, SAMUELSON, [illegible] Engineers [illegible] Iron Ship Builders, Hull, are prepared to receive TENDERS for the CONSTRUCTION [illegible] GRAVING DOCK [illegible] at the mouth of the River Hull, [illegible] Plans [illegible] Messrs. MARTIN SAMUELSON, [illegible] themselves to accept the lowest or any Tender.

February, 1858.

TO BUILDERS and CONTRACTORS. — CLEARWELL PARSONAGE. — Persons [illegible] of TENDERING for the ERECTION of [illegible] PARSONAGE [illegible] may see the [illegible] Clearwell [illegible] Tenders [illegible] the 1st of MARCH next [illegible] the Rev. H. [illegible] PARRY, Clearwell, near [illegible].

N.B. Neither the lowest nor any Tender will necessarily be accepted.

Clearwell Court, [illegible], 1858.

CONTRACT for DREDGING. — The Directors of the Commercial Dock Company are willing to receive TENDERS for DREDGING a portion of their DOCKS at Rotherhithe [illegible] for which may be [illegible] the Dock Office [illegible] after the 15th instant. The Tenders to be delivered, addressed to the Secretary, at the Dock Office, Rotherhithe, on or before WEDNESDAY, the 24th instant. — By order,

H. K. SMITHERS, Jun. Secretary.

Commercial Docks, Rotherhithe, Feb. 9, 1858.

COUNTY of SOUTHAMPTON. — NEW POLICE STATIONS at PETERSFIELD and HAVANT. To BUILDERS. — Persons [illegible] CONTRACTING for the ERECTION of POLICE STATIONS at PETERSFIELD and HAVANT may see the [illegible] on application at the Office [illegible] County Surveyor, St. Swithun-street, Winchester, [illegible] where any further information respecting the same may be obtained, [illegible] MONDAY [illegible] 15th inst. between the hours of TEN and FOUR. The [illegible] for inspection at the Office of the Clerk of the Peace, County-hall, Winchester, [illegible] of the plans [illegible] Petersfield [illegible] also be seen at the [illegible] "Tender for Petersfield Police Station," and "Tender for Havant Police Station," [illegible] be sent to [illegible] Clerk of the Peace, County-hall, Winchester, on or before WEDNESDAY, the 10th day of MARCH next. The Magistrates [illegible] to accept the lowest or any Tender. [illegible] due performance of the works [illegible] Tender.

T. WOODHAM, Deputy Clerk of the Peace.

County-hall, Winchester, February [illegible], 1858.

BELPER BURIAL BOARD. — To BUILDERS. — The Burial Board of the Township of Belper are desirous of [illegible] TENDERS for the ERECTION and COMPLETION of TWO CHAPELS, LODGE, ENTRANCE-GATES, and FRONT BOUNDARY WALL, according to drawings and specifications prepared by their architect, Mr. EDWARD HOLMES, of Temple-row, Birmingham [illegible] on and after the 11th FEBRUARY [illegible] and specifications [illegible] seen at the Town Office, Market-place, Belper, on and after the same day [illegible] bills of quantities may be [illegible] Bridge-street, Belper, on payment of [illegible] competitor. The Tenders to be sent [illegible] free of expense, on or before the 25th day of FEBRUARY instant, sealed and endorsed "Tender for Building Chapels, &c." — The Board do not bind themselves to accept the lowest or any Tender. — By order,

GEORGE PYM,
Clerk to the Belper Burial Board.

Belper, 1st February, 1858.

CARDIGAN MARKETS and IMPROVEMENT ACT, 1857. — To BUILDERS and OTHERS. — The Corporation of the Borough of Cardigan, hereby give NOTICE that they are ready to receive TENDERS for the execution of [illegible] works to be performed in the erection of markets and public buildings. Separate Tenders will be received for the proposed Markets, Guildhall, and Grammar School. Plans and Specifications of the same, as prepared by the Architect to the Corporation, Mr. R. J. WITHERS, [illegible] John street, Adelphi, London, will be for inspection at the Town Clerks' Office, in Cardigan, and [illegible] at the offices of the Architect, from the [illegible] to the 27th day of FEBRUARY inclusive. [illegible] quantities may be [illegible] on application to the Architect, by payment of 10s. 6d. Tenders are to be delivered at the Town Clerk's Office, Cardigan, on or before SATURDAY, the 27th day of FEBRUARY, in sealed envelopes addressed "Tender for Markets." The Corporation do not pledge themselves to accept the lowest or any other Tender. The successful competitor will have to satisfy the Corporation with responsible securities for the proper completion of the works.

EVANS and MORGAN,
Town Clerks of the Borough of Cardigan.

Town Clerks' Office, Cardigan, January 26th, 1858.

MEDWAY UNION WORKHOUSE. — To BUILDERS. — The Guardians of the Medway Union are [illegible] TENDERS for the ERECTION of a NEW WORKHOUSE at CHATHAM. The plans, [illegible] at the offices of Messrs. PECK and STEPHENS, Architects, [illegible] TEN o'clock in the Forenoon of WEDNESDAY, the 17th inst. The Guardians [illegible] to accept the lowest Tender.

GEORGE BUCHANAN, Clerk to the Guardians.

Chatham, February [illegible], 1858.

MALLING UNION, KENT. To BUILDERS, PLUMBERS, &c. — The Guardians of the Malling Union [illegible] WEDNESDAY [illegible] MARCH [illegible] TENDERS [illegible] CONTRACT [illegible] ALTERATIONS [illegible] ADDITIONS [illegible] WORKHOUSE [illegible] children, and a new infirmary for infants [illegible]

CONTRACT No. 1. — For the Builders' Work [illegible]

CONTRACT No. 2. [illegible]

[illegible] WEDNESDAY [illegible] Mr. MALTIN [illegible] PLUMBER [illegible] quantities and the [illegible] the 22nd instant. [illegible]

J. N. DUDLOW, Clerk to the Board of Guardians.

West Malling, February 1st, 1858.

CONTRACTS.

NOTICE. — ALDERSHOTT SEWERAGE. The TIME for giving in PLANS of SEWERAGE will be EXTENDED to the 1st of APRIL, 1858. The plan to exclude the barracks [illegible] property.

RICHARD ALLDEN, Chairman to the Local Board of Health.

Aldershott, February [illegible]th, 1858.

TO CARMEN, CONTRACTORS, and OTHERS. — The Board of Works for the Wandsworth District [illegible] TENDERS for WATERING the ROADS in [illegible] from the [illegible] of MARCH next [illegible] water, carts, horses, men, and [illegible] TEN and FOUR [illegible] "Tender for Watering" [illegible] TUESDAY, the [illegible] inst. Security will be required for the due performance of the contract. The Board do not pledge themselves to accept the lowest or any Tender. By order of the Board of Works for the Wandsworth District,

ARTHUR ALLEN CORSELLIS, Clerk to the Board.

[illegible] Wandsworth, [illegible] S.W.
2nd February, 1858.

TO BUILDERS of TEMPORARY CHURCHES. — A Church is required at the Parish of Islington, [illegible] Builders willing to contract [illegible] plans, and price [illegible] addressed to Mr. J. H. TAYLOR, 15, [illegible] street, Finsbury-square.

TO GAS-FITTERS. — The Directors of the Market Harborough Corn Exchange Company (Limited) are desirous of receiving PLANS and TENDERS for completely fitting up the Corn Exchange with GAS FITTINGS, including a 20-light Meter. — To view the premises apply to the Secretary, on WEDNESDAY, the 17th inst. and three following days. The Directors do not pledge themselves to accept the lowest Tender.

S. W. COX, Secretary.

TO BUILDERS and OTHERS. — TO BE SOLD, by Tender, an excellent CAST-IRON HORSE-MILL, [illegible] with the machinery and shafts complete, in good condition and fit for immediate use. Has been used for pumping. May be seen on application to Mr. BATES, Engineer, at the London Hospital, Whitechapel-road, between the hours of TEN and FOUR. — Tenders for the purchase to be delivered to Messrs. MASON and WHITE, Surveyors, 9, Great St. Helens, City, on or before MONDAY, the 22nd instant.

SEE DENNETT'S NEW PATENT for the Invention of COMPOUND ARCHES, in which there is a saving of fully 25 per cent. on any plan of construction now in use for FLOORS and CEILINGS of COTTAGES.

This is also the cheapest FIREPROOF construction for mansions, mills, and factories, superseding the use of the heavy brick arch; and the best and cheapest construction for preventing the communication of SOUND between floors and ceilings.

For particulars, apply to C. C. and A. DENNETT, Nottingham.

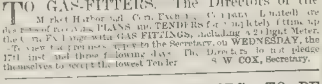
N.B. — Estimates given for construction in any part of the country.

WANTED, for an Ancient Elizabethan MANSION in Cheshire, a PAIR of ANCIENT FOLDING GATES, for a principal entrance, executed in light ornamental wrought iron-work, highly enriched, of English or Foreign manufacture. Date about the middle of the 17th century, [illegible], from ten to twelve feet in width, with proportional height. — Apply to Mr. GEORGE LATHAM, Architect, Nantwich, stating price, with a slight sketch of the gates.

TO BE SOLD cheap, TWO PAIR of GOTHIC-HEADED SWING DOORS, with spring hinges, handles, frames, &c. all complete. They are covered with crimson [illegible] have been in use only a short time. Price [illegible]. Apply to Mr. JNO. SCOTT, Builder, Upper Tooting.

J. MILLS (late Shop Foreman to Messrs. Lawrence and Sons), JOINER to the TRADE, 7, Princes-street, Stamford-street, Lambeth. Shop fronts, fittings, staircases, &c. Well-seasoned materials and superior workmanship, at the lowest possible prices. A quantity of doors and sashes always in stock. By enclosing a postage stamp, a full list of prices will be returned. — Workshops, 110, Broadwall.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland-street,
Blackfriars-road.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

S. A. JEFFS,

48 and 49, Cornwall-road, Stamford-street, Lambeth, S.
N.B. Price list on application.

SMOKY CHIMNEYS. — PILBEAM'S PATENT DOUBLE-CHAMBERED SMOKE-PREVENTING CHIMNEY POT. — Price 30s. A prospectus will be forwarded on application at the Office of Mr. A. PILBEAM, Architect, 18, Adam-street, Adelphi, London.

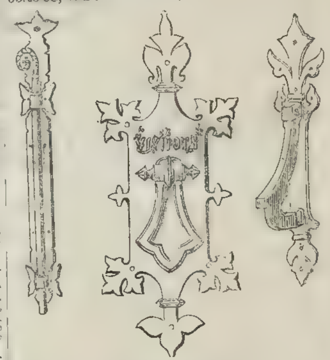
A SUBSTITUTE for LEAD, IRON, COPPER, ZINC, GUTTA PERCHA, and LEATHER [illegible] T. C. CLARKSON, Patent [illegible] hour by the power of two men. Price of pumps, 2*l.* 16s. to 15*l.* Tubes, 2½ in. square, 1s. 3d. per foot; in sheets, 6d. to 10d. per foot.

IMPORTANT TO GAS FITTERS, LAMP MAKERS, &c. — HAWKINS'S REGISTERED CHAIN [illegible] up to any weight. Sold by every respectable Ironmonger in the kingdom.

Manufactory, [illegible], Birmingham.

BATHS and HOT-WATER APPARATUS. [illegible] ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application. Estimates and Plans for Fixing given. J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate-street, London.

HART AND SON,
IRONMONGERS, MANUFACTURERS,
ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,
53 to 58, WYCH-STREET, Strand, London, W.C.



Specimens at the Architectural Exhibition, Suffolk-street, Pall-mall.

Illustrated catalogues free on application.

WELCH'S PATENT CALORIFIC REGISTER STOVE, FOR WARMING TWO OR MORE ROOMS, AND DISPENSING WITH COLD DRAUGHTS FROM DOORS AND WINDOWS. May be seen in operation at 36, Ely-place, Holborn-hill.

Price [illegible] Stove £2 0 0
Do. with handsome Chimney-piece ... 3 10 0

TO BE SOLD. — TWO 7-inch SLIDE and SCREW-CUTTING LATHES, beds 6 feet long, change wheels, &c. complete; Two Single Speed Drilling Machines, with movable tables; also a 2-foot Band Sawing Machine, [illegible], and with the latest improvements. Will be sold cheap. Address, M. F. Office of "The Builder."

IMPROVEMENTS IN HEATING, &c.

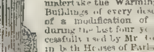
MUSGRAVE'S PATENT SLOW COMBUSTION STOVE, for warming Public Buildings, Halls, Shops, Conservatories, Factories, Drying Rooms, &c. Will burn in Churches from Saturday till Sunday evening, [illegible] attention during the hours of worship. In Halls, will burn day and night for weeks, with little care. Capable of warming a large apartment for twenty-four hours, at a cost of 3d.; and deserving of special attention, because of its safety, healthfulness, durability, and extreme simplicity.

This Stove is the nearest approach to warming by hot water.

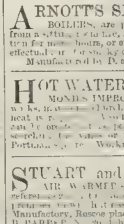
MUSGRAVE'S PATENT SLOW-COMBUSTION COOKING RANGE on the same plan.

MUSGRAVE'S PATENT STABLE FITTINGS.

These inventions will repay public inquiry. — For particulars address the Makers, MUSGRAVE, BROTHERS, 59, High-street, Belfast.

HEATING BY  HOT WATER.

JOHN WEEKS and CO., King's-road, Chelsea, HOT WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectively warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.



THE LONDON WARMING and VENTILATING COMPANY, Limited,

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Manager, WM. WOODCOCK),

undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.

Economy and effectiveness are the advantages offered.

Particulars and Testimonials forwarded on application.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.

Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

HOT WATER APPARATUS, on HAMMOND'S IMPROVED PRINCIPLE. — [illegible] horticultural works, [illegible] churches, public buildings, [illegible] heat is required [illegible] improved [illegible] per foot, and [illegible] Estimates at No. 15, George-street, Portman-square. Workmen sent into the country.

STUART and SMITH'S PATENT GILL AIR WARMER. — Every information may be obtained, and references [illegible] their Manufactory, Roscoe-place, Sheffield, or to their London Agent, Mr. B. BAREFP, No. 20, John-street, Adelphi.

COTTAGE RANGES. — BROWN and GREEN'S Improved self-acting Oven and Boiler Cottage Ranges are effectual [illegible] healthy [illegible] of fuel. Prices [illegible] inches, 20s. [illegible] inches, 24s. each. Carriage paid to London. Prospectuses post free. BROWN and GREEN, Manufacturers, Luton, Bedfordshire.

ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS, OLD ST. PANCRAS-ROAD, LONDON.

NOTE.—THE ST. PANCRAS IRON-WORKS ARE OPPOSITE THE OLD ST. PANCRAS CHURCH.

PROFESSOR VARNELL'S ENAMELLED MANGERS, STABLE FITTINGS, AND SWING MANGERS.

Cleanliness, Comfort, Economy, Imperviousness to Infection, Prevention of Crib-biting, and other Diseases, together with the better thriving of the Horse by the adoption of these Mangers, are some of the characteristic Advantages of this Invention.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND;

AND ADOPTED BY

THE ROYAL VETERINARY COLLEGE.

"This invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

FULL-SIZE STALLS AND LOOSE BOXES, AND EVERY DESCRIPTION OF STABLE FURNITURE ON VIEW.

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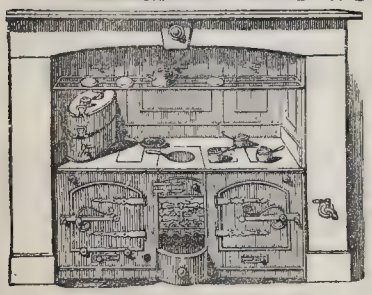

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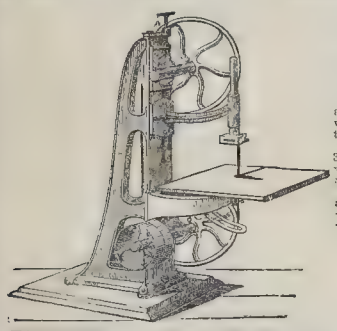

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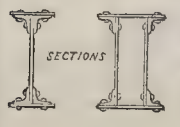

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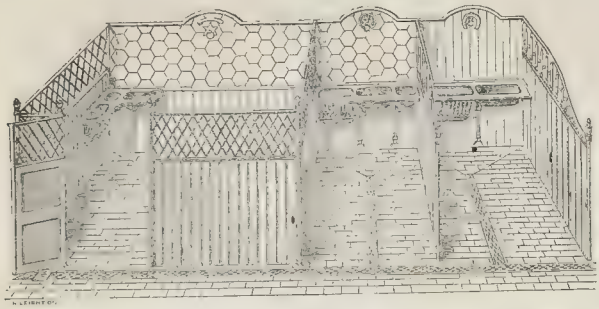

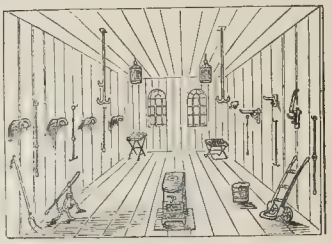

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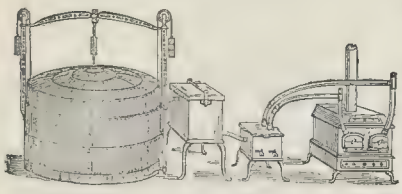

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THE PATENTEES have now worked the above Patent upwards of three years, and having a great many in use in different parts of this country and also on the Continent (it being the best article of the kind ever invented for exportation), and giving general satisfaction, they are in a position to confidently recommend the same as being naturally and fully adapted for lighting the mansion, the factory, the public buildings, churches, private houses, railway stations, small villages, &c.

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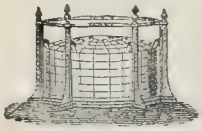

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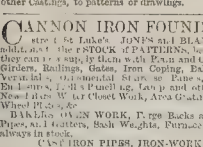

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Improved New Pattern Circular Check Register, with strong Barred Trivets, 5d per inch
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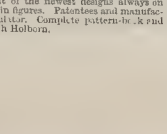

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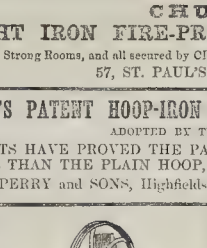

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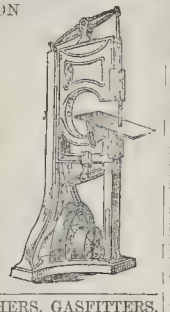

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The Builder.

VOL. XVI.—No. 784.

Art, and Buildings at Manchester.

IN our recent papers devoted to the town of Manchester, we spoke of matters connected more immediately with sanitary science and construction than architectural art.* To this last, however, as exemplified, we have referred in support of arguments which we put forth lately,—as to the possibility of having good national and original architecture, without falling back to Mediævalism, or taking any other basis than the style of the day,—and which arguments have since been publicly repeated. The progress, at Manchester, which began twelve or fifteen years ago, has been steadily maintained; and it may fairly be put forward in reply to those theories which lead men to set a fictitious value on some works, and so blind them to real merits in others, that they become incapable of the perception of art where it is produced. What else could lead the writer of a notice of Manchester architecture, in an excellent periodical, to single out the one Gothic-gabled and mullion-windowed warehouse that could be found—a work of little importance or merit—and pass slightingly over the noble works of architecture in a different style, with which the city abounds?

Many of the works we refer to, have heretofore, not been unnoticed in our pages; and several of them have been shown in drawings at the Architectural Exhibition, in previous years; but the number increases year by year. Amongst these works, such as are by Mr. Walters are to be distinguished from those of some of his contemporaries in the town,—as being remarkable for the grouping of principal and subordinate features; for the manner of overcoming difficulties of numerous stories and closely-set windows; for their effect of symmetry, as in a whole, where the conjoined buildings in *plan* are really and of necessity unsymmetrical; and for the calculation for distance, in mouldings, and the invention in details. In some of the warehouses, certain details occur which may not please those purists or puritans, who are in all cases *correct*, but never artistic. But, generally there is reason for these deviations: the very *rococo* of an *artist* may be more praiseworthy than the Palladian of a mechanician. Pediments to windows, in place of spanning the full width of the aperture *plus* architrave, are sometimes retrenched, with the frieze corresponding to the width of the aperture only. The result as to mere style, here is not the effect of purity; but, on the other hand, pediments are not crowded together, as constantly noticed, with the worst effect, where some similar device is not adopted. In deep recesses for shadow be thought important, that element of effect will be found provided for in the buildings under notice. And the combination where two materials—red brick and stone—are used, is generally happy: the whole basement and the window-dressings are not wholly of one material, and the plain walling of another; but the brick mingles with the stonework below, whilst the stone appears above, in bond courses, flush; or as bands with slight relief, from which the moulded strings and cornices again project. The warehouse of Messrs. Brown, Son, and Co. and that of Messrs. Kershaw, Leese, Sidebottom, and Co. adjoining one another, in Portland-street, and each wholly of stone, with much enrichment in Italian window-dressings and cornices, are in some way or other known to our readers; and the warehouses of Messrs. Gruner, Schmidt, and Co. in Lower Mosley-street, and Messrs. Henderson, in St. Peter's-square, have been shown in drawings exhibited in Suffolk-street. In the last-named work, either the upper portion of the building is insufficient in decoration or dimensions for the lower part, and for the effect of the whole, or the architect has erred in a manner unusual with him, namely in the relative proportions of the main divisions of the height. Still there is so much beauty and novelty in the details, that the design may be the architect's best in the class of buildings. Besides the warehouses we have mentioned, we find we have noted down as by Mr. Walters, those in Mosley-street, opposite the Portico, as characterized by the valuable quality of general symmetry of effect,—here produced by prominent decorative accessories to the principal windows of the first-floor,—in spite of an unavoidable antagonism in the position of the doorways in plan; also the block of buildings erected for Messrs. Jones (Brothers), in York-street—peculiar amongst other things, for the bold relief of the masonry in the lower story; and the warehouses at the corner of Charlotte-street and Fountain-street, belonging to Messrs. Callender and Sons. Also by the same architect, are the warehouses in Marsden-street, built for Mr. Wm. Atkinson, in red brick and stone, of four stories, besides an elevated basement, and having arch-headed recesses and piers for the main portion of the height, with a pilastraded top story and a block-cornice; whilst the rusticated coins, as in the greater number of the architect's works, are alternated in different patterns, and have a pleasing effect of novelty. Two of the number of arches forming the arcade, at each end of the front, are coupled, the support in place of the brick pier being a small column carried on a truss. Art is shown in these buildings, and general effect obtained, as well by the introduction of carved ornament to some of the apertures, as by the comparative plainness of other openings,—in place of treating *all* alike with Italian architraves and cornices. In some of the windows moulded jambs are introduced. For like reasons, the warehouse of Mr. J. Peiser, in George-street, apparently by the same hand, deserves notice. It is also of red brick and stone, and has a rusticated and arcaded basement with carved consoles to the arches, and a string course with a bold roll-moulding enriched with leaves. The doorway here has an arched head, cornice, spandrils, and festoons, and an ornamented roll-moulding in the hollow of the jambs. The windows above are grouped together story and story, in the composition, and well joined with the moulded strings. The top story has arch-headed windows, each with a kind of pendant in the centre, and a spandril space in which is carved a phœnix. A bold cornice, with small cantilevers, crowns the whole; and the rusticated coins again contribute to the successful effect of the design. The large pile of warehouses, of like materials, just completed at the corner of George-street and Charlotte-street, and belonging to Mr. Edmund Potter, has the peculiar treatment before referred to, of the bands or fascias of very slight relief from which the mouldings of the strings proper, project: and distinctive character is given to the basement, by its masonry, where small stones are used for the plain wall-surface, so as to form a good background and relief to the moulded architraves and dressings. Part of this block of buildings is of five stories in addition to the basement, the remainder being one story lower, and the junction of the two levels is attained by continuing the upper one of the bands, with bold pateras, along the whole distance of the two fronts. Some of the architraves in the upper windows, are unmoulded, or only chamfered at the angle with a roll inserted, or are in the form of splays; and the piers have projecting panels in the brickwork. The retrenched friezes and pediments are in this case used to the windows of the third story. Those of the second story have segmental heads, and cornices, continuing as a string, and breaking forward on trusses, as the sill of the windows above; and the principal, or ground story, has segmental-headed windows with moulded architraves, and the doorways are arch-headed, with architraves and cornices, and enriched spandrils; whilst the elevated portion of the basement story is treated with horizontal rusticated work.

The buildings of this class, in Manchester, have been cavilled at, for the very qualities which, we conceive, make their merit. They are called palatial in character, rather than as bearing the appearance of warehouses. It must be understood, however, that they are not devoted to the storage of heavy goods, or to purposes at all resembling those of warehouses in Thames-street or Tooley-street, or the river-side. We do not know what precise character would be called for, as suited to emporiums of goods, including many of the elegancies of attire. The best of the warehouses of New Cannon-street—greatly inferior to the Manchester buildings in point of art—would, of course, fall under the same ban of censure. In fact, doubting the justice of the complaint on any ground, we cannot see that it is possible to our art to carry out the expression which would be here pre-supposed. All that deserves to be aimed at, is an expression *consistent with* the purpose; it is not possible to do much more, even with the liberal application of *sculpture:* an inscription would have to be lugged in; and then in that case, how much of the intended information or expression could be credited to the architecture proper? We would not have a lunatic asylum to look like a prison, or a church like a theatre: between the ideas of expression which the purposes of such buildings suggest, there are obvious and wide distinctions; but it may be easy to steer clear of error so far, and yet impossible to make minute subdivisions, or to get the observer to recognise them could they be made. We do not say that the fact is worth much, or as auguring impossibility,—nevertheless, it is the fact, that the minute subdivision has never been recognizable popularly, in any style of architecture: nay, and to the length of error, one style makes too greatly, everything, ecclesiastical; another is open to the charge that its churches are like exchanges. Something even, is due to mere effect of street architecture, without reference to purpose of buildings. We may, as to these warehouses, at least ask to be shown what is the character proper for buildings which are allied to the retail shops, more than to the class of wholesale stores of heavy goods. Granaries, or the warehouses of a sea-port, might properly be required to appear very different to them, externally.

The Manchester Free Trade Hall has been so recently noticed and illustrated in these pages, that we need not describe it. In character it approaches more nearly to a recognised school of art—that of the Venetian Italian—than other buildings by the same architect;

* See page 2, *ante*, and pp. 685, 717, and 749 of last volume. We shall give attention to the baths and wash-houses in a separate article, shortly.

though it may still rank as the best of his works, and one of much merit. The great hall, by artificial light, has an excellent effect; and some curious questions are suggested by it, in relation to other interiors. By day, the impression is that there is want of colour: by night, on the contrary, it would seem that any further colour would detract from the effect. The subject of the decoration of buildings used both by day and night, is a difficult, and perhaps an unconquerable one. In this case, at night, with the admirable lighting (by rose lights from the ceiling), the details appear clear and beautiful, and the shadows as all helping to throw out the enrichment. But, the apertures in the ceiling and cove, for light by day, at night are defects: they appear as patches of black. In such cases, would it not be well to introduce some contrivance of sliding shutters, decorated, to obviate the evil? The roof of this building, about 78 feet span, deserves attention as a piece of construction.

Amongst the houses which Mr. Walters has designed in the neighbourhood of Manchester, there are some good ones in Victoria-park, Rusholme. We have already alluded to the importance of what has been done in the branch of interior decoration. Mr. George Jackson, of Manchester, and Mr. Crace, of London, appear to be deserving of the chief credit in this particular. The coffee-room of the Union Club, redecorated by Mr. Crace, shows great skill in the treatment of ornament and colour.

Amongst the other buildings of Manchester of recent completion, it is impossible to pass over the immense pile of warehouses by Messrs. Travis and Mangnall, built for Mr. Watts, in Portland-street, because of the expressions of wonderment and praise that we have lately found recorded concerning them. We cannot, however, amend the opinion given when we looked at the design which was shown in Suffolk-street. Not that there is no evidence of professional skill, as for example in the structure, and in the very elaborate internal fittings, both which display much ingenuity; but the design lacks some of the chief qualities for a good result. There is novelty in the main forms, and the use of the details of the Renaissance; but the novelty is present mainly, and in predominance over that beauty which is equally or more important. Far from the requisite grouping of features, as principal and subordinate, and far from there being the calculation for height and distance as to the effect of ornaments and mouldings, the work fails in a marked manner in those essentials, and all the more so from its dimensions. We deem it of some importance—as to public taste—that mistakes such as those in the opinions as to this work—the most important in Manchester, in size and prominence—should be corrected. The building, then, has the effect which follows from great dimensions aided by what will always result from the use of good stone,—an effect which cannot but be in a certain sense impressive. This effect, however, is that which may be produced by any vast and towering mass, natural or artificial, in a confined space. In the work of nature, however, you have details, or sources, of the beautiful, which can exist there alone: in the work of man, their absence is to be supplied by a distinct thing—art. The popular eye may be caught by a colossal thing—or a great mass of brick or stone work,—but the judgment is not necessarily concerned in the admiration. It is a defect in point of *art*, when that which is colossal appears to be otherwise; but it must be equally a defect when mere size, mere material, or mere quantity of work or ornament, is that which claims attention. In the latter case were the impression produced, that from art,—any one who could pile up stones, or multiply castings, would be an artist: but to the true creation of art, no one can aspire who brings not to the labour the devotion of deep study, and the exercise of the nicest discrimination. The length of the principal front of this building is about 300 feet, that of the end fronts, each 90 feet; and the height reaches to upwards of 100 feet. Three fronts are wholly faced with stone, of which there are said to be about the building, 73,000 cubic feet. The other quantities are understood to include 700 tons of iron, 40,000 cubic feet of timber, and 27,000 superficial feet of plate-glass. There are about three acres of flooring. In the principal warehouse, the plan, though apparently simple, really has been the result of considerable ingenuity. The object in these cases is to reduce disadvantages incidental to large area and numerous floors, to the *minimum*,—or to arrange for complete inspection and supervision from one or two central and elevated points, as well as for ready access, for buyers, to the numerous departments. A well-planned staircase, but involving a clear opening through the tiers of flooring, and an undivided area, are therefore necessary; and any danger as to the spread of fire seems to be encountered in preference to a deviation from what are thought to be the commercial requirements. The fittings in the warehouse under notice, comprise a very large amount of work. They are chiefly of pitch-pine, finished without paint, but inlaid with pieces of rosewood, and ornamented with rosettes, and other decorative patterns, in iron-work. There is so much that is excellent in the work of the architects, in this pile of buildings, that we regret much that we have had to take exception to what they have done in some particulars. To them also, some credit may be due for the progression in Manchester architecture. The house they built for Sir James Watts, Abney Hall, we are told contains a finer suite of rooms than can be found at Windsor Castle. The additions to the Salford Free Library and Museum, in Peel-park, by the same architects, now completed, seem to be well planned; and the design, internally and externally (in the Italian style, with ornaments of the early Renaissance school), displays skill and taste.

Speaking of this last-mentioned building, we should notice the Free Libraries (of Salford and Manchester), as institutions which are most honourable to the town, and to the individuals to whose exertions their formation is chiefly due. To the Salford Library and Museum, Mr. E. R. Langworthy has contributed no less than 5,000*l*. This institution contains in the reference and circulating library departments about 20,000 volumes: the average daily issue during the last year in the former department, has been 282 volumes, exclusive of dictionaries, and in the circulating department 216 volumes; and it may be useful to say, as we are able to speak to the point, that no injury worth mentioning, results to the books, except from fair wear and tear. Newspapers and periodicals are to be seen in the reading-room. The success of the institution, as regards number of visitors to the Museum, was noticed in a paragraph in our last volume. The visitors would last year exceed 800,000, or vastly more, as it appears, than the number admitted to the British Museum. The Manchester Free Library some time ago contained upwards of 32,000 volumes in the two departments. The book-shelves and other fittings are in excellent taste, and are even elaborate in carved enrichment. The gas-burners, as usual in *public places* in Manchester, are all ventilated, and the rooms are most convenient and comfortable. To these institutions any one resorts—in coat of cloth, or jacket of fustian. Besides these libraries, however, Manchester has the Chetham Library, the oldest free library in the kingdom, with about 21,000 volumes, and numerous subscription circulating libraries of from 15,000 to 30,000 volumes each. London is sadly behind.

We ought not to quit the warehouses of Manchester without naming that of Messrs. John Muir and Co. in Falkner-street,—a stone-fronted building deriving a distinctive character from its arcaded basement, angles of the building treated as pilasters, splayed windows and good mouldings; and the warehouse of Messrs. Godfrey, Pattison, and Co. in George-street, which in the novel arched door-heads, and consoles to the windows, has some of the best of the good stone carving of ornament which the town contains. Neither should we omit to name a large pile of warehouses in Fountain-street, near Princess-street, and a large stone-fronted building in Portland-street, now erecting, as in both cases containing decorative work extraordinary in amount as compared with what was formerly thought necessary; though the art-work in them may be unequal to that found even in less ornate compositions. We may name with more approval, on the score just referred to, the warehouse of Messrs. Hugh Balfour and Co. in Portland-street, now building, and designed by Messrs. Clegg and Knowles; and a warehouse at the end of Deansgate, near Victoria-bridge, by Messrs. Mills and Murgatroyd. The front of a small building in Strutt-street; certain features in buildings in Corporation-street; the fronts of the warehouse of Messrs Rylands and Sons, in High-street and Stable-street; and many other works might be added to our list. A warehouse in Charlotte-street, just completing, five stories in height, has some novelty in the details, but has not the requisite grouping for the number of its features.

The arrangement of the area in front of the Infirmary, should be mentioned as a good exemplification of the principles to be observed in such cases; and by which, essential requisites to the effect of a building are provided. But, whilst this particular feature of the area may be quoted in illustration of arguments on the subject put forth heretofore by us, the monuments to Wellington and Peel, and the statues of Dalton and Watt, may equally be instanced in evidence of our assertions, touching the mistakes which are made in such works of sculpture. Questionable allegory; heavy folds in the drapery, not suited to bronze,—as in the statues of Dalton and Watt, which were, by a sad mistake, and a perversion in art and taste, copied from marble statues,—and, as it seems to us, in the Wellington monument, a very disputable proportion in the limbs; are to be observed to an unfortunate extent. Mr. Noble's statue of the Queen, in the Peel-park, is a far more pleasing work; but the selection of white marble must be of doubtful propriety, considering the atmosphere of the district.

In church architecture, and buildings belonging to the same class, there are some works deserving of notice. The restoration of the south side of the clerestory of the cathedral has been successfully accomplished; and the work is, it is understood, to be continued, and to include the whole fabric. The building is a fine one, whilst the structure is in a lamentable state; and the facts will both justify and excuse a complete measure of restoration. The tower has been long a subject of apprehension. A contemporary, who seems for the moment led away by the demon of fine writing, however, is wrong in comparing the stained glass with that of Merton College; and the painted spandrils and crypts with those of St. Mark's. Crypts, for instance, there are none. The stall-work and the ceiling of the choir, are the best features of the edifice; and may be they are equal to anything in England. In several recent churches or chapels in Manchester, modifications of a style of architecture, not Gothic, are to be observed. Red brick and stone, and sometimes white and dark-coloured bricks in patterns, are used in such cases. The church at Miles-Platting, designed by the late John E. Gregan, may be named as one of those in which round arches, an apsidal east end, a square tower, and brick-work corbelling to parapets, are used. Mr. Walters's Independent Chapel at Knott-mill is nearer to the Venetian-Italian type, and has a square tower at the sides, with a pyramidal capping; but the recent work which is perhaps most worthy of note—without reference to merit,—though that it does possess,—is the Jews' Synagogue, building on the Chetham-hill-road, designed by Mr. Salomons. It is a Lombardic, or even Saracenic version, of the Byzantine; and has lofty aisles with three stories of windows, a very low clerestory, and a polygonal apse, and makes much display of coloured pattern-work in the bricks moulded and plain, and of variety of form in the apertures and arches.

We should have noticed the completion of the work at the Manchester Exchange, by the remodelling of the circular end, externally, and as regards the ambulatory of the semi-rotonda of Harrison's building. A new workhouse is being built at Crumpsall.—The Mechanics' Institution

also might have come into the list of recent buildings. A comparison of the little effect obtained here, by ordinary Italian window-dressings—of the best character though they be—with that produced in buildings where, keeping to the same style of the day, ideas deduced from the most varied sources, are admitted, would have served in illustration of some previous remarks.

Mr. Gregan is thought to have been sorely tried in relation to his duties on this building. The plan was a difficult one; and the architect seems to have been accused of sacrificing ground, for the sake of building with square angles. The chief source of misunderstanding, however, and that which forms the only reason for this slight reference to the subject, was in the question of quantities; the committee thinking that the architect had bound himself by his agreement with them, to provide all that was required, for them or the builders, for the 5 per cent. or professional remuneration agreed upon,—the architect, it would appear, receiving or claiming from some party, the remuneration according to custom, for the quantities. Each side was actuated by perfectly honourable intentions: yet one party seems to have got erroneously, such imputations upon him, as it is said, hastened his death. One thing is clear as to the question of quantities: the possibility of such a misunderstanding as this referred to, must be removed. The way to that, consistently with the very interest of the employer, however, is even more difficult in provincial than in London practice. The usage amongst the Manchester architects varies widely; but in no case does it seem, more than amongst the London architects, to attain the objects desired.

MR. SCOTT'S SECOND LECTURE ON ARCHITECTURE AT THE ROYAL ACADEMY.*

The next example I will notice is the church of St. Germain des Prés, at Paris—an example of special value, from its possessing the element which we lack at Noyon. It was dedicated in 1163, or nineteen years after St. Denis.

The comparison of St. Germain with St. Denis leads to one of the most curious questions connected with this part of architectural history, for during this interval of nearly twenty years *no progress whatever* would appear to have been made: indeed, to judge from the buildings, one would be disposed to transpose their dates; for while St. Denis, in 1144, is purely pointed (the crypt alone excepted), St. Germain, in 1163, has round arches used in the most prominent positions, though in other respects exactly agreeing in detail;—and this is a most important church in the royal city itself.

How is this long stagnation to be explained?

I will not pretend to answer it positively, but I would suggest the following solution. Two years after Louis VII. and Queen Eleanor attended the consecration of St. Denis, they set out on a great crusade, the one at the head of 100,000 warriors, the other of a troop of Amazons she had levied from among the ladies of her court. The Amazons and their inordinate amount of baggage led to the destruction of the army at the battle of Laodicea. The king returned to his dominions impoverished and humbled; shortly after which, his Amazonian consort, obtaining a divorce, deprived him at one stroke of half of his dominions, and transferred the rich Provençal dower to Henry II. the English king. I would suggest, then, whether this sudden stoppage in the development of architecture may not be accounted for by the equally sudden exhaustion of the resources of the French kingdom, as the early commencement of the improved style has been in a measure attributed to its previous increase in prosperity.

The sculptural art at St. Germain des Prés, seems exactly on a par with that at St. Denis and Chartres. The capitals are either of the Byzantine corinthianesque, or are filled with animals (natural and grotesque), or consist of a union of both. They are exceedingly fine examples of their style, and I have selected one of them as a type of the style. The design of the interior of the choir, though severely simple, is exceedingly fine, and in some degree original; the triforium being ingeniously united with the clerestory. I exhibit a sketch of two of its bays.

The western doorway seems to have very closely resembled those at Chartres; but the whole of the sculpture has been removed, excepting the tympanum which still bears the representation of the Last Supper; and the shafts, which, we are informed, bore full-length figures—alternating, in all probability, with smaller ones richly diapered, as at St. Denis, Chartres, and Bourges—have been exchanged for plain ones. The capitals are of rich corinthianesque foliage; amongst which are represented grotesque birds, harpies, &c. The basement, or pedestal, is fluted exactly as at Chartres. On the whole, this church deserves much more attention than it seems generally to have received.

I now come to an example of peculiar interest to ourselves,—that cathedral which it is customary to suppose to be the parent of our own Pointed architecture; and which, though I by no means subscribe to that opinion, possesses an interest sufficiently deep as being, without question, the prototype of the glorious choir and the Trinity Chapel at Canterbury, the metropolitan church of all England,—and as having, through them, exercised a powerful influence, and given a certain degree of French colouring to the immediately succeeding developments throughout the length and breadth of our land,—I need hardly say that I allude to the cathedral of Sens.

I am ashamed to say I had not seen this noble church, till a short tour I have made during the present winter, and with reference to the present lecture. I had unconsciously entertained a certain feeling of jealousy towards it, arising from the exaggerated opinions constantly expressed as to the entire dependence upon it of our Pointed style; but my first exclamation on entering its nave was, "Well, if our Gothic churches are all derived from this, they had, to say the least, a *glorious* parentage."

Though a cathedral of the second magnitude, and much injured by subsequent alterations, I know few which have a nobler or more impressive aspect. Even the soaring interior of Amiens, which I chanced to visit the day after, did not efface from my mind the sterner grandeur of Sens.

The interior is extremely simple, and rather obtains its impressive effect from the magnitude of its leading features, and still more from the noble sentiment which must have pervaded the mind of its designer, than from anything which can be specifically defined in words. Its nave is of unusual width, being 49 feet from centre to centre of the pillars, which are alternately vast clustered piers of about 11 feet 6 inches diameter (a large portion of which runs up to the vaulting), and coupled columns of nearly 3 feet diameter each. The triforium is somewhat too small—the only fault in the composition—and the clerestory windows have unfortunately been renewed at a later age. It is generally stated that the whole of the vaulting was renewed with them:—this, however, is incorrect; the only parts renewed were the side-cells, which, as is proved by evidence I need not here go into, were round-arched, and came low in the clerestory-wall, thus diminishing the height of the windows—a defect which led to their reconstruction. Not only are the ribs of the original section, but the bosses are clearly of the same early age, which, I think, is sufficient to disprove the idea of the vaults having been rebuilt. The vaulting of the aisles has round transverse arches, and the aisle-windows, as well as the wall-arcading, are round-arched. The carving is of the same kind with that I have so often described, and most of it is severely simple. Some of the capitals to the wall arcading are very rich, and many of them contain grotesque animals, birds, &c., finely carved.

The west portals were probably the latest part of the original church, and have since been altered by the substitution of tympana of later date; but the sculptured art they contain is some of the very finest of its period; many of the figures being of Classic beauty, and of far more than Classic expression.

This church was dedicated in 1167, though—with the sole exception of the portals—its character would have led one to place it earlier than St. Denis.

Two years before the consecration of Sens, was commenced the great crowning work of the French transition,—*Notre Dame at Paris*. Its erection occupied the remainder of the century; while that of the western façade reaches over the first quarter of the succeeding one. I will not attempt a description of what this most noble church was in its original condition; it will be found clearly particularized in M. Viollet le Duc's Dictionary—a work which should be in the hands of every architectural student. I will rather confine myself to its influence upon sculptured foliage.

On its first commencement no advance was made upon the Byzantine carving of St. Denis; indeed, the capitals in the eastern gallery look almost more archaic than their predecessors of twenty or thirty years' earlier date,—I exhibit some specimens of these. It is curious, however, that the capitals of the large columns below these galleries are in a decidedly more advanced style. This M. Le Duc ingeniously attributes to the employment of artists of different ages, and to the preference given (in an age of advancement) to the younger ones leading to the more important capitals being committed to their hands. I should, however, be inclined to account for it differently, by supposing the smaller and more detached capitals to have been carved before they were fixed, and those of the great pillars left to the last thing before the removal of the scaffolding. I can appreciate this by my own experience, for in the church I am building at Hamburg there will be some ten years' interval between the carving of the triforium and that of the pillars which support it; during which interval I am horrified when I recollect that *all but one* of the artists have died from the destructive effects of the stone dust, and that one has been saved only by my having requested him to relinquish carving, and to content himself with making models for others to work from,—a system which, under other circumstances, is one of the advisableness of which I entertain doubts.

The capitals, however, in the *nave* are those which best display the enormous advance now being made. I should not have dwelt so long on the merely antiquarian fact of the importation of the Byzantine Corinthian into France, had it not led to this glorious result. In the nave of Notre Dame every vestige of this *Greekesque* foliage is got rid of, its general outline alone excepted, and a kind, perfectly new, and most truly noble, is substituted, founded slightly on reminiscences of the true Romanesque foliage previous to the Oriental importation, retaining the outline suggested by the acanthus-leaf, but worked up into a form which had never before been hinted at, and which was destined to effect a great revolution in this branch of art. From this time forward (till the end of the thirteenth century), the French carving is noble and effective in the very highest degree; at first gradually approaching natural forms without directly imitating them, but eventually adopting frankly the productions of nature as its guide, but so far conventionalizing them as to fit them perfectly to their position, and to make them produce a conteur harmonizing with, and adding the utmost beauty to, the features of the architecture to which they are applied. I exhibit numerous specimens of this class of foliage in Notre Dame. I will also call attention to a drawing of one of the capitals (in the apse of St. Leue, near Creil (executed a little after a great accession of wealth to the abbey, in 1175), as a specimen of the same advance in foliaged carving, and to some of the capitals from the west front of Notre Dame (about 1220), as examples of its success just before the systematic introduction of natural foliage.

At this point I ought to mention the introduction (though of somewhat earlier date), of what the French call the capital *à crochet*. I exhibit some sketches showing its origin, from a plain, unrutiled leaf, which accompanied the Byzantine acanthus. This plain leaf may be seen in a simple form, in the apsidal columns at Noyon, in a more advanced state, in the nave of the same church; and at Laon (which, however, is a good deal later), and pretty well developed at Sens. In Notre Dame, it assumes a considerable importance, and in the west front is used in its most perfect purely conventional form; while a little later, as in the Sainte Chapelle, it is decked and entwined with natural leaves, in the most elegant manner imaginable. No feature which arose during the French transition, is so universal in its influence on the architecture of other countries. In France its use is often carried to a vicious excess; but, used in moderation, it is a very valuable element in the *architecturalization* of foliage!

I have to apologize as well for the length to which I have prolonged my remarks on the French transition, as for the very meagre outline with which the limits of a lecture have compelled me to satisfy myself. I will reserve a few remarks, suggested by what has passed so hastily in review, till I have described some of the English examples.

The English transition was so complete in itself, and all its stages so perfect and so consecutive, that, were it not for our knowledge of that of France, and for the *interpolation*,—if I may say so,—of the almost purely French work at Canterbury, one would be loath to believe that it had been influenced by any other than the

* Continued from p. 86, *ante*.

natural and spontaneous working out of the development of our own Romanesque.

It may be divided into several stages, though they are often intermingled in the same work.

1st. Those buildings which are strictly Romanesque, excepting only that pointed arches are partially used. Such is the nave of Fountains Abbey. The date of this is unknown, but it was in all probability erected between 1140 and 1150, thus agreeing in age with St Denis. Next comes Kirkstall Abbey, commenced in 1153, and, though it appears to have taken thirty years to complete it, retaining the same character throughout,—*purely* Romanesque, and that of a stern and severe variety, but with pointed arches to its more important parts.

Bildwas Abbey belongs to the same class, commenced probably a few years after the foundation of the abbey in 1135, thus probably agreeing in age with Fountains. These examples would appear at first sight to date back our transition as early as that of France; but this would scarcely be a fair conclusion, for, without doubt, many French examples of the same kind,—mere Romanesque with the larger arches pointed,—exist in France of an earlier date than that of Abbot Suger's work. I will therefore pass over these merely incipient specimens.

The next class is the extremely refined Norman, with or without pointed arches, such as the Galilee at Durham, where, though the date is clearly transitional, the ornaments are Norman, of a delicate character, very different from Fountains and Kirkstall, and showing a later date. This was the work of the celebrated Bishop Pudsey, the great promoter of the Transition in the North. He commenced in 1155 (as I believe with his chapter-house, a purely Norman work), and closed with the erection of Darlington Church, nearly as purely pointed. His episcopate spread over about forty years. Of this class the examples in the north of England are most numerous, but are so intermixed with decidedly pointed work as somewhat to confuse the classification. It is common, in fact, to find a building nearly purely pointed, but with doorways of this class; of which there is a notable, but not very early, instance at Jedburgh, where the doorways are perfect gems of refined Norman of the highest class and most artistic finish, while the interior of the church is purely pointed.

One of the most remarkable specimens of this class is at St. Mary's Abbey, at York, in the vestibule of the chapter-house. I give a restored view of one of the entrances, partly from remains *in situ*, and partly from fragments preserved in the museum. The date of this most exquisite work is unknown; but I should suppose it contemporary with the later years of Archbishop Roger, the great promoter of the transition in that diocese, and who presided over the see from 1154 to 1181. He rebuilt the choir of his cathedral, of which the very noble remains of the crypt were discovered a few years back, of a very refined Norman style. He also built the palace on the north side of the cathedral, of which a most beautiful fragment remains. This fragment, though simpler, and with round arches, agrees exactly in its detail with the doorway at St. Mary's, even to the exact diameter and height of its shafts and capitals, and was, no doubt, executed by the same persons. Roger also, as has been proved by Mr. Walbran, built the choir at Ripon, of which I give a bay. Of the same class, and in the same diocese, may be mentioned the west end of Selby Abbey, and the church at Old Malton; and of the same date are probably the stately remains of Byland Abbey, one of the noblest relics of the age, and of which the choir was clearly built on the plan of that of Roger, at York. Also Roche Abbey, of which I give a capital.

In the south, I will first mention the church of St. Cross, near Winchester, which seems to be intermediate between the above named classes. It is Norman, of a grand and severe, but at the same time highly refined character; but with Pointed arches to all principal parts. Its foliage is untinged by French taste, but is of a very refined and elegant character. It is as massive as the earlier specimens, without their heaviness, impressive without becoming oppressive. It is, in fact, the most perfect and the purest type of the indigenous English transition. Unfortunately, its date is unknown; for, though founded in 1136, and the hospital actually commenced in that year, it is impossible to give so early a date to the church. It was founded by Henry de Blois, brother to King Stephen, who held the see of Winchester from 1129 to 1171, and it is but reasonable to suppose that the earlier parts of the church were completed during his lifetime.

Contemporary with the close of this structure, is the great western tower of the cathedral at Ely, erected by Bishop Ridel between 1174 and 1189, in a very grand and effective style, for the most part purely English in character, but occasionally displaying the influence of French examples in the use of the crochet capital.

This brings me to the great type of the third class, those buildings which are unquestionably in the Pointed style, but retain sufficient reminiscences of their Romanesque origin to distinguish them from the fully developed Early English. I allude to the choir and Trinity Chapel, at Canterbury. I may here give myself and you much time by referring you to Professor Willis's admirable architectural history of this cathedral, a book with which every architectural student should be familiar. I will only mention that the splendid Late Norman choir having been destroyed by fire in 1174, the monks committed its restoration to William of Sens, who had, in all probability, been engaged on the recently-completed cathedral in that city. He carried on the works till disabled by an accident in 1179, when he left them in the hands of his assistant, called, by way of distinction, William the Englishman, who brought them to a close in 1184 or 1185.

The work of the first William is almost purely French, and, though far more elaborate than that at Sens, very strongly resembles it. He had, however, the good judgment to Anglicize it in a slight degree, as is seen in the liberal use of the zigzag and other Norman ornaments. His capitals are some of the Byzantine character of Sens, and others in the newly developed style of Notre Dame, at Paris, and are very finely carved. The arches are not all pointed,—the pier-arches, wall-ribs, and triforium arches are so.

William, the Englishman, discarded the Byzantine foliage, and adopted almost exclusively the Notre Dame type, and the capital, *à crochet*, which he carried out with extreme beauty. His work is far more beautiful than that of his master, though from the resemblance of the plan to that of Sens, and to the use of doubled columns, it must have been laid down by the French William. I know no work of the age finer than those of these two architects. One thing I will remark about the second architect, that he made his crypt, in which he worked unfettered by the designs of another, more English than the superstructure, using there (as he did also in one or two other places) the round abacus subsequently so characteristic of English work.*

The influence of the French work thus introduced into England is distinctly marked, and there is no difficulty in tracing it wherever it exists; but it is by no means such as to supersede the national type. Perhaps the most pervading symptom of it is the prevalence henceforth of the *crochet* capital, though even that seldom assumes a form wholly French, but receives a distinctly English, and often a local modification. The most palpable instance (and almost the only one of this direct kind which I remember), of the imitation of Canterbury work, is seen in the hall of the castle at Oakham, built by Walkelin de Ferrers, probably, as Mr. Hartshorne says, between 1180 and 1190. In this the capitals, though with some originality, are obviously of French character, and probably founded on those of Trinity Chapel.

Immediately after Canterbury, and probably in part contemporaneous with it, was the magnificent Abbey Church of Glastonbury. It appears to have been erected chiefly between 1180 and 1190, though finished a little later. I am not aware whether the chapel of Saint Joseph of Arimathea (which stands at the west end, like the Galilee, at Durham), was built earlier than the church: at first sight it would convey that impression, all the arches, except those of the vaulting, being round. In its details, however, it resembles those of the church, where the arches are all pointed. The chapel is of exquisite beauty, and its details in the highest degree refined; indeed, nothing could exceed the studious care with which every feature, and the profile of every moulding, is carried out. The English type is adhered to in the retention, in an exceedingly refined form, and in great variety, of decorations founded in the chevron, and in the use of intersecting arcades. The external buttresses assume a form of peculiar elegance and originality: the base-moulds are of noble form, wholly differing from those in France: the turrets at the angles are of great beauty. The whole shows symptoms of a perfect knowledge of French development; but the only distinctive imitation of them is in the capitals, which display in many instances the *crochet* form, but with a beauty and freedom of treatment peculiarly their own, differing not only from the French examples, but from the great majority of English ones, and exercising a strong local influence, extending from Somerset along the north side of the Bristol Channel, and reaching even the distant cathedral of St. David's. The church agrees in its details with the chapel, but its remains are grievously fragmentary. Its proportions are most noble, and the design of its internal bays both original and beautiful. I give a restored sketch of their design, from which it will be seen that the triforium was united with the pier-arcade in a manner I do not recollect in any other Pointed church, though it is seen on a round-arched form at Oxford, and in the early portion of Jedburgh Abbey. The piers are beautifully clustered, as is suggested by the multifarious destinations of their parts,—one portion being to carry the vaulting of the aisles, a second the lower tier of pier-arches, a third the upper tier, and a fourth the higher vaulting. It is distressing to think how little of this most glorious church remains. It was probably unequalled by any transitional church in England; but has actually, even up to our own day, been used as a stone-quarry. I should have mentioned, that in the chapel the Pointed vaulting is used in its fully developed form, both main arches and side cells being Pointed.

Of the same age is a great part of the Cathedral of St. David's (of which I give an internal bay and some of the capitals). It was commenced in 1180—the year after William of Sens relinquished his work at Canterbury. Its character is decidedly more Romanesque than that of Glastonbury. The arches are generally round, and the vaulting seems to have reversed the early custom, being round in the main arch and pointed in its side cells. The ornaments of the chevron type are used as at Glastonbury. There is the same refined and studious detail, and the same class of capital is occasionally used, though the majority are formed on the Norman cushion capital. This form of capital had undergone a long series of changes. At first the cushions were single on each face, and the profile convex; then they became gradually multiplied, but still convex below; then the outline became concave; subsequently the cushions from semicircles became a much greater portion of a circle, appearing like a series of rolls bent into a concave outline, with deep hollows between them. This occurs frequently at St. David's. The next step is to decorate the circular ends of these rolls. This is done at St. David's, sometimes with foliage, sometimes by little figures, as in medallions; and, as a last step before the final rejection of the type, the whole roll is converted into foliage together. At St. David's all these later steps are exhibited in a very curious and interesting manner. Some of them may be seen in the choir of Lichfield Cathedral, and at Hereford, in the eastern chapel.

At St. David's, the triforium is united with the clerestory, something as at St. Germain des Prés. The clerestory has two bays to one arch below, and has had sexpartite vaulting,—not, as usual, embracing two bays, but two of these semi-bays. It is most interesting to find in this most remote of the cathedrals of South Britain, and only just verging out of the Romanesque, a degree of originality and of refinement equal to what is met with in our best examples.

The circular portion of the Temple Church in London is exactly contemporary with Canterbury, having been consecrated in 1185, the year when that work was completed. It is somewhat less advanced in style, possibly from a preference felt among the Templars for the Romanesque. The pillars and main arches, with the vaulting generally, it is true, are quite advanced, pointed, and are exceedingly beautiful; but the triforium consists of an intersecting arcade, as at St. Cross, and the windows are quite Norman; while, on the other hand, the wall arcading is pointed. The capitals are of several varieties: most of them are of the simple water-leaf form so prevalent in the North of England; while others are founded on the cushion and the crochet forms.*

* In the lecture as delivered, the remaining portions were very considerably curtailed.

* To be continued. The lectures were very fully and admirably illustrated. There were not many fewer than 100 large drawings and diagrams, made specially for the purpose, besides a considerable number of photographs and prints.

The British Museum.—It has been resolved, by seven to two votes, to adopt Mr. Smirke's plan for the purchase of land to the north of the Museum, as contained in the librarian's report. The resolution has been laid before her Majesty's ministers, with the plan of Mr. Smirke.

MR. SYDNEY SMIRKE'S FIRST LECTURE AT THE ROYAL ACADEMY.

WHEN, on a former occasion, I had the honour of addressing you from this place, I took a general view of our art; of its history and of its leading principles. I propose now to enter upon a somewhat more detailed and practical consideration of the subject.

Such a consideration naturally divides itself into two very distinct general heads, viz.;—a consideration of design as it affects exterior architecture, and of design as it affects interior architecture; each being very different from the other in its aim and object; different, too, in some of the principles which guide it. It would be a serious error, however, to suppose that the exterior and interior of a building should not be designed strictly in relation to each other. I hold it to be one of the greatest errors to so shape and fashion the exterior of a building as not to convey to the mind of one viewing it at least some general idea of the form, and, when possible, even the general arrangement of its interior.

Still the treatment, and the nature of the effects and impressions to be produced, must necessarily be so different, that I think it will be very convenient and proper to regard these two subjects distinctly and separately. Let us then devote this evening to the consideration of the principles of design in architecture as they affect the exterior form of a building. I need not insist on the paramount importance of a careful and laborious study of external architecture. There are few considerations that lead our mind so forcibly to a sense of the importance of a right cultivation of our art as the consideration of the permanence and durability of her works.

Fifteen generations of men have passed since the erection of those buildings which date even from the decadence of Mediæval art; and there are buildings still surviving the wreck of time, since the erection of which a hundred generations of men have passed away. How grave a responsibility, then, it is which the architect takes upon himself! If his work be one of ordinary solidity, he must count upon a succession of critics, and be prepared to submit his handiwork to a varying standard of taste, varying to an extent that can scarcely fall to the lot of either of the sister arts. The sculptor's labour is bestowed on objects of comparatively little magnitude, and their defects and beauties have to be searched out, in order to be appreciated, or even observed.

The painter's field of labour is still more limited and still less conspicuous, and it is painful to contemplate the perishable nature of the productions of his genius.

All the love and reverence with which a picture may be regarded can but prolong its existence through a few centuries, and all the care with which it may be cherished may be thwarted and set at nought by an imperceptible worm or a careless spark. Again, if the hand of a master have failed the painter in the execution of his task, or should he, by one of those caprices to which genius itself is subject, have produced a work with which, on after reflection or on further study, he feels himself dissatisfied, he can turn his picture to the wall or paint it out. Not so the votaries of our art! To them alone is it given to occupy the highways and public places, and perpetuate their glory or their disgrace in monuments which are both conspicuous and durable. Is there any consideration better calculated than this to make us earnest, diffident, and studious? Is there any consideration more powerful to warn us from an indulgence in foolish excesses or puerile caprices, or to induce us to proceed with a measured and cautious step? to see that every line is founded on sound reason and just calculations?

This is a duty which we owe alike to ourselves, to our patrons, and to our art. Let no seeking after present but very evanescent praise render us unmindful that our work, however crudely considered or hastily conceived, stands, and will stand, exposed to the unsparing judgment of successive generations.

It is obvious, then, that the composition of external architecture is of the utmost importance: it shall therefore have, on the present occasion, our first attention.

Now, in the mechanical construction of a building, what consideration may be regarded as the most important of all? Undoubtedly its foundations. Let your superstructure be ever so just in its proportions or beautiful in its decorations, if its foundation be faulty, the architect can gather no laurels: the structure may drag on its unseemly existence for years without winning for the builder even the ambiguous praise which our itineraries are wont to award to the architect of the Pisan campanile, of having purposely displayed his skill in showing how far a deviation from the plumb-line was consistent with the stability of his tower.

Nor is this regard to foundations a mere consideration of construction: it is also a question of æsthetics. If your basement be plainly adequate to the superstructure—if it be of fitting character, and of competent proportions, you will have gone far to secure a successful result for your whole design.

I believe that in the kindred arts, all masters agree in regarding the *pose* of a figure, or of a statue, a subject of essential importance; and I believe it to be a fundamental rule that the feet should be readily traceable—that there should be no doubt in the mind of a spectator as to how, or upon what, the human body is supported; and of course the eye demands that the footing shall be adequate to its task. So also in our art. The eye requires to be satisfied that a building shall have a firm and visible basis. Sir J. Reynolds compares the background of a picture to the base of a building: the comparison is certainly felicitous, and conveys an important lesson to the architect. Each should be quiet and solid; not obtruding itself upon the notice of an observer, in the one case by an inordinate brightness and glitter, or in the other case by any needless multiplication of parts, or obtrusive enrichment. Like the setting of a gem, the background of a picture may greatly enhance the effect of the subject, or seriously detract from it, according to the degree of judgment exercised in its treatment. So it is with a building. Great value may be given to the superstructure by the judicious treatment of its base.

But besides these æsthetic considerations, there appears to be a peculiar, practical propriety in giving to a build a base obviously competent to receive and support it. It is not enough to surmise or presume that a building has an adequate foundation: the eye should be satisfied as well as the mind: the fact should be patent and palpable; otherwise a sort of uneasiness is produced in the observer, which it is the duty of true art to relieve; for it is one of the legitimate ends of all art to yield pleasure to the intelligent observer.

I need scarcely remind you of the elaborate attention paid to this especial subject by the accomplished architects of ancient Greece. Confined as the Greek temple usually was by its temenos, or sacred enclosure, and therefore having its façade fully seen only from a point of view somewhat near, no lofty substructure was usually necessary; but that the Greeks were fully sensible of the value of an adequate base, and of the importance of giving a due elevation and spread to the visible footing of a building at the level of the surface on which it stands, is manifest from their works: witness the graduated plinths which are a peculiar characteristic of most—I believe of all—of their temples, and which seem to give great propriety and significance to the term, "nascentia templa," used by Martial. The spreading steps of a temple seem to link the structure with the earth it rests upon, and thus the building may well be said to grow out of it.

Instances are not wanting of casual irregularities of site having been made subservient to the production of very noble substructures. But our knowledge of Greek exterior architecture is almost limited to sacred edifices. It may indeed well be doubted whether in the best times of Greek art the exterior design of domestic buildings was much regarded.

The remnants, however, of their art that survive are amply sufficient to prove that the refined eye of Greek artists failed not to recognise the æsthetic importance of a competent substructure.

In Roman buildings, the general use of the podium is an evident recognition of the same principle. Vitruvius treats the podium as an important if not essential feature in architectural composition, and gives us the proportions that were in his day considered proper for this member.

The interruption of a podium of a colonnade, and the forming a break in it under each column, naturally led to the invention of the pedestal, which eventually became an integral part of every order. This pedestal may be regarded as a strictly Roman feature, nor am I aware of a single purely Greek example; the nearest approach to it, perhaps, being the remarkable temple at Segesta, where the breaking of the upper step or plinth on which the columns stood, forms, under each column, a cubical block of masonry. When once adopted in the architecture of Rome, the pedestal became well nigh universal, and continued as long as Classic architecture retained any of its ancient purity.

In the grand style of Roman art, that art which it has been too much the fashion, both of the ultra-Greek on the one hand, and of the ultra-Goth on the other, to contemn, but which was an art in its best days most impressively characterized by the greatness of manner which well became the masters of the world,—in that style of art nothing is more striking than the attention paid to the emplacement of their buildings, and to providing them with an appropriate base. The villa of Mæcenas, the Temple at Tivoli, the Arch at Ancona, are familiar examples.

Without dwelling on the long decay of Roman art, or attempting to trace (although it would be no difficult or uninstructive office to trace) the gradual steps by which its most imposing features were obliterated or became modified and incorporated with the architecture of succeeding ages, let us see how far the practice of Mediæval art concurred with that of the ancients in the importance of this member. Here, too, we cannot fail to perceive a due appreciation of the advantage of a bold and massive substructure. It would, indeed, be difficult to find an example, during the best period of Mediæval architecture, where the basement has not been plainly made the object of especial study and design, although it is obvious from the great diversity of their practice, that our ancestors had no very fixed rule for their guidance, in proportioning their podium (so to speak) to their superstructure. As evidence of this I might mention that on recently measuring the base of a small parish church tower in Stamford, I found it of exactly the same height as the base of the great tower at Mechlin, one of the most stupendous piles in Christendom. They evidently felt, however, very strongly, the good effect produced by marking forcibly the base lines; indeed, those lines are, perhaps, the only strongly marked horizontal lines in a building of the best age: the string courses were held of little account, and the cornices were often very moderately pronounced, and constantly interrupted in various ways; but the base lines, very rarely. Deeply shadowed and prominently marked, they never fail to arrest the attention.

When we carry down our survey to that period in the history of our art which immediately succeeded the prevalence of Mediæval forms, we shall still find a full recognition of the importance of the base in every architectural composition. In the Venetian buildings of the Cinque-cento period notable instances might be adduced; and there is no better evidence of the refined taste of Alberti than the noble basement which we find in his works. His façade of the Church of S. Francesco, at Rimini, appears to me to possess a grace and beauty not always to be found in works of later Renaissance. In the works of Bramante, of Raffaelle, of Giulio Romano, and of Palladio, you will find the firm and dignified *pose* of their buildings well worthy of most careful study,—a study which it is very certain those illustrious artists never ceased to bestow on the subject themselves.

My friend who preceded me here last week, and whose striking display of sketches gave evidence at once of his zeal and of his good taste, observed to you on the peculiar charms of the transitional works executed when the Pointed style was in its infancy. It is worthy of remark, that on the similar occasion, when art was passing from the Mediæval to the Classic type, the transition was distinguished by many works of remarkable beauty. It would seem that on these occasions of transition revolutions, as it were, in art the human mind was roused to an unwonted energy, and to the exercise of preternatural powers.

Descending in our view from the period of the Renaissance to the less refined, although, perhaps, still more picturesque, manner that succeeded, we still find the best artists of Italy never neglecting that important feature, the basement or plinth. Indeed, they amplified the idea, and we find terraces worked up with extreme ingenuity, so as to combine with and enhance the effect of their architecture, spreading out, as it were, the base of a building so as to connect it with the ground it stands on, rendering it sometimes scarcely obvious where the domain of the architect ends and where that of the gardener begins.

But I hope that enough has been said to satisfy you of the attention that is due to this preliminary subject of basements, and I trust that you will concur with me in what I said at the outset, that in order to afford unmixed pleasure to the critical eye in viewing a building, the mind must feel satisfied of its stability, and that there are no means so obviously proper for that purpose as providing a good and sufficient visible foundation. The subject now naturally leads me on to consider the superstructure: and, without entering at present into any question of style, I think that our first business is to consider architectural character in its broadest sense.

When we [illegible] ourselves to design a building, the [illegible] that should suggest itself ought to be what character will be most fitting to impart to our work? For we may be well assured of this, that however exactly our building may be in accordance with the ordinary rules of architecture, however correct may be its merits as a composition, however unexceptionable may be its details, still the general character of the building must be in harmony with its purpose, a fundamental defect exists for which no amount of art will compensate. Whereas if the character of the building be in accordance with its purpose and destination, a favourable impression is produced which reconciles us to many blemishes in the details. It would be easy to multiply examples; but I would cite, as an extreme case, the principal façade of the Imperial Palace at Vienna, a building which has all the worst vices of the most corrupt period of the German school, yet possesses the great redeeming merit of appearing like what it is,—a great Imperial residence.

I would cite also the garden front of the Palace of Versailles, as an architectural composition sadly deficient in character, and with little claim to the attribute of grandeur beyond its enormous dimensions.

To seek for illustration nearer home, I might point to Whitehall Chapel, a building whose architecture seems remarkably characteristic and expressive of the festive purposes for which it was originally designed; and this illustration is rendered the more instructive when we have regard to the manifest unfitness of the building, in all its features and details, as well internal as external, to its present purpose. Indeed, there never was a more unfortunate misapplication of so fine a work of architecture.

I feel the extreme difficulty of defining this quality of character with that precision at which one who assumes the office of a teacher ought ever to aim; but it appears to me to be a consideration involving so much more of feeling and judgment than of abstract reason, or of what logicians term dialectics, that I fear it would be a hopeless attempt to lay down definite rules for ensuring propriety of architectural character. We have neither numbers, nor figures, nor words, by which the relative merits, or the essential attributes of art can be measured or gauged, or compared with mathematical exactness. We want, and shall never find, a golden mete-wand which shall serve to reduce genius to a matter of calculation, or supply a criterion of good taste.

Perhaps we might say generally of a building that its character is well conceived if the intelligent observer is impressed with the congruity of it with its destination.

I do not mean that a hospital should look lugubrious, or that colossal maniacs should decorate the gates of an asylum, as at old Bedlam; yet in such structures as these there is a plain propriety which forbids the architect to admit an air of levity into his work, or to indulge in excess of decoration.

To give to a court of justice the riant air of a place of public amusement, or to give to a private residence the aspect of an ecclesiastical structure, or of a crenelated fortress in the days of catapults and cross-bows, would be to commit a solecism which no abstract ingenuity of design could possibly justify.

Quite irrespectively of style, much of the character of a building depends on its general treatment. I apprehend that a painter who takes in hand some great historical picture, would adopt a mode of treatment widely different from that which would guide him in painting some humble piece of *genre* painting, or of still life.

So also the architect should certainly adapt his mode of treating his subject to the nature of the building. In designing a small village church, he must divest himself of all ambition to mimic a cathedral, and the formal, dignified simplicity of a Greek temple would be entirely misplaced in the modest Casino. To enforce so plain a truth seems almost to demand of me an apology, and yet experience proves that these proprieties are not always kept in mind. At Potsdam, for example, near Berlin, we see the lofty and conspicuous shaft of a Mahomedan minaret graced with all the enrichments of Oriental architecture; whilst from its summit is issuing—not the solemn voice of the Imaum summoning the faithful to prayer, but the smoke of a vulgar steam-engine which pumps up water to the royal kitchen gardens.

So, nearer home, I fear we must admit similar incongruities may occasionally be met with. We may find drams dispensed amidst a pomp of architecture that emulates the shrine of a classic divinity; and foolscap may be bought at the very altar of Osiris. In all cases, I say, let the purpose of a building determine its external character; some indeed, [illegible] of architectural composition may not be so eloquent as always to express very distinctly the nature of those purposes for which it was erected, yet let the architect have a care how, by an affectation of singularity, he sets the plainest inconsistencies which result from a thoughtless adoption of architectural style or forms, in total forgetfulness or disregard of the future destination of his work.

Besides the influence that the uses and destination of a building should exercise on the mind of a designer, in determining its architectural character, there is yet another consideration which should never be overlooked in making his decision.

It is with truth that Pope teaches us so

"Consult the Genius of the place in all."

This *genius loci*, the local circumstances of the spot, should not fail to bear its due weight in the selection of style and architecture. For example, amidst picturesque and varied natural scenery, a flat, formal, rectangular façade appears inharmonious and misplaced. Our predecessors of the last century were too prone to commit this offence, and in viewing their great cubical masses we sometimes feel thankful for a belfry turret, or even a few tall chimney-shafts, unsightly objects, perhaps, in themselves, yet serving in some degree to give something of variety to the outline. On the other hand, in the streets of a city, some uniformity of design seems preferable to that endless miscellany of houses of varied shapes and sizes, which make some of our large streets so pre-eminently ugly. It is no uncommon error to design a street façade wholly regardless of this consideration. We too often see in the midst of the irregularity of ordinary street architecture, an elevation with its centre and wings, a pediment here, and a projection there; the whole crowded into a small compass, and producing a painful confusion instead of that repose which, amidst such discrepancies of form and fashion, the distracted eye so much desires: and this is often done to the serious disparagement of the building itself, by detracting from its individual importance. A simple, unbroken front might have claimed our attention at least, if not our admiration: whereas with its front broken up into wings and centres, the building loses its unity and individuality, and each fragment of it adds but to the general disorder of the scene. We shall find this distinction steadily kept in view by the best masters. I need but remind you of the noble specimens of civic architecture with which Florence, Vicenza, Verona, and other great cities in the north of Italy abound, where you will never find a fantastic variety of outline aimed at, but rather that broad simplicity of treatment which is so well calculated to impart individual dignity to each structure. Whilst when we turn to the works of the same masters amidst the beautiful hills of the Brienza, or on the banks of the Po and the Brenta, we see them there relaxing that severity of manner, giving to their plans a playful variety, and to their outline a picturesque freedom.*

MASONRY-CONSTRUCTION.†

Masonry may be considered historically, critically, and suggestively. A treatise on the political influences of masonry might also be compiled; and the social and moral effect of buildings would furnish warning to the statesman and to the churchman, as also teach a useful lesson to the philanthropist. Into these questions I cannot now enter. I may be allowed to glance at the historic portion of the subject, and then to deal with the dry but practical details of "beds," and of "joints," of "quoins" and of "courses," of "jambs" and of "mullions," of "transoms" and of "tracery," of "face-work" and of "backing," of "joggles," of "dowels," and of "cramps," in such a way as may be reasonably expected from an old stonemason.

In attempting to point out defects and beauties in masonry construction, I must crave your forbearance. I purpose to speak honestly, and, I trust, moderately and modestly. The subject has had much of my attention, and many years of my consideration; but I am not so vain as to think all my views should be received implicitly, because experience has taught me that "the knight's shield" is a stern and enduring reality.

Most questions have their white side and their black side, or their golden side and their silver side, so that men must look at both sides to learn the truth. There is, however, such a thing as truth, which, when found, must be adhered to with unshrinking fidelity. There are truths in masonry construction which, in my opinion, are worthy of being known, and, when known, of being practised. To illustrate my views, I fear I must jostle some prejudices, and arraign some men whose works have been blindly followed, as standards of excellence, from generation to generation. The artistic reputation of a Palladio, of a Scamozzi, of a Michelangelo, of a Bramanti, of a Wren, of a Jones, of a Chambers, of a Vanburgh, and others of lesser note, will not suffer much from my remarks; as, probably, all the features in bedding, jointing, and grouping of stones in their masonry which I have presumed to consider faults and defects, may raise up champions and advocates willing to give challenge at the point of the lance, and then, how can I escape this most severe form of combat?

I most frankly recognise and acknowledge the grasp of mind and the genius of the men who reared the palaces of Italy, who balanced the domes of St. Peter's and St. Paul's in mid-air, and who have given us many a noble pile of masonry to wonder at and to delight in. I object, however, blindly to worship all which has been executed, even by the greatest men, and say, with Sir Thomas Browne, that "authority" may be the "mortalest enemy of knowledge."

In this country of free men we hold freedom of thought in that which is most sacred as of more price than life. Shall we not hold also to freedom of thought and to manly independence in matters of architecture and of masonry? I say, without hesitation, yes! To worship and to copy that which is, belongs to nations of children in mind, and not to intellectual free-born men. The story of the Chinese tailor is, however, too true of modern architecture to be laughable; as we may see the blemishes and the patches of antiquity accepted as "precedents," and the false and the true repeated with equal care. A new style in architecture has been, and is now, the dream of students and the aspiration of many men. No new style comes; and why? Because the shackles of precedent impede the feet of progress. Let our young men learn the alphabet of masonry-construction, and think out every design in every part for themselves, honestly, earnestly, modestly, lovingly, aspiringly, and humbly, and see what will come of such a course. Let every building which is examined as a study be closely scanned, not only for its beauties, but also for its defects; and, in time, truth will stand revealed in simplicity, in strength, and in transcendant beauty: for in truth alone can beauty be found. * * *

A building may fall into premature ruin from some one or more of several causes:—

From a defective foundation.

From a use of easily disintegrated stone.

From a use of good stone in an improper manner.

From adopting a bad design—in the mass.

From defects in parts, such as disproportion—overweighting by vaulting.

From window tracery too slender, and from other analogous forms of defective construction.

Many a grand design remains incomplete, because the subsoil will not carry the intended superincumbent weight, and the architect lacked judgment, or skill, or both.

Many of the largest buildings, and some neither large nor very heavy, have crushed, splintered, and broken masonry in their basements; and, indeed, in much higher courses. Examine Westminster Abbey, examine St. Paul's, and examine many ashlar buildings of lesser note, and you will find the ruinous results of defective masonry: examine, indeed, some of the arches of the Liverpool Custom-house.

Westminster Abbey is defective both without and within. Without, the stone has crushed and splintered from bad workmanship, and from weight. It has also wasted into shapeless masses. Within, the stone ceiling vaultings have so weighted as to require heavy cross-ties and bolts of wrought-iron, from side-wall to pillar, and from pillar to pillar. Propping, strutting, and bolting have been resorted to in more buildings than Westminster Abbey: defective masonry is, however, in most cases, the cause.

Hewn ashlar masonry, if set stone and stone, or with thin beds of mortar, and the face-work either backed with rubble or with bricks, must be weak. Neither science nor care can make such hybrid work strong, nor preserve it true in line, on face, vertically, or horizontally: the backing will shrink and "draw" the face-work. I have not seen the Parthenon, and cannot, therefore, pronounce positively as to the subtle curves said to

* To be continued.

† Read by Mr. Robert Rawlinson at the Liverpool Architectural Society, Wednesday, January 27th.

exist in the upper lines of the walls; but, from experience, I am led to think these curves may be the result of "drawing" by the backing and by the weight of the roof combined. The main front of St. George's Hall is straight at the ground line: at the cornice it curves inward, from angle to angle, regularly and truly, and in a most beautiful, and, if you like, "subtle" curve, having a versed sine of some four inches. The angles cannot shrink. The central portion of wall, being most free, shrinks most, and the inward draw is evenly and regularly modified up to the angles. I do not believe a straight cornice-line can be found in any building of any length and height, unless there are numerous inner cross walls to counteract the shrinking and bending actions named.

The walls at St. George's Hall were set out true—they were carried up truly: the shrinking and inward bending took place subsequently. I noticed it, and understood the reason, and in building the attic walls to the wings or courts—which were added soon after Mr. Elmes left England—I backed the face ashlar with pillars of ashlar in equal courses of Runcorn stone, as may now be seen. I have never tested these walls, however, to see if they remained in line.

DEFINITION OF THE TERMS "MASON,"—"MASONRY."

The definitions of the words "mason" and "masonry," as given in our best dictionaries, are loose and unsatisfactory. The word "stone-mason" is not to be found, but "stone-cutter." Now, in Lancashire, a "stonecutter" is a "quarryman," one who cuts the stone out of the quarry, and who scabbles it to dimensions. The "stonemason" hews, moulds, and sets stones in buildings.

According to Johnson. Mason is defined a "builder with stone."

Illustration.—A man that makes a wall, meets with a stone that needs no cutting, and places it in his work.

Masonry.—The craft or performance of a mason.

According to Webster.—Mason: 1st. A man whose occupation is to lay bricks and stones; or to construct the walls of buildings, chimneys, and the like, which consist of bricks or stone.

2nd. A member of the fraternity of freemasons.

Masonry.—1st. The art or occupation of a mason.

2nd. The work or performance of a mason; as when we say, the wall is good masonry.

Stonework.—Work or wall consisting of stone; masons' work of stone.

Stonecutter.—One whose occupation is to hew stones.

Stone Cutting.—The business of hewing stones for walls, steps, cornices, monuments, &c.

Johnson.

Stonecutter.—One whose trade is to hew stones.

Stonework.—Building of stone.

They make two walls with flat stones, and fill the space with earth, and so they continue the stonework.—*Mortimer.*

Remarks.—A nice sample of stonework this would be; such a sample, however, as may be found, if not very ancient, very modern. To "edge" stones for face-work, and then to fill the space with earth, will not insure antiquity to such work. Webster's definition is also something of a bull. "Mason, a man whose occupation is to lay bricks." Full and correct definitions of architectural and of civil engineering terms are required in most of our standard dictionaries.

Masonry may be defined as the art of constructing with stone upon a plan or system calculated to insure durability. The structure may be a single fence wall of dry, random-rubble; or, it may be the most complicated and elaborately carved cathedral. Betwixt these extremes there are many varieties of masonry.

Rough Rubble Masonry.—This class of work, whether set dry or in mortar, consists of stones of small dimensions upon which no labour has been bestowed, other than that necessary to raise the stones from the earth or quarry. No stone should be larger than one man can lift; and a skilful workman always finds a place for each stone after he has once taken it in hand. As defined by Johnson, "A mason that makes a wall, meets with a stone that needs no cutting, and places it in his work."

Rough, or Random-rubble, Masonry may be set dry, or it may be set in mortar: set dry, it forms fence-walls, retaining-walls, and backing, to prevent the earth coming in contact with masonry or brickwork,—as behind retaining walls of rubble set in mortar, of coursed wallstone, of ashlar; or, to protect foundation walls from contact with clay, marl, or wet earth.

Rough Rubble Masonry consists of 1st. *Random rubble*, set dry, as in moor and field-fence walls. Examples may be seen in Cumberland, and in most mountainous districts.

2nd. *Random rubble*, set in mortar. Examples: Fence walls, house walls, and other structures.

3rd. *Coursed rubble*, set in mortar. Examples: Rubble stone, levelled up in courses, generally the depth of ashlar, or single stone courses.

4th. *Sneeked rubble*, set in mortar. Examples: Rubble stone having the faces "sneeked," that is, the rough taken off so as to present a more even surface, the beds remaining undressed.

Rubble masonry is also used as backing to many varieties of masonry: the face of a wall, bridge-abutment, or other structure, may be of *wallstone* of *block-in-course*, or of *ashlar*, and the backing may be of rubble; or there may be two faces, with a filling or "nearing" of rubble.

Although "random rubble" forms work of the rudest class, it is not certain that untutored men would construct it; as considerable experience and skill are required to wall small unhewn stones in line on face, and in form. At present, there are districts in England, and in the British Isles generally, where men are educated as "random-rubble wallers," and follow the practice as a distinct branch of trade, and cannot execute masonry in any other form.

CYCLOPEAN MASONRY.

This form of masonry seems to have been adopted for military and for religious purposes by the aborigines of countries wide apart. There are remains of Cyclopean construction older than written history. Most known examples blend with myths, and are to be found in the deserts of India, of Asia, of Central America, and in Druidical remains spread over Europe.

Cyclopean masonry is essentially barbaric,—whether the stone be rough and unhewn, or hewn and squared, or hewn and fitted in angles and irregular forms. The temples of Egypt, of Palmyra, and of Greece, may be exceptions; but, like many exceptions, confirm the rule. Masonry, in its highest branches, consists in the art of constructing with small stones. Examples: the best abbeys and cathedrals. Mr. Sharpe states that few stones in these grand and elaborate structures exceed a cube of 2 feet square: most of the stones are of less dimensions; or such as a man could carry.

The several forms of masonry most in use for modern purposes may be specified as—

Random rubble, set dry.

Random rubble, set in mortar.

Random rubble, set with quoins, joints, and architraves, and levelled in courses.

Sneeked rubble, generally set in courses.

Rubble, with ashlar binders.

Rubble, in alternate *courses with bricks or with tiles.*

Flint rubble, whole or cut.

Boulder or pebble rubble, ditto, ditto.

Flint and pebbles are generally used with brick, tile, or stone quoins and courses.

Slate rubble: this is set in horizontal courses, or in beds having an angle of 45 degrees, or at any intermediate angle, and examples may be found vertical.

Herring-bone rubble: where flat-bedded stones are found, this example of masonry may be seen. The Romans frequently used it, not only for face work, but to back "squared wallstone;" or to form the "*hearting*" to their military walls.

Intermediate betwixt true rubble and regular coursed wallstone, or ashlar, there are forms of masonry in which stones are set irregularly, labour being required to produce irregularity. Much of this class of work has neither economy, beauty, nor strength to recommend it.

WALL-STONES SQUARED AND BEDDED.

Coursed wall-stone, set dry.
Coursed wall-stone, set in mortar.
Rough-faced wall-stone.
Pitch-faced wall-stone.
Scabbled wall-stone.
Punched wall-stone.
Skutched wall-stone.
Boasted wall-stone.

There are other forms of finish for the face of coursed wall-stones, and the beds and joints generally rise in finish to accord with the faces. That is, "*rough-faced*" or "*pitch-faced wall-stones*" will have beds and joints; "*rough-picked*," "*punched*," or "*skutched off*" wall-stones, have a higher finish on the face, will have clean boasted beds and joints. Coursed wall-stones vary in depth up to 9 inches.

Block-in-Course.—This form of masonry may have all the varieties as named for "coursed wall-stone," the difference consisting in dimensions alone. "*Block-in-course*" may commence from 9 inches (the depth of each course) upwards, until it verges into "*rough ashlar.*" The engineer or architect should, however, in all cases, specify the dimensions for coursed wall-stone and block-in-course, as also that which is to constitute the differences betwixt these and ashlar; and all the other varieties of masonry should be defined.

Parpoints may consist of wall-stone, block-in-course, or ashlar. Stones of this denomination are used in walls, such as "battlements" or "parapets" to bridges. The faces may be rough, or rubbed, or of any intermediate grade of workmanship.

Ashlar forms the main feature in true masonry. The stones are always set in true courses, and the depth may be from 12 inches to any available thickness. The beds and joints should always be chisel-dressed; that is, drafted and boasted off.

The varieties of finish for the face of ashlar are too numerous to describe. The work may be "*rough-faced*," "*frosted*," "sparrow-pecked," "rock-faced," "*drafted and picked*," or "punched" in a variety of ways, or "diamonded," or "reticulated," or "*rowed* either *horizontally, diagonally*, or *herring-bone.*" There are varieties of "*drafted and boasted work*," "*random-tooled*" and "*stroked tooling*," as also "*rubbed*" (or "*polished*") *faces.*

Ashlar may also have all the varieties of rustic, from a plain chamfer, to the compound of fillet and segment. Examples: *Somerset House, Whitehall Chapel, Junior United Service Club, Terrace, Prince's-gate*, Hyde-park, and numerous public and private buildings in the metropolis, and throughout England.

Sir Walter Scott, in "Marmion," describes most graphically a peculiar form of masonry:—

> "Still rises unimpair'd below,
> The court-yard's graceful portico:
> Above its cornice, row and row
> Of fair-hewn facets richly show
> Their pointed diamond form."*

DESIGNS FOR PROPOSED MEMORIAL OF THE 1851 EXHIBITION.

A LIBERAL response has been made to the committee's advertisement, in the shape of twenty-two large models and twenty-nine sets of drawings, which are now arranged in the Architectural Gallery of the South Kensington Museum.† Three of the drawings arrived after the 2nd of February, and therefore, although exhibited, are not in competition. One of these, marked "Concordia," a foreign contribution, although unsuited for a monument of the nineteenth century, is a work of great ability. The committee have printed a list of the designs for the use of visitors, with brief descriptions. On the present occasion we shall not offer any opinion as to the comparative fitness of the designs, but shall content ourselves with giving a few particulars of some of them.

No. 1, "*Art and Industry*," is a large architectural composition of Ionic columns, with emblematical figures of the four quarters of the globe on the entablature, and above them figures of Industry, Mechanism, Science, and Art, surmounted by a statue of Britannia. Within is a statue of the Prince Consort, inspecting plan of the Great Exhibition. 2. An architectural design, with groups in relief round the pedestal; figures emblematical of the four quarters of the globe above, and surmounted by a figure of her Majesty holding the sceptre and globe. The modelling is full of spirit and skill, though roughly executed. 3, marked "*Wide as the World*," probably foreign, is a column surmounted by a globe; the pedestal surrounded by a series of figures emblematical of Peace, Agriculture, Art, and Industry. At the angles are emblematical figures of Germany, Russia, Asia, Africa, Australia, America, Spain, and Gaul, the whole linked together. Standing on the pedestal is a figure with the inscription, "Hospes et Remuneratrix." 5, "*Peace hath her Victories*," is a Gothic memorial cross, with figures on the steps. 6, "*Et, quasi cursores, vitæ lampada tradunt*," is surmounted by a group symbolical of human progress. A wearied runner, "having ended his course, hands the torch of Life and Truth to a fresh and vigorous athlete, who is aspiring to bear it through a new career." 8, "*A pair of compasses, mallet, and clasped hands*," is a structure, the aspect of which is partly Classical, partly Romanesque. At the angles are figures representing the four quarters of the earth, with

* To be continued.

† The Memorial Committee are indebted to the committee of the Architectural Museum for permission to use their gallery, as well as to the Lords of the Privy Council. The exhibition will be open to the public *free* on Mondays, Tuesdays, and Saturdays, and on Monday evenings. On Thursday and Friday, and on Wednesday evening, there is a charge of 6d. for admittance to the Museum.

bas-reliefs above, and a medallion of the Prince Consort; the whole surmounted by a statue of England, in the person of the Queen.

9, "*The Earth is the Lord's, and the fulness thereof*," marks an obelisk (with fountain), proposed to be of one block, on a base, with a figure in front holding an open book, on which the words of the motto are inscribed. 10 is a group of illustrative elements, suggested to be used in conjunction with the obelisk, if more money were obtained. And 11 is a second arrangement by the same artist, of obelisk, sculpture, and a fountain. Drawings No. 27 on the screen show other arrangements.

12, "*Here stood the Great Exhibition*," a granite obelisk 80 or 100 feet high, with bronze sculptures. "These last aim at giving the complete thought of the Exhibition in four sculpture phrases. Facing the east and west sides on the pedestal are severally statues of Peace and Industry, each pointing to the ground consecrated by the great event:—Peace as expressing the atmosphere in which alone Labour produces freely and abundantly,—and Industry, as indicating the fruits which Labour yields to Peace. On the remaining sides are relievi groups; in one of which figures of Art, Manufactures, and Commerce suggest the universality of the produce, and in the other figures of Europe, Asia, Africa, and America represent the universality of the field."

14, 15, and 16, are three designs under the same motto, "*Civilization;*" the first has a pedestal surrounded by four figures seated on a base, emblematical of the Fine Arts, Raw Materials, Manufactures, and Machinery; the whole composition surmounted by a figure of Britannia. The second is an architectural composition with bas-reliefs in the pedestal, symbolizing the four divisions into which the Exhibition was divided; the whole surmounted by a statue of Civilization. The third is a colossal figure, the Genius of Civilization proclaiming the Great Exhibition. The statue is seated on a rock, to admit of the introduction of plants and water. 18, marked—

"*Nurse of Art, the city reared,*
In heaviness pride, her tower encircled head,"

has on the base four statues,—the Prince Consort, Victory, Slumbering War, and the Angel of Peace; the whole surmounted by a statue symbolical of London. In 19, "*Laborare est Orare*," the base is surmounted by two figures leaning against the pedestal, the Genius of Industry and the Genius of Britain. On the summit is a statue of the Prince Consort. 20, "*Let us honour and dignify Labour*," is a massive composition, with bas-reliefs round the base, emblematical of the Fine Arts, Machinery, Raw Materials, and Manufactures, with inscriptions. On the summit is a statue representing Industrial Science. 21, "*For Posterity*," is a right-lined structure, surrounded by water, with names inscribed on the frieze, and displaying numerous jets of water.

No. 22, "*Out on the Race for Fame*," is a beautifully proportioned composition, surmounted by a figure of Britannia, and surrounded by four seated figures, emblematical of the four quarters of the globe. Europe (with sheathed sword entwined with flowers), Asia, Africa, and America,—a young Britannia.

We come now to the drawings:—23, "*Plucked*," suggests an obelisk of glass, with figures in bas-relief, round a base, representing the various nations contributing to the Exhibition, with a figure of her Majesty on one side of the pedestal, above. 24, "*Attain the Object*," shows by two drawings a column and ornamented basement The column is surmounted by a figure of Britannia. The figure in front of the base represents Peace. 25, "*Arts to Themselves and Civilization*," is attached to five remarkably well-executed drawings, setting forth a scientific, artistic, and industrial congress hall, in the form of a transparent globe, at the end of the serpentine, surrounded by water.

26, "*Beautiful and Rational Architecture*" (like the preceding, the work of a foreign artist), sets forth by *twelve drawings* and a small model of detail, "a triumphal gallery of industry and the fine arts," in iron, decorated with colour and gilding. The amount of labour expended on this set of drawings is very remarkable.

The design 28, inscribed "*Idea*," proposes to mark the site of the Exhibition building by a fountain and flower-garden, and by a level causeway from Hyde-park-corner planted with forest trees, to bring the Kensington site practically nearer to London. As this design is not likely to be selected as the memorial we shall not be departing from the course we determined on, by saying there is a good "idea" which should not be lost sight of. 29 "*Achilles*," uses a monumental column or tower, with coloured materials. 31, "*Architectura autem constat, &c.*" is a monumental composition, from abroad, surmounted by a statue emblematic of England. In niches, on the second story, are figures of Agriculture, Industry, Commerce, and the Fine Arts. 34, "*Pax et amica Quies*," is an elaborate fountain, with emblematic figures. 35, "*When Beauty's the Prize, what Mortal fears dying?*" comprises a square pillar on pedestal, surmounted by a figure of Britannia, surrounded by smaller pillars bearing inscriptions. In 37 we have an elaborate gothic monumental cross. No. 38, "*Matters of Weight require Consideration*," is a colossal figure symbolical of Enterprise, on a pedestal: the whole composition, as to height and width, coming within the outline of the transept of the Great Exhibition building. No. 39, "*Do all to the Glory of God*," a statue of her "*Do all to the Glory of God*," a statue of her Majesty the Queen, on granite pedestal; and 40, "*No Monopoly for Stone, &c.*" suggests a monumental column in iron, with emblematic figures. In 41, the column (surmounted by a globe) is to be of glass and iron. The author of No. 44, "*All Effort for all*," suggests a fountain of glass surmounted by a globe. 45, "*Extremum pudeat rediisse*," gives, in three drawings, a monumental tower with coloured materials and emblematic figures.

Her Majesty the Queen and his Royal Highness the Prince Consort saw the designs on Monday morning last.

THE MOTTO SYSTEM IN COMPETITION.

SIR,—I am a contributor to the competition for the Memorial of '51, and I had hoped that the fallacy of "mottoes" would have been exploded on this occasion. That it is a fallacy hardly needs comment, it is so well known. It is like the mock modesty of the Venus de Medici, that pretends to conceal what it knows it does not! Half a day after all the designs are sent in on these occasions, it is well known whose all the principal ones are. The style of the works is sufficient to show this, in most cases, to the profession; but how can there be any real concealment where the artists themselves attend to arrange and set up contributions?

For my part, I do not believe the persons usually appointed for judges are likely to be biassed by names, or by knowing who are the authors of the designs, but if there be any collusion between the competitors and the judges, which the motto system appears to contemplate, it is just as easy to insinuate that "Dum Spiro Spero" or "Palmam qui meruit ferat" means me, as to give my own name of John Jones or Richard Smith.

Also, I verily believe that if all the names were at once struck out, as I think they should be from the first, it would be rather to the advantage than to the disadvantage of the less known aspirants in this respect, and that if there existed a biassing feeling in any direction with the judges, it would rather be to let a young man or a new name have a chance. As it is, on these occasions, the best known names among the contributions are from the first, or shortly become, known. If this is the case, surely it is fairer for all parties to stand in this respect on the same level!

Besides—what has the author of a rejected work for all his pains, but that the public should know he did it? and it will never attract so much attention in a miscellaneous exhibition as it does on an occasion to which it is special. As to there being the least disgrace or professional detriment in its being known that one is the author of a rejected design, that is fortunately quite out of the question. Public feeling is far too liberal for that. Indeed, it is very frequent for the public altogether to decline indorsing the judgments of the judges, and it is every common occurrence with those who visit these exhibitions to prefer various designs, not noticed, to that which may have obtained the prize. Surely, then, is it not better for those whose ideas may be esteemed by the public to have the professional advantage of having their names known?

Judges in these cases are not final judges. The public comes in to judge the judges; and why should not it and the judged compete on the advantage of knowing and being known, as to who are the authors of the best-liked designs? The public ought to know, and the artists to be known. And as to any advantage from the attempted concealment of names, as regards superior fairness in selection, that, as I have said, I believe to be a wholly erroneous idea. Indeed, the motto system may be likened to the pasteboard visor of the Knight of La Mancha, a pseudo protection, which it is only due to the openness of the British character to discard altogether from the "head and front" of those occasions.

A CONTRIBUTOR.

*** It must be unnecessary for us to say that we fully agree in these views. Our correspondent but repeats what we have already said on other occasions.

ARCHITECTURAL EXPERIENCES AT CONSTANTINOPLE.*

THERE is not much to be said concerning the external appearance of the domestic architecture of Stamboul. From the various fires we read of in history, I think it may be safely concluded that the common houses of the city always were built of wood. In the present day, so frequent are the fires that it is seldom a fortnight elapses without one. The three first questions asked of a morning by one inhabitant of another are: "What is the exchange?" "Who is prime minister?" and "Where was the fire last night?" For the exchange is always going up, the minister is always going out, and the fires are always going on. The consequence is, that there is very little to be observed concerning the houses of Stamboul, beyond the fact that they are very slightly constructed of thin scantlings of oak, nailed together, boarded outside with fir, and painted red. The upper stories project, and are supported by curved struts, the ends of which are sometimes moulded. But we should have a very wrong idea of these houses if we imagine they are anything like those which have come down to our own time in England and France, from the fourteenth and fifteenth centuries, for these latter, built of solid oak, and put together with wooden pins, count their age by centuries; but a Stamboul house, on the contrary, if not burnt down in ten years, will perhaps last for sixty years. I saw but very few interiors, but, from what I did see, it is evident that in past times at least a Turkish room must have been a very beautiful object. The ceiling was boarded, and upon it a pattern was formed by nailing on small pieces of moulded wood; both these and the interstices were coloured and gilt. The upper part of the windows (which were generally all grouped at one end of the room) had stained glass, like that in the mosque of Suleiman, but, of course, of a smaller pattern, and with less projection of mullions. In this case, also, the outer and inner glazing were only about 6 inches apart. The lower part was single glazed and opened inwards, being provided with shutters. A board projected at the junction of the upper and lower parts of the windows, both on the inside and outside,—the former to support the curtains, the latter to keep off the rain. One house I saw at Pera had all the woodwork coloured and gilt. The furniture was completed by rich carpets, divans, and even shawls, hung upon the walls.

I say was, for I am told that all the old fashions are rapidly going out, and that the Turks delight in furniture and clocks from France, and printed cottons from Manchester, and even neglect their own incomparable carpets for those of England and France, which, however good they may be in their fabric, are more than equivocal in their patterns.

The Stamboul of the Middle Ages must have been a glorious city, rich in colour. At present there are just sufficient remains to enable an antiquary to recompose it; but a few years hence everything will have disappeared, and the city will have become as dull as Paris or London.

If we may believe the plates in Grelot's work, the Stamboul of the seventeenth century presented a mass of pinnacles, minarets, &c. equal to that presented by any of the cities of the Middle Ages. He tells us that the Sultan's caïques or boats were all coloured and gilded, even to the oars. I have no doubt but that the prevailing Turkish colour was red, as we even see it at the present day. Another glimpse of past times is afforded us by the collection of the costumes of the ancient janissaries, preserved in a marble kiosque in the grounds of the Seraglio. Nothing can be more gorgeous than these wooden figures of warriors clothed in the actual dresses; it is astonishing how much they resemble in physiognomy the Turks depicted in the "Abiti Antique" of Andrea Vercellio, and it is equally difficult to recognise them in the present apparently mild and apathetic soldiers in European uniform.

The ladies and the clergy are almost the only classes which have entirely preserved the ancient costume, and there are few sights more picturesque than to see a group of women clad in every imaginable colour. Their walking-dresses and veils are not unlike those worn by the ladies of the thirteenth century; but the men, on the contrary, wear dull-looking European trousers and coats, and hardly appear as yet to have completely mastered the management of the buttons. As they live in a hot climate, where the head and eyes require to be sheltered from the sun, they have disused the turban, and replaced it by a fez of a bright red colour, of course without any brim; but then again they carry a gingham umbrella, generally of the "Gamp" description, which gives them the appearance of great respectability; and for the same reason that the fez has been adopted, the more advanced delight in patent leather boots, exceedingly comfortable on a hot day for walking upon a pavement consisting of large round blocks of stone about the size of a man's head, with very wide interstices, so that the walker is sure to slip into dust or water, or a fine stiff mud.

The interior of the Seraglio has nothing that I saw deserving of notice; the whole is redolent of the days of Lady Wortley Montague, and European upholsterers. The most amusing thing of all is the Sultan's picture gallery, consisting of illuminated ciphers of his name and titles, together with very funny drawings, apparently by

* Read by Mr. William Burges at the Architectural Exhibition. See p. 88, *ante*.

native artists; of men-of-war, and steamboats, with all the guns going off, and with a most liberal allowance of smoke. The collection is completed by some coarse lithographs of the capture of the brigand, the brigand's death, &c.; in fact, the civilization of the Turks is very like their costume. You will see a man with an enormous turban, a long beard and pipe, and a furred pelisse, finished off with a pair of white stockings and costermonger's boots.

The great attraction of Stamboul to strangers is the bazaar—a collection of passages, covered with a stone barrel vault. On each side are wooden erections, like very large wardrobes, only they open in the middle horizontally. The merchant, when he comes to business, after unlocking, pulls up the upper half of the doors, which forms a sort of canopy over his head, and can be used for the suspension of choice articles. He also lets down the lower half, until it is supported by some posts in the ground, and then sits down upon it, surrounded by his wares. This is only one description of shop, for their developments are very numerous. Sometimes they open at the side — sometimes they open both horizontally and vertically; in fact, there is no end to the contrivances. Sometimes the bazaar has an aisle on each side; in this case there is of course an arcade, supported by pillars, and the aisles are covered by quadrupartite ribless groining Both the capitals of the pillars and the groining, which is a parallelogram on plan, very strongly resemble the arcades on either sides of the streets of Padua. The shops in the bazaar, with three aisles, are *bonâ fide* vaulted rooms, on each side of the aisle wall, with a door and window opening into it. The bazaars are the great depôts for merchandize. Thus there is the drug bazaar, the slipper bazaar, &c. The trades are generally congregated in one street, as with us in the Middle Ages. Thus near the mosque of Sultan Suleiman, there is a row of sheds, tenanted by the makers of inkstands and penholders. Near that of Bayazid, another occupied by the braziers. The mosques, indeed, appear to be the centre of civil and religious life. This system of aggregating the members of one trade, has of course the disadvantage of making you go to some distance whenever you want an article, but at the same time the purchaser enjoys the advantages of competition, and he can go all down the street inquiring the price, and examining the article at each shop.

Another remarkable feature in Stamboul is the number of fountains, of all shapes and sizes, from a simple arch on a wall, with a boarding above to keep off the sun, to the elaborate affair, like that near the Seraglio gate, consisting of a square edifice, with circular towers at the angles, closed with grilles. The use of these towers is to enable a person outside (generally a dervish) to supply cups of water to the passers-by. The more important fountains are generally covered with a coating of marble, and decorated all over with most delicate surface ornament. This is sometimes conventional, sometimes natural. Where in Western art we should use figures to break up the monotony, the Turks employed representations of vases, filled with flowers, or dishes with fruit; a very clever ornament is made of a dish of pears. Now these fountains, when carved in stone, were coloured and gilt all over; but when of marble, had only a little gilding and very little colour indeed; for the Turks, like the artists of the Middle Ages, and like the Greeks (who, by the way, were far more Mediæval than we are) when they had a beautiful material, liked to show it, and did not cover it with a thick coating of paint, so as to hide it altogether, as some would persuade us the architects of the Parthenon did. The eaves of these fountains have a great projection, are boarded, and decorated with painting. The roof is composed of a series of domes. The most beautiful of the fountains are to be found, firstly, outside the Seraglio; secondly, at the Pera side of the second bridge; and thirdly, at Tophana. The second is, I think, the most perfect; the last has had all its domes removed and replaced by a flat roof with a neat compo parapet, and cast-iron railing, exactly the same as you would see placed over the back premises of a linendraper in Tottenham-court-road; so that it is very evident that the Turks are really becoming civilized, now that they are spoiling their public monuments.

The fountains in the courts of the mosques are generally inclosed in a sort of iron grille springing from the top of their lowest basin. Over all is a dome, supported by pillars and an arcade.

From Stamboul we can cross over to Galata either by the bridge of boats or by caique. The first plan is very fatiguing on account of the crowd, the horses, and the footway, some of the planks of the latter standing up about 3 inches above the others. In fact, whether in Pera, Galata, Stamboul, or on the bridge, a passenger never walks he hops or jolts himself from one stone to another. If a boat be taken, the passage is more easy, but considerably more dangerous, inasmuch as the caiques, having no keel, are exceedingly liable to be overset by the swell of the almost numberless steam-boats which are continually going out or coming in to moor at the bridge. Almost the only traces of the old Turkish art are now to be found in the carving on the inside of these boats; it is true, it is very often in the Lady Worthey Montague style, but occasionally one sees interlaced geometrical patterns, and, in one instance, I discovered a decidedly Arabic pair of lions, each with a paw raised, regarding a conventional tree in the middle. The whole arrangement was exactly like what we see on the few textile fabrics of the Middle Ages, principally of Sicilian manufacture, which have come down to us. Another curious resemblance was, that these lions had conventional ornaments on their haunches. I made inquiry, and found that the artist really was a Turk, and I do think that there would be some hope for them yet, in an artistic point of view, if they were only let alone.

From Stamboul our caique has transported us to Galata. Now, what Oxford is to England, Nuremberg to Germany, or Assisi to Italy, Galata is to the East, viz. an almost perfect city of the Middle Ages. Again, like all Mediæval communities, the inhabitants had a more than doubtful story of their descent. As the Britons and Paduans were the descendants of the Trojans, so the inhabitants of Galata claimed descent from the companions of the renowned Brennus who destroyed Rome. They were Galatians, hence Galata. Some even went so far as to assert that they alone were the Galatians to whom the Apostle of the Gentiles wrote his epistle. More sober authors, however, tell us that the name simply signifies a place where milk is sold. Although a suburb in the time of Justinian, it owes its importance to the Genoese who settled here during the Latin occupation. When the Greek dynasty was restored, they held it as a fief from the emperors. Then they alternately assisted and bullied their benefactors, but having no fortifications, were obliged to knock under, until at last, happening to be on the right side against the Venetians, the latter burnt the town. The consequence was, that the Genoese got permission to fortify it. Then they increased it with more fortifications. Then they got the whole of the trade of the Black Sea into their hands. And when the emperor refused them a farther space to be fortified, the entire population turned out and worked at the walls, and inclosed the space without his permission; in fact, they went on very much as the East-India Company did in India during the last century. I am afraid their conduct during the siege by the Turks will not bear examination. History accuses them of trying to make a separate treaty with Mohammed, and with neglecting to intercept his ships when they were hauled over dry land from the Bosphorus to the Golden Horn. However, Mohammed dismantled their fortifications; and of the three parts into which the walls divide Galata, one is now entirely inhabited by the Turks.

The walls are even at the present day exceedingly perfect; they are about 8 feet thick at bottom, and 6 feet at top, where a broad space is got by means of arches supported on corbels. Many of these corbels are fragments of ancient columns, showing the haste of their erection. All parts of the walls contain inscriptions, with coats of arms, telling us the date of the building, so that their whole history might thus be collected. The walls are flanked at short distances by square and round towers. The most conspicuous of all was the large tower placed on the highest point, and forming the citadel.

Within the walls the most observable thing is the immense number of old stone houses. As to the churches they have entirely disappeared; the only exceptions are, first, St. Peter's, which preserves its entrance gateway, probably of the time of the Latin occupation, judging from the mouldings which are almost French. The central tower is also original; all the rest of the church, having suffered by fire, was repaired by the liberality of Louis the Fourteenth of France. The other church has also a square tower, with a stunted spire covered with lead. Upon close inspection it appears that it is now a mosque, the only remains of antiquity being a few carved strings, evidently of Byzantine workmanship; the church itself has been entirely rebuilt. The modern churches do not show at all; a passenger might pass them fifty times, and never know that they were churches. The great Armenian church, built only a few years ago, is surrounded by an immensely high stone wall, secured by iron doors. In fact, it has been the policy of the Turks to make the Christians hide their churches as much as possible; but it is to be hoped that that day at least has gone by.

Nothing can be more effective, but at the same time more severe, than the houses built by the merchants of Galata: with the exception of the corbels, I do not think that a single yard of moulding could be found in the whole of them. The oldest house is the former Palazzo del Podesta, with round arches, and a very few remains of Byzantine ornament inside. This building is evidently anterior to the Latin conquest. The ordinary houses, which are probably all posterior to the destruction of the city by the Venetians, have their upper stories supported on massive corbels; sometimes these corbels are far apart and support arches which take the wall of the first story. Now, as in by far the majority of cases, there is no superincumbent weight to keep down the tails of the corbels, recourse has been had to iron bars, which are passed through them, having been fixed previously to a course of masonry a good distance down the walls. The expedient has been perfectly successful, for in very few cases did I find that the corbels had given. Another peculiarity is, that generally the first story does not project parallel with the ground floor, but at an angle with it, so as to get a window at the end to look down the street. The walls are sometimes built with layers of brick and stone, with very wide tuck joints. Thus the height of the brick will be 1 inch, that of the joint 2 inches, and that of the stone from 3 to 5 or 8 inches. Occasionally a brick is placed between each stone, or there are two courses of brick to one of stone. The mortar is what is nowadays called *corazan*, composed of lime and pounded brick, but with the addition of small pieces of linen when used as an external cement for the whole wall. The tuck joints formed of this cement received a one-eighth pointing of fine marble lime; the bricks themselves, being of bad colour and quality, were painted with a mixture of lime and red earth.

Sometimes the house was entirely plastered over, and covered with tuck joints of the marble lime, imitating masonry. In this case the plaster was painted of a greyish colour, and the joints left white. In another the plaster was left white, and the joints painted light red, or the marble lime was reddened by a little pounded brick being added; but in both these cases certain courses had bright red colour applied between the tuck joints, which were made to assume an ornamental shape, so that these courses did duty for moulded strings.

The examples just mentioned, as well as those in Italy, where ornaments are procured by putting two different coats of plaster one upon the other, and scraping away the upper in certain parts, show what can be done even with plaster. I am afraid that ugly buildings are referable to the architect or the client, rather than to the material, however vile it may be.

The roofs of these houses are always formed of tiles, placed upon a few spars: these latter are supported upon the high, square, domical brick vault, which invariably covers the upper rooms. The vault does not go up to a point, but butts up against an oblong, flat slab of stone, which forms the key.

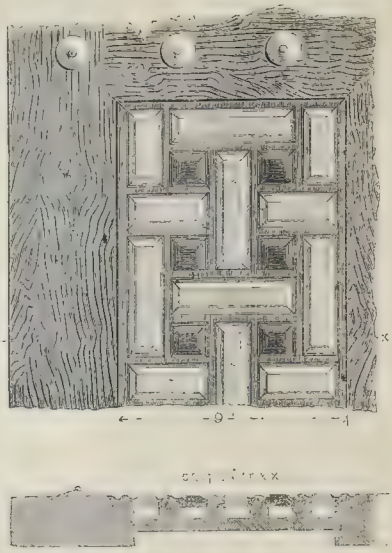
The windows are simply two horizontal and two vertical travertine stones, with square jambs. Above is a discharging arch, set about 1½ or 2 inches back from face of wall. A double row of tiles placed on the ostrados bring the superincumbent wall to the general surface, and, like the moulding we observed in a similar situation at Stamboul, does duty as a label.

Every window is defended by a wrought-iron grille. The doorways are as plain as the windows, having segmental arches sunk back an inch from the general surface, in the same manner as the discharging arch of the windows. I should mention that these latter are generally four-centered, while those of the doorways are segmental Only one sculptured figure remains, a small bas-relief in the High-street, representing St. George, in Bysantine costume.

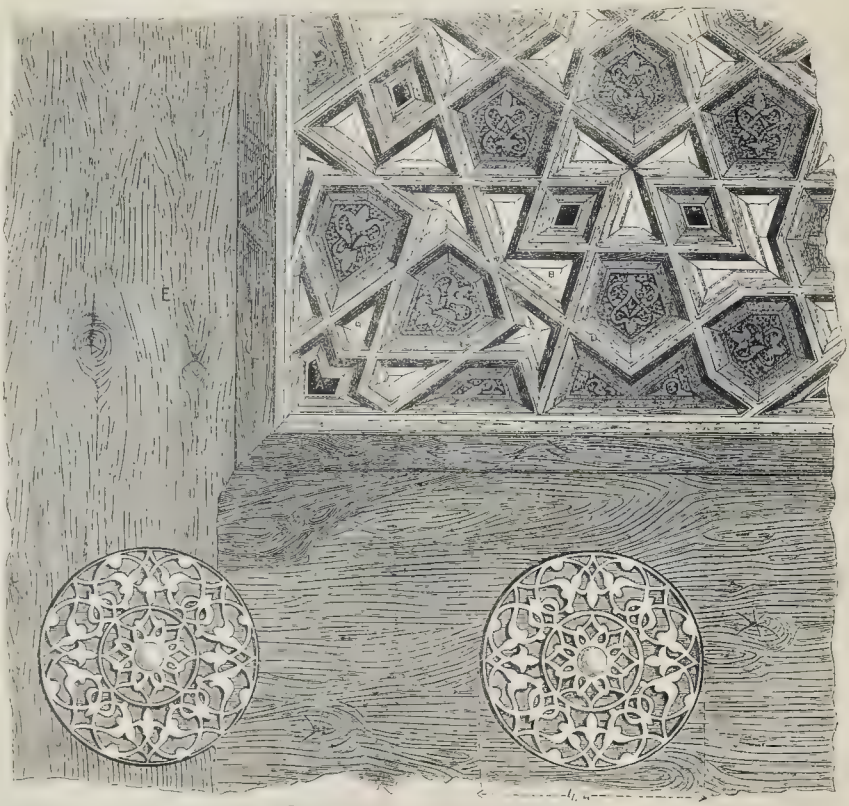
Now, in Galata and Stamboul, but more especially in Tophana and the older parts of Pera, there are to be found an immense number of pierced iron door-rings and knockers of a most Mediæval shape. I must confess that I am per-

CONSTANTINOPOLITAN ART.

Door from a House at Pera.

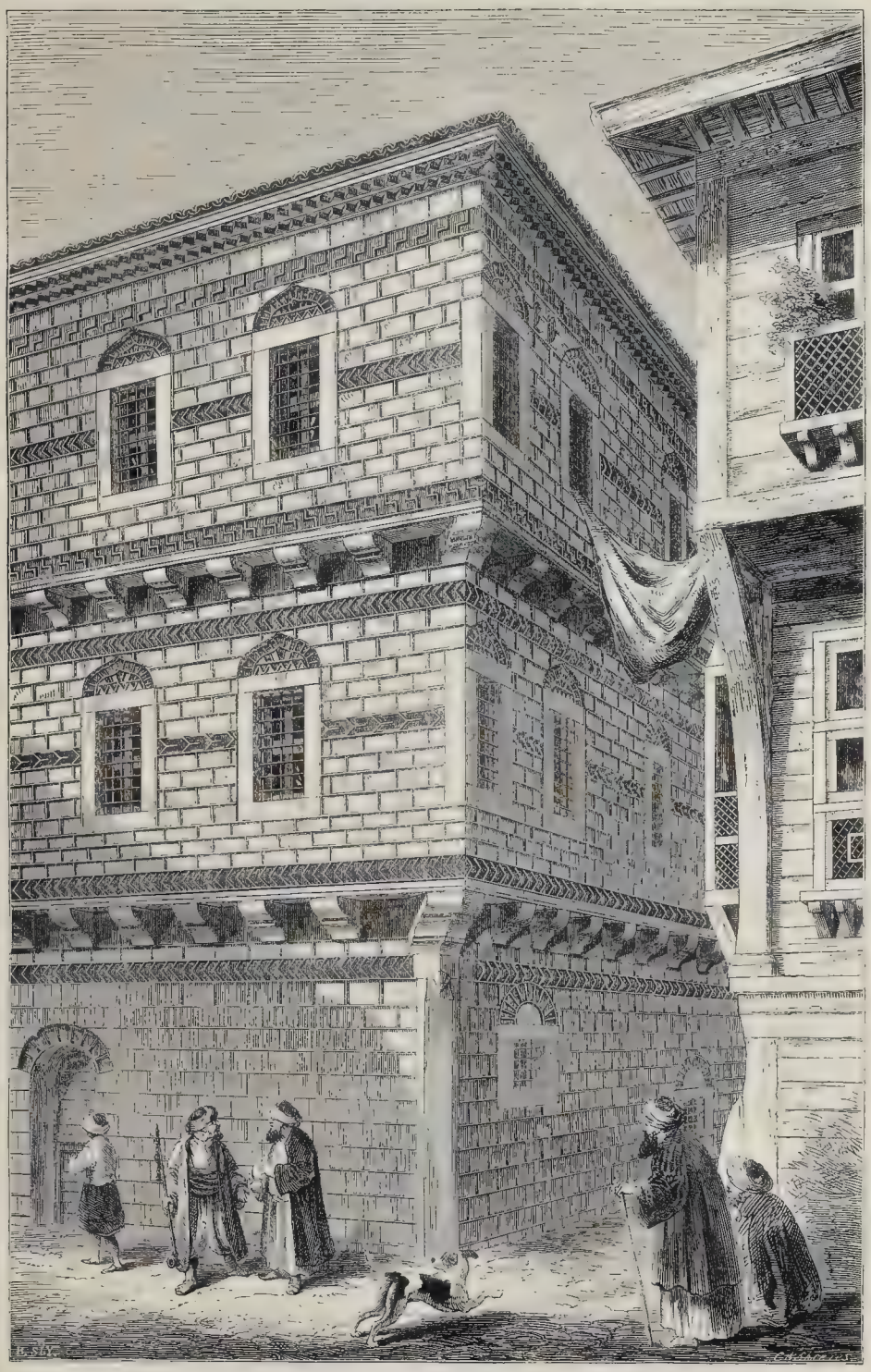


Door from the Valide Sultana Mosque.



Door from Mosque of Sultan Suleiman.

A. Ebony. This does not form a panel of itself, but is inlaid into a panel of walnut wood. B. Ivory. C. Box-wood. D. Walnut-wood.
E. Walnut-wood. F. Groove formerly filled up by a minute marquetry of ivory, wood, and silver,—like the modern Bombay work.
H. Walnut-wood. J. Box-wood. K. A red wood.



ANCIENT PLASTERED HOUSE AT GALATA.

fectly puzzled to account for them. Some of my friends have suggested that they were Genoese importations: for my own part, I am rather inclined to believe that they are of native manufacture, considering how very Mediæval the Eastern metal-work is, even in the present day.

Concerning Tophana, little need be said beyond that it contains the great landing-place for all building materials, excepting wood. The red pipe-bowls are made there; and I have before mentioned the fountain.

The slave-trade also flourishes at Tophana, witness the numerous Circassians, who, I believe, are often the relatives of the ladies on sale. When I say the slave-trade flourishes, I do not mean to assert that it takes place publicly, for the Sultan has prohibited it in an edict, beginning, "Whereas all men are born free;" but it still goes on in a private manner, as will always be the case, where there is a demand for an article, and purchasers willing to give large prices.

Pera, the last division of Constantinople, may briefly be described as containing nothing good, except the hotel. It is almost exclusively inhabited by Europeans, whom, with a few honourable exceptions, no one would wish to select as the representative men of their respective nationalities. Pera, indeed, as to its inhabitants at the present day, perfectly answers to the description given by Gibbon of the Latin inhabitants of Jerusalem during the time it was held by the Crusaders. Its architecture is for the most part upon a par with its inhabitants; in fact, it is the most disagreeable city to inhabit, it was ever my lot to come across. It likewise enjoys the reputation in common with all Constantinople, of being the most expensive place in Europe after St. Petersburg, the principal difference being that in the latter capital you do get something for your money, but in Pera every article is both dear and bad.

The cost of building must be put down at at least one-half as much again as in England; for not only are building materials very much more expensive, but every artizan is paid at least five shillings a day, and does hardly one-half the work of an Englishman. Most Europeans here lose a portion of their energy when they have been any time in the country, the only exception that I knew of being our Ambassador.

The principal buildings at Pera are the Russian, French, and English embassies.

The Russian is a very large and plain affair, built between the years 1836 and 1843, by M. Fossati. It is constructed of rough blocks of the Macrican limestone, plastered over. The cost was 40,000*l.* The architect informed me that now-a-days it would take three times that sum to erect it.

The French palace, by no means so large, and built in 1838 and 1845, is faced with Malta stone, a material by no means to be praised for resisting the damp: indeed, parts of the carving are already disappearing. The style is that indescribable rendering of the Renaissance so popular in France under the *régime* of Louis Philippe. The amount was 35,000*l.*

The English palace is in much better taste, being taken from the Florentine edifices; but inasmuch as these latter were meant to be seen from a narrow street, while the building under consideration is in the midst of a garden, it naturally loses some little of its effect. The material is the very soft limestone from St. Stefano, known as the Azattee stone; it is tolerably durable when well chosen, and placed in a dry situation, but always liable to perish in parts facing the north.

The Sultan's palace at Dolma Bagdche, near Pera, is a most wonderful production, the details seemingly being taken from those impossible French lithographs which profess to be aids to the designing of jewellery. The architect is an Armenian, —the Turks, as a general rule, preferring to employ them to Europeans. I was informed that until a few years back the Armenian architects used to draw their plans upon a most Mediæval system, viz. placing an elevation of a door or window on the place shown for it on the plan.

Did time permit I might add one or two others of my architectural experiences at Constantinople, but this notice has already run to a much greater length than I expected. I will now conclude by briefly recapitulating a few things which I think I learnt there.

1. The mosques teach us the importance of massing ornament in certain places, and not to distribute it over the whole surface, and thereby cut up all breadth of effect.

2. That where a column is wanted to do real work it should be massive, and not like a tobacco-pipe, and that this column will not look the worse if it be diminished, or if its capital be connected with that of its neighbour with a tie rod.

3. The houses at Galata teach one that a very excellent effect can be got without the employment of a single moulding, except on the edges of the corbels, many of which are simply rounded.

4. That with a good artist even plaster can be made to look well.

5. That the present state of coloured decoration among the Turks teaches us how important it is to be surrounded by beautiful colours, such as costume and hangings; for, although not a nation of artists, while they wore a coloured costume their decoration was well coloured, it has changed very much for the worse with their costumes.

From the stained-glass and ancient work generally one perceives the excellent patterns producible by the putting of one pattern or diaper on the other.

And, lastly, from the whole city generally, that the very thick walls to keep out the heat, and tie rods to bind them together in case of earthquakes, are the just requisites for building well in a hot climate.

The accompanying engravings will explain themselves.

ON COLOUR AS APPLIED TO ARCHITECTURE.*

Thirty years ago it would have been necessary to establish a continuous series of proofs, from the red-checked ships of Homer to the painted ceilings of Hampton Court or Whitehall, to obtain a hearing on the subject of colour when applied to architecture. Indeed, a very few years since people could with difficulty be brought to listen with patience to any account of that which they firmly believed never existed; and if a few, more learned or more credulous than the rest, lent an ear to some antiquary's account of the traces of painting on a building, they made up for their forced belief by setting down all ages in which architecture had been coloured as barbarous: nor were they to be blamed, for every tendency towards a delight in beauty of colour had been religiously rooted out, and for more than a century the very feeling was looked on as a wicked and degrading indulgence; and consequently the coloured objects which met their eyes were a sufficient excuse for calling any people barbarous who had used such decoration. At present public opinion has changed, and it would be waste of time to attempt to prove that which is allowed on all hands, that in almost every age preceding our own, buildings were painted. The question is no longer, Did the Greeks and Romans, Egyptians and Moors, paint their buildings and statues? but, What lessons can we learn from their painting?

* * * * *

In applying the colours great technical skill was required: besides producing a general composition in which nothing offended the eye, and in which each part was harmonious, the artist had to use his experience in varying the tones, &c. when at a great height, separating those colours which he did not wish to blend, by a white or black line, and making all in harmony with the background, and in such relation to it that the whole might form a composition; without which it would have been a failure, as the background formed the largest mass of colour in the building. It is for this reason that I prefer grouping the different kinds of painting with reference to the background, instead of arranging them according to dates, or forming them into derivative groups. The grounds may be divided into *pure* and *mixed*; *pure* where the ground is entirely of one colour, which includes the gold, the blue, and the white; *mixed* where the ground is in pieces or patches of different colours. I propose to give a slight sketch of the kind of decoration used in some good example of each style; then to see what we know about colour; and afterwards to pass some of the more important examples in review, and find out whether the colouring is entirely arbitrary, or whether it appears to follow any law.

I have taken St. Mark's at Venice as the example of a gold back-ground. The pavement is of marble mosaic, covered with all sorts of patterns, scrolls, and animals: the walls (as high as the caps of the columns) are of polished marble, principally of a dark grey, brown, or red colour: the columns are either of polished marble, granite, or porphyry: the foliage of the capitals is gold on a blue or red ground; and above is the gold mosaic, which covers the whole of the walls, spandrils, soffits of the arches, vaults and domes; and on which are the subjects and ornaments. The mosaics of St. Mark's may be roughly divided into the Byzantine of the Atrium and the Church, of about the date 1100; those of the Baptistery of 1350; those of the Chapter House and some scattered pieces of the sixteenth and seventeenth centuries. The best mosaics are in that part of the Atrium at right angles to the Piazza (when I say the best, I mean as to the ornaments and the general effect of colour, but I do not attempt to criticise the pictures as works of art): the wall is filled with subjects in horizontal strips, and the vaults and domes are treated in the same way, except that the centre of each dome has generally a star or flower: the pendentives are sometimes filled with a figure or subject, and sometimes with a circle containing a portrait, with Byzantine ornament running into the angles: the ribs have figures or heads in panels with ornament between, or are entirely covered with interlacing ornament: the outer edge of the ribs is treated like a bead, and ornamented with flowers or zigzags, and a zigzag pattern is generally put above the string and the cornice of the domes. The general effect is that of a pale greenish grey, without any spot standing out or grating harshly on the eye: nearly all the figures and drapery are of a pale tint, weaker in tone than the ground, and the separation of the subjects is generally effected by masses of dark produced by black writing or by dark bands. The tone of the gold, though low, is generally nearer white than black; and, consequently, where great distinctness of outline is required, black lines are used, and even black and white together, to render the line more cutting; but where the outline is not required to be so very distinct, such as on light edges, Indian red is generally used (as nothing destroys purity of colour so much as a prevalence of black lines): if the colour is white, it is outlined with blue, and in very many cases a simple white edge is used. We must not confound a practice with a necessity, and though painters and mosaic-workers very frequently used a black outline it was merely from their habit of drawing an outline, and then working up to it. That I might be the more certain of this, I have examined a large quantity of the gold tissues of India, and I find that by far the larger part is not outlined at all, and that when they are outlined, the darker colours only have a black, and the lighter ones a red outline.

In the Baptistery at St. Mark's, we find the ornaments of a different character from that of the other parts, the drawing being more vigorous and more Roman than Byzantine in feeling, but the colouring rather inferior: the draperies and ornaments are no longer lighter in tone than the gold ground, but are generally darker: the edges of the arch and wall ribs, the lines above the cornice of the domes, &c.,—that is to say, the smaller ornamental members,—are generally on a black ground with a very large pattern (the main body of the rib being white): the draperies are covered with enormous diapers, and are in some cases black and white in huge patches, so that the whole effect ceases to be perfect as a composition, the white and black catching the eye: the only piece of good colouring is on a wall rib in blue and gold; the blue a very deep shade, nearly approaching a blue black, and the pattern very much resembling one of the best at Pompeii. The Renaissance mosaics are generally greatly inferior to those previously mentioned: the artists of that period, though too well satisfied with themselves to learn a lesson from the old mosaics, were yet obliged to use the old ground to make their pictures match with those around; hence deep shadows and dark back grounds could not be introduced: of the use of pale but brilliant colours they knew nothing, so they made the drapery generally deeper in tone than the gold, and got great staring masses of colour that offend the eye; while their gold mosaic gives the niches the appearance of beaten brass pans, the mosaic itself being inferior in colour, and redder in hue than the old. It is not my intention to explain the method of working in mosaic; yet, as I was led to seek for the cause of the superiority of the old grounds, I may as well mention the result of my observations. In the first place, all the old Venetian mosaic is on a ground of clear glass of a deep green colour, and it very often happens that the gold leaf only covers a part of the glass, or it covers it all over with fine lines like the fibres of a decayed leaf; but in the later gold mosaic the gold is laid on a red opaque glass, which it covers very perfectly. In the next place, each piece of the old mosaic does not exceed in size a square of ¼ inch, except when used for outlining, when a strip ¼ inch wide and from 1 to

* From a paper read by Mr. George Aitchison, jun., B.A. at the ordinary general meeting of the Royal Institute of British Architects, Dec. 14, 1857. For report of the discussion which ensued upon it, see p. 730, vol. xv.

2 inches long is sometimes used, with a small square between it and the next, and these pieces are roughly cut and irregular in size; but the sixteenth century mosaic is in great pieces of from 1 to 2 inches, cut very accurately square. The greatest difference, however, is in the setting: the new is laid flat and pointed in pink mortar, while the old consists of long strips stuck in at the ends, leaving a shadow all round, which has the effect of breaking the tone. In gold tissues the same effect is got by forming the woof only of gold; and in pictures on a gold ground, the ground is generally diapered so as to break up the surface. Sta. Sophia at Constantinople, and the Cappella Reale at Palermo, which are two other complete specimens of decoration on a gold ground in mosaic, are said to be finer than St. Mark's; but as I have not been fortunate enough to see them, I cannot give any opinion on the subject. A small chapel called the Orto del Paradiso, in Sta. Prassede, at Rome, is a small but very perfect specimen. In fact, there is scarcely a town of any importance throughout Italy in which some specimens of gold mosaic are not to be seen. Paintings on a gold ground in the shape of anconas, diptychs, and subjects, are very common; but I do not recollect a complete gilded background to any building in Italy: the rooms of Marie de Medicis at Paris, of the seventeenth century, are wholly painted on a gilt background, and though I recollect that it was covered with scroll ornament in prismatic colours between the pictures, and that the effect was charming, I have no sketches or memoranda to aid me in giving a description of it.

We next come to the *blue background*. Blue mosaic was also used for this purpose, but the effect is very inferior to that of the gold, as the tone of colour is very dark, and the method of setting it only adds to its gloom: the Apse of Santa Prassede is a specimen, and there are very many others, especially at Ravenna, the most striking of which is the Tomb of Galla Placidia, of the fifth century. Here the ground is a deep blue mosaic, on which are the subjects: the dome is studded with gold stars, and the vaults with pateras: the arch ribs are white, with flowers in colours, and round the arches is a gold vine on a blue ground. But the blue background is more particularly that of the painter; and from Cimabue, in 1210, until about the time of Benozzo Gozzoli, in 1400, a blue ground was the prevailing one for all sorts of wall decoration. I have taken S. Francesco, at Assisi, and the Arena Chapel, at Padua, for specimens, as later work is, as a rule, very inferior in point of effect.

In the upper Chapel of S. Francesco, at Assisi, the dado is painted in imitation of diapered hangings of a dull red, green, or yellow colour, with geometrical ornaments of a lighter tone: these painted hangings have a border and hang in loops, over which is a painted string, and above is a line of pictures, separated by twisted columns, supporting an entablature, painted stone colour: the upper pictures are divided by bands of ornament: the vaulting shafts are painted in imitation of porphyry or serpentine, or covered with zigzags or chevrons: the caps had gold foliage on a red ground: the ribs of the vaulting are half octagon, covered with panels in mosaic: the side perpendicular to the vault is ornamented with scrolls or interlacing foliage: on the vault, between the ground and the ribs, is a wide band of the same sort. The ornament is almost always green on a red and blue ground: the vault is blue with gold stars and circular panels containing heads, and here and there a subject on a yellow or gold ground instead of the blue and stars; the wall and arch ribs are generally panelled, with heads and foliage alternating: the drapery of the figures is almost always lighter in tone than the background, and the effect of the whole is that of a warm glow. * * *

The greatest works on a white ground are the painted temples, &c. of the Egyptians, but of these I can hardly form an opinion.

In Italy there are very few instances of the white ground: the sacristy and the crypt of the Arena Chapel, at Padua, are examples—both are whitewashed. At the springing of the vault there is a broad band of blue and green ornament, on a red and black ground: the vault is powdered with large red and green stars alternately: the groin point (it is a Roman groin), is painted with a wide green stripe, then a yellow one on each side, and then a red. I think that painting on a white ground was never used in Italy until about 1400, except from motives of economy.

Sta. Anastasia, at Verona, is the only perfect specimen I know in Italy of decoration on a white ground; and although from some of its ornaments I should judge it to be German work of the fifteenth century, some of the ornaments have the character of a much earlier date, much more resembling the Norman ornament of France and England. The effect is very good, and is principally got by red and green. The floor is paved with red, black and white marble, in scales: the columns of the nave and the pilasters of the clerestory are in bands of red and white marble: the arches round the windows and the wall and arch ribs consist of seven courses of red bricks and an equal space of white: above the nave arches are two lines of green scroll ornament, separated by a white space with a green line on it. The vaulting has a circle in each triangular compartment, containing a head surrounded by green foliage, or a line forming a geometrical pattern, and at the side of the ribs there is a red scroll on a black ground, resembling in character that between the balls in the arch rib at Ernée: the ribs of the transepts are half painted in bars or chevrons. In fact, this, like most of the French churches, is only a system of half painting, but a more perfect and agreeable specimen. * * *

I shall spare you a recital of the technical terms of colour, of Field's chromatic equivalents,* and Chevreul's laws of contrast, and enter at once upon the subject of the harmonies. In nature every colour may be found in juxta-position with every other, and with a harmonious result, but when we come to analyse the means by which it is produced, the subtleties of the method baffle our investigation: the sculptured surface with its light and shade, the texture, the infinity of tints and colours, all making up one, render all our attempts at perfect imitation or comprehension impossible; still as we get our impressions of what is beautiful from Nature, it is to her we must go when we want to find out the reason of the harmony. The most usual harmonies in nature are those of gradation or succession. The harmony of gradation is where one colour gradually rises or falls, either from white through any colour into black (as from white through blue into black in the jay's wing), or from a pale tint of a colour to its darkest shade, yet never going out of the normal scale. The harmony of succession is where green passes into yellow or blue, yellow into orange or green, violet into red or blue, red into orange or violet; or where the whole prismatic scale is used up, and we begin at one colour, and gradually pass through the whole seven. Next in frequency to these come the harmonies of contrast, that is, the harmonies of the complimentary colours; and lastly, the alternate harmonies in which red with blue is the worst, and red with yellow not much better: the agreeable ones are orange and green, yellow and blue, green and violet. We have in addition to these the harmonies of colours with white and black: with white, yellow, green, and blue are the most common: with black, the best are crimson, scarlet, orange, and bright emerald green, not the green of the paint, but the green of the jewel. There are many brilliant and delightful harmonies with the secondaries and the tertiaries and black: thus we have citron, olive, and russet in metallic colours, with black, in the Honduras turkey, and russet, violet, green citron, green and black, green, violet, green russet, green and black, in the peacock. Of the harmonies of tone, those to my eye are most agreeable that are not contrasting: black and white, and the tender pale colours and black, do not appear to me to be agreeable when in large masses. One of the laws laid down by the Educational Committee is, that when a primary and secondary are in harmony, if we give any hue to the primary, the secondary must be tinged with the remaining primary. Thus if red and green are in harmony, as we make the red more violet we must make the green more yellow: as a rule the very reverse takes place in flowers; for, as the flower gets more violet, the leaves get more alive: thus the scarlet geranium has leaves of a bright yellow green, slightly broken with red or brown, while such flowers as the purple dragon's tongue have dark olive green leaves: this may possibly be to ensure the contrast of tone which almost always takes place in flowers. When colour is applied to sculptured forms, it should as a rule always contrast with the form, and not follow it, as we see in the legs and tails of animals, where the pattern generally takes the form of rings or chevrons, and not of longitudinal stripes. We see, then, that in any system of colouring we want to associate as a whole such masses of complementary colours as nearly combine to form white light, and leave only that pale red, yellow, green, or grey residuary tinge we may require, and to choose such of the harmonies as we prefer; but we must in our present state of science trust entirely to the correctness of the eye for making the two colours that are to be together really harmonious.

In conclusion, I will submit a few deductions derived from the colouring of the works we have reviewed. On a *gold ground*, black and white should be used like jewels in very small pieces, or as lines of separation, otherwise they will destroy the harmony of the composition. The predominant coloured surfaces should not be deeper in tone than the gold ground, and those that are of a very pale tint, nearly approaching to white, appear the most beautiful. The harmonies at St. Mark's appear to be green and red, green and blue, green and violet; but there are other peculiarities to be noticed, as the lovely bead ornament in the Atrium, consisting of eight-leaved flowers on a gold ground, each flower having four blue and four red leaves, and four green and four red alternately, the colours separated from the gold and each other by white; and the beautiful ziz-zag border to a portrait on one of the pendentives of the Atrium, in which pale green, gold, pale blue, white, grouped on one side of the indent, and green, red, blue, white, on the other, are found on a black ground. On the *blue ground* the divisions are almost always effected by white lines, but the prevalence of masses of white or black destroys the effect. The harmonies here include nearly every one, but the commonest and best are those in which the green foliage makes a harmony of contrast on one side with the red, and an analogous harmony on the other with the blue. We have orange between blue and red, orange and green, orange and pink, black and green, orange and black, blue and violet. On a *white ground* any colour that is much darker in tone will make a division, and the only thing to be considered is the application of the colours themselves. These must be of sufficiently pale tint not to form violent contrasts of tone. The only exception to this rule is when colours are employed in minute portions; in which case the surrounding white will sufficiently lower them in tone to make them agreeable. But my advice to any one about to paint on a white ground is to possess himself of one of the best kind of china plates.

* It appears to me to be extraordinary that this question of the chromatic equivalents has never really been set at rest, as it would be easy to ascertain the relative areas that the red and green, blue and orange, and yellow and violet rays occupy, which when combined reproduce white light; and although, optically speaking, the green, orange, and violet rays are not secondary colours (that is, they cannot be formed by the mixture of blue and yellow, &c.), yet for the purposes of art, the experiment must be much more conclusive than the rough experiments of Field, which even he did not consider absolutely conclusive.

ANCIENT AND MODERN ORNAMENT CONTRASTED.*

THE higher class of sculpture is almost always employed in a noble manner, and made to serve as ornament to the architecture. If at times, and in the earlier works, it is stiff and quaint, it is often hardly surpassed in execution by the best sculptors of Greece; and there can be no question that they superadd a much higher quality, which would redeem inferiority in other respects. This quality is spirituality, the expression of soul as well as of intellect, which they share with the works of Classic times. In the group of Niobe and her daughters under the avenging wrath of Apollo, and in the Laocoon, high dramatic power is evinced, but the depths of the soul are not reached therein. The religion of Christ awoke in art higher and nobler feelings than the homage to unknown gods could ever call forth.

As examples of such sculpture, I would refer you to photographs from the doorways of some of the French cathedrals; there are some in this Museum, and more in the valuable collection of the Architectural Photographic Society, now exhibiting in Suffolk-street, Pall-mall. I will, however, give you a description of two, from a lecture which I wrote a few years ago, as it seems to bear upon the point under consideration:—

In the noble five-arched west front of Bayeux Cathedral, the tympanum of the second arch from either side is filled by a group of sculpture. That on the northern side consists of events in our Lord's life and passion; the other, of his descent into hell, and subsequent glorification. The arch mouldings are occupied with four ordered ranks of the heavenly host and saintly bands, not ranged in meaningless monotony under their several canopies—a mere feature in the architecture, as in the restored west doorways of S. Ouen, at Rouen, where they are turned complacently to a pierced screen of tracery; but here, they are evi-

* Read by Mr. Seddon at the Architectural Museum

See page 70, *ante*.

dently in adoring contemplation of the event which is recorded in the centre; their hands are raised, and their wings poised; their attitudes are varied with the utmost grace: while as each recedes from the scene, they change from intenser action of inquiring love—a drawing closer, as it were, to view the trials and the triumph of the Saviour—to a mute and a reverent gaze and a gathering together of their folded garments.

Still grander, even, is the conception and treatment of the bas-relief over the central door of the church of S. Maclou at Rouen: the subject is the Last Judgment. In the apex of the arch, in the outer of the double row of canopies, is the Father, with right hand uplifted, and bearing the world and cross upon it in the other. In the second row, immediately beneath, is the Holy Spirit, as the Dove descending; and seated in the centre of the tympanum is the figure of the Lord Jesus; while, from the crown of the tympanum are rushing four angels with their trumpets, to announce the coming doom of the world. The rest of their band are ranged in staid ranks on either side of Christ, with their wings folded over their feet, their harps and other instruments in hand; while, in the next rows below are seen the blessed of all nations, distinguishable by their mitres and turbans, and variety of dresses; some holding the books of their inspiration; others are kneeling or pressing forward, with their heads raised towards the Saviour. Thus seeming, as doubtless was the intention, to embody the beautiful summary of the hymn where "the angels cry aloud, the heavens and all the powers therein, the cherubim and the seraphim." "The glorious company of the Apostles, the goodly fellowship of the prophets, the noble army of martyrs," and "the Holy Church throughout the world," are joined in praising their Creator. To the left-hand side of the lower portion is the Resurrection. The souls are pressing into a sort of cathedral building, and are being marshalled by angels, while the two lower canopies of each row on that side are occupied by figures rising from their tombs. Of those above, and down to nearly the same distance on the opposite side, each has an angel overshadowing with his wings, and directing to the Redeemer a crowned saint, whose hands are clasped in prayer, and whose features are beaming with thankful praise. On the right-hand side the avenging angel is driving the condemned into the flames below. The majestic swoop of this figure is finely contrasted by the struggles of a demon, who, in his hurry to escape, is crashing through all the arch mouldings, and is leaving his garments behind him. While the scene of the Inferno is drawn with all the terrible fancy of a Dante, and extends to the three lower canopies of each range on the right hand, the outlines of which are barely traceable amid the mass of horrid demons and shrieking victims clinging around them, the expression of savage malice in the former, and of torture and despair in the latter—is truly fearful. In the midst, Satan is sitting supreme; in one compartment devils are blowing the flames which burst upwards in their fury, others turn a wheel upon which figures are stretched over a harrow, and some are crouching into the very hollows of the canopies, as if they would screen themselves from the wrath of the Almighty, and were calling upon the mountains and the hills to cover them.

Gothic art is essentially the *Christian* art, although some dispute the fact. Whether or not it be so by any inherent quality may be a matter of opinion. It may be that, as our opponents remind us, the earliest Christian churches were Pagan basilicæ adopted or imitated for the use of the new worship, and that likewise many noble churches exist which are Byzantine and Romanesque and other than Gothic. But it is not reasonable to suppose that the faith which was sent into the world to win its way therein by degrees, battling long against persecutions from without and error within the pale of its professors, should attain at once in material things what was denied to it in spiritual. In the spirit of its great apostle, it would be all things to all men, and did well at first in wresting from heathendom its fabrics and its fables; but as soon as it could choose, it cast aside the falsehood of Roman architecture as it trampled upon the mythology of Paganism, taking from each, however, what good there was in them which might be of service to itself, and in the Romanesque, which was but the precursor of Gothic, it proved its sympathy with truth and honesty in building.

But Gothic architecture has been the architecture of Christendom "*par excellence*" in past ages. Its truth of construction,—its principle of growth,—its aspiring tendency as contrasted with that of Classic architecture,—its constant embodiment of Christian symbols, such as the cross which it displays everywhere from the plan of every church to the decoration of all its details—proclaim it to be the best exponent yet discovered of the spirit of the religion it has so long served.

Nor is the fact of its decline at all contradictory of this assertion, seeing that it was contemporary with the progress of corruption in the church: it could not have been otherwise if our claim for it be correct since falsehood is antagonistic to Gothic architecture. Its foundations were, as was to have been expected, sapped thereby; and the late Gothic became daily more pretentious, and more studious of effect at the sacrifice of pure and good detail, until it gave way before the flood of revived Paganism, to make room for the vaunted Renaissance, with its sham fronts, its constructed decoration, and nonsense ornament.

Let us pause at this point of separation between ancient and modern art, to notice one quality which is common to every style up to the period we have arrived at. This is *nationality*. In each, however various its excellence, this character is ever present. The architecture of a nation was a history in stone, in which to this day may be read more certainly than in their written records, their outer and inner life, so far as its chronicle extends. Partiality may have biassed or dishonesty garbled much that tradition has handed down. Deeds there have been, which no Homer has sung, no Herodotus noted, that are yet storied upon walls with a vividness greater than they could have given to them, since the very dress, implements, customs, and manners of the people, are shown thereon, so that we may see them for ourselves.

But in the very aspect of their buildings, by their general expression we may discern, to a great extent, the character of their builders. The stern priestcraft of Egypt—the refinement of Greece—the ostentation of Rome—the rude energy of the Lombard—the devotion of the Christian, as seen in the Gothic, with the progress of error corresponding with the decline of the style,—all pass in review before us in a mirror wrought actually by themselves; evidence untampered with, except by the oblivious hand of time.

Is a similar faithful record borne upon the face of the architecture of modern times? May our national character thus be read upon our works?

It is, indeed, to be hoped not, else what would the thousands of acres of concretions of baked mud and slime, and myriads of boxes rather than dwellings, gashed with grim light-holes in daring defiance of symmetry and proportion, witness of us?

The comparison, however, it may be said, is not a fair one, since the ordinary buildings of ancient times have vanished, and may have been equally miserable. This supposition I doubt, and, at any rate, we know well what the cities and towns of Europe in the Middle Ages were,—such as Venice, Rouen, Nuremburg, and others; and any comparison with them is grievously to our shame.

Yet consider even our monumental buildings,—those that we have built, intending them to last,—and what do they tell of our nationality for the last three centuries? Could the most patient antiquary some decades hence discover from their ruins whether we were a Christian or Pagan people,—a colony of Greeks, Romans, Goths, or Italians?

Could he learn a single trait of our manners or customs, such as whether we were in the habit of burning or burying our dead, without being puzzled by contradictory evidence directly?

To resume our historical summary at the point where we left it the consummation of the decay of Gothic and Christian art, and the Renaissance, as it is called, of that of Classic and Pagan times. We must note, that whereas throughout all former ages art had been *alive* and *quick*,—the natural exponent of men's real thoughts and feelings, in which they had expressed, and by which they had taught, their religious belief. Henceforth it has been *dead*,—the mere galvanized corpse of Paganism, which stalked forth with a motley crew of heathen gods and goddesses, and fables in which not a soul believed. It threw aside then the rules of common sense, which had been its guides hitherto. *Fitness*, *simplicity*, and *purpose* were forgotten, and, though *beauty* was still worshipped after a fashion, it was enshrined in a system of nonsense-ornament, from which now and then a superior mind has been able to raise it only to let it fall again to still lower depths of degradation.

Not the architects alone, but likewise the painters, the sculptors, and literati of Italy, in the fifteenth century, gloated thus over the husks of Classic art which they had discovered; and, in place of the simplicity of common sense, they raised around their arts a hedge of arbitrary rules, and surrounded them with a halo of mystery, which required long research and much learning to penetrate. Thus they impressed the people with an idea that they could not readily, as of old, comprehend the intentions of the artists, and were not expected to do so; and the public, finding the aspect of the works now done was chilling and forbidding, notwithstanding the vaunted mysteries of proportion of which they began to hear so much, gave up even the attempt to understand what ought alone to have been addressed to them, and acquiesced in the soul notion that art was for the learned alone.

The result of this curious divorce between nations and their art was, that the former, while boasting astonishing progress in all social and scientific improvements, have sunk at the same time gradually deeper and deeper into the slough of false and bad taste, in a manner almost correspondent to the degree of their advance in other respects,—and that in all things of practical utility, whether we consider their buildings, their household utensils, or their dress,—every step they have made towards rendering things more economical and convenient, has rendered them likewise successively more and more ugly. At the same time, their art has bowed down itself to the Dagon of scientific theory; and, being entirely eclectic, copying first one thing and then another, at the dictate of fashion, has become a mere matter of dilettanteism, without a vestige of authority, or influence over the lives of men.

That I may not appear to condemn without proof, arraign for yourselves at our bar of *common sense* the several arts in succession; since their union had been, and still remains, to a great extent dissevered.

Before the time of Raffaelle, painters had, with earnestness and faith, endeavoured to portray, for the service of their religion, subjects from sacred history which were realities to them; and, as soon as they were able to lay aside the conventionalism which tradition long enforced, they *mostly* arrayed their saints in the costumes and armour of the ladies and warriors of their own day. But, at the bidding of such vicious patrons as Leo X. their successors prostrated their glorious powers to represent the loves and exploits of heathen deities, and other ludicrous absurdities, in which no one believed; and they began to make religious subjects profane; to set up composition and power of drawing, of colouring, of chiaroscuro, and the like, in place of intensity, feeling, and sanctity of expression; and they fell rapidly, losing even the artistic powers possessed by the leaders of the movement, until we find, in modern times, David figuring antique heroes going stark naked to battle; and a gigantic lie, called historical painting, bolstered up as the high art of the present day, and nature and truth forgotten in the search after vapid ideality;—against which are struggling a small but devoted band, to whose efforts we may pray good speed, and which have sped and will speed in spite of much rabid abuse from the ignorant.

That sculpture is even in a worse plight it needs few words to show: you have but to go into Westminster Abbey, or St. Paul's, to see senators shivering in Classic contempt of costume, or clad only in a toga, surrounded by tame lions and condescending genii; in a strange society of gods and goddesses, cupids and angels, amid marble clouds like pancakes.

Nor can we comfort ourselves with the reflection that, as in painting, any signs of better things are yet visible. The sculpture-room at the Royal Academy is yet filled yearly with nymphs and fawns, Venuses and Cupids, in which Christians should have no interest, and the late competition for the Wellington Monument showed as general a misconception of the character of the thing required as those I have described.

In Belgium, we find the naves of the churches half filled by atrocious compositions of the Renaissance period intended for pulpits, such as that of Louvain, in which, if I remember right, the figure of St. Paul, considerably larger than life, flounders head downwards amidst colossal kicking horses and frightened attendants.

In Italy and in France, at the time of Francis I. pompous architectural canopies, frittered over with delicate, beautifully executed nonsense-ornament, of which I shall speak afterwards, overshadow and support sculpture equally devoid of proper feeling, and displaying instead a mawkish sentimentalism which is really shocking.

But architecture shows more obtrusively, at any rate, the degradation of which I have spoken. The condition to which it has reduced what Mr. Scott has called "the vernacular architecture of the day," I have before hinted at, but as he has described it far more powerfully than I can do, I shall willingly shun the criticism of cotemporary works, and will ask your judgment upon the very models from which the palazzi of our streets are all copied, and will endeavour to set their ornament side by side with that of the better times I have described.

Many of those present will have been probably to Venice, or else have seen views or photographs of the buildings of that city, which is the grand storehouse from which our modern Italian structures have been copied; a city embellished with the most elaborate works of the demigods of the votaries of Renaissance, and rich with the architecture, ecclesiastical and domestic, of their Saints, Palladio, Sansovino, and the like, and of Longhena, whose name is not so often in their mouths, although his works appear to me far more poetical and picturesque, as witness his Pisani Palace, and the beautiful group formed by his church of S. Maria Maggiore, on the grand canal.

Those that have been so fortunate as to have been able to spend some time in that queen of cities, after the first frenzied rushing to and fro in the search for churches, palaces, and pictures, have probably enjoyed a quiet, observant passage up and down the grand canal in the easy gondola; stopping again and again before each of the noble groups of buildings that line it on either side.

Whatever may have been their prejudices, they cannot but have felt awestruck at first by many a colossal pile, with story upon story of columned orders, chased with rich work from massy base to deep overhanging brow of cornice.

But a few oar-strokes have carried them past it, when their awe must have given place to an irrepressible feeling of disgust, at having discovered that a trick, as it were, has been played upon them,—for the stately façade turns out to be a huge false front stuck to the building, but entirely unconnected with its real construction, as if its architect had designed his elevation utterly forgetful that any sides were to be considered.

The whole is thus seen to be a supposed piece of ornament, representative of the wealth of its noble owner: the columns are only as sentinels standing idly before the building they decorate, supporting entablatures only built for the sake of being supported, and crowned with carved and broken pediments, which, if they were not only huge constructed ornaments, would fall to the ground.

Alongside of such a pretentious palace as this, perhaps there was an old battered and dilapidated Gothic or Byzantine one, nestling humbly beneath the shelter of its lordly neighbour. At first sight you were disposed to pass it by in neglect, but when you had found out the sham of

the other, you were inclined to look more reverently on the really or the traceried windows of this, with their marble shafts, which have their appointed office to perform in the construction. You then perceived that, though, as was right, the façade, by its grouped openings and richer wall decoration, was made prominent over the sides, they were not uncared for blank walls, but that their windows, though fewer, were alike moulded and shafted, and not destitute of tracery; and that the building, in fact, was a complete design, of which all its parts were in harmony; and you swept onward in your course more satisfied with the sterling and modest excellence of the one than the false and proud pretension of the other.

The Renaissance palaces of Florence are many of them very grand and noble in mass, such as the Farnese and Strozzi palaces; and they are not open to the same objection as those of Venice, at least to the same extent; the decoration being more in the Gothic manner, confined to the openings in the walls, and the cornice and base of the buildings; but the ornament applied to the openings is not of a reasonable kind, being made to represent the fronts of small temples, often with little pediments over them, which sometimes, as in the ground story of Somerset House, are actually placed within arched recesses, where their presumed use of protection to the opening is rendered unnecessary. But the Roman Renaissance treatment of the orders is the most absurd, as in it the decorative, stuck-on columns, are made to extend to the whole height of the façades, ignoring altogether the division of the building into several stories: by this means also the sense of proportion is misled, and even St. Peter's does not appear the colossal structure that it really is.

Such are the principal works of the Renaissance in Italy, where it sprung, and whence it spread like a leprosy over Europe, infecting the later works of the Gothic, which yet lingered in the North, long after it had been abandoned altogether in that land. Thus, in the glorious western portal of Rouen Cathedral, which retains all the bossy richness of the finest Flamboyant work, a close inspection will reveal that the figures in the delicate niches which fret its noble arch are no longer, as in the older and purer examples, saints and angels, but belted knights and gaily-dressed gallants, alternating with naked beauties.

It is not often, however, that such really fine architectural character co-exists with such sculpture as in this front of Rouen. Generally, you may as well prejudge by its presence, the late wiry insipidity of late Flamboyant, as you may the reverse; and feel sure that with such shameless profanity the carved foliage will also be nerveless and lumpy, bearing little resemblance to the crisp thistle-like work which preceded it; and that, as in the tomb of Cardinal D'Amboise at Rouen, and in the rich south porch of Louviers. Time would fail me if I attempted to describe the incongruous jumble of Gothic and Classic detail of our Elizabethan architecture, or the ornament of the Renaissance in its successive phases in Italy, France, and Germany, which varied much in delicacy and quality of execution, and agreed only in utter want of meaning.

Raffaelle, in his famous arabesques, of which there are copies in this building, led the way, forming the style in imitation of the then lately discovered Pompeian work, and composed a fantastic combination—of which I have yet to learn the beauty or the meaning—of antique scroll-work issuing from the tails of griffins and chimeras, set back to back; of masks hung by ribbons to pegs; and baubles dangling from wreaths, and pecked at by impossible birds. The inferiority of such decoration, both in detail and in general effect, to the Byzantine mosaic work of St. Mark's at Venice, to the frescoes of the Campo Santo at Pisa, or of Giotto at Assissi, is great.

In France, under the auspices of Francis I. and for the glorification of his mistresses, Jean Goujon and other artists of great talent worked out a style not very dissimilar to that of Italy. Such is the style of the greater part of the palace at Fontainebleau.

The delicacy of this class of work was lost amid the richness and pomp of that of Louis XIV. in which the acanthus again appeared in its wildest exuberance. Such is the general character of the ornament of the Tuileries and the Louvre, and the designs of Le Pautre.

This fashion was followed by the most incongruous medley that ever attained the name of a style, the ornament of the time of Louis XV. with its scroll and shell-work, which really has no single redeeming point, but seems the very incarnation of the frivolity and corruption of the licentious age which gave it birth. In the succeeding reign of Louis XVI. it was abandoned for a return to a more severe Classicism characterized by an excessive feebleness.

These French styles being composed of elements which require no thought in their composition, lend themselves with a fatal facility to the efforts of the merest tyros in ornament, while they delude them into the idea that they possess powers of design; their appearance of richness, attained with but small cost, fascinates the public.

Modern ornament has oscillated at the breath of fashion between these several phases of Rococo; and the Exhibition of 1851 showed that, without exception, all nations, except those of the East, had succumbed to their enervating influence.

Then, and since then, a warning voice has been raised by many, but by none more practically than by the founders of the Architectural Museum. They have gathered together, in *their own gallery*, a noble collection of the finest ornament in the world, of Byzantine, Venetian, Norman, and Gothic work, from which they have most wisely excluded that which, as far as regards the future, had better be left dead and buried, and that whole school of Renaissance which had better never existed; and by their casts from natural foliage, they have called attention to the source whence the design of the finest work has always been drawn.

The only hope for the restoration of ornamental art, so that it may again become national and good, is to throw aside the accumulated rubbish of the last three centuries, and start again from that of the best date; not copying, but thinking for yourselves, in a spirit of common sense. See that your work is *fit*: express by it what you wish *simply*: search in nature and the noblest examples of the past for the principles of *beauty*,—and let every effort have a definite *purpose*: let all you do tell for posterity your real feelings and thoughts, not the borrowed thoughts of any former day. Have done, as Mr. Scott warns you, with masquerading, and swear fealty to Truth. Have done with mythology, and even history, in selecting your subjects. Our own day, our own wars in the Crimea and in India, are at least as fertile as any other, and our children will thank you more for telling them what did happen amongst us,—how our cavalry charged at Balaklava,—how our Indian officers kept at bay whole rebel hosts, and wrought just vengeance on them, than that we should waste our time in telling them what we think the Greeks thought at the Vesta and Vatican, or how we suppose our ancestors looked in powdered wigs and their ladies in hooped petticoats; though we might now, perhaps, have some conception of the latter.

But it is not ornament alone, but architecture and all art, which must be guided by the same rules, if we would rescue them from the pitiful state of dilettanteism to which they have been reduced.

Common sense must be the watchword of each; and I would conclude by recommending its consideration as a solution of the contest, which is now raging between those who still adhere to the Renaissance and those who are urging the Gothic revival.

To the latter are due such signs of progress as are yet visible; and that there are signs of better things, few, I believe, can doubt. Mr. Ruskin, in the "Seven Lamps of Architecture," questioned whether there were greater probability "of a springing up of seed or a mere shaking among bones."

I at that time stated my opinion that there were then signs of the former, and I believe that there are more now; but whether this be so or not, without doubt there is a monstrous shaking among bones at present, for violent is the outcry raised by the school of "the Vernacular," as Mr. Scott happily terms it, against those who are striving to sow better seed. "What need," say they, "for all this disturbance of our peaceful slumbers and Elysian dreams of the five orders in their antique purity?" "Wherefore this denouncement of our works," with which, if they are in compo, the public is satisfied?"

The contest bids fair to be a dire one, and fraught with grave import to future art: it behoves us, therefore, to sift the matter well, nor can any a lord to be neutral

But are the belligerent parties such as their *noms de guerre* would suggest?

Our antagonists dub themselves *Classic* heroes; but Classic art was long since dead and buried; and, though we may admire and study it, we cannot make it live again.

It is not against Classic art that we would wage war, but against "the Vernacular," the Anglo-Italian, or what other name the foreign interloper may assume, who, like its contemporary, the Hanoverian rat, has well nigh ousted the indigenous one from his home.

Nor, though we seek to restore life and spirit to the style which flourished so gloriously in our island, and which, despite all curious investigations into its origin, we did make our own, does the term Gothic rightly explain our position, for we disclaim the intention of copying the works even of our own ancestors, and if the charge be applicable to some of the earlier efforts of our school, we are struggling hard to rid ourselves of such trammels, and have done so to a great extent, and are striving to think for ourselves, though our time has yet been but short, while the Vernacular has had its run for three whole centuries, and yet failed to strike out one new thought, having succeeded only in importing from Italy things, most of which it has spoiled in the copying. In fact, not having truth at the bottom, it has fallen from falsehood to falsehood, and mistaken frippery for ornament, until everything connected with it is sham. And now its adherents exclaim, in a tone of injured innocence, against the dogmatism of our attacks against their stronghold, and think it hard to be told that they have been working on, till perhaps too late to change, with a lie in their right hand; and they ask why we presume to call our system Christian *par excellence*, and superior to theirs.

One friend of mine, who disputes my opinions, but cannot help seeing the movement taking place, tells me that the merit is not due to the style, but that in our ranks are the abler men, who could as easily have revolutionized the Vernacular had they tried. This flattering unction, however, our modesty (which our opponents deny) does not allow us to accept; for if, in the hands of Wren, Chambers, and Inigo Jones, that style has failed to assert the excellence its adherents complacently believe it possesses, we have, I fear, none now among us so equal to the task. How can it then longer be denied that it is the principle that is in fault, and that our principles alone are the secret of the success we have attained?

We have at any rate pretty well practically established our position that it is the only suitable style for Christian ecclesiastical buildings; and we believe that it is so, not because it can claim to have been the first ever used for Christian churches, or to have been fostered in the cradle and grown under the influence of a church free from all error; but because, like the Christian religion in comparison with others, it is the most scientific and beautiful, and most in accordance with common sense; and if it has borrowed what was best from the heathens of old and the followers of Mahomet, and fused them in its own crucible and blended them anew, in that it but carries out the spirit of the same, and resembles it further in that it has for its keystone—*Truth*.

Our opponents tell us to be more tolerant, and plead for catholicity of taste. This, for my part, I would willingly concede, not being of opinion that without the pale of the pointed arch there can be no true architecture. If they would give us some sensible and true construction in any way whatever, I would gladly wish them good speed. If they will cast away the rubbish of Renaissance, the screens of pseudo-orders stilted on one another and stuck to façades, if they will express the internal arrangements by the exterior, instead of sacrificing the former to symmetry in the latter; if they would forswear nonsense-ornament, and put up none except to serve some definite purpose besides parade, and use some of the sources of decoration their Gothic brethren have shown them, such as coloured voussoirs and spandrils, columns, as real supports only, &c., great beauty and fitness for modern requirements might be attained, even with the Vernacular architecture. Still it best, in my opinion, the effect must fall short of what can be done with the far more pliable, scientific, and picturesque style,—Gothic.

And it is further my conviction, that in so far as they succeed in thus bettering their work, they will be so far making it Gothic, and that, by exactly so much as they stop short of rendering it completely so, will their work remain imperfect; for the lintel, except for small openings, is clumsy and expensive. The round arch is very beautiful, but less easy to construct, less firm when constructed (having a greater thrust), and altogether less scientific and less beautiful than the pointed arch, which has superseded it for all good and practical purposes.

In improving the Vernacular, the roof, of which it has hitherto seemed ashamed, will be gradually raised in its pitch, in accordance with the dictates of common sense, and its gables and dormers, as they become freed from their present mean elevation, will claim kindred with their Gothic brethren; and thus, step by step, the rash innovator will find himself gradually approaching the Rubicon, till at last, with reluctant but desperate plunge, he will find himself landed, with the scales washed from his eyes, upon our side, a sworn champion of the movement towards the revival of Gothic.

IRISH WORKS IN PROGRESS.

The contract for additional offices to the Four Courts has been taken by Mr. Michael Meade, at 17,000*l*. Mr. Owen is the architect, "Board of Works."

Royal Bank, Foster-place.—An extensive new bank, in connection with the present buildings, is about to be commenced from the designs of Mr. Charles Geohegan, architect, which have been selected in competition.

Mining Company of Ireland.—Operations are now progressing at the lead mines, Bally Corus, for the manufacture of shot, under direction of Messrs. Jones and Carmichael, architects. The contractors are Messrs. Prowe.

Metropolitan Chapel.—The polychromatic decorations of the interior are approaching completion in the hands of Mr. Barf, church decorator.

The Wellington Monument at Dublin.—According to an Irish correspondent of the *Liverpool Journal*, "the completion of the Wellington Testimonial, in the Phœnix park, is at length in progress." It is forty years since the foundation-stone of it was laid. The present pyramidal structure, or "overgrown milestone," as George IV. termed it, was erected at a cost of 20,000*l*. and is about 215 feet in height. On a pedestal at the principal front it was intended that an equestrian statue of the Duke should be placed; but although about 3,000*l*. have remained in bank since its erection, the completion of the original design seemed to have been forgotten by all, until Lord Carlisle allotted the task to Messrs. Farrell, Hogan, and Kirk, sculptors, who have received directions to exert their artistic skill upon three subjects—the first-named artist upon the "Battle of Waterloo;" the second, "A Political Event in the Life of the great Duke;" and Mr. Kirk upon "The Capture of Seringapatam." In addition to these we are to have the statue, which, it is said, will be consigned to M'Dowell.

THE LEEDS WORKHOUSE COMPETITION.

ALLEGED JOBBERY.

PROCEEDINGS of an apparently unjust and disgraceful nature are taking place amongst the Leeds Poor-law Guardians and Town-council, in regard to the numerous plans sent in by architects (of London and other places), in response to advertisement opening up the matter to general competition.

Twenty-three sets of plans were sent in and opened on the 23rd ult. for the inspection of the guardians. These plans were placed at the Industrial School—a distance of two miles from town; and although it has been shown clearly that from the intervention of a holiday, a Sunday, two market-days, and a board day, there could be very little opportunity for inspection, nevertheless, on the Thursday immediately following these successive days, the committee met at the school at ten o'clock, to inspect the plans; and by twelve they had not only *discussed* the whole collection, but rejected them by wholesale, all but two already known to be by Leeds architects, one equally well known to be by a Bradford architect, and a fourth by a Hull architect, which, as it is stated, appears to have been selected merely for the purpose of serving as a foil to the three pre-ordained prizes by being also rejected, as it afterwards was in turn. The honourable minority of the committee were taken completely by surprise, and indeed would seem to have been themselves excluded from the confidence of the smug majority, who constituted a committee within a committee, an *imperium in imperio*, between whom and the Leeds and general public the minor infusion of right principle and honourable feeling was only intended to serve as a blind to screen the secret design of the conclave from public view. One of the minority states, that "on the first day the plans were exhibited he was one of the guardians who visited the school, and spent several hours there. He saw the other four guardians together in close conversation frequently; and when he went amongst them they disbanded as though he had been a firebrand." Another states that on a morning lately, when he was leaving the watch committee of the town-council, one of the councillors asked him to vote for a certain plan; but he told him he declined knowing anything about the architects who had sent in the plans. The chairman denied that he knew where the plans came from, although another guardian declared that he had himself told the chairman of two of them, and added that there were at least five guardians who were pre-

pared to vote for a particular plan before it was opened.

In the specifications sent with the plans there is a difference of 19,850*l.*—the highest being for 32,950*l.* and the lowest for 13,000*l.*

At a meeting of the guardians on the 3rd inst. on the report of the workhouse committee being read, it was found that the majority recommended that a disinterested gentleman be called in to ascertain whether the plans [already selected, we presume] can be carried out for the sums named in them; yet some of the very same majority voted against the appointment of any such inspector of the plans, so that they frustrated their own pretended recommendation. It was then moved that the report be sent back to the committee, one of the minority remarking "that it was clear that the report must go back again to the committee, for they had done something which was perfectly illegal: they had received notice that they were to examine the plans, instead of which they had taken upon themselves to reject nineteen of the plans, some of them being the work of the most eminent architects in London." Such being the obvious understanding, it was resolved, by a majority of seven to six, that the report be sent back to the committee; nevertheless, at a subsequent meeting of the committee, they took it upon themselves to decide, at the dictation of the chairman, that it was *not* the intention of the Board that the whole of the plans should be re-examined; and the committee thereupon proceeded at once to decide the whole question, according to their obviously preconcerted design, by cutting off the fourth competitor, from Hull, and hence virtually declaring that the first three should receive the prizes. And so well known does it appear to have been whose plans were those selected, that the *Leeds Mercury* informs its readers, even before the opening of the sealed mottoes, "that the following will be the result, if the "Tory" guardians (for political principles seem to be involved) should succeed in their schemes: *First Prize* (100*l.*)—'Alpha,' or Messrs. Perkin and Backhouse, Leeds; *Second Prize* (50*l.*)—'Postage Stamp,' or Messrs. Lockwood and Mawson, Bradford; *Third Prize* (25*l.*)—'Z.' or Mr. Wm. Hill, Leeds."

Such is the present position of this disgraceful affair, and it remains to be seen whether the committee are right in deciding for themselves the intention of the board of guardians in refusing to adopt their report, or at least in sending it back to them for revision. The resolution must have been put in a slovenly form, otherwise there could have been no question as to its actual meaning and purpose. That the majority of the committee have made an expert use of the uncertainty involved in it seems pretty obvious.

THE ISLE OF DOGS.

DURING the last few weeks thousands have thronged to this so-called island, and many must have noted the changes which a few months have made.

From the primitive-looking toll-house, composed of waste timber thickly pitched, and which is made to look more dwarf-like by the large tavern which has been built close by, rows of houses have been commenced, that follow the winding course of the two ditches, which are at the sides of the roadway leading to the Ferry. It is probable that this road is of great antiquity; and it may be that the Chapel house (a view of which has been given in the *Builder*) has been the cell of successive hermits, who, in this then dreary spot, have shown kindness to wayfarers seeking the ferry that crosses over to Greenwich.

It was not easy to gather much information respecting the ferry from the watermen who were busily at work taking numerous parties round the great ship now happily afloat, or from others; but near the river a little house is built, for the shelter of those who may need to wait; and above the door an inscription says, "This building was erected at the expense of the Greenwich Ferry Company, commonly called Potter's Ferry," &c. This inscription is not older than thirty years. It appears that a dispute about this ferry-right has led to a troublesome law-suit.

When looking at the winding course of the road from the toll-gate to the ferry, which is at a considerable distance, and at the buildings which are being commenced in all directions, the want of a comprehensive plan which is shown in the building of this place, which will in the course of a few years be occupied by an immense population, is very obvious. By the course of the ditches the road has been formed! There is a difficulty in setting out streets on land which belongs to various owners; but it is so evidently a matter of mutual interest to use a piece of uncovered land in the most economical manner, that surely some plan might be devised to prevent the inconveniences which have arisen from similar practices in the old parts of London. It is fortunate that the island comes within the metropolitan district, and we understand that arrangements have been made to drain the district towards the Thames at Blackwall. With careful draining and proper space between the houses, the Isle of Dogs may not prove unhealthy. At times, when in other parts of London the wind is scarcely felt, it sweeps over this place with great strength. The water-courses, as the buildings progress, are filled up.*

Omnibuses and cabs are already plying from the City to the Isle of Dogs. Looking forward for about twenty years, one may speculate on the change of scene; may wonder what the names of the streets may be, the number of the hospitals, churches, and other beneficial institutions. It is to be hoped that the site of the old Chapel-house, which has probably existed for many centuries, may not be lost sight of, and something erected on the spot which may be useful to generations yet to come, and be at the same time a memorial of the past. Associations of this sort are of great value.

* The rents of six-roomed houses on the island are from 7s. to 10s. a week.

THE POSITION OF CHURCHES.

SIR, It appears to me two great faults are committed at the present day in the building of churches. 1st. They are often placed in the worst part of a district, under the impression that the poor will attend. 2nd. They are built to contain 1,500 or 1,600 persons, under the idea that they will fill. Now, I consider these two grave errors, and contrary to common sense and human nature.

1st. The poor prefer going from a dull to a bright locality on Sundays; and, again, it is a vain ambition which induces men to think, under ordinary circumstances, they can fill a church containing 1,500 or 1,600, in a poor locality. Sir, the clergymen of the Church of England, as a body, are ordinary, not extraordinary men, and consequently they should act as such; and, although some men can attract a congregation in a large building, an ordinary man with ordinary power, is lost where, in a more suitable edifice, he would be efficient. In conclusion, I would add one word of advice: we live in a practical age, and if we do not adapt ourselves to its requirements, but allow self-esteem to master common sense, the result is plain.

A LONDON INCUMBENT.

THE BUILDERS' BALL.

LET us once more point special attention to the circumstance that the ball in aid of the Builders' Benevolent Institution is to come off on Thursday, the 18th instant, at Willis's Rooms, St. James's. Tickets can be obtained till the 15th, and to insure comfort they are limited in number. The stewards only dispense them to gentlemen who give the address of those for whom they are intended, so that the assemblage will in effect be a select as well as a comfortable one; and to this latter object the season of the year is also highly favourable. We are glad to observe that there is an influential and powerful body of stewards, with Sir Benjamin Hall at the head of them; and we would particularly direct the attention of builders to such names in the list as Rose, Dennis, Lawrence, Lee, Lucas, Jackson, Myers, Jay, Bird, Pilcher, and many others. In short, we have every confidence that the forthcoming meeting will be highly successful, and enable the committee to do much good.

HIRING AN ARCHITECT BY AUCTION.

THE Board of Guardians of the Bolton Union having advertised for an architect to make plans and specifications for their intended workhouse, as we have already mentioned, there were upwards of fifty applicants for the office, at the meeting of the Board on Wednesday, 3rd instant. According to the *Manchester Guardian*, the applications, &c. having been read, Mr. Wallwork moved that the offer of Messrs Woodhouse and Hall, to make the plans for ½ per cent. on the outlay, or to complete the work for 2½ per cent. be adopted. Mr. James Brearley seconded the motion. Mr. Brown moved, as an amendment, that the proposal of Messrs. Holt and Lomax, to make the plans for 150*l.* and to superintend the work for 2½ per cent. be accepted. Mr. Greenhalgh seconded the amendment, which was put and lost by 16 to 13. The vice-chairman, Mr. W. Longworth, then moved a second amendment, that the offer of Messrs. Travis and Mangnall, of Manchester, to make the plans for 2½ per cent. upon the outlay, be accepted. Mr. Stott seconded the motion, which was put and lost by 13 to 5. No other amendment being proposed, the original motion, in favour of the tender of Messrs. Woodhouse and Hall, was submitted for confirmation, when the voting was—for the motion, 16; against it, 16. The chairman was then called upon to give the casting vote, but he refused to vote otherwise than in favour of Messrs. Holt and Lomax, as he had done before, and a scene of great uproar and confusion took place. After considerable wrangling, an adjournment was proposed and carried, and the subject will be resumed next week.

The affair is discreditable to the Bolton guardians, and not to them only.

BRITISH INSTITUTION.

THIS year's exhibition is a great improvement upon the last: it consists of 574 pictures and 14 pieces of Sculpture, and includes a number of excellent works. Sir Edwin Landseer has two small pictures, Nos. 4 and 28, displaying some of his best qualities, including that power of infusing sentiment in which no other animal painter has ever approached him. Mr. F. Goodall's realization of the spirit-stirring anecdote, true or false, which will be recalled by the title of the picture, "The Campbells are coming:—Lucknow, Sept. 1857" (No. 70), has parts of great merit. The central figure, the soldier—listening, doubting, and resigned—is a noble creation, and will be well-known everywhere before long. For good colour and bad drawing see Gilbert's "Teniers and Rubens" (167), and for good of both sorts L. Haghe's "Peter Boel arranging his Models" (56). Mr. Ansdell has an excellent specimen of his last period, "The Road to Seville" (183), and Mr. Noel Paton exhibits a very elaborate work, "The Triumph of Vanity: an Allegory" (492), with a higher purpose than pleasing. Amongst the works of less known artists we would single out for especial commendation, 194, "*Un Ochanito por el amor de Dios*," by Edwin Long. 259. "L'Incognita," L. W. Desanges, displays more than clever manipulation; and in the sky of 539, "The new Houses of Parliament," Mr. Dawson has shown himself a master. The left side of the picture is inferior. Mr. Niemann's "Leviathan" (22); Mr. J. Clark's "Grandam's Hope" (77); 111, "A Domestic Scene," by D. W. Deane; 197, "The Rescue," J. Danby; 231, "Remains of the Roman Bath at Treves," G. C. Stanfield; and Horlor's cattle pieces, all call for notice. "A Winter's Day in St. James's Park" (281), and "A Summer Day in Hyde Park," both by J. Ritchie, though hard and exaggerated, are works of much ability and promise.

ARCHITECTURAL ASSOCIATION.

ON Friday, 5th inst. a meeting of the members was held at Lyon's-inn Hall, Mr. Norton in the chair.

The paper read was "On the proper Limits of Imitation," by Mr. Young.

The chairman said he understood the reader of the paper to contend that our Gothic architects, when they had exhausted their own home models, went to the Continent for fresh inspiration—a charge he thought that was hardly warranted by the facts; or, if it were so, it might be applied with equal truth to the advocates of Classic architecture. He (the chairman) could see no objection to going to Italy, Germany, and France, the colonies, or all over the Continent, since it was the business of the architect to ascertain the elements, and arrive, by degrees, at a knowledge of, as well as perfection in, every style, although it might not give as much hope of the development exactly of a new style.

Mr. Twining was of opinion that the Gothic style admitted of far more modification in its component parts than did the Classic style of architecture, and in both we possessed the means for the development of variety and novelty.

Mr. Capes was averse to any slavish imitation or copyism of Classical architecture, and contended that it opened up opportunities for the introduction of variety and novelty equally with other styles. We ought to adopt that which was best adapted to the requirements of the time, and not confine ourselves to copyism. We had in this country a vast quantity of coloured materials, and he thought that by the introduction of them into Classic architecture, we could produce a variety of

form in it, and a style which we might, in some respects, call peculiar to ourselves. It would be much more truthful and beneficial to true art if we could dispense with painting and surface colouring. Pugin had shown what could be done by a system of new lines and embellishments, and some of the decorations of Soane and Nash were extremely beautiful.

Mr. Benwell believed that in the future days of the architectural profession imitation would be entirely uprooted, and that we should not asceticallly imitate any one of the departed schools, but that there would be freedom of design on all hands, and that it would be thought a great pity that there were any styles at all. Past styles—the Cinque Cento, Renaissance, Arabesque, Greek, Roman, Italian, Gothic, Byzantine, Mahomedan, Saracenic, were suitable to their day, and doubtless we should succeed in developing a style suitable to ours. More originality, he thought, had been exhibited since the Elizabethan period in architecture than at any other period of the world. None were so horribly bigoted as not to see beauties in all styles. He trusted they would live to be free in their profession, and that the future of our architecture would be the future of the past.

CROWDING IN PUBLIC PLACES.

THE system of crowding at public places is disgraceful to civilized beings, and must be repressed by the managers. Who has not seen the simple contrivance to prevent such crowding, in front of the "Academie" entrance in Paris, or who does not know that crowding is never allowed in continental cities? The contrivance to prevent it consists of barricading off the ground before the doors, and then crossing that entire space with transverse rails, the distance between each rail being the breadth of only one person, while the apertures (also the breadth of one person) for passing into the next line of rails are alternated at either end of the entire space. When the public place is likely to be full before the doors open this entire space is filled with people, and the process of advancing to the doors when open is effected by each person walking backwards and forwards transversely across the area (without the slightest capability of pushing), in exactly the same way as a ploughman drives his plough across and across the field.

Upon great occasions, we usually sacrifice five or six human victims upon the altar of our heathen idol of crowding. We sacrificed one (and probably two more will die) at the marriage of our Princess Royal on Monday. Remember also the Duke of Wellington's lying in state at Chelsea Hospital, the view of Westminster Abbey after the late coronation, Surrey Music-hall on Mr. Spurgeon's opening, &c.

No public place should be licensed without a sufficient space before the doors to barrier off the public with transverse bars of the width of one person only, and one policeman could then keep order. C. P.

CONDITION OF WORKMEN.

HONOURED SIR,—I forward to you a few lines for insertion in your useful columns, now that we often hear the cry of "Very little business doing."

My remarks for the consideration of your readers, and eventually the public, are, that numbers of all trades are in constant anxiety—not only affecting the daily wants of the family, who are driven at the last extremity to ask for public relief, but it is injurious to society at large, making workhouses, prisons, asylums, reformatories, &c. a greater necessity, —weakening the physical powers of the nation to a very helpless and unendurable condition. I can point out some cases of honest industry where death would be a release—and who are gladly waiting for their struggles to cease.

I am positively sure that something is wrong, and the public are responsible for many evils they suffer. We are so connected with each other that the failings and sufferings of one class affect the others. Considering the zeal, and talent, and energy of the aristocracy—worthy of thanks and respect—I do not think, as a body, that they see the evils that many have to struggle with, owing to their habits and customs of living being so opposite to those of the working classes; therefore the cause and remedy of evils are not noticed. I will refer particularly to trades now, especially my own trade, as it is connected with the interests of the *Builder*. I refer especially to shortening the hours of labour, as a means of causing a better circulation of money and removing many evils. For instance, in my own trade there are thousands who are constantly out of employ (carpenters and joiners who on an average do not get paid much better than a policeman, through so many being so often seeking employment for weeks in the year: many people lose their custom, and a deficient revenue establishes my statement. Shortening the hours of labour, on a plan that I now submit to you, would remedy the evils in my trade, and other trades could regulate likewise. Contractors would be able to have a fixed standard to regulate their contracts with the public, and the latter would be benefitted. I think men in my trade who have served five, six, and seven years' apprenticeship, paid a premium, and having a lot of expensive tools to buy and to keep in working order, should be allowed to regulate their powers a little. We have, under these circumstances, very little time for self-culture or recreation, having to walk, *when in work*, sometimes four miles before six o'clock in the morning, and the same at evening after a hard day's work. What time or disposition can there be after such duty for study?

Some will say that drinking is a cause of poverty among tradesmen and mechanics; but I can safely say that I am as steady as any man in London; and having a wife and family, I cannot get on, through causes I am anxious to remove. I know many, then, that cannot get on as they ought, and are very sober and respectable: I am positive they cannot afford to be off work, or have sickness in their dwellings. Therefore I subjoin my plan, hoping it may be adopted or modified in place of the burdensome contribution we are in. I propose that carpenters and joiners do work for eight months in summer (say ten hours, at 6*d.* per. day for five days, and five and a half hours on Saturday for 3*s.*, making 17*s.* 6*d.* per week, and that we work four months in winter eight hours per day, at 7*d.* per hour, for six days, making 28*s.* a week per week we do not on an average get the latter). There would be a saving in gas and candles a penny a day per man, or more, in winter. And let there be no distinction of individuals to receive the wages as increased to any who have served five or six years, as the master will ascertain who will be best suited at certain jobs; for I consider one man can earn as much at laying a floor as another man who can make a mahogany door. A proper division of labour we all acknowledge the head cannot do without the foot, for "united efforts build the castle."

Of course there are some individual cases who ought to be paid above the fixed rule that I have laid down. And further, as a means of relieving the overplus population, there should be more people employed on the land, and paid better. ONE OF THE UNEMPLOYED.

EXTENSION OF SEWERS AT CHELTENHAM.—WORSE AND WORSE!

AT a meeting of the Cheltenham Improvement Commissioners on Friday, the 5th inst. the following tenders for sewerage works were submitted by the Drainage Committee, who had previously opened the same. The quantities were supplied:—

Pigott, Walsall	£26,500	0	0
Hunt and Co. Worcester	17,595	0	6
Dethick, London	16,906	4	0
Moxon, Dover	16,434	0	0
Hayes and Co. Gloucester	16,046	0	0
Jones and Co. Coventry	15,759	0	0
Chambers and Hilton, Birmingham	15,500	0	0
Phillips, London	15,290	0	0
Saville and White, Chorley	15,058	0	0
Knight, Manchester	15,000	0	0
Thompson and Co. Newcastle	14,800	0	0
Ramsbottom, Hull	14,500	0	0
Broom and Son, Cheltenham	14,494	0	0
Kent, ditto	13,800	0	0
Armstrong and Hudspitt, Alnwick	13,425	0	0
Pickering and Co. London	13,370	0	0
J. and S. Harpur, Coventry, accepted.	12,740	0	0
Buxton, Leeds	12,546	0	0
Oldham, Leamington	12,273	0	0
Rees and Stiff, Dover	9,000	0	0

The clerk stated that Messrs. Rees and Stiff had discovered an error in their calculations to the extent of 1,900*l.* and they desired to be allowed either to add that sum to their tender, or withdraw the same. After much conversation, it was resolved that Messrs. Rees and Stiff be allowed to withdraw their tender, and that the tender of John and Samuel Harpur be accepted.

DECISIONS UNDER THE METROPOLITAN BUILDING ACT.

DIVISION OF WAREHOUSES.

YOUR number of last week contains an article under the above head, communicated by Mr. Hesketh, and which, in common justice to myself, I cannot allow to pass unnoticed.

I do not suppose the public will be gratified by any professional dispute between Mr. Hesketh and myself, but I cannot refrain from saying he has given an amount of importance to the matter somewhat self-laudatory, and much to my disadvantage. But, I state it advisedly, he has put a very illiberal construction upon my doings, and has not correctly and truthfully submitted the facts as they occurred.

Mr. Hesketh need not have paraded my position as a district surveyor so prominently in the matter, acting as I then was as Mr. Humphery's private architect, and which Mr. Hesketh knows is an appointment that, in conjunction with my partner Mr. Stock, I have held for many years.

If Mr. Hesketh, after having been made fully acquainted by myself, and personally by Mr. Humphery, with the objection he intended to raise, and which was acceded in by Mr. Hesketh, chose to carry before a magistrate a case which he failed to prove by the evidence offered by him, it was hardly becoming in him as a public officer, to misstate facts, and show an animus and exhibition of intemperate language which I hope want of thought has alone led him to do. I can truly say in my position, as the private architect of Mr. Alderman Humphery, I have done nothing which can militate for one moment, or run counter to the office I hold as a district surveyor.

WILLIAM SNOOKE.

PROCEEDINGS UNDER BUILDING ACT.

RECOVERY OF FEES FROM TENANTS.

RECENTLY Mr. W. Dorrington, the occupier of the house No. 22, Sussex-road, Seven Sisters-road, appeared before Mr. Tyrwhitt, at Clerkenwell, in answer to a summons, taken out by Mr. John Turner, the district surveyor of North Islington, under the provisions of the Metropolitan Building Act, 1855, sec. 51, for neglecting to pay the district surveyor the amount of fees due to him, and specified in the second schedule to the said Act, to wit, 1*l.* 17*s.* 6*d.* for surveying No 22, Sussex-road.

It appeared that the houses were entered in July last, but as Mr. Turner was unable to get his money from Mr Harvey, he now summoned the occupiers under the 51st section of the Metropolitan Building Act. Several other persons from that neighbourhood had also been summoned by the same surveyor, as the builder had neglected to pay the proper fees.

Mr. Wakeling, who attended for the whole of the defendants, said, it was very hard for the tenants to be called upon to pay the surveyor's fees, as they were not bound to know anything of the Metropolitan Building Act, which was only passed in 1855, and was very intricate.

Mr. Tyrwhitt. But you know that it is laid down that every person should know the law, however intricate. I do not think that the charges should be made upon the tenants except upon the first, for it is the surveyor's duty and business to see quickly after his fees. The charges should not be handed down from occupier to occupier as a mortgage.

Mr. Wakeling contended that the complainant had not used due diligence. As soon as the defendant came into possession, which was last Midsummer, he was pounced upon, and it was not until now that the summons had been taken out.

Mr. Tyrwhitt said, if the defendants thought proper, he would grant a special case for the decision of the Court of Queen's Bench. He was of opinion that the payment of the fees should be confined to the first occupier. His decision was in favour of the district surveyor, but the case should be adjourned, to give the parties time to consider what course they should pursue.

The owner has since arranged with the district surveyor

SANITARY HINTS.

Two hundred and eighty thousand are suffering every year from diseases which do not prevail in healthy places. —*Registrar General's Report*, 1858.

To Disinfect the Serpentine.—In summer I would recommend that cartloads of lime should be equally distributed in it. This would effectually destroy the "carburetted hydrogen gas," &c. found so abundantly in the pools of stagnant water, and which are rendered doubly hurtful when acted on by sultry summer weather. This hint should not be neglected in marshy districts where ague always prevails.

Paints. Have experiments been made with mixing up iodide of potassium, and the iodide of lime (in the proportion of one part of iodine with seven of lime), with "paints," in order to neutralize the metallic poisons?

To Purify Coal Smoke.—Might not some small apparatus in the shape of a revolving cylinder, made of tin gauze work, &c. containing lime, peat ashes, or charcoal, be fixed in chimneys, which would not only prevent them smoking, by preventing a downward draught, but would prevent the smoke from poisoning the atmosphere?

To prevent Fires in Chimneys.—Might not an iron flap, plate, or trap-door, be fixed in all chimneys, having an iron chain to close it at will, thereby cutting off the draught, or current of air, in case of fire? J. B. N.

WHAT IS DOING AT LAMBETH PALACE.

MR. EDITOR,—Pray use your powerful pen to awake the conservators, if there be any living, to the disgraceful manner in which one of our historical monuments is being daubed with that modern abomination compo, by an ordinary plasterer. The two square towers adjoining the old chapel, in Lambeth Palace, have had the quoin stones daubed out with cement and tiles, and preparations are making to serve the Lollard's tower in the same manner. Some of them are 4 or 5 inches deep: where the stone quoins are decayed, they are smudging at their mud, and endeavouring to make it appear as stone to the eye.

A LOOKER-ON.

PROVINCIAL NEWS.

Swindon.—A new mansion is erecting at Plumsdon St. Andrew for Mr. J. R. Phillips. The house (which is in the style of the fourteenth century, modified) is built of the local stone, with Bath stone dressings. Mr. Edward Mantell, of Swindon, is the architect; and Mr. Sheffield, the clerk of the works.

Retford.—On the 1st inst. the new Royal Free Grammar-school here was formally opened by the trustees. The building, together with the master's residence, now completed, occupy a site at the south entrance into the town. They have been erected under the auspices of the Court of Chancery, at a cost of more than 12,000*l.* including the ground, &c., from plans and specifications by Mr. Decimus Burton, and are in the Elizabethan style, with extensive grounds. To the present erection will be added the second master's residence.

Cambridge.—The Corn-exchange is advancing, so as to show what it will be. The space within the walls is 108 feet in length, and 49½ feet in breadth. The height of the walls to the springing of the roof will be 25 feet. The roof will be divided into five compartments, and will be principally of glass. Provision has been made for the erection of apparatus for warming the building, if necessary. Some difficulty, according to the local *Chronicle*, was experienced in getting a good foundation, which was at last obtained by forming a bed of concrete to sustain the superincumbent weight without settlement. The con-

tractors are Messrs. Sharman and Son, of Spalding, the amount of the contract being 2,750*l*. The architects are Messrs. Bellamy and Hardy, of Lincoln. The clerk of the works is Mr. James Yeoman.

Exeter.—A large building, to be used as a female reformatory and refuge for discharged prisoners, has been erected at Exeter, and will be opened shortly for the reception of inmates.

Dover.—The designs for a new post-office here, originally prepared by Mr. Laver, architect, have been rejected, as possessing too large an amount of decorative character; and the Board of Works has been applied to for plans more meagre in design, and more in accordance with the economical ideas of the postal district management.

Cardigan.—The plans and specifications for the erection of the New Market-house buildings have been completed by the architect, Mr. Withers, and public notices for tenders for the work have been inserted in all the local newspapers. The new street, from the church to the market-house, will shortly be completed.

Newtownlimavady.—At a meeting of the inhabitants of this place, according to the *Coleraine Chronicle*, it has been resolved to erect a new town-hall, with as little delay as possible. The hall is intended for local meetings, and is also to contain a news-room.

VENTILATION AT THE LYING-IN HOSPITAL.

As a constant reader of your valuable Journal, I observe at p. 78, an article alluding to the important question of ventilation, and especially referring to the system adopted at the Lying-in Hospital, Lambeth, through which, together with having given this branch of science my especial attention for some time past, I am induced to trouble you with a few brief remarks and suggestions upon the matter, and in so doing beg to state that I am by no means prejudiced to Dr. Reid's or any other system of ventilation, but as an entirely disinterested individual have visited the hospital, and witnessed the evil arising from the present employed system, and conclude that an improvement is really very essential, and can, under the circumstances, be effected at a very trifling outlay.

First, I would remark that the whole roof is rendered, as far as practicable, air-proof, divided into two separate compartments, the one to contain cold fresh air, for the supply into the various wards on each floor, and which seems to answer every desired purpose well;—the other for foul air, into which all the ventilating flues discharge the effluvia rising up from the various rooms, and instead of immediately escaping into the open air, this foul air is confined in the chamber until it descends a shaft to the bottom of the building, dips under the partition, and then ascends a second shaft into the open air. Now this is, in my opinion, the unfortunate point in the system, for if the cold or fresh air, after gaining admission into its proper chamber, by its own weight or gravity, freely descends the various flues constructed to conduct it near the floor line into the various wards, and after there remaining a sufficient length of time to become hot and impure by the effluvia arising from the bodies of the patients, and thereby rendering it an element sufficiently light to ascend 30 feet through the ceiling and flues into its prepared chamber,—I ask, in the name of common sense, what sudden and instantaneous change it being still confined in a hot chamber) is it possible there to undergo, sufficiently to cause it, contrary to all reason, to descend the shaft about 50 feet and dip under the partition, and then rise 70 feet before becoming exposed to open air?

Hence the difficulty,—the very attempt of forcing this light air to descend the shaft, which it has never done, is the very thing which obstructs all currency, and thereby causes bad ventilation; for the complaint is not that of being unable to obtain fresh air *into*, but the difficulty of ejecting the foul air *from* the various wards: and this has lately been materially assisted simply by cutting a hole in the partition wall of the two shafts at top, which I believe was effected under the directions of Mr. Weeks, of Chelsea, thereby affording an immediate ascent instead of descent, which, as has been proved, not only facilitates, but also accelerates, the circulation; and I would suggest that all communications with the lower part of the shafts be cut off, and the size of the shaft, which is now 9 feet square, be materially diminished, and so prevent the cold air from counteracting the hot or foul air, which ought to have free currency. And, in the event of this not meeting the requirements of the governors, I would assist it by an artificial heat in the shaft, but in my opinion this is quite unnecessary, as I think it would amount to a draft in the wards, and then there would be the evil of the extreme.

G. D.

Books Received.

Appendix to the Lost Solar System of the Ancients. By John Wilson. Longman and Co. 1858.

Our readers may recollect a notice we gave some time since of a strange book, entitled "The Lost Solar System of the Ancients," in which a large mass of ancient architectural and archæological lore was strung together by a loose thread of algebraical speculation of the most *outré* and extravagant description. The present publication is subsidiary to the bulky book referred to, and it chiefly relates to obelisks—among which, by the way, is our own British possession, Cleopatra's Needle, now lying mouldering in the sands of Egypt, and which a correspondent of the *Builder* lately proposed should at length be wafted homewards, and set up in Hyde-park, as a memorial of that *modern* acme of civilization, the '51 Exhibition. It is to be feared, however, that Mr. Wilson's impenetrable and sphynx-like, ponderous and absurd algebraical calculations, will afford but little help to the engineer who may be destined to ship and import this needle of needles to our English shores. This author's calculations are of far too exalted and unearthly a description, albeit, they too have to do with the law of gravitation. "The axes of the ancient Egyptian obelisks, when perfect," he assures us, "were proportional to the mean distances of planets from the sun." This must be a new discovery, or vision rather, even to the author himself; for he seemed originally to satisfy himself with working out algebraically the bright idea that the tapering form of the ancient obelisk comprised the law of increase in the gravitative force, as operative on bodies falling towards the earth, an idea which, as we before noted, we were inclined to admit there *might* be something in; but we almost regret our inadvertent admission even thus far, since so enormous an algebraical superstructure has since been reared upon the same slender basis. Yet there is a strange method in the madness which glares out in every page, and the whole constitutes a complete psychological curiosity in its way. A costly one it must have been to some one, certainly not to the enterprising and successful publishers, but much more probably to the enthusiastic author himself.

Miscellanea.

Institution of Civil Engineers.—On February 2nd, Mr. Joseph L. Ecke, M.P. president, in the chair,—The paper read was "On the Methods generally adopted in Cornwall in Dressing Tin and Copper Ores," by Mr. James Henderson. In the account of tin dressing, the operations were described in detail, commencing with the "spalling," or breaking up the ore with hammers, as it came up from the mine to the surface. Then "vanning," or testing the value of the ore, by bruising on a shovel, and agitating with water, a small portion from the pile. The difficulty of separating the wolfram, or the tungstate of iron and manganese, from the tin ore was commented on. The "stamps," so indispensable to every tin mine, were then minutely described. In some of the large tin mines in Cornwall, as many as 101 stamp heads were driven by one steam-engine. The importance of attention to the suitable size of the holes in the "stamp grates" was noticed, as on that point depended, entirely, the degree of fineness to which the ore would be pulverised.

Building Big Ships.—As the launch of the "Leviathan" is now accomplished, the question arises, how is the building and launching of this indispensable class of ships for the future to be effected? Among many plans I believe the following practicable. I think the present site unobjectionable and well adapted for these vessels. In order to dispense with the immense weight, which has been the great obstacle, I propose that they be built up only a little above the water line, then launched off and taken to some convenient anchorage and finished, having a pierage from the shore, and encircled with a netting about three feet under water, to prevent accidents. By this method two could be in progress, which would be a great saving of time and capital. If these suggestions meet acceptance, more on a future occasion.

G. Coles.

Institution of Mechanical Engineers.—The eleventh annual general meeting of this institution was held on the 28th ult. at the house of the institution, Newhall-street, Birmingham, Mr. Joseph Whitworth, president, in the chair. The annual report of the council showed the satisfactory position of the institution, and a large increase in members. The election of officers then took place, Mr. John Penn being elected president: several new members were also elected. A paper was then read, "On an improved system of Moulding and Casting," by Mr. Robert Jobson, of Wordsley. The next paper was a "Description of Wrigley's Friction Coupling for Shafting," by Mr. Benjamin Fothergill, of Manchester; and the last was "On Oil-mill Machinery," by Mr. Alexander Samuelson, of Hull. In the evening, a number of the members dined together at the Hen and Chickens Hotel, in celebration of the eleventh anniversary of the institution.

Desecration of Bridewell-Precinct Graveyard.—At a meeting of the inhabitants of this precinct, held on the 5th inst. a resolution to the following effect was unanimously passed:—"That the burial-ground was at present in a most shameful condition, arising from the Earl of Delawarr's tradespeople having placed large quantities of bricks and rubbish there, covering over entirely many of the tombs, tombstones, and graves, and that the vestry was deeply shocked and pained to find that the ground had been leased by his lordship for a term of ninety-nine years to a builder. That the vestry could not but view the disgraceful state of the ground, as well as the obvious intention to divert it to building purposes, as a gross outrage on the feelings of all those who had relations or friends interred therein, and likewise as a gross violation of public decency. That the chapelwardens, therefore, be authorized to take such steps as might be necessary, both legal and otherwise, to prevent such desecration of the ground, and to have it put into, and preserved and kept in, decent and proper order. That a copy of the resolution be sent to the Governors of Bridewell, the Earl of Delawarr, the Secretary of State, and such other parties as might be deemed expedient, and that a committee be appointed to assist the chapelwardens in carrying out the wishes of the vestry." It is most desirable that all desecration of a piece of ground which has been sacred to the dead for 250 years should be avoided. The governors of Bridewell, it appears, unthinkingly gave up their lease to the Delawarr family, but afterwards tried in vain to recover it by pecuniary offers. It seems to be thought, however, that the Home Secretary can prevent its desecration.

New Graving Dock for Glasgow. Messrs. Tod and Macgregor's new graving dock at the mouth of the Kelvin, where it enters the Clyde, has been formally opened. The works consist of a graving dock of large size, connected with a tidal basin and four wharves, fitted with cranes worked both by steam and manual power; and capable of lifting weights as high as seventy tons, with other appliances for the repair and fitting out of steam ships of the largest class. The length of the dock is 500 feet inside the gates; the width, 56 feet at the entrance; the depth of water in the sill, 17 feet at ordinary spring-tides. The dock, with its appliances, including ground, has cost about 100,000*l*.

Fall of a Railway Bridge.—On Wednesday in last week, soon after the Parliamentary train had passed under an iron bridge, at Langley, near Watford, on the North-Western Railway, the bridge suddenly fell upon the line, completely blocking it up. An additional line of rails is being laid down on that portion of the line, and to allow for this a bridge of an extra width had been constructed, it being intended to remove the old bridge when the new one was complete: it was this new bridge, an iron girder one, that fell in.

Lectures at the Architectural Exhibition. On Tuesday, February 9th, Mr. George Scharf delivered a lecture to a very numerous audience, "On the Sistine Chapel and its Decorations." Mr. Ashpitel was in the chair.

Stoppage of the Bilston Sewerage Works.—The estimate of the contractor ultimately chosen to carry out the Bilston sewerage was greatly below that of the surveyor of the local Board of Commissioners, and the matter was long under debate whether his tender should be accepted, but sureties being at length found, it was decided to accept; a fear of incurring censure in the town probably acting as a great inducement to the adoption of that course. The work has been very slowly prosecuted, and is at last come to a stand, the contractor being unable to proceed with it; another of the many illustrations of the impolicy of accepting very low tenders.

TASTE AS AN ELEMENT IN THE MANCHESTER MANUFACTURES.—It is interesting to note the introduction of judicious remarks on taste and design in the ordinary business circular of a Manchester firm. Messrs. James Houldsworth and Co. in their annual circular to the trade for the past year, make some remarks on these subjects, which it is worth while to quote, in order to show how schools of art and art-treasures begin to influence the public taste as well as the enterprise of the manufacturer:—"Public taste has, during the past year, manifested a stronger regard for the superior effects of design and colouring in our class of manufactures. Relying very much— as we have always been inclined to do—upon this kind of appreciation, we have spared neither trouble nor expense to merit your preference in these respects; and we shall at any time take pleasure in considering, or carrying out, any suggestions you may offer for the development of a still greater perfection in the artistic merits of our productions. We find geometrical and conventional forms—chiefly those on a smaller scale—increasing in public estimation, both in this country and in America. These—embracing new dispositions of flat ornamentation—are found to assimilate well with several classes of mediæval art: they admit of the application of borderings, and contribute to effects which involve a deference to historic precedents and their characteristic associations. We believe a still greater preference will manifest itself for such patterns, and we propose that our own specialities shall continue, as hitherto, to be mainly devoted to satisfying this class of demand. Where there is a taste for patterns imitative of natural objects, it seems directed more towards well-drawn illustrations of some special plant or foliage, rather than a miscellaneous variety. We notice a revival, to some extent, of the early Italian style of ornamentation, as practised by Giulio Romano and his school. Cabinet manufacturers seem to find frequently a preference for the styles that prevailed in France during the reigns of Louis Quinze and Louis Seize. We shall be prepared with suitable accessories for these various predilections."

THE NEW NATIONAL GALLERY.—The decision of the Royal Commissioners against the removal of the National Gallery from Trafalgar-square is already known to the public. The Lords of the Treasury thereupon requested the Commissioners of Works to provide an estimate of the expense of enlarging the present gallery, as proposed by the majority of the commission. Mr. Hunt, the surveyor, estimates the total expense at 500,000*l.* which includes the reinstatement of the barracks and the workhouse buildings (to be removed for the enlargement of the gallery), the reinstatement of the baths and lavatories, the erection of a suitable building for the Royal Academy, and the construction of a building for the National Gallery upon the enlarged site.

GAS.—The Worcester Gas Company have declared a dividend of 7 per cent. per annum, and also passed a resolution to the effect, that after June 30th, the charge for gas to the private consumer be reduced from 6s. to 5s. 6d. per thousand, and that a further reduction of 6d. per thousand be made to consumers whose annual consumption shall be above 200,000 cubic feet.——Messrs. Keogh, Temple, have patented a new system of lighting street lamps by electricity. They provide a moveable wheel, with a handle for turning it: the teeth of this wheel take into a horizontal bar, which extends the length of the street, and turns on the gas taps, which are also connected with a wheel. Electric wire is carried to and from every burner, and platinum or other metal points are used for combustion.

MEMORIAL WINDOW FOR ST. MARY'S CATHEDRAL, LIMERICK.—The friends of the late Mr. Augustus Stafford have determined to erect a memorial window, and to restore a portion of the cathedral church of St. Mary's, Limerick, in commemoration of their respect for him, and their regret at his untimely death.

A SOCIETY OF FINE ARTS AT LIVERPOOL.—A society is about to be established, to be called the "Liverpool Society of Fine Arts." It is proposed to hold an annual exhibition, at which the following prizes will be given, to be open to the United Kingdom:—1st, for the best historical painting in oil, 100*l.*; 2d, the best landscape in oil, 50*l.*; 3rd, the best water-colour drawing, 25*l.*; 4th, the best piece of sculpture, or model, not a portrait or medallion, 25*l.*; and, 5th, the best architectural design, 25*l.*

LABOURERS' COTTAGES.—The gold medal of the Highland and Agricultural Society of Scotland has been awarded to Messrs. Hickes and Isaac, for their plans of labourers' cottages.

METROPOLITAN WATER SUPPLY: LECTURE AT ROYAL INSTITUTION.—Last week Dr. Lankester delivered a lecture on the "Water of the Metropolis." The theatre of the institution was crowded. In introducing the subject the lecturer showed that water formed the principal ingredient of the total weight of all creatures, being 72 per cent. of the human frame. The great importance of having such a constituent of our bodies pure was then adverted to. Mineral impurities chiefly consisted of the carbonates, sulphates, and phosphates of lime, carbonic acid, and common salt. These had no bad medical influence upon the fluid, though they rendered it hard and unfit for the purposes of washing, from which qualities it could be and had been freed by a process recently invented by Dr. Clarke, and used with great success at the Plumstead Water-works. [Dr. Clarke's process is commonly understood to consist in the precipitation of *carbonate of lime* and organic impurities by means of caustic lime, or lime water.] The organic impurities, consisting of fungi and animalculæ, were those which rendered the water unwholesome, and in some instances poisonous. During the outbreak of cholera in 1853-4, it was proved that the consumers of water drawn from above Teddington were not afflicted nearly so severely as those of water drawn below bridge: the difference being as 1 to 7. The Broad-street pump, no doubt the principal cause of the fatal outbreak of cholera in the Golden-square district in 1854, was also alluded to. The lecturer showed, by experiment, that the water which was most brilliant in appearance and palatable in taste, was always literally the most impure, the brilliancy and cool taste being due to large proportions of soluble extraneous matter. In conclusion, he recommended his hearers first to boil, and then to filter all water previous to using it for domestic purposes. For drinking, however, boiled water is flat and unpleasant.

THE IRON SANDS OF NEW ZEALAND.—It appears that at New Plymouth, in New Zealand, the coast line abounds with iron sands, such, it is said, as the best iron is made of in Sweden. The Government *Gazette* of the colony has the following announcement in regard to this apparently valuable material:—"Iron sand. 1,000*l.* reward. Superintendent's office, New Plymouth, 24th July, 1857. The Provincial Government of New Plymouth is prepared, subject to the following conditions, to pay the sum of One Thousand Pounds (1,000*l.*) for the production of the first hundred tons of merchantable wrought or cast iron which may be manufactured in New Plymouth from the iron sand of the province. Conditions:—1. A committee of three persons will be appointed by the superintendent for the purpose of reporting upon all claims which may be preferred for the above reward. 2. It must be proved to the satisfaction of the committee that the manufacture can be successfully and profitably carried on. 3. The reward must be claimed before the 1st day of July, 1860. G. Cutfield, Superintendent."

SCOTTISH ARCHITECTURAL INSTITUTE.—At a meeting of the Architectural Institute of Scotland, held on Monday night—Mr. D. Cousin in the chair—a paper was read by Mr. Gowans, descriptive of a number of small self-contained houses at Rosebank, Gardener's-crescent, Edinburgh, erected by him. The object Mr. Gowans had in view in erecting these houses was to carry out certain improvements in the arrangement, accommodation, heating, ventilating, and provisions of a sanitary kind.

PUNCHING METALS.—Mr. Hiram Powers, of Florence, has patented a machine in which a simple lever is applied by its shoulder and cog, or tooth, to propel and withdraw the notched shaft of a punching-stamp, moving in a closely-fitting tube, and thence upon the plate to be operated on. The plate is inserted in a chasm, and is thrown off from the retiring tool by coming in contact with an abutment at the end of the tube occupied by the tool-shaft, or by some other device. He also proposes to introduce a double or compound leverage to increase the power of the machine. In this case the shoulder or cog of the single lever is made to cause an intermediate lever, similarly constructed, to act on the shaft in a similar manner. The shaft is constructed to receive tools of various sizes.

FORGING NAILS.—Mr. A. V. Newton, for a correspondent, has patented an invention for forging nails, which consists in the use of two anvil faces and two hammers; the anvil faces being connected by a rocking shaft. The forging is effected between hammer and anvil, and by successive blows at right angles, without the necessity of turning the article that is being forged; moreover, each blow is struck at the time when the anvil is at rest.

DECISION AS TO CO-CONTRACTORS AND CO-PARTNERS.—A case of some importance was decided last week at the Skipton County Court. In 1857, the defendants, Wm. Swire, James Blair, and James Parratt, contracted with the corporation of Bradford for the formation of the reservoir at Barden for 31,773*l.*, but they agreed between themselves that Parratt should do all the masons' work at the reservoir for 7,086*l.* and that Swire and Blair should jointly perform the excavation and puddling for 24,692*l.* The works, so divided, were carried on separately and distinctly. From May to October, 1857, Parratt, at the request of Swire and Blair, received from the Bradford corporation the money due for the work, and deposited it in his own name at the Skipton Bank, the shares of Swire and Blair being paid to them by Parratt by cheque as they wanted it. The receipts given by him to the corporation he generally signed as for himself and Swire and Blair; but the last given—after the goods in question had been supplied—he signed "James Parratt, for self and partners." Before the court he swore that he had signed the receipt in this form unthinkingly, and at the suggestion of a clerk in the office of the town clerk of Bradford. On the 29th of October, Messrs. Swire, Blair, Swire, and Whitton (who have carried on business as contractors for some years) were declared bankrupts, and since that time the Bradford corporation, acting upon a clause in the contract, have given the completion of the works at Barden to Mr. Parratt. Mr. Parratt was not included in the bankruptcy; but after that took place, an action was brought by Messrs. Manby, ironmongers, Skipton, for goods supplied for the works at Barden. It was proved, however, that these goods were for the work undertaken by Swire and Blair. Mr. Robinson, for the plaintiffs, contended that Parratt was liable, he being a co-partner as well as a co-contractor. On the other hand, Mr. Barret argued that although Mr. Parratt might be to a certain extent co-contractor with Swire and Blair in the agreement with the Bradford corporation, yet he was not a co-partner or in any way liable for the debts and defaults of Messrs. Swire and Blair. The judge pronounced against Swire and Blair, but in favour of Mr. Parratt, with costs.

BANGOR SURVEYORSHIP.—The appointment of surveyor to the Bangor Local Board of Health took place on the 28th ult. There were seventy-eight applicants for the vacant office. The Board first selected five from this number,—Mr. McDougal, of Leeds; Mr. R. Colville Hall, of Newcastle; Mr. Alfred Taylor, of Liverpool; Mr. Hardy, of Blackburn; Mr. Northcote, of Bangor. These were further reduced to two—Mr. Hardy and Mr. Taylor—and the Board ultimately decided on the selection of Mr. Hardy as the successful candidate.

WELLINGTON MEMORIAL, LONDON-BRIDGE.—"Expectant" asks if any reader can inform him "if there is a probability of the statue of the late Duke of Wellington being placed in the Clock-tower, London-bridge? What is there in its present state to bring to mind that it was erected to his memory?"

ZINC WHITE INJURIOUS TO PAINTINGS.—A curious action was tried a few days ago in Paris. M. Gudin, the well-known French marine painter, demanded 800*l.* damages from a tradesman, for having sold his canvasses prepared with white of zinc, a substance alleged to be so injurious to oil colours, that several of his paintings became, in a comparatively short time, cracked and spoiled. The painter having proved that he had sustained material damage, the court awarded him an indemnity of 480*l.*

LECTURES AT THE ARCHITECTURAL MUSEUM.—On Wednesday, February 10th, Mr. John Henry Parker read a lecture "On the Domestic Architecture of the Middle Ages." The lecturer confined himself to buildings of the fifteenth century, having treated those of earlier date in works already published.

TENDERS.

For alterations and additions to the premises of Messrs. Cannock, Tait, and Co. Limerick. Messrs. E. P. Gribbon and W. Fogerty, architects. Quantities supplied:—

J. Ryan, Limerick	£5,273 in 4 months.
R. Brash, Cork	5,130 ,, ,,
J. Quin, Dublin (accepted)	5,375 in 3 months.

For the erection of dwelling-house, stable, offices, entrance lodge with railing and gate, at Wilmont, near Belfast, in accordance with plans and specifications prepared by Mr. Thos. Jackson, architect:—

David and John Fulton	£3,928 0 0
Connor and Co.	3,689 0 0
Hugh Henry and Son (accepted)	3,646 0 0

For building a Church at Attlea, near Glin, in the county of Limerick, for the Ven. Archdeacon Goold. Mr. W. Fogerty, architect —

J. Ryan	£600	0	0
M. Walsh	570	0	0
J. Williams	465	9	0

TENDERS FOR HOUSES AT KING'S-CROSS, P. 84.—With reference to this list, the correctness of which in one respect has been denied by a correspondent, we are empowered by the architect to say that the amounts are those which were delivered to him. Mr. Glenn says his should have been 3,382*l.* instead of 2,382*l.*

TO CORRESPONDENTS.

The Royal Institute of British Architects.—We are forcibly the letters of the day, viewed in the Academy, justify the notices of the proceedings at the Institute.

C. G.—H. J. B.—W. F.—H. D.—W. B.—An Old Subscriber (whose cipher is illegible).—A Constant Reader.—A Correspondent.—A Citizen.—W. P.—G. W.—S. H. [illegible].—A Mechanic.—A Subscriber from the Commencement.—C. A. W.—B. A.—W. L. E. (we should like to have seen the paper).—A Subscriber.—P. H. or R. H. (get advice from one whom you look into all the circumstances).—J. G.—C. H. E. (has no remedy at law).—J. H. (letter has been forwarded).—H. (the Building Act does not restrict the operation of party walls).—A Subscriber (we decline to recommend).—Croft.—Mr. J.—J. H. F. (thanks: too late).—C. C. (not at present).

"BOOKS AND ADDRESSES."—We are forced to decline printing out books or finding addresses.

NOTICE.—All communications respecting advertisements should be addressed to the "Publisher," and not to the "Editor;" all other communications should be addressed to the "Editor," and not to the "Publisher."

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ADVERTISEMENTS.

PRELIMINARY ADVERTISEMENT.—Stockwell and Bermondsey.—Valuable freehold Property, consisting of nine eligible Private Residences, situate in Stockwell-place, near the Swan, at Stockwell, and of certain Messuages or Tenements situate in Russell-street, Bermondsey.

TO BE SOLD by AUCTION, early in MARCH next, at the MART (opposite the Bank of England), in SIX LOTS, valuable FREEHOLD PROPERTY, at Stockwell, Surrey, for investment or occupation, comprising Nos. 7, 8, 9, 10, 11, and 12, Stockwell-place, Nos. 9 and 11 unoccupied; but Nos. 7, 8, 10, and 12, let to respectable families, at 42*l.* 10*l.* and 40*l.* These are a short opportunity of obtaining a freehold residence, with stable, &c. at a very moderate price; also, in one lot, a respectable Residence, for occupation with the premises, let to trade, fronting and backing to Russell-street, No. 5, RUSSELL-STREET, Bermondsey, now in the occupation of Mr. [illegible] at 30*l.* per annum. The premises may be viewed by permission of the present occupiers, and particulars, with conditions of sale (only after the 1st of MARCH next), be obtained at the Mart, or of Mr. FREDERICK LAST, Solicitor, 4, South-square, Gray's-inn, London.

BUILDING MATERIALS, ESSEX WHARF, STRAND.

MESSRS. EVERSFIELD and HORNE are instructed by H. R. Abraham, Esq. Architect to the Hon. Society of the Middle Temple, to SELL by AUCTION, on the PREMISES, on FRIDAY FEBRUARY 19th, at TEN for ELEVEN, the MATERIALS and FITTINGS of the MANUFACTURING PREMISES on Essex wharf, comprising cast iron sash and lucarne bars, weights, sashes, and other fittings, slates and tiles, coping and stone paving, lead and lead cuttings, timber, chattels, implements, and effects, viewable two days previous, and catalogues had at the Architect's office, 11, Howard street; and of the Auctioneers, 40, Parliament-street; or Coal-exchange.

NORWOOD.—The Valuable Freehold Estate of the Conyers, London Dairy, Schools, and Premises, at Norwood, will be sold by AUCTION, by Messrs. EVERSFIELD and HORNE, at the Auction Mart, on TUESDAY, the 23rd day of FEBRUARY, 1858, at TWELVE for ONE precisely, in one lot, subject to such conditions as will be then produced.

The Estate comprises the Conyers, a commodious and substantial Residence, with the Dairy, Schools, and Premises, and is situate at the corner of the Lower Norwood-road, and the Knight's-hill-road, leading from Norwood to Streatham, and is in the occupation of Mr. Thomas Hall, as tenant from year to year, at the rent of 100*l.* per annum.

The Estate contains 3 acres 1 rood 20 perches, or thereabouts, and is tithe free, and is copyhold of the Manor of Norwood, subject to the annual quit rent of 1*l.* 2*s.* 6*d.*

Plans and particulars may be had of the Auctioneers, 40, Parliament-street; of Messrs. Lee and Pemberton, Solicitors, 44, Lincoln's-inn-fields; and of Mr. Hall, on the premises.

SALE IN BANKRUPTCY.—TO BUILDERS, CONTRACTORS, AND OTHERS.

MR. MESSITER is instructed by the Assignees of Mr. J. R. Vialon, bankrupt, to SELL by AUCTION, on the PREMISES, Lisson-grove, on TUESDAY, the 2nd day of MARCH, 1858, and the following day, the PLANT and STOCK-IN-TRADE, comprising a large quantity of deals, planks, battens, one 8-inch circular, four-inch and light dressing, P. H. or R. H. (get advice from one whom you look into all the circumstances).—J. G.—C. H. E. (has no remedy at law).—J. H. (letter has been forwarded).—H. (the Building Act does not restrict the operation of party walls).—A Subscriber (we decline to recommend).—Croft.—Mr. J.—J. H. F. (thanks: too late).—C. C. (not at present).

"BOOKS AND ADDRESSES."—We are forced to decline printing out books or finding addresses.

NOTICE.—All communications respecting advertisements should be addressed to the "Publisher," and not to the "Editor;" all other communications should be addressed to the "Editor," and not to the "Publisher."

NOTICE TO SUBSCRIBERS.—A title-page in colours for the last volume may be obtained gratis, on personal application at the Office, by those who prefer it to their work accompanied the index in the number for Jan. 9. Cases for binding may be obtained at the office, price 2s. 6d. or the Publisher will have it for 3s. 6d. The complete volume may be obtained, price 21s.

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BOROUGH of BRIGHTON.—The Council of the borough of Brighton are prepared to receive applications for the [illegible] TOWN SURVEYOR, late assistant to the borough engineer, and to commence operations forthwith. Applications, addressed to the Town Clerk, Brighton, and marked "Surveyor," must be delivered on or before the [illegible] next, and must state the age of the candidate, and the nature and extent of his experience, and be accompanied by testimonials of character and ability. The person appointed will be required to devote his whole time to the service of the corporation, and will be paid by salary, 300*l.* per annum, and the services of a clerk, at a salary not exceeding 100*l.* per annum, will be allowed him. Further information may be obtained on application at my Office.—Sealed applications, with the testimonials, will be received by me up to the hour of [illegible] on MONDAY the [illegible] MARCH next.

January 29th, 1858. C. SHARGOOD, Town Clerk.

SWANSEA LOCAL BOARD of HEALTH.—WANTED, immediately, an experienced CLERK of WORKS, to superintend [illegible] Also, a Clerk, to keep and to copy drawings take books, &c. Unexceptional references will be required. Apply by letter, addressed to the Rev. Edward Collins, Llangyfelach-terrace, Swansea.—A CAPITAL WANTED

COVENTRY WATER-WORKS.—To PLUMBERS and others.—The Corporation of the City of Coventry are about to appoint a fit and proper PERSON to UNDERTAKE the INSPECTION of METERS, TAPS, WATER CLOSETS, and any other apparatus connected therewith, supplied with water by the Corporation Water-Works. He must be practically acquainted with pump-work, fit and handle all tools likely to make himself useful in the execution of the Corporation Water-Works, and perform all such other duties as may be required of him by the Water Committee. Testimonials as to character for sobriety, steadiness, and general fitness for the above duties, will be required to be produced by persons applying for the appointment, who are requested to state, in applications now before the Committee, the terms required by them. Applications, in writing, addressed to the undersigned, at the Water-Works, Lockhurst's Lane, Coventry, to be delivered on or before the 23rd of February, 1858.

By order,
H. B. MILLER, Clerk to the Water Committee.

Coventry, February 10, 1858.

CLERK of WORKS.—WANTED, by the Lord Norreys Lodge Board of Health, a CLERK of WORKS, to superintend the execution of certain Drainage Works. A PERSON of experience in the construction of sewers, who can produce testimonials of character and ability, and who is competent to prepare levels, and to make detail drawings of works, will be preferred. Applications, with references to previous engagements, if already engaged, to be sent to me before WEDNESDAY, the 24th inst. and to read "Clerk of Works."

By order,
H. B. MILLER, Clerk to the Lord Norreys Lodge Board of Health.

Henley, February 10, 1858.

METROPOLITAN BOARD of WORKS.—ELECTION of DISTRICT SURVEYOR under the METROPOLITAN BUILDING ACT, 1855.—The Metropolitan Board of Works hereby give notice that they will, on FRIDAY the 19th day of FEBRUARY next at TWELVE o'clock at noon, at Guildhall, in the city of London, proceed to the ELECTION of a DISTRICT SURVEYOR for the District of Southern Division of Lambeth, and that the Candidates for the appointment of the Board are requested to attend at the time appointed for the election.

Applications addressed to the Board, will be received at their Office, No. 1, Gerard-street, Soho, until THURSDAY, the 18th inst. at FOUR o'clock p.m.; and candidates are requested to take notice that the duties of the District will commence on the 1st day of April next.

By order,
T. H. WOOLRYCH, Clerk of the Board.

Metropolitan Board of Works, Spring-gardens, Charing-cross, Middlesex, February 8, 1858.

WANTED, immediately, a Young Man, as an IMPROVER to a GRAINER on SLATE, and a good PLUMBER, or some article.—Apply at 4, South Wharf-road, Paddington, W. between the hours of 12 and One o'clock on Monday next.

TO FOREMEN JOINERS.

WANTED, in a Builder's Establishment, near London, a SHOP FOREMAN, to superintend Joiners. Must [illegible] to set out work.—Apply, by first-machine day letter, to B. J. Office of "The Builder," stating age, where last employed, and wages expected.

TO TILE AND PIPE MAKERS.

WANTED, for a TILERY in CARMARTHENSHIRE, a thorough good BURNER, and one who has been accustomed to the use of Clayton's double-action machine, and could contract to deliver a first quality tile pipe, or bricks as per the sand, with a first quality W. shed in the yard at the [illegible]—Address R. P. 124, Fenchurch-street, London, E.C.

WANTED, a SITUATION by a PLUMBER, of twenty years' experience, accustomed to house and ship work of the best [illegible] well and thoroughly glazed, both, and make good composition. Can have a Mate at iron-pipe or zinc work. Four years' character from one of the first firms in London.—Address, J. M. 35, Valentine place, Blackfriars-road.

TO BRASS FINISHERS, &c.

WANTED, a sober, respectable Man, to PROCEED to the CAPE OF GOOD HOPE. He must be able to cast, turn, and finish small lamps as are used in a timber business, repair brass cocks, burner, &c.; and if he can make his own patterns, would be preferred. A three years' engagement offered, at two guineas per week.—Apply by letter, to T. F. GARDNER, 17, Hemingford-terrace, West Islington; or personally, after Eight o'clock in the evening.

TO BUILDERS AND PLUMBERS

WANTED, by a Young Man, aged 29, a SITUATION, as PLUMBER, or THREE BRANCH HAND.—Address, T. T. 17, Lower Kennington-lane, Kennington.

TO BUILDERS, HOUSE DECORATORS, AND OTHERS.

WANTED, by a respectable Young Man, a constant SITUATION as PAPERHANGER. Has no objection to fill up his time in painting and glazing. Can be highly recommended by the last employers.—Address, W. R. 9, Washington street, Mile-end.

WANTED, to PLACE a YOUTH in an ARCHITECT and SURVEYOR'S OFFICE. As he has been some time engaged in the profession, no premium will be given.—Address, A. W. Post-office, Regent-street, W.

TO BUILDERS, DECORATORS, UPHOLSTERERS, PAINTERS, &c.

WANTED, by a first-rate workman in both plain and decorative painting, paper-hanging, and gilding, EMPLOYMENT, either day-work or piece-work. Understands the trade in all its branches; can make out estimates for contracts, take charge of work on men, and is a good grain[illegible]. No objection to the country, if wages suit.—Address, R. S. T. 45, Burton-street, Burton-crescent, St. Pancras.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION as SHOP or GENERAL FOREMAN of CARPENTERS and JOINERS. Good references. Address, H. P. 3, Charlton-street, Euston-square, N.W.

TO BUILDERS AND PLUMBERS

WANTED, by a steady and experienced PLUMBER, aged 36, a SITUATION. Can fill up his time at Painting and Glazing, and make himself generally useful.—Address, J. D. 34, Lower Whitecross-street, Cripplegate.

WANTED, by a respectable Young Man, a SITUATION as PLUMBER; has no objection to fill up his time at painting and glazing. A good reference can be had, if required. No objection to the country.—Address, A. B. C. 45, Lant-street, Borough, Southwark.

TO CONTRACTORS AND OTHERS.

WANTED, constant EMPLOYMENT, by an experienced WHEELWRIGHT. Address, X. Y. Z. at Mr. Fowler's, Devizes-road, Swindon, near Swindon, Wilts.

TO CARPENTERS AND JOINERS.

WANTED, a MASTER in the above line, for an Active Lad, fifteen years of age, as an APPRENTICE. A small premium required.—Apply, A. B. 11, Hanover-street, Hanover-square, W.

TO ARCHITECTS.

WANTED, a SITUATION, by a Foreign Architect, as DRAUGHTSMAN for some copies in Architectural Drawings. Good reference.—W. B. 31, Newman-street, Oxford-street.

WANTED, by a Person of some years' standing, RE-ENGAGEMENT as CLERK of WORKS, WORKING FOREMAN, or [illegible] Management of a SHOP or BUSINESS.—Address, A. B. 11, Upper Ossington-street, Bayswater.

TO BUILDERS.

WANTED, by the Advertiser, aged 40, a SITUATION as SHOP or GENERAL FOREMAN. Good reference can be had.—Address, R. B. 4, Old Barlow-street, Manchester.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by a practical CARPENTER, a SITUATION as CLERK of WORKS or BUILDER'S FOREMAN. Makes working drawings, and understands quantities. Would assist for shares.—Address, X. Y. Z. [illegible] of good work.—For reference, terms, &c. address L. M. 70, Great Tower-street.

TO ARCHITECTS.

WANTED, a RE-ENGAGEMENT, by an experienced ASSISTANT. Is a first-rate draughtsman, and thoroughly understands all details of construction, &c. &c. The Advertiser having had great experience in building matters, would be found very useful to an Architect of general practice. Terms moderate.—Address, ARCHITECT, 1, Middle-row, Holborn.

TO ARCHITECTS.

WANTED, by a practical and thoroughly qualified Man, aged 36, a SITUATION as CLERK of WORKS. Can prepare accurate, neatened detailed working drawings, take out quantities, measure and value all kinds of work. Has had considerable experience in surveying, setting out, &c. Satisfactory testimonials, and first-rate reference from architects now engaged.—Post 1, M. S. P. Nos. 1, Bryanston-street, Portman-square, W.

TO DECORATORS, &c.

WANTED, a constant SITUATION by a good OIL GRAINER and MARBLER, WRITER, &c. in, or within ten miles of London, who has been in the country for a few months.—Address, D. F. W. 18, Thames-street, Reading, Berks.—Specimens at No. 89, King-street, Camden-town, Londoner.

TO HOUSE DECORATORS, GAS-FITTERS, AND OTHERS.

WANTED, EMPLOYMENT, in the above line, by a respectable Man. Accustomed to the bookkeeping, the general work of the shop. Could take the management of a business, if required.—Address, T. W. S. Montpelier vale, Blackheath, S.E.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who possesses a thorough knowledge of land surveying, and the ordinary routine of an Architect's Office, is open to an ENGAGEMENT. Satisfactory testimonials can be given.—Apply to R. T. B. care of Mr. Dunningham, 3, Seymour-street, Bloomsquare, London, N.W.

TO ARCHITECTS.

THE Advertiser wishes for an ENGAGEMENT in an ARCHITECTS OFFICE. He is a good draughtsman, dispatch and correct, and accustomed to the general duties of an office. References of the first character.—Address, A. B. Joseph's Mope, 29, Lawrence Pountney lane, Cannon-street, E.C.

THE Son of a highly-respectable Tradesman wishes to obtain a SITUATION for CONSTANCY: he understands gas fitting, painting, and glazing, and will be willing to make himself otherwise useful; understands the care of horses, and can drive. Knows town well. Address, H. B. 22a, Albany road, Camberwell.

TO ARCHITECTS.

THE Advertiser, who has had seven years' experience in good offices in the country and in London, is desirous of an ENGAGEMENT. Address, S. S. Mr. Dadey, Stationer, Melton Mowbray.

TO IRONFOUNDERS, ENGINEERS, &c

AN experienced IRON FOUNDER, who has been in my years' foreman of extensive works, is desirous of a similar ENGAGEMENT. Unexceptionable references can be given.—Address, IRONFOUNDER, 16, Ruppell-street, Cornwall road, Lambeth.

TO ARCHITECTS, BUILDERS, &c.

A CLERK OF WORKS, of great experience, who has just completed extensive works, is open to an ENGAGEMENT. Unexceptionable reference.—Address, L. L. L. Office of "The Builder."

TO PAINTERS AND DECORATORS

ANY Person in the above line requiring ASSISTANCE, by way of MEASURING and MAKING OUT ACCOUNTS, may hear of a party who [illegible] such duties, and desirous of being further engaged.—Address, pre-paid, to A. Z. care of Mr. Holden, 12, Finsbury-pavement.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A YOUNG MAN wishes for an ENGAGEMENT. Has been much accustomed to railway work, and to keep builders' accounts. Is a good draught[illegible], surveyor, and could make himself generally useful in any office. Unexceptionable references and testimonials as to qualifications, &c.—Address, F. H. Office of "The Builder."

TO ARCHITECTS AND OTHERS

A PRACTICAL and efficient CLERK of WORKS wishes for RE-ENGAGEMENT. Is a good draughtsman, can take out quantities, and measure up every description of works, with the highest of references.—Address, G. L. Messrs. Vachers and Sons, Stationers, 29, Parliament-street, Westminster.

TO THE PROFESSION.

A QUICK and efficient DRAUGHTSMAN, who has a preference for Gothic, is open to terms. He has had much experience in working out detail drawings, and perspective, and is ready at all the requisite qualities of the general office routine and practice.—Address, CIVIL, Office of "The Builder."

TO CARVERS.

A SCULPTOR in a Cathedral town is desirous to meet with a PARTNER to take the WOOD DEPARTMENTS; one who has a taste for architectural drawing preferred. Should bring a small capital. Unexceptionable references required. The retiring partner will give all practice he can to the business done.—Address, A. B. C. at the Office of "The Builder."

TO GRAINERS, &c.

A YOUTH, aged 18, wishes to place himself in a respectable Firm for IMPROVEMENT, at moderate wages; has served 3 years of the time, and can have a good character.—Address, S. W. Mr. Lockington, Builder, &c. 3, Northumberland street, Marylebone, W.

TO MASTER PAINTERS, BUILDERS, &c.

A THOROUGHLY PRACTICAL MAN of great experience, both in town and country, is in want of RE-ENGAGEMENT as FOREMAN of PAINTERS, &c. The first of references can be given as to character and competency.—Apply by letter, prepaid, to T. Z. A. Office of "The Builder."

TO ARCHITECTS, &c.

A GENTLEMAN, of first-rate ability, is [illegible] to ENGAGEMENT as ASSISTANT in an Architect or Surveyor's Office.—Address, G. H. No. 33, Michael's place, Brompton.

AN Architect and Surveyor of considerable experience and ability, wishes to meet with an ENGAGEMENT CONDUCT a first-class BUILDING ESTATE, or to take the active management of [illegible] Is very able in design [illegible], and Italian, in mass and detail; is a clever [illegible] and decoration, and is practically acquainted with the [illegible] Is thoroughly conversant with [illegible] setting out, measuring up, and estimating works; land and building surveys, dilapidations, and drawing specifications; and has a good knowledge of prime cost and contract prices.—Address, W. B. F. Office of "The Builder."

TO SURVEYORS AND ARCHITECTS

A GENTLEMAN wishes to ENGAGE with a respectable surveyor for three years or less, on mutually advantageous terms. He has been nine years in the profession.—Address, H K A 4, Buckingham place, Bath

TO ARCHITECTS, ENGINEERS, &c.

A DRAUGHTSMAN is desirous of a permanent ENGAGEMENT. Was with a builder six, an architect two, and six years engaged up in the drainage and waterworks of twelve towns with an eminent engineer at Westminster.—Address, W. H Mrs Keep's, 8, Stock Exchange-terrace, Pimlico, S.W.

TO PLUMBERS, BUILDERS, AND OTHERS.

A YOUNG MAN, aged 27, an experienced PLUMBER, wishes for a CONSTANT SITUATION, in town or country. Would be pleased in town or country, if a steady, satisfactory references if required.—Address, J. S. 42, Bell-street, Edgeware-road, Paddington

TO ARCHITECTS.

A GENTLEMAN, who has been in practice for himself for the last two years, during which time he has designed and superintended several works; but not having sufficient time now to keep it so wholly occupied, would be glad to meet with an ENGAGEMENT in an Architect's Office.—Address, Q. E. D. 29, Great James-street, Bedford row, W.C.

TO BUILDERS AND CONTRACTORS

A PRACTICAL BRICKLAYER is in want of a SITUATION, as FOREMAN, or by the Rod. Has had the best of town work. Ten years' references can be given. Would be glad to engage with a Builder or Contractor.—Address, G. H. Office of "The Builder."

AN ARCHITECT, of some years' experience, is desirous of meeting with a SITUATION, where superintendence of buildings is more required than mere employment, or where the Office duties are not confining. Address, B. A to the care of Mr Jas Ash, Warwick court, Holborn, London

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have much pleasure in giving publicity to the following letter:—FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT—Second Testimonial "March 16th, 1852. In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump-Service, I can state with much satisfaction, it answers perfectly Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pumps to give one hundred per cent of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price lists, testimonials, and references at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hose-pipes. Vulcanized Rubber Band-springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Straps cut to any pattern for bagatelle tables

Driving dresses of superior make, and improved Vulcanized Rubber Supply pipes for ditto.

Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness Air-beds, Pillows, and Cushions and ring Portable Baths, Invalid Cushions, and Articles of this kind made to any pattern to order.

N B All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

MONEY to LEND.—The TEMPERANCE PERMANENT LAND and BUILDING SOCIETY has MONEY to LEND on mortgage of either freehold or leasehold property, redeemable by convenient instalments, at the option of a small premium, with 5 per cent interest upon the balance remaining each year.—Apply to HENRY J. PHILLIPS, Secretary, 34, Moorgate-street, London, E.C.

LOAN and INVESTMENT AGENCY ASSOCIATION.—CHIEF OFFICE, 9, ADAM-STREET, STRAND, W C—Loans of any amount, from £20 on real and other securities. In 5,000, trust funds ready to be invested.

R. T JOPLING, Actuary.

MONEY ADVANCED to BUILDERS and others LAND TO BE LET, very eligibly situated, directly opposite the Crystal Palace Railway Station, Anerley road, Anerley; about two and three minutes' walk of the trains. Detached and semi-detached lease 125 years, at low ground rents; a spacious hotel, with a number of shops, in the same row are let on the following Cheap trains run daily every few minutes to the City and West End, also to all parts on the London, Brighton, and South Coast Railway.—Apply to Mr. WILLIAM HEY, Architect and Surveyor, 87, Newington-causeway, S.E.; or to Messrs. BRIANT and JEFFERY, Auctioneers and Estate Agents, 2, Motcomb street, Belgrave-square, S.W. and 12, Kennington-row, Kennington-park, S.

ONE HUNDRED THOUSAND POUNDS to TWO HUNDRED THOUSAND POUNDS to be ADVANCED by way of mortgage upon freehold land estate. Assessed sums upon long leaseholds and reversions to the Borough rate. Some last part loans will be treated with.—Apply to Mr. UEO. S. STREDDER, 20, Moorgate street, City.

E. DENT, sole Successor to E. J. Dent in all his Patent Rights and Business, at 61, Strand, and 34 and 35, Royal Exchange, and the Clock and Compass Factory at Somerset Wharf, Chronometer, Watch, and Clock Maker to the Queen and the Prince Consort, also Maker of the GREAT CLOCK for the HOUSES of PARLIAMENT. Ladies' Gold Watches, Eight Guineas; Gentlemen's, Ten Guineas; strong silver Lever Watches, Six Guineas; Church Clocks, with One Hundred Hours' Duration, £36. No connection with 33, Cockspur-street.

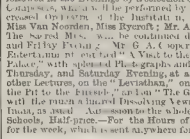
TO RAILWAY COMPANIES, CONTRACTORS, BUILDING SOCIETIES, DRY COOPERS, BUILDERS, STONE MASONS, and OTHERS For Sale, to order, Railway Sleepers, Palisades, Posts, Rails, Staves, any length and substance; Fir Poles, any size for scaffolds. Delivered to Farnborough Station, South-Western Railway, or South-Eastern Railway if required. Also, Heath Stone, for building or pitching.—To view, and for particulars, apply to Mr ALEXANDER PURVES, Ballis, Collingwood Court, Frimley, Surrey.

PROFESSOR WILJALBA FRIKELL, ST JAMES'S THEATRE, Wednesday and Saturday Afternoons at Three, and every Evening at Eight.—Stalls, 5s; balcony stalls 4s; boxes, 3s; 1st, 2s; gallery, 1s; private boxes, two guineas, one guinea and a half, and one guinea. Places to be secured at Mr. MITCHELLS, Royal Library, 33, Old Bond-street. On Monday, the 15th inst Professor FRIKELL will perform several new Tricks, being the 100th Performance.

THE ROYAL POLYTECHNIC.—Patron, H R H the Prince Consort.—The Great Solar Eclipses of 1858, next Monday, Wednesday, and Friday Mornings, at Three, and Evening repeat at Quarter to Eight. Dioramic views, painted by H Pether, Esq. Illustrated by correct, splendid, and new Dissolving Pictures, showing the grand phenomena of a Total Solar Eclipse. The Lecture will be followed in the Evenings by a selection of Sacred Music from the great Composers, which will be performed by the St. Georges Choir, the increased Orchestra of the Institution, and the following Soloists:—Miss Van Noorden, Miss Eyeroft; Mr. Adams, Tenor; Mr. Allen, Bass. The Sacred Music will be continued during Lent every Wednesday and Friday Evening. Mr G A. Cooper's New Musical and Pictorial Entertainment entitled "A Visit to the Egyptian Court; or the Crystal Palace," with splendid Photographic and Bijou Songs, every Tuesday, Thursday, and Saturday Evening, at a Quarter past Eight. All the other Lectures, on the "Leviathan," on "The Scuttle of Coals from the Pit to the Furnace," on the "The Grand Hydro-Electric Machine," with the many Hundred Dissolving Views, illustrating the Rebellion in India, as usual. Admission to the whole, 1s. Children under Ten, and Schools, Half-price.—For the Hours of Lectures, &c. see programme for the week, which is sent anywhere for two postage-stamps.

PATENT

SOLID PARQUETERIE,



for floors, walls, and furniture (inch thick 3s. per foot), as used by the eminent architects, Sir Charles Barry, Messrs Bunn, Hardwick, Parnell, G. G. Scott, T H Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Times, May 29.

ARROWSMITH, No 80, New Bond street.

REIGATE.—TO BE SOLD, a suitable SITE for a FIRST-CLASS RESIDENCE, commanding the most extensive views, with a south aspect, well sheltered from the north and east Apply to Mr CHARRIER, Auctioneer Old Land Agents, No 7, Great Tower-street, City, E.C.

TO BUILDERS.—TWO PLOTS of FREEHOLD GROUND TO BE LET upon BUILDING LEASE, one in the City, well adapted for small houses; another of four acres, in Bath road, Peckham, near the New cross station.—Apply to Mr. BARKER, 48, Lombard-street, City.

ISLINGTON, near the Cattle Market. TO BE LET on long BUILDING LEASES, and liberal terms, several desirable PLOTS of LAND, suitable for the erection of third and fourth rate houses. The roads and sewers are made, and bricks may be had on the ground. Loose direct from the Freeholder.—For further particulars apply to Mr. WILLIAMS, 32, Thornhill-square, Islington, N

BUILDING LAND TO BE LET

At NORWOOD, close by station,	term 1 00 years.	
" PLAISTOW, near Victoria Docks,	" 1,000	"
" SUTTFORD, near Railway Stations	" 100	"
" WIMBLEDON (Cottenham-park)	" 150	"
" POPLAR, near West-India Docks	" 90	"

Liberal advances to responsible builders.
Mr. W. ELLISON, Architect, Stainsby-road, Limehouse, E.

STAFFORDSHIRE.—HAY HEAD HYDRAULIC LIME—TO BE LET, on Royalty, the valuable HAY HEAD LIAS LIMESTONE at HAY HEAD, near Walsall. The works are situate on a branch of the Birmingham-canal, by means of which a ready communication may be had with the Midland districts and London. The roads and sewers are made, and bricks burned, and the best selected, in preference to all others, for extensive and in the very best-class works now in progress in the Potteries, and in every Public Building which the Birmingham-canal is to be entered underground for many years. The works are very complete. There are two shafts and a 25-horse high-pressure engine, with the necessary pumping and winding gear. The kilns are close to the canal. The plant to be taken at a valuation.—For further particulars apply to Mr ADAMS, Aldridge, near Walsall.

CANNON-STREET IMPROVEMENT.—BUILDING LEASES.—The Committee for Improvements within the City of London hereby give Notice that they will meet at Guildhall, on MONDAY, the 15th day of MARCH next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing, agreeably to a form to be obtained at the Office of the City's Architect, from parties willing to take BUILDING LEASES of sundry LOTS of GROUND, on the south side of St. Paul's Churchyard and Paternoster-row, as described in and capable of being seen upon application at the Architect's Office, Guildhall. MEREWETHER.

Guildhall, February 15th, 1858.

TO BUILDERS of VILLAS.—TO BE LET, SEVERAL ACRES of LAND, in plots, in the most choice situation of Shepherd's-bush, two miles west of Hyde Park Corner, on the Uxbridge-road, by the Penny-bridge-street. These plots are level, and the ground covered with arbutus evergreens. Applications are on hand for leasehold leases, to pay, exclusive of ground-rent, about 7 per cent on the outlay.—Mr. NOBLE, Surveyor, Woodford, or to Mr NISSEN, at 43, Mark-lane, London

FREEHOLD GROUND, Newgate street. The Commissioners of Sewers of the City of London hereby give Notice, that they will meet in the Guildhall of the said City, on TUESDAY, the 9th day of MARCH next, at TWELVE o'clock at noon, precisely, to receive PROPOSALS for taking on Building Lease for eighty years, at a ground rent, a certain PLOT of GROUND, situate on the south side of Newgate-street, at the corner of Paternoster-alley. Further particulars may be had, and a plan seen, on application to Mr. HOLLYWOOD, Engineer to the Commissioners, at their Office, where forms of proposal may also be obtained. The Commissioners will not be bound to accept of the highest proposal, but may themselves be required to take the property at the rent offered by the highest bidder, or to grant a lease to any other person who may be considered entitled to the same, and the party whose proposal is accepted will be required to enter into an agreement at the Office. The land is subject to a moiety of a rent-charge of £5 8s payable annually, on Shrove-Tuesday, to the Trustees of Wadsworth, Yorkshire.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, January 14, 1858.

TO BUILDERS.—TO BE SOLD or LET, in a suburban neighbourhood, where houses are in excessive demand, and will rent in the middle of March or April, the materials of building, now covering 36 acres of land, are to be sold, a PLOT of FREEHOLD GROUND, suitable for twenty seven villas. Roads and sewers made, and within five minutes of two stations.—Apply to Messrs. EDWARDS and SMITH, 10, Great Carter-lane, Doctors' Commons

FREEHOLDS, LEASEHOLDS, GROUND-RENTS, &c.—Mr. COLLINS, Architect, has the sum of 5,000£ placed at his disposal to LEND, in large or small amounts, on the above named securities. None but principals need apply, and moderate interest only required.—Applications to be made to Mr. H. H. COLLINS, Architect, 61, Torrington-square, between the hours of TEN o'clock, a.m. and ONE o'clock, p.m.

TO BE DISPOSED OF, a ROSIN, OIL, TAR, VARNISH, and ANTI-FRICTION GREASE MANUFACTORY, &c with dwelling-house, consisting of large fresh-built, and varnish house and an Ironmongers' Warehouse and roadside premises. Time is well worth the attention of a person of business to this. Satisfactory reasons will be given for parting with the same.—For cards to view, apply to Mr GRIFFIN, solicitor, No 2, Verulam buildings, Gray's Inn, W.C.

TO ENGINEERS, IRON and BRASS-FOUNDERS, and SMITHS.—TO BE DISPOSED OF, by PRIVATE CONTRACT, the LEASE of commodious PREMISES, situate at the east end of London, in the occupation of the suitable MACHINERY, IMPLEMENTS, and PATTERNS.—The business has been established about twenty-five years, and is confined to the general engineering trade has a superior connection, and ship-building establishments, for the manufacture of any article of engine work, both in the land and mercantile marine. The premises are held on lease at 60£ per annum. To present purchaser would be offered, should a partner to an equal share, or as a bookkeeper engaged, would be willing to dispose of the entire concern. About £500, or £600, would be required for the purchase, a portion of which might remain on mortgage.—For further particulars apply to Messrs FULLER and HORSEY, Billiter-street, Fenchurch-street, City, E.C

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£1,000 IN CASE OF DEATH; OR A FIXED ALLOWANCE OF £6 PER WEEK IN THE EVENT OF INJURY

May be secured by an Annual Payment of £3 3s 0d. Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury, in advantage NO OTHER COMPANY CAN OFFER

It is found that ONE PERSON in every FIFTEEN is more or less injured by accident yearly. This Company has already paid as compensation for Accidents £7,000

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where also Railway Accidents alone may be insured for any portion of which might remain on mortgage.—For further particulars apply to Messrs FULLER and HORSEY, Billiter-street, Fenchurch-street, City, E.C

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SPECIAL NOTICE.

TO SECURE THE ADVANTAGE OF THIS YEAR'S ENTRY, PROPOSALS MUST BE LODGED AT THE HEAD OFFICE, OR AT ANY OF THE SOCIETY'S AGENCIES, ON OR BEFORE 1st MARCH.

MUTUAL LIFE ASSURANCE

THE WHOLE PROFITS DIVIDED AMONGST THE ASSURED.

THE SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.

INSTITUTED 1831

Incorporated by special Act of Parliament.

The Fund accumulated from the Contributions of Members exceeds ONE MILLION STERLING

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVENTY-SIX THOUSAND POUNDS.

The Amount of Existing Assurances exceeds FOUR MILLIONS and THREE QUARTERS.

The Amount paid to the Representatives of Deceased Members is upwards of Nine Hundred Thousand Pounds, of which One Hundred and Twenty Thousand Pounds consisted of Bonus Additions.

A Division of Profits is made every Three Years, the next Division being at 1st March, 1859.

Head Office:—26, ST ANDREW'S-SQUARE, EDINBURGH.

ROBERT CHRISTISON, Manager.
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ARCHD. T. RITCHIE, Agent.

WESTERN LONDON OFFICE:
6A, James's-street, Westminster-terrace, W
CHARLES B. LEVER, Solicitor, Agent

BRICKS.—Mr. RYDON having made more Bricks than he requires for the buildings on his Highbury New Park Estate, is willing to make arrangements with parties to dispose of a quantity of first-class BRICKS of every description.—Address, Estate Office, Dell's Farm, Stoke Newington green.

BRICKS.—Malm Cutters, Yellow and Pale Seconds, Paviors, and P. Kings, of good and sound quality, constantly on sale at H. DODD'S Brickfields, which are only a quarter of an hour's walk from the City. H. D earnestly requests purchasers to call on him, with a cart, in order to inspect his stock, and to judge for themselves.

Malm Place, half-washed Stocks, and Place Bricks, also on sale These bricks are sound, well burnt, and unusually free from defects in every large proportion of the stock being suitable for external facing.

Apply to HENRY DODD and CO. at the Counting House, Hoxton Brickfields, Grange walk, near the Rosemary Branch, Hoxton.

N B Light-coloured Pat Sand of approved quality constantly on sale upon reasonable terms This Sand, from its not containing any saline matter, is acknowledged to be preferable to River Sand

BRICKS.—Messrs. OATES and INGRAM Inform Brick-makers on an extensive scale, that their PATENT SOLID BRICK MACHINE is now thoroughly and efficiently tested, and they are prepared to offer the following counties to the trade, in GREAT BRITAIN, either by ROYALTY, or PURCHASE—MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, GLOUCESTER, HERTFORD, BERKS, HUNTINGDON, DEVON, CORNWALL, DORSET, WILTS, HANTS, and ISLE of WIGHT With this Patent Machine the plastic surface-clay requires no preparation whatever; whilst that of a rocky nature is rendered ready to be passed through it after an ordinary grinding, WITHOUT ANY TEMPERING INTO THE MACHINE, FROM WHICH THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Machine is now making upwards of THIRTY BRICKS PER MINUTE, at the Works of Messrs Kirk and Parry, Bearsted Common, Fort Elson, near Gosport, and also at the Patent Solid Brick Works of Messrs. Wells Ingram, Oldbury, near Birmingham.—Applications are invited to see the Machine in operation by the said COATES and INGRAM Bradford street, Birmingham. Samples of the clay to be sent direct through the Machine, and the bricks burnt, or a sample brick will be sent to any party wishing to see one.

BRICKS.—Bricks direct from the Works. MALMS, STOCKS, GRISSELLS, and PLACE BRICKS, of large and superior quality, for SALE (at reduced rates), at J JOHNSON'S BRICK-FIELDS, WALHAM-GREEN, Fulham.—Gentlemen are respectfully invited to inspect the quality of these bricks, which can be delivered to any part of London

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire bricks, Lumps, and Tiles of any description, for every purpose, made to the Patterns of Peasen Deck, Bankside, for the last 30 years and upwards, Secretary of Gas Companies, Engineers, Builders, &c. &c. Depot for Ramsay's superior Welsh Fire Bricks, Clay Retorts, &c. Sockets, Pipes, Chimney tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

DEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this ware is REMOVED to No 21, WHARF, Macclesfield-street North, City-road Basin (N.) Finally, that the trade term, "TERRO METALLIC," is the exclusive right of the Proprietor; as it legally, that the "Reports of the Jurors," page 281, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tiberias," Tunstall, Staffordshire, as the first of the kind in the world.

LIME, BRICKS, TILES, CEMENT, GLAZED DRAIN PIPES, FIRE GOODS, LATHS, HAIR, and every description of BUILDING MATERIALS.—J. HARRISON and SON, Pages-walk and Willow walk, Bermondsey, near the Brighton and South-Eastern Railway Goods Station.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

17, NEWMAN-STREET, OXFORD-STREET.

EDWARDES, EDWARDS, and CO. PROPRIETORS,

The LARGEST and MOST SUPERIOR STOCK of CHIMNEYPIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

TWENTY POUNDS REWARD. Whereas the OFFICES at Mr FABBRICOTTI'S, Carrara, Wharf, Thames-bank, Pimlico, were BROKEN OPEN, on the night of WEDNESDAY the [illegible] and PROPERTY stolen therefrom, [illegible] will be also stolen on the 16th NOVEMBER and 31st DECEMBER last; this is to caution persons not to purchase the [illegible] for sale, as the same belong to the undersigned, and will be claimed. [illegible]

TO SCULPTORS, MASONS, BUILDERS, &c.—S. FABBRICOTTI, of Carrara (Italy), [illegible] Marble, of any dimensions, and well supplied stock, Marble [illegible] at his Wharf, [illegible] STATUARY, CLINK, VEINS, [illegible] SICILIAN, [illegible] from his own Quarries on a large [illegible] Blocks, Slabs, &c. for Monuments, St. Anne's, Vert des Alpes, Breccia, &c. &c.; Vases, Monuments, [illegible] Chimney-pieces, Tables, [illegible] Marble, and all kinds of [illegible] Marble to any extent contracted for. [illegible]

Carrara Wharf, Thames-bank, Pimlico, London.

JOHN FAZLEY WHITE and BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER. Marble in block and of best quality, in Blocks and Slabs. Marble Mortars, &c.

GRANITE.—The Cheesewring Granite Company Intended, Liskeard, Cornwall. London Agents—TREGELLES and TAYLOR, 54, Old Broad-street. Manager—JAMES J. TRATHAN, Liskeard. This Granite is selected for the New Westminster-bridge.

GRANITE.—King William and Nelson Monuments, Pedestals, Steps of the Royal Exchange, and Terrace of the Royal Palace, supplied by the Hafdor Company, near Royal Exeter Harbour, apply to Mr C. ROAR, Hafdor Granite Office, Monument-yard, West-street.

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BATH STONE OF BEST QUALITY.

RANDELL and SAUNDERS, QUARRYMEN and STONE-MERCHANTS, BATH.

Last [illegible] the Quarries and Beds [illegible] for the supply of the Kingsdown, Box, and Corsham Stone, [illegible] Bath Stone Offices, Cleveland-walk, Bath.

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VALENTIA SLATE SLABS. The Valentia Slate Company invite attention to their Slabs, now supplied of very large dimensions and of superior quality. They have [illegible] at the British Museum, Natural History, British, Horticultural, Zoological, Asiatic, the Ordnance Office, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stand at Brighton, Pathways, Landings, and sawn in Stock of large dimensions. Messrs. FREEMAN, Millbank-street; and at Messrs. BRADY'S, Belvidere-road, Lambeth.

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TIMBER and SLATES. Regent's Wharf, Millbank Upper, Entrance near Westminster Bridge. JOHN [illegible] and the attention of Builders and others to their very extensive [illegible] prices for Timber, Battens, Laths, Plain Tiles, Pantiles, Welsh, Ridge, Slates, and Slates in Squares, of the undermentioned sizes, to be supplied by any other [illegible]

Yellow deals, from 20l. per 120—12 ft. 3 in. by 9 in.			
Crown ditto	" 17	"	"
Battens	" 10	"	12 ft. by 9 in.
Prepared flooring from 12s. per square			
Collonaded planed battens, from 7s. per load.			
Roofing Slates			
Duchess	24 in. by 12 in. 11l.		per mille of 1,000.
Countess	20 in. by 11 in. 8 15		" "
Small ditto	18 in. by 10 in. 6 15		" "
Ditto	18 in. by 9 in. 4 15		" "
Ladies	16 in. by 8 in. 3 15		" "

Countess slabs sawn all round and planed on one side:—

	14-in.	9-in.	24-in.
Small ditto [illegible] at per foot	5d.	6d.	8d.
" ditto [illegible]	7	8	11
" ditto [illegible]	9	10	12

RANSOME'S SILICEOUS STONE.—All kinds of ARTIFICIAL STONE, [illegible] executed to the beautiful textures of natural stone, but possessing exceeding ordinary durability. Full particulars furnished on application to M. FRED. RANSOME, Whitehall Wharf, Cannon-row, Westminster; or Patentee, Ipswich.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Paving and all building purposes. Supplies direct from the quarries, by vessel of any burthen, to any part of the United Kingdom, and to the principal ports for EXPORTATION. Wharf [illegible] Office, [illegible] Millbank-street, London, S.W.

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CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, and other LAGGING and INCOMBUSTIBLE FELT, For Roofs, Walls, and Lining Iron Houses. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Wrotham Wharf, Wrotham, Fleet-street, City. [illegible] Blackfriars Bridge, [illegible] by the yard or barge. Ballast [illegible] screened or unscreened, for [illegible] per barge. Stock-lime, and [illegible] Portland cement, per barge, in any quantity, always on the Thames.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no coloring. Sold by the Patentee, JOHN FAZLEY WHITE and BROTHERS, Millbank-street, Westminster, and Seel street, Liverpool.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, [illegible] Wharf, Peter Thames-street, Lambeth, and [illegible] Pottery, Faversham, Kent. N.B. These Cements supplied for exportation, or wholesale trade.

JOHNS & CO.'s PATENT PERMANENT STUCCO WASH, perfectly non-absorbent, STUCCO CEMENT, STUCCO PAINT, CLARK and Co.'s Neat Cement, Manufactory, Grand Surrey Canal Bridge, Old Kent Road—Office, 4, George-yard, Lombard-street.

COLES, SHADBOLT, and CO. CEMENT and PLASTER MANUFACTURERS, LIME BURNERS, Brick, Tile, Drain-pipe, Hair Lath, and Fire Goods Merchants, ST JAMES's and PIMLICO WHARFS, Chelsea Canal Basin.

KEENE'S and PARIAN CEMENTS and FRENCH PLASTER, for internal use. These [illegible] Cements, [illegible] stucco, [illegible] hard finish, [illegible] new Parian Cement, [illegible] Keene's Cement, [illegible] Plaster of Paris, [illegible] Manufactured only by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT. [illegible] Cements, [illegible] Cements with the undoubted advantage that a great [illegible] its cementitious properties: that it is not affected by frost, and does not [illegible] in damp situations. [illegible] IMPARTIAL EXPERIMENTS in the strength of this and other cements [illegible] the Public are [illegible] from the [illegible] JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who [illegible] Portland cement.

MESSRS. JOHN and WM. EASTWOOD are SOLELY engaged in the SALE of WHITE and RED [illegible] and SLATE [illegible] from the Penrhyn Quarries, Carnarvonshire, [illegible] And the LEWIS and [illegible] PIPES. And also SOLELY engaged in the SALE of Messrs. CALEB HUTT and CO.'s YELLOW and PALE MALM STOCKS and FACING BRICKS, and KILN GOODS. Fenchurch-avenue, Fenchurch-street. COWLEY and KENT BRICKS, in any quantities, by barge at Neale Thames-bank Wharf, Pimlico, delivered into the Trade at the monthly price lists. WELLINGTON WHARF, Pimlico, Regent's Canal, KENT-ROAD BRIDGE.

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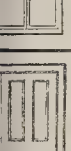

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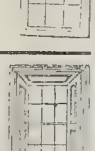

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In the result of practical experiments and long experience; it is unfailing in its application. Entire houses have been papered a few days after plastering. In repairs of old plastering it is invaluable. A moderate room can be papered for 2s. 6d.

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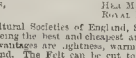
By Her Majesty's  Royal Letters Patent.

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by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it seen exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing: also used for slate slates at the Roy natural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE NY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen who have extensively used it, sent free to any part of own or country. A Dry-hair Felt, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in Fuel is ed. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE Y WORKS in Great Britain where the above roofing is made are F. McNEILL and CO.'S Manufactories, LAMB'S-BUILDINGS, NHILL ROW. Roofs covered with the Felt to be seen at the Factories, also the new Vice-Chancellor's Courts, the passages and offices ng to Westminster-Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

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WORKS, 38, Bedford-square, London, W.C.—ALEXANDER GIBBS and COMPANY, Practical Artists in Stained Glass, and Ecclesiastical Decorators, invite the attention of the nobility, clergy, architects, &c. to the facilities afforded by their long practical experience in every branch connected with the above art, and respectfully solicit the favour of a personal visit to their show-rooms, to inspect their large and varied Stock of Cartoons and Water-Colour Designs for Church and Private Windows. Designs and Estimates forwarded, on application, to all parts of the kingdom.

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JAMES HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

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No. 29, SOHO-SQUARE, LONDON, W.

PLATE GLASS,

Of a Superior Quality and Colour,

SUPPLIED AT THE LOWEST CURRENT RATES.

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THOMAS MILLINGTON'S REDUCED PRICES

SHEET GLASS, fourths, very superior, in 100, 200, or 300 feet cases, at 10s. per 100 feet, or about 1½d. per foot

Ditto, thirds ditto, at 12s. 6d. ditto, or 2d. ditto.
Ditto, seconds, ditto, at 31s ditto, or 4½d. ditto.
Ditto, firsts, ditto, at 42s. ditto, or 5d. ditto.
Boxes of 100 feet each, at 10s 12s 14s or 16s according to size.
21oz 26oz 32oz. at 42oz. in various qualities.

Also, CRYSTAL SHEET GLASS.

16oz and 21oz Ground, Muffled Glass of various patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

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Genuine White Lead, 32s.; seconds ditto, 31s. per cwt. Linseed Oil, 2s. 8d.; Boiled ditto, 3s. 10d.; Turpentine, 3s. 3d. per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c.

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Cocks and Valves of every description

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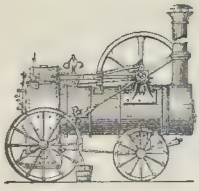

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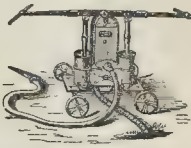

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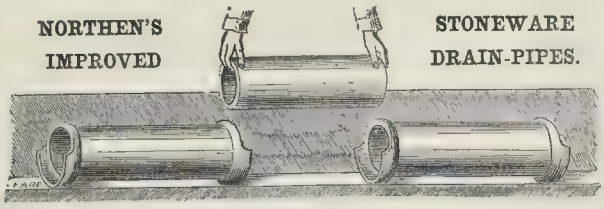

STONEWARE DRAIN-PIPES.

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Begs to call the attention of Surveyors, Contractors, Builders, [illegible] to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of fracture, to connect another drain, or carry a short drop-pipe to be taken up without interfering with either the front or back pipe of the [illegible] for supplying Dwelling-Act Drainage, &c., and is suitable and adequately cheap for every purpose of Drainage.

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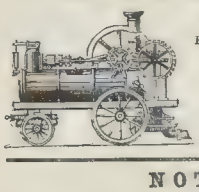
W. N. being the first that introduced Stoneware Socket Pipes for House Drainage, has always made it his study to make the best and [illegible] article at the cheapest.

Having made very extensive alterations in his premises for the manufacture of the most improved descriptions, he is prepared to execute orders to any extent.



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For Pumping, Sewing, Pile driving, Raising Materials, &c. &c.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

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PALE BOILED OIL, a very quick dryer, possessing the properties of [illegible] with the colour of Copal Varnish.

BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steam-ships and for painting walls.

HUBBUCK'S PATENT WHITE ZINC PAINT or SNOW WHITE ZINC.

DECORATORS WHITE FOR CEILINGS, the whitest and most [illegible] with an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.

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PREPARED FLOORING! PREPARED FLOORING!!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring —

	½	⅝	¾	1¼	
Spruce	12s.	12s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	17s. 6d.	19s.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within forty miles free of carriage.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

ALFRED ROSLING and SONS beg to announce their Customers and the Building Trade generally, that they have purchased the Business of Messrs. [illegible] and have REMOVED their Machinery and Stock of Dry Timber to their Premises, Ledge Wharf, Battersea, S.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his Customers and friends that he has REMOVED his business from Wilton-road, Pimlico, to the KING'S-ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor-street.

MOULDINGS by MACHINERY. Lapping, Sash bars, Beads, &c. to any design carefully packed and sent to all parts of the country. A Pattern List sent on application to

E. SIMMS,

SAWING, PLANING, AND MOULDING MILLS, KING'S-ROAD, CHELSEA.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 23s. per cwt.; Linseed Oil, 2s. 8d. per gallon; Boiled Oil, 2s. 10d. per gallon; Turpentine, 2s. 11d. per gallon; Fine Pale Gum Varnish, 7s. 6d. per gallon. For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Cheshill-street, Pimlico.

Every article for the Trade at the Lowest price.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Builders to the greatly reduced Prices

1-inch prepared Flooring	£0 11 6 per square
1-inch Ditto	0 13 0 per square
Yellow Battens	0 11 0 per 12
Spruce Deals, from	0 0 6 per cubl.
Pine Ditto, from	0 1 3 per cubl.
Yellow Ditto, from	0 1 3 per cubl.

Mahogany, in logs and planks, from 3d per foot.

A Saw Cut Goods delivered in the road on the Surrey side of the Bridge.

Broomhall-road, Southwark, and Elm-street, Gray's-inn-lane.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

1-inch Prepared Flooring	£0 11 6 per square
7/8-inch Prepared Flooring	0 11 0 per square
1-inch Prepared Flooring	0 13 0 per square.
Good Yellow Deals	0 1 3 per cubl.
Spruce Deals	0 1 0 per cubl.
Pine Planks	0 1 0 per cubl.
Yellow Battens	0 0 7½ per 12
Mahogany, logs and planks, from	0 1 0 per foot

All sawn goods delivered within three miles of cartage free.

ALFRED CARTER Old Bethnal-green Road, N.E.

ANOTHER GREAT REDUCTION.—A Yellow Deals, from [illegible] Pine Planks, 6d.; Mahogany and F. Walnut, 8d.; 2½-inch White Battens, 8½. 10s. Yellow, 11½ 12s.; 1-inch White Flooring, 13s. 6d.; 4 do. 11s. 6d. 1-inch Yellow, 12s. [illegible] Best Yellow Deals, 1 1 0 per cubic foot. Orders in every part of town.—T. FORMAN, 1, Walnut-tree-walk, Walworth-road, London S.

A CORN TIMBER WHARF and SAW MILLS, CANAL BRIDGE, OLD KENT-ROAD, LONDON. A Montage Pre-Current for [illegible] per 100 feet. RICHARD MAY [illegible]

FLOOR BOARDS, &c.—R. SLADE begs to call the attention of Builders and the Trade to his large and well-seasoned Stock of FLOORING and MATCHED BOARDING, from 4 inch to 1 inches thick, seasoned, and ready for use; also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes.—Address, R. SLADE, late P. Shand, Planing Manufactory, Wilton-road, Pimlico.

MAHOGANY, &c.—JOHN BRINSMEAD begs to call the attention of Cabinet Manufacturers, Railway Contractors, Builders, &c. to his immense Stocks of Honduras Mahogany, [illegible] Panel Board, [illegible] Also Veneers, per foot superficial Mahogany, Figured Log Mahogany, and Satin Wood. Yard, 19, Dungeon-walk, Battersea, 2, Store-street, Bedford-square.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cochrane-street, Pancras-road, GEORGE NOBLES and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following reduced prices, for cash:—

5-8 inch white, 13s. 6d. per square;	¾-inch white, 15s. per square
1-inch white, 18s. per square;	¾-inch yellow, 16s. per square;
¾-inch yellow, 16s. 6d.;	1-inch yellow, 20s.

Mouldings, Sashes, Blinds, &c. at the lowest remunerative prices. Liberal discount allowed on machining for exportation. Boxes and Packages forwarded on application.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Tarpaulins hired for any Awnings in sale or hire. Orders per [illegible] receive the most prompt attention.

H. PIGGOTT,

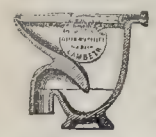
115, Fore street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

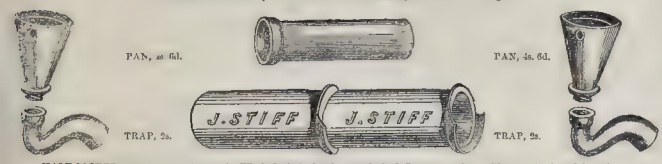
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
Messrs. GLADDISH'S, Podlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. John's and Thornhill Wharfs, Caledonian road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dorset Wharf, Canal road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bryanston-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Pread-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than Brick Flues By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

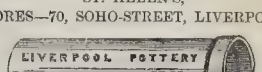
for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

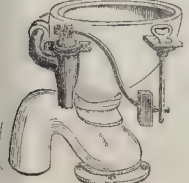


MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.	DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S HALF-SOCKET PIPES.	DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,

AND

LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

ENCOURAGE COUNTRY MANUFACTURE

CLIFF'S SALT-GLAZED DRAIN PIPES

are the strongest in the London Market.

CLIFF'S STONEWARE SOCKETED PIPES is the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.		
11s	9s. 3d	8s 9d.	7s 6d		
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.		
5s.	4s 3d.	3s.	2s per foot.		

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time, and the Pipes guaranteed to stand better than any Brickwork

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	4d.	5½d.	9d.	1s 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

LAMBERT'S SELF-CLOSING

LAVATORY AND CLOSET VALVE.
No. 7.

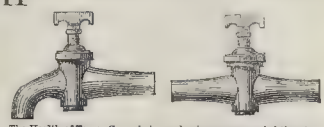
is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 300 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced. Price, complete, 13s. 6d. each.

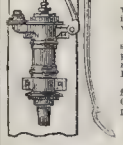
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Cocks and Boards, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Deep and Water Engines for raising fluids, from a depth not exceeding 22 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin street, London,
Manufacturers and Patentees.

TO ENGINEERS, MILL-OWNERS,

CONTRACTORS, and OTHERS.—TO BE DISPOSED OF by PRIVATE CONTRACT, a horizontal, high pressure, condensing STEAM ENGINE, made by Messrs. James Watt and Co. in 1857; diameter of cylinder 32 inches length of stroke, 5 feet fitted with variable expansion gear; wrought-iron crank shaft, feed pump, &c. The whole is contained in a small space, and carried upon an independent bed-plate. The engine is furnished with two Cornish boilers, each 20 feet long, 5 feet 8 inches diameter, with internal flue 3 feet diameter, and capable of working, safely, at 60 lbs. pressure per square inch; also, all the requisite boiler fittings and pipe connections. Both the engine and boilers have been but a few days in actual use, and are as good as new. Also, a NEW CAST IRON TANK, 13 feet 6 inches square by 4 feet 8 inches deep, with round corners, and all the necessary bolts, nuts, and stay rods. Also, a Machine for the Manufacture of Ice.—May be viewed, and further particulars obtained, up to application to Mr. WALLEN MAY, 3, Great George street, Westminster.

STEAM-ENGINES, BOILERS, SAWING

MACHINERY, LATHES, DRILLING MACHINES, HYDRAULIC PRESSES, also a double Bone-mill, and other useful Machinery on SALE. Portable engines and pumps for Sale or Hire.

N.B. Plaid and load slurry punching.

Apply to T. TAYLOR, 187, Southwark-bridge-road, Newington-causeway.

WINDOW BLINDS. TYLOR and PACE,

Window Blind Manufacturers, 3, Queen-street, Cheapside, London, submit the following PRICES of WINDOW BLINDS, which they can recommend as being made in the best manner:—Venetian Blinds, per square foot, 9d.; best Holland blinds, on rollers, 6d.; best ditto, on spring rollers, 9d.; gauze wire blinds, in mahogany frames, 2s.; perforated zinc blinds, in ditto, 1s. 10d.; outside blinds of striped cloth, 2s. Transparent blinds in great variety. Engravings, with prices and discounts to builders and the trade forwarded on application, post-free.

TO ARCHITECTS and BUILDERS.—

T. TRELOAR, 42, Ludgate hill, Manufacturer of Kamptulicon Cocoa-nut Fibre Matting, Door-mats, Hearth-rugs, &c. of the best quality on the most reasonable terms.—Warehouse, 42, Ludgate-hill, E.C.

SALES BY AUCTION.

LAMBETH: BELVEDERE-ROAD.—Remaining portion of the Stock in Trade of the late General Wood Cutting Company.

MR. PEAKE is directed by the Inspectors of the above Company to SELL by AUCTION, upon the PREMISES, on WEDNESDAY, FEBRUARY 17, 1858, and following day, at TWELVE o'clock each day, with all faults, the whole of the useful Stock-in-Trade, consisting of about 150 yellow, white, and pine PLANK, 300 yellow and white deals, 500 battens, 1,000 pieces assorted flooring and match lining of very superior quality, a very large stock of prepared mouldings, comprising all the patterns of the Company's well-known moulding sheet; a quantity of Dantzic and Swedish timber, two timber-carriages, a four-inch self-acting frame saw with patent set, two cant with dogs, two circular self-acting machines, bean crusher, trestles, &c. May be viewed on the day of Sale and on morning of Sale (and not previously) at Messrs. TURQUAND and YOUNG, 14, Old Jewry-chambers; on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

TO ENGINEERS AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on FRIDAY, FEBRUARY 19th, 1858, at ELEVEN o'clock, the PREMISES, Ivory's place, North-wharf-road, Paddington, in lots, the MACHINERY and TOOLS of an Engineer; Naismyth's steam hammers (four cwt.), two self-acting screw-cutting lathes, 6 and 7 inch centres, 6 feet and 8 feet beds; three side lathes, 8 to 12 inches; self-acting planing machine, to take in 3 feet in width; surfacing lathe, 42 inch centre; screwing machine; iron cone pulleys; vertical drilling machine; several horse power high-pressure steam engine and vertical boiler, self-acting and reciprocating bands, stocks and dies, 4 lots; 4 inch screwing-jacks, wheel and pinion, and rack and lever jacks; Bed-bolts, assortment of patterns, and other effects. To be viewed on Thursday previous to the sale, when catalogues may be had on the Premises, and of Messrs FULLER and HORSEY, Bolster-street, E.C.

TO BUILDERS, TIMBER MERCHANTS, CONTRACTORS, and OTHERS.—Valuable seasoned Timber Lett's Wharf, Commercial Road, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION on MONDAY, FEBRUARY 22nd, 1858, and following days, at ELEVEN o'clock each day, in lots, without reserve, the extensive and valuable STOCK of well-seasoned TIMBER, consisting of 1,000 yellow deals and battens, 1,000 planks each 11 inches wide and 3 inches thick, 2 inch Archangel, Quebec, and Memel planks, 2,000 yellow deals 12 ft. to 20 ft. long, 100 white deals, 2,000 yellow battens, 150 yellow battens, 15, 20, and 25 feet each in length, 3,000 feet yellow and white moulding, 10 feet to 20 feet long, batten lath, 50,000 feet run mouldings, 10 feet to 20 feet long, Honduras lath, 50,000 squares match lining and skirting, 100 inch boards, 100 inch slate battens, 1,000 inch Honduras battens, 100 bundles wine laths, 2 tons of Norway laths, 15 tons of lath wood, oak wainscot, Venetian blind stiff and other deals.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had at the Premises, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION on THURSDAY, FEBRUARY 25th, 1858, and following day, at ELEVEN o'clock each day, on the PREMISES, Stone-street, South-wark, in lots without reserve, the PLANT and IMPLEMENTS of the Manufacturing Engineer, 30-horse power high-pressure STEAM ENGINE, 8-horse power ditto, a nearly new high-pressure steam boiler, by Oster, two fire-bricks, 12-inch centre lathe, with 8-feet bed, 20 feet long; two engine turning lathes, two drilling-machines, vices and benches, steel tools, shafting and gearing, cast-iron tank, in plates, 20 feet by 15 feet; four cranes, 1 ton, several fine flasks, cast-iron tank, in 1 ad, 1 ladle, beam, fire-grate, 2 of two drying stoves, two double purchase foundry cranes, 1 ton each, 1 single purchase crane, weighing machine, 5 cwt., set of weights, pair of 4 feet grinder edge runners, 1 ton mill, two wrought iron forges, bellows, anvils, and smiths' tools, pair of steps, patterns, cast-iron water tanks, two cast-iron water barrels, quantity of loose fittings in 1 lots, bookcase, and numerous other effects.—To be viewed on Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Sawmills Manufacturing Premises, New Park street, and Stoney street, Southwark

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, FEBRUARY 25, 1858, at ELEVEN o'clock, on the PREMISES, the LEASE of the valuable and well-known PREMISES occupied by Messrs. Simmons, Ironfounders and Engineers; comprising several ranges of light and lofty fireproof workshops, occupying a large area, and having extensive frontages to New Park-street and Stoney-street, Southwark. A lofty chimney shaft has been recently erected, and a large boiler and engine have been expended in substantial repairs. The premises are well adapted for engineers, ironfounders, millwrights, or a house, and lofts; and there is a dwelling house, suitable for a tradesman, at present let on a weekly tenancy. To be sold subject to lease for a term of years, at a rent of 180l per annum.—To be viewed till the sale. Particulars may be had in the Premises; of Messrs. PHEMO and SIMPSON, Solicitors, Wellington-street, Lambeth-hill, E.C.; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Patent Veneer cutting Machine, together with the valuable Letters Patent, Lett's Wharf, Lambeth

MESSRS. FULLER and HORSEY are instructed by the Official Managers, to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, at the MILL, Lett's Wharf, Lambeth, a PATENT KNIFE-CUTTING MACHINE, for cutting, effecting a saving of nearly one half the wood usually cut. The machine is of iron, and is nearly new, very strong, and will take in logs 7 feet 6 inches in length. It is self-acting in its regular work, and works very efficiently. At the same time will be SOLD, the LETTERS PATENT, for a term unexpired of about seven years. The Patent will be sold in such quantities, or published in such form as may be best for the sale, which catalogues may be had at the Works, of Messrs FULLER and HORSEY, Bolster street, E.C.

Pair of High and Low Pressure Double cylinder Engines, each 14 inch by 24 inch stroke, now two years old, with the Cornish steam Boiler, Lett's Wharf, Lambeth

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, on the PREMISES, a PAIR of highly finished double cylinder, high and low pressure patent STEAM ENGINES, each of 30 horse power, lately used at the Victoria Wharf, Lambeth, with the Cornish steam BOILER, with flues. The consumption of coals in the engines is not more than 2 lbs. per hour per horse power. To be seen by leave on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs FULLER and HORSEY, Billiter-street, E.C.

LETTS' WHARF, COMMERCIAL ROAD, LAMBETH.—*To be Let on Lease and Fixtures Bought, Coming Out.*

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, unless an acceptable offer is previously made by private contract, LETTS' WHARF, on entering from the Commercial road, Lambeth, with a river frontage of 150 feet, and depth of 60 feet; comprising a newly-erected sawmill, 80 feet by 40 feet 3 inches, with lofty brick chimney-shaft; a range of brick workshops, about 100 feet by 25 feet in width; stable and loft, and two convenient dwelling-houses, with a large yard and wharf, with inverness fences to about twenty-seven feet. The whole held for an unexpired term of years, at a rent of 250*l* per annum. A portion of the yard and the right of room for the engine and chimney-shaft. Rent, 15*l* per yearly rent of 200*l*.; and the dues received for shortage, shore dues, in addition to the rent. Apply on the premises. Rate free and charged upon the premises.—To be viewed on the two days previous to the sale. Catalogues may be had on the premises, of Messrs. PEACHY, and DAVIES, Solicitors, 11, Old Jewry; of Messrs. OUTHER and BALL, Commercial-street; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

SALES BY AUCTION.

SAW AND PLANING-MILL MACHINERY Lett's Wharf, Lambeth

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, and following day, at ELEVEN o'clock, in lots, the useful MACHINERY of the Saw and Planing Mills erected about two years ago, with Horn, Carr, and other eminent makers, including a powerful rack-bench, with table 52 feet long, a timber sawing-frame, capable of cutting a stick 27 inches square, six double deal sawing frames, five capable of cutting to a double, four battens, and one capable of cutting four deals, or eight battens, at one operation; two planed iron circular saw-benches, 6 feet long; a very powerful planing, sawing, moulding, tongueing, and grooving machine; a planing and adzing machine of a lighter description, 100 feet of turned wrought-iron shafting, from 5 inches to 7 inches diameter, with carriages and plummer-blocks; a pair of 10-inch spur driving-wheels, 5 feet 4 inches and 5 feet 8 inches diameter (one wheel mortised and fitted with wood cogs); ten large cast-iron rigers, 6 feet diameter; 800 feet of leather bands, from 2 to 6 inches; twenty circular saws, from 42 inches to 6 inches diameter, twenty-six frame saws, thirty-four files, grindstone, steaming kiln, double purchase crabs, about fifty lots of timber, a fine stage, powerful log hoist, an excellent spring van, 4 inch wheels, jacket, &c., two timber carriages, Lister's lathe, two buggies, double and single parchase jacks, harness, stable fittings, and fast going pair of horses and nitty ups, counting-house fittings, and other effects. To be viewed the machinery in motion on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs FULLER and HORSEY, Billiter street, E.C.

WATERSIDE MANUFACTURING PREMISES, BELVEDERE ROAD, as occupied by the late General Wood Cutting Company

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, MARCH 3rd, at ELEVEN o'clock, in one lot, the PREMISES, without reserve, unless an acceptable offer is previously made by private contract, the LEASES of the extensive PREMISES situate in Belvedere-road, Lambeth, and also a freehold yard next the Trinity House, 120 feet with excellent wharf. The principal building and two at rear, 255 feet long by 46 feet wide, fitted as the saw and moulding mill; a building of three stories, 72 feet by 46 feet; suites of offices, two excellent family residences, a spacious timber yard, 346 feet by 56 feet, stabling, stables, coach-house, chaise-house, and other valuable buildings. The whole held for the unexpired term of 21 years, commencing Michaelmas, 1853, at the low rent of 70*l* per annum. To be viewed till the sale. Particulars may be had on the Premises; of Messrs. W. MURRELL SON, and HUTCHINS, Solicitors, Furnival's-inn-gate (1, London street); of Messrs. MARTEN, THOMAS and HOLLAMS, Solicitors, Commercial Sale rooms, Mincing-lane; of Messrs. GILL and HARPER, Wood Ironmongers, Lane of Messrs. TURQUAND and YOUNGS, 14, Old Jewry-chambers; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Sawing, Planing, and Moulding Mill Machinery

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the WORKS of the GENERAL WOOD CUTTING COMPANY, Belvedere road, Lambeth, on WEDNESDAY, MARCH 3rd, 1858, at following day, at ELEVEN o'clock, in lots, without reserve, unless an acceptable offer is previously made by private contract, the whole of the valuable MACHINERY and UTENSILS; a highly-finished condensing steam beam-engine, of 30 horse power, by Sampson; steam pumping-engine, two excellent Cornish steam boilers, 25 feet and 30 feet long, by Horton, with Prideaux's smoke-consuming apparatus; McDowall's patent steam jacket, 30 feet long, by Rutherford, Dublin; two powerful two-throw plunging machines, three metal plug machines, with cutters containing about 300 patterns; two 3-stem saw frames, three iron circular saw-benches, with 6 feet beds, and 3 feet beds; a powerful rack-bench, the dressing machine, mortising machine, two tenoning machines, circular cross-cutting bench, with table 16 feet 9 inches by 7 feet; steam tube-wheel, 700 feet wrought iron shafting, drums, and pair wide leather bands 11 inch and other gearing, with 7 feet box; three small boilers, two cast-iron water tanks in plates; two powerful wharf cranes, about thirty loads of sound timber, in piling, stages, &c.; twenty rods hackwork, steam and water pipes, gearings, excellent cooking apparatus, furniture, and numerous other effects.—To be viewed on Monday and Tuesday previous to the Sale (the dock here) and on the Premises; Catalogues may be had at the Works, and of Messrs FULLER and HORSEY, Billiter street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Docks Company, to SELL by AUCTION, on MONDAY, MARCH 8th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial road, Pimlico, in lots, the valuable and extensive STOCK of DRY SEASONED TIMBER, carefully selected, including 20,000 yellow deals and battens, 5,000 white deals and battens, 5,000 pine planks, 2,000 red pine deals and battens, 1,000 Memel planks, 2,000 Archangel planks, 1,000 spruce deals, 100 loads Dantzic timber, 2,000 squares prepared flooring boards, 200 squares matched boarding, 50,000 feet dry seasoned wainscot, 5,000 feet Honduras, Spanish, and other mahogany, 10,000 feet in sliding, 32 loads fir scantling, 3,500 bundles laths, 200 new scaffold-poles, 200 oak sills, 30 four-panel doors, and other stores. To be viewed on Thursday, Friday, and Saturday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the extent of 50*l.* and upwards, or a discount of 1½ per cent will be allowed for cash.

Black and Furnishing Ironmongery.

MESSRS. FULLER and HORSEY are instructed by Mr Wood (who is retiring from business) to SELL by AUCTION, on THURSDAY, MARCH 11th, 1858, and following days, at ELEVEN each day, on the premises, in lots, the entire STOCK of FURNISHING and BLACK IRONMONGERY, including best electro-plated goods, fenders, stoves, ranges, kitchen ranges, bright stoves, in tea and coffee services; tea, table, and dessert spoons and forks, fiddle, thread, and king's pattern; cake and cruet baskets, muffineers, tea knives and caddy spoons, candlesticks, &c.; electro-plated goods, in tea, tea and coffee urns, cruet frames, &c.; Sheffield plate, in tea and coffee services, tea trays, &c.; Japanned goods, in tea trays, tea caddies, &c.; bronzes, bird cages, &c.; Japanned goods, in toilet services, slop pails, and mahogany baths, chairs, &c.; set of japanned tea and japanned trays in oval and round, black bottle ware, open and enclosed kitchen ranges, handsome steel and ormolu register-stoves, gas-cooking stoves, Rumford and register stoves, 2,500 grates in sizes, 200 gross brass screws, 4 tons cast-iron pulleys, 200 gross brass cabinet locks, 54 gross brass flush pulleys, 200 dozen brass cabinet locks, 54 gross brass flush bolts, 600 sets brass cabinet furniture, 800 sets iron and wood pulleys, 150 pairs ormolu candle lustres, candlesticks, &c.; large assortment of sundries, chandeliers, lamps, &c.; 3500 zinc baths, wrought iron bath, copper vessels, tinned stock-pots, planished ware, and numerous other effects. To be viewed on Tuesday and Wednesday, and catalogues may be had in the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS

Imp[illegible] stock of Marble and stone.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Docks Company, to SELL by AUCTION, on THURSDAY, MARCH 18, 1858, and following days, at ELEVEN o'clock each day, at the MARBLE WORKS, Commercial road, Pimlico, in lots, the large and valuable STOCK of MARBLE and STONE, consisting of about 2,000 feet Flagstone, 90 feet Sienna, 150 feet serpentine, 1,000 feet veined, Sicilian, and other marble, 200 feet Italian and Artificial stone, 10 moulure reds, St. Anne's, Breccia, and Barbaric marbles; 30,000 feet in slabs, of the same assortment, from 1½ inch to 2 inches; 1,100 feet polished slab; a large stock of polished columns, jambs, and trusses; mouldings; 3,000 feet Portland stone, in block; 500 feet of Caen stone, 1,400 feet French stone, 150 feet Wingerworth stone, 3,000 feet of 3-inch to 6-inch of York landings; 5,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 4 inches; 3,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, 3 inch to 6 inches; hand, and foot stones; 2,000 feet rubbed paving, 12 feet by 9 inches, and 12 feet by 12 inches; also a large assortment of grave and other slabs. To be viewed three days previous to the sale. Catalogues may be had at the Works; and of Messrs FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

Thirteen powerful Cart horses, Three valuable Nag horses, Two Gigs, Three Tip-Dray Timber carts, Seven Timber Trucks, Harness, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Docks and Pimlico Railway, to SELL by AUCTION, on FRIDAY, MARCH 5th, 1858 at TWELVE o'clock, on the PREMISES, Commercial road, Pimlico, thirteen powerful young cart-horses, including two teams of handsome dapple grey and bay horses, of perfect symmetry, three valuable nag horses, ten sets of harness, seven tip-carts, three timber-trucks, three carts, two spring carts, two Irish carts, two gigs, market carts, carry-all, set of ladders, stable utensils, and other items. Lots viewed on Thursday previous and morning of sale.—Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES, TABLETS, &c

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Docks and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 17th, 1858, at ELEVEN o'clock, at the MARBLE WORKS, Commercial road, Pimlico, ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES of the most modern designs, and finished in the best manner possible, many of a very valuable character, including Sienna, Griotte, Bardilla, Rance Royal, St. Anne's, serpentine, Paris, Black, Emperor's Red, Veined and Siculian Marble; four statuary Marble Tablets, two Caen Stone Gothic Tablets with Statuary Inscription Plates; eleven polished Marble Slabs, &c.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Lease Tools and Stores of the Sawing-Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Docks and Pimlico Railway, to SELL by AUCTION, on MONDAY, MARCH 29th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 13 to 85 inches diameter; pit-saws, planing and adzing tools, 3 fire-ring hand planing and cooping machines, 2 fire-screws, leather bands, 1 ton cast and shear steel, 10 tons rod and bar iron, weighing machines, smiths' tools, anvils, top and bottom swayes, mandrils, hammers, 20 tons deals, 2,000 dozen iron and brass screws, brass lift-pump, copper pipes, wrought and cut nails, spikes, sash-weights, 10 cwt. odd files, cream and sheet glass, dry and ground colours, 1 ton white and red lead and litharge, sash tools, 8 trellises, 20 dozen hanna red sawplates, saw poles and heads, tackles, sieves, 200 yards road grit, 24 yards marble cut Portland sand, well pumps and pipes, pulley wheels and pipes, well boring apparatus, blacksmiths' forges, bellows, tin, zinc, and other plates, carpenters' benches, several tons of ironwork, a moveable travelling crane, 60 feet span, equal to 50 tons, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had at the Works, and of Messrs FULLER and HORSEY, Billiter street, E.C.

CLEVEDON AND KINGSTON SEYMOUR.—Sale of "The Baths," and valuable Building Land.—TO BE SOLD by AUCTION, by

MR. G. BODY, at the ROYAL HOTEL, Clevedon, on MONDAY, the 22nd day of FEBRUARY inst. at TWO o'clock in the afternoon, the following desirable PROPERTY, in the Parish of Clevedon, and the Tithing of Kingston Seymour, at the time of sale, and not to such conditions as shall be then and there produced:—Lot 1, All that message or dwelling house, garden and premises, situate at Clevedon, called "THE BATHS," in the warm and cold water baths therein contained, and the furnaces, cisterns, pipes, and apparatus for heating the same, now in the occupation of Mr William Goodall, as tenant thereof. The house is conveniently arranged as a lodging-house, and from its excellent situation, overlooking the sea, is always in request. Lot 2, All that excellent piece of BUILDING LAND, adjoining the above, and numbered 274 on the plan of the Clevedon Court Estate, and fronting the road leading from Clevedon to Kingston Seymour, and having a frontage towards the public road, and is admirably adapted for building purposes. This lot will be sold subject to a yearly ground-rent of 4*l.* 12*s.* 6*d.*

LANDS IN KINGSTON SEYMOUR

Lot.	No. on Tithe Map of Kingston Seymour.	Description	Quality.	Admeasurement. A. R. P.
3	419	House, Garden, and Orchard		2 1 14
	420			
	427			
4	421	The Four Acres (a Valuable Orchard)	Orchard	3 1 26
5	288	The Six Acres	Pasture	5 3 6
6	504	The Half Acre Orchard	Orchard	1 0 2

The Premises in Kingston Seymour are held by Leases and the Rectory Manor of Kingston Seymour, for three lives, aged respectively 86, 66, and 27, and a rental of 1*l.* 13*s.* 4*d.* per annum is payable thereout. Mr WILLIAM GOODALL will show the premises at Clevedon, and Mr. GOSLING at the Inn at Kingston Seymour.—All further particulars can be had on application to the Auctioneer at South Brent, or to Messrs. G and R. POOLE, Solicitors, Bridgwater. Dated Bridgwater, February 1st, 1858.

TO RAILWAY COMPANIES, CONTRACTORS, HOP-GROWERS, and OTHERS. 400 to 500 Larch and Scotch Fir Timber Trees, 60 to 70 feet long, and about 12 inches square for Hop-poles.

MESSRS. CHARLTON are instructed by the Executors of Mr. Hickford, to SELL by AUCTION, at the FIR, Bromley, Kent, on WEDNESDAY, FEBRUARY 17, 1858, at TWELVE for ONE o'clock precisely, about 400 LARCH and SCOTCH FIR TIMBER TREES, growing on the Bromley Hall Estate Farm, in the occupation of Mr. Webb, about 1½ miles from the Paddock wood Station, on the South Eastern Railway; also about 12,000 of 10, 12, 14, 16, and 18 feet Hop-poles, 6 inches square at the top, with the lots.—Catalogues of the lots, at the principal Inns in the neighbourhood; or of Messrs. CHARLTON, Auctioneers and Surveyors, Bromley.

TOWER.—SALE of STORES.—By Order of the Secretary of State for War. TO BE SOLD by PUBLIC AUCTION, on the Premises, on TUESDAY, the 23rd day of March, 1858, at ELEVEN o'clock, in the following STORES:—Great Coats and Cloaks; Clothing, various; Fur and Sheepskin Coats, &c.; Beds and Bedding; Blankets; Rugs; Linen, various; Bedsteads, various; Saddery; Rope, woollen, &c.; Hydraulic Presses; Fire-engine and Hose; Bedsteads, iron; Tools, various; Old Iron and Steel, and Miscellaneous Articles. May be viewed on the forenoon of the last HOUR of sale, on the three days previous to the sale, and catalogues had at the War Office, Pall Mall, the Tower; and Royal Arsenal, Woolwich.

NAVY ROW BRICKFIELD, GILLINGHAM, KENT.—To CONTRACTORS, BUILDERS, and OTHERS

MR. JOHN THOMAS will SELL by AUCTION, on THURSDAY, FEBRUARY 25, 1858, at TWELVE for ONE o'clock precisely, by order of the Executors of the late Dr. R. W. Martin, on the PREMISES, as above, ONE MILLION BRICKS, consisting of a choice good coloured fine red bricks, paviors, rubbers, picklers, and place, all of the superior quality for which the brickfields are so famous. The field is conveniently situated for barges, being close to the public Dock on the river, where the use of a wharf will be granted for the purchase of a large lot of the bricks.—Further particulars may be had of the Auctioneer, at his Offices, 147, Strand, opposite Somerset House, and of Messrs. THOMAS and CADDELL, Auctioneers, &c. King-street, Gravesend.

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The Builder.

AN ILLUSTRATED WEEKLY MAGAZINE FOR

Architect, Engineer, Operatives & Artist.

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FREE EXHIBITION.

DESIGNS for the MEMORIAL of the GREAT EXHIBITION.—The Drawings and Models submitted in competition may now be seen at the ARCHITECTURAL MUSEUM with the consent of the Committee, in the Central Hall, Tothill-street, Westminster, FREE, on MONDAYS, TUESDAYS, and SATURDAYS, from TEN to FOUR o'clock, and on MONDAY and TUESDAY EVENINGS from SEVEN to TEN, on the Students' days, THURSDAY and FRIDAY, and on WEDNESDAY EVENINGS, the charge for admission to the Museum is SIXPENCE.

Subscriptions to the Fund are invited.

JAMES BOOTH, } Hon. Secretaries
GEORGE GODWIN, }

ARCHITECTURAL EXHIBITION, 9, Suffolk-street, Pall-mall East; open from Nine till Dusk. Will CLOSE on the 24th inst. A large, One-Shilling

JAMES FERGUSSON, F.R.A.S. } Hon. Secs.
JAMES EDMESTON, Jun. }

N.B. All Drawings and Architectural models to be removed on the 25th inst. as no room can be spared immediately to be given to the Society of British Artists.—Should it be convenient, they would oblige by sending their subscriptions to the Hall next week.

EXHIBITION of WORKS of ORNAMENTAL ART in 1858, at the SOUTH KENSINGTON MUSEUM.

I.—The International Exhibitions of London and of Paris the latter especially, have shown that the Schools of Art have already improved the character of works of Ornamental Art; whilst the increasing number of Schools in all parts of the United Kingdom, and the extension of Art Instruction, make it desirable to concentrate, in a systematic manner, the progress of the influence of the Schools on the Ornamental Art of the country, and by so doing afford a stimulus to the artisan, and the manufacturer, useful information to the public, and a justification of the public expenditure.

II.—With these views, it is intended in the spring of 1858 to hold an Exhibition of the Works of Ornamental Art, produced since the establishment of the Schools of Art, as articles of commerce, which, either in their original design or in their entire or partial execution, have been carried out by those who have derived instruction from these Schools.

III.—The works will consist of Carvings in all materials, Furniture, Decorations, Metal Working of all kinds, Jewellery and Goldsmiths' Work, Pottery, Glass, and all kinds of Decorative Woven Fabrics.

IV.—Whatever the State may be able to do in promoting a knowledge of the principles of Art on its efforts must be fruitless, unless the public assists it, by demanding that such knowledge shall have a practical development. The State can only organize the most elementary part, whilst the public must carry on and complete the work by encouraging producers to employ the better educated artisan. It has therefore been determined to issue ample notices of the holding of the proposed Exhibition, in order that the public may have an opportunity of performing their part by giving liberal commissions to manufacturers and others to produce useful works, which, exhibited in the Museum, will be calculated to shew fully and fairly the influence which the Schools of Art are exercising in the country.

V.—The Works must be sent to the Department on one of the days which will be hereafter announced; they must be addressed to the Secretary, and be accompanied by a note (written only on the first and third pages) describing them as they are meant to be inserted in the Catalogue. The designer and artisan's name must be stated, with the names of the Schools and the periods they have attended. It is desirable that the place of each article should be given.

VI. All Works sent for Exhibition are subject to the approval or rejection of the Department.

VII.—Every possible care will be taken of Works sent for Exhibition, but the Department will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any packages which may be presented by carriers, and not sent through a School of Art.

HENRY COLE, Secretary.
South Kensington Museum.

ART-UNION of LONDON.—SUBSCRIPTION LIST is NOW OPEN. Prizeholders select from the public Exhibitions. Every Subscriber of One Guinea will have a double the chance of a Prize. An impression of a large and important line Engraving, by J. T. Willmore, A.R.A. from the well-known original picture by the late J. M. W. Turner, R.A.—"Venice."

GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.
444, West Strand.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.—THE FIRST ANNUAL GENERAL MEETING of SUBSCRIBERS, will be held at the Rooms of the Royal Institute of British Architects, No. 9, Grosvenor-street, Grosvenor-square, on SATURDAY, 27th FEBRUARY instant, at THREE o'clock, p.m. to receive and consider the Report of the Committee, and a balance-sheet of the accounts, and to elect officers for the ensuing twelvemonth.

ROBERT HESKETH, Hon. Sec.

ADDRESSES to WORKING MEN, at the SOUTH KENSINGTON MUSEUM, on the FINE ARTS and ART COLLECTIONS.

A Series of Six Addresses on various subjects of the Fine Arts and Art-Collections, will be delivered in the Theatre on MONDAY EVENINGS, the 8th, 15th, 22nd, and 29th MARCH, and the 12th and 19th APRIL, at EIGHT o'clock.

I. March 8th.—"On Anatomy applied to Fine Art." By John Marshall, F.R.S. F.R.C.S. Assistant Surgeon to University College Hospital.

II. March 15th.—"On the Uses of the Art Library." By Robert H. Smith, B.A. Assistant Keeper of the Museum, and Librarian of Art.

III. March 22nd.—"On Botany applied to Fine and Industrial Art." By L. Drewry.

IV. March 29th.—"On Copper and Steel Engraving." By George Doo, A.R.A.

V. April 12th.—"On Wood Engraving." By John Thompson.

VI. April 19th.—"On British Sculpture." By John Bell, Sculptor.

The Lecture Theatre will hold 450 persons. 3 seats will be reserved exclusively for working men, their wives, and their children above fifteen years of age who shall registering their names will obtain tickets at 3d. each for the whole course. Tickets for the remaining Lectures will be issued at 1d. each for the course, 2½d. each lecture, when there may be room in the theatre.

Tickets may be obtained at the Museum and Offices, and at Messrs. CHAPMAN and HALL, 193, Piccadilly.

By order of the Committee of Council on Education.

LECTURES to WORKING MEN.—GOVERNMENT SCHOOL of MINES, JERMYN-STREET.—The SECOND COURSE of SIX LECTURES on the FIRST PRINCIPLES of CHEMISTRY, by Dr. HOFFMANN, F.R.S. will be commenced on MONDAY, MARCH 1, at EIGHT o'clock. Tickets may be obtained by Working Men, only on MONDAY next, from TEN o'clock, upon payment of the moderate sum of 6d. each. Applicants are requested to bring their name, address, and occupation, written on a piece of paper, for which the ticket will be exchanged.

TRENHAM REEKS, Registrar.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM.—On WEDNESDAY next, at EIGHT o'clock, Mr. G. E. STREET, R.A. will LECTURE "On the Right Use of Ancient Examples." Arrangements have been made with the Committee for the reception in their Museum of the Designs for the Memorial of the Exhibition of 1851. They are now in view.

GEORGE GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

COMPETITIONS.

TRINITY COLLEGE CHURCH.—The COMPETITION DESIGNS given in for this Church, other than those with the Mottoes "Octagon," "Trio in Uno," "The Purity of Protestant Worship," "In Defens," "In Hope I Byde," and "Three Circles," which are returned in the usual way, will be returned, carriage-free, to the respective Authors, on application to Mr. SIN CLAIR, Chapter-house Close. Satisfactory evidence of the ownership of the plans will be required, by authority being given to open the reference letter, or otherwise.

City Chambers, Edinburgh, 11th February, 1858.

DESIGNS for the ELLESMERE MEMORIAL.—The Committee for the Erection of a Monumental Memorial to the late Earl of Ellesmere on the high land near Wrenbury, in the westward of Worsley Hall, Lancashire, are now prepared to receive from Artists and others designs of competing MODELS or DESIGNS of a suitable MONUMENT of not being a statue. The amount at the disposal of the Committee is £900 and the party whose design is selected will be expected to supply, erect, and complete the monument for that sum. Premiums of forty and twenty guineas will be respectively awarded to the parties who shall, in the opinion of the Committee, submit the second and third best designs or models. It is the wish of the Committee that the monument shall be substantial and durable rather than elaborate and ornamental, and that it should be easily seen from a distance. Models or designs, marked with a motto, must be forwarded to the Bridgwater Offices, Hulme, Manchester, addressed to the care of Mr. FREDAY SMITH, accompanied by a sealed envelope, enclosing the artist's name and address. The time for receiving the models or designs will be extended to the 30th of APRIL, 1858.

ARCHBISHOP HOLGATE'S HOSPITAL, in HEMSWORTH, in the County of York.—TO ARCHITECTS.—The TRUSTEES of the above CHARITY are desirous to obtain PLANS for the ERECTION of a NEW HOSPITAL for the accommodation of Ten Brethren and Ten Sisters, and for a Porter and Matron; together with a CHAPEL for the Master's family, and Twenty Brothers and Twenty Sisters, and the Offices of the Hospital, a Board room, and other conveniences for the use of the Trustees, and a new House for the Master. In the preparation of such plans, parties are requested to keep in view the erection hereafter of suitable buildings, for the accommodation of Ten additional Brethren and Ten additional Sisters. The structure is to be plain and substantial, of brick, with stone facings, and with all the requisite fittings, not to exceed the sum of £2000. The plans are to be sent in on or before the 24th day of MARCH next. The Master of the Hospital will visit the site selected, and every other information will be furnished on application to

EDWARD NEWMAN, the Clerk to the Trustees.

Barnsley, February 2, 1858.

N.B. The Trustees do not authorized to offer any premium for plans not adopted.

COMPETITIONS.

PROPOSED SCHOOLS at FOREST HILL.—Additional plans are now with regard to the Site. Architects intending to compete are requested to DELAY PROCEEDING with their DESIGNS until FURTHER NOTICE. Due notice of extension of time, and of alteration of site (if any), will be given by future Advertisement, and by circular to all Architects whose names and addresses have been left with the Rev. J. M. CLARKE, Forest Hill, Sydenham.

CONTRACTS.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War office, Pall-mall, London, S.W. on or before MONDAY, the 15th day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the SUPPLY of MATERIALS and for the PERFORMANCE of such BRICKLAYERS', MASONS', PAVIORS', CARRIERS', CARPENTERS', SLATERS', SMITHS', PLASTERERS', PLUMBERS', PAINTERS' and GLAZIERS', and PAPER-HANGERS' WORK as may be required by the Royal Engineer Department at the following Stations in the Dover District, viz.

DOVER — Fortifications and Barracks at Dover, and from Dover to No. 1 Tower, Westward, and from Dover to Walmer Castle, Eastward.

WALMER.—From Walmer Castle to No. 2 Battery, Sandown, both inclusive; also the Barracks at Walmer.

CANTERBURY.—Barracks.

SHORNCLIFFE CAMP.—Including the Royal Artillery Barracks, the Temporary Barracks, Sandgate Castle, Folkestone, and Shorncliffe Batteries, and Towers 1 to 9, inclusive.

HYTHE.—Including Hythe Barracks, Coast Defences from No. 10 Tower to No. 29 Tower, inclusive, also Royal Military Canal from Seabrook to Warehorn.

RYE.—Including the Coast Defences from No. 29 Tower, Westward, to Fairlight, and the Royal Military Canal from Warehorn to Cliff End.

Only one contractor will be accepted for the whole of the trades at each of the above stations, viz. Dover, Walmer, Canterbury, Shorncliffe Camp, Hythe, and Rye; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of percentage may be different for each trade should it be deemed expedient. Printed schedules, and every particular relating thereto, may be had in application at the Royal Engineer Offices, at Dover, Hythe, Walmer, at Canterbury, and at Shorncliffe Camp, between the hours of TEN and FOUR o'clock, from WEDNESDAY, the 3rd of MARCH, to SATURDAY, the 13th of MARCH, 1858, after which time no Schedule will be issued. Tenders to be addressed to the Director of Contracts, War office, Pall-mall, London, S.W. and endorsed, "Tender for Builders' Work," on one corner of the envelope. No Tender will be attended to which is not filled in strictly in conformity to the instructions as stated in the printed schedules, nor will it under be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, February 16, 1858.

VESTRY-HALL, Cranbrook.—Persons willing to TENDER for the ERECTION of a VESTRY-HALL at Cranbrook, may see the plans and specification at the Office of Mr. MARTIN BULMER, Architect, Maidstone, until the 25th instant; and, after that date, at the Office of the Vestry Clerk, at Cranbrook. Sealed Tenders are to be sent to the Vestry Clerk, on or before THURSDAY, the 4th day of MARCH next. The Committee do not bind themselves to accept the lowest or any other Tender, and security will be required for the due performance of the works. Copies of the bills of quantities, and form of Tender, may be obtained at the Office of the Architect, on and after the 25th instant, upon payment of five shillings for each copy.

JOHN ELLIOT WILSON, Vestry Clerk.

Cranbrook, February 13, 1858.

NEW CONGREGATIONAL CHAPEL, BADDOW-ROAD, CHELMSFORD.—To BUILDERS and CONTRACTORS.—Parties willing to CONTRACT for the above Building are invited to be delivered to Mr. WYATT, the Chapel, between the hours of TEN and FOUR, on and after FRIDAY, the 26th day of MARCH next. Tenders sealed and addressed to the Building Committee to be delivered to Mr. WYATT, the Chapel, not later than MONDAY, the 15th of MARCH, at FOUR o'clock p.m. The lowest or any of the Tenders not necessarily accepted.—Information and bills of quantities can be obtained on application to Messrs. POULTON and WOODMAN, Architects, Reading.

TO BUILDERS.—The Guardians of the Poor of the Parish of St. Luke, Middlesex, will receive TENDERS, on THURSDAY, the 25th instant, at the Workhouse, City-road, for certain ADDITIONS to be made thereto. The drawings and specification may be seen on the Premises, between the hours of TEN and FOUR, daily, from MONDAY the 22nd, to WEDNESDAY the 24th instant, inclusive. The quantities have been taken out, and all persons Tendering must take a copy thereof, and leave their name and address with the Clerk. The charge is five shillings per copy. The Guardians do not bind themselves to accept the lowest or any Tender.—February 16, 1858.

COUNTY LUNATIC ASYLUM, GLOUCESTER.—To BUILDERS.—The Committee of Visitors are desirous of receiving TENDERS for the ERECTION of a detached RESIDENCE, with outbuildings and boundary walls, &c. for the superintendent of the above asylum. Drawings, specifications, and conditions of contract may be seen at the Offices of the County Surveyor, Clarence-street, Gloucester, on and after MONDAY, the 22nd day of FEBRUARY. Tenders to be sent, under seal, addressed to the Committee of Visitors, County Lunatic Asylum, Gloucester, on or before MONDAY, the 8th day of MARCH next, by TEN o'clock a.m. endorsed "Tender for Superintendent's Residence." The Committee do not bind themselves to accept the lowest or any Tender, unless so minded.

[For remainder of Contracts see next page.

CONTRACTS.

CONTRACTS for the SUPPLY of BUILDING MATERIALS for CONVICT PRISONS. [illegible] of [illegible] Supply of Timber, Deals, [illegible] Lime, Sand, Bricks, Lead, Glass, Wrought and Cast Iron, Ironmongery, [illegible] and Water Pipes, [illegible] Oils, &c. for Twelve Months from the 1st of APRIL next [illegible] MARCH, 1858, for Portland [illegible] Millbank, Pentonville [illegible] Parkhurst Prisons, and [illegible] [illegible] MONDAY [illegible] MARCH [illegible] street, [illegible] MONDAY [illegible]

45, P[illegible], Westminster [illegible] 1858.

CONTRACT for DREDGING. The [illegible] [illegible] WEDNESDAY [illegible]
[illegible] SMITH [illegible] Secretary.

[illegible]

CONTRACTS, 1858.—PARISH of SAINT GEORGE, HANOVER SQUARE.—Such persons as [illegible] CONTRACT with the Vestry of the said Parish, for the [illegible] WORKS and MATERIALS for one year from the [illegible] day of MARCH, 1858, [illegible]

Supply of Flints and Gravel
Supply of Guernsey Granite
Purchase of the Cinders and Ashes
Carting away the Slop and Sweepings of the Streets
F[illegible] and Horses for Day Work
Spreading Water in the Streets.
Mason's Work
Paviors' Work
Supply of Paving Materials
Supply of Thames Ballast, Sand, and Hogging.
Supply of Workmen's Tools and Hammers, for Stone breaking, and Repairs of the same
Smith's Works
Gas fitter's Works.
Supply of Brass Brooms
[illegible]

May [illegible] PROPOSALS, sealed up, at the Offices at the Board room, Mount-street, Grosvenor-square, or at the Board room, at Lower Belgrave-place, Pimlico, on or before SATURDAY, the [illegible] MARCH 1858. Persons tendering are [illegible] to take notice that all proposals must be made upon and strictly in accordance with the printed forms of Tender, to be obtained at either of the above Offices, or further particulars on application to Mr. E. C. RICHMAN, Surveyor, at the Offices in Lower Belgrave-place, any morning between the hours of NINE and ELEVEN o'clock. Contracts to be prepared by the Parish Solicitors, at the expense of the contractors, and the Vestry do not bind themselves to accept the lowest or any Tender.—
By order, T. H. CHAPPELL, Clerk to the Vestry.

NEW CHURCH ROOF.—TENDERS are required from persons wishing to undertake the CONSTRUCTION of an OPEN GOTHIC ROOF in wood, for a Church in a British Colony.—Particulars can be learned on application by letter, addressed to [illegible] Cornhill, E.C.

BELPER BURIAL BOARD.—To BUILDERS.—The Burial Board of the Township of Belper are desirous of receiving TENDERS for the ERECTION and COMPLETION of TWO CHAPELS, LODGE, ENTRANCE GATES, and FRONT BOUNDARY WALL, according to drawings and specifications prepared by the Architect, Mr. EDWARD HOLMES, of Temple-row, Birmingham, at whose Office all particulars may be obtained, on and after the [illegible] FEBRUARY instant. Plans and specifications can be seen at the [illegible] Market-place, Belper, on and after the same day, and, at the same time, lithographed bills of quantities may be obtained [illegible] Bridge-street, Belper, on payment of one guinea, to be [illegible] each unsuccessful competitor.—The Tenders to be sent to me, free of expense, on or before the [illegible] day of FEBRUARY instant, sealed, and endorsed "Tender for Building Chapels, &c."—The Board [illegible] themselves to accept the lowest or any Tender.—
GEORGE PYM,
By order, Clerk to the Belper Burial Board.

Belper, [illegible] February, 1858.

BOARD of WORKS for the STRAND DISTRICT.—STREET WATERING CONTRACT. Notice is hereby given, that the Board will meet on WEDNESDAY, the 3rd of MARCH, 1858, at SIX o'clock p.m. precisely, to receive and open TENDERS for WATERING the several PARISHES in the district during the ensuing season. Parties Tendering, must specify the rate per week for which they will provide each cart, horse, and driver, and no Tender will be read unless a 10*l*. Bank of England note is n[illegible] [illegible] Sealed Tenders must be delivered before FIVE o'clock p.m. on the day of meeting, at the Offices of the Board, [illegible], Henrietta-street, Covent-garden, where conditions and forms of tender may be obtained, between TEN and [illegible]. The lowest Tender will not necessarily be accepted. By order,
JAMES F. H. LEWIS, Clerk to the Board.

February 1[illegible], 1858.

COUNTY of SOUTHAMPTON.—NEW POLICE STATIONS at PETERSFIELD and HAVANT.—TO BUILDERS. Persons desirous of CONTRACTING for the ERECTION of a POLICE STATION, at PETERSFIELD and HAVANT, may see the plans and specifications for such buildings, on application at the Office of the County Surveyor, St. Swithin-street, Winchester, of whom any further information respecting the same may be obtained, [illegible] TUESDAY next [illegible] between the hours of TEN and FOUR. [illegible] County-hall, Winchester [illegible] Tenders may be obtained on application. A copy [illegible] the day. [illegible] Petersfield [illegible] Havant Police Station [illegible] WEDNESDAY, the 10th day of MARCH next [illegible] tractor jointly and severally in the amount of the contracts [illegible]
T. WOODHAM, Deputy Clerk of the Peace.

County-hall, Winchester, February [illegible], 1858.

TENDERS are required for ERECTING [illegible] VILLA RESIDENCES [illegible] [illegible] SATURDAY [illegible]

INDICATORS.—The Burial Board for the [illegible] INDICATORS for marking the Graves at [illegible] and figures as shall be desired [illegible] MONDAY, [illegible] 1st of MARCH.

EMBANKING and DRAINING. CONTRACTORS and OTHERS disposed to TENDER for EXECUTING the WORKS for RECLAIMING and DRAINING the MARSHES and [illegible] in the county of Norfolk, may see the drawings and specification and [illegible] DERS, C.E. [illegible] Tender.

CONTRACTS.

TO BUILDERS.—The Town Council of [illegible] ERECTING a NEW POLICE STATION HOUSE [illegible] RESIDENCE for the Superintendent [illegible] TENDERING for the WORK [illegible] of Mr. HENRY PENISTON [illegible] Salisbury [illegible] Watch Committee, to be [illegible] MARCH next.
CHAS. [illegible], Town Clerk.

Salisbury, Town Clerk's Office, February, 1858.

CARDIFF TOWN HALL and LAW COURTS.—NISI PRIUS COURT.—To BUILDERS and OTHERS.—The Corporation of the Borough of Cardiff [illegible] TENDERS for the [illegible] Works [illegible] the ERECTION [illegible] NISI PRIUS COURT [illegible] Mr. HORACE JONES [illegible] Architect [illegible] Town Hall [illegible] MARCH [illegible] Tenders [illegible] delivered to Mr. MATTHEWS, Town Clerk, Cardiff, [illegible] SATURDAY, the [illegible] of MARCH next [illegible] Tender for Nisi Prius Court. The Corporation [illegible] the lowest or any other Tender [illegible] the works within [illegible] under a penalty.—Every information will be given on application to the Architect [illegible].

TO BUILDERS and CONTRACTORS. The Croydon Local Board of Health are prepared to receive TENDERS for the CONSTRUCTION of a BRICK SEWER from the Mitcham-road to the Canterbury-road,—a distance of about [illegible] feet. Specifications, plans, and sections, showing the course and form of the proposed sewer and other works connected therewith may be inspected at the Engineer's and Surveyor's Office, Town Hall, Croydon, on and after MONDAY, the 22nd of FEBRUARY instant. Sealed Tenders endorsed "Tender for Sewer," to be delivered at my Office, on or before TWELVE o'clock in the forenoon of MONDAY, the 1st of MARCH 1858.—The Board do not pledge themselves to accept the lowest or any Tender.
HENRY RICHARDS, Clerk.

Croydon, 17th February, 1858.

TO TIMBER MERCHANTS and OTHERS. THE SUBURBAN VILLA ASSOCIATION will SELL by TENDER the Trees, consisting of [illegible] elm, &c. marked 1 to 40, standing on their estate at Lower Sydenham. Tenders to be directed to Mr. THORPE, Secretary, [illegible], Moorgate-street, E.C. on or before the 2nd day of MARCH [illegible] will be opened at SEVEN p.m. and the highest [illegible] will be considered. The Association [illegible] itself to accept any Tender, and it is a condition of sale that the trees [illegible] and any injury or damage done to the fences to be repaired at the sole expense of the purchaser within one month from the day of sale. A deposit of 25 per cent. to be paid down.

STAFFORDSHIRE.—HAY HEAD HYDRAULIC LIME.—TO BE LET, on Royalty, the valuable MINE of HYDRAULIC LIMESTONE at HAY HEAD, near Walsall. The works are situate at a branch of the Birmingham [illegible] by means of which ready communication may be had with the Midland districts and with London. The lime is well known in the neighbourhood, and has been selected, in preference to all others, for exclusive use in the very extensive works now in progress on the Netherton tunnel, near Dudley, by means of which the Birmingham [illegible] There are two shafts and a 25-horse high pressure engine, with the necessary [illegible] winding gear. The kilns are close to the [illegible]. The [illegible] to be taken at a valuation. For further particulars, apply to Mr. ADAMS, Aldridge, near Walsall.

CANNON-STREET IMPROVEMENT.—BUILDING LEASES.—The Committee for Improvements within the City of London hereby give Notice that they will meet at Guildhall on MONDAY, the 15th day of MARCH next, at ONE o'clock [illegible] TENDERS [illegible] the City Architect, from parties willing to take BUILDING LEASES of sundry LOTS of GROUND on the [illegible] side of St. Paul's Churchyard. Plans can be inspected [illegible] upon application at the Architect's Office, Guildhall.
MEREWETHER.

Guildhall, February, 1858.

TO BUILDERS of VILLAS. TO BE LET SEVERAL ACRES of LAND, in plots, in the most choice situation at [illegible], two minutes' walk from the Station on the [illegible] Railway to Fenchurch-street. The soil is gravel, and the ground is covered with splendid evergreens.—Applications are [illegible] ground rent about 7 per [illegible].—Apply to Mr. NOBLE, Surveyor, Woodford; or to Mr. NISSEN, at 43, Mark-lane, London.

TO BUILDERS. TO BE SOLD or LET, in a suburban neighbourhood, where houses are in excessive demand, and where [illegible] March or April the materials of building, now covering 3½ acres of land, are to be sold, a PLOT of FREEHOLD GROUND suitable for twenty-seven villas. Roads and sewers made, and within five minutes of two stations. Apply to Messrs. EDWARDS and SMITH, 19, Great Carter-lane, Doctors' commons.

FREEHOLD.—TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a [illegible] residence. The property is peculiarly eligible for the erection of villas, [illegible] terraces of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate. [illegible] let for building purposes, and [illegible] partly [illegible]. The houses hitherto built have commanded an immediate tenancy.—For further particulars, and to inspect the plans, apply to Messrs. GREGORY and CO. No. 1, Bedford-row, W.C.

TO BE LET or SOLD, with immediate possession, the large and commodious MANUFACTURING PREMISES, situate at Hawley-crescent, Camden-town, and consisting of [illegible] 120 feet long and 41 feet wide, two engine houses and stacks, very extensive workshops and storerooms, and [illegible] airy offices, suitable for a large public company. These premises are situate [illegible] to the Regent's Canal, have an excellent wharf, 77 feet long, and are in the immediate vicinity of the goods station of the London and North Western Railway. The attention of carriage and coach builders, warehousemen, and of public companies is especially invited to these eligible works. For particulars apply to the present lessees, Messrs. BOYDELL and GLASIER, on the spot.

WANTED to PURCHASE, within Three [illegible] of the Post-office, westward preferred, a well-built DWELLING HOUSE, containing Eight or Ten Rooms, [illegible] Long Lease [illegible] Messrs. BELLRINGER and PILLEAM, [illegible]

WANTED, a LONG LEASEHOLD or FREEHOLD HOUSE within [illegible] of the General Post-office.—Address, with full particulars, A. B. [illegible], St. Augustine's-road, Camden-town.

TO BUILDERS. TWO PLOTS of FREEHOLD GROUND TO BE LET on BUILDING LEASE, [illegible] in the City, well adapted for small houses, [illegible] New-cross Station. Apply to Mr. BARKER, 18, Bishopsgate Without.

ISLINGTON, near the Cattle Market.— TO BE LET [illegible] BUILDING LEASES, and [illegible] terms, several desirable PLOTS of LAND, suitable for the erection of third [illegible] The roads and sewers are made, and bricks [illegible] For further particulars apply to Mr. WILLIAMS, 32, Thornhill-square, Islington, N.

MAITLAND-PARK, Haverstock-hill, near Hampstead.—[illegible] TO BE LET several eligible [illegible] of Building Leases for a term of ninety-[illegible] The sewers are laid down and the [illegible]—The continued demand for good houses in this healthy [illegible], and the picturesque position of the property renders this a [illegible] opportunity for builders or private gentlemen wishing to [illegible] themselves. For plans and terms apply to Mr. J. SOUL, [illegible] Ludgate-hill; Messrs. TERRELL and CHAMBERLAIN, Solicitors, [illegible] Basinghall street; Mr. JOHN ASHDOWN, Surveyor, 42, Charing-cross, or at the Lodge of the Orphan Working School, Haverstock-hill.

TO BE LET, in Oxford-mews, Edgware-road, BUSINESS PREMISES, consisting of two floors, very light and lofty, in thorough repair, suitable for pianoforte makers, [illegible] upholsterer. Also [illegible] Apply at 42, Upper Berkeley-street, Edgware-road.

REIGATE.—TO BE SOLD, a suitable SITE for a FIRST-CLASS RESIDENCE, commanding the [illegible] views [illegible] slope, well sheltered from the north and east. Apply to Mr. CHAMBERS, Auctioneer and Land [illegible], No. 7, Great Tower-street, City, E.C.

TO BUILDERS and MORTGAGEES.— WANTED to PURCHASE, FREEHOLD CARCASES. Application to be made to Mr. BROWN, Surveyor, No. 1, Scott's yard, Bush lane, Cannon-street, E.C.

TO BUILDERS.—BUILDING LAND TO BE LET in the City; also in other eligible situations. Advances made.—Apply to Mr. BROWN, Surveyor, No. 1, Scott's yard, Bush-lane, Cannon-street, E.C.

BRICKFIELD.—TO BE SOLD, or LET, with immediate possession, a FIELD of about SIX ACRES, containing brick earth of the finest quality, with an excellent dwelling-house, five substantial cottages, and a baker's shop and dwelling-house. The property is near Milton, next Sittingbourne, Kent, and close to a line of railway, and is well supplied with water.—For particulars apply to Mr. T. CLARK, 3, [illegible]-court, St. Paul's-churchyard.

LAND for BUILDING, in the CITY.— COLEMAN-STREET, near the BANK of ENGLAND.—TO BE LET, on a Building Lease, for a term of eighty four years, a highly eligible PLOT of LAND, containing an area of about 6,000 feet, situate in White Horse yard, on the west side of Coleman-street, the property of the parish of St. Stephen, Coleman-street. A plan of the site may be seen on application at the Offices of Mr. THOMAS JONES, Solicitor to the parish, No. 1, King's arms yard, Coleman-street; or at the Offices of Mr. JOHN GRIFFITH, Architect, No. 16, Finsbury place South, Finsbury. Tenders for the above are to be delivered at the Offices of Mr. JONES, on or before the 11th day of MARCH next.
N.B. The Parish do not bind themselves to accept either the lowest or any Tender.

LAND for BUILDING, near the CITY.— COW CROSS STREET, WEST SMITHFIELD.—TO BE LET, on a Building Lease for a term of eighty-four years, a valuable PLOT of LAND, situate in Cow-Cross-street, near Victoria-street, leading to Clerkenwell, the property of the Parish of St. Stephen, Coleman-street. A Plan of the Ground may be seen on application at the Offices of Mr. THOS. JONES, Solicitor to the Parish, No. 1, King's Arms-yard, Coleman-street; or at the Offices of Mr. JOHN GRIFFITH, Architect, No. 16, Finsbury place South, Finsbury. Tenders for the above to be delivered at the Offices of Mr. JONES, on or before the [illegible] day of MARCH next.
N.B. The Parish do not bind themselves to accept either the lowest or any Tender.

SEVERAL Convenient Suites of OFFICES TO LET, in complete repair, and moderate rental, situate 3 and 4, W[illegible]-street, Westminster, close to the Houses of Parliament.

TO BUILDERS.—TO BE LET, the WORKS required for BUILDING a LUNATIC ASYLUM, near Carlisle, for the Counties of Cumberland and Westmoreland. Plans and specifications may be seen at the Office of JOHN A. CORY, County Surveyor for Cumberland, in the Courts, Carlisle, from MONDAY, the 15th, to SATURDAY, the 20th instant, and from FRIDAY, the 26th FEBRUARY, to FRIDAY, the 12th MARCH inclusive. Copies of the bills of quantities, and an abstract of the contracts, will be furnished to applicants, by the County Surveyor, on the deposit of 2*l*. or a post office order for that amount, which will be returned on the receipt of a *bona fide* Tender forwarded to him, on or before FRIDAY, the 12th MARCH, 1858. Builders may Tender for [illegible] or more of the following works, including their respective materials, or for the whole in one contract, viz.:—
1. The Excavating, Masonry, Bricklaying, Slating, and Iron-work.
2. Carpenters' and Joiners' Work.
3. Plasterers', Plumbers', Painters', and Glaziers' Work.

Carlisle, February 10, 1858.

HAMPTON COURT.—In Matham-road, near the above station, several eligible BUILDING PLOTS TO BE LET. Advances to respectable parties. Apply to Mr. F. LETT, Architect, 36, Essex street, Strand.

MONEY to LEND. The TEMPERANCE PERMANENT LAND and BUILDING SOCIETY has MONEY to LEND on mortgage of either freehold or leasehold property, redeemable by easy monthly instalments, at an addition to a small premium, [illegible] per cent. interest upon the balance remaining each year.—Apply to HENRY J. PHILLIPS, Secretary, 34, Moorgate-street, London, E.C.

LOAN and INVESTMENT AGENCY ASSOCIATION. CHIEF OFFICE, 9, ADAM STREET, STRAND, W.C.—Loans of any amount, from 20*l*. on real and other securities. 14[illegible],000*l*. trust funds ready to be invested.
R. T. JOPLING, Actuary.

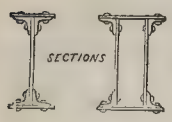
MONEY ADVANCED to BUILDERS and others.—LAND TO BE LET, very eligibly situated, directly opposite the Crystal Palace Railway Station, Anerley road, Anerley, [illegible] within three minutes' walk of the trains. Roads and sewers made; [illegible] 1[illegible] years, at low ground rents; a spacious hotel, with a number of [illegible] houses already erected on the land. Cheap trains run daily [illegible] to the City and West End, also to all parts on the London, Brighton, and South Coast Railway. Apply to Mr. WILLIAM HEY, Architect and Surveyor, 67, Newington causeway, S.E.; or to Messrs. BRIANT and JEFFERY, Auctioneers and Estate Agents, 21, Motcomb-street, Belgrave-square, S.W. and 12, Kennington-terrace, [illegible] park, S.

LOANS GRANTED WITHOUT SURETIES, from 5*l*. to 200*l*.; and with sureties or security up to [illegible] No deduction for interest or expenses [illegible] in application, or by post on receipt of [illegible] stamps. All communications strictly confidential.—TOWN and COUNTRY LOAN and DISCOUNT BANK, Orange-street, Leicester-square, London. Open from Ten to Six.
CHARLES ABRATHAT, Manager.

BANK of DEPOSIT (established A.D. 1844), 3, PALL-MALL EAST, London.—Parties desirous of investing [illegible] to examine the plan of the Bank of Deposit, by which a high rate of interest may be obtained with perfect security. The interest is payable in January and July.
PETER MORRISON, Managing Director.
Forms for [illegible] sent free on application.

TO RAILWAY CONTRACTORS, AND OTHERS.

THIRTY FIVE Narrow gauge Spring BALLAST TRUCKS in good working order, for SALE or HIRE.—Apply to TREDWELL and CO. Saw Mill and Railway Works, [illegible]



WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

POWIS, JAMES, AND CO. ENGINEERS AND MACHINISTS,
26, WATLING-STREET, LONDON, E.C.

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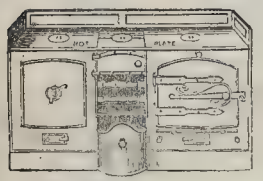

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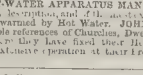
HEATING BY  HOT WATER.
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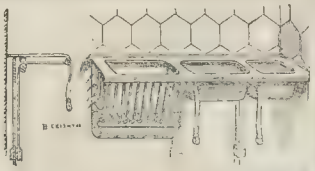

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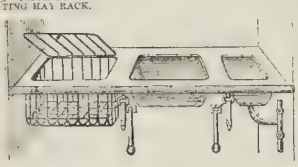

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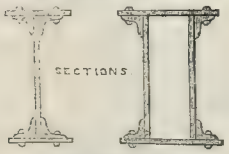

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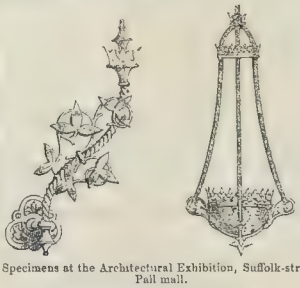

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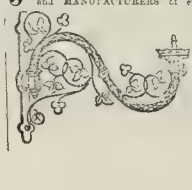

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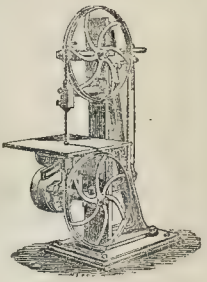

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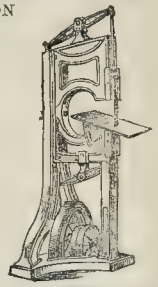

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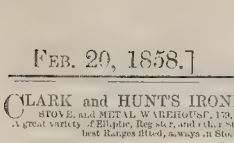

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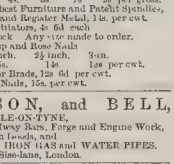

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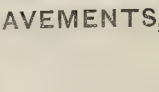

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The Builder.

VOL. XVI.—No. 785.

The Dwelling-house Question—Condition of London—St. Jude's.

OUR allies on the other side of the Channel, or at all events some of them, are arriving at the conclusion that their system of house-building, piling flat upon flat, and accumulating under the same roof large numbers of persons of widely different positions in society, is very inferior to the mode pursued in England, where each house is built to accommodate a single family, — though, in the majority of cases, we must add, for the information of our French friends, it is afterwards made to contain several. In a volume published in Paris last year by M. Felix Abate, architect, "*Sur la Nécessité d'une double Réforme de l'Architecture Domestique en France, spécialement appliqués à la Classe moyenne et ouvrière*," the author,—who desires, first, to change the arrangement of houses, and, secondly, to lessen the cost of lodging,—enumerates the various inconveniences attendant on the French system, -the loss through making one apartment the passage-way to another, the lack of conveniences, the want of light and ventilation, the absence of tranquillity and privacy. With these he contrasts our small houses, built each for a single family, or so arranged (as he maintains, oddly enough) that each room on a floor communicates with the staircase, so that the house may be divided into various little lodgings. Certainly, if a house is to be occupied by more than one family, the French and Scotch mode of construction is infinitely preferable to the English; giving, as it does, to each tenant his own door of entrance, and to each flat the various conveniences required by a family. Nevertheless, we are far from advocating the superiority of the French house-upon-house system: we simply desire that in smaller houses, the appropriation of which may be foreseen, proper arrangements should be made to secure the privacy,—the domestic sanctity—so much prized by English people, and so valuable in the maintenance of the national character. M. Abate, we need scarcely add, desires, then, to get rid of the practice of erecting immense piles containing dwellings one upon another, and to induce the substitution of houses built on the English system. Within the walls of Paris, where ground (land would be too large a term to be used) fetches anything that is asked for it,—has a value almost fabulous,—a change in the present system cannot be expected. When the fortifications are cleared away, municipal restrictions removed, and the extension of the city encouraged, M. Abate will have a better chance of being listened to as to his first reform.

His second object, that of cheapening the construction of dwellings, he seeks to effect by the employment of iron and wood in the erection of carcasses or skeletons of a certain class of buildings, used in such a way that the walls would play but a secondary part, and be reduced to a minimum thickness. The material to enclose the building would be formed in panels of a certain size, and be secured in a framework of iron or wood. For this enclosing material he proposes, amongst other things, brick masses formed of a brick with a hollow on the inner side, to be filled with sawdust, or pounded charcoal and plaster; the object being, by the interposition of a bad conductor of heat, to protect the interior from the alternations of heat and cold, to which, in consequence of the thinness of the walls, it would otherwise be exposed. Roofs of a novel construction, and iron ceilings, also form part of his project. Expensive foundations would not be required; and he further proposes, what (like other features of the plan) has been suggested in England before, that the various parts and fittings of houses should be reduced to a determined and constant form, producible by machinery and organization in large quantities, at the lowest possible cost. He would thus bring about a great saving in the cost of building, and so solve an important problem. "Never," says the writer, "was the necessity for a reform in domestic architecture so strongly felt. The dominant want of the immense population of Paris [and London] is to be freed from the miseries that result from the insufficiency, the bad condition, and the high and constantly augmenting cost of lodging. Every one knows the cause of this deplorable condition of things. Carelessness, abuses, and bad administration for years past, have led to crowding together an immense population in a confined space. So to speak, an entire town has been built on the roofs of an existing town, as if the earth failed the human race, and thus poor families and the working classes are condemned to the punishment of the 'Mansards.' An enlightened and reforming government is seeking to get rid of these evils. It opens to the light, it renders healthful, it embellishes the ancient city; and, with the invincible force of reliance and example, it urges private industry to take share in the work. It is necessary, then, we should follow this impulse. We must replace the houses that are being demolished, we must get rid of the lodgings in the roof, and give a substitute for them,—and, above all, we must provide largely for the rapid and progressive increase of the population, which is the natural effect of the increase of the public prosperity." They must enlarge the city on all sides, therefore, he goes on to say, and must see that the houses unite all the elements of well-being and comfort; and, especially, that cheapness be studied in the building, so that they may be *let at a low price*.

This problem of cheap, healthful, dwellings is, indeed, one of the immensest importance.

Mr. T. Dyke Acland said, at the Society of Arts, the other night, after Mr. Rawlinson's paper on "House Accommodation;"—they were told by the highest authority that if the poor man needed a cloak they should give it him; but he thought the practical question was the discovery of such means as would enable builders to construct such houses as should, at the current rate of wages for labour, enable the occupier to pay a remunerative rent to the builder for his outlay. On the same occasion Mr. Edwin Chadwick pointed out some of the structural improvements necessary. "There were," he said, "the wall question, the grate question, and the chimney question, and there might be a window and a roof question, in addition to the ventilation question. There were wanted a non-absorbent brick,—a brick that absorbed, at all events, less than a pint of water,—and a wall that was not a prolonged sponge, occasioning damp, and requiring an excessive quantity of fuel to keep it dry: there were still required a more economical fire-place, which should give out as much heat with one-half the quantity of fuel at present used, and a chimney as well as a grate which did not discharge five-sixths or six-sevenths of the caloric unapplied: there was wanted a window, for the lower class of houses, which did not, as windows made with the very thin glass now used did, discharge by radiation about one-third of the warmth of a room, the product of combustion, so that if a poor man paid a shilling a week for the warming of his apartment, fourpence worth of the product of combustion was wasted by the inferior windows."

Lord Shaftesbury, who was in the chair, bore witness to the difficulty there was in erecting new healthful dwellings for the working classes in towns, so as to obtain a remunerative return. "In the country," he continued, "there was a very great difference in this respect; the cost of land, which formed the principal item in large towns, being so much less, and labour and materials cheaper. Still he had found that he could not build a pair of cottages for less than 280*l*.; and a high rent must be paid in order to afford a fair interest for that outlay. What they required, therefore, was a cheaper but not less efficient mode of building cottages, with not less than three bed-rooms, which he held to be indispensable for every family. Ventilation was a matter of the utmost importance, but the poor were found to prefer warmth to pure air so strongly, that he had in some instances resorted to the stratagem of introducing a concealed ventilator in order to render their dwellings healthy."

We may mention here that the County of Kent Labourers' Friend Society, for Improving the Dwellings of the Labouring Classes, are erecting cottages, which cost, including fittings, only 170*l*. the pair, and give accommodation to families at 1s. 9d. per week each, or 5 per cent. on the outlay. The society have recently published the plan, &c. of their cottages, now before us.* Each dwelling consists of three bed-rooms, a general living-room, and two stores. The two cottages form one gable, front and back; the party-wall runs up to the ridge, not through it; and the roofs slope away on each side of the wall.

The general living-room is 11 feet 4 inches by 9 feet 4 inches in size; the parents' bed-room the same; and the daughters' bed-room, 11 feet 4 inches by 7 feet 10 inches. It must be objected that the rooms are too low (7 feet 8 inches and 7 feet 6 inches), and that the outer door opens at once into the living room without an inclosure.

Can we need a stronger instance of the want of knowledge existing, when it is necessary to cheat people, as Lord Shaftesbury showed, to induce them to lengthen their own lives? Nor is ignorance in such matters confined to the class in question: it is, unfortunately, very general. Not simply is it true, that half the world does not know how the other half lives, but half London has not the slightest idea what the other half is like, or even where it is! Endeavours have long been made in these pages to supply this knowledge to some extent; and, following the same track, we will once more take our readers into the parish of St. Pancras, and glance at

The District of St. Jude.

This is a district of curious interest close to the Great Northern Railway Station, and deserves notice; yet amongst the thousands of people who pass along what was formerly the New-road, but is now called the Pentonville-road, Gray's-inn road, and Bagnigge-wells road, few are acquainted with the large heap of dwellings of the industrious poor on the site which is surrounded

* These may be obtained from Mr. C. J. Cooke (hon. sec.), Maidstone; or of Mr. H. Martin (agent), 18, Adam-street, Adelphi.

by these roads, and is bounded on the south by Britannia-street. On looking at the map of London, the space to which we are about to direct attention seems but a speck, and yet there are within its bounds several thousand inhabitants.

Walking round the outskirts of the district, one cannot fail to be first struck by the number and size of the public-houses, which have the effect of making the ordinary dwellings look more dwarfed than they would otherwise seem. At the corner of Britannia-street there is an imposing edifice, surmounted by a gilt lion, hirsute, and of great size. It would be worth while for those who take an interest in sculpture of this description, to get a tolerably near view of this specimen. It is much in the style of that remarkable monument of George IV. which once stood not far off; and it seems singular that the ingenious artist who designed the lion did not advise that the gaslight should be turned in, so that, at night, the head of the figure might shed forth a light similar to that which once attracted travellers with a better purpose in ancient times to the doors of sanctuaries. This, however, is but one of the numerous places of entertainment which are situated at short distances around this cluster of houses. Another of these, the "Pindar of Wakefield," was formerly a suburban inn where waggon-horses and drivers obtained refreshment on their way to London. The back part of the premises still contains some characteristic features, although the front of the "Pindar of Wakefield" has been masked. Another house bears on the front the effigy of Lord Brougham, in proper lawyer-like costume. Some years since, when this great public benefactor was under a passing cloud, "mine host" of this place turned the painting of his lordship upside down. Now, however, the head and wig are in the proper position.

The houses in St. Jude's are chiefly occupied by the industrious poor. In no part of London, of similar extent, will there be found so many widows, with families of children, struggling hard to earn a living by washing, ironing, and similar occupations. There is also a number of the better class of workmen with families, who are glad to avail themselves of low rent: there are several costermongers, and but few who are absolutely idle.

Many would feel surprised at the immense number of children who throng the streets and back-courts of this neighbourhood, and it is fortunate that a ragged school is conveniently placed in Britannia-street. The Reformatory in the same street is in useful operation. The chief employment of the boys there is wood-chopping. They are trusted in all parts of the house, and there seems to be no locking up of cupboards. Not long ago, the common room was gay with holly, interspersed with suitable texts. Since the opening of this place, about 120 youths have been received, and thus removed from most dangerous and desolate positions: and a large proportion of these boys have obtained good situations; others have taken to the sea. One youth, who some time since entered the navy, was in important engagements during the late war. He writes to Mr. Ward, the superintendent of the Reformatory, "I got a Crimean medal, and a clasp for the Black Sea, and a medal for Bomarsund, in the Baltic, and a clasp: so I have two medals and two clasps. I expect to have a star for the Sea of Azoff and a clasp for Kertch. I expect to be home next July, and shall have about 60*l.* coming to me." We might mention other instances of the use of this and similar homes, which can be duly estimated by those who have wandered in the courts and alleys of the metropolis, and have seen how difficult it is for those who have been once in the slough to emerge.

The district round Britannia-court is too poor to furnish much pecuniary help, and we regret to hear that the income derived from subscriptions and donations is so small that the committee sometimes fear they shall be compelled to suspend, or at any rate to curtail their efforts. It is to be hoped, however, that the inhabitants of the neighbouring streets and squares will afford their aid.

Besides the ragged school and reformatory, the large training establishment for children and teachers of the Home and Colonial Schools is a great advantage; and there is also the district church, in which are 500 free sittings. Although this is quite modern, the pulpit, which is carved, was brought from the church of St. Bartholomew's, by the Bank, removed a few years since. The interior of this church is both spacious and convenient, and it should be mentioned that a young decorative artist has, without cost, undertaken to relieve the monotonous colour of the walls with gilded scrolls and written passages of Scripture.

Modern British Huts.

A few years ago, when we glanced at St. Jude's district, the portion noticed was in a sad condition; since then it has been drained, and the sinks trapped.

It is satisfactory to find that, although this property belongs to various landlords, as we hear, the whole of the houses were at once drained into the new sewer, and great praise is due to the Rev. W. Norman for the exertions he used to see that those dwellings in the district which were then under his care were properly attended to in this particular. We are told he attentively watched the progress of the works, and either persuaded or obliged all to do their duty; and it must be satisfactory to that gentleman to feel that, by this good work, he has been the means of preserving health and saving life.

On entering the boundary the visitor will find within the line of high houses which surround it numerous streets of houses of small size and two stories high; the doors of some are not more than five feet high, and the rooms of size corresponding: they are built on the ground in the same manner as those in Agar Town, and, even with good drainage, are very damp. This evil is in a great measure increased by the shocking condition of the pavement, which can only be understood by examination. The streets have at some former date been roughly paved; but, although this district is within St. Pancras' parish, they are never swept, and at times the refuse accumulates in parts to the depth of two or three feet; large pools of stagnant water are collected here and there, and deep ruts and other irregularities are almost as bad as they were at Agar Town, which has been before described in the *Builder*.

"Fifteen-foot-lane"—as one of the streets here is called, and which runs along at the back of St. Chad's Well (a place formerly of fashionable resort)—looks most neglected, and when the weather is wet the people say it is scarcely possible to move along it. There are no gutters, nor any means of getting rid of the surface-water and the moisture; in consequence the damp sinks into the foundation of the dwellings. This may be seen by the dark colour of the bricks from the ground to about 4 or 5 feet upwards. It is a pity that in this instance, where the landlords have done their duty, the inhabitants of this place should be neglected by those who have charge of the pavements of the parish.

In Britannia-street the houses are tall, and chiefly let in tenements. The underground kitchens are in some instances occupied by families: the areas of some are not more than 2 feet 6 in. from the walls, and quite insufficient for either light or ventilation. At the top of this street there are two or three houses which contrast curiously with the newly-built part of the Home and Colonial Schools. In these the pantile roof commences at a height of 5 feet from the ground, so that the heads of most passengers reach higher than the walls. The rents are moderate, some small houses 4*s.* a week, back rooms (very small) 1*s.* 6*d.* a week, and others from 2*s.* 6*d.* to 3*s.* The water supply is good, and is turned on every day (Sunday included), but some houses are without dust-bins, and the people complain that the carts do not come round regularly. The gas-lighting is very deficient; a short time ago it was worse, the whole neighbourhood being left in total darkness.

Inquiries can scarcely be made in such neighbourhoods as this without learning the great amount of good which is effected by the London Missionaries and Scripture Readers, who, besides attending to those matters which are peculiar to their calling, are most useful in other ways; they gather up the children for the schools and reformatories, aid the sick, and, by their friendly advice, save many from difficulties.

AN ACCOUNT OF THE NEW PALACE AT WESTMINSTER, AND THE PROGRESS OF BUILDING IT.*

I have undertaken to give some account of the new Palace at Westminster, or, as it is more commonly called, the new Houses of Parliament, and the progress of building the same, but I very much wish that this could have been done by the only person competent to do it. Seeing, however, that this unfortunately cannot be, I must appeal to you for that indulgence which is seldom refused to those who endeavour to do their best. The disadvantages of discussing in this room the works of living architects are obvious, and by no means inconsiderable, but there are also special reasons why to do so occasionally may be desirable. The objections alluded to chiefly apply when any detailed criticism is attempted, or any one-sided endeavour made to forestall the calm judgment of posterity. On the other hand, many details, both of progress and design, can be best treated of when they are fresh in the mind, and not effaced by the lapse of time passed in the practice of an absorbing profession. My province to-night is a very humble one. Criticism, in the present case, would only be an impertinence, and I propose simply to describe a few of the steps taken in the erection of the largest public building of our day, to indicate a few of the difficulties with which the architect has had to contend, and to give some general description of the structure which has been his constant anxiety for nearly twenty years. An architect is under great disadvantages in carrying out his views, when compared with his fellow artist the painter or sculptor. These for the most part design and elaborate their conceptions in the retirement of the studio: they acknowledge no master, are only subject to the restraints their vehicle imposes on them, and seldom submit their works to criticism until they have made them perfect to the best of their ability. An architect, on the contrary, works under a universal censorship: he is controlled and hampered when he is often considered most free, and his works are invariably judged by the experience of parts which are often the least important portions of his design. I say nothing here of cases where his conceptions are never realised, for my hearers must know too many cases of disconsolate churches linked to headless towers, to need to be reminded upon this point. Architects again are peculiarly

* Read by Mr. Edward M. Barry, Associate, at the ordinary general meeting of the Royal Institute of British Architects, February 1st.

exposed to that species of cheap criticism which consists in calling names, and of which we have now too many examples; while, above all, their errors, once made, are perpetuated without power of recall. They are also incessantly liable to attacks which they have no opportunity of resisting; and public bodies too often appear to find the process of condemning an absent and unheard architect, a pastime as pleasant as it is unquestionably safe. I do not say this with a view of in any way depreciating fair and genuine criticism in architectural works: on the contrary, I think there is far too little of it, and am quite sure that an architect may always benefit by its free expression. As regards the present instance, I am firmly convinced that the new Palace at Westminster, as it stands, with all its excellencies and defects, will hold its own against most assailants; but I do think that if an architect's position were fairly considered, we should have something more of calm inquiry, and something less of that trenchant declamation into which so-called architectural criticism seems so apt to glide. A building like the new Palace at Westminster, which is not only the seat of the two legislative chambers, but is also the greatest public office in the country, must in the nature of things attract considerable attention, and it has therefore been thought that some description of it might not be uninteresting to the members of the Institute. Before, however, I proceed to describe the building as it now exists, it may perhaps be desirable to dwell for an instant on the preliminaries of its erection. Many of those present will be able to remember, though I cannot, the burning of the old houses of Parliament on the night of Thursday, the 16th of October, 1834. An order had been given by Mr. Milne, a commissioner of the Office of Works, to destroy certain tallies in the Tally-office of the Exchequer; and through some misapprehension of orders these tallies were burnt in the stoves of the House of Lords, the flues of which would appear to have been defective, and to have thus caused the fire to spread to the whole edifice, which very soon became a prey to the destructive element, so that at one time even Westminster Hall was threatened.

Immediately after the fire an official inquiry was prosecuted before the Privy Council as to the causes of the disaster, about which hung considerable mystery, in consequence of some suspicions that it had been the work of an incendiary; but, after a patient investigation, their Lordships reported that the fire was purely accidental, and had been caused by the burning of the tallies above mentioned. Of course the re-construction of the building immediately engaged the attention of the Government; and, after Committees of both Houses had reported on the accommodation required, an open competition was advertised in July, 1835. The conditions of competition were in many respects similar to those recently issued for the Government Offices, with one remarkable exception, namely, that they prescribed the style of architecture to be employed, which was to be "Gothic, or Elizabethan." The conditions also provided that the King should be requested to appoint Royal Commissioners to report on the plans of the competitors, who were to send in their designs by the 1st of November of the same year. In compliance with this invitation ninety-seven designs, containing from one thousand to twelve hundred drawings, were received; and, while these were in course of preparation, a royal commission was issued to the following gentlemen, all of whom, it may be remarked, were amateurs, appointing them judges of the competition. The judges—Mr. Hanbury Tracy, Sir Edward Cust, Mr. Liddell, and Mr. Vivian, reported, on the 29th of February, 1836, in favour of designs 64, 14, 13, and 42, giving a decided preference to No. 64, which proved to be the work of Mr. Barry. After various inquiries bearing upon the nature and cost of the selected design, my father was instructed to prepare working drawings and estimates, which he undertook to do; while, as regards his remuneration, he consented (with a confidence not altogether justified by subsequent events) to leave it entirely in the hands of the Government. Accordingly, on the 7th of April, 1837, the Office of Woods reported on the architect's estimate, which had been placed by him in the hands of Mr. Henry Arthur Hunt, who then possessed his entire confidence, and advised him in all matters connected with the cost of the projected work. Messrs. Seward and Chawner, on the part of the Office of Works, having carefully examined the architect's estimate, reported their opinion that the design could be carried out for the sum of 707,104*l.*, which sum, however, they stated would not cover many extraneous works connected with the building. This estimate has been so often alluded to, and, as I think, so unfairly contrasted with the real cost of the New Palace, that I shall endeavour, before I conclude, to give some explanations concerning it, calculated to place matters in their true light before you. After this report from Messrs. Seward and Chawner, the works were ordered to be proceeded with, and the first vote of public money on account of the New Palace at Westminster was taken 3rd July, 1837. The first portion of the works was necessarily the construction of the river wall; and this was proceeded with under the joint superintendence of the architect and Mr. James Walker, the well-known civil engineer, who divided equally between them the customary remuneration of five per cent. for their services. A coffer-dam was constructed in the river, and the foundations of the wall laid upon concrete varying from 1 foot to 12 feet in thickness. In constructing the foundations great difficulties were encountered, as the soil proved in many cases little better than quicksand, rendering it necessary, in consequence, to incur much extra expense. The coffer-dam answered its purpose completely, and the foundations generally have proved quite successful. When the time came for the removal of the coffer-dam, my father resolved, in consequence of his experience of the treacherous nature of the site, not to draw the piles as had been originally intended, but to cut them off level with the dredged bed of the river: this was accordingly done, and the lower part of the dam remains in the ground and acts as a fender or advanced guard to the building against the scour of the river. The face of the terrace wall towards the river was faced with granite in large stones, and the walls being, as far as possible, brought up to the level of the terrace, the first stone was laid without any ceremony by my mother, on the 27th of April, 1840. While the foundations were proceeding, an inquiry was ordered to be made to ascertain the best and most durable stone to employ upon the superstructure. The Commissioners were Sir Henry (then Mr.) de la Beche, Mr. William Smith, Mr. C. H. Smith, and the architect, who, after a careful inquiry into the matters committed to them, presented a report on the 16th of March, 1839, which is, I doubt not, well known to most present. The result of this report was the selection of the magnesian limestone from Bolsover-moor and its neighbourhood, as the best for the purpose; and though the stone has not perfectly withstood the injurious effects of a London atmosphere, it is doubtful whether any other selection would have proved more fortunate. From April, 1840, the works proceeded with great despatch under the energetic management of Messrs. Grissell and Peto, who had obtained the contract after a limited competition among the first London firms; and it is only fair to these gentlemen to say that, from the commencement to the close of their connection with the building, their work and their arrangements for conducting the same were such as deserve the highest praise. In January, 1840, Dr. Reid was appointed to take charge of the warming and ventilating arrangements of the edifice, with authority derived direct from the Board of Works; thus conferring on him a position altogether independent of the architect. Dr. Reid's scientific attainments are well known, and he certainly succeeded in warming and ventilating the temporary lath-and-plaster House of Commons; but while wishing to speak of him with all possible respect, I cannot help thinking that to give any man a control, independent of the architect, over so large and complicated a building, was an administrative blunder of the highest order. Dr. Reid never professed to have any knowledge of construction, or of the practical means of carrying out his plans; and this, as may be supposed, complicated matters considerably. Whether it was in any way wise to attempt to adapt one unvarying system to a huge building like that before us, with its various apartments devoted to so many different uses, occupied some by day and some by night, some in a crowded state, while others are empty, and comprising public halls, offices, debating chambers, and private residences, I will not now stop to inquire: suffice it to say that Dr. Reid's plans soon lost the confidence of my father, who considered them detrimental to the stability, safety, and effect of the building, and that they consequently became the subjects of repeated controversies until the cessation of Dr. Reid's connection with the New Palace. Large flues and air chambers were constructed at a great expense, most of which are now comparatively useless, and delays and differences were but the necessary consequences of the error at starting. In the session of 1844, a committee of the House of Lords which was appointed to inquire into the progress made with the works, in consequence of a natural desire on the part of their Lordships to enter their new House, and a still more natural inclination to blame an architect for anything inconvenient, commenced its labours, and reported that several alterations had been introduced into the design by the architect without any authority from the Government—an accusation he explicitly denied by stating that he had received authority express or implied for all he had done. The alterations alluded to were a re-arrangement of a portion of the plan between the Victoria Tower and the House of Lords. The modifications were these.

By the original plans the royal carriage was to pass through the Victoria Tower, and set down his Majesty at an inner hall, from which a large flight of steps would have conducted him to his robing-room adjacent to the House of Lords, with which it communicated. This was, on careful consideration, thought undesirable, for the following reasons: 1. The great size of the tower would almost necessarily degrade the appearance of the inner hall, and its important character seemed to claim for itself to be the entrance of the Sovereign. 2. The staircase, though possibly handsome in itself, would have occupied too much space, considering its only occasional use, and with the inner hall would have cut up the principal floor, and rendered communication difficult: the robing-room was also somewhat contracted in dimensions, and there was nothing like the present Royal Gallery to serve as a waiting-room for the peers, for the admission of strangers to view the ceremony of opening and proroguing Parliament, and other public purposes. Great objections were made by some members of the Lords' Committee to these modifications, and many inconveniences foretold, both to her Majesty and their Lordships; but I am not aware that practice has justified these predictions, or reversed the opinion of the Committee of the House of Commons, which sat soon afterwards, and resolved that "no blame was to be attached to Mr. Barry for the course he had taken, and that they had every reason to believe that all the alterations hitherto made had conduced to the convenience and general effect of the building." It was at this time that many complaints began to be made in Parliament about the so-called delay in completing the building, and the anxieties consequent on the various committees and other inquiries, in addition to the unavoidable responsibilities of the architect, caused him a serious illness, and thus made a reality of that delay, which up to this time had been imaginary, as far as he was concerned. Indeed, had it not been for the hearty and generous support of Lord Lincoln (now Duke of Newcastle), who was then First Commissioner of Woods, I do not think the works could have been carried to a completion by my father. His Lordship took special pains to make himself personally acquainted with the nature and bearing of the various complaints, and having satisfied himself that they were not based on justice, threw the whole of his official weight into the scale, and gave the architect no half-hearted or stinted support in carrying out his views, until the close of his official connection with him. Having now traced the history of the building up to 1844, at which date the plan had finally assumed the shape which has been since executed, I propose to give some description of the edifice as now existing.

It will be remembered that the competitors were directed to design either in the Gothic or Elizabethan style: the former was considered desirable by my father, as being "homogeneous, well defined, and more or less in harmony with the existing ancient buildings on the site and in the neighbourhood;" while the latter would, he thought, be unworthy of the character of a great national edifice, and inharmonious with the existing buildings. Westminster Hall is made a part of the plan, to form a great public entrance to the entire building, so that it may now be viewed as a part of a great whole, instead of being as hitherto an apparently isolated room, used as a waiting-hall by counsel and other persons in attendance on the Courts of Law. The window at the south end of the hall was enlarged, and is now refixed in St. Stephen's Porch, which forms the chief public vestibule of the New Palace. The beautiful crypt of St. Stephen's Chapel and the cloisters adjoining Westminster Hall have been saved from destruction, and form part of the members' private entrance to the House of Commons. In restoring these, the fan groinings were found to be generally in a sound state, but all the rest of the work was in a deplorable condition. The cloisters have been carefully reinstated, and the windows glazed. Two great buttresses which formerly disfigured the quadrangle have been

removed, and the roof of Westminster Hall has been repaired and strengthened with iron shoes and tie-bolts. Members going to the House have a choice of two entrances, one through Westminster Hall, and the other through the Star Chamber Court. This arrangement was considered desirable on various grounds; and circumstances of public excitement may easily be imagined under which a double entrance might be found extremely convenient. The arcaded passage at the west side of the Star Chamber Court serves the purpose of a porch, and members then proceed to their private staircase, passing by the cloisters on their way, where they deposit their coats and umbrellas. They then proceed up a groined stone staircase to the upper floor, upon which the House of Commons is situated. A portion of the upper part of the cloisters is occupied by the British Paper Office, and another by a writing-room for members. St. Stephen's crypt is not yet out of the workmen's hands, but is in course of restoration. The groining here is in a very bad state, having been much injured by the fire. The carved capitals and bosses were also very dilapidated, and great difficulty has been experienced in collecting authority for their restoration; but, by having squeezes taken of the parts in good repair, which will guide the workmen in their restoration, I believe that object has been now obtained. The crypt was used by the Speaker as his dining-room before the conflagration, but is intended when restored to serve as the private chapel of the New Palace. It was considered very desirable that the various entrances and departments should be as distinct from one another as convenience of occasional access might dictate, and the Central Hall may be considered the key to the plan. A stranger passes to it through Westminster Hall and St. Stephen's Hall, and finds himself in an octagonal chamber with four archways leading from it, the other four sides being occupied by messengers, and the electric telegraph offices. On his right is the House of Lords, with its offices, libraries, and refreshment-rooms surrounding it as a nut-shell does its kernel: on the left, is the House of Commons, with similar appendages; while, straight before him, lie the committee-rooms and offices connected with the public business of Parliament. St. Stephen's Hall is over the crypt, and occupies the position of the former chapel. It is groined in stone, and the bosses at the intersections of the groin ribs are sculptured representations of the life of St. Stephen, by Mr. Thomas.

The Houses of Lords and Commons were placed in the midst of surrounding buildings, from considerations of convenience of access to and from their offices, &c., freedom from noise or interruption, and general safety. The committee-rooms, which are used by day, were placed in the river front, as being the most cheerful and appropriate place for them. The official residences of the Speaker and other officials of the House of Commons, are at the north end of the building; while the south wing accommodates the Lord Great Chamberlain, the Black Rod, and other officers of the House of Lords. The royal entrance is by the Victoria Tower, from which a flight of steps leads to the royal robing room, an apartment 55 feet by 37 feet, now in course of being painted in fresco by Mr. Dyce. Her Majesty occasionally grants audiences in this chamber, and, having robed, then proceeds along the Royal Gallery (where strangers are admitted to witness the procession) into the House of Peers. The royal carriage passes in the meantime under the robing-room into the Royal Court, where it turns round and returns to the tower in readiness to receive her Majesty at the close of the ceremony. The House of Peers is 90 feet by 45 feet, and 45 feet high: my hearers must be so familiar with its general aspect, from prints or personal inspection, that I will merely state that it is fitted up with elaborate oak framing, glazed with stained glass representing the various kings and queens of England, and highly decorated with gold and colours. Portions of the end walls have been painted in fresco by artists selected by the Fine Arts Commission, and niches between the windows display statues in bronze, by some of our first sculptors, of the Barons who signed Magna Charta. The House of Commons is a much plainer apartment, though not differing greatly in actual dimensions from the House of Peers. After a few days' trial, and before the members had had time to get accustomed to the new chamber; judging, moreover, from morning sittings, when it is rare that any debate commands the attention of the House; it was determined to lower the ceiling for the sake of improving the acoustic qualities of the room. This was accordingly done, and has certainly not been an improvement as to architectural appearance, though it is said to have answered the purpose proposed. The ceiling is of oak, divided into a flat centre and two sloping sides: the panels in the centre compartment are perforated, and the House is lighted at night by lights placed over them, under the control of Mr. Goldsworthy Gurney, who has succeeded Dr. Reid in his office of warmer and ventilator. This mode of lighting is, I believe, considered pleasant by members, and has the advantage of being external to the room, and contributing to its ventilation; but the glare of unseen light, and the deep shadows thrown in all directions, render the deep shadows thrown in all directions, render it very destructive of architectural effect. The refreshment-rooms are supplied with lifts and other modern appliances, and are placed over their kitchen and offices. The libraries are in the river front; and in the ground floor a smoking-room is fitted up with every convenience for those hon. members who wish to relieve their senatorial labours by a cigar. This addition, it may be remarked, is a modern innovation, and was not thought a necessary adjunct when the plans of the building were first arranged. With so many offices and apartments where members may place themselves, it may be imagined that it is a matter of some importance to give them early notice when their presence is required at divisions: this is effected by electricity. Bells are placed in upwards of thirty places, and are connected with a galvanic battery, so that the principal door-keeper is enabled to make contact and ring all the bells at once, by pressing his hand on a button attached to the arm of his chair. Any stranger who happens to be in the corridors when the bells are ringing, will soon be conversant with the fact of a division being imminent, by the rush of members in all directions towards the House, which places him in extreme danger of practically testing the hardness of the floor.

Having now given a description of the general arrangement of the plan, I propose briefly to touch upon the external features of the design. Few buildings have been more unfortunately placed than the New Palace at Westminster. A site full of quicksands and below low-water is seldom an agreeable incident in an architect's practice. Moreover, a large majority of the public first see the Palace from Westminster-bridge, which is decidedly the least favourable point from which it is to be seen. When the new bridge is completed at the lower level, and with the greater width now determined on, a great improvement to the appearance of the New Palace from this quarter may be expected, though it is to be regretted that the new bridge, following the line of the old one, will not be at right angles with the building. But if the present view from the bridge be unsatisfactory, that towards the Abbey is far more so. Here we have the incongruous and unmeaning façade of the law courts, the mean houses of the south side of Bridge-street, and the unfinished face of the Clock Tower. It is to be wished that these disadvantages could be removed; and, though there will be many opinions as to the best way of treating New Palace Yard, there will, I imagine, be few against endeavouring to give to the Palace on this side a more perfect and consistent appearance. My father has always advised the enclosure of the New Palace Yard, and recommended the removal of the law courts from Westminster; not only for reasons connected with the convenience of public business, but also from the difficulty of providing the accommodation required on the very limited site at Westminster.

In designing the New Palace, it was resolved to avoid as far as possible any breaks upon the plan not absolutely dictated by convenience or the nature of the site, such breaks being considered to tend towards reducing the apparent size of the building when seen in perspective. The river front was accordingly carried out without any very considerable breaks in the plan, and reliance was placed on breaking up the sky-line to avoid monotony, thus the centre portion is raised a story above the rest, and towers with high roofs play a conspicuous part in the composition, while the main towers of the building rise behind and form a background to the numerous pinnacles and turrets, as seen from the river. The carving between the stories of the river front was intended as a record in stone of English history. There are thirty-five bays, exclusive of the two oriel bays: each of these thirty-five bays contains the arms of an English sovereign, beginning with William I. and ending with William IV. The oriel bays bear the present Royal Arms of England, with the motto, "Victoria Regina feliciter regnans." All the stone carving here, as well as throughout the entire structure, has been executed by Mr. Thomas, to whom this department was specially entrusted by my father immediately after his appointment. Mr. Thomas has carried out my father's views entirely to his satisfaction, and in such a way as to make it impertinent in me to say one word of praise. Mr. Thomas's name and works are now familiar to every architect, and those who have the privilege of his private acquaintance will testify to the ability, skill, and indomitable industry, which have won for him the position he now occupies. The wood carving in the interior was not entrusted to Mr. Thomas, but was placed by my father under the superintendence of a gentleman whose name ought never to be forgotten as long as admirers of Gothic architecture exist in England: need I say that I allude to the late lamented Welby Pugin. Convinced that in all matters of Gothic details Mr. Pugin was *facile princeps*, my father sought his aid, first, in forming a collection of plaster casts of famous examples both at home and abroad, and then in superintending the practical execution of this work, by occupying a position precisely analogous to that filled by Mr. Thomas with respect to the stone carving. Mr Pugin, with the spirit which always actuated him, readily assented to this proposal, and continued till nearly the time of his death to aid my father in carrying out his designs: in this manner his services were invaluable, and a number of carvers were trained under his auspices, more or less imbued with the spirit which animated himself. Mr. Pugin's department comprised the wood carving, the ornamental metal work, stained glass and tiles, at all of which he worked most indefatigably to carry out my father's views, which were naturally in many cases not altogether in unison with his own, but to which he at all times deferred. When I think of the good-humoured discussions, and the frank and hearty criticism in which he used to take part, it gives a fresh pang to the thought that that voice will be heard no more, and that a luminary so bright should have suffered so mournful an eclipse. I have often heard Pugin called a bigot and enthusiast, and possibly some of his earlier writings may give a colour to the imputation: I suppose, however, that no reformer of time-honoured abuses who is thoroughly in earnest can avoid such accusations; and those who knew Pugin most intimately will hesitate to endorse such a charge, and will know that he was (especially in his latter days) far more candid than many who now echo his views, without acknowledging the source whence they are derived. It ought never to be forgotten that Pugin upheld sound principles of design and construction at a time when his opinions were far from fashionable, and thus he consequently stood almost alone; and I think we of the present generation of architects, who have benefited so largely by his labours, ought jealously to guard his fame, and not to allow any one, however popular, to retail his opinions without giving due honour to their author. I must apologise, however, for this digression, and proceed with my task of description.*

MR. SYDNEY SMIRKE'S FIRST LECTURE AT THE ROYAL ACADEMY.†

THE most prominent and important principle of design is form. It is form that is mainly instrumental in giving expression to works of architecture. Colour-ornament, the elaboration of the smaller features of a building, such as doors, windows, and the like,—all these are no doubt useful contributories to the great object of giving character and expression to a building; but they are not alone and of themselves sufficient. It is the dome, the spire, the portico, the arcade; these, and such as these, are the forms on which a building mainly depends for its character. When these main features are right and true in their proportion and collocation, the design is sure to be successful in securing our respect at least, and fixing our attention; but if these fail—if these great and leading features be disproportioned or out of keeping with the plan and purpose of the building, or otherwise mismanaged;—then all the enrichments of art are exhausted on it in vain; and the most laborious and ingenious details are but labour lost. In this respect, as in many others, architecture and sculpture are kindred arts. The most beautiful details, the most exquisite finish, would fail to invest a statue with the character of high art if it be wanting in fine form; whilst the rudest sketch—the simplest outline—from the hand of a Michelangelo or a Flaxman, is stamped with immortality.

* To be continued.

† See page 101, *ante*.

I would by no means inculcate negligence of detail; nor would I have you in the least degree regardless of the charms of ornamentation. Sir J. Reynolds says, with his wonted truth, "As life would be imperfect without its highest ornaments—the arts—so these arts themselves would be imperfect without their ornaments." But what I would seriously urge on you is the paramount importance of the leading features of a design. Ornamental details may excite our admiration by their individual beauty, or by their happy adaptation to their place, or by their rich abundance, or by the judicious parsimony with which they are introduced, and they may act with the utmost utility in giving scale to our work.

On this latter ground, indeed, rests the main justification of that crowding together of minute details which characterises the later schools of Mediæval architecture.

Ornament, like a highly-tempered weapon, needs much caution in the handling. Not only must it be of a kind suited to the character and purpose of the building, but in quantity also it must be carefully apportioned.

These considerations should induce you to attach much importance and value to the proper study of ornamental details, but not to forget that they take a secondary place in your professional estimation.

The experience of every one must be able to afford illustration of this truth, viz. that the greatest and most impressive effects of architecture are irrespective of mere ornamental details.

After having imperfectly seen a building for the first time, at night, or in the shades of evening, and having been deeply impressed with a sense of its grandeur, how often are we surprised (perhaps indeed disappointed) on the morrow by finding it of insignificant dimensions, or of mean construction! It was its fine outlines, its broad chiaroscuro, its deep shadows, which had produced this profound impression. Nay, I have even found in the morning that I have been looking over night with some interest, if not with admiration, at what has turned out to be but a temporary structure of poles and tarpaulins. Such is the magic of form and effective chiaroscuro in our art. I can have but little doubt that the striking effect of a Gothic cathedral is mainly due, not to its intricate enrichments, not to that exquisite variety and elaboration of its details, upon which undiscriminating admirers of Middle-age art are too apt to lavish their exclusive praise (and on which students are too apt to bestow their exclusive attention), but to the breadth of its main features, to the variety of its masses, and to the grand and surprising effects produced by its lights and shadows.

I am the more led to dwell on this, because ornament exercises an extremely seductive power over the minds of younger students. Florid beauty in architecture may be well compared to an over-ornate style in oratory. We are dazzled by the splendour of phrases—by the flow of brilliant words: the flowers are strewed before us in such charming abundance that we are led away by our admiration of them, and forget to exercise a calm and rational judgment on the main merits of the production, as a work either of logic or of rhetoric; and we are in no mind to inquire into the fitness or propriety of the decorative adjuncts. Thus it is that the younger practitioner is easily reduced, by an erroneous estimate of the value of this secondary object, or by a latent desire to display his dexterity in superficial embellishment, to impair the breadth and solidity of his essential design. I, therefore, repeat that the vital principle of architectural design is form.

I think that there are three principal and very distinct, sources of beauty in architectural composition.

1st. There is a beauty in the aptitude of a form; that sense of satisfaction which the mind experiences when perceiving the nice adaptation of any object to its purpose.

2ndly. There is the beauty of symmetry; that pleasing impression produced, I know not why, by regularity of arrangement, and by exact correspondence of the several parts. Perhaps this sense of the beauty of symmetry may be founded on the almost universal prevalence of symmetrical arrangement in the works of nature herself in animate as well as in inanimate creation.

3rdly. There is the beauty of the picturesque; a pleasing impression (differing very widely from the last, and sometimes almost opposed to it, and equally difficult to account for), which is made on the mind by irregular, but not confused or discordant, combinations of form.

It will be neither in accordance with my inclination, nor (fortunately for me), any part of my duty here, to attempt to discuss these matters metaphysically; but I will invite your attention while I enter into a practical consideration of these three sources of beauty as applied to our art. I do not pretend that under these three heads all kinds of formative beauty can be classed, but they will be quite sufficient to engage our attention on the present occasion.

It is not only good taste, but common sense, that teaches us that a form should be fitted to its purpose; and, as I have said, the fulfilment of this first great condition is in itself an element of beauty.

But I am afraid that the mere dry, unimpassioned beauty resulting from the quality of fitness, however it may satisfy the engineer, will hardly suffice to meet the aspirations of the architect.

As sensible men we cannot admit the beauty of any object that is irrational, or idle, or unfit for its purpose; yet as artists, or intelligent observers of art, we desire this, and something more. I think that this kind of beauty, and the distinction which I am endeavouring to draw, may be illustrated by a very simple comparison between two familiar forms, viz. the Doric capital of Grecian art and the cushion capital of Middle-age art. Both are so far beautiful, inasmuch as both are well adapted to their purpose: both convey, in the simplest and most effective way, the vertical pressure of the superimposed weight down on to the circular shaft whose office it is to bear that pressure.

These two capitals are eminently typical of the two schools: a straightforward, honest simplicity; an absence of refinement, not to say a rudeness, characterises the later capital; whilst the more ancient type, although honest and simple enough, gives evidence of a more refined feeling, a more skilful working out of an idea, which distinguished the Greek artists from those who have preceded or succeeded them. The parabolic curve of the echinus shows a nicety of execution which the mathematician only can fully appreciate or comprehend, but the higher merit of which all can feel. The sharp, expressive quirk between the echinus and the abacus, forming a thin line of shadow, well separates the square from the curved parts; whilst the annulets at the necking delicately, yet distinctly, define the capital from the shaft, without any disturbance of the outline.

It is said by Cicero, "*Venustas et pulchritudo corporis secerni non potest à valetudine.*" We, in like manner, might say that it is difficult to distinguish clearly between the beauty of an architectural form and its strength and suitability to its purpose. This quality of suitability of form will ever be held in popular esteem, for it can be understood and perceived by all; whilst it is the privilege of the few only to estimate æsthetic beauty at its true value. In this country especially, where the general mind loves to hover in the lower atmosphere of practical science, and soars reluctantly into the higher regions of Æsthesis, this utilitarian quality has peculiar attractions. There are thousands of otherwise highly-educated minds which distinguish no superiority in a Greek tazza over an ordinary gardenpot. Both, they will say, are alike adapted to their purpose; both fulfil their destinies with equal efficiency; therefore both are alike worthy of our approval.

I have known a critic of this school condemn to utter ridicule a colonnade of finely-proportioned stone columns as being a clumsy and senseless contrivance, inasmuch as they are, perhaps, 4 or 5 feet in diameter; whereas iron posts, a few inches only in diameter, would have answered every purpose. To answer such a criticism is but labour lost, and the sorrowing artist has but to sigh and pass on.

> "Misericordia e Justizia gli sdegna,
> Non ragionam di lor, ma guarda e passa."

Now as to the beauty of symmetry. Our great master, Vitruvius, thus instructs us:—"Symmetry," he says, "results from proportion. Proportion is the commensuration of the various constituent parts with the whole; in the existence of which symmetry is found to consist, for no building can possess the attribute of composition in which symmetry and proportion are disregarded."

It may be difficult, in few words, to express all that is intended to be comprised in that word—symmetry; but there can be no doubt that the just balance and correspondence of parts, and the regularity of their general arrangement, which constitute the essence of symmetry, is a never-failing source of pleasure to the critical eye; and here we perceive (what I have already adverted to) an instance of the analogy which our works bear to those of nature, who, in her greatest work, the human frame, has set before us an eminent example of perfect symmetry. This quality has ever been eminently architectural: we recognise the attribute of symmetry in the avenue of Sphinxes at Memphis; in the façade of a Greek temple; in the long-drawn aisles of a Gothic cathedral; in the stately colonnades which surround the cortile of St Peter's. We find it in its highest condition in the works of the best Italian masters; pre-eminently, perhaps, in the works of Palladio, where, without effort or artifice, with the most sparing use of the adscititious graces of ornament, we are charmed by a symmetrical elegance; a uniformity without dulness; a simplicity without heaviness; an almost feminine grace without a moment's forgetfulness of that dignity which is the character of all others the most becoming in works of architecture. A want of symmetry in parts where its want is patent is a fundamental defect which no art can hide and for which no beauty of individual parts can compensate.

The want of due proportion between the dome of St. Peter's and the body of the building has been often noticed by critics, and not without ground, as an instance of this defect; and I might cite an example of a like defect, although under very different circumstances, at Munich. There, the enormous statue of Bavaria crushes into Liliputian insignificance the otherwise beautiful colonnade which accompanies it. In this case, had it been the artist's purpose, by this entourage, to enhance the size of his statue (whose bulk may be comprehended, by those who have not seen it, from the fact that twenty persons find seats within the head), he might have been welcome to sacrifice a whole hecatomb of life-size statues around the feet of his colossal image; but it was a treason to architecture thus to reduce a fine Doric portico to the proportion of a plaything, and to sacrifice the dignity of our art in order to magnify the vastness of his figure.

I proceed now to the third source of architectural beauty, viz. that resulting from the picturesque.

If there is difficulty in defining symmetry in few words, a succinct definition, or rather description, of the word picturesque, is far more difficult.

As I have said on a former occasion, there is no quality which it is more dangerous to affect than this, for the spell is at once broken, and the author loses the reward of his art, as soon as it is perceived that there has been a laboured effort made to produce it;—like the Spartan rogue, who only gained a lawful exemption from punishment for his theft by the dexterity with which he contrived to commit it.

The ecclesiastical and castellated piles of the Middle Ages are perhaps the most striking as well as the most familiar illustrations of this high quality of art, if art it may be called where concealment of art is the best proof of it.

Such works are no doubt subject to certain general laws of composition; but these laws are somewhat shadowy and difficult of definition. In outline and chiaroscuro there must be variety without confusion, and irregularity without disorder. Extreme simplicity is, perhaps, hardly admissible, yet complexity is by no means essential, for we may find highly picturesque effects resulting from compositions presenting very few features.

All who have travelled over the classic land of Italy must have been struck with the pictorial effects, often to be met with in the Campagna, of even the most unpretending rural buildings. In our own country, too, how attractive are the groups of gables and chimney-shafts often presented by the smaller buildings of the Tudor or even later age! It is an encouraging reflection for the student that there is ample room for good art, even in the simplest productions.

There is a principle which I must not fail to notice, as I believe it to be applicable to all large architectural compositions, although, perhaps, more especially to those of a picturesque character. I refer to a certain subordination of the various parts of a composition to one predominant feature or group. In every large composition, whether it be a building or, as I believe, a picture, a kind of unity should be preserved by concentrating effect,—by giving, not, indeed, an undue, absorbing interest to any one portion of the design, but a decided and clearly marked preponderance to one portion; for I think it is a remark of very general application, that where interest is scattered, it is sure to be weakened.

Our own St. Paul's is an instance especially in point, and affords a remarkable example of happy adjustment of its various parts, giving to the dome just importance enough to secure its pre-

ponderance, without overwhelming the subordinate members of the design.

The superiority of the effect of those cathedrals, such as Salisbury, Lincoln, Lichfield, and others, which have main central spires over those where that main feature is wanting, such as at Winchester, Westminster, Peterborough, and elsewhere, is also an obvious illustration. It was, no doubt, to some æsthetic consideration of this nature that we owe the noble gate-towers of most of our colleges, and of many of the older baronial mansions in this country, such as Burleigh, Knowle, and the like; where these central features, rendered forcible by their superior height and enrichments, connect, as it were, the various parts of the composition, and give it that unity which, as I have said, adds so much value to a design. I might name Greenwich Hospital in further illustration, as a building which must, I fear, be regarded as deficient in this respect; and I can hardly doubt that this building, as we now see it, is but part of a larger and more connected design which its distinguished author was, unfortunately, unable to realise.

You will have observed that, in the somewhat desultory remarks I have addressed to you, the subject of styles has been but slightly treated. This has arisen from no want of due appreciation of the importance of that subject. There is no doubt whatever that a thorough, discriminating knowledge of the several recognised styles that have prevailed in the more highly civilized countries of different ages, forms an essential part of the education of every architect. But I believe that I shall be best fulfilling my duties here by drawing your special attention to those broad principles of design that seem applicable to all styles; to a right understanding of which principles the acquirement of a knowledge of details must, as it seems to me, be always subordinate. At all events, I shall take no part in attempting to decide on the conflicting claims of styles contending for general adoption. Each has its votaries,—I may say rather its idolaters; and the contest is one into which I have no mind to enter, here or elsewhere: for I believe it to be taking a very narrow view of the study of the art, to confine our admiration, or to limit our attention, to any one style; whether it be that which flourished under Pericles,—that which reached its culminating point under St. Louis, or our Edwards,—or that which left in the great municipalities of North Italy, enduring monuments of originality and genius.

The time may come when architecture shall take a loftier flight, and find a more firm footing, unencumbered by prejudice or pedantry. Two revivals have marked the history of modern art. There was a great revival in the fifteenth century: nothing could exceed the enthusiasm of the artistic world, when Lorenzo assembled around him the scholars and artists who completed that great change: but with all their ardour there was no want of discriminating judgment. They dug up, and measured, and studied, with minutest care, the works of the classic ages, but they wrought themselves in an unfettered spirit.

The style of antiquity was by them so modified to suit the wants and habits of modern civilization, that their works became as much marked by originality as by beauty: it may, indeed, be questioned whether the world has yet seen men altogether equal to some of the cinque-centists.

Let us have a care that the second revival, that of the nineteenth century, is not marked by a narrow, sectarian spirit, and by the ignoble results inevitably attendant on a blind, servile, superstitious adherence to precedent; a feeling from which the great movement of the fifteenth century was wholly free. Before the noble school of Giotto arose, the best painters were wont to paint the heads of men, conventionally, with elongated eyes placed somewhere about their temples, and to represent their horses stepping out with both legs together on the same side: they did so, because their old Byzantine teachers had done so before them; but as soon as that great master taught them how to see nature as it really is, an immense stride in art was at once taken.

It would, I admit, be unfairly representing the present state of architecture to place it on a level with the condition of art, or its science in those earlier days; but it is undeniable that we have much to unlearn, many prejudices to dismiss, before our art can take its true place.

It may be long before a Giotto or a Bacon arises in our art; but I look forward more hopefully to the result of a combination of many minds acting in an earnest spirit and guided by right principles.

THE LEEDS WORKHOUSE COMPETITION.

A very numerous meeting of ratepayers was held last week at Leeds, when resolutions deprecating the procedure of the committee of Guardians, and expressive of a desire that the Guardians should examine the whole of the plans, and secure the services of a disinterested and eminent architect to assist them in selecting the best, were passed without opposition. These resolutions were laid before the Guardians, who have, nevertheless, as a body, adopted the report presented to them by their committee, confirming the previous decision in favour of the three sets of plans already named in our previous notice of these proceedings.

After the Guardians had resolved to adopt their committee's report, the chairman asked the clerk to "read the letters accompanying the plans," and the clerk did so, from which it appeared that the following were the names of the architects of the different plans, with the mottoes used —

"Alpha," Messrs. Perkin and Backhouse, Leeds, first prize; "Queen's Head," Messrs. Lockwood and Mawson, Bradford, second prize; "Z," Mr. Wm. Hill, Leeds, third prize; "Utility and Economy," Mr. Wm. Blacke, Fenchurch-street, London; "A. Z." Mr. George Smith, Park-lane, Leeds; "Fides Z." Messrs. Bellamy and Hardy, Lincoln; "Cricket Ball," Mr. T. H. Hovenden, London; "Plain and Substantial," Mr. Moffatt, Doncaster; "Picco," Mr. H. J. Paull, Cardiff; "Industry," Mr. George W. Styan, York; "A" in a triangle, Mr. Henry Dyson, Leeds; "The Wanderer," Mr. Robert Wild, Manchester; "Utilitas," Messrs. Nash and Son, Royston, Cambridgeshire; "Hope," Messrs. Birch and Cooke, London; "Fortunas Sequatur," Mr. Percival, London and Gloucester; "U. C. I. X. L." Mr. Samuel Deakin, Birmingham; "Be it so," Mr. C. Manton, Wolverhampton; "Justitia," Mr. S. C. Capes, Furnival's Inn, London; "Delta," Mr. G. Corson, Leeds; "Excelsior," Messrs. Briggs and Everall, Birmingham.

The Chairman said that no letters had been received respecting four of the plans, the mottoes on which were "Alpha in the Ring," "Equilateral," "Z." and "Eboratum."

Eventually it was decided, by a majority of six to four, that the plans should remain at the Industrial School till further orders, for the inspection of the public.

At the meeting of ratepayers referred to, one of the successful competitors expressed something like a sense of shame that he should have occupied such a position neither fairly nor honourably, at the same time expressing a very confident opinion that were the Guardians obliged to retrace their steps, the plans in which he was interested would have occupied a still more prominent position than the Guardians had assigned them.

All we shall say for the present for our own part is that where there is an obvious disposition, or a foregone conclusion, to give the preference to local architects, it is a shameful blind to pretend to open the competition to architects in general, thus giving an immensity of hopeless trouble and expense to strangers who confide in the good faith and honour of such local managers as the Leeds Guardians appear to be. The very opening of the letters of the unsuccessful competitors would seem to be a breach of good faith, however far it may go to satisfy the Leeds public, or to enable them to choose for final adoption what may really appear to be the most suitable plans for their new workhouse.

THE SANITARY STATE OF OUR BARRACKS AND MILITARY HOSPITALS.

However quietly and unrecognizedly, the *Builder's* efforts on behalf of the sanitary improvement of human habitations are every now and then yielding good and useful fruits, as even those official investigations which in the mean time only open up the sanitary sores of the community to public attention may well be called; for the official and statistical recognition of the existence and extent of an evil prepares the way for its speedy amendment. And such is the hopeful position of the sanitary question as it now regards the accommodation and arrangements in barracks and hospitals. The country has just been horrified by the publication of the results of an official examination into the sanitary state of our army at home in its barracks and hospitals. From the report just issued by the Royal Commission appointed for the purpose, it appears that the mortality, especially amongst those picked regiments the Guards, is something really fearful, being more than twice as great as that of the most unfavourably situated of all the employed classes of the community. The chief cause of death is pulmonary consumption, and the commissioners rightly consider that the want of ventilation, closeness, and insufficient accommodation in barracks and hospitals, are the main cause of this astounding state of things. The Guards are not only the picked lives of the community, but even of the army, which is itself the *élite* of the nation, as regards physical vigour and vitality in general. Yet such is the deadly influence of our barracks and hospitals that the mortality amongst their inhabitants is more than double that of the very classes from amongst which they are picked as the healthiest and most vigorous, and physically perfect. This is no new subject with us: we may point to our previous observations on military hospitals, elaborate reviews of the competition plans for barracks, the Crimean disasters, and our call for a sanitary staff for the army in India.

Amongst the worst barracks of all are those in the best neighbourhoods,—St. James's-park and Knightsbridge. At the former the sergeants, it is said, when they go to call the men in the morning, rap loudly at the doors, but dare not go in until the windows have been for some time open, so horrible is the stench!

No wonder, under such circumstances, that consumption should be rampant; but why such a state of things should have been allowed to go on as it has been is no less matter of astonishment. We must return to the important report to which we have merely referred.

ON COLOUR.*

Colour is the great element of beauty: it gives spirit and life to form, which it develops by contrast. Colour originates from light. If the rays of light are intermitted or obstructed, they produce colour. Perfectly pure light may be represented by white, the total absence of it, by black. Between these range the tones of grey which are combinations of colour. White reflects light; black absorbs it; and from this cause a white object will appear larger than a black one of the same size. To illustrate this I have prepared some diagrams, the half on a black ground, the others on a white ground. Out of the black I have cut certain pieces, which I have applied to the white ground, so that the spaces of both are identically the same in actual size, although the white appear larger than the black. If these black and white diagrams are looked at through the prism, the direct rays of white light being interrupted, those intervals of simple white and black become one gorgeous array of the most intense and brilliant colours.

This series of colours is called the "Solar spectrum;" and, according to the theory of our countryman Newton, consisted of seven, namely, red, orange, yellow, green, blue, indigo, and violet. Modern philosophers, however, have arrived at the conclusion that of these there are only three primary colours, namely, blue, yellow, and red, the remaining four colours being produced by the mingling of these three. May not the theory of light be this—that, being acted on by electricity, it has positive and negative poles, and that these represent respectively heat and cold; that by the negative pole cold light, blue, is produced; that by the positive pole warm light, orange, is produced—orange diminishing to yellow, or increasing to red, according to the less or greater degree of heat?

If you look at a white sheet of paper with a prism you will find the upper edge of the paper coloured red, softening to yellow, into white, and the lower edge softening from bright green to deep blue, as I have indicated in the diagram.

There is no line of separation between yellow and red. It is impossible to say where the one ends and the other begins. If the sky is clear the sun looks bright yellow: when it is obscured by fog it is quite red; or when shining brightly, if looked at through a glass that has been blacked by smoke, it appears red.

I will illustrate this theory by the effect of light in photography. All practitioners of this beautiful art know that, in taking a picture, objects which are blue are represented as if they were white; and those which are yellow, orange, or red, as if they were black. Thus, a lady in a blue dress with yellow ribbons would be represented in the photograph as in a white dress with black ribbons.

Thus it may be that in Light there are but two fundamental colours, orange and blue.

* Read at the Architectural Exhibition, by Mr. John G. Crace, on Tuesday, February 16th.

Leaving now the abstract question of light, I return to that of *colour*.

There are three primary colours, called so, because they are each distinct, and cannot be composed of any others; these are yellow, red, and blue. In shades of white light, the primary colours exist in the following ratio:—

Yellow.... ..... 1.
Red..... ..... 2.
Blue ..... 3.

And if mingled in these proportions with white, they produce tones identical with the admixture of black and white. On a disc I have coloured bright radiating stripes of the primary colours in the above proportions. On turning this disc with some velocity, you will see that the colouring of the primaries becomes blended into grey.

Let us try another experiment.

I have here certain colours, "ultramarine blue," "chrome yellow," and "vermilion." I mingle them in the proportions of three for blue, one for yellow, and two for red. I add to them some white: they produce *grey*. Now I take some black; add to it some white, and we have again *grey*, and the two tones are the same. I think these two experiments prove the identity of the primary colours with white light.

On the Secondaries.

By mingling any two of the primaries together the "secondary" colours are produced. Thus,—

Blue and yellow produce green;
Yellow and red „ orange;
Red and blue „ violet.

Thus green, orange, and violet are the "secondaries."

On the Tertiaries.

If the above "secondaries" are commingled, the "tertiaries" are produced; thus,—

Green and orange produce citrine;
Orange and violet „ russet;
Violet and green „ olive.

On Contrast.

Every primary colour has a complementary composed of the two remaining primaries, forming a secondary; and every secondary has a complementary, formed by the remaining primary.

Every arrangement of colour demands the presence, in some shape or other, of the three primaries: the eye expects them, and without them remains unsatisfied.

This may be illustrated by the following experiment:—Take three circular pieces of coloured paper, place them on a toned white ground, look at them separately for some time in a subdued light, and it will be found that the red paper is bordered by a halo of soft green; the yellow paper by one of violet; the blue paper by one of orange: thus, these colours are complementary to the primaries, and, *vice versâ*, the primaries are complementary to the same secondaries. These are essentially contrasting colours, being those which most strongly oppose certain qualities in each other. Thus blue is a cold, orange a fiery colour; yellow a bright and advancing, violet a retiring colour; red a hot and glaring, green a quiet cool colour. This in a few words explains the basis of the whole theory of the laws of contrast in colouring.

When two contrasting colours are brought in contact, they are each affected by the complementary of the other: this is called *simultaneous contrast*.

The eye, having looked for some time fixedly on a coloured spot, such as a red wafer, on a white ground, in a shaded light, that object being suddenly removed, the space lately occupied by the object becomes coloured with the complementary of that object, which in this case would be green. This is successive contrast.

When the eye has looked at a particular colour for some time, and afterwards directing its sight upon another, carries with it the effect of the complementary of the first colour to the colour last seen, to its injury or advantage, as the case may be. This is mixed contrast.

Several men of high attainments have written upon this subject; more particularly Goëthe, who published his interesting work on "The Doctrine of Colours" in 1810. This has been translated by Sir Charles Eastlake, who added to it notes of great interest and usefulness. It is also treated of by our own countryman, Field, whose works on colour I consider the most practical and valuable of any on the subject of colour. He first published in 1816. And, lastly, Mons. Chevreuil, who, in his work published in 1838, illustrated the question of simultaneous contrast by a great series of experiments of the highest importance.

This subject demands our careful consideration, for it affects materially the relative value of colours opposed to each other. Those who have not considered the subject can scarcely estimate how strongly the complementaries occasionally influence colour. I will illustrate this by a fact noticed by myself. I was, one hazy morning, with a friend, walking over Waterloo-bridge, when my attention was directed to the two towers of Hungerford-bridge. You recollect probably that these are stone colour, and that they are roofed with red tiles, which project considerably, causing a strong shadow under them. I was astonished to find that the cornice under the projecting roof was full green. "Well!" I exclaimed, "they *are* fond of colour to do that." I supposed it to have been ordered by some director who had been to Holland and brought back a vivid remembrance of a lusthaus there. In an hour or so I re-passed the bridge: the day had cleared, the mist had passed away, and with it had departed the green cornice that I had seen so vividly an hour or two before: no trace of green remained.

Goëthe gives a far more interesting anecdote relative to "successive" contrast which occurred to him. He says, "I had entered an inn towards evening, and, as a well-favoured girl, with a brilliantly fair complexion, black hair, and a scarlet boddice, came into the room, I looked attentively at her as she stood before me at some distance, in half shadow. As she presently afterwards turned away, I saw, on the white wall which was now before me a black face surrounded with a bright light, while the dress of the perfectly-distinct figure appeared of a beautiful sea-green." Goëthe's attention was certainly very powerfully directed to the young lady, but "complementary" seems scarcely the word to attach to this instance of successive contrast.

The theory of "simultaneous contrasts" applies to tone as well as colour. When a dark colour is placed next a light one of the same tone, at the point of contact the light will appear lighter, and the dark darker.

The succession of shades shown in the diagram (No. 1), though each perfectly flat, has the appearance of a series of flutings from this cause. This contrast of tone is particularly to be borne in mind in imitations of relief figures or ornaments.

I now request your attention to the series of examples showing the contrast of various combinations of colours. The changes which these colours experience are invariable, and are the result of the action of the complementaries of each colour upon the other in contrast with it.

If you look carefully at the series of illustrations numbered 2 to 16, you will remark in the contrasts of green and red, or orange and blue, or yellow and violet, how powerfully these colours are acted on by contact—how they intensify and brighten each other; how orange, by its complementary blue, makes each colour next to it of a bluer tone; how the red renders them more green, the yellow more violet, and *vice versâ*.

The diagrams, Nos. 17 to 22, give a series of examples of primary and secondary colours juxtaposed with white, which it will be found heightens the tone of these colours, and is also in turn powerfully affected by their complementaries.

Nos. 23 and 21 show that grey and white, and black and white are each intensified by contact.

Nos. 25 to 31 show how black lowers the tone of colours, and is affected by the complementaries of the colours in contact; some, as yellow, greatly enriching the black; others, as violet, deteriorating it.

Nos. 32 to 36 show various colours in contact with grey, which in each case adds to their brilliancy, and is itself affected by their complementaries.

These illustrations of simultaneous contrast follow upon the theory explained by M. Chevreuil with great precision and ability in his work on "Colour;" but I think it right to mention that I by no means agree with M. Chevreuil throughout his work; and that where he attempts to regulate decorative effects of colour, his combinations are not always beautiful or happy.

I might allude to many occasions in which I have noticed the action of the complementaries. In the church of St. Paul, at Brighton, which is rather dimly lighted, I noticed, while sitting at some distance, that the arch of the chancel was decorated with ornament apparently in several colours. On approaching it I found that the ornament was simply black on the stone-coloured ground. This small figured chintz, printed in red on a white ground, has often, in a subdued light, appeared to me as if it were a shawl-pattern printed in many colours. I will not take up your time by further illustrating a theory which is probably already known to most of you.

There is another subject of contrast which, though similar to the preceding as to the laws which regulate it, is different in its application.

It relates to the effect produced upon any colour where applied upon grounds of other colours. The changes thus caused are most startling to those who have not experimented upon them. You will find that what looks blue on one ground is green on another; what is yellow in one case becomes green in another; and grey is either pale yellow, pink, or green, according to the colour on which it may be placed.

In fact, there are no colours of any positive tone: they are only what they are made to appear. White beside a colour heightens its tone. Black beside a colour lowers its tone. The shadows of a colour are always affected by the complementary of that colour.

When ornaments are painted on a gilt ground it is necessary to outline them with a deep brown or warm black; and if they are painted on coloured grounds without lights and shadows, an outline of white, black, or gold is equally necessary.

On Harmony.

In contrast I have endeavoured to explain how the various colours act upon each other when placed in direct opposition. I have now to consider how they may be brought into harmonious combination.

To arrange satisfactorily various modulations of colour, so that they may mingle together and form an agreeable whole, demands careful study, practice, and taste, and is often a work of great difficulty; yet this is accomplished by Nature in every flower that blows. I have often been delighted and surprised at finding how wonderfully the laws of harmony in colouring are expressed in flowers. The rich tones of blue contrasted by yellow and orange, in the garden iris; the drooping fuschia, whose hanging petals of bright red are contrasted by the rich purple centre; the blue passion-flower, with its fibrous coronet of deep maroon, and its greenish yellow stamens; the beautiful lancifolium lily of pearly white, dashed with spots of most intense carmine; the glowing cactus; the field poppy; the pansies, of violet and yellow; each flower not only combining in itself all that is most beautiful, but even in its leaves bearing the green tone most suitable for its colouring.

It has occasionally been my good fortune to travel over the moors in Yorkshire about August, when the purple heather is in full bloom. What a magnificent sight it is to see the undulating hills for miles around covered with the glowing colour, broken at intervals by patches of feathery ferns, their green, by contrast intently bright, giving a glow of colour not to be conceived by those who have not witnessed such a scene.

One of your most distinguished professors assured me a few days ago, that for two years he directed his attention specially to the study of the colours in flowers, and, from the pleasure he derived in the pursuit, looks back upon that time as one of the most interesting periods of his life.

Certainly, it is my own conviction, and it is also the opinion of first-rate ornamental painters, that the study of flowers is the very best school for the artist in decoration.

What triumphs of colours do we see also in some of the exotic birds!

Here Nature seems to revel in all that is difficult and complicated in harmony of colour.

I have some specimens here, in order to show how wonderfully Nature works as a colourist.

Remark this centre bird, its body of rich glowing yellow, with its black wings, and the beautiful grey margin about the eye, this grey the very colour of all others to soften the yellow, and introduced with such good effect in a specimen of Pompeian colouring, to which I will allude presently.

In others you will see maroon contrasting with blue—red, yellow, and black—blue, purple, and green—all brought into perfect harmony by Nature's hand.*

THE TRAFALGAR-SQUARE FOUNTAINS, AND HOW THEY MANAGE THEM.

"But wherefore all night long shine these?
For whom this glorious sight when sleep hath shut all eyes?—*Milton.*

SIR,—One is often tempted to carry that threat into execution, on witnessing some matter we consider grievous, either at home or when we travel—namely—"I will write to the editor of the *Times* on this subject." I, however, think what I have now to complain of more especially concerns the readers, and they are of all classes, who are inter-

* To be continued.

ested in the periodical over which you preside with such good effect.

I beg, then, to direct your attention to that old grievance,—the fountains of Trafalgar-square. I am not, however, about to recapitulate any of the bygone criticisms on these architectural and sculptural fabrics, or to originate any new one on that somewhat worn-out topic: every argument has been urged against them: the public critical voice has had its say; and, having vented its spleen upon them, has now directed its judgment to other subjects.

What I think requires some remonstrance is the extraordinary seasons at which these wretched jets are accustomed to disport themselves. We associate with the idea of a fountain the other bright and cheerful ideas of summer weather, and its accompaniments of blue sky and sunshine: we look upon it as that thing of beauty, "a joy for ever," on a summer day: we in the proper season enjoy the beautiful object, refreshing to the sense and sparkling to the eye; a mirror over which Iris may bend and reflect herself, and her three primitive colours, as graces, commingle in harmonious combination; but is it not an amazing fact to hear these spouts at work in the dark and dreary winter's night, as I have heard them shuddderingly, for to see them is impossible? In the foggiest of November nights there they are wasting their energies, no one to witness their efforts. I am constantly passing them by at all seasons. You will see them—if you go near for that purpose, to satisfy yourself of the preposterous fact—sometimes as late as ten or eleven o'clock at night sending up superfluous wet into the air already overcharged with a week's rain or drizzle: at other times they play up into the foggy atmosphere, itself so moist that the jet at its top loses its form, and becomes absorbed, and as it were diffused off into the neighbouring air. Sometimes a cloud or steam-like exhalation hovers over them, as the stream is drearily blown out of the perpendicular by the chill night wind, and the vapour seems unaccountable until you recollect that the fountains are but the embouchures, or kind of waste-pipes, to the Baths and Washhouses for first and second-class bathers and washerwomen, in a back and obscure quarter, which furnishes the lesson of wholesome humiliation to the too great triumph of Trafalgar-square, and exhibits the filthiest sight, to contrast with the so-called, and falsely so called, "finest site in Europe." You find the water still warm, if you have strength of mind or curiosity enough to dip in your finger; and you now see the foundation for one of the mistakes of the French *feuilletonist*, who asserted lately, we were so emasculate and luxurious, that we boiled our water before we let it issue from our only two public fountains. While this has been the state of the case for many winters back, and is so every night—was so, certainly, last night and Monday night, and Saturday night, February 6, at ten o'clock, with the thermometer at I know not what below freezing point,—while this, I say, has been the case at these periods, I have often seen these same eccentric, whimsical, and unaccountable structures sending forth only a dribble, or on a kind of half-cock, or altogether dry, on a panting July day, in blazing noon-tide. The same month you will find invariably chosen for the cleansing out of the basins: you will see the filthy water let off, and men wading in mud-boots breaking through the crust the sun has already formed over the pestiferous deposits precipitated to the bottom, and thereby disturbing it into a thousand vile odours. You will be aware of this underlying surface giving faithful moulds of the rotting forms of all the unclaimed domestic animals of the vicinity, together with the rejected tobacco-pipes, broken bottles, stones and brick-bats, and other elegant extracts lately belonging to the two extensive and flanking cabstands on either side of the square, as well as every variety of lost properties belonging to the races of charity and other ragged boys, and brigades of shoeblacks and crossing-sweepers, who are constantly practising their gymnastics, and striking acrobatic attitudes, on its stone border.

While on this subject, I may as well register what I have often thought as to how much better it would have been had these basins been smaller in their dimensions, and especially of a more simple design. The present many-sided and complicated ground-plan can only be comprehended from the conjectural region of a bird's-eye view, and is a perfect puzzle to a pedestrian. What a mistake, too, was made in covering the square with that failure, asphalte or concrete, smashed as it now constantly is, requiring much renovation, and retaining in its undulations and shallows the wet from the spray and the leakages from the water. How much better would have been the simple and old-fashioned integrity of the large paving-stone, which lets the water off through the interstices, and recalls the old pavements round the old fountains of all the old Italian cities!

R. A.

SCHOOLS OF ART.

The Sheffield School.—A *conversazione* was held at this school, on the 2nd inst. when a large assemblage met, under the presidency of Mr. Monckton Milnes, M.P. A collection of pictures and works of art had been got together by Mr. Young Mitchell, the master of the school, the former being loans and the latter supplied from the Government collections. Mr. Cole, C.B. was also present, and prizes were distributed to the pupils. A very able address was delivered by Mr. Milnes, which is reported, along with the other proceedings, &c. at length in the *Sheffield Independent* of the 6th inst. In course of his remarks, the chairman said, "It is a great blessing for any nation to know that the worker and the thinker may be the same man. And this I believe to be especially realised in art, in which the thought of the individual is presented in a sensible object, and in which the artisan himself shows that he is peculiarly the thinker. Therefore it is that it is most advantageous for all young men employed in mechanical and monotonous labour for a great portion of the day, to be able to devote some portion of it to an operation in which they are enabled to apply the ingenuity of their handiwork, and, at the same time, to apply the highest gifts of imagination and fancy with which Providence has endowed them. Thus it is, ladies and gentlemen, that you will see in times of the world in which art has been the greatest, those men who have succeeded in it the most, and who have left the greatest names to posterity, have been themselves real hard workers, and not in a great degree dilettantes and amateurs. Perhaps there never was a harder worker than Leonardo da Vinci, who was, besides a great artist, an anatomist, a botanist, and had a practical knowledge of all things he represented in art." Mr. Cole characterised the Sheffield school as one of the largest and most successful in the kingdom. He congratulated the meeting on their having exhibited on the walls not less than 2,000*l.* worth of works of art, their own property, from the Kensington Museum. He complained that Parliament was so stingy as to vote only some two or three thousands a-year for such specimens. The Sheffield students, he feared, were capable of executing works which the public at large were not capable of appreciating. The remedy for this was not to limit the education and influence of schools of art to artisans, but all should endeavour to benefit from them. If he were a despot, he would inflict the penalty of subscribing 10*s.* a year on every lady, and 20*s.* a year on every gentleman who could not go through such a drawing exercise as was now given to every parish school-boy.

The Birmingham School.—The annual meeting of the donors and subscribers to the Birmingham Society of Arts and Government School of Art was held in the Society's rooms, New-street, on the 4th instant, Mr. C. R. Cope in the chair. After alluding to the liberal support of Government to art education of late years, Mr. Cope remarked that, during the present session, the school would be removed to a suite of rooms appropriated to their use in the Midland Institute building. Another change would be received with regret by all the pupils, namely their head master Mr. Wallis's retirement. The committee had looked with great satisfaction upon the advancement of the pupils under Mr. Wallis's care. The secretary, Mr. Jagger, then read the Report, which described the position of the Institution as highly satisfactory. The aggregate number of students (1,325) had been greater than in previous years. During the year ending June, 1857, there were 254 of the male students engaged in special trades, and 83 in trades where drawing was of great value. 1,938 students had passed through the school since 1843. In the room of Mr. Wallis, Mr. Rambach, late head master of the School of Art in Cork, had been appointed.

The Newcastle-under Lyne School.—The annual meeting of this school was held in the Lecture-hall of the Institute on the 2nd instant. There was a crowded attendance, many being unable to obtain admittance. Mr. William Jackson, M.P. occupied the chair. The report announced a very considerable increase of students. On the 31st of December, 1856, the number on the books was 15; in 1857, 47: showing an increase of 32. The classes of persons receiving instruction were, school boys 20, pupil teachers 8, clerks 6, school girls 6, undetermined occupations 4, governesses 3, bookbinders 3, joiners 2, stonemasons 2, housepainters 2, cabinet-makers 2, wood carvers 2, pawnbroker 1, draper 1, frame-maker 1, pottery turner 1, ironmonger 1. The total number of persons taught by the master in the central and public schools in 1856, was 100; in 1857, 203. The expenditure for the past year amounted to 73*l.* covered by the receipts.

A School for Bridgnorth.—On the 4th inst. a meeting was held in the Assembly room, in the New Market-buildings, Bridgnorth, in furtherance of a project for establishing, in connection with the Borough of Wenlock Schools, a Government School of Practical Art in Bridgnorth. After addresses by Mr. T. W. Wylde Brown and the Rev. W. K. Marshall, a lecture on Art-Education was delivered by Mr. James Milligan. After pointing out the importance to builders, mechanicians, and others, of being able to represent their own ideas by drawings, and to understand such representations when made by others, he alluded to the moral benefits resulting to children from drawing. Learning to draw also gave facility in writing. The acquisition of sound art-knowledge amongst English workmen, especially architectural decorators, was of the greatest importance, and the superiority of English to continental designs was strikingly apparent in the Great Exhibition of 1857. In neglecting drawing as an educational and moral agent, we were less wise than the ancient Greeks, who ordained, 2,200 years ago, that all their free youths should be instructed in the art, though they forbad it to their slaves. In conclusion, the lecturer expressed a hope that a school would be forthwith established in Bridgnorth. A resolution that a School of Art should be established in connection with the Institution was unanimously passed.

The Schools of Art generally.—From a statement recently made by Mr. Cole, it appears that the number of schools of art throughout the United Kingdom at the present time is sixty-nine; and according to the last returns they were the means of educating upwards of 35,000 students in drawing and painting. These numbers include children in poor schools under instruction in drawing. Since the schools of design were expanded into schools of art, and made to embrace the teaching of drawing in public schools, the progress has been as follows:—In 1851, 3,296 students learning drawing cost the state 3*l.* 2*s.* 4*d.* each: in 1856, 35,000 students cost about 15*s.* each. But this number is really insignificant, being a trifle more than one in 1,000 of the population; and it is disheartening to feel that according to the present state of public feeling for art, perhaps half a century must elapse before every mechanic will have the means in his youth of acquiring those elementary principles of art which would improve the daily work of his future life. The Library of Art at South Kensington is now made the circulating library for the whole of the United Kingdom, and every school of art has the privilege of borrowing the most valuable books, prints, &c. upon the single condition of guaranteeing their safe and punctual return.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

NATURAL FOLIAGE AND CARVED DECORATION.

At the ordinary meeting on the 8th inst. Mr. Robert Kerr, Fellow, in the chair, a letter from Mr. E. Barry was read, conveying the best thanks of Sir Charles Barry for the kindness which prompted the resolution passed at the last meeting,* and his regrets that the state of his health prevented him from writing his own reply. "He begs me, however," the letter continued, "to assure you, and, through you, the gentlemen who passed the resolution, that he has received it with feelings of the highest pleasure, as expressing a kind and generous if too partial estimate of his greatest work, by those who, from professional experience, are most competent to appreciate and sympathise with the many anxious labours of an architect."

Mr. James K. Colling then read a paper on "Natural and Architectural Foliage," illustrated with numerous drawings.

* "That this meeting desires to convey to Sir Charles Barry, through his son, Mr Edward M. Barry, whose admirable description of his father's greatest work they have this evening heard, an assurance of their profound admiration of the zeal, energy, taste, knowledge, and capacity displayed by him in the creation of the great national work he has now brought to a proximate conclusion. It desires to offer him their sincere congratulations upon this occasion, and to express the hope that, with renewed health and strength, he may long survive to receive the honour and respect to which he is so justly entitled, not only from his professional brethren, but from the public at large."

The Chairman said the subject was a very interesting one, especially at the present time and in the present phase of architecture, which depended so much on a proper comprehension of the picturesque. There was nothing in Nature which exhibited so much the manifest intention of the Designer as foliage and flowers. The beauty of the landscape was a matter we might almost say of accident: the beauty of the leaf and of the flower was a matter of the deliberate design of Deity, for the purpose of producing in the mind of man the special and precise effect of pleasure. It therefore followed among all the works of Nature that such works as these were most valuable for our use and edification in the operations of artistic copyism, because the Divine hand in the formation of such things as foliage and flowers was carrying out that very process in its simple and natural form which the artist was carrying out for the contemplation of men's minds in its more purely artificial form. If we considered what was the purpose of the Divine Designer in the formation of foliage and flowers, we should find at once it was that of variety and beauty. Now, variety in respect of foliage was, as in everything else, a matter of irregularity based on a system of regularity. The reader of the paper had already pointed out that all natural productions were based on what he properly called geometrical principles, and that the figures of foliage and flowers were really based on geometrical forms. But there was another principle also at work in the products of Nature,—for this regularity was moreover called out with invariable and inevitable irregularity. It was well known that we were accustomed to say in our school days that there was not a straight line in Nature: so also it might be said there was not a perfect thing or form in Nature. There was the intention to create perfection, but there was a certain peculiarity of swerving or departing from the perfect, which resulted in producing the picturesque. There were two principles observable for our study,—that of regularity and irregularity. And there were two kinds of design in architectural matters that corresponded precisely with these two principles. There was, in the first place, the Classical, or severe school of design; and, in the second, the Mediæval or Gothic, or picturesque school of design. The picturesque had variety, with less of regularity or unity: the severe had unity, with less of variety. He need not say that if we adopted the natural form of foliage and flowers, it was necessary to a certain extent to conventionalise or to artificialise them; but it was more necessary in the picturesque, seeing that Nature herself produced the picturesque in foliage and flower. But we never need produce the severe in foliage or flower, inasmuch as the most beautiful of geometrical forms could not possibly surpass the perfectibility of Nature. Therefore, the student of Classical architecture in the present day, he would not say the student of the Renaissance, but of the severe or Classical style,—would endeavour with respect to foliage to conventionalise his geometrical forms, just as the student of the picturesque would adopt the forms of Nature, and thereby give an impress to them of greater variety and beauty. It was a matter the reader had not mentioned, as to whether color could be introduced at all in architectural carving. It was only necessary manifestly to say that it could not, inasmuch as coloured sculpture became nothing more than wax-work, just as coloured foliage or flowers would really become like wax-work in similar productions of natural flowers. It was not really sculpturesque. He could not, on the first occasion of occupying that chair unexpectedly, allow an observation made by the reader of the paper to pass, to the effect that the architecture of the present time would puzzle the future antiquary. That would not be so by any means. That which was genuine,—and he, for one, believed that that which was the genuine architecture of the period was a very different thing indeed from that which most of their friends present might consider as belonging to the various schools of general architecture,—that which was genuine, he repeated, would form emphatically the architecture of this period, and this nineteenth century would have its architectural epoch as well as other periods. We had commenced with the revival of art in Italy, or, in point of fact, with the recognition of the modern art of Italy in the fifteenth century, and of the Renaissance, and we were now continuing to carry out that principle and style until another great principle and style should arise to overthrow them. We were not copying, we were not imitating,—at least, we ought not to be. We were carrying out the Italian style in its various phases, and in the natural and legitimate style of that period. And he hoped to see the Gothic architecture of the present day ever coming nearer and nearer to the style of treatment and the Italian style of past times. Mr. Colling had explained the geometrical forms of foliage and flowers as applied to architecture very creditably, and the lesson to be derived from the principle involved must be patent to every mind, namely, the study of the anatomy of botany, which had to deal with the forms of foliage and flowers, and which, for architectural purposes, was well worthy of study. The paper did not profess to exhaust this subject, which might be advantageously studied, with time and inclination. The anatomy of botany gave us the principles on which Nature designed foliage. There was a law in this as well as in everything else. We were not able to dive into the depths of the principle, but we might easily discover the governing principles connected with their forms and figures. Now, Nature was infinite in its variety. Infinity was, of course, an idea at which the mind reeoiled and overstepped itself, and we at once saw that if Nature placed before us in foliage and flowers the infinite in variety for our study and imitation, it was clear that there was an ever infinite field open for our progress and pursuit, and, without plunging into metaphysics on the subject, he might say that no one would find the matter of botanical form otherwise than exceedingly rich in respect of variety and design. The study of the anatomy of botany was one of those things which tended to produce a spirit of originality in sculpture and carving, and in doing this it would be found that there were two things that were very different, namely, carelessness and originality. Carelessness never would make originality, and originality was only to be attained by increased study and care. The great end and aim of all study should be, not to produce mere copyism, but to develop those principles on which genius would base its own originality.

Mr. Colling considered that Gothic architecture embraced both the picturesque and the symmetrical. In most of the illustrations he had exhibited that evening, there was displayed, as far as the flat ornament went, a symmetrical and geometrical arrangement, which was quite as good if not better than the picturesque; and if in Gothic architecture the same principle was carried out in any noble building, he considered it would answer and serve that style of architecture quite as well as the Classic; moreover, he thought that there was one advantage in Gothic, namely, that it embraced both the regular and the picturesque.

Mr. C. H. Smith rose as the representative of a body of men of whom a great deal had been said, namely, the carvers; and as he claimed to be a legitimate carver himself, he wished to say a few words. First, with reference to Southwell Minster, it was not generally known that the examples there had been used, and imported into the Houses of Parliament. When Sir Charles Barry and he were at Southwell, they paid particular attention to these identical ornaments. The opinion of architects was somewhat different on this subject. Some said it was very badly done, considering the wonderful size of the carving; others that it was amazingly flat on the surface, and that there was no feeling in it. During the last thirty years he had had a great deal to do with different architects of great celebrity, in the manner, method, and practice of architectural carving. On one occasion he was quite amused on going to the offices of some of our principal architects, with the drawing of a carving in his hand, for some admired and others condemned it, just as each one blamed what the other did. He had probably carved more Corinthian capitals than most people, but he never did one yet without a minute drawing of it, though he had to execute the Corinthian capitals of a celebrated building in London, lately much talked about, without drawings of any description. In the case of the Corinthian columns that were executed in connection with the building to which he had alluded, there was a most extraordinary projection of the pilasters in some of the capitals over the shafts, to which he drew the attention of the architect, who said he did not know anything about it, but added, "Have you got Stuart's? Do not show me any more, but go and do your work." He, Mr. Smith, mentioned this in order to show that the practical operating man was not always to blame in these matters. These capitals, seven or eight of them, were finished and put up, and to his astonishment, the architect came to him and told him afterwards that there was to be great a projection of the pilasters, and that they must be altered, which he, Mr. Smith, told him was impossible, and so they remained. [Being asked to name the building, the speaker said the National Gallery.] Any one who paid a visit of inspection, could not fail to remark how, in respect of the pilasters, some of them differed from the others. It was very rare that an architect gave his work to the carver to do without models, and he, Mr. Smith, found that the public and the architect were most pleased where architects interfered very little with the carvings. But if there was a great deal of variety in that department, it would be impossible for the architect to provide drawings for all the ornamental carvings. Would it have been possible for Sir Charles Barry to have furnished all the drawings for the decorations of the Houses of Parliament? It was generally supposed that the capitals of the National Gallery were taken from Carlton House, whereas only a portion of the capitals of the portico of old Carlton were used, and they cost more money to repair for the purpose than the new capitals cost. The answer was that they could not throw such discredit on this present from William IV. to the National Gallery, as to throw them altogether aside.

Mr. Digby Wyatt, in proposing a vote of thanks to Mr. Colling for his interesting paper, said he felt it to be the more interesting when taken in connection with the paper read at their last meeting, by Mr Barry, on the Houses of Parliament. No one could have heard of the Houses of Parliament, and of the extensive operations that were carried on there without recognising how very important a school had grown up among us, principally through the instrumentality and superiority of the skilled workmen connected with that building, in the trade or art of carving. The exact direction that that might take was one of those things more likely than any other to have a powerful influence on that style of architecture which we were about, he anticipated, to inaugurate in this country. On the completion of these Houses of Parliament, an immense number of workmen, of considerable ability, were scattered about the country, to work in parish churches, and in Gothic structures of all kinds, and their distribution in this way, and the development that they must consequently bring about in sculpturial requirements, must, he thought, tend to do us great credit, and to make up the bulk of our fine art for the future. Seeing, too, that a great deal of work is left to their actual design, there would be a great want of them, particularly in country places. consequently it became important that principles should be recognised which should serve to a certain extent as a guide to them in architectural carving. No one would fail to feel that the normal principle in nature was regularity, and he thought it was decidedly proved by the perfection of regularity being the test of the health or the reverse. The moment anything occurred in a flower that moment you observed that one portion of it went out of its regularly established form, and this was one reason, in his mind, for believing that regularity was one of the first principles. But he thought that a second principle consisted in the continual effort that appeared to be engendered by a too rigid adherence to regularity. The way in which gravity acted on the parts of a flower, presented a counter-check to this rigidity of form in the beautifully diminishing ratio of the way in which the leaves sprang from the parent stem, flowing out, and following not in strictly geometrical divisions, but in a regularly diminishing ratio of spirals, as far as the portion of the leaf itself, while the way in which the branches sprang out in the leading ramifications of the tree was most irregular, as if to make a purpose and a virtue of variety, and to avoid a too great rigidity in the geometrical parts of the minor portions. This was one of the principles to which we in designing should always adhere, namely, to endeavour to contrast certain portions of the geometrical regularities with others in which the fancy of the artist had a more dominant sway. The introduction of the regular spiral, which we did not recognise in nature to a very great extent, was one of the most beautiful balances of the leaves, based on the more simple geometrical figures; and he thought it was by the adoption of these general principles, in connection with more direct imitation,—that was to say, by a closer adherence to geometry of parts,—that we could obtain the best effect in foliated arrangements. When we looked at the efforts of a tyro in design, we found that his first idea was to make things balance. He put up a centre, and a support on each side, and raised a rude geometrical figure as his first impulse; but directly he got a little further, he perceived that that was an easy and a commonplace thing, and varied it in all sorts of capricious fashions, until he lost the design by his escape from this first simplicity; and then, when he became a really perfect man of composition, he adhered to rigid regularity, though there was a constant endeavour to conceal it. Thus all good paintings, particularly those of Raffaelle, were based on simple geometrical figures; but, by dexterity in the disposition of light and shade, and of other geometrical figures, there was brought about, so to speak, a constant hiding of the first intention, and the spectator was pleased with the regularity obtained, without being able to ascertain how it was obtained, and in this consisted one of the most skilful of the arts of design and composition. In this way the artist imperceptibly imitated nature, and did not bring himself as the artist too conspicuously forward. Another important point in the consideration of this subject was the precise extent of imitation to which sculptors in particular should go in the imitation of natural objects. If they imitated too closely, and it was many material that was at all like the material in which they were working, it became disagreeable. To imitate the trunk of a tree in oak carving was a sort of falsetto that shocked you directly; and to imitate rocks in marble was another objectionable thing; but a close approach might be made to direct imitation where the enclosing forms are of a strictly architectural character, and that was one of the reasons why the foliage at Southwell was so exceedingly pleasing, more particularly in those parts that were most fanciful and most close to nature, and for the way in which the groupings and the leaves were thrown about, intersected by a fine projecting roll of mouldings that separated the one from the other, and which almost convinced you that it was architecture you were looking at, and not a bunch of leaves. Another condition on which you might approach very closely to Nature, in direct imitation of her, was when the scale of the work of art was very much less than the object imitated, because you saw at once that it was a work of art, and not a mere portrait. It lost its servile character, and if, in architecture, we were to insist too largely on convention, we should do away with one of the greatest happinesses of art, for when an artist felt he had a beautiful object before him, he felt an intense pleasure in imitating it, and that pleasure, in turn, was conveyed to the spectator. A most beautiful example of this kind of imitation was the bronze-work and leafing, and the little birds, round the second gate of Ghiberti, at Florence. There the bean and the different plants were all done in the most minute detail in the texture of the foliage itself, and not by the severity of the enclosing lines, or by trespassing on the architectural features, there being only so much of enriched moulding as not to appear too much; and yet it was impossible to imitate nature more fanefully or playfully. There was not a plant that did not retain its perfect geometry of structure, and in that respect harmonized with what was consistent in nature. With respect to the application of colour in sculpture he must a little join issue with the chairman. He quite agreed with him that polychromy was inapplicable in sculpture where applied in such a way as to interfere with the leading or dominant lines of the composition. In the arrangement of ornamental coloured sculpture, specific rules should be observed. If you had an undulating line in one direction, and intersected it at another, the intersection occurring at regular spots, of course there was no objection to have the two lines in two different colours; and supposing you wanted to place an ornament in the different parts of the spaces formed by these intersecting lines, you might do it in different colours, so long as you distributed your colours at intervals, and gave the effect of regularity by the operation.

MONUMENTS.

Havelock.—Government has agreed to grant a site for a monument to the late General Sir Henry Havelock. The monument will be erected on the opposite side of the Nelson column to that of Sir Charles Napier's statue, and will consist of a full-length statue of the late general. The names of the regiments and of the officers who accompanied him through the memorable struggle at Cawnpore and Lucknow will be recorded on the base of the monument.

Hume.—At Montrose a meeting of the committee of subscribers to the Hume Monument for that town was held on Wednesday in last week, when the secretary read a correspondence with Mr. Calder Marshall, sculptor, from which it appeared that the artist strongly recommended a freestone instead of a granite pedestal, as more in keeping with the statue, admitting of more ornament, and which could by induration be made to last as long as granite. The meeting unanimously agreed to the suggestion, and remitted to Messrs. Barnes, Foote, and Ross to arrange with Mr. Marshall for a statuary monument to Mr. Hume of the stone recommended, the figure to be 9 feet in stature above the pedestal, and the whole to be executed, erected, and finished at a cost not to exceed 400*l*.

Watt.—We have before noticed the effort which is being made to commemorate the talents of James Watt, the inventor of the steam-engine, by erecting a massive monument at Greenock, his birthplace. This is being effected by novel means, the donations being solicited in kind. During January the following donations were received:—A large stone, from the Mechanics' Institution, St. Helen's, Lancashire, requiring ten horses to convey it from the railway to the cemetery hill; and the following, transmitted by Mr. John Grant, of Malta,—a block of granite, from Sebastopol, presented by the secretary to the Port-Admiral; a stone from St. Paul's Bay, where the Apostle was shipwrecked, quarried there by order of the Governor of Malta; and a portion of a marble pillar from ancient Carthage, presented by Rear-Admiral Sir Houston Stewart. These, along with a few other contributions, have been placed upon the four large corner stones gifted by Mr. Dugald Dove, Nitshill quarry. The foundation of the monument is 40 feet square, and its pillars will guide sailors navigating the Clyde.

TRINITY CHURCH COMPETITION, EDINBURGH.

The report of the Lord Provost's Committee on the subject of the plans received in answer to the requirement of the Council for a Gothic church at 7,000*l.* states that the sub-committee had selected fourteen of the fifty-eight plans lodged to place before the Lord Provost's Committee, and that, after full consideration, the Lord Provost's Committee, by a majority of votes, preferred the designs numbered 2, 55, and 12, in the first, second, and third place, the mottoes of these being "Octagon," "Trio in Uno," and "The Purity of Protestant Worship," respectively. The mottoes of 26, 32, and 36, being the other three designs recommended by the sub-committee, and selected as next in order of preference by the Lord Provost's Committee, are "In defens," "In hope I byde," and Three Circles. The following are the remaining designs selected by the sub-committee as deserving of special commendation, but without any order of preference:—10, "Fides;" 11, "Auld Langsyne;" 15, "Edina;" 22, "L'Espérance;" 23, "Knox;" 47, "York;" 49, "Excelsior;" and 57, "Regina." The committee opened the envelopes containing the mottoes of the designs preferred in the first, second, and third places, and found that the authors of the several designs are:—

1. "Octagon,"—Lanyon and Lynn, architects, Belfast.

2. "Trio in Uno,"—John Liddell, architect, 11, Albion-street, Hyde-park, London.

3. "The Purity of Protestant Worship"—Philip Brannon, architect, 5, Manchester-street, Southampton.

When the report was read, Mr. Wood asked if the committee had requested the aid of any professional assessors to guide them on the question as to whether the designs approved of could be carried out for the money?

Bailie Johnston said it was strictly provided for in the conditions of competition, that if the plan first preferred could not be executed for the money it should be set aside, and the next in order taken. He stated that there had been a marvellous harmony in the committee in deciding on the plans.

We have received letters objecting to the decision. Eight or nine members of the council dissented from the adoption of the report, chiefly, however, as we understand it, on the ground that the original engagement on the part of the council, when they allowed the old church to be taken down, and received from the North British Railway Company 17,671*l.* 19s. 6d. in respect thereof, is not being carried out.

BANK OF NEW YORK.

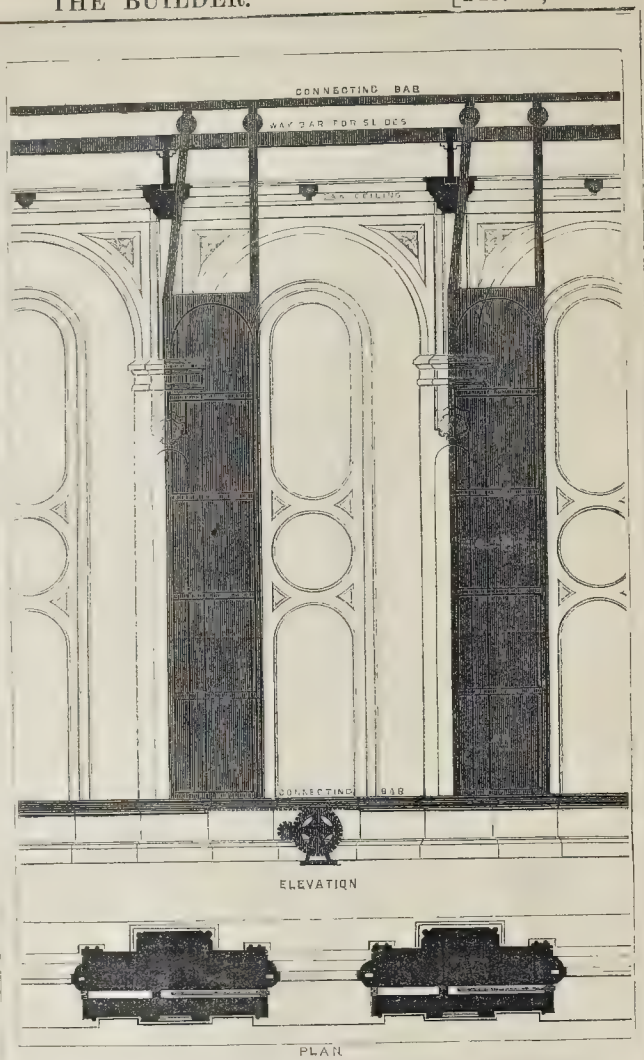
The building shown by our engraving, has been lately erected by the Bank of New York, at the corner of Wall-street and William-street, on the site of their old building, which was a structure of brick and brown stone, handsome in design, but not adapted to the present requirements of the bank. Wall-street is the thoroughfare of most importance to the money-making part of the city community. The appraised value of the site being 50,000*l.* it was desirable and economical to pull down the old building, which provided no income in the way of rent, and to build up in its place a structure that should supply ample accommodation for the bank, and at the same time furnish a number of rent-paying offices. The building here illustrated, when completed, will cost about 30,000*l.*—and thus, with the site, will be worth 80,000*l.* The rental of the offices will be between 5,000*l.* and 6,000*l.* per annum, and the building will therefore yield an interest of about 7 per cent. on the whole value, and leave the banking department free of rent-charge for the part occupied by itself.

The banking-room occupies two stories of the building, the entrance being from Wall-street, with rented offices of moderate height on each side of the entrance-hall. In the rear are the vault, the cashier's room, and the president's room; and over these the directors' room, with dressing-rooms attached, bringing this part of the building to the same height as the banking-room.

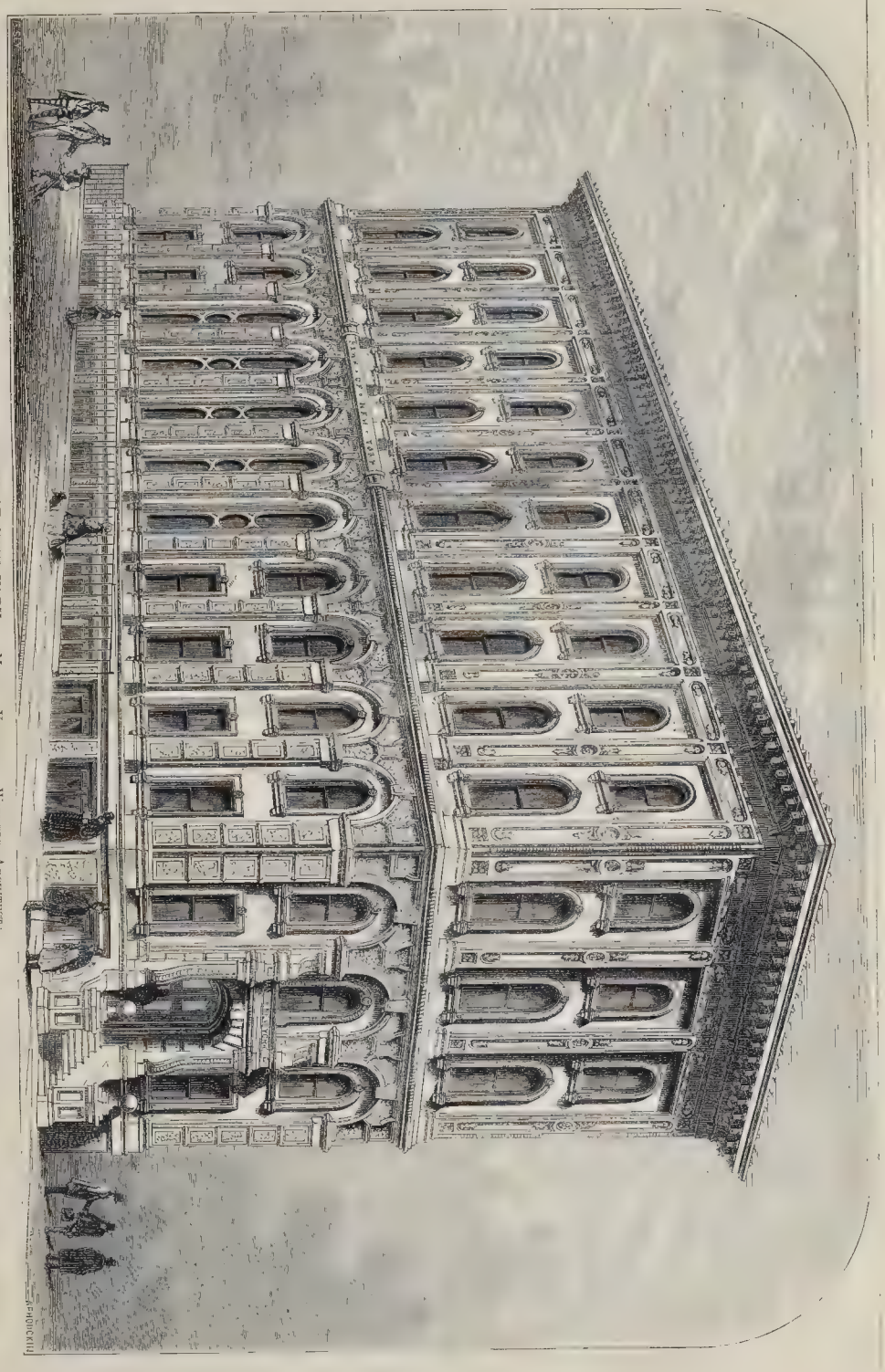
Under the bank department in the basement, is a large book-room for old books and papers; lunch-room for clerks, with dressing-room attached; also a specie-vault and plate-vault, communicating through a lobby and iron door with William-street. Under this again is a sub-cellar, for heating apparatus and coal.

The office suite on the floor immediately above the entrance commands a higher price than could otherwise be obtained for it, from the fact of the staircase being easy, and the principal story being comparatively low; and these two rooms have been let to the United States Trust Company for ten years, at 1,000*l.* per annum. The two connected rooms on one side of the principal hall are let to an insurance company for 800*l.* per annum, and the small office on the other side of the hall for 400*l.* per annum. The uppermost floor is let to the clearing-house, at 600*l.* per annum, and the other offices command rents in proportion,—those in the basement being nearly as valuable as those on the principal floor. In planning the building, it was considered desirable to take the whole width for the banking-room; and as this width of about 35 feet would have been too considerable to allow of an ample supply of light from windows on one side only, an oak ceiling has been introduced, with glazed panels over the dark side of the room, and a well for light, the whole length of the apartment, has been left between this glazed ceiling and a skylight of the same size in the roof above. Ample light is thus introduced on the enclosed side of the building, and the staircase, closets, and corridor, together with one side of the clearing-house office in the uppermost story, have an ample supply of light from the same source. The ceiling lights and roof lights are glazed with small thick glass, in iron burglar-proof frames, and all the partitions throughout are of corrugated iron, with iron laths. The beams and girders are of iron, with corrugated iron laid between the same, and filled in with concrete. The iron shutters to the banking department are all connected together; and, being suspended from above, run on large wheels, that traverse a way-bar fitted between the beams on a level with the floor over the banking-room, so that this part of the work may be examined at any time, by taking out the panels under the windows of the offices in the upper floor, without interfering with the Caen stone lining of the banking-room.

These shutters, shown in our illustration, finish below with a grooved cap, working with three-quarters of an inch play on a guide-bar below, and are all turned by one crank quite easily,—the main room, cashier's room, president's room, and directors' room over, being thus closed up simultaneously by a process that is too simple to get out of order at all readily. The inner Caen stone wall was built on the window side of the room after the shutters were fitted, the other three sides being carried up with the building. The exterior is of red brick and brown stone, and all the works have been carried out under the superintendence of Mr. Calvert Vaux, architect, from plans approved previously to a dissolution of his partnership with Mr. Withers.



BANK OF NEW YORK.—*Elevation and Plan of Suspended Iron Shutters.*



BANK OF NEW YORK.—Messrs. Vaux and Withers, Architects.

THE FITTINGS OF HOUSES IN THE MIDDLE AGES.

TOWARDS the close of Mr. J. H. Parker's lecture on the Domestic Architecture of the Middle Ages at the Architectural Museum, mentioned last week, the lecturer said:—

I am perhaps departing from the strict letter of the subject in saying anything about furniture, but as the bare walls of a modern house give a very inadequate and uncomfortable idea of a modern dwelling, so is this equally the case with the dwelling-house of the Middle Ages; and yet most people form their ideas of these from the bare walls only, and come to the conclusion that they must have been very wretched, uncomfortable places, which I believe to be very far from the truth.

To begin with the hall, as the principal dwelling apartment, where large parties were assembled. The walls were hung with tapestry to the height of 8 or 10 feet from the ground. above this the walls were painted with foliage and figures, often with subjects taken from the popular romances of the day, or hunting scenes, or sometimes legendary or Scripture subjects: similar subjects were worked upon the tapestry, so that when the colours were all fresh there was little distinction between those parts of the walls which were hung with tapestry and those which were not. The windows, also, were filled with painted glass, containing similar subjects, and forming a continuation of the paintings on the walls, or the work of the needle in imitation of paintings. The best example we have remaining of this arrangement is in St. Mary's Hall, Coventry, where the tapestry and the painted window over it, at the high end of the hall, behind the dais, remain perfect, though faded. They are of the time of Henry VI. and record a visit of that monarch to Coventry. In several other instances the gables at each end of the hall are filled with windows, the buildings attached being considerably lower than the hall.

To provide for sufficient warmth, I have mentioned that a large fire of logs of wood was made in the middle of the hall, on a brazier with fire-dogs, around which forty or fifty people might be assembled and yet feel the benefit of the warmth: the smoke, escaping from the louvre in the roof, passed above the heads of the people. This custom was continued in the hall of Westminster School until a very recent period, having only been altered by Dean Buckland. It was also continued in the hall of Lincoln College, Oxford, within the memory of some of the present fellows, and the smoke-louvre in the roof still remains. I believe it is also still the custom in the hall of St. John's College, Cambridge.

But as the smoke must have frequently been injurious to the paintings, we commonly find in the richer halls of the fifteenth century fireplaces introduced—sometimes only one, as at Haddon Hall, Wanswell Court, and very many others; often two, and these placed usually on the same side of the hall, as at Kenilworth, and numerous others: sometimes there were more than two, as at Conway; though it is difficult there to tell exactly how far the great hall extended, and where the partition-screen of the chapel was placed which formed one end of it. At Linlithgow there are two large fireplaces close together at one end of the hall, behind the dais, probably because the climate was cold and damp (and perhaps because the princess, afterwards known as Mary Queen of Scots, whose father built this palace, was a delicate child, and required more than usual care). The fireplaces in Scotland are generally large and fine, and resemble the French flamboyant fireplaces with their magnificent hoods.

The tables—both the high-table on the dais and the side-tables in the body of the hall—were long and narrow, being merely boards placed on trestles, and removed when not required for use. The word "table" properly signifies the same as the Latin word *tabula*, a board, and does not include the trestles, or the legs, or framework on which the table rests. These tables appear to have been generally used on one side only, the people in the body of the hall sitting on benches, the grandees at the high-table on chairs, and the lord in the centre, on a sort of throne, or chair of state, with a canopy over it—at least, if we may trust the illuminations in manuscripts of the period, as I believe we may, though some persons consider them so entirely conventional that no reliance at all is to be placed upon them. A few of these state-chairs have come down to us: perhaps the Coronation-chair in Westminster Abbey is the most beautiful, and although it is in a shamefully neglected and mutilated state, having been evidently used merely to nail the velvet coverings upon, yet the original carving and gilding, and painting, with the diaper-work, can still be made out with care.

In the recess of the bay-window at the end of the dais was the sideboard, or cupboard, on which the plate and china were displayed on shelves. The dais itself was often covered with a carpet, and the chairs had cushions on the seats, and dorsars at the back:—these seem to have been thin cushions or pads hanging over the back of the chair. The table was covered with a linen cloth, and napkins were provided for each guest. Water was brought round before and after meals to those at the high-table in lavatories, which were small basins of silver or metal richly enamelled, about the size and depth of a soup-plate, but with a spout to pour out of, and which were often filled with rose-water: those in the body of the hall were expected to wash their hands at the lavatory provided for that purpose behind the screen at the lower end of the hall. The dais was commonly boarded, but the floor of the body of the hall was covered with tiles, or sometimes paved; or earth only, and was strewed with rushes, which were frequently renewed. At the lower end of the hall, over the screens, was the music-gallery, which was occupied by the minstrels during meals; and from this there was often a door to a room at the back. The bed-rooms were well furnished with bed-steads and bedding, as is proved by the numerous inventories of furniture which we have remaining, as well as by the illuminations. We find mention of silk curtains, feather-beds, mattresses, and flat cushions to be placed against the wall at the back of the bed. The bedstead served as a couch during the day to sit or lounge upon, the same chamber serving its occupant both for bed-room and sitting-room, as is still the custom in France. The floor was usually covered with tiles, or with a kind of mastic, as at Bolton Castle, Yorkshire, which is not cold or uncomfortable to the feet.

Small carpets, like what we now use as bedside carpets, were in common use, and the quilt or covering of the bed was often a richly-worked piece of tapestry or needle-work. But chairs appear to have been scarce articles, as we read frequently of people sitting together on the sides of the bed. In the place of our chest of drawers there was a chest of a different description, often richly ornamented both with painting and with well-wrought iron-work. There was also a shelf to put books upon, or for any other purpose. In each bed-room there was a fireplace, and attached to each was a garderobe, either in a turret or in the thickness of the wall, with a passage leading to it.

In the kitchen and offices there was no lack of the utensils necessary for carrying on the work there required. The inventories of the period enumerate all sorts of conveniences,—boilers and kettles, and stewpans and frying-pans, and gridirons, tubs, vats, barrels, and everything wanted for the bakehouse, the brewhouse, the salting-house, and other offices.

Thus it will be found, upon careful investigation, that with all our boasted improvements and advances in the march of civilisation, so far as comfort is concerned, the country-house of the Middle Ages presented as many luxuries to those who inhabited it as a modern house does to ourselves, making some allowance for the wants of a less effeminate age, which did not require all the little delicacies and refinements of modern usage. We are often too ready to look back upon the Dark Ages, as we love to call them, and fancy that because we do not at first sight find proofs to the contrary, men must have lived like cattle. If, however, with the evidence we have collected, we can look back, in imagination, and transport ourselves, for instance, into one of those old halls at Christmas time, with the yule log blazing on the hearth, sounds of music pouring forth from the minstrels' gallery, of merry laughter from the vicinity of the jester, and of dancing with thorough goodwill in another part, we should see a scene of warmth and comfort which may well bear comparison with the refinements and the stiffness which civilisation often imposes on our modern drawing-rooms. It is too much the fashion to despise our ancestors for what they had not, instead of taking the trouble to examine what they had. We are often too conceited to copy or to learn from past ages, but seek after some new and taking invention, which, after all, perhaps, if we had searched diligently, is no invention at all, but something that was common in those ages which we call dark, but which will be found not unworthy of the attention of an age that prides itself on the advanced state of its arts and sciences.

MR. SCOTT'S SECOND LECTURE ON ARCHITECTURE AT THE ROYAL ACADEMY.*

IT is exceedingly vexatious that the dates of buildings of this period [twelfth century] are so difficult to be ascertained. Even where we know by whom they were erected, their founders were often so long-lived, as to render the information perfectly indefinite. Thus, Pudsey presided over the See of Durham for forty years, Roger over York for nearly thirty years, and Henry de Blois over Winchester for forty-two years, and Walkelin de Ferrers, who built the Hall at Oakham Castle, held the Manor from 1161 to 1201.

Among the later works of the transition, may be mentioned the eastern part of Chichester Cathedral,—a most beautiful example, of which I give an internal view; and a yet nobler specimen is the eastern portion of Tynemouth Abbey. Of this I give a restored view, in which I have supplied one of the bays which have fallen, and also the vaulting, with its curious termination against the east end. This, again, is a dateless work. Though, externally, the flat Norman buttress is retained, it possesses internally no Romanesque features, but is purely pointed and thoroughly developed in every part, though retaining what in England is the great distinguishing characteristic of the transition,—the square abacus. The details are exceedingly rich and beautiful, while the vast thickness of its walls gives to the interior a massive grandeur seldom equalled. Its situation is ungenial, being on a dull promontory, and close upon the shore, so that every blast from the German Ocean whistles through its arches; yet, chilling as its position is, no one of taste can visit it without finding his heart warm up with admiration of its noble and beautiful architecture, which is excelled by few if any examples of its period.

In the same northern district is Hexham Abbey, a noble example of what may be called the *transition* from the *transition* into the developed early English. Further north, again, we have noble examples at Kelso, Jedburgh, and Dryburgh. The first having the round arch nearly throughout; the second, as I have before said, famed for its exquisite doorways; and the last having doorways equally refined, but remarkable rather for their chaste simplicity than for their richness of detail. I ought also to mention, among other northern examples, the Abbey of Turnes, and the Sister Church of Cartmel,—also the noble refectories at Fountains and Rivaux.

To attempt, however, an enumeration of English examples, would be an endless task. So far from being a mere exotic, the country appears to have been absolutely saturated with transitional buildings; and these, so far from showing any of that inaptitude which would accompany the use of a mere imported style, actually evince a degree of originality and a revelry (if I may use such a term) in the new art which is perfectly charming; and display beauties wholly different from any I have seen in other countries. Not only is this the case in works on a grand scale, but in the smallest village churches, in which we find the style reduced to its simplest elements, yet exhibiting a sense of beauty and a studious attention to detail which is quite surprising. One of the features of these simpler productions is the plain unfoliated capital, such as those at Roche Abbey, but which from its simplicity is of frequent use in village churches. Nothing could be more severely plain—yet it possesses a degree of beauty equal, in its way, to that of the most gorgeous capitals. We see from the examples I give from Roche Abbey, from Ripon and Fountains, how this passed off into the round moulded capital which is so peculiar a characteristic of the English Early Pointed.

The distinctive characteristics of the productions of the English as compared with the French transition are somewhat difficult to define, inasmuch as they begin in a manner the very reverse of that in which they terminate;—for at first they evince themselves in a stronger resemblance to the preceding Romanesque, while they terminate in a style differing from it more decidedly than was the case with the perfected early Pointed architecture of France. The early transitional works of the Royal domain of France appear to an English eye more advanced than they really are, because the Romanesque of that district had less of those characteristics which, to our eye, distinguish the style, than those either of England or of other parts of France. The designs of the archivolts, as M. Viollet le Duc says, were sparing in ornament, but liberal in mouldings,—and if we compare early Pointed examples with the preceding Romanesque of the same district of France, we shall find that the changes were comparatively slight. In England the change was at first equally slight, but, the Romanesque being rich in characteristic decorations, it follows that, to us, our early transition appears more Romanesque than that of France. Compare, for instance, St. Cross with Sens: the proportion of round to pointed arches in each differs but little. At Sens even the vaulting of the aisles is round, while at St. Cross it is pointed; nor do they differ much in their relation to the preceding Romanesque of the same districts, as will be seen by comparing an internal bay at Sens with corresponding portions of French Romanesque churches. Yet Sens being absolutely devoid of those Romanesque ornaments in which St. Cross is so rich, strikes our eye as being more advanced. We had, in fact, much more to be got rid of in our Romanesque than they had in and about the Isle of France.

The remarkable converse of this is that at the close of our transition we had not only thrown off this excess of Romanesque characteristics, but had gone beyond the French in altering those of a less palpable kind, and introducing details distinct from those of the preceding style. Thus our arch-mouldings became far more rich and more studied in their profile than those in France, which continued to be little more than the repetition of a roll between two hollows, while ours were composed of numerous and beautiful members;—the proportions of our windows became much more graceful than those customarily used in France, the basement mouldings were better. On the other hand, we were far less liberal in the use of sculpture, and we generated a purely moulded capital, which the French can scarcely be said to possess; thus, if I may say so, giving ourselves the choice of a *Dorie* as well as a *Corinthian* variety in our columns; and, finally, we relinquished the square form of the abacus and made our capitals, for the most part, round: so that at the end of our transition we had departed much more widely from our own Romanesque than the French had from theirs; and while the early French transitional works look more advanced than those of a corresponding stage in England, the case is reversed at its close, when the English examples appear more advanced than the French, as may be seen by comparing the interior of the Galilee at Ely with the western portals of Notre Dame, which are of some years' later date.

I will close my outline of English transition by referring to four examples which mark the limits of its duration by showing how soon the true Early English attained its perfect development. The examples I cite for this purpose are the following:—

1st. The choir, eastern transept (and, I believe, the chapter-house), at Lincoln, which were completed by Bishop Hugh before the close of the twelvth century, and which, though of early character, are decidedly not transitional, but developed Early Pointed.

* See p. 99, *ante*. The first lecture was delivered on Thursday, January 21; the second on January 28th.

2nd. The western portals of St. Alban's, built by William de Cella, between the years 1195 and 1205. These are among the most beautiful early English works in the kingdom, and have no Romanesque reminiscences, nor any French characteristics, except the crochet capital, which is magnificently developed beneath round abaci.

3rd. The eastern chapels at Winchester, built by Bishop de Lucy about 1204. These have no striking feature, except that they are pure Early English, and even then suggestions of tracery.

4th. The Galilee porch at Ely, built by Bishop Eustacius, who held the see from about 1195 to 1214, and which is one of the most magnificent specimens of the fully developed style in the country. It has the crochet capital, gorgeously enriched,—not with French but English conventional foliage; while the arch mouldings are filled with the most exquisite foliage of pure Early English character.

Thus we see that, though the French preceded us in the commencement of their transition, our own was, with very trifling exceptions, equally national with theirs; and that it was not only completed as soon, but that it was carried through to a style more distinctive and fully as national as the glorious Early Pointed of France.

On this subject I will only add one remark. Early as were the first French developments compared with ours,—long as was the interval of stagnation between St. Denis and St. Germain des Prés, many as were the steps between the stages of the transition in both countries, and many more before we had developed out of it that Pointed style we know as the "Early English," with its lancet windows and round abaci, the whole was, nevertheless, carried through within the period of *one lifetime*. Not only were the transitions of France and England carried on to perfection under contemporary monarchs, but that queen who was present at the consecration of Suger's precocious monument, who caused that subsequent stagnation by her frivolity, and who witnessed the completion of St. Cross during her captivity at Winchester, actually lived long enough to have seen the fully developed Early English of De Lucy's chapels in the neighbouring cathedral.

The length to which my remarks on the French and English transition have been necessarily extended has compelled me to limit what I hoped to have said on that of Germany to a very few observations.

I have already mentioned the extraordinary tardiness of the Germans in relinquishing their much-loved Romanesque. I am not prepared, as in the case of French and English buildings, to trace out the first appearance of the pointed arch, and I have no doubt that there are numerous instances of its use at an earlier date, but there is nothing like a transition into the Pointed arched *style* till the commencement of the thirteenth century, after it had been completed both in England and France. Nevertheless, the German transition is as distinctly natural, and as evident an offspring of their own Romanesque, as that of France or England; indeed, it is so peculiar as to appear at first sight to have little in connection with the architecture of either of the two countries, and is usually spoken of as being only a slight variety upon German Romanesque. Let any one look at a few of its leading productions, as St. Martin, St. Gereon, and a few others at Cologne; the churches at Neuss, near Dusseldorf, Limburg on the Lahn, Sinzig, Gelnhaussen, or St. Mary, at Treves; the western façades at Anderbach, Xanten, St. Sibald, at Nuremberg; and at Halberstadt, the east end of Magdeburg, or at the representations of the cloisters (now destroyed) of St. Gereon or Altenberg, or at any of the multitudinous list of German churches of the first quarter of the thirteenth century, and he will at once see that they present as natural and logical a transition from their own national Romanesque as the works of Suger do from that of the royal domain of France. The use of the crochet capitals in some of the later examples is the solitary instance of any direct imitation of the already perfected transition in the neighbouring country.

The great misfortune of the German transition was, that it occurred so late that before they could perfect it the French had passed into the second stage of their developed pointed, and had worked out the great problem of window-tracery. The consequence was, that German patience at length gave way; they relinquished their transition just as they were perfecting a pointed style of their own, and throwing themselves almost wholly into the hands of the French, passed at one step from their own curious and characteristic art into the fully developed style of Amiens and Beauvais.

Mr. Fergusson laments this as having prevented the development of a perfect *round-arched* style; but it must be recollected that the round-arched style of Germany had been almost entirely relinquished previously to the succumbing of their national architecture before the dominant star of France. The loss, then, we have to lament is, not that it prevented a more perfect round-arched development, but that it suspended, when on the eve of being perfected, the formation of a really national German variety of the Pointed-arch style; and, though they did much to remedy this, it unquestionably rendered their architecture, for the next century, in some degree, a German version of French style.

I have, however, dwelt so long upon the mere history of the transition, that I have had no time to extract any useful practical lessons from the changes in art we have been tracing out. What, then, are the leading lessons they suggest?

First. They show us how absolute must have been the necessity, in generating a perfect arcuated style, to cast away the slavery,—I will not say of the round arch, for it is one of the most genuine and useful forms, but of the adherence to one unchanging form in the arch, admitting of no variation in its proportion of height to span, nor any change of form suited to its statical duties, or its geometrical or æsthetical position.

Secondly. They suggest encouragement in the task of working out a style suited to the exigencies of our day, by showing how vast are the results to be anticipated when, not only the artists, but when the rulers, the nobles, and the ecclesiastics of a country thoroughly set themselves to the task with one heart and one mind, and work on together with all their zeal, energy, and perseverance, till they have ensured the great object of their designs. Would that we could see some equivalent effort in our own country and in our day!

In the age we have been treating of, the previous architecture, though in a great degree original, retained elements derived from the degenerated Roman, and others belonging to the ages of darkness and barbarism which succeeded, but, by the efforts we have been chronicling, both these elements were thrown off, and the style came forth like gold purified in the fire,—pure and refined.

Thirdly. We may learn a lesson of *patience* from what we have reviewed. Those of us who have been endeavouring to generate a style on the basis of the architecture of our own family of nations, have been often taunted with the slowness of our progress. Now, it is scarcely twenty years since we set earnestly about the task, and, rapid as the transition in the twelfth century appears, we have seen an interval of twenty years in its history in which we can trace no progress at all; which, with all our deficiences, can hardly be said of us during a corresponding period: let us, then, take courage and press forward, and in spite of temporary discouragement, and, in the end, a like success may terminate our labours.

Fourthly. It has often been spoken of as a vice to be too fond of studying *transitional* styles. This may possibly be true as regards taking them as our models, but I hold the very contrary to be the case as to selecting them as special objects of study. They are the very periods of intellectual energy,—the moments of the most intense effort of the human mind. From them we learn what zeal, what determination, what strength of will, what unity of purpose, what patient perseverance are required in working out a great good. The result of the mighty struggle was, that, freed from every barbaric or lifeless element, our architects commenced the next century with their course clearly open before them, every thing in their power, and no hindrance to the attainment of their object. Would that we could say this of ourselves, whatever may be our views as to *style*!

Fifthly. Then, again, in the style itself of the buildings, we have been considering there is much for us to learn. They possess a masculine grandeur, a noble sturdiness of character, an independence of ornament united with a grateful acceptance of its aid which would supply a wholesome element to any style. A perfected style is often defective in these characteristics. It is toned down to too perfect a symmetry,—a too nicely weighed balance of parts;—the whole may suggest nothing but harmony, yet the parts are too much lost in the whole: there is too much of the satiety of attainment, and not enough of the excitement of the effort after perfection. The first developments of Pointed architecture produce an excitement on the mind which more perfected examples do not give rise to, and it seems to me that they contain elements which we should not do amiss to instil into our own works, as I may have occasion to suggest more practically, if I should continue my course of lectures in this place.

Sixthly. There is something to be learned from the curious history I have traced out of the reintroduction of one classic element,—the Corinthian capital, at the moment when all other relics of the architecture of the whole world were about to be thrown off. It is a kind of parallel to the revival of classic literature at the same period, on which M. Viollet le Duc remarks,—

"It is precisely at the moment when the researches into antique letters, sciences, philosophy and legislation were pursued with ardour,—during the twelfth century,—that architecture abandoned the last remnants of antique tradition to found a new art whose principles are in manifest opposition to those of the arts of antiquity." "Are we then," he proceeds, "to conclude from this that the men of the twelfth century were not consistent with themselves?—quite the contrary—but that which distinguishes the Renaissance of the twelfth century from that of the sixteenth century, is this,—that the former penetrates into the antique *spirit*, while the latter allows itself to be seduced by the *form*."

The Corinthian capital stood alone among the details of ancient architecture, as being founded on principles of beauty common to *all ages*. It was foreshadowed in the works of their earliest predecessors, the Egyptians, and has suggested the forms for the capitals used in all succeeding styles, whether by the Byzantines, the Sassanians, the Saracens, or the Gothic conquerors of Rome. It was, then, consistent that, while about to purge their arts of mere dead rudimental relics of ancient art, this one feature should be revived as a nucleus for development. The same may be said of the Pointed arch, if the theory be true of its Saracenic suggestion. It had been invented in very early times, perhaps earlier than even the round arch, though its uses were not then appreciated. The Romanesque builders had adopted many dead forms of ornament from Saracenic and Persian manufactures, and the introduction of this one really living feature at the moment when the exigencies of the style demanded it (whether the idea occurred to them spontaneously or by suggestion), was the signal for throwing off, as effete and useless, all the orientalisms which they already had in use.

From this we may learn not to shrink from adopting into our developments external suggestions from whatever source, provided only that they approve themselves to our eye and our intellect as legitimate sources of beauty, or aids to construction, and as capable of being harmonized with the style we are working out. Let us throw them boldly into the fining-pot, and if we are skilful manipulators, the gold will remain and the dross be thrown off.

Another thing we may learn is that the mere precedence of one nation in the working out of a style, does not deprive the developments of neighbouring countries of the claims of nationality. The English transition began a little later than the French, and it is, as we have seen, distinctly marked in its character and its results, so that no one can ever mistake an English building for a French one.

The German transition came on after the English and French were perfected, yet is (if anything) even more national than our own; while the Italian Gothic, though an absolute importation and often defective in detail, has more strongly-marked national characteristics than any other.

When, however, we use the term "national," we do not usually refer to these local varieties, but rather wish to express the general fact, that in our own country, and amidst the family of European nations, those styles which were generated during the rise of our own civilization are more national than the revived architecture of the ancient world. Each country has its own local variety, but the whole is one style, and that style is our own. While reviving this style, then, though we make in each country our own phase of it our groundwork, we must not permit either the narrow prejudices of friends or the taunts of critics to lead us into the folly of rejecting any of the really noble and valuable elements of our style, in whatever country they may have been generated.

I will close my too protracted lecture with a quotation from that admirable writer and accomplished architect I have so often referred to.

He thus describes the leading practical principles of the architecture to which the transition we have been tracing out was the pioneer.

"From the commencement of the thirteenth

century, architecture developed itself after a method completely new, in which all the parts deduced themselves, the one from the other, with an imperious rigour. Now, it is by the change of method that revolutions in sciences and arts commence. The construction commands the form: the piers destined to bear several arches divide themselves into as many columns as there are arches: these columns are of a diameter more or less substantial, according to the load which will rest upon them, rising side by side with them to the vaults which they have to sustain, their capitals assuming an importance proportioned to this charge. The arches are slight or thick, composed of one or more ranges of vousoirs, as dictated by their function. The walls, becoming unnecessary, in great structures disappear completely, and are replaced by window openings, decorated with stained glass. Every necessity becomes a motive of decoration. The roofs, the leading off of the water, the introduction of light, the means of access and circulation to the different stages of the building,—even less important matters, such as ironwork, leadwork, ties, props, the means of warming and ventilation—not only are not concealed, as is so often done in our buildings since the sixteenth century, but are, on the contrary, frankly acknowledged, and contribute, by their ingenious combination, and the taste which ever presides over their execution, to the enrichment of the architecture. In a beautiful edifice of the commencement of the thirteenth century, splendid as we may think it, there is not an ornament to be spared, for each ornament is but the consequence of requirement satisfied."*

MASONRY-CONSTRUCTION.†

MASONRY MAXIMS.

All masonry ought to depend upon gravity for stability.

Rustics, rough-faces, rock-work, and other analogous forms of masonry are not necessarily any stronger because of the mass on the face beyond the bed bearing-line.

Acute angles, either in beds or in joints, are not allowable. Any angle more acute than a right-angle tends to weakness.

Bent beds, in arch-stones or in masonry generally, must be weak.

Mitre joints are not legitimate masonry: all mouldings must be returned; — the mouldings will mitre; the bed or the joint square.

Weight, over space, tends to weakness. Pyramidal-formed arches are objectionable.

Ashlar should have harmonious proportions. On face, 1—3—5. On bed never less than the depth of the face, and square full to the back of the ashlar. Slab-veneering is false masonry.

Arch-stones should have a just proportion to the openings, and to the ashlar generally in which they are set.

Projecting stones bearing weight on acute angles are weak, and this mode of construction is false masonry.

The springing line in arches must be the line of greatest strength: pyramids do not stand on their apex.

Combinations of rustic and of moulded masonry are incompatible with strength or with beauty.

Pediments beneath porticoes, or inside any buildings, are not useful. Largely-projecting cornices should not have pedimented windows immediately beneath.

Single-stone architraves, mullions, and quoins set on end, are a cause of weakness. The bedding of the courses should be carried throughout.

Single-stone columns are weak, especially those of laminar sandstones or of limestones. Built columns, like those at the Madelaine, in Paris, are better masonry.

Sham jointing ought never to be resorted to.

Mouldings ought to accord with the stone in which they are cut. Classic mouldings designed for marble cannot be cut in standstones so as to show and endure.

Buildings constructed out of the stone of a district are most in keeping with the landscape.

Ashlar-faced walls should not be backed with brickwork or with rubble without precautions to prevent shrinking or separation of the parts.

Deep quoins and thin courses produce weak work, especially in towers and in spires.

Notched and broken-coursed masonry is only allowable where the stone of the district is unsuitable for a more regular form of masonry. To spoil good stone for the sake of such imitation is false in masonry and extravagant in architecture. Put every stone to its best use in the best form, and not in the worst form.

Horizontal openings cannot be spanned with vertically-jointed masonry: columns, architraves, and piers must be covered with single stones, or with an arch: joggles, dowels, and cramps cannot make such work good masonry.

All building-stones having had an aqueous formation, such as stratified sandstones and limestones, should rest on their natural beds.

Combinations of brickwork and stones for face-work are allowable under certain conditions. Perfect courses of bricks may alternate with courses of stone.

Combinations of various sorts of stone are allowable. Perfect courses of stone may alternate in variety.

Colour is allowable in architecture. Varieties in stones, and varieties in bricks, and in tiles, and in marbles.

Sculpture must be subservient to architecture when combined with it.

Few men have laboured more to learn in what art consists than Owen Jones; and his "Grammar of Ornament" will, I hope, become what its name implies—a grammar for architects and for artists.

With the following propositions I cordially agree:—

Proposition 1.—The decorative arts arise from architecture, and should be attendant upon architecture.

Proposition 2.—Style, in architecture, is an expression of the wants, the faculties, and the sentiments of the age in which it is invented. The peculiar form that expression takes, under the influence of climate and of the materials at command, constitutes style.

Proposition 3.—All works of architecture and of art should be suitable to the desired uses: plan and elevation should be in just proportion; and any decoration should have some use, or add some beauty.

Proposition 4.—In all architecture the order of precedence should be,—firstly, utility; secondly, construction; thirdly, ornament. The plan should be the best which it is possible to contrive for use: the construction should be the strongest possible to carry out the plan: the ornament should add elegance to the construction,—beauty to the useful.

The student of architecture will do well to make himself acquainted with the works of Nature; and the more he knows of her laws the better mason he ought to be. Geology teaches how rocks have been formed, and chemistry reveals the affinities of combination in stone, as also the causes and the processes of disintegration. Botany treats of the growth and of the structure of plants, and conchology of shells. Comparative anatomy enabled a Cuvier, and enables an Owen, out of a fragmental bone, to indicate, nay, even to build up, an entire, though hitherto unknown, structure of reptile, bird, or of quadruped: and in like manner should the architect learn to declare as to the style and structure of the temple from a fragmental moulding; and also so to design and execute any work that any fragment shall indicate the general character of the whole. A hewn and moulded stone should be a clear indication of the style of the complete structure.

Conchology is probably the most easily mastered science, and the most instructive for architectural purposes, as a few of the chambered shells, such as the living nautilus and the fossil ammonite, show how the least substance may be made into the greatest strength and most harmonious beauty. Vaulting, groining, and buttressing are carried out to perfection in shells. Rude strength may be attained by brute force and by vulgarity of materials; but strength with elegance, and with powers of endurance, can only be attained by study, by acquired knowledge, and by practice.

Admire the works of antiquity for the truth to be found in them, and not for their defects. Talk not of revivals or of restorations, but talk of study for the purposes of progress. The men who designed and who constituted our cathedrals and our abbeys were the best constructive stonemasons of whose works we have any remains. Egyptian masonry is more massive, Greek masonry is more refined, Roman masonry is more ponderous; but in Gothic masonry there is the massive, the refined, and the ponderous combined by knowledge and by consummate art in the designer and in the executor; yet, I am bold enough to say, that we have no example without many glaring defects, and these defects should be avoided.

Modern architects have at their command materials new to art, and the aid of sciences unknown to the ancients. We have chemistry for alchemy; we have machinery to aid in all the operations of building; and we have iron, plate-glass, and pottery,—and if pottery is not more perfect, it is more abundant. There are brick and tile machines, which can make bricks and tiles to any cross-sectional form, to any degree of lightness, and to any possible requirement of strength. Crypts, ceilings, vaults, and domes, may be constructed larger, lighter, more elegant, more secure, and consequently more enduring than any either in the East or in the West.

Iron, wrought or cast, may be made serviceable: cast-iron pipes have superseded the use of masonry aqueducts, and wrought iron and cast iron frequently are placed to take the part of masonry in bridges, as also the part of timber in roofs, and, in some instances, in ceilings. The architect and the engineer each use the metals where they are required; but there must not be a mixture of metal and stone, of metal and brick or tile, nor to any great extent of metal and wood, or metal, wood, and plaster, as in floors and in ceilings. Metal and glass may be used for purposes of lighting; but I think that metal and glass houses, such as the Crystal Palace, excepting for conservatories and similar purposes, will be found to be a mistake: unequal contraction and expansion, with condensation of moisture, and the resultant fracturings, leakings, and rustings, will demand heavy contingent annual expenses. There is no new style of architecture to come out of iron and glass: the materials for the architect to use will continue to be stone, bricks, and timber, with iron and glass as heretofore, but on a grander scale. Narrow windows and lead-framed lights are just as fit for modern use as the skin-garments and paint of the primitive Britons.

As I have dared to find fault, I presume I ought to commend and point out examples of masonry which I consider good. I do not know that this can always be considered imperative. There are, however, many fine examples of masonry which may be named. For bedding, jointing, and for beauty of proportion, the masonry of our cathedrals and abbey-churches may be examined and studied. The jointing, in most instances, is absolutely perfection. The weakness of the walls, pillars, and arches, has generally consisted in defective bond, but more in rubble hearting and rubble backing. It is this fatal hybrid mixture of masonry which has thrown many a vision of architectural beauty into premature ruin, before decay of the stone has set in, as the prostrate fragments of shafts and of archstones, of mullions and of transoms, and the wonderfully-contrived tracery, have arrises and chisel-marks as sharp and as fresh as the day the stones left the mason's banker. Many rich and florid buildings have, nevertheless, crumbled into shapeless ruin, almost with their newness upon them. Most of our cathedrals have been "restored,"—some almost to the extent as stated of Paddy's gun, which "*only*" required stock, lock, and barrel,—all that was not new being the ramrod.

The best specimens of Renaissance masonry I have seen are in Paris. The masonry, bedding, and jointing of the Pantheon, so far as I have examined them, and can remember them, seemed to me to be as perfect as one of our abbey churches. The French generally bed and joint ashlar work better than English architects, although there are plenty of false examples of masonry to be found in French buildings and in French architectural publications. Architectural publications generally, French, English, and Italian, are sad misleaders in construction, if they give construction at all. Men of each succeeding generation seem to copy, copy, copy, in one eternal gin-horse round. Architecture in such books seems to be a fossil—a frozen art. Men can invent steam-engines, cotton-spinning machinery, and the electric telegraph, can construct railways and steamboats, and can, from year to year, by improvements, advance such inventions. The same men could, probably, invent in architecture if they were never allowed to see an architectural example, or had not their imaginations trammelled by precedent. The three things requisite for invention and progress in architecture are, firstly, thought; secondly, thought; and, thirdly, thought

Painters and sculptors, when they took up architecture, or had it thrust upon them, committed sad havoc with rules of masonry-construction. Many of the false forms and bad jointing were, probably, introduced by brothers of the brush. The picturesque in architecture is only allowable through legitimate means. A masonry front cannot, with truth, or safety to the build-

* The last sentence, though expressing a general truth, must not be taken too literally; for, though it is the great principle of Gothic architecture to decorate construction, this may be effected, simply or richly, and with or without sculpture or carving, according to the requirements of the case.—*G. G. S.*

† By Mr. Robert Rawlinson. See p. 102, *ante*.

ing, be decorated as a breadth of canvas is painted, nor carved and sculptured after the manner of statuary.

Facility in picturesque drawing is a dangerous gift for a young artist to possess, unless backed up by a full knowledge of sound construction. Colour, and landscape, and figures of men and prancing horses, and skies with impossible clouds, in an architectural drawing, delight the eye of a mother, a sister, and a novice, but offend all true judges of art and of architecture. The recent exhibition of architectural designs in Westminster Hall was, for the most part, a depressing and melancholy sight. I never saw a galvanized corpse, but have read of one; and many of these designs gave me as much pain, because of their barefaced plagiarism and bad masonry, as a galvanized corpse would do. There were the everlasting forms, rendered worse, space cut up, mouldings, and carvings, without use, and consequently without meaning.

Shall it always be thus? Is the glorious art of the architect really dead? Has the human intellect been exhausted as regards architecture?—or do men blindly allow their intellects to stagnate?—or are we simply idle, contented to receive all that has been done, and use it as all which can be done in architecture? I will boldly answer—no! Architecture is not dead other than as the fabled phœnix died, to rise to a more glorious resurrection. Architects will study modern requirements, they will learn modern science, use modern judgment, apply modern means, and we shall have architectural structures—suitable to the requirements of the age—as pure in outline, as chaste in detail as the Greek temple, and, as complex and as perfect in construction as a Mediæval cathedral. There will then be utility, strength, and beauty again combined.

The young architectural student must ever remember that it is by his labour the poet's climate must be realized. He it is whose subtle art, as potent as Prospero's, must rear aloft "the cloud-capped towers, the gorgeous palaces, the solemn temples."

Sketched diagrams were exhibited and commented upon. There were doors and windows from Greenwich Hospital, from St. Paul's, St. Martin's Church, Whitehall Chapel, Somerset House, Temple-bar, and some others. The examples were considered by Mr. Rawlinson to show defective masonry-construction.

THE SOCIETY OF ARTS.

A deputation of members of the Society of Arts, and of presidents of the Institutions in Union, attended at Buckingham Palace on Thursday, the 11th instant, at three o'clock, to present a congratulatory address to his Royal Highness the Prince Consort, president of the Society, on the occasion of the marriage of her Royal Highness the Princess Royal with his Royal Highness Prince Frederick William of Prussia. About 200 were present.

The address, which was signed by upwards of 10,000 members of the Society of Arts and of the Institutions in Union, was read by Mr. C. Wentworth Dilke, chairman of the Council.

The report said,—

"The long period of fourteen years, during which the Society of Arts has enjoyed the active presidency of your Royal Highness, will, we trust, justify our seeking this opportunity to express our sense of the deep obligation which the arts, manufactures, and commerce of the United Kingdom owe to your Royal Highness, for the constant and discriminating attention and the judicious acts by which you have promoted their progress."

The Prince made an admirable reply, distinguished by kindly feeling and the absence of affectation.

Monday, the 5th of April, is fixed for the opening of the Society's tenth annual exhibition of *recent* inventions.

We may mention that a report as to the existing English Common and Statute Law, relative to artistic copyrights, has been prepared at the request of the committee, by Mr. J. Roberton Blaine, barrister-at-law, reporter to the committee, and may be obtained of Messrs. Bell and Daldy.

A special prize, of twenty pounds (placed at the disposal of the council for this purpose by the Rev. F. Trench and Mr. J. MacGregor), and the Society's silver medal, are offered for a writing-case suited for the use of soldiers, sailors, emigrants, &c. &c.

At the tenth ordinary meeting of the Session, held on the 10th instant, the paper read was,—"On the Application of Steam Power to the Cultivation of the Soil," by Mr. J. Algernon Clarke.

AMERICAN AND CANADIAN GLEANINGS.

A new armoury is to be erected at Albany, at a cost of 25,000 dollars. Mr. William Hodgens, formerly city engineer of Hamilton, and connected with the celebrated Dudley Observatory, has been appointed the architect.

The amount expended for school sites, and the erection of educational buildings, during 1857, in Upper Canada, was 12,807*l.* being an increase of 8,534*l.* beyond the expenditure of previous years, independent of a sum of 10,196*l.* for repairs and rents.

The floating debt of the Lake Shore Railway Company is reported at 210,000 dollars. All the earnings will be appropriated towards its payment, and no dividend declared until it is cleared off.

The cost of lighting New York city by gas during the past year was 400,000 dollars.

A fine large hall, suitable for lectures, concerts, &c. has just been finished at Waukesha, in Robinson's new block. It is 75 feet by 55 feet, 14 feet high at the sides, and 17 feet in the centre, with arched ceiling. It will accommodate twenty sets of cotillons, and will soon be opened with a large inauguration festival.

In the United States are 204,061 stores, and out of these have been 4,937 failures. Out of 1,600 counties, 1,000 have been without a failure. The total amount of the liabilities of the insolvent firms is 291,750,000 dollars, of which 156,021,000 will be paid, making a total loss of 143,780,000 dollars. In New York the failures have averaged 1 in 15, Milwaukee 1 in 33, Dubuque and Chicago 1 in 11, Philadelphia 1 in 26, Cincinnati 1 in 28, New Orleans 1 in 38, Mississippi 1 in 203, Georgia 1 in 170. Two new towns have been made in the State of Wisconsin, the first by dividing Kaukauna, and attaching a strip of its territory a section and a half wide north of Fox River, in town, 18 to Grand Chute, and providing for the organization of all south of the river into a new town called Buchanan; the second to be entitled Liberty, by dividing Embarass. The public schoolhouse at Brooklyn, lately destroyed by fire, wherein eight children (all boys) perished, is said to have been the largest, finest, and most complete of its kind in that vicinity, and thoroughly well built. It was of brick, four stories high, and covered a large tract of ground. The fire originated from a defect in the heating apparatus.

The Southern branch of the Milwaukee and Mississippi Railroad to Monroe has been opened, and with festivity. The Pacific Railroad is to be constructed between the Big Sioux and the mouth of Kansas River to San Francisco: alternate sections of land on both sides are to be granted, and 12,500 dollars per mile advanced on the completion of every twenty-five miles of the road until 25,000,000 dollars are reached. A destructive fire took place at Vincennes, whereby the large steam-flouring mill of Messrs. Mars and Garwaing was destroyed. Estimated loss 12,000 dollars. A monument to the Pennsylvanians who fell in the war with Mexico is proposed to be erected at Harrisburg. The Mine Hill Railroad has been extended about ten miles, and the Mount Eagle line about five, making in Schuylkill county 488 miles, for the accommodation of the coal trade.

The stage route from Suchil to Coatzacoalcos is in progress of completion. Seven bridges, varying in size from 100 feet to 300 feet in length, have been built. One bridge, 900 feet long, is in course of construction near the town of Tehuantepec, about twenty miles at the New Orleans side of the Pacific terminus, for the erection of which preparations are being made. Waggons can pass the entire length of the line.

An important lead-mine discovery has been made at Galena by an Englishman named Mills, and it is considered good for six million pounds of the mineral.

Considerable progress has been made with the Hoosac tunnel, and the entire advance of heading since the commencement of the work, in January, 1856, is estimated to average 544 feet per annum. The operations are going on at both ends, and it will take twenty-two years to bring both working parties together. The first mile is said to have cost less than any of the succeeding ones. There are three different relays of men, each working eight hours in the twenty-four; besides men employed in removing rock and other services. The excavation at the western side of the mountain was through a loose limestone, which, not being of sufficient consistency to form a roof for the tunnel, it became necessary to sustain it by timbering until the side walls of masonry were surmounted by a deep brick arch. On the whole, the work is said to be carried on with vigour by the contractor.

The Government is building a custom-house at New Orleans, which will be the largest structure of the kind under roof in the world. It has been in progress since 1849, and is estimated to cost 3,225,000 dollars. The whole of this immense pile is expected to prove a loss on account of the insufficiency of the foundations, the walls having settled 18 inches, and the top of the building being 6 inches out of the horizontal line. The solid earth is 30 feet below the surface.

PROVINCIAL NEWS.

Bishops Sutton.—National Schools are about to be erected at Bishops Sutton, near Winchester, to which the bishop of the diocese is a liberal subscriber.

Sheffield.—Thirteen architects having sent in nineteen plans for the new hospital, and a subcommittee having been appointed, they selected five as the more eligible to be reported to the building committee. The medical officers of the charity also examined the plans. The building committee selected two from the five plans, and it was resolved to submit these to respectable builders, to obtain their opinion as to the cost at which they could be erected. The plans sent in, says the *Independent*, exhibited great variety of design, and high skill on the part of many of the competing architects. Several gentlemen had carefully studied the improved arrangements for hospitals adopted of late years, in this country and on the Continent, and had availed themselves of all the more important improvements.

Chelmsford.—The Russian trophy to be erected in front of the Shire-hall, in this town, is to be placed on a stone pedestal, 22 feet by 15 feet, from the design of Mr. F. Chancellor, who will superintend the erection.

Farmborough (Somerset).—The new parochial schools for this parish were formally opened by the Bishop of Bath and Wells on Friday in last week. They are situated at the junction of the Farmborough and Wells roads, and consist of schoolroom, class-room, and teacher's residence, with play-grounds attached; and are in the Late Decorated style of architecture, from the designs of Mr. S. B. Gabriel, architect. The work has been carried out by Mr. Anstee, builder.

Aberdare.—A new branch bank has just been completed here for the West of England and South Wales District Banking Company. It is situated in Cardiff-street, and is in the modern Italian style, built with Newbridge stone, squared and pitch-faced, with dressings of Bath stone; the whole surmounted with a panelled frieze, and dentilled cornice, with blocking course. The whole structure is fireproof, upon the system patented by Messrs. Fox and Barrett, the floors and roofs being formed with rolled iron joists carrying concrete upon and between them, and finished with surfaces of Portland cement. The architect is Mr. W. Gingell. Mr. Diment, of Bristol, was the contractor for the masonry, plastering, papering, and painting; and Mr. Bowden, of Bristol, the contractor for the joiners', plumbers', and smiths' work.

PHOTOGRAPHIC SOCIETY'S EXHIBITION.

The Photographic Society have arranged their exhibition on the present occasion in a commodious and light gallery at the South Kensington Museum, where they have 705 specimens, exclusive of an interesting series of works illustrating the application of photography to the reduction of maps as introduced by Colonel James, royal engineers, and practised in the ordnance survey; besides a number of other photographs taken at St. Petersburgh, Singapore, Halicarnassus, &c., by the corps of engineers. In respect of the reduction of maps, the catalogue says, "By this process there is an annual saving to the country of 1,800*l.*;" and in a memorandum on the subject, which has been published by the Science and Art Department, showing how the introduction of photography into the corps of royal engineers has in great measure arisen from the connection of the corps with the department, it is stated that the application of photography to the reduction of the various maps and plans required in the ordnance survey will produce a saving to the country of not less than 30,000*l.* There is now a systematic teaching of the engineers under Mr. Thurston Thompson, and photographers have in this way been sent to Cawnpore, Bombay (the army in the field), Canton, &c. In a few years it is expected there will be a net work of photographic stations spread over the world, acting under a systematic instruction, and having its results permanently recorded at the War Department.

In the general exhibition, which contains a number of very beautiful specimens, we are not certain that there is any special advance observable. The most remarkable photographs as a series are those of the Art Treasures Exhibition, by Caldesi and Montecchi, "The Abandoned," after Stanfield, 22, and "Dort," 11, after the same painter, for examples. In respect of gradation, in landscape, Mr. Roger Fenton still keeps ahead of his contemporaries: for three specimens, among many, see 529, "View in Dolwyddelian," 525, "Mount Tryfan," and 390, "Ravine in the Lledr Valley." The portraits of Daniel Maclise, David Roberts, and E. M. Roberts, "Arcadians both" (all three, as an Irishman would say), by Lake Price, are admirable, and the same accomplished photographer has a portrait of Prince Albert of the greatest merit.

Mr. Thurston Thompson is a master in the art: to prove it we need only to point to 496, "A Frame, containing three subjects," the oak, Spanish chestnut, and the beech. A dozen others from the same hand would equally maintain the position.

Mr. F. Frith has a frame, containing five subjects from Egypt, the "Entrance to the Temple of Luxor," "Aboo Simbel," and others, of great interest; and Howlett's portrait of Brunel (and the chains of the *Leviathan*), 20; Messrs. Mudd's "Stairs at Haddon Hall," 147; and some of Maull and Polyblank's portraits, will enforce attention.

THE PRIZE MEDAL OF THE DEPARTMENT OF ART.

IT will be remembered that the Department of Art, deploring the want of excellence on the part of English artists in medal-die engraving, entrusted the preparation of their medal (to be presented to the successful scholars), to M. Vechté. We have just now seen the result. It takes the shape of a large medallion, of one side only, in *repoussé* work, afterwards chased on the face, and as a piece of craftmanship is a production of great skill and beauty. Of the design, which includes figures of Genius, the Arts, Envy, Malice, Time, and a shield for the recipient's name, scattered somewhat wildly round a medallion-head of the Queen, we may have another opportunity to speak. The electrotype process is to be resorted to for the production of the number wanted, and each will probably be mounted in a frame for suspension.

NOTES UPON IRON.

THE houses that stand high in the market are making a tolerably large quantity of iron of the best description, principally for girders, for bridges, and the like; but the trade as a whole remains exceedingly dull, on account of the recent commercial disasters. Although the make of pig iron has been greatly reduced, yet it is in excess of the demand. The makers of best iron, however, maintain their prices. Much distress exists among the workpeople in the districts where there have been so many failures by iron masters. The 13th of this month, a very trying day, passed over without any fresh failure.

METROPOLITAN BUILDING ACT.

MEANS OF OBTAINING DECISIONS AS TO PROJECTED WORKS.

I MADE no misstatement, as alleged in your last number by Mr. Snooke, for I have his note to me of the 15th Oct. last, urging me to try the question "respecting," "as it most seriously affected his position and practice," &c. But apart from this question, I am sure I am speaking the feeling of District Surveyors generally, in saying that it is most desirable to adopt again some means of trying any difference between the District surveyor and the builder, before the latter shall have perhaps incurred a heavy outlay, leading to one of two very undesirable results, either in requiring a costly remedy, or in the magistrate being deterred by the cost from enforcing a remedy at all. R. HESKETH.

ARCHITECTURAL PUBLICATION SOCIETY.

ADVERTISING.

SOME time ago, I remember seeing a complaint in your journal that architects, as a body, did not support architectural publications to the extent which their numbers and position would lead one to expect: and the Architectural Publication Society was instanced as one to which every person interested in architecture ought to contribute. I felt the justness of the remarks at the time, and purposed troubling you with a few observations relating to the same; and this intention has just been recalled by seeing the first volume of the "Dictionary of Architecture" on the table of the Architectural Exhibition. This is the first time I have seen any specimen of the work, or any prospectus; and several architects that I have asked for information have been as ignorant of the matter as myself. Of course it will be answered, "Well, it's your own fault; you could have inquired in this or that place, and obtained every possible information: it has been duly advertised." Be it so; but still I must say that it has not come before me, although in general a subscriber to anything likely to promote our art; and I find others situated precisely as I am, which has induced me to make these remarks. If it was only made known, at least to every architect, in the same manner as the Photographic Society have made known their proceedings, or as in France, "Viollet-le-Duc's Dictionary," is made known, I believe the number of subscribers would be very materially increased. It should be announced how the parts from the commencement are procurable, and at what rate. The French custom is very good: most publications are monthly, or perhaps twice a month, and on the first day the parts are distributed in all the various *ateliers*, and to all the various subscribers. Supposing the work has already made considerable progress, you can have it from the commencement, agreeing to subscribe so much a month; and this, indeed, is the case with any work whatever. It is surprising in this way how many subscribers to current works, and purchasers of those already completed, are thus obtained among the pupil class, as well as others, who are invariably very considerably worse off as regards cash than their English brethren. As the system works well there, why should it not here? Many a young man might thus, at a trifling *present* expenditure and consequent inconvenience, it may be, acquire superior and valuable works. I would recommend our publishers of architectural and art works to consider this. With regard to the matter immediately in hand, the "Dictionary of Architecture," I am sure there is much that its authors may learn from their French contemporary, and, among other things, the system of its advertisement, publication, and distribution. R.

SMOKE NUISANCE, VAUXHALL.

I BEG to draw the attention of the proper authorities, through your valuable Journal, to the abominable nuisance which is daily and almost hourly occurring, at the two gas companies' works which are situated at the Surrey side of Vauxhall-bridge. When the retorts are drawn the whole neighbourhood is enveloped in smoke and stench, and this I have observed when Her Majesty and the Royal family have been passing over the bridge, and the carriages have been quite hidden by the clouds of smoke issuing from the roofs of the gas works and blowing down into the road.

Now I would ask, why are these two companies to be allowed to create such a nuisance and inconvenience to the public at large, when there is an Act in force to prevent them? Why are they not *compelled* to erect lofty shafts to receive and carry off, at a great height, *all the smoke* produced by their operations? These remarks are also applicable to Price's candle factory (just above Vauxhall-bridge), as the sickening stench from their works is also equally objectionable, both by night and day; and they, also, ought to be compelled to carry off the effluvia arising from their works, in the same manner, as these three companies' works are a pest to the locality, and such factories ought not to be allowed within the metropolitan districts. Their proper place would be some uncultivated, barren heath, where the stench and smoke would be dispersed, without inconvenience to any person, even to themselves. R. M. C.

SUB-CONTRACTORS AND EXTRA WORKS.

Beedle v. *Street*.—In the Court of Common Pleas, on Monday last, the 15th inst. a trial took place before Judge Byles relative to a building transaction. The suit was "Beedle *v.* Street," and was to the following effect: Messrs. Ring and Stanger, builders, of Mile-end-road, entered into a contract to erect and finish a certain house, the Trevor Arms, at Knightsbridge, for Mr. Street, the defendant in this action, for the sum of 1,070*l.* These contractors underlet to the above-named plaintiff, a sub-contract, for him to perform the plasterers' work, which he agreed to do for the sum of 130*l.* During the time the plaintiff Beedle was performing the work the defendant Street directed him to *use ganged stuff* in lieu of the common putty for finishing the ceilings, cornices, &c.; Mr. Street also directed him to use "Keene's" and other cements for the angles and skirtings of rooms, &c. Of course Mr. Street did not for a moment imagine that in was making himself liable to the plaintiff Beedle, he being only a sub-contractor with Ring and Stanger, they having entered into a bond to perform the whole of the artificer's works necessary to be done for Mr. Street—to the satisfaction of his surveyor, and all extras or omissions arising upon that contract were to be either added to or deducted from the amount of the aforesaid contract, and which account was not to be arranged until four months after the completion of the said contract. The plaintiff Beedle, however, does not acknowledge the original contractors, Messrs. Ring and Stanger, for whom, and not for Mr. Street, he undertook to perform the whole of the plasterers' work, but actually commences an action at law against Mr. Street, for the amount of those *extra* works, amounting to 58*l.* 5s., and a verdict was given in his favour for the sum claimed. Is this "justice?" if so what contractor is safe? for any journeyman in the contractor's employ could receive orders (as Beedle did for Messrs. Ring and Stanger) to execute works, and when done sue the employer of the original contractors, thereby taking away their connection. This would put an end to all confidence now relied upon by a contractor and sub-contractor.

I would also call your attention to the fact, that during the trial in question it was ludicrous in the extreme to hear the language of the counsel, both of plaintiff and defendant, neither of them seeming to understand the technical terms made use of by them: the bill of quantities and the specification were taken the one for the other; then again, the "putty," for the ceilings, they imagined, I presume, was similar to glaziers' putty. It is time there was a proper tribunal, where something about building transactions would be understood.

C. FOSTER, Architect.

Books Received.

VARIORUM.

MR. TIMBS'S "Year-Book of Facts in Science and Art," for 1858 (Kent and Co. 86, Fleet-street), is as full of varied interest as ever it was. The selections, condensations, &c. display great judgment, and the whole forms a complete repertory of the last year's advancement in science and art. A vignette of the *Leviathan*, and an admirable portrait of Mr. Scott Russell, very appropriately grace the title-page of this year's volume.—An able treatise "On Sanitary Legislation and Administration in England," by Mr. H. Wyldbore Rumsey, has been published by Churchill, of New Burlington-street. Portions of this treatise were read in the form of an address before the Public Health Department of the National Association for the Promotion of Social Science, at its inaugural meeting held at Birmingham in October last. The treatise is a very comprehensive one, and deserves to be known.—Amongst our books received is a third edition of a work which is of very general interest, and, so far as regards one of its subjects, "Explosive Compounds," not foreign to our more peaceful sphere: we allude to Mr. Scoffern, the chemist's, work on "Projectile Weapons of War and Explosive Compounds" (Longman and Co. publishers). The author treats his subject as one relating to a variety of "philosophical instruments, embodying and illustrating chemical and mechanical laws." His remarks on the supposed origin of gunpowder are especially interesting. In his opinion that this potent agent was known in China and India in very ancient times we feel much inclined to concur. Even at the present day gunpowder is probably far more generally used,—not in deadly warfare, but in the shape of fireworks,—in China than in any other country in the world. The Sanscrit allusions to it as a power in war among the Gentoos are curious; as also is Philostratus's account of "those holy men, beloved of the gods," the Oxydracæ, who dwelt between the rivers Hyphasis and Ganges (in Oude, the "holy land"—the Judea—of India, was it not?), and who arrested Alexander's victorious course, and "overthrew their enemies with tempests and thunderbolts shot from their walls."

Miscellanea.

CHEVALIER PETTRICH'S COLLECTION OF SCULPTURE.—This collection, now at 53, Pall Mall, is peculiar, inasmuch as it includes original groups of North American Indians, and other statues and models, exhibiting the habits of this expiring race. Chevalier Pettrich, a native of Dresden, was a pupil of Thorwaldsen, and left Europe in 1835, to prosecute his studies of the North American Indians. The bas reliefs exhibit the characteristics of these tribes in war, in hunting, in the council, and in the dance. As Catlin painted these poor, miserable, over-praised savages, Pettrich modelled them.

TOTHILL-STREET RAGGED SCHOOLS.—The Tothill-street ragged schools, after great exertions on the part of their supporters, have, during the past twelve months, been removed from their old, ill-ventilated, and dilapidated rooms, to new and commodious premises, by which their usefulness has been doubled. The committee are appealing most earnestly for aid in behalf of their funds, which are now in debt to the amount of 100*l.* Mr. S. C. Hall has undertaken to give a lecture, in aid of the funds, at the Eaton-square Rooms, on Thursday, 25th, on "The Fairy Legends of Ireland." Those who go will do good, and be pleasantly entertained at the same time.

INSTITUTION OF CIVIL ENGINEERS.—On the 9th inst. (Mr. Joseph Locke, M.P. president, in the chair) the discussion upon Mr. Henderson's paper, "On the Methods generally employed in Cornwall in Dressing Tin and Copper Ores," was continued throughout the evening. It was stated, that the universal feeling among the better informed "dressing captains" in Cornwall was, that the present methods of dressing ores, requiring such a large proportion of manual labour, were a reflection on the mechanical progress of the age. Mention was made of Mr. Herbert Mackworth's machine for washing coal, by a slow, continuously ascending, current of water. The machines, six of which had been set to work since May, 1857, were said to be almost automatic. It was stated that the utmost nicety was required in the separation of metal from the ores of tin and of copper, especially as, in the case of the latter mineral, the present average quantity of metal extracted did not exceed 6 per cent. of the quantity of ore raised. Instances were given of only 17⅛ lbs. and 17$\frac{7}{10}$ lbs. of tin being extracted from each ton of ore raised, and yet from that apparently small return an adequate profit was made.

MESSRS. MAW'S TILE-WORK.—We have already expressed commendation of the specimens sent by Maw and Co. to the Architectural Exhibition. Since our notice an additional collection of their mosaics has been placed there, which deserves attention. This includes a specimen of red and black paving at 5s. 6d. a square yard, showing the tiles in combination principally used in the aisles of churches and cemetery chapels. The tiles are 4½ inches square, and, when placed diagonally, occupy exactly 6 inches, which enables them to be associated with 6-inch tiles, laid square. A restoration of a mosaic in Palermo Cathedral, capable of being formed into panels of any dimensions. A panel of mosaic executed in tiles, in imitation of the natural stones used in the construction of the "*Opus Alexandrinum*" of Byzantine buildings. A complete specimen of mosaic of a character suitable for a string course or narrow passage. A specimen of mosaic suitable for a corridor, from 3 to 4 feet wide, or the passages of a conservatory, the centre made up of a rather elaborate pattern, composed of buff hexagons, enclosed by a narrow band-work of black, the intermediate spaces being filled in with red stars, composed of lozenge-formed tesseræ: the border is composed of black and white inch squares, arranged in a narrow pattern between bands of dark grey. An adaptation of a mosaic occurring in the Basilica of San Lorenzo at Rome, in which the pattern, formed of a combination of triangles, has been rendered in a delicate gray or dove colour, black or buff, relieved by the dark red ground, which the pattern separates into star-formed masses. These are executed in lozenge-formed tesseræ.

A SURVEYOR FOR ST. IVES.—Sir,—A published report of the St. Ives (Hunts) Improvement Commissioners shows that the Board have unanimously resolved to appoint a surveyor at 15*l.* a year. You may think it is a misprint, but it is too true. 15*l.* a year is 5s. 9d. a week, or 11½d. per day, being 2s. a day (and beer), less than the Board pay their road-scrapers. The town is wretchedly drained and paved, so that the commissioners really need an engineering officer, yet they propose to pay 15*l.* a year to a barber's clerk, or tailor's errand boy. Let it be borne in mind that St. Ives is an important market-town, containing many persons of affluence, who can afford to pay a competent officer liberally. Auctioneering architects and advertising surveyors, who work for half per cent. are bringing the profession to a pretty pass. CAMBRIDGE.

LIVERPOOL ARCHITECTURAL SOCIETY. The ninth meeting of the present session was held on Wednesday, the 10th inst. at the Royal Institution. Mr. Hay presided. Mr. J. A. Picton read the second part of his paper on "Modern German Architecture." In referring to Potsdam,—henceforth the residence of the Princess Royal,—Mr. Picton characterised it as the Versailles of Berlin. A large number of coloured views of buildings in Germany were exhibited.

LONDON CROSSINGS.—Do not you think that it would be very serviceable to have a subterraneous passage for foot-passengers under the road just by the King William statue, lit day and night by the electric light, with well-holes for ingress and egress, and a light iron railing on granite steps, *à la* Thames Tunnel? Also another at the crossing by the Bank, Mansion House, and at Cornhill, Leadenhall-street, and other parts of London where the immense carriage-traffic renders it unsafe for foot-passengers.—R. H. D.

*** The sewers would probably prove a bar. A safe mode of crossing is certainly much needed.

MR. CHUBB'S NEW TILL.—The frequent plunderings of shop-tills of late, have induced Mr. Chubb, the scientific lockmaker, of St. Paul's-churchyard, to invent one of a new description, made of iron, and so encased as to insure perfect security as regards all attempts to obtain access to the contents by any other means than the legitimate key. Such a thing as pilfering from this till, by any sly side-wind, like those to which too many tills are liable, is here out of the question. Nothing short of unscrewing it from the counter, and walking off with it bodily, would serve the purposes of dishonesty in this case; and perhaps Mr. Chubb will excuse the liberty we take in suggesting to him, that an additional security, in the prevention even of such a contingency, might easily be obtained by bolting and riveting its fastenings through the counter, instead of merely screwing it on to the under side. The article is so massive and weighty, that there must be a constant pull upon ordinary screws, hanging it up in this way, at any rate; so that a double advantage would thus be gained.

THE PUBLIC OFFICES.—On the 11th instant, Mr. Tite asked the First Commissioner of Works, in the House of Commons, what steps had been taken with reference to the proposed new Government Offices at Downing-street? Sir B. Hall having briefly stated the steps that were taken to obtain designs, said,—A Bill to acquire the limited site was introduced, but the House of Commons refused to vote the price, which amounted to 270,000*l.* They were, therefore, now shut up to a much more limited site, between Downing-street and Crown-street. For some months past a correspondence had been going on between the Treasury and the Board of Works with reference to the erection of the public offices on this limited space; and if his hon. friend chose to move for that correspondence, he would lay it before the House. Mr. Tite said he would move for the correspondence.

APPOINTMENTS AT LIVERPOOL.—At a meeting of the Liverpool Town Council last week it was resolved to appoint Mr. Hawksley consulting engineer for the Rivington works, at a salary of 200 guineas per annum, and travelling expenses; Mr. Gates superintendent of the reservoirs at Rivington, at a salary of 150*l.* a year, with house rent and the use of a horse; and Messrs. Caldwell and Jones to act under him, the former at a salary of 100*l.* per annum, and the latter at 30s. per week.

BIRMINGHAM ARCHITECTURAL SOCIETY.—At a meeting of the Birmingham Architectural Society last week, Mr. F. Empson, President, in the chair, Mr. J. T. Brown, jun. read a paper "On the Application of Photography to Art and Art Purposes, but more especially with reference to Architecture and the Architectural Student."

TREATMENT OF BUILDERS.—Having noticed in your journal exposures of unfair play towards the building profession, I am induced to apply to you for your valuable opinion on the following case:—Tenders were to have been delivered a fortnight since for alterations and additions to a house in this town. Time, twelve o'clock. A few minutes after that hour seven out of eight of the tenders were delivered; and as it was known they would be opened "above board," and the lowest accepted, several builders remained to know the result. Finding the eighth did not arrive, the architect proposed, and the builders present and a representative of the person for whom the work was to be executed agreed, that the tenders already in should be opened, and all persons in the office should remain until one o'clock, the latest time for receiving any other tender; if in after that time not to be accepted, even if found to be lower than any before opened. Mine proved to be the lowest, and it was concluded that it was my job; but at about twenty minutes after one in came the No. 8, 15*l.* below me. The architect and I protested against its acceptance, but to no purpose: it was taken, and the work is now being proceeded with—the architect, sensible of the unfair dealings of his employers, having given up the work. No doubt you have met with similar cases to this; and if you can inform me, through your paper, whether compensation has been sought and obtained, you will confer a favour on me and the trade in general of this and the neighbouring towns. I may state that the builders present have all promised to come forward with their testimony as to the agreements made prior to the opening of the tenders.—W. C.

Plymouth.

*** All would depend on the ability to prove a contract made by the employer. Our correspondent should put the exact particulars before a solicitor.

PUBLIC WORKS IN SOUTH AUSTRALIA.—The opening of a new bridge over the Angas, in the town of Strathalbyn, took place on 30th November. St. Andrew's-bridge (as it is called) has a span of 88 feet. The abutments are built of stone, very similar in colour to that from the Glen Osmond quarries. The cost is 1,770*l.* and the entire expense, including approaches, will be about 2,200*l.* being within about 20*l.* of Mr. Boothby's original estimate. The working drawings were prepared by Mr. Boothby, under whom, as Superintending Surveyor of the South-eastern District, the work has been executed. Messrs. T. and J. Barker, the contractors, are the same who built the bridges over the Light, Gilbert, Wakefield, Onkaparinga (at Greenthal), &c. and are now engaged upon that over the Torrens at Gumeracha.——The submarine cable, intended to be laid down across the Murray Channel, and to form part of the telegraph to connect Adelaide with Melbourne, arrived on 13th November. The whole line was expected to be completed in March or April.——The Adelaide City Waterworks are being rapidly pushed on towards completion. The Chief Commissioner (Mr. Maturin) recently stated that everything was prepared for laying down the pipes immediately on their arrival from England; and that, although contracts to the amount of 115,000*l.* had been taken, the original estimates had scarcely been exceeded.——The Government measure to appropriate 73,000*l.* for the completion of the City and Port and Adelaide and Gawler Town railways, had passed its second reading in the Legislative Council, according to the *Register* of December 9th.

RAISING THE "ONTARIO."—We some time back published a brief statement of the rescue of the wreck of the barque *Ontario* from off the Plymouth Breakwater, by Mr. Damant. Our informant had read an account of it in the *Plymouth Herald*, and was furnished with the detailed statement, of which we gave a mere abstract. Mr. Orchard has called upon us to state that the raising and removing the *Ontario*, both as to plan and management, were altogether his own, and the whole operation was conducted exclusively by himself. Having done this, we must now leave these gentlemen to settle their difference in other pages than ours. We should perhaps have stated that Mr. Damant speaks of Mr. Orchard as "having conducted all the rigging operations, and as being a leading man in the dock-yard, who has, on other similar occasions, honourably distinguished himself;" and our informant was to blame in not having supplied us with this fact.

GERMAN ARCHITECTURAL LITERATURE. — A work for architects, now being published by Brockhaus of Leipsic, and Avanzo and Claesen of Brussels, is mentioned by contemporaries. It is by Vincenz Statz, an architect, of Cologne, and is entitled "Church Architecture in the Gothic Style." It is in large folio, and contains seventy-two engravings.

ARCHITECTURAL SOCIETY OF NORTHAMPTON. —At a committee meeting held February 8, the Rev. Lord Alwyne Compton in the chair, Mr. James exhibited several specimens of stencilling on varnished deal for internal house decoration, also stencilling on painted ground, of no more cost than "graining," for which it is a substitute: the patterns were executed by Mr. Lea, of Lutterworth.

MASONRY: BACKING.—In your two last numbers there have been some observations on the mischiefs of irrelative facing and backing. Mr. Rawlinson (p. 102) speaks well on this subject, and I have seen much to confirm it: in one case, more especially, where an ashlar front in 12-inch courses was backed with brick, so that the four joints of mortar in the latter told on one (probably much thinner) joint in the facing; the buckling was so serious that the building had to be taken down. A curious case, however, occurred in my town many years ago. The walls of the house had handsome granite ashlar facing, but were backed with common Dunstone rubble. The natural results ensued; but though alarming, were successfully met by some thousands of small oaken wedges being driven into the backing joints, beginning, I presume, with the top of the wall, and thence working downwards. My more immediate object is, however, to refer to the *veneering* process so largely followed in Bath, where thin slab-faces in perhaps three courses out of four, are somehow or other, made to work well with ordinary rubble in rear. I believe a good deal of iron cramping is used; but if any of your correspondents—perhaps Mr. Rawlinson—could favour us with a good working section, showing how this is so extensively and satisfactorily effected in houses that are as durable as most others, it would be instructive and satisfactory. R. J. NELSON, Lieut.-col. R.E.

EXCAVATIONS AT BUILDWAS ABBEY.—Mr. Moseley, of Buildwas-park, and Dr. Reider, his agent, have been making investigations among the Abbey ruins. Tradition has long asserted the existence of a subterranean passage from the building to Much Wenlock: whether tradition in this case is, as in so many others, an *ignis fatuus*, yet remains to be seen; but, according to the *Wolverhampton Chronicle*, an underground passage, the basement of which is at a depth of 18 feet 7 inches from the surface, and the width of which is 3 feet 4 inches, has been discovered. It is paved with Roman tiles, some of which are said to be very beautiful, —one in particular, which has a white cross upon a dark green ground. The passage runs south-east by south, and has a branch running off from a three-crowned arch to the north-west. In this passage a number of human bones have been found, also a black marble cross, two copper candlesticks having the appearance of once being silvered, and a stiletto, with a gold pin.

ACTION OF THE ATMOSPHERE ON ZINC.—Dr. Pettenkofer, in a report addressed to the Principal of the Bavarian Commission of Railways, states that, according to his experiments, a zinc roof in the course of twenty-seven years is oxidized to the extent of 8·381 grammes (about 130 grains) per square foot, nearly one-half of which is removed by water condensed from the atmosphere. The author also observes that the destruction of zinc roofs is certain and inevitable, and that a coating of oxide can never completely protect the subadjacent metal from further oxidation.

BRIDGES IN AUSTRALIA: A PATENT.—Mr. George Bate, a practical engineer, now living at Yarraberg, East Richmond, in Australia, formerly a resident of Wolverhampton, according to the local *Chronicle*, had constructed a timber bridge, on a new principle, over the Murray river at Echuca. The peculiarities and advantages of the principle (which Mr. Bate has since patented), consist in an arch built after the manner of the felloes of a wheel, a cohesion beam above, and a tension beam below, crossed by radii springing from a common centre, the whole so knit together that external abutments are rendered unnecessary, added to which are cheapness and rapidity of construction, lightness and convenience of transport. The bridge across the Murray is erected on pontoons, and consists of ten arches 33 feet long, 27 feet span, and ten feet wide. A similar bridge was then designed to cross the Campaspe river, and after being submitted to a committee of inquiry, on which were several eminent engineers, it obtained the sanction of the Colonial Legislature, who passed an Act authorizing the construction of the bridge. The quantity of timber used in this latter bridge is 1,200 cubic feet, and of iron three tons. The entire length of the bridge is 121 feet; width, 11 feet clear, and 17 over all; height of sides, 10 feet; span, 107 feet. The net cost was between 700*l.* and 800*l.*

MEMORIAL WINDOW.—A window has been lately placed in the south aisle of the church of St. Peter, Kirby Bellars, near Melton Mowbray, in memory of the late Rev. E. Manners, for many years rector of Goadby Marwood, in the same county. It is a two-light window, the upper part filled with foliated tracery: the whole is filled with stained glass by Wailes, and is divided into four compartments, containing passages in the life of St. Peter, as typical of the life of a minister, viz.—the call, ordination, charge, and martyrdom. Some care has also been taken in finishing the interior of the window with shafts and capitals. Mr. R. W. Johnson was the architect.

IN-AND-IN WORK.—Sir,—Can any of your readers inform me whether a surveyor holding office as councillor in a borough incorporated under the Public Health Act can legally contract or charge for making assessments on property, valuations, &c. and for measuring for an intended new workhouse, and then, jointly with an architect, contract for building the workhouse, all within the same borough?—B. L. T. N.

LECTURES, ROYAL ACADEMY.—On Monday, the 15th, Mr. Richard Westmacott, R.A. delivered his first lecture on Sculpture. The remainder of the course will be given Monday, 22nd; Monday, March 1st; and Monday, March 8th. Mr. Hart, R.A. commenced his course on Thursday, 18th.

THE NORTHAMPTON SURVEYORSHIP.—Mr. Pidcock has been appointed, from amongst seventy candidates, to the office of surveyor to the Northampton Improvement Commission, instead of Mr. Jones, resigned. The salary is stated to be 200*l.*

KING'S HEATH NEW CHURCH COMPETITION.—The design prepared by Mr. Edward Holmes, of Birmingham (submitted in limited competition) has been selected by the committee appointed to erect the edifice.

PERSONS EMPLOYED ON RAILWAYS.—A return of the persons employed on the railways of the United Kingdom on 30th June, 1857, has been published by order of the Commons. The length of line opened being 8,942 miles, and the number of stations 3,121, it appears that there were employed 221 secretaries and managers, 26 treasurers, 150 engineers, 398 superintendents, 198 storekeepers, 201 cashiers or accountants, 997 inspectors or timekeepers, 2,471 station-masters, 404 ticket-collectors, 156 draughtsmen, 8,712 clerks, 1,335 foremen, 3,563 engine-drivers, 3,644 assistant-drivers or firemen, 3,716 guards or breaksmen, 21,337 artificers, 3,263 switchmen, 1,998 gatekeepers, 2,349 police or watchmen, 17,091 porters or messengers, 8,260 platelayers, 26,285 labourers, and 2,885 persons in miscellaneous ways. On 3,193 miles of unopened railways there were employed 44,037 persons, so that the railway business of the empire required the services of 153,634 persons; 116,634 in England and Wales, 20,172 in Scotland, and 16,891 in Ireland.

[ADVERTISEMENT.]

Leadenhall street, May 20, 1857.

GENTLEMEN,—In answer to your request I have great pleasure in adding my most unqualified testimony to the efficacy of the Wrought Iron Revolving Shutters, erected by you at my shop ten years ago, which, under the circumstances, afford a strong proof of their superiority over others; the Glass being the largest in London, the Shutter is without support, other than its extreme edges (there being no centre sash-bar), yet from their extreme rigidity the necessary protection is obtained, and which, from my experience, I can confidently assert would not have been ensured by any other Shutter extant.

Yours respectfully,
GEO. DONNE.

Messrs. CLARK,
15, Gate-street, Lincoln's-inn-Fields.

TENDERS.

For the construction of the roads and sewers at Catchcroft Field, Holloway. Quantities not supplied. Messrs. Wigg, Son, and Oliver, architects:—

	£	s.	d.
Gomme and Bryon	2,293	0	0
Cauland	2,046	0	0
Yeoman	1,983	0	0
Rentmore	1,973	0	0
Ramsbottom	1,930	15	6
Knight	1,894	0	0
Mansfield	1,854	0	0
Gutteridge	1,835	19	0
Cole	1,744	0	0
Harcourt	1,698	0	0
Hill	1,656	0	0
Sabey	1,650	0	0
Murray	1,644	0	0
Strickson	1,616	0	0
George	1,613	0	0
Dethick	1,605	0	0
Gibson	1,548	0	0
Phillips	1,464	0	0
Deards	1,426	0	0
Rogers	1,371	0	0
Pound	1,369	19	0

For the new workhouse for the Medway Union. Mr. Frederick Peck of the firm of Peck and Stephens), architect. Quantities supplied:—

Names.	General Buildings.			Entrance Buildings.			Fittings.			Well, Tank, &c.			Iron Pipes.			Total.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Moxon	12,667	0	0	1,552	0	0	1,065	0	0	340	10	0	279	10	0	15,904	0	0
Rees and Co.	12,285	3	5	1,686	19	5	1,075	0	0	394	5	5	282	18	1	15,014	10	4
Foord	12,027	0	0	1,160	0	0	1,110	0	0	323	0	0	313	0	0	14,933	0	0
Myers	11,841	0	0	1,122	0	0	1,124	0	0	349	0	0	233	0	0	14,669	0	0
Ayres	11,643	10	0	1,695	2	8	857	17	0	327	2	9	253	3	2	14,776	16	4
Barker	11,400	0	0	1,160	0	0	1,000	0	0	380	0	0	250	0	0	14,190	0	0
Spicer	11,294	0	0	1,073	0	0	1,096	0	0	301	0	0	267	0	0	14,071	0	0
Kirk and Parry	11,330	0	0	1,107	0	0	955	0	0	319	0	0	205	0	0	13,916	0	0
Stump	11,032	0	0	1,053	0	0	971	0	0	330	0	0	261	0	0	13,037	0	0
Naylor (accepted)	10,997	0	0	1,048	0	0	1,003	0	0	284	0	0	259	0	0	13,591	0	0

For Middle Level Drainage Contract. There were twelve tenders sent in for the above contract, and the undermentioned three were invited to attend a special meeting of commissioners at Farmer's Hotel, Westminster, on Tuesday last, when, after discussion, it was decided in favour of Mr. Sissons, as the lowest:—

	£	s.	d.
Smith Simpson, Lynn	16,500	0	0
Garrett, Peterborough	16,000	0	0
Sissons, Hull	14,500	0	0

For Upton-on-Severn National Schools, in accordance with advertisement. Mr. George Row Clarke, architect. Quantities supplied:—

	£	s.	d.
Griffiths, Eldersfield	1,190	0	0
Hatton, Upton	1,150	8	4
Cook, Upton	1,068	2	2
Wridgway, Upton	1,058	14	1
Collins, Tewkesbury	1,030	0	0
Wood, Worcester	993	0	0
Davis, Malvern (accepted)	975	0	0

For extensive alterations and additions to St. Matthew's Church, Bayswater. Messrs. Francis, architects:—

	£	s.	d.
Hopkins and Roberts	1,245	0	0
Keyes and Stead	1,210	0	0

To the Limehouse Board for sewering in Salmon-lane:—

	£	s.	d.
Mr. Gomme	426	0	0
Deards	350	0	0
Pound	339	0	0
Ennor	329	0	0
Dethick	327	0	0
Cole	324	0	0
Murray	322	0	0
Wood and Son (accepted)	318	0	0

For the painting, &c. to be done at All Saints' Church, Skinner-street, Bishopsgate-street. Mr. C. Bailey, architect:—

	£	s.	d.
Cook	219	0	0 !
Redruff	175	10	0
Cutler	171	10	2
Reynolds	160	0	0
Croughton	140	0	0
Young	133	0	0
Collings	130	0	0
Westacott	126	15	0
Kiddle	116	0	0
Heeps	113	0	0
Dearsley	89	17	9 !

TO CORRESPONDENTS.

How to Clean Cren Stone. I have unfortunately had Caen stone chimney pieces erected in my house, and to clean off any dirt or black-lead which they may have put upon them, my servants have had recourse to wetted pipe-clay. This, as you may suppose, has only added to the evil; for, in addition to the dirt, a coating of pipe-clay has been given. Now, I wish to know how I can best wash off the pipe-clay (for it has hitherto defied the use of soda or washing-powder, freely applied); and when off, what is the best wash or coating that can be applied to the stone to preserve its colour, and at the same time to render it less capable of sustaining injury from dust and dirt.
CLERICUS.

T. C. C.—Mr. O.—Mrs. W.—R.—Percival Gridiron (in nine cases out of ten the motto-system is simply a delusion and a snare, affording advantages to the unscrupulous).—Mr. E.—T. L.—M. O.—S. B.—S. B. G.—W. K. (reports of several trials of the sort will be found indexed in previous volumes)—G. G. S. S. T—Chloride (shall appear)—Mr J.—W. W.—H. P.—H. T. B.—S. G—C. C.—L.—W. J.—C. G.—F. G.—D. J. H.—E. A. C.—J. A. R.—H. and Son.—F. A. M.—S. J.—G. W. (shall hear from us).—Justice.—W. O—P. P.—D. K. and H.—J. W. P. (next week).—W. B.—A Joiner.—G. J.—A Carpenter (we will inquire).—R. B. E.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

NOTICE.—All communications respecting advertisements should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the "Editor," and not to the "Publisher."

NOTICE TO SUBSCRIBERS. A title-page in colours for the last volume may be obtained GRATIS, on personal application at the Office, by those who prefer it to that which accompanied the last number for Jan. 9. Covers for the volume may be obtained at the Office, price 2s. 6d. or the Publisher will bind it for 3s. 6d. The complete volume may be obtained, price 21s.

ADVERTISEMENTS.

BUILDING MATERIALS FOSTER LANE.

PULLEN and SON are directed to SELL by TENDER, on MONDAY, the 22nd day of FEBRUARY, in one lot, the BUILDING MATERIALS of a large House and Premises, No 1, Noble-street, Foster-lane, comprising sound Brickwork, rafters, boarded and timber floors, pan and pantile roofing, sashes, doors, partitions, wainscoting, lead gutters and pipes, and various fittings up. May be viewed, and particulars had, of PULLEN and SON, 80, Fore-street, Cripplegate, where Tenders are to be sent on or before MONDAY, FEBRUARY 22

BUILDING MATERIALS Great Tower-street.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on TUESDAY, 23rd day of FEBRUARY, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of Two large Houses and Premises, No. 5, corner of Water-lane, Great Tower-street, comprising good sound brickwork, oak and fir timber, roofs and floors, plain tiles, glazed sashes, useful doors, partitions, mantel-pieces, sound flooring boards, shop fronts and shutters, bell hangers and pipes, and useful fixtures and fittings. May be viewed the day previous. Catalogues had at Mr TITE'S Offices, 17, St. Helen's place; and of PULLEN and SON, 80, Fore-street, Cripplegate.

BUILDING MATERIALS, ALDGATE.

PULLEN and SON will SELL by AUCTION, on the PREMISES, on FRIDAY, FEBRUARY 26, at TWELVE, in lots, by order of the Right Hon. the Commissioners of Sewers, all the valuable BUILDING MATERIALS and FITTINGS-UP of Two large Houses and Shops, No 81, Aldgate High-street, and No. 1, Mitcress, comprising good sound brickwork, oak and fir timber in roofs, floors, and partitions, plain and pantiles, clay flashers, useful doors, partitions, chimney pieces, sound flooring boards, shop-fronts, lead gutters, cisterns, and pipes, tailboards, counters, desks and drawers, shelves and dressers, sashes, and other useful fixtures and fittings.—May be viewed the day previous. Catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate

NAVY-ROW BRICKFIELD, GILLINGHAM, KENT.—TO CONTRACTORS, BUILDERS, and OTHERS

MR. JOHN THOMAS will SELL by AUCTION, on THURSDAY, FEBRUARY 25, 1858, at TWELVE for ONE o'clock (by order of the Executors of the late Dr. R. W. Mackie), on the PREMISES, in lots, ONE MILLION BRICKS, consisting of valuable gault and stock moulded front bricks, paviors, stocks, pickings, and place, all of the superior quality for which this brickfield is now famed. The field is conveniently situated between the premises. Omnibuses are continually running between Rochester and the Chatham Railway Station. Particulars and conditions may be had of the Auctioneer, at his Offices, 147, Eastgate, Rochester, and of Messrs THOMAS and CADDELL, Auctioneers & Valuers, Gravesend.

TO PLANT MILL OWNERS AND BUILDERS, Pleasley, Effect.

MR. F. CUTTEN is instructed by the Executors of T. H. Smith, deceased, to SELL by AUCTION, on the PREMISES, Pleasley, near Mansfield, on THURSDAY, the 25th, and FRIDAY, the 26th of FEBRUARY, 1858, the STOCK in TRADE, SLATE MACHINERY, and other effects, comprising slate cutting machine, with 48 tons boiler-tubing, and five scales of iron; two slate planing machines, with 16 tons boiler-tubing, and four scales of iron; 40 slate saws, and emery head of the Auctioneer, 40 Cabinet-makers' benches, 40 vices, with 15 tons of cast iron, and other effects on the Premises, held for a term of twelve years at the yearly rent of 40*l*. for the whole.

NOTICE. To MAHOGANY and TIMBER MERCHANTS, CABINET MAKERS, MACHINE MAKERS, and OTHERS.—By order of LIVERPOOL, previously to AUCTION SALES of Mahogany, Cedar, Wood, and other Timber, on WEDNESDAY, the 24th, and FRIDAY MORNING, the 26th of FEBRUARY, 1858, at LEAVER'S Yard, Brick-close, the Wood-yard, Shaw's, Prospect, and LEAVER'S Back, Lever Street, for ensuing and further particulars, apply to EDWARD CHADWICK, Wine Broker and Measurer, No. 1, Lime-house, Queen's Dock, Liverpool.

SURREY, MODERATE HIGH STREET, Borough, Lease, Furniture, and Stock of Fresh Fish Business, and Premises, Parlour, Bedroom, and Workyard, Capital Lease for Eight Years, Moderate Premium required.

MR. FRED. GODWIN will SELL by AUCTION, on the PREMISES, on WEDNESDAY, the 24th, at 11 precisely, at LEAVER'S, for BUSINESS, PRELIMINARY, and Street Yards, and Premises, the Extensive BUSINESS, PREMISES, and Stock in Trade, with about Twenty Years unexpired Term of Lease, of Mr. EDWARD CHADWICK, Wine Broker and Measurer, No. 1, Lime-house, Queen's Dock, Liverpool.

SURREY, MODERATE HIGH STREET, Borough, Lease, Furniture, and Stock of Fresh Fish Business, and Premises, Parlour, Bedroom, and Workyard, Capital Lease for Eight Years, Moderate Premium required.

MR. FRED. GODWIN will SELL by AUCTION, on the PREMISES, on WEDNESDAY, the 24th, at 11 precisely, at LEAVER'S, for BUSINESS, PRELIMINARY, and Street Yards, and Premises, the Extensive BUSINESS, PREMISES, and Stock in Trade, with about Twenty Years unexpired Term of Lease, of Mr. EDWARD CHADWICK, Wine Broker and Measurer, No. 1, Lime-house, Queen's Dock, Liverpool.

CLIFT HOUSE WORKS, ROW—SALE of Portable Galvanized Iron Chapel, Hand Verandah, Bar-fence, Large Barn, Workshop, Cottage, Dwelling Materials, two Steam-engines, one with boiler complete; Plant, Timber, &c., which will be SOLD by AUCTION, by AUGUSTUS SMITH, at the above WORKS, on TUESDAY, MARCH 2nd, 1858, commencing at TWELVE for ONE o'clock.—Catalogues may be had at the Auctioneer's Offices, 33, Bucklersbury, and 350, Bankside, S.

NEW ROAD—Stock in Trade of a Store and Marble Mason.

MESSRS. EVERSFIELD and HORNE are instructed by the Executors of the late Lord Wm. Cecil, to SELL by AUCTION, on the PREMISES, 287, New Road, on WEDNESDAY, MARCH 3, at TWELVE for ONE, the remaining STOCK: comprising stationary, counter, and other useful fixture pieces, stationery, account books, and miscellaneous articles, useful to the full trade. Well-selected modern and useful household furniture, mahogany bookcase, writing desks, dressing tables, chests of drawers, and other effects. May be viewed two days previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, Westminster, or Royal Exchange.

CARDIGANSHIRE—The valuable Leases and Machinery of the Esgair Mwyn Mining Company, for absolute Sale.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the AUCTION MART, on TUESDAY, the 9th MARCH, at TWELVE o'clock, (unless previously disposed of by private contract), the LEASES, held under several Leases of the LEAD MINES known as the ESGAIR MWYN, situate in that part of Cardiganshire so celebrated for its rich and valuable mineral veins. The Mine being in the immediate vicinity of the Lisburne Mines, which have been most favourably reported on by eminent surveyors, and can be worked by a very few additional hands, the present very expensive levels nearly completed, and large new workings ready for stoping. The machinery consists of a large water wheel, recently erected, of the most approved description, and has been erected within the last few years at considerable cost. In addition to the Esgair Mwyn, the Company have an extensive Crown Lease of the adjoining mines of Esgair Hir, which, it is confidently believed will be found a valuable adjunct to the former.—Particulars may be obtained at the office of WILLIAM TEGG AND CO., the Offices of Messrs. Griffith and Jones, Solicitors, 19, Great Carter-lane, Doctors'-commons; at the Hafod Arms, Devil's-bridge (the landlord of which will direct parties to the property); at the Inns of Aberystwith; and of Messrs. EVERSFIELD and HORNE, Auctioneers to the Commissioners of Her Majesty's Woods and Forests, 40, Parliament-street, Westminster, or Royal Exchange.

Standing Timber at East Dulwich and Nutfield, near Redhill, for Sale.

MR. SEARLE will SELL by AUCTION on convenient lots, on the LANDS, situate as above, on TUESDAY, MARCH 2, 1858, at ONE o'clock, about ONE HUNDRED ELM TREES, timber in trees and the growth.—Catalogues may be had of THOMAS BLANDY, Esq., Surveyor, 40, Lincoln's-inn-fields, and of the Auctioneer, Camberwell-green, S.

BOROUGH of BRIGHTON. The Council of the Borough of Brighton are prepared to receive applications for the Office of TOWN SURVEYOR, in which the gentleman appointed will be required to undertake the direction and management of the surveying and architectural business of the Corporation, and not to be directly or indirectly engaged in any other business; to reside within the Borough, and devote the whole of his time to the service of the Corporation. Salary and other particulars of the duties and conditions may be had on application at the Office; and applications, with testimonials, stating the age of the applicant, and endorsed "Application for the Office of Town Surveyor," addressed to the undersigned, must be delivered at the Town-hall, Brighton, on or before MONDAY, the 1st day of MARCH, 1858.

January 29, 1858. C. SHAROOD, Town Clerk.

COVENTRY WATER-WORKS. To PLUMBERS and OTHERS.—To Contractors, and the Inhabitants of the City, and Suburbs thereof. The SERVICES of a skilled PERSON are WANTED for the INSPECTION of METERS, TAPS, WATER CLOSETS, and other apparatus connected therewith, fitted with meters by the Coventry Water Works. He should be practically acquainted with plumbing, write a fair hand, and be willing to make himself generally useful, under the direction of the Inspector, to whom all complaints for the purpose of inspection must be addressed. Those desirous of the situation, and of testing their character and ability, accompanied by terms, in applicant's own handwriting, to be forwarded, under cover, to Mr. J. E. GREATOREX, City Surveyor, Earl-street, Coventry, on or before the 22nd of FEBRUARY, 1858.

WANTED, an IMPROVER'S PLACE, in the CARPENTERING and BUILDING LINE. Aged 18.—Address, R. P. Fatteffice, Hornchurch, Essex.

TO CLERKS OF WORKS.

WANTED, an experienced and thoroughly practical Man, of good address, and unexceptionable character. He must be thoroughly conversant with the building trade, in all its branches, and fully competent to take charge of works of the first importance. Applications, with references and testimonials, to be addressed to Messrs. J. and M. GOGGS, Architects, 3, Victoria-chambers, Victoria-street, Westminster, where the person selected will be required to enter upon his duties.

HOUSE SMITH WANTED, by a Young Man, who can SHOE and do the best Under-Smith's work. Address, A. W., 27, Montague-street, Russell-square, W.C.

WANTED, in a Builder's Office, a respectable CLERK, to take charge of the works. He must be a neat and quick draughtsman, and capable of taking out quantities. Apply, by letter, to Messrs. J. and M. GOGGS, 3, Victoria-chambers, Victoria-street, Westminster.

GUNPOWDER MILLS.

WANTED, an experienced FOREMAN. A liberal and increasing salary given.—Apply, in the first instance by letter, to M. S., Clapham-rise, London, and state age, and where last employed, whether as Foreman or otherwise.

WANTED, a PERSON with a general knowledge of the Building Trade, who can keep accounts, measure up work, take out quantities, and estimate for small jobs; and collect rents. None need apply but those who can produce satisfactory testimonials of character, steadiness, and sobriety. Wages 18*s*. per week.—Apply to W. BALLARD, Building Estate Agent, Hampstead.

WANTED, a CLERK, in a Builder's Office. Apply, by paid letter, to Mr. FALKNER, 82, St. Martin's-le-Grand.

WR. CORSON, Architect, has a VACANCY for an ARTICLED PUPIL.—Mr. CORSON, 20, Cooper-street, Manchester.

TO POLISHERS ON SLATE.

WANTED immediately, TWO good POLISHERS, who can be well recommended for steadiness and ability. Apply to the Llanglon Slab and Slate Company (Limited), 4 Wharf, South Wharf-road, Paddington, W.

WANTED immediately, a person thoroughly accustomed to and acquainted with RAILWAY WORKS, especially tunnels, who would be fully capable of taking the management for the principal contractor, of a length of about ten miles of railway at the city of Cork. He must be an active and perfectly steady man, with the most unexceptionable character, and his age not to exceed 40 years. The salary will be liberal to an efficient person.—Apply by letter only, stating terms, and with all particulars, to JOHN LINSEY, Esq., 17, Parliament-street, S.W.

TO PAINTERS AND DECORATORS.

WANTED, a SUPERIOR MAN for the country, fully competent to superintend and entirely manage the PAINTING and DECORATIVE BRANCHES, in connection with a first-class Upholstery and Cabinet Business. None need apply but a practical man, who has been accustomed to first class decorations, and well versed in the various styles.—Address, with reference as to experience, &c., "DESIGN," Messrs. Ralph Allison, and sons, 108, Wardour-street, Soho, London.

TO BUILDERS' CLERKS.

WANTED, as an ASSISTANT in a CLERK of WORKS' OFFICE, an industrious, active, and steady person from 20 to 40 years of age, (not below), acquainted with builders' accounts, capable of preparing drawings, and who writes a quick and neat hand.—Hours of business from Six to Six.—The highest testimonials will be required. Terms of salary to be named.—Address (by post) to Messrs. SAML. ALLSOPP and SONS, Burton-on-Trent.

TO BUILDERS, PLUMBERS, &c.

WANTED, by an experienced PLUMBER, a PERMANENCY, or to take the Management of a Business, or as Foreman of Plumbers, or to do the general Repairs of an Estate.—Unexceptionable references.—Address, S. H. care of Mr. Child, 33, Bucklersbury, E.C.

WANTED, by a Young Man, aged 20 (son of a surveyor), a SITUATION in a Surveyor's Office as CLERK, or in a Builder's Office as Clerk, Time, or Storekeeper; and being desirous of improvement would fill up his time at the bench.—Address, M. A. Post-office, Kingsland-crescent, N.E.

WANTED, by a Young Man, constant EMPLOYMENT as PAPER-HANGER, PAINTER, and GLAZIER. Can turn his hand to painting, or as glass cutter in a warehouse. Wages required, if constant, 24*s*.—Address, W. L. 34, Parker's-row, Dockhead.

TO BUILDERS, PLUMBERS, AND GASFITTERS.

WANTED, a SITUATION, as THREE-BRANCH HAND, where constant employment can be given. Is a good gasfitter.—Address, W. H. T. 12, Lloyd's-place, Brompton, S.W.

TO GRAINERS, WRITERS, &c.

WANTED, for the Country, a good GRAINER and WRITER. Constant employment.—Address, stating terms, &c. to R. D. 11, Clarence-road, Kentish-town, London.

WANTED, by the Advertiser, a SITUATION as PLUMBER, PAINTER, and GLAZIER. Understands paper-hanging and general repairs. Would undertake a situation to look after an estate, or conduct a business, or as working foreman.—Address, A. B. Star Coffee house, Islington-green.

TO PLUMBERS, &c.

WANTED, by a Young Man, a SITUATION as PLUMBER, PAINTER, and GLAZIER. Fill up his time at gas-fitting, &c.—Direct, J. E. W. 2, Byron-street, Bland-ford-square, N.W.

WANTED, a SITUATION, for a Youth. Has been engaged in mailers' and surveyors' offices about four years, can figure dimensions, and trace drawings.—Address, J. S., Caversham-road North, Kentish-town.

WANTED, a SITUATION, by a CARPENTER and JOINER, of experience, as SHOP or WALKING FOREMAN, or to Manage a Jobbing Business. The neighbourhood of Islington, Pentonville, or Clerkenwell preferred. First-class references as to ability, sobriety, respectability, &c. Salary not a primary consideration.—Address, C. T. M. Mr. Dewdney, London-road, Reigate, Surrey.

TO BUILDERS.

WANTED, by the Advertiser, a SITUATION as STAIRCASE HAND, or superintending window sashing (the two together with best joiner's work). Good references given.—Address, by letter, pre-paid, A. G. No. 5, Matilda-street, Pentonville, Islington, N.

TO PAPER-STAINERS, DECORATORS, AND OTHERS.

WANTED, by a respectable and experienced Man, a SITUATION as SALESMAN, WAREHOUSEMAN, or FOREMAN of PAPER HANGERS. Has a thorough practical knowledge of French and English decorations, also making plans and estimates for the same.—Address, post-paid, H. L. H. Office of "The Builder."—Not objected to in the country.

TO MASTER PAINTERS AND BUILDERS.

WANTED, by a Young Man, CONSTANT EMPLOYMENT as PLUMBER, PAINTER, and GLAZIER.—Direct, S. T. No. 10, Tucker's-rents, Ossulston-street, Somers-town.

TO CARPENTERS AND JOINERS.

WANTED, to PLACE an Orphan Lad, 15 years of age, as INDOOR APPRENTICE. He has worked with a carpenter and joiner for the last three years. A premium of 10*l*. will be given to any respectable person who will take him the first year. References will be given and required.—Address, A. B. 30, Lenthall-street, E.C.

TO CARPENTERS.

WANTED, by a Young Man, aged 19, a SITUATION as IMPROVER. Has been for the last three years in a carpenter's shop. Wages low.—J. D. 5, Queen-street, Edgeware-road.

TO CARPENTERS, JOINERS, &c.

WANTED, by a Steady, Active Young Man, a SITUATION as FOREMAN, or otherwise, in a Jobbing Shop.—Address, A. B. C. No. 11, King-street, King's-road, Chelsea, London, S.W.

TO BUILDERS, CONTRACTORS, &c.

WANTED, by an experienced Young Man, a RE-ENGAGEMENT as OUT-DOOR or GENERAL FOREMAN to any three years' reference from present employers. Wages moderate.—Address, K. D. Office of "The Builder."

WANTED, by the Advertiser, a SITUATION as SHOP or WALKING FOREMAN, or to superintend mechanics on an estate, or any similar situation where trust and confidence are required. References unexceptionable.—Address, A. B. Post-office, 50, Ainwell-street, Pentonville, E.C.

TO ARCHITECTS, &c.

WANTED, a RE-ENGAGEMENT, by an experienced ASSISTANT. Is a first-rate draughtsman, and thoroughly acquainted with details, construction, fittings, &c. The advertiser having had great experience in building matters, would be found very useful to an architect of general practice. Terms moderate.—Address, ARCHITECT, 1, Middle-row, Holborn.

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a RE-ENGAGEMENT as GENERAL or OUTDOOR FOREMAN. He has a perfect knowledge of the building trade in all its branches, and has had good experience in ground work, pile driving, drainage, &c., having just completed an extensive sewers's job. Would have no objection to take a large job of carpenter's work, brickwork, or ground work.—Labour only. Testimonials unexceptionable.—Address, HUGH H. FACEY, 18, Clayton-street, Caledonian-road.

TO GLASS-STAINERS, &c.

THE Advertiser is desirous of meeting with an ENGAGEMENT, as FOREMAN, in the above line, or as a PRACTICAL GLASS-STAINER. The advertiser thoroughly understands the art in all its branches, having been engaged for the last ten years in new and old work. Good references can be given.—Address, S. T. B. 19, Crescent, Cambridge.

TO BUILDERS AND CONTRACTORS.

THE Advertiser is open to an ENGAGEMENT as FOREMAN, to superintend Painters' and Glaziers' work. Accustomed to bookkeeping. Apply to W. S. 33, Paddington-street, Portman-square.

THE Advertiser, who has served his articles with an architect of extensive business, is a neat draughtsman, and understands the usual routine of an office, is desirous of an ENGAGEMENT at a moderate salary. Would not object to go abroad into a warm climate.—Address, A. B. 1, Crown-court, Cheapside, London.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who possesses a thorough knowledge of land surveying, and the ordinary routine of an Architect's Office, is open to an ENGAGEMENT. First-class testimonials can be given.—Apply to R. T. B. care of Mr. Dunningham, 8, Seymour-street, Euston-square, London, N.W.

TO BUILDERS.

EMPLOYMENT WANTED, in a Builder's Office, as CLERK of WORKS, or to take charge of a small business, by an active middle-aged Man, who has a thorough practical knowledge in all the branches of building; can take out quantities, estimate, measure up and value works, fixtures, and dilapidations, and wishes to make himself useful. Unexceptionable references for integrity and ability. Salary moderate. No objection to the country.—Address, pre-paid, to J. C. care of Mr. Clarke, 10, Norfolk-street, Middlesex Hospital.

A YOUNG MAN, aged 32, desires a SITUATION in the COUNTRY. He is a fair and neat draughtsman, understands land and building, surveying, levelling, &c. Also has had experience in the measuring of land, and the repairing and letting of farm buildings. Salary moderate.—Address, FIDELIA, Francies House, Highgate, London.

TO CIVIL ENGINEERS AND SURVEYORS.

AN Assistant Engineer is desirous of an ENGAGEMENT in either of the above offices, either temporary or permanent. Is capable of undertaking or superintending important works. High testimonials. Salary moderate.—Address, E. J. 2, Caroline-street, Bedford-square.

TO MASTER PAINTERS, DECORATORS, &c.

A RESPECTABLE, steady Young Man is desirous of obtaining an immediate SITUATION as GRAINER, WRITER, &c. Would fill up time with Painting, Glazing, &c.—Address, stating terms, A. B. 13, Malvern-place, near Railway station, Homerton, Middlesex.

TO ARCHITECTS AND SURVEYORS

AN ASSISTANT, fully qualified both as a Draughtsman and Surveyor, is open to an immediate ENGAGEMENT, partial or permanent.—Address, X. Y. Z. Mr. Stoper's, No. 47, Holborn-hill, E.C.

AN Architect in a Cathedral City, whose returns for the last seven years have averaged from 800*l*. to 900*l*. per annum, is desirous of DISPOSING of his PRACTICE. He has unexpected calls on his time to remain in connection with his successors for twelve months, during which time some public appointments he holds will be duly attended to. For particulars, statistical and other address, apply, by letter only, to MASON, care of Mr. Thos. Newcombe, 134, Mount-street, Grosvenor-square, London.

AN ARCHITECT and SURVEYOR, in extensive practice in London, has a VACANCY for a PUPIL, also for Youth capable of making tracings and designs of Improvement.—Address, R. M. Office of "The Builder."

TO MECHANICAL BUILDERS

A YOUNG GENTLEMAN, aged 23, is desirous of PLACING HIMSELF with a thorough practical ENGINEER, with a view of eventually entering upon, or becoming Partner. To whom he could naturally look for introducing a complete workshop of his own.—Reference given and required, of the highest respectability.—Address, X. Y. Z. Post-office, Dunstable.

TO ARCHITECTS AND SURVEYORS

A GOOD DRAUGHTSMAN, who understands working Finished and Perspective Drawings, and has a knowledge of Levelling and Surveying, wishes for an ENGAGEMENT in an Architect and Surveyor's Office, where he will have an opportunity of improving himself.—Address, A. B. 17, Bucklersbury, City, E.C.

AN ARCHITECTURAL ASSISTANT, of energetic abilities, from an eminent office, requires an ENGAGEMENT of confidence. He is versed in the Pointed styles, finished and perspective drawing, sketching, and good at detail. Understands surveying and general routine of office and practice.—Address, IOTA, Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECT, an expeditious draughtsman, geometrical or perspective, educated in London, offers his services at an extremely moderate salary, for day or evening ENGAGEMENT.—A. B 3, Oxford-court, Cannon-street, E.C.

TO BUILDERS AND OTHERS

AN ASSISTANT, who is a good practical draughtsman, and has a knowledge of surveyors' and builders' accounts, wishes for a SITUATION.—Address M. Centre of Mr. FROUD, Post-office, 3, Brunswick-terrace, Barnsbury-road, Islington.

AN ARCHITECT, about to retire from a London practice, is desirous of DISPOSING of his BOOKS, CASTS, DRAWINGS, &c. with his OFFICE and other FURNITURE, either together or separately. A purchaser might arrange to continue the present occupiers Offices, consisting of three rooms, complete for immediate possession.—Apply by letter to Mr THOMAS MEYER, 61, Lincoln's-inn-fields, W.C.

TO ARCHITECTS AND SURVEYORS.

A SITUATION in the above profession is required by an energetic Young Man, aged 19, who possesses considerable freedom and facility with the pen: is a good draughtsman; of parents highly respectable; received a London education: and would be extremely useful in an office of good practice. Remuneration very moderate. Town preferred.—Direct to Z. OMICRON, care of S. G. 12, St Martin's-lane, Broad-street, Birmingham.

TO IRONFOUNDERS, ENGINEERS, &c

AN experienced IRONFOUNDER, who has been many years foreman of extensive works, is desirous of a similar ENGAGEMENT. Unexceptionable references can be given. —Address, IRONFOUNDER, 16, Roupell street, Cornwall-road, Lambeth

TO IRONFOUNDERS, BUILDERS, &c.

A THOROUGH and accurate BOOK-KEEPER, ACCOUNTANT and moderate DRAUGHTSMAN, conversant with foundry, drainage, and gasfitting work, wishes to treat with any gentleman for either a PERMANENT SITUATION or TEMPORARY EMPLOYMENT. Eight years' reference.—Address, B. Mr Monnery's, House 1, Newman-row, Lincoln's-inn-fields.

TO ARCHITECTS

A GENTLEMAN, who has completed his articles, is desirous of an ENGAGEMENT: is a good draughtsman, accustomed to prepare and colour perspectives, and the general office routine. Has had some practice in land surveying. Salary, if so per week. A London office preferred.—Address, E. G. L. Office of "The Builder."

A DRAUGHTSMAN, having some leisure time, is desirous of rendering occasional ASSISTANCE in making perspective or geometrical or practical drawings. Terms moderate. Apply by letter, to A. B. 741, Upper-street, Islington

A BUILDER'S FOREMAN wants a RE-ENGAGEMENT, a Carpenter and Joiner by Trade: is well versed in all branches connected with buildings, having had the sole superintendence of large and small works. References unde niable. Locality no object. Terms moderate. Married, no family; aged 39.—Apply to Q. E. No. 1, New Milman-street, Great Guildford-street

A CLERK of WORKS solicits a RE-ENGAGEMENT; is practically acquainted with all the building trades, having had twenty years' experience; has made fair and working drawings, specifications, taken out quantities, measured and valued, understands levelling and surveying, and has kept the books of an office. Testimonials unexceptionable. Aged 33 years.—Address, E. F. G. Office of "The Builder."

TO ARCHITECTS

A YOUNG MAN, aged 21, who has served his apprenticeship to the above business, is desirous of RE ENGAGEMENT. Is a fair draughtsman, and writes a good hand. Address, T. P. 49, Fisher-street, Carlisle.

TO PAINTERS, GRAINERS, AND GENERAL DECORATORS.

A THOROUGHLY competent and experienced Hand in the above branches may obtain a permanent SITUATION upon presenting himself in the West of England.—Applications to be made by letter, prepaid, to A. B. at Messrs. Ward and R. Wilcox's, 1, Monument-yard, London, stating age, qualifications, and salary required. One who can occasionally take work on hand will be preferred. Specimens of work will be required, and an unexceptionable character of at least twelve months' standing from his last employer.

TO ARCHITECTS.—Notice is hereby given, that the Trustees appointed by Sir John Soane will meet at the Museum, No. 13, Lincoln's-inn-fields, on WEDNESDAY, the 24th of MARCH, at THREE o'clock in the afternoon precisely, to DISTRIBUTE the DIVIDENDS which shall have accrued during the preceding year from the sum of £3,000 Reduced Three per Cent. Bank Annuities, invested by the late Sir John Soane, among distressed architects, and the widows and children of deceased architects left in destitute or distressed circumstances.—Forms of application to be had at the Museum, and must be filled in and delivered there on or before MONDAY, the 15th of MARCH, after which day no application can be received.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer, SUPPLIES the COCOA NUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c. of the best quality on the most reasonable terms. Warehouse, 42, Ludgate-hill, E.C.

BLAIN and COWANS, Sole Inventors and Proprietors of the Registered SPIRAL CHIMNEY-TOP for the CURE of SMOKY CHIMNEYS or DOWN-DRAFTS, No. 1, Moncrieffe-street, Bolton, Lancashire

The above invention has been applied successfully in many instances. The Spiral tops are made of galvanized sheet iron, and cost from 5s. each, delivered in Manchester, exclusive of frame, which, in the majority of cases, does not exceed 5s. each. The Proprietors are desirous of making arrangements with Builders and other respectable parties in London and various parts of the country, for the exclusive sale of the above.

Testimonials to be had and Models to be seen at the Office of "The Builder."

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory the first of its kind ever established, a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from ¾-inch to 1¼ inch thick, in White or Yellow Deal, Oak, or Pitch Pine. Also Dry Deals, in all thicknesses, Sliding Battens, Panelled Lathing, Oak Sills, Plank, and Scantlings. Mouldings in clean Pine, to any design. A pattern list forwarded on application. Address, E. SIMMS, Flooring Manufactory, and Sawing, Planing, and Moulding Mills, King's road, Chelsea.

PREPARED FLOORING! PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	¾	⅞	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within three miles free of cartage.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

WALNUT PLANK, SEASONED.—About TEN LOADS of fine, large PLANK FOR SALE Price, for the whole, 10£ per load, on trucks. Fine ENGLISH OAK CABINET PLANK.—Apply to JOHN CLARKSON, Timber Merchant, Birmingham

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list-prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Walton road, Pimlico, to the KING'S ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor-street

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c by any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to

E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s per cwt.,
Linseed Oil, 2s 8d per gallon; Boiled Oil, 2s per gallon;
Turpentine, 2s 10d per gallon.;
Fine Pale Oak Varnish, 7s 6d. per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coachhill street, Pimlico.
Every article for the Trade at the lowest price.

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices—

3-in. Prepared Flooring	£0 11	6 per square
Inch ditto	0 13	0 per square.
Yellow Battens	11 10	0 per 120.
Spruce Deals, from	0 2	9 each.
Fine ditto, from	0 3	6 each.
Yellow ditto, from	0 3	3 each.

Mahogany, in logs and planks, from 5½d. per foot.
All Sawn Goods delivered three miles free of cartage.
Borough-road, Southwark, and Elm street, Gray's-inn-lane

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reasonable Prices for really useful goods:—

¾-inch Prepared Flooring	£0 11	6 per square.
¾-inch Prepared Flooring	0 13	0 per square.
Inch Prepared Flooring	0 15	0 per square.
Good Yellow Deals	0 3	3 each
Spruce Deals	0 3	6 each
Fine Deals	0 3	6 each.
Yellow Battens	11 10	0 per 120.

Mal. grain, in logs and planks, from 5½d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER Old Bethlem-green-road, N.E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 9d.; Spruce, 2s. 8d.; Pine Planks 4s. 6d.; Mahogany and Walnut, 5½d.; Scotch White Battens, 9l. 10s.; Yellow, 11l. 10s.; Inch White Flooring, 12s. 6d.; ¾ do. 11s. 6d.; Inch Yellow, 10s. 6d., ¾ do. 9s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.—T. FORMAN, 1, Walnut tree-walk, Walworth-place, Lambeth, S.

A CORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT ROAD, LONDON
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

FLOOR BOARDS, &c. R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from 2 inch to ¾ inches thick, seasoned, and ready for use, also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes. Address, R. SLADE (late L. Simms), Flooring Manufactory, Wilton-road, Pimlico.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Candlidge-street, Old St. Pancras road GEORGE NORRIS and CO. invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING, at the undermentioning prices, for cash:—

¾ inch white, 10s. 6d. per square. ¾ inch white, 12s. per square; ¾ inch white, 13s. per square; ¾ inch yellow, 11s. per square; 1 inch yellow, 13s. per square; 1 inch yellow, 15s.

Deals, battens, planks, &c. at the lowest remunerative prices. A liberal discount allowed on mouldings for exportation. Book of designs forwarded on application.

CLARIFIED VELLUM.—A novel and beautiful fabric, manufactured entirely from animal matter, possessing the tenacity and durability of Vellum, with the purity, evenness, and diaphanous surface of the finest Tracing Paper. For Permanent Tracings for Patents, &c. it will be found invaluable. 36 by 24, 1s. 6d. per dozen. Also, every article required by the Engineer, Draughtsman, and Artist of the best quality, at wholesale prices.

WATERLOW'S TRANSPARENT TRACING PAPERS
LEON'S FRENCH TRACING PAPERS
ENDLESS TRACING LINEN AND CLOTH.
WHATMAN'S DRAWING PAPERS AND CARTRIDGES
MOUNTED DRAWING PAPERS—Always in Stock.
WILLIAMSON'S SECTIONAL LINES for Engineers, &c.

WATERLOW and SONS,
Wholesale and Export Stationers and Manufacturers
Fact'ry and Warehouses, 60, 65 to 68, and Carpenters' Hall, London wall, City Depot, 21 and 25, Birchin-lane; Western ditto, 49, Parliament street, London

WEST and HUBBELL'S "COMBINED SLIDING and FOLDING SASH," constructed so that they can be raised, lowered, and swung open simultaneously. They are cheaper than French casements, are air tight and weather-proof, and from the liability to rattle or shake. Bend double hung, vent lights, &c. &c. unfashionably effected. In short, they are elegance, convenience, economy, and utility combined, as there is no portion of the real but which can be brought within distance for cleaning or repairs from the inside.

PRICES FOR ROYALTIES.

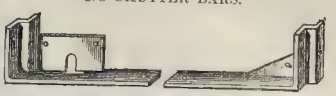
Size, No. 1. For all windows, the superficial contents of which, including frames exceeding 20 feet, 5s each
Size, No. 2. For all ditto, above 20 feet, and not exceeding 30 superfeet, 6s each
Size, No. 3. For all ditto, not exceeding 20 super. feet, 2s 6d each.

N.B. Models may be seen, and sheet of full details given.—
WEST and HUBBELL, Architects, 20, Regent street, Haymarket, London, W.

Messrs. W. J. H. will be at the Royal Commercial Hotel, Dublin, until MARCH 6th.

J. MILLS (late Shop Foreman to Messrs. Lawrence and sons), JOINER to the TRADE 7, Princes street, Stafford street, Islington, Shop fronts, fittings, staircases, &c. Well-seasoned materials and superior workmanship, at the lowest possible prices. A quantity of doors and sashes always in stock.—By enclosing a stamp, a full list of prices will be returned. Workshops, 116, Broadwall.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the sizes they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland street, Blackfriars road.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.
S. A. JEFFS,
48 and 49, Cornwall road, Stamford street, Lambeth, S.
N.B. Price list on application.

TO BUILDERS and OTHERS. Trade Bill Dis. 10 per Cent. Advances to Responsible Parties and Materials, and by way of Mortgage, and upon Deposit of Deeds.—Apply, by letter, to Mr GREGNORE, 65, King William-street, City, E.C.

TO ENGINEERS, MILLOWNERS, AND OTHERS.

ELASTIC CANVAS AND INDIA-RUBBER STEAM PACKING,
Which wears six times longer, economises Labour and Tallow, is always ready for use, and causes less Friction than any other Packing
IMPORTERS OF
AMERICAN BELTING, BREWERS' HOSE, &c.
S. W. SILVER and CO.
Nos. 3 and 4, BISHOPSGATE-STREET, opposite London Tavern.

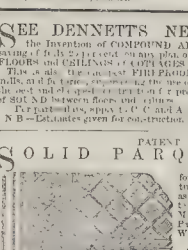
DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter. FROM SIR RAYMOND JARVIS, Bart., NEWTOWN, ISLE OF WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning requesting the Gutta Percha Tubing I put down Service, I can state with much satisfaction, that it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent deterioration since the first laying down, now several years, and I am decidedly of opinion that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pumps to give one-third per cent. of duty, and render derangement of the pumps a matter of impossibility. Prospectuses, price lists, testimonials, references, at the Offices of the Patentees, PERREAUX and CO 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot water pipes. Vulcanized Rubber Door springs, and Solid Round Rubber Cord of all sizes of any length. Patent Oil Cushions and Rubber Strings for any part of the windmill, table &c.
Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness. Air beds, Pillows, and Cushions, and Portable Baths. Inflated Cushions, and Air Beds of the best make to any pattern to order
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London

SEE DENNETT'S NEW PATENT for the Invention of COMPOUND ARCHES, in which there is a saving of fifty per cent on any plan of construction now in use for FLOORS and CEILINGS of COTTAGES
This is also the cheapest FIRE PROOF construction for warehouses, mills, and factories, preventing the use of the heavy Iron girder; and the most valuable construction for preventing the communication of fire between floors and ceilings.
For particulars, apply to C. C. and A. DENNETT, Nottingham.
N.B.—Estimates given for construction in any part of the country.

PATENT
SOLID PARQUETERIE,



for floors, walls, and furniture much thinner per foot, and used in the same manner as tiles. Sir Charles Barry, Messrs. Burn, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Time May 29.

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No. 80, New Bond street.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

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EDWARDES, EDWARDS, and CO. PROPRIETORS,

The LARGEST and MOST SUPERIOR STOCK of CHIMNEYPIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories: Carrara (Italy), Belgium, and 17, Newman-street, London.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

London Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

WATERLOW, DRAPER, AND WEBB,

MANUFACTURERS OF HOUSE AND COTTAGE JOINERY,

TREDEGAR WORKS, BOW, E.

Beg to call the attention of the Building Trade to their extensive Stock of

DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

WAREHOUSE, 121, BUNHILL-ROW, FINSBURY, E.C.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable in warm climates.

1st. It is a non-conductor—2nd. It is pliable, being packed in rolls, and not liable to damage. 3rd. It does not require the aid of Lime or Cement to render it impervious to wet. 4th. From the lightness with which it can be laid it is one of the cheapest roofings in use. 5th. It is almost entirely composed of the

INDOROUS FELT, for damp walls and for damp floors, under carpets and floor-cloths. Price ONE PENNY per square Foot.

CROGGON'S PATENT FELTED SHEATHING, for covering Slate Battens, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving a great part of Fuel, and deadening sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,

LAMBETH POTTERY,

LONDON.

Price 6s. 6d. each.

LIST of STEAM-ENGINES and MACHINERY FOR SALE and REQUIRED, February, 1858, consisting of pumping and portable engines and boilers, locomotive engines and rolling mills, &c. &c. Steam cranes, and machinery and tools, &c. &c. Applications to Mr JAMES BURNEY, Engineering and Agency Offices, 18, Cannon-street, City, E.C.

BRICKS. Malm Cutters, Yellow and Pale Stocks, Pavers, and Paviors, of good and sound quality, constantly on sale at H. DODD'S Brickfields, which are only a quarter of an hour's walk from the City. H. D. earnestly requests purchasers to favour him with a visit, in order to inspect his stock, and to judge for themselves.

Malm Place, half-washed Stocks, and Place Bricks, also on sale. These bricks are sound, well burnt, and tenacity free from defects; a very large proportion of the stock being suitable for external facing.

Apply to HENRY DODD and CO. at the Counting House, Hoxton Brickfields, Grange-walk, near the Regent's Canal Bridge, Hoxton.

N.B. Light coal and Pit Sand of approved quality constantly on sale upon reasonable terms. Thin Sand, from its being containing any saline matter, is acknowledged to be preferable to river Sand.

BRICKS. Messrs. OATES and INGRAM inform Brick makers on an extensive scale, that the PATENT SOLID BRICK MACHINE is now thoroughly and efficiently tested, and they are prepared to offer the following orders to the trade, in DISTRICTS, either by ROYALTY or PURCHASE—MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, GLOUCESTER, HEREFORD, BERKS, HUNTINGDON, DEVON, CORNWALL, DORSET, WILTS, HANTS, and ISLE of WIGHT. With this Patent Machine the ordinary surface clay requires no preparation whatever; whilst that of a rocky nature has merely to be passed through rollers in the usual way, and thence, WITHOUT ANY TEMPERING, INTO THE MACHINE, FROM WHICH THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Machine is now making upwards of THIRTY BRICKS PER MINUTE, at the Works of Messrs. Kirk and Parry, Government Contractors, Fort Elson, near Gosport; and also at the Patent Solid Brick Works of T. Wells Ingram, Oldbury, near Birmingham.—Application for orders to see the Machine in operation to be made to OATES and INGRAM, Bradford-street, Birmingham. Samples of clay may be sent and passed through the Machine, and the bricks burnt, or a sample brick will be sent to any party wishing to see one.

BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	22s. per Thousand.
Rough Stocks and Grizzles	19s. ,,
Place from	15s. to 15s. ,,
Bright Stocks	23s. ,,
Shippers	30s. ,,

Address to GEORGE MEED, Sittingbourne, Kent.

P.S. Upon any of the Canals on payment of Dues extra.

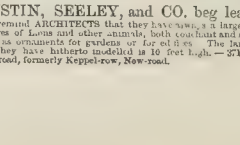
PLASTER of PARIS, unequalled in quality and price, manufactured by W. JACOBS, Trent Works, Newark, Notts.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description (seven years with John Newton, of Falcon Dock, Bankside), beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

PEAKE'S TERRO-METALLIC TILES, HIPS, &c.—Notice is hereby given, that the LONDON DEPOT for this ware is REMOVED to No. 21, WHARF, Mecklenburgh-st. North, City-road Basin. The Proprietor of the trade term, "TERRO-METALLIC," is the exclusive right of the Proprietor; and lastly, that the "Reports of the Jurors," page 581, of the Great Exhibition, note the grant of a First class Medal, and rank the Manufactories known so long as "The Tilories," Tunstall, Staffordshire, as the first of the kind in the world.

THE PATENT ARCHITECTURAL POTTERY COMPANY, Poole, Dorset.—Manufacturers of Bale's Patent Inlaid Mosaic Tiles, also superior Tessellated Tiles, 6 in. and 4 in. &c.; White, Red, Buff, Black, Grey, Blue &c. for Churches, Entrance Halls, Corridors, conservatories, &c. and White Glazed Tiles for baths, dairies, &c. Various specimens may be seen at the Offices of the Company, 9, Buckingham-street, Strand.

PATENT TERRA-COTTA. Tracery for Parapets and Terraces, Mullions, Pinnacles, Moulded Bricks, Coats of Arms, Crosses, Label Mouldings, Friezes, Trusses, Vases, Balusters, Capitals and Bases of all kinds, Paving, Facing Bricks, Coping, Kitchen and other Stoves, Chimney Shafts and Tops, and numerous other Articles, manufactured by J. M. BLASHFIELD, in Patent imperishable Terra Cotta, at Mill-wall, Isle of Dogs; and sold at No. 1, Wharf, Broad-street, Paddington-basin.



AUSTIN, SEELEY, and CO. beg leave to remind ARCHITECTS that they have now in a large number of Figures of Lions and other animals, both couchant and standing, suitable as ornaments for gardens or for out-offices. The largest size which they have hitherto modelled is 10 feet high.—371 to 375, Euston road, formerly Keppel-row, New-road.

ACCIDENTS of EVERY DESCRIPTION. CASH IN CASE OF DEATH; OR A TIMELY ALLOWANCE WEEKLY FOR THE IN THE EVENT OF INJURY May be secured by an Annual Payment of £1. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY. A Special Act provides that persons receiving compensation from the Company are not barred thereby from recovering Damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER. It is calculated that ONE PERSON in every FIFTEEN insured by this Company is injured yearly. This Company has already paid as compensation £47,000 for 27,000 Accidents. Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year. NO CHARGE FOR STAMP DUTY. WILLIAM J. VIAN, Secretary. Railway Passengers' Assurance Company, Offices, 3, Old Broad-street, London, E.C.

SPECIAL NOTICE. TO SECURE THE ADVANTAGE OF THIS YEAR'S ENTRY, PROPOSALS MUST BE LODGED AT THE HEAD OFFICE, OR AT ANY OF THE SOCIETY'S AGENCIES, ON OR BEFORE 1st MARCH. MUTUAL LIFE ASSURANCE. THE WHOLE PROFITS DIVIDED AMONGST THE ASSURED. THE SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY. INSTITUTED 1831. Incorporated by special Act of Parliament. The Fund accumulated for the Contributors of Premiums exceeds ONE MILLION STERLING. The ANNUAL REVENUE exceeds ONE HUNDRED and SEVENTY SIX THOUSAND POUNDS. The Amount of Existing Assurances exceeds FOUR MILLIONS and THREE QUARTERS. The Amount paid to the Representatives of Deceased Members exceeds Nine Hundred Thousand Pounds, of which One Hundred and Twenty Thousand Pounds consisted of Bonus Additions. A Division of Profits is made every Three Years, the next Division being at 1st March, 1859. Head Office:—36, ST. ANDREW-SQUARE, EDINBURGH. ROBERT CHRISTIE, Manager. WILLIAM FINLAY, Secretary. LONDON OFFICE—26, POULTRY, E.C. ARCHD. T. RITCHIE, Agent. WESTERN LONDON OFFICE: 6A, James's-street, Westminster Terrace, W. CHARLES B. LEVER, Solicitor, Agent.

THE ROYAL POLYTECHNIC.—Patron, H.R.H. the Prince Consort.—The Great Solar Eclipses of 1858, next Monday, Wednesday, and Friday Mornings, at Three, and Evenings at a Quarter to Eight. Entire new Lecture by J. H. Pepper, illustrated by correct, splendid, and new Dissolving Pictures, showing the grand phenomena of a Total Solar Eclipse. The Lecture will be followed on Wednesday and Friday Evenings by a selection of Sacred Music from the great Composers, which will be performed by the St. George's Choir, the improved Orchestra of the Institution, and the following Soloists:—Miss Van Noorden, Miss Rycroft; Mr. Adams, Tenor, Mr. Allen, Bass. Mr G. A. Cooper's New Musical and Picturesque Entertainment, entitled "A Visit to the Egyptian Court of the Crystal Palace," with splendid Photographs and Ballo Songs, every Tuesday, Thursday, and Saturday Evening, at a Quarter past Eight. At the other Lectures, on the "Leviathan," on "The Scuttle of Coals from the Pit to the Fireside," and on "The Giant Hydro Electric Machine," with the magnificent coloured Dissolving Views, illustrating the Rebellion in India, as usual. Admission to the whole, 1s. Children under Ten, and Schools, Half-price. For the Hours of Lectures, &c. see programmes for the week, which is sent anywhere for two postage-stamps.

MR. ALBERT SMITH'S MONT BLANC, NAPLES, POMPEII, and VESUVIUS, EVERY NIGHT (except Saturdays), at EIGHT, and TUESDAY, THURSDAY, SATURDAY, and MONDAY, 26th, Afternoons, at THREE.—Places can be secured, at the Box office, Egyptian-hall, daily, between Eleven and Four, without any extra charge.

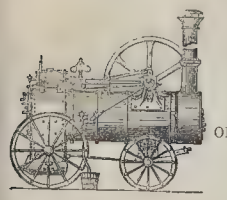
PROFESSOR WILJALBA FRIKELL, ST. JAMES'S THEATRE, Wednesday and Saturday Afternoons at Three, and every Evening (except Saturday) at Eight. Stalls, 3s.; balcony stalls, 4s.; boxes, 3s.; pit, 2s.; gallery, 1s.; private boxes, two guineas, one guinea and a half, and one guinea. Places to be secured at Mr MITCHELL'S, Royal Library, 33, Old Bond street.

TO IRONMONGERS, BELLHANGERS, and GASFITTERS.—TO BE SOLD, a genuine CONCERN in the above Business, established 30 years, in a populous and improving district. The present proprietor would be willing to admit a partner to an equal share, or, as his health is rather impaired, would be willing to dispose of the entire concern. About 4,000l. or 5,000l. would be required for the purchase, a portion of which might remain on mortgage.—For further particulars, apply to Messrs. FULLER, and HORSEY, Billiter-street, Fenchurch-street, City, E.C.

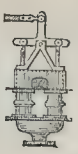
CARTS, VANS, WAGGONS, LADDERS, BARROWS, &c. GEORGE ELL, Cart Wheelwright, Ladder, and Barrow Maker, has constantly on hand, brick, dobbin, and other carts, spring vans, and also a large stock of ladders, barrows, trestles, steps, and other trade implements for builders, contractors, and decorators, on the most improved principles and low prices. Scaffolding, Ladders, Barrows, Steps, Trestles, &c. Lent on Hire. The new Price Lists are now ready, and will be forwarded on application. G. ELL, 279 and 280, EUSTON-ROAD, N.W.

HECKETHORN'S PATENT LIQUID COLOUR, for external and internal stuccoed or plastered walls; primings for in and outside woodwork to prevent blistering; and a composition (in lieu of size), for floor-cloth and table-cover manufacturers.—J. HUDDEN and CO. Proprietors, No. 503, New Oxford street.

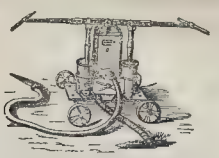
"PUMPS." — FOWLER & CO.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.



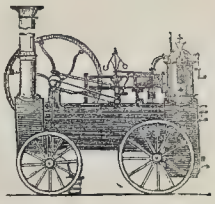
YARD, FARM, AND HOUSE PUMPS.



HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.
CONTRACTORS' PORTABLE PUMPS.
PUMPS FOR MANUFACTURERS, FOR STEAM OR HAND POWER.

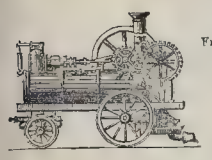
MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE
STEAM
ENGINES,
FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS.
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices
MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,
For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

NOTICE OF REMOVAL,
From Opposite the London Docks.
PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.
BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works
HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW-WHITE ZINC.
DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.
THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

KINSON CLAY, POTTERY, AND BRICK COMPANY, LIMITED.
MANUFACTURERS OF EVERY DESCRIPTION OF SANITARY GLAZED SEWAGE-PIPES, CLOSET-PANS, FURNACE-BLOCKS, FIRE-BRICKS, GAS-RETORTS, CRUCIBLES, &c.
THE POTTERY is situate about a mile and a half from the town and port of Poole. It is worked by steam power, and the pipes are made of the most approved patent machinery, and will bear favourable comparison with any manufactured in the kingdom The fire bricks have been tested, and are found fully equal in all respects to those manufactured at Stourbridge and Newcastle All articles are made from the clays and materials found on the estate There is an inexhaustible quantity of all descriptions of Dorsetshire clay used for pottery purposes, which can be supplied to the Staffordshire, North Country, and London markets, upon favourable terms
*** Lists of Prices, and all other information, will be furnished upon application to Mr. GILBERT E. MITCHELL, Manager, at the Works; or to Mr. JOSEPH COX, 1, 2, and 3, High-street, Lambeth.

TO CONTRACTORS and OTHERS.—FOR SALE, by Private Treaty, a LOCOMOTIVE TANK ENGINE, nearly new, 143 earth waggons, five dobbin carts, in good working condition, twenty-five tons contractors' rails, 42lbs per yard.—For further particulars, apply to G. S. POLLOCK, Aire and Calder Wharf, Leeds

ITO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), Importer of all sorts of Marble, keeps a constant well-supplied Stock of Marble, in Blocks, at the under-mentioned Wharf, comprising STATUARY, VEINED, VEINED PAONAZZO, SICILIAN, DOVE,—all the produce of his own Quarries at Carrara. Bardilla, Black and Gold, Sienna, Grecotto, St. Anne's, Vert des Alpes, Brecia, &c. &c.; Vases, Monuments, Garden and Gallery Statues manufactured in Italy; and takes Contracts for all the above sorts of Marble to any extent connected with the Trade.
Carrara Wharf, Thames-bank, Pimlico; and 150, Leadenhall-street, City.

JOHN BAZLEY WHITE and BROTHERS,
MARBLE MERCHANTS,
MILLBANK-STREET, WESTMINSTER.
Marble of all kinds and of best quality, in Block and Slab.
Marble Mortars, &c.

GRANITE.—King William and Nelson Monuments, Plinth and Steps of the Royal Exchange, and Fountains at the Crystal Palace. Supplied by the Hayter Company under Royal Charter. For terms, apply to Mr. C. HOAR, Hayter Granite Office, 4, Millbank-row, Westminster.

SAMUEL TRICKETT, general STONE-MERCHANT—Masons and contractors supplied at the lowest wholesale prices, direct from the quarries or wharfs, by vessel or railway. London depots—Victoria Wharf, Isle of Dogs, and No 3, Stone Depot, Great Northern Railway, King's-cross, where large stocks are kept. Chief Office, Millwall, Poplar, E.—Sole Agent for Rawdon-Hill Stone.

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall.
London Agents—TREGELLES and TAYLOR, 54, Old Broad street
Manager JAMES J. TRATHAN, Liskeard
This Granite is selected for the New Westminster Bridge.

TO BUILDERS and OTHERS. — ONE THOUSAND CHIMNEY-PIECES kept in Stock, at prices from 6s. each.—W. B. WILKINSON and Co. Manufacturers, Pridhoe street, Newcastle-on-Tyne

LITTLE CASTERTON FREESTONE.—Apply for prices, &c, to FRAS. and OCTS N. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER, SIMPSON, and SONS, 29, Savile row, London.

BATH STONE OF BEST QUALITY.
RANDELL and SAUNDERS, QUARRYMEN and STONE-MERCHANTS, BATH.
List of prices at the Quarries and Depots, also cost for transit to any part of the kingdom, furnished on application to Bath Stone Office, Corsham, Wilts.

WILLIAM S. LAWRENCE, Pennant Stone Merchant, Stapleton Office—10, Merchant-street, Bristol.—All descriptions of Steps, Landings, Troughs, Tombs, Curb, Ashlar, Paving, &c in sale at the Stone Quarries, Stapleton, and at Conham, on the Avon, near Bristol

RANSOME'S SILICEOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material, at prices not exceeding the ordinary Cements
Full particulars furnished on application to
Mr. FRED. RANSOME,
Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

CAEN and AUBIGNY STONE.
P. FOUCHARD, Stone Merchant and Quarryman Cargoes shipped to order from Caen to any port Contracts taken for any quantities. Depôt for Granite Wharf, East Greenwich, Lett's Wharf, Waterloo-bridge. Office. No. 246, High-street, Southwark, near the Town hall.

GATES and GEORGE,
CAEN and AUBIGNY QUARRYMEN, and GENERAL STONE MERCHANTS,
CAEN WHARF. ROTHERHITHE.
Seasoned Caen Stone always on hand, and a large assortment of Yorkshire Sawn Slab, and other Stone

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices, and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

BANGOR WHARF, King's-road bridge, Camden-town.—STRINGFIELD and COOPER, late W. W. Rawlins, beg to call the attention of Builders and others to their stock of Bangor slates, laths, plaster, Roman, Portland, and Keene's cement, blue lias, Dorking and chalk lime, plasterer's hair, Yorkshire plain, pan, and ridge tiles, glazed sewer pipes, closet-pans, and traps, Welsh fire-bricks, gravel and shells for garden paths, ballast, sand, &c Materials landed, wharfed, and carted.

MARKET WHARF, REGENT'S-PARK BASIN. WEST-END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods SCULES and WOOD invite the attention of Builders, Masons, and others, to their Stock as above, where everything will be charged at the lowest prices. Headstones, ledgers, steps, landings, &c cut on the shortest notice.
Country orders promptly attended to.

VALENTIA SLATE SLABS. The Valentia Slab Company invite attention to their Slabs now supplied of very large dimensions and of superior quality. They have been used at the British Museum, National Gallery, Bethlehem Hospital, various Lunatic Asylums, the Ordnance Works, Mount Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stand at Bright ton, Portsmouth Barracks, and are kept in Stock in large quantities by Messrs. FREEMAN, Millbank-street; and at Messrs. BRABY'S, Belvidere-road, where terms may be obtained.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, billiard-tables, table-tops, baths, wall linings, &c. a new Illustrated Catalogue of which can be had at the Pimlico Slate Works, 39 and 40, Upper Belgrave place, Pimlico, S.W.

TIMBER and SLATES. — Regent's Wharf, Mill-wall, Poplar, E. near West-India South Dock.
JOHN EADES solicits the attention of builders and others to the undermentioned low prices for his Deals, Battens, Flooring, Plaster Laths, and also his Welsh Roofing, Slates, and Slate Slabs, which for quality and price, are not to be surpassed by any other house.

Yellow deals, from 20l. per 120—12 ft. 3 in. by 9 in.			
Spruce ditto	17l.	"	"
Battens	10l.	"	12 ft. by 2½ in.

Prepared flooring from 12s. per square
Ceiling and plaster laths, from 28s. per load.
Roofing Slates.

Duchess	24 in. by 12 in.	11l 6s.	per mille of 1,200.	
Small ditto	22 in. by 11 in.	8 15	"	"
Countess	20 in. by 10 in.	6 15	"	"
Small ditto	18 in. by 10 in.	5 5	"	"
Ditto	18 in. by 9 in.	4 15	"	"
Ladies	16 in. by 8 in.	3 15	"	"

Slate slabs sawn all round and planed on one side:—

	1¼-in.	2-in.	2½-in.	2¾-in.
From 5 to 10 ft. in each slab, at per foot	5d.	6d.	8d.	9d.
" 15 ft. and over	7	8	11	13

GAS ASHES and BREEZE for SALE.—Apply to RANDELL and EVANS, Tile Works, Maiden-lane, King's-cross.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

H. PIGGOTT,

115, Fore-street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

AMHERST-ROAD GRAVEL PITS, near the Pembury Tavern, Hackney.—T. M. SHURMUR having OPENED the above PITS, begs to inform the Public that he has constantly for SALE a large quantity of superior GARDEN GRAVEL, Stable, Livery Stable, and Builders' Sand, Shingle, Ballast, &c. The Garden Gravel used very lavishly, quality similar to the Forest Gravel. The Builders' Sand light coloured, and quite sound. Thames Sand.

N.B. A good Rubbish Shoot in the Pits.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, 9 Queen-street, Cheapside, London, submit the following PRICES of WINDOW BLINDS, which they can recommend as being made in the best manner:—Venetian Blinds, per square foot, 9d.; best Holland blinds, on rollers, 6d.; best ditto, with spring rollers, 8d.; gauze wire blinds, in mahogany frames, 2s.; perforated zinc blinds, in ditto, 3s. 6d.; chintz blinds of tripod cloth, 2s. Transparent blinds in great variety. Engravings, with prices and discounts to builders and the trade forwarded on application, post-free.

LAMBERT'S SELF-REGULATING and SELF-ACTING ENAMELLED IRON CLOSET PAN.

FIG. 18.

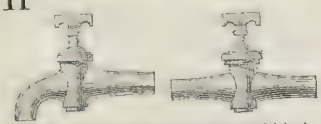
This arrangement consists of an Enamelled Cast-iron Basin and Supply Trap, supplied by a Lambert's Patent Self-regulating Valve, bolted to the basin, adjusted so as to deliver any quantity of water required at each action of the seat; it is the cheapest, most durable, and effectual self-acting closet yet produced, requiring no reservoir, pipework, or other fittings, the valve itself measuring at each action of the seat a given quantity of water into the pan.

Price complete, with enamelled iron syphon trap, 45s.

THOS. LAMBERT and SON, Patentees and sole Manufacturers of their Flexible Diaphragm Water valves, Cottage Closet valves, &c. Sackett-street, New-cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners have recommended the adoption of the Hack pipe in preference to all others. WALKER'S HIGH-PRESSURE COCK, constructed as a Cock free from leakage, and applicable for all purposes requiring the best Cock made. Basins, with supply-valve for attaching direct to main pipes without a cistern, complete.

LEAD, IRON and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 9.

HIGH PRESSURE VALVE COCKS.

LAMBERT'S PATENT.

The Cock has been found by many years' extensively and most successfully used in Paris, chosen for supplying the high-pressure Carving Fountains in the Louvre, their efficiency and durability having been unquestionable.

The Lever Valve is capable under pressure in its action, and is adapted for the various Cocks which are required for Baths, Enamelled Iron, Self-acting, and other Closets, upon economic and [illegible]

THOMAS LAMBERT and SON

Benjamin Hen[illegible] Founder and Brass Finisher, New-cut, Lambeth.

WARNER'S PATENT VIBRATING STANDARD HEMP-PACKED CAST-IRON PUMPS fitted with Warner's Patent Bucket and Sucker, which cannot clog in the barrel, for farm-yards, draw-wells not exceeding 20ft.

Diameter of Barrel	Length of Barrel		£ s d
2¼ in.	short 1 ft. 7 in.	Fitted for lead,	1 10 0
2½ „	long 3 3	gutta percha	1 11 0
3 „	ditto 3 6	or cast iron pipe	1 15 0
3½ „	ditto 3 6	flanged pipe	2 10 0
4 „	ditto 3 6	as required	3 3 0

2½ „ short, with 15 feet of lead pipe and all ready for fixing 2 14 0

2½ in. long ditto ditto 2 16 0

The short 2½ Pump is very convenient for farm-yards, as it is of small height and space for the Brass Cylinder, copper side-tubes, Wood Case, &c., all very firmly together. Leaden tubes, or to any length, also cast-iron pipes, can be fixed, when desired, under the ground. Any Pump of any Description may be fixed in town or country, at Warner's prices. Patentees and Manufacturers of Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machine for Raising Water, by means of wheels, cranks, rams, &c., &c., for Gas, Fire and Garden Engines, &c. &c.—Engravings sent on application.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

HALF SOCKET PIPES same purposes as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Duckhead Wharf, Bermondsey.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS, Dragon Wharf, Cumberland, Barton.
Messrs. COLWILL BROS., 27, Bryanston-street, Covent-garden.
Mr. HENRY TURNER, [illegible] Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S TERRA-COTTA FLUE-PIPES

Clean much more easily than Brick Flues. By their use the DRAUGHT IS MUCH INCREASED, AND THE RISK OF SMOKY CHIMNEYS AVOIDED.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by means of which the CONNECTION BETWEEN PIPE-DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and Co. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

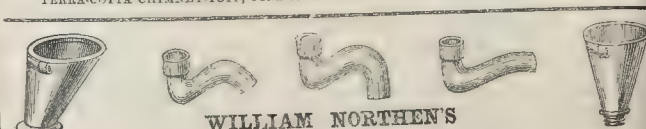
ST. HELEN'S,

STORES 70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.



WILLIAM NORTHEN'S

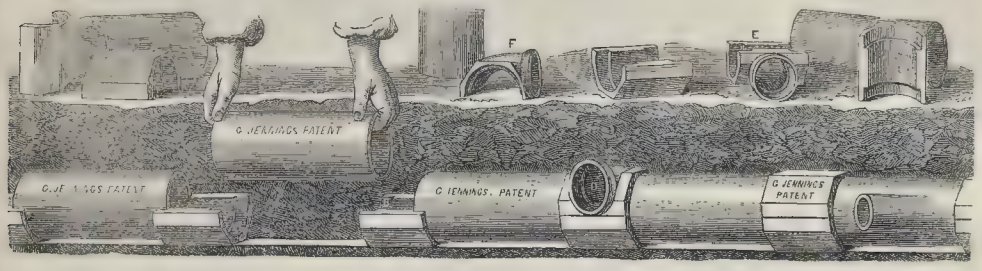
WHITE ENAMELLED STONEWARE,

UNION POTTERY, 11, VAUXHALL-WALK, LAMBETH, LONDON.

W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET-PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered [illegible] SAME PRICE AS BROWN STONEWARE.—Chest [illegible] Closet, 1s. 6d.; Trap, 2s.

BEFORE THE INTRODUCTION OF JENNINGS'S PATENT DRAIN-PIPES,

NO DRAINAGE COULD BE EXAMINED WITHOUT BREAKING INTO THE PIPES AND DISTURBING THE GENERAL DRAIN.
(See Engineer's Report to the Metropolitan Commission, January, 1855.)



If at any time an alteration rendered the introduction of a Branch-drain from a Closet or Sink necessary, could it be effected without digging up a portion of the Pipes? Then, again, could any one see if the Joints were properly made? And even if made with the greatest care, a frill of cement would often be found in the interior of the Pipe; and, if not soundly made, the SCOURING POWER was lost in the sub-soil: hence the deposit found in Pipe Drainage.

The increasing demand for JENNINGS'S PATENT DRAIN PIPES, the number of works in which they are specified to be used, and the many testimonials received, are proofs that they meet the requirements of the day. Arrangements are now being made for the Manufacture and Supply of these Pipes in all important towns, at the following Prices, subject to a discount of at least 20 per cent. for cash:—

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
5d.	6d.	8d.	1s. 1½d.	1s. 10d.	3s.	4s., per foot run.

Architects specifying JENNINGS'S Double-seated Valve Water-closet, his Earthenware or Self-acting Water-closet, Urinals, Lavatories, &c. will be well satisfied with the result. A Large Stock of Sanitary Appliances may be seen at

JENNINGS'S SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS.

Note.—PARTICULARS of JENNINGS'S IMPROVEMENTS in CONSTRUCTION and VENTILATION, will shortly appear, with Illustrations.

DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without disturbing any Part of the Invert of the Drain, or lessening its Capacity.

SOCKET JOINTS.

The intention of these Pipes is to afford those who desire it an opportunity of examining and cleansing them; and, unlike all other contrivances for this object, the entire length of pipe may be thrown open without any accompanying disadvantage.

The thickness and strength of the Pipes are increased by two ribs running lengthways, through which a partial division is effected in the process of manufacture, both internally and externally, leaving sufficient material to preserve strength and soundness. The Pipes are thus fired in one piece, and perfect accuracy of form is secured. By the insertion of a chisel at the ends, the upper pieces may, at any time, be detached without the slightest risk, and afterwards replaced, so as to form a perfect and accurately-fitting cover; or the lids can be removed when the Pipes are laid, and the Drain tested as to its fall, and the accuracy of the joints before they are replaced. Made with sockets, or with butt joints and chairs.

ADVANTAGES.

I. The Pipes may be laid whole, as ordinary Socket Pipes, and the covers need only be removed should necessity arise.
II. On the removal of the lids the Drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication which would allow either the escape of the liquid contents of the drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part, or cover, being fired in one piece with the pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. PERFECT TRUTH OF FORM IS SECURED, AND INCREASED STRENGTH OBTAINED.
VIII. SIMPLICITY OF CONSTRUCTION, and consequent CHEAPNESS.

MANUFACTURED BY HENRY DOULTON AND CO.

Offices: High-street, Lambeth, London.——Manufactories: High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
By the use of which Drains may be examined without the necessity of breaking a Pipe.
SALT GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. BROWN, Town Agent.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE. D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, on Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4 in.	6-in.	9-in.	12-in.	18-in.
2d.	2½d.	3½d.	5½d	9d.	1s 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain Pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

EDENT, sole Successor to E. J. Dent in all his Patent Rights and Business, 82 (1), Strand, and 34 and 35, Royal Exchange, and the Clock and Compass Factory at Somerset Wharf, Chronometer, Watch, and Clock Maker to the Queen and the Prince Consort, and Maker of the GREAT CLOCK for the HOUSES of PARLIAMENT. Ladies' Gold Watches, Eight Guineas; Gentlemen's, Ten Guineas; Strong Silver Lever Watches, Six Guineas; Church Clocks, with Compensation Pendulum, 35l. No connection with 33, Cockspur street.

FOR SALE, by Private Contract, a nearly new CLAY-MILL, with 10-horse power horizontal high-pressure steam-engine with boiler complete; an Ainslie pattern Pipe Machine, with dies from 2 to 12 inches; also a Frame for Ridge Tiles, with four dies.—For further particulars, apply to Mr. A. FLETCHER, Auctioneer, Millbrook, near Southampton.

SALES BY AUCTION.

SALE IN BANKRUPTCY.—TO BUILDERS, CONTRACTORS, AND OTHERS.

MR. MESSITER is instructed by the Assignees of Mr J. R. Vialou, Bankrupt, TO SELL by AUCTION, on the PREMISES, Richmond-road, Hackney, on THURSDAY, the 4th day of MARCH, 1858, and the following day, the PLANT, STOCK IN TRADE, and UTENSILS of a Builder, a fine young cart horse, carts, gig, horse, and phaeton and harness, &c., and various other miscellaneous effects. May be viewed the day previous and morning of sale. Catalogues may be had on the Premises; of the Official Assignee, W. PENNELL, Esq., 3, Guildhall-chambers, Basinghall-street, City; and of the Auctioneer, 24, Acton-place, Kingsland-road.—The VILLA RESIDENCE, large Manufactory, STABLES, &c. with other House Property, FOR SALE.—Apply to the Auctioneer.

TO BUILDERS, CARPENTERS, ENGINEERS, AND OTHERS.

MESSRS. C. and H. WHITE will SELL by AUCTION, on the PREMISES, the Steam Sawing Mills, St. James's-street, Old Kent-road, on WEDNESDAY, FEBRUARY 24, 1858, at TWELVE for ONE, the SURPLUS DRY STOCK of TIMBER, consisting of deals, planks, battens, [illegible], light spring-cart, cart-horse, and other effects. May be viewed the day prior and morning of sale. Catalogues had on the Premises; and of the Auctioneer, 1[illegible], Princes-road, Lambeth, S.

BUILDING MATERIALS.—No. 17, Duke-street, Manchester-square.

MESSRS. HAMMOND and EILOART will SELL by AUCTION, on the PREMISES, on FRIDAY, the 26th of FEBRUARY, at TWELVE, the whole of the MATERIALS of the above large house, comprising 100,000 sound stock bricks, stone staircases and landings, [illegible] floor boards, [illegible], girders, [illegible] partitions, modern doors, sashes and fittings, [illegible] feet, mahogany sashes and doors, winding shutters, several tons of lead, in flats, pipes, cisterns, iron railing, &c. &c. On view the day preceding sale, and catalogues had on the Premises, and at the Auction and Estate Offices, No. 28, Chancery-lane.

N.B. The valuable freehold site to be let or sold.

TO BUILDERS, TIMBER MERCHANTS, CONTRACTORS, and OTHERS.—Valuable seasoned Timber.—Lett's Wharf, Commercial-road, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, FEBRUARY 22nd, 1858, and following days, at ELEVEN o'clock each day, in lots, without reserve, the extensive and valuable stock of dry-seasoned TIMBER, including 30 loads crown Memel, 10 loads pitch pine, 10 loads rock elm, 10 loads yellow pine, 2 loads African oak, 2,000 pine planks, 2,000 yellow deals 12 ft. to 20 ft.; 1,000 white deals, 500 spruce deals, [illegible] yellow battens, 500 pine battens, 1[illegible] feet 5 inch die square scantling, 1,500 squares yellow and white prepared flooring boards ⅞ to 1¼ inch, 50,000 feet run moulding, 5,000 feet Spanish and Honduras mahogany, 500 squares match boarding and skirting, 100 bundles scale-board, 100 bundles slate battens, 1,000 bundles plasterers' laths, 100 bundles wine laths, 2,000 bedstead laths, 15 fathoms lath-wood, oak window sills, Venetian blind stuff, and other items.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had, on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO IRONFOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, FEBRUARY 25th, 1858, and following day, at ELEVEN o'clock each day, on the PREMISES, Stoney-street, Southwark, in lots, without reserve, the PLANT and IMPLEMENTS of an Ironfounder and Engineer, 30 horse power high pressure STEAM ENGINE, 8 horse power ditto, a nearly new high-pressure steam-boiler, by Cater; two fan blasts, 12 inch centre lathe, with pit-bed, 20 feet long; two engine-turning lathes, two drilling-machines, vices and benches, steel tools, shafting and riggers, cast iron tank, in plates, 21 feet by 15 feet; four cupolas, 40 tons cast-iron flasks, crane, shank, and hand ladles; loam mill, the erection of two drying stoves, two double-purchase foundry cranes, double and single purchase crabs, weighing machine, scales and weights, pair of 4-feet granite edge runners, pug mill, two wrought iron forges, bellows, anvils, and smiths' tools, [illegible] yards, pattern maker's lathe, large assortment of wood patterns, [illegible] counting house fittings, iron bookcase, and numerous other effects.—To be viewed on Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Spacious Manufacturing Premises, New Park-street, and Stoney-street, Southwark.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, FEBRUARY 25, 1858, at ELEVEN o'clock, on the PREMISES, the LEASE of the valuable and extensive PREMISES, [illegible] Messrs. Sumlight, Ironfounders and Engineers, comprising several ranges of light and lofty ground floor buildings, occupying a large area, and having entrances from New Park-street and Stoney-street, Southwark. A lofty chimney shaft has been recently erected, and a large sum of money has been expended in substantial repairs. The premises are arranged as an ironfoundry, engineers' shops, smiths' shops, warehouses, and lofts; and there is a dwelling-house suitable for a manager, at present let off at 2[illegible] per annum. The whole held on lease for a term of years, at a rent of 18[illegible] per annum. To be viewed till the sale.—Particulars may be had on the Premises; of H. STURMY, Esq., Solicitor, Wellington-street, London-bridge, S.E.; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Patent Veneer-cutting Machine, Lett's Wharf, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers, to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, at the MILLS, Lett's Wharf, Lambeth, a PATENT KNIFE-CUTTING MACHINE, for veneers, effecting a saving of nearly one-half the wood cut by a saw. The machine is constructed in a costly and massive style, and will take in a log 7 feet 6 inches in length. It is self-acting in its operation, and works very efficiently. To be viewed any time by special order, or publicly in motion on Friday and Saturday previous to the sale, when catalogues may be had at the Works; or of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Pair of High and Low Pressure Double-cylinder Engines, equal to 50 horses power, new two years ago, with Two Cornish Steam Boilers, Lett's Wharf, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, on the PREMISES, a PAIR of highly finished double-cylinder high and low pressure [illegible] STEAM ENGINES, equal to 50 horses power, made about two years since by William Joyce, of Greenwich. The cylinders of each engine are 19 and 24 inches diameter, [illegible] 4 feet, [illegible] condensers and air pumps, feed pumps, spur fly-wheel, 10 inch teeth, 16 feet diameter; copper pipes. Also, TWO high-pressure CORNISH STEAM BOILERS, each 28 feet long, 6 feet 6 inches diameter, with fittings. The consumption of coal to work the engines is not more than [illegible] lbs. per horse per hour. To be seen at any time by special order, and publicly in motion on Friday and Saturday previous to the Sale. Catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

LETT'S WHARF, COMMERCIAL ROAD, LAMBETH.—"*In re* the London and Eastern Banking Corporation."

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, unless an acceptable offer is previously made by private contract, LETT'S WHARF, an extensive and valuable property, situate in Commercial-road, Lambeth, with a river frontage of 136 feet, by a depth of 415 feet; two docks, a newly-erected saw-mill, 86 feet by [illegible] feet 8 inches, with iron roof; engine and boiler house, 86 feet by 20 feet 3 inches, with lofty brick chimney-shaft; a range of brick buildings, about 100 feet long by 25 feet in width; stable and loft, and two commodious dwelling-houses; a large yard and wharf, with two cranes, ten tons and twenty-five tons. The whole held for an unexpired term of years, at a rent of 850*l*. per annum. A portion of the yard and the right of room for two barges in the dock is let to Mr. Boakes at the yearly rent of 300*l*.; and the dues received for wharfage alone have, in addition to this 300*l*. been quite equal to the entire rent charged upon the premises.—To be viewed till the sale. Particulars may be obtained fourteen days prior to the sale, on the Premises; of Messrs. OLIVERSON, LAVIE, and PEACHEY, Solicitors, Old Jewry; of Messrs. QUILTER, BALL, and CO., [illegible]-street; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

SAW AND PLANING-MILL MACHINERY.—Lett's Wharf, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, and following day, at ELEVEN o'clock, in lots, unless an acceptable offer is previously made by private contract, the [illegible] MACHINERY of the Saw and Planing Mills erected about two years by Worssam, Horn, Carr, and other eminent makers, including a powerful rack bench, with table 52 feet long, a timber sawing frame, capable of cutting a stick 27 inches square, six double deal sawing frames (five capable of cutting two deals, or four battens, and one capable of cutting four deals, or eight battens, at one operation), two [illegible] iron circular saw benches, 6 feet long; a very powerful planing, adzing, matching, tongueing, and grooving machine; a planing and adzing machine of a lighter description, 100 feet of turned bright wrought iron shafting, from 5 inches to 7 inches diameter, with carriages and plummer blocks; a pair of 10-inch spur driving wheels, 5 feet 4 inches and [illegible] feet 8 inches diameter (one wheel mortised and fitted with wood cogs), [illegible] large cast iron riggers, 6 feet diameter; 800 feet of leather bands, from 2 to 6 inches, twenty [illegible] saws, from [illegible] inches to [illegible] diameter, twenty [illegible] frame saws, thirty dozen files, grindstones, [illegible] drying kiln, double purchase crabs, about fifty loads of timber in piling stages, powerful bay mare, an excellent spring van, on 4-inch wheels, patent arms, two timber-carriages, timber whim, two boggies, double and single purchase-jacks, harness, stable utensils, 1[illegible] feet gas pipe, all the burners and fittings, counting house furniture and fittings, and other effects.—To be viewed (the machinery in motion) on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

WATERSIDE MANUFACTURING PREMISES, BELVEDERE-ROAD, occupied by the General Wood Cutting Company.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, MARCH 3rd, at ELEVEN o'clock, on the PREMISES, without reserve, unless an acceptable offer is previously made by private contract, the LEASES of the extensive PREMISES situate in Belvedere-road, Lambeth, and having a frontage next the Thames of 12[illegible] feet, with excellent wharfs. The principal building is of two stories, 225 feet long by 40 feet wide, occupied as the saw and moulding mill; a building of three stories, 75 feet by 17 feet; six suites of offices, two excellent family residences, a spacious timber-yard, 340 feet by 40 feet, stabling, ostler's cottage, cart-shed, chaise house, and other outbuildings. The property is held under two leases, at rents amounting to [illegible] per annum. To be viewed till the sale. Particulars may be had on the Premises; of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, [illegible]-lane (late 11, London-street); of Messrs. MARTEN, THOMAS, and HOLLAMS, Solicitors, Commercial Sale-rooms, Mincing-lane; of Messrs. WILD and BARBER, Solicitors, Ironmonger-lane; of Messrs. TURQUAND and YOUNGS, 14, Old Jewry-chambers; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Sawing, Planing, and Moulding Mill Machinery.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the WORKS of the GENERAL WOOD CUTTING COMPANY, Belvedere-road, Lambeth, on WEDNESDAY, MARCH 3rd, 1858, and following day, at ELEVEN o'clock, in lots, without reserve, unless an acceptable offer is previously made by private contract, the whole of the valuable MACHINERY and UTENSILS, [illegible] steam beam engine, of 35 horse power, by Nasmyth, steam pumping engine, two excellent Cornish steam-boilers, 26 feet and 30 feet long, by Horton, with Prideaux's smoke consuming apparatus; McDowall's patent steam saw-frame for timber, four deal frames, rack bench, by Parsons; two planing machines, three moulding machines, with cutters embracing about 500 patterns; two batten saw-frames, three iron circular saw-benches, with 6 feet, 7 feet, and 8 feet 6 inch tables; American thicknessing machine, mortising machine, two trenailing machines, circular crop-cutting bench, with table 10 feet 9 inches by 7 feet, steam glue-chest, 700 feet wrought-iron shafting, drums, and spur wheels; leather bands, 10-inch self-acting lathe, with 7 feet bed; three small foot-lathes, two cast-iron water-tanks, in plates; two powerful wharf cranes, about thirty loads of sound timber, in piling, stages, &c.; twenty rods brickwork, steam and water pipes, gasfittings, excellent counting-house furniture, iron repository, and numerous other effects.—To be viewed on Monday and Tuesday previous to the Sale (the machinery in motion). Catalogues may be had on the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, MARCH 8th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the valuable and extensive STOCK of DRY SEASONED GOODS, carefully selected, including [illegible] yellow deals and battens, 5,000 white deals and battens, [illegible] pine planks, 2,000 red pine deals and battens, 500 pitch pine deals, 1,000 [illegible] deals and battens, 1,000 spruce deals, 100 loads Dantzic timber, [illegible] prepared flooring boards, 100 squares matched boarding, 50,000 feet dry seasoned wainscot, 2[illegible] feet Honduras and Cuba mahogany, 50,000 feet moulding, 32 loads fir scantling, 3,500 bundles laths, 200 new scaffold poles, 200 oak sills, 30 four-panel doors, and other goods. To be viewed on Thursday, Friday, and Saturday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the extent of 50*l*. and upwards, or a discount of 1½ per cent. will be allowed for cash.

Black and Furnishing Ironmongery.

MESSRS. FULLER and HORSEY are instructed by Mr. Walmsley, who is retiring from business, to SELL by AUCTION, on the PREMISES, Nos. 126, 127, and 128, London-road, Southwark, on THURSDAY, the 11th of MARCH, 1858, and following days, at ELEVEN each day, in lots, the entire STOCK of FURNISHING and BLACK IRONMONGERY, including [illegible] electro-plated goods, [illegible] this establishment has been so long celebrated, in tea and coffee services; tea, table, and dessert spoons and forks, fiddle, thread, and king's pattern; cake and card baskets, cruet-frames, fish knives and forks, waiters, candlesticks, &c.; bronzed and copper tea urns, table kettles, [illegible], preserving pans, &c.; [illegible] French moderator lamps, gasaliers, hall lanterns, gas-brackets, &c.; japanned ware, in toilet services, hip, open, and shower baths, [illegible] trays, iron bed steads, [illegible] kitchen ranges, handsome steel and ormolu register-stoves, gas cooking stoves, [illegible] pedestal stoves, [illegible], 200 gross brass screws, [illegible] 30 gross axle pulleys, [illegible] dozen brass cabinet [illegible], [illegible] gross brass flush bolts, [illegible] sets brass castors, 800 sets iron and [illegible] plate castors, 150 pairs ornamental bell levers, sunk-pulls, &c.; large assortment of bell hangers' materials, in cranks, &c.; [illegible] brass cornice poles, wrought and cut nails, [illegible] shovels and other effects.—To be viewed on Tuesday and Wednesday and morning of sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS.—Important Stock of Marble and Stone.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, MARCH 18, 1858, and following days, at ELEVEN o'clock each day, at the MARBLE WORKS, Commercial-road, Pimlico, in lots, the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in block, 100 feet Genoa green, 200 feet of statuary, 200 feet Emperor's red, 60 feet Sienna, 450 feet serpentine, 1,000 feet veined, Sicilian, black, amber, dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles; 20,000 feet in slabs of the same assortment, from ¾ inch to 3 inches; 1,100 feet polished slab; a large stock of polished shelves, [illegible], and trusses, mouldings; 3,000 feet Portland stone, in block; [illegible] feet of Caen stone, 1,000 feet French stone, [illegible] feet Wingerworth stone, 3,000 feet of 3-inch to 6-inch of York landings; 5,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 6 inches; 3,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, ¾ inch to 6 inches; head, and foot stones; 2,500 feet run of granite curb, 12 feet by 6 inches and 12 feet by 8 inches, five blocks of granite, and other items. To be viewed three days previous to the sale. Catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

Thirteen powerful Cart horses, Three valuable Nag horses, Two Gigs, Phaeton, Timber-carriages, Carts, Stone-trucks, Harness, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on FRIDAY, MARCH 5th, 1858, at TWELVE o'clock, on the PREMISES, Commercial-road, Pimlico, thirteen powerful young cart-horses, including two teams of handsome grey and black horses, of perfect symmetry; three valuable nag-horses, ten sets thill harness, six sets trace harness, gig and phaeton harness, seven timber-carriages, three stone trucks, three carts, two spring carts, two Irish carts, two gigs, phaeton, forty corn sacks, chaff boxes, stable utensils, and other items. To be viewed on Thursday previous and morning of sale. Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES, TABLETS, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, MARCH 17th, 1858, at ELEVEN o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES of the most modern designs, and finished in the best style of workmanship, many of a very valuable description, in statuary, Genoa Green, Bardilla, Rouge Royal, St. Ann's, Serpentine, Dove, Black, Emperor's Red, Veined and Sicilian Marble; four statuary Mural Tablets, two Caen Stone Gothic Tablets, with Statuary Inscription Plates; eleven polished Marble Slabs, &c.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Loose Tools and Stores of the Sawing Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 31st, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 13 to 55 inches diameter, pit saws, planing and adzing tools, a flooring-board, planing, and tonguing machine, by Parsons; leather bands, 1 ton cast and shear steel, 10 tons rod and bar iron, weighing machines, smiths' tools, anvils, top and bottom swayes, mandrels, hammers, &c. 100 dozen files, 100 gross iron and brass screws, brass lift-pump, copper tubes, wrought and cut nails, spikes, sash-weights, 10 cwt. old files, crown and sheet glass, dry and ground colours, 1 ton white and red lead and litharge, sash tools, ten trollies, 70 dozen hammered saw plates, saw [illegible] and [illegible], buckles, sieves, 200 yards road grit, 20 yards marble and Portland sand, well pumps and pipes, pulley wheels and ropes, well boring apparatus, blocks and falls, barrows, two 4-ton and one 8 ton Haley's jacks, carpenters' benches, several tons of ironwork, a moveable travelling crane, 60 feet span, equal to 10 tons, and numerous other effects.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

CLEVEDON AND KINGSTON SEYMOUR.—Sale of "The Baths," and valuable Building Land.—TO BE SOLD by AUCTION, by

MR. G. BODY, at the ROYAL HOTEL, Clevedon, on MONDAY, the 22nd day of FEBRUARY inst. at TWO o'clock in the afternoon, the following desirable PROPERTY, in the following or such other lots as shall be determined on at the time of sale, and subject to such conditions as shall be then and there produced.—Lot 1. All that messuage or dwelling-house, garden and premises, situate at Clevedon, called "THE BATHS," with the warm and cold water baths therein contained, and the furnaces, cisterns, pipes, and apparatus to the same belonging, now in the occupation of Mr. William Goodall, as tenant thereof. The house is conveniently arranged as a lodging-house, and from its excellent situation, overlooking the sea, is always in request. Lot 2. All that excellent piece of BUILDING LAND, also situate at Clevedon, adjoining the Baths, containing by admeasurement 1a. 2r. 13p. and numbered 27[illegible] on the tithe map of the parish of Clevedon. This land is very well situated, overlooking the sea, with a frontage towards the [illegible] road, and is admirably adapted for building purposes. This lot will be sold subject to a yearly ground-rent of [illegible] 12s. 6d.

LANDS IN KINGSTON SEYMOUR.

Lot.	No. on Tithe Map of Kingston Seymour.	Description.	Quality.	Admeasurement. A. R. P.
3	419, 420, 422, 42[illegible]	House, Garden, and Orchard		2 1 14
4	421	The Four Acres and Young Orchard	Orchard	3 1 26
5	2[illegible]8	The Six Acres	Pasture	5 3 6
6	[illegible]64	The Half Acre Orchard	Orchard	1 0 [illegible]

The Premises in Kingston Seymour are held on Leases under the Rectory of Kingston Seymour, for three lives, aged respectively 36, 3[illegible], and 27, and are in the occupation of Mr. JOHN CAGE, as tenant thereof. Mr. WILLIAM GOODALL will show the premises at Clevedon, and Mr. CAGE will show those at Kingston Seymour.—All further particulars can be obtained by application to the Auctioneer at South Brent, or to Messrs. [illegible] and [illegible], Solicitors, Bridgwater.

Dated Bridgwater, February 1st, 1858.

PRELIMINARY ADVERTISEMENT.—Stockwell and Bermondsey.—Valuable Freehold Property, consisting of Six eligible Private Residences, situate in Stockwell-place, near the [illegible], at Stockwell, and of certain Messuages or Tenements situate in Russell-street, Bermondsey.

TO BE SOLD by AUCTION, early in MARCH next, at the MART, opposite the Bank of England, in six lots, desirable FREEHOLD PROPERTY at Stockwell, Surrey, for investment or occupation, comprising Nos. 7, 8, 9, 10, 11, and 12, Stockwell-place, Nos. 9 and 11 unoccupied; but Nos. 7, 8, 10, and 12, let to respectable families, at 40*l*. 45*l*. 41*l*. and [illegible]. This is an excellent opportunity of obtaining a freehold residence, with stable, &c. at a very moderate price; also, in one lot, a respectable Residence, for occupation with other messuages or tenements, forming very eligible business premises, in RUSSELL STREET, Bermondsey, now in the occupation of Mr. Wells, at [illegible] per annum. The premises may be viewed by permission of the respective occupiers, and particulars, with conditions of sale can, after the 1st of MARCH next, be obtained at the Mart, or of Mr. FREDERICK LAST, Solicitor, 4, South-square, Gray's-inn, London.

UNRESERVED SALE. HAINAULT FOREST TILE-YARD, Four Miles from Romford and Three from Ilford.

MESSRS. BEADEL, SON, and CHANCELLOR have received instructions from the Proprietor to OFFER for SALE by AUCTION on THURSDAY, 18th of MARCH, 1858, without the slightest reserve, the WHOLE of the very Superior and Convenient BUILDINGS and PLANT upon the above Premises. The Buildings, which are erected upon the most improved principles, comprise three drying houses, capable of containing upwards of 30,000 pipes, one of which is fitted up with Boakes's patent calorifere, in perfect working condition; machine and engine buildings, drying-sheds, blacksmiths' and fitters' shops, stables, stores, and office building; five kilns, capable of burning 170,000 pipes, and three labourers' cottages. The Plant includes a very powerful tile machine, with clay rollers, which will manufacture 15,000 pipes a-day; a nearly-new ten-horse power horizontal steam engine and boiler, with shafting and riggers; barrows, planks, dies, carts, harness, blacksmiths' and fitters' tools, all the necessary implements for carrying on an extensive trade, a quantity of pipes of various sizes, and about 600 stacks of wood, principally oak. Catalogues, which are in course of preparation, may be obtained upon the Premises, and of Messrs. BEADEL, SON, and CHANCELLOR, Chelmsford.

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The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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FREE EXHIBITION.

DESIGNS for the MEMORIAL of the GREAT EXHIBITION. The Drawings and Models submitted in competition may now be seen at the ARCHITECTURAL MUSEUM (with the permission of the Committee), South Kensington Museum HERE, on MONDAYS, TUESDAYS, and SATURDAYS, from TEN to FOUR o'clock, and on MONDAY and TUESDAY EVENINGS from SEVEN to TEN. On the Students' days, WEDNESDAY, THURSDAY, and FRIDAY, and on WEDNESDAY EVENINGS, the charge for admission to the Museum is SIXPENCE.

Subscriptions in aid of the Fund are invited

JAMES BOOTH,
GEORGE GODWIN, } Hon Secretaries.

DURING MARCH, the SOUTH KENSINGTON MUSEUM will be OPEN daily until FIVE, p.m.—after 1st APRIL, until SIX, p.m.

By order of the Committee of Council on Education

ADDRESSES to WORKING MEN, at the SOUTH KENSINGTON MUSEUM, on the FINE ARTS and ART COLLECTIONS:—

A Series of Six Addresses on various subjects of the Fine Arts and Art-Collections, will be delivered in the Theatre on MONDAY EVENINGS, the 8th, 15th, 22nd, and 29th MARCH, and the 12th and 19th APRIL, at EIGHT o'clock.

1. March 8th.—"On Anatomy applied to Fine Art." By John Marshall, F.R.S. F.R.C.S. Assistant Surgeon to University College Hospital.

II. March 15th.—"On the Uses of the Art Library." By Robert Hunt, F.R.S. Assistant-Keeper of the Museum and Library of Art.

III. March 22nd.—"On Botany applied to Fine and Industrial Art." By C. Dresser.

IV. March 29th.—"On Copper and Steel Engraving." By George Cruikshank, A.R.A.

V. April 12th.—"On Wood Engraving." By John Thompson.

VI. April 19th.—"On British Sculpture." By John Bell, Sculptor.

The Lecture Theatre will hold 450 persons. 350 seats will be reserved and classified for working men, their wives, and their children above seven years of age, who upon registering their names will obtain tickets at 6d. each for the whole course. Tickets for the remaining seats will be issued at 5s. each for the course, or 1s. each lecture, if room there may be room in the theatre.

Tickets may be obtained at the Museum and Offices, and at Messrs. CAPMAN and HALL, 195, Piccadilly.

By order of the Committee of Council on Education.

PUBLIC EXAMINATIONS in ELEMENTARY DRAWING PUBLIC EXAMINATIONS in DRAWING, conducted by the SCIENCE and ART DEPARTMENT, will be held in the month of MARCH next, at the Metropolitan District Schools of Art at—

Finsbury.—William-street, Wilmington-square.
Hampstead.—Dispensary Building.
Lambeth.—Prince's-road.
Rotherhithe.—Depôt-road.
St. Martin's.—Castle-street, Long-acre.
St. Thomas Charterhouse.—Goswell street.
South Kensington.—Cromwell road.
Spitalfields.—Virgin-street.

The Examinations will consist of Exercises in Freehand, Model and Mechanical Drawing, Geometry, and Perspective, and will be of two grades of proficiency.

They are open to all persons, without distinction, both males and females, above fourteen years of age, wherever they may have been taught.

Rewards of Drawing Materials, &c. will be given to those who attain the required standard of excellence in any one subject.

Persons who wish to be examined must send to the Secretary of the Science and Art Department, South Kensington, on or before the 4th day of MARCH, their names, their addresses, the subject they wish to be examined in, and the name of the school of art where they desire to be examined, when notice will be sent to them of the precise day of examination.—By order of the Committee of Council on Education. February, 1858.

COMPETITIONS.

TO ARCHITECTS. -150*l.* PREMIUM. The COMMITTEE of the DEVERELL TESTIMONIAL offer the above premium for the best DESIGN (with working drawings and specifications) for a FOUNTAIN, to be erected in the centre of the Market place, in the town of Abbeyleix. The material to be limestone. Estimates not to exceed 2000*l.*, including cost of cistern and fittings, but not of tank or basin (3 inch). Granolithic not to exceed 400 square feet. Highest point to be discharged 10 feet above surface. Design (paragraph to be sent in on or before 20th MARCH next, to ABBEYLEIX, Queen's County, Ireland.

H. U. TOWNSEND, Secretary to the Committee.

HENDON UNION.—To ARCHITECTS. The Board of Guardians are desirous of receiving PLANS, accompanied by SPECIFICATIONS and ESTIMATES, for the ERECTION of SCHOOLS capable of accommodating 100 children, with suitable Offices, Apartments, &c. as is not over-Looking 2000*l.* on a site selected near Edgware Turnpike. The Guardians will pay premiums, viz.—20*l.* for the one which may be the best plan, 15*l.* for the second best plan, and 10*l.* for the third best plan, which plans to become the property of the Board. In case either of those are carried out, the architect's commission only to be paid. The plans, &c. are to be sent free of expense, to the Bedhill Workhouse, near Edgware, with a motto or mark attached, but with not the name of the designer, which is to be sent in a sealed envelope, having a similar motto or mark, addressed to me, on or before the 16th day of MARCH, 1858. The Board do not pledge themselves to accept any plan; those not approved of will be returned. Canvassing the Guardians is strictly prohibited.—Any further information may be obtained on applying to me at Edgware.

February 19, 1858. W. S. TOOTELL, Clerk.

DESIGNS for the ELLESMERE MEMORIAL. Inquiries having been made by some parties as to whether the 1,800*l.* is intended to include the Artist's or Architect's commission and expenses, the Committee, in reply, beg to explain that these items are to be covered by the above sum. The Committee will, however, provide their own clerk of the works. The Committee intend that the final selection of the design to be adopted, and the award for second and third best designs, shall be made by some professional gentleman of undoubted ability and character, to whom the designs or models, chosen by the Committee themselves from the whole number sent in, will be referred. Printed particulars may be had on application to Mr. FEREDAY SMITH, Bridgewater Office, Ellesmere.

February 23, 1858.

TO ARCHITECTS.—WANTED, by the Warden and Society, PLANS and ESTIMATES for a TOWN-HALL, to be erected in Sutton Coldfield. The intended site is surrounded by three streets, and the cost not to exceed 2,800*l.* The Architect whose plan is accepted will either be engaged to carry out the works, or all his thereof be paid for; in which latter case the design to become the property of the Warden and Society. Fifteen pounds will be given to the Architect whose plans may be considered as second to the successful design. The site may be seen, and particulars of the space obtained, with other information, on application to Mr. CHARLES COOPER, Surveyor, or Messrs. HOLBECHE and ADDENBROOKE, the Deputy Stewards, to whom plans are to be sent on or before the 20th of MARCH next.

Sutton Coldfield, February 16, 1858.

PROPOSED SCHOOLS at Forest Hill.—The TIME for sending in PLANS is EXTENDED to the 9th MARCH next. For allotment of site, and other particulars, apply to Rev. J. M. CLARKE, Forest Hill, Sydenham, S.E.

CONTRACTS.

TO BUILDERS.—NEW WORKHOUSE for the CHIPPENHAM UNION, Wilts.—Persons desirous of CONTRACTING with the Guardians of this Union for the ERECTION of a NEW WORKHOUSE, are informed that the drawings and specifications may be seen at my Office, in Chippenham, on and after MONDAY, the 1st day of MARCH next. Tenders to be addressed to me, sealed and marked, "Tender for Building Workhouse," and delivered at my Offices before FRIDAY, the 26th day of MARCH next, on which day they will be taken into consideration by the Guardians, who do not bind themselves to accept the lowest Tender. The contractor will be required to find sureties for the due performance of the contract, and to name them in his Tender. Further particulars may be obtained on application to me, or the Architect, Mr. C. C. CREEKE, Bournemouth, Hants.—By order of the Board,

Chippenham, February 23, 1858. JACOB PHILLIPS, Clerk.

THE "FRIENDS' RETREAT," near YORK.—To BUILDERS.—Such Bricklayers and Masons, Carpenters and Joiners, Plasterers, Slaters, Ironfounders, Plumbers, Glaziers, and Painters, as are willing to TENDER for the ERECTION of a new WING, and for other ADDITIONS and ALTERATIONS to this Institution, may inspect the drawings and specifications at my Office, from the 8th of MARCH to the 18th, inclusive. Sealed Tenders are to be delivered to the Architects on or before SATURDAY, the 20th of MARCH, at TEN a.m. Security will be required for the due performance of the works, as it is hereby notified that no pledge is given to accept the lowest or any Tender. Schedules of the quantities may be obtained on application.—By order of the Committee of Management,

J. B. and W. ATKINSON, Architects.

35, Micklegate, York, February 20, 1858.

Messrs. J. B. and W. A. are in immediate want of one or two Articled Clerks, with whom premiums will be required.

TO ENGINEERS and CONTRACTORS. The Committee of the Morecambe Gas Company (Limited), are prepared to receive TENDERS for the WORKS to be ERECTED at MORECAMBE. Plans and specification may be seen on and after MONDAY, MARCH 1, on application to Mr. WM. WHITESIDE, Harbour Master's Office, Morecambe, and any further information may be had on application to the Engineer, Mr. R. HAWSON, Lancaster. Tenders to be sent in not later than MARCH the 10th.—The Committee do not bind themselves to accept the lowest Tender.

Morecambe, February 19, 1858.

CONTRACTS.

NOTICE to BUILDERS. — The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War-office, Pall-mall, London, S.W. on or before MONDAY, the 15th day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of Three Years, commencing the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS and for the PERFORMANCE of the BRICKLAYERS, MASONS, PAVIORS', CARRIERS', CARPENTERS', SLATERS, SMITHS', PLASTERERS', PLUMBERS', PAINTERS' and GLAZIERS', and PAPER HANGERS' WORK as may be required by the Royal Engineer Department at the following Stations in the Dover District, viz.—

DOVER.—Fortifications and Barracks at Dover, and from Dover to No. 1 Tower, Westward; and from Dover to Walmer Castle, Eastward.

WALMER.—From Walmer Castle to No. 2 Battery, Sandown, both Inclusive.

CANTERBURY.—Barracks.

SHORNCLIFF CAMP.—Including the Royal Artillery Barracks, the Temporary Barracks, Sandgate Castle, Fort Crête, and Shornecliff Batteries, and Tower No. 19, inclusive.

HYTHE.—Including Hythe Barracks, Coast Defences from No. 19 Tower to No. 26 Tower, inclusive, and Royal Military Canal from Seal-hook to Warehorn.

RYE.—Including the Coast Defences from No. 26 Tower, Westward, to Fairlight, and the Royal Military Canal from Warehorn to Cliff End.

Each one contractor will be accepted for the whole of the trades at each of the above stations, viz. Dover, Walmer, Canterbury, Shorncliff Camp, Hythe, and Rye; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of percentage may be different for each trade should it be deemed expedient. Printed schedules, and every particular relating thereto, may be had on application to the Royal Engineer Offices, at Dover, Hythe, Walmer, and Canterbury, on day Sunday excepted, between the hours of TEN and FOUR o'clock, from WEDNESDAY, the 3rd of MARCH, to SATURDAY, the 13th of MARCH, 1858, after which time none will be issued. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed, "Tender for Building Work," on the corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions as stated in the printed schedules, nor will any offer be accepted but from such persons or persons as may be considered competent to perform the work for which they Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, February 16, 1858.

CONTRACTS. Notice is hereby given, that TENDERS will be received by the Director of Contracts, War-office, Pall-mall, London, on or before MONDAY, the 15th MARCH, 1858, for the performance of the following branches, of ARTIFICERS' WORK, for the War Department, at the undermentioned Stations, in the Medway District, for a period of three years, from the 1st APRIL, 1858, determinable at any period after one year, on either party giving to the other three months' notice in writing, viz.:—

Carpenters' Work, &c.	Plasterers' Work.
Bricklayer's Work	Plumber's do
Plasterers do	Painters', Glaziers', and Paperhangers' do.
Slater's do.	Smith's Work, &c
Mason's do.	

The Stations are 1 Chatham and its Environs. 2. Maidstone. 3. Gravesend, with Tilbury Fort, Coal-house Fort, and Shorne Head. Separate Tenders to be made for these three stations for each Tender to embrace all the different trades, as there will be but one contractor for each Station. Different persons, firms, or companies tendering for the schedules pieces will be limited for the different trades. The War Department reserve to themselves the right of rejecting any or all Tenders that may be presented.—Further information, and printed forms and schedules of contract, may be obtained on application at the Royal Engineer's Offices, Chatham, Lines, Maidstone, and Gravesend, from the 1st to the 15th March, (Sundays excepted); and no Tender can be admitted after the said 15th day of MARCH, 1858.

Royal Engineer's Office, Chatham, February 23, 1858.

METROPOLIS LOCAL MANAGEMENT ACT, ST. MARY'S, ISLINGTON.—CONTRACTS for PAVING and MATERIALS for the REPAIRS of ROADS and the REMOVAL of the ROAD SCRAPINGS.—The Highways Committee of the Parish of St. Mary, Islington, in the County of Middlesex, hereby give Notice, that they intend to meet at the Vestry Offices, 21, Milner-square, Islington, on THURSDAY, the 18th day of MARCH next, at TEN o'clock in the morning precisely, to consider proposals for PAVING such parts of the Parish, and REPAIRING and KEEPING in REPAIR the PAVED FOOTWAYS belonging thereto, as the Vestry shall from time to time direct; also for supplying the Vestry with GRANITE, BALLAST, GRAVEL, CORE, and CLEAN FLINTS, the latter to be broken to the size required by the surveyor, for the repairs of the highways, in such quantities and to be delivered at such places as the said Vestry shall from time to time direct; also for CARTING the BROKEN STONE, for a supply of TEAMS, HAND CARTS, and for REMOVING the ROAD SCRAPINGS. The whole to be contracted for from the 25th day of March next to the 25th March, 1859.—Forms of Tender may be had on application, and the conditions on which the Tenders are to be made may be seen at the Offices of the Vestry Clerk between the hours of TEN and FOUR, daily. No other form of Tender will be accepted. All Tenders are to be sealed up, and left at the said Office of the Vestry Clerk, on or before WEDNESDAY, the 17th day of MARCH next. Persons tendering are to attend in person, or by their authorised agent, at the said meeting of the Committee. The Committee does not bind itself to accept the lowest or any Tender.—By order,

JOHN LAYTON, Vestry Clerk.

Vestry Offices, 21, Milner-square, Islington, Feb. 25, 1858.

TENDERS are required for ERECTING several VILLA RESIDENCES at Spring-grove, Middlesex.—Plans and specifications may be seen, and all particulars obtained, of Mr. COLE, at the Estate Office, near the Spring-grove Station, on the South western Railway (loop line), to whom sealed Tenders are to be sent in on or before TWELVE o'clock on SATURDAY, the 6th day of MARCH. The proprietor does not bind himself to accept the lowest Tender.

[*For remainder of Contracts see next page.*

CONTRACTS.

CARDIFF TOWN-HALL and LAW COURTS.—NISI PRIUS COURT.—To BUILDERS and OTHERS. The Corporation of the Borough of Cardiff hereby give Notice that they are ready to receive TENDERS for the Execution of the various Works to be performed in the ERECTION of a NISI PRIUS COURT, &c.; and plans and specifications of the same, as prepared by the Architect to the Corporation, Mr. HORACE JONES, 16, Furnival's Inn, London, will lie for inspection at the Town Hall, Cardiff, and duplicates thereof at the Office of the Architect, from the 22nd instant to the 15th day of MARCH, inclusive. Tenders are to be delivered to Mr. MATTHEWS, Town Clerk, Cardiff, on or before SATURDAY, the 13th day of MARCH next, in sealed envelopes addressed "Tenders for Nisi Prius Court." The Corporation do not bind themselves to accept the lowest or any Tender. The successful competitor will be called upon to attend the Corporation with respectable and sufficient bail to the pecuniary extent of the works within a specified time and under a penalty.—Every information will be given, on application to the Architect as above.

NEW CONGREGATIONAL CHAPEL, BADDOW ROAD, CHELMSFORD.—To BUILDERS and CONTRACTORS.—Parties willing to CONTRACT for the above BUILDING, may see the plans, specifications, and conditions at the Chapel, between the hours of TEN and FOUR, on and after FRIDAY, the 5th day of MARCH next. Tenders sealed and addressed to the Building Committee to be delivered at Mr. WYATT, Chelmsford, not later than MONDAY, the 15th of MARCH, at FOUR o'clock p.m. The lowest or any of the Tenders not necessarily accepted.—Information and bills of quantities can be obtained on application to Messrs. POULTON and WOODMAN, Architects, Rawlins Buildings, Chelmsford.

COUNTY LUNATIC ASYLUM, GLOUCESTER.—To BUILDERS.—The Committee of Visitors are ready to receive TENDERS for the ERECTION of a detached RESIDENCE, with outbuildings and boundary walls, &c. for the superintendent of the above asylum. Drawings, specifications, and conditions of contract may be seen at the Office of the County Surveyor, Lansdown-street, Gloucester, on and after MONDAY, the 22nd day of FEBRUARY. Tenders to be sent, under seal, addressed to the Committee of Visitors, County Lunatic Asylum, Gloucester, on or before MONDAY, the 8th day of MARCH next, by TEN o'clock a.m. endorsed "Tender for Superintendent's Residence." The Committee do not bind themselves to accept the lowest or any Tender, unless satisfactory.

WATER-METERS. — SOUTHAMPTON LOCAL BOARD of HEALTH.—Notice is hereby given, that the Special Works Committee of the Southampton Local Board of Health propose to select the best description of Water meter for use in the town. Parties desirous of submitting to the consideration of the Committee any specimens or designs for Water-meters, are requested to send the same to me on or before TUESDAY, the 3rd day of MARCH next. By order of the Committee,

CHARLES B. DRACON, Clerk to the Local Board.

Southampton, Feb. 17, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION and COMPLETION of FOUR HOUSES in the Parish of Paddington, can see the drawings, specification, and terms of contract, in and after TUESDAY next, at the Residence of Mr. T. HEALING, 11, Pembridge-square, Bayswater; or at the Office of the Architect, Mr. PHILIP WILKINSON, 74, Cowcross-street, Farringdon-street. Mr. HEALING does not bind himself to accept the lowest or any of the Tenders.

February 25, 1858.

TO BUILDERS.—TO BE LET, the WORKS required for BUILDING a LUNATIC ASYLUM, near Carlisle, for the Counties of Cumberland and Westmoreland. Plans and specifications may be seen at the Office of JOHN A. CORY, County Surveyor for Cumberland, Nos. 3 and 4, Portland-square, on MONDAY, the 15th, to SATURDAY, the 20th instant, and from FRIDAY, the 26th FEBRUARY, to FRIDAY, the 12th MARCH inclusive. Copies of the Bills of Quantities, and an abstract of the Contracts will be furnished to applicants, by the County Surveyor, on the deposit of 2l. or a post-office order for that amount, which will be returned on the receipt of a bona fide Tender furnished to him, on or before FRIDAY, the 12th MARCH, 1858. Builders may Tender for any one or more of the following works, including their respective materials, or for the whole in one contract, viz.:—

1. The Excavating, Masonry, Bricklaying, Slating, and Iron-work
2. Carpenters' and Joiners' Work
3. Plasterers', Plumbers', Painters', and Glaziers' Work.

Carlisle, February 10, 1858.

EMBANKING and DRAINING.—CONTRACTORS and OTHERS disposed to TENDER for EXECUTING the WORKS for RECLAIMING and DRAINING the MARSHES and low LANDS in the varishes of Holbeach and Sedgeford, Hunstanton, in the county of Norfolk, may see the drawings and specification, and obtain further information, on applying to Mr. ARTHUR SAUNDERS, C.E. Littlegate-street, King's Lynn. Tenders to be delivered in by MARCH 8th, 1858. The proprietors do not pledge themselves to accept the lowest or any Tender.

TO TIMBER MERCHANTS and OTHERS. THE SUBURBAN VILLA ASSOCIATION will SELL by TENDER the Trees consisting of oak, elm, &c.) marked 1 to 49, standing in their estate at Lower Sydenham. Tenders to be directed to Mr. THORPE, Secretary, 35, Margaret-street, E.C. only, before the 2nd day of MARCH. Tenders will be opened at SEVEN, p.m., and the highest (if accepted) will be declared. The Association does not bind itself to accept any Tender, and as a condition of sale that the trees are to be grubbed up and removed, and any injury or damage done to the fences to be repaired at the sole expense of the purchaser within one month from the day of sale. A deposit of 25 per cent. to be paid down.

WARWICK LOCAL BOARD of HEALTH. To CONTRACTORS.—Such persons as are desirous of CONTRACTING for the LAYING ON of PRIVATE DRAINAGE and the WATER SUPPLY, and other Works connected therewith, in the borough of Warwick, are informed that a specification may be seen and form of Tender obtained on application to me, at the Court House, Warwick, on and after MONDAY next, upon payment of 2s. 6d.—The Tenders to be sent in to me, under seal, by or before the 14th day of MARCH next, on one of the before-mentioned forms, as none others will be attended to. The Board do not bind themselves to accept the lowest or any Tender.—Every person sending in a Tender to accompany it with the name, residence, and occupation of two good and sufficient sureties, who are jointly and severally bound for the performance of the Contract.—By order of the Local Board,

WILLIAM CLARKE, Clerk.

Court House, Warwick, 23rd February, 1858.

SAINT MARY, ISLINGTON.—METROPOLIS LOCAL MANAGEMENT ACT. To CONTRACTORS and OTHERS.—The Commissioners of this Parish will meet at the Vestry Offices, 21, Milner-square, Islington, on MONDAY, the 15th MARCH next, at SEVEN o'clock, p.m. for the purpose of receiving sealed TENDERS for a CONTRACT for CLEANSING the various COURTS and ALLEYS throughout the parish, for a period of twelve months from the 25th day of MARCH next. Forms of Tender may be had on application, and the conditions upon which the Tenders are to be made with the draft of the proposed contract, may be seen at the Office of the Vestry as above. Neither form of Tender will be accepted. All Tenders are to be left at the said Offices of the Vestry, on or before TWO o'clock, on MONDAY, the 15th MARCH. Persons tendering are to attend in person, or by their authorised agent, at the said meeting of the Committee. The Commissioners do not bind itself to accept the lowest or any Tender.—By order,

JOHN LAYTON, Vestry Clerk.

Vestry Offices, 21, Milner-square, Islington, Feb. 25, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of SCHOOLS and a TEACHER'S RESIDENCE, in Smarden, in the County of Kent, may see the plans and specifications at the Offices of Messrs. WHICHELO and LAND FORD, Architects, Maidstone, on and after SATURDAY, FEBRUARY 27, between the hours of TEN and FIVE. Tenders to be delivered at the Architects' Offices on or before WEDNESDAY, MARCH 3rd. The Trustees do not engage themselves to accept the lowest or any other Tender.

Maidstone, February 27, 1858.

CONTRACTS.

TO SEWER CONTRACTORS.—The Vestry of BETHNAL GREEN will meet at the TOWN HALL, Cambridge-road, Bethnal green-road, on THURSDAY, the 4th of MARCH next, at ELEVEN o'clock in the forenoon precisely, to receive TENDERS and then CONTRACT for the CONSTRUCTION of certain BRICK SEWERS, and LAYING DOWN 12 and 6 inch GLAZED STONEWARE PIPES, agreeably to written specifications, which may be seen at the Office of the Surveyor adjoining the Town-hall, where any further information may be obtained, daily, between the hours of TEN and THREE. Tenders, addressed to the Clerks of the Vestry, must be delivered at their Town hall Office, on or before WEDNESDAY, the 3rd of MARCH. The Vestry, however, do not bind themselves to accept the lowest, or, indeed, any Tender.—By order,

R. BRUTTON, Vestry Clerks.
R. VOSS,

Town hall, Bethnal green, February 20, 1858.

TO CONTRACTORS.—Milford Improvement Act, 1857.—The Milford Improvement Commissioners are prepared to CONTRACT for the EXCAVATION and CONSTRUCTION of about 2,700 feet of BRICK SEWERS, to be executed under the superintendence of their Surveyor. Plans and specifications and the draft contract may be seen at the Office of the Clerk to the Commissioners after the 25th inst.; and sealed Tenders, endorsed "Tender for Sewers," are to be delivered at the said Office on or before the 13th of MARCH next. The Commissioners do not bind themselves to accept the lowest or any Tender.

T. L. MARRIOTT, Clerk to the Commissioners.

Commissioners' Office, Hamilton-terrace, Milford, Feb. 18, 1858.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—Notice is hereby given, that the Committee for Paving Lighting, &c. will meet on MONDAY, the 8th day of MARCH, 1858, to receive TENDERS for WATERING the ROADS, STREETS, &c., in the above named District; further particulars may be known, and printed conditions and forms of Tender may be obtained, upon payment of 2s. 6d. by application at the Office of the Board, in White Horse-street, Commercial-road, E. between the hours of TEN and FOUR. Tenders sealed up, and endorsed, "Tender for Watering," must be delivered at the said Office, not later than THREE o'clock on MONDAY, the 8th day of MARCH, 1858; and no Tender will be received unless accompanied by a 10l. bank-note, as an evidence that the same is bona fide. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required. The contractor will have to pay the costs of the contract. No Tender will be received after the time specified, nor unless strictly in accordance with the specification and conditions.—By order,

T. W. RATCLIFF, Clerk of the Board.

24th February, 1858.

TO SEWER CONTRACTORS.—The Vestry of the Parish of Clerkenwell will meet at the Vestry-hall, Upper Rosoman-street, on THURSDAY, the 4th MARCH next, at HALF-PAST SIX, to receive TENDERS for BUILDING a NEW SEWER in King-street, Clerkenwell, consisting of about 510 feet of brick sewer, and 440 feet of 12-inch pipe sewer. A plan and specification of which may be seen, daily, at the Vestry Offices, between the hours of TEN and TWELVE. Sealed Tenders, endorsed "Tender for Sewer in King street," to be sent in by FOUR o'clock, p.m. on the day above named.—By order,

ROBERT PAGET, Vestry Clerk.

Vestry-hall, Clerkenwell, February 23, 1858.

LONDON and NORTH-WESTERN RAILWAY.—CONTRACT for IRON GIRDERS.—The Directors are prepared to receive TENDERS for the supply of WROUGHT-IRON TUBULAR GIRDERS and CAST-IRON GIRDERS. Plans and specifications may be seen on application to Mr. WOODHOUSE, at the Permanent-way Office, Railway Station, Stafford. Tenders addressed to the Secretary, at this Office, to be sent in on or before WEDNESDAY, MARCH 10, 1858. By order,

CHAS. R. STEWART, Secretary.

Secretary's Office, Euston Station, February 24, 1858.

YORKSHIRE CATHOLIC REFORMATORY SCHOOL, near Market Weighton.—To BUILDERS.—Such Bricklayers and Masons, Carpenters and Joiners, Plasterers, Slaters, Ironfounders, Plumbers, Glaziers, and Painters, as are willing to TENDER for ADDITIONS and ALTERATIONS to this Institution, may inspect the drawings and specifications at the Office, from the 1st of MARCH to the 6th, inclusive. Sealed Tenders are to be delivered to the Architects on or before MONDAY, the 8th of MARCH, at TEN, a.m. Security will be required for the due performance of the work; and it is hereby notified that no pledge is given to accept the lowest or any Tender. Schedules of the quantities may be obtained on application.—By order of the Committee of Management,

J. B. and WM. ATKINSON, Architects.

93, Micklegate, York, February 20, 1858.

Messrs. J. B. and W. Atkinson are in immediate want of one or two Articled Clerks, with whom premiums will be required.

SUTTON, SURREY.—Parties desirous of TENDERING for the ERECTION of FIVE PAIRS of SEMI-DETACHED VILLA RESIDENCES, at Sutton, in the county of Surrey, and immediately adjoining the Croydon and Epsom Railway, are invited to inspect the plans, specifications, and conditions, now lying at my Office. Sealed Tenders to be delivered to me on or before the 15th day of MARCH next. The lowest or any Tender will not necessarily be accepted.

E. LIPSCOMB SECKHAM, Architect.

City Surveyor's Office, Oxford.

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IRONMONGERS AND MANUFACTURERS OF WARRANTED SPRING-CENTRES FOR SWING DOORS,

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STEAM-BOILERS, SAWING and PLANING MACHINERY, Lathes, Drilling-machines, Hydraulic and Screw Presses, a double Bone-mill, and other useful Machinery ON SALE. Portable engines and pumps ON SALE or HIRE.

N.B.—Plant and machinery purchased.—Apply, J. TAYLOR, 197, Southwark-bridge road, Newington-causeway.

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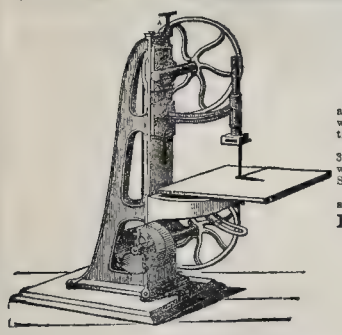

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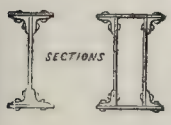

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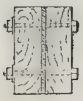

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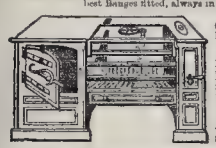

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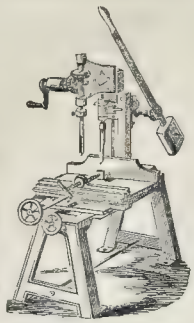

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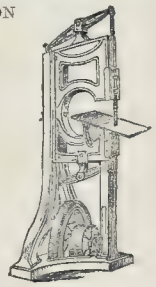

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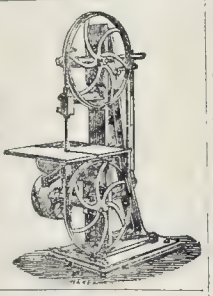

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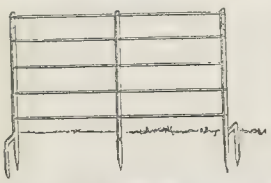

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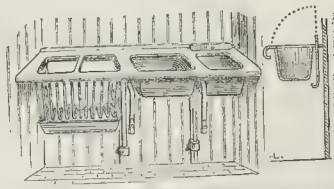
FIRE-PROOF CONSTRUCTION.—
FOX and BARRETT'S PATENT.
This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.
The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.
Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.
Further information may be obtained of the Proprietor of the Patent,
Mr. BARRETT,
12, YORK-BUILDINGS, ADELPHI.

ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS,
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.
PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.
ENAMELLED, PLAIN, AND GALVANIZED.

ALL KINDS OF STABLE FURNITURE.
PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.
"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.
(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."
Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

PATENT IMPROVEMENTS IN STABLE FITTINGS.
COTTAM'S PATENT COMPONIZED MANGERS, WATER, OR GRUEL TROUGHS.



The application of this NEW PATENT METHOD of LINING IRON MANGERS being extensively used greatly increase their adoption They possess all the advantages of Cottam's celebrated Enamelled Mangers, are equal in appearance, cleanliness, and durability; the Lining is warranted to stand any amount of fair wear, and will neither chip nor change its colour by use.
COTTAM'S PATENT PERMANENT ATTACHED DROP COVER for the above, is a most essential addition to their fittings; it is never in the way, can be placed and replaced in an instant, while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.
The NEW CROSS-BAR TOP PLATE, to prevent the horse wasting the hay by tossing it out of the rack, and the IMPROVED CURVED FRONT PLATE, by which means all sharp projections are obviated. Likewise COTTAM'S PATENT NOISELESS HALTER GUIDE and COLLAR REIN, with the NEWLY INVENTED SWIVEL RING, for allowing the straps free work in any position, are most important inventions for the horse's safety and comfort.
COTTAM'S PATENT PORTABLE SEED BOX is also of great utility in these Fittings The above, as well as the Patent Loose Box and Harness Fittings, Improved Stable Drains, and every description of Stable Furniture, can be seen at the Manufactory, and Show Rooms of COTTAM and HALLEF, 2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.
ILLUSTRATED CATALOGUES ON APPLICATION.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,
MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,
And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.
ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,
AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.
Works: DEPTFORD, KENT.
London Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.
ADOPTED BY THE GOVERNMENT.
EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.
THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

LIGHTNING CONDUCTORS.
R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d. per foot.
Half inch diameter	1s. 6d. "
Five-eighths-inch diameter	2s. 0d.

R. S. Newall and Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men in all parts of the world.

Offices Gateshead-on-Tyne.
" 140, Strand, London
" 27, Dale-street, Manchester.
" Broomielaw, Glasgow.
" 14, Goree piazza, Liverpool
Exchange-buildings, Dundee
Frederick street, Aberdeen.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Chains, Glass, and Wood Furnitures of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator &c.; and the New Registered Venetian Ventilator, so much admired, &c. 6s 6d. each.
J. H BOOBYER (late STURCH and BOOBYER), established nearly 200 years, for the supply of Goods from the best Manufactories, at the lowest prices -14, Stanhope-street, Clare market, London.

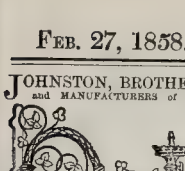
THE PATENT NAIL and SPIKE COMPANY, Manufacturers of the Crown Wrought Nails and Spikes which are about Twenty-five per cent. cheaper than hand made Orders of from one to fifty tons will be at once executed direct from the works, in sizes varying from 1½ to 6 inches.—Price-lists and sample cards can be obtained on application by letter to the Company's Works, 41 Dunstan, near Gateshead-on-Tyne.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES and BLAXTON, having made great additions to their STOCK OF PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c.—The Trade supplied on the best terms with House Bells, Zinc Tube, and Copper Wire. Gas Pendants, Brackets, and Joints of all descriptions for Gas-fitting, in Brass and Iron; Tin, Composition, Iron, and Brass Tubing; Cornice-poles, Rings, and Lacquered Case-tube for Picture-rods, Desk-rails, &c. &c.
Superior Rolled Brass for Engravers, Castings in Fine and Common Brass, Gun Metal, &c. at
RICHARD EVERED'S Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charles-street, Long-acre, London.

COLLINGE'S PATENT HINGES.—
Manufacturers, CHARLES COLLINGE and CO Nos. 64 and 65, Bridge-road, Lambeth, where a great variety are always on view, for church, park, railroad, coachhouse, and other gates and doors of large and small dimensions, a ton weight moving with these hinges as easily as a wicket. Ornamental hinges, adapted for drawing-rooms, &c.; doors fitted with them may be removed and replaced in an instant. Rising and double-acting spring hinges, and superior gate fastenings, at moderate prices. None genuine unless marked "Charles Collinge, Patent, Lambeth." Plain and ornamental cast and wrought iron work, for building and other purposes. Engines, machinery, patent axle-trees, sugar-mills, &c.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished.

Architects' designs accurately executed.

MANUFACTORY, 100, HIGH HOLBORN, LONDON.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalising the pressure, and preventing any irregularity in the height of the flame

D HULETT and CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c &c A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete pattern-book and price-list, 10s — Nos 55 and 56, High Holborn

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN and CO. 81, Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c. half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful crane.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (limited), HENRY ROGERS, Manager, Lyon's Wharf, and No 43, Upper Thames-street, London. These Windows combine the advantages of great strength with lightness and cheapness, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and lunatic asylums, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE. This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials, of the highest possible character, are gladly given by the parties who have them in operation. Price, No. 1, 3l. 3s.; No. 2 3l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN-TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with an unlimited approval These articles may be had of all Ironmongers, and of the General Iron Foundry Company (limited), 43, Upper Thames street, Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Chemical and Soap-pans, Furnace bars, and all other kinds of Castings, for manufacturing and building purposes.

IRONMONGERY.

PFEIL AND STEDALL.

THE LARGEST STOCK AT THE LOWEST PRICE,

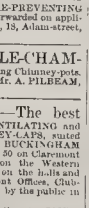
5 AND 6, BROAD-STREET, BLOOMSBURY.

MR. THOMSON has GRANTED a LICENSE to Messrs. J. and A. ROBERTSON and CO. Tweed Iron Works, Berwick, to Cast and Sell his RETORT BOILERS. February 24, 1858.

BLAIN and COWANS, Sole Inventors and Proprietors of the Registered SPIRAL CHIMNEY-TOP for the CURE of SMOKY CHIMNEYS or DOWN-DRAFTS, No. 1, Moncrieffe-street, Bolton, Lancashire.

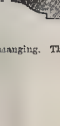
The above Invention has been applied successfully in many instances The spiral tops are made of galvanized sheet iron, and cost from 22s each, delivered in Manchester, exclusive of fixing, which, in the majority of cases, does not exceed 2s each The Proprietors are desirous of making arrangements with Builders and other respectable parties in London and various parts of the country, for the exclusive sale of the above.

Testimonials to be had and Models to be seen at the Office of "The Builder."



SMOKY CHIMNEYS.—PILBEAM'S PATENT DOUBLE-CHAMBERED SMOKE-PREVENTING CHIMNEY-POT—Price 20s. A prospectus will be forwarded on application to the Offices of Mr. A. PILBEAM, Architect, 18, Adam-street, Adelphi, London.

PILBEAM'S PATENT DOUBLE-CHAMBERED CHIMNEY-TOP, as applied to existing Chimney-pots. Price 15s.; Kitchen, 10s. Apply at the Offices of Mr. A. PILBEAM, Architect, 18, Adam street, Adelphi, W.C.



SMOKY CHIMNEYS.—The best cure is KITE'S PATENT VENTILATING and SMOKE-CURING ALBERT CHIMNEY-CAPS, suited to any style of architecture. 200 on BUCKINGHAM PALACE, 150 on St. James's Palace, 50 on Claremont Palace, 50 on Windsor Castle, 200 on the Western Heights Barracks, Dover; in use also on the halls and mansions of the nobility, Government Offices, Club-houses, &c; also extensively adopted by the public in general. Price 2os 30s and 35s. each.

Drawings and testimonials forwarded on application to JAMES BARTON, Ironworks and Manufactory for the PATENT STABLE-FITTINGS and ENAMELLED MANGERS, 370, Oxford-street (London, W.

DRAUGHTS round Doors and Windows EFFECTUALLY PREVENTED by GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS, the neatest, most simple, and effectual method of making a tight joint to joiners' or cabinet work, OLD or NEW. Self-acting Spring Stops, for the bottoms of doors. The most imperfect door can be made air-tight without removing. The Trade supplied on liberal terms JOHN GREENWOOD, Patentee, 20, Arthur-street West, London bridge.

STAFFORDSHIRE.—HAY HEAD HYDRAULIC LIME.—TO BE LET, on Royalty, the valuable MINE of HYDRAULIC LIME-STONE at HAY HEAD, near Walsall. The works are situate on a branch of the Birmingham-canal, by means of which a ready communication may be had with the Midland districts and with London. The lime is well known in the neighbourhood, and has been selected, in preference to all others, for exclusive use in the very extensive works now in progress in the Netherton-tunnel, near Dudley, by means of which the Birmingham-canal is to be carried underground for 3,000 yards The works are very complete. There are two shafts and a 35 horse high pressure engine, with the necessary pumping and winding gear The kilns are close to the canal. The plant to be taken at a valuation —For further particulars, apply to Mr. ADAMS, Aldridge, near Walsall.

CANNON-STREET IMPROVEMENT.—BUILDING LEASES —The Committee for Improvements within the City of London hereby give Notice that they will meet at Guildhall, on MONDAY, the 15th day of MARCH next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing, agreeably to a form to be obtained at the Office of the City's Architect, from parties willing to take BUILDING LEASES of sundry LOTS of GROUND on the south side of St. Paul's Churchyard. Plans can be inspected and conditions seen upon application at the Architect's Office, Guildhall. MERE WETHER.

Guildhall, February, 1858.

TO BUILDERS of VILLAS.—TO BE LET, SEVERAL ACRES of LAND, in plots, in the most choice situation at Sharesbrook, two minutes' walk from the Station, on the Woodford Railway to Fenchurch-street The soil is gravel, and the ground covered with splendid evergreens Applications are on hand for houses on lease, to pay, exclusive of ground-rent, about 7 per cent —Apply to Mr. NOBLE, Surveyor, Woodford; or to Mr. NISSEN, at 44, Mark lane, London.

FREEHOLD.—TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is peculiarly eligible for the erection of villas, or terraces of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate The adjoining land is all let for building purposes, and is now partly covered The houses hitherto built have commanded an immediate tenancy.—For further particulars, and to inspect the plans, apply to Messrs. GREGORY and CO. No. 1, Bedford-row, W.C.

TO BUILDERS.—TWO PLOTS of FREEHOLD GROUND TO BE LET upon BUILDING LEASE, one in the City, well adapted for small houses; another of four acres, in Bath road, Peckham, near the New-cross Station.—Apply to Mr. BARKER, 48, Bishopsgate Without

MAITLAND-PARK, Haverstock-hill, near Hampstead Land-tax redeemed TO BE LET, several eligible PLOTS on the above estate, for building leases for a term of ninety-nine years from Christmas, 1858. The sewers are laid down and the roads made —The continued demand for good houses in this healthy locality, and the pictures que position of the property, renders this a desirable opportunity for builders or private gentlemen wishing to erect villas for themselves.—For plans and terms apply to Mr J SOUL, 23, Ludgate-hill; Messrs. TERRELL and CHAMBERLAIN, Solicitors, 30, Basinghall-street; Mr. JOHN ASHDOWN, Surveyor, 49, Charing-cross; or at the Lodge of the Orphan Working School, Haverstock-hill.

LAND for BUILDING, in the CITY.—COLEMAN-STREET, near the BANK of ENGLAND —TO BE LET, on a Building Lease, for a term of eighty four years, a highly eligible PLOT of LAND, containing an area of about 6,000 feet, situate in White Horse-yard, on the west side of Coleman street, the property of the parish of St Stephen, Coleman-street. A plan of the site may be seen on application at the Offices of Mr. THOMAS JONES, Solicitor to the parish, No 1, King's-arms-yard, Coleman street; or at the Offices of Mr. JOHN GRIFFITH, Architect, No 18, Finsbury-place South, Finsbury Tenders for the above are to be delivered at the Offices of Mr. JONES, on or before the 11th day of MARCH next

N.B. The Parish do not bind themselves to accept either the lowest or any Tender

LAND for BUILDING, near the CITY.—COW-CROSS-STREET, WEST SMITHFIELD —TO BE LET, on a Building Lease for a term of eighty-four years, a valuable PLOT of LAND, situate in Cow-Cross-street, near Victoria-street, leading to Clerkenwell, the property of the Parish of St. Stephen, Coleman-street —A Plan of the Ground may be seen on application at the Offices of Mr. THOS. JONES, Solicitor to the Parish, No. 1, King's Arms-yard, Coleman street; or at the Offices of Mr JOHN GRIFFITH, Architect, No 18, Finsbury-place South, Finsbury Tenders for the above are to be delivered at the Offices of Mr. JONES, on or before the 11th day of MARCH next

N.B The Parish do not bind themselves to accept either the lowest or any Tender.

TO BUILDERS and OTHERS.—The Owner of some Eight and Ten-Room VILLA CARCASES in one of the most favoured localities near Town, wishes to meet with a party who will ADVANCE sufficient to COMPLETE them, upon terms to be agreed upon. Address, LEX, 13, Great George-street, Mansion-house

WATERSIDE PREMISES, Shad Thames, very accessible from the City, and in sound repair. Now used as a Granary LEASE TO BE SOLD. Principals or Solicitors only Apply to W. A BOULNOIS, Architect, 6, Waterloo place.

FREEHOLD LAND.—TO BE SOLD or LET (suitable for a manufactory), containing about one acre, situated at BROMLEY, Middlesex, about two and a half miles from town, near the proposed station on the London and Barking Railway, and a short distance from the River Lea For particulars, inquire of Mr DOBSON, Surveyor, 10, Jubilee-street, Mile end-road, E.

WHARF PREMISES, in Regent's-canal, TO BE LET.—The business has been established upwards of twenty years in the firewood, billwood, pottery, and coal trade con taining counting-house, three large and other sheds, four horse stable, chaise house, a large bay for barges, with waggons, carts, barges, and fixtures at valuation, stock at cost price; goodwill moderate Rent low Also, another Wharf Premises, with eight-horse steam engine and boiler, and shaft erected, with counting-house, shed and loft over Apply by letter, to F. N. Norway-wharf, Hertford-road-basin, Kingsland.

TO BUILDERS and OTHERS requiring LARGE PREMISES —TO BE SOLD, the Lease, with possession, of very extensive PREMISES, close to Bishopsgate-street, suitable for a Builder, as any business requiring room, comprising large yard, with spacious lofts and stabling, together with three dwelling houses, between 60 and 70 feet frontage, by over 100 feet deep For particulars and cards to view apply to Messrs. CHAMBERS, Ironmongers, No. 41, Bishopsgate street Without.

FREEHOLD GROUND, Newgate-street.—The Commissioners of Sewers of the City of London hereby give Notice, that they will meet in the Guildhall of the said City, on TUESDAY, the 16th day of MARCH next, at TWELVE o'clock at noon, precisely, to receive PROPOSALS for taking on Building Lease for eighty years, at a ground-rent, a certain PLOT of GROUND, situate on the south side of Newgate street, at the corner of Panyer-alley Further particulars may be had, and a plan seen, on application to Mr. HAYWOOD, Engineer to the Commissioners, at these Offices, where forms of proposal may also be obtained. The Commissioners will require a plan and elevation of the premises proposed to be built to be submitted to them for approval; and do not bind themselves to accept the lowest or any proposal, unless deemed advantageous Persons tendering for the said ground must attend on the above-named day; and the party whose proposal is accepted will be required to execute an agreement at the time. The land is subject to a moiety of a rent-charge of 4l. 5s. payable annually, on Shrove-Tuesday, to the Trustees of Whitkirk, Yorkshire

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall January 11, 1858

BUILDING LAND TO BE LET

At NORWOOD, close by Station,	term 1,000 years.	
" PLAISTOW, near Victoria Docks,	" 1,000	"
" STRATFORD, near Railway workshops	" 100	"
" WIMBLEDON (Cottenham-park)	" 100	"
" POPLAR, near West-India Docks	" 95	"

Liberal advances to respectable builders.

Mr. W. ELLISON, Architect, Stainsby-road, Limehouse, E.

CAMBERWELL, SURREY. — Superior eligible FREEHOLD BUILDING LAND FOR SALE.—The first portion of the Camberwell Estate will be offered to the Members of the National Freehold Land Society, on MONDAY, APRIL 5th. Should any lots be left after WEDNESDAY, the 7th of APRIL, they may be taken by any person paying the price or possessing or purchasing the right to borrow the money, or on payment of a deposit of not less than 10 per cent. and the balance in nine annual instalments with interest at 5 per cent. per annum, or quicker if desired by the purchaser. Persons not having rights of their own but wishing to secure early choices, can do so by purchasing the rights of others. The estate is situate on the high road from Camberwell to Peckham, and immediately opposite Camden Church. The roads are well made, and effectual drainage is provided. The lots are put out in frontages varying from 34 feet to 55 feet, and depths varying from 115 feet to 180 feet.—For plans and particulars, apply to Mr. W. E. WHITTINGHAM, at the Offices of the British Land Company (Limited), 14, Moorgate-street, London, E.C.

TO BUILDERS and OTHERS.—TO BE LET, on a building lease, THREE HOUSES, Nos. 3, 4, and 5, in Little Turnstile, Holborn, to be pulled down and rebuilt.—For further particulars, apply to C. J. GRAHAM, Esq. 3, Plowden Buildings, Temple.

FREEHOLD BUILDING LAND.—FOR SALE, TEN ACRES, close to a station, four miles east of the City, having upwards of 4,300 feet of frontage to good newly-made roads Apply to D B SLADEN, Esq. Solicitor, 2, King's-arms-yard, Moorgate street, E.C.

TO BUILDERS, HOUSE AGENTS, &c.—The Advertiser is open to TREAT for commodious, well-situate BUSINESS PREMISES, either shut up or convertible, in any town of importance, within eighty miles of London, suitable for the drapery trade Address, Mr GEO. OSBORN, Henel Hempstead, Herts.

WANTED, a SMALL HOUSE, at the east end of London, or near North London Railway Station.—Apply to Mr. WATERSON, Land Agent, Victoria Docks, E

BUILDERS' PREMISES at WESTMINSTER TO BE LET, and the STOCK, PLANT, and FIXTURES to be DISPOSED OF. The premises are very extensive, and conveniently arranged, having been built purposely for the business. They are situate adjacent to the river, and afford ample space and every facility for conducting a concern of magnitude. The incomer will have the benefit of the old established connection.—Particulars of Mr. DEBENHAM, 80, Cheapside.

MANUFACTURING PREMISES (extensive), with steam power and wharf on the canal, situated in the Old Kent-road, TO BE LET, on lease direct from the freeholder.—Apply to Messrs. ABBOTT and WIGGLESWORTH, 26, Bedford-row, Gray's-inn, W.C.

TO BE LET at NEWINGTON BUTTS, a WAREHOUSE and MANUFACTORY, with steam power, 8-horse, and dwelling-house. Also, close thereto, large warehouse with dwelling-house, large yard, and stabling, suitable to a builder, or for extensive works —Apply to Mr BROWN, 8, 'High-street, Newington Butts; or No 1, Adams court, Old Broad-street.

METROPOLITAN BUILDING ACT DISTRICTS, NORWOOD DIVISION — BUILDERS are hereby requested to take notice, that the portion of Norwood heretofore in the County of Lambeth, under the supervision of the late Mr. Rogers, has been divided from the said district, and annexed to the district of Penge, by an order of the Metropolitan Board of Works. NEW BUILDINGS, ADDITIONS, and ALTERATIONS to old buildings, will in future be under the superintendence of Mr EDWIN NASH, the Surveyor for the district of Penge; and two days' notice must be sent before commencing any works, addressed to him at the District Office, Station-road, near the Annerley Railway Station. Mr. Nash can also be addressed at his Office, No. 5, Adelaide-place, London-bridge; or at his private house, Border road, Laurie-park, Sydenham.

Dated this 24th day of February, 1858

SOUTH WALES RAILWAY.—The Directors of this Company are now prepared to ISSUE a limited amount of DEBENTURE STOCK, to meet the debentures falling due This stock bears interest in perpetuity, at the rate of 4l per cent. per annum, and takes priority over all shares or stock of any description whatever in the Company. Interest upon it is paid half-yearly

FRED G SAUNDERS, Secretary

Offices, South Wales Railway, 10, Eastbourne terrace, Paddington, February 22nd, 1858

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The Builder.

Vol. XVI.—No. 786.

The Building for the Sheepshanks Collection of Pictures at Brompton.

SOME time ago, early in the history of what is called the South Kensington Museum, we gave some particulars of the building which was being erected, north of the iron structure, to receive the collection of pictures munificently presented to the country by Mr. Sheepshanks. Since then thousands of persons have visited the collection in its new quarters, and have found reason to be satisfied with the accommodation provided. An account of the building, by Captain Fowke, R.E. under whose direction it was erected, has just now been published,* and, with the goodwill of the Department, we shall give our readers the pith of it, suggesting, nevertheless, to those who give attention to the subject, that they should obtain the pamphlet itself.

The proportions of the building, it seems, were much governed by its connection with the main museum. The principal conditions laid down previously to its being designed were, that its width should equal that of one of the three iron vaults or spans which constitute that building, viz. 42 feet; that its two floors should also be on a level with the corresponding museum floors; that although in close proximity to, it should not be in actual contact with, the latter building; that the floors and all other parts should be of such a construction as to avoid as much as possible all risk from fire; that the upper or picture-gallery rooms should be lighted from above, and that the lower rooms should have as much light as possible, and should be open from side to side; that no iron columns or supports should be used, and that all iron employed in the construction should be so covered or protected by non-conducting materials as to be beyond the influence of any fire that might accidentally occur. We may say here, while it occurs to us, that the results of one of these conditions, the *tile-floors*, are objected to by many as dangerous to health at some weather.

The new gallery may be described as a two-story building covering a rectangular plot of ground of about 87 feet long by 50 feet in breadth; its height above the ground line rising 34 feet to the eaves, or rather more than 50 feet extreme measurement from foundation to ridge. It is composed of seven bays exactly similar one to another, and a cross wall divides the building into two unequal portions of four and three bays respectively; this sub-division having been adopted as an additional precaution in case of part of the gallery being at any time in danger from fire. In the upper floor, the subdivision is carried still further, by means of a centre wall running the entire length of the building, which is for the purpose of affording sufficient wall space for hanging the pictures, and, at the same time, of reducing the gallery to proportions more consistent with their proper exhibition. This wall is left out in the rooms of the lower floor, its place being supplied by a row of brick piers, one in each bay, down the centre of the building. The upper floor, of which we annex a plan, contains, then, four separate rooms, two of 46×20 feet, and two smaller ones of 35×20 feet, lighted entirely from the roof, and giving a total wall space available for hanging pictures of $2\times2,440+2\times1,900=4,340$ square feet, after making the necessary deductions for doors.

The building may be said to be composed of a roof and floors supported by three parallel series of brick piers, those in the upper floor being connected together longitudinally by thin brick screens, the external screen being composed of 9-inch brickwork carried up fair with the inside face of the piers, while those along the centre are double and hollow, formed of two half-brick walls, built fair with their respective faces of the piers, and with an interval between them of 14 inches. These half-brick walls are carried on cast-iron girders, which reach from pier to pier, and support the iron joists of the upper floor.

The piers are strengthened up to the level of the upper floor by counterforts or buttresses. The materials used in the construction are the best grey stock bricks, faced with an ornamental brickwork of Suffolk cream-coloured, Staffordshire blue, and Surrey red, bricks.

The lower floor is composed of York landings carried on brick piers 6 feet apart, and the upper is on the principle patented by Messrs. Fox and Barrett. The only iron which would be exposed to the action of any fire that might occur in the lower rooms is that of the cast iron girders which rest on the piers in the centre of the building, and care has been taken to protect these as much as possible by an application of a terra-cotta shield to their bottom flange. This shield is made to take the form of the simple cavetto which runs round the rooms, and below this is continued a frieze of the same material, which, being perforated in an ornamental pattern, serves as the means of communication between the lower rooms and the ventilating shafts between the upper hollow walls, the whole cornice forming at the same time a decorative feature of the lower rooms.

The form of the roof, it will be seen by the section, is that of a double mansard, having the lower pitch omitted in the valley, that is, it is what is called an M roof, but *mansardé*, to borrow a French expression, towards the eaves. The tie-beam is continuous through both roofs, and the rest of the timbers, viz. purlins, common rafters, &c. are fixed in the ordinary way. The covering material is a French tile known as the "tuile Courtois," mentioned in our notice of the Paris Exhibition of 1855.

The water from the outer parts of the roof is received by an eaves gutter of cast-iron, from which it is carried off by ornamental cast-iron stack pipes, one of which is attached to the centre mullion, or secondary pier, of each bay.

The building is kept at a distance of 4 feet from the iron museum, in order that there may be a more perfect isolation in the event of fire occurring in the latter building, and the communications between the two buildings (of which there are two on each floor), are so constructed as to interfere as little as possible with this isolation. For this purpose the permanent part of the communication consists merely of a floor or bridge (formed in each case of a single slab of Yorkshire stone), which is covered by a very slight roof of wood and glass, the sides being formed by double doors, one pair in the wall of each building, which on being opened meet each other, and form a continuous side wall to the passage, and when closed leave it open to the external air. This roof and doors, by the way, should be of iron.

There are arrangements for the supply of water in the event of fire, but of these we cannot stop to speak.

The day lighting of the upper rooms of the building is accomplished by means of a skylight which extends along the entire length of the roof, and measures 14 ft. in width, that is, 7 ft. from the ridge on either side, the entire width of opening being 12 ft. 6 in. measured on a horizontal plane. As will be seen by reference to the section, each room is 20 ft. wide; and, at a height of 14 ft. 6 in. from the floor, a cove, springing from a cornice on each side wall, reaches the height of the tie-beam of the principals (18 ft. 8 in. above the floor), at a distance of 4 ft. 6 in. from the wall, thus leaving a space of 11 ft. between the coves: in this space a ground-glass internal skylight or ceiling is introduced, which, however, is raised 2 ft. above the highest level of the cove, or 20 ft. 8 in. from the floor, the ridge of this skylight being pitched 1 ft. higher, thus giving a fall of 2 in 11 to each side, in order the more readily to carry off any moisture that may occur from condensation. The space between the highest point of the cove and the eave of the ground-glass light is filled in with perforated panels for purposes of ventilation.

The coving is not returned at the end of the room, but cuts out on the end walls, in order to preserve the skylight in its integrity throughout the entire length of the room, and that the side walls nearest to the ends may receive an equal amount of light with that under the middle of the skylight. As regards the quantity of light admitted, it may be stated shortly that the opening for the admission of light is exactly half the floor area of the gallery, the two areas being in the large rooms 920 ft. and 460 ft. respectively: thus, floor 46 ft. × 20 ft. = 920 ft., light 46 × 10 = 460 ft.; and it is also precisely equal to the entire surface of either wall which might be made use of for the hanging pictures.

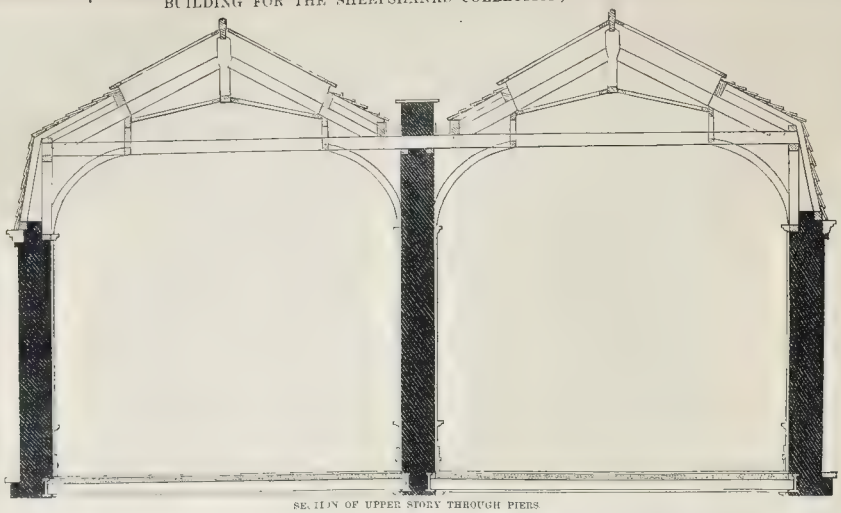
"The possibility of reflection or glitter," says Capt. Fowke, "is guarded against in the following manner:—Supposing a mirror to be hung against the entire surface of the wall, it will be seen by referring to the diagram (Fig. 3) that a ray of light from the skylight, at its extremity S furthest from either wall, striking that wall at A at a height of 11 ft. 6 in. from the floor, will be reflected (the angles of incidence and reflection being equal) so as to reach the eye E_1 of a beholder (say 5 ft. above the floor) standing midway between the walls, or at a distance of 10 ft. from the mirror; and, consequently, that all the rays striking the mirror below that point will fall below his eye; or, in other words, that he will not be able to see the image of the skylight at any point in the mirror below 11 ft. 6 in. from the floor; and that, as a matter of course, there will be no glitter on the wall, or on pictures hung on the wall, below that point, while the surface of the wall above the 11 ft. 6 in. point will reflect the image of the skylight.

It will be seen from the diagram that this point, which we may call the glitter point, alters according to the position of the beholder; for instance, at E_2 5 ft. from the wall the glitter point is at B, 9 ft. from the floor, while on coming closer (that is, to E_3, or within 2 ft. of the wall) it will be found to have descended to C, at a height of 7 ft.: on the other hand, by receding to a distance of 15 ft. the wall may be seen without glitter to a height of 13 ft. Looking again to the same diagram, it will be seen that, apart from all considerations of reflection, a person desiring to see a picture at a height of 11 ft. 6 in. would naturally retire to a distance of at least 10 ft. from it, and the same may be said of the other heights and positions shown in the sectional diagram: so that in any position in which a person can conveniently examine a picture in this gallery, he may be sure of having the surface of the picture free from glitter."

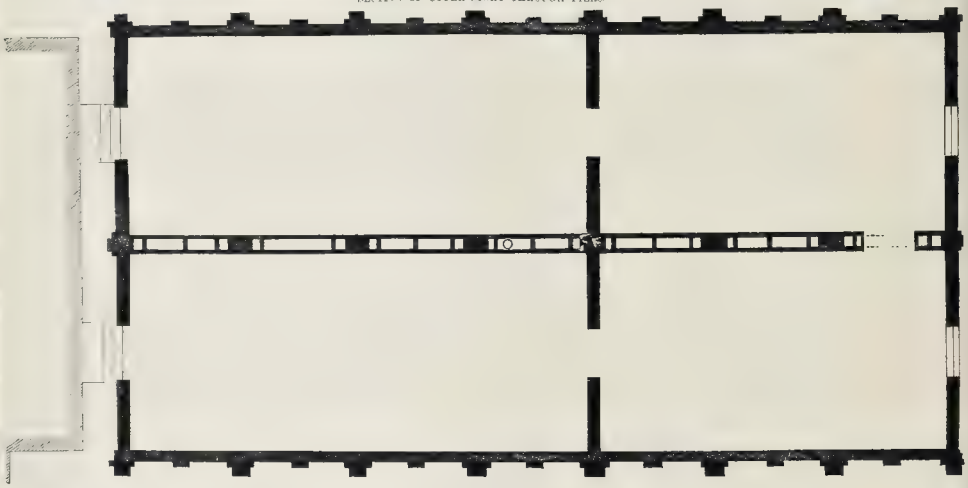
For night, gas is introduced, so as to light

* "A Description of the Building at South Kensington, erected to receive the Sheepshanks Collection of Pictures." By Francis Fowke, Captain, Royal Engineers. London: Chapman and Hall, 193, Piccadilly.

BUILDING FOR THE SHEEPSHANKS COLLECTION, BROMPTON.



SECTION OF UPPER STORY THROUGH PIERS.



PLAN.

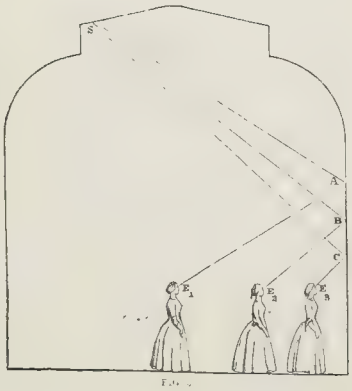


FIG. 3.

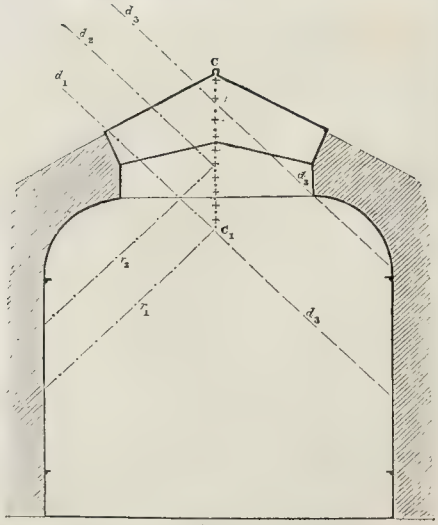


FIG. 4.

the pictures as nearly as possible at the same angle as the daylight.

For this purpose a horizontal pipe is carried the entire length of the gallery at a height of 18 feet from the floor, directly under the centre of the skylight, and from this pipe a number of fish-tail burners are projected on small brass elbows at each side of the pipe, and distant from it about two inches. The line of gas-burners is made to coincide with the intersection of the two rays from the extremities of the skylight, which strike the opposite walls respectively at the highest glitter points above alluded to; and it is argued that by such an arrangement all danger of glitter from the gas-light is avoided.

The gas-burners are placed in such a position with regard to the horizontal pipe that its shadow from each line of lights is projected on the opposite side. The mode of heating adopted, is a modification of the arrangement patented by Mr. Gurney, whereby the air is *damped* as well as heated, and to this we may refer more fully on some other occasion.

The ventilation of the rooms of both floors is provided for by means of outlets for the vitiated air in the upper part of each room; those in the upper floor or picture-gallery being obtained in the upright panels that, as before mentioned, intervene between the tops of the ceiling coves, and the eaves of the interior ground glass skylight. Through ornamental perforations in these panels the vitiated air passes into the space between the ceiling and the roof, from which it is carried off by an extracting shaft heated by the iron flue of the heating apparatus, and by a gas-burner in the summer time. Louvre-boarded ventilators are also provided, opening into this space, as an additional escape during hot weather, or when the building is more than ordinarily crowded. There are 224 perforated panels, and the sectional area of the openings of each being about eighty square inches, will give, after a due allowance for friction, an effective opening for ventilation of, in the aggregate, 112 square feet. In the evening when the gas is lighted, and when the influx of visitors is always much the largest, a part of the ground-glass light is made to slide back, and a corresponding opening is effected in the outer skylight, and by this means an additional foul-air escape is obtained, with a sectional area of 210 square feet.

So far as any decoration externally has been attempted, the decorative materials that have been used are bricks of three colours, black, red, and cream-coloured; cast iron in eaves, gutters, and stack-pipes; roofing tiles of two colours, viz. red and cream-colour; and, lastly, a species of surface decoration approaching to fresco painting, and known in Italy by the name of *sgraffiato* work, of which many old specimens may be seen in Florence, and a modern example by Professor Semper, at Hamburg.

The screen wall which forms the sunk panels over the lower windows being only 9 inches in thickness, are covered externally with cement, so as to exclude the weather; and advantage was taken of this circumstance to try an experiment with the method of decoration alluded to above, as a ready and appropriate means of ornamenting flat surfaces when finished with such a material. This is done by first covering the entire surface with a dark-coloured cement; a very thin coat of cement of the tint required for the ground of the panel (in this case grey) is then applied, also over the whole surface to be operated on, and while this latter is wet the pattern or ornament is scratched on, or rather cut through, the grey cement, till the fine cut is of sufficient depth to reach that of a darker tint underneath; and a pattern is thus obtained which is as durable as the cement itself.

A scroll ornament, medallions containing portraits of artists, Reynolds, Gibbons, Opie, Barry, &c. with dates and names of their works, are the elements used. Internally, the walls are coloured a sage green; the dado and work are painted in three shades of grey. Names of painters are introduced in the cornice.

The cost of the entire building is stated as follows:—

"Construction, including heating and ventilating	£4,500	0	0
Minton's floor-tiles.....	132	13	0
Artists' designs for, and execution of decorated panels ...	140	0	0
Gas-fittings.....	81	0	0
Terra-cotta casing for girders and open-work cornice ...	95	0	0
Total.....	4,948	13	0"

Summing up the result of experience here, Captain Fowke thinks that in another picture-gallery it would be an improvement to substitute iron for wood in the construction of the roof, retaining however the present covering of tiles, or employing slate, but not iron, for that purpose. Of this there can be no doubt, if the building is to be considered fire-proof. He thinks, too, that in admitting the hot air to the picture-gallery, it would, perhaps, have been better to have introduced it in such a way as to spread it out horizontally over the floor, and perhaps also to have multiplied the points at which it was admitted, so as to avoid the great rush that sometimes takes place at the single opening in each room which now serves to admit it. And he is of opinion that in an atmosphere like London, where a great deal of impurity is present, the better way of ventilating a picture-gallery would be to supply it with air *by mechanical means*, in such quantity that it should always be, as it were, in a state of repletion or compression. "The advantage of such a method would be, that at any opening the air would have a constant tendency to escape from the building; at each opening of the door a current would set outward, which could easily be regulated to a given strength, and thus the entrance of outward air and its accompanying impurities would be entirely prevented." Another improvement needed is wider doorways. The doors, in the gallery we are considering, are too narrow for the occasional crowds to which public exhibitions are liable.

Before concluding, we must note the arrangement which is made to guard against the possibility of too much sunlight striking on the pictures. White calico spring blinds have been fixed immediately under and parallel to the outer glass skylights; and these have the effect of subduing the light generally in the gallery. Captain Fowke suggests that where a gallery, constructed as this is, runs in a direction approaching to east and west, the pictures on the north wall could only be protected by darkening the room to such an extent as to be detrimental to the general lighting of the gallery, and more especially of the pictures on the opposite or south wall; and that this might be overcome by having the gallery provided with vertical blinds, one reaching from the external to the internal ridge, and another in extension of this coming down below the ground-glass light to a sufficient distance to intercept all direct sun-rays from the hanging part of the north wall. The obvious effect of this arrangement would be to cut off a portion of light from the north wall, and at the same time to throw by reflection an additional quantity on the hitherto darkened wall. In the accompanying diagram, Fig. 4, in which c, c, is the blind, the direct rays are shown by the dotted lines d_1, d_2, d_3, the part of the pencil between d_2, d_3, is entirely intercepted, and that between d_1, d_2, is reflected to the south wall, in the direction shown by the lines r_1, r_2.

We desire very much to see collections of pictures open to the public, formed in all our provincial towns: the absence of them is a disgrace to our governing class,—a disgrace to the governed. The call for them will presently come, and in arranging for the erection of galleries for the purpose, the building at Brompton, containing the Sheepshanks Collection may be usefully looked to, and will be found suggestive.

TO PHOTOGRAPHERS.—A correspondent asks us to suggest that photographs might be taken of St. Paul's Cathedral from Cannon-street, giving a view that may hereafter be unattainable.

MR. SYDNEY SMIRKE'S SECOND LECTURE ON ARCHITECTURE AT THE ROYAL ACADEMY.

FROM earliest times, the near relationship that the three arts of painting, sculpture, and architecture bear towards each other, has been recognised and admitted. Various are the ties which connect this sisterhood of art; but we may state, broadly, that it is form which constitutes the tie connecting our art with sculpture, and colour with that of painting.

On the last evening that I had the honour of addressing you, I confined my attention chiefly to the former: I propose to devote the present evening to a cursory inquiry into the bearings of colour on the art of architectural design.

How and why it is that the peculiar quality of colour, which is inherent, more or less, in every visible object, should please or offend the eye, has engaged the attention of many philosophic inquirers; but I shall not regard it as any part of my business here to detain you with such theories,—theories which, if well founded, might almost reduce the pleasures of the eye to a mathematical formula.

It is enough for me, here, to say that it has pleased the Creator to endow colour with certain attributes, which it behoves every artist, whatever may be the particular branch of art he cultivates, to make himself thoroughly acquainted with, inasmuch as these attributes exercise a powerful influence on all the arts of design.

It may seem somewhat presumptuous in me, within these walls, to attempt to discuss the principles of colouring; and I can unfeignedly say that I do so with very great diffidence. But the path of the architectural colourist is very different from that of the painter: his field is far narrower, and his objects simpler. The painter has to deal with refinements far beyond the reach of the architect. Although the principles that guide them are necessarily the same, their modes of working out these principles are so widely different that I think even here I may be held excused if, addressing myself exclusively to the young architect, I point out to him how colour is to be called in to assist him in the production of his effects, and what appear to me to be the general rules which should guide him in the use of colour.

Now, before doing so, I think it well to take a retrospective view of the efforts of architects of past times with reference to the use of colour in their works.

To inquire into the mode of colouring adopted by builders in the earliest ages would be a task, not without interest it is true, but which belongs not to the present occasion. Such an inquiry would be too archæological, and not sufficiently practical for our purpose here. The Egyptian and Assyrian builders seem to have dealt with colours as children in art; and, although some have supposed themselves able to discern a superior knowledge and a refined practice of colouring in the earliest and least cultivated ages and races, I confess I can anticipate little benefit from an attempt to inquire into their principles; if, indeed, any principle they really possessed.

The case, however, is far otherwise when we descend to the period of Greek art.

The learned are much divided in their opinions as to the extent to which Greek architects availed themselves of colour in exterior architecture; and, indeed, until comparatively late times, little regard was paid to the subject. The earlier revivers of Greek art seem scarcely to have heeded it; and the natural effects of neglect and exposure, more or less, to the action of the atmosphere during 2,000 years, have of course been so nearly to obliterate all vestiges of colour that it is not surprising that the earlier observers should have overlooked them. Authorities differ, even now, so widely as to the extent and character of the colouring practised by the Greeks, and the existing visible traces of colour on ancient remains are so scanty, that he would be a bold theorist who would venture to speak with confidence of the general practice of the Greeks.

This is (as I have already said) no fitting arena for such inquiries: I shall, therefore, abstain from detaining you on the vexed question of ancient polychromy. I may remark, however, that the existing evidences of the use of bright colours in Greek sculpture are such as to preclude all doubt of the practice in that department of art. I would instance the red colour known to have been used to mark the bleeding wounds of Greek warriors in archaic sculpture, and the blackened pupils of their eyes. Indeed, the fact of bronze bridles and javelin heads occurring in marble sculpture of the highest class, affords presumptive proof of the use of colour; for detached spots of bronze, unsup-

ported by some accompanying colour, on a pure white marble, are hardly reconcileable with the refinement of Greek art. The somewhat lavish use of gold and ivory in Greek sculpture, at least in its later days, seems also to favour this inference.

Seeing that on the composition of Greek temples, the architect and the sculptor worked so strictly together, that the two arts were animated, as it were, by one soul, there seems ample ground for conjecture that the architectural features were treated in the same way as the sculptural portions. In truth, undeniable traces of bright colour have been occasionally detected, and few collections of Greek antiquities are without them. We need go no farther for evidence than that afforded to us by the careful, trustworthy, and judicious investigations of Mr. Penrose. But even on that distinguished testimony, we need not now rely; for, thanks to the successful labours of Mr. Charles Newton, architectural painted fragments of the date of Alexander have been recently brought home, and deposited in our national museum.

That this strong colouring extended over large surfaces in Greek architecture is, however, by no means proved. At the same time I admit that, much as the pure crystalline translucency of Parian marble would lose by any artificial stain, yet the force of evidence renders it undeniable that at least light general tints were largely used. It would be tedious here to enter into a disquisition that has already filled some volumes: I will confine my remarks to the testimony of my own experience. The coarse limestone of which the finest temples of Magna Græcia were built appears to have been covered with a thin coat of fine calcareous plaster: this plaster was itself so perfectly white, that it is quite impossible to believe it to have been left unstained. It is not to be supposed that the susceptible eye of a Greek artist could have endured, in that brilliant atmosphere, so painful an object as a chalky, opaque, white building.

Nor need we wonder that the Greeks should have painted their external architecture. I have on a former occasion alluded to the sort of filial piety with which young Greek art adhered to its early reminiscences, and the deference with which it long continued to regard its prototypes in Egypt and Assyria, where, unquestionably, the brightest colours were profusely employed.

By a somewhat remarkable coincidence, the "vermilion beams" of a royal palace are named both in the "Iliad" and in the "Book of Jeremiah;" and there is, indeed, abundant evidence to satisfy us that reds, blues, and yellows, in dazzling superabundance, characterised the immature art of those early periods.

What the Greeks taught by their example, we may safely assume their Roman pupils readily practised. But the Romans introduced a new element of decoration in the profuse use of materials naturally coloured.

Bronze and gilt decorations had, as we have seen, previously enriched the external architecture of Greece; but the Romans, by adding coloured marbles, gave an aspect to their structures to which architecture had previously been a stranger.

The use of these marbles, applied both to architecture and sculpture, became a passion in Rome; and the mountains of her remotest colonies were ransacked for the sake of their many-coloured contents; and the mechanical dexterity acquired by Roman artists in veneering with these precious materials, in the thinnest possible laminæ, seems to have far excelled the workmanship even of the present day.

When the tide of conquest rolled eastward, the use of colour in architecture acquired renewed force. It is worthy of observation, that those Eastern regions, where all the works of nature seem steeped in the brightest colouring, are peopled by races whose greatest æsthetic characteristic has always been a love of brilliant colouring. Their architecture and their costume alike attest their prevailing taste. Nor was it characteristic of any special race or cast. It was a geographical, rather than a national, distinction. Whether Jew or Gentile, worshipper of Vishnoo or of Mahomet, all alike delighted, and, I may say, still delight, in the most brilliant colours, seeking the highest gratification of this sense by re-producing, in the texture of their dresses, or on the surface of their edifices, those precious gems which were so strongly associated in their minds with the symbols of rank, and wealth, and power.

There can be little doubt that it was from these Eastern sources, far more than from the surviving examples of Roman art, that Mediæval builders learnt the value of colour in architectural decoration.

It is probable that during the least advanced ages of our art, even this taste found but slight encouragement beyond the rude efforts of mural decorators in mosaics, or the painted effigies of saints and their symbolic accompaniments. As art, however, advanced, the builder again recognised the value of colour in enhancing the effect of his works.

But now the influence of climate on the predilections of the eye came into operation. Mediæval art was born and nurtured amidst the grey mists and under the clouded skies of the north, and art assumed a graver tone, a more sombre character.

Whilst the exterior architecture of Byzantium, of Persia, and of India, shone in all the splendour of coloured decoration, we find it but timidly and very moderately used in the North of Europe; and this distinction is perceptible even within very geographical limits. In France, for example, whilst on the early Mediæval buildings of the more northern provinces few traces of external coloured decoration occur; mosaic and tesselated works are not unfrequently found in those provinces where ancient colonies from the East had imported an exotic taste.

In Germany, I am aware of but few indications of such mode of coloured exterior ornamentation; whilst, on crossing the Alps, we begin to find, at Venice and elsewhere, rich marble incrustations very frequently used, evincing the intimate relations of the Venetian States with Byzantium and the East. In England there is but little evidence of any taste for exterior colour in architecture; unless, indeed, we class under this species of superficial ornamentation the practice, prevalent in the eastern parts of England, of chequering the surface with flint-work, inlaid or embedded in the masonry of the walls; offering a strong contrast in tone, if not in colour, to the general hue of the building.

Closely allied to this mode of decoration are the interlacing courses of brickwork; but the practice was unknown (in England, at least) until the latter days of Middle Age art, although we see such interlacings at Venice in the fourteenth century. The horizontal courses of variously-coloured materials, a mode of decoration to which recourse has been had of late in this country, are a prevalent feature of the buildings of parts of Italy and in the East; but, as far as I know, they are a peculiarity foreign to English art. I must, however, admit that these observations on the general absence of bright colours in northern architecture require much qualification, when we consider the decoration of the interior of buildings. There, the love of colour which more or less characterizes the natural taste of all mankind has, I think, in all climates, and at almost all periods, been largely indulged Even in the most unfavourable times, artists in mosaic have been found to illuminate, with more or less of skill, the walls of ecclesiastical buildings; and their art was among the earliest to participate in the general improvement of architecture.

Perhaps interior coloured ornamentation reached its acme when the Sainte Chapelle in Paris, and subsequently, when our own St. Stephen's Chapel, were built. But it should be noted that these beautiful examples were preceded by the chapel of S. Francesco at Assisi, where an example was set of the most elaborate and brilliant mural illumination—an example which, by its own intrinsic beauty, as well as by the reputed sanctity of the spot, probably influenced all Christendom. I am aware that the crowning decorations of the Italian example, being by the hand of Giotto, bear a date later than that assigned to the Sainte Chapelle at Paris; but the building was erected long before; and, having been executed with incredible rapidity, it may be fairly presumed that the mural decorations were at least far advanced before the Parisian work by Montereau was begun. The beautiful building at Assissi may, therefore, I think, be safely said to have led to the splendid rival displays which I have already adverted to in Northern Europe. Abundant further examples might be adduced illustrating the passion for bright colouring which distinguished the artists of probably the whole period called the Middle Ages throughout Europe; and when the style that had prevailed for some centuries began to recede before the revived spirit of Classic art, architectural colourists still retained the practice of their art, although they gave it a new direction.

Italy still took the lead. There we find coloured marble incrustations, both external and internal, more prevalent than ever, and panelling in various coloured marbles and jaspers is one of the most strongly marked features of the quatro-cento and cinque-cento schools. I may mention, as striking and well-known examples, portions of the Ducal Palace, and adjacent buildings, at Venice; the Church of Sta. Maria dei Miracoli, in the same city; and that of Sta. Maria, at Florence, with very many other remarkable buildings.

Nor did the use of coloured marbles cease for a long time to be a fruitful source of beauty and variety in the architecture of Europe. It was in the beginning of the sixteenth century, that the pleasing style of interior decoration became prevalent, which has been named after the great master whose skilful hand and fascinating example first recommended it.

The story told by Vasari, of Raffaelle having derived the idea of his arabesques from the casual discovery of ancient Roman decorative paintings, is familiar to all. We may readily admit the probability of the story, for the subsequent disinterments at Pompeii and Herculaneum, and in the Roman States, abundantly testify to the general practice of ancient Roman art. This epoch is a memorable one in decorative art. It is curious to trace over all Europe, and through three centuries, the permanent, wide-spread influence, that the school of Raffaelle has exercised over the whole domain of art.

I have detained you long enough on this preliminary sketch of the history of my subject. It is time that I should proceed to a consideration of the theory of colour, and its application to practice in our art.

An inquiry into the theory of colour is attended with this happy peculiarity: its first principles are simple, certain, well defined, and, I may add, clearly laid down before us by the hand of nature. There are but three simple colours. All the researches of science or art, we may be well assured, will never reveal to us a fourth.

Simplicity seems to be one of the fundamental laws of the creation. Notwithstanding the infinite variety that pervades the whole material world, first principles and original elements seem to be, as far as we are permitted to comprehend them, few and simple. In chemistry, for example, every new discovery, every onward step taken in the path of knowledge, tends, not to multiply, but rather to reduce in number, the original elements of matter. So in this science of colour, the same beautiful simplicity presents itself to our view. Amidst all the gorgeous, ever-changing variety of tints with which the whole creation is clothed, from the rainbow above us, down to the beetle's back beneath our feet; and amidst all the artificial hues that the most capricious artist, or the most inventive chemist, has ever devised, the fact still remains certain and indisputable that there are but three pure colours; and, therefore, it is, I repeat, that this science of colour charms us by its extreme simplicity.

It is in the manipulation of these three simple elements that the whole art of the colourist lies: and even in the study of this manipulation, there is an absence of any bewildering complexity. As there are but three pure colours, so there can be but two classes of mixed colours, viz.;—1st. Those composed of any two of the pure or primary colours. 2nd. Those composed of all the three primary colours.

It is obvious that there can be no other compound colours, besides those comprised in these two great classes.

The colourist's whole care is therefore limited to the study of three pure colours, and two classes of compound colours, in their affinities and mutual relations.

I must, however, here admit, that the straightforward simplicity of our path ends; for our limits very widely expand when we enter upon an analysis of these compound colours. Their range is, in truth, infinite; for, in the class of secondary compounds, there is no limit to the degree of difference in the proportions in which any two primary colours may be blended: so in the class of tertiary compounds, there is no limit to the degree of difference in the proportions in which the three primary colours may be blended,—no limit, that is to say, except such as is imposed by the limited faculties of the human eye. Therefore you will perceive that, as in chemistry, a few simple elements are infinitely diversified over the whole material world; so, in the science now before us, we soon find that the narrow limits of our elementary studies open out upon a very wide field, when the colourist comes to make a practical application of them.

I believe I cannot well proceed further without here introducing to you a diagram,—familiar, indeed, in its principles to all, but which it seems very necessary to have before us when we are discussing this matter.

It is in this circle of colour that our whole subject lies,—the magic circle within the charmed

limits of which the painter performs his incantations, and practises upon our senses.

I must again beg to remind you that in what I have to say on this subject, I venture to address none but the students in architecture; and it is solely on the application of colour to the purposes of mere architectural decoration that I venture here to speak.

When Alison says that there is no such quality as inherent beauty in anything, he enounces a very bold, and I may venture to say a very doubtful principle; but there appears to be at least some approach to truth in the dogma, when applied to beauty in colour. I will not go so far as to say that there is no inherent beauty in any one colour or hue, although it must be admitted we are greatly influenced by prejudice in our estimation of this kind of beauty. The circumstances of its application materially affect our judgment.

Burke cites the colour of a dove as one of its peculiar beauties; but if we argue from thence that therefore dove-colour is an intrinsically beautiful hue, we must be prepared to admire it on the female cheek, or the hair, or the lip.

I am not, however, venturing to deny that there may be an inherent property in particular hues to cause us pleasure in the contemplation of them; for philosophers tell us of certain physical effects, vibrations as they are called, on the organs of the eye, produced in various proportions by various colours; but this is a subject far too recondite for our contemplation here, and probably of little practical value. I allude to it only to show that it is not prudent to speak *ex cathedrâ*, or *ex tripode architectonico*, on this subject. Still I am sure I may with safety say, broadly, that colours are so dependent for their effect on association, that they derive an immeasurable accession or loss of power to produce pleasure, according to the art with which they are placed before us with reference to each other. In this respect there is a remarkable analogy between colour and sound. We can hardly say with strict propriety that any one note in music is beautiful; but associate it with others into a chord, according to certain laws of harmony, and the most uneducated ear can at once appreciate the result. This analogy between sound and colour is familiar, and has not escaped the observation of natural philosophers.

It is, therefore, of the first importance to the student, who desires to cultivate decorative art, to make himself well acquainted with the principles which should guide his practice in the choice and arrangement of colours; for it is a gross fallacy, and yet a very prevalent one, I believe, among those who have no practical acquaintance with art, to suppose that pleasing arrangements of colour are fortuitous; or, at all events, dependent more on what is called fancy than on any definite rule or theory.

It is to these principles, therefore, that I must now call the attention of the student.*

TASTE IN MANUFACTURE.

THE PRINCESS ROYAL'S WEDDING-CAKE.

YOU have from time to time directed attention to certain matters which may not, in connection with the high qualities of art, be generally considered of very great importance, and yet which, like a feather in the wind, show the direction of the current. In painting and architecture, -in fact, in all imitative and decorative arts,—the chief aim should be directed towards the imitation of Nature, or improving, without disguising, forms and objects which it might be considered necessary to decorate.

In the olden times, flagons and other vessels were elaborately and beautifully decorated, but this decoration was never carried to such an extent that it was scarcely possible to discover the intention for which each object was required.

On the old-fashioned dinner-tables there were various "soteltie," which were placed on the tables rather for the amusement and astonishment of the guests than for use; but then these were only a sort of thing to be looked at rather than tasted: the viands and even choice dishes on these tables were not disguised; "ye pheasaunt," and the other comforting denizens of the earth, air, and water, were garnished, but not disguised.

A sirloin of beef has often been "a dainty dish" to set before the courts of English kings and queens, but that famous roast-beef of old England was never made a "soteltie;" and other favourite dishes were made to stand in their natural shapes. These thoughts are raised at the present time by the sketch of the Princess Royal's wedding-cake, which has been published, made by the French confectioner to her Majesty, and is so overdone by decoration that few would recognise for what purpose it was intended.

According to the *Illustrated London News*, the wedding-cake was between 7 and 8 feet in height, and was divided from the base to the top into three compartments, all in white.

The upper part was formed of a dome of open work, on which rested a crown. Eight columns on a circular plinth supported this dome and inclosed an altar, upon which stood two Cupids holding a medallion, having the Princess Royal on one side, and Prince Frederick William of Prussia on the other; and busts of the Queen, the Prince Consort, the Prince of Prussia, and the Princess of Prussia were placed at equidistant bases projecting from the plinth.

The middle portion contained niches, in which were a number of statues, including those of Innocence and Wisdom. These statues were separated by broad buttresses of an ornamental character, the upper part decorated with festoons of orange blossoms, and surmounted by an imperial crown.

Rows of pearls bordered each division of the cake, which was divided into a certain number of portions, and each portion was decorated with a medallion of the royal bride and bridegroom.

The plateau contained fourteen gilt baskets and vases of silver gilt, the former elevated on golden tripods, and all filled with flowers.

Is not this gilding the lily? A CAKE.

* To be continued.

WATER SERVICE FOR THE POOR.

A HINT TO POTTERS.*

PERMIT me to invite the attention of the members of the Institute for a few minutes to a subject—humble, indeed—most unattractive, and most unæsthetic—yet a subject which, being of great economic and sanitary importance to the public, must not be considered unworthy of the attention of any man, still less of the Institute of British Architects.

In very few large towns are the inhabitants able to indulge in the use of an unlimited quantity of water. The wasteful, and, indeed, dishonest, practices of many, often preclude the possibility of this indulgence, even when the natural supplies of water do not set a limit on its use.

In places, as in London, for example, where the service of water is necessarily confined to a short period daily, it becomes a matter of very great importance to provide, in each dwelling, receptacles large enough to supply liberally all reasonable wants of a family for at least twenty-four hours: there are in truth few provisions of equal importance to public health and comfort. Yet I believe that an inquiry into the actual state of things would show that, not only are these receptacles, in the dwellings of the humbler classes, far too scanty, but in a multitude of cases wholly wanting. It is in the hope of suggesting some alleviation of this evil, that I beg to address these few remarks to the Institute.

As far as I know, there are but three kinds of cisterns in general use. First, there is the water-butt,—a rude and primitive contrivance, insufficient in capacity, and liable to speedy decay, and in its decay destructive to the quality of the water, causing it to teem with all manner of noisome creatures. Secondly, there is the lead cistern,—a very costly receptacle when substantially constructed, and one which is liable to the serious objection of very frequently poisoning its contents. Thirdly, the slate cistern,—a vast improvement upon its predecessors, and a contrivance with which we might well rest contented, were its cost such as would admit of its general adoption in the humbler classes of dwellings.

The purpose of my communication is to suggest a fourth material, and to press upon manufacturers the expediency of at once coping with and overcoming the difficulty of making cisterns of a strong, coarse earthenware, of ample size, and at a very low price. I will not suppose it to be beyond the reach of manufacturing skill to supply this great desideratum.

I have seen and measured earthenware cylinders 2 feet 5 inches in internal diameter, forming the lining of a well more than 2,000 years old, amidst the ruins of ancient Selinuntum,—and these cylinders were as sound and as serviceable as when first made. Is it unreasonable to expect that the bakers of clay in the nineteenth century might improve a little upon the potters of Magna Græcia? Surely we ought to excel the ancient Greeks in mechanical skill, although we may have to succumb to them in æsthetics. A vessel of this material, 3 feet square and 4 feet deep, would hold upwards of 220 gallons. What an immeasurable benefit would be conferred on the poorer classes if such a vessel could be supplied at a cost within the reach of their purses! Even if their means were too scanty to admit of their paying water-rates, such a reservoir would be of signal service were it provided merely to receive rain, which comes down to us for nothing (except our thanks, and even that is a debt not always paid). But I will not admit of the plea of poverty; for I doubt whether any one who cannot pay some moderate water-rate ought to hold a house at all. Consider the cheapness of water. I have the best authority for saying that at least one great water company in London supplies 1,000 gallons for sixpence. Therefore, in a house containing ten persons, each of whom is supplied with ten gallons daily, the company's charge on the house would be 6-10ths of a penny,—that is to say, 6-100ths of a penny for each person for ten gallons. Whereas each of these persons would pay about thirty-four times as much for a single pint of poor unwholesome beer: in other words, bad beer is about 2,700 times dearer than good water. I may add, that in the event of any very great extension of the supply of water, it does not seem unreasonable to anticipate a still lower rate of charging,—at least to the poorest class of customers.

I hasten to close my remarks; but, before doing so, I would venture to throw out another suggestion in the form of a query. Why should not the supply of water to a house be made compulsory? I do not see that it would be more unconstitutional or arbitrary to do so than to make the supply of light and air to a house compulsory, which the Building Act does. So also the Legislature has not hesitated to make it compulsory on all builders to form drains. Ordinary paving and lighting rates are, in fact, compulsory charges on individual householders for the public good. It is true that were such a course adopted it would become necessary, in order to prevent water companies from abusing their privileges, to control, and limit by enactment, their rates of charging; but no company would venture to object to such a limitation, were every shareholder compelled to be a customer. The quantity of water required to be supplied would probably be graduated according to the size and rent of the house; but I submit that to compel by special legislative enactment a reasonable quantity to be provided in each house would be a most salutary exercise of that power which a Government holds only for the public good. The larger a city becomes, and the greater the aggregation of its inhabitants, the more urgent becomes the duty of the Legislature (I say it with great deference) to provide, by stringent measures and by a vigilant control, for the health and well-being of the people. SYDNEY SMIRKE.

* Read at the Institute of British Architects, Monday, February 22nd.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the ordinary meeting on Monday, the 22nd, Mr. J. J. Scoles, V.P. in the chair, various donations were announced, including, from the chairman, a specimen of the concrete used in the foundation of the Great Exhibition of 1851.

The Honorary Secretary read a memorial presented to Parliament by the Institute of British Architects, praying the acquisition by purchase on the part of Government of the Soulages Collection, for the national instruction and improvement of the people in fine art and manufacture.

A paper communicated by Mr. Sydney Smirke, on the Water Supply of Towns, was read, and will be found in another page.

A paper was afterwards read by Mr. G. R. Burnell, C.E. "On the Modern Applications of Hydraulic Limes and other Cementitious Materials to Constructive Purposes."

Mr. Ashpitel said he had paid some attention to the subject of the hydrati n of lime, of its absorbing carbonic acid from the atmosphere, and forming another carbonate of lime. To prove this you must have something like synthesis as well as analysis. In other words, suppose the lime to be burnt and then slacked, it absorbs the carbonic acid, and becomes carbonate of lime. But the process ought to be repeated. It ought not to become mortar, but chalk, and lime ought to be made of it again, but we could not do that perfectly. The fact was, we were not thoroughly acquainted with the chemistry of lime. The lime used by the Romans in making their splendid mortar was chiefly from the marble of the Apennines They had no sand, and the only thing they had was puzzalano, and it was from this that they made masses almost like monoliths. It had been asserted that this puzzalano resisted the action of sea-water; but artificial puzzalano did not. In the concrete, which was commonly called rubble work, in Rochester Castle, the work of the Middle Ages, they did not appear to employ hydraulic lime. He had examined many of the buildings, and found that they used common chalk in a very fluid state, and it worked admirably. A remarkable feature in Rochester Castle was, that one of the winding staircases was composed of nothing but concrete. It appeared to him that hydraulic lime was not used in the Middle Ages.

The first person who gave his serious attention to lime as used in large waterworks was Smeaton. When also gave it a great deal of attention. We could now make admirable hydraulic limes, and a great many limes from Portland stone. Some years ago experiments were made with 3 per cent of common clay, but however well it resisted the action of ordinary water, it did not resist that of sea water. In his opinion, concrete now-a-days was much too hastily got up. It should rather be put together in the form called *béton* by our French neighbours, giving it time to be thoroughly integrated. With all our rich fat limes, we did not succeed in making the hydraulic composition made by the Dutch, for there was wanting what he would call a *tertium quid*, viz. manipulation [A Voice,—Elbow grease] in well mixing it. He had often thought that there was one element in puzzalano which was absent in all our make of hydraulic lime, viz. oxide of iron, which existed largely in puzzalano; and by infusing this into our concrete we should no doubt greatly improve its characteristics and manufacture. Messrs. Grissell had found a wonderful effect to arise from the water scrap iron into their concrete.

Mr. Burnell agreed as to the want of an ore elbow grease, but our labourers in this country did not sufficiently apply it. Oxide of iron was doubtless a valuable ingredient in hardening cementitious material, but then it was a mightily expensive one, and he thought that by using a proper proportion of Portland cement with our concrete, we should get a better result for our money.

Mr. Kerr considered that a concrete or cement formed by blue lias lime with smith's ashes or metallic sand, formed one of the hardest known in building, and cheaper than by the introduction of oxide of iron. Though we might thoroughly understand the chemical question of lime, we did not as thoroughly understand the mechanical question of mortar.

Mr. Wyatt called attention to Mr. Smirke's communication on water supply, and thought that in the present state of the potter's art the construction of cisterns, &c. on a much larger scale in one piece would be found practicable and highly useful.

It was submitted in the course of a subsequent discussion that it was found impracticable to make larger earthenware vessels than at present, owing to its being so sensitively affected, even to breakage, by extremes of temperature, but that the same objection did not apply to vessels of zinc with wood casings, or of galvanized iron.*

Mr. Burnell thought the right solution of the water question was a constant supply, and that ultimately we should come to a system of selling water by meter and measure.

It was announced that on March 1st, a special meeting will be held, to consider the award of the Royal medal and prize medals of the Institute, and also the munificent donation of Lord De Grey, their president, of 200*l.* worth of shares in the Architectural Union Company.

PREVENTION OF DRAUGHTS FROM DOORS AND WINDOWS.

HAVING had a dangerous draught from a room door completely obviated by a very simple process, it is but an act of ordinary gratitude to the inventor, and of proper care for the welfare of our readers, to give some account of the means of prevention. These means then simply consist of a slight beading, screwed or nailed round the door-frame, with a narrow slip, or ribbon, of vulcanized india-rubber, fixed in a groove at an angle, so as to form an elastic spring to press against the door when closed, and thus to make the joints air-tight all round. The beading at the foot of the door is so hinged and affixed to the door itself, as to open much like one of the pieces of a parallel ruler, only protected between the two slips, and having a spring between its two pieces and the india-rubber ribbon running along the outer edge, so that as the door closes, a protruding heel of the bead, as it were, is caught by the frame and pressed so as to open the parallel slip and cause its rubbered edge to press upon the floor or carpet, thus efficiently preventing all access of air or draught. Not only draughts, but dust and noise can thus be readily excluded, either by windows or doors. The beading can be had, it appears, either by the foot or yard, or applied where wanted. The invention is patented by Mr. J. Greenwood, carpenter, of 10, Arthur-street West, London-bridge, and completely effects what it proposes.

THE FALL OF CAERHOWELL BRIDGE.

CORONER'S VERDICT.

THE Caerhowell suspension-bridge, on Dredge's principle, it will be recollected, lately fell, from end to end, into the river below, while a wagon was on it, and one of the persons accompanying the vehicle was killed. At the inquest it was resolved to adjourn till a proper examination of the bridge had been made. Mr. Evan Hopkins, C.E. examined it, and reported to the jury on the subject. He afterwards gave evidence at the adjourned inquest, and Mr. Dredge, jun. was also examined, as well as Mr. Penson, the county surveyor.

Mr. Penson stated that he had strongly objected to the adoption of the suspension principle, although he had not decidedly negatived it. He had warned the county magistrates, however, that he could not be responsible, but they had told him *they* would. Cheapness of construction appeared to be the chief object in view. He had suggested, too, that the work should be tested at the foundry as it proceeded, but the reply to that part of his report was,—"We suppose you want a journey to Edinburgh every fortnight or so." There was no one employed by the county to test the iron. The bridge, however, was erected under his inspection, by the contractors, Messrs. C. D. Young and Co. Mr. Dredge's estimate (2,591*l.*) was 1,000*l.* under that for a single arched iron bridge. The contractors were bound to keep the bridge in repair for seven years. It fell by the giving way of the longitudinal beam, caused by the friction wearing down the bolts; or the heads had become broken by the continued vibration. He considered that the contractors ought to have looked after such defects: he pointed out to them that the bridge ought to be periodically examined.

Mr. Dredge said he was one of the sureties for the contractors, but was not otherwise responsible, except for the design of the bridge. He had been concerned in the erection of about seventy of such bridges: some had been twenty-five years in existence, and were still standing. He had examined the state of the bridge, and reported to Messrs. Young and Co. on it.* The only conclusion the witness could come to as to the cause of the fall was that some of the bolts had accidentally become detached and displaced, so weakening the fishing joint, and making the beams weak at the junction, so that the plates separated. A periodical survey alone could have prevented this. The county surveyor ought to have seen that the iron was tested, and the work sufficiently carried out, for by the contract it was to be done to his satisfaction, and the contractors had his certificate to that effect. In one case a county surveyor had reported to him that a bolt of a bridge had become detached, and the defect had been remedied at the cost of one shilling. That bridge was erected on the same conditions as the Caerhowell one. His attention had never been called to anything wrong in this bridge. The part that gave way was no doubt the longitudinal beam, and the bridge then crumpled up in the centre. The bridge had not failed at the onset, as was alleged. It had been, to some extent, wrongly put together, the person who did so not thoroughly understanding it; but his father remedied this: there was no increase of strength that he knew of.

Mr. Hopkins strongly condemned the bridge, as far too weak a structure for the heavy traffic constantly passing over it. Where the roadway, too, was constructed in so much heavier proportion than the upper part of the bridge, the passing over of heavy traffic was unsafe and dangerous. He had seen a great many of these bridges, but not one so large and with so heavy a roadway. The sectional area was strong enough, but not with bars of the size. A great deal of the iron was hot blast, and of very inferior description. Extra ballast had been recently put on. Some of the rods, no doubt, first gave way, and the rest were not sufficient for the emergency. He disapproved of the strength of the rods, but not of the principle of the bridge. The bridge was not strong enough for ordinary purposes.*

The jury, after a lengthened consultation, returned the following verdict:—"We find that the death of Richard Grist was caused by the falling of the Caerhowell Suspension-bridge on the river Severn, that bridge not having been constructed or maintained in such a manner as to afford security to life and safety to property passing over in the ordinary way of traffic; that some of the defects consisted in the inferior quality of the iron, and workmanship badly performed; circumstances which might have been avoided had there been proper supervision by a person acquainted with the original plan and mode of construction. We feel it a duty not to separate without expressing our opinion that the present fatal catastrophe shows the necessity of greater vigilance on the part of the county authorities, and that safety and durability, rather than economy, should in future guide them in all public works."

SIR C. BARRY AND THE NEW PALACE OF WESTMINSTER.

A PARLIAMENTARY paper just issued contains further correspondence between Sir C. Barry and the Board of Works relative to the expenditure by the former, as architect, on the New Palace at Westminster. The result of this correspondence appears in a note addressed by Sir B. Hall to the Lords of the Treasury on the 11th of January last. In this note the Commissioner of Works informs their lordships that he had intimated to Sir C. Barry his refusal to apply to Parliament for any further grant towards defraying the cost of the works for the completion of the New Palace until he (Sir C. Barry) should have furnished him (Sir B. Hall) with certain accounts, specifications, and estimates, to enable him to give some definite and positive assurance to Parliament as to the ultimate cost of the building, which at present it is quite impossible for him to do. Sir B. Hall further informs their lordships that he had requested Sir C. Barry to give no further orders for any work in the palace to be proceeded with, the cost of which could not be defrayed out of the balance of the vote for the current year, and that he (Sir C. Barry) would, with the least possible delay, furnish the Board of Works with the accounts, specifications, and estimates already alluded to. On the 20th of January (nine days afterwards), the First Commissioner of Works received a note from the Treasury (through the medium of Mr. C. E. Trevelyan), expressing their lordships' entire approval of his conduct in the matter.

The objections taken by Sir B. Hall are, that Sir Charles Barry has greatly exceeded his estimates for various portions of the work, and had entered into special contracts for works without the knowledge of the First Commissioner, contrary to express desire.

PROPOSED CHURCH AND CLUB BUILDINGS, WIMBLEDON, SURREY.

A NEW church for Wimbledon is now being built from the designs of Mr. S. S. Teulon, of Craig's-court, architect; and, under the direction of the same gentleman, it is proposed to erect there buildings for a "Village Club." Annexed we give a view of the church and the design for the Club buildings.

The church has a nave and aisles, the tower standing east of the nave, with north and south aisles thereto; and this forms the chancel. Beyond this, eastward, is a sanctuary. The church is to accommodate nearly 600 persons, and will be built in vermiculated work, in Kentish rag-stone. All the discharging arches, within side, will be in brick in three colours, and the walls finished in plaster and "stencil fresco." This latter, we are informed, has not before been adopted.

The Village Club will stand at the opposite end of the parish, and will consist of a reading-room and lecture-room, coffee and committee room, and a residence for the matron. This group will be of brick, grey in colour, relieved with bricks of other colour. The lecture-room will be used for public meetings also.

The object of the club-room is the moral improvement of the working classes, by providing a room where they can read periodicals, have coffee, and, if they please, smoke. There is a resident who will provide coffee, but nothing else, the object being to keep young men as well as old from the public-house.

* Our own experience of galvanized iron for cisterns is not satisfactory.

* In this report it was said "The following table will show the admeasurements of some of the principal suspension bridges constructed in England, the bearing strength of the iron estimated in each at ten tons per square inch —

	Span.	Deflection.	Width.	Section.	Bearing weight per foot of platform.	Average.
Menai Bridge . . .	579	43	28	260·0	1 881	1·312
Hammersmith . .	422	29	30	180·0	1·662	
Norfolk..	284	20	28	84·0	1 181	
Union Bridge . . .	367	30	18	37·68	·502	
Caerhowell	150	19	20	25·844	1·73	1·73

"By which," continued the report, "it appears that the section of iron used in the Caerhowell bridge is 32 per cent. greater than the average section of iron in the four bridges above mentioned, built by the most eminent engineers in this class of works, viz. Telford, Clark, and Brown."

"There are 26 bars of iron in the chains, and the towers each 1¾ diameter, presenting a total section of 25,844 inches, and the centre of the bridge consisted of—

1st.—4 bars, each	1¾ inch, 3·976
2nd.—4 bars, each	⅞ inch, 2·405
3rd.—4 bars, each 6 inches by ⅞ inch, deducting 1¼ for bolt holes,	15·75
Total section.....	22·131

The weight of the bridge, with load, as nearly as I can estimate at the time of the failure, was as follows.—

Weight of iron suspended	32 tons,
Timber	28
Gravel	60
Load	9
Total.....	129

The deflection of the chains was ½ the chord line: the horizontal tension would therefore be 129 × 1 = 129, which, distributed over a section of 22·131, would give a load of 5·82 tons per square inch, and which, as the iron should be able to sustain a bearing strain of 10 tons per square inch with safety, it cannot be supposed that less than 6 tons would break it."

* In an additional report made since the inquest, and published in the *Shrewsbury Chronicle* of the 19th inst. together with a full report of the adjourned inquest, Mr. Hopkins says,—"On further inquiry I found that the bridge had given way in the middle soon after the opening, and that the contractors had been obliged to raise the roadway and apply stronger diagonal bars," but that, "even with this additional strength to the weak and defective part of the bridge, it gave symptoms of insecurity, which were partially corrected by trussing."

NEW CHURCH, AND PROPOSED VILLAGE CLUB-HOUSE, AT WIMBLEDON, SURREY.—MR. S. S. TEULON, ARCHITECT.

ON COLOUR.*

In considering the question of harmony of colour, the tertiaries become essentially valuable. They have the same relation to the secondary colours, as to *shade*, that the primaries have to the secondaries as to *light*.

Citrine is to dark violet as yellow is to light violet; russet to dark green as red to light green; and olive to dark orange as blue to bright orange.

The above supposes a certain equality of contrast, and continues the system of chromatic equivalents, in which each of the secondaries is neutralized by that tertiary in which the remaining primary predominates.

By a proportionate adjustment of the primaries, with the secondaries or tertiaries, harmony of colour is produced.

It may be laid down as a principle of decoration, that one colour should dominate; that this dominant should be a primary or secondary; and that the other colours must be subsidiary to it.

Beware of confusing the laws of contrast with those of harmony,—of using in equal proportions contrasts of bright red and bright green, bright yellow and violet, or bright blue and bright orange, without modifications, which will neutralize one or the other. I speak the more earnestly of this, because I believe contrast to be a popular error of the present day.

In the majority of cases, the most perfect and beautiful harmony is produced by employing neutralized hues of a colour for the larger masses, and then giving freshness, cheerfulness, and beauty to the whole, by the introduction of the primary or secondary colours, that may form the proper equivalents to the prevailing colour; and it should be always remembered, that the eye is never satisfied with any arrangement of colour, unless the three primaries are present in some shape or other.

Though I have spoken more particularly of colours as related to each other, it must be borne in mind that there still remain the black and white; the most intense in contrast, and most valuable in their power of giving effect to the other colours.

In carrying out decorations, it will be found that all colours have two kinds of harmony,—that of analogy or sympathy, and that of contrast. For instance, we will suppose the walls of a room to be of a soft green colour, and that curtains are required. Two colours are open to us;—on the one hand a rich yellow brown, which is the softer harmony, or on the other hand a warm maroon.

In another case, we will suppose the walls are lilac or peach-blossom: we can then have either a warm green or gold-colour curtains, and the ground of the carpet should be maroon.

There are three masses of colour to be combined in rooms,—the walls, the curtains, and the carpets; but it is by no means necessary that these should be all of different colours: on the contrary, two of them may accord, and the third harmonize by contrast.

If the walls of a room are highly ornamented, it is desirable that the curtains be quiet in tone, and not of contrasted colours, and that the carpet preserve a subdued effect that does not interfere with the decoration of the walls.

On the other hand, if the walls of a room are of a quiet tone, or are white and ornamented with gilding, varied colours in the carpet may be introduced with propriety.

As regards the colouring of carpets, I should generally recommend the ground to be of a deep rich retiring colour, such as maroon or green, and the patterns, whether in ornament or flowers, to be as flat as possible, and entirely without cast shadows. The Indian carpets are at all times quiet, retiring, and harmonious in their colouring, and worthy of study for the distribution of their ornament. Above all colours in a carpet, I abominate drab, reminding one of the varieties of shades between mud and dust.

When rooms are painted or papered in tints of colour, the combination necessary to carry out a pleasing effect is sufficiently simple and easy; but even in these great finish may be given, by the way in which the cornice of the room is brought out, by the introduction of the colour which prevails in the curtains, or relieving it with other colours complementary to those on the walls.

In the woodwork of our rooms, it seems to be too generally considered, that it is to be either a tinted white, or grained in imitation of some wood. Now, I do not go so far as to proscribe graining on all occasions; but I do say that it is far too often employed. It would be more pleasing, and quite as economical, to use a deep brown, or a maroon, or a chocolate relieved with light-coloured lines, taking care to face up the work carefully, and to varnish it. Above all, however, I like the real wood, even if it be only deal: for this, if well finished by the joiner and kept clean, will, when varnished, have a handsome effect, and can be readily ornamented to any degree by painting dark lines upon it: the wear of this kind of work is beyond any painting.

Again, on walls of staircases, or entrance vestibules, or dados of rooms, imitations of marble are painted, and very beautifully painted too (for our English artists in this work excel their French competitors); but these imitations are adopted, not always because they are appropriate or particularly required, but because, that being varnished, they wear well, and nothing else is suggested. I think, however, that in a moderately sized house, where quiet taste is appreciated, stencilling in geometric patterns in light colour on a dark ground, or, *vice versâ*, is preferable to marbling, which, if done in an inferior manner, is a most unsightly sham. In some public rooms I lately decorated, I had occasion to carry out both effects, and I decidedly prefer the stencilled pattern, the arrangement of which I will describe.

The walls of the vestibule are in two shades of sage green: the lower part about 4 feet 6 inches high, is painted warm black: on this is stencilled geometric ornament of a brown gold colour, leaving about as much ground as ornament. Above this black is a border of maroon red, on which is a grey Vitruvian scroll: the walls have dull maroon marginal lines, and the cornice is vellum colour, with the black and green and maroon introduced as relief to the enrichments. The curtains are maroon red. All the tones are very low; but the black gives freshness to them.

Men employed like myself are often asked, what is the best ground for pictures? My opinion would, in some measure, be guided by the aspect of the room and other circumstances; but generally speaking, I should say that if the room is large, and the pictures of bold colouring, crimson-red is the best. If the room is moderate in size, quiet green is a good colour; or, as a variety, a warm brown leather colour; but the depth and richness of the tones must depend on the condition of the pictures. At the Manchester Exhibition I advised a subdued maroon colour for the Gallery of Portraits, which were, on the average, low in tone, and a sage green for the walls of the side galleries.

For the walls of galleries of statues, I think warm deep colours decidedly desirable. For rooms of prints, a citron or fawn colour; and for photographs, a crimson or rich brown leather colour.

For walls coloured a subdued green, deep red curtains are not objectionable; but where the walls of a room are red, and the curtains are to be of one tone, I prefer to have them deep blue, instead of the complementary green, which usually makes an unsatisfactory contrast when in large masses; but this blue of the curtains would generally require the other primary, yellow, introduced in a subdued form, as a golden-brown, for instance, either as a border or trimming. When, however, the room is wanted to have a grave, but rich effect, as for a library, the blue curtains might be trimmed with bright red, and the floor be covered with a Turkey carpet, which is always harmonious, and the gilt backs of the books will supply sufficient relief in addition to what may be given by the cornice and woodwork, or other architectural features of the room.

Occasionally there may be some particular object in a room requiring a corresponding modulation of the colouring,—as a large allegorical painting on a ceiling. Sometimes we are obliged to use what would be called discords in music, but, if properly carried out, they in each art produce, perhaps, the most interesting harmony.

I had once to fit up a very large room in an old castellated house in which the ceiling was divided by large beams into fifteen compartments, in each of which was a large oval painting of some cardinal virtue, on deep olive ground. The room faced the south. Portraits were to be arranged on the walls. On these was hung a paper of a bold green flock pattern, on brown and gold ground. The beams, which were much enriched, were painted brown oak colour, the enrichment being picked out the colour of light wood, and relieved with maroon red and gilding. The panels of the ceiling surrounding the large ovals were enriched in low relief. We hesitated at these panels: they were our difficulty. A strong colour was necessary, to prevent the ovals looking a spot, so we painted the panels blue, rather modulated in tone, picked out the ornaments a subdued vellum colour, parts being gilt, and painted an irregular margin that surrounds the ovals a maroon red. The effect is thought to be satisfactory, though an antiquarian critic has rather loudly exclaimed at my putting a blue ceiling to green walls; but I refer him to plate No. 70 in Mr. Grunner's beautiful work,—a ceiling in the Palazzo Vecchio, at Mantua,—where he will find a greater sinner than I, for that is painted in full shades of blue and green and gold.

You can lay down no precise laws as to what colours shall be brought together. Discords can always be made to modulate, if you but know how to do it. I once heard a most learned man observe that "science is a collection of laws, but knowledge is a collection of facts;" and there are facts which experience teaches us, but which it would be difficult to explain by a reformer to the laws of harmony, though these laws are just, sound, and indisputable.

Occasionally a wall is required to be ornamented, and yet the ceiling, on account of pictures or other circumstances, must be very low in tone: in this case the colours should be so contrasted as to give effect to each other without disturbing the quiet tone desired.

Hitherto we have been considering the principles of contrast and harmony in colouring, or its application in simple forms under ordinary circumstances. I propose now to allude to decorative works of various periods where these principles are illustrated.

The Egyptians had a full knowledge of the powers of colour, and employed it to increase the effect of their sculpture, which on the walls or columns was in low relief. Sir Gardiner Wilkinson says that the walls and ceilings of their houses were richly painted, but of the effect of their colouring we can only judge by the tombs.

The Greeks, no doubt, carried the science of harmonious colouring to a condition commensurate with their perfection in the other arts, but the specimens existing are too few to explain to us their system with any certainty: what we do know is, that they applied polychromy very extensively to their architecture, as well as to their statuary. According to an opinion quoted by Mons. Hittorf, the colouring in the Parthenon was as follows:—All the main architectural features, such as the columns and entablatures, were coloured yellow: all the surfaces of the walls of the portico, and the cella, and all the parts behind, were painted red: the tryglyphs and the mutules were painted blue, the guttæ of the latter with red spots: the grounds of the metopes, of the frieze, and of the tympanum of the front were painted red: the mouldings, fillets, and grand cyma were ornamented in different colours, the mouths of the lions' heads being red and the eyes blue. The ceilings were decorated by blue grounds with gilt stars.

All the sculpture belonging to this monument was painted in proper colours, such as the flesh, the vestments, the armour, &c.

It is also stated that the enrichments of the mouldings of some Greek buildings are only engraved, and would therefore be invisible without colour.

I can quite believe that in a glowing Eastern sunlight, and with no background but a clear sky, the application of colour to certain portions of the entablature and the frieze, and also the walls behind the columns, would assist the architectural effect of a building. But I cannot fancy that the columns and the whole of the entablature were covered with paint.

I will hazard the opinion that a partial use of polychromy may be employed with excellent effect in modern buildings, and that if executed in a way not to be affected by the trying climate of our country, it would add greatly to the effect of the architecture: for instance, if the back-ground of a sculptured tympanum were formed of vitrified tesseræ, we will suppose of a blue or a dull red colour, this substance would preserve its freshness for a considerable period; and I would add a margin of gold half-an-inch wide and about 2 inches from the edge, to preserve an appearance of surface, otherwise the colour might look a void.

The medallion heads at Hampton-court Palace on coloured ground give, by simple means, a very great relief.

In the string courses of buildings, terra-cotta or tiles, of appropriate ornament, in precise and distinct colouring, would, I think, have a good effect. I know this has been done, but I have not noticed any examples where the tiles appear to have been designed for the particular situation; and the colouring generally is confused. Certainly I should never recommend the following directions as to the colouring of his house given by a French *bourgeois gentilhomme* to his architect: "You shall paint my walls in red, yellow, blue, and orange

* By Mr. John G. Crace. See p. 123, *ante*.

blinds in green; my window-frames in red; my plinths in indigo; my cyma in violet; and now we must find some colour for the cornice."

We will next refer, though it must be briefly, to some of the glorious specimens of decoration which still exist; and first among them, in antiquity and interest, those of Pompeii. Perhaps in them we see handed down to us those principles of colour which prevailed in the Grecian era of high art, however they may be diminished by the comparative inferiority of the style of art which then prevailed; still, to us who know not the better thing, they carry with them a most valuable and beautiful lesson in the art of decoration and science of colour.

It should be remembered that these specimens are only fragments of decoration; that, owing to the manners of the time, the chambers were small; and from the climate a dull light was preferred; but yet, taking them with all their disadvantages, I look up to them with the utmost admiration for their wonderful varieties of combinations of colour and for the grace, elegance, and fancy in the design of the ornaments.

I regret that having them bound I cannot exhibit more specimens than what are now arranged here; but even these will show the excellencies to which I have alluded, and will enable you to appreciate the tastefulness of the ornaments and the skill with which various opposing colours are brought to harmonise together. There is one specimen I always particularly admire, and I have had it painted about the size of execution, in order the better to show how harmoniously the yellow and the black are brought together. Of what value is that grey on the lozenge to the yellow in the frieze? It has the effect of quieting and cooling the contrast. Recollect that black and yellow bird, where Nature has taken the same beautiful means of subduing the contrast by the delicate margin of grey round the eye and beak of the bird: who can call that a barbarous system of colouring?

Let us next examine the beautiful mosaic from the "casa de Goëthe," the infant Bacchus, seated on a panther. How well are these colours, pale gold, grey, green, and russet, all modulated to the black ground. But it is unnecessary to go through these illustrations, they each to an inquiring mind give a composition of harmony as complete to the eye as a melody of Beethoven or Mozart would to the ear.

The discovery of the decorations of the Roman baths about the time of Raffaelle caused the introduction of what is now called Arabesque ornament, though it was then named Grotesque, from the grotto-like look of the baths.

While admiring the fancy and elegance of the ornaments in the Loggia of the Vatican, judging simply from Volpato's coloured delineations, I should say that there is a deficiency in the contrasts of colour, and that the ornaments have a confused effect. There is one part, however, that always appears to me of peculiar beauty; and that is the groups of fruit and flowers suspended by red cords, on a rich blue ground, painted on the wall-surface, round each window, something like the illustrations.

It is unnecessary my attempting to describe the various decorations by Raffaelle, Giulio Romano, and others, at the Villa Madama, Mantua, &c. because the illustrations in Mr. Grunner's two excellent works give them so perfectly. But I cannot help alluding especially to the beautiful works at the "Certosa," near Pavia. There will be found assembled some of the finest specimens of decoration that Italy has produced, by a variety of artists, but principally by Luini, Fossano, Perugino, and Guercino. I was there myself for too short a time, and I warn any student who proposes to pay it a visit, to arrange for a long stay, for it is worth it. Remark particularly the decorations of the vestibules, the grouping of the charming children by Luini, and the beautiful harmony of the colouring. Look at the decoration of one of the arms of the transept, the graceful disposition of the main lines, and the elegance of the ornaments; the tertiary colours taking up the architectural lines, and throwing into such freshness and beauty the paintings and the smaller portions of primary colouring; the roof all glowing with rich ultramarine and gilded stars.

The library of the cathedral of Sienna, decorated by Pinturicchio, is a work to be noticed for the arrangement of colour in the decoration of the pilasters and the deep richness of the colouring of the ceiling. At Verona, the church of Santa Anastasia gives a specimen of decoration of the fourteenth century, of a peculiar character. The walls are a stone colour, and all the architectural lines, such as the arches and the frames of the windows, are given by blockings of red bricks. The vaultings of the arches are decorated in Arabesques, in the style of missals of this period, with centre figures in circles. The walls have also a series of horizontal friezes, painted in ornaments of the same style.

I must mention the Duomo of St. Mark, at Venice, though it is impossible for me this evening to describe its magnificence and its solemn grandeur, so impressive, so different from any other church I have seen. The walls are of various marbles up to a certain height: above that they are a mass of glowing gold mosaic, covered with figures and ornaments of various colourings, but all combining in one subdued harmony. The valuable work of Mr. Digby Wyatt faithfully gives some specimens of these mosaic ornaments; but, to the best of my belief, the church of St. Mark has never yet been fully illustrated.

Having thus briefly alluded to some of the decorations of Italy, I will now pass to Munich, where the taste and energy of one man, the late King Louis, has raised up a school of art of such high repute. It is now nine years since I was there, and perhaps other monuments have been completed since then; but at that time the principal works consisted of the two Royal Palaces, the All Saints' Chapel, the Glyptothec, the Pinacothec, the Church of St. Louis, the Royal Library, and the Basilica of St. Bonifacius. I speak more particularly of this school, because the decorations of the principal buildings depend especially upon colour. Of these, one of the earliest, and I think the best, is the All Saints' Chapel (Allerheiligen Kapelle), designed in some degree like St. Mark's, at Venice, though much smaller. The upper walls and ceilings are painted in a series of subjects, by Hess, on a gold ground. The church is divided into three great compartments by arches, and in the centre of each is a dome. The decoration of each of these arches is given in one of the illustrations, and I call your attention to it as a most successful and beautiful piece of decorative colouring. You will perceive that the ground is a warm maroon, ornamented with green scrolls enclosing a series of grey margins, interlaced with gold, and dotted at intervals with spots of red and blue, which sparkle like gems. This panel of maroon is bordered with margins of blue and gold, relieved with red lines; and this decoration forms the soffit of the main arches, and acts as a frame to all the painting around.

The church of St. Louis I thought far less successful in its decoration. The defect is, that the general tone of the walls is too grey: there is a want of freshness and of good contrasting leading lines. The colouring of the ceiling, however, tells with good effect; and there are a series of ceilings to the side chapels, which are beautiful studies for colour: each of them is a lesson for showing how contrasts of colour may be made to work with harmony.

The staircase of the Royal Library is to be noticed for its arrangement of colouring. It will be seen by the illustration that each compartment of the principal ceiling, which is semicircular, and each of the side ceilings, which are vaulted, have the primaries, blue and red, alternated in their leading features. The whole decoration of this staircase has an extremely good effect. The reading-room is to be remarked for its extreme simplicity, and for the good judgment with which the leading lines of colour are introduced. Perhaps there is not twenty shillings' worth of gold in the room, and yet the small gilt stars on a black ground give great life and finish.

The Basilica of St. Bonifacius is architecturally on the model of that of St. Paul, at Rome. The upper walls are covered with beautiful frescoes, by Hess and others, arranged in a series of subjects. The drawings give the principal decoration, which is on a gold ground and framed by ornaments in fawn colour, spaced with red and black: these latter colours predominate in the lower part of the church, and are modulated by the blue of the ceiling, which is studded with stars.

At the Pinacothec, I will allude to the decorations of the loggia, or side corridors, of which there are illustrations: they appear to have been inspired by a study of Pompeian decorations, but the artists have completely failed. There is a want of that melody and depth of contrast which gives such beauty to the ancient work. And the ornaments are deficient in graceful form and colouring.

There are two subjects I have not yet touched upon, and which time will not permit me to speak of now. They are, firstly, of the Alhambra, so full of grace and beauty, so rich in ornament and colour, which the devoted energy and talent of Mr. Owen Jones has made so familiar to us; and, secondly, as to the colouring of Mediæval work. I feel unable to concentrate in a few brief sentences what it would be necessary to say on such a subject, but I will express my opinion that colour adds greatly to the dignity and beauty of the interior of a Gothic church. Confined within proper limits, I cannot understand the objections that are made to it. I would at all times let the construction be evident; let the material of a column be its decoration; let the leading lines of the architecture be well defined; but in the wall spaces, why should we not have what is beautiful in harmony of colouring? I cannot sympathise with those who admire the beautiful stone of the inside wall of a church, or the purity of whitewash. For me, I admire rather a glorious monument like the Sainte Chapelle, which, with all its faults, I look upon as a most beautiful work.

I fear that I have intruded on your time too long, that I have said to many of you much that you already knew, perhaps better than I have told it you. I have endeavoured to lay before you briefly and clearly the simple elementary laws of colouring, and to give instances of their application.

Careful observation of the beauties that nature offers to our notice, and persevering study of the principles of colouring, and of good examples, may lead us to excellence: no precise rules can alone teach us. They are only the alphabet and the grammar of the language; the notes and the measure of the music. The stirring sword-song or the soothing melody come from the heart that feels and the mind that can compose them.

DESCENDING FLUES.

CONSUMPTION OF SMOKE.

YOU have occasionally found room in the *Builder* for remarks on smokeless fires, and other matters relating to the prevention of smoke. As all such notices induce thought, and suggest improvements, permit me to call attention to the following. It was found necessary, some time since, to fix a stove in the board-room of the Crystal Palace. There being no chimney or flue near, some consideration was necessary as to the disposal of the unconsumed products of combustion and burnt air. The clerk of works, Mr. William Earie (under whose able supervision the first and last column of the Crystal Palace was fixed), soon decided to take both to an existing flue in the tunnel under the Crystal Palace, distant 1,500 feet. As my drain-pipes offered facilities for the removal of the soot at stated intervals, they were selected and laid, and the result is all that could be desired.

This fact induces me to pursue the subject, and to ask why, in all large public or other buildings, the flues could not be made descending, and by means of underground flues, such as I have described, carry the "black products," that now disfigure and destroy, to the *underside of a clear coke fire*, formed in the bottom of an ornamental shaft, common to all the flues, and built in any convenient situation? The coke fire would effectually filter or consume the dark smoke from the different fires, and create a draft in the shaft at the same time, which might also be made available as a means of extracting vitiated or stagnant air from the buildings in connection with it.

GEORGE JENNINGS.

A HINT AS TO COVENT-GARDEN.

PASSING through Covent-garden market yesterday, with Mr. E. Barry's drawing of the proposed new flower-market, which I had just seen at the rooms in Suffolk-street, fresh in my mind, it occurred to me that a semicircular glazed covering over the central avenue, in lieu of the present heavy ordinary unmitigated timber roof, would be a most decided improvement. Indeed, when the new flower-market is erected in the immediate vicinity, the incongruity of the two will, I think, be so obvious, that I cannot but suppose that the duke's agents will see the propriety of introducing the alteration I have mentioned. We all know the excellent effect of the French *galeries vitrées*, and how superior they are in cheerfulness to our heavy-ceiled arcades, whether Burlington, Lowther, or the deserted Exeter.

While in the neighbourhood of the "Garden," let me ask you to think of giving us a plan of the new theatre now in carcass. You had its front engraved for us, but I should like to know, very particularly, what are the arrangements made for EXIT should the public at any time think fit or be compelled to endeavour to quit it *en masse*. I must hope there are *many more* vomitories provided

in the sides of the building than those in the entrance-front, where horses and carriages must inevitably block up the gangway to unfortunate foot passengers.

ARCHITECT.

BUILDERS' BENEVOLENT INSTITUTION.

A MEETING was held at the London Tavern, on Wednesday, the 24th instant, to reconsider Mr. Henry Dodd's offer of a plot of freehold land, near Slough, for the building of almshouses.

At a previous meeting it had been determined by 13 to 11, our readers will remember, to accept the offer, but the attendance having been small, the directors wisely determined to call another meeting on the subject.

After some discussion the following resolution, moved by Mr. R. Forest, and seconded by Mr. Thos. Piper, jun. was carried:—

"That inasmuch as there evidently exists considerable difference of opinion as to the eligibility of accepting the offer of Mr. Dodd, of land at Slough, this meeting desires to express its approbation of the course taken by the Directors in seeking a more decided expression of the opinion of their constituents on the question.

That the distance from London of the land offered would involve the removal of the almshouses too far from the metropolis, thus removing them out of the way of their best friends, and causing to the funds of their almoners heavy expenses on every visit. This meeting, therefore, is of opinion that the offer of Mr. Dodd should be respectfully declined.

That this meeting cannot but express its great admiration of the munificence which prompted the gift, and desires to record its thanks to Mr. Dodd, with a hope and in the belief that the same spirit of benevolent kindness which led to this expression of his goodwill will continue him as a friend to the charity, and ensure his aid when more favourable circumstances may enable them to carry out such purposes as these to which he has invited them."

The annual ball given on Thursday, the 18th, at Willis's-rooms, St. James's, in aid of the funds of the Institution, was well attended, and will, we hope, conduce as much to the advantage of the Institution as it did to the enjoyment of those who participated in it. May all find themselves,

"Happier, as kinder, in whate'er degree,
And height of bliss, but height of charity."

THE LATE MR. THOMAS HAMILTON, ARCHITECT.

ARCHITECTURE has lost one of its brightest ornaments by the death of Mr. Thomas Hamilton, of Edinburgh, architect of the High Schools and of the grand lines of approach and thoroughfares on the north side of the town. He was also architect of the College of Physicians, and of several churches and other buildings, which do equal honour to his reputation, as evincing great genius, originality of conception and treatment, and power of mind. He was, moreover, a man of the highest integrity and independence of character. He died at his house in Howe-street, Edinburgh, on the morning of Wednesday, the 24th inst.

TRINITY CHURCH, EDINBURGH, COMPETITION.

SOME of the competitors desire that we should suggest that it would be satisfactory if those competitors whose plans are mentioned by the committee with "special commendation" were to have their names published. One correspondent says,—"Such a course was adopted in both the Lille and Constantinople competitions, and as such public mention will be the only reward these persons are likely to receive for a good deal of thought and labour, I imagine such a suggestion on the part of the *Builder* would lead to the names being forwarded to that paper." We will willingly make them public, should that be the case.

INFLUENCE OF ONE BUILDING ON OTHER BUILDINGS.

IF it be worth while again to draw attention to the subject of the influence exerted by the architecture of a large building over that of other and smaller edifices—a subject which has not yet been treated in the manner which its utility deserves,—I would beg to point out one of the means by which that influence may sometimes be detected: it has occurred to me in the preparation of the work which you were so obliging as to mention, p. 728, last year. The arms of Cerne Abbey, in the nave of Sherborne Church; those of St. Benet Hulme Abbey, in Thurgarton Church, and on the porch of North Walsham Church, are notes of patronage exerted in the county of the superior structure; but the arms of St. Edmundsbury Abbey not only occur at Beccles Church, but at Great St. Mary's, in Cambridge, and at Wood Ditton, in Cambridgeshire. Perhaps some of your readers may have the opportunity of comparing buildings known to have had connection of this sort; and if would, probably, be more successful to prosecute the inquiry in this way, than on the ground usually suggested, that of absolute vicinage without connection of patronage. Indeed, no one, to my knowledge, has yet used that ground with advantage, and perhaps the failure might be reasonably expected in most cases; whereas, I have never seen notice of any attention to the similarity of details between the mother establishment, in England, and its distant dependencies. The subject has been properly studied in France, and to some slight extent in Germany.

JOHN W. PAPWORTH.

ARCHITECTS AND THEIR SUBSTITUTES.

KNOWING your readiness and kindness in setting right the building trade and profession, I have taken the liberty, as one of your readers, of asking your opinion in the following transaction that has just taken place in our town.

The congregation of a certain chapel advertised for plans and specifications for an alteration and addition to the same, the successful competitor to have a premium of 15*l.* for the plan and working drawings. The design of A. B. was selected, but one of the members of the congregation being a surveyor is appointed to overlook the works. Bills of quantities are prepared under his direction, for the copy of which each builder (five in number) has to pay 15*s.* (and sign an agreement that the surveyor shall not be held responsible for their accuracy); the surveyor's charge, 2½ per cent. on the amount of tender, 1,376*l.*; 10*l.* 10*s.* for attested copy of plans and specification, and 2½ per cent. additional for surveying the works.

Is this in accordance with the custom or practice of respectable surveyors? Ought 10*l.* 10*s.* to be charged for copy of plan and specification in addition to the above per centage? and are those charges for the amount of work to be done just and usual?

READING.

*** The whole transaction is irregular, and, it is to be hoped, unusual.

VENTILATION OF THE GENERAL LYING-IN HOSPITAL.

SIR,—As an old governor and member of the committee of the General Lying-in Hospital, and having some knowledge of building and the benefits of good ventilation, I have noticed your remarks regarding the ventilation of this hospital, which I regret did not come under my observation until Saturday, the 13th instant, or I should earlier have given you some information on the subject.

I am sorry you do not consider the Secretary's letter, published in the *Times*, as a complete and satisfactory answer to Dr. Rigby's statement. I can assure you that the ventilation of the hospital is a subject of much concern and interest to the managing committee, who have requested Mr. Jeakes, of Great Russell-street, to examine into and report to them his opinion on the subject.

It is true that Dr. Reid's system, which was introduced into the hospital some fifteen years ago, at an expense of 3,000*l.*, proved not only inefficient, but positively injurious to the health of the patients.

With respect to the sickness and mortality to which Dr. Rigby has referred, I do not believe that it originated from the want of ventilation, but to the stoppage of the drains, and latterly to the state of the atmosphere, and the prevalence of disease incident to women at various periods in the metropolis.

The matter is, however, occupying the serious attention of the committee, and will I trust result in the remedying of any defects which may be found to interfere with the proper working of the ventilation in the hospital.

Palace-gardens, 18th Feb. T. GRISSELL.

CHURCH-BUILDING NEWS.

Colchester.—Important alterations are contemplated at the chief ecclesiastical edifice in Colchester,—St. Peter's church. Lithographed plans have been prepared from designs by Mr. C. F. Hayward, architect, and the committee are to commence building the transept, repewing the church, and erecting the new chancel arch, as soon as they have sufficient funds in hand, reserving the tower, and some portions of the work in the interior, for a future time. To effect this, they estimate that about 1,800*l.* or 2,000*l.* will be required. The amount at present subscribed is rather over 1,000*l.*

Ipswich.—The new parish church of Braiesworth was consecrated on Wednesday in week before last. This church, which is dedicated to St. Mary, and is constructed with rough flint, and Caen stone quoins and dressings, is in the Norman style of architecture, the east end being a semicircle, and lighted by seven small windows, the west end having one large ornamented window, and two very small ones: over the centre window is the bell-turret. The interior is fitted up with plain open benches, mostly free. The edifice was erected by voluntary contributions. It is built on a new site, more central than the old one. The old chancel having been in much the best condition is left standing, and will be used as a cemetery chapel. The architect was Mr. Lamb, of London; and the builder, Mr. Robert Hawkins, of Monksleigh.

Maidstone.—The church of St. Philip, Maidstone, has been consecrated. The edifice, which occupies a site at the end of Waterloo-lane, is built of the Kentish rag-stone of the neighbourhood, with Caen stone dressings. The roof, which is lofty, is surmounted at the east end of the nave by an oaken bell turret. The principal entrance is from the north side, where the door is protected by an enclosed porch of oak. The whole of the building is exceedingly plain, the funds at command being limited, and is an imitation of the Early English churches, at the later period of the Pointed style. The windows consist of double lights, with trefoil heads along the north and south sides, a double-light window at the west end, and a three-light window at the east end of the chancel. The interior consists of a nave only, 82 feet long by 32 feet wide, with a chancel 14 feet long and 20 feet wide, separated from the church by a pointed arch. Minton's encaustic tiles, of an ornamental pattern, are used for the paving of the space within the altar-rail; the remainder of the church being paved with black and red tiles. The whole of the seats are open benches, and will accommodate about 500 persons. The church is lighted by eight brass five-light gasiliers, and warmed by one of Sylvester's patent cockles, fixed in a vault under the vestry-room. The cost of the site was 250*l.* the contractor's estimate for the erection a little above 1,800*l.* and the other expenses bring the outlay up to about 2,500*l.* Of this upwards of 2,400*l.* have been subscribed. The architect was Mr. J. Whichcord, jun. and the work has been carried out by Mr. Tompson, builder.

Sherborne.—A numerous meeting of the parishioners took place at the town-hall, on the 8th instant, to express their sense of the liberality of Mr. G. D. Wingfield Digby, in having undertaken to complete the restoration of the Abbey Church; and to adopt such measures for that object as might be deemed expedient. After some discussion, a committee was appointed to report on the subject. A subscription-list was opened for a fund for the addition of two new bells to the present peal.

Anglesea.—The new parish church of Llanrhyddlad, Anglesea, is now nearly completed, and will shortly be opened for divine service. The church was designed (in the First Pointed style) by Mr. H. Kennedy, of Bangor, architect. The old church was in a ruinous state. The new building is within the churchyard walls, but on a different site.

Chester.—During the last six months great alterations have been made in the Lady Chapel of Chester Cathedral, under the direction of Mr. William Haswell, stonemason. The ribs in the roof, which were decayed in many places, have been restored; the quaint bosses restored, and a new one discovered; two windows, of which the jambs existed, replaced by the insertion of mullions and arches, and a general renovation effected. The chapel is now under the care of Mr. Octavius Hudson, of London, to whom the artistic decorations have been entrusted.

Knutsford.—The new church of St. Cross, Knutsford, in Cheshire, erected at the sole expense of the late Mr. Peter Legh, of Norbury Boothshall, on land belonging to him, has been consecrated by the Bishop of Chester. A parsonage-house and garden were provided by Mr. Legh. Mr. John Pennington Legh, the nephew and heir-at-law, is about to further endow the church with 3,000*l.* The church contains sittings for 432 persons.

IS A PROPRIETOR LIABLE FOR A CONTRACTOR'S NEGLECT?

A CASE has been recently tried in the Court of Exchequer at Dublin, wherein the owner of a vessel wrecked against the piles used in the construction of the new pier at the port of Wicklow was the plaintiff, and the Harbour Commissioners, for whom the work was executed, the defendants. The Commissioners entered into an agreement with Mr. Rillen, a contractor, and he found it necessary to drive the piles in question, after which a storm arose, the vessel dashed against them, and her cargo was lost.

Baron Greene delivered his judgment, and said that, generally speaking, parties constituted such as the commissioners were, were not liable for the negligence of a contractor, and that it appeared to him, in this case also, the latter, not the former, was responsible for the damage done.

Baron Richards concurred. There was a marked distinction between master and servant, and contractor and employer, and therefore in the present case it was not the duty of the commissioners, but the contractor, who was on the spot from day to day, to put up lights, whereby the accident might have been avoided, and by his negligence in not doing so he incurred responsibility.

Baron Pennefather also concurred.

The Lord Chief Baron dissented, and stated that where a contractor exercised *independent* contro'

over a work, he was personally liable; but where employed to do a thing the consequence of which would be injurious, the employers were liable. If the contractor had the power to put up the lights, and had not done so, the commissioners would be protected; but here the contractor had *no* power to do so without the sanction of the commissioners, on whom the liability, for not *directing* that lights should be erected, should be cast. The position, the character, and the circumstances attendant upon the construction and erection of the light were all matters by direct provision of the statute for the consideration of the Ballast Board, and it would be most dangerous to give a contractor discretion in such an instance. It was gross neglect of the commissioners to permit the driving of the piles in a navigable river without enabling the contractor to prevent their becoming instruments of destruction. In his opinion no control was given to the contractor, and none could be exercised.

The majority of the Court ruled, and judgment was entered for the defendants.

ELECTION OF DISTRICT SURVEYOR FOR SOUTHERN DIVISION OF LAMBETH.

METROPOLITAN BOARD OF WORKS.

AT a meeting of the Board, held on the 19th instant, the Board proceeded to consider the applications of candidates for the office of district surveyor, under the Metropolitan Building Act, for the district of the southern division of Lambeth. A list of the candidates was then read as follows: –

M. D. Wyatt, R. Tress, G. Legg, W. R. Gritten, H. Laxton, Gore Ouseley Lane, J. W. Papworth, G. Aitchison, jun.; James Thomson, T. E. Benham, C. J. Badger, J. Johnson, J. B. Redman, J. Liddiard, H. Jarvis, W. Young, J. J. Cole, T. E. Knightley, J. G. Hilton, G. Morgan, J. Barnett, J. Tarring, J. F. Earle, H. Parsons, A. M. Hayes, and R. Syer Hoggar.

The names of the candidates were then severally put to the vote, for the purpose of reducing the number to six, who were found to be Messrs. H. Parsons, Barnett, Tress, Jarvis, Jas. Thomson, and J. Johnson.

Ultimately, Mr. H. Parsons was elected to fill the office.

THE ARCHITECTURAL MUSEUM PRIZES.

PRIZES are offered to art-workmen during the present year for the best specimens of metal-work, wood-carving, drawing from specimens in the Museum, and modelling from natural foliage, viz.:—The committee offer a prize of 10*l.* for the best specimen of hammered work in iron, secured by welding or riveting. Mr. Beresford Hope, M.P. offers through the committee, a prize of five guineas for the best specimen of wood-carving, forming the whole or a complete portion of any work, and consisting of groupings from natural or conventional foliage, with or without the introduction of animal life, and illustrative of some architectural composition of the thirteenth or fourteenth centuries. Mr. G. Godwin offers, through the committee, a prize of five guineas for the best series of not less than four full-sized studies, drawn and shaded either in pencil, chalk, or single colour, from specimens in the Architectural Museum. And a prize of two guineas is offered, through the committee, for the best specimen of modelling in plaster from natural foliage conventionally arranged as a boss, finial, or running ornament for hollow mouldings. The conditions may be obtained at the Museum, Brompton.

Miscellanea.

SUBSIDENCE OF SIX HOUSES AT LIVERPOOL.—Considerable alarm has been created by the ground rapidly subsiding under six houses in Mulberry-street. The railway tunnel from Edge-hill to the Lime-street station runs under the tenements, and a conclusion was at once come to that the roof of the tunnel had given way and was falling in. Mr. Rishton, the borough building surveyor, was sent for, and his knowledge of the locality convinced him that the fears as to the tunnel were groundless: he had a flagstone lifted, and it was discovered, according to the *Courier*, that a sunk cistern or tank had got so far off the level as to prevent the overflow from having access to the waste pipe. The waste water, it was also found, was running into the imperfectly consolidated mass with which the old quarry (upon which the houses were built) had been filled up, thus causing a rapid subsidence. The houses were considerably damaged, being twisted and cracked in an extraordinary manner.

CAST-STEEL SHIPS.—Messrs. Laird and Co. of Liverpool, says the *Mining Journal*, are now engaged in constructing a vessel of homogeneous metal, which is to be placed at the disposal of the great discoverer, Dr. Livingstone, for the purpose of exploring the vast rivers of the South African continent. By this means he will be enabled to traverse the streams and lakes of a tract hitherto unknown to civilized man. This homogeneous metal, it adds, contains all the properties of cast and wrought iron, without its defects: it is as free from oxidation as steel, at the same time not so brittle.

GAS.—The metropolitan vestry deputations and district boards have adopted a memorial to the Home Secretary (whoever that may be), setting forth the various causes which the gas consumers of the metropolis have for complaint against the gas companies, who had divided the capital into districts, with a view to monopolise the several portions, although they obtained their Acts on the express understanding that competition, and not monopoly, was their object. The memorial prays for a committee of the House of Commons to examine into the question.——The Doncaster Gas Company have agreed to reduce the rent of metres from 5*s.* to 4*s.* a year for three lights, and 2*s.* less for all large metres.——The Petworth Gas Company, who have been earning at times as much as nine per cent. dividend, are desirous, apparently, of diminishing their profits to a more moderate and average standard; for they have given notice of a rise in the price of their gas.——The Belfast Company have resolved to reduce the price of their gas from 4*s.* 7*d.* to 4*s.* 2*d.* and will doubtless thereby raise *their* dividends.——At Montrose, the consumers are grumbling at the inferior quality of their gas, and the virtual rise of price exacted in increased bills of charge for lighting. ——Gas-burners are now being manufactured from steatite or soapstone. Years since, burners made of lava were introduced into London by Mr. Trimbey, of Queen-street, Cheapside. It was said of the lava burners that, instead of becoming choked up with rust, &c. they seemed rather to improve with the heat, and always remained clear and clean. We doubt the durability of the steatite.

ARCHITECTURAL INSTITUTE OF SCOTLAND.—On Monday evening, the 15th, a meeting of the members of this Institute was held in George-street Hall, Mr. Murray, of Murray's Hall, in the chair. Mr. Alexander Thomson, of Banchory, read a paper on "The Water-works of the Romans—aqueducts, reservoirs, baths, and drains." He explained the system upon which the Romans constructed their works of this description, and their enormous extent, the nine aqueducts of Rome at one period being computed to extend 278 miles in length, of which 213 miles were under-ground work, culverts, and small tunnels, seven miles supported by plain walls and embankments, and twenty-eight miles supported by arches. The masonry of these was of great strength and solidity, although no cement was employed, and the accuracy of the stone-work was remarkable. One excellent feature in the Roman system of supplying the city with water was the principle of keeping the water in enclosed reservoirs, and conveying it under-ground into the city, so that the light was excluded from it.

THE METROPOLITAN OMNIBUS TRAMWAY BILL. —From a published document it appears that the Omnibus Company contemplate the appropriation to themselves alone of that portion of the public thoroughfare on which their proposed tramways are to be laid, or at least the acquisition of power to levy tolls from any carriages that may run upon it,—certainly a preposterous expectation, which the Legislature will take care is not realized. The idea of an omnibus tramway, as we have before said, is an excellent one which ought to be encouraged, special care being taken, in laying it down and keeping it in repair, that no harm to the general traffic should accrue; but to ask the Legislature for a right of private property in miles of the public thoroughfare, is rather cool. The late Chief Commissioner of Works naturally determined to oppose such a demand, *mordicus*, as the Scottish lawyers say. We hope the company will reconsider their Bill.

THE BEDFORDSHIRE ARCHÆOLOGICAL SOCIETY. —The monthly meeting of this society was held on February 16th, at the Society's-rooms, in Bedford. Some plans for excursions to be taken in the ensuing spring and summer were discussed; and various subjects connected with local antiquities came under the consideration of the meeting.

LECTURE ON ARCHITECTURE AT BIRMINGHAM.— Mr. E. M. Barry delivered a lecture on "Architecture," on the 15th inst. to a numerous audience, in the theatre of the Midland Institute, Paradise-street, Birmingham. Having premised that it was his intention only to refer to those styles of architecture which were best known and most practised in this country, the lecturer traced the rise and progress of these different styles, indicating their distinctive features, and showing how architecture had been modified by the influence of our national character, and by political events. After discussing various other points in the history of architecture, the lecturer in conclusion advocated the extension of a knowledge of art as conducive to men's happiness, and rendering them wiser and better.

THE MANCHESTER SCHOOL OF ART.—The annual meeting of this school was held at the Royal Manchester Institution on Thursday in last week, Mr. Edmund Potter, F.R.S. president, in the chair. The president expressed his regret at the small attendance. The school had been going on well, and doing good in a quiet and useful way. He wished that so useful an institution was founded upon larger support from his fellow-townsmen. The Art Treasures Exhibition, as expected, damaged their receipts materially, as it did every other institution for the time being. He was quite satisfied, however, that the injury done to that and similar institutions was only for a time. He regretted that the public did not adequately support such institutions by voluntary contributions, and in the absence of this means of support he was more willing than he was at one time to receive Government aid, rather than that they should languish. The report of the council recorded the fact of the satisfactory working of the school and its great utility. Though the subscriptions had somewhat decreased, the financial condition of the institution had improved from strict attention to economy, and it was hoped that the school would soon be placed out of debt. Mr. Hammersley reported that the school had been attended by 272 pupils in the first quarter, 107 in the second, 234 in the third, and 200 in the last. It would be impossible (he said) to go into any decorative works in Manchester without finding at the head of the department some of the pupils of this school, and there were always applications on their books for youths who showed taste for drawing, from calico printers, artists, silk manufacturers, decorators, and wood and stone carvers. The demand for art industry suggested an opening for worthy occupation for the females of this district. One per cent. of our population was now under the influence of art education. The receipts towards the support of the school from Government were stated to be 425*l.*; annual subscription, 273*l.*; students' fees to public classes, 206*l.*; Owen's College, 30*l.*; total 236*l.*: private classes, 104*l.*; public classes, 58*l.*; total received for fees, 348*l.*; balance 120*l.*; total 1,167*l.* The debt owing at the beginning of the year was 204*l.*; masters' salaries, 472*l.*; debt remaining, 120*l.* The report and accounts were adopted.

"CAVALRY BARRACKS."—On the 15th February, in the House of Commons, Viscount Ingestre asked the Under Secretary for War when it was the intention of Government to proceed with the designs for infantry and cavalry barracks selected by the official committee on barrack accommodation for the army in the years 1855 and 1856, according to the pledge given to the successful candidates. Sir J. Ramsden said that since the committee had sat on this question no new barracks had been commenced. When the army estimates came before the House he would have to ask for a sum of money for the erection of small cavalry barracks at Nottingham. If the House should grant that vote, it was the intention of the noble lord at the head of the War Department to offer the erection to the gentleman who had obtained the first prize for the design for cavalry barracks.—It is to be hoped, that the change of Government will not prevent this, which would be but an act of justice. We shall recur to the barracks question before long.

USEFUL EMPLOYMENT IN THE FRENCH AND AUSTRIAN ARMIES.—The French army in Algeria, as the country is now quiet, is not to be permitted to waste its time in ruinous idleness, but it will be employed in constructing railways. Orders have been given to send from France the necessary tools for the use of these military pioneers of civilization.——We learn from Vienna that 6,000 men, belonging to the Austrian army, are to be employed in taking down the ramparts of that city, as lately decided on. The work will be commenced in the spring.

PREVENTION OF DEATHS FROM AFTER-DAMP.— Mr. W. Howard, of Great Queen-street, Lincoln's-inn-fields, has just patented an invention for use in mines where explosions from fire-damp are probable. He proposes carrying a series of air-pipes from the surface through the various levels. To these pipes, at convenient distances, he attaches a short length of vulcanised india-rubber tubing, at the end of which is a small chamber, which fits over the mouth and nostrils of the person using it. By an arrangement of simple valves, the pure air can be inhaled from the fresh-air pipes, but is prevented from returning, whilst the vitiated air is exhaled through an orifice near the mouth-piece, protected by a valve, so that the air in the level cannot reach the lungs of the miner. The invention is applicable to every situation where foul air exists. It resembles a recent one for entering gasometers, &c.

THE PLAY-GROUND SOCIETY.—Although we have already made incidental allusion to this new society, while speaking of their efforts in behalf of the preservation of the open space at Smithfield, we think it due to such a society to aid in bringing their formation and intentions prominently before the metropolitan public. Among the patrons of the society are the Earl of Shaftesbury, the Bishop of London, Lady Byron, the Marquis of Westminster, and other influential names; and on the committee are Lords Ebrington, Stanhope, and Durham, Mr. W. F. Cooper, M.P. and various other members of Parliament, Mrs. Howitt, Mrs De Morgan, and others equally well-known. Mr. Edward West, 17, Bull and Mouth-street, St. Martin's-le-Grand, is the secretary. We do not yet know much, personally, of the way in which the society is carrying out its objects, but these are decidedly good in themselves, comprising as they do the opening of play-grounds, however humble or restricted where more expansive or better ones cannot be had, and especially in the more crowded parts of the metropolis. The physical improvement of the children born in London is an object in view, and also the prevention to a certain extent of those habits which lead to a necessity for refuges and reformatories. Subscriptions and grants of ground are invited, and contributions can be restricted as to special objects in view.

THE MOTTO SYSTEM IN COMPETITIONS.—The recent observations in our pages, on the inutility and oftentimes injuriousness of the motto system, have been largely quoted and commented on. The *Gateshead Observer*, after reprinting some of them, adds,—"It once happened to us to be on the show-ground of an agricultural society on the Borders, where a list of the entries was placed in our hands. 'How is this?' said we, 'you give, here, the names of all the competitors, and the judges have not made their awards!'—'We always do,' was the answer of the secretary; 'and so ought every society. The judges cannot avoid knowing the owners of many of the animals, and the better way is to let them know the whole, and throw them entirely on their honour." The *Sheffield Independent* somewhat inclines to the system, saying,—"When, however, professional men and an extensively circulated publication like the *Builder*, advocate its abandonment, we cannot but think that in its present mode of working, the motto system must frequently be a failure. Whether that failure arise from an inability to keep silence on the part of the judges, or from any intrinsic defect of the system itself, we leave to others to decide. Capability of abuse is no insuperable argument against anything, unless it can be shown that the abuse as a matter of fact preponderates so as to form the rule. The motto system has been adopted with reference to the new wing to our Dispensary; we hope the competitors will have no reason to adduce their own cases in confirmation of the *Builder's* objections."

ARCHITECTURE AT SHERBORNE.—On the 16th, a lecture on architecture, the last of the series in connection with the church schools, was delivered by Mr. Slater, architect, at Sherborne. Starting with the early type of the Christian church, the Basilica, and minutely pointing out its features, the lecturer noticed the round towers of Ireland—which were always built in churchyards, and probably answered the twofold purposes of belfries and keeps for the sacred utensils in time of danger—the Roman and Saxon ecclesiastical remains—and, arriving at the Norman period, referred to the works in this town, foremost amongst which stands the venerable abbey, which was originally built in 1080, and the chief Norman features of which are the arches of the tower, the internal masonry of the nave piers, and the south porch. He afterwards described the other styles.

DISCOVERIES AT JERUSALEM.—A letter from Jerusalem of the 4th ult. says:—M. Ratisbonne, a convert to Roman Catholicism from the Jewish religion, has just succeeded in obtaining, by purchase, a portion of the palace of Pontius Pilate, with the intention of building on it a house for the order of the Daughter of Sion, of which he is one of the founders. The site purchased is covered with ruins of Arab buildings, but beneath them are others of constructions that existed in the time of Herod, and, what is most remarkable of all, part of what is known as "Pilate's Arch." The large blocks of stone of which it is formed, and the style of the architecture, permit no doubt of the fact to be entertained. The blocks are similar to those which are to be found in the buildings of the time of Herod now existing in Jerusalem; and the ornamentation, which is simple, is in the same style also. Several vaults and cisterns cut in the rock have also been discovered.

THE GLASS TRADE AT STOURBRIDGE.—The glass trade in this neighbourhood has been rapidly getting worse during the last three or four weeks. At some of the principal manufactories as many as twelve or fourteen men have been discharged every week, and the work of those remaining reduced considerably.

BREAKING UP OF "BIG BEN."—The condemned bell at Westminster has been broken up by means of block and tackle suspending a piece of iron nearly two tons in weight. The bell was laid on its side, and the iron weight suddenly dropped upon it, after the manner of pile-driving in the river.

THE LEEDS WORKHOUSE COMPETITION.—The exhibition of the plans is already closed, having only been open till Friday in last week. The guardians also resolved to forward, on that evening, the first-premium plans to the Poor-law Board for their approval. Separate petitions are being prepared by the minority of the Board, and by the ratepayers of Leeds, for transmission to the Poor-law Board, when it is probable the guardians will be compelled to reconsider their award.

MEMORIAL WINDOW FOR RETFORD PARISH CHURCH.—It has been resolved, as a testimonial to the Rev. W. A. Plumptre, to fill the two-light window in the north side of the chancel of the parish church of Retford with stained glass. The subject selected is "The Manifestation of Christ to the Gentiles." The estimated cost is about 30*l*.

LECTURE ON THE BRICK MANUFACTURE.—A lecture on this subject was delivered at the Bristol Mining School, last week, by Mr. G. C. Greenwell. Common bricks (he said) had been made in the earliest ages, and, geologically, it might be inferred that alluvial countries deficient in stone ordinarily adapted for building would be the first scenes of brick-making. They were not acquainted with the site of the Tower of Babel, but as bricks were used in its construction, they might with confidence conclude that it was a country where there was an alluvial soil; a conclusion they were justified in by the further record that in the building "slime" was used for mortar. The date of this, the first record of brick-making, was about 2247 B.C.; and the record, moreover, informed them that the bricks were burned "thoroughly." The next record of brick-making was contained in the early chapters of Exodus, or about 750 years later, when, notwithstanding the time which had elapsed, and during which they might have naturally supposed that improvements should have been made, he assumed that the art had retrograded, and that bricks were no longer burned, but simply baked in the sun, and their conscience aided by a mixture of straw with the clay of which they were composed. This was expressly affirmed by Philo (life of Moses), who was himself a native of Alexandria, in Egypt, and who says, in describing the oppression of the Israelites, that some were obliged to work in clay, and others to gather straw for the formation of bricks, "because straw is the binding of the brick." The lecturer afterwards described the art of brick-making, and recited the articles or conditions into which a contractor was generally expected to enter before receiving an order to any great extent. The quantity of bricks made in this kingdom, he stated, was about 1,800,000,000, Manchester alone making 130,000,000 per annum.

TENDERS.

For new schools, Huntley-street, Tottenham-court-road; Mr. Ragget, architect. Quantities supplied:—

Wood and Son	£2,433	0	0
Brass and Son	2,184	0	0
Dove, Brothers	2,025	0	0
Lucas, Brothers	1,995	0	0
Littie and Son	1,933	0	0
Turner	1,874	0	0
Coleman	1,850	0	0
Laurence	1,850	0	0
Mansfield	1,830	0	0
Trollop and Son	1,795	0	0

For finishing ten houses, Elgin-crescent, Notting-hill; Mr. W. Sim, architect. Quantities not supplied:—

Dove, Brothers	£2,735	0	0
Cowland	2,443	0	0
Fish	2,422	0	0

For paving Gray's-inn-lane with new Aberdeen granite cubes, from Holborn to Verulam-street; Mr. Lewis H. Isaacs, Surveyor to the Board:—

Stiles	1,190	0	0
Beevers	1,188	0	0
Mowlem and Co.	1,180	0	0
Pratt and Sewell (accepted)	£1,168	0	0

For a pair of houses at Putney; Mr. S. Wood, architect. Quantities supplied:—

Avies	£315	19	0
Harrison	456	12	9
Aviss and Sons	448	17	3
Adamson and Sons	435	5	3

To the Vestry of Camberwell, for the inclosing of Camberwell-green with an iron fence and ornamental gates; Mr. Berriman, architect:—

Marriot	£2,312	0	0
Cannon Company	1,683	0	0
Grissell and Co.	1,642	0	0
Jukes, Coulston, and Co.	1,581	0	0
W. Partridge	1,535	0	0
Cottam and Hallen	1,520	0	0
F. Ford and Son	1,484	0	0
Thompson	1,444	0	0
Keast and Moon	1,389	0	0
Hill and Smith	1,375	0	0
J. A. Thornhill	1,336	0	0
W. J. Jarvis	1,300	0	0
J. Walker	1,217	0	0
G. W. Geerish	1,195	0	0
Wm. Smith	1,190	0	0
Eli Richards	1,184	5	4

To the Council of Weymouth for constructing the pier:—

Tredwell and Co. Gloucester.	£13,838	0	0
Moxon, Dover	11,700	0	0
Pritchard and Roberts, Bristol	12,500	0	0
Gibbons and Gardener, Chippingham	6,100	0	0

[Our informant suggests that Messrs. Gibbons and Co. may have omitted to include both sides of pier. The estimated cost was 12,000*l*.]

For the Trustees of Lady Holle's School, for alterations, &c. Spital-square and Hart-street; Mr. E. Woodthorpe, architect:—

Turner and Sons	£1,559	0	0
Gammon	1,491	0	0
Brown and Robison	1,475	0	0
Pritchard	1,398	0	0
Brass and Sons	1,382	0	0
Larke and Son	1,296	0	0

For alterations, and rebuilding No. 2, Mason's-alley, Basinghall-street; Mr. Woodthorpe, architect:—

Larke and Son	£1,353	0	0
Axford and Hall	1,172	0	0
Brass and Son	1,148	0	0
Pritchard and Sons	1,082	0	0
Brown and Robison	1,055	0	0
Turner and Sons	1,022	0	0

For new schools at Walsall-wood, near Walsall; Mr. Cranston, architect, Birmingham:—

Hardwick and Son, Birmingham	£1,184	0	0
Joherus and Arrowsmith, Walsall	1,084	0	0
Highway, Walsall	1,065	0	0

For Mutual Life Assurance Offices, King-street, Cheapside:—

	Portland Stone.	Bath Stone.
G. C. Grissell	£8,787	£8,009
Cubitt	6,935	6,435
Bird	6,770	6,270
Jay	6,722	6,449
Holland	6,468	6,106
Mansfield	6,350	5,850
Lucas	6,277	5,910
Piper and Son	6,091	5,600
Brown and Robison	6,090	5,640
Myers	5,979	5,562

For building five almshouses in London-fields, Hackney, and fence, walling, and iron railing; Mr. Geo. Low, architect. Quantities not supplied:—

	Almshouses.	Fence, Walls, and Railing.	Total.
Axford and Co.	£2,015	£273	£2,288
Elston	1,932	275	2,207
King	1,877	326	2,203
Sadler	1,900	294	2,194
Dove, Brothers	1,820	245	2,065
Butters	1,647	225	1,872

For a new church at Putney; Mr. Lee, Architect. Quantities supplied:—

	Carcase.	Finishing.	Tower.	Organ-room.	Total.
	£.	£.	£.	£.	£.
Higgs	2,966	910	1,020	120	5,019
Nicholson and Son	2,860	910	1,030	130	4,970
Evans, Brothers	2,902	1,067	800	130	4,904
Patrick and Son	2,814	918	973	164	4,869
J. and C. Bird	2,725	968	936	120	4,749
Myers	2,866	828	912	108	4,724
McLennan and Bird	2,667	887	999	130	4,674
Colls and Co.	2,677	786	1,019	116	4,598
Adamson and Son	2,664	808	1,013	84	4,569
Dove, Brothers	2,545	970	940	100	4,555
Aviss and Son	2,606	840	945	142	4,529
Trollope and Son	2,575	880	830	110	4,395

"Extension of Sewers at Cheltenham."—We are asked to say that Mr. Riggott's tender should not have been 26,500*l*. but 15,500*l*. Why the former amount was returned we are not informed.

Middle Level Drainage."—Mr. Sissons states that his tender was not 14,500*l* but 15,975*l*. The statement came to us with authority we have no right to doubt.

St. Matthew's, Bayswater.—The accepted tender was from Messrs Keyes and Head.

TO CORRESPONDENTS.

The Letters of a Weathercock.—A question has arisen with me as to whether the index-letters of a weathercock should be fixed pointing to the four quarters shown by the compass, or whether allowance should be made in fixing for the known variation of the compass, and the letters placed always true to their several bearings? Can any of your readers inform me of the customary arrangement? In parts of the world where the variation of the compass is as much as six points, the method of fixing the indices of a vane becomes of consequence. When we hear of a north wind, do we understand the wind to be compass-north, or absolutely north?—A LEARNER.

*** The letters should be placed true to their several bearings.

A Joiner (we cannot sympathise with any endeavour to interfere with a man's right to work "overtime" if he please, even though the prevention of it might give work to some now out of employ. We might as reasonably make it illegal for a physician to be occupied more than a certain number of hours in his profession, in order that some less occupied practitioners might have a share; or prevent a barrister from working after dinner in term time).—R. B. B. (shall appear).—E.P. (ditto).—W. D.—P. A.—W. P.—Col. N. (next week).—D. J. H (shall have attention).—Old Subscriber.—T. L. D.—J. W. (the Dictionary of the Architectural Publication Society will be much more complete, it may be hoped, than the work mentioned, and should have the aid of all in the profession).—C. L.—S. S.—W. E.—W. A.—J. T.—D—H. C.—C. J. F (same suggestion has been made several times).—F. C. (ditto).—Metropolitan Pedestrian (ditto).—Messrs. T.—H. and J.—J. W. B.—G. M.—J. R.—G. E. S.—Mr. H.—Mr. C.—M. E. H.—W. B. G.—H. B.—K. and H.—A. D.—A Carpenter (if a fine copy and in good preservation, it may be worth 8*l.* to 10*l.*).—E. M. (will inquire).—A London Citizen.—G. T.—Founding Hospital.

Completion of account of Westminster Palace is unavoidably postponed

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

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JOHNS & CO.'s PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT, CLARK and BENGOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

MESSRS. JOHN and WM. EASTWOOD are SOLELY engaged in the SALE of
WHITE and RED FACING BRICKS, and SHAPED GOODS, from their Rallingdon and Californian Works, near Sudbury, Suffolk;
The EWELL deep BLACK RUBBING and BUILDING BRICKS.
And the EWELL and CHALFONT dark and bright RED RUBBERS.
And also SOLELY engaged in the SALE of
Messrs CALEB HITCH and CO.'s
YELLOW and PALE MALM CUTTERS and FACING BRICKS, and KILN GOODS,
From their fields at Ware, Hertfordshire.
COWLEY and KENT BRICKS,
in any quantities, by barge alongside
The usual commission allowed to merchants of the trade from the monthly price lists
WELLINGTON WHARF, Belvidere road, Lambeth; and KENT ROAD BRIDGE

BLUE LIAS, GREY STONE, and CHALK LIME.
PORTLAND, ROMAN, AND OTHER CEMENTS,
PLASTER, HAIR, LATHS, &c.
STAFFORDSHIRE PAVEMENTS & RIDGING.
Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs
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Plain, Rolled, Capped, and Pinnacled Ridge Tiles in different patterns
Hollow well Bricks, with Cast Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Paving Bricks, &c
FIRE BRICKS, LUMPS, AND TILES of all kinds. Pattern sent on to order
RED GOODS of every description. Importers of DUTCH CLINKERS.
J. and W. EASTWOOD, Belvedere road, Lambeth; and Kent road bridge.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast screened or unscreened, by the yard or per barge. Stocks, lime, and old bricks. Dry rubbish delivered, per barge, in any quantity, alongside the Thames.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no colouring. Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster; and Seel-street, Liverpool.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE, and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

PORTLAND and ROMAN CEMENT,
PLASTER OF PARIS,
Manufactured by J. M. BLASHFIELD, at Millwall, Isle of Dogs.
Warehouse, No 1, Wharf, Paddington-basin

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MANUFACTURED BY C. HILTON,
Can be had in any quantity, wholesale and retail, at his Wharf, 6, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.
N.B. These Cements supplied for shipment, on advantageous terms.

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NORTHFLEET, KENT,
KNIGHT, BEVAN, and STURGE.
Manufacturers only of first-class quality, for the home and foreign trade.
Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise
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THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT.—Messrs. ROBINS and CO. to WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all the purposes to which Cement is applicable. Orders received at Great Scotland-yard, and at the Works.

GEO. and THOS. EARLE, CEMENT MANUFACTURERS, HULL.—Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates and Slate Slabs, Fire bricks, Grindstones, Cement Chimney-tops, ditto Vases, Edging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Pozzolano

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For Damp Walls and Lining Iron Houses.
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These pencils are prepared in various degrees of hardness and shades

H H H H for drawing in wood	F F Light and shading.
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SUPERIOR BRITISH PLATE-GLASS, at VERY LOW RATES. The Union Plate-glass Company, having recently completed considerable improvements and additions to their works, respectfully inform their friends that they are now able to supply orders without delay, and invite the attention of the trade to the low rates at which their new and much esteemed manufacture is sold. Lists of prices may be obtained on application at the Works, Pocket Nook, St. Helen's, Lancashire; the Warehouse, 29, Hatton-garden, London, and 45, Piccadilly, Manchester; Messrs. C. and J. MALLOCH, 30, Turner's-court, Glasgow; Messrs. JOHN DIX and CO. Bath-street, Bristol; Messrs. H. SIBTHORPE and SON, Cork-hill, Dublin; Messrs. FORREST and BROMLEY, 23 and 25, Lime-street, Liverpool; Mr. WILLIAM HENRY HOLMES, Westgate-street, Newcastle-on-Tyne. Rough Plate glass from ¼ in. to ¾ in. thick for windows, roofs, mechanics' shops, market-halls, railway stations, &c. Beautiful and highly-finished polished plate-glass for shop-fronts, and all other glazing purposes, and for silvering. Superior silvered plate-glass mirrors of all sizes.

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SHEET GLASS, fourths, very superior, in 100, 200, or 300 feet cases, at 12s. per 100 feet, or about 1¼d. per foot.
Ditto, thirds ditto, at 18s. 6d. ditto, or 2d. ditto.
Ditto, seconds, ditto, at 31s. ditto, or 3d. ditto.
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Boxes of 100 feet each, at 10s. 12s. 14s. or 16s. according to size.
21oz. 26oz. 32oz. and 42oz. in various quantities.
Also, CRYSTAL SHEET GLASS.
16oz. and 21oz. Ground, Matted Glass of various patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

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Genuine White Lead, 33s.; seconds ditto, 31s. per cwt. Linseed Oil, 2s. 8d.; Boiled ditto, 2s. 10d.; Turpentine, 3s. 2d. per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c.

The above prices subject to the fluctuation of the markets.

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E. and W. H. JACKSON supply PATENT PLATE, BRITISH PLATE, ROLLED PLATE, CROWN, SHEET, COLOURED and ORNAMENTAL GLASS, in every variety, of the best manufacture, at the lowest terms. WHITE SHEET and WHITE PATENT PLATE, English manufactured, the best articles ever produced for drawings, prints, and all purposes where perfect absence of colour is a requisite. All applications for estimates and lists of prices to be made at their Warehouse, 215, Oxford-street, W.

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N.B. 36, GREAT QUEEN-STREET, LINCOLN'S INN.

CRYSTAL WHITE SHEET GLASS, First, Second, and Third Quality, in Cases of 100, 200, and 300 feet, suitable for Pictures and superior Glazing, from 3d. to 6d. per foot; also in Cases of 100 and 200 feet, assorted sizes. Belgium Sheet Glass, in Cases 200 feet each; 3rds, 36s. and 39s.; 4ths, 37s. 6d. Squares, in Boxes of 100 feet each, 6 by 4, to 10 by 8, 1½d. per foot. Larger sizes up to 24 by 14, 2d. per foot. Ground Glass, in Cases, 3rd per foot. Crown and Sheet, British and Patent Plate, HARTLEY'S Patent Rolled Rough Plate, English and Foreign Fluted, Stained Glass, Glass Slates, &c. &c. Price-lists and estimates forwarded on application to ROBERT METTAM, 30, Princes-street, Leicester square.

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PLATE GLASS,

Of a Superior Quality and Colour,

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Malm Place, half-washed Stocks, and Place Bricks, also on sale. These bricks are small, well burnt, and unusually free from dirt; a very large proportion of the stock being suitable for external facing.

Apply to HENRY DODD and CO. at the Counting-house, Hoxton Brick-fields, Grange-walk, near the Rosemary Branch, Hoxton.

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BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	23s. per Thousand.
Rich Stocks and Grizzles	19s. "
Place from	13s. to 15s. "
Bright Stocks	22s. "
Shippers	30s. "

A Sample, GEORGE SMEED, Sittingbourne, Kent. Post Tyranny of the Clerk on payment of Bank extra.

BRICKS. Bricks direct from the Works. MALMS, STOCKS, GRIZZELLS, and PLACE BRICKS, of large size and superior quality, for SALE (at reduced rates), at J. JOHNSON'S BRICK-FIELDS, WALHAM-GREEN, Fulham.—Gentlemen are respectfully invited to inspect the quality of these bricks, which can be delivered to any part of London.

JOHN NEWTON and CO. HONDURAS WHARF, 71, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description, seventeen years with James Newton, of Falcon Dock, Bankside, beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depot for Ramsay's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Chimney-tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

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IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for the ordinary floors of their invariable covering. MAW and CO.'S pattern-book, designed by M. Digby Wyatt, esq., together with a special design and estimate of cost, adapted to any given dimensions of hall, passage, conservatory, vestibule, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

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Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices

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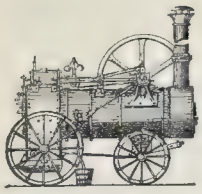

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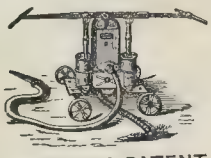

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PUMPS FOR MANUFACTURERS,

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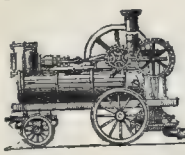

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PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.

BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works

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DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.

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GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

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Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his

GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

EDWARD SIMMS begs to inform Builders and the trade that he has now on hand at his manufactory (the first of its kind ever established), a large assortment of PREPARED FLOORS and MATCH BOARDING, seasoned and ready for use, from ½-inch to 1½ inch thick, in White or Yellow Deal, Oak, or Pitch Pine. Also Dry Deals, in all thicknesses, slating Battens, Pantile Laths, Oak Sills, Plank, and Scantlings. Mouldings in clean Pine, to any design. A pattern list forwarded on application. Address, E. SIMMS, Flooring Manufactory, and Sawing, Planing, and Moulding Mills, King's road, Chelsea.

PREPARED FLOORING! PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	½	⅝	¾	1¼	
Spruce	12s.	13s.	15s.		per square
White	12s. 6d.	13s. 6d.	15s 6d.	19s.	"
Yellow	13s 6d.	14s 6d.	16s 6d.	19s 6d	"

Delivered within three miles free of cartage

STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list-prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.E.

NOTICE of REMOVAL.—EDWARD SIMMS begs to inform his customers and friends that he has REMOVED his business from Wilton-road, Pimlico, to the KING'S ROAD, CHELSEA, where their orders will be promptly executed as heretofore.—Please address, E. SIMMS, King's-road Saw-mills, Chelsea, opposite Manor street

MOULDINGS by MACHINERY.—Capping, Sash bars, Beads, &c to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to

E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices:—

¾-inch, prepared Flooring.....	£0 11 6 per square.
Inch ditto.....	0 13 0 per square
Yellow Battens	11 10 0 per 120.
Spruce Deals, from	0 2 9 each.
Pine ditto from.....	0 3 0 each.
Yellow ditto, from.....	0 3 3 each.

Mahogany, in logs and planks, from 6d. per foot.

All Sawn Goods delivered three miles free of cartage.

Borough-road, Southwark, and Elm-street, Gray's-inn-Lane.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0 11 6 per square.
¾-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals.....	0 3 3 each.
Spruce Deals	0 3 0 each.
Pine Deals	0 3 6 each.
Yellow Battens	11 10 0 per 120

Mahogany, in logs and planks, from 5½d. per foot

All sawn goods delivered within three miles free of cartage

ALFRED CARTER Old Bethnal-green road, N.E.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 3s. 7d. per gallon; Boiled Oil, 2s. 10d. per gallon; Turpentine, 3s. 9d. per gallon;

Pine Pale Oak Varnish, 7s 6d. per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Colshill street, Pimlico.

Every article for the Trade at the lowest price.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F Walnut, 8sd.; 2½-inch White Battens, 9f. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ do. 11s. 6d.; Inch Yellow, 10s 6d; ¾ do. 13s. Bird's eye Maple Veneer, 2d. Cartage free to any part of town.—T FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth, S

ACORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

AT WM. APEDAILE'S TIMBER-YARD, bottom of DRUMMOND-STREET, near Euston Station.

12 feet 3 by 11 Pine Planks, from 3s.	each.
12 feet 3 by 9 Spruce Deals,	2s. 6d. "
12 feet 3 by 9 Fine Deals,	2s. 9d. "
Inch by 7 Prepared White, 14s.	per square.
¾ by 7 Do. Do.	11s. 9d. "

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from ½ inch to 1½ inches thick, seasoned, and ready for use; also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes.—Address, R. SLADE (late R. Simms), Flooring Manufactory, Wilton-road, Pimlico.

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge-street, Old St. Pancras-road.—GEORGE NOKES and CO invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash:—

¾-inch white, 13s. 6d. per square; ¾-inch white, 15s. per square; 1-inch white, 18s. per square; ¾-inch yellow, 16s. per square; ¾-inch yellow, 18s. 6d.; 1-inch yellow, 20s.

Timber, deals, planks, &c at the lowest remunerative prices. A liberal discount allowed on mouldings for exportation. Book of designs forwarded on application.

J. MILLS (late Shop Foreman to Messrs. Lawrence and Sons), JOINER to the TRADE, 7, Prince-street, Stamford street, Lambeth. Shop fronts, fittings, staircases, &c. Well-seasoned materials and superior workmanship, at the lowest possible prices. A quantity of doors and sashes always in stock.—Estimates by return of post-stamp, a full list of prices will be returned.—Workshops, 110, Broadwall.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland-street, Blackfriars road.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

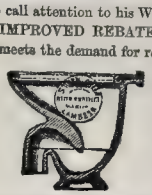
S. A. JEFFS,
43 and 45, Cornwall road, Stamford-street, Lambeth, S.
N.B. Price-list on application.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

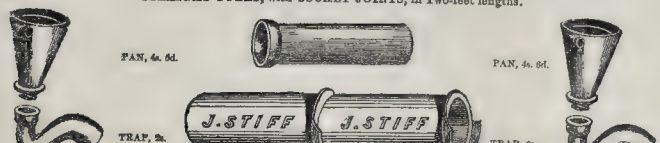
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Fodlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Rydges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S TERRA-COTTA FLUE-PIPES

WITH PIPE FOR VENTILATION ATTACHED.

By this arrangement the vitiated air is carried off by junctions near the ceiling communicating with the ventilating-shaft.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE-DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

JOHN DOULTON, BROTHERS, AND CO.

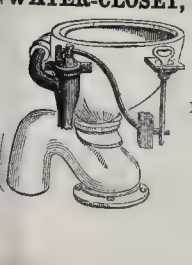
LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

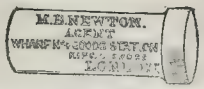
DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,
AND
LAMBERT'S HIGH-PRESSURE VALVE-COCK.
WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

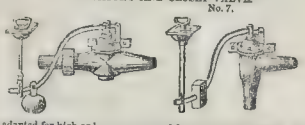
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	20-inch.	2 ft. 6 in. by 1 ft. 8 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
8s.	6s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time, and the Pipes guaranteed to stand better than any Brickwork.

LAMBERT'S SELF-CLOSING

LAVATORY AND CLOSET VALVE.
No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 13s. 6d. each.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

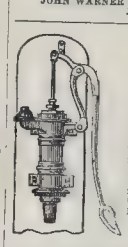
LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to

JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,



which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

PATENT

SOLID PARQUETERIE,

for floors, walls, and furniture (inch thick is. per foot), as used by the eminent architects, Sir Charles Barry, Messrs. Burn, Hardwick, Farnell, G. G. Scott, Digby Wyatt, &c. &c. — Tunes,

"From its durability, SMITH, worthy of New Bond-street

...d. — A novel and

CLARIFIED ... entirely from animal matter, durability of Vellum, with the beautiful fabric surface of the finest Tracing Paper. For possessing the ... Patents, &c. it will be found invaluable. transparency and ... Also, every article required by the Engineer. Permanent Tracin..., and Artist of the best quality, at wholesale 20 by 21. BARLOW'S TRANSPARENT TRACING PAPERS. prices. ...N'S FRENCH TRACING PAPERS. ENDLESS TRACING LINEN AND CLOTH. WHATMAN'S DRAWING PAPERS AND CARTRIDGES. MOUNTED DRAWING PAPERS—always in Stock. WILLIAMSON'S SECTIONAL LINES—for Engineers, &c.

WATERLOW and SONS,

Wholesale and Export Stationers and Manufacturers,
Factories and Warehouses, 60, 65 to 68, and Carpenters' Hall, London-wall; City Depot, 24 and 25, Birchin-lane; Western ditto, 49, Parliament-street, London.

SALES BY AUCTION.

SALE IN BANKRUPTCY.—TO BUILDERS, CONTRACTORS, AND OTHERS.

MR. MESSITER is instructed by the Assignees of Mr. [illegible], Bankrupt, TO SELL by AUCTION, on the PREMISES, Richmond-road, Hackney, on THURSDAY, the 4th day of MARCH, 1858, and the following day, the PLANT and STOCK-IN-TRADE: comprising a large quantity of deals, planks, battens, and flooring-boards, scaffold-poles, putlogs, and ladders, [illegible] of every description, stone, slate, tiles, glass, drain pipes, &c. &c.; a [illegible] cart horse, [illegible] cart, and two spring ditto, a good [illegible] phaeton and harness, a weighing and chaff-cutting machines, large [illegible], and various other miscellaneous effects.—May be viewed the day previous and morning of sale, and catalogues may be had on the Premises; of the Official Assignee, W. PENNELL, Esq., 3, Guildhall-chambers, Basinghall-street, City; or at the Auctioneer's Offices, 24, Acton-place, Kingsland-road. The VILLA RESIDENCE, large Manufactory, STABLES, &c. with other House Property, FOR SALE.—Apply to the Auctioneer.

EARLY SALE, No. 52, Union-street, Somers-town.

MR. LEREW will SELL by AUCTION, on the PREMISES as above, on TUESDAY, MARCH 2nd, at TWELVE, the STOCK IN TRADE of a Plumber and Paper-hanger, comprising [illegible] pieces of paper hangings, [illegible] brazier's, plumber's truck, [illegible]; also the clearance of a builder's yard, [illegible] 500 carpenters' [illegible] planks, deals, and battens, 73 squares of flooring, 4,000 feet scantling, and sundry old materials.—Auction Offices, 2, Cardington-street, Hampstead-road.

NEW ROAD.—Stock in Trade of a Stone and Marble Mason.

MESSRS. EVERSFIELD and HORNE are instructed by the executrix of the late James Wills to SELL by AUCTION, on the PREMISES, 277, Euston-road, on WEDNESDAY, MARCH 3, at TWELVE for ONE, the remaining STOCK, comprising statuary, Sienna, vein, and other marble chimney-pieces, statuary marble tablets, and monumental urns, marble slab, and useful pieces. Well designed monuments and headstones, marble mortars, masons' bankers, saw tackle, hoisting jacks, packing cases, plaster-casts, and other effects.—May be viewed two days previous, and catalogues had on the Premises; and of the Auctioneers, 40, Parliament-street, Westminster, or Coal Exchange.

NORWOOD.—The Valuable Freehold site of the Central London District Schools with or without the Materials, and including a neat and spacious Gothic Chapel, recently built, contiguous to the principal entrance of the Crystal Palace.

MESSRS. EVERSFIELD and HORNE are favoured with instructions from the Board of Management of the Central London District Schools to SELL by AUCTION, not later than early in MAY next (unless an acceptable offer by private contract be previously made), the Valuable FREEHOLD GROUND, with Double Frontage, and containing Three Acres, or thereabouts, with Buildings thereon, situate at the angle of the Upper Norwood-road, close to the Station on the Crystal Palace and West End Railway, presenting a [illegible] site for [illegible] operations, also the [illegible] from the fact of their [illegible] of superior water (raised by steam power), sufficient to supply the whole of the future tenants of the estate. On the eastern portion of the property, a capacious and well-built chapel has recently been built, with [illegible], which may be treated for separately. Further particulars may be obtained, and a plan of the property inspected, at the Offices of Mr. HEATH, Solicitor, 10, Basinghall-street; of Messrs. EDWARDS and SMITH, 19, Great Carter-lane, Doctors'-commons; and of Messrs. EVERSFIELD and HORNE, Auctioneers to the Commissioners of her Majesty's Woods and Forests, 40, Parliament-street, Westminster, or Coal Exchange.

Patent Veneer-cutting-Machine, Lett's Wharf, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers, to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, at the MILLS, Lett's Wharf, Lambeth, a PATENT KNIFE-CUTTING MACHINE, for veneers, effecting a saving of nearly one half the wood cut by saw. The machine is constructed in a costly and massive style, and will take a range of [illegible] in length. It is self-acting in its operation, and works very efficiently.—To be viewed any time by special order, or publicly in motion, on Friday and Saturday previous to the sale, when catalogues may be had at the Works; or of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Pair of High and Low Pressure Double-cylinder Engines, equal to 50-horses power, new two years ago, with Two Cornish Steam Boilers. Lett's Wharf, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, on the PREMISES, a PAIR of highly-finished double-cylinder, high and low pressure pendulous STEAM-ENGINES, equal to 50-horses power, made about two years since by William Joyce, of Greenwich. The cylinders of each engine are 12 and 24 inches diameter; length of stroke, 4 feet; condensers and air-pumps, feed pumps, spur fly-wheel, 10-inch tooth, 16 feet diameter, [illegible]. Also, TWO high-pressure CORNISH STEAM BOILERS, each 28 feet long, 6 feet 6 inches diameter, with fittings. The consumption of coal to work the engines is not more than 3 lbs. per horse per hour. To be seen at any time by special order, and publicly in motion on Friday and Saturday previous to the Sale.—Catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

LETT'S WHARF, COMMERCIAL-ROAD, LAMBETH.—"In re the London and Eastern Banking Corporation."

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 1st, 1858, at ELEVEN o'clock, unless an acceptable offer is previously made by private contract, LETT'S WHARF, an extensive and valuable property, situate in Commercial-road, Lambeth, with a river frontage of 130 feet, by a depth of 415 feet; two docks, a newly-erected saw mill, 80 feet by 63 feet 8 inches, with iron roof; engine and boiler-house, 86 feet by 20 feet 3 inches, with lofty brick chimney-shaft; a range of brick buildings, about 100 feet long by 25 feet in width; stable and loft, and two commodious dwelling-houses; a large yard and wharf, with two cranes, ten tons and twenty-five tons. The whole held for an unexpired term of years, at a rent of 850*l.* per annum. A portion of the yard and the right of [illegible] docks is let to Mr. [illegible] at the yearly rent of 300*l.*; and the dues received for wharfage alone have, in addition to this 300*l.*, been equivalent to the entire rent charged upon the premises.—To be viewed till the sale. Particulars may be obtained fourteen days prior to the sale, on the Premises; of Messrs. OLIVERSON, LAVIE, and PEACHEY, Solicitors, Old Jewry; of Messrs. QUILTER, BALL, and CO. Coleman-street; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SAW AND PLANING-MILL MACHINERY. Lett's Wharf, Lambeth.

MESSRS. FULLER and HORSEY are instructed by the Official Managers to SELL by AUCTION, on MONDAY, March 1st, 1858, and following day, at ELEVEN o'clock, in lots, unless an acceptable offer is previously made by private contract, the costly MACHINERY of the Saw and Planing Mills, erected about two years by [illegible], including a powerful [illegible] by Horn, Carr, and other eminent makers, sawing-frame, capable of cutting [illegible], with table 52 feet long, a timber deal sawing frames (five capable of [illegible] stick 27 inches square, six double and one capable of cutting four deals [illegible] cutting two deals, or four battens, [illegible]), two planed iron circular saw benches, eight battens, at one operation; powerful planing, adzing, matching, tonguing, 6 feet long; a very powerful planing and adzing machine of a lighter [illegible], grooving machines; a bright wrought iron shafting, from 3 inches to 7 [illegible], 100 feet of turned [illegible] and plummer blocks, a pair of 10-inch spur [illegible] diameter, with 5 feet 4 inches and 5 feet 8 inches diameter (one wheel [illegible] driving-wheels, fitted with wood cogs); ten large cast-iron riggers, 6 feet diameter; [illegible] mortised and [illegible] feet of leather bands, from 2 to 6 inches; twenty circular saws, from 22 inches to 60 inches diameter; twenty dozen frame saws, thirty [illegible] files, grindstones, steaming kiln, double purchase crabs, about fifty loads of timber in piling stages, powerful bay mare, an excellent spring van, on 4-inch wheels, patent arms, two timber-carriages, timber whim, two buggies, double and single purchase jacks, harness, stable utensils, 1,000 feet gas pipe, all the burners and fittings, counting-house furniture and fittings, and other effects.—To be viewed (the machinery in motion) on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

TO ENGINEERS AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on TUESDAY, the 2nd of MARCH, 1858, at ELEVEN o'clock, on the PREMISES, Kent's-place, North wharf road, Paddington, in lots, the MACHINERY and TOOLS of an Engineer, Nasmyth's steam hammer, four cwt.; two self-acting screw-cutting lathe, 6 and 7 inch centres, 6 feet and 8 feet beds; three side lathes, 6 to 12 inches; self acting planing machine, to take in 3 feet in width; surfacing lathe, 42 inch centre; screwing machine, to screw up to 1⅝ inch; vertical drilling machine, six-horse power high-pressure steam-engine and Cornish boiler; shafting and drums, leather bands, stocks and dies, and steel tools; smiths' forges, bellows, anvils, and tools, rod and bar iron; excellent assortment of patterns and other effects.—To be viewed on Monday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

WATERSIDE MANUFACTURING PREMISES, BELVEDERE-ROAD, occupied by the General Wood Cutting Company.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, MARCH 3rd, at ELEVEN o'clock, on the PREMISES, without reserve, unless an acceptable offer is previously made by private contract, the LEASES of the extensive PREMISES situate in Belvedere road, Lambeth, and having a frontage next the Thames of 120 feet, with excellent wharfs. The principal building is of two stories, 225 feet long by 46 feet wide, occupied as the saw and moulding mill; a building of three stories, 75 feet by 17 feet, six stories of offices, two excellent family residences, a spacious timber-yard, 316 feet by 46 feet, stabling, [illegible] cottage, cart shed, chaise house, and other outbuildings. The property is held under two leases, at rents amounting to 797*l.* per annum.—To be viewed till the sale. Particulars may be had on the Premises; of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, Birchin-lane, [illegible]; of Messrs. MARTEN, THOMAS, and HOLLAMS, Solicitors, Commercial Sale-rooms, Mincing-lane; of Messrs. WILD and BARBER, Solicitors, Ironmonger-lane; of Messrs. TURQUAND and YOUNGS, 14, Old Jewry chambers; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Sawing, Planing, and Moulding Mill Machinery.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the WORKS of the GENERAL WOOD CUTTING COMPANY, Belvedere road, Lambeth, on WEDNESDAY, MARCH 3rd, 1858, and following day, at ELEVEN o'clock, in lots, without reserve, unless an acceptable offer is previously made by private contract, the whole of the valuable MACHINERY and UTENSILS: a highly finished condensing steam beam engine, of 35 horse power, by Nasmyth; steam pumping engine, two excellent Cornish steam boilers, 30 feet and 40 feet long, by Horton, with Prideaux's smoke-consuming apparatus, McDowall's patent steam saw frame for timber, four deal frames, rack bench, by Parsons; two planing machines, three moulding machines, with cutters embracing about 300 patterns, two batten saw-frames, three iron circular saw-benches, with 6 feet, 7 feet, and 8 feet 6 inch tables, American thicknessing machine, mortising machine, two trenailing machines, circular [illegible] bench, with table 10 feet 9 inches by 7 feet, steam [illegible] 700 feet wrought iron shafting, drums, and spur wheels, leather bands, 10-inch self-acting lathe, with 7 feet bed, three smiths' forges, two cast iron water tanks, in plates, two powerful wharf cranes, about thirty loads of sawed timber, in piling, stages, &c.; twenty rods brickwork, steam and water pipes and fittings, excellent counting-house furniture, iron repository, and numerous other effects.—To be viewed on Monday and Tuesday previous to the Sale (the machinery in motion). Catalogues may be had on the Works; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq., whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, MARCH 8th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the valuable and extensive STOCK of DRY SEASONED GOODS, carefully selected, including 20,000 yellow deals and battens, 5,000 white deals and battens, 5,000 pine planks, 2,000 red pine deals and battens, 500 pitch pine deals, 1,000 pine deals and battens, 1,000 spruce deals, 10 loads Dantzic timber, 2,000 squares prepared flooring boards, 500 squares matched boarding, 5,000 feet dry seasoned wainscot, 20,000 feet Honduras and Cuba mahogany, 50,000 feet moulding, [illegible] scantling, [illegible] laths, 200 new scaffold poles, 200 [illegible], and other goods.—To be viewed on Thursday, Friday, and Saturday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the extent of [illegible] and upwards, or a discount of 1½ per cent. will be allowed for cash.

Black and Furnishing Ironmongery.

MESSRS. FULLER and HORSEY are instructed by Mr. Walmsley, who is retiring from business, to SELL by AUCTION, on the PREMISES, Nos. 126, 127, and 128, London road, Southwark, on THURSDAY, the 11th of MARCH, 1858, and following days, at ELEVEN each day, in lots, the entire STOCK of FURNISHING and BLACK IRONMONGERY, including best electro-plated goods, for which this establishment has been so long celebrated, in tea and coffee services; tea, table, and dessert spoons and forks, fiddle, thread, and king's pattern; cake and card baskets, cruet-frames, fish knives and forks, waiters, candlesticks, &c.; bronzed and copper goods, in urns, table kettles, scuttles, preserving pans, &c.; handsome French moderator lamps, gaseliers, hall lanterns, gas-brackets, &c.; japanned ware, in toilet services, hip, open, and shower baths, cutlery, sets of papier-mache and japanned trays, iron bedsteads, capital gas-bath, black hollow ware, open and enclosed kitchen-ranges, handsome steel and ormolu register stoves, gas-cooking stoves, Rumford and pedestal stoves, 2,500 gross iron screws, 200 gross brass screws, 4 tons coach bolts, 30 gross axle pullies, 200 dozen brass cabinet locks, 5½ gross brass flush-bolts, 600 sets brass castors, 800 sets iron and wood bowl plate castors, 150 pairs ornamental bell-levers, sash-pulls, &c.; large assortment of bell-hangers' materials, in cranks, &c.; 450 dozen hinges, [illegible] dozen brass cornice poles, wrought and cut nails, stove metal, spades, shovels, and other effects.—To be viewed on Tuesday and Wednesday and morning of sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS.—Important Stock of Marble and Stone.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, MARCH 18, 1858, and following days, at ELEVEN o'clock each day, at the MARBLE WORKS, Commercial road, Pimlico, in lots, the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in block, 100 feet Genoa green, 200 feet of statuary, 200 feet Emperor's red, 60 feet Sienna, 450 feet serpentine, 3,000 feet veined, Sicilian, black, [illegible], dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles; 20,000 feet in slabs, of the same assortment, from ¾-inch to 3 inches; 1,100 feet polished slab; a large stock of polished shelves, jambs, and trusses; mouldings; 3,000 feet Portland stone, in block; [illegible] feet of Caen stone, [illegible] feet French stone, [illegible] feet Wingerworth stone, 3,000 feet of 3-inch to 6-inch of York landings; 5,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 6 inches; 3,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, ¾ inch to 6 inches; head, and foot stones; 2,500 feet run of granite curb, 12 feet by [illegible] inches and 12 feet by 8 inches; five blocks of granite, and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Thirteen powerful Cart horses, Three valuable Nag-horses, Two Gigs, Phaeton, Timber carriages, Carts, Stone trucks, Harness, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on FRIDAY, MARCH 5th, 1858, at TWELVE o'clock, on the PREMISES, Commercial-road, Pimlico, thirteen powerful young cart-horses, including two teams of handsome grey and black horses, of perfect symmetry; three valuable nag horses, ten sets thill harness, six sets trace harness, gig and phaeton harness, seven timber carriages, three stone-trucks, three carts, two spring carts, two Irish carts, two gigs, phaeton, forty corn-sacks, chaff boxes, stable utensils, and other items.—To be viewed on Thursday previous and morning of sale.—Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES, TABLETS, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, MARCH 17th, 1858, at ELEVEN o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES of the most modern designs, and finished in the best style of workmanship, many of a very valuable description, in statuary, Genoa Green, Bardilla, Rouge Royal, St. Ann's, Serpentine, Dove, Black, Emperor's Red, Veined and Sicilian Marble; four Statuary Mural Tablets, two Caen Stone Gothic Tablets, with Statuary Inscription Plates; eleven polished Marble Slabs, &c.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Loose Tools and Stores of the Sawing-Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 31st, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 13 to 50 inches diameter; pit-saws, planing and adzing tools, a flooring board, planing, and tonguing machine, by Parsons; leather bands, 1 ton cast and shear steel, 10 tons rod and bar iron, weighing machines, smiths' tools, anvils, top and bottom swayes, [illegible], hammers, &c. 100 dozen files, 100 gross iron and brass screws, brass lift pump, copper tubes, wrought and cut nails, spikes, sash weights, 10 cwt. [illegible] tiles, crown and sheet glass, dry and ground colours, 1 ton white and red lead and litharge, sash tools, ten trollies, 70 dozen hammered saw plates, saw pits and heads, buckles, sieves, 200 yards [illegible] grit 20 yards marble and Portland sand, well-pumps and pipes, pulley-wheels and ropes, well boring apparatus, blocks and falls, barrows, two 4 ton and one 8 ton Haley's jacks, carpenters' benches, several tons of ironwork, a moveable traveling crane, 60 feet span, equal to 10 tons, and numerous other effects.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

GRAYS, ESSEX.—To Drain pipe and Tile Manufacturers, Potters, Crushers, Manufacturing Chemists, Owners of Sawing Mills, &c.—Extensive Premises, Plant, and Machinery. Also, in a separate lot, a valuable Patent, known as Jacobs', for Making Socketed Drain-pipes.

MESSRS. CHINNOCK and GALSWORTHY will SELL by AUCTION, at the AUCTION MART, City, on THURSDAY, the 18th of MARCH, at ONE, the extensive LEASEHOLD PREMISES, lately used as drain pipe works by Messrs. Francis and Weaver, who have dissolved partnership, situate close to the railway station at Grays, Essex: comprising a plot of about five acres of land, with extensive river frontage, landing, and back-water dock, having erected thereon a good five roomed cottage, counting-house, a well built engine house, surrounded by moulding and drying sheds, covering an area of 126 ft. by 130 ft. and having a nearly new 17 horse power double [illegible] steam engine, by Horn, with a 12-feet fly wheel, boiler, and apparatus, shafting, and driving gear to work two pug-mills, a pair of crushing rollers, a pair of 4 ft. 6 granite edge runners; a large tile moulding shed 120 ft. by 18 ft. fitted with sixteen tiers of drying racks, a flued drying shed 80 ft. by 16 ft. a large circular kiln, and a square ditto, with furnaces, sand and fuel sheds, &c. Held for a determinable term, of which about forty-six years are unexpired, at a low rent, and adapted for carrying on any of the above trades on an extensive scale, the buildings having been erected on the most approved plans at a great cost. Also, in a separate lot, Jacobs's valuable Patent for Manufacturing Socketed Drain-pipes, together with two expensive machines.—May be viewed at any time, and particulars obtained, at the King's Arms, Grays, Essex; the Falcon, Gravesend; of Messrs. CLARK and MORICE, Solicitors, 29, Coleman-street; of Messrs. VALLANCE and VALLANCE, Solicitors, 20, Essex street, Strand; at the Mart; and of Messrs. CHINNOCK and GALSWORTHY, Auctioneers and Land Agents, 28, Regent street, Waterloo place.

SALE of CORRUGATED IRON BUILDINGS, STEAM-ENGINE, with BOILER, complete; PLANT, MATERIALS, TIMBER, &c. at Clift House Works, [illegible]

AUGUSTUS SMITH is instructed by the Proprietor to SELL by AUCTION, at the above WORKS, on TUESDAY, MARCH 2nd, at TWELVE for ONE o'clock, prompt. Amongst the buildings will be found, portable galvanized iron church, chapel, verandah residence; the whole commodious and neatly fitted up. Also, a very large workship, barn, tanks, girders, and columns; together with benches, building plant, and materials, principals; quantity of scantling, useful timber, fire proof safe, dial, &c. May be viewed the day prior to sale; and catalogues had, or earlier, at the Auctioneer's Offices, 33, Bucklersbury, E.C.; and 225, Blackfriars-road, S.

SALE WITHDRAWN. Standing Timber at East Dulwich and Nunhead, near Peckham Rye, Surrey.

MR. SEARLE begs respectfully to notify that this SALE will NOT TAKE PLACE as previously advertised, having sold the timber by private contract in one lot.
Camberwell-green, Feb. 24th.

A BUILDER'S BUSINESS in the CITY.—TO BE DISPOSED OF, an OLD-ESTABLISHED BUILDER'S BUSINESS in the CITY, the present proprietor retiring on account of ill-health. The premises are commodious, and adapted for carrying on an extensive business, and the part let off reduces the rent to 13*l.* per annum. The stock and plant will not exceed 1,000*l.* Apply to Messrs. ELLIS and SON, Auctioneers and Estate Agents, 30, Fenchurch street.

TO IRONMONGERS.—TO BE DISPOSED OF, by direction of the Executors, the BUSINESS of the late Mr. Perry, carried on by himself and his father for many years, and previously by Mr. Johnstone, on those commanding premises the corner of Houndsditch and Bishopsgate street, directly opposite the church. The trade comprises both the black and the furnishing, and the returns average about 8,000*l.* per annum, about 2,500*l.* of which is ready money. The premises are commodious and exceedingly well arranged for the business, and the stock is all modern and of the best character, the connection being of the first class. To one or two young men who can command about 5,000*l.* a more eligible opportunity seldom occurs.—For further particulars apply to Messrs. FULLER and HORSEY, Billiter-street, E.C.

WORTH NOTICE.—To BRICKLAYERS and OTHERS.—To be DISPOSED OF, a JOBBING BUSINESS, situate twenty miles from London, in a celebrated watering place in Kent. Rent of premises, 20*l.* per annum, which comprises large house, yard, shed, &c. Whole of the numerous plant, fixtures of house, &c. price fifty guineas. Books shown, and an introduction to the trade. Very satisfactory reasons for leaving.—Apply to S. H. 44, St. John-street, Smithfield-market, London.

TO BE LET, Yearly or on Lease, an Excellent WHARF, suitable for a Builder, Contractor, or for Manufacturing Premises, with powerful Crane, Stores, Joiners' Shops, four-stall Stable, Coach-house, and convenient Offices.—Apply at the Office, on the Premises, Bridge row Wharf, Upper Belgrave-place, Pimlico.

TO SURVEYORS, BUILDERS, and OTHERS.—BUILDING LAND TO LET, near the "Swan" Tavern, Clapham-road, suitable for the erection of semidetached villas, which are in great request in the locality. Road 50 feet in width; good drainage. 200 feet frontage, 195 feet deep, at 4s. 6d. per foot.—Inquire of Mr. JAMES LEMON, No. 1, Upwell-place, Camberwell New-road, Kennington, S.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, February 27, 1858.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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FREE EXHIBITION.

DESIGNS for the MEMORIAL of the GREAT EXHIBITION.—The Drawings and Models submitted in competition may now be seen at the ARCHITECTURAL MUSEUM (with the permission of the Committee), South Kensington Museum, FREE, on MONDAYS, TUESDAYS, and SATURDAYS, from TEN to FOUR o'clock; and on MONDAY and TUESDAY EVENINGS from SEVEN to TEN. On the Students' days, WEDNESDAY, THURSDAY, and FRIDAY, and on WEDNESDAY EVENINGS, the charge for admission to the Museum is SIXPENCE.

Subscriptions in aid of the Fund are invited

JAMES BOOTH, } Hon. Secretaries
GEORGE GODWIN, }

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—On WEDNESDAY next, MARCH 10, at EIGHT o'clock, Mr. RAPHAEL BRANDON will LECTURE "On Ancient Timber Framing." Prizes for Metal Work, Wood-Carving, Drawing from Specimens in the Museum, and Models in Plaster, are now offered.—The conditions of competition may be had of the Attendant in the Gallery of the Museum

GEORGE GILBERT SCOTT, A.R.A. Treasurer
JOSEPH CLARKE, F.S.A. Hon. Sec.

ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 8, Craig's-court, Charing-cross.

J. TURNER, Hon. Secretary, 13, Wilton-street.

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Philip Hardwick, Esq. R.A. | R.A.

TREASURER—William Tite, Esq. M.P. F.R.S.

NOTICE.—The ANNUAL GENERAL MEETING of the above Society will be held at the ROOMS of the ROYAL INSTITUTE of BRITISH ARCHITECTS, 16, Grosvenor-street, W. on WEDNESDAY, the 10th of MARCH next. The Chair will be taken at THREE o'clock precisely. Information relative to the Society may be obtained of the Honorary Secretary; or of Mr GOULD, the Collector, 52, Great Ormond-street, W.C.

JOHN TURNER, Hon. Sec.

March 5, 1858. 15A, Wilton-street, Grosvenor-place, S.W.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The ANNUAL DINNER of this Institution will take place about the middle of APRIL. Gentlemen desirous of assisting by becoming Honorary stewards, their names will be thankfully received by

W. ALLARD, Secretary

1 Bay-tree Tavern, St. Swithin's-lane, March 4, 1858.

PHOTOGRAPHIC SOCIETY.—The Exhibition of Photographs is now open at the South Kensington Museum, every day from TEN till FIVE, admission, 1s.; and every MONDAY, TUESDAY, and WEDNESDAY Evenings, from SEVEN till TEN, admission, 6d. The Brompton and Putney omnibuses pass every five minutes. Season Tickets, which are also available for the Soirées, can be obtained at the Museum, price 5s. each.

COMPETITIONS.

HENDON UNION.—To ARCHITECTS. The Board of Guardians are desirous of receiving PLANS, to be prepared by SPECIFICATIONS and ESTIMATES, for the ERECTION of SCHOOLS capable of accommodating 100 children, with suitable Offices, Apartments, &c. at a cost not exceeding £2,000, on a site selected near Edgware Turnpike. The Guardians will pay premiums, viz.—£20 for the one they consider the best plan, £10 for the second best plan, and £10 for the third best plan; such plans to become the property of the Board. In case either of these be carried out, the architect is to undertake only to be paid. The plans, &c. are to be sent free of expense, to the Redhill Workhouse, near Edgware, with a motto or mark attached, but without the name of the designer, which is to be sent in a sealed envelope, having a similar motto or mark, addressed to me, on or before the 16th day of MARCH, 1858. The Board do not pledge themselves to accept any plan; these not approved of will be returned. Canvassing by Guardians is strictly prohibited.—Any further information may be obtained on application to me at Edgware.

W. S. TOOTELL, Clerk.

February 19, 1858.

YEOVIL CEMETERY.—PREMIUMS for PLANS.—The Council of the Borough of Yeovil, Somerset, are desirous of receiving detailed PLANS and ELEVATIONS, accompanied by SPECIFICATIONS and ESTIMATES, for CONSTRUCTING and COMPLETING the proposed NEW BURIAL-GROUND, five acres in extent; including the Erection of Two Chapels connected externally as one Building, and also an Entrance lodge and Gates, Planting, Fencing, and Laying-out the Ground, making Roads and Approaches, &c. &c. A premium of £6. will be given for the most approved designs, and £3. for the next best, and such designs will be retained and become the absolute property of the Council. The whole outlay is not expected to exceed £2,000. A plan and section of the ground can be seen, and any other information obtained, by application to Mr. R. T. WILLIAMS, the Borough Surveyor, Wine-street, Yeovil; and the plans must be delivered at the Town Clerk's Office, on or before the 1st day of APRIL next.

JOHN BATTEN, Town Clerk

Yeovil, March 1st, 1858.

TO ARCHITECTS and OTHERS.—Notice is hereby given, that the Burial Board for the Parish of Aberdare is prepared to receive PLANS for CHAPELS, LODGE, DEAD HOUSE, and ENTRANCE-GATES for their new Cemetery, upon the following conditions.—The land selected for the cemetery is a part of Hirwain-common, in the Parish of Aberdare, and contains twenty acres. The amount proposed to be expended upon the chapels, lodge, dead house, entrance-gates, boundary-walls, drainage, and laying out the ground, is £2,000. A PREMIUM of £25 will be given for the best plan, and £15 for the second plan. A plan of the ground may be seen, and any further information obtained, at my Office.—The Board do not bind themselves to employ the architect of the selected plan to carry out the work.—Plans, with an estimate of the cost of the buildings, are to be lodged at my Office, on or before the 29th day of MARCH next, by order of the Board.

Aberdare, 24th February, 1858. W. ROBINSON SMITH, Clerk.

CONTRACTS.

CONTRACTS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War office, Pall-mall, London, on or before MONDAY, the 15th MARCH, 1858, for the performance of the following branches, of ARTIFICERS' WORK, for the War Department, at the undermentioned Stations in the Medway District, for a period of three years, from the 1st APRIL, 1858, determinable at any period after one year, on either party giving to the other three months' notice in writing, viz.:—

Carpenter's Work, &c.	Farrier's do.
Bricklayer's Work.	Plumber's do.
Plasterer's do.	Painter's, Glazier's, and Paperhanger's do.
Slater's do.	Smith's Work, &c.
Mason's do.	

The Stations are—1. Chatham and its Environs. 2 Maidstone. 3 Gravesend, with Tilbury Fort, Coal-house Fount, and Shorne Mead Separate Tenders to be made for these three Stations, each Tender to embrace all the different trades, as there will be but one contract for each Station. Different percentages, above or below the schedule prices will be admitted for the different trades. The War Department reserve to themselves the right of rejecting any or all Tenders that may be presented.—Further information, and printed forms and schedules of contract, may be obtained on application at the Royal Engineer's Offices, Chatham Lines, Maidstone, and Gravesend, from the 1st to the 15th March (Sundays excepted); and no Tender can be admitted after the said 15th day of MARCH, 1858.

Royal Engineer's Office, Chatham, February 25, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Yorkshire District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall Mall, London, S.W. on or before TUESDAY, the 23rd day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of Three Years, Commencing the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS and for the performance of such Bricklayers', Masons', Paviors', Carpenters', Slaters', Smiths', Plasterers', Plumbers', Gas-fitters', Painters' and Glaziers', and Paperhangers' WORK, as may be required by the Royal Engineer Department at the following Stations in the Yorkshire District, viz.—York, Leeds, Bradford, Scarborough, Hull. Only one contractor will be accepted for the whole of the trades at each of the above stations, viz.—York, Leeds, Bradford, Scarborough, and Hull; and the parties Tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of per centage may be different for each trade should it be deemed expedient. Printed schedules and every particular relating thereto, may be had on application at the Royal Engineer Office, at 5, New Walk Terrace, York, every day (Sunday excepted) between the hours of TEN and FOUR o'clock, from SATURDAY, the 6th of MARCH, to SATURDAY, the 20th of MARCH, 1858, after which time none will be issued. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall Mall, London, S.W. and endorsed, "Tender for Builders' Work, on one corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions as stated in the printed schedules, nor will any other person or persons be allowed to tender for the work for which they may Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, York, March 6th, 1858.

CONTRACTS.

NOTICE to BUILDERS.—The Commanding Royal Engineer at Sheerness hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall mall, on or before MONDAY, the 15th day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of Three Years, commencing on the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS, and for the performance of such Bricklayers', Masons', Carpenters', Slaters', Plasterers', Plumbers', Smiths', Painters', Glaziers', and Paperhangers' Work, as may be required by the Royal Engineer Department at Sheerness, including the Tower on the Isle of Grain. Only one contractor will be accepted for the whole of the trades; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work, which rates of per centage may be different for each trade, should it be deemed expedient. Printed schedules, and every particular relating thereto, may be obtained at this Office, between the hours of TEN and FOUR, from the 4th to the 13th of MARCH (Sunday excepted), after which date none will be issued. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and endorsed "Tender for Builders' Work, Sheerness," in the left-hand corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions as stated in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B.—The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Sheerness, February 27th, 1858.

TO BUILDERS.—Such Persons as are desirous of undertaking the several branches of Artificers' Work, including the supply of IRONMONGERY and CAST-IRON and METAL WORK, required by the Royal Engineer Department, at the places undermentioned, upon a contract for three years, from the 1st of APRIL next, determinable at any period after the expiration of one year, on either party giving three months' notice in writing, may be furnished with the printed schedules of prices, and the conditions of the contract, with every necessary information respecting the same, by personal application at the Office between the hours of TEN and FOUR each day (Sundays excepted), until the 22nd MARCH, 1858, after which date no further issues will be made. Stations for which Tenders will be received.—Portsmouth, including Priddy's Island, Gosport, and detached works, not exceeding five miles.—Southampton. (Pensioners' Establishment), Marchwood, Hurst, and Calshot Castles, Winchester, Christchurch, Chichester, and Isle of Wight. One contractor only will be accepted for the whole of the trades for each of the abovenamed stations, but the rates of per-centage at which the parties tender may be different for each trade, at their option, but such rates must be shown in the proper columns in the schedules of prices. The Tenders will be required to be delivered before TWELVE o'clock at noon, on THURSDAY, the 25th day of MARCH, 1858, at the War Office, Pall-mall, London, addressed to the Director of Contracts, and endorsed, "Tender for Artificers' Work" in the left hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

T. FOSTER,
Colonel Commanding Royal Engineers, South west District.
Royal Engineer Office, Portsmouth, March 1, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts War Office, Pall mall, London, S.W. on or before MONDAY, the 15th day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the secretary of state for War, for the term of Three Years, to commence the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS and for the PERFORMANCE of such BRICKLAYERS', MASONS', PAVIORS', CARPENTERS', SLATERS', SMITHS', PLASTERERS', PLUMBERS', PAINTERS' and GLAZIERS', and PAPER-HANGERS' WORK as may be required by the Royal Engineer Department at the following Stations in the Dover District, viz.—

DOVER.—Fortifications and Barracks at Dover, and from Dover to No. 1 Tower, Westward; and from Dover to Walmer Castle, Eastward.

WALMER. From Walmer Castle to No. 2 Battery, Sandown, both inclusive, also the Barracks at Walmer

CANTERBURY Barracks

SHORNCLIFF CAMP, including the Royal Artillery Barracks, the Temporary Barracks, Sandgate Castle, Folkestone, and Shorncliff Batteries, and Towers 2 to 9, inclusive

HYTHE.—Including Hythe Barracks, Coast Defences from No. 10 Tower to No. 26 Tower, inclusive, and Royal Military Canal from Seabrook to Warehorn.

RYE.—Including the Coast Defence from No. 26 Tower, Westward, to Fairlight, and the Royal Military Canal from Warehorn to Cliff End.

Only one contractor will be accepted for the whole of the trades at each of the above stations, viz. Dover, Walmer, Canterbury, Shorncliff Camp, Hythe, and Rye; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of per centage may be different for each trade should it be deemed expedient. Printed schedules, and every particular relating thereto, may be had on application at the Royal Engineer Offices, between the hours of TEN and FOUR o'clock, from WEDNESDAY, the 3rd of MARCH, to SATURDAY, the 13th of MARCH, after which time no Tenders will be issued. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and endorsed, "Tender for Builders' Work" on one corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions stated in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, February 16, 1858.

TENDERS are required for ERECTING additional BUILDINGS and ALTERATIONS of TWO COTTAGES on the Oak-grove Estate, Prince Surrey. Plans and specifications to be seen at A. B. FRENDS, Esq. Architect, 44, Bedford Row, W.C.

[*For remainder of Contracts see next page.*

CONTRACTS.

BOARD of WORKS for the LIMEHOUSE [illegible] DISTRICT.—Notice is hereby given, that the [illegible] will meet on MONDAY, the 8th day of MARCH, 1858, to receive TENDERS for WATERING the ROADS, STREETS, &c. in the above-named District.—Further particulars may be had, [illegible] payment of 2s. 6d. by application at the Office of the Board, [illegible] Horse-street, Commercial-road, E. between the hours of TEN and FOUR. Tenders sealed up, and endorsed, "Tender for Watering," [illegible] MONDAY [illegible] MARCH, 1858. [illegible] lowest [illegible] Tender. [illegible]

T. W. RATCLIFF, Clerk of the Board.

[illegible], 1858.

YORKSHIRE CATHOLIC REFORMA[TORY] [illegible] TO BUILDERS.—[illegible] Slaters, [illegible] Painters [illegible] to TENDER [illegible] ERECTION [illegible] may inspect [illegible] MARCH [illegible] MONDAY [illegible] MARCH, at TEN [illegible] lowest [illegible] Management.

J. B. and WM. ATKINSON, Architects.

93, Micklegate, York, February [illegible], 1858.

Messrs. J. B. and W. A. [illegible] want of [illegible] Articled Clerks [illegible] will be required.

SUTTON, SURREY.—Parties desirous of TENDERING for the ERECTION of FIVE PAIRS of SEMI-DETACHED VILLA RESIDENCES, at Sutton, in the County of Surrey, and immediately adjoining the Croydon and Epsom Railway, [illegible] specifications, and conditions, now [illegible] be delivered [illegible] MARCH [illegible]. The lowest [illegible] Tender will not [illegible]

[illegible] LIPSCOMB SECKHAM, Architect.

[illegible], Oxford.

TO BUILDERS. NEW WORKHOUSE for the CHIPPENHAM UNION, Wilts.—Persons desirous of CONTRACTING with the Guardians of this Union for the ERECTION of a NEW WORKHOUSE are informed that the drawings and specifications [illegible] Offices [illegible] MONDAY [illegible] MARCH [illegible] Tenders [illegible] Building Work [illegible] FRIDAY, the 26th day of MARCH [illegible] taken into consideration [illegible] Guardians [illegible] lowest Tender. The contractor will be required [illegible] his Tender.—Further particulars [illegible] the Architect, Mr. [illegible] C. [illegible] GREEN [illegible].—By order of the Board,

JACOB PHILLIPS, Clerk.

Chippenham, February 2[illegible], 1858.

THE "FRIENDS' RETREAT," near YORK.—TO BUILDERS, such Bricklayer and Masons, [illegible] Plasterers, Slaters, Ironfounders, Plumbers, Glaziers, and Painters, [illegible] TENDER for the ERECTION of a NEW WING, and for other ADDITIONS and ALTERATIONS to this Institution, may inspect the drawings and specification at the Offices, from the 8th of MARCH to the 18th [illegible] delivered to the Architects [illegible] SATURDAY, the 20th MARCH, at TEN [illegible] lowest or any Tender. [illegible] Quantities may be obtained on application. By order of the Committee of Management,

J. B. and W. ATKINSON, Architects.

93, Micklegate, York, February 2[illegible], 1858.

Messrs. J. B. and W. A. are in immediate want of one or two Articled Clerks [illegible] will be required.

TO ENGINEERS and CONTRACTORS.—The [illegible] Gas Company (Limited) are prepared [illegible] TENDERS [illegible] the WORKS to be ERECTED at MORECAMBE. Plans [illegible] MONDAY, MARCH [illegible] Mr. WM. WHITESIDE, [illegible] Mr. R. HAWSON, [illegible] Tenders [illegible] MARCH [illegible]. The [illegible] accept the Lowest Tender.

Morecambe, February [illegible], 1858.

TO BUILDERS. TO BE LET, the WORKS required for BUILDING a LUNATIC ASYLUM, near Carlisle, for the Counties of Cumberland and Westmoreland. [illegible] JOHN A. CORY, [illegible] County Surveyor, [illegible] MONDAY, the [illegible] SATURDAY, the 20th instant, and from FRIDAY, the [illegible] FEBRUARY to FRIDAY, the 12th MARCH [illegible] tract, will be furnished [illegible] by the County Surveyor, on the deposit of 2l. [illegible] which will be returned on the receipt of a *bona fide* Tender forwarded to him, on or before FRIDAY, the 12th MARCH, 1858. Builders may Tender for any [illegible] of the following works, including their respective [illegible] contract, viz.:—

1. [illegible] Masons', [illegible], Slating, and Iron work.
2. Carpenters' and Joiners' Work.
3. [illegible], Plumbers', Painters', and Glaziers' Work.

Carlisle, February [illegible], 1858.

WARWICK LOCAL BOARD of HEALTH.—To CONTRACTORS.—Such persons as are desirous of CONTRACTING for the LAYING ON of PRIVATE DRAINAGE and the WATER SUPPLY, and other Works connected therewith, [illegible] Warwick, on and after MONDAY next [illegible]. The Tenders to be sent in to me, under sealed cover, on or before the 13th day of MARCH [illegible] person sending in a Tender [illegible] of the Contract.—By order of the Local Board,

WILLIAM CLARKE, Clerk.

Court House, Warwick, 23rd February, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of SCHOOLS and a TEACHER'S RESIDENCE [illegible] County of Kent [illegible] Messrs. WHICHCORD and BLANDFORD, [illegible] SATURDAY, FEBRUARY 27, [illegible] of TEN and FIVE. Tenders to be delivered [illegible], on or before WEDNESDAY, MARCH 1[illegible]. [illegible] Trustees do not [illegible] accept the lowest [illegible]

[illegible], 1858.

THE METROPOLITAN CARTAGE and [illegible] COMPANY (Limited). Completely Registered [illegible], King William-street, City [illegible]

DIRECTORS.

[illegible]

Prospectuses forwarded and every information [illegible]

CONTRACTS.

ST. MARYLEBONE, February 20, 1858.—CONTRACTS for the HIRE of HORSES and ONE-HORSE CARTS. Notice is hereby given, that the Vestrymen of the Parish of St. Marylebone, in the County of Middlesex, will meet [illegible] the Court-house [illegible] Parish, on SATURDAY, the 13th day of MARCH, 1858, at ELEVEN [illegible] TENDERS from persons willing to CONTRACT for the SUPPLY of HORSES and ONE-HORSE CARTS for one year, from the 25th day of March, 1858. Further particulars may be known and forms of Tender procured from the Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. All Tenders [illegible] the printed forms, [illegible] delivered [illegible] before ELEVEN o'clock [illegible] of MARCH [illegible]. The Vestry [illegible] Tender will be received after the specified time. The Vestry do not pledge themselves [illegible] lowest or any of the Tenders. The [illegible] expenses of the [illegible] contract [illegible] the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

PARISH of ST. MARYLEBONE. February 20, 1858.—CONTRACT for GLAZED STONEWARE SEWAGE PIPES.—Notice is hereby given, that the Vestrymen of the Parish of St. Marylebone, in the County of Middlesex, will meet [illegible] SATURDAY, the 13th day of MARCH [illegible] TENDERS from persons willing to CONTRACT with the said Vestry of Marylebone, for one year, from the [illegible] MARCH, 1858, for the SUPPLY of STONEWARE SEWAGE PIPES, BENDS, JUNCTIONS, &c. The Tenders to be upon the printed forms, [illegible] on the said 13th day of MARCH, at ELEVEN o'clock in the forenoon on the said 13th day of MARCH. [illegible] inch, a 9-inch, and a 12-inch pipe, to be delivered free of all charges at the St. Marylebone Court-house, on or before THURSDAY, the 11th day of MARCH [illegible] property of the Vestry [illegible] of the pipes to be specified [illegible] what extent. Further particulars may be known and forms of Tender procured from the Vestry's Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. The Vestry do not pledge themselves to accept the lowest Tender. The Vestry will require the parties Tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

ST. MARYLEBONE, February 20, 1858.—CONTRACTS for GUERNSEY GRANITE or WHITBY CHIPPINGS, and other HARD MATERIALS [illegible] for the Repairs of Roads [illegible] for GRANITE CARRIAGE WAY PAVING STONES, for [illegible] for GRANITE FOOTWAY, YORKSHIRE FOOTING PAVING [illegible] KERB.—Notice is hereby given, that the Vestrymen of the Parish of St. Marylebone, in the County of Middlesex, will meet in the Board-room of the Court-house of the said Parish, on SATURDAY, the 13th day of MARCH, 1858, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT with the said Vestry [illegible] for one year from the [illegible] day of MARCH, 1858 [illegible] delivered at the parish stone-yard, or on the streets, as may be required.—Further particulars may be known, and forms of Tender obtained, from the Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house, from TWELVE to ONE o'clock. All Tenders [illegible] upon the printed forms, [illegible] delivered sealed up, before ELEVEN o'clock in the forenoon of the said 13th day of MARCH, and no Tenders will be received after that time. Samples of the materials will be required with the Tenders. The Vestry do not pledge themselves to accept the lowest Tender. The contractor to provide two sureties of 2,000l. each, and to pay [illegible] the expenses [illegible] the contract. The Vestry [illegible] that the parties tendering, or some persons on their behalf, should be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

ST. MARYLEBONE, February 20, 1858.—CONTRACT for GRAVEL, HOGGIN, LIME, CEMENT, SAND, THAMES BALLAST, BASS-BROOMS, and HEATH BROOMS.—Notice is hereby given that the Vestrymen of the Parish of Marylebone, in the County of Middlesex, will meet in the Board-room of the Court-house of the said Parish, on SATURDAY, the 13th day of MARCH, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the supply of any of the [illegible] articles for one year, from the 25th day of MARCH, 1858.—Further particulars may be known, and forms of Tender procured from the Surveyor, Mr. ROBERT SCACE, at his daily attendance at the Court-house, from TWELVE till ONE o'clock. All Tenders to be upon the printed forms, and to be delivered, sealed up, before ELEVEN o'clock in the forenoon of the said 13th day of MARCH, and no Tender will be received after the specified time. Samples of the materials will be required with the Tender. The Vestry do not pledge themselves to accept the lowest Tender. The contractor to pay the [illegible] the expense of the bond and contract. The Vestry will require the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders.—By order,

W. E. GREENWELL, Vestry Clerk.

TO PAVIORS, MASONS, and OTHERS.—Notice is hereby given, that the Board of Works for St. Saviour's District will [illegible] meeting at their Board-room, on WEDNESDAY, the 17th day of MARCH next, at SIX o'clock in the evening precisely, to receive PROPOSALS for PAVING the STREETS and other PASSAGES and PLACES in the Borough Division of the Parish of St. Saviour, within the district under contract, for Three Years from the [illegible] day of MARCH next, with power for the Board to determine the same at the end of the first or second year [illegible]. And also for [illegible] Proposals for Repairing the Footways of the Streets and Places within the same Division under like Contract. Separate Tenders must be sent in for each class of works. The specification of the works required to be done, and the drafts of the Contracts, may be seen at [illegible] the Board-room, where printed forms [illegible] obtained, and all persons Tendering must fill up such forms, and deliver the same, sealed up and endorsed "Tenders for Paviors' or Masons' Work," to the Board, before HALF-PAST FIVE o'clock in the evening of WEDNESDAY, the 17th MARCH, and [illegible] proposals, respectively nominate two responsible persons [illegible] No other proposals [illegible] can be received, and the parties must [illegible] attendance. The contractors will have to execute Contracts, and they [illegible] two sureties [illegible] respective sums [illegible] for the performance thereof. The contractors will have to pay the expenses of the bond. The Board do not bind themselves to accept any Tender.—By order of the Board,

HERBERT STURMY, Clerk.

Board-room, Emerson-street, Bankside, Southwark,
23rd February, 1858.

SCAVENGERING and WATERING.—The Vestry of the Parish of Chelsea will meet at the Board-room, at the Manor-house, King's-road, Chelsea, on TUESDAY, the 16th day of MARCH instant, at ELEVEN o'clock in the forenoon precisely, to receive TENDERS from persons willing to CONTRACT, [illegible] of MARCH, 1858, for twelve months, pursuant to the terms [illegible] at this Office [illegible] or the SUPPLY (for either or both of the above named purposes), of HORSES on HIRE, with or without men, scavengers' carts, or either or both, [illegible] The Vestry do not bind themselves to accept the lowest or any Tender. Sealed Tenders [illegible] with the names and description of two sufficient sureties [illegible] on or before MONDAY, the [illegible] instant. The expense of [illegible] the contract [illegible] No Tender will be received or accepted unless [illegible] of the printed forms, to be obtained at this Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Offices of the Vestry, Manor-house, King's road, Chelsea, S.W.
March, 1858.

CONTRACT for WORKS.—SWANSEA HARBOUR RAILWAY. The Swansea Harbour Trustees [illegible] TENDERS for the CONSTRUCTION of [illegible] LINE from [illegible] Wales Railway to the western end of the new docks in [illegible] at the Offices of the Trust [illegible] THURSDAY, the [illegible] the Swansea Harbour Trustees [illegible] Harbour Offices, Swansea [illegible] THURSDAY, the [illegible] instant.

LEWIS THOMAS, Clerk.

Harbour Offices, Swansea, March 1[illegible], 1858.

CONTRACTS.

TO SCAVENGERS, DUSTMEN, and OTHERS.—Notice is hereby given, that the Board of Works for St. Saviour's District will meet at their Board-room on WEDNESDAY, the [illegible] day of MARCH next, at SIX o'clock in the Evening, to receive TENDERS for CARRYING AWAY the MUD, SLOP, SCRAPINGS, and other MATTERS from the Streets, Lanes, Public Passages, and Places in the Borough division of the Parish of St. Saviour, within the said District, and for REMOVING the DUST, ASHES, &c. from all Houses, &c. therein, once a week, from the 25th day of APRIL next, for the term of Three Years, determinable by the Board, at the end of first or second year. And the Contractor will have to find all men, horses, carts, drivers, fillers, slop, shoot, and all other matters and things, [illegible] legal deposit, to the satisfaction of the Board. The Contractor will be required to enter into a contract, and also, with two responsible persons, to enter into a bond, in the penal sum of 500l. for the faithful performance of such contract. The draft of contract and bond, and the particulars of the streets, [illegible] comprised in such borough division, can be inspected and ascertained at the Board-room. Tenders must be sealed up and endorsed "Tender for Scavengering," &c. and be sent in to the Board before HALF-PAST FIVE in the Evening of WEDNESDAY, the 17th of MARCH, after which time no Tenders will be received, and the persons sending such Tenders must be in attendance. The Board do not bind themselves to accept any Tender. The Contractor will have to pay the expenses of the bond.

Dated the [illegible] day of February, 1858.

By order of the Board,
HERBERT STURMY, Clerk.

Board room, Emerson-street, Bankside, Southwark.

TO PLUMBERS, &c. The Vestry of the Parish of Chelsea will meet on TUESDAY, the 16th day of MARCH instant, at ELEVEN o'clock in the Forenoon, to receive TENDERS from persons willing to contract, according to a specification to be seen at this Office, for the necessary REPAIRS to the parish PUMPS, and for keeping the same, twenty three in number, in good repair for twelve months. Sealed Tenders endorsed "Tenders for Plumbers' Work," are to be sent in on MONDAY, the 15th. The vestry do not bind themselves to accept the lowest or any Tender. By order,

CHARLES LAHEE, Vestry Clerk.

Offices of the Vestry, Manor house, King's road, Chelsea.
March, 1858.

TO WHEELWRIGHTS, &c. The Vestry of the Parish of Chelsea will meet on TUESDAY, the 16th day of MARCH instant, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT for the REPAIR of EIGHT WATER CARTS and TWENTY FOUR WATER TRUCKS, according to specifications to be seen at the Office. The Tenders are to be sealed, endorsed "Tender for Repairing Water-carts" and "Tender for Repairing Water trucks," respectively, and sent in on MONDAY, the 15th instant.—The Vestry do not bind themselves to accept the lowest or any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Offices of the Vestry, Manor House, King's-road, March, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of ADDITIONAL WARDS to the Kent Ophthalmic Hospital, Maidstone, may see the plans and specifications at the Offices of Messrs. WHICHCORD & BLANDFORD, Architects, Maidstone, on and after SATURDAY, MARCH 6th, between the hours of TEN and FIVE. Tenders to be delivered to the Secretary of the Hospital at or before TEN a.m. on TUESDAY, MARCH 16th. The Committee do not pledge themselves to accept the lowest Tender.

Maidstone, March 5, 1858.

TO BUILDERS.—The Directors of the Woolwich Steam-packet Company (Limited) are desirous to receive TENDERS for CONSTRUCTION of a DOCK for STEAMBOATS, at Roff's Wharf, Woolwich. The drawings and specification may be seen, and further information obtained, at the Offices of Messrs. CHURCH and SON, Architects, Williams-street, Woolwich, where bills of quantities may also be had, on payment of 10s. for each set, which will be returned to parties tendering. Tenders are to be sent in on MONDAY, the 15th instant, before SEVEN o'clock in the evening, addressed to "The Secretary of the Woolwich Steam-packet Company, Roff's Wharf, Woolwich," and endorsed, "Tender for new Dock." The Directors do not bind themselves to accept the lowest or any Tender.

Woolwich, March 4, 1858.

TO MASONS, PAVIORS, and ROAD CONTRACTORS.—The Loughborough Local Board of Health are desirous of obtaining TENDERS for the FLAGGING and REPAIRING, with Granite, certain CAUSEWAYS and STREETS in the Town of Loughborough, also the ASPHALTING and MACADAMIZING of certain CARRIAGE WAYS and FOOTWAYS in connection with the above-mentioned paving. The specification of works, together with other particulars, may be seen on application to Mr. CHARLES TEBBUTT, of Loughborough, Surveyor to the Board; to whom the Tenders, under cover, and properly endorsed, are to be sent, on or before the 22nd inst. The Board do not bind themselves to accept the lowest Tender.

W. J. WOOLLEY, Clerk to the said Board.

Loughborough, March 2, 1858.

EMBANKING and DRAINING.—CONTRACTORS and OTHERS disposed to TENDER for executing the works for RECLAIMING and DRAINING the MARSHES and LOW LANDS in the Parishes of Holme next the Sea and Hunstanton, in the County of Norfolk, may see the drawings and specifications, and obtain further information, on applying to Mr. ARTHUR SAUNDERS, C. E. Littleport-street, King's Lynn. The Proprietors do not pledge themselves to accept the lowest or any Tender. The time for receiving Tenders is extended to MARCH 13th, 1858.

TO BUILDERS and OTHERS.—The Vicar and Churchwardens of the Parish of Bowdon, Cheshire, are prepared to receive TENDERS for the REBUILDING and ENLARGEMENT of their PARISH CHURCH, either for the trades separately or for the whole, such Tenders to be sent in not later than the 24th inst. directed to Rev. WILLIAM POLLOCK, Vicarage, Bowdon, Cheshire, endorsed "Tenders for rebuilding Bowdon Parish Church." The working drawings, specifications, and conditions of contract, prepared by Mr. BRAKSPEAR, of London, can be seen at the Parish Vestry, on WEDNESDAY, the 10th, and following days, for one week. The quantities will be taken out of the works free of charge to the contractors, but printed copies will be supplied at a small charge only to persons desirous of tendering. The lowest Tender will not necessarily be accepted.

Bowdon, Cheshire, March 2, 1858.

TO CONTRACTORS.—The Timber of an extensive Forest, on the borders of a navigable River, in the United States, is required to be cut down, squared into logs, and rafted down the river to a port of shipment, about twenty five miles distant. The work will give regular employment to a large body of men for a succession of years. Parties disposed to enter into a CONTRACT may receive the fullest information, personally or by letter, on application to Messrs. PRICHARD and COLLETTE, Solicitors, 57, Lincoln's-inn-fields.

PEALS of CAST-STEEL BELLS.

[illegible] NAYLOR, VICKERS, and CO.'S PATENT CAST STEEL BELLS, for churches, schools, factories, &c. from 35 lbs. to 6,000 lbs. in weight; and also in peals, as at foot, may be obtained of their

SOLE AGENTS,

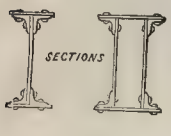
MESSRS. WHITE and BATES.

OOZELLS-STREET, BIRMINGHAM.

Specimens can be seen on application. They are only one-third the price of bronze ones, hitherto used, and are superior in the purity [illegible] of tone, and in their non-liability to break.

PEALS OF FOUR.		FOUR.	FOUR BELLS.
Weight about	[illegible] lbs.	[illegible]00 lbs.	5,700 lbs.
The Tenor	32 in.	42 in.	52 in. diameter.
Price about	[illegible]l.	125l.	[illegible]l.

PEALS OF SIX.		SIX.	EIGHT.	TEN BELLS.
Weight about	[illegible],700 lbs.	7,000 lbs.	7,400 lbs.	11,800 lbs.
The Tenor	[illegible]	52 in.	52 in.	64 in. diameter.
Price about	[illegible]l.	[illegible]00l.	310l.	490l.



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For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

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CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.
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Call attention to their **IMPROVED ENDLESS BAND-SAWS**, for Steam and Hand Power; **CIRCULAR-SAW BENCHES**, for Steam and Hand Power; **IMPROVED STEAM POWER PLANING, TONGUEING**, and **GROOVING MACHINE**, doing **SEVENTY FEET** per minute, and **GOOD WORK**. Also their **PATENT MORTISING, TENONING**, and **BORING MACHINE**, which is self-feeding, and doing the three kinds of work by One Machine, and of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone.
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P. J. and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

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IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,
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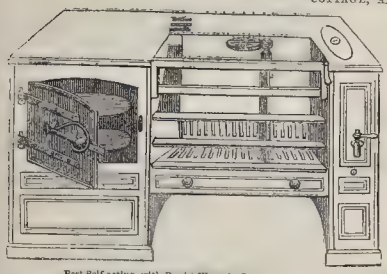
A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



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34 inches ..... 54s.
36 " ..... 56s.
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Register Stoves, with Solid Bars, per inch, 5d
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 6d. per inch.
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Bright Stoves, with Two Flues, 40s to 100s each.
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1½ inch. 1¾ inch. 2¼ inch. 3 inch.
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2 in. 2½ in. 3 in
Cast Rain-water Pipe — 10d 1s 1s 3d. per yard
Cast Gutters, 4-in 8d. per yard.
4-in. 3½-in.
O G Gutters,—1s. 1s. 2d per yard.
2 3 4 5 6
Patent Line,—3s. 6d 4s 5s 7s 9s per gross
6 inch Rd Ward Mortise, with best Furniture and Patent Spindles, 2s 9d. each. Light Elliptic and Register Metal, 14s. per cwt.
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BLACK ANNEALED FENCING WIRE, 12s. PER CWT.

Selfacting Cottage, with Oven and Back Boiler.
30 inches ..... 26s.
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36 " 32s

IMPROVED PATENT FINE-CAST ELLIPTIC STOVE,
requires no fitting, 2½d per inch

Best Japanned Registers, 40s.; Berlin Black, with Bright Mouldings, 60s.; Bright Fronts, with Ormolu Ornaments and Two Sets of Bars, 90s.; Improved Coal Mangers, with Wrought Hob rock and Water trough, fitted, 45s.

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STOVES, FENDERS, & FIRE-IRONS,
THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, BATHS, &c. for Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.
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BENHAM'S IMPROVED KITCHENER.
The Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c.
It is an effectual cure for Smoky Chimneys
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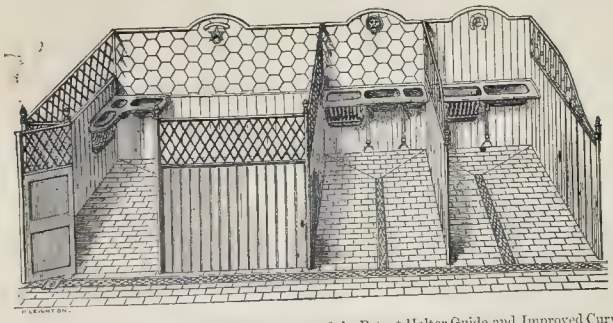

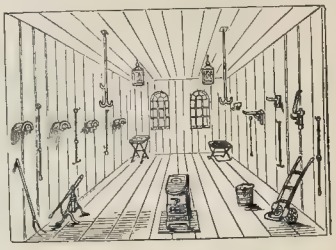

SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Compounded, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

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ALL KINDS OF STABLE FURNITURE.

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"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

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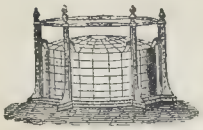

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Gas Cooking Stoves and Ranges on the latest improved principles.

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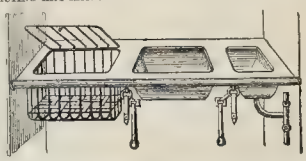

These Fittings are now made with the newly invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity there is, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guards attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. New Illustrated Catalogue forwarded on receipt of two postage-stamps.—JAMES BARTON, Iron Founder, &c. 370, Oxford-street, London.

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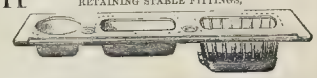

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed-box; and combine the most perfect safety with the greatest economy, both in cost and use.

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FOR WARMING TWO OR MORE ROOMS, AND DISPENSING WITH COLD DRAUGHTS FROM DOORS AND WINDOWS,
May be seen in operation at 36, Ely-place, Holborn-hill.
Price of a good Stove £2 0 0
Do, with handsome Chimney-piece ... 3 10 0

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.
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ECONOMIC COOKING-STOVE.—J. DEANE and CO. recommend with confidence their IMPROVED COOKING-STOVE. It is cheap in first cost, simple in construction, easy of management, capable of doing a large amount of work with a comparatively small consumption of fuel, and is manufactured in sizes suitable for large or small families, hotels, clubs, eating rooms, &c. In operation daily in the Stove and Fender Department of Deane and Co.'s Establishment. Engravings, with prices, forwarded free by post. Register Stoves, with Ladies' and Stephens' patented improvements.—DEANE and CO. (opening to the Monument), London-bridge. Established A.D. 1700.

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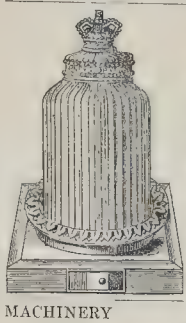

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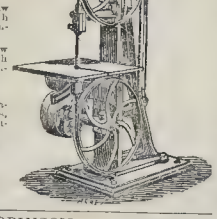

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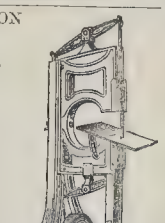

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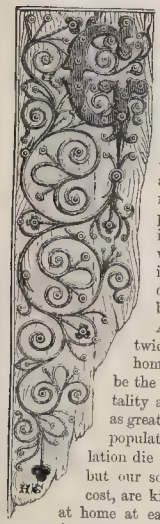
The Builder.

VOL. XVI.—No. 787.

Murdering the Soldier.—Portman-street Barracks.—The Commissioners' Report.



GREAT are the sacrifices made at the altar of Ignorance: 140,000 persons in England, says the Registrar general, in his last quarterly return, die before their time,—die unnaturally: "280,000 are constantly suffering from actual diseases which do not prevail in healthy places; their strength is impaired in a thousand ways: their affections and intellects are disturbed, deranged, and diminished by the same agencies." And yet (mark this), twice as many soldiers at home die every year as would be the case if the rate of mortality amongst them were *only* as great as amongst the general population. The general population die long before their time, but our soldiers, trained at great cost, are killed off, when they are at home at ease, more than twice as fast as the members of unwholesome trades; such, for example, as night printers. Compared with the members of friendly societies in agricultural districts, says the recent report of the commissioners appointed to inquire into the regulations affecting the sanitary condition of the army, the mortality of the Guards is three times and one-third greater; in other words, while there are six deaths and a little more per annum in 1,000 members of friendly societies, there are twenty deaths and a little more in 1,000 of the Guards! The principal agent is disease of the respiratory organs, and the leading cause of this disease is overcrowding in ill-ventilated and, often, ill-arranged and ill-drained barracks. Here we come back to the old story,—the story we have told so oft,—the story which the world listens to, and, shrugging its shoulders, still disbelieves. Men must have pure air. Feed them, clothe them, protect them from the weather,—still, without a proper quantity of fresh air, all is of no avail, and they rot and rot, and drop and drop.

When an English gentleman has reared and trained a pack of dogs, or a lot of race-horses, he takes care they shall have a kennel or a stable, as the case may be, wherein they will get this pure air, and have all other circumstances in favour of their complete development. When the English nation, at much larger expense, has produced a body of trained soldiers—soldiers, with souls, by the way, which the dogs and the horses have not—it might be supposed the governors of the nation would, at any rate, take the same pains. So far from this being the case, the men are placed under conditions infinitely worse than if they had been left in their native hovels or garrets, and are absolutely killed off, as was said just now, twice as quickly as they ought to be, and that without the interposition of any foreign enemy. The rooms are very confined, the beds are packed in close together, the windows are insufficient and ill-placed; where there are ventilators they are so actively offensive, that the men risk the unfelt danger and stop them, and thus the soldier sleeps in poison, and dies in consequence.

Even in the most recently erected barracks in the metropolis the arrangements are any thing but efficient. We have found the air, in the staircases, passages, and some of the rooms in the new buildings put up for soldiers within the walls of the Tower of London, more stagnant and offensive than in any London prison that we ever went into.

The report of the commissioners contains a mass of useful information, and numerous important recommendations on the subject, which ought to be made widely known. No one seems to recollect that *every* point noted by the commission was considered by the competitors in the plans exhibited at Burlington House,—which plans, instead of being turned to account, are just as waste paper. We do not allude merely to the "successful" designs. There was a mass of useful information in the whole, which was thoroughly wasted. And as to the statement that no new buildings have been commenced since the date of that competition, we are very much disposed to think it is next door to a falsehood. Government should, even now, gather together the various drawings and specifications, and publish the whole, and thus the competition would be made useful, as it should be, to the country and the competitors.

The report now issued reiterates all that we have said on the arrangements of hospitals, recommending the plan of separate pavilions, with windows on opposite sides, and natural ventilation; and confirms the objections we were forced to make to the proposed arrangement of the great hospital at Netley. A digest of it would afford matter for many articles. Leaving the report, however, for the present, we prefer to look for ourselves at one or two of the London barracks, and, following our old plan, to appeal to the eye as well as the understanding of our readers, by means of the pencil.

The *Portman-street Barracks* will serve the purpose. But for the small boys and patient maidens loitering round the entrance on the east side of the street, it might be supposed to lead to stables or a builder's yard, yet here accommodation is provided for about 500 of our best troops. Built more than a century ago for cavalry soldiers, it is said, it is now occupied by part of the 1st battalion of fusileer guards, many of the men being in the apartments originally intended for the horses. On the north and south sides of a paved parallelogram are the soldiers' dwellings; on the west are the officers' rooms; and, on the east, a large building, which was formerly a riding-school, but is now used as a cooking and dining room. With the exception of the place last mentioned, the buildings are two stories high, and the most striking feature is the small amount of window-opening. In the square are several pumps, which formerly supplied the soldiers with water from wells. These are now little used, and large cisterns, sufficient for the purpose, have been erected, which are filled by the ordinary water service.

On entering one of the dwelling-rooms of the men, which are nearly all alike, we find on the ground-floor a scene which, in some measure, resembles the drawing, fig. 1. on the next page. The sketch was made when the soldiers were away at dinner, and does not give an idea of the crowded appearance of the place when from twenty to twenty-two men are assembled in it. In the ceiling of the apartment are four small openings to square wooden shafts, passing from the ceiling through the room above to a cowl on the roof. The small window at the further end of the apartment is, like many of the others, within a few feet of neighbouring houses, and affords but a gloomy light, which is not much eclipsed by that from the window in the front. With both these aids the place is far too dark for either health or cleanliness. The iron bedsteads are arranged two and two, close together, and between each two there is a space of not more than a couple of feet. As regards the ventilating-holes in the ceiling, they are not covered by perforated zinc, nor have any means been used to distribute the air gradually through the apartments. It is not surprising, therefore, that the soldiers who sleep near these holes say that they are seldom without a bad cold. One man here was so hoarse that he could scarcely speak, and others were not much better. The result doubtless is that, to avoid this evil, an old jacket is made to provide a remedy, and, at the same time, to deprive the occupants of the rooms of all means of ventilation except the chimney opening, and this, in some instances, has been contracted until it is not larger than that of a small room in an ordinary dwelling, because of the smoke. More than one soldier spoke of these barracks in summer as the "Black Hole of Calcutta," and no wonder. The doors and windows at the time of our visit were all closed, and such men as came in the way complained much of cold. They had just returned to the barracks after a long, brisk march, clothed in their thick scarlet coats, which were rapidly exchanged for their light undress, and in some of the rooms no coals, although it was after mid-day, were at hand to light their fires, which, when lighted, were too small for the purpose of warming a room with thin walls. The day was bitterly cold, and the complaints were tolerably loud.

We did not need to be told that when the room is occupied at night it requires strong nerves on the part of one who would put his nose into it. It seems extraordinary, remembering that there are medical officers attached, that such a state of things should be permitted to exist. Is it that they have a difficulty in making themselves heard by those whose business it is to remedy such evils, or does custom blunt observance? The number of occupants should, of course, be lessened, so long as the place is occupied at all for such a purpose, and then some improvements might be made by simple means. For example, instead of allowing the current from the shafts to descend on the sleeping soldier, a circular plate of metal suspended beneath the opening near to the ceiling would distribute it, and render it less dangerous. To make the shafts serve the purpose of *removing the vitiated atmosphere*, for which they were probably introduced, fresh air must be brought in elsewhere.

Colds are necessarily frequent, and to increase the number, the troops quartered here have been served with straw to re-fill their beds, which, more than one said, was "as wet as dirt." If in a garrison close to the court end of this great metropolis our soldiers are supplied with damp straw to fill their bed-ticks, we need not wonder that mistakes occur upon the battle-fields at distant places. The buildings are in a miserably bad state of repair. When water flows into the place in consequence of imperfections of the roof, it is necessary, before anything can be done, to report in certain quarters; and although the water may be dropping into the soldiers' beds (as it often does), or other bad circumstances occurring, it is seldom that any evil can be cured in less than three weeks.

In the upper room the roof is in two spans, the ventilation-shafts already mentioned passing through it. The supports at the intersection of the roofs are only 8 feet high. An intelligent non-commissioned officer, who had carefully calculated the amount of space, said that there were not more than 180 cubic feet of space for each man, and with this limited space (about a fourth of what it should be) no effective ventilation.*

* The appendix to the report gives 331 cubic feet as the space to each man in these barracks. Admit this, and it is but half enough for life.

STOWING AWAY THE SOLDIER.

FIG. 2.—*Portman-street Barracks: Upper Room.*

FIG. 3. *St. George's Barracks: the Reading-room.*

FIG. 1.—*Portman-street Barracks: Lower Room.*

Here was the same arrangement of windows, which fail sufficiently to illuminate the apartment. There was no fire in this room, the men saying that the allowance of coals for each room was so small that they were obliged to husband them. Our sketch, fig. 2, shows the sort of place it is for twenty-one men to eat, drink, and sleep in. The water from the centre part of the roof is carried through the troughs marked A, which, when choked, distil over on to the beds. B shows the ventilating shafts. The whole of the soldiers' apartments are so much alike, that it is not necessary to enter into further particulars.

The closets were in a very unwholesome state, and must endanger the sentinels who all the night stand by some of them; —even if the mischief stop there.

The troops here have the advantage of a very spacious dining-room, formerly the riding-school. Down the sides are ranges of seats, and, in the centre, tables, on which are placed the basins and plates, for the soldiers' dinner. At one end are two large boilers, and here

several persons were busily engaged cooking and cutting up the rations. With the exception of this apartment, anything more unsuitable for its purpose could not be well devised than are these barracks.

Before leaving the place, it should be mentioned that some of the living places provided for the married non-commissioned officers consist of a single room. The sergeant-major, for example, has a wife and four children, the eldest a great girl of fourteen, and all are forced to sleep in the same room, and that room, too, the one they live in. A drain passes underneath this apartment, and in summer renders it unbearable. Health cannot possibly be maintained under such circumstances. Truly, as Hood sings,—

"Evil is wrought by want of head,
As well as want of heart."

Married non-commission officers should be provided with a living and sleeping room: moreover, the damp condition of some of these dwellings, which is disgraceful, should be remedied. It is said, however, when these matters are remarked upon, that "the barracks have been condemned for the last five and thirty years, so that it is useless to talk about improving them." And all this time our soldiers have been kept in a place and under conditions where healthful life is impossible. The existence of hundreds has been shortened, and the health of all damaged. Mere overcrowding, under otherwise good circumstances, produces enervation, disease, and death. An illustration is afforded by M. Boudin, in the "*Annales d'Hygiène Publique*," quoted by Dr. Balfour, which it may be worth while to state briefly, although it is discreditable to the age that any fresh instances should be needed. M. Boudin found that every year, from 1843 to 1847, about the month of October, there was a murderous epidemic of typhoid fever in the military hospital at Versailles, exclusively among the sick soldiers who came from the garrison of St. Cloud. It was the more remarkable, inasmuch as it always showed itself about a week after the arrival of the then king at St. Cloud. What could be the cause of it? It never attacked the civil population, the officers, nor even the lower officers, though the latter occupied the same barracks as the soldiers who were attacked. The cause was simply overcrowding. Ordinarily the garrison consisted of 400 or 500 men, and had scarcely any sick. When the king came the number was increased to 1,200; the men were closely packed in small ill-ventilated chambers, and were soon prostrated by fever, from which the non-commissioned officers, better fed, less fatigued, and never sleeping more than two in one room, altogether escaped!

Vitiated air is the cause of two-thirds of the pulmonary diseases which desolate England. Fresh air gives the only chance of cure in their early stage. "It was formerly the practice," says Dr. Cotton, in his work on Consumption, "to 'shut up,' as it was called, 'for the winter,' the consumptive sufferer, and thus deprive him of one of his main chances of combating the disease. From the moment that a patient is confined to one room, from which fresh air is studiously excluded, all hope of improvement is at an end!" When twenty-one men are shut up, night after night, in a single room, from which fresh air is studiously excluded, and a variety of other circumstances are made to aid in the result, who need wonder that they die off twice as fast as members of the most unhealthy trades outside, although these are themselves killed, as the Registrar General proves, many years before their time?

Next week we shall look at St. George's Barracks and those at Knightsbridge. From the former we give a sketch shewing the "reading-room," or, rather we should call it, the reading *without* room. In the meanwhile let us say with Mr. Sidney Herbert,—"Nothing is more costly to the public than the annual loss of men from ill-health and mortality;" and though the saving which would result from a better system be indirect, and therefore difficult to estimate, yet we feel satisfied, looking at the question as a matter of finance alone, that money judiciously laid out in promoting the health and comfort of the soldier will make an ample return to the public.

MR. SYDNEY SMIRKE'S SECOND LECTURE ON ARCHITECTURE AT THE ROYAL ACADEMY.*

LET me detain you for a few minutes, while I repeat some common truths respecting colour. It is found that when, of the three primary colours, red, blue, and yellow, any one of them is placed near to a compound of the other two, a pleasing effect is produced which is called harmony.

To produce fully this effect, you will understand that it is necessary that these two colours, —viz. the primary, and the compound or secondary,—should be seen nearly together, or simultaneously, just as when a chord is struck in music.

These colours are, in the language of art, said to be complemental to that primary which does not enter into their own composition. Thus green is complemental to red, orange to blue, and so on. Such is perfect harmony in colour.

What is called discord in colours can only be produced, in its strictest sense, by placing in juxta position two of the compound colours. Thus a positive purple and a positive orange, placed in contact, produce a direct discord; but as each of these last-named compound colours contains a primary which is common to both, namely red, the nearer the purple approaches to its component blue, the less directly is it discordant with the orange; and when it has so far advanced as to be capable of being regarded as merely a purplish blue, it has so far attained to the relation of a positive harmony; so, on the other hand, as the purple approaches nearer to red, its discordance with the orange becomes weaker, until, arriving at merely purplish red, its relations to the orange have so far improved that, although not in strict harmony, it becomes at peace with it. Thus it follows that, whenever a primary colour is used, no positive discord can take place; for whichever of the three compound colours be used with it, it must either be in harmony or in peaceful relation with it.

Thus far all is pretty simple and obvious. When, however, a third colour has to be used, great caution becomes necessary. Should you, for example, have succeeded in bringing a purple and an orange together without offence to the eye, by giving to the orange a yellow tendency, mischief would inevitably ensue from the intrusion of a positive yellow; for you would then, by the contrast, throw the orangeish yellow back again in the scale towards the orange, and thus, as it were, renew the feud between the two colours. On the other hand, if, in proceeding to interpose upon the purple and orangeish yellow a third colour, you were to use a red, you would do little or no harm, for this third colour, red, whilst not at variance with the purple, would bring out the yellow tendency of the orange by obscuring, as it were, the red element of orange, and so far improve the relations with the purple, the direct complemental of yellow. Thus, for example, in an apartment wherein the prevailing hues of its furniture and decorations are modifications of a cool purple, orange yellow, and red, the arrangement of colour would be more sure of a favourable result than purple, orange yellow, and blue, for, in that latter case, the blue would, by contrast, bring out in greater force the orange element, and so aggravate the discord between it and purple. I might of course bring similar illustrations from the combination of the other primary and secondary colours, but enough, I apprehend, has been said to explain my meaning.

I should remind you that, in referring to these secondary colours, I have, for simplicity's sake, used the strong, definite terms orange, purple, and green; but the same general principles necessarily extend to all those numberless and nameless modifications of hues with which, in decorative painting, we have to deal, the discord or the harmony being, however, always the more decided the purer and more intense the colours are.

Artists, however, are a peace-loving fraternity, and have contrived a thousand ways of counteracting the conflict of hues. By the mere intermixture of black or white in their pigments, they alone produce a host of broken tints, slate-colours, buffs, greys, drabs, and many other such, whereby the neutralization may be carried so far as to produce complete pacification, although, of course, at the risk of insipidity; of which, however, there need not necessarily be any danger, for there are many licences permitted, and constantly practised by those of highest authority, in order to give animation and variety to the association. Those who instruct us in our moral duties tell us, and tell us most truly, that it is not only positive crime or sin that we have to shun, but every, the remotest, approach to it; and that the earliest indications of an evil principle have to be strenuously resisted: "*Non bene ripis creditur.*"

It is far otherwise in the colourist's code of morals. The judicious introduction of a moderate discord will occasionally be not only pardonable, but productive of very happy effects. I believe it to be so in musical composition, but certainly in the matter before us, to know when and to what extent the rigid laws of colour are to be violated with impunity, or indeed with advantage, is a nicety especially deserving your study.

Besides the contrast of hues, there are other cognate considerations by no means to be overlooked. A knowledge of the contrast of what is called tone, requires your careful cultivation, for variety in the depths of your colour is essential, in order to give them all the beauty of which they are susceptible. If all the colours in an apartment are alike strong, the effect will be sure to be harsh and violent: if, on the other hand you keep them all alike faint, the effect will most probably be insipid and washy. In a room so coloured, it is surprising, indeed, how much sparkling animation results from adding even a few lines or touches of strong colour. To borrow a well-known illustration from the experience of our sister art, these touches of strong colour, are analogous to the red cloak in a grey landscape.

Then there is the contrast of warm and cold hues, which particularly demands your study. Red and yellow are the two warm primaries; blue the cold one. Blue, as it advances towards yellow on the one side, or red on the other, loses its cold property in proportion as it loses its own purity. No composition of hues is perfectly satisfactory unless these contrasts of temperature, as one may call them, are duly attended to.

If, for example, on a wall or a ceiling, you have a light warm tint for a panel, and another light warm tint for the margins; to interpose a strong red line would be a mistake, for you would then deprive them of the warmth which characterises them, and perhaps render them both muddy; whereas, let the line be of a decided cold colour, and you at once give all the desired effect to the two adjacent warm tints, however light they may be; thus you gain all your effect with the least amount of colour, and to act otherwise would be a mere vulgar waste of force.

Another remark I would here add whilst on the temperature of tints. When you have both a cool and a warm tint, as for instance in the panelling of a wall, the cooler tint should be the lightest in tone. I speak of large surfaces, not of mere lines or patches of colour.

A strong, cold tint, as the general wall colour of an apartment, can rarely be made agreeable. The fancies of an unlearned upholsterer are sometimes such us to afford us occasional opportunities of studying every species of obnoxious combination. I have been in rooms wholly clothed in strong blue, and nothing could be more painful than the result.

It is true a deep ultramarine, over a considerable extent of surface, may be seen on the vaulting of both the upper and lower church of S. Francesco at Assisi; and, indeed, it appears to have been a favourite colour for the vaulting of churches, where, perhaps, blue has been adopted as a symbolic colour, or more probably as a representative of the sky, studded sometimes with its stars, rather than on any æsthetic grounds. Its effect is often admirable; but this application of deep blue is wholly different from the use of it under ordinary circumstances, to which I have been alluding. In the vaulting of a lofty church, it is in comparative shadow, and rendered hazy, or neutralized, by distance. Besides, I can call to mind no instance of this deep blue being used without being considerably broken or relieved by a scattered pattern of stars or other device of different colour, usually, indeed, gilt; in this respect, as well as in many others, following the example set by their Classic predecessors.

In considering, however, the decoration of apartments (the field whereon we are perhaps most frequently called to exercise our discretion), it should be remembered that the aspect of the human complexion and the presence of the human figure, are not to be wholly sight lost of; and you will find that a large surface of wall strongly coloured, materially affects the colour of the light in the room. Thus, red walls impart a warmth to the light, which has usually an agreeable effect on the complexions which receive that light; whereas a large surface of the strong cold colour just referred to, chills the light, depriving it of that genial character which is proper to it, besides most seriously damaging all flesh colours within its range.

* Continued from page 141, *ante*.

Whilst on the subject of contrast, I must briefly advert to the valuable property that colours have of clearing each other. The terms muddy and dirty are very commonly applied to compound hues, which owe their title to those opprobrious terms more to the injurious effects of their neighbours upon them than to any intrinsic defect of their own. Place a clear blue, for example, by the side of some purplish hue, such as dove-colour or slate, and you will deprive it of its blue tendency, without in any way increasing the purity of its other component, red; and thus you render the mixture faded and impure; whilst the misapplication of pure red to the same hue would, in a similar way, give to this purplish hue a cold, leaden, or dirty aspect, by depriving it of its warmth, which, to a certain extent, is essential to preserve the proper character of all tints allied to purple. If, on the contrary, you contrast this dove or slate colour with a buff, or even a simple gold moulding, you will at once clear up this delicate hue, and give it all the value which is due to it. In the same way, the clearness or muddiness of the numerous and beautiful class of greenish hues, the tea-colours, olives, &c. depends entirely on the character of the colour with which they may be associated. To put a pure green beside a tea-colour, would inevitably extinguish the latter, or, at all events, deprive it of its distinctive character, by obliterating that green tendency which is the true source of its utility and, indeed, its peculiar merit.

Now, with regard to the combination of colours in unison with each other, I have but little to say. It is obvious that it requires no great boldness, nor art, to bring together various hues of the same colour, nor various tones of the same hue, for *simile simili gaudet*. In bringing together these varieties, each having a close affinity to the other, it is clear you are perfectly safe so long as you take heed that one by its intensity does not annihilate its more modest neighbour.

But, besides this association of colours in unison, and besides the harmonies contrasting of colours, about which I have probably said quite enough, there is yet another class of associations, I mean that of a primary colour with a secondary, into the composition of which that primary enters. For example, red with purple or orange; blue with green or purple; and so on. This is association constantly practised and unobjectionable, so long as care be taken to make the compound hue so decided as to prevent its being turned, by the effect of the opposition, into an impure primary. Blue and green, for example, are often brought into juxta-position by the greatest masters of the sixteenth century, as by Raffaelle and his school. But you will find them carefully distinguished from each other, by each being made somewhat intense and decided.

Take this, however, as a general rule, that you should never use one hue to deprive another hue of its special character. No doubt, in the sister art of painting, this rule may have no application, for the painter must often be compelled, by the exigencies of his subject, and much against his will, to introduce an objectionable hue, and he will then neutralize it, or, indeed, destroy it, as best he may. But the room-decorator has no right, for he is under no obligation, to introduce a colour, and then do his best to put it out. When the decorator lays on a tint, either it is the right one or the wrong one. If it is the wrong one, why use it? If it is the right one, why neutralize it? I repeat, therefore, the axiom, never to use one colour in order to deprive another colour of that which is its special character.

The two kinds of association which I have last adverted to are, perhaps, the safest to use in the decoration of small apartments. But when the composition spreads itself over a larger surface, it is then that we must resort, for variety and effect, to the use of various differing and contrasting colours.

If I may venture again to throw light upon the decorator's art by a reference to the work of the painter, we shall find the painters of great historical pieces generally using a force of colour and a boldness of contrast which they would not think of applying to an unpretending landscape or a small cabinet picture of a domestic character. So, in our department of art, a large hall or apartment of stately proportions demands a force of treatment and a strength of colour which would be wholly inappropriate in the dining-parlour or sitting room of an ordinary dwelling.

Time will not allow me to dwell much longer on these subjects; but before parting with them, it seems necessary that I should touch on what have been termed ternary or tertiary compounds. I allude to the mixed and ambiguous tints produced by the mechanical union of a secondary compound with its complemental colour, as green neutralized with red, purple neutralized with yellow, and orange with blue, producing hues which have for the sake of distinction been called olivine, russet, and citron.

I should remind you that in these mixtures the primary can only be introduced as any subordinate in force to the secondary colour; for it is hardly necessary to say that, if the primary be made equivalent in force to the two other primaries of which the secondary is compounded, the result would be strictly neutral, or no definable colour at all.

As regards these three tertiary hues, although they are in perpetual use, I need say but little, for they must be amenable in their application to the same laws that the simpler mixtures are subject to: we have but to keep in mind, that call them by what name you may, they are but neutralized modifications of the three secondary colours, and they are to be dealt with accordingly. These broken hues are often most serviceable, and may be used when pure secondaries might be harsh and violent. I must not here perplex you or myself, by entering upon the subject of the exact proportions that these intermixtures require. The discovery of the important principle of chromatic equivalents has led to very remarkable results of great importance to art, but this is a subject fitted rather for the study than the lecture-room.

It now remains for me still to deal with one other cognate matter of essential importance in the compounding and arranging of colours. The two pigments, black and white, hold a very important place in every painter's palette; and although certainly not taking rank among colours (a rank which our most distinguished authority, M. Chevreuil, seems almost unwilling to deny them), yet are they most influential instruments, whether used to qualify other hues, or used in their pure and perfect condition of black and white. It would be an endless task to enter upon an enumeration, even, of all their effects in combination with other hues, nor am I competent to that task. It is the painter only who knows these niceties of chromatic art; but in their pure state I may be all-wed to express my sense of their high value in architectural decoration. Black, by its perfect opacity and coldness is of especial use in giving intensity to luminous and warm colours. The buff dress with black border in the costume of Raffaelle's well known portrait will occur to you at once as an illustration of this. The black pencillings on the blossom of an orange-coloured tulip will also be observed as exercising a similar influence in giving clearness and intensity to the colour.

A black ground gives peculiar brilliancy to almost every colour laid upon it, and by its overpowering depth enables these colours (perhaps I should say *requires* these colours) to be used in greater intensity than would otherwise be possible without gaudiness. I need do no more than remind you of the beauty of those Oriental works where the colours shine out from a black, japanned surface. Those medallions, also, having a black ground, occurring in the beautiful decorations of Giulio Romano and that school, are familiar instances; whilst the black backgrounds to coloured paintings, and other applications of black, so prevalent in Pompeiian art, give evidence of the early appreciation of black by the accomplished artists of the classic age.

The other pigment, white, on the other hand, by its extremely luminous character, gives depth and value to contiguous hues, however delicate in tone, rendering the faintest tints effective, and redeeming from a faded or washy appearance tints of the most tender and timid character, whilst the brightest colours are found to tell out with augmented brightness upon it.

Before concluding this discourse I must urge upon you the necessity of a habitual observation of the effects of colour. The first principles are, as I have said, few, simple, and speedily mastered; but it is a careful study and a constant habit of observation that will alone secure to you a practical knowledge of these principles, and a well-founded confidence in their application. Not only should your attention be constantly alive to the effects of colour in its actual application to architecture, but I would have you habitually observant of colour in pictures. Endeavour to enter into the mind of the painter; ascertain his motives, and study the treatment of his colours; for be assured, every able painter has as good a reason for every variety of hue that he presents to your eye as the mechanician has for every screw and lever that he works into his engine. There is also a wide and valuable field for observation on the use of colour in the ceramic manufactures, and in textile fabrics. Every object of this nature which happens to fall under your observation may thus become a useful and instructive lesson. Nor need I do more than merely name to you the illimitable school of colour presented to us in the beautiful works of nature.

I now conclude. I am well aware that the matter which has been brought before you is very liable to be tedious and confused as a subject of discourse. Colour addresses itself to the eye rather than to the ear. It is time, therefore, I should close, although the subject is a fertile one, full of practical interest, and to every one, in any way, however indirectly connected with the fine arts, it is not without its intrinsic pleasures.

To be a mere doorkeeper in such a temple I regard as a privilege and an honour; and if, whilst endeavouring to do faint justice to my subject, I should have succeeded in awakening any new train of thought in your minds, or in exciting in you any desire to become more deeply acquainted with this subject of colour, I shall be well pleased to think that I have, in some measure, fulfilled the purpose of my mission here.

OUR WOODEN WALLS AND THEIR CHIEF ARCHITECT.*

RECENT PROGRESS IN NAVAL ARCHITECTURE.

A SKETCH of the principles and the progress through which our magnificent war-fleet has of late years been led to its present imposing and unparalleled dimensions, will, we feel assured, be acceptable not only to our professional readers, but to all the long list of miscellaneous perusers of the *Builder's* pages; and to this end we cannot do better than avail ourselves of the opportunity now offered, in the publication of the memoirs of one who, spite his not very special connection with the steam of improved locomotion, may well be called the Stephenson of the ocean: from these memoirs, therefore, we shall freely transfer to our pages, in a more condensed and suitable form, some of the valuable information on the subject of naval architecture which this very interesting volume contains.

Not a few of our readers, in the outset, will be surprised to learn that so far from the British fleet, of past times and of glorious memory, from the epoch of the Spanish Armada, onwards to that of the Duncans, the Jarvises, the Howes, the Collingwoods, and the Nelsons, of the grand climax of its renown, being a model of its kind, or superior to all others, precisely the contrary has been the case. The ships of the Spanish armada were splendid structures, comparatively to the pitiful little British men-of-war by which it was mastered; and in the great wars with France and other maritime nations in more recent times, the finest ships in the British fleet were foreign prizes, and the worst in the lot, with our foreign foes, as with ourselves, were, British built." It was British pluck, audacity, and daring that enabled "Britannia" to "rule the waves," –not native superiority in naval architecture. We left our foes to build good ships for us, and, on Rob Roy's "good old rule and simple plan," appropriated them to our own purposes whenever they came within our clutches. Thus it was that every victory brought a two-fold honour to our sailors, but a ten-fold stigma on our ship-builders. When the French captured a British ship, they threw her aside, or at least put her on a lower rating: their wrecked or foundered ships were sure to be British built. On the other hand, when our naval forces were in chase, the lead was invariably taken by our French prizes, and it was the enemy's British built ships we first caught by help of our French acquisitions. When a genuine Frenchman was seized, it became a prime favourite; and, like the wild elephant under the able snarer's training, took the lead in new captures. The French seldom or never recovered their own old craft again, because we knew how to handle their better ships with our better sailors.

Such acquisitions, however, could not but tend to improve our own science of naval architecture and our own art of ship-building. This was for a long time done in but a negligent sort of way; and so late even as 1850, out of the 140 ships in the first to fifth rates on the Navy List, fit for service, there were only about fifty copied from foreign models. Strange to say, many of the best Spanish ships of a previous epoch had been the production of an Irishman, who went over to Spain

* Memoirs of the Life and Services of Rear-Admiral Sir William Symonds, K.C.B. Surveyor of the Navy from 1832 to 1847. Edited by James A. Sharp. Longman and Co. London. 1858.

and offered his improved plans to the Spanish Government, after having failed with the English Admiralty,—a circumstance which affords us a glimpse of at least one sort of reason for our own former inferiority to foreigners in the art of ship-building; and the stubborn obstacles which the Navy Board for a time presented to the endeavours of Captain Symonds, and of others who *believed* in him, to initiate a system of improvements in the construction of our war-ships, only confirm us in the idea that this sort of reason for our former inferiority was one of overwhelming force and magnitude.

In what we may call the old fleet, however, some good ships were built at home, although many were so crank that they were turned into store-ships. Amongst the better order was Nelson's *Victory*, which dates from 1765, and is, therefore, the oldest ship but one in the navy. It is so patched and repaired, however, that like Sir John Cutler's silk stockings darned with worsted, scarcely a vestige of the original structure remains in the original form.

In 1793 Earl Spencer, when First Lord of the Admiralty, reduced the old high square stern and long raking stem to more reasonable dimensions; but at a sacrifice of stately, though certainly rather useless, ornamentation. At a later period, every Board of Admiralty, as Sir Charles Napier remarks, was seized with a "building mania," Corvettes, longer and narrower than brigs, were tried, but found wanting, and were forthwith sold out of service. Then came the "Forty Thieves," a class of seventy-fours, the French lines of which, as designed by Sir H. Peake, were altered and botched by the Navy Board, who had them built by contract. There were even fir frigates, which "neither sailed nor stood under canvas," and donkey frigates, which "could neither fight nor run away,"—all fruits of this Admiralty building mania. The bad sailing of such vessels is declared to have been the chief cause of our ill success in the American war. The old 10-gun brigs, or "floating coffins," were as dangerous to those on board as were the donkey frigates, and as unsightly. They had no room to fight their guns, no air between decks (only 5 feet high): extra provisions and stores had to be piled above hatches; and the fastest of them sailed only eight or nine knots an hour. Such was the state of our navy in very recent times.

As to the style which prevailed in the merchant service; with rare exceptions, mercantile ships were flat-bottomed, wall-sided, and top-heavy, with every disadvantage belonging to such a peculiar mode of construction. It was hardly a joke to say that our merchant ships were built by the mile, and served out by the yard, so that when a vessel was wanted, a length was cut off from the block, to which a head and stern were clapped on. It was the direct interest of her owner, for reasons connected with the system of registering tonnage, &c. to build a long, deep, lumbering ship, in which every good quality but bulk was dispensed with: though she sailed like a tub or a Thames mud-barge, she was pronounced fit to go to any part of the world, particularly as the lumbering mercantile Britishers ever flocked in convoy, protected by their costly war vessels, though the Yankees, with a clear eye to economy and common sense, built merchant-ships that could protect themselves—at least by running away.

It was the defective construction of our mercantile marine more especially, and the indirect influence which their vicious style had upon the style of ships built in the navy yards, which originally drew the attention of our modern reformer of ship construction, Captain Symonds, R.N. to naval architecture.

The problem for a man-of-war, says the editor of Symonds's Memoirs, may be stated in this form:—

"Given the number of guns, what shall the ship be?—a frigate, for example. Here we are to consider that every gun must have so much space to turn about in; so many feet on each side, so many behind. This determines, to some extent, her total length and breadth. Each gun requires so many men to work it, which gives the number of the ship's company. So many men must have so much room to stand, manœuvre, mess, and sleep in. For so many guns, there must be so much ammunition; for so many men such a quantity of provisions and water. Her hull, therefore, must be capacious enough to accommodate her crew, to hold so many casks and tanks, and a magazine, besides a supply of fuel for her engines, if she be a steamer; but, at the same time, her shape must be so 'fine,' as to promote her speed, which is a point essential to her character.

"The length, breadth, and depth of the whole structure must then be so balanced as to combine these requisites and render the entire fabric strong, firm, and symmetrical. These dimensions, again, regulate her masts: upon her masts depend the rigging, the length of the spars, and the size of the sails. And thus we arrive at the complete, well-found ship—the noblest triumph of mechanical invention."

A ship's hull is full of bends and curves, of such a shape as are best calculated to strike the water obliquely and help her on; but their number and irregularity try the powers of the naval architect. His aim is to produce a fabric uniting the greatest number of good qualities, as determined by theory and experience. Two of the most essential are velocity and stability,—the power of going well through the water, and of standing well up in it. If the ship is too light, or 'floaty,' as old Fuller says, she will upset; if too heavy and deep, she will not sail. To hit upon the happy medium, to adjust the proportions above and below water, so that the ship may float and sail at the right draught, is, in short, the art and mystery of ship-building. Here theorists step in to assist us with their investigations; and the general conclusion to which they have arrived may be stated in a small compass:—

"There is a point in the whole mass of the ship, above and below water, on which she may be supposed to turn, viz. the centre of gravity of the system, as it is styled; and it is in reference to this that all the calculations of the mathematician are made. A ship is broadest about the middle of her height and the middle of her length; but, in strictness, her greatest breadth, as determined by theory, should be forward of this mid-length; so that, her foremost half being the larger, her centre of gravity may be thrown forward. Chapman, the Swedish writer, as the result of his inquiries, and on the supposition that a ship's hull is made up of parabolic sections, says, that the greatest section or breadth of beam should be forward of the mid-point four, six, or eight times the horizontal distance of the centre of gravity from the same point; the first number for sharp frigates, the last for bluff trading ships. This gives *a fish-like shape*, broadest towards the head,—a shape which not only serves to break the force of the water, but actually conduces to speed, though at first sight it would appear to stand in its way. But it is confirmed by the well-known fact that a log of timber always tows best with its *wide* end foremost; and by the repeated experiments of the late Colonel Beaufoy, of Hackney Wick, conducted for a long period at great cost to himself. He found, by drawing different solids through the water, shaped like double cones, clubs, kites, &c., that in general the broadest part should be one-tenth of the whole length forward of the middle. Others say about one-sixth. This view is explained by the consideration that, though a ship when 'full' forward opposes her broadest end to the water, yet, after once clearing it, she meets with less resistance, since the water thus raised has an immediate tendency to sweep round along her sides and to unite abaft, and so force her on, besides giving more power to the rudder.

"To discover the place of this centre of gravity is a very difficult process, on account of the irregularity of a ship's form. . . . Elaborate rules are given for calculating its place, or finding it by actual experiment on board; but even then, at the best, it can be determined only approximately, after long and tedious figuring; so much so, that in practice its place is assumed by all ship-builders. . . . A ship, for the best part of her existence, that is, when most usefully employed, is perpetually getting lighter or heavier: she is heeling over, or pitching and tossing; and hence all these nice adjustments are put out. Her burden may be lodged too high or too low: the cargo in the hull keeps the centre of gravity down, the masts and rigging send it up; and though a few tons more or less would not be much in practice, yet it is a great deal to the mathematician, who is bound in each case to begin his calculations again, or to supply some impracticable rule for correcting the ship's trim. . . . What is the utility of ingenious theories which are too fine spun for working-day life,—of formulæ which, like La Grange's for the movements of fluids, 'malheureusement, sont ils rebelles qu'on n'a pu jusqu'à présent en venir à bout que dans ces cas *très limités*!' It is as difficult to calculate the centre of gravity of a statue as it is that of a ship, and for the same reason, the irregularity of the form; otherwise the process is simply a tedious sum in mensuration, the rules for which are constant. It would be unpardonable in both constructor and artist not to know the principle of the centre of gravity, or to neglect its consideration; but are we therefore bound to say that a sculptor must not presume to carve a statue, or set it upon its legs, before he has worked out the calculations for its centre of gravity? To disparage the labours of analysts on this subject would be sheer presumption; but we submit [continues Mr. Sharp] that the real state of the question as regards ship-building is this:—It is hard (speaking rigorously) to calculate these centres of gravity, &c.; and when found, it is harder still to make use of them. Scientific inquiry has indeed advanced, but the difficulty of applying it in this instance is as great as ever, though as much is borrowed for the purpose as can be conveniently taken. Ship-building, in short, is an art;—not one of the exact sciences. The figure of a ship has never been reduced to a theory, which has determined little or nothing that was not well known before. The true laws of the resistance of fluids, the form of the best angle for parting the water at a ship's head, the dividing lines along her run, are still unsettled. Theory and practice here are still as much separated as the theory and practice of gunnery. And the inference is, not that pure science is misemployed in these investigations, but that the object it deals with is so heterogeneous in its character, the conditions of the problem are so involved and fluctuating, that the results when obtained are too vague and indeterminate to be of practical benefit. Aided by science in general, cultivated minds have produced finer and finer ships; but we are mainly indebted for them to experience and improvements in the arts of construction."

It appears, then, that induction from the results of experience, and a careful comparison of the best models, yield the best and easiest solution of this difficult problem to naval constructors.

What does *experience* teach? Experience teaches or proves that the parts of a good ship are these:—

"She must be so tied together in her frame as to be strong enough to resist the strains occasioned by her own weight and the force of the wind and waves. As a sea-boat she must stand up stiffly under her canvas; run smoothly and swiftly through the water; sail well when going 'large' (*i. e.* before the wind) or close hauled; answer her helm, and tack, easily and promptly; not pitch heavily in a 'sea,' but rise to the wave; carry her stores, &c. well; and above all (in a man-of-war), berth her men comfortably, have room to fight her guns, and float at such a height that, while her upper works are not too elevated, her lower tier may be not less than 6 feet from the water, so as to admit of working the guns in action, and escape the risk of shipping a sea through the ports. The constructor must then so model his vessel that she may possess all these qualities,—some of which are opposed to others. Whether she should be narrow or broad in proportion to her length, and where the maximum breadth should be, are at the bottom of all disputes among ship-builders."

Captain Symonds contended for a broad beam, or greater breadth, just above the water; while his opponents, trained to admire the ships of the old school, were in favour of a narrow or only moderate beam. He felt that the simple plan of spreading the beam would produce his favourite-shaped floor, and the other features of a stable, swift, and roomy ship. The average length of ships of war before his time was 3·6 to 3·9 times the breadth. That of Captain Symonds's ships runs from 3·1 to 3·3 times.

"Having settled his length (*i. e.* along the main deck), breadth (*i. e.* the greatest breadth across the middle), and height, to which standard dimensions all the other dimensions bear a settled proportion,—the constructor must next take care that his ship, when loaded fit for sea, may settle down to the depth or draught of water previously agreed on. To this end it is necessary to find the displacement, or weight of the ship and all on board, before launching. Suppose that a frigate's displacement, to bring her down to the 'load water line' (that is, the line described on her bottom by the surface of the water when she is sufficiently loaded) is 2,000 tons. If the men, guns, stores, &c. be 800, then the hull, masts, &c. must not exceed 1,200, or she will sink deeper than her constructor intended, and throw out all his designs.

"This displacement turns on the well-known hydrostatic principle, that as a body sinks down in water it displaces a quantity of water exactly equal in *bulk* to the part below water, and equal in *weight* to the whole body. In this sense the immersion is equal to the displacement, and the difference of draught at two periods is an exact

measure of the difference of weights put on board. Its right application was first pointed out to English builders by Sir Anthony Deane, a man of science in Pepys's day; before whose time Raleigh had occasion to caution shipwrights 'not to be deceived herein (as for the most part they have ever been), that the ship sink no deeper into the water than they promise.' The method of calculating this is the most useful contribution of mathematical science to ship-building. That part of the hull immersed is supposed to be cut into several horizontal or vertical sections; their contents are then found separately and added together, 35 cubic feet on the average being allowed for each ton. From the displacement, the stability at various inclinations may be determined. The labour attending these calculations is to a great extent superseded by Mr. Edye's *Scales*."

Great breadth of beam and extraordinary, [wedge-like sharpness, says Captain Symonds (in a tract published long before he became surveyor to the navy), "are the characteristic features of my system, with a careful attention to the stowage, the stand of the masts, and the cut and setting of the sails." Some parts of his style are a little obscure, and probably one or two of his deductions are not justified by the rules of strict *theory* (though they are within the limits of a safe *empirism*); but, with these drawbacks, his Tract lays down the general principles of ship-building on an improved and solid basis. By "taking from the flat floor of a ship of the old construction, and adding the fulness to the breadth above the water line," giving her that peculiar feature which he terms "bearing," he arrives at his fine "wedge-shaped bottom." He affirms that a vessel of this formation, with increased beam in her frame, 6 inches to 3 feet above the line of floatation (when laden) would possess these advantages:—She would carry more dead weight; would be stanch under canvas when pressed by the wind; would roll less; would, by her sharp broad figure, be more capable of velocity; and would offer more resistance to lee-way. She would admit of greater depth of hold; would shift her cargo less; and would require less ballast to replace the cargo. She could be fitted with lower topsides and bulwarks; would afford an "improved system of tumbling home aloft, to concentrate the weight above water;" would allow of a more roomy deck for the ordinary working of the ship, or in case of action, as well as more spacious hatchways, and for the better stowage of boats, spars, &c.; while the masts would be steadier, since a greater speed would be given to the standing rigging. And such an improved vessel, he submits, would not be more expensive than others. Even merchant ships, if properly masted and rigged, not being "embarrassed in their superstructure with ordnance," might be made to sail faster than men-of-war, and perform their voyages in war-time independent of convoy. "Why, then, should the present mode of admeasurement, so ruinous to the art of construction, and favourable only to preposterous, crank, and unwieldy ships, be any longer continued?"

Such were the principles which, in the midst of an immensity of opposition, were finally realized in the shape of a complete revolution in the received system, to which the superiority of ship after ship modelled on Captain Symonds's lines inevitably led; till at length there appeared a magnificent fleet of 211 vessels of all classes built or commenced on these new principles. Many others were cut down so as to approximate towards the same forms, and having once "broken the line," Sir William made it easy for others to follow and win further victories; so that we now possess floating bulwarks which for size, power, and armament are justly the pride of the country, though they may be placed in circumstances where their very size renders them useless.

At present, with steam as an auxiliary, there is a tendency to make longer and longer ships; increased length, it is said, giving more speed and breadth of sail, without sacrificing stability: and here the wave system of Mr. Scott Russell, to whom ship-building owes much, may be said to be superinduced on previous principles; but it is considered to be a question for seamen to determine, whether the advantages just alluded to (irrespective of those of the wave principle) are compensated by the want of compactness and strength in a long ship, the increased friction, and the difficulty of working her at sea or in harbour. As regards the mere principle of increased length, the *Leviathan*, just launched, will very shortly decide the advantages or disadvantages of this principle, in its influence on rapidity of sailing and stability of motive friction and fabric: our impressions, the result of some attention to the subject, and long consideration, are strongly in favour of big ships.

In the volume under notice there is an immense mass of correspondence from naval and other authorities, most of it expressing the most unqualified approbation of the ships built on Sir William Symonds's system, and the whole constituting a most triumphant tribute to his genius, and evidence of his success as the reformer and improver of our naval bulwarks.

We cannot conclude the present sketch without thanking the editor of the memoirs, and expressing our sense of the ability with which he has performed his task. The less scientific, or more personal and biographical, details of the life, and of the professional or scientific struggles of the subject of the memoirs, are also full of popular and general interest.

AN ACCOUNT OF THE NEW PALACE AT WESTMINSTER, AND THE PROGRESS OF BUILDING IT.*

THE residences of the various officials whom I have mentioned above are almost now occupied, and have been fitted up with every regard to modern ideas of comfort and refinement. Though every portion of the fittings and furniture is of a Gothic character, it has been my father's aim to show, as far as possible, that the notion of a Gothic house being necessarily inconvenient, is a fallacy founded upon an imperfect appreciation of the extent to which the resources of the style may be developed, and that there are no modern appliances from which the dweller in a Gothic residence need be debarred.

The most important portions of the new palace, as regards its external appearance, are undoubtedly the main towers, and a short description of these may not be undesirable. The central tower is now completely finished, and I will therefore speak of it first. The foundations were laid upon 7 feet 6 inches of concrete, and great care was taken in building them, in consequence of the large apertures required by Dr. Reid, which pierce the basement story in all directions. The principal floor is carried upon a brick vault, springing from the walls to a circular cast-iron curb in the centre, supported by columns, and the ceiling over the octagon or central hall is a stone groining 70 feet span, without any central shaft. this groin was intended by my father to have been considerably higher than it now is, but the demands of Dr. Reid for extensive air spaces over it compelled the adoption of the present lower design. A strong wrought-iron tie bar is inserted in the wall all round the tower, at the springing line of the groining. The upper part is carried upon a brick cone, starting from the top of the walls of the octagon. This cone carries the lower lantern, which in its turn supports another and a smaller cone, upon which the upper lantern and the spire are constructed. These cones were built without centering, and there were many peculiarities in the process of constructing the tower; but as you have already heard a description of these matters, I forbear to touch upon them now. The Clock Tower was intended by Dr. Reid to be the central point of discharge of vitiated air from the whole building, but I believe Mr. Gurney makes little or no use of it at present for that purpose. The Victoria Tower is situated at the south western extremity of the building, and its general features are no doubt familiar to you. The carefully-executed model on the table, by Mr. Mabey, will give a better idea of its appearance than any description that I can write. Great precautions were necessary with the foundations, as the site was extremely bad and full of quicksands. A double close row of piles was driven completely surrounding the site: the earth within this species of coffer-dam was then excavated, and concrete thrown in to a depth of 10 feet 7 inches. Two courses of 6-inch landings were then placed on the concrete, and upon them the walls were carried up, without accident of any kind. The corner octagonal turrets are built hollow, being intended to be used by Dr. Reid for the passage of air. One of these corners contains an open iron staircase, which gives access to the top: the upper portion of the turrets finishes with a light open pinnacle, in which a winding staircase will be inserted. The various floors of the tower are fitted up with iron beams and columns, forming so many fireproof receptacles for records and papers of value, and the plans have been so arranged as to admit of a lift passing up the well-hole of a staircase in the middle of the tower, communicating with the various floors. The roof is now in course of construction, and most of the ironwork for it is ready for fixing. My father has determined to make it of the general form shown in the model, but there are some questions connected with the flag post and other details at present undecided. There is, however, little reason to doubt that this year of 1858 will see the last plate fixed on the roof. In describing the towers of the New Palace, the Clock Tower must not be forgotten: it stands at the north end of the building, and from its propinquity to the bridge is perhaps made more the subject of comment than any other portion of the edifice. My father's view in designing this tower was to make the clock the predominant feature: all else was to be pedestal or roof. The windows are few and narrow, and hardly prevent the tower from appearing actually solid, while the roof, with its decorative metalwork and gilding, forms one of the most conspicuous features of the building, when seen from a distance. The model before you, from the same skilful hand as the others, sufficiently explains the nature of the design. The interior of the tower is taken up by the shaft for the clock weights, a staircase from top to bottom, a large vitiated air shaft required by Dr. Reid, and a few prison rooms, supposed to be for the benefit of refractory members of Parliament. My hearers have heard a great deal about the clock which is yet to come, and also about the unfortunate Big Ben, over whose tragic fate it only remains to drop a tear. Every arrangement in the tower is ready both for clock and bells, and has been so for a considerable time; but it is to be hoped that the new bell will not be in so great a hurry as the last, to ring his own dirge. Both clock and bell will be hoisted up the central shaft in the tower in the same manner as the whole of the building materials have been raised; for it may be remarked, in passing, that the Clock Tower as well as the Victoria Tower have been built entirely without external scaffolding; hence the silly story about hoisting the clock and bells, which was started some time since. The clock faces are of cast-iron, perforated, and the apertures in them are filled in with white glass, opaque by day, but admitting of illumination by night, without rendering visible the light placed behind it.

As the works of the New Palace proceeded, it was thought that the erection of so large and costly a national building afforded a suitable opportunity for encouraging the artistic energies of the country, with reference to the embellishment of the interior by the sister arts of painting and sculpture. A Royal Commission was therefore issued to certain distinguished noblemen and gentlemen, presided over by his Royal Highness the Prince Consort. The architect was called on to present a report to the commission (of which he is not a member) expressing his views generally on the subject. This was accordingly done, and I may perhaps be permitted to quote some passages from his report:—

"With reference to the interior of the new Houses of Parliament generally, I would suggest that the walls of the several halls, galleries, and corridors of approach, as well as the various public apartments throughout the building, should be decorated with paintings having reference to events in the history of the country; and that those paintings should be placed in compartments formed by such a suitable arrangement of the architectural design of the interior as will best promote their effective union with the arts of sculpture and architecture. With this view I should consider it to be of the utmost importance that the paintings should be wholly free from gloss on the surface, so that they may be perfectly seen, and fully understood, from all points of view; that all other portions of the plain surfaces of the walls should be covered with suitable architectonic decoration, or diapered enrichment in colour, occasionally heightened with gold and blended with armorial bearings, badges, cognizances and other heraldic insignia emblazoned in their proper colours. That such of the halls as are groined should have their vaults decorated in a similar manner, with the addition occasionally of subjects, or works of art, so interwoven with the diapered ground as not to disturb the harmony or the effect of the architectonic decorations generally, or interfere with the elementary features of the architectural composition. That such of the ceilings as are flat should be formed into compartments by moulded ribs, enriched with carved heraldic and Tudor decorations. That these ceilings should be relieved by positive colour and gilding, and occasionally by gold grounds with diaper enrichments, legends, and heraldic devices in colour. That the screens, pillars, corbels, niches, dressings of the windows, and other architectural decorations should be painted to harmonise with the paintings and diapered decorations of the walls generally, and be occasionally relieved with positive colour and gilding. That the door-jambs and fireplaces should be constructed of British marbles of suitable quality and colour, highly polished and occasionally relieved by colour and gilding in their mouldings and sculptured enrichments. That the floors of the several halls, galleries, and corridors should be formed of encaustic tiles, bearing heraldic decorations and other enrichments in colours, laid in margins and compartments, in combination with polished British marbles, and that the same description of marbles should also be employed for the steps of the several staircases. That the walls to the height of from 9 to 10 feet should be lined with oak framing, containing shields with armorial bearings emblazoned in their proper colours, and that an oak seat should in all cases be placed against such framing. That the windows of the several halls, galleries, and corridors should be glazed doubly, for the purpose of tempering the light and preventing the direct rays of the sun from interfering with the effect of the internal decorations generally. For this purpose the outer glazing is proposed to be of ground glass in single plates, and the inner glazing of an ornamental design in metal filled with stained glass, bearing arms and other heraldic insignia in their proper colours, but so arranged that the ground, which I should recommend to be of a warm yellowish tint, covered with a running foliage or diaper, and occasionally relieved by legends in black letter, should predominate, in order that so much light only may be excluded as may be thought desirable to do away with either a garish or cold effect upon the paintings and decorations generally. Practically, I consider that the double glazing will be of essential service in carrying out the system of warming and ventilating proposed to be adopted in the building generally, which system renders it unnecessary that the windows in those portions of the building above referred to should be made to open, so that all prejudicial effects upon the paintings and other decorations which might be caused by the dampness and impurity of the atmosphere, and much practical inconvenience, and probably unsightliness in the means that would be necessary to adopt for opening and shutting casements, would be avoided. That in order to promote the art of sculpture and its effective union with painting and architecture, I would propose that in the halls, galleries, and corridors should be employed for the purpose of dividing the paintings on the walls. By this arrangement a rich effect of perspective, and a due subordination of the several arts to each other, would be obtained. The statues suggested should be, in my opinion, of marble of the colour of polished alabaster, and be raised upon lofty and suitable pedestals placed close to the walls in niches surmounted by enriched canopies; but the niches should be shallow, so that the statues may be as well seen laterally as in front. The architectural decorations of these niches might be painted of such colours as would give the best effect to the adjoining paintings, being relieved in parts by positive colour and gilding, and the backs of them might be painted in dark colours, such as chocolate, crimson, or blue, or they might be of gold, for the purpose of giving effect to the statues. Having thus described the views I entertain as to the character of the decorations of the interior generally, I now proceed to notice in detail the special decorations and arrangements which I would propose for the several halls, galleries, and principal apartments.

I would propose that Westminster Hall, which is 239 feet long, 68 feet wide, and 90 feet high, should be made the depository, as in former times, for all trophies obtained in wars with foreign nations. These trophies might be so arranged above the paintings on the walls as to have a very striking and interesting effect. I would further suggest that pedestals, twenty in number, answering to the position of the principal ribs of the roof, should be placed so as to form a central avenue, 30 feet in width, from the north entrance door to St. Stephen's porch, for statues of the most celebrated British statesmen, whose public services have been commemorated by monuments erected at the public expense, as well as for present and future statesmen whose services may be considered by Parliament to merit a similar tribute to their memories.

* By Mr. E. M. Barry. See p. 118, *ante*.

The statues which have been already proposed to be placed against the walls between the pictures, I would suggest, should be those of naval and military commanders. The subjects of the paintings on the walls, twenty-eight in number, 16 feet in length, and 10 feet in height, might relate to the most splendid warlike achievements in English history, both by sea and land, which, as well as the statues that are proposed to divide them, might be arranged chronologically. To give due effect to these suggested decorations, it is proposed that the light should be considerably increased by an enlargement of the dormer windows in the roof, by which also that extraordinary and beautiful piece of decorative carpentry of the fourteenth century may be seen to much greater advantage than has ever yet been the case. This noble hall, certainly the most splendid of its style in the world, thus decorated by the union of painting and sculpture and architecture, and aided by the arts of decoration as suggested, it is presumed would present a most striking appearance, and be an object of great national interest." Here follow some detailed recommendations as to other parts, with which I shall not trouble you; after which the report proceeds:—"I have now described in general terms the whole of those portions of the building that might, I think, with propriety and effect, be adorned with works of art and the arts of decoration, but, in making the several suggestions which have occurred to me, I should wish it to be understood that I have merely stated my own views on the subject as far as I have hitherto been able to consider it in its general bearings, and with a view to show how the objects for which the commission has been established may, if desired, be carried out in the decorations of the new building to their greatest extent. I should not, however, wish to be strictly confined in all cases to the adoption even of my own suggestions, as, upon a more mature consideration of the subject in detail hereafter, when the shell of the building is completed, I may be induced to vary and modify some of the views which I entertain at present, and which, I fear, I have but imperfectly communicated in this paper."

The two drawings of St. Stephen's Hall and the Royal Gallery, by Mr. Nash, exemplify my father's views as above quoted; but, since the time of their appointment, the Royal Commissioners have taken entire charge of the various fine art decorations which have been introduced into the building, and have held exhibitions in Westminster Hall, of cartoons and sculpture submitted to them in competition. Frescoes have been painted in the House of Lords, by Messrs. Dyce, Cope, Maclise, and Horsley. In the upper waiting-hall, river front, by Messrs. Cope, Watts, Herbert, Horsley, Tenniel, and Armitage. The Queen's robing-room is now in the hands of Mr. Dyce, and the peers' robing-room is committed to Mr. Herbert. Mr. Ward is also engaged on a series of pictures for the corridors leading from the central hall, some of which have already been exhibited. Bronze statues have been placed in the niches of the House of Lords, by Messrs. J. Thomas, J. C. Thomas, M'Dowall, Woodington, Timbrell, Westmacott, Thornycroft, Thrupp, and Richie. Large white marble statues have also been erected on the pedestals in St. Stephen's Hall, by Messrs. Foley, Bell, Marshall, M'Dowall, Bailey, and Carew. In speaking of these last-named statues, while admitting most of them to be extremely beautiful works of art, I cannot but regret that they should have been executed on so large a scale as to be detrimental to the architectural effect of the hall. The same remarks would apply to the fine group by Gibson, in the prince's chamber. In this case the figures are more than 9 feet high, while the room is only 45 feet by 25 feet. In the prince's chamber, Mr. Theed has designed some bas-reliefs of historical subjects in the panels, which have been electrotyped from his designs, and add greatly to the appearance of the room. Paintings have also been commenced in the wall panels of this chamber, which display satisfactorily the effects of the gold background, which my father has always recommended as the most suitable in such cases. When I add that to Mr. Maclise is entrusted the embellishment of the royal gallery, I have, I believe, completed the list of works carried out by the Fine Arts Commission. With the exception of the works above mentioned, the sculpture of the building has been completed, as I before said, under my father's guidance, by Mr. Thomas, as regards the stone carving, and by carvers, under the direction of Mr. Pugin, in all matters relating to the wood finishings of the building. The sketches of statues before you, by Mr. Thomas, will give some notion of the style of sculpture adopted. After many delays with reference to the ventilation of the House of Peers, which was ultimately removed from Dr. Reid's control, the chamber was completed, and was opened on the 15th of April, 1847, without any public ceremony, and from that day to the present has been in constant use. The peers' libraries and refreshment-rooms were opened at the same time; and, on the 3rd of February, 1852, the whole of the public entrances, with the House of Commons, Central Hall, and St. Stephen's Hall, and adjoining offices were delivered up by the architect. Since that time most of the remaining portions of the edifice have been completed, and at this moment very little remains to be done. The Speaker's house is all but finished, and will be occupied after Easter. The residences in the south wing will be completed in a few months, and before long the main towers, the Royal gallery, and the Royal staircase will be ready for occupation, so that by the close of the year the present works at the new palace will be brought to a close. Much has been said about the time the edifice has taken to construct, but I think, in addressing an audience like the present, I have no need to say much on that head. It may suit those who imagine an architect can be urged onward to any extent by external irritation, to complain of the rate of progress at the New Palace; but, when the difficulties of all kinds which have beset the work are duly considered, and it is borne in mind that the public business of the country has never been interrupted for an hour, but has always possessed temporary accommodation on the site, which has only been handed over piecemeal to the builders—architects, at any rate, will not think the time that has elapsed, between the laying the first stone, in 1840, and the completion of the building, in 1858, has not something to show in the work that has been done.

I may now proceed to say a few words on the cost of the Palace; which, though very large, has been much exaggerated. The total cost of the structure up to the present time, as far as the architect is concerned, has been 1,708,979*l.* 8*s.* 1*d.*; and it is not surprising that those who look at these figures, and then contrast them with the original estimate of 707,104*l.*, should demand some explanation of so enormous an excess. But the building to which the original estimate applied, and that which now exists, are two different things, though the public, who call them both New Houses of Parliament, cannot be expected to understand the difference. The following are some of the many modifications of the design which have been sanctioned by the Government since the original estimate was made:—1. The river embankment and coffer dam were not included, and it was found necessary to go down much deeper for the foundations on account of the treacherous nature of the soil than had been at first intended. 2. A much harder stone was selected than that on which the estimate was based, and I may state that the labour on Anston stone is considered by competent authorities greatly to exceed that on Portland. 3. The building was ordered to be made fire-proof by the substitution of iron girders and brick arches for ordinary floors, and iron roofs instead of slated coverings were ordered to be formed. 4. Arrangements for warming and ventilating were expressly excluded, and those who will take the trouble to look at the general sections of the building will see by the space they occupy, compared with the habitable portions, that these can have been no inconsiderable items of expense; indeed, portions of the building were carried up for the purpose of providing continuous air and smoke flues in the cross roofs connecting those in the main building. The central tower is also an addition, not having formed part of the original estimate, nor having received the sanction of Parliament until the rest of the works were in an advanced state of progress. Many extra suites of rooms and offices have been added; amongst others, complete residences for the Clerk of the House of Commons, the Clerk of the Crown, and the gentlemen in charge of the ventilation of the building, as well as many other smaller works too numerous to be mentioned here. The works consequent on the orders of the Fine Arts Commission and the restoration of St. Stephen's Crypt also formed no part of the original estimate, and a more elaborate mode of internal finishing was rendered necessary by the determination to make the building a means of encouraging the fine arts of painting and sculpture. When these circumstances are borne in mind, and the upward tendency of prices for labour and materials during the last ten years is also remembered, it will, I think, be seen that a mere comparison of the original estimate with the actual cost of the edifice does not present a fair aspect of the case; and many present will readily understand the numerous unavoidable expenses which gather round a building of such size and peculiarities as the New Palace at Westminster.

The present iron roofs were adopted in consequence of the requirements of the ventilating scheme which provided smoke flues stretching along the roofs in all directions, and which, being necessarily heated to a considerable temperature, required a fire-proof covering not likely to be injured by heat. Galvanizing was adopted, as a means of protection, after considerable inquiry, and after it appeared it had been used extensively in the public establishments of France. Experience has shown that however well it may answer elsewhere, galvanized iron will not long resist the injurious effects of a London climate and atmosphere, and the means of protecting the iron roofs at the New Palace have occupied much of my father's attention. At last, after a great many trials of different paints and other compositions, one by Mr. Szerelmey, a Hungarian gentleman, has appeared to him to promise great success. Mr. Szerelmey has already applied his process to the roof of the Clock Tower and some other portions of the building, and if it should succeed, as it seems likely to do, the whole of the roofs will probably be treated in the same manner. Mr. Szerelmey also applies his composition to stonework, and has furnished me with specimens of iron and stone, both of which are coated with his composition, which he informs me will not cost much more than a coat of ordinary paint, and will not discolour the stone.

No orders are yet given with reference to the remaining portions of the design adjoining Westminster Hall and New Palace Yard: and, in fact, the question of the removal or non-removal of the Law Courts from Westminster must be determined, before anything can be done with a large portion of these buildings, my father's designs for which are shown in a Parliamentary paper of the session 1855, and display a great entrance gateway, with flanking turrets at the corner of New Palace Yard, which would form the public entrance to the building, as distinguished from the royal entrance at the other corner under the Victoria Tower. The construction of the new bridge with twice the width of the present Westminster-bridge, with the increase gained towards the New Palace, will render the destruction of the houses on the south side of Bridge-street a matter of public convenience, and almost of necessity, and the lowering of the roadway can hardly fail to render the view of the building from it more favourable than it can be said to be at present. The Institute has already had the advantage of a very interesting description of the works of the new bridge, which are being carried on under the directions of Mr. Page, C.E. who is pushing them on with great energy. My father's views with respect to it have always been, that (assuming public convenience to require a bridge at Westminster), it should be as wide and low as possible, having regard to the importance of the traffic over it as well as the water-traffic beneath. The width he was anxious to obtain was 100 feet; but 84 feet, the width now decided on, is a good instalment, and will greatly exceed that of any other metropolitan bridge. The arches are not to be two or four centred, but will be a continuous curve reminding us of the bridge of Santa Trinità at Florence. The piers, however, will be far less bulky than in that celebrated example. A portion of the structure will, it is hoped, be opened towards the close of this year, if no unforeseen difficulties should arise. Mr. Page's designs for the construction of the bridge have been subjected to very severe criticism, as may be seen by the minutes of evidence taken by the last Committee of the House of Commons which sat on the subject, and to which reported in Mr. Page's favour. The design exhibits so many novelties and ingenious contrivances that the profession cannot fail to watch with interest the engineer's proceedings, and wish him every success in conducting his responsible undertaking to a close. Before I conclude, there is one point to which I may be expected to allude, namely, the professional remuneration of my father as architect of the New Palace; but the whole question has been so recently before you, and the agitation of it at all was so distasteful to him, that I shall only briefly allude to it here, to state, on the authority of a Treasury minute, that their lordships considered it "liberal" to force on an unwilling recipient a scale of remuneration less than is enjoyed by those of equal standing, whether engaged on public or private works, and that they thought it "fair" to avail themselves of the power possessed by a Government to refuse any reference of the case to an impartial authority, though they invariably concede such a privilege to tradesmen whose accounts are disputed. The contractors engaged upon the work have been very numerous, and I cannot now name more than those principally concerned. Messrs. Grissell and Peto, and afterwards Mr. Grissell alone, conducted the works up to 1852, after which Mr. Jay undertook the contract, which he is now carrying out in a manner thoroughly satisfactory. Messrs. H. and M. D. Grissell have executed a great part of the ironwork with their usual excellence; and Mr. James, of Broadwall, has carried out the iron roof of the Clock Tower, and some other parts of the ironwork since the beginning of Mr. Jay's contract. When I have said that Messrs. Hardman have done the ornamental ironwork and stained glass, Mr. Crace the decorations, carpets, curtains, &c. Messrs. Gillow the furniture, and Mr. Minton the tiles, I have, I believe, described the most important contributors to the work under my father's direction. Mr. Crace has taken great pains with the upholstery, &c. which he has executed to my father's entire satisfaction; but these matters, as well as the furniture, are now being done (designs included) by the Office of Works, and are altogether removed from the control of the architect. I must not forget that the greater part of the hot-water pipes, boilers, and kitchen fittings, have been supplied by Mr. Jeakes, who so well understands all such arrangements. Mr. Robert R. Banks was my father's chief assistant, and very ably carried out his views during the earlier years of the New Palace, and until he entered upon his present partnership with my eldest brother. The post of principal clerk of works has been filled for many years by Mr. Thomas Quarm, whose skill and energy in conducting the works could not, I believe, have been surpassed. The elaborate scaffoldings of the towers have been carried out by him, partially under the direction of Mr. Meeson, in whose great constructive ability my father has always had the highest confidence, and to whom he entrusted the principal management of such matters; and I think the fact that there has not been a single accident in carrying out the works due to the building operations, indicates no ordinary skill in those who have been responsible for their direction. Those of my hearers who have noticed Mr. Quarm's recent scaffolding of the Clock Tower, will, I am sure, admit that there has been plenty of scope for ingenuity in such arrangements.

I have now very imperfectly completed my task of describing the New Palace at Westminster, and my wish has been not to forestall your judgment upon it, but to place before you some of the materials for forming a correct opinion for yourselves. An architect is generally considered by the public to have everything his own way, and is visited with a censure of aught that displeases directly proportioned to his supposed omnipotence. The time is not yet come for a full and complete history of the whole subject of the New Palace at Westminster; but when the many difficulties which have environed the work are borne in mind, as well as the numerous masters under whom it has proceeded, it must, I think, be admitted that the architect has some right to expect that the criticism on his production, however severe it may be, should at least partake of a discriminating character. It is not for me to enter here upon questions of taste, which it would be most unbecoming on my part to discuss. The building stands a great fact, and will be calmly judged eventually on its merits and defects by posterity, whose verdict it is worse than useless to attempt to forestall, and who will probably remember that it was nearly, if not quite, the first attempt on a large scale to revive Gothic architecture as applied to civil public purposes,—that it was erected in less than twenty years, and by a single architect.*

FROM ITALY.

EVERYTHING is now much dearer in Italy than it was twenty years ago. The hotels are, perhaps, better, but they are dearer. Our *table d'hôte* at Naples was ten carlines, though six carlines used to be the full price for dinner. The *vetturini* are much better, the carriages are very large, clean, and comfortable, with a good *coupé*, generally with four horses. We came in *vettura* from Rome to Genoa, and had wax candles every evening from Florence to Genoa, and were taken to the best hotels all along; but then the price now for *vettura* without food, is about what it used to be including food. Again, the diligence from Rome to Naples is raised from nine to eleven or twelve crowns. Even coral at Naples is 50 per cent. dearer than formerly. Lodgings at Rome and Florence are dearer, and I do not know anything cheaper. Wine that used to be 2d. or 3d. a bottle, is now 6d. to 1s. and inferior, owing to the failure of crops for the last six or seven years. At Genoa and Turin, the *table d'hôte*, formerly three francs, is now four francs.

I believe I told you what had been done at Naples, but am not sure if I mentioned that the Temple of Serapis, at Pozzaoli, stands in 2 feet of water, and is gradually going down about an inch a year: you must remember it dry. A magnificent road has been made lately up Vesuvius to the Hermitage, wide enough for a turnpike-road, with wrought border stones on each side. There is a capital road to Sorrento, made since your time, I believe. We returned by diligence from Naples to Rome; and, not being able to get a good room at the hotel, we started the next day in a return *vettura* for Perugia, having the whole of the interior to ourselves. We stopped at Civita Castellana for the first night, a beautifully picturesque place. The next day went to Terni, and saw the Falls, with snow on the ground, and were very much delighted (I had never been this Perugia line).

* We shall speedily give a very elaborate engraving of the Victoria Tower, in continuation of the long series illustrative of the palace at Westminster contained in our former volumes.

I do not know whether a grand waterfall does not look better in the depth of winter than in summer. The next day we stopped at Foligno. The fourth went to Assisi and Perugia. We were both very much pleased with the lower church at Assisi, not exactly architecturally of course. We slept two nights at Perugia, and it is but right that I should say, I think I must have misunderstood —— about the stones of Etruscan walls being of one size, as I have not found them so either at Perugia or Cortona, and as —— was some months studying the Etruscan buildings, he could not have made a mistake. The old gateway at Perugia is very interesting. When was the middle part erected—I mean the row of small Ionic pilasters above the great arch, and under the large Ionic pilasters? The same question applies to the row of small composite pilasters over the archway built into the citadel wall. I have a fine photograph of the great gateway for you to see, before giving your answer. The citadel of Perugia is quite destroyed. The inhabitants, finding its only use was to keep them in order, destroyed it during the revolution of 1848-9. A new Porta Toscana has been built, with better access than before; but with the exception of these two improvements nothing appears to have been done at Perugia for years. There are some fine old street fronts, with pointed arches. I think the glass in the cathedral at Arezzo is as fine, if not finer, than any I know—I refer to the windows of the choir.

Finding our *vetturino* treated us well to Perugia, we took him on to Genoa in eight days, passing Pistoja, Lucca, and Pisa. We generally started at or half past seven, and finished our journey by three or four o'clock each day. This is better than what I remember of old, as it gave us plenty of time to see all the principal towns in our way. Nothing has been done by way of improvement in any of these towns, except that the Baptistery of Pisa has been carefully repaired, and the windows filled with bad glass, made at Paris, Milan, and Pisa, and one window filled in with painted tale. It looks rich, but rough. The pavement round the cathedral of Pisa is now under repair. The interior of the cathedral of Lucca is fine; but that of Pisa is finer, I think. From Pisa to Genoa we were very well lodged, generally in newly-built hotels, all large, clean, and comfortable, at Pietra Santa, Spezia, and Sestri. At Spezia there are three or four very large new hotels, and some new boarding-houses, as it is becoming a fashionable watering-place. The buildings are in the modern "chaos" style. We were very much pleased with the grand scenery between Pisa and Genoa. I had travelled the road before, but it was so many years ago I was glad to cover the same ground again. Genoa is increasing: two new streets of palaces are nearly completed: the houses are somewhat in the old Genoese style, divided into three heights or principal divisions, each division containing a principal and secondary story, thus: ground story, entresol, one-pair, entresol, two-pair, entresol; so that there is a main cornice below the so-called one and two-pair. The ground stories are used for shops, and the buildings generally are, I expect, let out in flats. A small space is left between each palace, so as to give windows at the sides, as well as at front and back. An arcade has been built between the sea and the main street below the hotels; I know not why, but probably to separate the port from the town, for the convenience of taking the duties. The railway of the goods station runs along the street close to this arcade. Some of the old Italian gardens of Pier d'arena, Palazzo Doria, &c. have been altered into "English gardens," which I think wrong, having within the last year persuaded two people to lay out their gardens in England, leaving the *foreground* of their houses, in the regular Italian style. From Genoa to Turin there is a grand railway through the Apennines. Turin is increasing rapidly in the same regular arcaded style as before. How inferior the modern arcade of semi-arch on a square pier, as here, the Rue Rivoli, &c. is to the old mode of a round pillar and moulded arch, as at Venice and other towns; and how inferior to Italian arcades of Vicenza, of Palladio, &c. A new Protestant church has been lately built here, the Government finding the funds.

February 14.—Since writing the above, there has been a serious accident on the railway near Turin to-day. Three lines to Genoa, Susa, and Novara meet in one near Turin. As the train to Genoa was going out, it came in contact with a train coming in from one of the branch lines. The report is, that the carriages were smashed, and some people injured: the amount of damage I have not been able to learn. G. A.

THE RIGHT USE OF ANCIENT EXAMPLES.

THE ARCHITECTURAL MUSEUM.

The last of the lectures announced by the committee of the Architectural Museum, was given in the theatre, at Brompton, on Wednesday, the 24th of February, by Mr. G. E. Street, "On the right Use of Ancient Examples." At starting, he said he would state at once that as his thoughts were entirely devoted to Mediæval art, he would not trouble them by any reference whatever to any other styles; and this for two reasons—the one that they had had a full and complete statement of the case against their advocates; the other, that he really could not, so far as he saw the current literature of the day, discover anything that showed any sign of life in their professors, or any evidence that the people were in the least degree really interested in them. I see, he said, a great deal of abuse of individuals, many solemn platitudes about beauty, dignity, and the like; and yet in buildings I see continual evidence, as I think, of a meretricious taste; and, as I am sure, of erroneous and antiquated system of deceptive and false construction.

The subject was one of great comprehensiveness. It included the consideration of (among other things):—

a. The lives of old artists, their modes of work and thought, and the results in their buildings.

b. The system of design which obtained at various periods; and

c. How this was developed differently in different countries.

d. Then, the system of decoration subordinate to architecture in painting and sculpture.

e The influence of literature upon art, and, indeed, various ramifications from each of these several heads.

He then proceeded to maintain that it would be very difficult to find a record of any individual artist in the Middle Ages who was solely an architect to condemn eclecticism, and to show the gradual development of Pointed architecture.

In England, he said, the special features of the three styles into which we divide Pointed architecture may shortly be described.

First Pointed was a full, vigorous style; mouldings round, rich, and cramped with special view to effect of light and shade; ornaments sharp, telling, and vigorous; forms always severe and pure; and the whole style expressing strength, purity, simplicity, and beauty.

Second Pointed, gradually tending towards an art of lines; mouldings less effective, and generally wanting in breadth of light and shade; sculpture weaker, because, in common with other parts, appearing to try only to be pretty and graceful. The whole style expressed, therefore, richness and beauty, but its richness was luxury, and its beauty that of the courtesan.

Third Pointed, an architecture of rules and lines only; stiff and rigid in its details; weak and wanting in contrast in its mouldings; and, even where most labour was bestowed, meagre and attenuated. An art wanting altogether in freedom and grace, and always giving an impression as of mechanical task-work; never of love or adoration.

First Pointed, therefore, an architecture of adoration;

Second Pointed, therefore, an architecture of love;

Third Pointed, therefore, an architecture of task-work and mere human ingenuity.

If there be any truth in this statement of the special features of the three styles, can there be a doubt which of them we ought to choose as our chief guide in our attempt to grasp the real truths presented to us by ancient examples? Surely it is in First Pointed work only that we find no flaw, and, at the same time, the best prospect for future developments.

If this be the result of a review of architecture in England, it becomes tenfold more certainly so if we examine the architecture of the Continent.

No one who is at all conversant with the best French buildings can doubt for an instant that in them the early work is the best. I think those who are so would bear me out entirely in the assertion that the Cathedral of Notre Dame at Paris, those of Chartres, Amiens, and Laon, Noyon, Sens, and Rouen, give, beyond question, the most perfect examples of French art that it is possible to adduce. Each of them is a study for an age; and after them, you have a sudden fall from a grand, forcible, nervous style to one whose main desire is to be pretty (whose finest example is the west front of Rheims), and then to one whose only wish is to be quaint and picturesque (seen to advantage in the west front of Troyes). Of all French examples, then, there can be no doubt that those of the twelfth and thirteenth centuries are most worthy to be followed.

He maintained, therefore, that the more we examine Mediæval buildings, and the more we become penetrated with the real spirit of the men who built the noblest among them, the more surely shall we feel bound to go back to the Early Pointed style for the best examples of our art.

He maintained the superiority of the conventionalised idealisation of nature to the conventionalising of nature herself. The one gives us all the sentiment of nature, reminds us of her delicacy of contour, beauty of outline, and harmony of proportion, and yet, at the same time, is evidently an artistic conception, requiring mind and intellect for its invention far beyond that which is required for the other class, in which natural forms, vine-leaves, maple, or ivy, are taken literally as they are, but stiffened and bent into due architectural form. The latter are beautiful indeed, but the former have something very far above mere beauty. He proceeded:—

"There are some casts in this Museum which illustrate exactly what I wish to enforce on this point.

Those from the cathedral of Notre Dame at Paris do so pre-eminently. I doubt whether there ever has been more exquisite architectural sculpture than this in the world; and you are fortunate indeed to have any of it for your study here. It appears to me to be as it were a concentration of the very essence of natural forms, without any of the vulgarity (as I think I must call it) of the direct imitation of nature. As you look at it, you feel that it is as natural as nature, and yet its nature is its own,—the creation of an artist's mind, a noble result of intellect, faith, and thought."

Another line of argument for conventionalism was, perhaps, to be found in the necessity which would arise if polychromy were generally revived. He supposed that few even of those who would argue in favour of the strictest imitation of the forms of nature would venture to attempt an imitation of her colour also.

It is neither a sufficient nor a right study of ancient examples, the lecturer continued, which confines itself entirely to our own country. It is true that every nation hitherto has had its distinct character in art, and the cosmopolitanism which would attempt to ignore such distinctions would be rash and foolish in the extreme. I can perceive, indeed, nothing more mistaken than the study only of foreign examples, or the introduction of direct imitations of them, and especially of their peculiarities, into this country. There is a danger of this, though it is indeed not unfrequently the case that the less-informed critics of the press, knowing nothing about Italian or French architecture, call everything which has any freshness or originality about it "Italian" or "French." Just now the former is the popular charge, and generally as ignorantly applied as can well be imagined. The foreign architecture from which we have to fear the most is, to my mind, that of Germany. Many of you have, I doubt not, travelled to some among its time-honoured cities: you have seen where Cologne Cathedral is rising so steadily to completion: you have visited Attenburg, and the churches on the Rhine; and some of you, doubtless, have enjoyed, as I have, the examination of those intensely-interesting cities, Lübeck, Ratisbon, Minden, Brunswick, Nuremburg, Halberstadt, and others, where one is carried back in idea perhaps more nearly to the good old times than anywhere else in Europe; and yet the very picturesqueness of these old cities is a great snare if it ever leads us to think we may safely imitate any of their specially German characteristics. It was not until the fourteenth century that Germany had a material architecture. The style of the churches before that time was borrowed from Lombardy, and was persevered in with singularly little attention down to the time when, in Cologne Cathedral and other churches in the same style, a really national style of architecture was suddenly developed. From the study of the earlier churches I believe no harm could arise; they have in many respects the same character as works of the same date in other countries, and are free, to a great extent, from the mannerism of the later buildings. When, however, we come to the later style, we have one more marked by mannerism than perhaps any architecture in the world. The exaggeration of all the features which most distinguish it is probably well known to you. The eccentric ingenuity of the window traceries, the excessive love of angularity, sharpness of light and shade, endless

lines of mouldings, and *tours de force* are among the most prominent; and it is impossible to look at some of the better modern English work without feeling how great a danger we run from imitations of it. There seems to be so great a love of window traceries among architects just now, that it can be no matter of surprise if they go to that land of tracery, and impart some of those new forms which German ingenuity think out, and, with them, that immense proportion of height in the windows and lininess in the mouldings which accompany them.

If, however, we go to Germany determined not to be led astray by the bad features of her architecture, there is much to be learnt; and in such churches as the Cathedral at Halberstadt, St. Katharine at Lubeck, St. Laurence, and St. Sebald, at Nuremberg, and others, we may perhaps realise better than anywhere else the real effect of great churches in the Middle Ages. So, too, in the brick-making districts, we may learn much as to the right use of a material which is evidently entering more and more largely into our national architecture, and of whose use we have in this country so few ancient examples of early date.

Germans were, perhaps, even exaggerated in their appreciation of the value of height, and they constantly obtained it at the sacrifice of strength and solidity of effect: their work is in this respect not unworthy of our study, because in England we have always erred on the opposite side. Save Westminster Abbey, we have scarcely an ancient building which gives in all its parts the effect of height; and the common consent which puts that church at the head of all English examples of architecture shows, I think, how very valuable this source of effect is.

No such caution is necessary in regard to the study of French architecture. In many ways it possesses much more identity of character with our own than that of any other country. So much of France belonged to us during the best periods of the Middle Ages that there is a double interest to us in its architecture, and I know no part of it which does not, on other grounds, reward patient study. Those very portions which belonged to us are perhaps of the least value; but when we consider how much our architects in the thirteenth century evidently derived from France; how, for instance, Canterbury Cathedral—their starting-point—was designed by William of Sens, who, in his own noble cathedral at Sens, had left the prototype of what he hid for us; I think we cannot refuse to allow that the study of the art of both countries is indispensable for a right appreciation of that of either of them. * * *

Then there are the features in Italian art which we ought to study. It would be a miserable error to import here wholesale a form of Gothic architecture which undoubtedly is deficient in many of the first elements of thoroughly fine work; but it would be a still more fatal error to shut our eyes to the beauties of some, at least, of the works which were successfully achieved there. I think that a careful study of them would tend more than anything else to correct the wild extravagance into which people are falling in their attempts to import into England a love for constructional colour. You have but to look at the drawings with which our Exhibition walls are covered, to see that they have little or nothing in common with these old works, and that they would be infinitely more valuable if they had. With all their many beauties, there are also some faults in Italian decoration which we should do well to avoid. For instance, Giotto and his successors constantly used painted imitations of mosaics as border between their frescoes. This one would be sorry to see repeated here; so also the perspective framework which he so much affected ought to be eschewed: but, on the other hand, is it possible to praise too much the intense simplicity and truthfulness of the work enclosed within their borders? It is in vain to attempt to convey any idea, to those who have not seen them, of the church at Assisi, or the chapel at Padua; and a simple expression of the feeling which every one must have in looking at them would appear to those who had not done so unintelligible and absurd. They are, however, almost the only two buildings, besides St. Mark's, at Venice, I have ever seen in which colour and form have been harmoniously united in every respect; and are undoubtedly, therefore, examples which ought to be studied by all who have any chance of achieving similar works in England; and it is not visionary any longer to talk of such a chance when all know that for the last two or three months a band of enthusiastic painters has been truly engaged in covering the walls of a building in Oxford with paintings on a large scale, executed, as many of the reputed frescoes in Italy were, in distemper, and with great success. The work of Giotto, at Padua, suggests, moreover, the material consideration whether we architects may not safely imitate his example, and occasionally decorate our buildings with our own hands. I speak from an experience, which I heartily wish was both larger and more successful, when I say that to the architect himself the pleasure which he takes in the execution of his ideas is manifoldly increased, where he has been able with his own hands to add something to its decoration either in painting or sculpture. Giotto did both, for he cut with his own hands some of the sculptures on his campanile at Florence, in addition to painting the chapel designed (I have little doubt) by himself at Padua. * * *

To return. My object in this lecture has been to endeavour to persuade those who have been patient enough to listen to me, that, in the best Mediæval works there do exist certain definite and obvious principles which there is nothing to hinder our entering into thoroughly and heartily. To do so, however, it is necessary above all things that we should endeavour to throw ourselves as much as possible into the same frame of mind that appears so conspicuously in the works of the old architects. This was so real, truthful, and, though a very poetical, yet so very practical a frame of mind that there is nothing in it antagonistic to any ideas rightly held at the present day. The frame of mind of these old men is eminently that which will enable us to deal with new facts in construction, new materials, new wants. Look at the vast range which the Mediæval work in different parts of Europe took. It constructed equally well in timber, brick, stone, and marble: and do you think for an instant that it could have hesitated to grapple with iron and glass? Assuredly not; and hence it is with no shame that we adopt, and are indeed proud of, the name of Mediævalist, which, from a misunderstanding of what the temper it describes is, has been applied to us not unfrequently as a term of reproach; yet the Mediæval men were always real, always practical, and what more does this practical age demand of us?

On one point, certainly, he would defer to ancient architects; and this was in never doing anything unlike what they did, without giving ourselves a clear reason for what we do. He would take a few only of the points in which modern practice differed completely from the old way:

a. Old churches were never, he believed, plastered, except to receive painted decorations: when these were not to be introduced, the walls were finished in the same way inside as out; and, as we see in the San Zenone at Verona, paintings were added one by one on a ground specially prepared for each of the proper size.

b. Old plastering, too, was much better and much thinner than modern. Old walls were never pointed with artificially coloured mortar.

c. Old masonry was almost always well bonded into the walls: string courses and other horizontal mouldings were called "tables," and went well into the wall: those ingenious quoins which the nineteenth century build, or have invented, would all have tumbled out long ago.

d. Old ground plans were naturally arranged, and therefore generally irregular in their outline. It has been reserved for our age to carry the system of absolute uniformity and balance of parts—the great two-and-two system of architecture—to a point which would have astonished not a little the architects of the Acropolis at Athens, as of all other buildings throughout the world, intended to speak to men's eyes.

e. The modern idea of neatness and exactness of execution did not obtain. Compare the materials of old mosaic with new. The old varied in colour, in thickness, and in shape, so much that it is difficult to find two fragments alike. Modern mosaic is made with such unnecessary precision that it is almost impossible to find two fragments which are not alike. The same thing is true of other materials, and the tendency of the modern system is to destroy brilliancy of effect by substituting neatness for vigour.

f. In woodwork, old mouldings were not glued together. Finials were carved out of the solid end, not screwed on: the ornamental hinges on the doors were real hinges, not (as too often now) sham hinges; nor (as in one church by an "eminent architect") cut out of a thin sheet of lead.

g. Spires were not constructed of rough stone, but always, if of stone at all, of wrought stone.

h. No examples exist of ancient roofs at all similar, in lightness of timber, width of span, and insecurity of construction, to most of ours. Would it not be well to see how old examples stand with all the advantages of oak over deal added to the other, before we so boldly depart from them?

i. Men used to lavish some art upon things which are hardly ever seen:—do we? There are turret staircases at Tewkesbury and Winchester, and hosts of others, which are models of ingenuity and refinement. We specify York steps, and leave the staircases to our towers to take care of themselves.

j. Buttresses were intended for strength. Do we ever put them for the sake of appearance; and if so, why?

k. Old mouldings were never executed in cement or plaster; and, generally, no imitation of one material in another was ever thought of.

l. Old timbers were not always "chamfered and stopped:" nearly all modern timbers are.

m. Nor was old timber oiled, stained, or varnished.

n. Nor cast-iron ever used in imitation of wrought-iron.

o. Old ornament was almost always constructional: modern ornament is often constructed.

p. Lastly, old men did not copy their predecessors' works or repeat their own. When they were paid for their work, they did it honestly from beginning to end; left nothing to chance, and did not disgust us by the repetition of the same poor details in a dozen different buildings.

Pointing out to the meeting that there was a limit to the usefulness of their museum, the lecturer concluded by saying:—"I am confident it will never be really popular to introduce a distinctly foreign version even of Pointed architecture into England. The Classic and Renaissance schools have utterly failed to make themselves popular in any real sense; and so too should we, if we attempted to import, for instance, from Florence or Venice, the unadulterated forms of Florentine or Venetian Gothic. My object has been to enforce upon you the necessity of steering clear of this. You may—indeed, you must—study them so as to import into your own architecture features and principles which may harmonize with it whilst they give it more life, more power, beauty, freedom, and elasticity; but you must never forget that your real business is still to work as Englishmen, reviving an old English architecture for the same English race which carried this form of art, and this only, to perfection some five hundred years ago, and who, since its entire fall, have, beyond all question, failed utterly in the attempt to import foreign styles in its place. It is a grand work that we have before us, and we must take care that we use the opportunity which the present revival of a feeling for our art throughout the country affords us in such a manner as to secure for ourselves a place in the history of our people, along with the good men who, in the most artistic spirit, covered our land from end to end with a noble array of cathedral and abbey, castle, college, hall, and church, second in real beauty and dignity to none in the world, and all of them rightly studied and rightly understood, affording us clues to principles, not examples to be copied, aids to increase the vigour of our artistic manhood, not crutches to support the lifeless limbs of a decrepit profession."

ANOTHER HINT TO POTTERS.

THE potter's art has done much for us within the last few years, and is destined, I think, to effect still greater service as a medium whereby economical sanitary arrangements may be carried out in our domestic architecture, especially in the homes of the working classes.

Mr. Sydney Smirke has suggested an earthenware water-cistern: permit me by your aid to ask manufacturers to supply us with *earthenware stairs*. I would propose the riser and tread to be formed in one piece, and of such dimensions as to be generally applicable to cottages and tenements.—say about 9 inches tread and 7½ inches rise. They might be built into the wall at one end, and rested on a 4-inch wall at the other, so as to form a closet beneath; or in cases where the space below is required to be open, they might perhaps be made so that the bearing at one end would be sufficient.

The beneficial results of a staircase of this material are so obvious as hardly to require notice: incombustibility, cleanliness, and comparative absence of noise in the occupation, are desiderata of the highest importance; and, as regards cost, I should imagine there would be no excess over the present inflammable, dirt-harbouring, and creaking mode of construction.

This suggestion may have no claim to novelty, but if it have the merit of attracting notice to the subject, so that the public may be informed that

such an article is in the list of some manufacturers' produce, my purpose will be served, and I sincerely hope that the ejectment of the present ricketty, lath and plaster staircases, from the class of dwellings to which I have alluded, will follow, and be substituted by a firm, solid, and durable material, and without any increase of expense. J. W.

SWEARING IN THE WORKSHOP.

I AM sure that hundreds of your readers will thank you for directing attention to a social evil which I am sorry to say is increasing in many of our workshops. I allude to the use of words and expressions which are shocking to the ears of strangers, and degrading to those who use them. From the work-places this style of conversation is too often carried home, and to this, in some measure, may be traced those habits of swearing which are so terrible in women and young children. Many who will read this will at once acknowledge the necessity for change. They know the bad example which is thus set to apprentices, but say that it is difficult to raise a voice against custom and be laughed at. I fear that this evil is on the increase, and hope that this note may, at any rate, direct the attention of some who, wishing to preserve their own respectability, and raise the position of their class, will endeavour to form some sort of association which would give strength to the well-disposed; and I do think that in many of the best workshops it would not be difficult to get the men to agree to pay a small fine for the use of swearing language.

A FOREMAN OF A MANUFACTORY.

[*** The truth of these observations is, we fear, undeniable, both as relates to town and country. In some instances the use of such language as would make a stranger shudder has become so habitual, that it is little thought of. Not farther back than the days of George III. swearing was esteemed a gentlemanly practice. It was not thought altogether unladylike even. Those days are past, and we ask the working men to consider well the progress of the age, and by discarding such an objectionable practice, if on no higher ground, to move with the time and maintain their right position. Let those who have families reflect on the disadvantages and evil that example may lead to, and break themselves resolutely of a senseless, degrading, sinful, and disgusting habit.]

LIVERPOOL ARCHITECTURAL SOCIETY.

At a meeting on the 10th of February, the second part of a paper, "On modern German architecture," was read by Mr. J. A. Picton: we shall probably recur to it. In the conversation which followed, the chairman, Mr. Jas. Hay; Mr. Verelst, and others, took part.

A meeting of the society was held on the 24th February, Mr. Huggins in the chair, when Mr. Boardman read a paper "On the absence of foundation stones in the public buildings of Liverpool."

The reader said he had carefully watched the alteration or destruction of tenements of the days of our ancestors in this ancient town, and he gladly availed himself of the opportunity lately afforded by the removal of the foundations of the Custom-house which preceded that now existing, to ascertain the existence of what is called a first or foundation stone. "In this research, however," he continued, "I am sorry to say I was disappointed, for although the whole of the lowest blocks, which, be it observed, as in all ancient edifices in Liverpool, are from the quarry now St. James's Cemetery, were exposed and removed, nothing in the way of cavity or receptacle for inscription plate or coins appeared. This fact induced me to make inquiries as to other buildings in Liverpool or the neighbourhood which have been wholly removed, or such parts as would have been the places for the deposit of memorials of the time of erection. The answers to my queries have all been in the negative. No foundation-stones containing deposits have been found, save that under the chapel of the School for the Blind, which is an erection of our time. The present Town-hall is, perhaps, the only edifice in Liverpool erected prior to the eighteenth century which contains a record of its erection in its walls. A plate, bearing an inscription, is imbedded in the foundation of the south-east corner." He appends the following list of edifices which have been either totally or partially rebuilt, and in the walls of which nothing has been discovered:—Destroyed: St. Matthew's Church, Key-street; St. Catherine's Church, Temple-court; Infirmary, Lime-street and Shaw's-brow; Dispensary, Church-street; and Custom-house, Old Dock. Rebuilt: St. George's Church, Castle-street; St Nicholas's Church, Chapel-street; Walton, Bidston, and Childwall Churches; St. Thomas's Church Tower, and the Theatre Royal, Williamson-square, the front of which has been rebuilt and enlarged. The front to Williamson-square originally corresponded with that in Charles-street.

A member called attention to the fact that a list of tenders had been sent in for the furnishing of plans and specifications for the erection of a new workhouse at Bolton, at a cost not exceeding 18,000*l.* It had been considered that the professional charge for preparing plans, &c. was 2½ per cent. upon the cost of the building, which in this case would amount to 450*l.*; but on looking over the tenders he found the terms offered ranged from 25*l.* upwards. He thought this afforded instructive and rather deplorable evidence of the state of the profession, when persons were willing to furnish for 25*l.* that which was considered to be worth 450*l.* and that it showed that the profession was at a considerable discount. It would be desirable for the profession to agree upon a scale of charges and to stick to it. The public was at a loss sometimes to know what to pay when they found such variation in prices.

It was stated that many persons who had entered into this competition were understood not to be architects; and, in fact, that the man who had "got the job" kept a public-house.

PROPOSED MEMORIAL OF THE GREAT EXHIBITION OF 1851.

THE committee have selected from the designs submitted in competition, and now in the Gallery of the Architectural Museum at Brompton, the following six, from which the ultimate choice of one is to be made on the 15th instant:—

No. 6.—"Et, quasi cursores, vitæ lampada tradunt."—"An architectural composition, the base surrounded by four figures,—Industry, Science, Art, and Religion. At the sides are medallions of her Majesty and the Prince Consort. The whole is surmounted by a group symbolical of Human Progress. A wearied runner, having ended his course, hands the torch of Life and Truth to a fresh and vigorous athlete, who is aspiring to bear it through a new career."

No. 11. "The earth is the Lord's, and the fulness thereof."—A Design combining an obelisk, sculpture, and a fountain. Four reclining figures emblematical of the four divisions of the Exhibition.

No. 12. "Here stood the Great Exhibition."—"An Obelisk on a pedestal, with bas-reliefs emblematical of the Arts, Manufactures, and Commerce, and the four quarters of the globe. Against the pedestal, on short columns, two figures emblematical of Industry and Peace."

No. 15.—"Civilization."—"An architectural composition with bas-reliefs in the pedestal, symbolizing the four divisions into which the Exhibition was divided; the whole surmounted by a statue of Civilization."

No. 22.—"One in the Race for Fame."—"An architectural composition, surmounted by a figure of Britannia, and surrounded by four seated figures, emblematical of the four quarters of the globe,—Europe, Asia, Africa, and America;" and—

No. 31.—"Architectura artem constat, &c." Drawings only.—"An architectural composition, surmounted by a statue emblematical of England. In niches, on the second story, are figures of Agriculture, Industry, Commerce, and the Fine Arts."

The designs have already been visited by a large number of persons, and will, probably, be allowed to remain in the Gallery a few weeks longer than was first intended.

INCREASED USES OF THE ELECTRIC TELEGRAPH.

IT is often a matter of surprise when certain improvements have been generally acknowledged, how slow we are in putting them to a wide and practical use. Up to the present time, the electric telegraph, which, by being laid on to the different fire-engine and police stations, would be of such value, has not been brought into play. Some instances may be mentioned of its introduction into large manufactories; but the use of this wondrous engine is but of trifling extent compared to that which it will be in a very few years. Systems have no doubt to be invented; but the day may not be far distant when the telegraph will be laid on to houses and shops as regularly as the gas-light and water; and perhaps it may become a rival of Rowland Hill's penny-post. We have been led to these remarks by hearing that the Marquis of Chandos has had the electric telegraph passed over rocks and water-courses from Bicheter railway-station to the study of Wotton House, and no doubt this plan will meet with many imitators.

TOTHILL-STREET RAGGED SCHOOLS.

THE lecture by Mr. S. C. Hall in aid of the funds of the Tothill-street Ragged Schools, which we announced two weeks since, was given on Thursday evening, the 25th ult. at the Eaton-square-rooms, Ebury-street, Pimlico. The comfortable, bright, and warm room was filled with an enthusiastic audience, which appeared thoroughly to appreciate the lecturer's amusing anecdotes and good stories, told as they were in his own peculiarly happy and quiet—vivacious manner.

After the lecture, Mr. Hall, in an appropriate and warm-hearted speech, made in return for the vote of thanks unanimously accorded to him, said, that the ragged schools and reformatories were already conferring inestimable benefits on society by preserving and rescuing numbers of the junior members of the community from the ranks of prison criminals; but that only future generations, and not we ourselves, would be able fully to appreciate the value, and to reap the blessings, of the noble undertaking.

We understand the proceeds arising from the sale of tickets to hear the lecture quite satisfied expectation, and will realize about 25*l.*

HOUSES FOR THE POOR.

As the rector of an agricultural parish, the cottages in which are more fit for pigs than human creatures to inhabit, I write to ask you to be so good as to give me some information, in an early number of your paper, respecting the expense of building cottages. They must have three sleeping-rooms in each cottage—one for the boys, one for the girls, and one for the parents—as without that accommodation it is quite impossible for decency to be observed. If you would put some plans in your useful paper, and at the same time a calculation of the expense, you would greatly oblige me, and, at the same time, be conferring a great moral benefit on my poor, if I can get the squire of the parish to have some cottages built on such plans. The rent of the cottages should be a fair interest on the outlay. I feel very strongly on the point, as it is quite certain that all our teaching, in church and school, is useless, if the sexes are allowed to herd together, indiscriminately, in their sleeping apartments.

I am, sir, your constant reader,

A COUNTRY RECTOR.

*** We would suggest to our Reverend Correspondent, that he should obtain the Kent Society's plans, mentioned in our leader of February 20th (p. 117), or the plans published by the Society for Improving the Condition of the Labouring Classes, 21, Exeter Hall.

DULWICH COLLEGE.

CONTEMPLATED IMPROVEMENTS.

THE Dulwich College Governors have had frequent sittings of late, and are stated to have measures before them for the improvement of the college, of a liberal character.

With respect to the gallery, the committee managing it have recommended that it should be thrown open to the public four days in each week, free of charge, and on the two remaining days for 6*d.*; tickets of admission to be no longer necessary. The recommendation requires only the sanction of the General Board for its adoption.

The character of the school, on which, by the Act, four-fifths of the funds must be expended, is now under consideration. It is said that the proposed scheme provides guarantees that the poorer classes shall enjoy the full benefit of the ample funds at the disposal of the Governors, who have wisely considered that the funds of the charity placed under their charge could not have been intended for the benefit of the gentlemen residing in Dulwich, by the establishment of feeble imitations of Eton and Harrow.

NOTES UPON IRON.

AT Wolverhampton, on Wednesday last, there was reported an improvement in the condition of the iron trade. The improvement is not, however, very marked, and has not yet extended beyond the houses that are always the first to experience a change in that direction.

The last advices from America, received from the agents of such firms, bring more than the average remittances for some time past, and orders for larger quantities.

MODERN PARIS ARCHITECTURE.

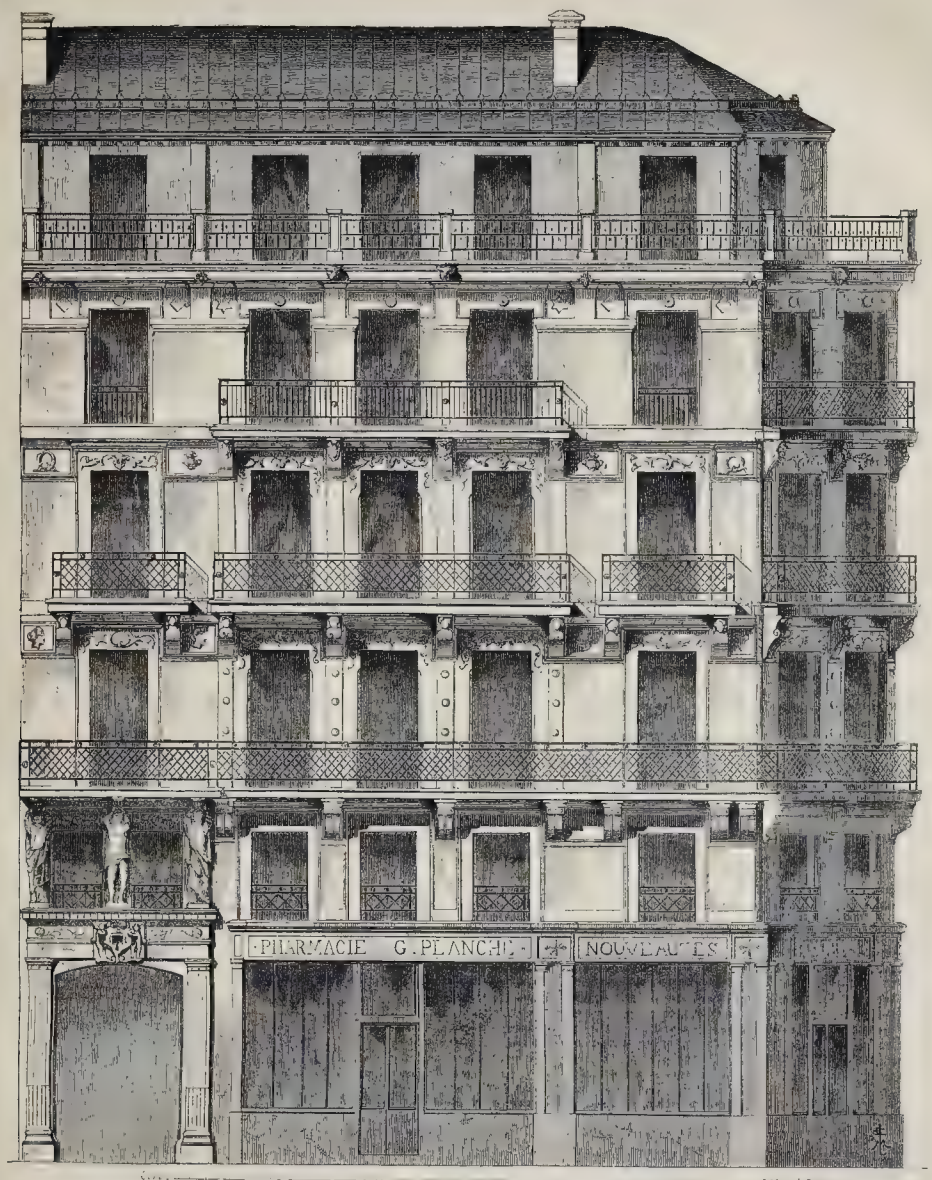
HOUSE IN THE RUE DE LA CHAUSSEE D'ANTIN.

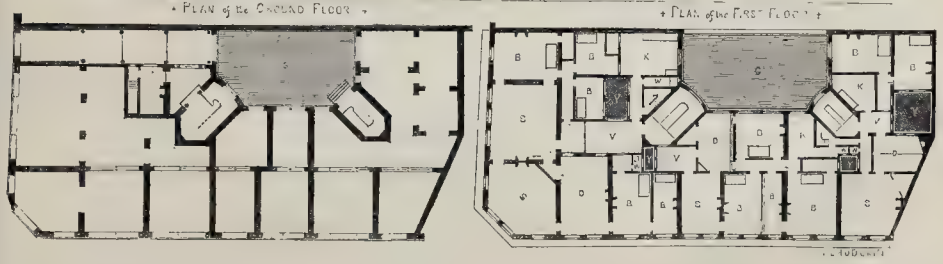
THE house, of which we give in our present number the elevation and plans, is a fair specimen of the new houses now building in Paris. It was erected under the direction of M. Rolland, architect, and shows skill in the apportionment of the stories, and some elegance in the design of the ornaments. The entrance gateway is an important feature, terminating happily with the balcony of the first-floor, supported by three caryatides. Variety is obtained by the distribution of the balconies, supported by consoles of some originality. In another number we shall give the entrance at large, the profiles of all the mouldings, and some of the sculptured decorations.

In the plan of the first floor the staircases are advantageously placed. Each floor is divided into three large dwellings, and may produce, we are told, from 800*l.* to 1,000*l.* per annum. In this part of Paris, at the corner of the *Boulevard des Capucines*, the ground is not worth much less than 5*l.* sterling per square foot. The building, with its joinery, glass, in fact, finished complete, "*Les clefs à la main*," as they say in Paris, is roughly valued at about the same sum.

References.

B. Chambers.	S. Sitting-rooms.
C. Court-yard.	V. Vestibules.
D. Living-rooms.	W. Closets.
K. Kitchens.	Y. Inner courts.





PARIS ARCHITECTURE: HOUSE IN RUE DE LA CHAUSSÉE D'ANTIN.—M. ROLLAND, ARCHITECT.

ON FRESCO PAINTING AS APPLIED TO WORKS OF ARCHITECTURE.*

ALTHOUGH we can hardly hope to emulate in our modern practice the example of Giotto, Raffaelle, and Buonarrotti,—art's great luminaries, equally expert in the pictorial as in the architectonic art,—still ought we to be acquainted with the *modus operandi* of those who practise the sister art of painting; and, whilst despairing to arrive at that "fulness of knowledge" which Vitruvius sets before us as the goal towards which every well-educated architect should strive; there is no excuse for ignorance on our parts, if not in the practice, yet in the knowledge of painting,—as regards its progressive history from one era (with its practice) to that of another; and more especially of the general characteristics of each *mode*, so as to discern what is suitable or unsuitable as an adjunct to the productions of that art which it is our peculiar province to study.

This consideration has induced me to select for this address the subject of "Fresco Painting," the most noble of all modes of practising the art, and, at the same time, the least understood, for even in books of recent date I find how easily the student may be misled. Dallaway erroneously describes it as the art of painting with "colours compounded of resinous gums;" and a work of quite recent publication, as the art of painting "in size colour." My object will be to point out to the student,—first, in what true fresco really consists; and, secondly, that by its own inherent character, and the practice of the greatest masters, it is the grandest of all modes, and the one in the revival of which we are personally most concerned, as being the natural accompaniment of architecture.

A few preliminary remarks on the subject of painting generally seem called for. The subject is so vast that I dare not, on this occasion, trust myself to enter at more length into the consideration of the origin and history of the art than to suggest to you its great antiquity. The schools of ancient Greece were rich in painters of merit, who were but disciples of, and improvers upon, schools still earlier; and doubtless, if the *chef d'œuvres* of Polygnotus, Apollodorus, or Apelles were exhibited upon the walls of our modern galleries, they would excite the admiration of connoisseurs, and even fill a page in Mr. Ruskin's annual critique. Again, our museums show us examples of ancient vase painting, one of the earliest developments of the art, which was carried to exquisite perfection by the ancient Etruscans, and was previously practised with equal success by the Greeks of Corinth, from whom the art is supposed to have been carried into Etruria, between six and seven centuries B.C. by the family of the banished Demaratus, who settled at Tarquini, and whose son, Tarquinius Priscus, became king of Rome.

Succeeding the Greek period, when the art was practised chiefly in encaustic or heated wax, and was thus applied to both sculpture and the metopes and friezes of architecture, came the Roman and Alexandrine periods, in which latter architectural works were adorned with a more durable kind of painting, or pictures composed of small cubes of glass or stone, cemented together, called Mosaic. The art was now, and for many succeeding centuries, concentrated, from Greece and elsewhere, at Byzantium, and a distinct school formed, working in fresco, tempera, and mosaic, which exercised a marvellous influence upon the art of later times. Passing by the art of the Christian catacombs, which partook of most of the old Roman type, we find the Byzantines gradually inoculating the heart of Italy with their stiff and rigid forms, founded upon the late Greek model, till at length, in the thirteenth century, art gradually revived, and emancipated itself from this conventional thraldom. And here I will remark upon what has ever seemed to me a singular coincidence, viz. that painting owes its revival, as well as its origin, to what must thus be termed its elder sister sculpture; for it is but natural to suppose that the first efforts of man in an artistic sense must have been the embodying in clay, or hewing in some harder substance, the actual solid material creations of nature, whether of his fellow man, or the more ignoble works of his Creator: next, the attempt to group several figures together on a flat plane produced relievi alto and basso; and rude colouring applied to the latter would leave but a step wanting to produce an actual picture, the lights and shadows being copied on a plane surface with colour only, and omitting the relief. This may be considered fanciful, but examine carefully the stiffly arranged, statuesque, frieze-like character of the earliest known efforts of the painter's art, and I think it will lead you to this reflection. Where is the foreshortening of the figures in those ancient Egyptian and Assyrian paintings? where the attempt to produce such perspective effects, and peopled middle distances, as at its climax gave painting supremacy even over its sister art?

But if the influence of sculpture upon the origin of painting was not so supreme as I have supposed, it is a matter of history that the revival was solely influenced by it.

At Pisa, and throughout Italy, were gradually collecting the scattered treasures of Grecian and Roman sculpture, till at length, in the thirteenth century, the Pisani founded a school having nothing in common with the prevailing Byzantine types; and whence this inspiration? These very bas-reliefs and statues, of ancient classic times, phœnix-like, arose in full beauty, untainted by the curse of gradual deterioration, to revivify the decaying genius of painting, and to carry it on to newer and greater triumphs than it had ever hitherto attained.

Vasari, in his interesting life of the architect-sculptor, Niccola Pisano, describes his rapid improvement upon his predecessors, by the close imitation of the antique sculptures, and states that "the *artists* of Niccola's day, incited by a laudable ambition, devoted themselves to the study of *sculpture* with more zeal than they had before done." The effect of this study was soon seen. True and correct forms followed immediately upon the more accurate study of design; and in the schools of Tuscany and Northern Italy the seeds were sown, by a direct appeal to nature, of that glorious revival which afterwards fructified so fully in the schools of Florence, Rome, and Venice.

To return to my subject. We have to consider, first, in what does true fresco painting consist? The Italian word literally signifies new or fresh, as applied to the laying on of the colours to the newly-stuccoed or moist walls, in such a manner as to become incorporated with the lime and sink into the substance of the walls, and thus become a part of the building.

Numerous authors of note have written treatises upon the proper method of preparing the walls and ceilings, and the choice of colours suitable for what may be called painting with coloured lime-water; but as the details are very tedious, especially in the works of Vitruvius and his commentators, and of Vasari, I shall give you but a brief epitome of the directions they insist upon most strongly; and if the student is desirous of more extended information, I recommend him to study an excellent treatise by Mrs. Merrifield, in which reference is made to the ancient authorities.

1.—The wall should be made perfectly smooth, and be saturated with water; and upon this is to be applied the first coating of mortar, called the *arricciato*, composed of one part lime to two of sand, if the lime be fresh: the lime and sand are to be well mixed with water, so that the lime is thoroughly slaked; for if heat is allowed to remain in it, it will burst and crack the plaster. Vitruvius advises lime and brick-dust, and no less than six coats of plaster, the three first with lime and sand, and the three last with lime and marble-dust, each coat thinner than the last. Alberti mentions having seen ancient examples in which nine coats were laid on each other. The utmost care is required to prevent unevenness of surface, as that would be damaging to the pictorial effect, and in the ancient frescoes of Roman date the surface was highly polished. I may here notice, that, even in this apparently trifling matter, the practice of the ancients excelled the moderns, for the well-known care bestowed by them in mixing their mortars and stuccoes, as preserved to us in the ruins of Pompeii, Rome, Herculaneum, and elsewhere, the most delicate paintings in fresco; whilst the ill-prepared walls at the Campo Santo, at Pisa, and throughout Northern Italy, have left us but patches and ghost like vestiges of works executed in ages comparatively modern; and sad it is to hear of the destruction still daily going on of works which give a romance and glory to that land far beyond the power of arms or conquest.

The lime used was preserved in water two or three years; indeed, an ancient law forbad the use of lime for this purpose that was less than three years old; and milk being worked up with it instead of water, added to its solidity and whiteness. Strange, indeed, would it be if, with all this care, the plastered surfaces of the ancients cracked like our modern contract work.

The plaster, when sufficiently dry, was ready for the artist, who sometimes outlined with charcoal or colour his day's work, or giornata, at once on the wall from a small sketch; at other times, pounced with charcoal dust the outlines of his already prepared cartoon on the wall through punctured holes, or marked or indented the lines with an iron stile. The whole surface was then covered with a fine and thin coating of lime and marble dust, called the *intonaco*, and upon this moist surface the colours were laid. Other authorities say the outline was traced *upon* the intonaco.

2. The colours used were invariably mineral or natural, because artificial colours always change by exposure to the atmosphere, and upon many colours the lime produces a destructive effect.

But, notwithstanding these disadvantages, fresco has its peculiar and distinctive charms: whilst oil pictures delight in depth of shadow, mixed tones, and middle distances, fresco avoids contrast with it by the use of light, gay, and luminous colours, an avoidance of deep shadows, and a decided architectural treatment, rendering it beyond dispute the only true style adapted for the decoration of works of religious or civil architecture. I refer you to the coloured facsimiles of the frescoes of Pinturicchio and Giotto, in support of this assertion; and I may, perhaps, add to my own the opinions of many present, that there is an indescribable charm in the union of architecture and true fresco painting, which we should fail to experience were the medium oil. The broad luminous washes, the absence of glare or varnish, the rapid and bold drawing necessitated by the impossibility to alter what is once completed, presents to the mind the artist's conception in all its vigour and freshness; whilst the judicious juxtaposition of pure earthy, yet low-toned colours, compensate for the greater technical advantages possessed by the first Van Eyck schools.

Works in "true fresco" have been exposed to the external air for ages without damage, and this gives it a great advantage over secco distemper or tempera painting. The works of the great master-minds were begun and finished in fresco, but those of less calibre were in the habit of finishing their works in secco—a vicious practice of mixing ultramarine and other delicate colours with white of egg and other tempera. As far as I can learn, the ancients always worked in the first mode, but many of the artists of the Revival invariably commenced in fresco and finished in secco; and hence the deterioration of their works, from the cracking or peeling off of those portions not incorporated into the plaster, and thus easily acted upon by the atmosphere.

Having, I hope, sufficiently explained to you the nature of fresco as compared with other modes of painting, it is time that I entered upon the second portion of my subject, and show that the greatest artists ever worked in fresco, and that it is our duty, as architects, to aid its revival in modern times.

The history of art is little more than a history of fresco painting; and no artist of note, from Cimabue and Giotto down to the Caracci and Romanelli, placed his hopes of immortality upon works executed in any other manner.

It would be useless to attempt an enumeration of either the masters who worked in fresco, or their works. I will therefore describe special examples of which I can produce illustrations.

The grand work of Michelangelo in the Sistine Chapel has recently been described by Mr. Scharf, and in it we see the climax of the schools of Tuscany culminating in the superhuman genius of this wonderful Florentine. It will be improving to go back and study the works of one of the great originators of this Tuscan school; and fortunately the works of the Arundel Society exhibited on the walls furnish us with a most detailed study of the principal work of Giotto—the Arena Chapel at Padua. He was the first of the Renaissance artists who completely changed the old Greek stiff and conventional drawing—the round staring eyes, the attenuated and pointed feet and hands, and the rigid folds of the draperies, peculiarities observable in our own Norman and the continental Romanesque, and which you will readily recognise in the illustrations I have placed before you.

To return to our example. The chapel called the Arena, because built within the precincts of an ancient amphitheatre, was built by the Scrovigno family about 1303 (it is supposed) for the knights of the order of St. Mary; and, being dedicated to the Annunciate Virgin, accounts for

* Read by Mr. J. Norton, A.I.B.A. at the meeting of the Architectural Association on Friday, the 26th February. The lecture was accompanied by coloured drawings, sketches, sections, lithographs, photographs, and other illustrations.

the great prominence given to the events of her life, as we shall presently see. The chapel is, externally, of simple character, but with a singular mixture of Roman and Italian Gothic detail. Internally it consists of a single parallelogram, 27 feet 6 inches wide and 66 feet 6 inches long; circa 2½ diameter; and a narrow chancel, or sanctuary, exactly another diameter in length: the side walls are 34 feet 7 inches high to the springing of the circular barrel vault.

In the year 1306, Giotto was commissioned to fresco the walls and roof. The two sections exhibited, together with the chromolith perspective view, will show the manner in which he executed his commission.

The side walls and roof were divided into two leading divisions or bays by three bands, circa 3 feet 6 inches in width, composed of medallion heads, arabesque foliage on blue and red grounds, and a multiplicity of narrow lines of red, green, diapered gold and sepia; in all cases, the panels and subjects carefully divided by means of a distinctly marked line of pure white colour following carefully the intricacies of the patterns. A peculiar ornament of common occurrence in the borders is an imitation of Roman mosaic, the tesseræ being formed of red, blue, and white. The main bays are each subdivided (by similar borders 3 feet 1 inch in width) into three panels in height and three in width, which is, however, varied in the south wall by the six windows which occur and reduce the panels to sixteen; whereas on the north wall there are eighteen. On these thirty-four panels are depicted events from the life of Our Lord and of the Blessed Virgin. A dado runs round the chapel to about 11 feet in height, with imitations of architectural enriched mouldings; and the wall space below each tier of subjects is divided into double panels of rosso marble by borders of a darker tone: the three leading and four subordinate bands, or wall borders, continue through the dado, and the fourteen panels thus formed are occupied by the cardinal Virtues with their opposite Vices, painted in low monotone, so as not to attract the eye from the principal subjects above. On the west wall, over the doorway, is painted the "Last Judgment;" it is similar to the usual treatment of this subject, as you will see by comparing the sketch with the series of similar subjects lately published by the Antiquarian Society. The figure of Our Lord, in an aureole or vesica, occupies the central space below the three-light window; and over the door is an enormous Latin cross borne by angels. The upper part of the east wall is occupied by Our Lord enthroned in glory, and the spandrils of the arch with the Angel Gabriel, and the Virgin of the Annunciation; and, below two subjects of the series before described, making altogether thirty-eight subjects. The vaulted ceiling is painted in deep blue, powdered with golden stars, and the two bays are distinguished by large central circles, supported by four smaller ones, in which are depicted, on a gold ground, the Madonna and Child and Our Lord, with medallions of the Evangelists, and the four greater Prophets bearing scrolls. The effect of the whole is described as brilliant and harmonious in the extreme; for with this, as with the works of most of the early masters, there is a general connection and harmony, or, in Mr. Ruskin's words, "their pictures were nearly always parts of a consecutive and stable series, in which many were subdued, like the connecting passages of a prolonged poem, in order to enhance the value or meaning of others."

Time will not admit of any lengthened description of the Campo Santo at Pisa: the photographs and drawings on the wall will furnish, however, a comprehensive idea of the general arrangement. The wall is generally divided into two panels, from the dado to the wall-plate, by coloured borders, whilst other subjects occupy the intire height; and of these I may direct your attention specially to the photographs of the frescoes by Orcagna, "The Triumph of Death," and "The Universal Judgment," and notice that the arabesque foliage, the imitated mosaic, and the medallion heads set within quatrefoil panels of the enclosing borders, are nearly identical with those previously described at Padua. It may be said these ornamental accessories were beneath the dignity of the maestri, and that an inferior grade, something between artist and house-painter, was employed to paint the surfaces of ceiling and wall spaces and put in the borders, with whom to copy was easier than to design.

He then mentioned the frescoes of Pinturricchio at Spello and Sienna Cathedral; Fra Angelico, in the Chapel of Nicholas V. in the Vatican; Ghirlandaio, at the Church of the Trinita, at Florence.

Referring to English Mediæval paintings in fresco, the lecturer instanced the crypt of Canterbury Cathedral; but most usually the pictures were in distemper.

In conclusion, he added, if from what I have said, you agree with me that fresco is the manner of painting beyond compare—the most noble and worthy to be received, let us each, in his own sphere, as individual architects, strive for its revival, and let us not forget to rejoice that already, in our Houses of Parliament, and in the most important of our modern metropolitan churches, the first fruits of its revived practice in England are beginning to be seen; and, if we are ever to have a national school in this land of wealth and enlightened knowledge, may its masters seek for immortality, not in the perishing media of Reynolds, but in that style which of necessity must, as of yore, unite ours with the painter's art,—namely,—"pure fresco."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting of the members was held on Monday evening, the 1st of March, Mr. J. J. Scoles, V.P. in the chair, to take into consideration the recommendation of the council with respect to the award of the Royal Medal, the medals and other prizes of the Institute for the year 1857, and their recommendations with reference to the medals for the year 1858. Eight sets of drawings had been received in competition for the Soane Medallion, and 50*l.* in the event of the competitor going abroad to study for a year. The subject given was,—

"A marine sanitarium, or building for the temporary residence of a limited number of convalescents belonging to the middle and upper classes of society; to consist of at least the following accommodation:—

	Approx. Areas.
A saloon	1,000 feet.
A ladies' drawing-room	800 ,,
A library and news room	1,000 ,,
A dining saloon	1,000 ,,
A writing room	600 ,,
A gymnasium	1,600 ,,

Twelve principal bed-rooms and dressing-rooms, four bath-rooms, and four private sitting-rooms. A private dining-room, a drawing-room, four bed-rooms, and two dressing-rooms for the medical superintendent."

Touching the Royal gold medal, a resolution of the council was read, recommending that the Institute should submit to her Majesty the name of Herr August Stüler, of Berlin, architect to the King of Prussia, as a proper person to receive it.

Professor Donaldson, as secretary of foreign correspondence, explained the course which had been adopted by the council, and the circumstances which had influenced their recommendation. Every third year it had been thought desirable, throwing their eyes over Europe, to recommend the bestowal of the Royal medal on a foreign architect. Canina, of Rome; Von Klenze, of Munich; and Hittorff, of Paris, had already received it. Various names had been brought before them: they had looked again at France, so eminent in the arts, and M. Lesueur (the completer of the Hotel de Ville at Paris), and M. Viollet le Duc, whose excellent Dictionary, still in progress, was known to many of them, had been named. Ultimately the reasons in favour of M. Stüler, on the present occasion, architect of the Museum at Berlin, and from whose king the Institute had received munificent donations, prevailed.

The honorary secretaries, Mr. Digby Wyatt and Mr. C. C. Nelson, added their testimonies in favour of the architect named; and

On the motion of Professor Donaldson, seconded by Mr. Godwin, it was resolved that her Majesty be advised to present the Royal Gold Medal to Herr Stüler.

Mr. Kerr justly urged, that bestowed as it was by the Sovereign advisedly, and intended to operate for the advancement of our art, the Royal Medal was no trifling honour, and that means should be taken to make this fully felt by the profession.

The report of the council on the essays and drawings was then read, and ultimately adopted, Mr. F. Marrable, Mr. Joseph Clarke, Mr. Papworth, Mr. Burnell, and others taking part in the discussion. The sealed letters were then opened, and the following is a list of the awards:—

The Soane Medallion and 50*l.* (if claimed) to Mr. David Paton Low, of Glasgow, for design for marine sanitarium, marked "Palazzo:"

A medal of merit to Mr. Henry Fuller, of Manchester, for second design for sanitarium, marked "Credo quia impossibile:"

A medal of merit to Mr. F. Robertson Kempson, of Llandaff, for third design for sanitarium, marked "Nothing useless is or low," &c.:

The silver medal of the Institute and five guineas to Mr. James Blake, of Oswestry, for illustrations from actual measurement, with descriptive particulars, of Kilconnell Abbey, Ireland.

The other designs for a sanitarium were marked respectively, "Laudatur ab his, Culpatur ab illis;" "Olympia," "Studens," "Spero dum spiro," and one with a bough of holly.

The subjects for essays and drawings for which medals will be given for the year 1858, were determined on, and will be duly advertised.

Power was given to the council to appoint trustees to hold the shares in the Architectural Union Company, liberally presented to the Institute by Earl de Grey and others; and a vote of thanks to the chairman terminated the proceedings. It would have been more satisfactory to have seen a larger number of the elder members of the profession taking part in business of so much importance to the art.

THE SOULAGES COLLECTION AND THE INSTITUTE OF ARCHITECTS.

THE petition of the Institute, mentioned last week, is now in the hands of Mr. Tite, M.P. for presentation at the first convenient opportunity. In reciting the steps already taken by the Institute to prevent the dispersion of the collection, the memorial sets forth:—

"That whereas the aforesaid council and committee of the aforesaid Institute,—moved by their great anxiety that the said collection should not be dispersed, when the valuable and beautiful objects of which it consisted would be lost for purposes of general study and national improvement, but that it should be acquired by Government, in order to be exhibited gratuitously to the public, and to afford at all times a treasury of instruction to artists and workmen, did, on the 16th of December, 1857, attend as a deputation upon the Right Hon the Lord President of the Committee of Privy Council on Education, to urge upon him most strenuously the important interests they conceived to be affected by the question of the said purchase

And whereas your petitioners conscientiously believe that benefit, greatly outweighing any consideration of the sum of money to be expended in the purchase of the said collection, would speedily result to the development of the great commercial interests connected with the progress of art-industry in this country, in the event of the said purchase being effected:

This petition now therefore humbly prayeth, that your Honourable House will be pleased to take these matters into your gracious consideration, and devise such steps and proceedings as may cause the said collection to be purchased and freely exhibited for the benefit of the community at large, and of those more immediately connected with arts and manufactures in particular."

INSTITUTION OF CIVIL ENGINEERS.

ON February 16, Mr. Locke, M.P. president, in the chair, the paper read was "On Submerging Telegraphic Cables," by Mr. J. A. Longridge, and Mr. C. H. Brooks.

After investigating the laws of bodies, such as cables, sinking in a resisting medium, the paper proceeded to show the great waste of cable attendant upon paying out free from tension at the ship. The form of the curve assumed by a descending cable was then examined, and the amount of tension at the paying-out vessel, requisite to lay the cable without slack along the bottom, estimated under various conditions.

The tension at the ship in 2,000 fathoms water was stated to be about 35 cwt. for a cable similar to the Atlantic cable, but with a cable of the specific gravity of 1·5 it would not exceed 7¼ cwt.

The effect of currents was then considered, and it was maintained that they did not bring any additional strain upon a cable, and involved only a small loss of length on first entering them.

The effect of stopping the paying out was next treated of, and it was shown that it would be to bring a very heavy catenarian strain on the cable, depending upon the depth of water, and the velocity of the paying-out vessel. The amount of this strain for the Atlantic cable in a depth of 2,000 fathoms, and at a velocity of the paying-out vessel of 6 feet per second, was calculated at above seven tons.

The authors then proceeded to offer some remarks upon the mechanical structure of the cable, and strongly advocated a light cable. The distinguishing feature of this system of construction was, that the whole of the metallic portion was placed in the centre, and was surrounded by the insulating material; whereas, in the Atlantic cable, there was an outer sheathing of wire-rope twisted spirally round the insulating medium. It was shown that whilst the absolute weights of the two cables were as 21½ to 10, their relative strengths were as 11 to 25, so that the light cable, weighing scarcely one-half of the heavy one, had nearly two and a half times its relative strength.

On February 23, the paper read was "On the Practical Operations connected with Paying out and Repairing Submarine Telegraph Cables," by Mr. F. C. Webb. The author pointed out the route pro-

posed for the Hague cables, describing their construction, and the reasons which induced the engineer, Mr Edwin Clark, to determine on adopting the small single cable system. After alluding to the advantages and disadvantages of the simple over the compound cable, he expressed the opinion that this system was undoubtedly correct, but that the cables were made too light for this particular locality, and were not laid sufficiently far apart from each other. The arrangement adopted for testing the cable during the process of construction was then explained, and the serious error of submerging cables in their final position without having previously tested their perfection by suitable means was noticed. The Atlantic cable was not tested under water from the fear of its strength being impaired by the formation of rust. This might have been avoided by galvanizing, which was shown not to have the effect of weakening wire to the extent generally supposed. The necessity of supplying buoys, with suitable moorings, to provide against accidents, was urged. Several cases were cited, where the use of buoys would have prevented the loss of cables, and the consequent waste of property.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.

THE first annual meeting of this Association was held on the 27th of February, at the Rooms of the Institute of Architects, Professor Cockerell in the chair. The report which was read stated that while the subscribers were few, the committee had guaranteed to artists the disposal of a certain number of the photographs, which they exhibited, but that now the standing of the Society was such that this, which had occasioned restrictions, would not be repeated; that the Association consisted at that time of 915 subscribers, while there were fifty-two honorary secretaries in different towns throughout the country. The exhibition, which closed on the 24th ult. contained 398 photographic prints, many of the first class, and the whole of the copies selected will probably have cost between 1,200*l.* and 1,300*l.* The committee had received assurances from artists of preparation for the next Exhibition, without any guarantee, their contributions to be, like those already exhibited, both from places abroad and at home. Some method of affording country members a knowledge by sight of the society's acquisitions was under consideration.

The balance-sheet showed a total sum received and accounted for, of 1,353*l*: of this 1,150*l*. have been or will be paid to photographers.

Vacancies in the committee having been filled up, thanks were voted to Mr. Hesketh, the honorary secretary, and others, and the meeting separated.

SCHOOLS OF ART IN THE WEST.

Devonport School of Art.—A meeting was held on the 22nd ult. at the Mechanics' Institute, to inaugurate a school of art for Devonport. Various works of art were displayed in the large room, and the Marines' band played vigorously, and crowds of people promenaded the room while Mr. Redgrave discoursed on the instruction given in a school of art, and Mr. Cole described the conditions to be followed in the establishment of such a school. It was a pity that another room had not been devoted to the business part of the proceedings, as the speakers could not be heard owing to the movement of the crowd. However, the school was inaugurated.

At *Plymouth* the school of art is languishing, partly for want of suitable premises. This school is held in a chapel formerly tenanted by the Plymouth Brethren.

Torquay has postponed the establishment of a school, as the inhabitants are quarrelling over the means of supporting it, and the principal builder in the place denies its necessity!

At *Exeter* and *Taunton* the schools are highly prosperous, chiefly owing to the ability and interest which the masters display in their work.

A branch school is about to be established at *Wellington*.

ARCHITECTURAL CANONS.

Mr. S. SMIRKE, in your numbers for the 13th and 20th ult. has given the substance of an interesting lecture, delivered by him at the Royal Academy.

Now, the above are palpably nothing more or less than a series of observations in elucidation of the *canons* of architecture, although not formally announced as such. Why does not the able writer above mentioned lay these canons down logically and systematically?

A syllabus of such enunciations, in the form of tersely and compactly expressed maxims, would be very valuable as doing much to dispose of arbitrary criticism,—true criticism, consisting mainly in a reference of claims and pretensions,—of dicta and dogmata to acknowledged canons.

Something in the way of the following humble and rough attempts would be very desirable from good hands.

"Architecture" (in reference to æsthetics) is the constructional expression of the sublime and the beautiful, either conjointly or separately.

"Stability" is the basis of ideal magnificence, and of economic efficiency.

"Volume" and "Proportion," in combination with stability, are the leading and indispensable requisites for the sublime or majestic.

Size does not, however, necessarily give vastness; nor wildness confer grandeur or spirit; as is well shown in the wastes of Southern Africa. The style *should* be regulated by function, and *must* be by available material,—to say nothing of funds.

Intrusive or irrelevant decoration is a disease that is as sure to mark decadence, as it is to defeat its own purpose, and involve wasteful expenditure.

Beauty may exist without magnificence; as—

> When fairy-like,
> The lady's bower
> Contrasts with dome,
> Or massive tower.

In such case, the "Graceful" is more definitively expressive than the "Beautiful," &c.

Now, there are, doubtless, dozens of other elementary truths; and these, well arranged in telling order of succession, would be very effectively handled by such men as Mr. Smirke. With such a column of canons before him, he might then proceed to elucidate and maintain each successive proposition; scarcely expecting from the lecturer much or any mathematical *demonstration*, as this could be well superseded by *illustrations*, at least in the public lecture.

R. J. NELSON, R.E. Colonel.

PROVINCIAL NEWS.

Whittlesey.—A new railway bridge, that has been for the last few months in course of construction at Whittlesey, is now open for regular traffic. It is on the Eastern Counties Company's line. The plan originated with the company's engineer, Mr R Sinclair, and the work has been carried out by Messrs. Bennet and Son, of Whittlesey.

Luton.—The tenders for the new workhouse at Luton, opened by the guardians of the Medway Union, at the workhouse, Chatham, were as follow.—Moxom, Dover, 15,940*l.*; Rees and Co. Dover, 15,014*l.* 10s 4d.; Foord and Sons, Rochester, 14,933*l.*; Myers, Lambeth, 14,669*l.*; Parker and Apes, Dover, 14,276*l.*; Barton, Brixton, 14,190*l.*; Spicer, Strood, 13,971*l.*; Kirk and Parry, Chatham, 13,916*l.*; Stump, Chatham, 13,637*l.*; Naylar, Rochester, 13,591*l.* Mr. Naylar's being the lowest tender, was accepted. The following was Mr. Naylar's estimate for each portion of the work:—General buildings, 10,997*l.*; entrance building, 1,048*l.*; fittings, 1,003*l.*; well, tank, &c. 284*l.*; water supply, 259*l.*; total, 13,591*l.* The plumbing, painting, &c. will be undertaken by Mr. Aldridge, of Rochester. The building is to be roofed in by October next, and entirely completed on or before March 25, 1859. The architects are Messrs. Peck and Stephens, of Maidstone.

Lymington.—The old townhall here having been at length doomed to demolition, notices were issued for tenders for the materials, and the following were received for the purchase and taking down the hall:—Mr. Grunsell offered 105*l.*; Messrs. Stickland and Frampton, 107*l.*; and Mr. George Bankes, 111*l.* Mr. Bankes's tender being the highest, was accepted.

Tenbury.—Some progress has been made here with the erection of two public buildings, the one a butter and poultry market, in the square, and the other a corn-exchange, in Teme-street. The market is an oval-shaped building, with two entrances, and is capable of holding 150 persons. The materials are red and blue bricks, and cast-iron, with open wood roof, covered with Clee-hill tile. The general character of the work is Gothic. The corn-exchange is also a Gothic building, and has stone dressings to the entrances and windows. The principal room measures 65 feet by 23 feet, and is divisible into two smaller rooms for magisterial and other purposes. In connection with this building a policeman's residence and cells for prisoners will be provided. Both these works are being carried out from the plans and under the superintendence of Mr. James Cranston, of Birmingham, architect; Messrs. Smith, of this town, being the builders.

Worcester.—At Diglis, on the banks of the Severn, some extensive chemical works have recently been erected, distinguishable by a chimney which forms a prominent feature in the locality. The manufactory has been erected by Messrs. H. Webb and Co. for the preparation of chemical manures of all kinds used for green and cereal crops and hops. It is a plain group of buildings abutting on the lock of the Worcester and Birmingham Canal on the one side, and an arm of the canal basin on the other. The manufactory covers an area about 300 feet in length: the buildings occupy the sides, and leave an open yard in the middle. The premises have been erected from the plans and under the superintendence of the manager, Mr. Thomas Flewett, C.E. The edges of the lead in the construction of the large chamber and the various leaden vessels, were joined by a jet of hydrogen gas, in combustion, blown between the surfaces of the two pieces of lead about to be united: the surfaces are melted by the heat, and, whilst in a fluid state, are forcibly and firmly joined together. The operation is exceedingly simple. The hydrogen gas is generated in a small portable box, and is conveyed to the point desired by a flexible tube and a small glass nipple. The atmospheric air by which it is driven into the aperture is supplied in a similar way from a pair of bellows, worked by the foot of the operator. By means of this apparatus, according to the *Chronicle*, about 70*l.* were saved in the construction of the large chamber alone.

Bristol.—The Board of Subscribers to the Bristol Royal Infirmary have resolved to open a subscription for the erection of lecture-rooms, a museum, convalescent day-room, and a chapel at the infirmary, the whole on plans already prepared, and at a cost of 2,000*l.*

Chester.—St. Paul's national schools, Boughton, approach completion. Two school-rooms have been built to accommodate 100 boys and 80 girls respectively, with a house for the master. Mr. Penson was the architect, and the site of ground, valued at 100*l.* was given by Mr. John Churton. The estimated cost of building the rooms, boundary walls, &c. is 1,304*l.* of which 250*l.* remain to be provided for.

Hemsworth.—The guardians of the Hemsworth Union are about to erect a workhouse, and plans, prepared by Messrs. Weightman, Hadfield, and Goldie, for that purpose, have been sealed by the Poor-Law Commissioners: the works will be commenced so soon as the necessary preliminaries are arranged. The buildings will be of brick, in a plain and inexpensive style.

COMPETITIONS.

Egham Burial-ground.—The plans sent in by architects for selection by the Burial Board of the proposed chapels, &c. have been on view during the week, in the large room of the Literary Institution. Some few of them have been prepared especially for the occasion which has called them forth, but many of them have done the State good service in other places. The plans having been reduced to six, the Board, after mature consideration, selected the one having for a distinctive mark a double ring in red ink. The architect, however, had omitted to furnish his name, and the chairman was ultimately instructed to adopt the necessary measures to obtain a clue to it.

Female Penitentiary, Midland Counties.—Designs have been submitted by Messrs. Bateman, Yeoville, T. Naden, jun. and Holmes, all of Birmingham. The buildings are to supply accommodation for fifty inmates, with provision for extension, if necessary, and the cost is not to exceed 4,000*l.* According to the *Journal*, Mr. Bateman's design is semi-Tudor in style, the material employed brick, with stone facings to the doors and windows in front. Mr. Yeoville furnishes two perspective views, one in the Elizabethan and the other in the Italian style. The elevation is of red brick, slightly relieved with white brick, stone being only used to the principal entrance, and where brick cannot be satisfactorily worked up. Mr. Naden exhibits a design in the Italian style. The material is brick, with stone dressings. Mr. Holmes's plan is in plain Italian, having a pediment in the centre and at each end of the front: the material used is brick, with Bath stone facings.

Sheffield New Hospital.—The committee have selected four, viz. "M.D.;" "Venienti occurrite morbo;" "Cavendo tutus;" and "Rara fides, No. 3." The general committee met on Thursday forenoon; and, having received the report of the sub-committee, and further examined the four plans, the first ballot reduced the four to three; the second reduced the three to two: on the third ballot the two were equal; but on the fourth there were five votes for "Cavendo tutus," and three for "Rara fides." The unopened letters were then referred to, and the first was found to be the design of Mr. Manning, of London; and the second that of Messrs. Flockton and Son, of Sheffield.

Trinity Church, Edinburgh.—With reference to

note in our last, as to the authorship of designs mentioned with "special commendation," by the committee, we now state, at the request of the architects themselves, that the design marked "*L'Espérance*" is by Messrs. Haswell and Johnson, of North Shields; "Auld Langsyne," Mr. George Simmonds, London; "Knox," Messrs. Oliver and Lamb, Newcastle-upon-Tyne.

Brecon Cemetery.—The Burial Board of St. John and St. Mary, for the town of Brecon, have awarded the first prize to the design "Sit proœnium primo," the author of which is Mr. H. J. Paull, of Cardiff. The work is to be carried out under his superintendence.

SCOTLAND.

Edinburgh.—Sir Benjamin Hall, before he quitted the post of Chief Commissioner of Works, directed that the old fountain of Linlithgow Palace, erected in the time of James II., and which is celebrated for having run with wine on high festive occasions, be restored to its pristine form; to be placed in front of Holyrood Palace.——The foundation-stone of the new Music Class-room in Park-place has been laid by the Lord Provost in the presence of the magistrates and council, the professor of music, and other professors of the university, all in their robes of office. It is to be of the Italian Palatial style, after designs by Mr. Cousin, city architect.——The renovation of the Assembly Rooms is now all but completed. The chief elements in the new decorations are painting and gilding, and an alteration in the mural ornamentation of the rooms. In the side walls the flutings and capitals of the pilasters, as well as the lines indicating the panellings, have all been gilded; while the intervening wall-spaces have been painted a delicate salmon-colour, which throws into relief the gold-leafing. But the most prominent alteration, perhaps, is the distribution and addition to the mirrors. The painting and gilding have been executed by Messrs Lithgow and Purdie.

Glasgow.—A new first-class graving dock and floating basin have been completed for Messrs. Todd and M'Gregor, at Meadowside. There are also four spacious wharfs, with cranes for lifting seventy tons weight of machinery, boilers, &c.; premises for working in wood and iron, fitted up with all requisite machinery and apparatus, &c. The graving dock is 500 feet long within the gates, 56 feet wide at the entrance, and with a draught of water of 17 feet at ordinary spring-tides, 15 feet at neap-tides, and 10 feet at ordinary low water. The pumping machinery is of 300 horse-power, and clears the dock of water in two hours.

Wigtown.—At a meeting of the committee for the erection of the Martyrs' monument, the tenders for completing the building were opened, when James Brown, mason, Wigtown, was preferred, and the work accordingly let to him for 127*l.*; the building to be on the Windyhill.

STAINED GLASS.

Ipswich.—In the restoration of St. Lawrence church the stone work of the window at the east end has been filled in with stained glass by Mr. Charles Gibbs, of London. The tracery of the window consists of sixty compartments. The four top spandril pieces have a text inserted. The figures of angels follow in the other spandril pieces, holding musical instruments. The other parts are surrounded with sacred symbols, and the whole is worked on a back ground of red and blue, with foliage of various tints. The lower portion of the window is divided into five openings or compartments, from 9 feet to 10 feet high. These contain five large subjects from the life of our Lord; the Birth, Baptism, Crucifixion, Resurrection, and Ascension. On the top of the left and right hand openings above the subjects are two kneeling figures of angels, each holding a label, with text. At the bottom of all there are two accompanying figures of angels, also holding a text. Over the centre subject of the Crucifixion are two angels in the act of ascending with a celestial crown. Immediately beneath is introduced the Paschal Lamb, holding the flag of victory. Above and below the other two subjects of the Baptism and Resurrection are the emblems of the four Evangelists, with red and blue background of various tints; and the whole is surrounded with borders. At the bottom of the window is an obituary inscription.

Hartington.—The east window of Hartington church, Derbyshire, has been restored and filled with stained glass by Mr. Wilmshurst, in memory of the late Mr. John Sleigh, and at the cost of his sons. The five lights contain respectively the Nativity, the Flight into Egypt, the Crucifixion, the Three Marys at the Tomb, and the Resurrection, within medallions, the background being of floriated coloured glass on a blue or red ground, with a variously-coloured border. Beneath these are represented the emblems of the Evangelists and *Agnus Dei*. The tracery is filled with Angels, the Pelican, the Hind of St. Giles, the patron saint of the church, the Serpent at the foot of the Cross, and other emblems. This church is approaching complete restoration under the care of Mr. H. Currey, of London.

Whitworth. Messrs. Edmundson and Sons, of Manchester, have just completed a large stained glass memorial chancel window for Whitworth parish church, near Rochdale. The window consists of five lights, with tracery, of the Perpendicular period. The centre subject is Christ teaching humility, with text. In the four side lights are the Evangelists with their respective emblems, and each light is surmounted by a canopy. Below are the following smaller subjects, each with an appropriate text;—The agony in the garden, the last supper, the bearing of the cross, the crucifixion, and the entombment. The tracery contains the resurrection, the ascension, the descent of the Holy Ghost, &c. The window is the gift of Messrs. Rawstron, of Manchester.

Heaton Mersey.—Messrs. Edmundson have recently put up a window of geometrical design, at the expense of the Bishop of Manchester, in the nave of the church of St. John the Baptist, Heaton Mersey. The window bears the arms of the see of Manchester. His lordship has given an order for a similar one for the chancel.

Malton.—The old Norman church of St. Michael, Malton, now in course of restoration, has received an entirely new chancel, the windows of which are to be memorial windows of stained glass. The centre light of the east window will be presented by the Rev. Mr. Cleaver; the side lights by Mr. W. C. Copperthwaite, and Mr. H. Jackson. The north window and the two south windows are given respectively by Mr. H. Smithson, Mr. W. Taylor, and Mr. J. Rutter, Malton.

CHURCH-BUILDING NEWS.

Taunton.—It has at last been decided, it seems, to pull down the tower of St. Mary's church, and to erect a new one on its site. Tenders for erecting the work have been delivered to the churchwardens of the parish. Much to the surprise of the inhabitants generally, says the *Sherborne Journal*, it is reported the execution of the work will be undertaken for less than 6,000*l.*

Pitcombe (Somerset).—Pitcombe Church, near Bruton, Somerset, has been rebuilt and enlarged at the cost of Mr. H. Hobhouse, of Hadspen, from designs furnished by Mr. G. E. Street, in the Early Decorated style. The fittings and wood floors are of English oak. The carved bench-ends to nave seats are copied from the old ones, of which a few are retained. The chancel is paved with Minton's tiles, and the reredos from the same was the gift of the Rev. H. Taylor, the Incumbent. The east window is filled with stained glass, by Mr. O'Connor, in three lights,—the "Virgin and Child," the "Crucifixion," and "St. Mary Magdalene;" with "St. Leonard under the "Crucifixion," and the "Agnus Dei" in the traced cinque-foil above. The church has been restored, *i. e.* rebuilt (except the tower), as a memorial to the late wife and father of the beforementioned Mr. H. Hobhouse. Mr. James Howes was the sole contractor. The joiner's work was executed by Mr. Norris, of London; the wood-carving by Mr. Chapman, of Oxford; and the stone-carving by Mr. Clarke, of Wells.

Worcester.—The works at the new cemetery have been making progress. The greater portion of the site on the west side (where there is a brook) will be enclosed with a stone wall of blue lias, and surmounted by a coping of Pennant stone from Bristol. A large part of this wall has already been raised as high as the surface of the ground, and the ultimate height is to be 9 feet. On the side abutting on the road from Worcester there will be a 3 feet 8 inch wall and coping, with ornamental iron palisading of an ecclesiastical character. The iron-work, and the entrance-gates, are being cast at Messrs. Hardy and Padmore's foundry. The gateway will consist of a central and two side arches. The foundations of one of the lodges have been laid, and some progress made in setting out the principal roads. With regard to the chapels, the walls are already elevated nearly to the roofs, and the cloister walls connecting the chapels with the central tower are nearly as high. The stone-work and tracery of the smaller windows have been inserted. The carpentering work is forward, the roofs being ready to put on. They are of red deal, which will be stained. The dressings are of Derbyshire stone. About eighty men are engaged on the buildings and grounds. Mr. H. Lucy is the clerk of the works. Messrs. Chambers and Hilton, of Birmingham, are the contractors for the building; and Mr. Fuller Coker, of Ware, Herts, for laying out the grounds, drainage, &c.

Bromsgrove.—The parish church renovation has been commenced by the removal of the pews, flooring, and all the galleries but that in the south aisle. The plaster and lath of the flat ceiling have been removed, and the timbers of the roof exposed to view. The tower has a west window, which now lights the nave uninterruptedly. The alterations have disclosed in the pier of the chancel arch a portion of a geometrical staircase, which, no doubt, communicated formerly with a rood loft. The old reredos in the chancel has been removed, and, as it had blocked up a large portion of the east window, the change has produced a very marked difference in the appearance of the interior. A fenestella, containing a piscina, and an arch supported by small columns, are built in the wall, on which a table of commandments is painted, but some portion of the table has been destroyed by the insertion of the piscina into the wall. It appears that the galleries blocked up the windows in the aisles so much that churchwardens of bygone days determined upon enlarging the aisle windows by lengthening them. This was done in some cases by cutting out the tracery and the arches, and carrying up the window as high as it could be carried. Iron rods in the new work took the place of mullions and tracery of stone, and a more barbarous job, it would seem, was never perpetrated upon a respectable old church than this. It is said that one of the churchwardens of that day was an ironmonger, and that he thus illustrated the old proverb that there is "nothing like leather."

Ufton.—After undergoing a thorough renovation, Ufton Church has been re-opened. The whole of the interior of the edifice, which is calculated to hold about 350 persons, has been swept away, and in lieu of high pews are substituted oak seats of a plain character. The pulpit is ornamented with carved panelling and new oak framework. The chancel and communion flooring has been newly filled up with ornamental Minton tiles; and various other improvements have been introduced, the whole carried out by Mr. W. Ballard, of Leamington.

Aberavon.—The plans and specifications for the new church of Aberavon having been examined, the tender of Mr. Thomas Williams, Cross-y-Ceilog, near Newport, Monmouthshire, was accepted for 2,000*l.* The building will be commenced forthwith.

Montrose.—A year has elapsed since the destruction of St. Peter's Episcopal Chapel by fire. Several circumstances delayed the commencement of the new edifice until the beginning of December, but such progress has since been made, according to the local *Review*, that the main building is about ready for the roof. The new chapel occupies a larger area than the former, and will be more commodious. The design was furnished by Mr. Henderson, of Edinburgh, architect.

"DENARY *v.* DECIMAL."

SIR: As your paper recently contained a letter upon the "Decimal system," and the same subject has been brought forward by your correspondents at various other times, I shall be very glad if you can afford me room to make a general remark upon the subject. I do not wish to lengthen a discussion, or to begin one, which may be kept up for ever, with about the same progress at the end that it had at the beginning: I merely wish to draw attention to a point that appears to me to have been entirely overlooked.

Your correspondents, following the French idea, seem to think that the great merit of the "Decimal system" lies in division by 10, and try to show that ·5, ·25, ·125, &c. is a much better plan than $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, &c.; because of the ease with which it effects addition, &c. This is true, but true only in one sense: on paper, that is, theoretically, division by 10 is easy enough—the pen runs off the figures as fast as thought;—but on a scale, that is, practically, this number is, next to 7, the very worst that could be chosen for division. It contains only two factors, 2 and 5. Now to divide by 2 is the most natural, the only natural, method; but to divide by 5 is simply worse than by 3, and almost as bad as by 7.

Here lies the difficulty of the system. Tell an ordinary man to separate a whole into 10 equal

parts. He begins by halving it, and there he stops: it is impossible for him to separate each of these halves into five parts. Tell him, on the other hand, to find the eighth or the sixteenth part: he does it at once: he begins by halving, and he ends by halving: the last half is the part wanted.

It is no use going against nature: everybody, civilized and uncivilized, can double and halve to any extent whatever. That addition and multiplication are more readily effected by 10, is owing to the acquired use of the Arabic notation, which is a system of integers, a system of increase: it is a *Denary* not a *Decimal* system. It would be lost labour to try to give an uneducated person a notion of decimals: the whole subject, the *point* above everything, ought never to be mentioned to him. Give him a unit, and bid him multiply it by 10: he does so, and wonders that he has to do no more. This is, in fact, the real working of the French system: it professes to be decimal and denary: it is so in construction, but in life, in daily use, it is entirely and essentially *denary*.

Let, then, a unit be taken, whether money, weight, length, or capacity, and let it be taken, not the lowest imaginable, but merely the lowest for the most extensive use: then let there be no operation but increase, whether adding by units, or multiplying by 10; and we have the most easy and most elaborate system that experience can want or ingenuity contrive. Every trade, every calling, will select its own unit, as at present, and may use its own nomenclature, as at present also; while every such table or scheme as this, being integral, will fit into one general whole, and the entire system will be nothing else than the ordinary system of notation, and will, consequently, be known as soon as the mind can get its first idea of number. JUTE.

PARTY-WALL CASE BEYOND THE LIMITS OF THE BUILDING ACT.

Harrod v. *Davy*.—In the Bloomsbury County Court, on the 17th ult. the plaintiff brought an action against the defendant for 15*l.* 18*s.* the value of half a party-wall in Milton-road, Stoke Newington, in the parish of Hornsey (which your readers will remember was, probably by accident, excluded from the Building Act). There were two counts;—for *contract*; and for *use and occupation*.

Mr. Angell, Solicitor, appeared for the plaintiff; and Mr Joyce, instructed by Messrs Bird and Son, for the defendant.

In the course of the opening of the plaintiff's case, the judge allowed the plaintiff to amend his declaration by adding a count *in trespass*, and it was arranged that the part of the case as to the value of the wall should altogether stand over until the conclusion of the other part.

The plaintiff was called, and stated that his wall and footings were built entirely on his own land. Had told the defendant that if he built against his plaintiff's wall he would have to pay for it; to which defendant replied, "All right; the firm will pay." Defendant afterwards built a half-brick wall against, and supported by, plaintiff's wall, and on its footings: he had not built against the fence-walls, but had cemented part of them over on his own (defendant's) side. Defendant had set up his sill for the part of the fence-walls, which he had not accepted.

A surveyor produced plans and sections of the walls, showing them in contact throughout.

The defendant's case was stated to Mr Joyce to be that he had not used the plaintiff's wall, and that the two walls were separated two inches; that the plaintiff's footings were not on the defendant's land at all; that there was no centre to pier. The several plots were part of the National Freehold Land Society's estate, and the plaintiff was bound to build the one fence-wall at his own expense. The plaintiff's wall, when defendant came to build, was found to be out of the perpendicular, and very much hanging the defendant's land, that he was compelled to build a separate wall, which to meet the bulged parts of the other wall, but in the other parts was separated two inches.

The defendant, and Mr. Hardock his bricklayer, supported this statement. Mr E. Roberts, surveyor, was also called, and stated that he had compared the defendant's land with the plan on the lease, and found he had one inch of frontage less than he was entitled to there was, therefore, an encroachment on the defendant's land on one side of the estate. Could not swear that the plaintiff had encroached, but he drew the conclusion that the defendant's walls were all on his own ground, and plaintiff's footings an encroachment. He had not seen the footings or bulges, as the premises were finished when he surveyed them. The walls were separated two inches at the top.

On cross-examination, this witness stated that the front and back walls did not show the two-inch opening,—they were built close together, with a "straight joint." The tiles of defendant's roof were carried over the fissure to keep out the rain. He would not build a wall so thin as 4½ inches, but the one in question was left to save, as it was in small pieces between walls and chimney-breasts, and would stand as long as the other parts without the support of the plaintiff's wall.

In answer to the Court, Mr. Roberts said that the plaintiff's wall was not at all used by the defendant. Also, that fence-walls are excluded from the "Building Act," and there is no power to compel an adjoining owner to join in building one, or pay for it, unless built by agreement, but he considered he could not "take it by prescription" against the otherwise, without being liable.

The Judge in his gave judgment. He said that of the evidence of the last witness was *bona fide* to be believed to be so, he must give judgment for the defendant on all the counts, for want of jurisdiction. Mr Roberts had measured the defendant's ground, and found a deficiency of one inch, irrespective of footings, and which, with the two inches space, made a loss of three inches, and it was a question to whom the land belonged on which the footings stood, and, as a question of title, out of the jurisdiction of this court. He would not, however, give costs, as the defendant had partly admitted his liability by the cemented walls by sending a sovereign to the plaintiff.

Judgment accordingly for the defendant, without costs.

A. B.

DECISIONS UNDER METROPOLITAN BUILDINGS ACT.

ALTERATIONS TO OLD BUILDINGS.

Donaldson, D. S., v. Todd, Builder.—This case from the district of South Kensington, came before Mr. Ingham, the magistrate at Hammersmith Police Court, and was an information laid by Mr Donaldson, the district surveyor, against Mr. John Todd, builder, in respect of No. 5, Thurloe-place, Brompton. There was also a similar information laid against Mr. Stimpson, in respect of No. 1, of the same place, under the same circumstances. The house, No. 5, consisted of four stories, with a room in the roof, and the walls were under 50 feet in height; the roof was taken off, a square story added, and above it a curbed roof, with rooms in the same. The magistrate held that the rooms in the roof constituted it a story, making six in all, and that the aggregate height of the wall was to be measured to the top of the topmost story, which exceeded 58 feet. The information was to the effect that, inasmuch as the Act required walls from 50 to 60 feet in height, and of the length up to 30 feet, to have one story 17½ inches in thickness, and as the old basement external walls were only 14 inches thick, the builder was called upon to make them of the thickness of 17½ inches. The magistrate, however, held that, by Sec. IX any alteration or addition was subject to the regulations of the Act only to the "extent" of such alteration or addition, and that the builder could not be called upon to alter old work. The magistrate, however, considered it a proper question to be submitted to his decision, and complimented the district surveyor for the vigilance he had shown in the matter.

*** If this decision be correct, houses, practically, may be built with walls of less thickness than is prescribed by the Act, the requirement simply being that the house should be covered in, with walls of the proper thickness for the height at that time; afterwards, taking off the roof, two or three stories may be added without rendering the walls below as strong as the Act requires walls of that height should be. If the decision be correct, there is a manifest weakness in the Act; but it does not seem to us to be correct. Section IX. says,—"Any alteration," &c. "shall, to the extent of such alteration," &c. "be subject to the regulations of this Act." In the case in question, the alteration was making a wall under 50 feet in height, into a wall above 50 feet, for which, according to the Act, a different thickness is required. On the other hand, we do not agree with the magistrate in thinking that the height of an external wall, where there is a curbed roof, is to be measured to the *top of the topmost story*: it should be measured, as it seems to us, only to the top of the wall itself.

ARCHITECTURAL PUBLICATION SOCIETY.

THE honorary secretary, Mr. Wyatt Papworth, wishes to point out to our correspondent that "any one can have the back numbers of the 'Dictionary of Architecture,' at such periods of payment as may be found convenient. The Dictionary was largely advertised (in the same way as the society to which 'R.' refers) both before and since its commencement, as well as announced by the transmission of circulars to the members of the profession and others. Your journal (see last year's volume, page 29, &c.) and other literary periodicals, have also constantly noticed the text and the illustrations on their appearance; and from them the Society, I consider, has derived more benefit than from the mere advertisements, which are, I find, seldom attended to; or from the before-mentioned circulars, now generally put, unread, into the waste-paper basket. The last result, however, has been obtained by those members who have undertaken to procure other subscribers, a procedure which, in one case, has added at least five new names to the list within a short period; the inspection of the work having been generally more conclusive than all the advertisements, notices, or recommendations in type. The committee will be gratified to find that these notices have had the effect of drawing the attention of those who are not members of the Society to a work which, it is submitted, fills up an often declared hiatus in the architectural publications of England,—one which is sufficiently advanced to be useful for reference, and is now occasionally quoted. As you have before observed, the committee have not been supported in their labours to half the extent anticipated, nor have the promoters yet been assisted in their energies to effect the proposal of supplying to the profession generally so great a desideratum."

LONDON CROSSINGS.—Amongst our letters on this subject is one by "C. J. F." re-urging the formation of light iron bridges, such as connect the two sides of railways at stations. Our correspondent also remarks that Temple bar would form a capital crossing, though an ugly one; and that he has often been detained there for some minutes in attempting to cross. At times this crossing is certainly somewhat dangerous, like too many of our London crossings.

Books Received.

The Beautiful in Nature, Art, and Life. By ANDREW JAMES SYMINGTON. In two Volumes. London: Longman and Co. 1857.

BEAUTY, says Mr. Symington, is "the result of the free operation of the positive laws which govern the mind of man and outward nature." We have no intention just now to enter on the vexed question which involves the true and proper definition of the meaning of the word "Beauty," as applied to nature, art, or life; otherwise we might stumble at this threshold of Mr. Symington's work (a threshold, by the by, which does not obtrude upon one's notice on the way in, to the author's very interesting art-exhibition, since it only modestly appears on our way out, at the close of the second volume). A very readable and valuable work on what is deemed beautiful in nature, art, and even life, however, may be written by one whose definition of the term may not appear to be very exhaustive, precise, or satisfactory. Mr. Symington's work, moreover, is only intended as a contribution, suggestive, he hopes, in the right direction, of the way by which to enter the great temple of the universe through "the gate which is called Beautiful;" and to show that, in all its beauties and its excellencies, it is built on one mighty plan (of correlation and contrast). He believes that a system of comparative anatomy, as it were, pervades the whole universe of matter and mind, with harmonious relations for its positive laws; and he wishes to give us a glimpse of his own meanderings through this world of beauties, not expecting that *his* will be regarded as the *only* or the *best* route, nor requiring that it be followed out as such, but simply as jottings of one way at least through the Beautiful Gate—the one with which he happens to be best acquainted; and, perhaps, suggestive of a better.

In his introductory chapter the author chiefly dwells on the spirit and aim of inquiry, and of what he regards as the catholic manner in which it ought to be conducted;—wandering over the notes, as it were, and striking a few desultory chords in the way of prelude.

Then comes a disquisition on the philosophy of the Beautiful, in which the author briefly glances at mental philosophy in general, as preparatory to the understanding of various statements and theories regarding beauty in particular; and at education and acquaintance with the works of those mighty ones whose feet "echo through the corridors of time," as the best means for enlarging our sympathies, and consequently widening the visible and actual field of the beautiful.

In the division titled "The Beautiful in Nature" a threefold view of nature is considered; namely, its outward aspect,—the scientific arrangement of its phenomena,—and its special adaptation for illustrating thought. On this last portion the author has dwelt at considerable length, giving numerous quotations from early and modern writers, but more especially from three exemplary sources, the Bible, the works of Shakspeare, and those of Wordsworth.

The next division,—"The Beautiful in Art," treats of the artist and of the fine arts in general; their sympathies and analogies; then of the various arts—architecture, sculpture, painting, poetry, music,—*seriatim*; also furnishing hints regarding the formation and cultivation of taste.

The last division treats of "the Beautiful in Life," the "beauty of holiness," and the "perfection of beauty," with its "crown of rejoicing" in "whatsoever things are lovely" as "the lily-work on the top of the pillars."

"In a range so extensive," truthfully and modestly remarks the author, "much of necessity can only be fragmentary and imperfectly indicated, and more must be altogether passed by; whilst errors of various kinds will creep in, notwithstanding our every care to guard against them."

The book shows a large amount of reading, and a kindly appreciation of the works of others.

VARIORUM.

Two very useful little books for the young have been lately published, one by Dean and Son, of Ludgate-hill, and the other by Longman and Co. of Paternoster-row; the former being "Jamie's Questions," by Emma Davenport, inscribed to Lady Davenport; and the latter, on "The Arts of Life" (by Dr. Aikin),—a new edition, with additions and alterations, by Lucy Aikin. None know so well how to reduce knowledge to the capacities of the young as the educated woman—

their best home teacher; and the two ladies just named appear to be well versed in these becoming accomplishments. The first of the two little volumes is intended rather to excite the curiosity of an intelligent child than fully to enter into any of the subjects proposed. The latter is in the form of letters to a schoolboy, on the providing of food, clothing, and shelter; the last named being an elementary—of course, a very elementary—treatise on architecture.

Miscellanea.

The National Gallery Question.—In the first of a projected series of "Tracts upon National Promotion of Art and Science" (Longman and Co. publishers), it is proposed that the National Gallery difficulties be solved at a cost of 80,000*l.* instead of 1,000,000*l.*, by retaining the pictures of the ancient masters in Trafalgar-square, removing the schools and exhibitions of the Royal Academy, consolidating the Vernon and Turner with the Sheepshanks pictures at Brompton, and circulating superfluous pictures in the provinces. The necessity of giving up Marlborough-house to the Prince of Wales in about a twelvemonth renders this, it is thought, a fitting time to make such a re-arrangement. A vote of 60,000*l.* to the Royal Academy constitutes a portion of the 80,000*l.* required. The formation of the Sheepshanks Gallery, it is thought, shows how to form a cheap shelter for the remainder of our modern pictures, with the smaller moiety, alongside of it, thus concentrating the gallery of modern pictures at Brompton, and leaving a sufficiency of room at Trafalgar-square for the gallery of ancient works. The question whether the public will visit the collection if concentrated so far west as Brompton is conceived to be already settled by the fact that, while the number of visitors to the Vernon and Turner Pictures at Marlborough-house for the whole twelve months of the year 1856 was only 227,720, and at Trafalgar-square only 208,270, no less than 230,000 visited the Sheepshanks collection at Brompton in the *six* months included between the 22nd of June and the middle of December of the same year.

Oxford Architectural Society.—A meeting of this society was held on February 25. A paper was read by Mr. Markham J. Thorpe, of Saint Edmund-hall, entitled "Holyrood, in connection with Mary Queen of Scots." Mr. Thorpe's connection with her Majesty's State Paper-office, enabled him to give some interesting information. It appeared that the intended murder of Riccio was not unknown to English statesmen. Mr. Thorpe defended John Knox against the statements of the late Mr. Tytler in his history, according to whom Knox was implicated in this deed. After some further remarks from Mr. Thorpe, who was assured of the false nature of the calumnies against Queen Mary, the meeting was adjourned till Thursday, the 11th of March.

Liverpool Labourers' Dwelling Company.—The ordinary half-yearly meeting of the shareholders of this company was held last week. The attendance was not numerous. The secretary read the report. The chairman said it seemed the cost of their buildings was 6,360*l.*; the gross income, if all were let, would be 495*l.* 19s.; the actual receipts amounted to 330*l.* 0s. 1d. The report stated that their buildings were only ready for occupation in June. Still, notwithstanding, they were able to pay a dividend of 3½ per cent.; and they hoped, with an improved state of trade, their houses would be all let, and that the dividend they originally contemplated—5 per cent.—or something like it, would be paid to the proprietors. The report was adopted.

Tribute to Mr. Lilwall.—It is proposed to present a tribute to Mr. Lilwall, who, for nearly twenty years has been labouring in the general early-closing and half-holiday movements. An influential committee has been formed.

Artificial Light for Photographic Purposes.—The following composition for this very desirable aid to photography is recommended by M. Gaudin:—Chlorate of potass twelve parts, sulphur three parts, sugar one part: these ingredients must be in fine powder. This composition, when lighted, is placed in the focus of a parabolic or elliptic reflector, and the sitter or printing-frame in a suitable position for receiving the reflected rays. The elliptic reflector is for portraits, and should be 6 feet in diameter: the light should be in one focus of the mirror, and the sitter in the other. The parabolic reflector for printing with dry collodion should be about 12 inches in diameter, and have a focus about 16 inches in front of it. An exposure of one second is said to be generally sufficient.

Trajan's Column.—Dr. Bruce's Lectures.—At the Literary and Philosophical Society, Newcastle, Dr. Bruce has delivered his two lectures on Trajan's Column at Rome. Dr. Bruce exhibited photographs and engravings of the sculpture, and also plaster casts, lent to him for his lectures by Mr. W. B. Scott, Master of the Government School of Art in Newcastle. "Dr. Bruce, who has a perfect pictorial copy of the sculptures, from beginning to end," says the *Gateshead Observer*, "discoursed upon them with great enthusiasm, and paid the Romans several compliments at the cost of some of our countrymen employed in the Crimea. Perchance, however, if the file of the *Acta Diurna*, the *Times* of Rome, were at our elbow, we might find therein the letters of some Gulielmus H. Russellius, hitting a blot or two in the Dacian war not recorded on the Trajan column. We think it possible also that we should meet with incidental allusion to this marvellous monument, at variance with some of the conjectures on which the doctor, in the absence of written records, was driven. For instance:—The absence of spears from the hands of the warriors, explained by a suggestion of sculptural difficulties. We think we might learn that spears were not absent, but existed in bronze or other metal. They have disappeared, as monumental 'brasses' have disappeared, and, we dare say, for the same reason."

Stereoscopic Views of the "Leviathan."—Messrs. Robert Howlett and George Downes, of New Bond-street, have published a number of views for the stereoscope of the *Leviathan*,—that marvellous specimen of mechanical skill and human daring. These include a side view, showing the cradles, a very perfect photograph; a view of the stern; a view showing the paddle-wheel and part of the check tackle; a view on the deck; and a view of the pumps for the hydraulic rams, with a group of the men, the most effective of them all. These slides form a very interesting record of the early stages of a great undertaking.

The Watt Institution and School of Arts, Edinburgh.—From the annual report of the directors of this institution, for 1857, it appears that its efficiency is fully maintained. The total number of students during the year was 539, being four less, however, than in the previous session; but the number of tickets to separate courses of lectures was 866, or 41 more than those of last year. This school has been 36 years in operation: the attendance during the last ten years has been very considerably greater than during any previous period of equal extent; so that it has never been impaired in its success, but has been slowly but steadily increasing to the present time.

Employment for Girls.—Adverting to our recent article on this subject, the *Stockport Advertiser* says;—"The *Builder*, in an article upon the employment of girls and women, suggests that they should be taught to make toys; and he quotes an example of the successful teaching of a limited number of them by an earnest-minded woman. The suggestions may be worth consideration. Women are now employed in London to a considerable extent in wood-cutting, as illustrations for the pictorial newspapers. What should hinder them carving children's toys in wood? We may find many sources of employment for females such as they do not follow; but whatever is done for the daughters of working men, will come back again with interest. We do not say there is religion in serving at table, but there is a certain amount of morality in performing those duties of life which pertain to the personal feelings of one's self or another, in an appropriate manner."

Rotherhithe.—A warehouse of large size, for Government stores, is about to be erected at Rotherhithe, under the direction of Capt. Fowke, R.E. The probable cost will not be far short of a quarter of a million.

Drawing Mouldings.—Can you inform me whether there exists any simple and inexpensive instrument by means of which to read off, record, and register, as it were, the section of a moulding, or group of mouldings? I should think that such an instrument must have been used by those who have made such accurate measurements and drawings of ancient buildings in Greece. If there be such a thing, it would be very serviceable in the process of "scribing cabinets, bookcases, &c., to the mouldings of skirtings and dados, which, as at present practised, is a very tedious process."

A Cabinet-maker.

*** There is such an instrument: it was invented by Professor Willis; but it cannot be described as either "simple" or "inexpensive."

Gas.—The Liverpool United Gas Light Company have agreed to reduce the price of their gas 3d. per thousand feet. The charge will now be 3s. 9d. per thousand cubic feet (4s. 3d. in the outtownships).——The Wolverhampton Gas Company have declared a dividend of 10 per cent. clear of income-tax, being the highest rate of interest the law allows them to divide, liquidating the expenses of wear and tear of old plant, and supplying new, out of the revenue. The dividend will amount in all to about 3,450*l.* besides which about 630*l.* have been added to the reserve fund, making it about 2,000*l.*——The South Shields Gas Company have declared a dividend at the rate of 6½ per cent. clear of income-tax.

Sub-Contractors: Beedle v. Street.—We have received a letter from the plaintiff in this case, in reply to the communication in the *Builder* of the 20th, signed "C. Foster, Architect," (page 133,) asserting that it was distinctly understood, as to some of the extra works and the repairs, "both by the defendant and his surveyor, that it was not to interfere with Messrs. Ring and Stanger,"—in other words, that it was understood Street was to pay Beedle, and not the builder for whom Beedle was working. This is assertion against assertion, and not for us to weigh. The principle involved is important, and the right and wrong tolerably clear.

Metropolitan Improvements.—The vestries of St. Martin's-in-the-Fields and St. James's, Westminster (says a correspondent), are about to submit to the Metropolitan Board and the Chief Commissioner of Public Works a plan, suggested by Mr. Birch, architect, for widening Coventry-street in a line with Piccadilly, and forming therefrom an approach to the Strand. The proposal is to form a street crossing diagonally the lower part of Leicester-square, through Green-street and Hemming's-row, in a line with King William-street, Strand. The want of a direct thoroughfare in this locality is of long standing.

Bournemouth.—Mr. Philip Brannon, the author of the "Bournemouth Guide," in a third edition, and separately in a tract quoting from it, calls attention to the capabilities of this picturesque and healthful vicinity, and offers some suggestions as to the preservation and improvement of its beauties. In particular he strenuously advises its building proprietors not to erect villa or other residences without the aid of professional architects, some recent erections by no means contributing to the *éclat* of previous designs in connection with the beauty of the locality. It is the educated and refined who are likely to be induced to visit such a retreat, or to reside in it permanently, and it behoves those interested in the place to have a care how they obtrude ugly structures amongst its romantic heights and ravines, and so lessen its present *prestige*.

Surveyor of Over Darwen.—The election of a surveyor for Over Darwen was made on Monday, the 22nd of February. There were forty-two candidates, three out of which number were selected to be voted for. One was then withdrawn; and the final result went in favour of Mr. Rigby, of Chorley, leaving Mr. Baldwin Latham, C.E. of Nantwich, in a minority of one. The Board came to a unanimous resolution to present a testimonial to Mr. Baldwin Latham, for the able manner in which he had passed his examination, and the great skill displayed in his drawings.

The Cantelupe Monument in Ilkeston Church.—Within the last few weeks this monument has been restored at the expense of Lord De la Warr and Cantelupe, a descendant of the former lords of Ilkeston. In the restoration antiquaries have been consulted. They advised that the effigy should remain in its mutilated state, with one or two slight exceptions; but that the pediment should be restored to its original state, since sufficient remained to afford a clear indication of what it once was. The work has been done by Messrs. Lindley and Firn.

The Somerset Archæological Society.—The fourth *conversazione* for the season of this society was held at the Museum, in Taunton, last week, when the Rev. J. M. Cox read a paper on "the Topography of Naples," in continuation of one read at a previous meeting. Mons. Babin, professor of languages, read a paper on "the Antiquities of Nismes."

The Unpaved Crossings in Hyde Park, &c.

Sir,—The Commissioners of the Woods and Forests would, by causing to be laid down asphalte pavements in Hyde-park, and in the principal or centre Mall of St. James's-park, and in the Green-park, confer a great boon on the public. Such pavements would not interfere with the very few reviews of the household cavalry in Hyde-park.—J. B. N.

"Grey Minium" for Coating Metals.—A new coating for the preservation of iron or other metals from oxidation, has been patented by Messrs. Dodd and Co. of Newcastle-upon-Tyne. In their circular they describe it as possessing various properties, entitling it to be used in preference to the usual coatings. Experience must decide; but certainly there is reason for the endeavour to obtain some better protection, as for iron railings, &c. than the red paint in common use. The "Grey Minium," as it is called, is said to give a dark olive-coloured lustrous surface, glazing the metal with a tenacious and compact coating, which quickly dries. It is also recommended for painting on wood, for coating the interior of boilers, to obviate incrustation, and also as a cement for gas, water, or steam, pipes.

[Advertisement]

154, Regent-street, and 8, Beak-street,
34, Rue de Rivoli, Paris,
June 10th, 1857.

Gentlemen,—We have much pleasure in informing you that your Patent Revolving Shutters, which have been used in our premises for the last five years, give us the greatest satisfaction.

One of the Shutters closes a window of 30 feet wide and 10 feet high, and weighs upwards of a ton.

Yours respectfully,
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15, Gate-street, Lincoln's-Inn-Fields.

TENDERS.

For the Foleshill workhouse. Mr. Edward Holmes, architect. Quantities supplied by Messrs. Batstone and Hunt, Westminster:—

Orchard, Banbury	£5,500	0	0
Clifford, Birmingham	5,275	0	0
Clark and Son, Warwick	5,190	0	0
Mountford, Birmingham	5,128	0	0
Webb and Son, Birmingham	4,955	0	0
Roberts, Coventry	4,900	0	0
Oldham, Leamington	4,854	0	0
Matthews, Birmingham	4,849	2	0
Spencer, Atherstone	4,829	0	0
Dutton, Coventry	4,730	0	0
Fox, Atherstone	4,729	0	0
Broadbent, Leicester	4,684	0	0
Chambers and Hilton, Birmingham	4,600	0	0
Harold, Hinckley	4,418	0	0
Hardwick, Birmingham	4,093	0	0
Young, Lincoln	3,998	0	0
Ferguson, Nottingham	3,948	0	0
Price, Coventry (accepted)	3,820	0	0

For Belper new cemetery chapels, lodge, boundary-wall, and gates. Mr. Edward Holmes, architect. Quantities supplied by Messrs. Batstone and Hunt:—

Redfern, Derby	£3,943	15	5
Edward Thompson, Derby	2,990	0	0
Ferguson and Allen, Nottingham	2,900	0	0
Humphries, Derby	2,820	0	0
Robinson, Derby	2,799	0	0
Palmer, Lowdham	2,738	0	0
George Thompson, Derby	2,685	0	0
Young, Lincoln	2,550	0	0
Freeman, Belper (accepted)	2,495	0	0

For chapel and dining-hall, Norfolk Lunatic Asylum, at Thorpe, near Norwich. Mr. John Brown, county surveyor. Quantities supplied by Mr. John Ellis, Norwich:—

Norfor, Yarmouth	£4,360	0	0
Bennett, Lynn	4,190	0	0
Ling and Balls, Norwich	4,173	3	0
Worman, Norwich	4,119	0	0
Lacey, J. W. Norwich	3,972	0	0
Minns and Poyson, Norwich (accepted)	3,915	0	0

For national schools and residence to be built at Bicester, Oxon.—

Messrs. Orchard, Banbury	£1,751	0	0
Thomas Abingdon	1,698	0	0
Young and Co. Oxford	1,695	0	0
Cooper, Aylesbury	1,534	0	0
Selby, Oxford	1,500	0	0
Bartlett, Witney	1,475	0	0
Munday, Buckingham	1,095	0	0

For two houses, Triangle, Hackney, for Mr. T. Rock. Mr. Fras. G. Widdows, architect. Quantities supplied:—

Rivett	£1,550	0	0
Sergeant	1,450	0	0
Norris	1,397	0	0
Dove	1,357	0	0
Raby	1,287	0	0
Roberts	1,235	0	0

For the erection of canteen, at the Hut Barracks, Brompton, Kent. Quantities supplied. Mr. Frederick Peck, architect:—

Wilkins	£882	0	0
Cotton	792	0	0
Kirk and Parry	757	0	0
Naylar	735	0	0
Foord and Son	725	0	0
Stump	699	0	0

For rebuilding house, No. 291, Hart-street, Spitalfields. Mr. Woodthorpe, architect:—

Brown and Robinson	£697	0	0
Brass and Sons	697	0	0
Larke and Son	674	0	0
Gammon	653	0	0
Turner and Sons	638	0	0
Pritchard	571	0	0

For Baptist chapel, Redhill, near Reigate:—

Thornton	£676	0	0
Barnes	636	0	0
Caruthers	627	0	0
Fisher	596	0	0

For new road, banks, fences, and bridge in the parishes of Sturminster, Lidlinch, and Fifehead, in the county of Dorset. Messrs. Haggett and Pocklington, architects:—

Blandford, Blandford	£605	0	0
Humphries, Upway, Weymouth	405	0	0
Jesty and Son, Broadway, Weymouth	394	8	9
Fish, Sturminster	373	16	9

For repairs to two houses, Nos. 219 and 221, Blackfriars-road. Mr. John Whichcord, architect:—

Macey	£400	0	0
Colls and Co.	357	0	0
Greenwood	349	10	0
Piper	312	0	0
Woodrough	311	10	0
Evans	278	0	0

Sewers at Cheltenham.—Sir: A note in the *Builder* of last Saturday, on the subject of "Extension of Sewers at Cheltenham," appears so expressed as to invite further explanation upon the matter referred to. Our borough surveyor (Mr. Dangerfield) is absent for a few days, and therefore, as one of the commissioners, I trouble you with a few lines. I also send you a portion of the *Cheltenham Examiner*, of February 10th, which gives a just account of the proceedings of the town commissioners with regard to the tenders for the new sewers, and I beg to inform you that the amounts therein stated as showing the several tenders are correctly given, and that Mr. Pigott's tender really was 26,500*l.* as reported in the newspaper and stated by you. To satisfy myself fully, and to place the matter beyond all doubt, I have requested the clerk to show me the actual tender signed by Mr. Pigott, and I find that the amount stated above is quite correct, and you have thus my full authority for any statement you may wish to make to that effect. I know nothing of Mr. Pigott, and only wish the matter to be fairly stated to all parties, and in regard to allowing persons to alter or amend tenders after they have been delivered and opened, I think it is obviously unfair, and therefore I objected (as you may see in the paper) to Messrs. Rees and Co. being allowed to do so. D. J. Humphris.

Putney New Church.—We are asked to say that Messrs. Aviss and Son's tender was accepted.

TO CORRESPONDENTS.

E M the statement was altogether erroneous. Dundalk [R C] church would accommodate, very comfortably packed, about 10 or 12 persons, and Waterford about 4,000—all and if one of the first should be found to exist—and if The signature of the man would probably put an end to the original notice, but we should think it by giving without knowledge of all the steps in the case. R M M J P R. A. A.—Messrs. J.—F. C.—J. T.—J. G.—J. C.—O. C. A.—H. K.—Ripley. —G. D. F.—A Subscriber (contract at per thousand with a brickmaker. For two cottages alone it would be scarcely worth while to make bricks.—Mr. H.—P. B.—W. S.—J. E.—S. S. T.—W. W.—J. P.—G. S.—Mr. D.—Mr. M.—J. O. Master Mariners (doubtful).—C. A. Wolfe (see St. Sansbury has been noticed several times. R. P. H. B.—Rev. W. J.—E. H.—J. F.—S. H.—C. B.

In type, "Round Towers of Ireland," "Chloride," "A Flea for the Beautiful," "Bottle-necked Thoroughfares."

"Books and Addresses": We are forced to decline pointing out books or finding out addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and not to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

During March, the South Kensington Museum will be OPEN daily until FIVE, p.m. After 1st April, until SIX, p.m.
By order of the Committee of Council on Education.

On Thursday next will be published, in One Volume, royal 8vo. illustrated with Twenty four Lithographic Engravings,

The Resources of Estates: A Treatise on the Agricultural Improvement and General Management of Landed Property
By John Lockhart Morton,
Civil and Aricultural Engineer; author of Thirteen Highland and Agricultural Society Prize Essays.
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London: George Routledge and Co. Farringdon-street.

The Freemasons' Magazine and Masonic Mirror for March 3rd, 1858, is now ready. Price Sixpence.

Contents:—
I.—Grand Lodge
II.—Masonic Legends
III.—Masonic Antiquities
IV.—Archæological Society.
V.—Reviews of New Books.
VI.—Correspondence.

The Masonic Mirror.

London Lodges. Provincial Lodges. Royal Arch. Mark Masonry Knights Templar.—Ireland.—Colonial.—America.—India. Turkey. Masonic Festivities.—The Week.—Notices and Answers to Correspondents.
London: Henry Geo Warren, 2, Red Lion court, Fleet-street; and Geo. Routledge and Co. Farringdon street.

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London: Longman and Co.; Newcastle-on-Tyne: R. Robinson.

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H.R.H. the PRINCESS ROYAL.—EXHIBITION, at the FRENCH GALLERY, 121, PALL-MALL. Messrs. COLNAGHI beg to announce that, by permission of her Majesty, the PICTURE of H.R.H. VICTORIA PRINCESS ROYAL, PRINCESS FREDERICK WILLIAM of PRUSSIA, by Winterhalter, is now on VIEW, for a few days.—Admittance to the Gallery, 1s. each person.

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Architectural Publication Society.—Volume I. of the Dictionary of Architecture, consisting of Letters A and B, is now completed. Annual subscription (one guinea) to be forwarded to the Treasurer, Mr. Thomas L. Donaldson, Bolton Gardens, Russell square, W.C.; or to Mr. Wyatt Papworth, Hon. Sec. 14a, Great Marlborough-street, W. of either of whom a List of the Publications can be obtained.

What will this cost to print? is often a thought passing through the minds of literary and public characters, and persons of benevolent feelings. Apply as under, and you will receive every information required. Every description of Printing, Engraving, Lithography, and Bookbinding executed.—Richard Barrett, Mark-lane, London. Established 25 years.

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Crystal Palace.—General Manager.—The Directors of the Crystal Palace Company, having determined to appoint a General Manager, hereby give Notice that they are prepared to receive Applications from gentlemen desirous to fill that office. Candidates are requested to state their general views of management, their qualifications and references, with the terms upon which they are prepared to accept the office. Full particulars of the duties of the General Manager may be inspected at the Secretary's Office. Applications must be addressed to the Secretary, and delivered at his Office, at the Palace, by Friday, the 12th March.—By order of the Board,
Crystal Palace, Feb. 27, 1858. Geo. Grove, Secretary.

Wanted, in a Builder's Office, a Junior, to assist in keeping time, costs, &c. Must have knowledge of drawing.—Address, stating age, where last engaged, and salary required, to A. B. Office of "The Builder."

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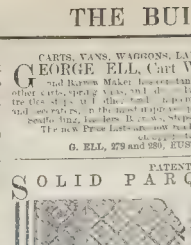

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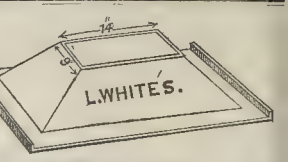

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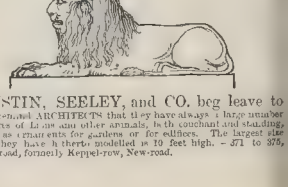

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Spruce ditto	17l.	"	"
Battens	10l.	12 ft. by 3 in.	
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Small ditto	22 in. by 11 in.	8 15	" "
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From 5 to 10 ft. in each slab, at per foot	5d.	6d.	8d	9d.
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SOLICITORS.—Messrs. Dalgleish and Lowe.
AUDITOR.—H. C. Beloe, esq.
SOLICITORS.—Messrs. Townsend, Ridley, and Jackson.
ENGINEER OF THE WORKS.—Mr. C. W. Saunders.

The object for which this Company has been formed is to work coal, iron, and other minerals, in the Bychton Estate, at Mostyn, in Flintshire

Terms have been come to with the lessees that they shall receive one third of the profits as the consideration for the transfer of their interest to the Company; this is proposed to be effected by allotting to them 2,000 shares, which will be considered as fully paid up.

The lease is for twenty-one years from September last; it comprises 430 acres, and has been granted upon terms more than ordinarily favourable to the lessees

An adit level, upwards of a mile in length, driven through the estate at a very great expense, has proved seams of coal, no less than fourteen in number. They are as follows. Cannel (a good gas and steam coal), 7 feet thick, consisting of 3 feet cannel and 4 feet coal; yard coal (equal to Orrell King coal), 2 feet 6 inches thick; blue cannel (good gas coal), 6 feet 6 inches thick; 5-yard coal (first-rate for house and steam purposes), 14 feet 6 inches thick; 3-yard coal (good steam coal; this seam also contains 15 inches of good gas cannel on top), 10 feet 2 inches thick; 2-yard coal (excellent steam coal), 6 feet thick; Durbog (very good house coal), 7 feet thick; stone coal (second quality house coal), 4 feet 6 inches thick; 3-ells coal (good smithy coal), 3 feet 6 inches thick; 5-ells coal (usual Mostyn coal), 4 feet 6 inches thick; 20-inch coal (excellent steam coal), 2 feet 9 inches thick; 5-ells Bry (good coal), 5 feet 6 inches thick; 2-yard Brychton (good), 6 feet 6 inches thick; 3-ells coal (excellent), 3 feet thick.

It is estimated that there are in the estate more than fifteen millions of tons of coal and cannel.

A principal shaft of 12 feet diameter, bricked and set with Aberdyer lime, has been completed, and is now working the 5-yard coal; the 3-yard coal is being worked by another shaft; and a third shaft has been sunk to work the cannel coal.

The situation of the colliery is upon the line of the Chester and Holyhead Railway, and within a quarter of a mile of the Dee, affording the advantage of both land and water carriage; whilst its position in other respects must secure a large local sale.

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								s.	d.
11	by	9,	12	by	9,	14	by 9 ..	15	0
12	„	10,	13	„	10,	14	„ 10, 15 „ 10 ..	16	0
16	„	10,	17	„	10,	18	„ 10, ..		
12	„	11,	13	„	11,	14	„ 11, 15 „ 11, 16 „ 11	16	6
13	„	12,	14	„	12,	15	„ 12, 16 „ 12, ..	17	0
17	„	12,	18	„	12,	19	„ 12, 20 „ 12, ..		
16	„	13,	17	„	13,	18	„ 13, 20 „ 13 ..	18	0
22	„	13,	24	„	13,	26	„ 13, 22 „ 14 ..		
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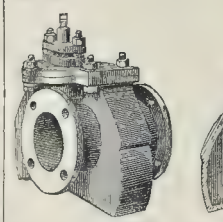

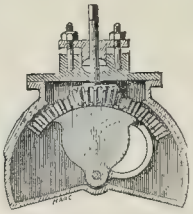

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BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.

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ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE, and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement

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Manufacturers only of first-class quality, for the home and foreign trade.

Portland Cement is manufactured at these works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise

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Brick, Tile, Drain pipe, Hair Lath, and Fire Goods Merchants,

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ROMAN CEMENT, made at the above works, may be had fresh from the kilns daily—a great advantage to dealers and sewer contractors especially in winter time.

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the Lias Cements, so much of which is now brought into the market and sold as Portland

PLASTER of PARIS, direct from the quarries, both coarse and fine, wholesale and retail.

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A large assortment of Glazed Stoneware Drain pipes, of the best Lambeth make; Yorkshire Plain, Pan, and Paving Tiles; Welsh Fire bricks, Lumps, and Tiles; Hair and Laths always kept in stock.

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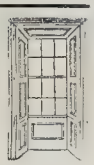

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DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.

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Spruce	12s.	13s.	16s.	—	per square
White	12s. 6d.	13s. 6d.	15s. 6d.	18s.	,,
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Delivered within the limits free of cartage.

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AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to the greatly reduced prices:—

¾ inch prepared Flooring	£0 11 6 per square.
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Mahogany, in logs and planks, from 6d. per foot.

All Sawn Goods delivered three miles free of cartage.

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Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill street, Pimlico.

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Good Yellow Deals	0 2 3 each.
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All sawn goods delivered within three miles free of cartage.

ALFRED CARTER Old Bethnal-green road, N.E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 2s. 6d.; Mahogany and F. Walnut, 5d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ⅞ do. 13s. 6d.; 1-inch Yellow, 18s. 6d.; ⅞ do. 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.—T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth, S.

ACORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor

AT WM. APEDAILE'S TIMBER-YARD, bottom of DRUMMOND-STREET, near Euston Station.

12 feet 3 by 11 Pine Planks, from 3s. each.
12 feet 3 by 9 Spruce Deals, ,, 2s. 6d. ,,
12 feet 3 by 9 Pine Deals, ,, 2s. 9d. ,,
Inch by 7 Prepared White, 14s. per square.
⅞ by 7 Do. Do. 11s. 6d. ,,

ST. PANCRAS SAWING, PLANING, and MOULDING MILLS, Cambridge street, Old St. Pancras road.—GEORGE NOKES and CO. invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING, at the following prices, for cash:—

¾-inch white, 13s. 6d. per square; ¾-inch white, 15s. per square; 1-inch white, 18s. per square; ¾-inch yellow, 12s. per square; 1-inch yellow, 16s. 6d.; 1-inch yellow, 20s.

Timber, deals, planks, &c. at the lowest remunerative prices. A liberal discount allowed on mouldings for exportation. Book of designs forwarded on application.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather. Price 8s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT and at HALF the COST.—STEPHENS' DYES or STAINS for WOOD.—Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—

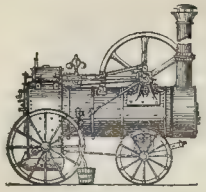
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

54, Stamford-street, London.

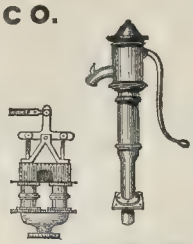
HECKETHORN'S PATENT LIQUID COLOUR, for external and internal stuccoed or plastered walls; primings for in and outside woodwork (to prevent blistering), and a composition (in lieu of size), for floor-cloth and table cover manufacturers.—J. HUDDEN and CO. Proprietors, No. 531, New Oxford street.

THE GRAFTON FIRE and WATER-PROOF MINERAL PAINT.—This is the cheapest durable paint hitherto known. After it has been applied to wood and exposed to the weather a few months, it becomes as durable as stone. Its colour is a reddish brown. Bronze and green colours may be easily made by mixing it with the best Saxon green paint, according to the directions given, each of which will be more durable than the green alone, and will not cost half so much.—Sold by L. FRANK and SON, Oil Merchants, 14, Borough, London-bridge, of whom may be had directions for use.

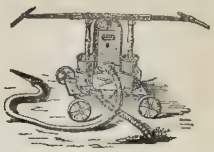
"PUMPS." — FOWLER & CO.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.



YARD, FARM, AND HOUSE PUMPS.

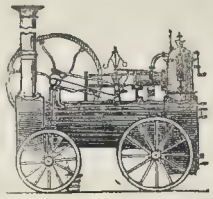


HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.
CONTRACTORS' PORTABLE PUMPS.
PUMPS FOR MANUFACTURERS,
FOR STEAM OR HAND POWER.

MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE STEAM ENGINES,

FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Pools, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

KINSON CLAY, POTTERY, AND BRICK COMPANY, LIMITED.

MANUFACTURERS OF EVERY DESCRIPTION OF SANITARY GLAZED SEWAGE-PIPES, CLOSET-PANS, FURNACE-BLOCKS, FIRE-BRICKS, GAS-RETORTS, CRUCIBLES, &c.

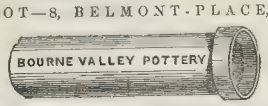
THE POTTERY is situate about a mile and a half from the town and port of Poole. It is worked by steam power, and the pipes are made of the most approved patent machinery, and will bear favourable comparison with any manufactured in the Kingdom. The fire bricks have been tested, and are found fully equal in all respects to those manufactured at Stourbridge and Newcastle. All articles are made from the clays and materials found on the estate. There is an inexhaustible quantity of all descriptions of Dorsetshire clay used for pottery purposes, which can be supplied to the Staffordshire, North Country, and London markets, upon favourable terms.

*** Lists of Prices, and all other information, will be furnished upon application to Mr. GILBERT E. MITCHELL, Manager, at the Works; or to Mr. JOSEPH COX, 1, 2, and 3, High street, Lambeth.

BOURNE VALLEY POTTERY,

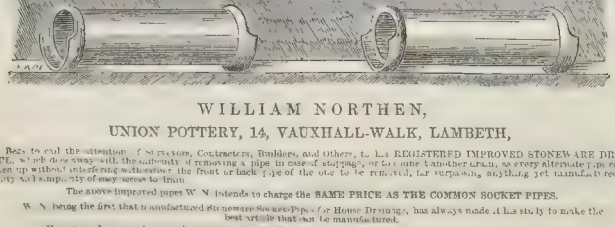
NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
By the use of which Drains may be examined without the necessity of breaking a Pipe.
SALT GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.
List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. BROWN, Town Agent.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN PIPE, which does away with the necessity of removing a pipe in case of stopping, or becoming tainted with gas, as every alternate pipe can be taken up without interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of every access to drain.

The above Improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having new machinery of the most improved descriptions, he is prepared to execute orders to any extent.

TO ENGINEERS, MILLOWNERS, AND OTHERS

S. W. SILVER & Co. MANUFACTORIES SILVERTOWN, NORTH LONDON E. 98 & 99 CORNHILL & 32 & 4 BISHOPSGATE

MANUFACTURERS OF
VULCANISED AND UNVULCANISED INDIA-RUBBER,
IN EVERY FORM,
Buffer, Bearing, and Carriage Springs; Valves for Marine and Land Engines.
Tubing and other Appliances for Scientific Purposes.

ELASTIC CANVAS AND INDIA-RUBBER STEAM PACKING,
Which wears six times longer, economises Labour and Tallow, is always ready for use, and causes less Friction than any other Packing.
IMPORTERS OF
AMERICAN BELTING, BREWERS' HOSE, &c.
S. W. SILVER and CO.
Nos. 3 and 4, BISHOPSGATE-STREET, opposite London Tavern

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter:—FROM Mr. RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Sea Testimonial.—"March 10th, 1852. In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY ROAD, LONDON

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pump to give one hundred per cent of duty, and render derangement in pumps a matter of impossibility. Prospectuses, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET-RINGS, Hot-water pipes. Vulcanized Rubber Door-springs, and Solid Rod Rubber Cord of all sizes and any length. Billiard Cushions and Rubber Strips cut to any pattern for bagatelle tables.
Driving Bands of superior make, and improved Vulcanized Rubber Supply pipes for ditto.
Vulcanized Rubber, in sheets, from three to four feet wide, of any thickness. Air beds, Pillows, and Cushions inflating Portable Boats, Invalid Cushions, and Articles of this kind made to any pattern to order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Gower mews, Goswell-road, London.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, 3, Queen-street, Cheapside, London, submit the following PRICES of WINDOW BLINDS, which they can recommend as being made in the best manner. Venetian Blinds, per square foot, 8d.; best Holland blinds, on rollers, 6d.; ditto, on spring rollers, 9d; gauze wire blinds, in mahogany frame, 2s.; perforated zinc blinds, in ditto, 1s. 10d.; outside blinds of strong cloth, 2s. Transparent blinds in great variety. Engravings, with prices and discounts to builders and the trade forwarded on application, post-free.

DOULTON'S TERRA-COTTA FLUE-PIPES

WITH PIPE FOR VENTILATION ATTACHED.

By this arrangement the vitiated air is carried off by a pipe at the ceiling communicating with the ventilating shaft.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

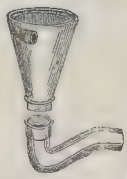
for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES. | DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S HALF-SOCKET PIPES. | DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

PAN, 4s. 6d.

PAN, 4s. 6d.

TRAP, 2s.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO'S. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL BROTHERS, 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from structions, and meets the demand for removing Pipes at any point.

7s. each; f fitted with PATENT AIR-TIGHT VALVES, s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

Price 6s. 6d. each.

LAMBERT'S SELF-REGULATING and SELF-ACTING ENAMELLED IRON CLOSET PAN.

FIG. 18.

This arrangement consists of an Enamelled Cast-iron Basin and Syphon Trap, supplied by a Lambert's Patent Self-regulating Valve, bolted to the basin, adjusted so as to deliver any quantity of water required at each action of the seat; it is the cheapest, most durable, and efficient self-acting water-closet yet produced, requiring no reservoir or intermediate cistern, the valve itself measuring at each action of the seat a given quantity of water into the pan

Price complete, with 4-inch lead syphon trap, 45s.

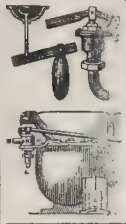
THOS. LAMBERT and SON, Patentees and Sole Manufacturers of their Flexible Diaphragm Waste-valves, Cottage Closet-valves, &c. Short-street, New-cut, Lambeth.

UNGLAZED DRAIN-PIPES.—GREAT REDUCTION IN PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Barton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Pydon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.



UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, in connexion with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed. 5,000 of them have been sold, and no instance of failure has occurred.

These Stock-valves are cheaper, stronger and more ornamental, than any other. Many thousands are in use, and greatly approved of.

Manufactured by
CHARLES HOTTEN and SON,
Brass Founders, Crawford-passage,
Clerkenwell, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 250 feet; their efficiency and durability is by experience established.

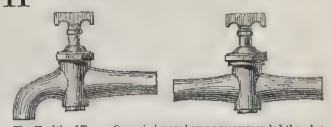
The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

WARNER'S PATENT VIBRATING STANDARD PUMPS. PATENT CAST-IRON PUMPS fitted with J. W. and Sons Patent Bucket and Stickers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel	Length of Barrel		£ s. d.
2½ in.	short 1 ft. 7 in.	Fitted for lead,	1 10 0
2½ „	long 3 „	gutta percha	1 14 0
3 „	ditto 3 „ 6	or cast iron	2 8 0
3½ „	ditto 3 „ 6	flanged pipe,	2 12 0
4 „	ditto 3 „ 6	as required.	3 3 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		2 14 0
2½ in.	long ditto ditto		2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses: they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London. Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on MONDAY, MARCH 8th, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial Road, Pimlico, in lots, the valuable and extensive STOCK of thirty SEASONED DEALS, carefully selected, including 20,000 yellow deals and battens, 2,000 white deals and battens, 5,000 pine planks, 2,000 pine boards and battens, 500 pitch pine deals, 1,000 pine deals and battens, 1,000 spruce deals, 100 loads Dantzic timber, 2,000 square spruce flooring boards, 300 squares matched boarding, 50,000 feet pine seasoned wainscot, 20,000 feet Honduras and Cuba mahogany, 50 sets fir sashes, 22 loads fir scantling, 5,000 lineal feet beaded, tongued, and scribed joists, 250 oak sills, 30 feet panel doors, and other goods. To be viewed on Thursday, Friday, and Saturday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the extent of £5 and upwards, for 14s. and 1 per cent will be allowed for cash.

Black and Furnishing Ironmongery.

MESSRS. FULLER and HORSEY are instructed by Mr Walmsley, who is retiring from business, to SELL by AUCTION, in the PREMISES, Nos. 126, 127, and 128, London-road, South, Lambeth, THURSDAY, the 11th of MARCH, 1858, and following days, at ELEVEN each day, in lots, the entire STOCK of FURNISHING and BLACK IRONMONGERY, including a fine collection of plated goods, for which the valuable cabinet is now to be exhibited, in tea and coffee services; tea, table, and dessert spoons and forks, fiddle, thread, and king's pattern; cake and card baskets, cruet-frames, fish knives and forks, waiters, candlesticks, &c.; bronzed and copper goods, in urns, tea kettles, candles, presentation plate, &c.; handsome French moderator lamps, gasoliers, hall lanterns, gas brackets, &c.; japanned wares, in tollet services, slop, open, and shower baths, cutlery, sets of paper knives and pyramid trays, iron bedsteads, cast and wrought, black lead, and japanned fenders, kitchen ranges, kitchen utensils, and many items of general interest. Also the Rumford and Improved Kitchen Ranges, Rumford and Improved Register Stoves, screws, and keys, Rumford and Improved Register Stoves, 500 gross iron screws, 200 gross brass screws, 4 tons coach bolts, 30 gross axle pullies, 200 dozen brass cabinet locks, 54 gross brass thumb latches, 6 cwt sash brass casting, and wood bevil plate castors, 150 pairs ornamental bell levers, sunk pulls, &c.; large assortment of bell-hangers' materials, in cranks, &c.; 300 linen knives, 50 dozen brass curtain poles, wt. bells and chimes, stove metal, shades, shovels, and thereabouts. To be viewed on Tuesday and Wednesday next, by catalogue only, which may be had on the Premises; and of Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS—Important Stock of Marble and Stone

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on THURSDAY, MARCH 11th, 1858, and following days, at ELEVEN o'clock each day, at the MARBLE WORKS, Commercial-road, Pimlico, in lots, the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in block, 100 feet fine statuary, 200 feet Sicilian green, 200 feet Sicilian red, 50 feet Sienna, 450 feet serpentine, 1,000 feet veined, Siennian, black, amber, dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles; 20,000 feet of the same assortment, from 4 inch to 3 inches; 1,100 feet polished slab; a large stock of polished shelves, jambs, and trusses; mouldings; 3,000 feet Portland stone, in block; 900 feet of Caen stone; 1,200 feet French stone, 150 feet Wingerworth stone, 2,000 feet of 3-inch to 6-inch of York landings; 5,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs 1 inch to 6 inches; 3,000 feet Park Spring, Hartdon Hill, Robin Hood, Mare Hill, and Potter's Newton slabs, 2 inch to 6 inches; head, and foot stones; 2,500 feet run of granite curb, 12 feet by 5 inches and 12 feet by 3 inches, five hundred sacks of Roman cement, and other lots. To be viewed three days previous to the sale. Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES, TABLETS, &c

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, MARCH 17th, 1858, at ELEVEN o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES of the most modern designs and finished in the best style of workmanship, in a variety of very valuable description, in Statuary, Carrara Green, Bardilla, Rouge Royal, St. Ann's, serpentine, Irish Black, Imperial Red, Veined and Sicilian Marble. Also Statuary Metal Tablets, two Stone Gothic Tablets, Statuary Inscription Tablets; eleven polished Marble slabs, &c. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Lease Tools and Stock of the Sawing-Mills and Marble Works

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, MARCH 31st, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial Road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 12 to 30 inches diameter; gauges, setting tools, files, tools, a flooring-board, planing, and tonguing machine, by Parsons; leather banda, 1 ton cast and shear steel, 10 tons rod and bar iron, grinding machine, 2 cwt vices, anvils, stocks and dies, screws, mandrels, hammers, &c. 1 dozen files, hinges, iron and brass screws, brass hit pump, copper tubes, wrought and cut nails, spikes, sash weights, 1 ton of lead, 1 cwt white, green and other paints, colours, 1 ton white and red lead and litharge, sash tools, ten trollies, 71 dozen hammered raw plates, saw pegs and heads, buckles, screws 80 yards road grit, 2 yards single and double sash lines, sash pulleys, pulley wheels and axles, well barrels and spindles, blocks and falls, barrows, two 4 ton and one 3 ton Hobbs's jacks, carpenters' benches, several tons of ironwork, a moveable travelling crane, 50 feet span equal to 6 tons and numerous other effects. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

HODDESDON, HERTS.—Capital Building Materials of a Large Malting, and a Spacious Residence, with newly-erected Coach-house and Stabling

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on THURSDAY, MARCH 18, at TWELVE, in Lots, to be taken down by the purchasers (unless an acceptable offer to purchase the freehold be previously made by private contract), the whole of the Valuable BUILDING MATERIALS and FITTINGS-UP of a Large Brick and Timber-built MALTING, with Cottage adjoining, situate at Hoddesdon, fronting the high road to Hertford, near the Salisbury Arms. Also the valuable Materials, Fixtures, and Fittings of a spacious Residence nearly opposite, with the newly-erected Coach-house and Stabling, comprising a large quantity of good sound bricks, about 100 squares of roofs, floors, and quartering; 30,000 plain tiles, nearly new slating, a variety of useful doors, glazed sashes, partitions, stairs, and other finishing pieces, cupboard fronts and interior fittings, sound flooring-boards and battens, excellent nearly new coach-house and entrance-gates; racks, mangers, and stable-fittings; York and pebble paving; five tons of lead, in flats, gutters, cisterns, and pipes; brass-barrel force pump, 18 feet run of iron railing and stone kerb, 3,000 feet of weather-boarding, and an excellent lot of moulding; erection of kiln, with kiln wire and iron work; stoves, range, copper, gas-fittings, &c.—May be viewed two days prior to sale, and catalogues of PULLEN and SON, No. 80, Fore-street, City-road.

NEWGATE-STREET.—Extensive Sale of Building Materials.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 29, at TWELVE precisely, all the valuable BUILDING MATERIALS and FITTINGS-UP of several Houses and Shops, in the north side of Newgate-street to be taken down, for the purpose of widening the street, comprising capital seasoned oak bressing-girders and joists, sound pine ditto, several lots of deals, prime timber in rough and dressed scantling, wrought sash frames, doors, and shutters, and a great variety of useful materials, fixtures, and fittings.—May be viewed on Saturday previous, and catalogues had at the Auction Offices, Guildhall. Also of PULLEN and SON, No. 80, Fore-street, City-road.

SALES BY AUCTION.

HARTLEY ROW, HANTS, within two miles of the Winchfield Railway Station.—SALE of the STOCK in TRADE of a TIMBER MERCHANT.

MESSRS. HEWETT and HUMBERT have been favoured with instructions from Mr. John Martin to SELL by AUCTION, on the PREMISES, on MONDAY and TUESDAY, the 8th and 9th days of MARCH, 1858, at TWELVE for ONE o'clock, a portion of his STOCK in TRADE as a TIMBER MERCHANT, comprising about 12 loads of timber and planks, 1,000 feet of inch lime board, 20,000 feet of slim board, a large quantity of posts and rails, elm, beech, larch, and ash planks, some elm planking, oak shafts, heavy harrows, field gates, spiked falkes, split ash, ash barrels, oak laths, cleft oak pales, larch and Scotch fir rails, &c.; also three powerful spring cart horses, a pony, four dobbin carts, two waggons, two builder's carts, two lodge carts, two timber frames, and about 500 bushels of sawdust.

N.B. Purchases of £5 and upwards may receive two months' credit upon giving approved security for the payment thereof, if required by the Auctioneers.—Catalogues may be had of the Auctioneers, Hartley Row, Hants

IN BANKRUPTCY.—Stock-in-Trade of a Builder.—Three Days' Sale.

MR. ACCOCKS is instructed by the Assignee of Mr. James Edser, to SELL by AUCTION, on the respective PREMISES, at Lisle-street, Chapel-street, and Dougherty-street, Westmoreland-road, near Vincent-square, on WEDNESDAY, MARCH 17, and following days, at ONE o'clock precisely, all the GOOD IN TRADE, MATERIALS, and UTENSILS, comprising sandstone paving, sandstone slabs, landings, steps, treads, pillars, borders, ladders, stone feet, pillar, chair, and bench ends, 200 yards of iron rail, 2,000 feet white deals, prepared flooring and moulding, workmen's box, a mortising machine, black and furnishing ironmongery, rain-water pipes, about 1,000 feet run of lead, tank, cistern, and cut pipes, 3,000 pieces of slate, and other paving, 400 feet marble slabs, Portland and York stone, chimney pieces, slips, and hearthings, and the usual miscellaneous contents of a builder's yard. On view the day preceding the Sale, and catalogues had on the Premises; of ALBERT DIXON, Esq. Solicitor, 3, King's-bench-walk, Temple; E. W. EDWARDS, Esq. Official Assignee, Bankruptcy-buildings, Portugal-street; at the Crown and Sceptre, Chapter street, Westminster; and of Mr. ACCOCKS, Auctioneer and Valuer, 42, Southampton-row, Russell-square, W.C.

NOTICE.—To MAHOGANY and TIMBER MERCHANTS, CABINET-MAKERS, MACHINE-MAKERS, and OTHERS.—The next LIVERPOOL PERIODICAL AUCTION SALES, including upwards of Cuba and Mexican mahogany, Spanish cedar, and other furniture woods, will take place on THURSDAY morning, the 18th inst. at ELEVEN o'clock precisely, in the WOOD SALES SHEDS, Brunswick and Toxteth Docks, Liverpool.—For catalogues and further particulars, apply to EDWARD CHALONER, Wood Broker and Measurer, No. 9, East side Queen's Dock, Liverpool

TO THE BUILDING TRADE.—ABSOLUTE and UNRESERVED SALE TO REPAY ADVANCES

MR. W. HOLLINGSWORTH will SELL by AUCTION, without the least reserve, at his spacious ROOMS, 13, High Holborn, on TUESDAY next, MARCH 9th, a large STOCK of BUILDER'S IRONMONGERY, comprising 100 dozen mortise and other locks, eighty dozen lever and parrel bolts, fifty dozen fanlight and sash fasteners, 20 cwt of assorted sorts of nails, screws, brads, a variety of brass work, air bricks, gratings, 400 feet 6-inch rainwater pipe, 1,000 feet gutterings, heads, in zinc, &c. fifty well-finished mortise sash-pulleys, 1,000 pieces of paperhanging, and other builder's effects.—On view on Monday

MR. F. HALL'S TIMBER SALE and COMMISSION YARD, Chester-gardens, Kennington (S.), is OPEN for the RECEPTION of all kinds of GOODS relating to the BUILDING TRADE in general. Sales held here every month, of which due notice is given at this paper. Timber Merchants, Builders, or others who may have Property for disposal can forward the same upon first giving notice by post. A LARGE COVERED TIMBER SHED for MAHOGANY or other DRY GOODS.

STAFFORDSHIRE.—HAY HEAD HYDRAULIC LIME TO BE LET, on Royalty, the valuable MINE of HARD LIMESTONE at HAY HEAD, near Dudley. The works are situate on a branch of the Birmingham-canal, by means of which a ready communication may be had with the Midland Counties and South Staffordshire. The land is well known in the neighbourhood, and has been selected, in preference to all others, for extensive use in the very extensive works now in progress at the Netherton tunnel, near Dudley, and the Rowley Regis Sewerage, and is to be carried underground for some yards. The works are in very complete. There are two shafts and a 25-horse high pressure engine, with the necessary pumping and winding gear lately erected upon the mine. The plant to be taken at a valuation. For further particulars, apply to Mr ADAMS, Aldridge, near Walsall

CANNON-STREET IMPROVEMENT.—BUILDING LEASES.—The Committee for Improvements within the City of London hereby give Notice that they will meet at Guildhall, on MONDAY, the 15th day of MARCH next, at ONE in the afternoon precisely, to receive TENDERS in writing, agreeably to a form to be obtained at the Office of the City's Architect, from parties willing to take BUILDING LEASES of certain LOTS of GROUND on the south side of Cannon-street, Dowgate-hill, and the respective and conditions upon application at the Architect's Office, Guildhall. MEREWETHER.

Guildhall, February, 1858

TO BUILDERS of VILLAS.—TO BE LET, SEVERAL ACRES of LAND, in plots, in the most choice situation at Shepherd's-bush, adjoining the Station on the West end of the Railway to Feltham-street. There is a gravel road, and the ground covered with splendid evergreens.—Application may be had of the business in letter, by reply, exclusive of ground rent, about 7 per cent.—Apply to Mr. NOBLE, Surveyor, Woodford; or to Mr. MESSEN, at 13, Mark-lane, London.

MAITLAND-PARK, Haverstock-hill, near Hampstead.—Land-tax redeemed.—TO BE LET, several eligible PLOTS on the above estate, for building leases for a term of ninety-nine years from Christmas, 1857. The sewers are laid down, and the roads made.—The ground is open and healthy, and in the midst of a locality, and the picturesque position of the property, renders this a desirable opportunity for builders or private gentlemen, wishing to erect villas for themselves.—Apply on the premises, or to Mr. JOHN, 62, Lodgate-hill; Messrs. TERRELL and CHAMBERLAIN, Solicitors, 20, Bucklersbury; Mr. JOHN ASHDOWN, Surveyor, 43, Charing-cross; or at the Lodge of the Orphan Working School, Haverstock-hill.

LAND for BUILDING, near the CITY.—COW CROSS-STREET, WEST SMITHFIELD.—TO BE LET, on a Building Lease for a term of eighty-four years, a valuable PLOT of LAND, situate in Cow-Cross-street, near Victoria-street, leading to Chapel-well, the property of the Parish of St. Sepulchre, Cow-cross-street. A Plan of the Ground may be seen on application at the Offices of Mr. THOS. JONES, Land Agent to the Parish, No. 1, Kings' Arms-yard, Coleman-street; or at the Offices of Mr. JOHN GRIFFITH, Architect, No. 16, Finsbury-place South, Finsbury.—Tenders for the above are to be delivered at the Offices of Mr. JONES, on or before the 11th day of MARCH next.

N.B. The Parish do not bind themselves to accept either the highest or any Tender

WHARF PREMISES, in Regent's-canal, TO BE LET.—The business has been established upwards of twenty years in the firewood, lathwood, pottery, and coal trade: containing commodious offices, sheds, and three lock-four boat-stable chaise-house, a large lay for barges, with waggons, carts, barges, and fittings at valuation; stock at cost price; goodwill moderate. Rent low. Also, another Wharf Premises, with eight-horse steam-engine stable, and shaft erected, with counting house, shed, and loft over. Apply by letter, to F. S. Norway wharf, Hertford road Islington, Kingsland

TO BUILDERS and OTHERS.—TO BE

LET, on a building lease, THREE HOUSES, Nos. 3, 4, and in Little Turnstile, Holborn, to be pulled down and rebuilt.—further particulars, apply to C. J. GRAHAM, Esq. 3, Plowden Buildings, Temple

FREEHOLD GROUND, Newgate street. The Commissioners of Sewers of the City of London have given Notice that they will sell at the Guildhall, offices as City, TUESDAY, the 16th day of MARCH next, at TWELVE o'clock, precisely, to receive PROPOSALS for taking on Building Lease for eighty years, a ground-rent, a certain PLOT of GROUND situate on the south side of Newgate street, at the corner of Panyer-alley. Further particulars may be had, and a plan seen on application to Mr. HAYWOOD, Engineer to the Office, as above, at 11 Offices, where formal proposals may also be obtained. The Commissioners will require a plan and elevation of the premises proposed to be built, to be submitted to them for approval, and it is not to be understood that they will accept the highest or any proposal, unless deemed advantageous. Persons tendering for the said ground must attend on or by their agent on the day above mentioned, when such proposals as may be approved of by the Commissioners will be received, and an agreement at the time. The land is subject to an ancient rent charge of 40s. payable annually, on Shrove Tuesday, to the Trustees of Whitelands, Tyrrell's Fee.

JOSEPH DAW, Principal Clerk

Sewers Office, Guildhall, January 15, 1858

TO BE LET. — To ENGINEERS, BUILDERS, CARVERS, and OTHERS. — TO BE LET, on lease, those extensive PREMISES, known as Jordan's Patent Wharf, Water-lane, Blackfriars, together with the Frontage to the river, South West of Railway Station. The premises contain several large and excellent workshops, good offices, show-rooms, and other conveniences. For particulars, apply to Mr. NINNIS, 6, Queen street-place, Upper Thames street.

WORCESTERSHIRE.—TO BE DISPOSED OF, with immediate possession, a first-rate BRICK YARD, with valuable Mine of Clay, on the banks of the Severn, near Worcester, where the Worcester and Hereford Railway, and other works are in progress. For particulars apply to PARKER, GOUGH, INGHAM, and PARKER, Solicitors, Worcester

WEST-END HOUSE ESTATE, HAMPSTEAD.—FREEHOLD BUILDING LAND TO BE SOLD OR LET.—For particulars apply to A. B. FREND, Esq. Architect, No. 44, Bedford row, W.C.

OAK GROVE ESTATE, PENGE, SURREY. BUILDING LAND TO BE LET. Bricks advanced.—For plans and particulars apply to A. B. FREND, Esq. Architect, 44, Bedford-row, W.C.

FREEHOLD.—TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is peculiarly eligible, the erection of villas, or mansions of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate. The adjoining land is all let for building purposes, and is nearly covered. The immediate built have commanded an immediate tenancy. For further particulars, and to inspect the plans, apply to Messrs. GREGORYS and CO. No. 1, Bedford row, W.C.

AUCTION and ESTATE COMPANY, Limited, 22, Cannon-street. This Company undertakes the SALE of ESTATES at nearly half the usual commission. They have engaged an auctioneer of great experience and respectability, and have already a large amount of property for their first sale at the end of MARCH. Persons wishing to include property in that sale are requested to furnish me with the particulars without delay. The Company have various sums on their register for investment or mortgage.

THOS. B. FLEMING, Registrar

TO BUILDERS, &c. The Advertiser having the CARCASE of a DETACHED HOUSE, is desirous to LET JOINERY, PLUMBERS', and MASONS' WORK, to a respectable Builder, and to pay for the same in plumber's work, as the work proceeds per party wall, at 2s. Cash rather more. Paddington

FREEHOLD BUILDING LAND, adapted for large institution, or private enterprise, adjoining Westbourne park, Paddington, and surrounding the beautiful church All Saints.—TO BE DISPOSED OF, about EIGHTEEN ACRES of FREEHOLD BUILDING LAND, in one lot or in plots, now also the only open spot upon which a large sum has been expended in laying out roads, constructing sewers, &c. for the formation of a fashionable district, which has already been well known in the neighbourhood, and has been selected, in preference to all others, for extensive use in the very extensive works now in progress at the Netherton tunnel, near Dudley, and the Rowley Regis Sewerage, and is to be carried underground for some yards. The works are very complete. There are two shafts and a 25-horse high pressure engine, with the necessary pumping and winding gear lately erected upon the mine. The plant to be taken at a valuation. For further particulars, apply to Mr ADAMS, Aldridge, near Walsall

SALE of GROUND-RENTS.—Crooke's-lane, Cannon street, Tattenham-lane, Cannon street, New-yard street, Bread-street, and St. Paul's Churchyard, in the City of London.—By Command of Her Majesty's Executors within the City of London, legally authorised to SELL.—It is hereby given Notice, that they will meet at the GUILDHALL Coffee-house, Cornhill, on MONDAY, the 15th day of APRIL next, at ONE o'clock precisely, to receive TENDERS in writing, agreeably to the affixed printed form, for the PURCHASE of the following GROUND RENTS of Premises adjoining to TATTENHAM-LANE, CANNON-STREET, and ST. PAUL'S CHURCHYARD, in the City of London, and further particulars and conditions of sale, with form of Tender, and further information, can be obtained at the Comptroller's Office, Guildhall.

MEREWETHER.

Guildhall, London, March, 1858

TO BUILDERS, PRINTERS, ARTISTS, COLOURMEN, CANVAS-MAKERS, and OTHERS requiring extensive Premises.—Mr. LEREW is instructed to LET a capital large WORKSHOP, 25 feet by 60 feet, with space for a large yard, at the Railway Station, at Camden Town.—For particulars apply to Mr. LEREW, Auctioneer, 2, Carlington street, Hampstead-road, near the Euston Station

BROMLEY, KENT.—TO BE LET, on long leases, in plots of any quantities, about four acres of very valuable BUILDING LAND, possessing good frontages to the high road, and very slightly situated in the most improving part and near the town of Bromley, Kent, at which place a railroad will be opened in a few weeks.—For particulars apply to Messrs. BAXTER, Auctioneers Estate Agents, &c. Bromley, Kent.

SOUTH WALES RAILWAY.—The Directors of this Company are now prepared to ISSUE a limited amount of DEBENTURE STOCK, to meet the debentures falling due. The stock bears interest in perpetuity, at the rate of £6 per cent per annum, and cannot be redeemed at the option of the Company whatever in the Company. Interest upon it is paid half-yearly.

Offices, South Wales Railway, 10, Eastbourne terrace, Paddington, February 22nd, 1858.

TO SMALL WORKING BUILDERS.

ONE of this class, and of some property, wishes to meet with another similarly circumstanced, to assist him in BUILDING some small COTTAGES and VILLAS, on land which he holds on most advantageous terms, with right of reversion to the freehold; he is very anxious to make first London, near a market, a manufacturing district, at which two can well agree to take even better. being built. Any person not at present working, but having capital and industry, to assist in carrying on trade, may not be objected to, but prefer a couple of respectable young men, and giving real name and address need apply by letter to W. W. Office of "The Builder."

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The Builder.

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BUILDERS' BENEVOLENT INSTITUTION.

—An ELECTION of TWO PENSIONERS, one male and one female, will take place on THURSDAY, MAY 20, at the London Tavern. Pensions, 24*l* per annum for males, an l 20*l*. to females

A. O. HARRIS, Sec.

Office, 19, Southampton-street, Bloomsbury, March 12, 1858.

ART-UNION of LONDON.—SUBSCRIPTION LIST CLOSES on 31st instant.—Prizeholders select from the Public Exhibition. Every Subscriber of One Guinea will have besides the chance of a Prize, an impression of a large and important line Engraving, by J. T. Willmore, A.R.A. from the well-known original picture by the late J. M. W. Turner, R.A.—"Venice."

GEORGE GODWIN, } Honorary
444, West Strand. LEWIS POCOCK, } Secretaries

ROYAL ACADEMY of ARTS, Trafalgar square.—NOTICE to ARTISTS.—All WORKS of PAINTING, SCULPTURE, ARCHITECTURE, or ENGRAVING, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 26h, or TUESDAY, the 9th day of APRIL next, after which time no work can possibly be received, nor can any work be received which have already been publicly exhibited

FRAMES.—All Pictures and Drawings must be in gilt frames. Oil Paintings under glass, and Drawings without glass, are inadmissible. Excessive breadth in frames, as well as projecting mouldings, may prevent Pictures obtaining the situation they otherwise merit. For other regulations necessary to be observed may be obtained at the Royal Academy JOHN PRESCOTT KNIGHT, R.A. Secretary.

Every possible care will be taken of works sent for exhibition; but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package.

The prices of works to be disposed of may be communicated to the Secretary.

PROFESSOR OWEN, F.R.S. D.C.L.

Superintendent of the Natural History Department of the British Museum, will deliver a course of TWELVE LECTURES on FOSSIL BIRDS and REPTILES, at the Museum, of Practical Geology, Jermyn-street, on Thursdays and Fridays, at Three p.m. commencing Thursday, 18th March, 1858. Tickets may be obtained at the Museum, Jermyn-street. For Fee for the course, 3*l*.

RODERICK I. MURCHISON, Director.

COMPETITIONS.

NO ARCHITECTS and OTHERS.—Notice

is hereby given, that the Burial Board for the Parish of Aberdare is prepared to receive PLANS for CHAPELS, LODGE, DEADHOUSE, and ENTRANCE-GATES, for their new Cemetery, upon the following conditions:—The land selected for the cemetery is a part of Aberdare common, in the parish of Aberdare, and contains twenty acres. The amount proposed to be expended upon the chapels, lodge, dead house, entrance-gates, boundary-walls, drainage, and laying out the ground, is 2,500*l*. A PREMIUM of 25*l* will be given for the best plan, and 15*l* for the second plan. A plan of the ground may be seen, and any further information obtained, at my Office. The Board do not bind themselves to employ the architect of the adopted plan to carry out the work. Plans, with an estimate of the cost of the building, are to be lodged at my Office, on or before the 29th day of MARCH next.—By order of the Board,

Aberdare, 24th February, 1858 W. ROBINSON SMITH, Clerk.

COMPETITIONS.

HENDON UNION.—To ARCHITECTS. The time for receiving PLANS, &c. for BUILDING the NEW SCHOOLS, &c. near Edgware, is EXTENDED from the 16th to the 23rd day of MARCH, 1858.—By order of the Board,

W. S. TOOTELL, Clerk.

CONTRACTS.

ST. SAVIOUR'S DISTRICT.—STREET WATERING.—The Board of Works for this District will meet at their BOARD ROOM in Emerson street, Southwark, on WEDNESDAY, the 17th day of MARCH instant, at six o'clock in the evening precisely, to receive TENDERS for the SUPPLY and USE of such number of good and efficient WATER CARTS, with all necessary and proper water shoots and other working gear, also HORSES, DRIVERS, and MEN, to pump the water into the carts, as may be required for the watering the roads, streets, &c. in the parish of Christ Church within this district, for the period of Seven Months from the 25th of March instant to the 25th day of October next. No less than four carts, &c. will be required daily. The carts, horses, and men are to be wholly devoted to the purpose of watering the parts of Christ Church, and are to be in good working order to the satisfaction of the Board, or their Surveyor or Clerk of the Works, and the watering is to be executed as directed from time to time by them or both. The contractor will be required to enter into a contract, the draft of which may be seen at the BOARD ROOM between TEN and FOUR any day within this date, for the period of Seven Months from the 25th of March instant to the 25th day of October next. No less than four carts, &c. will be required daily. The carts, horses, and men are to be wholly devoted to the purpose of watering the parts of Christ Church, and are to be in good working order to the satisfaction of the Board, or their Surveyor or Clerk of the Works, and the watering is to be executed as directed from time to time by them or both. The contractor will be required to enter into a contract, the draft of which may be seen at the BOARD ROOM between TEN and FOUR any day within this date.

The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

HERBERT STURMY, Clerk.

Board-room, Emerson street, 6th March, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Yorkshire District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall Mall, London, S.W. on or before TUESDAY, the 23rd day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of Three Years, Commencing the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS and for the performance of such Bricklayers', Masons', Paviors', Carpenters', Slaters', Smiths', Plasterers', Plumbers', Gas fitters', Painters and Glaziers', and Paperhangers WORK, as may be required by the Royal Engineer Department at the following stations in the Yorkshire District, viz.—York, Leeds, Bradford, Scarborough, Hull. Only one contractor will be accepted for the whole of the trades at each of the above stations, viz.—York, Leeds, Bradford, Scarborough, and Hull; and the parties Tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work, but the rates of per centage may be different for each trade should it be deemed expedient. Printed schedules, and every particular relating thereto, may be had on application at the Royal Engineer Offices, at 5, New Walk terrace, York, any day (Sunday excepted) between the hours of TEN and FOUR o'clock, from SATURDAY, the 6th of MARCH, to SATURDAY, the 20th of MARCH, 1858, after which time none will be issued. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and endorsed, "Tender for Builders' Work, on one corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions as stated in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, York, March 6th, 1858

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, S.W. on or before MONDAY, the 15th day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War for the term of Three Years, commencing the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS and for the PERFORMANCE of such BRICKLAYERS', MASONS', PAVIORS', CARRIERS' CARPENTERS', SLATERS', SMITHS', PLASTERERS', PLUMBERS', PAINTERS' and GLAZIERS', and PAPER-HANGERS' WORK as may be required by the Royal Engineer Department at the following Stations in the Dover District, viz.—

DOVER.—Fredrick-street Barracks at Dover, and from Dover to the Walmer Castle to No. 2 Battery, Sandown, both inclusive; also the Barracks at Walmer.

WALMER.—From Walmer Castle to No. 2 Battery, Sandown, both inclusive; also the Barracks at Walmer.

CANTERBURY—Barracks

SHORNCLIFFE CAMP—Including the Royal Artillery Barracks, the Temporary Barracks, Sandgate Castle, Folkestone, and Shorncliffe Batteries, and Towers 1 to 9, inclusive.

HYTHE—Including Hythe Barracks, Coast Defences from No. 10 Tower to No. 24 Tower, inclusive, and Royal Military Canal from Seabrook to Warehorn.

RYE.—Including the Coast Defences from No. 26 Tower, Westward, to Fairlight, and the Royal Military Canal from Warehorn to Chil End.

Only one contractor will be accepted for the whole of the trades at each of the above stations, viz. Dover, Walmer, Canterbury, Shorncliff Camp, Hythe, and Rye; and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of percentage may be different for each trade should it be deemed expedient. Printed schedules, and every particular relating thereto may be had on application at the Royal Engineer offices at Dover, Hythe, Walmer, and Canterbury, any day Sunday excepted, between the hours of TEN and FOUR o'clock, from MONDAY, the 3rd of MARCH, to SATURDAY, the 13th of MARCH, 1858, after which time none will be issued. Tenders for the above works to be addressed to the Director of Contracts, War office, Pall mall, London, S.W. and endorsed, "Tender for Builders Work," on the corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions as stated in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Dover, February 16, 1858.

CONTRACTS.

TO BUILDERS.—Such Persons as are desirous of undertaking the several branches of Artificers' Work, including the supply of IRONMONGERY and CAST-IRON and METAL-WORK, required by the Royal Engineer Department, at the Stations undermentioned, upon a contract for three years, from the 1st of APRIL next, or from any date at any period after the expiration of one year, whether party or not to the present notice in writing, may be furnished with the printed schedules of prices, and the conditions of the contract, with every necessary information respecting the same, by personal application at this Office between the hours of TEN and FOUR each day (Sundays excepted), until the 23rd MARCH, 1858, after which date no further notice will be made. Separate Tenders will be received—Plymouth, including Portsea Island, Gosport, and detached works, but exceeding five miles; Southampton, Pensioners' Establishment, Marchwood, Hurst, and Calshot Castles; Winchester, Christchurch, Chichester, and Isle of Wight. One contractor only will be accepted for the whole of the trades for each of the undermentioned stations, at the rates per centage at which the parties Tendering may be different for each trade, at their option, but such rates must be shown in the proper place on each of the schedules. The Tenders will be required to be delivered before TWELVE o'clock at noon on THURSDAY, the 25th day of MARCH, 1858, at the War Office, Pall-mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Artificers' Work" in the left-hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders

T. FOSTER,
Colonel Commanding Royal Engineers, South west District.
Royal Engineer Office, Portsmouth, March 1, 1858

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War-Office, Pall-mall, London, at or before TWELVE o'clock at noon, on THURSDAY, the 25th day of MARCH, 1858, from persons as may be willing to enter into CONTRACTS determinable at any period after the expiration of one year, on either party giving three months' notice in writing, from 1st of APRIL, 1858, to the 31st of MARCH, 1861, for the performance of such ARTIFICERS' WORK, of all kinds, as may be required by the War Department at the several stations under-named. The following Contracts are to be considered as stations for the purposes of these Contracts:—

1 From Littlehampton up to, but not including, the Coast-guard Station at Shoreham.—Consisting at present of the Batteries, &c. at Littlehampton only.

2. From the Coast-guard Station at Shoreham to Rottingdean, both inclusive

3 From Rottingdean to the west side of Cuckmere Haven, including at present Newhaven, Seaford, and Blatchington

4 From the east side of Cuckmere Haven to Fairlight, both inclusive.

N.B.—Contractors may Tender for one, two, or more of these divisions, but one contractor only will be appointed in each division for the performance of builders' work usually required to be executed under these Contracts.

Printed Schedules of prices, conditions of Contract, and every other information respecting the same, may be obtained on application at the Office of the Commanding Royal Engineer, Eastbourne, from the 8th to the 20th of MARCH inst., between the hours of TEN a.m. and FOUR p.m. Sunday excepted. Tenders to be sealed, and endorsed on the outside, "Tender for Builders' Work in the Brighton District."

Royal Engineer Office, Eastbourne, March 6, 1858.

TO BUILDERS and OTHERS.—Notice is hereby given, that plans and specifications for REPAIRING and RESTORING the PARISH CHURCH of Clewer, near Windsor, will be lying in the Vestry-room, on MONDAY, the 15th day of MARCH, and four following days, and all persons desirous of CONTRACTING for the said WORKS must send in sealed Tenders, directed to "The Church Wardens of Clewer, Berks," on or before the 24th instant. The lowest Tender will not necessarily be accepted. The contractor must be prepared to enter into the usual legal bond, with two good and approved sureties, at his own cost, for the due execution of his contract.

March 4th, 1858

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will contract at Guildhall of the said City, on TUESDAY, the 11th MAY next, at TWELVE o'clock in the forenoon, to SELL by TENDER the following FREEHOLD GROUND RENTS. 1. The Rental for a year for eighty years, from Lady-day, 1856, secured on the splendid premises erected by the Law Fire and Life Insurance Company, situate No. 126, Chancery lane, with the reversion to the same. 2. The Rental of 130*l*. a-year for eighty years from Lady-day, 1855, secured on the premises known as the Mitre Tavern, Chancery-lane, with the reversion to the same. 3. The Rental of 80*l*. a-year for eighty years from Michaelmas, 1856, secured on the substantial business premises in Fetter-lane, on the east side, in the occupation of Messrs. Shaw and Bond, with reversion to the same. 4. The Rental of 50*l*. a-year for seventy nine years from Midsummer, 1855, secured on substantial business premises on the east side of Bridge-house, in the occupation of Mr. Curtis, with the reversion to the same. Tenders for the same must be sent in, sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY last. Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground-rents to be sold are for the remainder of the terms, as above described in each case, from Lady-day after Midsummer-day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858

CONTRACT for WORKS.—SWANSEA HARBOUR RAILWAY. The Swansea Harbour Trustees are prepared to receive TENDERS for the CONSTRUCTION of the LINE from the South Wales Railway to the western end of the new docks in Swansea harbour. Plans and specification of the works may be seen at the Offices of the Trustees, Swansea, on and after THURSDAY, the 4th inst. Sealed Tenders, addressed to the Swansea Harbour Trustees, to be delivered to the undersigned, at the Harbour Offices, Swansea, on or before THURSDAY, the 25th inst.

LEWIS THOMAS, Clerk

Harbour Offices, Swansea, March 1st, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

ST. SAVIOUR'S DISTRICT.—CONTRACT for STREET WATERING. [illegible] BOARD ROOM, on WEDNESDAY, the 17th day of MARCH instant, to receive TENDERS for WATERING the [illegible] ROADS, STREETS, and PLACES in the Parish of St. Saviour, [illegible] from the 2[illegible] day of MARCH instant, until the 2[illegible] day of OCTOBER next. The Contractor will [illegible] enter into [illegible] surety will be required to enter into [illegible] for the faithful performance of the contract. Particulars of the contract and [illegible] ascertained at the Board room between the hours of TEN and FOUR. Tenders [illegible] to the Board [illegible] Tender for Watering [illegible] sent in at [illegible] HALF-PAST FIVE o'clock in the afternoon of the [illegible] day of MARCH [illegible] The Board will [illegible] the expense of the contract and the Contractor will [illegible] of the Board. The Board do not pledge themselves to accept the lowest or any Tender. By order of the Board,

HERBERT STURMY, Vestry Clerk.

Board-room, Emerson-street, Bankside, March 5, 1858.

TO BUILDERS.—Persons willing to offer a TENDER for the ERECTION of a VILLA, on the Handford-hall Estate, [illegible] Office, on and after MONDAY, MARCH 1st. Tenders to be delivered [illegible] MONDAY, MARCH 22nd [illegible] TWELVE [illegible] Tender will [illegible] be accepted.

FREDERICK BARNES, Architect.

Lower Brook-street, Ipswich, March 8, 1858.

TO LAND SURVEYORS.—SURVEY WANTED.—Parties desirous of TENDERING are requested to send [illegible] the following form:—

[illegible] Isle of Man, consisting of some [illegible] one plot (ground undulating, partly [illegible] little woodland, only a few [illegible] sum of [illegible] per acre, statute measure, which [illegible] stationery, travelling, and all other expenses; and further, I undertake [illegible] before the 30th day of MAY next, which the money for the survey is to be paid.—I am, &c.

Name . . . . .

Address . . . . .

Date . . . . .

References as to ability . . . . .

To Mr. [illegible] Office of "The Builder,"
1, York-street, Covent-garden, W.C.

CONTRACT for SEWERS.—The Board of Works for the Hackney District will meet at the Town Hall, [illegible] THURSDAY, the 1st of APRIL next, at TEN o'clock [illegible] to receive TENDERS for about 17,000 feet of BRICK and PIPE SEWERS, to be constructed chiefly in [illegible], Upper Clapton, and Kingsland. No. 1 Contract will comprise about 10,000 feet in length of Sewer, and No. 2 Contract will [illegible] feet in length. Plans, sections, and specifications [illegible] Tender of the works, may be seen daily between the hours of NINE and FOUR, at the Office of Mr. JAMES LOVEGROVE, Surveyor to the Board, at the Town Hall, [illegible] Sealed Tenders [illegible] the Clerk [illegible] Town Hall, Hackney, on or before WEDNESDAY [illegible] of MARCH. The Contractor, or some authorised agent, will be required to attend on the [illegible] The Board [illegible] themselves to accept the lowest or any Tender.

By order of the Board,

RICHARD ELLIS, Clerk.

Dated [illegible] March, 1858.

TO IRONFOUNDERS and GASHOLDER MAKERS.—[illegible] Gaslight and Coke [illegible] are desirous of receiving TENDERS for the IRONWORK APPARATUS and MAINS [illegible] the CONSTRUCTION of GAS WORKS, at R[illegible] (prepared by) Mr. [illegible] Chelmsford, can be seen on application [illegible] to whom sealed Tenders are to be delivered on or before the 27th MARCH inst.

A. G. MORRIS, Secretary.

Ram[illegible], Hants, March, 1858.

BOARD of WORKS, POPLAR DISTRICT.—TO STONE MERCHANTS, MASONS, SCAVENGERS, CARMEN, [illegible] NOTICE of CONTRACT.—The Board of Works [illegible] at the Board-room, East India Dock road, on TUESDAY [illegible] MARCH instant, at SIX o'clock in the Evening precisely, [illegible] TENDERS [illegible] contract for—

1. The supply of Aberdeen, Haytor, or Guernsey Granite Edge [illegible] Granite Pitchings, dressed for Channels and for [illegible] York and Broken Guernsey Stone.
2. For Masons' Work, [illegible] inclusive.
3. For [illegible] Work [illegible]
4. For [illegible] Gravel and Ballast.
5. For Horse and Cart Hire.
6. For the [illegible] of Dust, Ashes, Rubbish, &c. &c.

[illegible] to terminate at Lady-day, 1859. The contractors will be required to furnish the names of two responsible [illegible] performance of their contract, and to pay down the [illegible] of their Tender for the expense of the [illegible] The Board do not [illegible] the lowest or any Tender [illegible] the 15th [illegible] TWELVE [illegible] Tender will be received. Further particulars and forms of Tender can be had [illegible] between the hours of TEN and FOUR [illegible] up to the 15th instant.

CHARLES C. CEELY, Clerk to the Board.

East India-road, [illegible] March, 1858.

SCAVENGERING and WATERING.—The Vestry of the Parish of Chelsea will meet at the Board room, at the Manor house, King's road, Chelsea, on TUESDAY, the 16th day of MARCH instant, at ELEVEN [illegible] TENDERS [illegible] from the 25th day of MARCH, 1858, for twelve months, pursuant to the terms of a draft contract now lying at my Office as above, for the SUPPLY [illegible] of HORSES [illegible] The Vestry [illegible] themselves to [illegible] Sealed Tenders, signed by the proposed contractor, with the names and description of two sufficient sureties for the performance of his contract, to be left at this Office, on or before MONDAY, the 15th instant. The expense of stamping the contract [illegible] By order,

CHARLES LAHEE, Vestry Clerk.

Office [illegible] Manor house, King's road, Chelsea, S.W.
March, 1858.

TO PLUMBERS, &c. The Vestry of the Parish of Chelsea will meet on TUESDAY, the 16th day of MARCH [illegible] ELEVEN o'clock in the forenoon, to receive TENDERS [illegible] REPAIRS of the parish PUMPS [illegible] twenty-three [illegible] Tenders [illegible] Tenders for [illegible] MONDAY, the 15th. The [illegible] to accept the lowest or any Tender. By order,

CHARLES LAHEE, Vestry Clerk.

Offices [illegible] Manor house, King's road, Chelsea,
March, 1858.

TO WHEELWRIGHTS, &c.—The Vestry of the Parish of Chelsea will meet on TUESDAY, the 16th day of MARCH instant, at ELEVEN o'clock in the forenoon, to receive TENDERS [illegible] CONTRACT for the REPAIR of EIGHT WATER-CARTS and TWENTY-FOUR WATER-TRUCKS, according to specifications to be seen at the Office. The Tenders are to be [illegible] "Tender for Repairs, Water-carts," [illegible] on MONDAY, the 15th instant.—The Vestry do not bind themselves to accept the lowest or any Tender.—By order,

CHARLES LAHEE, Vestry Clerk.

Offices of the Vestry, Manor House, King's-road, March, 1858.

CONTRACTS.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—LOAN.—The Board of Works for this District are desirous of receiving TENDERS from persons willing to advance [illegible] (not less than 300*l.*) upon the security of the sewer rates, authorised to be raised in the Parish of Limehouse, in the said district, under the Metropolis Local Management Act. The said loan will be repaid by twenty annual instalments, with interest half-yearly, in the meantime. Tenders, specifying the amount to be advanced and the rate of interest required, to be delivered under cover, at my Office, Court House, White Horse-street, Commercial-road East, on or before TWO o'clock in the afternoon of WEDNESDAY, the [illegible] of MARCH, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

HEADLEY PARISH CHURCH, Hants.—TO BUILDERS.—Parties desirous of TENDERING for the EXECUTION of the WORKS to be done in the RESTORATION of HEADLEY CHURCH may see the [illegible] after the 22nd inst. Tenders to be delivered [illegible] MONDAY following. The lowest Tender will not necessarily be accepted.

[illegible], Liphook, March 10th, 1858.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH.—TO MASONS, CONTRACTORS, and OTHERS. The Local Board are prepared to receive TENDERS for the SUPPLY and the LAYING DOWN of about—

1[illegible],000 Feet super. of 2½ York Paving
1,[illegible] Feet super. of Denner-hill Channelling
[illegible] Feet run of Granite Curb
[illegible] Feet run of Denner-hill Curb.

The specification of works may be seen at the Office of Mr. EVES, the Surveyor, on and after MONDAY, the [illegible] of MARCH, when [illegible] other particulars may be had [illegible] Tender for Paving [illegible] addressed to the [illegible] Board [illegible] at the Public Rooms, Uxbridge, by SIX o'clock on the evening of THURSDAY, the 25th day of MARCH, 1858. The Board do not pledge themselves to accept the lowest or any Tender.

CHARLES WOODBRIDGE, Clerk.

Uxbridge, February 25th, 1858.

TO BUILDERS.—The Justices of Cheshire are desirous of receiving TENDERS for the ERECTION of a STOREHOUSE and other BUILDINGS, for the Use of the Second Regiment of Cheshire Militia, at Macclesfield. The Drawings, Specifications, and [illegible] of Contract, may be seen on and after MONDAY, the [illegible] MARCH, between the hours of TEN and FOUR, at the Office of the Clerk of the Peace for the said county in Chester, and that of the Architect, No. 15, Gower-street, London. The quantities have been taken out, and copies may be obtained by parties proposing to Tender, at either of the above-mentioned Offices, on the payment of a deposit, which will be returned when the Tender is sent in. Sealed Tenders will be received by the Clerk of the Peace not later than SIX o'clock, P.M. on TUESDAY, the 30th MARCH. The Justices do not bind themselves to accept the lowest or any Tender.

CHARLES WILLIAM POTTS,
Deputy Clerk of the Peace.

Chester, 9th March, 1858.

GAS BREEZE.—The Phœnix Gaslight and Coke Company are ready to receive TENDERS for TAKING AWAY the SMALL COKE or BREEZE, from their three stations. The quantity will be about 2,500 chaldrons each, from Bankside and Vauxhall, [illegible] chaldrons from Greenwich, but parties are at liberty to Tender for any quantity not less than 500 chaldrons, to be cleared away at periods to be fixed by the Company. The contractor [illegible] Tender, will thereby bind himself not to [illegible] fifty chaldrons on the works at any one time, except at [illegible] Company, and to pay for the same [illegible] quarterly. The Tender to state [illegible] It is also to be marked with the words "Breeze Tender" on the cover, and to be delivered at their Office, Bankside, before TWELVE o'clock, on WEDNESDAY, MARCH 17th.

LIME.—The Phœnix Gas-Light and Coke Company are ready to receive TENDERS for the SUPPLY of about TWO THOUSAND YARDS of WHITE FLAKE BURNT LIME, for their Stations, Bankside, Vauxhall, and Greenwich, until Lady-day next year. The Lime is to be fresh [illegible] from the kiln, [illegible] the best quality, and to be delivered at the Stations in quantities [illegible] two yards at a time [illegible] between two stations [illegible] of White Lime Burnt, parties may Tender to supply [illegible] Lime [illegible] The Tender to state the lowest price per yard, for lime in carts; and also a separate price [illegible] delivered by barge, and [illegible] price for coke to be taken in exchange. The [illegible] marked with the words, "Lime Tenders," on the [illegible] delivered at the Company's Office, Bankside, before TWELVE o'clock on WEDNESDAY, MARCH 17.

NOTICE to CONTRACTORS.—The Commissioners for the Port and Harbour of Londonderry are prepared to receive TENDERS for BUILDING a GRAVING-DOCK, according to plans, sections, and specification [illegible] OFFICE of the COMMISSIONERS [illegible] TEN and FOUR o'clock.—The Tenders to be sealed and addressed to the Secretary of the [illegible] with the words "Tender for Graving-Dock" [illegible] day of APRIL next. The Commissioners do not bind themselves to accept the lowest or any of the Tenders. By order,

A. H. STEWART, Secretary.

Port and Harbour Office, Londonderry, [illegible] March, 1858.

TO BUILDERS.—Persons willing to TENDER for FINISHING FOUR HOUSES at Kensington, can see the specification and obtain particulars at the Office of the Surveyor, Mr. CHARLES SEWELL, [illegible] street, Adelphi, W.C. on and after TUESDAY next, between the hours of TEN and FOUR. The proprietor will not be bound to accept the lowest or any Tender.

March 11, 1858.

FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of Fenders, Stoves, Ranges, Fire-irons, and General Ironmongery as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright stoves, with [illegible] ormolu ornaments and two sets of bars, [illegible]; bronzed fenders, with standards, 7*s.* to 5*l.* 12*s.*; steel fenders, 2*l.* 15*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 2*l.* 15*s.* to 18*l.*; fire-irons from 1*s.* 9*d.* the set to 4*l.* 4*s.*

The BURTON and all other PATENT STOVES, with radiating hearth plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE [illegible] gratis, and free by post. It contains upwards of 400 illustrations of his illimited Stock of Electro and Sheffield Plate, Nickel Silver and Britannia Metal goods, Dish Covers, Hot-water Dishes, Stoves, Fenders, Marble Mantelpieces, Kitchen Ranges, Lamps, Gaseliers, Tea Urns and Kettles, Tea-trays, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c. &c. with Lists of Prices, and Plans of the Sixteen large Show Rooms at 39, Oxford-street, W.; 1, 1A, 2, and 3, Newman-street; and 4, 5, and 6, Perry's-place, London.—Established 1820.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, [illegible] Copper, and Zinc, Patent Locks of all descriptions; China, Glass, and Wood Furnitures of all kinds, with Patent Sh[illegible] Spindles, Dr. Arnott's Ventilator, [illegible] the New Registered Vent[illegible] Ventilator, [illegible], &c. 6*s.* 6*d.* each.

J. H. BOOBYER (late STIRCH and BOOBYER), established nearly [illegible] years, [illegible] from the best Manufactories, at the lowest prices.—14, Stanhope-street, Clare-market, London.

THE LONDON WARMING and VENTILATING COMPANY, Limited,

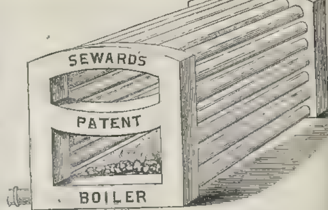
(Offices, 36, Great George-street, Westminster.

Manager,
WM. WOODCOCK,)

undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.

Economy and effectiveness are the advantages offered.

Particulars and Testimonials forwarded on application.



HOT-WATER HEATING.—SEWARD'S PATENT BOILER will be found the cheapest and most effectual, and the most economical as to the consumption of fuel. A. and C. SEWARD, of Preston and Lancaster, Manufacturers of Hot-water and other Heating Apparatus, will be glad to furnish plans for heating buildings of any description.—Testimonials on application.

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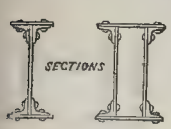

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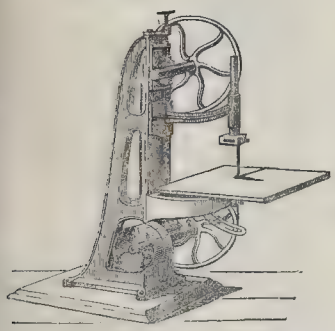

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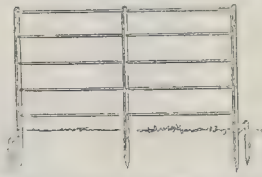

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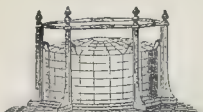

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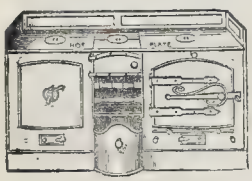

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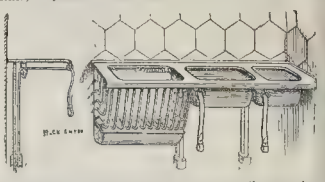

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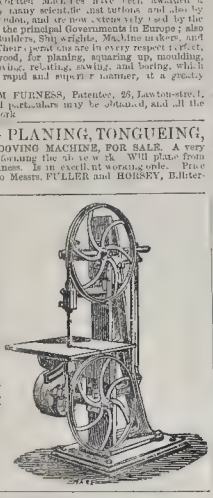

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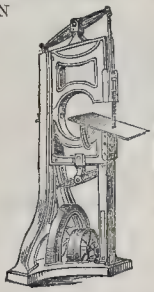

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The Builder.

VOL. XVI.—No. 788.

Housing the Army—St. George's Barracks—The Tower.

NINE or ten correspondents have addressed us on the condition of barracks in England, forwarding statements in confirmation of the observations in our last,* and imploring the word is their own a continuance of the examination then commenced. All agree that we have understated rather than overstated the dreadful results of the present system. "I have perused your article," says Mr. John Roberton, of Manchester, with whose essay on the arrangement of hospitals our readers are acquainted, "and examined the sketches with attention and the deepest interest. In one particular you understate the appalling facts. The 20·4 deaths per 1,000 annually in the Foot Guards are only the deaths in barracks, and do not include the large number of deaths, *barrack-produced*, in the soldiers being continually sent off invalided. Were these latter deaths added to the barrack deaths, the rate would be 30 instead of 20 per 1,000, perhaps. What a subject is this of our barrack dormitories! I rejoice to see that you have taken the matter up, and that you will pursue it in future numbers of the *Builder*. It is amusing to notice that the report is silent as to the rate of death among the commissioned officers. Depend on it, *they* don't die as the rank and file do, or we should have had a better sanitary state of the barracks long ere this: if the commissioned officers had died at the rate of even 10 per 1,000, the War-office would long ere now have been brought to its senses. As Sidney Smith said of railway accidents,—if a bishop were to be killed in a railway accident, provision would be made with wonderful diligence against their recurrence,—so we may say of barracks: if the officers had suffered, along with the common soldiers, you would not have had *now* to write articles on the subject."

Long before the Commissioners who have recently reported were appointed, we said that "If full examination of all barracks in which British troops are quartered were ordered, and a truthful report drawn up, the world would be startled at the horrible revelations made;" and we asserted that "there are barracks in which the soldiers are never healthy, and hospitals in which the sick never get well." This will be believed now, though it was scoffed at then. The evils of the ill-constructed and over-crowded barrack-room cannot be mitigated by its tenants, and are constant in their operation, lowering health, and ultimately destroying life.

There is no reason why barracks should be less healthy than ordinary habitations, but the reverse. In the model lodging-houses of the metropolis, arranged with a view to health, the rate of mortality is not half so large as it is amongst the general population. "To the objection," says the *Times*, in one of the series of able articles in which it has sought to bring forcibly before the general public the report of the Commissioners, "to the objection that these results are only shown in buildings which, like the model lodging-houses, have been constructed expressly with a view to health, the Commissioners justly reply that a regard for health should govern the construction of barracks also. Their present inferiority to the common lodging-houses, the casual refuge of the tramp, the outcast, and the vagabond, does not admit even this poor apology; the object of the owners or 'farmers' of this class of houses was only to obtain the largest possible amount of nightly rent from the largest number of inmates. Yet 'due intelligence,' invested with due power, has purified their abominations, spite of all defects of construction. The military authorities have required no addition of powers, no Acts of Parliament, no delegation of functions to the police; they have no opposition from greedy landlords to overcome; yet the state of things under their control is what the report describes. In truth, the whole of this section of the document is a strong indictment of the War Department, as proprietors and keepers of soldiers' lodging-houses, for permitting all the nuisances proscribed by the Act regulating the lodging-houses of the metropolis."

Continuing our examination, let us look at *St. George's Barracks*, one entrance to which is afforded by the westernmost opening through the National Gallery, in Trafalgar-square. There is a considerable open space here, and the barracks have the reputation of being amongst the best in the metropolis. The accommodation provided for the men consists of a long range of buildings, four stories high, above the ground, with rooms below the surface, not used at present for dwellings, but for pipe-claying and other cleansing operations. The whole length of the building is divided into separate parts, which have distinct entrances, both from the front and back. The staircases are wide, and on the right and left are apartments, each of which forms a home for from sixteen to seventeen men. These rooms are fitted with the necessary number of beds. The soldiers' arms and other accoutrements are hung around. A large table is in the centre; and so closely are the beds placed together, that when they are prepared for the night, but little room is left for moving about. The published return gives 390 cubic feet as the space allowed for each man,—not half what it should be. The fact is, however, that the provision of cubic space alone is not sufficient: there must be *area*, the beds must be at a greater distance apart. The rooms are not more than 11 feet in height; the windows are at each end of the rooms, and admit sufficient light, but all of them were closed. There is also a fire-place in each apartment; and, with the exception of this, the only other means of ventilation are four apertures (closed) in the ceiling of each room, which communicate with a grating in the outer wall, and, as there is no other arrangement for bringing *in* air, of course operate in that way instead of in removing the vitiated air. And, the rooms being comparatively low, this method of letting in air is objected to by most of the soldiers, who say that when lying in bed those near the openings are constantly catching cold, in consequence of the wind blowing down upon them in a current.

When we look at these rooms, and compare them with the space of the wards of some of the most old-fashioned of the London hospitals, full of evils of their own as these are, it is not possible to fail to be struck with the difference.

At about eleven o'clock in the morning, although a considerable number of the soldiers were out at drill, the atmosphere of the rooms, which serve for the purpose of both sleeping and dining, was heavy and offensive; doors and windows were closed, and the stagnated condition of the air proved that the ventilation by the ceiling was quite insufficient. In the wards of Bartholomew's Hospital, even in the winter time and at night, some of the windows are kept open at the top, the authorities knowing that there is more danger, even as regards diseases of the lungs, from polluted air, than from a plentiful supply of wholesome air. Such of the soldiers as we inquired of seemed to be afraid of draughts; nor is this to be wondered at, considering that they have been for so long accustomed to close rooms, filled with heated poisonous air. No one should be surprised at the men catching cold when they leave such an atmosphere in the night or in inclement seasons, to mount guard.

There is a library here, and we were glad to learn that when the barracks are fully occupied as many as 300 soldiers subscribe towards its support. The pleasure of a visitor, however, is damped, on visiting the library, to find it placed in an apartment of the same size as the sleeping-rooms already mentioned, and just as much care taken there to exclude the air as in the other places. The room, as represented by our sketch last week, fig. 3, was crowded, some reading, others playing at dominoes and similar games. A thick crowd stood round the fire, and the scene was at any rate very picturesque. We are told that in wet or bad weather when the air is more oppressive than usual), from 150 to 200 soldiers will take shelter here and amuse themselves. It seems extraordinary that in this enlightened age the medical officers of a regiment should allow such a number to congregate in so inadequate a space, so ill cared for as regards ventilation. In the prisons no such defiance of those sanitary arrangements which are necessary for the preservation of health is permitted.

There is here a school for teaching both the adults and children of the regiment, and an infant school: in the latter, both space and ventilation are insufficient.

The closets are ranged at the back of the barracks, at no great distance from the windows, and are flushed *once a day*, by means of a contrivance which throws in a large quantity of water; but during a whole day and a night matters are allowed to remain in a condition manifestly dangerous, when we consider that at times from 700 to 1,000 persons are lodged here: there is no proper covering to the closets, and pans and traps are imperatively necessary.

Although the rooms here are much too low, and not of sufficient size for the number of those who sleep in them, great improvements might be made at little trouble and cost. During some portion of each day the rooms should be unoccupied, the windows and doors thrown open, and fresh air be allowed to play through the place for an hour and upwards. At no time during the day should the windows be entirely closed,—only a quarter of an inch at the top of each would do much good, and the current, by passing above the heads, would not do harm. Air should be admitted, too, at the bottom of the room. The upper row of glass in the window should be so perforated as to throw the air upwards. The ventilators in the ceiling should not be allowed to throw strong streams of air in the night time in particular directions. We notice that there are strings connected with these, and have no doubt that opportunities are taken at night to close them, and then it is easy to imagine the condition of the air in the course of a few hours, and how dangerous it must be to leave such a place suddenly to face cold or wet weather.

The library and reading-room should be at least twice its present size, and properly ventilated, and then it might be a place where the men could pleasantly and usefully spend their

* See p. 149, *ante*.

SANITARY ARRANGEMENTS FOR THE SOLDIER.

FIG. 4.—*The Guard Room at Night, Portman-street Barracks.*

FIG. 5.—*Married Soldiers' Quarters, Albany-street Barracks.*

FIG. 6.—*Black-hole for the Cavalry, Knightsbridge Barracks.*

spare hours. As it is at present, they get more harm than good by attending there.

While examining these arrangements, and making other inquiries, we could not avoid comparing the improved intelligence of the soldiers of the present day with the veterans of the long war: nevertheless, the efforts of our army in the Crimea and elsewhere, show that increased knowledge and better habits have not lessened their bravery.

The *Tower of London*, so rich in associations, and which from a remote time has been amongst the most noted of the strongholds of England, has, during the last twenty or thirty years, undergone great changes. Long ranges of buildings have been placed on the site of those destroyed by the last fire, and these, like many other modern fortresses, remind one most of the scene-painter's conventional Gothic castle. In one point of view, nevertheless, improvement has been made in the arrangements of these barracks, which are much better than some which have been mentioned. The rooms are larger, and the number of men in each less, and here we find the natural results. Since the return from the Crimea of the Fusilier Guards, who are now quartered here, they have been at Windsor and the Tower, and although the neighbourhood of the Thames is not considered very salubrious, the ratio of deaths has been much less than in Portman-street and St. George's barracks. When we consider that the men who form our regiments of Guards are in the prime of health and strength, it is, nevertheless, much too high. The report contains evidence of improvement in health and saving of life following the draining of the ditch and the provision of better barracks.

In addition to the overcrowded living-rooms, much damage is done in the guard-rooms, which are too small for the purpose of holding at times from forty to fifty men during the night. In some of these places doors and windows are closed, and there is no other ventilation than the chimney. Wooden boxes, like those in casual wards of the workhouses, are provided for the men to rest upon, and in wet weather they often lie down in their wet cloaks, and the place becomes filled with damp steam and other unwholesome vapours. Our sketch, fig. 4, shows the guard-room at Portman-street at night, as sketched on the spot.

Some veteran soldiers seem to think that much damage to the soldiers is caused by the make of the clothing, the tight belts, the padding and close buttoning over the chest, the uncomfortable fitting stocks, and the peculiar way of wearing the knapsacks; and this may be in some measure true, for we find that in the horse regiments, where knapsacks are not carried, the average mortality is less; however, the large number of deaths even in the horse regiments, shows that the mortality must be attributed to other causes.

It has been suggested to us that much good would be done if in barracks, or close to them, rooms were erected for the lodgings of married soldiers who cannot at present be accommodated in barracks, and who have to pay highly for small and inconvenient rooms elsewhere. They would be willing, it was thought, to pay a rent sufficient to cover the expense of such erection. The accommodation for married soldiers requires great alteration. In the dwellings of the metropolitan poor, the strong arm of the law has been called in to stop the demoralizing practice of overcrowding their houses, and persons who allow several families to live promiscuously in the same apartment are now liable to fine and imprisonment. In the houses of the soldiers such arrangements are still permitted, which set all the rules of decency at defiance; and one room is totally insufficient for a married couple and five or six children. In cases where only one room is provided, a partition might, at any rate, be so arranged as not to interfere with the space; but in Portman-street and other places, this does not seem to have been thought of; and, bad as is this arrangement for the non-commissioned officers, it is worse as regards the privates, who are lodged two or more families in one small room, with no other separation than curtains drawn round the bed. Anything more demoralizing or destructive to the self-respect of men, women, and children, could not be well imagined,—nothing can stand against its effects. Fig. 5 shows a room occupied by three married soldiers, over the stables in the Albany-street Barracks.

A person born and reared in the London barracks, who has by industry acquired considerable skill as an artist, speaks bitterly respecting this crowding together. He has known three families, consisting of sixteen children, sleeping and living in one room. It seems extraordinary that such things should have been allowed; but, so far as we can learn, little trouble has been taken by the superior officers generally to examine the dwellings of the men. In London, most of the chief officers live away from the barracks, and it is to be feared that some of the medical men have, in many cases, not been sufficiently thoughtful; others, as we know, have long striven to obtain improvement, but without success. Even in punishing men, their health should be considered; and this can scarcely be the case when they are condemned to occupy a chamber such as the Black-hole of the cavalry barracks at Knightsbridge, which has no means of ventilation but the small grate shown in the sketch, fig. 6.

And here we would once more direct attention to the mass of information on the subject of barracks, the various suggestions, and the numerous plans, which were furnished by architects in the competition of 1856, and urge the immediate publication of a selection of them. In our volume for that year, very full particulars of many of the designs will be found, together with suggestions not, it is to be hoped, without value. The abomination of compelling sol-

diers to take their food and spend their spare time in the apartments in which a crowd of them have passed the night, should no longer be anywhere permitted. A greater amount of space should be given to each man, drainage should be made perfect, and the means of efficient ventilation afforded. Covered ambulatories are much wanted: some of the ancient barracks, as at Pompeii, had the parade-ground surrounded by a covered gallery, and here, too, there was a theatre for the amusement of the men in leisure time.

One-half of the hard drinking, says the late Sir Charles Napier, "springs from the discomfort, the despair caused by bad barracks;" and again,—"Losses by battle sink to nothing, compared with those inflicted by improperly constructed barracks and the *jamming* of soldiers,—no other word is sufficiently expressive."

We have heard more than one old soldier say, that it would not be well to destroy the hardihood of the men, by making them too comfortable in barracks, as that would cause them to bear badly the difficulties of a campaign. This is surely erroneous. Agricultural labourers are best able to carry out their work, and endure the changes of the weather, if they are properly fed and lodged in well drained and well-ventilated houses. In like manner the soldier will be more likely to be strengthened to battle with both the enemy and the pestilence, who has not had his constitution undermined by months of residence in overcrowded and unwholesome rooms, which serve the purposes of eating, and sleeping, and killing. The wholesale murder must no longer be permitted.

THE NEW ST. JAMES'S HALL.

THE St James's Hall is now nearly completed, and will be opened to the public in a few days. Besides the peculiar decorative character, as shown in the illustrations in our volume for 1856, and in the view of the interior exhibited by Mr. Owen Jones, in Suffolk-street, the building displays some novelties of construction deserving of attention, and which may require to be referred to hereafter, should they be found to belong to the commencement of an alteration in the current practice of building. We refer especially to the use of iron, less as an auxiliary than as a main element in the framework of a structure.

The value of the material, iron, for bridging over large spans, and for bearing heavy weights on small area of support, has become apparent; and the introduction of wrought iron has gone far to remove objections which were reasonably brought against girders of cast iron. But iron, in a building of the ordinary kind, as the primary material, does not seem to have been adopted,—its advantages for certain purposes, being what are considered, whilst also its limitations, -until the date of the erection of the Reading-room of the British Museum by Mr. Sydney Smirke. The Crystal Palace manner of building is here left out of the question; since, assuming that method to answer so far the purposes to which it has been applied, it cannot be considered to belong to the class of permanent and durable constructions, or to be capable of providing the requirements, especially as to equable temperature, in ordinary buildings. Of its inapplicability in such cases, the Brompton Museum supplies the best example. In this structure, as well as in the iron houses for emigrants, which are of precisely the same character, there is no substantial clothing to the interior, but a mere skin or shell—conducting, rather than shielding from, the extremes of heat and cold, and by no means fireproof. The ancient manner of building, with thick walls and vaulted ceilings, is that which, other things being equal, would remain the best suited both for hot and for cold climates. Now, however, the value of ground has to be considered; and in this country there is the further requirement of large area of openings for light. Thus the particular effects obtainable with the use of thick walls,—such as those of deep reveals,—cannot be in all cases procurable in a practice of building suited to the present conditions; other effects, however, may be, and greater scope of design generally, may, and indeed should be found, where structural resources are such as will at least allow of the attainment of the objects of convenience and use. Supposing our reasoning to be correct, the feeling of regret at a loss to architectural expression by diminished thickness of modern walls, results from misconception. If the thin wall will abundantly answer the structural purpose, whether is it the right principle of practical building and architectural art, to make the wall thicker for mere effect, or is it to seek for the best effect that can be produced with economy? The latter principle might be conducive to the greatest progress in the art itself. Indeed, the course of the art, if progressive whilst it need be attended by no depreciation of qualities or features in old works —must be precisely that which includes utilization of all new powers and demands. By the new elements and conditions it becomes the new art. The *rotunda* and dome at the British Museum have certainly reconciled the varied demands of stability, diminished area of support, and adequate enclosure, along with the realization of architectural effect. That example further shows how the thickness of an enclosure, constructed in a similar manner, may be turned to new advantage by being appropriated to air channels and like purposes.

In the St. James's Hall, the system of supporting the ribs of an arched roof on iron piers or standards, is resorted to. The brickwork of the wall, 3 feet thick, may be regarded as a mere filling-in between the standards; at least, it is so for the main portion of the entire height, or that which comprises the great hall. We may here remind our readers that the main building consists of two minor halls on the ground-floor, and the great hall over them. In attached buildings forming portions of the plan, are the various staircases and corridors, and rooms appropriated to objects in association with the purposes of the erection. The lower story is in communication with a *restaurant*, lately opened in the Quadrant, and one of the minor halls will be appropriated for banquets. The main entrances are from the Quadrant and Piccadilly, and there are minor entrances in George-court and Vine-street. A few words, hereinafter, as to the entrances generally, may be not out of place. The Piccadilly entrance has been obtained by the conversion of an ordinary house-frontage, and that, too, at some distance, measuring by length of corridor, from the door into the great hall on the south side. In all such points the circumstances of the ground have been unfavourable. The great hall has an arched recess at each end,—one for the orchestra, and the other for two tiers of galleries. Besides these last there are narrow side galleries, as shown in our view, referred to above.

In the construction of the main building, before spoken of, the arched ribs, the standards which support them, and the girders of the floor of the great hall, are each riveted to the other at the points of junction, so that the arrangement forms as much as possible one piece or framework. Each combination, so regarded, is further tied and braced from one standard to another, along the walls, and from girder to girder diagonally in the flooring; whilst the arched ribs are all united by an elaborate system of diagonal ties over the whole ceiling. The feet of the standards rest on iron plates, on large stone templates. They are strutted with raking pieces of angle iron. At this point of the bearing for the standards which carry the ribs, and for the girders, and of the attachment of the standards with the girders, a connection is made with the foundation of the walls by means of angle or T iron, down each face of the brickwork, with a cross tie, at intervals, through the latter. This continuation of the proper standards (which it should be understood, have the I form of section), if we understand rightly, is viewed in some degree as giving a *bearing* from the foundations: but, can that be the case, considering the omission of the web? The stone template and brickwork, or else the two pieces of T iron, we rather think, must be regarded as the compressed and supporting members of the system, distinct from one another, in a case where there is unequal strength and unequal compressibility. Therefore, if the wall were not thick enough in this lower part, it would seem doubtful how far the T or angle iron could complete the requisite strength, or adequately substitute its own for it. Either the lower brickwork is not sufficient for the support of the weight of the standards proper, or the object or office of the angle-iron can be merely to *tie* the feet of the rafters down to the foundations. All the standards, ribs, and girders are of wrought and riveted iron; and there must be a very large quantity of the material used about the building and staircases. It is not correct, as stated in a recently-published notice, that the iron ribs of the ceiling intersect each other diagonally, "forming an arched latticework of wrought-iron girders;" in the decoration, however, the mouldings are so arranged. The galleries, at the sides and end, are borne by cantilevers, which are also of wrought iron, and are riveted to the standards. There is no tie or counterfort to the iron ribs and the ceiling, other than what is supplied by the system itself; whilst in the wooden roof the ribs are made use of, so that the elaborate truss which would be required for a span of 60 feet is dispensed with.

Amongst the other noticeable features in the construction are the straight lintels to the windows, in place of arches, and formed of bricks set upright, four courses in height, and in cement, with a little hoop-iron occasionally worked in. The first brick at each end has a good bearing on the wall; and the lintels stand well; the strength being, we are told, as found by experiment, one-fourth less than that of arches with skew-backs The reveals are all 9 inches; and in the stone sills, the weathering is made to slope more than is usual. The Vine-street front of the building, we may mention, displays some decorative effect in brickwork. We should mention also, that the walls, on the inner face, are coated with pitch before the plastering is commenced; that in the floor of the hall, felt is laid below the floor-boards, in addition to the pugging; that the front of the orchestra is so contrived that it can be moved forward, so as to increase the space for musicians and singers when needed; and that there are many other provisions and contrivances deserving attention.

For ventilation, the main contrivance consists of shafts, in four rows, above the ceiling, covered below with ornamental pattern or fretwork, and terminating above in large metal caps. These have an unusual appearance seen from the street, arising from the weather covering which finishes them, and which it has been thought desirable to form in a sloping direction, or in a plane parallel to that of the roof covering. It is anticipated, and experiment with a model has seemed to justify the expectation, that each pair of shafts will act together, so that fresh air will be always descending by one, whilst impure and heated air will be ascending by the other.

The artificial lighting promises to be both novel and beautiful in effect. It will be managed by a number of small star-shaped *gaseliers*, suspended from the intersections of the main ribs of the ceiling.

Encumbered as the interior is at this time of writing, we can hardly form a conclusive opinion as to the result of the design. In general effect of main lines and colouring, and in many particulars, the result will doubtless be a successful one. It seemed to us, however, that the ornamentation of some of the panels was too minute. We refer particularly to the panels which have the pattern executed on paper, pasted up. Some of the prominent ornaments, also, in mere line and form, are hardly what might have been anticipated; and we doubt whether the banded patterns of the panels, or *severies* of the groining over the wall shafts, will not appear staring, and too large for the minute decoration above. These ideas, however, it is right that we should put forth with some diffidence. Mr. Owen Jones is justly entitled to be depended on.

We have less hesitation in objecting to some of the features of the Regent-street and Piccadilly entrances. In the former, the profile of the trusses is surely not at all what conveys the idea of support, —a principle which should never be departed from in an architectural member of the kind, on any ground whatever. Again, much of the foliage with which the trusses are covered, as well as other parts of the ornament, are beautiful; but, as in other details of ornamentation in this building, above referred to, we do not see the complete observance of principles which Mr. Jones himself has put into the clearest language. Where is the root or stem to all the foliage on the sides of the trusses? Not in the field of view, or in one and the same ideal position out of it. In the Piccadilly front the ornamental details, or some of them, have great beauty; but nothing could be more unfortunate than the general design, having regard to the public purpose. The front seems to be let in, and jammed between the houses; and whilst it has the same height as what it adjoins, it is difficult to get rid of the idea that it has even less.

It is still a question whether the requisite space for entrance and exit to this building has been provided since attention was drawn to its supposed defects by our correspondent, "Publicus." There may be some entrances and exits besides those in Piccadilly and the Quadrant, but we apprehend they may be required for special purposes. Practically the Piccadilly and Quadrant entrances appear to be the only ones to be considered. In the former case there are two doorways of about 3 feet 10 inches each; immediately within which, the corridor is narrowed by a projection on one side of it. The great

hall is thence reached by a long and circuitous route. From the Quadrant side, the entrance is hardly so direct as could have been desired, whilst to provide for the requisite number of visitors, by a staircase planned under disadvantages, the architect has been obliged to construct a long and very wide flight of steps, which even with a handrail next the wall, which will probably be added, might, on the occasion of any alarm, be the scene of terrible accidents. Number of staircases, and somewhat narrow flights, with frequent landings (of course no "winders"), are what are best adapted for places of public amusement; and under a proper system of building supervision, these, as well as an ample number of wide doorways, should be insisted on. The entrances into the body of the hall are five in number. Two of these are narrow, and might hardly be available for the public. Another is under the end gallery. Those which will be most used, on opposite sides of the hall, are, perhaps, about 5 feet 6 inches in the clear, each.

The provisions for entrance and exit in this building, may, however, contrast favourably with those of many of the theatres, where greater danger always exists. In Drury-lane Theatre, indeed, the staircases are good models, arranged on the principle we have referred to above. But, the public and the proprietors of places of amusement, require to be made to feel the necessity of very different arrangements from those which are at all usual. Dreadful calamities have occurred, verifying our long-repeated warnings and predictions to the word and the letter; and we must let no occasion, when warning is required, pass by without repeating it.

ON THE APPLICATION OF HYDRAULIC LIMES AND OTHER CEMENTITIOUS MATERIALS TO CONSTRUCTIVE PURPOSES.*

In the very interesting paper lately read here by Mr. Bulnois, and in the course of the discussion which ensued upon it, some incidental remarks were made upon the use of concrete in foundations, which appear to merit more attention than they received at the time. Moreover, the evidence which was lately given before a coroner's jury, upon the occasion of an inquiry rendered necessary by the fall of a chimney, displayed so strange an amount of ignorance of the real philosophy of the use of concrete on the part of a practical builder, who seems to have been of average ability,—an ignorance, it is to be feared, shared by far too many of our so-called practical men—that I have ventured to bring the subject before you again, with the hope of being able to induce you, and the members of the profession generally, to examine it anew. In other countries this has been done very carefully and very successfully. Perhaps, therefore, a brief record of the recent investigations, and of the experience of Foreign and English engineers and architects, may suggest both what is still to be learnt and what to be avoided in the future researches to be made.

As it will be necessary in the following notice to allude to some controverted points of the chemical theory of limes and cements, perhaps I may be allowed briefly to state, even at the risk of going again over well-trodden ground, the opinions which are now generally held upon that theory, before describing the works recently executed.

The objects for which limes and cements are used are, as you must be aware, firstly, to connect together the small materials used in building; or, in other words, to produce artificially monoliths of the size and shape required in any particular case; and, secondly, to form preservative coatings upon the exposed surfaces of more perishable materials. It follows, therefore, that the qualities to be desired in a lime or cement are, that they should unite energetically with the bodies they are intended to join together; that they should set rapidly; and that they should attain within a very short period of time a sufficient degree of hardness to enable them to resist external causes of decay. In addition to these theoretical conditions must also be named the economical one; and it therefore should be considered that the previously cited advantages must be attained in conjunction with cheapness as to the first cost, and to the application of the materials. It is, in fact, this latter consideration of economy which has determined the preference of architects and builders for the cementitious materials with a lime base; for otherwise it may admit of question whether bitumen, silica, iron, or other bases might not yield cements of superior quality to those now generally employed.

* Read by Mr. G. R. Burnell, C.E. at the ordinary general meeting of the Royal Institute of British Architects, Feb. 22nd, already mentioned.

At a very early period in the history of architecture the use of bituminous and lime cements appears to have prevailed; though some of the boldest Pelasgic, and some of the most perfect Greek and Roman works were actually built without mortar of any kind. The Romans, however, used lime in most of their great works; and they were also well aware of the extraordinary property possessed by puzzuolano, of increasing the rapidity of setting, and the hardness, of the lime with which it was mixed. During the empire and the Middle Ages, the art of mortar and concrete making, as practised by the Romans, was preserved, and, indeed, although the use of concrete had been forgotten here, subsequently to the revival, it appears never to have been lost abroad. But even whilst thus practising upon a large scale the conversion of limestone into lime, with a view to the reconstitution of a solid homogeneous cement, the builders of former days paid little attention to the scientific principles involved in the operation. Smeaton, indeed, made some very shrewd guesses at the real facts of the case; and subsequently other chemists and engineers made advances towards the real scientific explanation of the phenomena attending the use of lime; but it was not until M. Vicat commenced his researches that any exact or philosophical views upon the subject were propounded, or that attention was called to the real nature of the difficulties to be overcome before arriving at any satisfactory explanation of the problem to be solved in the attempt to arrive at a correct theory of the philosophy of limes and cements.

It would be out of place, here, to dwell upon the history of the various descriptions of limes and cements now used, further than may be necessary to explain incidentally the circumstances under which they were introduced; and those of my hearers who may be anxious to study this branch of the investigation are therefore referred to Mr. Godwin's paper in the Transactions of the R.I.B.A.; to General Pasley's work; to M. Vicat's numerous publications; or to the more recent and more scientific researches of MM. Kuhlman, Fuchs, Signorilli, Uhagon, Minard, Chatoney, Rivot, &c. But it is important to observe that latterly somewhat different opinions to those which formerly prevailed, with respect to the circumstances under which limes and cements set, have been promulgated; and that the reasons upon which these new opinions are founded are sufficiently cogent to warrant a public examination of the methods of using those materials adopted especially in England, which would hardly have been prudent so long as the theory connected with them remained in its previous state. And as the practical questions involved in the consideration of the actual hardening of mortars are of vital importance to the architect, we ought carefully to examine the suggestions of competent observers, without yielding ourselves too implicitly to their or to any other authority. These suggestions may be most easily brought before your notice in a description of the works and the accidents which led to their being made.

Until within a very recent period, then, it was held that ordinary limestones when burnt in kilns parted with their water of crystallization and their carbonic acid, and were thus reduced to the state of an amorphous, spongy material, highly caustic, with a great avidity for water, and of small specific gravity. No change has yet taken place in this part of the theory of limes; nor have the principles enumerated by M. Vicat, with respect to the influences of the various substances in combination with the lime in the natural limestones, been materially shaken. The most competent authorities agree with M. Vicat in attributing the differences in the rapidity of setting of various ordinary limes to the presence, or the absence, of some of the different forms of silica, alumina, magnesia, or iron; or in some cases to a mixture of them all. The chemical combination of silica and alumina with lime in the stone appears to exercise the greatest influence upon the hardening of the resulting limes; or, in other words, the presence of the silicate of alumina in the limestone has been found to have so decided an influence upon the properties of the lime made from it, that the relative quantities of that salt ascertained to be in a stone have been universally admitted as forming a convenient scale for judging of its value as a source of lime. Perfectly pure carbonate of limestones, such as the upper and middle chalk, and most of the marbles, yield in fact a pure caustic lime, whose properties are that it swells when mixed with water sometimes to 2½ times its original volume, and that when in large masses it never hardens—within appreciable periods at least. The presence of a small portion of the silicate of lime in the limestone (as in the case of the chalk marl) produces the following effects:—First, that the caustic lime in slacking, or taking up water, does not swell to the same extent as pure caustic lime would do; secondly, that the resulting paste of lime, even when in large masses, will set within comparatively speaking short periods; and, thirdly, that it resists the solvent action of running water more satisfactorily than pure caustic lime would do: the latter indeed would be entirely removed if exposed to such a test for a sufficiently long period. A greater proportion of silicate of alumina increases the energy of the setting and hardening powers of the lime, as in the case of the blue lias limes; and finally, when the proportions of the silicate exceed a certain point, the limestones in which they exist yield a class of materials called "cements," which set without any marked increase of volume, and rapidly acquire a great degree of hardness, and are insoluble in water.

These various properties serve to classify the limes and cements; for the former are called *rich*, or *poor* according as they may or may not swell in slacking; and hydraulic or non-hydraulic, as they may or may not resist the solvent action of water. The cements are all poor, and most of them are permanently hydraulic.

It is found that so long as the limestone does not contain more than 10 per cent. of foreign matters, the lime it yields is rich, and non-hydraulic. When the foreign matters exceed 10 per cent. the lime becomes more and more poor; but if the foreign matters should consist of the silicate of alumina, or the silicate of magnesia, the hydraulicity increases in proportion to them. The scale proposed by M. Vicat for the classification of these materials is based upon these principles, and it is briefly as follows:—

The non-hydraulic, or rich limes, contain under 10 per cent. of foreign matters.

	Clay, per cent.	Lime, per cent.
Hydraulic limes contain	10	90
" "	20	80
" "	30	70
The extreme, or limit, is ...	34	66
Cements contain from	40	60
" " to	60	40
Puzzuolanos contain from ...	70	30
" " to	90	10

The class of materials last named is a natural volcanic product, and the silicate of alumina it contains is able, when the several materials are properly manipulated, to enter into combination with rich limes, and to communicate to them the hardening and hydraulic properties they themselves do not possess.

Until very recently it was held by most engineers and architects, by myself amongst others, that the solidification of mortars took place in consequence of the absorption of carbonic acid gas by the lime, during the process of crystallization; but it has been fairly objected to this theory that the quantity of carbonic acid gas contained in the atmosphere, which could be brought into contact with a large body of cement, would not suffice to saturate the latter. The generally received opinion on the subject now is, that limes harden, simply in consequence of the combination with water which takes place during the slacking, and that the rapidity of the setting and the permanence of the newly-formed hydrate of lime depends upon its being combined with some other salt. The pure hydrate of lime, in fact, is soluble: the hydrated silicate of lime is tolerably insoluble, but it forms slowly; whilst the hydrated double silicate of lime and alumina, or of lime and magnesia, is practically insoluble. The facts actually observed seem to confirm these views, and they certainly enable us to account for not only the different modes of setting observable in different limes, but also for some of the more gradual actions which take place in that material, and the effects reciprocally produced by the mixtures of various ingredients. In the case of the now generally used Portland cements, and in that of underburnt lime, some very curious phenomena may, however, be observed, which appear to indicate that the simple laws mentioned above do not comprehend all the conditions which may arise; so that the above theory itself must only be considered as a step towards the attainment of a complete one of a more general character. The phenomena to which I thus allude are connected with the obscure subject of the chemical actions which take place under the influence of high degrees of temperature, and we shall have occasion to refer to them in the sequel.

No sooner had M. Vicat published the researches and the experiments, on a large scale,

which had led to the formation of his original theories, than a great change came over the practice of architects and engineers in the very important portion of the arts of construction connected with foundations. It was then seen that by using the proper description of lime for the particular position to be dealt with, it was easy to obtain solid, homogeneous bodies of any size which might be desired, by the use merely of small and irregularly shaped materials; and that it was also possible to make, artificially, solid channels or reservoirs which should allow water to flow through or to be retained in them, without its communicating humidity to surrounding objects. Within a very few years from the promulgation of the discoveries of M. Vicat we accordingly find that the channel of the canal St. Martin was entirely formed of hydraulic lime concrete, in the parts where there was any danger from the infiltration of water into the cellars: the basins for the supply of water in the Rue Racine, and in some of the abattoirs, were also entirely constructed in the same material; and the French engineers universally adopted the system of backing the quay walls of their rivers, or the wing walls of lock chambers, with concrete. In erecting the suspension-bridge of Souillac (which must have been executed before 1828, because Vicat mentions it in his "Résumé sur les Mortiers et Céments Calcaires," published that year,—I think that it was built about 1824), M. Vicat himself used an artificial hydraulic lime, composed of a mixture of clay and of the pure carbonate of lime, for the purpose of forming the concrete used in the foundations of the piers. This work is interesting on several accounts; not only on account of its furnishing one of the earliest instances of the use of artificial hydraulic lime, but also on account of the foundations having been formed in the style described in Mr. Boulnois's paper, now universally adopted by foreign engineers in their bridges, and which Mr. Page was so disgracefully attacked for introducing here. At Souillac, the system adopted was that of driving an enclosure of sheet piling round the intended positions of the piers, of dredging out the interior of the space thus enclosed, and then of filling in with hydraulic concrete through a depth of not less than 16 feet 6 inches of water. It succeeded admirably, although only ordinary hydraulic lime was used in the preparation of the concrete; the term *ordinary* being applied in this instance in contra-distinction to any of the cements.

Between the years 1820 and 1840, the French engineers paid much attention to the preparation of artificial puzzuolanos from brick earth, and many experiments on a large scale were made to ascertain the qualities of the materials so obtained. M. M. Raffineau de Lille, Julien, Bruyère, Raucourt, Treussart, Minard, &c. studied this subject at the same time with M. Vicat, and the result of their investigations was that they considered the lightly burnt clays (which in their normal state are merely hydro silicates of alumina), would produce the same effect in expediting the hardening of limes as the natural puzzuolanos (which are merely silicates of lime affected by volcanic heat) were known to do. There was nothing in this theory to justify any *à priori* doubts of its correctness, and consequently the artificial puzzuolanos were used largely in river works, and in works exposed to the action of sea-water. For a time they resisted satisfactorily, but eventually I believe that all the artificial compounds of this description, immersed in sea-water, have sooner or later fallen to pieces, and it is now universally admitted by engineers that sea-water is able to destroy any mortars, exposed to its action, which are composed of ordinary limes mixed with separately burnt clays, whatever may have been the degree of heat they have undergone. The mortars made by the mixture of limes with the natural puzzuolanos, on the contrary, have resisted this cause of decay, just as the natural quick-setting cements, and the artificial Portland cement, when well made, have done; and the attempts to discover the explanation of the different actions of these various materials, under the same circumstances, have led to the actual state of our scientific knowledge on the subject of the most advisable manner of using them.

Amongst the most important works in which the avowed object of the engineers employed was to obtain, by the use of concrete, solid blocks of large volume, which should resist displacement by their mere weight, may be cited the Mole of Algiers, originally described by M. Poirel, in a "Mémoire sur les Travaux à la Mer," published in Paris in 1841. In this case it appears that the quay walls, and certain parts of the Mole, of Algiers, were formed by pouring concrete into caissons sunk in the positions selected, and lined with tarred cloth. This system M. Poirel states that he borrowed from the practice of the Italian engineers, who, when they have to repair a breach in a sea wall, cast down bags filled with concrete; and he adds that when the latter system is adopted, it is found that the small quantity of mortar which exudes from the bags binds the latter together in a very decided manner. But in addition to this use of concrete, M. Poirel employed it for the purpose of forming the jetty in deep water, by means of solid artificial blocks, cubing about 360 feet each, and weighing about 22 tons. These blocks were made upon land, and allowed to set in the atmosphere, the concrete being made by means of pug-mills, and rammed into wooden moulds. The French engineers, it is important to observe, are very particular in causing the lime which they use in concrete to be made up into mortar before it is brought into contact with the ballast: they look upon concrete, in fact, as neither more nor less than a rough species of rubble masonry, in which the proper composition of the mortar is the principal element of success—a principle sorely neglected by too many of our practical men. At Algiers, the concretes thus made were composed of two parts of broken stone to one part of mortar, which yielded, in place, two parts of concrete. But when the concrete was at once immersed in the cases, the mortar was composed of one part of rich lime, slacked and measured in the pasty state, to two parts of puzzuolano in fine powder: when it was used for the preparation of the artificial blocks, the mortar was composed of one part of lime, as before, to one of sand and one of puzzuolano. It was remarked that the puzzuolano which succeeded the best was the Roman puzzuolano, and that its action depended upon its being used in the state of a fine powder: in large grains, or in grains of the size of coarse sea sand, it was inert. The lime was obtained from the grey primary limestones of the district, in the works at first executed at Algiers; but of late years the Theil limestone, obtained from the subcretaceous series, has been substituted for the indigenous material. In placing the mortar in the cases, the concrete was let down in boxes, the bottoms of which opened on hinges: in filling the moulds of the air dried blocks, great pains were taken to ram the concrete into all the corners, and to consolidate it as much as possible before the setting commenced. These works have, I may add, succeeded remarkably well.

Another very novel and important application of concrete for constructive purposes was the formation of the new Graving Dock, No. 3, at Toulon, under the orders of M. Noel. In this case an enclosure of close piling on the sides and the land end, but open towards the harbour, was driven. It was about 400 ft. long by 100 ft. wide in the clear, and the ground within this enclosure was dredged out to a depth of about 45 ft. below the mean level of the sea. A solid bed of concrete was then inserted, under water, of the total thickness, on the average, of nearly 15 ft. between this enclosure, which had been previously lined, so as to prevent the washing away of the lime, by means of sail cloth paid with tar. After the whole surface of the excavation had thus been levelled to the required height, three large caissons, in eight compartments of the form it was intended to give the concrete hearting of the dock, were sunk in their definite positions, and loaded with pig iron, &c. so as to compress the upper surface of concrete. Intervals of from 14 to 16 ft. wide were left between these great cases; and a space of 16 ft. 6 in. was left on each side between the sheet piling and the outer wall. The concrete of the side, head and gate walls, was then inserted under water as before; leaving, in fact, nothing but a lining of masonry and the steps, or altars, of the Graving Dock itself, to be executed in ashlar masonry. The transverse spaces were filled in with concrete (which was afterwards removed), because it was feared that the infiltration would render necessary a great deal of pumping, and the engineer, therefore, thought it advisable to put in the bottom of the dock fractionally; but when a temporary earthen dam had been formed at the entrance, and the caissons were removed, it was found that the concrete had set so solidly that the anticipated danger from the infiltration proved to have been imaginary. Two small wells, indeed (10 ft. long by 3 ft. 8 in. wide), suffice to receive the waters which come through the gates, those which fall as rain, or those which filter through the bottom. The quantity of concrete in the bottom was 554,336 cubic feet, and in the sides it was 418,612 cubic feet.

M. Noel has given a very able description of the work he thus so successfully executed, and of the mechanical contrivances he adopted, in the 28th vol. 2nd series of the "Annales des Ponts and Chaussées for 1850;" to which I must refer you for these all-important practical details. It was indeed a marvellous work to insert a mass of concrete of these dimensions under so great a depth of sea-water; and its success must be attributed to the indomitable perseverance, and the ceaseless supervision of the engineer. M. Noel, before commencing the immersion of the concrete, tried a series of experiments on the various limes and other materials at his disposal; and he finally resolved to employ in his concrete a mixture of two parts of finely sifted Italian puzzuolano and one part of rich lime measured in the slacked paste. These ingredients were mingled in pug-mills, and subsequently mixed with broken stone, by being turned over with the shovel on a boarded floor, in the proportion of three parts of broken stone to two of mortar. M. Noel dwells a great deal on the precautions he adopted to get rid of the milk of lime which was forced out of the concrete when immersed; and perhaps the extent of this evil, as he describes it, may to some extent be explained by the great richness of the concrete he used. In the more recent works which M. Noel has executed, he has, I may observe, used the natural hydraulic limes of Theil, with very small proportions of puzzuolano; and, indeed, in many cases he has abandoned the use of this latter material entirely.

More recently even than the execution of this wonderful work, an equally successful application of concrete blocks in marine constructions has been made by M. Pascal, at the new port of Marseilles. In this case a large portion of the roads on the west of La Joliette, and the old harbour, has been enclosed, and a remarkably well planned set of basins and docks formed, by means of a large jetty, or enclosure wall, the hearting of which is formed of stones thrown down and allowed to assume a natural slope; but the top of the slope towards the sea, just at the foundation of the upright parapet and quay wall, is protected by means of huge blocks of concrete thrown down from above. These blocks are, each of them, about 353 cubic feet in volume, and weight about 22 tons, a volume and weight found to be sufficient to resist the disturbing action of the waves of the Mediterranean in this position. The composition of the blocks is as follows: the mortar is composed of three parts of the Theil lime, slacked by immersion, and measured in powder, to five parts of sand; or, when it was necessary to obtain a more rapid setting, one third of the sand was replaced by a similar quantity of puzzuolano: this mortar was subsequently mixed with broken stone, in the proportions of two parts of stone to one of mortar. The concrete was rammed into a mould, and allowed to harden in the open air for the space of three months before being immersed: when it was essential to immerse the concrete immediately, as in the case of the foundations of the quay walls, the proportion of mortar was altered to two of mortar to three of stone. M. Pascal informed me that the artificial blocks had hitherto successfully resisted all causes of decay, and he most distinctly expressed his preference for good hydraulic lime over any mixtures of puzzuolano, or over any natural or artificial cements, provided sufficient time were allowed for its hardening.*

SANITARY IMPROVEMENT IN THE CITY OF ELY.

SOME of the Ely ratepayers having become rather luxurious and wasteful, in the use of water, since the new waterworks were erected and the new drainage and closets supplied; occasionally making demands upon their City reservoir to the extent of no less than fifty-seven gallons per individual per diem, instead of the twenty-five gallons calculated on in the outset as a sufficient supply; it became necessary to consider as to the propriety of procuring an additional engine to enable the local Board of Health to meet the increasing demand upon their resources. Willing as the ratepayers were, however, to take advantage of their improved sanitary position, they pricked up their ears on hearing of something like additional outlay being called for; and forthwith a memorial was got up and presented to the local Board, *complaining* that their engine had *failed* to do the work required of it and that it should on that account be necessary to obtain another to help it to do the work which it ought to do. The opportunity, moreover, was too good a one to be lost, and it was therefore seized, to advise the Board to overhaul their officers' salaries; and as their surveyor, Mr. Burns, had considerately enabled them to bring

* To be continued.

their waterworks and drainage to maturity without the necessity of paying an engineer to see to their proper construction, by gratuitously fulfilling the additional duties himself; and as these duties no longer required to be performed; a clause in the memorial seemed to imply that the Board ought now to repay such services by giving their surveyor notice to quit; especially as, the drainage expenses having been cut down to the lowest possible cost, by adopting the small pipe system, which did not provide outlay and capacity sufficient for the deposit of shavings, old rags, tobacco-boxes, brick-bats, and such extra trifles in the drains (which, though it appears perfectly successful in the performance of their general duties, required, in some half-a-dozen cases or so, to be re-opened and cleared of these obstructions); engineering errors were delicately and obscurely hinted at as a stimulant to the *à posteriori* kick which the ratepayers thus fully, though indirectly, authorised their official representatives to administer to certain of their small staff of officials.

This "memorial" has been met by a "report of committee" on the subject, which appears to have completely settled the case of the memorialists, but into the points of mere local interest we need not here enter. We have made these remarks simply as an introduction to a few points of more general interest in regard to the substantial benefit which the Ely ratepayers have derived, are deriving, and will yet derive from the late improvements, which cost some 11,000*l.* (instead of an estimated 9,000*l.* by the way—another subject of complaint, but by comparison a mere trifle, when the hundreds of lives it has already literally saved are taken into consideration.

In the seven years previous to 1850 when the sanitary works were only beginning to operate on the health of the city, the number of deaths in an average population of some 8,000 was 1,324, or no less than 25·60 per cent. on the whole; whereas in the seven years since 1850, the number of deaths out of an increased population has been only 1,135, or only 19·30 per cent. of the whole, showing a clear average annual saving of life of 6·30 per 1,000. During the first seven years the annual rate of mortality *never descended* to the General Board of Health's *high* rate of 23 in 1,000, which authorises the compulsory application of the Health Act; whereas, during the last seven, it has never once *risen* to that bad eminence. On the whole, then, by the mere expenditure of ten or twelve thousand pounds, or, including private or house drainage, say even twenty or thirty thousand pounds, the lives of no less than *three hundred and fifty persons* out of a population of eight to nine thousand have been redeemed.

In conclusion we may remark that for the last two years the average rate of mortality in Ely has even been reduced so low as to 17·23 and 17·21 in the 1,000 (after a previous average, be it noted, of no less than 25·60); and that still further sanitary improvements of a pressing order yet remain to be done.

THE ROUND TOWERS OF IRELAND.

I HAVE read with pleasure the able and interesting essay by Mr. Gordon M. Hills, on the round towers of Ireland, laid before the Royal Institute of British Architects, and published in your columns of January 16th and 30th. I hail it as a valuable contribution to elucidate the architectural characteristics of these curious and anomalous structures. His analysis is clear, concise, and correct; his descriptions and measurements truthful: to the latter I can bear witness, as I have myself examined and measured most of those he has noticed.

So far I commend his paper, but am not prepared to admit the correctness of the conclusions at which he arrives, respecting their age and original uses. Mr. G. M. Hills evidently takes Dr. Petrie's work on this subject as his guide, and follows very closely that zealous and learned Irish archæologist in all his opinions and conclusions, particularly upon those branches of the subject of which Mr. G. M. Hills modestly professes his inability to form a positive judgment. Indeed, I fear that Mr. Hills has not examined the other side of the controversy, excepting what appears in Dr. Petrie's work: the pages of an opponent who quotes to refute, is not the exact place to study an author's opinions, for very obvious reasons. The question of the origin and uses of these towers has been narrowed to two theories, the Christian and pre-Christian. Dr. Petrie has ably and ingeniously advocated the first theory in his work, on the "Origin and Uses of the Round Towers of Ireland," an invaluable contribution to our knowledge of the early architecture of Ireland, but in my opinion a failure as regards the theory he supports. Mr. Hills seems to think that the high standing the doctor has deservedly attained in the archæological world, is quite a sufficient warrant for his acceptance of the statements and opinions put forward; but the statements and opinions put forward; but this I hold is not sound discretion. If we are to be carried away by the *prestige* of names, by far the greatest amount of Irish antiquarian learning and research has been on the other side. The Christian theory found advocates in Lynch, Ledwich, and Molyneux, who advocated their Danish origin (the Danes being Pagans); Harris, Milner, Smith, Sir R. C. Hoare, Bell, Wilkinson, and Petrie. Of these, Milner and Hoare had no knowledge of Irish antiquities. Bell and Wilkinson's treatises are purely descriptive.

On the side of Pagan antiquity are Vallancey, author of the "Rebus Collectanæ Hibernica;" Dr. Lanigan, author of the "Ecclesiastical History of Ireland;" Dr. O'Connor, the learned librarian of Stowe, and author of the "Hibernicarum Scriptores Veteres;" Sir William Betham, author of the "Etruria Celtica," the "Gael and Cimbri;" Beaufort, Dalton, O'Brien, Moore, and Windele—all Irishmen, deeply versed in the literature, language, and monumental antiquities of the country. To these I could add the names of many who have made the Irish language and antiquities the study of their lives, but who have not come before the public as authors.

The earnest inquirer, however, will not be carried away by the mere pretensions of individual learning, however well founded, but will patiently investigate all sides of the subject, examine the buildings themselves in all their details and analogies, compare the peculiarities of their construction, their architectural features with similar erections in other countries. He must study the language, religion, and customs of the people amongst whom they are found, and the traditions connected with them, the known history of the people, their origin and migration. Such a mode of investigation I say is requisite, in order to form opinions upon the subject before us, and is obviously the only mode in the absence of all *historical evidence* as to their origin and uses, and I fearlessly assert that up to the present we have no such evidence whatsoever as to the erection of a single *round tower* in Ireland.

The whole structure of Dr. Petrie's Christian theory rests on the bare assumption that the appellation, "clochteach," or "cloichteach," used in a certain number of places in the Irish Annals, signifies a round tower belfry. We shall see with what probability. The term is compounded of two words,—*cloch*, a stone; and *teach*, *tige*, or *tig*, a house. The word "cloch" is thus given in O'Reilly's Irish dictionary:—"Cloch, a stone; clochaire, amason; cloich-iuil, aloadstone; cloichran, a stonechatter;" and so on. The term, then, cloichteach, would read, stone house, to distinguish a building erected of stone from those in general use, formed of wattles, logs, or built of sods,—as were not only the private houses and cabins of the ancient Irish, but also a great many churches and oratories in the early ages of Christianity, not only in Ireland, but in England. And that buildings, constructed of stone, whether churches or otherwise, should be so distinguished from those composed of other materials, is extremely probable and natural: indeed, in our native Annals they are so distinguished. Thus, the term "damliag," applied to a church, is of exactly the same meaning as cloichteach, from "daimh, a house, a church;" "liag, a stone." The compound name is given in O'Reilly's Irish dictionary, "daimhlaig, a church of stone." A similar mode of expression is the term "cloch-ancoire," the stone of the anchorite or recluse, to designate his cell or oratory: thus, also, the Castle of Cloch-Phillip, the Stone of Phillip, a mediæval building in the county of Cork.

The native annalists use a similar mode of expression, to designate wooden churches and oratories; the compound term, "dairtheach," "duirthech," &c. from dair, an oak; streach, a house, the oak house, or house of wood (see Dr. Petrie's work, page 342). So that we have here terms profusely used by our native historians, to designate religious structures by the materials of which they were composed; and we must therefore, in common with these other terms, take "clochtheach" to mean stone house, and not a round tower belfry, as it expresses neither form, height, nor use.

That there were belfries at a comparatively early period in Ireland, I will not by any means dispute: and that they were sometimes called "clogtheach," is probable enough; and that the ancient round towers were turned into belfries on the introduction of church bells into Ireland, is more than likely; but I do dispute that there were belfries, that is, buildings specially erected for hanging church bells in, before the tenth century.

Indeed, the first notice that Dr. Petrie has been able to produce, of what he designates a round-tower belfry, is in the middle of the tenth century, and is as follows, from Dr. O'Donovan's translation of the "Annals of the Four Masters:"*

"A.D. 948. The Cloichteach of Slane was burned by the foriegners, with its full of relics and distinguished persons," &c.

The doctor maintains that this was a round tower. What is there in the term to designate its circular form—its tower-like elevation? But the circumstance itself is very unlikely to have happened to, or in, a round tower. In the first place, there is not, and never was, in memory or tradition, a round tower at Slane; and secondly, how could a round tower be burned? It is a circular edifice of stone, massive wall, stone roofed, with a small doorway at a considerable elevation from the ground, and a few small apertures for windows at a much greater height. What was to burn? "The wooden floors and doors," suggests the doctor. But what evidence have we that the floors, *if any*, were of wood? None. We have not a scintilla of evidence that they were of any material but stone, if we can take as evidence the fact, that the only original remaining floors are of stone. Four of these floors remain, as stated by Mr. G. M. Hills: three are stone-arched floors, the fourth formed of slabs of slate. An interesting example of one of these arched floors is given in Mr. Wilkinson's "Practical Geology and Ancient Architecture of Ireland." The ancient Irish, who erected great stone forts, with stone lintelled gates and passages; who constructed underground chambers domed with stone, and intricate passages lintelled with the same material; who on the southern and western coasts constructed numerous buildings entirely of stone to the apex of the roof, on plans embracing the rectangle, square, circle, ellipsis, quadrant, and the form of the human eye; and who subsequently built their churches with stone roofs: such a people, I say, were not likely to put wooden floors in their stone-walled and stone-roofed towers. Indeed, it is certain that many of the towers had no floors, as we have instances of towers without floors, string courses, offsets, joist-holes, or any provision for floors.

Under such circumstances we must reduce the conflagration to the door, which would not make enough of a blaze, to justify the annalist in the strength of his language. But if we consider the historian to mean the stone house, or Church of Slane, all difficulty vanishes. The sacred edifice has been in all ages, and among all people, Pagans as well as Christians, the refuge in times of public calamity and danger; thither they fled to be under the special protection of the Deity. The Church of Slane alone could contain the numbers of persons stated to have taken refuge. The roof, altars, doors, fittings, &c. offered alone sufficient food for the flames of a conflagration, attended with such results.

The next notice is at A.D. 995, as follows:—"A.D. 995—Ardmacha (Armagh) was burned by lightning, both houses, churches, and cloictheaca, and its Fidh-neimhedh [sacred wood], with all destruction." That the word here does not refer to a round tower, is evident to the simplest understanding, for how could a hollow stone pillar, stone to the pinnacle, be burned by lightning? Yet upon such absurdities has Dr. Petrie erected his Christian theory. The appellation must refer to some other class of religious structure, connected with the large ecclesiastical establishment at Armagh. But supposing that the word does mean a bell-house, or belfry, it does not imply that it was a round tower; it is very probable that wooden belfries were used here, as on the Continent and in England, at that and much later periods. It is absurd to suppose that where we had churches of wood we should erect belfries of stone 120 feet high, and almost as durable as the pyramids. There is no round tower at present at Armagh, nor has there been in any living memory. At A.D. 1020 of the same "Annals," we have the burning of the Cloichtheach of Armagh again, with its bells. It is utterly absurd to suppose that these repetitions of conflagrations refer to any but structures of a fragile and inflammable construction. The above passage records, I believe, the first mention of church-bells in Ireland. Bells were in use previously, but they were hand-bells, used in church services as among the Egyptians, Romans, and Hindoos. There has been a great deal of archæo-

* Dr. O'Donovan advocates the Christian theory of the towers, and supports his friend Dr. Petrie's views strenuously. he always translates "cloicteach" belfry.

logical nonsense written about these bells, and a great many idle and superstitious legends recorded of them, and gravely retailed by a certain class of modern antiquaries. I believe that, about this period, bells to call persons to public worship came into use, though still confined to churches of eminence. As I have before stated, it is only reasonable to infer that the ancient towers were used as belfries (as indeed some are to this day) in those places where they existed, and that in other places appropriate bell-turrets, or bellcots, were erected.

It is probable many of our earliest belfries were of wood; ancient ones of stone are also in existence, some of considerable antiquity. A triangular-headed bellcot is found over the west gable of the ancient church of Roscrea, an example of early Romanesque. A similar one exists over the west gable of the very ancient church of Monaincha. A large triple bellcot, each of the apertures having a triangular head, after the manner of round-tower windows, is found at Donoughmore, in close proximity to the round tower, which has windows of the same form as the apertures of the bellcot. The example at Roscrea is also within a few yards of the round tower. In a great many instances, belfries are found on churches of the thirteenth, fourteenth, and fifteenth centuries, in close proximity to round towers; an evident proof that the towers were not used as belfries, or considered suitable for that purpose. Square belfries of a remote antiquity are also found in Ireland. On Innisclothran Island, in Lough Ree, is one as old as the tenth or eleventh century. A very ancient one is over the west gable of the little church of Cloghereen, near Killarney. Cormac's chapel, at Cashel, was commenced about the year 1100; it was consecrated in A.D. 1134. It is a small building, consisting of a nave and chancel, and has two square towers at the junctions of the nave and chancel, showing evidently that the magnificent round tower standing within twenty yards, and looking down majestically upon these things of yesterday, was not considered suitable for a belfry, or held in any particular veneration.

The remaining notices referring to "cloichteach," in the "Annals," are eleven, being altogether fourteen, commencing at the year 948, and extending to 1238. Of the above number of places thus noticed, round towers exist but at five. It is also remarkable that six notices record the burning of "cloichteach," which I have shown to be impossible to a round tower. Two of these notices occur, one in the middle, and the other at the close of the tenth century; the rest occur in the eleventh and twelfth centuries, at a period when it is well known extensive monasteries and large abbey churches were erected, such as Boyle, Jerpoint, Dunbrody, Ballintubber, Cong, Corcumroe, and others. These edifices are planned on the same principles as the continental churches of the same period, and of dimensions not far short, consisting of nave, aisles, transepts, chancel, and numerous chapels, with massive square belfries over the intersection of the nave, transepts, and chancel.

The Irish language gives us unmistakeable and indisputable terms both for bells and belfries. If we look into O'Reilly's Irish dictionary, we find:—Clog, a bell, a clock; clogachd, a belfry; clogas, a belfry; cloigtheach, a steeple, a belfry. The derivation of these terms from "clog," a bell, is quite obvious. If the Irish annalists, in the passages quoted by Dr. Petrie, and referred to by Mr. G. M. Hills, intended to have expressed belfry, they would have used some of the above terms, and not the word "cloictheach," which, as I have shown before, means stone house. And what do I find? That the only notice of an authenticated belfry, and which is now in existence, occurs in the "Annals of the Four Masters," at A.D. 1584, where the square belfry of the abbey church of Ciunche, now Quin, in the county of Clare, is called a "clogas." Dr. O'Donovan, the translator, in a note to the passage, says, "*The cloccas of Cuiunche, i.e.* the belfry of Quin. The word 'clogas' is *usually* applied to a round-tower belfry, detached from the church; but it is here evidently applied to the square tower of the great abbey of Quin, still remaining." How can the translator say "*usually* applied," when in the entire "Annals" there is not a single instance of the use of the term, except in this one instance, where it is used to designate a belfry, which happens to be a square one, of the fourteenth century?

According to Dr. Petrie, the first notice we have of the erection of a belfry, is in the year 965. The passage he quotes from the "Chronicon Scotorum," has reference to the erection of a "claigteac," at Tomgraney: the word has evidently an affinity to, and is derived from "clog," a bell; but whether the belfry, or bell-house, was a round or a square tower, or whether it was a tower at all, is very problematical. The only tower at present in existence at Tomgraney, is a massive square one adjoining the church, but there formerly existed an ancient bellcot on the west gable of this, truly primitive building. Mr. G. M. Hills repeats Dr. Petrie's assertion, that a tower was in existence at Tomgraney forty years ago.

Now, I visited Tomgraney in the year 1852, accompanied by that eminent and laborious antiquary, Mr. John Windele, of Cork. We made the strictest inquiry respecting this fabled tower; indeed, to satisfy ourselves on this point, was one of the principal objects of our visit: we procured the following evidence:—Peter Byrne, woodranger, aged over sixty years, "remembers the ould church from his infancy, certainly over fifty years. Never saw a steeple, or any portion of a steeple here; never saw any building like the round tower on Holy Island."*

Simon Hickey, an intelligent old man, and a Protestant, frequenting Tomgraney Church all his lifetime, stated, "He was eighty-six years old, and never saw a belfry, round or square; never saw a building like the tower on Holy Island at Tuam (Tomgraney); it could not have been there unknown to him. Never heard the old people (his parents) say there was. He remembers a belfry on the west gable of the church, but it has been down many years; and there was no bell in it in his time."

That the word "cloichteach" does not *always* mean a *round* tower, is, indeed, admitted by Dr. Petrie himself; for in quoting the erection of one at Annadown, A.D. 1238, he says, "As there is no belfry now remaining at Annadown, it may be uncertain whether this 'cloigtheach' was of the usual ancient round form, or of the quadrangular shape, and connected with the church, as generally adopted in Ireland, at the period of the Anglo-Norman invasion." If, then, there is any uncertainty as to the meaning of the term in this case, every other is open to the same objection; and I certainly, for one, am not prepared to accept a theory based upon so flimsy a foundation.

The characteristics of the belfry towers erected to parochial and monastic churches in Ireland, in the thirteenth century, are too well known to every student of Irish Mediæval architecture, to admit the probability of a *round tower belfry*, being erected at an era when church architecture received such an impetus, as it did at that period from the influx of the Anglo-Saxon invaders, and from the more immediate connection of the Irish Church with that of Rome. From the year 1200 to 1260, were erected the following extensive monastic houses:—Drogheda, Newtown, Lorha, Kilkenny, Youghal, Trim, Ballybeg, Buttevant, Athenry, Kildare. These buildings were erected in the first Pointed style; their towers were lofty, square, battlemented structures, poised upon arches, between the nave and chancel. The churches were from 240 to 200 feet in length, consisting of a nave with, and often without aisles, a chancel, generally but one transept, with side chapels. The conventual buildings consisted of the usual domestic offices, surrounding a cloister-court, and were very extensive, as the ample ruins of many still existing testify.

Before I conclude I would wish to remark one singular fact. It may appear to the English reader that the Irish had no word to express a lofty erection but such is not the case. The word "tuir, tor," signifies a tower; and it is very singular that, if the native annalists alluded to the round towers in the passages quoted, they did not use the above word in connection with "clog," a bell, to designate them. The word "tur" is frequently used in the "Annals of the Four Masters:" thus at A. M. 3066 mention is made of the demolition of the tuir (tower) of Conainn; and again, at A.D. 991, mention is made of a chieftain, called Taidhg of the Tuir. Dr. O'Donovan translates the word, in every case, tower.

Much more might be said upon this subject, but I dare say the readers of the *Builder* will exclaim "enough." The argument is a dry one, and I would not have ventured on it in the pages of the *Builder* had not Mr. Hills laid it down, that all the archæological learning of Ireland had decided that "cloichteach," when used by the native historians, signified "a round tower belfry."

RICHARD ROLT BRASH.

* Inniscaltra, in Lough Derg, on which stands a fine round tower.

A PLEA FOR THE BEAUTIFUL IN ART.

IT may appear presumptuous on the part of your humble servant, who is, according to Mr. Francis Horner's showing, enveloped in an atmosphere unfavourable to the development or growth of high art, to attempt to offer any remarks on a subject that has employed the thoughts and lives of the greatest men of their generations. Yet, with the utmost diffidence in my own judgment, and all due deference for the opinion of Mr. Horner, I humbly submit that good may come, ay, has already come, out of Nazareth. It is true that the minds and energies of the people of the North American continent have hitherto, in a great measure, been directed to works of a utilitarian character; still some bright rays from the heavenly sphere of beauty have penetrated the enveloping atmosphere, and filled the souls of not a few, with ardent longings for the realization of their ideal of the beautiful in art. Mr. Horner may have heard of the names of Powers and Crawford, natives of this continent, who have attained to honourable fame as sculptors; and of West, who became distinguished as a painter. It is true, their genius was, in good part, developed in the schools of Europe; still there is sufficient evidence left to show that the atmosphere of this continent is not wholly destructive of high artistic genius. There are agencies now at work on this continent which, at no very distant day, will produce artists that will astonish the world.

My principal object in addressing you on the present occasion is not to defend the artistic genius of the people of this continent, but to make a few observations upon the statements contained in Mr. Horner's very able communication, published in the *Builder*, of the 9th January, irrespective of the practices of Raffaellites, or pre-Raffaellites. Mr. Horner asks,—"Is it not the case that we must form our estimate of an artist rather by his power of perception of the beautiful, than from his power of hand, however great?" I answer that, judging him as an artist, we can form our estimate only by his power of hand. Suppose a man asserts, by word of mouth, that he conceives a beautiful statue to be enveloped in a rough block of Carrara marble just taken from the quarry, what means have we of judging of the truth or untruth of the assertion? None whatever. If the statue be produced by power of hand, and possess all the qualities of the beautiful, we have then the visible evidence of the truth of the assertion, but not till then.

Mr. Horner again remarks:—"The fire of genius may often be too impatient to spend time over minute finish; but if the inspiration of beauty be there, the mind will be more influenced by a hasty production from such a hand than it ever can be by any elaborate manipulation, or practical knowledge possessing no corresponding mental vigour." The truth of this statement, so far as it goes, I do not call in question, but would respectfully observe that the case so submitted to the judgment of your readers does not involve the real question at issue. The real question at issue seems to me to be this—Whether, all things else being equal, a work of art, possessing beautiful lineaments, but wanting in elaborate finish, is more worthy of admiration, and more capable of exciting pleasurable emotions in the mind, than a work possessing the same beautiful lineaments, and in addition evincing elaborate finish. I have no hesitation in affirming, that the great majority of artists, and the great bulk of mankind in general, would award the prize to the latter. I am aware that the sympathetic feelings of some persons are more readily excited by a defective than a perfect work of art. You may have heard the story of a lady whose profoundest emotions were excited by seeing a wheelbarrow with only one leg, the maker of which became too impatient to spend time over minute finish, *i. e.* to finish the other leg. But surely no person would, all things else being equal, more highly estimate a one-legged than a two-legged wheelbarrow. A similar decision with respect to all works of art, whether high or low, under analogous circumstances, will, I apprehend, be invariably arrived at. When persons are strongly affected by a work of art deficient in elaborate finish, they are affected upon the same principle as persons are affected by beauty in distress,—not so much by admiration for the object as a work of art, but by a species of pity for the distressed condition in which it is left,—its want of finish; for, as Edmund Burke truly says, "beauty in distress is the most affecting beauty."

We hear a great deal now-a-days about the fire of genius, concerning which very many erroneous ideas are entertained, many persons holding the

doctrine that, in order to attain to eminence in any department of art, a man must be born an artist. If we carefully consult the lives of great men, we shall generally find that it was chiefly by diligence and steady perseverance they attained to greatness. "I know of no such thing as genius," says Hogarth to Gilbert Cooper: "genius is nothing but diligence." "Genius," says Dr Johnson, "is like fire in a flint, only to be produced by collision with a proper subject: it is the business of every man to try whether his faculties may not happily co-operate with his desires; and since they whose proficiency he admires knew their own force only by the event, he needs but engage in the same undertaking with equal spirit, and may reasonably hope for equal success." Longfellow, with the true inspiration of a poet, beautifully observes:—

> "The lives of great men all remind us,
> We can make our lives sublime;
> And, departing, leave behind us
> Footprints on the sands of time."

I am sorry I cannot admire Mr. Horner's critical acumen equally with his abilities as a writer. He says, "Human nature is the same in all ages, and is ever affected by the same sympathies." No other proof is required to refute this statement beyond what is contained in the quotation furnished by Mr. Horner himself. "For indeed a change was coming upon the world, the meaning and direction of which even still is hid from us,—a change from era to era. The paths trodden by the footsteps of ages were broken up: old things were passing away; and the faith and the life of ten centuries were dissolving like a dream. Chivalry was dying. The abbey and the castle were soon together to crumble into ruins; and all the forms, desires, beliefs, convictions of the old world were passing away never to return." Now, if it be true, as stated here, that all the forms, desires, beliefs, convictions, &c. passed away never to return, I confess to be unable to understand how human nature is ever affected by the same sympathies; for, when all these things mentioned, which undoubtedly constituted the principal ingredients of human sympathies during the ten centuries referred to, passed away never to return, surely human nature since that time must have been affected by sympathies totally different from those that passed away.

Whilst I fully concur with Mr. Horner respecting the great importance to artists of a due appreciation of high sentiment, I cannot but think at the same time that the expression of the most exalted sentiment by any work of art is quite compatible with the most elaborate finish of appropriate detail; and, instead of such detail obscuring the general sentiment sought to be conveyed, or lessening its effect on the imagination, I am persuaded much expressive force is thereby added to it, and must necessarily affect the imagination in a proportionate degree. Appropriate detail in a work of art stands in the same relation to the general sentiment sought to be conveyed as suitable action to the speech of an orator.

E. NUGENT,
Member of the Upper Canada Board of Arts.

ARCHITECTURAL ASSOCIATION.

ON Friday, March 5th, a meeting was held at Lyon's-inn Hall, Strand, Mr. A. Cates in the chair.

The paper read was by Mr. J. W. Penfold, on "Speculation and Competition; their Effects on the Buildings of the present Day." This we print *in extenso*, and commend it to the attention of our readers.

In the discussion that followed, the chairman observed that the only remedial means for the evils described by Mr. Penfold were to bring them prominently before the notice of the architectural world and the public. Great credit, he conceived, was due to the Architectural Association, for the step it had taken to improve the *status* of the profession in these respects, and in matters of examination and competition. It was highly desirable that the public and committees should be induced to aid in these reforms; and, unfortunately for the profession of late years, a number of individuals had got into it, who, having utterly failed as speculative builders, professed themselves to be architects, while in reality they threw discredit on the body. Some steps ought to be taken by the Institute, the leading recognised architectural body in the kingdom, to establish a better professional *status*, and then the public service would be better performed. It would be of advantage, probably, to open a communication on the matter with the Institute, who, he thought, should now report how the system of candidateship for district surveyorships worked.

Mr. Capes thought speculative building and the present system of competition formed one of the great curses of the profession, and tended to lower its *status*. Competition, instead of creating a generous emulation, and raising the standard of architectural art, had quite a contrary effect, and there were men in the present day who were unscrupulous alike both as to the means of producing works of art, and in carrying them out. Some code of regulations among both architects and builders was much required. He condemned the motto system, and hoped it would be entirely abolished.

Mr. Espinett trusted that any new code would be of a protective character to the profession.

Mr. Bunker considered that the present evils originated altogether in that want of principle which characterised the history of the British Bank and Branksea Castle. Tenders, in which there was 50 and 60 per cent. difference, could not but have their origin in simple dishonesty. The builders were not always to blame, and he had often heard them say that the employing architect made all the difference. He trusted this agitation would be carried on, and that it would be supported by the Institute.

Mr. Mallandaine could not help thinking that many of the evils complained of originated with the architects themselves, who gave but a small scale of remuneration to properly qualified persons, while they took high premiums for pupils to do work for which they were totally unqualified. He thought the Institute should give licenses to members of the profession to receive pupils, who, at the end of their articles, should pass through an examination, and, in the event of their not doing so successfully, the architect should be made to refund a portion of the premium, and the licenses should be revoked.

Mr. Herring was of opinion that, if the numerous charlatans in the profession were kept out of it, competitions would be fairly conducted. There were men who obtained business by giving dinners and subscriptions to charities, and employed assistants to do their work.

Mr. Webber thought blame was to be attributed to architects themselves from the indiscriminate way in which they rushed into competitions, however small the premium. The motto system was a farce, for a man's style and handwriting were known, and the name had better be given at once. It would be better to limit the number in competitions, and then there would be some guarantee that no unfair advantage would be taken. He looked earnestly forward for the forthcoming code of the Association intended to be remedial of these evils.

A member, adverting to the question of premiums and pupils, said he knew of a case in which there were fourteen pupils in the office and two clerks. The architect did not consider himself bound to teach them, but gave them the run of the office.

Mr. Benwell considered that one remedy for bad building would be a perfect Building Act, so remedying the evils that now existed in connection with speculative building.

After some further discussion, the meeting adjourned to March 19, after a vote of thanks to Mr. Penfold for his paper.

ON SPECULATION AND COMPETITION: THEIR EFFECTS ON THE BUILDINGS OF THE PRESENT DAY.*

DURING the few months that have passed since the title of my paper was placed on the programme, so much has taken place practically to illustrate the disastrous effects of what is perhaps one of the most crying evils of the day, and the leading journals have contained so many powerful and ably written articles on the social and moral evils of unsound speculation, as displayed in the circumstances of the late commercial crisis, that there seems but little left unsaid on the general subject, and it would seem almost presumptuous in me to attempt any further remarks on what has been already so ably treated, still when we reflect that the evils of that grasping and gambling spirit which has been so much deplored, not only affect ourselves in our immediate acts and the productions of our art, and those of the trades with which we are more immediately connected and acquainted, but that they entail a loss and an injury, and that a continually increasing one on our successors,—I trust that the few observations I shall venture to make will not be considered out of place; and if I succeed in bringing nothing before you but that on which you have often thought, I trust the importance of the subject, and the desire of keeping it constantly before you, may be an excuse for thus occupying your time. And here I must ask you to bear in mind that I am about to treat on things as they are, and not altogether on things as they ought to be; and, if I may be severe on a system or a class, I do not wish it to be understood I intend a wholesale condemnation, as there are, of course, many honourable exceptions, in which very much even of credit is due for what has been done under circumstances which prove mere stumbling-blocks in the path of everything true and honest; for, while I believe that a spirit of undue speculation and competition leads to the most disastrous results, I am none the less convinced that a generous encouragement of speculation and a spirit of honourable competition are not only conducive to the advantage of our employers, and to the common weal, but are essentially necessary to the vitality of our profession and its commercial auxiliaries, and the transmission of that good name which we should all be anxious to obtain, to those future generations for whom we must bear in mind we are also working, and who will be in the best position to judge of our merits or defects.

There is a passage in Ruskin's "Lamp of Memory," which expresses in such forcible language somewhat of my own feelings, that, with your permission, I will quote it. He says,—"I cannot but think it an evil sign of a people when their houses are built to last one generation only; * * * and I look upon those pitiful concretions of lime and clay which spring up in mildewed forwardness out of the kneaded fields about our capital, upon those thin tottering foundationless shells of splintered wood and unmated stone, upon those gloomy rows of formalized minuteness alike, without difference and without fellowship, as solitary as similar, not merely with the careless disgust of an offended eye, not merely with sorrow for a desecrated landscape, but with a painful foreboding that the roots of our national greatness must be deeply cankered when they are thus loosely struck on their native ground; * * * when men build in the hope of leaving the places they build, and live in the hope of forgetting the years they have lived, when the comfort, the peace, and the religion of home have ceased to be felt, and the crowded tenements of a struggling and restless population differ only from the tents of the Arab or the gipsy by their less healthy openness to the air of heaven and less happy choice of their spot of earth, by their sacrifice of liberty without the gain of rest, and of stability without the luxury of change. This is no slight, no consequenceless evil: it is ominous, infectious, and fecund of other fault and misfortune." I am sure that thoughts like these must often arise in the minds of a reflecting man, even an uninitiated one, during a walk in almost any of our metropolitan suburbs, as he watches row after row of carcases spring up almost back to back with mushroom rapidity; while the professional man will not fail to notice, amid all the hurry with what care the bricks are uncarted, and generally stacked for use; and notwithstanding this, that the stack produces an inordinate proportion of bats; and also, that, however much of clay there may be in "these pitiful concretions," the lime is exceedingly honeycombed in quantity, being principally what may chance to be available in the siftings of some plaster or mortar rubbish of which the builder has become the fortunate possessor. Beyond "desecrating the landscape" so long as these erections remain (and long do they often so remain), they do little harm to the community at large, and rather hold themselves up "in terrorem" to intending speculators; but it is when, by the aid of a few Corinthian capitals and vases from the New-road, and a composition expressly devised as a cloak for a multitude of sins, and which does duty in these cases as Roman cement, these carcasses become transformed into Albert terraces and Victoria crescents, that the evil result is appreciated by the public, and the truth of the maxim of our old poet Quarles, that—

> "The masterpiece of knowledge is to know
> But what is good from what is good in show,"

is forcibly thrust on the mind of the helpless occupant, who, if he has been so additionally unfortunate as to purchase, is soon made aware, by the settling brickwork, the shrinking joinery, and the peeling cement, that he has most unwittingly included himself with the house in the bargain of sale.

Now, although the country, as distinguished from the metropolis and its suburbs, is far from being immaculate in building matters (for I have now in my eye several instances of two half-brick party-walls), still, speaking generally, there is not so much absolute scamping; and I believe the reason of this to be, that each man builds chiefly on his own freehold,—building leases are almost unknown,—and the class of men we recognise here as speculative builders have no existence. And it is to the introduction of these men, nurtured by a system which almost offers a premium to rascality, and an incentive to bad workmanship, that the greater proportion of the evils to which I have referred are traceable; and I propose, therefore, to give a hasty outline of the principal causes, which I believe force such men into notice to the exclusion of those of capital and character, to whom we should look for better things.

As it is in the practical working out of the details of a building speculation that the state of things of which we complain arises, it may tend to elucidate my remarks if I give a slight sketch of the common history of a London Building Estate. We will suppose, therefore, an individual, whom for the sake of identification we will call Brown, a timber merchant, or brickmaker, perhaps a lawyer, sometimes an architect, or surveyor, perceives that buildings are gradually, but inevitably approaching some eligible fields the property of a Mr. Jones. Brown being fully alive to every opportunity of pushing business, and employing any spare capital he may possess, having negotiated for a lease for ninety-nine years, at so much per acre (equivalent perhaps to £4 each on the houses proposed to be built), straightway proceeds to lay out Jones's fields as an "Eligible Building Estate;" procures a slashing bird's-eye view to be made *secundum artem*, showy churches, Gothic villas, &c. *ad lib.*; persuades Jones to convey the freehold of a corner site for a church, gets a grant, if possible, from the commissioners; makes up the remainder himself with the assistance of the friends of the incumbent *in esse*; and then, with a church in a forward state, and a few loads of ballast to represent roads, the estate is ready for operation. Now, Brown, whose great object is to get the ground covered as quickly as possible, is far too wise to dabble in bricks and mortar himself, and he therefore undertakes himself to Robinson, *quondam* builder, late from the Insolvent Court, and proposes to let him a piece of the estate, say for six houses, at a ground-rent of £6. per house for fifty years, and agrees to advance him bricks or timber, or money, as the case may be, as the works proceed. Robinson, whose normal position is one of debt, and who considers that the whole art of building consists in getting materials for nothing, and putting them together at the least possible cost, jumps at the proposal, and works away as long as he can get money or materials, when, if he can let or sell, he, perhaps, reaps a small profit after payment of mortgage expenses, and goes on at the next plot; but if he can do neither, he has merely to return to the place whence he came, leaving the carcasses to Brown who has to wait the tide of

* Read at the Architectural Association, as elsewhere mentioned, by Mr. J. Wornham Penfold.

events to dispose of them to such advantage as he can, and so the estate goes on through a succession of Robinsons; Brown disposing of his improved ground-rents of 4*l.* per house from time to time, as they are realised, with the reversionary interest after fifty years, whatever that may be worth; until, by the time the estate is covered, Brown's interest in the houses has entirely ceased, and he has retired with a good round sum in his pocket, leaving the representatives of the original Jones and the assignees of the several Robinsons, at the end of the ninety-nine years, to fight over the rubbish on the estate as they may feel inclined.

First, then, it would appear that the abstract principle of building leases is the root of the evil, inasmuch as it places the interest of the builder in direct antagonism to that of the freeholder, who lets his ground at a comparatively nominal rent, on the understanding that a substantial building is erected for him thereon, of which the builder is to have the use on advantageous terms, for a number of years; whereas, the whole energies of the builder are devoted to the problem of erecting, at the smallest possible cost, something that will just last out his term, and no longer. It is, however, in practice, the shortness of the term which leads to the great mischief, by lessening the builder's interest in the ground, and consequently in the stability and character of the buildings erected thereon; and I cannot better illustrate this than by giving you a case which came under my own notice a short time since. A client requested me to inspect some property on which a loan was required of about 200*l.* described as a very eligible and well-accustomed corner public-house, distinguished as "The Inkerman Arms" (or some other equally euphonious and sensible designation), three cottages adjoining, and a plot of building ground, on which four other residences were already commenced. Now I had before been into this suburb on a similar errand, and had serious misgivings as to the security. However, I went, and by dint of persevering inquiry found the property in question, and facing it a black and stagnant ditch, while a few lifeless sticks disposed at regular intervals along its bank, scarcely formed a pretext for calling the locality Alma-grove. I was not much surprised to find the walls of "The Inkerman Arms" considerably out of the perpendicular, with serious settlements over each window. The interior arrangements accorded well with the exterior: the staircase was evidently an afterthought, and was eventually constructed something like a step-ladder, but totally regardless of head room to obviate the inconvenience of the bottom step being outside the front door. On my remarking to the landlord on the unevenness of the upper floors, he said, "Ah, sir, but the kitchen is the worst, it is upside down!" I therefore at once, by some elaborate process, descended the basement stairs, and certainly found that the floor presented a convex appearance, being about 8 inches higher in the centre than at the sides,—the earth, in fact, not having been excavated or even levelled before the joists were laid down. The cottages were at least equal to the public-house; and on going to the building ground I discovered an old man with a heap of bats at his side, which he was most ingeniously arranging in the form of walls, by aid of a cement, which seemed to be principally derived from the neighbouring ditch. On my making a depreciatory observation on the materials he was using, the old man said, "Well, I have been a bricklayer this forty-five year, and I always thinks old bricks best, especially as they makes bricks now-a-days." "And how long do you think these buildings will stand?" I asked. "Oh, they'll last out your time, and mine too, I reckon, and that's enough for me," was his reply. He had evidently not read Longfellow, and had no notion of leaving his footprints very deeply impressed in the sand of time; but the principle on which he thought and acted was only the natural result of the vicious system under which he was working. On inquiry I found the property was held on lease for only twenty-nine years, at a heavy ground-rent, and of course I advised my friend to have nothing to do with it.

Secondly, the principle of granting leases being conceded; another great drawback to the legitimate profits of building, and consequently another opening for those who are not nice about the legitimacy of their profits so that they make them somehow, is the system of underletting at improved ground-rents, by which means the estate is filtered piecemeal through the hands of mere land speculators; and, when it at last gets to the actual builder, the ground-rent is so high that, if the houses remain unlet or unsold, there is a heavy drain on the resources; and, in the event of a sale, so little margin is left for profit, that men of capital and respectability do not care to engage in such undertakings, and leave the field to those who, having no capital to risk, or character to lose, are enabled, by the use of bad materials and inferior workmanship, to speculate on a larger profit if the scheme turns out well, and if not, they are in no worse position than they were before.

Another, and, I believe, a very vital point, in the question, is the almost total absence of professional design or superintendence; at any rate, it is quite the exception when an architect is employed on the erection of any of the London middle-class habitations. It being the builder's object and interest to build as cheaply as he possibly can, it is the last idea that enters his mind to distress the conscience of an architect by the obligation he might be under to pass indifferent materials and workmanship, and his own margin of profit being so small, it seems a folly to throw away a useless guinea or two on a design for a plan and elevation, while he has ready to hand the old stock pattern of construction for all London houses, which, I presume, the experience of ages has elaborated into the one best adapted for sailing close to the wind of the Building Act, and nicely calculated just to survive a given number of years and no longer. Sometimes, indeed, an estate is placed in the hands of an architect to manage, and all plans are to be submitted to him for approval, and then there is a fine opportunity of practising the *saunter in modo* with the *fortiter in re*, or, as the French elegantly phrase it, "Il faut avoir un main de fer avec un gant de soie," for his employer is oftentimes more anxious about what seems to be his present interest than about what is best for the future; and if contingent conditions are placed on either design or construction, the estate will get a bad name among these speculators, and the employer will fancy his interest is suffering, though I am satisfied that it is much better the estate should be slowly covered with good houses than that a quantity of rubbish should be heaped upon it in what is almost literally no time at all.

As an architect in management of an estate, you will generally have to deal with two classes in your approval of designs: there is the practical man, who, by the application of his two-foot rule and square pencil to the back of a pattern of paperhanging, or perhaps a piece of sandpaper, submits a large parallelogram drawn to scale, with six or eight smaller parallelograms inscribed within it, such as these I now produce, which I was expected to approve as elevations of houses, the ground-rents on which were to be about 10*l.* each. However, with this character, by dint of persuasion and threats, and after experiencing some difficulties with regard to several different sized doors and sashes he has by him and intends to bring in, you may generally succeed in getting him to adopt a design of your own, provided it is furnished to him gratis. Then there is the impracticable man, who has studied architecture from a work now fortunately becoming rare, by Batty Langley. This man is often absolutely immovable, and considers his taste and knowledge of construction infinitely superior to yours, and will often leave you entirely in disgust at his genius not being appreciated, and set up his pet design on an adjoining estate.

The good management, therefore, of an estate depends on the employer's leaving it in the hands of his architect, placing sufficient confidence in him, and supporting his veto when he thinks it necessary it should be exercised. Thus far then with regard to private dwellings: and now one or two words on public buildings, the inferior and scamping workmanship of which, as seen in so many instances, I believe is mainly attributable to the cause I have just been alluding to, viz.—the introduction of men of no means or character, who often undertake contracts merely for the sake of the draws they get, which keep them for a time on their legs, and who, in this case, are chiefly introduced by that system of indiscriminate public tendering now so much in vogue with committees and public bodies, and which, however a contract may be worded as to best materials and workmanship, has practically lowered the standard of work, and, in fact, changed the principle on which it should be valued; the work being now regulated by the price instead of the price by the work; and the employers find in the end that they have not got a cheap job, but that they have a bad one. This cutting system also acts most unfairly towards the architect, who not only gets "the minimum of bread with architect, who not only gets "the minimum of bread with the maximum of sweat," but is blamed if the work does not after all turn out so well as it ought, thus placing him in a state of Egyptian bondage, with bricks to make without the necessary straw. The ordinary proviso that the committee will not bind themselves to accept the lowest tender is not often a saving one, for respectable builders who look for a profit from their work, if they tender at all, are generally so far above the lowest that the acceptance of their tender is out of the question, and, as a rule, these men hold back altogether from indiscriminate tenders, as it would in effect only be advertising themselves to the public as doing work at a higher price than others, which, in these days of cheapness, would certainly not be advantageous in a business point of view.

There is yet another evil of the day which exercises great influence as I believe morally on our own profession, and, if I may so say, physically on the buildings we erect: I allude to architectural competitions as they are at present conducted. The subject has been so often discussed at length in this place, that I will now only venture on a few words, confining myself as much as possible to the effect on the buildings themselves. I believe you will all agree with me in the feeling that when a building is placed in our hands without competition, we appreciate the confidence of our employer, and devote our best abilities, whatever they may be, to the production of a design which shall meet in the best manner, according to our ideas, the requirements of the occasion, and we have then the opportunity of discussing the objections of our employer, which, if he has any, and modifying our plans to meet those which may be considered valid. But when we enter on a competition the case is reversed, and our great question is not what do we think best, but what will the committee think best; and we may thus be called on to execute works which will bear our name, but which even we ourselves do not think are such as ought to have been erected for the particular purpose. Of course I do not mean to infer that every one entering on a competition necessarily surrenders entirely his independence and better judgment, but a feeling, more or less, of this kind seems an inevitable *sequitur* to the system. Then, again, the sort of *ad captandum* estimates which are usually sent in with designs, and the way in which these are cut down to accord in some measure with the funds in hand, must exercise a very injurious effect on the buildings when erected. I have no doubt we could all name many buildings which have so suffered in consequence; and I will mention one case of estimating which I happened to preserve out of an old number of the *Builder*. I think in 1854, for the Brighton Workhouse and Industrial Schools. The instructions strictly limited the sum for the workhouse to 14,000*l.* and the schools to 5,000*l.* The lowest tenders for the work, even after the alterations authorized by the board, amounted to 23,000*l.* for the workhouse, and 13,287*l.* for the schools!! Such a case needs no comment, and I am not aware if the workhouse is built, or, if so, for what sum; but no doubt it would be edifying to go over it, if the tenders were eventually reduced to anything like the amounts as advertised.

The competition monster is a very hydra "*horrendum, informe, ingens*," I might almost go on to say "*cui lumen ademptum*," for competition doings are often very much in the dark,) and I might occupy hours in dissecting its many heads, but such is not my present object, and I thankfully transfer the Herculean task to the more able and experienced hands of the sub-committee we have appointed for that purpose.

And now having in this cursory manner brought before your notice some of the leading evils of the present system of speculation and competition, you will perhaps think the subject rather incomplete unless I point out some remedy for them. I will, therefore, venture to note down some few suggestions, more by way of eliciting a discussion than because I think they are altogether practicable in every case; and first, with regard to the tenure of land for building purposes, there is no doubt that for this freehold is the best, for then it is a man's interest to build that he or his successors may never have to go to the expense again; but, inasmuch as many landowners are naturally disinclined to part with their land, and builders, on the other hand, are oftentimes not in a position to purchase, we must accept leases as an institution of the country, and make the best of them. Now, the *beau ideal* of a building lease appears to me to be one which shall contain a covenant, giving the option of purchasing the freehold within a given time for a specified sum, with such a length of term that in the event of not purchasing, the builder would be enabled to recoup his capital at the expiration of the lease, having received in the meantime a fair interest for the capital laid out. In case of sale, short terms act very prejudicially, because, although the actual mathematical difference of value between a lease for ninety-nine years and one for fifty years is not very great, it is found in practice that a purchaser expects a greater interest for his money in one case than in the other: so that while in the former case 6 per cent. would be considered sufficient, which would equal about 16½ years' purchase, in the latter 10 per cent would be expected, equal to about 9½ years' purchase. I know an estate in London the houses on which were built on a 999 years' lease, I believe in the reign of Queen Anne: the ground-rent is about 4*l.* per house, the houses being worth from 100*l.* to 200*l.* per annum. This, as far as the buildings are concerned, is nearly equal to freehold. Ninety-nine years is now the generally received term for what is called a long lease; and although it may be objected that it is still too short, I think it in reality gives the builder a fair opportunity of recovering his capital and making a profit, and in ordinary circumstances survives till some change takes place in the value of the locality in which the freeholder should participate, whether it be for the better or the worse. It is a common practice with the City authorities to grant leases for eighty years; and this seems to work well, at least, in the City, and in the hands of men of capital and character, as witness the new buildings in Cannon-street, Cornhill, and other places; but then it is also their practice to sell the ground-rents by tender or auction, so that the leaseholders generally have the opportunity of purchasing the freehold if they are so inclined. In my own practice I usually recommend ninety-nine years, and never, if I can avoid it, less than eighty years, and then with a clause for purchasing. The fact also should not be lost sight of, that the freeholder obtains a corresponding advantage, inasmuch as the reversion to a good house at the end of eighty or ninety years is at any rate preferable to that of a bad one after fifty years, when the freeholder would probably have to rebuild or relet his ground possibly at a reduced rent.

With regard to ground rents, they should always bear some relative proportion to the letting value of the houses on which they are secured, and I think an amount of 10 per cent. on the annual value would, perhaps, be fair, and it should not at any rate exceed one-seventh, otherwise the outgoing becomes very heavy in the event of the houses remaining empty for some time. There should also always be a peppercorn or nomina rent extending over the time which would fairly be expended in the erection, and it is usual, where a builder undertakes to cover a large plot, to allow a peppercorn for the first year, and increase the rent proportionately for four or five years, until it reaches the full amount agreed on, when he may be supposed to have an incoming rental to meet it. In the case of moderate ground-rents, also, the freeholder as well as the builder reaps an advantage, as his rents are better secured, and consequently find a readier sale and command a larger price in the market. As a case in point, I may instance some of the houses in the neighbourhood of Prince's-gate, the ground rents on which were from 1*l.* to 2*l.* each: these were sold some time since by auction, and realized, in some cases, if I remember rightly, sixty or seventy years' purchase.

The next point is with regard to public tendering, the resultant evils of which are sometimes so great, and there are so many loop-holes and approved methods for escaping the penalties for breach of contract—a notice common one being that of the builder taking refuge in the Bankruptcy Court, and leaving the job entirely in the lurch—that one is almost inclined to go back to the old system of measure and value, which is certainly the most equitable arrangement, as the builder then has no object in scamping, knowing that the price will be regulated by the work, and the employer pays only for what he actually gets; but, on the other hand, the desirability of knowing the exact cost before the commencement of the work, and the natural wish to avail oneself of any accidental circumstances of position or command of the market one builder may have over another, which can only be ascertained by competition, would render the attempt almost useless to introduce that system again to any extent. The most practical method of getting over the difficulty appears, therefore, to be that of inviting tenders from a limited number of men of respectability, and then to take the lowest. It may be urged that this would often lead to a collusion among the builders tendering, and an arrangement who should have the job, and so the advantage to the employer be lost; but I think means might be adopted for the prevention of this, and parties transgressing would, of course, not be invited to tender again. On architectural competitions suggestions might be endless, and, as I said before, I will leave them in hands more equal to the task than mine, and will content myself with one or two observations immediately bearing on the subject we have in hand. We, as architects, have two hypotheses with regard to competitions, one being that they afford an opportunity for the display of that light which would otherwise be hid under a bushel, and give to friendless genius the chance of employment; the other being, that all competitions are conducted unfairly, and the merit of the design has little or nothing to do with the ultimate result. Now it seems evident that these two propositions cannot quite stand together; for, when a competition is decided irrespective of merit, as we suppose them all to be, it is not often the man who has no friends that is the successful competitor. In fact, it has almost become a necessity to have a friend on the committee, in order to get one's drawings looked at at all. We make great complaints of the ignorance of the judges, the smallness of the premiums, and the unfair and unpromising aspect of the conditions, but I believe the fault to be almost entirely on our own side, for little blame can attach to committees for obtaining as many patterns for their work as possible for 5*l.* or for nothing, if they think proper, when they see fifty architects at a time rushing and struggling for even the shadow of a job. We must remember that the ultimate end and object of competition is not to benefit an individual, however great his genius, but to procure the best building for the purpose required; so, as a last, however, that a man cannot touch pitch and be undefiled, that we see the most capable men generally hold themselves aloof from ordinary competitions; and that almost all are more or less touched with the infection, I cannot have greater proof than the difficulty found in establishing "a Competition Code," to which, perhaps, we should not individually object to subscribe, but that we distrust each other, and fear to be shut out of the pale of competition by some more enterprising and less scrupulous candidate; and it is this feeling which will, I think, always prevent our code, when it is revised, ever being more than a string of suggestions. I am inclined to think, therefore, that until we arrive at that happy state of perfection—

> "To know what's right,—not only so,
> But always act on what we know,"—

that competitions limited to some extent would be the best remedy for the present position of the question—perhaps eight or ten would be a convenient number: a greater legal responsibility would then be thrown on the committee, who, having expressly invited certain men, would be bound by their conditions, whatever they might be; the chosen candidate, of course, to carry out the work, the second and third, perhaps, obtaining premiums, and the others being paid a small sum, which should compensate in some measure for money out of pocket. This system I do not think would be practically an injury to unknown genius, as I believe that every man of ability, who has with that commoner good business habits, which are essentials of success in every profession, and eminently so in our own, will make his way: difficulties he may meet with, as every one does who has his way to make in the world, but of his ultimate success there can scarcely be a doubt. In any case, competitors drawings should always be exhibited before the choice is made; and although committees are generally very thick-skinned, I think the reiterated expression of public opinion would in time make some impression.

Again (perhaps you will not agree with me), I would abolish mottoes, which, as regards secrecy, are a snare and a delusion; for not only is a man's drawing often as well known as his handwriting, but, depend on it, if the judges do not intend to act honourably, the motto will not be any hindrance to them. Let us fairly know who's who, and we shall better be able to find out and expose intrigues; while great names will have no weight with those who intend to mete out justice with an even hand to all.

And now I come to the last division of my subject, though certainly not the least in point of importance—the necessity of more general professional superintendence. And although I am one of the last to advocate legislative interference in private matters, I believe the necessity of employing at least passable materials and workmanship in our ordinary dwellings to be of sufficient importance to justify the extension of the powers of the district surveyor, or some person specially appointed, more completely over the construction of these buildings,—in fact, something like enlarging the dangerous structure clauses to buildings likely to become dangerous in a short time. With regard to the general question, we have to impress upon the public the advantage of engaging our assistance, and to dissipate that ignorance of our position and use which seems to be so universal.

Our profession is eminently one of confidence, and when that is lost or misplaced our employment is at an end; so that the remedy seems to remain entirely in our own hands, for it is hopeless to expect the public will place much reliance on a profession the members of which they see running like a pack of ravenous wolves at a 5*l.* prize obtainable under rather exceptionable conditions, and condescending to so many petty jealousies and intrigues for getting a job, honestly if they can, but getting it at any rate. But I believe there is a brighter future before us, and that the present gloom is only the herald of a coming change. And to this end the Architectural Association has, as I think, done much good service, and may do still more, as by its peculiar constitution it is enabled to open its doors to all who take an interest in our art, and invites every one to discuss the subjects brought before it, and to institute new courses of action and experiment in matters in which it would not well become the senior members of our profession to interfere. The Architectural Exhibition, which was first set on foot and supported by this Association alone, must be a powerful agent in bringing ourselves and the public together, and give an opportunity for all to obtain notice, besides affording a salutary check on unjust competition decisions. It is now one of the recognised institutions of the metropolis; and I trust, when we are enabled to choose "the season," we shall compete in number of visitors with most of the other exhibitions. "The Architectural Union, again, I hope is destined to become another great rallying point for our profession and the public; and I should be sorry to see our Association remain without its walls; and I trust, if we join, we shall be enabled to carry out another project of the Association for education and advancement, viz. the extension of our classes of design and construction, to admit foremen or sons of builders,—those who hereafter will have to erect our dwelling-houses,—that so at any rate they may learn to abhor the abominations perpetrated by their predecessors, and will perhaps come at least to some of the junior members of our profession for their designs, whose time would thus be often practically and profitably employed.

I must now apologise for these somewhat crude remarks; and if the present paper is more discursive and less æsthetic than those we are accustomed to in this hall, I have at least touched upon some of the *veratæ questiones* of the day, so as to give an opportunity for discussion, and I shall not consider my time altogether thrown away if I have succeeded in calling attention to the necessity of casting aside all these jealousies and divisions among us, and have given a stimulus to the more efficient cultivation of that manly and independent spirit which it is our boast and our privilege as Englishmen that we can exercise, and our duty as professional men to practise, and by which to hope to win and retain that confidence of our employers by which alone we can hope to maintain an honourable existence. To conclude, therefore, as an old author has done his advice and counsel to all builders, "May all builders both of palaces and particular habitations have good success, and possess them in peace and prosperity; may also all surveyors, master workmen, journeymen, and labourers, behave themselves so as they ought."

ENGINEERING AND OTHER WORKS ABROAD.

THE *Akbar* of the 12th ult. states, that the decree of April 8th, 1857, is to be executed without further delay: it commands that Algeria shall have railways, and that, in default of a company presenting itself, the same shall be commenced by the troops. The first sod on that occasion will be turned by the emperor in person, who purposes visiting that colony in a few months. Everything is ready for carrying out these orders, in case no company will construct the line from Algiers to Blidah. The line from Phillipeville to Constantine is in English hands, and will be, of course, exempt from the present decree.

On the 1st of last month the line was opened from Alençon to Argentau, on the "Chemin-de-fer de l'Ouest," a section of forty miles.

On the Victor Emmanuel Railway, destined to unite Savoy with France, twelve large boats are regularly employed on the Lac de Bourget, transporting stone from the Plombières Tunnel to Grésine, for pitching and permanent way of the rock-embankment near St. Innocents, at Aix-les-Bains. On the Junction-bridge, over the Rhone, three Sardinian piers are finished. On the French side the foundations are in.

Mons. Feraldi, director of the *Messageries Impériales*, at Athens, has obtained the concession for the Grecian Railway from Athens to the Pyræus. It looks like the Edinburgh and Leith line, on paper.

On the 10th ultimo, the new section from Almansa to Alicante was opened, and communication, by railway, from Madrid to Alicante, completed.

By a temporary bridge over the Jarama, the section of the Madrid and Saragossa line, from the former to Guadalajara, can be opened in June: the permanent structure could be done by the end of the present year, if it were now commenced.

The Spanish Government have just given permission for surveys to be made on the following line, in the delay of one year, viz.—from La Zambla de Santa, Coloma de Farnès, passing through the territories of Mansanet de la Selva, Vidricias, Llagostera, Santa Cristina de Aro, San Felice de Guixolls, Palamos, Calonge, La Bisbal, Palafrugell, Bagur, Torrocella de Montgri, La Escala San Pere, and joining the French railways at Figuières. From Alar to Santander, on the Santander section, every effort is made for the opening to take place as early as possible: 53 horses and 162 pairs of oxen are employed: 13,563 rails, 98,653 chairs, 50 carriages and 4 engines, were supplied last year. The future importance of this line may be guessed from the fact that thirteen and a half millions of reals were received in Santander for the customs of the last half of 1857.

At Bilboa, Mr. Vignoles is expected for the railway shortly to be commenced in that town.

Tarrasa to Mauresa advances rapidly.

The first stone has been laid with much ceremony of the important bridge over the Llobregat, on the Central Barcelona line.

The Lyons and Geneva line is shortly to be opened. The benediction of the locomotives is to take place at Bourg, chief town of the department of Ain, by the Bishop of Belley. The grand council of Geneva have liberally aided the railway company in promising to give the visitors from the French territories a reception worthy of their city. They have voted 20,000 francs already as a minimum sum to defray the expenses of a ball in the electoral edifice, to accommodate 5,000 persons.

At last, the railway from Paris to Vincennes (already finished as far as the Rue de Rambouillet) is to be completed with an activity that will regain lost time.

From Rheims to Réthel the rails are laid: the line is now being ballasted. From Réthel to Charleville the works are expected to be ready three months after the above section, which is to be opened in May next.

The Sedan section, or first part of the Metz line, is to be opened in November next. The Douzy section, as far as Carignan, will follow soon after.

The *Journal des Pyrennées Orientales* states positively that the opening of the Narbonne Railway as far as the Vernet station, for passengers and goods, is fixed for the 15th or 20th inst. at latest.

The contractors of the Hainault and Flanders line have taken up their quarters at Renaix. From Renaix to Audenarde the works are in progress, and next week the section from Renaix to Leuze will be attacked. The Sprielberg tunnel is commenced, near Renaix, and 300 men are employed on the heavy cutting at Nukerke.

The Belgian minister has submitted to the Chambers a project of the concession of the Gand and Eccloo Railway, according to the convention passed 27th January.

The Madrid and Badajos line is in train towards commencement. At first the shares were bought up with vigour; 1,000 were sold, and 800 taken up besides by the arrondissements. It is said that the Countess of Montijo alone subscribed for several millions of francs. On the other hand the Spanish Government gave a subvention of 6,000 piastres per kilomètre. In spite of all this, no demand was made for a commission to enter into some understanding with the local authorities as to the line. The municipal council of Mérida, however, spontaneously stepped forward to aid this important line, and have addressed a letter to the Queen of Spain praying that the Western Spanish Railway may be put up to public competition for contract. It is to be hoped that the other councils will follow the example.

The opening of the Madrid and Alicante Railway, announced in all the foreign papers to have taken place, was not to be celebrated till the 25th February, owing to the absence of sufficient rolling stock to ensure regular traffic. The steamers established by the house of Lopez and Co. between Madrid and Paris are to commence service at that period. They are 300-horse power and 1,200 tons burden.

The Spanish Government have given permission for surveys to be made from Almonte, in the province of Huelva, to some convenient point on the right bank of the Guadalquiver.

A treaty of circulation has been just concluded between the Eastern, North-Eastern, and Central Swiss Lines and the Neufchâtel and Solina Navigation Company. In consequence, passengers and goods can circulate over all these Swiss lines without changing carriages. A uniformity of charges having been established, each company can issue tickets available for the whole group. These facilities afforded to travellers cannot fail to be of immense benefit to the above companies.

The concession of the new Swiss line from Berne to Thun has been for five years in the possession of the Central Swiss Company: not having been commenced, the line is to be conceded to a new company.

At Vienna, the project of a central terminus for all the railways in that capital has been abandoned. A *Chemin-de-fer de Ceinture*, similar to that in Paris, is to be constructed.

The following is the state of the Bavarian lines to be executed in the course of 1858:—

The Nuremburg-Ratisbon, and the Munich-Landshut, to be completed and opened for public traffic; the Rosenheim-Saltzbourg, and the Linz-Vienna, are nearly finished. The actual distance from Vienna to Paris, by Prague, Dresden, Halle, Kassel, Frankfort, Mayence, Ludwigshafen, &c. is 506 leagues. When the line is opened from Munich to Vienna, the distance from Paris to Vienna will be only 369 leagues. It takes twenty-one hours to go from Paris to Munich, 242 leagues: from Munich to Salzbourg, 127 leagues, can easily be done in thirteen hours, so that the voyage can be done in thirty-four hours, or in thirty-two hours if the stoppages at Kehl and Bruchsal can be done away with The Verona-Botzen and the Inspruck-Kufstein are to be open the 1st October next.

In Piedmont there are 830 kilom. of railways. In 1848, there were only seventeen opened; in 1849, 39 kilom.; 57 in 1850; 12 added in 1851; 32 in 1853; 184 in 1854; 147 in 1855; 144 in 1856; 118 in 1857.

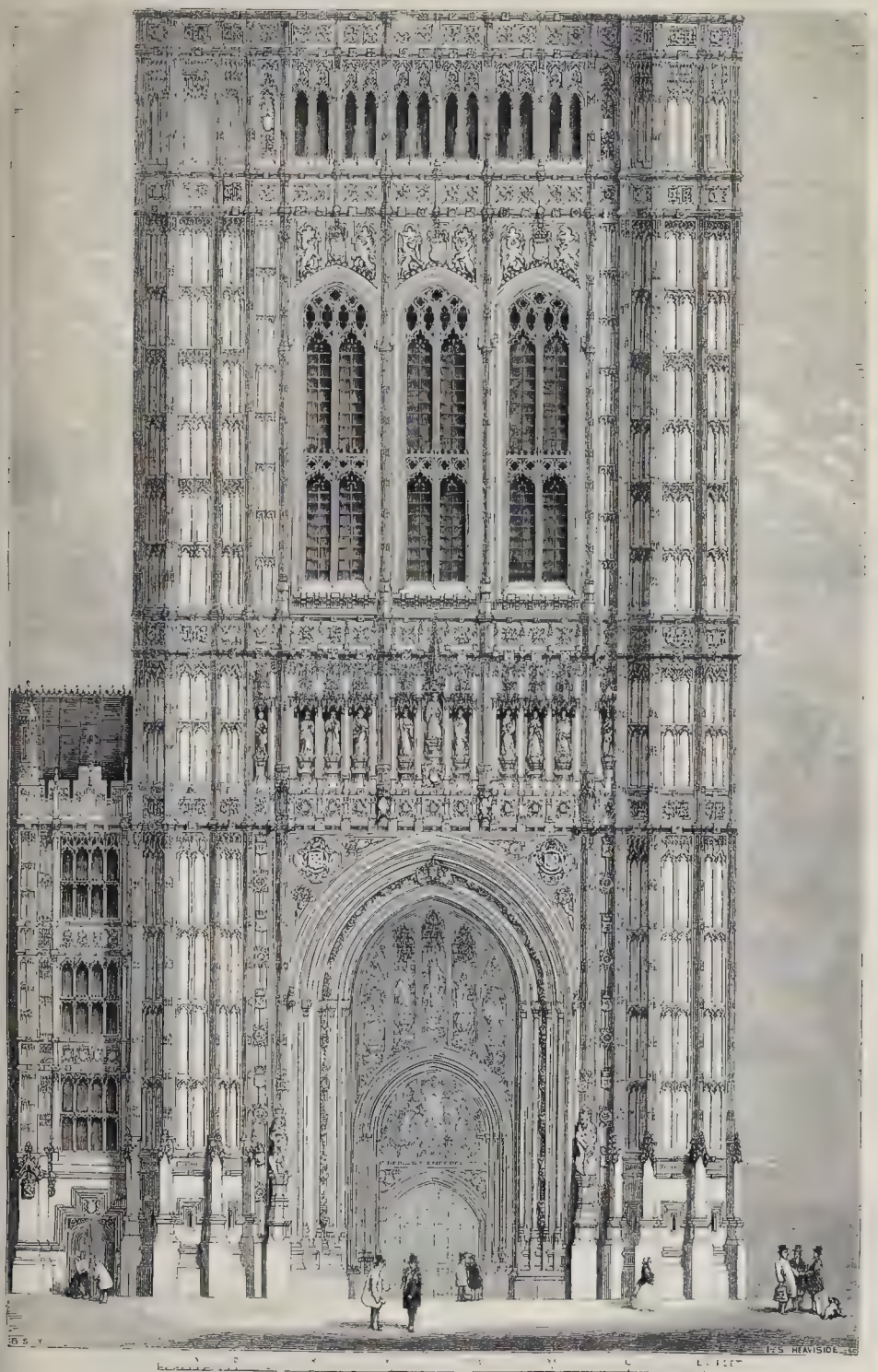
WOOD CARVING.

A VERY remarkable specimen of wood carving in small is to be seen at Messrs. Colnaghi's for a few days. It is executed in box-wood, is about 9 inches by 6 inches in size, and is a translation of a picture by Mr. Alexander Fraser, called "The Moment of Victory," including a large number of figures, a bird-cage, wonderfully cut, a game cock, and other accessories. It is not the province of sculpture to represent a picture: this error the artist will probably avoid another time; but, putting that on one side, this work displays extraordinary talent, not to say genius. The various expressions in the countenances are admirably rendered. The artist is Mr. William Bryer,—a man of business, who, having been overtaken by misfortune, is now seeking to make available a skill acquired in leisure hours. We cannot imagine that he will remain long without a commission from some of the art lovers of the metropolis.

THE VICTORIA TOWER, WESTMINSTER.

THE accompanying engraving represents the lower portion of the Victoria Tower, described by Mr. E. M. Barry, in his account of the Houses of Parliament.* In an early number we shall give a representation of the remainder of the tower, so arranged that, on binding the volume, the two may be pasted together, and thus afford a complete view to a large scale. We shall, at the same time, give a plan and some further particulars of the construction.

* See page 154, *ante*.



THE VICTORIA TOWER, WESTMINSTER.—SIR CHARLES BARRY, R.A. ARCHITECT.

THE PURIFICATION AND EMBANKMENT OF THE THAMES.

SIR,—It has been often said, touching the mudbanks of the Thames, that these, being covered and laid bare at every tide, are the sources of the most active putrefactive fermentation. This is certainly a subject which it concerns the citizens of London to have fully discussed, and yet it has of late received very little public attention. Probably it has been felt that, with commissions sitting, Boards debating, and engineers at work, to devise some comprehensive and, it was to be presumed, effectual scheme for the complete purification of London, any unprofessional opinion would be an impertinence, and discussion useless.

Since, however, the powers are at variance, the engineers divided in opinion, and the only point agreed upon as to spend seven or eight millions of money; and since the works severally proposed, though so gigantic, are still of an incomplete character; you will, perhaps, admit a remark or two on a plan now apparently forgotten, but which was calculated to effect both objects—that of cleansing the Thames as well as the City, with collateral advantages of no trifling value.

So long ago as 1841, "in consequence of the obstruction to the navigation, and the deposit of mud and silt on the adjacent shores, charged with the contents of the sewers, and with the refuse of animal and vegetable substances equally offensive to the sight, and dangerous to public health," the Thames Navigation Committee made application to the then President of Civil Engineers, who was also engineer to the Admiralty and the Trinity-House, whose attention had necessarily been especially directed to river and navigation works, to survey and report on the best method of arresting these evils.

A brief but comprehensive reply, with plans and sections, was, in January, 1842, laid before the Common Council, including reports from the hydrographer to the Admiralty (who was "most intimately acquainted with all parts of the Thames"), from the water-bailiff, from the clerk of the works, and from the chief harbour-masters—the most competent judges that could be selected; who, after a minute survey of the river, from Staines to Gravesend, agreed in recommending a general embankment on both sides, of such width as might deepen the stream, improve the navigation, wall out these mud-banks, and by increasing the force of the ebb, *pro tanto* accelerate the removal of the sewage. On this point a suggestion was also thrown out (since the question of sewers was not directly included in the application of the committee), for intercepting the sewage altogether, on its arrival at the river-side, and conveying it away in trunk-sewers, under the proposed embankments, parallel to the stream, for establishing also, over the embankments, a river-terrace as had been proposed by Mr. Martin) with the future addition of a tram or railroad, to relieve the overloaded streets.

Now, sir, this would have been a noble work, worthy of a large expenditure, and worthy of the citizens of London; a work of which, if feasible, it is difficult fully to appreciate the advantages. The pressing evils from which London at present suffers, are a filthy river, crowded thoroughfares, and want of large spaces, where the population is dense, for pure air and healthful recreation. These *desiderata* would all be met, wholly or in part, by such a scheme. No finer promenade is conceivable in the heart of London than the magnificent terrace which would then adorn the river front, approachable from so many points, and involving no destruction of property, and no outlay for the freehold. The river would surrender a nuisance and gain strength from the loss. There can be no greater purifier of the atmosphere than a clear and full tidal stream; and, if the present pestilential mudslope were converted into an ornamental and raised structure, and the stream pure from sewage, it would be as natural to resort to the Thames to inhale fresh life, as it is now to hold the nostril, when compelled to approach its banks.

It is difficult to understand what insuperable obstacles prevented, at the time, the execution of a work presenting such incontestable advantages, and so recommended. I believe they were fourfold,—opposition of proprietors, unopposed difficulties of execution, magnitude of cost, and the jealousy of rival authorities. The committee had reported that "a regular line of embankment would so enlargement the advantages to private proprietors, from the improved condition of their property, that a general agreement of owners was probable;" and to obviate any valid objection on the part of wharf-owners, and to prevent material obstruction to business, the plans of the President of Engineers provided frequent openings in the wall, with approaches to the several warehouses and receases, or little basins, for barges. Indeed, no one acquainted with the quays of Rotterdam and Amsterdam, and the business there conducted, would so disparage English science as to suppose the same thing impracticable on the Thames. But private proprietors are not content to see with the eyes of the public, or to accept benefits without a bribe.

As to engineering difficulties, none at all were represented as likely to occur in the execution of the works on either side, if confined to embanking the river; nor any difficulties of moment in extending the work to the sewerage, and carrying trunk-sewers under the embankments, to discharge their contents into the centre of the stream below London-bridge. Undoubtedly, if the sewage was to be kept out of the Thames altogether, and conveyed by other channels to the sea, or into reservoirs to be converted into manure, very great difficulties would occur. Either inverts of considerable dip would be necessary, to be repeated at every dock entrance, and every sewer, inviting large deposits in the very spots where their removal would be most difficult, or else the whole sewage would have to be raised by machinery to a higher level, and diverted inland by aqueducts or tunnels, either of them involving an expense which probably no one at that time was prepared to recommend.

The principal impediment, however, was the least worthy—that silly jealousy of interference and supposed clashing of interests which have been a bar to so many improvements, where the east and west end authorities have been called on to act in concert.

Sixteen years have elapsed since the presentation and approval of the above report, and nothing has been done. It is now proposed to spend eight millions (of course the estimate is inadequate), in simply removing the sewage of London, and leaving the Thames and its banks unornamented and unimproved. London will, no doubt, be healthier; but, externally, will have nothing to show for the enormous an outlay. Now, is this proposed sewerage needful necessary? is it expedient? Will not half the money, judiciously spent, accomplish much more? In the first place, it has been the opinion of many scientific men that the sewage of London might be advantageously employed on our lands. Granted that at present no sufficiently economical plan has been propounded. Does it follow that, with the rapid advance of science, none ever will? Look to the history of gas-lighting, the history of Atlantic steam navigation—the history of the locomotive. If in a few years chemical skill shall invent some method of utilizing the sewage on a large scale, and at low cost, the whole of this projected Fetid Acheron will have become worthless.

On the other hand, a navigable river, running through the heart of a great city, may always be regarded as its natural sewer; and, *ceteris paribus*, that will be the best line for an artificial drainage, and attended with the least expense, because involving the least alteration of the natural levels, which approximate the nearest to the river bank. Added to this, in London, it is towards the Thames that not only the ground, but all the existing sewers and streets, already incline; and no scheme of a general drainage could necessitate less change in the existing sewers than one which should lay the main artery in the mud of the Thames. Such a situation would secure another advantage which no inland scheme could command. Notwithstanding the scour from the waste of all the water companies, there will, in dry seasons, whatever the position of the great sewer, with its slight incline, be a constant tendency, as now, to accumulate copious deposits; whereas the position of the great trunk between high and low water would, by easy mechanical adaptation, give, in the dryest seasons, the inexpensive means of flushing the sewers with the whole volume of the Thames.

It will be objected that, whatever the benefits of this plan, it leaves the river still the receptacle of London filth; and that, even though discharged much lower down than London-bridge, it would return with every tide. But no safe conclusions can be drawn, from present observations, on the condition of the stream when it shall become contracted and embanked. It is the shallows, not the currents, which the sewage haunts. The Thames, at London, can never be made sufficiently pure for drinking. For our beverage we must look to the water companies. But, for all purposes of health besides this, there is little doubt but that, with a general confinement of the channel, the river below bridge would unconsciously convey away all which now causes us so much annoyance and pestilence. But, suppose it otherwise, suppose it desirable, after all, to cut an inland passage for the sewage to the sea, the difficulty would seem to be no greater, or very little, in tunnelling it away from the river side, than from the spots indicated in the plans of the commissioners. The details of such a work require more engineering knowledge than I pretend to: I invite objection and discussion, only let not the opportunity be lost of a great and real benefit in lieu of a vast and extravagant scheme, which will still leave the Thames very much as it finds it. If the navigation of the river is to be improved simultaneously with the abolishment of its defilements, now is the time. The works of drainage and embankment would proceed, *pari passu:* very little change would be required in the existing drains: and, by an effort much less laborious, and at an expense proportionably slight; by combining, with a more perfect system of drainage, a quay for business, and a terrace for recreation, and hereafter a rail for speedier transit, the Thames would not only cease to be an abomination, but its depth be increased, its navigation permanently improved, and its banks, like the quays of the Seine, would become the delight and glory of the metropolis. H.

BATH.

AN appeal is being made in behalf of the extension of the Bath Mineral Water Hospital. A plan by Messrs. Manners and Gill has been issued, by which it is seen that some of the most important features in the additions and alterations are, the providing of a chapel, which has long been required; of day rooms (for want of which the recovery of patients is at present much retarded); and of an airing-ground, in which the weaker patients may take their exercise.

The cost of the proposed new buildings, exclusive of the purchase of the site, has been estimated at 14,000*l.* and the improvements in the present hospital at 550*l.*

An estimable citizen of Bath is striving to obtain a library for the inmates of the Bath Hospital. He writes us,—

"Ever since the Crimean soldiers have been inmates of the Bath Hospital, I have lent them books, which have been exchanged weekly, with military exactitude. From these soldiers I learnt that other patients coveted the privilege, and on inquiry, find that nothing is provided for the amusement of the patients but religious tracts, of which they get weary. I desire to provide them with a library for their free use. I give fifty volumes to commence, and must not rest until I get 500: less would not enable me to insist on shelves being placed in all the wards. In the Bath General Hospital, all the patients are strangers (there is another hospital for Bathonians): men come crippled with such complaints as dropped hands, and painter's cholic,—for which our hot-baths and mineral water prove a specific,—from Cumberland, Scotland, Yorkshire, and from London. There are always patients in the hospital: they come from their distant homes with nothing but a change of linen: they have no acquaintance in Bath, and time hangs heavily on their hands. I wish that time to be turned to good account, by placing in their hands books that will amuse and instruct them."

Should any of our readers desire to assist in this praiseworthy object, they may address a note to C. E. at the Bath General Hospital.

Considerable alterations to the Guildhall are proposed. According to a report and plans from the surveyor, the present Sessions Court will be entirely done away with; the space, with the Record and Court rooms, being converted into a suite of offices for the treasurer, surveyor, and engineer, and also a record-room. This alteration will render necessary a new sessions court, which it is proposed to erect over the present police station and market. The size of the proposed new sessions court will be 54 feet long by 31 feet wide, and 25 feet high—the present one being 32 feet by 37 feet, and 16 feet high. The court will be lit by four large windows and an octagonal lantern, 15 feet in diameter.

THE ARCHITECTURAL MUSEUM AND THE SOULAGES COLLECTION.

WE have already mentioned the petition to Parliament of the Institute of Architects, in favour of the purchase of the Soulages Collection, which is to be presented by Mr. Tite. We have now to add, that the committee of the Architectural Museum have agreed on the following memorial. The committee thus show that they recognise the value of *art*, whatever may be the style in which it exhibits itself:—

"The humble petition of the President, Trustees, and Committee of the Architectural Museum, founded in the year 1851, in Canon-row, Westminster, and now occupying space in the Museum building, at South Kensington,

Showeth,—That your petitioners, in thus addressing your Right Honourable House, have for their object the purchase, on the part of the nation, of the collection of Works of Decorative Art, known as the 'Soulages Collection,' and now deposited in this country.

That your petitioners, in establishing their own museum, have endeavoured to promote, by every means in their power, the advancement of the art of architecture, and of all those arts which have had their origin in, or are connected with, architectural art, their direct practical aim being the improvement of the art-workmen, to whom the execution of the details of the various arts is entrusted.

That your petitioners, being for the most part engaged in the study of the arts, are well able to judge of the necessity for providing for that great and increasing want, experienced by artists of all classes, of the means of referring to, and studying specimens of, the art of past times; and on the other hand, of the great value of museums, in supplying this deficiency in art-education, especially to artist-workmen, to whom, having neither time nor resources for travelling, such collections are indispensable.

That your petitioners are acquainted with the merits of the specimens comprising the Soulages Collection, and feel how important it is that such a very valuable and generally interesting collection should be secured for the benefit of the various classes of art-students in this country.

Your petitioners, therefore, pray that your Right Honourable House will be pleased to grant a sum of money sufficient to make it in its present complete state the property of the nation, and your petitioners will ever pray, &c."

SANITARY LEGISLATION.

SIR,—On the 16th ult., you kindly gave space for my opinions as to the desirability of forwarding the efficient drainage of London, by rendering it what it ought to be, viz.—a national question; and its primary cost for structural works paid out of the resources of the country at large. You know, sir, I am a "moon-raker," but I am none the less desirous to see giant London healthy as it is wealthy; and I am not so philanthropic as to wish to engraft the cost of London improvements upon the inhabitants of the provinces, without reciprocity of benefit.

With the immense amount of revenue derived from the cab and omnibus traffic, and the innumerable channels through which the street traffic of London contributes to the nation, we of the rural districts could hardly complain if metropolitan improvements, including sewerage, were paid from that source; but I humbly offer my suggestion that the sanitary question of the nation should become national. It would be of little avail if Cess-cum-Poolton-on-the-Hill were perfectly drained—made pure, as it now is the reverse,—so long as Sludgville-in-the-Vale, adjoining, perpetuated its moist and reeking stagnant miseries. If the power of the General Board of Health were greater, so that they need not feel the necessity of pandering to the "influential and wealthy," to whose caprice they admit they sacrifice the numerical majority;—if, permit me to say, the Board of Health were put on a fair basis as regards their enforcing efficient performance of duties in rural districts, and the cost for London and the country came out of one common fund,—we need no longer be horrified by the ravages of disease and death in districts naturally healthy but for the omissions of apathy, or, what is too often the case, the immolation of helpless masses at the shrine of "vested rights."

The paying for structural works out of one general fund would by no means saddle the already healthy, well-drained districts with payment towards the assistance of undrained localities. The millions of money at present puzzling the owners to find investment might find profitable employment; and from such source could be paid the first cost of structural works, repayable by instalments over fifty or more years; the instalments to be levied by a tax on the district, in proportion to the original cost.

If districts shall have adopted correct remedies, either by already adopting the Public Health Act, or by any other means in a position to defy complaint from the Council of Health, there would be no interference from that body, neither would the inhabitants have to contribute to the National Health Fund; but when petty huckstering, such as for years past has defied all honest and comprehensive attempts at sanitary improvement here, has foisted upon the parish that vile mockery the "Nuisances Removal Act," a committee, totally irresponsible, squandering the public money in most absurd schemes,—as, for instance, putting in many hundred yards of 12-inch culvert to receive the sewage from a 12-inch and a 13-inch;—in another part, positively making the fall of the culvert to be opposite to the direction of the outlet;—then, I say, sir, when such ignorance is displayed, it would be indispensable that the Central Board should step in and take the power from the hands of those who wield it but for mischief. You will not wonder, sir, that I have this day seen a whole district (lately drained by our "Nuisance Removal Committee") totally inundated, and a grating intended to absorb surface water was sending forth a huge fountain to deluge the inhabitants of the adjoining houses. None can wonder at the subverted purpose of the grating, when it is known that just below is the point at which the "fall" of the culvert is "up hill." In fact, there was no section of the line of culvert,—"four feet below the surface of the road,—that is all you have got to look to."

If this were an isolated case of the necessity for radical change in these matters, I would not claim space for my feeble production; but as it is a question of life and death in places whose name is legion, I implore you, sir, not only to insert this, but to increase the noble exertion you have already given in furtherance of sanitary reform.

CHLORIDE.

P.S. I, and indeed every well-disposed Briton, must thank you for your noble article (in last issue), upon the housing of our soldiers.

ST. GILES AND BLOOMSBURY PUBLIC BATHS AND WASHHOUSES.

IT is satisfactory to find an establishment which has been wisely and kindly provided for the public good answering so satisfactorily the expectation of its founders as this appears to do.

The cost of site and conveyance amounted to 5,443*l.* 10s. 10d.; cost of building, 9,378*l.* 15s. 4d.; other expenses, such as boilers, steam-drying apparatus, architect's and engineer's commission, &c. cash paid for interest on loans, &c. during the building, amounted altogether to a little over 20,000*l.* which was raised by a loan of 16,000*l.* from the County Fire-office, the remainder by rates levied on the united parishes.

During the first year, 1854, the sum received for baths, washing, &c. amounted to 1,934*l.* 8s. 6d.; the expenses, such as wages, water, coal, &c. came to 1,514*l.* 2s. 10d. which, without taking the interest of capital into account, shows a profit of 420*l.* 5s. 8d.

Next year, 1855, the sum received for baths, washing, &c. amounted to 3,524*l.* 17s. 10d.; the wages, house expenses, &c. to 2,855*l.* 4s. which leaves a profit of 769*l.* 13s. 10d.

In 1856, the receipts for baths, &c. came to the large sum of 3,822*l.* 19s. 2d.: the expenses were 3,013*l.* 14s. 1d.; profit, 809*l.* 5s.

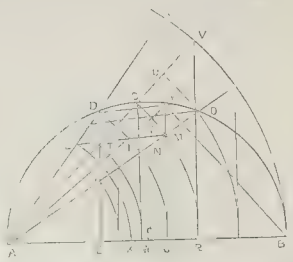
In 1857, the receipts were 3,691*l.* 2s. 4d. a sum which is a little below that of the previous year. This, however, may be readily accounted for by so many of the working classes being not sufficiently employed; however, the expenses were 2,815*l.* 18s. 11d. and the profit, 875*l.* 13s. 7d.

Included in the above cost of working expenses, are repairs, insurance, taxes, improvements in machinery, in fact, all that can fall against the establishment; and we have no doubt that, in a short time, the clear profit will pay five per cent. on the original outlay. The loan to the County Fire-office has been reduced to 13,600*l.*; and when the whole of this is paid, the profits of the baths and washhouses will be a considerable and in every way gratifying source of income to the two parishes.

It is a hopeful sign of progress to find that in this establishment, planted in a neighbourhood once notorious for filth and neglect, about 13,000*l.* have been expended in four years by the industrious and poorer classes for the sake of cleanliness.

A SOLUTION OF THE DELIAN PROBLEM.

"*Fundatur geometria praxi mechanica.*"
NEWTON.



DRAW the figure with rule and compasses, forming a network of similar triangles, and assuming the diameter AB = 1 and AE = x^2; or draw the figure, assuming the diameter AB = 1, and the chord AS = x. Then by similar triangles —

AE	:	AD	::	AG	:	AF.	
x^2	:	$x^{\frac{3}{2}}$	::	$x^{\frac{3}{2}}$	:	1	(1.)
AG	:	AH	::	AH	:	AB.	
$x^{\frac{3}{2}}$	:	$x^{\frac{3}{4}}$	::	$x^{\frac{3}{4}}$	:	1	(2.)
AG	:	AH	::	AL	:	AJ.	
$x^{\frac{6}{4}}$	:	$x^{\frac{3}{4}}$	::	$x^{\frac{3}{4}}$	:	$x^{\frac{3}{4}}$	(3.)
AL	:	AI	::	AD	:	AH.	
$x^{\frac{3}{4}}$	:	$x^{\frac{6}{8}}$	::	$x^{\frac{6}{8}}$	:	$x^{\frac{3}{4}}$	(4.)
AI	:	AM	::	AP	:	AO.	
$x^{\frac{3}{4}}$	:	$x^{\frac{3}{8}}$	::	$x^{\frac{3}{8}}$	:	$x^{\frac{1}{2}}$	(5.)
AM	:	AL	::	AO	:	AQ.	
$x^{\frac{4}{8}}$	:	$x^{\frac{3}{8}}$	::	$x^{\frac{3}{8}}$	:	$x^{\frac{7}{8}}$	(6.)
AQ	:	AP	::	AD	:	AH.	
$x^{\frac{7}{8}}$	:	$x^{\frac{6}{8}}$	::	$x^{\frac{6}{8}}$	:	$x^{\frac{3}{4}}$	(7.)
AS	:	AW	::	AT	:	AE.	
x	:	x^2	::	x^2	:	x^2	(8.)

By dimensions already determined in (1), (3), (6), and (8):—

AL	:	AT	::	AT	:	AQ.	
$x^{\frac{6}{4}}$	:	$x^{\frac{5}{4}}$	::	$x^{\frac{5}{4}}$	:	$x^{\frac{7}{4}}$	(9.)
AT	:	AQ	::	AQ	:	AD.	
$x^{\frac{5}{4}}$	:	$x^{\frac{7}{4}}$	::	$x^{\frac{7}{4}}$	:	$x^{\frac{6}{4}}$	(10.)

By differentiation:—

dAS	:	dAD	::	AB	:	$\frac{3}{2}$AO.	
dx	:	$dx\frac{3}{2}x^{\frac{1}{2}}$	::	1	:	$\frac{3}{2}x^{\frac{1}{2}}$	(11.)

Practical examples:—

$$\frac{(FG-GH)}{AF-AD}\ \frac{(AF-AL)}{AD} = FM. \qquad (12).$$

$$(FG-FM)^2 + AG^2)^{\frac{1}{2}} = AM. \qquad (13.)$$

To extract the cube root of a fraction: make AB = 1, AE = n^{-1}, then AM = $n^{-\frac{1}{3}}$*.

To extract the cube root of a number greater than one: make AB = n, AE = 1, then AT = $n^{\frac{1}{3}}$;† for —

AE	:	AT	::	AW	:	AS.	
			::	AR	:	AV.	
1	:	$n^{\frac{1}{3}}$	::	$n^{\frac{1}{3}}$	:	$n^{\frac{2}{3}}$	
			::	$n^{\frac{2}{3}}$	:	n	(14.)

To impart interest to this simple problem, it may be mentioned that it engaged the attention of the ancient geometricians, and baffled all their attempts to solve it.

It is commonly called the Delian problem, from a legend that it was first proposed by the oracle at Delos: it was originally limited to the extraction of the cube root of the number two.

Archimedes, in default of better means, did not disdain to invent a machine for its solution.

J. P. W.

* Describe a semicircle ABD, draw ED at right angles to AB, with radius AD describe the arc DG, draw GH at right angles to AB, draw the chord HPIJA, make AL = AJ, and draw LIM parallel to the chord DH.

† With radius AM describe the arc RMPS, draw the chord STA, &c.

CHURCH BUILDING NEWS.

Cambridge.—A stained glass window of very considerable interest, says the local *Chronicle*, has recently been placed in one of the side chapels of King's College Chapel. It is made up from scattered fragments hitherto almost unnoticed in the chapels on the north side of the choir, and now restored as coherent wholes by Mr. Constable, glass stainer. What the original design was, and what its extent, must now rest mainly on conjecture. As arranged at present, the figures stand (commencing from the east)—1, St. Peter; 2, St. Philip; 3, an unknown Bishop; 4, the Prophet Malachi, with text; 5, David playing the harp with text; 6, a figure unknown; 7, a youthful Bishop, without any emblem, and which may possibly be St. Nicholas; 8, St. James, with the scallop shell on his shoulder. The tracery at the top of the window is filled with light glass, with patterns of foliage, and is closely copied from the ancient fragments. The original portions of the glass are presumed to be of the fifteenth century.

Worcester.—At a meeting of the committee for selecting designs for the re-building of Angel-street Chapel, that of Messrs. Poulton and Woodman, of Reading, was fixed upon out of seven submitted for competition; the second preference being given to the design of Mr. Paull, of Cardiff.

Pitcombe (Somerset).—The stone carving of this church was executed by Mr. Thomas Clarke of Mells, near Frome not Wells.

Burbage.—A memorial window has lately been erected in the parish church of Burbage, to four of the parishioners who fell in the late Crimean campaign. The quatrefoil contains the words—"Crimea, 1855," and "The Battle is the Lord's." The lower compartments contain the names of the four soldiers, and, the text, "Neither shall they learn war any more."

Llangian.—The parish church of Llangian, near Pwllheli, is to be entirely refitted, internally, and a new robing-room erected. The expense of the proposed works is to be defrayed by Mr. Richard Lloyd Edwards, who has instructed Mr. H. Kennedy, of Bangor, to prepare the necessary plans. This church is pleasantly situated, and was renovated, externally, some years since.

Liverpool.—The church of the Orphan Asylum, Myrtle-street, has recently had added to it two stained memorial windows by Lobin and Tours. The subjects are the Crucifixion and the Resurrection, and the windows are to perpetuate the memory of the late wife of Mr. Harmood Banner. Very shortly (according to the *Journal*) another stained glass window, by Wailes, of Newcastle, will be added. It is being erected by Mr. John Aikin to the memory of his mother, lately deceased.

Beckingham.—The parish church of All Saints, Beckingham, near Newark, has been re-opened, having been recently restored at a cost of near 1,000*l.* which has been almost entirely defrayed by the rector, the Rev. G. Marsland. The restorations have been carried out under the direction of Mr. Baily, of Newark, architect. The whole of the old pews have been cleared out, and replaced by open seats, of simple design. The aisles of the church and floor of the chancel have been laid with Staffordshire encaustic tiling. The piers and arches of the nave and the stonework generally of the interior, together with the interior facing of the wall, have been restored. The old Norman doorway on the north side has been opened, and a door with enriched ironwork has been placed in the entrance. The chancel has received insertions of new lancet windows, with priests' doorway; and the east end has a triplet with detached columns and arch over. Three of these new lancets are already filled with stained glass.

Ashover.—A memorial window has been erected in Ashover Church, Derby, by the incumbent, the Rev. Mr. Nodder. The circumstances which produced the gift are somewhat peculiar. In the early part of last year the house of Mr. Nodder was broken into by burglars, who, by awakening his infant child, caused an alarm which led to their repulsion, by Mr. Nodder shooting at and wounding the ringleader, who by these means was afterwards apprehended, tried, and punished.

memorate this event, and his providential pe, this gentleman has caused a new window e made at the east end of the chancel of bove church, and to be filled with stained with appropriate subjects, and the following iption:—"Out of the mouths of very babes sucklings hast Thou ordained strength." ented by Joseph Nodder, rector, and Mary e, his wife, as a thankoffering to God; who, on 21st of February, 1857, in peril of robbers, l their lives and the lives of their family by a t deliverance." Mr. Warrington, of London, been both artist and architect.

ipley.—The cemetery for Ripley, in Derby- , has been consecrated by the Bishop of nfield. The chapels are attached. The con- ted chapel is in the Early Decorated period, the unconsecrated of the Early English period othic architecture. Both chapels are entered ie side by ornamental timber porches of dif- at design. A bell-turret is placed upon the end of the consecrated chapel. Each chapel mmodates fifty persons. The cost of both was . The walls are faced with slag from the erley ironworks. Many acres of land are red with this durable yet hitherto unused rial. The roofs are covered with red and c ornamental Staffordshire tiles, in bands; as the lodge for the sexton, which is of simple gn. All the woodwork, both internally and rnally, is stained and varnished by material Messrs. Swinburn and Co.'s, of London. The itect was Mr. Chas. H. Edwards, of Camden- , and the contractor Mr. Roe, of Ripley. total cost, it appears, far exceeds the original mate. 1,700*l.* was the amount borrowed from Government, and it is said that at least more will be required to complete the un- aking.

Melton.—The fine old church of Melton has had portion of the unsightly gallery hiding the arches of the transepts pulled down, and the carried into the north and south portion of edifice.

Hadfield.—The new (R. C.) church at Had- , in Glossop Dale, together with presbytery schools, were opened on the 18th ult. The ce has been erected at the sole cost of Lord rard G. Howard, M.P. It is built in the Early orated style, of the durable and beautiful stone of county, lined with brick. The dimensions of the e aisles are 83 feet long, 53 feet wide. There n apsidal chancel, 25 feet long, 24 feet wide, side chapels terminating each aisle; tower at south-west end; and north porch; presbytery schools adjoining. This group of ecclesiastical ding has been designed to harmonize with the ntain scenery amidst which it stands. The of the whole, including the schools, is about 00*l.* Messrs. Weightman, Hadfield, and Goldie, Sheffield, are the architects, and Mr. Holroyd, Glossop, the contractor. Mr. E. Bell has acted clerk of works, and the church has been warmed hot water by May and Son, of London.

Bishop Wilton.—A meeting of the inhabitants Bishop Wilton, in the East Riding of Yorkshire, held last week, for the purpose of laying a rate the restoration of the church, when it was un- ectedly announced that Sir Tatton Sykes, of lmere, was willing to restore the edifice entirely his own expense. The cost is expected to be ween 2,000*l.* and 3,000*l.* The meeting unani- sly passed a vote of thanks to the hon. baronet. J. L. Pearson, of London, is appointed the itect to carry out the work.

Doncaster.—The tower of the parish church has n completed.

Preston.—The new (R.C.) church of the Holy ss, Croston Hall, has been opened. The ice is a small one, and consists of a nave, ncel, south porch, and sacristy. It is cal- ated to seat 150 persons. The building is nstructed of local course stone, with Ormskirk ne dressings. The whole of the roofs are ded and subdivided into panels. The altar reredos are executed in Caen and Aubigny ne, enriched with marbles. The sanctuary is ed with Minton's encaustic tiles. Some columnar ding, filled with simple screens in galvanized and brass, divides the chancel from the risty. An arch separates the chancel from the ce, on the right-hand side of which is a niche ntaining a figure of the Virgin. The benches the nave, as also the chancel seats, are of pitch e. The whole has been executed from the gn of Mr. Pugin. The builders were Messrs. ne and Lewis. The metal-work was from ssrs. Hardman and Co. of Birmingham. The t of the church, we understand, amounts ,150*l.*

Houghton-le-Spring.—The parish church is to be completely restored, under the superintendence of Mr. Dobson, of Newcastle, architect, at a total cost of 1,515*l.*

Hexham.—A meeting of the seat-holders of the fine old Abbey Church of Hexham was convened by the churchwardens on the 10th ultimo; the Rev. Joseph Hudson, the incumbent, presiding; with a view to the improvement of the interior of the choir. It is proposed to remove the unsightly galleries, and erect seats in the side aisles, by which alterations a considerable increase in the number of sittings will be obtained, and the fine proportions of the beautiful arches fully developed. A spirited subscription was at once set on foot in the meeting, and the sum of 141*l.* was immediately raised.

Wallsend.—Zion Chapel, opened on the 14th ultimo, by the Methodist New Connection, is built in the plainest type of the Romanesque style of architecture, of stone from the Byker-hill quarries. The windows are glazed with Messrs. Hartley's patent quarry glass, in large sheets. The woodwork is all of Baltic red wood. The roof (consisting of tie beam, with ornamental king posts and diagonal curved struts), is stained dark, and the seats and other woodwork on the floor, light, and the whole varnished. The plaster of the walls is coloured red, that of the roof, between the spars, blue. The chapel is ventilated by means of moveable hoppers in the windows, and louvres in the roof. The heating has been provided by a Gill stove. The contractors (with the exception of the joiners, Messrs. Ornsby and Surtees, of North Shields), were from Newcastle-upon-Tyne, and the architects were Messrs. F. R. N. Haswell, and R. J. Johnson, of North Shields.

Berwick.—The Presbyterian congregation, worshipping in Golden-square, Berwick, are about to erect a new chapel in the neighbourhood of the Parade, at a cost of between 3,000*l.* and 4,000*l.* Upwards of 2,000*l.* have already been subscribed, and the tender of Mr. M. Reid, of Newcastle, builder, for its entire construction, has been accepted, his estimate for the whole of the various works amounting to 3,597*l.* 13*s.*

Edinburgh.—A committee of the Free Church General Assembly have purchased an extensive area on which to build a new hall of Assembly. Plans are in preparation for the proposed building, which is expected to cost about 7,000*l.* It will have a frontage of an ornamental character towards the Castlehill, and is to provide accommodation for at least 2,000 persons. The building will be situated immediately in the rear of the Free Church College, and will close up the south side of its quadrangle, thereby completing it. The hall will thus also be accessible from Mound-place, by the broad staircase ascending from the quadrangle.

Glasgow.—Two stained-glass windows have been erected in the great crypt of the cathedral, one from Dresden and the other from Mr. Ballantine, of Edinburgh, so that the public may now have an opportunity of judging of the comparative merits of British and continental artists.

PROVINCIAL NEWS.

Colnbrook.—Tenders by Mr. H. Duley, carpenter, and Mr. H. Mole, bricklayer, have been accepted for the erection of new schools in connection with the church in this place. The site selected is near the church, on the opposite side to the parsonage. The building is to comprise a girls' and infants' school-rooms; also a class-room and residence for the mistress. It is to be built from a design by Mr. Street, the diocesan architect. The cost according to contract is about 810*l.*

Chatham.—Among the works ordered to be undertaken at Chatham Dockyard, is that of extending No. 2 dock inwards, in order to render it capable of receiving line-of-battle ships: the estimated cost required this year for the undertaking is 47,000*l.* The extension of No. 3 dock is proceeding, and the works are in a forward state: 26,000*l.* will be required to complete that basin. The roof of the resting-house is also to be extended, at an expense of upwards of 2,000*l.* and works commenced for a better water supply for the dockyard. It is intended to extend and improve Chatham Dockyard, by means of convict labour, at an estimated cost of 142,000*l.*

Dudley.—The Local Board of Health have determined to commence a portion of the general sewerage of the parish, consisting of some of the main outfalls, according to the plans of Mr. Lee, their engineer, who estimated the work to be done immediately at 9,000*l.*

Plymouth.—The Commercial Hotel, erected on the site of one of the oldest hostelries in the town, with additional ground on the northern side, is now nearly completed, forming an extensive block at the corner of East-street and Old Town-street. The style is Anglo-Italian, and the building comprises two fronts, the one in Old Town-street being 60 and the other in East-street 40 feet in length: the height from the pavement to the top of the parapet is 61 feet 6 inches, divided into five stories. The angles are finished with vermiculated and lozenge-faced quoin stones. The ground-floor windows are semi-circular headed, resting on piers with vermiculated panel-work. The upper-floor windows are square-headed, ornamented with architraves, cornices, and trusses; and the main cornice, which is the most prominent feature of the structure, is supported by consoles resting on a string course. The bed-rooms will be fifty in number. The responsibility of this undertaking rests with Mr. W. Adams, of Bedford-street, as the trustee of his late brother, and the designing and superintendence of the building with Mr. Oswald C. Arthur, architect. The erection was conducted by Messrs. Call and Pethick, builders.

Llanfihangel.—There is now a prospect of the National School at Llanfihangel-yn-Howyn, Anglesea, being commenced, although some alterations from the first design, prepared by Mr. H. Kennedy, of Bangor, are contemplated. The school is to be built near the Valley Station on the Chester and Holyhead Railway, and is much required in this locality.

Liverpool.—Workmen have commenced to erect scaffolding around the two granite pillars at the principal gateway to St. George's Hall. It is reported that they are to be removed forthwith, and that they will be used in the façade of the new Free Library, in Shaw's-brow. The other outworks, erected at a large cost, are to be also removed, preparatory to a large open area being formed in front of the hall. In the hall itself the numerous casts of classic sculpture which have recently come into the possession of the library and museum committee have been distributed in various portions of the building. Each niche and pedestal in the grand hall is now occupied.

Leeds.—The Poor-Law Board has confirmed the selection of plans sent in for the proposed new workhouse, authorising the payment of the prizes awarded, and the adoption of the plans of Messrs. Perkin and Backhouse, to which the guardians had awarded the first prize. To the memorial of certain ratepayers, complaining of the manner in which the selection was made, and praying that the opinion of some disinterested and competent person should be taken upon the merits of the competing plans before a final decision is adopted, the Poor-Law Board replies by alleging that it has no power to interfere with the course which the guardians have pursued in obtaining the plans they recommend.

Bradford.—The new bank of the Bradford Banking Company has been covered in. The ground floor comprises a room 54 feet by 30 feet, and 23 feet high, in which the business of the bank will be conducted. The principal entrance is from the circular corner at the junction of Kirkgate and Darley-street. Connected with this room are a manager's and private office, and the "strong room," an apartment 15 feet by 12 feet, and 15 feet high, the floor, walls, and arched ceiling constructed entirely with massive blocks of hewn masonry. The interior is fitted up with polished stone shelving for the reception of the books in daily use. The ceiling of the large room or bank is fireproof, consisting of cast-iron girders and brick arching levelled up with concrete. On the ground floor there are also the offices required for the manager's dwelling. The whole of the entrances will be secured with wrought-iron doors, and the windows to the bank enclosed externally with Bunnett's patent iron shutters. A stone staircase, approached by a corridor from the private entrance, and connected by a vestibule to the bank, leads to the upper stories, on the first floor of which, fronting Kirkgate and Darley-street, are a shareholders' meeting-room, ante-room, sitting and reception rooms for the manager, and other accommodation. The site is very irregular in shape. The frontage to Kirkgate is 82 feet, and to Darley-street 33 feet: these fronts, with the exception of the basement, are faced with stone from the Park Spring Quarries, near Bramley. The style is Italian, more particularly that which prevailed in Venice during the sixteenth century. The basement is rusticated, and is built with stone from Calverley-wood. The ground-floor windows are arched, and divided into three compartments by Roman Ionic columns. In the upper story attached, columns of the Corinthian order are introduced, and windows embellished

with carved foliage; the whole surmounted by an entablature.

Ury.—An Aberdeen paper reports the fall of a bridge, newly erected, near Ury.

MEDALS OFFERED BY THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The Institute Medal is offered to the authors of the best essays on—

The application of wrought iron to structural purposes.

The combinations of variously coloured materials in the Mediæval architecture of England.

A critical Essay on the Architecture and Genius of Sir Christopher Wren.

The Medal of the Institute, with five guineas, will be also awarded for the best illustrations, geometrically drawn from actual measurement, with descriptive particulars, of a Mediæval building in Ireland, Scotland, or Wales, hitherto unpublished in that manner.

The Soane Medallion will be awarded for the best design, in not less than five drawings, for—

A Circus for Equestrian Performances.

The arena to be 60 feet clear in diameter. Stabling for forty horses; green-room and dressing-rooms for performers; saloon and refreshment-room for the use of the audience to be provided. The building to be available for both day and night performances. The successful competitor, if he go abroad within three years after receiving the medallion, will be entitled to the sum of 50*l.* at the end of one year's absence, on sending satisfactory evidence of his progress and his studies.

The competition for the Soane Medallion is open to all members of the profession under the age of thirty years. The conditions may be obtained at the Institute.

The Royal and other medals awarded in the present year will probably be presented at a meeting to be held on Monday, the 12th of April.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Monday, the 8th, a meeting was held at the rooms in Grosvenor-street, Mr. J. J. Scoles in the chair. Mr. Culling Eardley and Mr. Hedland were admitted contributing visitors.

Mr. C. C. Nelson, Hon. Secretary, laid on the table some curious catalogues of sales by auction effected at the beginning of the present century, and read a letter intimating the approval by Her Majesty of the nomination made by the Institute for the Royal Gold Medal.

Mr. M. D. Wyatt, in the absence of Professor Donaldson, Hon. Foreign Correspondent, laid on the table a memoir of Mr. Blouet, together with some specimens of a new species of French plaster of extraordinary hardness and cheapness, the price being as five francs per square mètre, to ten francs, the price of the present material. Also some drawings bequeathed to the Institute by the late Herr Zanth, of the Wilhelma, at Stuttgart.

The Rev. J. L. Petit then read some remarks "On Byzantine Churches," illustrated extensively by photographs and coloured drawings.

Mr. Beresford Hope, M.P. in moving a vote of thanks to Mr. Petit for his paper, said, whatever their particular views as to the style of architecture best adapted for the future might be, they would all concur in admiring the conscientious, laborious, and loving manner in which Mr. Petit had treated this interesting subject. Whatever Mr. Petit entered on, he entered upon thoroughly; and whenever he whipped his adversary, he did it with a bunch of roses. They could not fail to feel the greatest interest in co-operating with him in his labour of love, and in carrying out that style, in the future of architecture, which should as admirably represent the age of the swallow-tailed coat, and of the chimney-pot hat, as the Gothic may have represented the flowing robe of the Grecian, and the picturesque, or rather no dress at all of Grecian statuary. Whatever style might ultimately by the common sense of the age be adopted, the contributions of Byzantine art would be most valuable in aiding its formation. Whether or not the Gothic might be that style, it was not for him to say, but certainly during the last fifteen years, by strange consent, that style had been adopted in this country in all matters of ecclesiastical architecture, however difficult it might be to declare that it was founded on the immutable and eternal laws of beauty. The specimens of Byzantine before them were clearly constructed with a view to meet the exigencies of the climate, and their adaptation to the religion of the day appeared to be the animating spirit. It would be difficult to trace these buildings to classical times. The mouldings and details, although not exactly Grecian or Roman, yet had a pedigree that might be authoritatively traced up to them in the rounded arch, and other features. These buildings could not lay claim to that absolute purity of proportion or simplicity of detail that characterized the Parthenon or the Erectheum. Loving as he did the Gothic, he still entertained an equal admiration for the Byzantine school, as one of the derivative styles from the one great fountain of classical architecture.

Mr. D. Wyatt thought it was perfectly possible to appreciate in the highest degree the beauties of all styles, and to feel intensely their historical reminiscences, and yet not to desire to see one particular style adopted integrally to the exclusion of others. Unless eclecticism of style in the present day was comprehensive and wide-spread, it was likely to result in farrago and confusion; and in the present day there existed a singular concatenation of circumstances, furnishing us with materials for the very elimination of this eclectic style. He confessed he did not always like to see Gothic churches rising up in the midst of compo and brick, and they were better in rural situations than in Regent street. In many cases where Gothic was adopted, it was not done justice to; and if we could not do it honestly and with beauty, we had better adopt some other style.

Mr. Asphitel thought there was always a traditional idea that the Byzantine was of Persian or Arabian origin.

Mr. C. Barry believed that the frequent use of the tie-bar in Byzantine buildings would be found to arise from the fact of earthquakes occasionally occurring in those countries. The remarks of Mr. Wyatt as to not doing justice to the Gothic in the way of introducing thin walls and attenuated tie-beams, were applicable to all styles where the architect was large in his views, but cramped in his means. He believed the Gothic style to be more susceptible than any other of economy of cost in its application.

Mr. Penrose, while admitting that it had become the fashion to drive ecclesiastical architecture into Gothic channels, thought it was to be regretted that the earlier types of architecture had not been more thoroughly tried.

Mr. Jennings conceived the reason why Classic was not more successfully introduced in ecclesiastical architecture, was, that it was more expensive than the Gothic.

Mr. Wyatt was of opinion that, in looking at all these styles, we were too much influenced by tradition, and that the *rationale* of the matter was to adopt such style and such material as were most consonant with the wants and requirements of the day.

After some further discussion, the best thanks of the meeting were given to Mr. Petit for his interesting paper, and the meeting separated.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of this valuable society was held in the Rooms of the Royal Institute of British Architects, on Wednesday, the 10th instant.

Mr. Sydney Smirke, president of the society, was unanimously called to the chair, and made a few preliminary remarks.

Mr. Turner, secretary of the society, read the minutes of previous meetings, as also the general and financial reports, which showed that the society during the past year had made considerable progress, notwithstanding the depression which had generally prevailed in the financial condition of the country. The donations and annual subscriptions had materially exceeded those of the previous year, and almost exceeded the highest amount of any preceding year. With regard to those who had been relieved there were many distressing circumstances of unfavourable reverse of fortune. Still, the society was far from having realised the position due to it, the members on the list of subscribers being relatively small as compared with the large number engaged in the profession; and it was, therefore, much to be hoped that the sphere of their usefulness would be materially extended.

The report said:—

We know too well that a life of bright promise and fair hopes may yet be closed in grief and want; but this truth becomes far more impressive when we see it realized before our eyes. The lesson is twofold: it should teach prudence to the young, and thankfulness to those who believe themselves placed beyond the reach of such vicissitudes: a thankfulness, however, not cold and lifeless, but animated by an active desire to lighten the burden of those who have been less fortunate than themselves. It was in such a desire that the Architectural Benevolent Society originated, and on the unabated earnestness of that desire depends the continuance of its prosperity. It must not be forgotten that the Society is far from having yet reached the position that is due to it. The statistics of our profession will show that the number of names inscribed on our list bears but an insignificant proportion to the whole number of practitioners.

The Chairman, in moving that the report shall be adopted, expressed his gratification at the position in which the society stood at this the eighth year of its existence.

Mr. G. Mair seconded the motion, which was agreed to.

Mr. Mocatta, Mr. Marrable, Mr. H. Currey, Mr. Poynter, Mr. Hesketh, Mr. Hodson, and others, took part in the proceedings.

The auditors' report showed that the receipts of the past year, including the previous balance of 50*l.* 6s. 2d., the subscriptions, 175*l.* 6s., donations 75*l.* 11s. 7d., and dividends, 21*l.* 2s. 10d., amounted to 322*l.* 19s. 1d., from which remained a balance of 63*l.* 18s. 6d. There were 786*l.* 6s. 8d. in the Fund and subscriptions due amounting to 57*l.* 15s.

This was also adopted, and the re-election of the council and the other officers for the ensuing year took place.

Thanks were then unanimously awarded to the president and council; to Mr. Turner, the hon. secretary; and thanks having been unanimously awarded to the chairman of the day, the meeting broke up.

THE BIRMINGHAM ARCHITECTURAL SOCIETY.

ON the 1st inst. Mr. George Dawson delivered a lecture to the members of the Birmingham Architectural Society, in the Lecture Theatre, Cannon-street, on "The Duty of Society in Relation to Architecture." According to the *Birmingham Gazette*, Mr. Dawson commenced by stating that architecture was one of the most interesting studies for an amateur. He pointed out the extreme importance of public attention being directed to it, on account of the publicity and durability of its works, which were, in fact, the history in stone of all great deeds. A bad picture might be destroyed, or be hidden in a private dwelling; but a bad building, which no one could burn, and which costs too much to be pulled down again, abides and afflicts by its unceasing ugliness. After glancing at the glories of the architecture of the Middle Ages, and tracing the causes which led to its declension, the lecturer adverted with some severity to the state of several of the public buildings of Birmingham, remarking that most of the incongruities in their buildings were owing to the public, and the impossibility of laymen being able to judge from mere plans of the ultimate effect of a design, for the architect was too often obliged by the necessities of competition to adopt any of the suggestions which fashion might call for or economy require.

[It seems an odd notion for architects to call a layman, even so eloquent as Mr. Dawson, to lecture to *them* on "The Duty of Society in Relation to Architecture."]

A SEWAGE QUESTION.

HIGGS *v.* GOODWIN.

THIS case was tried at Hertford Assizes on Thursday, 4th inst. before Mr. Justice Erle and a special jury.

The plaintiff is a chemist in London, and patentee of a process for treating town sewage with lime, so as to cause precipitation: he brought an action against the Hitchen Board of Health (through the clerk) for an alleged infringement of his patent right.

The Hitchen Board having unsuccessfully defended two actions brought against them by a miller for contaminating the mill-stream which forms the sewage outfall; under the advice of the General Board of Health, they employed Mr. Henry Dangerfield, C.E. of Cheltenham, to erect some works for purifying the sewage, similar to those he has constructed in his own town, which consist of spacious covered tanks into which the sewage flows, and remains in a state of rest a sufficient time for the solid matters in suspension to precipitate by gravitation: the supernatant water is then drawn off by an arrangement of syphons to a large filtering-tank, where the water passes through strata of flint, sand, &c. and deposits particles held in solution. The water, after leaving the filter, is clear, but fetid: to deodorize this, according to the statements on the part of defendants, lime-water trickles in from a cistern above: it flows a short distance in a covered chamber, and at its exit into the open air it is devoid of colour or smell.

Mr. Higgs's patent is to add lime in the *first* instance, to cause precipitation: Mr. Dangerfield's is to add lime in the *last* instance, to cause deodorization. The jury found a verdict for the plaintiff; amount of damages to be found by arbitration.

By this decision it is illegal to put lime into a cesspool, or to use it as a deodorizer for any sanitary purposes, without paying for Mr. Higgs's use. The patent has only two more years to run, but an application will be made to the Court of Queen's Bench for a reversal of this decision.

A HINT TO BRICKMAKERS.

As you have been favouring the potters with a few hints, I venture to offer one or two for the benefit of our brickmakers.

A great deal has been said of late about ornamental brickwork, and some creditable attempts have been made to obtain an effect by the use of moulded bricks. Still we cannot expect a general revival of the art until moulded bricks of every variety can be readily and cheaply obtained of the brickmaker. There is less difficulty in the latter; but in London the introduction of a little ornamental brickwork generally involves a considerable delay and expense in the carrying out of the works. I think our London brickmakers would find it to their advantage to keep in stock a considerable variety of moulded and arched bricks. When the duty was abolished great anticipations were indulged in; but unfortunately they have not yet been carried out; and I engage to say the price of bricks is not much affected by the removal of the impost.

Why should we not be able readily to obtain splay bricks, splayed bricks, and skewbacks of every kind, not only in the superior kind of brick, but in the ordinary stock? Why, also, should we not have larger bricks than are at present used? Bricks of the length of a brick and a quarter, or a brick and a half (or even two bricks, where they can be made), would be very useful, and would enable us to obtain a better bond.

AN ARCHITECT.

RAILWAY FOR LONDON STREETS.

I HAVE long been watching every plan proposed for a quicker and more convenient method of travelling through London, but all as yet seem to fail. Now, as one plan, though it may not answer, often suggests thoughts for improvements, I offer another starts out of it that will, I propose simply to erect a single line of railway on iron pillars along the centre of the principal streets, sufficiently high to allow of the usual traffic underneath. The carriages to be as most convenient in shape and fittings, to be propelled by wind engines and ropes, with some contrivance, if required, to deaden the noise.

We might thus travel from Notting-hill to the Park, in a direct line, having stations at the Marble Arch, Regent-street, Tottenham-court-road, Holborn-hill, or where best This might be accomplished in about fifteen or twenty minutes, with but trifling loss to the public thoroughfare. Two or more carriages might start from each terminus at the same time, every eight or ten minutes, passing by a loop line mid-way, say Regent-street: thus conveying, both ways, if I say only six passengers each journey, they would carry 1,000 every twelve hours. R. M. MAJOR.

* The proposition, as our readers know, is not a new one. We print it to keep the subject alive for discussion.

COTTAGE BUILDING.

VENTILATION.

I CAN bear testimony to the truth of Lord Shaftesbury's remarks in your leading article of February 20, respecting the ventilation of labourers' cottages. I was at a pair of cottages, one of which is just inhabited, and on going for repairs I found paper pasted over the gratings leading to the air-flues. I should be glad, with many others, to know his lordship's stratagem for concealing the ventilator, as I would most certainly adopt it. The cottages we have been building are very commodious and airy. The general arrangement is as follows, viz.:—an entrance-lobby, with staircase in it, and door opening into the living-room, size, 14 feet 6 inches by 13 feet 3 inches; back kitchen, 14 feet 6 inches by 9 feet; and pantry, 7 feet by 7 feet. There are three good bedrooms opening off the landing, and also a small closet; two fireplaces, fitted with iron chimney-pieces, to form grates, with fire-brick linings. In the living-room is a fireplace suitable for burning wood on the hearth without smoke, and constructed to reflect the greatest amount of heat into the room, and also to heat the air entering at the back of fireplace. The same arrangement heats the air in living-room, from back of scullery fireplace. One brick oven serves both cottages, being so arranged as to have its own door in each cottage. They are covered with tiles, and have O-G brick cornices, and chamfered plinths and quoins. There is also a safe in the pantry, with perforated zinc, so that fresh air cannot be shut off from it.

Langton. H. CHILDS.

NOTES UPON IRON.

THE reports by ironmasters on 'Change at Wolverhampton on Wednesday last, were to the effect that the state of things last reported was fully maintained in the experience of the first-class houses this week. Scarcely half-a-dozen such houses, however, are in full gear; and those of less note have only a very small proportion of their machinery occupied. Liverpool merchants maintain that orders are being executed in South Staffordshire at rates considerably below those generally quoted.

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE concluding meeting of this society for the winter session was held on the evening of Monday, the 1st inst. Mr. Wm. Burns in the chair. The secretary read a letter from Mr. John Buchanan, regretting his unavoidable absence, and describing several interesting Roman antiquities, principally coins, and articles of jewellery, in his possession, found in the neighbourhood. He observed that the 6th Legion—a detachment of which lay for some time at Kirkintilloch, had previously been present at the siege and capture of Jerusalem under Titus. This legion came over to this country with Hadrian about the year 120, during his memorable tour of inspection of the Roman fortifications in Britain. It was a crack corps, and bore the title of "The Vanquisher." Its headquarters were at York, and it remained in this country till the very last days of the Roman power and the advent of the Saxons. Most of the Roman forts are now levelled. The ditches at the Kirkintilloch fort are the only specimens left at any of the sixteen which guarded the wall from one end to the other. The wells for supplying the garrisons are still extant.

Dr. Stewart then read a paper "on that part of the Roman wall which passes through the parish of Kirkintilloch, and the Roman antiquities found in the neighbourhood," which was illustrated by numerous drawings and specimens, and gave rise to some animated conversation.

Mr. Macfarlane, architect, read a paper entitled "Notices of some Ancient Heraldic Sculptures in Glasgow," in which he referred to the importance of heraldry as an architectural accessory, and as a means of tracing the history of ancient buildings. The paper was well illustrated, and contained a great deal of information peculiarly interesting to local antiquaries.

FEEDING LONDON.

THE luxurious Romans, at the time of their decline, considered that the oysters from Britain, a favourite dish, were better when in such a state of putridity that few gourmands of the present day would like to come within some distance of similar dainties; and it is not many years since it was the fashion in this country not to eat the different kinds of "game" until they were "high," and in as unwholesome a state as the oysters of the ancient Romans. The contrast between the former size and rate of speed of the ships which slowly and dangerously carried the "natives" to Rome, and the huge steam and other ships of the present day, is great.

In the old Roman days it was scarcely possible to get the British oysters in a lively state over the sea, and so it became a fashion to eat the dishes which were taken with so much cost and difficulty to the imperial city in such condition of freshness as they could be had.

In those days of England when "high game" was in such favour, the roads were so bad in many parts that the conveyance of grouse, partridges, &c. was such a slow process that it was seldom that this description of food could be got to the metropolis in a fresh state; and in consequence, as was the case with the oysters in Rome, it became the fashion to eat the game when in a most dangerous condition. Now that venison and grouse can be brought from the remote parts of Scotland in the course of two days, and when railway trains fly with equal rapidity from other places, the taste for "high game" has declined, and people inspired with sanitary knowledge wonder how it was possible that such pungent vivers could have been borne with.

A little more than half a century ago it took about six weeks to drive the herds of cattle from the north of Scotland to the metropolis: now they can be whirled here in a few hours. Fish in great variety may be caught in the morning on the coast of Berwick and Coquet, and be boiling in the kitchens of Belgravia on the same evening for dinner. In exchange for the sheep and beeves from the highlands and Cheviot, the choice fruits and early vegetables of the south are rapidly passed. By means of steamships and other quick sailing vessels, the oranges of Spain and Portugal, the grapes of France and Italy, and the oxen, sheep, fruits, &c. of other foreign parts are brought in fine condition; and delicacies which were not easily obtained even by the rich are now common amongst the multitude. But for this increased facility of conveyance how would it be possible to feed the immense multitude of London, which, in half a century of time, will in all probability number 5,000,000?

IMPROVEMENT OF CONSERVATORIES AND FERNERIES.

I AM neither an architect nor a gardener; I may therefore expose myself to criticism for presuming beyond my vocation; yet I venture to suggest a thought I have concerning those luxurious and beautiful flower-pleasures which are becoming more and more part of the national taste, and which, by diverting riches from their old courses of heavy and extravagant feasts and ostentatious equipages in which our forefathers indulged, improve our health, refine our enjoyments, and lengthen our lives. A grand house admirably appointed is a noble thing, and one of its choicest ornaments is, or might be, a greenhouse. But a greenhouse is not a place to abide in, where one can long revel amid our blooming favourites: the air is offensive, unwholesome, and soon is poisonous.

I propose that, instead of the usual greenhouse, an apartment should be constructed of any dimensions, suitable for a dining, drawing, or ball room. One side of it, where the usual fire-place is, should be against the solid wall of the house; and the other three sides should consist of a double glass wall, with an interspace of from 12 inches to 24 inches; and that *this interspace should be the conservatory*, which may be continued along the roof of the room, so that the roof should be of double glass and hollow, which will allow for tender and beautiful climbing plants. Thus we should have an apartment to sit in (as fresh and commodious as any of our best arranged rooms), where we can view our plants, flowers, and fruits—themselves making, indeed, the wall decoration,—and see beyond and through them, our open-air garden, fields, mountains, and, so far as the *eye* is concerned, be at once in our greenhouse and in our ordinary sitting-room. For our other rooms we might still have the landscapes of Linnell or Boddington, and the flowers and fruits of Mutrie, Hunt, or Lance; but this our room with walls of glass would be ornamented all round with the choicest originals, blooming undisturbed and uninjured by sudden or incessant changes of temperature. Glass is cheap; and such a room, with double glass walls and roof, might be made at no great cost, but its beauty might be enhanced by any amount of elaborate and expensive devices. It would be a crystal drawing-room, brilliantly light, cheerful, warm, well-ventilated, and its walls all painted by nature. J. H. ELLIOTT.

SWEARING IN THE WORKSHOP.

WHEN Sir Christopher Wren was building St. Paul's Cathedral; he caused the following notice to be affixed to several parts of the structure:—"Whereas, among labourers and others, that ungodly custom of swearing is so frequently heard, to the dishonour of God and contempt of authority; and to the end that such impiety may be utterly banished from these works, which are intended for the service of God, and the honour of religion; it is ordered that profane swearing shall be a sufficient crime to dismiss any labourer that comes to the call; and the clerk of the works, upon a sufficient proof, shall dismiss them accordingly: and that if any masters, working by task, shall not, upon admonition, reform the profanation among his apprentices, servants, and labourers, it shall be construed his fault, and he shall be liable to be censured by the commissioners."

BOTTLE-NECKED THOROUGHFARES.

THE grievous stoppages in the great thoroughfares of London, from Aldgate to Somerset-house, are seriously felt by all business persons, and various remedies are suggested. The remedy by tunnelling is clearly impracticable. The evil arises from the general narrowness of the entire line of thoroughfare, but it is greatly aggravated by the series of bottle-necked ways to be found in the above line. The traffic emerges through these pent-up passages in the same fashion as water escapes out of a bottle, a little at a time or none at all.

A person entering London at the east end first meets this difficulty at Aldgate; then at the entrance of Leadenhall-street; then he comes to a four-crossway at Gracechurch-street: he proceeds on, and finds the traffic again nearly choked at the Poultry, and quite strangled at the corner of St. Paul's-churchyard next Cheapside; and, in order that there may be no jealousy felt with respect to that secluded edifice, St. Paul's Cathedral, the traveller finds (preserved for the sake of uniformity only) a like narrow neck at the opposite end as he enters on Ludgate-hill. He proceeds on to St. Dunstan's Church, where he is stopped by two or three houses projecting far into and narrowing the road, as though they were only intended to give the inhabitants of them a side view down Fleet-street,—but in truth they are useful to prepare him to contend with the difficulties of Temple-bar, which is about as comfortable a ligature on traffic as a tight neckcloth round the neck of a plethoric citizen, who has just emerged from the Guildhall with as much turtle soup as he can carry. His difficulty, however, does not end here: his neckcloth must be drawn a little tighter, for he must squeeze through the narrow straits between St. Clement Danes and Somerset-house. Then he may begin to breathe, and thank his stars if he has escaped being run over, and his loose cash has not found its way into some loose stranger's pocket.

In sober seriousness, what is to be done? Can the evil be effectively remedied? No, it cannot: the expense is too great. Can it be mitigated? I think it may, at comparatively little expense. Let us begin at Aldgate. The few obstructing houses there may be (and I believe are about to be) removed. Leadenhall-street being relieved by Fenchurch-street is a minor evil, and must remain, as it would be too expensive to deal with. Now we come to the greatest of the evils, the four-crossway at Gracechurch-street and Cornhill. Take down each of the four corner houses, and make a circus as at Piccadilly, round which the traffic might revolve. Throw back the houses on the south side of the Poultry about 20 feet: the frontages would nearly repay the expense. Take down the box-makers' and Cathedral Coffee-house at the east end, and Dakin's, the teadealer (and, for the sake of uniformity, and to give an opening to the cathedral, the bookseller's), at the west or opposite corner. Take down the two or three houses between St. Dunstan's Church and Praed's, the banker, and remove time-honoured Temple-bar. The entire block of houses constituting the north side of the Strand, and the whole of Wych-street, might be demolished and rebuilt as a profitable speculation. There is much of "take" and "remove" in all this, like a doctor's prescription; but remember the health of "the corporation" requires it.

The relief afforded by these suggested improvements would be so great, and the expense comparatively so small, that I feel assured the citizens of London would gladly raise the amount by a voluntary rate.

The remedy of removing the corner houses of four crossways might with great advantage be applied to other parts of London, especially at the junction of Lombard-street and Fenchurch-street, by supporting the church tower upon an archway, and using it for passengers.

A LONDON CITIZEN AND SUFFERER.

RECENT PATENTS.*

C. BAYLIS.—*An improved Method of Constructing and Arranging Roads and Ways particularly applicable to populous Cities and crowded Thoroughfares.* Dated March 10, 1857.—The patentee combines a tramway with roads for ordinary carriages and foot passengers, so that the traffic on both can be carried on without interfering with each other. Provision is made for the sewers, also for the gas and water pipes and telegraph wires, by excavating the ground, and building three tunnels side by side and parallel to each other. In the centre one he places the main sewer, and in the others the gas and water pipes and the telegraph wires.

B. H. PAUL.—*Improvements in the Preservation of Stone, either natural or artificial; also of Cements and other similar Compositions.* Dated April 1, 1857.—This consists in applying to the stone, &c. solutions of aluminates (of soda, potash, &c.), also of the zincates (of soda or potash), or phosphates of alumina, or zinc in solution by alkalis; also similar preparations of lead or molybdenum. These are employed either alone or mixed with finely powdered silica, carbonate of magnesia, baryta, or zinc, sulphate of baryta, French chalk, &c.

G. J. GUNTHER. *Improvements in preparing Blocks and Stones for Building Purposes.* Dated March 21, 1857.—The blocks are moulded so that only four sides form plane surfaces, the upper and lower side forming two inclined planes, which converge towards each other from the edges to the middle, so that the direction of the furrow which is formed by the two inclined planes on the upper side forms a right angle with the direction of the furrow which is formed by two inclined planes on the lower side. The blocks are dovetailed together crosswise at right angles. The inventor forms another block having grooves on the opposite sides, and at right angles to one another. Stones thus shaped are held together without cement.

G. T. BOUSFIELD.—*Improvements in Machinery for compressing Clay and other Materials, applicable to the Manufacture of Bricks and other Articles.* (A communication.) Dated March 5, 1857.—One or more moulds are attached to a mould-carrier, which is moved up and down between guides by an eccentric on the main axis of the machine. The moulds are bottomless, and into them fit plungers, which receive motion from cams placed on the same axis as the eccentric; and there are also other plungers attached to the top framing of the machine which enter the moulds when they are moved up by the eccentric.

ROBERT MALLET, Bridge-street, Westminster.—*Tiles and Coverings for Roofs and other Parts of Buildings.* Dated June 24, 1857.—The patentee constructs roofing tiles of metal or glass, or of pottery or other suitable material, of a square, or lozenge, or similar form, adapted for being placed diagonally on the roof. The upper angle or cornice of the tile, and the two upper edges which meet there, are bent up or made higher than the general surface of the tile. The upper corner has also a hook or projection beneath it, which catches or holds on the laths or purlins which run horizontally along the roof. It has also a hole through it, which receives a screw or nail, which further secures it to the purlin or lath. The two lower edges of the tile are turned downwards, or made to project below the lower surface of the tile. The two side corners of the tile have notches or small recesses, which meet those in the adjoining tiles, and are covered with a small plate or washer, secured by the same screw or nail which secures the top corner of the tile below. Each of these side corners has a rib or raised part on the upper surface, which protects the screw holes from the entrance of any water flowing down the roof. [There are various other peculiarities described, and also as to ridge and other tiles.] The transparent tiles may be introduced as skylights or windows in roofs or coverings composed principally or partially of the metallic or opaque tiles. By employing glass tiles of different colours, arranged alternately or in patterns, beautiful and various effects may be produced, and the overlapping of the different colours enhances the effect. The glass tiles may be stamped or pressed to the required forms from the soft or melted glass, or from sheets or plates of glass softened by heat. The metallic tiles may be cast or stamped out of sheet metal. They may be of iron galvanized or coated with zinc, or tin, or lead, or any suitable combination of these metals, or painted or enamelled, or of copper, or other suitable metal or alloy. Tiles of pottery may be pressed in moulds, or shaped by the ordinary processes. The form of the edges or laps of the bricked or domed, or pyramidal or conical tiles, may be varied, provided that they are so arranged that the rain or water which may fall upon them is conducted down from one to another without being able to return under or pass between them. The whole tile may be curved when it is desired to cover a curved roof.

C. C. DENNETT.—*A New Construction of Floors and Ceilings of Buildings.* Dated March 9, 1857.—This consists of fire-proof arches composed of the sulphate of lime and an artificial Puzzolana, of burnt clay or porous cinders, further strengthened with laminæ of wood or iron, which arches form both floor and ceiling in one substance.

W. E. NEWTON.—*A Preparation of Mat for Coating Roofs, or other Portions of Buil to render them Impervious to Wet.* (A com cation). Dated March 3, 1857.—This com is peculiarly designed for roofing. The foll are the ingredients:—Caoutchouc dissolv spirits of turpentine; gum shellac dissolv alcohol; gutta percha dissolved in linseed mixture composed of pulverized glass, quic and plaster of Paris; and another mixture, posed of vitrified glass, sand, flint, gravel, c equivalent pulverized substances which will stand the action of the atmosphere. To th to be added naphtha or coal tar.

STANISLAS TRANQUILLE MODESTE SOREL, —New chemical compositions producing house paintings, cement, or plastic paste moulded. Dated June 19, 1857.—The se chemical compositions of this invention ar tained by combining the following substan suitable proportions:—First, chloride of zi any other chloride which is *amorphous* wi namely, either chloride of iron or of manga second, a tartrate; third, muriatic acid; fo a feculent or amylaceous substance; fifth, w sixth, oxyde of zinc. The said substances are bined in various proportions according t nature of the products required. Any o aforesaid substances may be replaced by c possessing similar properties, and any of could be omitted and new ones could be adde

H. Y. D. SCOTT.—*An improved Manufactu Cement.* Dated Feb. 19, 1857.—This relates process patented by the patentee, April 17, The object here is to impart to quick-lim properties of a cement. Lime is by mechs means reduced to a powder, and mixed with five to ten per cent. of its weight of gypsum phate of lime (plaster of Paris), sulphate of or sulphate of magnesia.

L. E. DEPLANQUE.—*An improved Compos for Sharpening and Setting Fine-Edged Cu Instruments.* Dated March 28, 1857.—This combination of vulcanized caoutchouc with table and mineral substances.

G. T. BOUSFIELD.—*Improvements in tre India-Rubber and Gutta Percha, in orde render the same impermeable to illuminating other Gases.* (A communication.) Dated Ap 1857.—This consists in applying linseed oil, heated state, to the surfaces of tubes of vulca India rubber or gutta percha when in a h state.

W. E. NEWTON.—*An improved Manufactu Tracing Cloth.* (A communication.) D March 5, 1857.—Spirits of turpentine or phine, castor-oil, Canada balsam, and ba copaiba, in certain proportions, are well m applied to the tracing muslin by means sponge, or otherwise, and, when perfectly dri is fit for use.

J. STANLEY.—*Improvements in the Cons tion and Mode of applying Cranes and hoisting Machines, to hoisting, suspending, l ing, and weighing purposes; also, in genera transmitting, and applying Motive Power fo same.* Dated May 4, 1857.—This invention ap first, to wharf-cranes, and all others to w steam-engines are attached and made to round their vertical axes with the crane, and vides that the steam-boilers be attached to carried upon the moveable parts of such cran made to form the centre column or main sup thereof, in order that the engines may be sup with steam without passing it through the p or vertical axis, &c. 2nd. To the constructi the boilers of hoisting machines, and pro that their fire-boxes, tubes, &c. be corrug fluted, or reeded. 3rd. To the mode of tran ting the power of steam in the operation of h ing, and provides that in connection with hoi machines (to which the power of steam prod at any considerable distance is to be transmit turbine water-wheels be erected, and supplied water forced through pipes by the steam, and the power of such turbines be applied to the h ing machines. 4th. To the construction of st engines connected with cranes and hoisting chines, the working of which is intermittent provides that the engines be made to work zontally, that their exhaust passages be conn with the inside of the cylinder on their u side, &c. 5th. To the variety of degrees of p required in steam hoisting machines, and pro that the engines be arranged to work singl two or more together, &c. This invention inc fourteen divisions: the remainder require gravings to illustrate them.

P. A. L. DE FONTAINEMOREAU.—*An Impr Truck Apparatus for Moving and Trans ing Stones and other heavy bodies.* (A

* Selected from the condensed lists published in the *Engineer*, *Mechanics' Magazine*, and other journals.

ication.) Dated April 16, 1857.—This appa- is composed mainly of two supporting rs and a frame, these rollers being one in nce of the other, and each being of the form truncated cone.

Manico.—*Improvements in obtaining Foun- ns for Marine or other Structures.* Dated l 24, 1857.—The patentee employs a hollow c of iron of any shape. The capacity of the on is usually a cubic yard, which will contain t one ton of stone, and when bedded in sand ingle, the interstices between the uneven stones will receive from 10 to 12 cwt. of or shingle, which will work into the caisson, form a solid mass, and with the iron of which aisson is made.

Ramsden, Hunslet, Leeds, Yorkshire.— *g of Window Sashes.* Dated July 17, 1857. is invention has for its object the more con- nt removal of window-sashes from their es when required. The sashes slide up and the frames in the usual manner, and are ded with the ordinary cords and weights; nstead of the cords being affixed permanently se sash, as is usually the case, they are at- d thereto by a contrivance which is denomi- a self-acting lock. The lower part of the dings within which the sashes slide are made so as to be removable, and one of them is ed in its position by screws, and the other eans of a flush bolt, or other convenient and gous contrivance. In order to prevent the w cords from slipping away when the sashes ken out, a clasp can be fixed in the window and made to press or bear upon the cords, hereby retain them in position until they are attached to the sashes.

Leslie.—*Improvements in Apparatus for Mating Buildings.* Dated May 4, 1857.— an air-shaft is fixed to the ceiling so as to rough the roof, and on the exterior of the ft is an inclosed chamber, open at bottom osed at top. The heated atmosphere of the g will enter the inclosed chamber around r-shaft, keep it warm, and thus induce a current through the air-shaft.

J. Cooke.—*Improvements in the Manufac- f Knobs, Roses, and Escutcheons used for , Drawers, Shutters, and other similar pur-* Dated May 2, 1857.—The knobs are made of brass and partly of iron, and the roses escutcheons solely of sheet iron. The inven- mprises improvements in ornamenting the and also in ornamenting ordinary articles of me kind which are made of brass, by any of nown japanning, enamelling, painting, or ng processes.

W. Ramie.—*Improvements in the Mode of ing Knobs to Spindles.* Dated May 7, The patentee makes use of a square spindle, angles of which a screw is cut. At the end of the knob is attached a nut, which is to revolve about its axis, and tapped to fit he screwed angles of the spindle. To this attached a washer or escutcheon plate, by the nut may be caused to revolve, and ob thus drawn forward upon the spindle, ad of which, fitting into a corresponding e the knob, prevents the latter from revolv- ereon.

RECENT AMERICAN PATENTS.*

. Havens, Casstown, O.—*An Improvement paring Roofing Cements.*—Claim: The pro- s combining and pressing coal tar and sand aper or wood, for the production of an arti- late.

. H. Carver, Covington, Kentucky, and J. ey, Cincinnati, Ohio.—*An Improvement in it Roofing.*—Claim: The precise manner ed of mixing and compounding the ingre- and applying the cement when combined ae proportions of ingredients, by which pro- mixing and compounding, and combination edients, and applying the cement to use, we bled to decompose or destroy the ammonia ed in the coal tar, to prevent it from ing the cement and eating the canvas on t is spread, and at the same time produce hat that is not brittle and subject to crack- hard enough to resist forces that roofs erally subject to, and at the same time enough to expand and contract to suit all ons of heat and cold, and make the cement roof.

B. Beverly, Lancaster, Ohio.—*Improved e for Bending Wood.*—Claim: The sta- mould and arms, for the purpose of bending the stuff from its centre outwards or towards its ends. Also, attaching the arms to an adjustable block, operating in connection with the lever for the purpose of allowing the stuff to be readily inserted or adjusted between the mould and strap; and also, for properly holding the stuff to the mould while the stuff is being acted upon by the rollers of the arms.

Charles H. Earle, Green Bay, Wisconsin.— *An Improvement in Bridges.*—Claim: The supporting of those ends of the several sections of the bridge which are not connected directly with the abutments, by attaching them to cap pieces, or their equivalents, fitted to rise or descend on piers, in combination with the attachment of the sections next the abutments with knuckles or hinges, whereby the bridge is rendered self-adjusting, and prevented being carried away by accumulations of ice, floods, or other causes leading to lift the bridge from its place.

Abram S. Swartz, Buffalo, New York.—*An Improvement in the Trussed Bridge.*—Claim: The arrangement of the parts so that the tower, the tension-bars, and the suspension-rod, when taken together, will present the distinctive features of a triangle, with the foot of the arch resting upon the tower within the triangle.

Barzillai C. Smith, Burlington, New Jersey. *An Improvement in the Mode of Connecting and Disconnecting the Blocks of Iron or other Pavements.*—Claim: The mode of locking the plates or blocks of iron pavements, the same consisting of the locking-bar and grooves, one of which is of sufficient depth to cover the entire width of the bar, while the other is of half that depth; and in combination therewith I claim the grooves.

* See the condensed lists published in the *Journal of the Franklin Institute* of Pennsylvania.

Books Received.

A Dictionary of Trade Products; Commercial, Manufacturing, and Technical Terms; with a Definition of the Moneys, Weights, and Measures of all Countries, reduced to the British Standard. By P. L. Simmonds, F.R.G.S. &c. London: G. Routledge and Co. Farringdon-street. 1858.

In a commercial and industrial nation such as England, beyond all others, it is surprising that a desideratum such as this should have been so long awanting. Our more elaborate and ponderous commercial dictionaries, one would think, might have ere now suggested the advantages to be derived from a popular and concise work of reference, in one handy volume, on trade terms and the various names under which trade materials and products appear in the market. The idea is an excellent one; and, although a work of this kind never can be complete, it only requires a few successive efforts like the present to render it, in realization, all that can be desired, both for comprehensiveness and accuracy. To this end the author himself is anxious to be favoured with suggestions and corrections for adoption in future editions; but even as it is, this novel work is one of great labour and research, which must have required peculiar facilities for its preparation, and the execution of which appears to have fallen into able hands. It only requires to be known for it to become an indispensable aid to all engaged in general or miscellaneous trading operations, or in any way interested in them. The work already contains, it is said, no less than 22,000 words, the greater number of which are not to be found in any other work of reference; the whole constituting a dictionary of the names of substances or articles, foreign and native, manufactured, imported, exported, bought, sold, or dealt in, at home or abroad. Revision is wanting in one or two paths; but we will not modify our good opinion.

LECTURES AND ESSAYS.

Lectures and Essays on various Subjects, Historical, Topographical, and Artistic. By W. Sidney Gibson, Esq. Barrister-at-Law. Robinson, Newcastle-upon-Tyne; and Longmans and Co. London. 1858.

Essays, Biographical, Historical, and Miscellaneous. By the Rev. G. R. Gleig, M.A. in two volumes. London: Longmans and Co. 1858.

The former of these works comprises lectures and papers now for the first time published, and Reviews and Essays which had already appeared in various periodicals. The whole forms a very agreeable volume, with not a little matter of special interest to the readers of the *Builder*. The first is a lecture on poetry and the fine arts, in which the relationship of architecture to sculpture, painting, music, &c. is considered. An Essay on Old Oaks, and other remarkable trees follows. Then a paper on the Inns of Court. There are essays on the Antiquity of the Bell, with notices of remarkable church bells; on the Stone of Destiny in Westminster Abbey; on the Black Rood of Scotland; on London, Past and Present; on Arundel House and the Arundel Marbles; the Renaissance at Alnwick Castle; Bothal Church and Castle; an Archæological Holiday in York, and various others.

The Rev. Mr. Gleig's well-known essays in the *Edinburgh* and *Quarterly Reviews* form the subject of the second work under notice. These essays, as befits an author so connected with the army as is the "Chaplain-General to Her Majesty's Forces," are chiefly of a military caste, such as that on Military Bridges, which contains a good deal of matter of general interest to our own profession; as also does that on our Defensive Armament. Some opportunely relate to India and its Army, the War in the Punjaub, and Military Education; and there are various others, on Natural Theology, on the Puritans, &c. In their present shape they will doubtless have, as they deserve, a wide circulation.

Miscellanea.

Chromolithographs.—Sir: May I be allowed a corner of your valuable periodical to enter a protest against the rapidly-increasing mania for chromolithographs and coloured engravings. I am deeply impressed with the conviction that the multiplication of pictures by these means will not advance the public taste, and I much fear that the good likely to be effected by the Turner legacy will be lessened by the mistaken efforts to produce copies of the principal* pictures by chromolithography. Chromolithography has its proper place, which is, as I think, in representing diapers and flat decorations where the variations of colour are not numerous, and the spaces coloured have defined edges; but it is, and ever will be, utterly futile to attempt to follow the hand of a great artist in his management of colour by block printing, however numerous the blocks used may be. If the energy and talent employed in the production of chromolithographs were directed to the improvement of engraving, in which there is much to be done, it would be well.—F. A. M.

Chester Archæological Society.—At the usual monthly meeting of this Society a paper on "The Peculiarities of Cheshire" was read by Major Egerton Leigh. After a few preliminary remarks, Major Leigh said, Cheshire could boast of many peculiarities, and its capital was unique. Commencing with it, he alluded to its principal features, its walls and rows, and the mystery which enshrouded the origin of the rows. In passing along the rows a remarkable feature was to be observed in the double row of shops in some parts, and he hoped that some of the stall-shops would be preserved as a curiosity. He regretted to see so many of the old houses which rested on pillars in the streets removed, and suggested that, under certain regulations, that old style of building should be encouraged in the various approaches to the city. A description of Northwich, and the gradual fulfilment of Nixon's prophecy respecting it, that it would eventually disappear, occupied the next point in the paper. The cause of the subsidence of the soil, the disappearance of roads, hills, and houses was clearly in consequence of the immense quantities of salt which were annually raised from the mines which intersected the town and neighbourhood. It was a curious sight to see the manner in which the houses in this town were propped up by iron bars: the town was literally resting on a crater. Reference was next made to Birkenhead, Knutsford, and other towns in the shire, and the paper closed by allusions to the trees, stones, cheese, products, and provincialisms of the shire.

Strike.—At the works in progress at Bull Point, Devonport, forty-five masons engaged by piecework to prepare ashlar facing and nobbling, struck last week for a higher scale of payment. For the former they have been paid 5½d. per foot, and for the latter, 10d. per yard; but they now ask 7d. per foot and 1s. per yard, respectively, which the contractors, Mr. Taver, of London, and Mr. Clift, of Plymouth, refuse to pay.

The Glasgow Architectural Society was inaugurated on Tuesday, the 2nd instant, in the Bath-street Exhibition Rooms. We must postpone notice of the proceedings.

* I use this word somewhat incorrectly; for, setting aside the expediency or otherwise of attempting to copy such pictures as Turner's, I cannot understand on what principle the "Bacchus and Ariadne" was chosen as one of the first to be copied.

INSTITUTION OF CIVIL ENGINEERS.—On the 2nd of March—Mr. Joseph Locke, M.P. president, in the chair—the discussion on Messrs. Longridge and Brooks' paper, "On Submerging Telegraphic Cables," and on Mr. F. C. Webb's paper, "On the Practical Operations connected with Paying-out and Repairing Submarine Telegraph Cables," was commenced, and occupied the entire evening. On the 9th the discussion was resumed.

THE ROYAL MANCHESTER INSTITUTION AND SCHOOLS OF ART.—The council have decided to offer the following Heywood prizes for competition at the next Exhibition of Modern Works of Art at this Institution:—The silver medal, and 20*l.* in money, for the best oil painting (size not less than 20 inches by 12 inches), the original production of a pupil of any school of art within 100 miles of the Institution; a prize of 10*l.* in money for the best chalk drawing, the original production of a pupil of any school of art within 100 miles of the Institution. The competing works must be delivered at the Institution not later than Wednesday, August 4th, and must be accompanied by a descriptive note from the sender, certified by the master of the school to which the party may belong as a pupil. It is satisfactory to find that the Royal Institution shows its sympathy with the progress of the School of Art, its tenant, at 200*l.* or so a-year.

MR. PEISER'S WAREHOUSE, MANCHESTER.—Sir,—In your impression of the 13th ult. in commenting upon "Art and Buildings in Manchester" (p. 97), you assume that Mr. Walters, of whom you had been speaking, was the architect also of my warehouse in George-street. I conceive it but fair on my part to inform you that it is the production of Mr. J. W. Pickard, a young architect who may be benefited by this public notice in your widely-circulated journal.—J. PEISER.

FIRE-GRATES.—Many simple contrivances offer suggestive ideas worth imitation and re-production in other articles in common use: one of these is the apparatus in vogue in our streets for roasting chestnuts. This originally was a candle-shade, for burning candles with safety, when a light is required to be used in an apartment all night. It is commonly of metal, circular, and perforated with holes, somewhat less than a half-crown piece. One may readily see how perfectly the fuel is ignited in these, and that the same glow of heat radiates all round alike. Would not this, therefore, be the best form for the fire-holding portion of a grate, and for all kinds, excepting kitchen ranges, before which the operation of roasting is performed? The circular holes would prevent the coals tumbling out, as they do now, to an often annoying extent, and should be made of sufficient circumference to admit the use of a poker. Where bars are requisite for a grate, they should be placed in a horizontal position, as keeping the fuel best together in the grate.—SCINTILLA.

MUTUAL LIFE ASSURANCE SOCIETY, LONDON.—In connection with the list of tenders in our last, for the new building for the Mutual Life Assurance Society in King-street, we may add, that Mr. John M. K. Hahn is the architect; and that the quantities were taken out by Messrs. Mekin and Roberts.

OPENING OF NEW DOCKS AT NEWPORT.—Newport, Monmouthshire, was the scene of general festivities on Tuesday in last week, in consequence of the opening of a new dock. The works have been carried out by Mr. Abernethy, C.E. The dock occupies an area of eight acres; length, 950 feet; width, 350 feet: total cost, 64,000*l.* The communication between the old and new docks is by an opening in the north end of the former, made to permit the use of a caisson when occasion requires: seventy-five vessels, averaging 500 tons, may be at one time berthed. Special provision is made for timber vessels. The coal-hoists, turntables, cranes, and capstans will be worked, and the locks opened and shut by hydraulic machinery. Branches in connection with railways running into Newport diverge round the dock, thus giving direct communication with the mineral districts and the port of Liverpool. The day was observed as a general holiday for miles round, the town being thronged with visitors, and processions, dinners, and balls being the order of the day.

THE CHELMSFORD SURVEYORSHIP.—Mr. Fenton having, as recommended by the Sanitary Committee, given in his resignation to the Local Board of Health, the Board have elected Mr. Frederick Chancellor, late one of their own members, to the vacant office. Mr. Chancellor in thanking the Board, said, that with their assistance, he hoped to be enabled to discharge his duties with as much satisfaction as his predecessor.

ELECTRO-TELEGRAPHIC PROGRESS.—Meetings are being held in Jersey and Guernsey for the promotion of a Channel Island telegraph, which Messrs. Newall and Co. have offered to lay down for about 20,000*l.* of which one-half would be taken by themselves and friends in shares. The Government have also promised aid to a respectable company.

COTTAGE WINDOW-FRAMES: ROYAL SCOTTISH SOCIETY OF ARTS.—At a recent meeting of the Royal Scottish Society of Arts, an improved cottage window-frame, by the Hon. Lord Murray, was communicated by Professor C. Piazzi Smyth, V.P.; illustrated with examples in iron and wood. The object which Lord Murray had in view was to provide efficient ventilation without the several inconveniences of either the sash or the hinge principle, effecting this by making one-fourth of the window slide horizontally, so that, while it allows adjustment in quantity of opening, it hardly admits of any possibility of the arrangement getting out of order. His lordship's invention was exhibited to the meeting in the shape of a wooden model, as well as of a full-sized cast-iron window-frame with sixteen small panes.

A NEW FEVER HOSPITAL FOR LIVERPOOL.—There being no other fever hospital at Liverpool besides that connected with the workhouse, measures are being taken for the establishment of a self-supporting fever hospital, and at a very large meeting held last week appropriate resolutions were unanimously passed in favour of the project, and a subscription list at once opened.

BRADFORD COLLEGE COMPETITION.—After examination of the designs received in competition, that bearing the motto, "Sit præmium primo," was selected by the committee as the most suited to the purpose. On opening the sealed envelope, the author was found to be Mr. H. J. Paull, of Cardiff. The work is to be carried out under his superintendence. The estimated cost is 6,000*l.*

UPPER HOLLOWAY.—A church, to be called St. George's, Tufnel-park, is to be erected at Upper Holloway: in the meantime, a temporary one of wood, with an effective interior, to hold 900 persons, having been approved of by the Board of Works, is in course of construction. Mr. George Truefitt is the architect; Messrs. Evans Brothers, the builders. The contract—the lowest of three sent in—is for 670*l.* with 4 per cent. additional to complete in six weeks, instead of eight, as at first proposed.

ARCHITECTURAL MUSEUM.—On the 10th Mr. Raphael Brandon read a paper "On Ancient Timber Framing," to which we shall return.

TENDERS.

For a House at Chichester, for Mr. J. Johnson. Mr. W. Mitford Teulon, architect. Quantities not supplied:—

Wardle and Baker	£3,980 0 0
Johnson	3,834 0 0
Wm. Hill	3,712 0 0
Chandler	3,557 0 0

For Infant Schools, Hackney. Mr. M. A. Gliddon, architect:—

Myers	£1,780 0 0
Holland	1,325 0 0
Piper	1,227 0 0
Norris	1,057 0 0
Little	1,019 0 0
Carter	890 0 0
Callow	779 0 0

For a Chapel-of-Ease, at St. John's-hill, Seven Oaks. Messrs. Morphew and Green, architects. Quantities not supplied:—

Marchant and Coleman	£1,200 0 0
Howe	1,050 0 0
Burton	977 0 0
Evans (Brothers)	975 0 0
Sutton and Co.	945 0 0
Smith	915 0 0
D. and J. Grover	896 0 0
Dadley	847 0 0
G. Pinnett (including bell not specified)	841 0 0
T. and W. Barker	820 0 0

For new Fittings and Decorations, the Sussex Tavern, Leadenhall-street. Messrs. Young and Son, architects:—

Scott	£471 0 0
Westacott	465 0 0
King	410 0 0
Drew	399 0 0
Piper and Son	397 0 0
Shaw	393 0 0

For building Two Houses, at Kilburn, under Mr. H. W. Sass, architect. Quantities supplied:—

	As first intended.	Omitting Beer-shop.
Green	£825 0 0	£810 0 0
Roberts and Crook	802 19 8	777 19 8
Brown	782 5 7	760 13 0
Wicks	776 15 8	742 13 8
Robinson	745 0 0	725 0 0
Batterbury	698 0 0	678 0 0

For the completion of ten houses, in Elgin-crescent, Notting-hill, for Mr. E. E. Boyd. Mr. William Fish, architect:—

Dove, Brothers	£2,735 0 0
Cowland	2,443 5 0
Fish	2,422 0 0

TO CORRESPONDENTS.

DISTEMPER.—SIR,—What is the best mode of preparing walls previously distempering the ceilings of halls, staircases, &c.? In what proportion should the ingredients be mixed, and how applied, so as to produce a good work, when complete, effective and permanent? Any information on the subject will greatly oblige.—J. C.

J. M. A. Liverpool: the numbers can be had (excepting up to January 11th and 25th).—J. W.—R. A. A. will see no objection, we are installed to some extent).—W. H.—C. C. (try Newman, Regent-street).—Flat.—S. E. R.—A. W.—W. T. (substance has already appeared).—B. P.—J. R. (we shall be most glad to hear from him).—J. G. J.'s communication will have attention.—R. R. R.—R. H. D. R.—T. G.—J. A. P.—Dr. L.—The Workman's Friend (we have already referred to the plan).—M. T.—J. B. N.—F. N. T.—J. H. (shall have attention).—A. W. A. Notice (multiply the number of feet of each work by 2, and divide by 3, which will of course bring it to square work. He must look to rudiments).—T. C.—J. G. S. (a direction can be given, discretion must of course be exercised: no harm will be done by too freely opening the windows, that is constantly keeping them shut).—L. and B. (the list of readers is given on the best authority).—Rev. J. B. W. G.—Dr. M.—A. Jones.—J. H.—M. B. N.—J. J.—J. E. G.—W. N.—M. and G.—R. R.—T. B. Inquirer (the two sketches are distinct. The north angle is pretty, but neither is wrong).

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder, No. 1, York-street, Covent-garden. All Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

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ALMS-HOUSES.—Information is d
for purely benevolent [illegible] relating to Alms-houses, [illegible] recent parts of the country, of modern erection, even within [illegible] and twenty or thirty years, specifying the following:—1. Extent of [illegible] each.—2. Amount of annual allowance for the [illegible] occupant.—3. The character or class of inmates.—4. The regulations as to admission.—5. The [illegible] given, and about the [illegible] of the house for erection.—6. The entire cost [illegible] of [illegible]. Plans may be sent, should they be considered [illegible] explanatory remarks, to the Architect, [illegible] Information will be thankfully received, and will be forwarded to the care of Mr. C. Mitchell, Red Lion-court, Fleet-street, London.

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BRANCH HAND. A good knowledge of plumbing, [illegible] Address to Mr. R. A. SMITH, [illegible] December, 19, North Hampton-place, Old Kent-road, S.E.

WANTED, as FOREMAN, an experie
first-class ORNAMENTAL PAINTER, GRAINER, WRITER, &c. Apply on SATURDAY or MONDAY, to SCOTT, BERTSON, and CO., London.

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WANTED, in the Country, an AR
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WANTED, a very superior and [illegible]
DRAUGHTSMAN, apt at designing, and a thorough [illegible] of perspective and drawing. Applicants to state the salary [illegible] and to [illegible] to be seen. Address, with references as to ability, to [illegible] "The Builder."

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YOUTH, with a taste for drawing, to an Architect, [illegible] Civil Engineer and Land Surveyor, who is very well established [illegible] A liberal premium will be given. For [illegible] particulars, to H. W. Mr. Reading, 91, Piccadilly.

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OUT-DOOR FOREMAN, a carpenter by trade, [illegible] practical knowledge of the [illegible] and [illegible] of all dimensions. Locality [illegible]. Terms moderate, and [illegible] to [illegible]. Address, H. H. F. 19, Clay-[illegible], Tufnel-park, [illegible].

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SHOP or GENERAL FOREMAN by a thoroughly [illegible] Man, who could act as Clerk of Works, if required. He [illegible] the whole of the [illegible] in all its [illegible] London. Understands measuring and estimating. Referen[illegible] unexceptionable.—Address, A. B., Princes-street, Bedford-square, [illegible].

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tect's or Builder's Office, by a Young Man 25 yea[illegible] [illegible] gone to [illegible] Building Trade. Is well [illegible] Plan [illegible], Measuring, Measurement, and able to [illegible] and Good reference.—Address, T. G. B. 2, Henry-street, [illegible] road, Walworth.

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WANTED, by a Young Man, a SITUATION as PLUMBER and GAS-FITTER. Aged 19.—Address, 3, Rochester place, South Lambeth New-road, Surrey.

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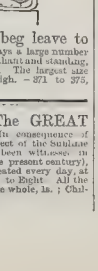

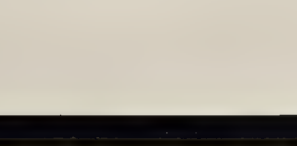

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Spruce	12s.	13s.	16s.	— per square
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Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d. ,,

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Inch ditto	0 13 0 per square.
Yellow Battens	0 3 3 each.
Spruce Deals, from	0 2 9 each.
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Mahogany, in logs and planks, from 6d. per foot.
All Sawn Goods delivered three miles free of cartage.
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Good Yellow Deals	0 3 3 each.
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Inch by 7 Prepared White,	14s per square.
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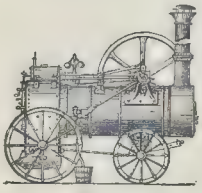

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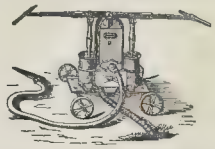

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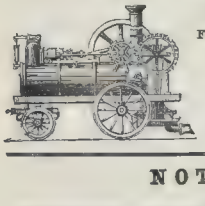

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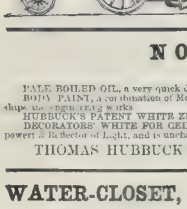

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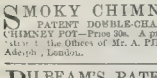

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for floors, walls, and furni (inch thick from 1s. per f as used by the eminent ar Seats, for Chapel Re Messrs. Burn, Hardw Parnell, G. G. Scott, T Wyatt, &c. &c.

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ARROWSMITH, No. 80, New Bond-street.

CLARIFIED VELLUM.—A novel fi semi-opal fabric, and differing entirely from animal ma possessing the capacity of burning off vellum, with transparency and finished surface of the finest Tracing Paper. Permanent Tracings for Patents, &c. can all be found unrivalled 20 by 21, 13s. per quire. Also, every article required by the gineer, Draughtsman, and Artist of the best quality, at wholesale

WATERLOW'S TRANSPARENT TRACING PAPERS
LEON'S FRENCH TRACING PAPERS
ENDLESS TRACING LINEN AND CLOTH
WHATMAN'S DRAWING PAPERS AND CARTRIDGES.
MOUNTED DRAWING PAPERS—1,043 in Stock
WILLIAMSON'S SECTIONAL LINES for Engineers, &c.

WATERLOW and SONS,

Wholesale and Export Stationers and Manufacturers.

Fac tories at Watermark, 9, 85 to 88, and Carpenters' Hall, London-wall; City Depot, 24 and 25, Birchin lane; Western ditto Parliament-street, London.

F. DENT, sole Successor to E. J. Dent in his Patent Rights and Business, at 61, Strand, and 34 and Royal Exchange, the Clock and Compass Factory at Some Wharf, Chester-court Watch, and Clock Maker to the Queen and Prince Consort, and Maker of the GREAT CLOCK for the HOUSE PARLIAMENT. Ladies' Gold Watches, Eight Guineas; Gentlemen Ten Guineas; strong Silver Lever Watches, Six Guineas. Church Clocks, with Compensation Pendulum, &c. No connection with Cockspur-street.

TARPAULINS for COVERING ROO during Repairs, SCAFFOLD CORD, and every descriptio ROPE, on Builders upon the lowest terms. Marquees and s pany Awnings on sale or hire. Orders per post receive the pr prompt attention.

H. PIGGOTT,

115, Fore-street, City, Manufacturer, by appointment, to her Majes Honourable Board of Ordnance.

TO ENGINEERS, MILL OWNERS, PRINTERS, &c

THE BEST SUBSTITUTE for LEATH BANDS, for Driving Machinery, are EDWARDS'S PAT CEMENTED HEMPEN BANDS, cheap, strong, and durable. Un other Bands of similar description; will not ravel out in their w and can be repaired when required, in efficiently as Leather Ba at trifling cost.

LEATHER HOSE and MACHINE BAND MANUFACTORY, 32, Great Sutton-street, Clerkenwell, London, E.C.

STEAM ENGINES, BOILERS, SAWI MACHINERY, Lathes, Drilling Machines, Hydraulic Pres also a double Bone-mill, and other useful Machinery on sale. Port Engines and Pumps for sale or hire

N.B. Plant and Machinery purchased

Apply to T. TAYLOR, 197, Southwark Bridge road, Newingt Causeway.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

DOULTON'S TERRA-COTTA FLUE-PIPES

WITH PIPE FOR VENTILATION ATTACHED.

By this arrangement the vitiated air is carried off by junctions near the ceiling communicating with the ventilating shaft.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

ARE IMPERISHABLE, AND ARE VERY LITTLE DEARER THAN CEMENT POTS.

DOULTON'S PATENT JUNCTION BLOCKS;

by the use of which the CONNECTION BETWEEN PIPE DRAINS AND BRICK SEWERS IS MADE PERFECT AND SECURE.

DOULTON'S PATENT STONEWARE INVERT BLOCKS,

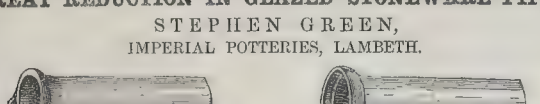
for the Bottoms of Brick Sewers, invented by Messrs. DOULTON and CO. six years ago. THEY ARE NOW USED IN ALMOST ALL TOWN DRAINAGE WORKS THROUGHOUT THE KINGDOM.

DOULTON'S GLAZED STONEWARE PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

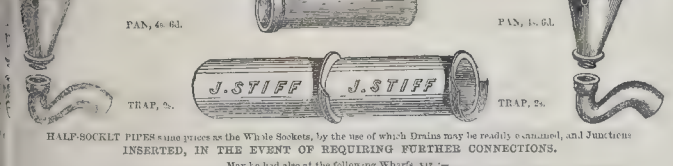
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
Messrs. GLADDISH'S, Pellatt's-arc, Westminster-bridge-road; City-road Wharf, City Basin, Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and COX, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Horton.
Messrs. COLWILL (BROTHERS), 12, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 7, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WILLIAM NORTHEN'S

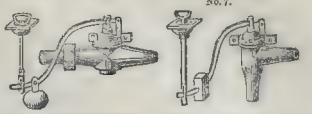
WHITE ENAMELLED STONEWARE,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET-PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.

LAMBERT'S SELF-CLOSING

LAVATORY AND CLOSET VALVE.
No. 7.



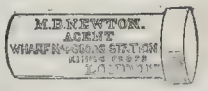
is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 240 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees.

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.
N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 13s. 6d. each.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net prices per foot, selected

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	12-inch.
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time, and the Pipes guaranteed to stand better than any Brickwork.

UNGLAZED DRAIN-PIPES.—GREAT

REDUCTION in PRICE. D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS

HIGH-PRESSURE COCKS & CLOSETS.

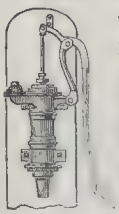
The Health of Towns Commissioners having recommended the adoption of the high-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

TO BUILDERS AND PLUMBERS

The attention of the Trade is called to JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,



which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and joints are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Best and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d.

These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD, BROTHERS, Manufacturers, 146, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

HECKETHORN'S PATENT LIQUID

COLOUR, for external and internal stuccoed or plastered walls; prunings for in and out woodwork (to prevent blistering), and a composition (in lieu of size), for floor-cloth and table-cover manufacturers.—J. HUDDEN and CO. Proprietors, No. 851, New Oxford-street.

THE GRAFTON FIRE and WATER-

PROOF MINERAL PAINT.—This is the cheapest durable paint hitherto known. After it has been applied to wood and exposed to the weather a few months, it becomes as durable as stone. Its colour is a reddish brown. Bronze and green colours may be easily made by mixing it with the best Saxon green paint, according to the directions given, each of which will be more durable than the green alone, and will not cost half so much.—Sold by L. FRANK and SON, Oil Merchants, 14, Borough, London-bridge, of whom may be had directions for use.

SALES BY AUCTION.

TO MARBLE AND STONE MERCHANTS, AND MASONS.—
Important Sale of Marble and Slate.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, MARCH 18, 1858, and following days, at ELEVEN o'clock each day, at the MARBLE WORKS, Commercial road, Pimlico, ADJOINING, the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in slabs, 15 feet Sienna green, 20 feet of statuary, 200 feet Empress red, 60 feet Spanish, 40 feet serpentine, 1,000 feet veined, Siberian, black, verde antique, black and gold, American green, Devonshire red, St. Anne, Breccia and Irish marbles; 50,000 feet in slabs, of the same assortment, from 4-inch to 3 inches; 3,100 feet polished slab; a large stock of polished shelves, pilasters, and trusses, moulding; 1,000 feet polished slate in black, 300 feet of Caen stone, 1,500 feet Portland stone; 1,000 feet Wentworth stone, 3,000 feet of 3-inch to 6-inch of York landings; 5,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 6 inches; 3,000 feet Park Spring, Rawdon Hall, Robin Hood, Horsforth, and Potter's Newton slabs, 4 inch to 6 inches; head, and foot stones; 2,500 feet run of granite coping, 12 inches by 9 inches and 12 inches by 8 inches; five blocks of granite, and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES, TABLETS, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 17th, 1858, at ELEVEN o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES, of the most modern designs, and finished in the best style of workmanship, many of a very valuable description, in statuary, Sienna, Brocatilla, Rouge Royal, St. Anne's, Sporting, Dove, Black, Egyptian, Red, Veined and Sicilian Marble; four Statuary Mural Tablets, two Oueen Stone Gothic Tablets, with Statuary Inscription Plates, eleven polished Slabs, &c. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

ST. PAUL'S CHURCHYARD.

MESSRS. FULLER and HORSEY are instructed by the Trustee of D. and J. Macdonald to SELL by AUCTION, on MARCH 22nd, 1858, at TWELVE o'clock, on the PREMISES, Nos. 28 and 29, St. Paul's-churchyard, in lots, the extensive FITTINGS of the WAREHOUSES, comprising 4-inch polished mahogany tables and counters on mahogany frosted glass shew cases, neat oak and deal counters, desks, and seat fittings, gilt and lead lining, mahogany counter rails, &c., wrought iron gas fittings, by Leadbeater; pulpit desk, with geometrical iron staircase; copying machine, and various other effects. To be viewed on Saturday previous and morning of the Sale, when catalogues may be had in the Premises; and of Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

Loose Tools and Stores of the Saw Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 24, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet, 100 circular saws, 14 to 36 inches diameter, planes, planing and jointing tools, a flooring-board, planing machine by Parsons; 2 power's leather bands, 1 ton cast and wrought iron, 1 ton red and white lead, weighing machines, small chain cables, tap and button swages, mandrels, hammers, &c. 1 wood-boring machine, 1,000 gross screws, brass lift-pump, copper tubes, wrought and cut nails, spikes, sash weights, 10 cwt. cast pipes, crown and other glass, dry and ground colours, 1 ton white and red lead and lithargo, sash tools, 70 dozen hammered saw plates, awning cloth, nails, buckles, screws, 200 yards road grit, 20 yards hardwood Portland stone, well pumps and pump gutter wheels and irons, 200 yards of 3-inch and 4-inch falls, barrows, two 4-ton and one 8-ton Bailey's scales, carpenters' benches, stone bench of drawers, 3 unusually good chargers, or feed span, equal to 16 hands, 1 mare in foal, to be sold without reserve. Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO CONTRACTORS, DEALERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, in the month of APRIL, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs. LEE and LAVERS, Contract in Silt in street, Belvedere-road, Lambeth, comprising a portable 6 horse power contractor's steam-engine, on wheels, by Medwin and Hall; a 10-horse power portable tube steam engine and generator, with tubular and iron cylinder boilers, by Hall; 2 of the well-known Gwynne's centrifugal pumps, 12 inch suction, 10 inch and 8 inch, 700 pitches, scaffold poles, four pair engines with mandrels, 12 excavator cast iron fluted cylinders, each 10 feet long, 200 wells decks and battens, several thousand feet of 4-inch seasoned pine and oak planks, double cast metal punching machine, timber carriages, 4 to 8 tons, 10 tubular carts, six useful draught horses, one of 16 hands, 7 inches, trucks, stable implements, portable tube steam engine, 10-horse power, wrought iron pumps, 3 inch suction, with valves, 4 to 6 inches, punching machine by Gibson, smiths' tools, vices, anvils, 2 carpenters' benches, cranes, 10 cwt. chain, pickaxes, crowbars, two tons of lead pipe, wood and cast iron chargers, 1 inch to 4 inch, 1 ton of wrought and cut nails, leather cranes, portable sewage pumps with leather hose, 30 pair of water-casks, weighing machine, stable and 1 weights, three portable forges, coal, pickaxes and irons, sash tools, and other numerous effects. To be viewed and catalogues had in due course, by application to Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO TIMBER MERCHANTS, PIANOFORTE MAKERS, CABINET-MAKERS, BUILDERS, CARMEN, AND OTHERS.

MESSRS. THOS. EDWARDS and SON are instructed by the Proprietors, who are giving up the Premises, to SELL by AUCTION, at NORWAY WHARF, Millbank-street, Westminster, on FRIDAY, MARCH 19th, at ELEVEN o'clock precisely, the entire STOCK in TRADE, consisting of large quantities of Pure Hankins Cuba, Spanish Mahogany, dry Mahogany in Satin wood, dry logwood, Rosewood Boards, dry Walnut and Cedar, in logs, planks, and boards; Pine Deals (whole and cut), Yellow and Spruce Deals wholly Abiesprime and Cone Mahogany veneers, Maple veneers, Rosewood veneers, Walnut veneers, Mottled veneers, and Holly veneers; quantities of oak and other firewood; two strong Timber carriages, a Truck, Sawpit, and other effects. The Premises will be open to view two days prior to the Sale, when catalogues may be had on the Premises, and of THOS. EDWARDS and SON, Mahogany Brokers and Auctioneers, 27, Princes-hill, Old Broad-street, E.C.

IN BANKRUPTCY.—Stock-in-Trade of a Builder.—Three Days' Sale, by order of the Assignee of Mr. James Edser.

MR. ACOCKS respectfully announces that the FIRST DAY'S SALE of the whole STOCK IN TRADE will be held at EDWARD'S STREET, Vincent-place, Westminster, on WEDNESDAY, MARCH 17th, at TWELVE for ONE o'clock precisely, and will include 100 lots of yellow deals and battens, 100 lots of new and seasoned pine and oak boards, and planing machine, by Fairbairn; James and Smeaton; one lot of lime.

The THIRD DAY'S SALE will be held at the BUILDER'S YARD, Denbigh-st. Vauxhall-bridge, on FRIDAY, MARCH 19th, at TWELVE for ONE o'clock, of two leading rings of lots of prime, sound, well seasoned deals, battens, and lime, lying at Kirk's New Mills, Grosvenor-basin, Pimlico, where it can be viewed by permission, a few lots of marble and stone, and 150 lots of useful materials and utensils.

The property can be viewed the day preceding and mornings of sale. Catalogues can be had of ALBERT DIXON, Esq. Solicitor, 4, King's Bench walk, Temple; R. W. EDWARDS, Esq. Official Assignee, Basinghall-street; Mr. PENN, Crown and Sceptre, Chapter-street, Westminster; and of Mr. ACOCKS, 32, Southampton-row, Russell-square.

SALES BY AUCTION.

Building Materials, Nottingham-house, Marylebone

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, on the PREMISES, Nottingham-house, High-street, Marylebone, on WEDNESDAY, the 17th of MARCH, at TEN for ELEVEN o'clock, the excellent MATERIALS and FITTINGS of a small Dwelling-house and range of Stabling, comprising mahogany doors, stone staircase, marble chimney-pieces and paving, sound timber and floor boards, sashes and wainscoting, coach-house gates, slates and tiles, lead, hot-water, and other effects.—May be viewed one day prior, and catalogues had, on the Premises, and of the Auctioneers, 40, Parliament-street, Westminster.

NORWOOD.—The valuable Freehold Site of the Central London District Schools, with or without the Materials, including a recently-built Gothic Chapel, and a detached Residence, at the principal entrance of the Crystal Palace.

MESSRS. EVERSFIELD and HORNE are favoured with instructions from the Board of Management of the Central London District Schools to SELL by AUCTION, not later than early in MAY next (unless a suitable offer by private contract be previously made), the valuable FREEHOLD GROUND, with double frontage, containing three acres, or thereabouts, with buildings thereon, situate at the angle of the Upper Norwood road, close to the station on the Crystal Palace and West End Railway, presenting a choice site for building purposes, and the more eligible from the fact of there being a well of superior water raised by steam power sufficient to supply the whole if the future tenants of the estate. On the eastern portion of the property is a spacious and well-built chapel, has recently been erected, with school rooms at present, which may be treated of separately. Further particulars may be obtained, and a plan of the property inspected, at the Offices of Mr. HEATH, Solicitor, 10, Basinghall-street; of Messrs. EDWARDS and SMITH, 19, Great Carter-lane, Doctors'-commons; and of Messrs. EVERSFIELD and HORNE, Auctioneers. The Catalogues of Mr. Messrs. Wells and Fenton, 10, Parliament-street, Westminster, may be had.

TO TIMBER MERCHANTS, BUILDERS, CABINET AND PIANO FORTE MAKERS, AND OTHERS

MR. LEREW will SELL by AUCTION, on the PREMISES, 42 Union-street, Somers-town, on MONDAY, MARCH 15th, at TWELVE for ONE o'clock precisely, YELLOW, WHITE PINE and SPRUCE PLANKS, DEVIS, and BATTENS; a few cases Baltic dry white planks, and long dry ditch pine ditto, 100 squares of 1-inch, 1-inch, and 3-inch prepared yellow and white boards, 1,000 feet wrought beaded, 8,000 feet planing, 20 cwt. iron bars, 1 cwt. sheet iron, 500 feet of wrought-iron hoop fencing, 600 feet of chain ditto, the entire erection of the Park-lodge, large quantity of excellent building materials, three tons of lead, and various effects.—Catalogues may be had on the Premises; and of Mr. ROBINSON, Auctioneer, 11, Coleman-street; of Mr. FRIEND, Esq. Solicitor, 14, Bedford row; on the Estate; and at Mr. EDWARD LUMLEY's Auction-establishment, Gresham-street.

STOCKWELL and BERMONDSEY.—Valuable Freehold Property, comprising 3 compact parcels of Building Land, and 2 Dwelling-houses, in all 1a. 3r. 37p. or thereabouts, with Frontages to Messrs. Pennington's and Mr. Bolton's Roads.

MR. WILLIAM GUNDRY will SELL by AUCTION, at the MART, on TUESDAY, the 16th day of MARCH, next, at TWELVE, by ONE lot, all that valuable FREEHOLD ESTATE, comprising 3 compact parcels of Building Land, with Frontages to Messrs. Pennington's and Bolton's Roads, and 2 Dwelling-houses, in all 1a. 3r. 37p. or thereabouts, now in the occupation of Messrs. Pennington, Bolton, and others, as tenants from year to year, but which will be delivered up with vacant possession at Lady-day next. The property is situate in the parish of Lambeth, and is distant about 1 mile from the Clapham-road Station of the London and South-Western Railway, and 2 miles from the Bridge of that name. It is also within a short distance of the Stockwell Station of the London and Croydon Railway, and is in the immediate neighbourhood of the Stockwell Park Estate, now being developed for building purposes. Plans and particulars may be had of Messrs. PENNINGTON and SON, Solicitors, 4, Frederick's-place, Old Jewry; at the Mart; and of Messrs. DRIVER and SON, Surveyors, 3, Tokenhouse-yard, Lothbury.

WEST-END HOUSE ESTATE.—Fine Park-grown Timber, Building Materials, Three Tons of Lead, &c.

MR. EDWARD LUMLEY will SELL by AUCTION, on the WEST END HOUSE ESTATE, near Kilburn-gate, on TUESDAY, 16th of MARCH, at TWELVE for ONE, by direction of the Proprietor, who is about preparing the Estate for building purposes, the 200 fine grown Oak, Elm, Ash, and other TREES; 2,000 feet of wrought-iron bar fencing, 600 feet of chain ditto, the entire erection of the Park-lodge, large quantity of excellent building materials, three tons of lead, and various effects.—Catalogues may be had on the Premises; and of Mr. ROBINSON, Auctioneer, 11, Coleman-street; of Mr. FRIEND, Esq. Solicitor, 14, Bedford row; on the Estate; and at Mr. EDWARD LUMLEY's Auction-establishment, Gresham-street.

STOCKWELL and BERMONDSEY.—Valuable Freehold Property, comprising 3 compact parcels of Building Land, with Frontages to Messrs. Pennington's and Bolton's Roads, and 2 Dwelling-houses, in all 1a. 3r. 37p. or thereabouts.

MR. WILLIAM GUNDRY will SELL by AUCTION, at the MART, on TUESDAY, the 16th day of MARCH, next, at TWELVE, by ONE lot, all that valuable FREEHOLD ESTATE, comprising 3 compact parcels of Building Land, with Frontages to Messrs. Pennington's and Bolton's Roads, and 2 Dwelling-houses, in all 1a. 3r. 37p. or thereabouts, now in the occupation of Messrs. Pennington, Bolton, and others, as tenants from year to year, but which will be delivered up with vacant possession at Lady-day next. The property is situate in the parish of Lambeth, and is distant about 1 mile from the Clapham-road Station of the London and South-Western Railway, and 2 miles from the Bridge of that name. It is also within a short distance of the Stockwell Station of the London and Croydon Railway, and is in the immediate neighbourhood of the Stockwell Park Estate, now being developed for building purposes. Plans and particulars may be had of Messrs. PENNINGTON and SON, Solicitors, 4, Frederick's-place, Old Jewry; at the Mart; and of Messrs. DRIVER and SON, Surveyors, 3, Tokenhouse-yard, Lothbury.

MR. W. R. GLASIER is favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 23rd, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS of the Houses, Nos. 14, 15, 16, and 17, Stafford-row, Buckingham-gate, Pimlico, comprising large quantity of timber, floors, sashes, and frames; French casements with plate-glass, doors, shutters, and plain sashes; York paving and kerbing; very useful cottage fittings, 2 cast-iron boilers with plate-cases in large quantity, cisterns, pipes, &c. Bricks, rubbish, and materials to be taken away by purchasers, and portable dwelling-houses erected in their stead. Also the valuable BUILDING MATERIALS of the Houses, Nos. 18, 19, 20, and 21, Stafford-row, comprising large quantity of timber, floors, sashes, and frames; 21 ft. 6 in. long, shop fittings and other capital York paving and kerbing. May be viewed two days prior, and printed catalogues had at the Office of Works, 12, Whitehall place: of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; and of Messrs. Gray; on the Premises (No. 14), and of the Auctioneer, 41, Charing-cross.

HODDESDON, HERTS.—Capital Building Materials of a Large Malting, and a Spacious Residence, with newly-erected Coach-house and Stabling.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES (about half a mile from Elsbarne station), on THURSDAY, the 18th of MARCH, at TWELVE, in Lots, to be taken down by the purchasers, the whole of the valuable BUILDING MATERIALS of the LARGE MALTING UP of a Large Brick and Timber-built MALTING, with Cottage adjoining, situate at Hoddesdon Bridge, the Highroad to Hertford, near the Salisbury Arms; also the Materials, Fixtures, and Fittings of a spacious Residence nearly opposite, with the newly-erected Coach-house and Stabling, comprising a large quantity of good sound bricks, about 15 thousand feet of timber, 1,000 feet of plain tiles, nearly new slating, a variety of useful doors, glazed sashes, partitions, shutters, and other internal fittings, chimney-pieces, and marble slabs, 2 excellent Stoves, 2 Kitchen Ranges, 2 Baths, nearly new couch house and entrance-gates; racks, mangers, and stable-fittings; York and pebble paving; five tons of lead, in flats, gutters, cisterns, and pipes; broad-barrel force-pump, 70 feet run of iron railing and other cast-iron work; lot of weather-boarding, and extensive framing of moulding; erection of kiln, with kiln wire and iron work; stoves, rings, copper, gas-fittings, and many useful effects; the whole to be viewed, and catalogues had of PULLEN and SON, No. 80, Fore-street, Cripplegate.

NEWGATE STREET.—Extensive Sale of Building Materials.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 29, at TWELVE precisely, all the valuable BUILDING MATERIALS and FITTINGS UP of several HOUSES and SHOPS, in the north side of Newgate-street; to be taken down by the purchaser of whatever the street, comprising capital sound brickwork, a large quantity of plain and moulding; erection of kiln, with kiln wire and iron work; stoves, rings, copper, gas-fittings, and many useful effects; the whole to be viewed, and catalogues had of PULLEN and SON, No. 80, Fore street, Cripplegate.

AUCTION and ESTATE COMPANY, Limited, 12, Cannon-street.—This Company undertakes the Sale of Property at about half the usual commission. A highly respectable and experienced Auctioneer is employed exclusively for the business of the Company. The FIRST SALE will be on the 7th APRIL at the AUCTION MART. Those persons who wish to include property in that Sale are requested to send me the particulars as early as possible.—The register contains various sums for investment on mortgage. THOS. B. FLEMING, Registrar.

FREEHOLD PLOT of LAND TO BE

SOLD, situate at Peckham Rye, in the county of Surrey, containing a little over eight acres, beautifully situated, lying high, and commanding extensive views of the surrounding country. Good natural drainage, and can be well supplied with water; suitable for the erection of a public building, or for a pair of semi-detached villas, or nursery and pleasure grounds. For particulars, apply to Mr. W. H. SKYRING, 4, Copthall buildings, City.

FREEHOLD LAND.—A number of PLOTS

of FREEHOLD LAND TO BE SOLD or LET on Building Leases, very advantageously situated, having a frontage in London-fields, Hackney.—Apply to Mr. MARTIN, No. 13, Gresham-street West, where plans may be seen.

HOLBORN.—Valuable FREEHOLD

PROPERTY, having a frontage to Holborn of about 100 feet, running back a distance of 200 feet, and fronting to Whetstone park of about 100 feet. The property includes the well known old established Inn and Hotel called THE GEORGE and BLUE BOAR. The whole offers a most desirable investment for the capitalist of the first class, or may be sub-divided very advantageously. The Freehold may be treated for, or a long Lease will be granted on most favourable terms.—For further particulars, apply to Messrs. WARTERS and LOVEJOY, 55, Chancery-lane.

LAND TO LET, for building, suitable for

semi-detached Villas, abutting on the Station, Barking, Essex, 6,000 feet, including Forest House, Freehold, and close to the Pond street Station of the Hampstead Junct on Railway. Plans and particulars with Messrs. WILLIAMS and SMITH, 52, Old Broad-street, E.C.

MAITLAND-PARK, Haverstock-hill, near

Hampstead.—Land-tax redeemed.—TO BE LET, several eligible PLOTS on the above estate, for Leases for a term of twenty or twenty-one years from Christmas, 1857. The roads are laid down and the sewers made. The contiguous district for good houses in this healthy locality, and the picturesque position of the property, renders this a desirable opportunity for builders or private gentlemen wishing to erect villas for themselves. Plans and terms apply to Mr J. SOUL, 32, Ludgate-hill; Messrs. BERRELL and CHAMBERLAIN, Solicitors, 30, Basinghall street; Mr JOHN ASHDOWN, Surveyor, 42, Charing-cross; or at the Lodge of the Orphan Working School, Haverstock-hill.

FREEHOLD.—TO BE SOLD, within three

miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is especially eligible for the erection of villa residences of the class. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate. The only obstacle to an immediate commencement for building purposes, is that the property is partly covered. The houses hitherto built have commanded an immediate tenant. For further particulars, and to inspect the plans, apply to Messrs. GREGORYS and CO. No 1, Bedford-row, W.C.

SALE of GROUND-RENTS.—Crooked-

lane, Cannon-street, Turnwheel-lane, Cannon-street West, New Earl-street Broad-street, and St. Paul's Churchyard, in the City of London.—Messrs. CLARK and CLARK are happy to inform the City of London hereby give notice, that they will meet at the GUILDHALL, London, on MONDAY, the 15th day of APRIL next, at ONE o'clock in the forenoon precisely, to receive TENDERS in writing from parties wishing to PURCHASE SEVERAL GROUND RENTS of Premises in the above situations.—Particulars and conditions of sale, with forms of Tender, on and after 10th instant, may be obtained at the Comptroller's Office, Guildhall. MEREWETHER

Guildhall, London, March, 1858.

TO BRICK and TILE MAKERS, and

ORNAMENTAL POTTERS.—TO BE LET, a fine FIELD of RED CLAY, lit for the manufacture of moulded and plain bricks, paving tiles, ridge, coping, ornaments, and plain flower pots, vases, chimney shafts, and other articles. Contiguous to Copper-station. For part, apply to Mr BLYTH, Uffington, near Stamford.

TO BUILDERS and CAPITALISTS.—At

IPSWICH.—TO BE LET, on Building Leases from the Corporation, of freehold, in convenient lots, the immediate ensuing TWELVE ACRES of very healthy BUILDING LAND, part of the Brandford-hall Estate, with frontages towards the Colchester and Hadleigh roads, and within a few minutes' walk of the first-class village, in great demand, for which the site is well adapted, and a building yard now established on the premises. Applications are to be made to Mr. F. BARNES, Architect, Lower Brook street, Ipswich; or to Mr. W. HUTCHINSON, Soane-street, Ipswich, where plans and particulars may be obtained.

Ipswich, March 8th, 1858.

STAFFORDSHIRE.—HAY HEAD

HYDRAULIC LIME.—TO BE LET, on Royalty, the valuable MINE of LIMESTONE at HAY HEAD, near Walsall. The works are situate on a branch of the Birmingham canal, by means of which a ready communication may be had with the Midland districts and with London. The Lime is well known in the neighbourhood, and has been selected, in preference to all others, for exclusive use in the very extensive works now in progress in the North, round Bradley, nearly adjoining the line of the Birmingham canal, as to be carried underground for 1,000 yards. The works are very complete. There are two shafts and a 25-horse high-pressure engine, with the necessary pumping and winding gear. The kilns are close to the canal. The plant to be taken at a valuation.—For further particulars, apply to Mr. ADAMS, Aldridge, near Walsall.

CANNON-STREET IMPROVEMENT.—

BUILDING LEASES.—The Committee for Improvements within the City of London hereby give notice that they will meet at Guildhall, on MONDAY, the 15th day of MARCH next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing, agreeably to a form to be obtained at the Office of the City Architect, from parties willing to take BUILDING LEASES of sundry LOTS of GROUND in the south side of St. Paul's Churchyard. Plans can be inspected, and further information obtained, at the Architect's Office, Guildhall. MEREWETHER.

Guildhall, February, 1858.

TO BUILDERS of VILLAS.—TO BE

LET, SEVERAL ACRES of LAND, in plots, in the most choice situation at Shacklewell, two minutes' walk from the Station, on the Woodford Railway, Kenchurch-street. The soil is gravel, and the ground covered with splendid evergreens.—Applications are on hand for houses on lease, to pay, exclusive of ground rent, about 7 per cent.—Apply to Mr. NOBLE, Surveyor, Woodford; or to Mr. NISSEN, at 43, Mark-lane, London.

WHARF PREMISES, in Regent's-canal,

TO BE LET.—The business has been established upwards of twenty years in the firewood, lathwood, pottery, and coal trade: containing counting-house, three large and other sheds, four horse stable, chaise house, a large dry for barges, with waggon-carts, barges, and fixtures at valuation; stock at cost price; good will moderate. Rent low. Also, another Wharf Premises, with eight-horse steam-engine and boiler, and shaft erected, with counting-house, shed and loft over. Apply by letter, to F. N. Norway wharf, Hertford road-basin, Kingsland.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER." No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 13, 1858.

The Builder.

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PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The ANNUAL DINNER of this Institution will take place about the middle of APRIL, C. E. COCKERELL, Esq. R.A. in the chair, supported by the following gentlemen:—

Angell, S. esq. F.S.A.
Ashby and Son, esqrs.
Axford, J. R. esq.
Baker, G. W. esq.
Barry, E. M. esq. A.R.A.
Barnes, Wm. esq. F.S.A.
Bettsy, E. L. esq.
Blythe, J. esq.
Bunnay, T. esq.
Clarke, J. esq. F.S.A.
Clifton, E. N. esq.
Collins and Stanbury, esqrs.
Dunnage, Wm. esq.
Eastwood, J. and W. esqrs.
Gunnion, E. B. esq.
Gariling, H. B. esq. A.R.A.
Godwin, G. esq. F.R.S.
Grisell, Thos. esq.
Hardwick, P. esq. R.A.
Hardwick, P. C. esq. F.S.A.
Hayward, Jos. esq.
Holland, H. C. esq.
Jackson, Thos. esq.
Jay, Jno. esq.
Jones, Owen, esq. F.S.A.
Lawrence, Wm. esq. Aldm.
Lee, H. esq.
Lee, W. esq.
Lee, J. esq.
Lewis, T. H. esq.
Lucas, Bros. esqrs.
Mansfield, Geo. esq.
Meeking, W. F. esq.
Myers, Geo. esq.
Page, Thos. esq.
Pemberton, Jas. esq. F.S.A.
Penrose, F. C. esq. F.S.A.
Peto, Sir S. M.
Piper, Wm. esq.
Piper and Son, esqrs.
Pluckett, Geo. esq.
Richardson, R. esq.
Scott, G. G. esq. F.S.A.
Scott, J. S. esq.
Shaw, R. N. esq.
Sunkrs, S. esq. A.R.A.
Smith, Geo. esq.
Stedall, E. esq.
Stirling, Thos. esq.
Vullamy, L. esq.
Wallis, E. and T. esqrs.
Woodthorpe, E. esq. F.S.A.

The Stewardship remains open for the addition of other gentlemen desirous of supporting the charitable objects of the Institution by forwarding their names to—

Mr. WILLIAM ALLARD, Secretary.

Ship-tree Tavern, St. Swithin's-lane.

GRAND INAUGURATION.—ST. JAMES'S HALL, Piccadilly, Regent-street, Piccadilly. The Opening of the New Hall will be celebrated by TWO GRAND MUSICAL PERFORMANCES in Aid of the Funds of the Middlesex Hospital, on THURSDAY EVENING next, the 25th of MARCH, and on SATURDAY EVENING, the 27th of MARCH, 1858, under the special patronage of Her Most Gracious Majesty the Queen, H.R.H. the Prince Consort, K.G.; H.R.H. the Duchess of Kent, H.S.H. the Duchess of Cambridge, H.S.H. the Duke of Cambridge, K.G.; H.R.H. the Princess Mary of Cambridge, and His Grace the Duke of Northumberland, A.G. the President of the Middlesex Hospital. The following distinguished Artistes have kindly engaged for the occasion:—Mme. Rudersdorff, Mme. Weiss, Miss Dolby, Miss Sherrington Lemmens, Mme. Borchardt, Miss Dolby, Miss Arabella Goddard; Sig. Luchesi, Mr. Manten. Smith, Mr. Lockey, Mr Weiss, Mr. Sentley, Mr. Thomas, Herr Deck, Sig. Piatti, Mr Molique, the Vocal Association (consisting of 300 voices), and full Orchestra. Organist, Mr. HENRY SMART; Conductor, Mr. BENEDICT. The Programmes now ready. Area stalls, one guinea; reserved seats, area and balcony, half a guinea; unreserved seats in the area and balcony, five shillings; upper gallery, half-a-crown.—To be obtained at Messrs. CRAMER, BEALE, and CO.'S, Regent-street; Messrs CHAPPELL'S and Messrs LEADER and COCK'S, New Bond-street; MITCHELL'S Library, Old Bond-street; Messrs. KEITH and PROWSE'S, Cheapside; from the Secretary, at the Hospital; and at the Egyptian Hall, Piccadilly.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—On WEDNESDAY next, at EIGHT o'clock, Mr. G. G. SCOTT, A.R.A. will LECTURE on "The Selection of Objects for Study in the Architectural Museum." This Lecture is especially intended for carvers and art-workmen.

Classes for Metal-work, Wood Carving, Drawing from Specimens in the Museum Collection, and Modelling in Plaster, are now offered. Particulars may be had by written application.

JOSEPH CLARKE, F.S.A. Hon. Sec.

ART-UNION of LONDON.—SUBSCRIPTION LIST CLOSES on 31st instant.—Prizeholders select from the Public Exhibition. Every Subscriber of One Guinea will have, besides the chance of a Prize, an Impression of a large and important fine Engraving, by J. T. Willmore, A.R.A. from the well-known original picture by the late J. M. W. Turner, R.A.—"Venice."

GEORGE GODWIN, } Honorary
444, West Strand. LEWIS POCOCK, } Secretaries

THE NATIONAL INSTITUTION of FINE ARTS, Portland Gallery, 316, Regent-street, opposite the Polytechnic. The above society's Fifteenth Exhibition of MODERN PICTURES, is NOW OPEN, from NINE till dusk. Admittance One Shilling, and every Evening, from SEVEN till TEN. Admittance Sixpence.

BILL SMITH, Secretary.

COMPETITIONS.

TO ARCHITECTS and OTHERS.—Notice is hereby given, that the Burial Board for the Parish of Aberdare is prepared to receive PLANS for CHAPELS, LODGE, DEAD-HOUSE, and ENTRANCE GATES for their new Cemetery, upon the following conditions:—The Land selected for the Cemetery is part of Hirwain common, in the parish of Aberdare, and contains twenty acres. The amount proposed to be expended upon the chapels, lodge, dead house, entrance gates, boundary walls, drainage, and laying out the ground, is £2,000. A PREMIUM of £25 will be given for the best plan, and £15 for the second plan. A plan of the ground may be seen, and any further information obtained, at my office.—The Board do not bind themselves to employ the architect of the adopted plan to carry out the work. Plans, with an estimate of the cost of the buildings, are to be lodged at my Office, on or before the 29th day of MARCH next.—By order of the Board,

Aberdare, 24th February, 1858. W. ROBINSON SMITH, Clerk.

CONTRACTS.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Yorkshire District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall Mall, London, S.W. on or before TUESDAY, the 23rd day of MARCH, 1858, from such persons as may be desirous of CONTRACTING with the Secretary of State for War, for the term of Three Years, Commencing the 1st day of APRIL, 1858, for the SUPPLY of MATERIALS and for the performance of such Bricklayers', Masons', Paviors', Carpenters', Slaters', Smiths', Plasterers', Plumbers', Gas fitters', Painters' and Glaziers', and Paperhangers' WORK, as may be required by the Royal Engineer Department at the following Stations in the Yorkshire District, viz.—York, Leeds, Bradford, Scarborough, and Hull; and the parties Tendering must state on each schedule according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of percentage may be different for each trade schedule to be delivered. Printed schedules, and every particular relating thereto, may be had on application at the Royal Engineer Office, at 5, New Walk-terrace, York, any day (Sunday excepted) between the hours of TEN and FOUR o'clock, from SATURDAY, the 6th of MARCH, to SATURDAY, the 20th of MARCH, 1858, after which time none will be issued. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall Mall, London, S.W. and endorsed, "Tender for Builders' Work, on one corner of the envelope. No Tender will be attended to which is not filled up strictly in conformity to the instructions contained in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B.—The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, York, March 6th, 1858.

TO BUILDERS.—Such Persons as are desirous of undertaking the several branches of Artificers' Work, including the supply of IRONMONGERY and CAST-IRON and METAL WORK, required by the Royal Engineer Department, at the following Stations, viz.—Portsmouth, including Forteen Island, Gosport, and detached works, not exceeding five miles, Southampton (Pensioners' Retal lishment), Maryt wood, Hurst, and Calshot Castles; Winchester, Christchurch, Chichester, and Isle of Wight, are hereby informed that Tenders will be received for the whole of the trades for each of the above-named stations, but the rates of per-centage at which the parties Tender may be different for each trade, at their option; but such rates must be shown in the proper place on each of the schedules. The Tenders will be required to be delivered before TWELVE o'clock at noon on THURSDAY, the 25th day of MARCH, 1858, at the War Office, Pall-mall, London, addressed to "The Director of Contracts," and endorsed, "Tender for Artificers' Work" in the left hand corner of the envelope.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

T. FOSTER,
Colonel Commanding Royal Engineers, South west District.
Royal Engineer Office, Portsmouth, March 1, 1858.

NEW CONGREGATIONAL CHAPEL and SCHOOLS, Angel-street, Worcester. To BUILDERS and CONTRACTORS.—Parties willing to CONTRACT for the above BUILDINGS, may see the plans, specifications, and conditions, at the Chapel, between the hours of TEN and FOUR, on and after WEDNESDAY, the 7th day of APRIL next. Tenders (sealed, endorsed, and addressed to the "Building Committee") to be delivered to the Secretary, Mr. W. IRELAND, 28, High-street, Worcester, not later than FRIDAY, the 16th of APRIL, at FOUR o'clock, p.m. The lowest, or any of the Tenders, will not necessarily be accepted. Information and bills of quantities, can be obtained on application to Messrs. POULTON and WOODMAN, Architects, Reading.

CONTRACTS.

BOARD of WORKS for the LIMEHOUSE DISTRICT LOAN. The Board of Works for this district are desirous of receiving TENDERS from persons willing to advance £5000 in one sum, or in sums of not less than £1000 upon the security of the sewer rates, authorised to be raised in the Parish of Limehouse, in the said district, under the Metropolis Local Management Act. The said Loan will be repaid by twenty annual instalments, with interest and paid yearly, in the meantime. Tenders, specifying the amount to be advanced and the rate of interest required, to be delivered, under cover, at my Office, Board Room, Cubitt House, White Horse-street, Commercial Road East, on or before TWO o'clock in the afternoon of WEDNESDAY, the 24th day of MARCH, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

HEADLEY PARISH CHURCH, Hants.—To BUILDERS.—Plans and forms of TENDERING for the EXECUTION of the WORKS to be done in the RESTORATION of HEADLEY CHURCH, may see obtained on and after the 22nd inst. at the Architect's Office, Basingstoke, and after the 22nd inst. at the Rectory, Headley. The drawings, specifications, and conditions of Contract, may be seen on and after the same day, the 22nd MARCH, between the hours of TEN and FOUR, at the Office of the Clerk of the Peace for the said county at Winchester, or at the Town Clerk's Office in Macclesfield, or that of the Architect Mr. F. PURNALL, No. 15, Gower street, London. The quantities have been taken out, and copies may be obtained by parties proposing to Tender, at either of the above mentioned Offices, on the deposit of a Deposit, which will be returned when the Tender is sent in. Sealed Tenders will be received by the Clerk of the Peace, not later than SIX o'clock, P.M. on TUESDAY, the 30th MARCH. The Justices do not bind themselves to accept the lowest or any Tender.

CHARLES WILLIAM POTTS,
Chester, 9th March, 1858. Deputy Clerk of the Peace.

TOTTENHAM and EDMONTON GAS-LIGHT and COKE COMPANY. To BUILDERS and CONTRACTORS.—TENDERS are wanted for the EXCAVATION and BRICKWORK of a TANK for a SEVEN GAS HOLDER Tank, to be built on the property of Mr. BARCLAY, Manager, at the Works, Edmonton. Tenders to be sent in before the 27th day of MARCH next. The Directors do not bind themselves to accept the lowest Tender.

TO BUILDERS and CONTRACTORS.—The Building Committee are desirous of receiving TENDERS for RE-BUILDING the NAVE, AISLES, &c. of the CHURCH of MARDEN, in the County of Hereford, and one mile from the Railway Station, on the Hereford and Shrewsbury Railway. NICHOLSON, Diocesan Architect, Hereford, to whom all Tenders are to be sent, on or before the 6th of APRIL next, and mark "Tender for Marden Church," No Tender to be given by the Churchwardens that is not Tendered for on the Printed Forms.

BOROUGH of WARRINGTON.—To CONTRACTORS and OTHERS.—The Paving and Sewerage Committee of the Corporation of Warrington are prepared to receive TENDERS from persons willing to enter into Contract for the CONSTRUCTION of a MAIN SEWER, with its Appurtenances, to extend from Sewer No. 24, commencing at Bridge Foot, and running thence Mersey-street and Church-gate, to the junction of Bridge-street, in Warrington, aforesaid. Drawings and specifications may be seen, and information obtained, from Mr. BENJAMIN P. COXON, Borough Surveyor, on and after the 15th inst. Tenders, endorsed "Tenders for Sewerage and Sewage Committee, are to be left at the Town Hall, on or before the 27th inst. The quantities have been taken out, and will be furnished to the contractor, the committee not being responsible for the same.—By order,

JOHN FITCHETT MARSH, Town Clerk.
March 11, 1858.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet, at the Guildhall of the said City, on TUESDAY, the 11th MAY next, at TWELVE o'clock to proceed, to SELL by TENDER the following FREEHOLD GROUND RENTS:—1. The Rental of £40 a year for eighty years, from July last, 1856, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Chancery-lane, with the reversion to the same. 2. The Rental of £307 a year for eighty years from July last, 1856, secured on the premises known as the Metre Tavern, Chancery-lane, with the reversion to the same. 3. The Rental of £80 a year for eighty years from Michaelmas, 1856, secured on those substantial business premises in Fetter-lane, on the east side, in the occupation of Messrs. Snow and Bell, with reversion to the same. 4. The Rental of £97 a year for seventy-nine years from Midsummer, 1853, secured on substantial house and premises on the west side of Plough-court, in the occupation of Mr. Curtis, with reversion to the same. Tenders for the same must be sent in, sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next. Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground rents to be sold are for the remainder of the terms, as above described in each case, from and after Midsummer-day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible.

JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, March 20th, 1858.

THE FRIENDS' RETREAT, near YORK. TO BUILDERS. Such persons as are about to TENDER for this building, are hereby informed that the TIME for receiving Tenders is EXTENDED from the 20th until MONDAY, the 29th instant, at Noon.

93, Micklegate, York, 15th March, 1858. J. B. and W. ATKINSON, Architects.

[For remainder of Contracts see next page.

CONTRACTS.

CONTRACT for WORKS. — SWANSEA HARBOUR RAILWAY.—The Swansea Harbour Trustees are prepared to receive TENDERS for the CONSTRUCTION of this LINE from the South Wales Railway to the eastern end of the new dock in the new Swansea Harbour. Plans and specifications of the work may be seen at the Offices of the Trustees, Swansea, on and after THURSDAY, the 4th inst. Sealed Tenders, addressed to the Swansea Harbour Trustees, to be delivered to the undersigned, at the Harbour Offices, Swansea, on or before THURSDAY, the 27th inst.

LEWIS THOMAS, Clerk.

Harbour Offices, Swansea, March 1st, 1858.

CONTRACT for SEWERS.—The Board of Works for the Hackney District will meet at the Town Hall, Church-street, Hackney, on THURSDAY, the 1st of APRIL next, at TEN o'clock in the forenoon, to receive TENDERS for about 1,700 lineal of BRICK and PIPE SEWERS, to be constructed in and in Stamford Hill, Upper Clapton, and Kingsland. No Tender will comprise about 10,000 feet in length of Sewer; and No 2 Contract will comprise about 9,000 feet in length of Sewer; and Plans, sections, and specifications, and forms of Tender of the works, may be seen on and after the 25th of MARCH next, at the Office of Mr. JAMES LOVEGROVE, Surveyor to the Board, at the Town Hall, Mr. JAMES LOVEGROVE, Surveyor to the Board, at the Town Hall, Church-street, Hackney. Sealed Tenders to be sent to the Clerk of the Board, at the Town Hall Hackney, on or before WEDNESDAY the 31st of MARCH next, endorsed "Tender for Sewers." Each Tender must be made out for the whole of the Sewers separately. The Board do not bind themselves to accept the lowest or any Tender.

By order of the Board,

RICHARD ELLIS, Clerk.

Dated 1st March, 1858.

VESTRY of ST. MARY, NEWINGTON, Surrey.—CONTRACTS for PAVING, CURBING, BROKEN GRANITE de., GRAVEL, SCAVENGERS' WORK, FLINTS, ENGLISH GRANITE de., MASONS' WORK, and SMITHS' WORK.—The Paving Committee of the Vestry will meet at the Vestry-room of the Parish Church, on MONDAY, the 29th MARCH instant, at SEVEN o'clock in the evening, to receive TENDERS from persons willing to CONTRACT with the Vestry for the supply of PAVING, both in STONE of about 90,000 feet superficies; and also for the supply and doing of about 90,000 feet superficies; and also for the supply and doing of CURBING, to the extent of about 12,000 feet lineal; BROKEN GRANITE, to the extent of about 1,000 yards; PAVING, both in STONE and GRANITE, to the extent of about 1,000 yards; FLINTS, KENTISH RAG, GRAVEL, SCAVENGERS' WORK, and the Vestry may require; the same for the year ending the 25th MARCH instant, until the 25th MARCH, 1859. Printed Forms and Terms of Tender, specifying the Rates and Prices at which the Tenders are required to be made, may be had on application at the Vestry-clerk's Office, on MONDAY, the 29th instant, between the hours of TEN and SIX o'clock in the evening, and on TUESDAY, the 30th MARCH instant, until the hour of TWELVE at noon, when the Tenders will be opened before the Committee.

H. and F. CHESTER, Joint Clerks to the Vestry,

1, Church-st., Newington Butts.

TO MASONS and BUILDERS. — RESTORATION of the CHANCEL of the PARISH CHURCH, TUNBRIDGE.—Persons wishing to contract for the above may see the plans and specifications at the Vestry-room, on WEDNESDAYS and FRIDAYS (during the month), between TWELVE and FOUR o'clock. TENDERS will be received by the Rev. J. WANTEN, Vicar, in the first week in APRIL; but the Committee will not pledge themselves to accept the lowest or any other Tender.

Tunbridge, Mar. 1, 1858.

LANCASTER and CARLISLE RAILWAY. TO BUILDERS.—The Directors of the Lancaster and Carlisle Railway are ready to receive TENDERS for the CONSTRUCTION of additional BUILDINGS at the Lancaster Station. The drawings and specification may be seen at the Secretary's Office, on and after APRIL 1, and the 8th APRIL, both days inclusive. Tenders must be delivered at the Lancaster Station on the 9th APRIL. The following words must be written upon the outside of each Tender, "To the Directors of the Lancaster and Carlisle Railway Company." The Directors do not bind themselves to accept the lowest Tender. Materials for the foundations are not required to be included in the Tenders, which should be addressed to the undersigned, and delivered free at the Railway between Carnforth and Preston.

Lancaster, March 11, 1858.

MORETON IN-THE-MARSH PARISH CHURCH, GLOUCESTERSHIRE.—TO BUILDERS.—Parties willing to CONTRACT for REPEWING the above church, a NEW CHANCEL, and other works, are invited to view the plans and specifications at the Rev. Nathaniel Woodward's Office, Moreton, between the hours of TEN and FOUR, on and after MONDAY, the 29th MARCH next. The Tenders are to be delivered at the Building Committee Room, on or before the 10th day of APRIL next, addressed to the Rev. Nathaniel Woodward, Moreton, and marked "Tender for Repewing Moreton Church." The Committee do not bind themselves to accept the lowest or any Tender. Tenders for the Chancel only will be received free along the Railway between Carnforth and Preston.

Moreton, March 11, 1858.

MORETON IN-THE-MARSH PARISH CHURCH, GLOUCESTERSHIRE.—TO BUILDERS.—Parties willing to CONTRACT for REPEWING the above church, a NEW CHANCEL, and other works, are invited to view the plans and specifications at the Rev. Nathaniel Woodward's Office, Moreton, between the hours of TEN and FOUR, on and after MONDAY, the 29th MARCH next. The Tenders are to be delivered at the Building Committee Room, on or before the 10th day of APRIL next, addressed to the Rev. Nathaniel Woodward, Moreton, and marked "Tender for Repewing Moreton Church." The Committee do not bind themselves to accept the lowest or any Tender. Tenders for the Chancel only will be received free along the Railway between Carnforth and Preston.

Moreton, March 11, 1858.

SEAFORD. — To BUILDERS. — Persons desirous of TENDERING for the ERECTION of SCHOOLS and HOUSE, with Offices and Palisades at Seaford, Sussex, may apply To-morrow (Saturday) for the plans and specifications, and obtain printed forms, on application to the Rev. J. CARNEGIE, at his House in Seaford; or at the Office of the Architect, Mr. W. G. HABERSHON, 30, Bedford-square, London. Tenders are to be delivered (per coach) at Mr. CARNEGIE'S House, on WEDNESDAY, the 31st instant, at FOUR o'clock precisely. The lowest Tender will not necessarily be accepted.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE.—CONTRACT No. 2.—To CONTRACTORS and OTHERS.—The Local Board of Health for the district of West Ham, in the county of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties wishing to undertake the following matter:—

CONTRACT No. 2.—For the supply of Materials, and for the execution of certain BRICK SEWERS, and EARTHENWARE PIPE SEWERS.

About 750 Lineal yards of Brick Sewers, chiefly 3 feet

About 700 lineal yards of Pipe Sewers, chiefly 18 inches diameter

The specification may be seen at the Surveyor's Office, Bridge-road, Stratford, on and after MONDAY, the 22nd day of MARCH next, at the Office of the Clerk to the Board, in Stratford, on and after the 19th day of APRIL next, at the Office of WILLIAM JAMES BARNHAM, Surveyor and Clerk of the Local Board, Stamford green, E.; or at the Office of ROBERT RAWLINSON, Engineer, No. 6, Great George-street, Westminster, after which day all the documents relative to the proposed contract to be obtained at the Surveyor's Office, Bridge-road, Stratford. Tenders to be delivered at the Clerk's Office, Stratford, on or before SATURDAY, the 24th day of APRIL next, at TWELVE o'clock at noon, addressed to the Board, and endorsed "Tender for Sewers, Contract No. 2."

By order of the Board,

WILLIAM JAMES BARNHAM, Clerk to the Local Board.

Stratford, West Ham, Essex, March 15th, 1858.

TO FIRE PROOF ROOM BUILDERS. — The Advertisers wish to CONSTRUCT a FIRE-PROOF ROOM, [illegible] ing references to similar constructions, D. P., Mr. Cockayne's, Watch-[illegible]

TO TAR DISTILLERS and OTHERS.— The Directors of the Liverpool Dock Estate are desirous of receiving TENDERS for the PURCHASE of TAR, to be taken from all the [illegible] ferry Wharf, Brick-lane, Old-street; and Christian-road, Shoreditch, during a period of TWELVE MONTHS from 1st APRIL next. Quantities not less than [illegible] Tenders, addressed to the undersigned, to be delivered at the Dock Office, Liverpool, on or before THURSDAY, the 25th day of MARCH, 1858. Further particulars may be obtained on application to the Secretary, at Bankside, Lambeth-street, Liverpool.

17th March, 1858.

DONCASTER CHURCH. —To GLAZIERS. Mr. WILSON is desirous of receiving tenders for [illegible] to the GLAZING [illegible] Parties may see the plans at Mr. WILSON'S Office at Grantham, and obtain forms of Tender there. Tenders to be addressed to Mr. JOHN WILSON, Grantham, and delivered by the 27th instant.

Grantham, March 17, 1858.

CONTRACTS.

TO BUILDERS and OTHERS.—TO BE LET, by TENDER, on Building Leases for ninety nine years, several PLOTS of GROUND, situate at Hythe, in the County of Kent, on the Hythe Extension of the North Kent Railway, at Lowlands, known as Matthew Hill Estate. Plans of Tender, with the most reasonable terms, may be had at the office of Mr. SAMUEL TILSTONE, 30, Nutt-st., Mark-lane, Dashes' Hall, Threadneedle-street, London; where Tenders, on or before the 31st day of MARCH, 1858, will be received, and the same will be opened, and the parties tendering will be expected to attend. Forms of Tender, with plans, may also be obtained of Mr. THOMAS MILLS, surveyor, 28, York-street, Westminster; or, upon payment of 1s., at the Roebuck Inn, on the estate.

EVESHAM NEW BRIDGE.—NOTICE to CONTRACTORS.—TENDERS for CONSTRUCTING WHARFS, RIVER WALLS, Retaining Walls, and other Brickwork, upon the site of the New Bridge, at Evesham, will be received at the Office of the Town Clerk, Evesham, on or before the 31st day of MARCH next, addressed to the Mayor and Burgesses of Evesham. The plans and specifications of the several works, with terms and conditions for the same, may be seen at the Town Clerk's Office, between the hours of TEN and FOUR, on and after the 25th inst. The Town Council do not bind themselves to accept the lowest Tender.

OSWALD CHEEK, Town Clerk.

Evesham, March 17, 1858.

TO BUILDERS and CONTRACTORS. — Persons desirous of submitting TENDERS for BUILDING SCHOOLS, Master's House, &c. at Much Cowarne, near Hereford, are informed that they can inspect the plans and specifications at the Office of Mr. T. NICHOLSON, Diocesan Architect, Hereford. The Tenders are required on or before the 5th of APRIL, at which pledge is given that the lowest will be accepted.

TO BUILDERS and CONTRACTORS. — TENDERS are required for the following WORKS, viz.—Completing Four Villas at Norwood, near the Crystal Palace; completing a Tavern at Forest-gate, Essex; Rebuilding a House in Fenchurch-street, City; Erecting a Lodge, Farmhouse, and Covered Horse-hill, at Hill on Mudeford. The plans and specifications may be seen at the Offices of Mr. BROWN, Architect, No. 1, Scott's-yard, Bush-lane, Cannon-street, City.

TO SEWER CONTRACTORS, BUILDERS, and OTHERS.—NEW SEWERS and PIPE DRAINS at UPPER CLAPTON, STAMFORD HILL, and KINGSLAND.—Any quantities may be had on payment of 10s. 6d.; or copy quantities, plans, sections, and detailed drawings on payment of 21s. GARDNER and CO. Surveyors, &c. 1 and 2, Southampton-street, Haddington-square, City, E.C.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for SEWERS. NOTICE is hereby given that the Sewers Committee will meet at the Vestry Hall, on the 1st of APRIL, 1858, to RECEIVE TENDERS for a piece of CONTRACT for the CONSTRUCTION of certain intended BRICK SEWERS in Cut-street, Henry-street, Commercial-road, Eastfield-street, North-street, and Richard-street, Limehouse-fields, in the Parish of St. Anne, Limehouse, and to other works in connection therewith, and for the subsidiary Sewers of such works, and to be let for twelve months and a-half, in two sections, and a specification of the works, whether with or without the supply of materials and other particulars connected with the same, may be seen at the Office of the Board, Commercial-road, E., between the hours of TEN and FOUR, on and after FRIDAY, the 26th day of MARCH next. Tenders, sealed, and endorsed "Tenders for Works," to be delivered, with the address of the party, on or before the THREE o'clock precisely, on the 1st APRIL, 1858, and no Tender will be received unless accompanied by a 10l. Bank of England note, or an equivalent to it in the same Sewers. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required. The Contractor will have to pay the fees, if any, for the Contract. Tenders will be received only when delivered in the Secretary's Office, on the printed forms.

THOMAS HATCLIFF, Clerk of the Board.

1st March, 1858.

TO TANK BUILDERS.—A Brick Tank, 50 feet in diameter in the clear, recently constructed for the Bromley Local Board of Health, Kent, on their Works, at Bromley, Kent, has been found to leak, and the present Contractor having failed to make good the defects, the Company are ready to receive TENDERS from Contractors willing to undertake the necessary WORKS to render the same perfectly water-tight. Tenders must be addressed to the Secretary, at the Works, on or before the 9th day of APRIL next, and must be accompanied with a specification of the work intended to be done, and the price for which the same will be done. The Directors do not bind themselves to accept the lowest or any Tender.

Brixton, March, 1858.

REBUILDING of BOWDON PARISH CHURCH.—In consequence of an unavoidable delay in completing the working drawings, &c. (which will, however, be completed in a few days), there will be an EXTENSION of TIME for sending in TENDERS until THURSDAY, the 25th inst., by which time will be received Tenders based upon the Nave and Chancel walls only. The Committee have decided to let the works in one contract, and not in parts.

Bowdon, March 11th, 1858.

BRICKS. Messrs. OATES and INGRAM inform Brick-makers on an extensive scale, that their PATENT SOLID BRICK MACHINE is now thoroughly and efficiently worked, and they are prepared to treat for the following counties on the trade in DISTRICTS, either by ROYALTY or PURCHASE:—MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, GLOUCESTER, HERTFORD, BERKS, HUNTINGDON, DEVON, CORNWALL, DORSET, WILTS, HANTS, and ISLE of WIGHT. With this Patent Machine the ordinary surface-clay requires no preparation whatever; whilst that of a rocky nature is merely to be passed through the rollers, on the ordinary Brick Machine, WITHOUT ANY TEMPERING INTO THE MACHINE, FROM WHICH THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Patent Machine has also specially THIRTY BRICKS PER MINUTE, at the Works of Messrs. Kirk and Parry, Government Contractors, Port Elson, near Gosport, and one at the Patent Solid Brick Works of Messrs. Wells Iverson, Quarry-lane, Bermondsey. Application for orders to see the Machine in operation, to Messrs. OATES and INGRAM, Bradford-street, Birmingham. Any one placing the order, and proceeding to see the Machine at work, before it is burnt, or a sample brick will be sent to any party wishing to see one.

BRICKS. —Malm Cutters, Yellow and Pale Seconds, Facings, and Pinkings, of good and sound quality, constantly on sale at H. DODD'S Brickfields, which are only a quarter of an hour's walk from the City. H. D. earnestly requests purchasers to favour him with a visit, in order to inspect his stock, and to judge of its excellence.

Malm Place, half-washed Stocks, and Place Bricks, also on sale. The Malm is of good quality, and is nearly free from grit and dirt, a very large proportion of the stock being suitable for external facing.

Apply to HENRY DODD and CO. at the Counting-house, Hoxton Brickfields, Grange-walk, near the Rosemary Branch, Hoxton.

N.B. Bricks required for small additional quantity constantly on sale on reasonable terms. Fine Sand, for mixing with mortar, or stable manure, is acknowledged to be preferable to river Sand.

BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	23s. per Thousand.	
Rough Stocks and Grizzles	19s.	,,
Place do.	16s. to 18s.	,,
Bright Stocks	28s.	,,
Shippers	30s.	,,

Wilson Lodge, Smeed, Sittingbourne, Kent P.S. Quay of the Canals on payment of Dues extra.

BRICKS. Mr. RYDON having made mo Bricks than he requires for the buildings on his Highb New Park Estate, is willing to make arrangements with build and others for SUPPLYING a quantity of best-class BRICKS every description.—Address, Estate Office, Dell's Farm, St Newington green.

JOHN NEWTON and CO. HONDURA WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lum and Tiles of every description seventeen years with James Newton Falcon Dock, Bankside), beg to solicit the patronage of Consum Gas Companies, Engineers, Builders, &c. &c. Depot for Ramsa superior New-castle Fire-bricks, Clay Retorts, &c. Sundery Pa Chimney-pots, Dutch Clinkers, &c. at the lowest prices. Shipp orders executed with despatch.

PEAKE'S TERRO-METALLIC TILE PIPES, &c.—Notice is hereby most respectfully given, that LONDON DEPOT for this valuable REMOVED to No. 21, WHAR Macclesfield-street North, City-road Basin (N.). Zndly, that the te term, "TERRO METALLIC," is the exclusive right of the Proprietor and 3rdly, that the "Reports of the Jurors," page 581, of the Gr Exhibition, note the grant of a First-class Medal, and rank the Ma factories known so long as "The Tileries," Tunstall, Staffordshire the first of the kind in the world.

IMPERISHABLE TESSELATED PAV MENTS, combining a highly decorative and economical sub Late for ordinary floors of their permanent coverings. MAW and Co with their new and beautiful Designs and Colours, are prepared to special design and estimate free of cost, adapted to any given enclosu of hall, passage, conservatory, verandah, &c. &c. will be sent application to Benthall Works, Broseley, Salop.

PATENT TERRA-COTT Tracery for Parapets and Terraces, Mullions, Panna Moulded Bricks, Coats of Arms, Crosses, Label Mouldings, Frie Transoms, Arches, Quoins, Strings, and Bases of Columns. Facing Bricks, Coping, Kitchen and other Sinks, Chimney Sh and Tops, and numerous other Articles, manufactured by J BLASHFIELD, in Patent Impermeable Terra-Cotta, at Mill wi Isle of Dogs, and sold at No. 2, Wharf, Priest-street, Paddingt basin.

THE PATENT ARCHITECTURA POTTERY COMPANY, POOLE, Dorset, Manufacturerers BALE'S PATENT INLAID MOSAIC TILES; also superior T SELATED TILES, 6 inches by 6 inches, &c. white, red, buff, bl blue, grey, &c. for churches, entrance halls, corridors, conservato lobbies, vestibules, porticos, verandahs, &c.; as also for exter decoration, as plinths, friezes, string courses, pilasters, &c. and wh gated tiles for bodies, shelves, &c. various specimens of the sh may be seen, and every information obtained, at the Offices of Company, No. 9, Buckingham-street, Strand, from Messrs. WM. BONNIN, and J. G. H. MACCOLL, "Sole" Agents for London.

DUTCH CLINKERS.—Apply to the I porter, L. H. VAN KEMPEN, 7, Cross, Minories, E.C.

BANK of DEPOSIT (established A.D. 184 3, PALL-MALL EAST, London.—Parties desirous of invest money are informed that the Interest allowed at the Bank of Deposit on which high rate of interest may be obtained with perfect securit The interest is payable at January and July.

PETER MORRISON, Managing Directo

Forms for opening accounts sent free on application.

ESTABLISHED 1838.

MONEY LENT for Two Years, One Ye or Six Months, upon Personal, Freehold, Leasehold, or o available Security, without Mortgage or Insurance, from 5l. to 5 repayable by Weekly, Monthly, or Quarterly Instalments. FI BERY LOAN OFFICE, 14a, St. John-street, Clerkenwell, Open daily. All communications strictly confidential.

LOAN and INVESTMENT AGENC ASSOCIATION.—CHIEF OFFICE, 9, ADAM-STRE STRAND, W.C. Loans of any amount, from 20l. on real and o securities. 1s. 6d. to 2s. 6d. per week. Trust funds ready to be invested.

R. T. JOPLING, Actuar

MONEY ADVANCED to BUILDERS a others. LAND TO BE LET, very eligibly situated, dire opposite the Crystal Palace Railway station, Sydenham, and with three minutes' walk. The trains. Road and sewer in lease 125 years, at low ground rents; a spacious hotel, with a num of other Villas and Cottages, to Newly-erected, in every five minutes to the City and West End, also to all parts on London, Brighton, and the South Coast Railways. Apply to Mr. WILLI HEN, Architect and Surveyor, 70, Newgate-street, E.C. Cheap trains run d every few minutes to the City and West End, also to all parts on London, Brighton, and the South Coast Railways. Apply to Mr. WILLI HEN, Architect and Surveyor, 70, Newgate-street, E.C. Cheap trains run d Messrs. BRIANT and JEFFERYS, Auctioneers and Estate Agents, Mansion-street, Belgrave-square, S.W. and 12, Kennington-row, Ke nington park, S.

CLARIFIED VELLUM.—A novel a beautiful fabric, manufactured entirely from animal mat possessing the beauty and durability of Vellum, with that peculiar and tender surface of the finest Tracing Paper. Pronounced Tracings for Pictures, &c. will be found unrivalled by 2l. 5s. per lb. Also every description of Drawing Paper used by the eminent Draughtsmen, and Artist of the best quality, at wholes prices.

WATERLOW'S TRANSPARENT TRACING PAPERS
LEON'S FRENCH TRACING PAPERS
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MOUNTED DRAWING PAPERS always in Stock
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WATERLOW and SONS,

91, Finsbury-pavement, and Export Stationers and Manufacturers Paper Makers and Wholesale Stationers, 65 and 66, Parliament-street, Hall, London wall; Cripplegate, 24 and 25, Birchin-lane; Western depôt, 49, Parliament-street, Lower.

CITY WINDOW-BLIND MANUFA TORY (established 1810), 2 and 3, Creed-lane, St. Paul's J. HILL begs to inform Builders and Upholsterers that he can supply the trade with the best work at the lowest prices. Inside and outside blinds, fitted complete to suit Venetians, sash-frames, large or small sizes. Orders for blinds promptly attended to. The trade supplied with spring barrels.

A PRIZE MEDAL for SUPERIOR LOCK was awarded to J. H. BOOBBYER, at the Great Exhibition 1851, who invites the attention of Builders to his stock of L mongers, Brass Foundry, Nails wrought and cut, Copper, and Zi Patent Locks of all descriptions; China, Glass, and Wood Furnit of all kinds with Patent Shifting Spindles; Dr. Arnott's Ventila &c. and the New Registered Ventilator, so much admi &c. &c. &c.

J. H. BOOBBYER (late STURCH and BOOBBYER), establi nearly twenty-six years, for the supply of Goods from the best Manufacto at the best prices—14, Stanhope-street, Clare Market, London.

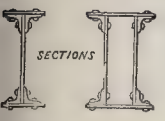
THE PATENT REFLECTING a WARM AIR STOVE.—The great advantage in this new St is, it has the largest effective surface, with the important addi of heat-producers, which can be readily added or withdrawn, accord portion of the apartment to be warmed, thereby effecting a great econo fuel. It is an ornament to any room, and as an efficient fire for sm chimneys will not exhibit, in the least. They stand elegant des and handsome stoves for any room and offices. The public are invite view the Stove in operation at the Parkhead Furnishing, 1 hungry Prendergast, 56 and 58, Baker-street. Prospectuses, with pl free.

POWIS, JAMES, AND CO. ENGINEERS AND MACHINISTS,
26, WATLING-STREET, LONDON, E.C.

Call attention to their **IMPROVED ENDLESS BAND-SAWS,** for Steam and Hand Power; **CIRCULAR-SAW BENCHES,** for Steam and Hand Power; **IMPROVED STEAM POWER PLANING, TONGUEING,** and **GROOVING MACHINE,** doing **SEVENTY FEET** per minute, and **GOOD WORK.** Also their **PATENT MORTISING, TENONING,** and **BORING MACHINE,** which is self-feeding, and doing the three kinds of work by One Machine, and of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone.

DRAWINGS AND PRICES TO BE HAD ON APPLICATION.

P. J. and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.



WROUGHT-IRON GIRDERS
For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.
MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

THOMAS PUGH and CO. WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, CITY, LONDON, INVITE ATTENTION TO THEIR
NEW PATENT ECONOMIC SELF-ADJUSTING MORTICE AND RIM LOCK FURNITURE.
Also, to
GREEN AND JACKSON'S
NEW PATENT MORTISING, TENONING, BORING, AND DRILLING MACHINE,
Which may be seen and tried at 13, KING STREET, SNOW HILL.—Illustrations and particulars of both sent upon application.

JAMES HAYWOOD, Jun.
PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

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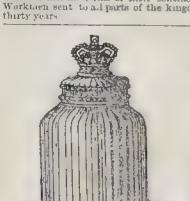

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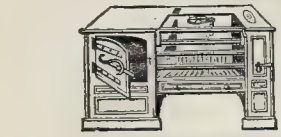

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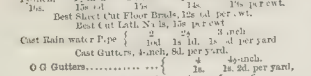

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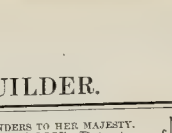

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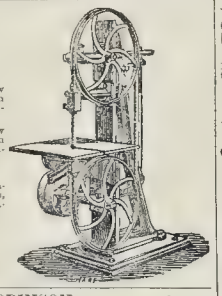

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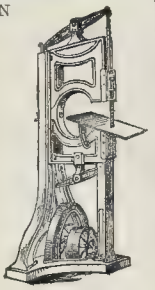

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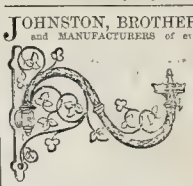

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MESSRS. JOHN and WM. EASTWOOD are SOLELY engaged in the SALE of Messrs. R. A ALLEN and CO.'S WHITE and RED FACING BRICKS, and SHAPED GOODS, from their Ballington and Calthorpian Works, near Sudbury, Suffolk; the EWELL deep BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT dark and bright RED RUBBERS. And also SOLELY engaged in the SALE of Messrs CALEB HITCH and CO.'S YELLOW and PALE MALM CUTTERS and FACING BRICKS, and KILN GOODS, From their Fields at Wace, Hertfordshire. COWLEY and KENT BRICKS, in any quantities, by barge alongside. The usual commission allowed to merchants of the trade from the monthly price-lists. WELLINGTON WHARF, Belvidere-road, Lambeth; and KENT ROAD BRIDGE.

BLUE LIAS, GREY STONE, and CHALK LIME. PORTLAND, ROMAN, and OTHER CEMENTS, PLASTER, HAIR, LATHS, &c. STAFFORDSHIRE PAVEMENTS & RIDGING. Blue, Red, and Buff Terra Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain, Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, Grooved Ridging, with Crest Ornaments, in Green, Blue and Red, the different periods. Vitrified Stable Pavings, Grooved, of various Blue Facing Bricks, &c. FIRE-BRICKS, LUMPS, and TILES of all kinds. Pattern goods made to order. GOODS of every description. Importers of DUTCH CLINKERS. J. and W. EASTWOOD, Belvidere-road, Lambeth; and Kent-road Bridge.

CHARLES RICHARDSON, BRUNSWICK WHARF, VAUXHALL, And 6, SOUTH WHARF, PADDINGTON BASIN COWLEY and KENT BRICKS, per barge, Stable, or delivered in any quantities, direct from wharves. SUPERIOR WHITE SUFFOLK FACINGS, Arches, Door Jambs, Coping Bricks, Stable Clinkers, &c. DARK RED FACINGS, Rubbers, Splays, Plinth Bricks, &c. BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickers, Paviors, &c. BLACK HEADERS, Glazed and Unglazed. HEART'S PERFORATED BRICKS. STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terra-Cotta Paving Tiles. Plain, flanged, rolled-top, and ornamental Crested Ridging, &c. Brosely Tiles. FIRE GOODS, Newcastle, Stourbridge, Welsh Fire Bricks; Tiles, Lumps, Fire Clay and Flue Linings, Pattern Brick, &c. made to order TERRA-COTTA CHIMNEY-POTS, Vases, Flowers, Garden Border Edging, &c. SLATES, best quality from the Bangor quarries. YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c.; Sawn Slab for Hearths, Jambs, &c. TILES—Pan, Plain, Ornamental Roofing, Ridging, Oven, Mathematical, &c. A great variety of Red and White tiles always kept in Stock. GLAZED VITRIFIED SEWAGE PIPES, Syphon Traps, Stench Traps, &c. GREY STONE and CHALK LIME. BLUE LIAS LIME, Ground, or in Lump, at Stockton, Wilmcote, Leicester, or Aberthaw. CEMENTS, Roman, Portland, Parian, Lias, &c. PLASTER of Paris, fine and coarse, of best quality, at reduced prices. HAIR, Laths, Sand, Ballast, &c. IMPORTER OF DUTCH CLINKERS All kinds of Building Materials sent by rail the same day as ordered ROAD MATERIALS — Guernsey Granite, Scottish Flints and Kentish Rag Stone, broken and unbroken. Delivering given for any quantity, direct from the Quarries. N.B. Landing Wharf and Drawing Dock at Vauxhall

BLUE LIAS LIME.—Messrs. GREAVES and KIRSHAW having completed their Works on the Birmingham and Oxford Line of the Great Western Railway, at Hardwyn, are now prepared to supply LUMP and GROUND LIME of the best quality, direct from the kilns, to all the stations on the Great Western Railway. Greaves's Blue Lias Lime. Portland, Bath, and Lias Cement. Works at Hardwyn, Stockton, and Wilmcote.—Office at Warwick.

J. McCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars-street, City. Sand from above or below Bridge, delivered by the ton or per barge. Ballast, screened or as screened, by the yard or per ton. Stocks, Lime, and coal Ducks. Dry Rubbish delivered, per barge, in any quantity, alongside the Thames.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, as a quick-setting Cement, that requires no covering. Sold exclusively by JOHN CLEY WHITE and BROTHERS, Millbank-street, Westminster; and Steel-street, Liverpool.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. PHILLIPS and CO., at their Works, Swindon, and retailed at their Wharf, Office, and Stores, 6, Upper Thames-street, London, and also at the Manufactory, Swindon, Wilts. These Cements supplied for shipment, and to foreign parts.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH, or Cement for Internal Work, STUCCO CEMENT, STUCCO PAINT, CLARK'S BENCOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

COLES, SHADBOLT, and CO. CEMENT and PLASTER MANUFACTURERS, LIME BURNERS, Brick, Tile, Drain-pipe, Fire-brick, and Fire-clay Merchants, 87 JAMES-street, THORNHILL WHARFS, Caledonian-road, London.

FREENE'S and PARIAN CEMENTS and R. FRENCH PLASTER, for internal purposes. These known Cements dry quickly, and can be painted upon within a few days. Sold and used by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT, makes the very double qualities of the natural stone with the added and advantage that it greatly excels them in two commendations properties: that it is not affected by frost, and does not disintegrate in damp situations. A Count of COMPARATIVE EXPERIMENTS on the strength of this and other Cements, made at the Institute of Civil Engineers, to be obtained from the Makers, JOHN CLEY WHITE and BROTHERS, Millbank-street, Westminster, of whom pure quality only of Portland Cement.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT. KNIGHT, BEVAN, and STURGE, Manufacturers only of first class quality, for the home and foreign trade. Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise. LONDON WHARF, BEKVIDERE-ROAD, LAMBETH.

THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT.—Messrs. ROBINS and CO. to WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all the purposes to which Cement is applicable. Orders received at Great Scotland-yard, and at the Works.

GEO. and THOMAS EARLE, CEMENT MANUFACTURERS, HULL.—Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates, and Slate Slabs, Fire-bricks, Grindstones, Cement Chimney tops, ditto Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Pozzolano.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, Bath and Roman Cements, Blue and White Lias Lime, lump and ground.—KIALLMARK and CO. Dunball, Bridgwater, and 9, North Wharf-road, Paddington.

PARIAN CEMENT.—This article is valuable for internal stucco instead of common plastering, and is especially adapted to skirtings, flooring on brick arches, &c. &c. It takes paint in a few hours after its application on walls or laths, is without efflorescence, and may be painted or papered forthwith. A finer quality forms a beautiful scagliola, and polishes with any admixtures of colours.—Manufactured by the Patentees, FRANCIS, BROTHERS, and POTT, Cement Works, Nine-elms, London.

PLASTER of PARIS, unequalled in quality and price, manufactured by W JACOBS, Trent Works, Newark, Notts.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer, SUPPLIES COCOA NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c. of the best quality on the most reasonable terms. Warehouse, 42, Ludgate-hill, E.C.

GUARDIAN FIRE AND LIFE ASSURANCE COMPANY, No. 11, Lombard-street, London, E.C.

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Henry Hulse Berens, esq. Chairman.
John G Hubbard, esq. | Deputy Chairman.

John Dixon, esq. | John Martin, esq. M.P.
Francis Hart Dyke, esq. | Rowland Mitchell, esq.
Sir W. M. T. Farquhar, Bt. M.P. | James Morris, esq.
Sir Walter R. Farquhar, Bt. | Henry Norman, esq.
Thomson Hankey, esq. M.P. | Henry R Reynolds, esq.
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John Labouchere, esq. | John Thornton, esq.
John Loch, esq. | James Tulloch, esq.
Stewart Marjoribanks, esq. | Henry Vigne, esq.

AUDITORS.

A W. Robarts, esq. | Henry Sykes Thornton, esq.
Lewis Loyd, jun. esq. | John Henry Smith, esq.

SECRETARY. Thos. Tallemach, esq.

ACTUARY—Samuel Brown, esq.

LIFE DEPARTMENT—Under the Provisions of an Act of Parliament, this Company now offers to future Insurers Four-fifths of the Profits, with Quinquennial Division, or a Low Rate of Premium without participation of Profits.

The next division of profits will be declared in June, 1860, when all Participating Policies which shall have subsisted at least one year at Christmas, 1859, will be allowed to share in the Profits.

At the Five Divisions of Profits made by this Company, the total Reversionary Bonuses added to the Policies have exceeded 913,000l.

At the last valuation, at Christmas, 1854, the Assurances in force amounted to upwards of 4,243,000l.; the Income from the Life Branch in 1854 was more than 200,000l., and the Life Assurance Fund (independent of the Guarantee Capital) exceeded 1,700,000l.

FOREIGN RISKS—The Extra Premiums required for the East and West Indies, the British Colonies, and the northern parts of the United States of America, have been materially reduced.

INVALID LIVES—Persons who are not in such sound health as would enable them to insure their Lives at the Tabular Premium may have their Lives insured at Extra Premiums.

LOANS granted on Life Policies to the extent of their values, provided such Policies shall have been effected a sufficient time to have attained in each case a value not under 5l.

ASSIGNMENTS OF POLICIES—Written Notices of received and registered.

MEDICAL FEES paid by the Company, and no charge will be made for Policy Stamps.

Notice is hereby given, that Fire Policies which expire at Lady Day must be renewed within fifteen days at this Office, or with Mr. SAMS, No. 1, St. James's-street, corner of Pall mall; or with the Company's Agents throughout the Kingdom, otherwise they become void.

Losses caused by Explosion of Gas are admitted by this Company.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard-street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

Desmus Burton, esq.
Octavius Edward Coope, esq.
John Cotton, esq.
John Davis, esq.
George Holgate Foster, esq.
George Arbuthnot Hankey, esq.
Charles Emanuel Goalhart, esq.
James Alexander Gordon, esq.
Henry Hunter, esq.
Kirkman D. Hodgson, esq. M.P.
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John Timothy Oxley, esq.
George Stanley Repton, esq.
Benjamin Shaw, esq.
Wm. James Thompson, esq.
Matthew Whiting, esq.
Hy. Heyman Tulman, esq.

AUDITORS—John Hodgson, esq. | Peter Matthieu, esq.
SECRETARIES—William Harris, esq. | George William Lovell, esq.
ACTUARY—Mr. Samuel | John Shaw, esq.
SOLICITORS—Messrs. Dawes and Sons, Angel court.

INSURANCES are effected by this Company with the Phœnix Company upon every description of Property in every part of the world, on the most favourable terms.

Persons insured with the Phœnix Company are not liable to make good the losses by fire sustained by any other Office.

Insurances with this Company expiring at Lady-day, must be renewed at this Office, or with their Agents throughout the Kingdom, within fifteen days after that day, or they will become void.

Fire Receipts may be had at the general Office, Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

ACCIDENTS of EVERY DESCRIPTION. £1,000 IN CASE OF DEATH, OR A FIXED ALLOWANCE OF 6l PER WEEK IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company shall not be debarred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid upwards of seventy thousand pounds as compensation for Accidents.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the journey or year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company, Offices, 3, Old Broad-street, London, E.C.

PROPOSED INTERNATIONAL HOTEL COMPANY (Limited).

Capital, 450,000l.

In 9,000 Shares of 20l. each..... £180,000
And Mortgage or Debentures..... 150,000
£330,000

Deposit, 3l. per Share.

TRUSTEES.

Thomas Alers Hankey, esq. (Messrs. Hankey and Co. Fenchurch-street, Bankers).
John Benjamin Heath, esq. 31, Old Jewry.
Henry Thomas Hope, esq. 116, Piccadilly.
Samuel Scott, esq. (Messrs. Sir Samuel Scott and Co. Cavendish-square, Bankers).

BANKERS.

Messrs. Hankey and Co. Fenchurch-street.
Messrs. Sir Samuel Scott and Co. Cavendish-square.

ARCHITECT.

James Thomas Knowles, esq. F.R.I.B.A. 1, Raymond-buildings, Gray's-inn.

It has long been obvious to the world that our metropolis, as compared with every other leading capital in Europe, is wholly destitute of first-class hotel accommodation; while the enormous annual increase of our system of railways, which has already extended its network to the remotest portions of the kingdom, is daily making this want more evident in proportion as the facilities for travelling augment the number of visitors to this centre of government, capital, and commerce.

This Company proposes to erect a first-class hotel on a square plot of freehold ground, having a frontage of 800 feet, abutting on the Strand, Burleigh-street, Exeter-street, and Wellington-street, including the site of the Lyceum Theatre. The ground story in the Strand and Wellington-street will be devoted to first class shops, the revenue from which alone is estimated to amount to 4,250l. per annum.

The hotel will be a very spacious and beautiful structure—in itself an attraction—and will contain 250 sleeping-rooms, exclusive of private sitting-rooms, and suites of apartments for families. There will also be a large Salle à Manger, in which a Table d'Hote will be daily served; a gentlemen's coffee-room and a ladies' coffee and reading room; billiard, smoking, and chess rooms; in short, this hotel will unite all the comforts and conveniences of internal arrangement, as at the best clubs in London, and in the leading hotels on the Continent and in America.

The proposed situation of this hotel is considered to be an important element to its commercial success, located as it will be upon one of the two main arteries of London—the Strand; midway between the Parliamentary and fashionable portion—the West End—and the Commercial and business portion—the City; in close proximity to the numerous Government departments in Somerset-house, the various Inns of Court, Exeter-hall, the Opera, and the Theatres; within a shilling cab fare of every railway station but two (the Great Western and the Eastern Counties), it will command a position for the temporary residence of London of private, professional, and commercial gentlemen and families, one qualified as regards these qualifications by any other in London.

The termini of some of the great railways have been supplied by their respective companies with hotels of a certain magnitude and modern accommodation. The South-Eastern, North Kent, London and Brighton, and South-Western Railways, however, have no contiguous hotels for the very large number of passengers who are daily conveyed by them to London. The proposed Internation al Hotel, from its immediate contiguity to Waterloo-bridge, over which the whole traffic may be said to pass, will afford the so much required accommodation for visitors arriving by these lines.

Messrs. Lucas Brothers, the eminent builders of Belvidere-road, London, have carefully examined the cost of building the proposed hotel, and are willing to construct it in the best possible manner within the estimated sum of 100,000l. It is expected that the building will be completed in a year from its commencement.

A statement of the cost of the land, buildings, &c., together with an estimate of the expected returns to the company from all sources, have been prepared with the utmost care, and with a liberal allowance for contingencies. From these it will be seen that the earnings of the hotel, based on the most moderate calculations, will secure to the shareholders a return of 20 per cent. and possibly a much higher rate. These statements, together with a prospectus and an elevation of the hotel, may be obtained at the office.

The Great Western Hotel, at Paddington (the only example from which we can fairly draw an inference), is always full, and the promoters see no reason why the International Hotel, with its superior advantages of its central position, combined with the comfort and elegance of its accommodation and its completeness in every respect, should not also be always filled, and thus secure to the shareholders of the company the higher rate of dividend shown in the statement of accounts which is annexed to the prospectus.

The usual method of nominating a board of directors and other officers of a company before the share list has been filled is considered by the promoters to be objectionable in many respects, and especially so for this undertaking, which contemplates the purchase of a valuable plot of freehold land in the centre of London, for the payment of which it is requisite that cash should be provided.

It is proposed, therefore, on the completion of the subscription, to call a general meeting for the formation of the company, and the election of directors and officers; and thus the shareholders will have the power from the very outset of placing the affairs of their company under managers of their own selection.

In the meantime, the above named gentlemen have consented to act as trustees, and to hold the money paid as deposits into the bank in trust for the respective subscribers until the company shall have been formed under the Joint Stock Companies Act, with limited liability, and the directors nominated, when the amount will be paid by them to the credit of the company with such bankers as the directors shall specify. And on the further trust, that if the amount of the share capital 180,000l. shall not be bona fide subscribed within six months from this date, the deposit shall be forthwith returned in exchange for the bankers' receipts, free from expenses or charges of any sort, but without interest.

The General Meeting by which the directors are to be nominated will be convened by advertisement and circular letter sent by post to the several subscribers, according to the addresses given by them respectively, and signed by the secretary of the promoters; and will not be held until at least seven days after the publication of such advertisement and the issue of such circular letter.

The meeting will choose its own chairman before proceeding to business, and the election of directors will be made by the votes of a majority of those present, each subscriber being entitled to one vote for each 100 subscribed for by him, up to the limit of ten votes, and the publication of eligibility shall be the having subscribed for at least fifty shares in the undertaking.

It is to be taken as one of the conditions of the allotment of shares that the election of directors so made is to be binding upon all the subscribers, and that a deed to be signed by the chairman, setting forth the advertisement and result and the proceedings of the general meeting, is to be taken as conclusive evidence of their regularity and sufficiency, and as full authority to the trustees named in the condition of the whole amount having been subscribed as before mentioned to pay over the deposits to credit of the company with the bankers named by the directors elect.

The bankers' account showing the receipt of deposits of 3l. on each of 9,000 shares is to be received as conclusive evidence of a bona fide subscription of the full share capital, and is the condition in that respect having been attained.

If any of the directors elect at the first meeting decline to act, the remaining directors may be unable to use the credit of the remaining number.

Persons desirous to become subscribers on the above terms must pay a deposit of 3l. per share, on or before the 15th April, into the banks of Messrs. Hankey and Co. Fenchurch-street; or Messrs. Sir Samuel Scott and Co. Cavendish-square; to the credit of the above named trustees, in exchange for which they will receive the bankers' receipts, and, on forwarding to this office a notice of the number of shares on which they have paid the deposit, their letters will be registered, with reference to the deposit receipts.

SAMUEL STOCKTON, Secretary to the Promoters.

Offices, 38, Cannon-street, London, E.C.

PREVENTION of ACCIDENTS by RAILWAYS—IMPORTANT DISCOVERY. At last the long wished-for solution of what is, and ought ever to be considered as the best and only remedy for railway accidents, has been accomplished, has been brought out, and a patent for the same secured to the Inventor, Mr. J. HOLLINGWORTH. The necessity for such a desideratum is best understood by those who have had every railway company in the United Kingdom at their feet, involves all the means of rendering such unfortunate occurrences impossible, thus preventing many fatal accidents, as well as securing their lines against heavy losses, which are invariably the consequence of such accidents. The process is simple and effective. By means of gas thrown into tubing underneath the carriages, connected to each other by vulcanized india-rubber tubing. To the horizontal tubing are attached upright tubes to the guards and engine drivers, as well as into every compartment of the first-class carriages, having mouth-pieces to each, by which means any message can be easily conveyed from one to the other at any moment.

THE LIVERPOOL AND LONDON FIRE AND LIFE INSURANCE COMPANY.

ESTABLISHED IN 1836.—EMPOWERED BY SPECIAL ACTS OF PARLIAMENT.

OFFICES: 1, DALE-STREET, LIVERPOOL; 20 and 21, POULTRY, LONDON; 61, KING-STREET, MANCHESTER; 128, INGRAM-STREET, GLASGOW; 56, WALL STREET, NEW YORK: PLACE D'ARMES, MONTREAL; WYNYARD-SQUARE, SYDNEY; and ELIZABETH-STREET SOUTH, MELBOURNE.

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JOSEPH SCAIFE WILLIS, Esq. *Chairman.*
BENJAMIN BUCHANAN, Esq.
SIR DANIEL COOPER.
G. K. HOLDEN, Esq.
EDWARD KNOX, Esq.
JOHN B. WAIT, Esq.
Resident Secretary.—A. STANGER LEATHES, Esq.

CONSTITUTION AND CAPITAL.

Liability of the entire body of Shareholders unlimited. All Directors must be Proprietors in the Company.
The Capital is 2,000,000*l.* divided into 100,000 Shares of 20*l.* each, 54,211 of which are in the hands of Proprietors.

1836.		1857.
£820,374	Capital Paid up and Accumulated Funds	£1,088,918

BUSINESS.

1836.	Life Insurance Premiums.	1857.	1858.	Fire Insurance.	1857.	1856.	Annuities	1857.
£72,712		£110,928	£222,272	Premiums	£288,251	£17,198	Receipts	£26,990

The Income of the Company is £450,000 a year.

February, 1858 SWINTON BOULT, Secretary to the Company

THE FREEMASONS' MAGAZINE and MASONIC MIRROR for MARCH 13th, 1858, is now ready. Price Sixpence.

CONTENTS —

I. THE BOYS' SCHOOL.
II. ANCIENT AND MODERN PRACTICES.
III. MILITARY MASONRY.
IV. INFLUENCE OF FREEMASONRY.
V. CORRESPONDENCE.

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The Builder.

Vol. XVI.—No. 789.

ecent Construction in Iron: Bridges and Girders.

HE subject of the architectural use of iron, duly regarded,—and in aspects apart from the lately popular presentation of it, in which there has been some grandiloquence of assertion and much misconception,—is really one of the most important matters that could at present occupy our attention, whether considering the art-question of the future, or reviewing the great structural achievements of some thirty years—a bare fraction of the history of architecture, and hardly more appreciable as a period in modern science. These thirty years, however, have witnessed in England and all civilized countries, the introduction of a system of intercommunication which has not merely brought about a social revolution and benefit, but has anded and created fields of mechanical and ustrial application in a manner before unamat of. Even now, when every one has ome familiar with the railroad, the wonderat at the thing is not extinct, and the life of chief author of the system is read with dity, such as has seldom been induced by r kind of biography.

Though in works of art, we have derived le from railroad construction,—for, latterly, has followed tardily after the progress of ence,—we have gained much of real reurces for art, much that is of importance in ilding, and some agents for effecting what ld not be produced before. Of these new velopments, artistic and structural, these w-born powers in our hands,—the varied d entirely novel forms of application of iron r girders and bridges, are the most valuable.

In a recent article, we alluded to the possility of a greater change than had taken ace, in the prevalent system of building-conruction. Without believing then, that our ouses could be built as Crystal Palaces; and w, without touching the question of artistic letal-work, which, however, has its special nportance, we may here repeat that it would e quite accordant with present tendencies, if e material iron should claim to be applied ss as an auxiliary, than in the office of tructural frame-work. Such seemed to be the endency, looking at the cases of two struc- res which we mentioned.* But, iron already ccupies such position in the construction of ne mills, and factories, and buildings of that s ass—forming so large a proportion of the work hat is in progress. This has accrued, notwithlanding there has been no perfect confidence h the material chiefly used. But, now, wrought on, in one or other of its applications, is taking he place of cast iron for girders, and iron plates ire likely to be substituted for brick arches. It n, however, in another branch of architecture, ready referred to, that the greatest change, as irt, in the character of the structure, and greatest development of the resources of iron, have taken place.

The thirty years of railroad construction,—the novelty of the conditions in most of the works, and the constant recurrence of demand after demand, which could not be met except by fresh inventions,—have effected more in bridge-building, than the wants of all the preceding period since the first invention of the arch by Romans, Assyrians, or Egyptians. Had these improvements been only such as lately have been made in founding piers of bridges, they would have been very important.

It is to be noticed that the progress in pontine architecture,—or in the structural part of it,—contemporaneously with the extensive use of iron,—has been accompanied by a disuse in great degree, of the arcuated system, in favour of a modification of the "post and beam." This adoption, to the extent referred to, of the original system of crossing apertures or ways, resulted wholly from the new conditions and demands. It seems that there are advantages of an economical and structural kind which are appreciated by railway engineers, in avoidance of great thrust and of the provision of strong abutments; but the chief advantage of the beam-system arises from the necessity under which the railroad is, of maintaining a level course, or a gradient which at the greatest inclination, is slight indeed as compared with any ascent in the roadway of an ordinary bridge. Even where a railway has to pass under a roadway or waterway, instead of over one, the advantage from the girder in place of the arch may be important; and it is pointed out in a work which we are about to notice,* as one of the advantages of the trough-girders introduced by Mr. P. W. Barlow, and extensively used on the South-Eastern Railway, that with them, only 1 foot 3 inches would be required from the chimney of the locomotive to the surface of the road. Though a like requirement is not invariable; as the slightest recollection will show, it is of sufficiently frequent occurrence to call for another system in lieu of, or collaterally with, the arcuated one. For the level girder, iron was the obvious material; but at the same time, the iron girder had to be so designed and formed that it should support itself and a rolling weight over a span of enormous dimensions. This could not be attained in such cases by cast-iron girders of the ordinary kind, whilst in usual building construction, improvement was also needed,—and thus, various forms and combinations have been resorted to, to obviate the danger of large castings, and to get the strength without excess of weight. Therefore, the "post and beam" system, as it is called, did not really involve diminution of contrivance; it has, indeed, done the reverse; and as in carpentry—in the bridging over a space by a roof, or a trussed girder—the aim is to resist strains by a combination of members arranged with due regard to the action of the forces, and the properties of the material, so as to produce a whole which may be equivalent in strength to, whilst lighter than, a solid mass—so was the simple aim in the new kinds of bridges and girders of iron. The difficulty of the problem which may have to be met, and consequently the merit of the works in which it is solved, is sufficiently shown by an allusion to the accident at the Dee-bridge, on the one hand, and to the success of the tubular girder system at the Britannia and Conway bridges, on the other,—the ill success in the former case, being now attributed only to what might at first seem the natural expedient of supplementing the strength of a cast-iron girder by wrought-iron tension-rods.

Collaterally also, with the resort to the beam principle for railroad bridges, and with the new attention given generally to iron bridges, was the determination of certain principles distinguishing iron bridges, or most of them, from other bridges. This distinction may be defined broadly, as that which there is between arches with stone voussoirs and simple girders. That distinction, in the great majority of cases, is not wholly lost even where the ribs of an iron bridge take the arched form. Though each of the ribs be formed of several castings, the incidence of the arcuation as structural principle, may lie solely in the radiating joint at the springing, or the skewback. The friction and adhesion of large voussoirs of stone and the butting surfaces in bridges of iron, evidently have no similarity to one another, and the arches have no like resistance to a rolling load; whilst the segments in iron ribs are in all cases attached by bolts, so that the arch is restrained rather than otherwise from the action which conduces to the stability of a stone arch. Such works are true arches, inasmuch as they require abutments; but otherwise they are to be compared with two inclined struts, abutting against each other at the summit of the arch. Still it seems not only possible to construct an arch of iron voussoirs, but this is actually the principle sought for in all the iron bridges erected prior to the introduction of railways,—unless the Coalbrook-Dale bridge, the earliest iron bridge—as being rather formed of two semi-arches, united in the middle, and springing from a level bed—be an exception,—and which principle is carried out on the largest scale in the Southwark-bridge.

In the article on Iron Bridges in the current edition of the "Encyclopædia Britannica," Mr. Robert Stephenson gives a tabular list of the bridges constructed prior to the introduction of railways, and which he points out are all *arches*, in which thrust is resisted by abutments. The list includes fifteen examples, viz.—the Coalbrook-Dale, Buildwas, Sunderland, Laason, and Staines bridges; the Pont du Louvre; Pont d'Austerlitz; St. Denis, Bristol; Craigellachie, Witham, Vauxhall, Southwark, Tewkesbury, and Galton bridges; and it might be extended. He also refers to the inventions by John Nash. He adduces the colossal dimensions of Southwark-bridge, "where the weight of the rolling load bears only a small proportion to the weight of the structure itself," as favourable to its stability; but points out that "the theory of equilibrium as applied to arches of masonry, is evidently inapplicable when the rolling load bears so large a proportion to the weight of the structure, as is the case in most arches constructed of iron."

From this it will be understood what was the character of the changes effected in iron bridge-building and girder construction in the railway bridges. Iron arches continued to be used, and perhaps—as we saw, quite recently in the town bridge at Rochester,—with very careful provision for the even joints and butting of the segments of the ribs; but dependence was not placed upon the segments mainly, as *voussoirs*, as in the earlier bridges.

It may be well to add that Mr. Stephenson divides all iron bridges into two distinct classes: first, those in which the horizontal strains are counterbalanced by corresponding horizontal resistances at the abutments, "the strain on them being consequently oblique, tending either to draw them together or thrust them asunder," and, secondly, those bridges in which the pressure on the abutments is purely vertical, "the horizontal strains being met by corresponding

s * See page 171, *ante*, "The New St. James's Hall."

* "A Practical Treatise on Cast and Wrought Iron Bridges and Girders, as applied to Railway Structures, and to Buildings generally, with numerous Examples drawn to a large scale, selected from the Public Works of the most eminent Engineers." By William Humber, Assoc. Inst. C.E.; Mem. Inst. Mech. Eng.; Folio. Pp. xl.; 196; 57 plates. London. 1857. E. and F. N. Spon.

horizontal strains within the structure itself;" to every construction of which latter class he applies the term beam, or girder. His classification then stands thus:—

First Type.

1st. Arches.
2nd. Suspension bridges.

Second Type.

3rd. Simple beams, including flanged girders, whether with plain or trellis-work sides.
4th. Trussed girders.
5th. Bowstring girders.
6th. Tubular, or hollow girders.*

Some of these six divisions would include the most remarkable examples of recent construction, as well as designs the character of which would be scarcely supposed from the classification. Thus Messrs. Warren and Kennard's patent triangular girder, used in the Newark Dyke bridge on the Great Northern line, and lately on a great scale in the Crumlin viaduct, on the Taff Vale Extension of the Newport, Abergavenny, and Hereford Railway; the peculiar construction in the bridges on the Reading, Guildford, and Reigate line, designed by Mr. John Gardner, where the bottom flange of a cast-iron girder is strengthened by the dovetailed insertion of strips of wrought-iron; the application of a trussed girder, so as to form a rigid suspension-bridge, by Mr. Brunel, in the Chepstow bridge, where the span is 305 feet; the other modification, in the Saltash bridge, with a great tube in the form of the arc of a circle with the roadway suspended from it; and the important alterations in the suspension-bridge by the introduction of a lattice girder, as in the Chelsea bridge, and by various contrivances to adapt the structure to the passage of railway trains, as well as an ordinary roadway, as in Mr. Roebling's bridge over the Niagara, where the span is no less than 821 feet 4 inches,—all these and many other curious variations would hardly be suggested by the heads in the list; whilst the works themselves have considerable interest in regard to several disputed questions. To complete an account of the different arrangements, it is necessary to include the French and English systems for fireproof floors. Particulars and illustrations of these last, with similar information as to the girders of Barlow, Harrison, Gardner, Cubitt, Hemans, and others; the triangular girder and the Crumlin viaduct, and the Chelsea suspension bridge (illustrated in our last volume), are supplied by Mr. Humber.

Wrought-iron, in which the chief improvements of recent date have been made, as applied to bridges, affords these several variations, according to the author just named,—first, the tubular bridge or bridges, where the roadway passes through the interior of the tube; secondly, the tubular girder bridge, where the roadway is supported by two or more girders, each in the shape of a rectangular tube; thirdly, the trellis girder which consists of a top and bottom flange, the connecting web being formed by diagonal bars of flat or T iron and uprights, a compressed and a tension bar intersecting in each rectangle, or else with the triangular spaces only, as in the Warren and Kennard girder; fourthly, the trellis girder or lattice-bridge,—consisting of a top and bottom flange, connected by a number of flat iron bars, riveted across each other at a certain angle, thus forming a lattice—of which there is an example in London, at Prescott-street and Goodman's-yard, shown in the work now before us; and, fifthly, the plate girders, with top and bottom flanges and connecting web, and angle iron. Both the box and the plate-girders have now been much used in bridges.

The present work, though as to the literary matter hardly to be called a "treatise," is a good collection of carefully drawn examples, selected from amongst the works not previously published, of eminent engineers, specially "to illustrate the various methods in which iron has been employed in the erection of these structures." The plates are well described, and full details are given as to cost and weight, as well as calculations exemplifying the method of determining the strains on the various parts. The difficulty, however, of obtaining the necessary drawings, and the mode of publication in parts, have interfered with the systematic arrangement which was desirable, and which defect the author with candour acknowledges. He intends to bring out a second series on the same subject with every description of iron bridge properly classed, and illustrated by examples. This will be preceded by an essay on the strength of iron and the laws by which the stability of iron bridges is governed, with condensed particulars of the researches made of late years; and judging from what is at present before us, the whole will form a valuable work. We would suggest that the professed purpose of a publication of this character requires more than a *selection* of examples, and that the reader and student should find, as nearly as possible, a complete view of the subject. The fear of detraction from the merit and originality of his work at least should not go so far as to prevent an author's referring specifically to all important examples illustrated by others.

The best portion of the work before us is that which exhibits three different modifications in the construction of a Warren and Kennard girder: the least satisfactory feature in it is, to use an Irishism, the omission of particulars of bowstring girders,—the class to which belongs the High Level Bridge at Newcastle. Barlow's cast-iron trough girder, which, besides its other advantage, has that of equally distributing the load over the whole bridge, and certain arrangements of ordinary girders tending to the same result, are carefully shown. Various forms of plate-girders occupy a considerable portion of the book, and some examples of swing and lift bridges are added.

The author has not failed to state the views which are taken in relation to the supposed defects of certain arrangements. The lattice girder is one of these forms. He also puts forward the views held as the strength or weakness of a combination of cast and wrought iron, in a trussed girder; and similarly as to the use of a girder in a suspension-bridge, he alludes to the question, which has arisen as to the probability of that simultaneous action between the girder and chains, without which the estimate of strength in one and both of the members would prove fallacious. We cannot think that sufficient notice has yet been given to the suspension principle for railway bridges, after the success at Niagara, partial though that may be, and what is being done in the West of England.

There are now several works before the public on branches of the comprehensive subject of iron bridges and girders: a good general treatise has still to be supplied; but what the author has done is an important aid to that further development of the uses of iron, especially wrought iron, which, as we have shown, has already revolutionized one branch of architecture, and, as we have supposed, might go so much further as to entirely change the structure and art-character of our buildings in general.

* It is much to be regretted that the article has several errors of the press, corroborative of the complaint which we made some time back, in special instances, in another work, which were afterwards mentioned publicly. The fault is a very serious one, and in popular works is particularly reprehensible.

BELL-WHEELS.

Who has not heard of the extraordinary length of some peals of changes which might be rung? therefore do not wonder that my peal on bells and ringing is not yet come to a close. Indeed, Mr. Gatty and myself are willing and ready to start a new peal in the shape of a Big Book, on Big Bens, Great Toms, Treble Bobs, Majors, &c. if we could find a publisher, and secure a goodly company of readers. Allow me, then, by way of further illustration of my remarks on bell hanging and bell-ringing, which you have published in your tenth volume, 1853, pp. 231, 231, to send you a drawing of an original bell-wheel, or rather half-wheel, which, having been highly spoken of in some recent reviews of Mr. Lukis's late valuable addition to "Campanological Literature," you may like to put on record in the pages of the *Builder*. You will observe how beautifully it is moulded in the style of the fifteenth century, and it is apparently as old: it is at Dunchideock, Devon. It shows the ancient mode of bell-hanging before the introduction of the whole wheel, with its appen
the invention of which led to the art of ch
ringing, and from that time campanology
to have become a science.

The half-wheel action is distinguished
name of the dead-rope pull, there being no

Similar wheels are occasionally met with,
ticularly in Dorsetshire, but this specimen
most beautiful I have seen: it is attached
second, a black letter Ante-Reformation Bel
it may be as old as it and the tower.

It was in July, 1841, that I made a drawi
it, which I used as an illustration of my
paper "On Bells," published in the report o
Bristol Architectural Society, 1850, where
cut appears with others from my other dra
of the whole wheel with all its appendages.
which, they have all been re-published fro
same blocks, in the Rev. W. C. Lukis's vo
"An Account of Church Bells."

Bells hung on this old-fashioned principl
not raised in peal-ringing much higher than
level; and, there being no *fillet*, nor *ground-t*
the rope does not double back, and therefore
many years.

H. T. Ellacom

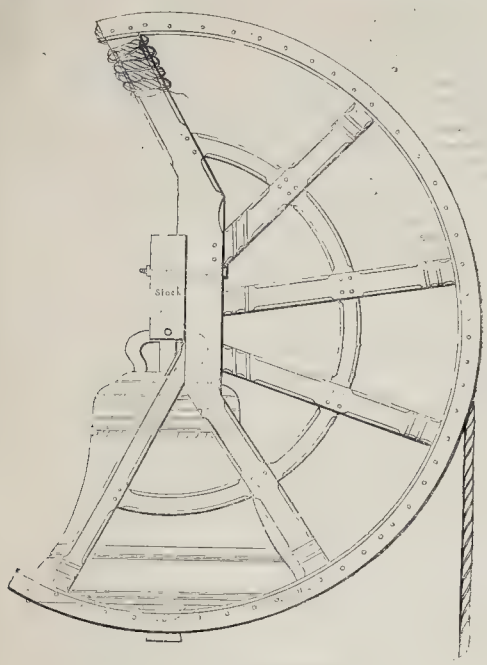
MODERN GERMAN ARCHITECTUR

German philosophy and German literature
exercised a powerful influence over the m
development of the present century. The s
analytical power of the Teutonic mind, its lo
the abstract and infinite, its proneness to wa
amidst the region of clouds and dreams w
surrounds the walks of metaphysics and psychol
are not qualities which *primâ facie* one would
pect to lead to a very triumphant issue in
pursuit of excellence in art. Criticism is
creation. A thorough acquaintance with the
ciples of æsthetics will never of itself evoke
the imagination the fairy forms of beauty, or
bine the scattered fragments of architect
detail into a noble and commanding whole.

Native genius alone can accomplish this,
"snatch a grace beyond the reach of art." Cre
power in art has been possessed by the va
races which have culminated in the world, in
different proportions. The ancient Greeks
the modern Italians have probably developed
the greatest extent; and next in order the C
as represented by the French nation. The Teut
races have been slower in exhibiting a
capacity for the production of external beauty,
have rather been content to follow in the t
marked out by others than to strike out an orig
path for themselves. This is not very flatte
to our German blood, and in the art of paint
its truth will probably be disputed. In the si
art of architecture, however, the facts are
palpable and evident, that the conclusion ca
possibly be evaded. The principles of all ar
tecture worth the name have been derived f
Greece, modified in Italy, moulded afresh
France, and thence transmitted to the rest
Europe. This has been the case whether we
amine the ancient, the mediæval, or modern ar
tecture.

Our present business is with architecture in
modern German development; to examine
specimens, note their peculiarities, inquire i
their derivation, and test them by the amo
of original mental power and genius infused i
their design. The writer's opportunities con
of personal observation of buildings in Prus
Saxony, Bavaria, Wurtemburg, and most of
minor states of Germany. Vienna he has
visited. Any observations on Austrian buildi
must be from pictorial illustrations.

Let us first take a slight glance at the hist
of architecture in Germany. The Romanes
cathedrals of Central Germany, the only rema
enabling us to judge of the architecture of t
day, were adaptations of the Latin basilica.
Rhenish churches of Speyer, Worms, Mai
Cologne, and other similar, derived their pe
larities from eastern and southern sources. Wh
the Pointed style of the thirteenth century ar
in all its buoyancy and vigour, it was to Fra
that Germany was indebted for its introducti
and, although many fine German specimens of t
thirteenth and fourteenth centuries remain, th
runs throughout them all a feebleness and spi
of copyism very different from the earnestn
and vitality of those of the parent country.
the fifteenth century a special German develo
ment of Pointed architecture arose, carried to
culminating point near the close of the centu
by the school of Adam Krafft,—rich and p
turesque in its general effect, with much mech
nical skill in its sculpture and detail, bold a
hardy in its construction, but sadly deficient



ANCIENT BELL-WHEEL.

hat grace of expression and elegance of proportion which is the crowning beauty of the French hirteenth-century work. Then arose the mongrel tyle of Francis I. followed by the florid Renaisance, so much affected by the Jesuits in the eventeenth century, both derived directly from France. The Louis XIV. style, and the Rococo which followed it in the last century, equally manated from France. Some of the German buildings erected about the middle of the last century, appear to have reached the lowest point of architectural bathos, combining weight without dignity and ornament without grace.

The French revolutionary war put an end for hirty years to architectural progress of any kind. When the country began to recover itself after the peace, the reaction towards Greek forms and principles set in, the great apostle of which was Schinkel, the celebrated architect, of Berlin, who cramped a fine original mind by the fetters of copyism in which he was obliged to work. Greek design became the order of the day in Germany contemporaneously with England, and the results are visible in both countries, in a series of hard, bald, naked buildings, with porticoes severely correct and rigid, but from which all the volatile essence of Greek beauty and ornament has been eliminated.

The great reviver of modern German architecture,—the man whose name will stand prominent in future ages as the most efficient patron of the art, is Ludwig I. of Bavaria, who, though filling only a second-rate throne in Europe, has done more to improve and beautify, not only the capital, but the other towns of his dominions, than any other monarch on record. All honour to his name! Whatever his errors may have been, he will ever deserve the most respectful and honourable mention from every lover of beauty and art. Under his fostering care, the city of Munich became the Florence of Germany. New lines of streets, with façades of noble architecture, sprang up. Palaces, churches, picture-galleries, sculpture-galleries, triumphal arches, arose on every side, filled with treasures of sculptural and pictorial art. The great and peculiar merit of King Ludwig is the encouragement given by him to pictorial and colorative decoration in connexion with architecture. His buildings are not cold abstractions in stone, but the highest skill of the painter is called in to heighten, by the rich grace of colour, the severe beauty of form. The frescoes of Hess, Schraudolph, Koch, and Cornelius, in the Basilica, and the corridors of the Pinacothek, and the rich Byzantine decorations of the Hof Kapelle, carry the idea of architectural polychromy as near the idea of perfection as in the present state of the art it is possible to conceive. This polychromic style of architectural embellishment has now become the peculiar glory of German art, the one in which the nation may fairly claim the first rank.

The impulse thus given by Bavaria has been felt over the whole country, and in every quarter there are manifest signs of improvement and progress. The taste for restoration of ancient specimens is always found co-existent with true progress in original design, and this is the case at present in Germany. We shall see when we come to examine in detail the original work, much that is open to severe criticism, but at the same time much that is worthy of the highest commendation, both for what it is in itself and what it promises for the future. There are many German architects, both of the last and present generation, whose names have obtained a European reputation. In addition to Schinkel, already alluded to, there are the names of Von Klenze, Gaertner, Semper, Heideloff, Ziebland, and Oehlmuller, amongst those who have distinguished themselves in one or other of the styles now practised in Germany.

We will commence our survey by a general glance at the street architecture. The ancient portion hardly comes within our scope; we must, therefore, pass over the arcaded streets of Berne, the picturesque oriels, gables and dormers of Nüremberg, the overhanging stories of Frankfort, and the quaint timber-framing of Boppart. To the Mediæval gabled fronts succeeded the heavy cornices and fantastic stucco decorations of the seventeenth century, and the early part of the eighteenth, of which the streets of Leipsic offer very characteristic specimens. About the middle of the last century, the town of Mannheim was laid out by the Elector Palatine, and about the same period the new portion of Berlin was planned by Frederick the Great. The two towns bear a considerable resemblance to each other in style and arrangement. The streets are wide, laid out at right angles, and interspersed with square open "Places." The original buildings are low, mostly two stories, with stuccoed fronts, and heavy Italian cornices. Such continued to be the style until the revival of the present century.

The new portion of Munich laid out by Ludwig I. presents a striking improvement on the new portion of Berlin already alluded to. The impulse once given extended itself far and wide. The various principalities and towns vied with each other in schemes of improvement. The result has been, on the whole, of a very satisfactory character. The Ludwig-strasse of Munich, the Unter den Linden of Berlin, the Neckar-strasse of Stuttgart may take rank among the finest streets of Europe. Of these, the first mentioned is in every respect the most remarkable, departing the most from the ordinary conventional forms, and presenting a larger amount of architectural design.

The Ludwig-strasse of Munich is somewhat more than three-quarters of an English mile in length. At the south end stands the Hall of the Marshals, a beautiful arcaded structure open to the street, with bronze statues of Marshal Tilly and Marshal Wrede. At the north end the vista terminates with the triumphal arch of the Gate of Victory. Looking northward, on the right hand stands the king's palace, a large structure in various styles of architecture, with the large open space of the Hofgarten, the Palais Royal of Munich, adjoining. At intervals, on the right, stand the War-office, the Royal Library, the Church of St. Ludwig, the Priests' Seminary. On the left stand, in order, the Church of the Theatines, the Odeon, the Palace of Prince Max, the Hospital for the Blind, the Board of Mines and Works, and the University Buildings. At intervals the width of the street expands, leaving a square "Place," in which are introduced bronze statues on pedestals. The architecture of Ludwig-strasse has been criticised for its flatness and want of variety. I am of opinion that there is much in it which is excellent. It is of one school throughout—the Florentine—nearly the whole of the apertures are arched. The buildings, though not low, are large in dimension, and long in proportion to their height. The windows, though not small absolutely, yet look so compared with the size of the buildings, leaving considerable blank space between them, both vertically and horizontally, a rare thing in French and German towns. This circumstance, combined with the magnitude of the buildings, gives an air of grandeur and dignity, which is very imposing. The Royal Library is a very noble building, displaying a fine perspective of twenty-five similar windows in the front. The lower part is rusticated in stone and cement; the upper part is brick, with machicolated corbelled cornice. One circumstance worthy of all admiration in Munich is the beautiful brickwork of many of its buildings. The Board of Mines, in the Ludwig-strasse, has its front entirely of brick; the enriched architraves round the windows, enriched string courses, a beautifully ornamented frieze, the principal cornice, and a fine entrance portal, being all in the same material.

The bricks are in two colours; a rich red inclining to orange, and a cream colour. The bricks are long and thin, with a polish and sharpness like marble, and set very close. So far from any appearance of meanness or poverty arising from the material, the prevailing effect is that of richness and elegance. I may here state, once for all, that the only drawback to much of the architecture of Munich, is the feeling that it is very largely copied from existing buildings, especially from Florence. The Sieges Thor is a reproduction of the arch of Constantine, the Hall of the Marshals is the Loggia dei Lanzi, the most recent portion of the king's palace is a copy from the Pitti Palace, and so on. This is not the case with all the buildings; there are many original works of great merit, as we shall see hereafter.

Besides the Ludwig-strasse there is much of the other street architecture of Munich worthy of notice. Several villas in the outskirts, in the Byzantine and Venetian styles, display much taste in the application of their peculiar architecture.

The modern street architecture of Berlin has more of the Palladian and French character, with a considerable infusion of the revived Greek introduced by Schinkel. A large portion of the street called Unter den Linden is occupied by public buildings, with the magnificent statue of Frederick the Great, probably the finest monument of the kind in existence, in the middle. Many of the hotels and other buildings in this and other streets, have noble and imposing fronts. I have already alluded to the Neckar-strasse of Stuttgart, many of the façades of which display considerable taste. The new, or English quarter of

Dresden, has many new buildings of very superior character. The new Victoria Hotel, in the Waisenhaus-strasse, is a large, well-designed building, having raised towers or pavilions at the four corners, caryatides under the cornice, and statues on the attic pedestals round the roof.

One or two general observations may be made before closing my remarks on the street architecture. The improvements and extensions going forward, consist for the most part of large and imposing-looking mansions. The interminable lines of cottages starting into existence like mushrooms almost in a night, which constitute so marked a feature in our English manufacturing towns, on the Continent, are never seen. Doubtless, this adds much to the architectural effect, and presents a much bolder and nobler exterior, but it has its drawbacks. The poor are consigned to the older and denser portion of the streets, in flats, story above story, where light and air have to struggle for admission, frequently without success. In several respects, also, the German towns are very deficient in sanitary provisions. The sewerage is exceedingly imperfect, and in many places almost unknown.

Berlin, with all its magnificence, sins grievously in this respect. Situated on a flat plain, with scarcely any undulations, it is certain that a complete system of sewerage would be difficult; but there is no doubt that with the engineering talent at command much might be done. As it is, the finest streets are lined with deep, foul channels, holding stagnant and offensive drainage, waiting until the next falling shower shall raise a sluggish current to carry the foul contents into the Spree. This is utterly unworthy the capital of a great kingdom.

Most of the German towns are well supplied with water, which bubbles and sparkles in public fountains, and flows through the streets; but the comfort and salubrity arising from its domestic diffusion by pipes and cisterns, is almost unknown. This, from the labour of carrying the water, must tend to diminish its use, and to restrict one principal source of cleanliness and health.

After this general glance at the streets, let us turn our attention to the different classes of buildings which stand prominent, and give the tone and complexion to the architecture of a town. The churches naturally demand the first notice. Those of Mediæval antiquity do not fall within our scope. The churches of the last century, for the most part, present no features worthy of criticism. They are generally in the commonest style of *pseudo* Classical, heavy and dull, without a spark of feeling or taste. Many of the Lutheran churches of this century are circular or polygonal on plan: sometimes covered with a dome, and surrounded by three or four tiers of galleries, much resembling the boxes in a theatre. Some of the Catholic churches are of a better stamp. The Jesuits' church in Munich, which is early seventeenth century, has an interior strongly suggestive of the Madeleine at Paris. The nave is in one aisle, about 60 feet wide, spanned by a barrel vault, the abutments formed into side chapels, with galleries over, and faced with fine statues in niches all round. The noble monument of Eugene Beauharnois, by Thorwaldsen, stands in the north transept of this church.

The Catholic church in Dresden was built in 1754, and is much superior to most of the buildings of the period. It is a large and lofty structure in the Classical style. The plan is somewhat singular, consisting of a centre aisle with two semicircular ends, and double aisles at each side running round. The central aisle rises into a lofty clerestory, standing detached above the roof all round, and forming a very conspicuous object, having large Venetian windows and an attic crowned with bold statues over the piers. The triforium forms a large gallery over the intermediate aisles, with projecting balconies to each opening. The interior is very fine and lofty, well finished, and decorated. There is a circular tower at the west end, in four stages, with detached columns in each. The exterior of the building is profusely adorned with statues, some in niches in the walls and tower, others crowning the summit of the aisles and clerestory. The effect in breaking the sky-line and giving variety and elegance, is extremely good.

The churches of the modern architectural school of Germany derive their inspiration from three sources,—the early Italian, the Italico-Byzantine, and the Gothic. To the first source must be ascribed the origin of one of the great attractions of Munich—the Basilica, or church of St. Boniface. It was commenced by King Ludwig, in 1835, and completed in 1850, from the designs of Ziebland, and is a reproduction to a considerable extent, of the Basilica of St. Paul without the walls, at Rome. The plan is extremely simple, being a parallelogram divided into five aisles by four ranges of sixteen columns each, of gray polished marble, with white marble bases and capitals, the latter enriched with natural foliage and varied in design. The columns support plain semicircular arches with plain walls over. The clerestory and aisle windows are in one light each, with plain semicircular heads. The east end has a semicircular apse vaulted *cul de four*. The centre aisle has a wooden queen-post roof; the aisles have lean-to roofs with half principals. All the timbers are exposed. This is the simple arrangement and construction of one of the most gorgeous buildings in existence. Except the column capitals and bases there is not a moulding or enrichment in the whole interior. All the ornamentation is colorative. The centre roof is blue with gold stars and gilt lines for the slate battens. The wood framing is decorated with rich patterns in gold, avoiding bright colours; the corbels under the beam ends are touched with red. The floor is marble and mosaic, the latter set with large tesseræ and thick cement joints, in imitation of late Roman work.

The walls of the nave are covered with large frescoes, illustrating the life of St. Boniface, by Hess, Schraudolph, and Koch. The walls of the aisles are inlaid with scagliola. The taste of the whole is excellent; the richness of the decorations is prevented from degenerating into gaudiness by the harmony of colour, and by the predominance of high art in the large frescoes.

The exterior is equally simple with the interior.

An advanced octastyle portico with closed ends runs along the west front. The columns have Byzantine foliage capitals, supporting a plain architrave, with corbel table and cornice over. The entrance-doorways under the portico are semicircular headed, with deep sculptured mouldings of fine execution.

The flanks of the church are brick, with flat pilasters and corbel table, having an enriched frieze and cornice all executed in brick.

The church of St. Ludwig or Louis was built between 1829 and 1843, at a cost of 73,000*l.* from the designs of Gaertner. The style is Lombardo-Venetian. The plan is a Latin cross, having a nave with aisles reaching three bays west of the transept. The transepts and choir are without aisles; the east end is square. The pier arches are semicircular, carrying plain clerestory walls without triforium.

The windows are in single lights, semicircular headed. The nave and transepts are vaulted, having heavy pier ribs and plain groining in each compartment between. The aisle vaults have in each compartment low domes springing from pendentives. The choir has a barrel vault, intersected with undercut groins.

The interior is highly decorated. The general vaults are light blue with gilt stars, all the ribs worked in patterns. The aisle domes are very rich in blue and gold, with ornamental patterns. The vaults of the choir, the triforium, and intersection of the cross are adorned with large fresco paintings, by Cornelius. Behind the altar is an immense fresco of the last judgment, by the same artist, the principal figure, that of the Saviour, being 12 feet high. Externally, the west end has two square towers, with two heights of projecting galleries round, and covered with low spires. The façade between has a portal of three arches; above are five niches with statues and a wheel window over the centre. A corbel table runs up the gable, with an enrichment along the sky line; there is a cross at the summit of the gable, and statues at the eaves. The roof is covered with coloured tiles, green, red, blue, yellow, and black, worked into patterns like tapestry. The church is connected by open arcades at each side, with two presbyteries of plain architecture.

The Church of the Holy Apostles at Munich, which is also the court chapel, was designed by Von Klenze. The style is Early Venetian. The plan is simple, but effective, consisting of a rectangular nave with semicircular recess for the altar. The aisles are formed into two recesses on each side, and a corresponding one at the west end. Each recess has two columns of red Salzburg marble, with gilt caps, supporting an arcaded gallery. The central vaults opposite the gallery compartments are formed into low domes; the remainder is a semicircular barrel.

The whole interior is one blaze of gold and colours, every portion of the surface being covered either with fresco paintings on a gold ground, by Hess and his pupils, or with coloured marble and scagliola. The prevailing colours of the frescoes are red and blue. The tints of the marbles and scagliola are grey, crimson, violet, and sienna. Although rich almost beyond comparison, yet the general effect is far from gaudy. Probably this may be owing to the absence of ornamental or intricate patterns. The frescoes are principally single figures; the general tone is that of repose and quiet. In point of æsthetical propriety, I have never met with an example of polychromic decoration at all approaching this example. The churches at Munich which I have been describing are Catholic. I will now call attention to a fine specimen of a Protestant church,—that of the Nicolai Kirche, at Potsdam, by Schinkel. The dimensions are large and the proportions noble. The plan is simple, yet uncommon. The body of the church forms a square with square towers at the angles, slightly projecting outward on plan. These towers or turrets are carried up above the cornice, with open arches for bells near the top, and crowned with a kind of circular obelisk having angels on the summit. These obelisks are not in good taste, and form the single blot in the design of the building. The walls of each front between the towers are crowned with a bold, massive cornice, with blocks, and architrave. The west front has a hexastyle Corinthian portico. The dimensions are sufficiently large, but such is the height of the main walls that the cornice of the portico does not reach more than half of their height. The portico has a pediment filled with sculpture. A large panel in the wall over is filled in with inscriptions of the nine Beatitudes, in German,—"*Selig sind die da Leid tragen, denn die sollen getröstet werden,*" &c. The entablature of the order of the portico is continued along the side between the towers, from which springs an immense semicircular window on each side, filling nearly the entire space.

The east end has a semicircular apse, rising to the height of the Corinthian entablature, which is carried round. A stylobate or pedestal is carried round the entire building, double round the apse.

In the centre of the church rises a large dome with a ring of detached Corinthian columns round the drum, and windows behind. Above the entablature is an attic, having Ionic fluted pilasters with windows between; from the cornice over which, springs the dome, covered with lead, having gilt ribs, and crowned with a gilt coronal supported by angels.

The whole of the exterior is covered with cement except the portico and the columns of the dome.

The interior is simple and grand, forming a square with four recesses. Above the centre square rises the dome, springing from pendentives. The recesses are covered with semicircular vaults beyond which, on the east side, extends the semicircular apse, vaulted *cul de four*. The large semicircular windows alluded to above fill the recesses on each side, below which are galleries, brought out to the front of the recess, supported by Corinthian columns, having a tasteful attic filled in with sculpture.

The interior of the dome is painted with stars and angels rising into the firmament. The apse is richly decorated with frescoes of saints on a gold ground. The vault of the apse has the Saviour surrounded by angels on a gold ground. The pendentives under the dome have figures of the four greater prophets in a similar style. A band round the edge of each large recess has busts in fresco of saints and reformers; the vaults of the recesses are painted in coffers of simple patterns. There is some rich carving in the pulpit and reading desk, and a Baldachino with marble columns over the altar.

For originality in design and simple grandeur of effect this church deserves attentive study, and fully justifies the high reputation its architect has acquired.* J. A. PICTON.

THE MAIN DRAINAGE SCHEME.

On the 11th a meeting of delegates appointed by the vestry and district boards of the metropolis was held at the London Coffee-house, on the subject of the main drainage of London.

Mr. John Ware (the chairman of the meeting), one of the representatives of Shoreditch, detailed a long correspondence respecting the main drainage plans, the removal of shoals, &c. in the river and the embankment of the Thames. Mr. Bazalgette had recommended that the embankment of the Thames and the intercepting sewers should be carried out concurrently, as it was a question of great saving in the expense of construction. Mr. G. Gurney, the Government engineer, thought that if his recommendations were carried out, there would be no need of the proposed extensive system

* To be continued.

of drainage. He did not believe that the health of the metropolis was at all affected by the state of the river. Other authorities also thought that the main intercepting drainage was not necessary, and that such a large outlay was not called for.

Mr. J. M. Brown, also of Shoreditch, moved a resolution to the effect that it is expedient to require proof of the unsanitary condition of the Thames and the financial economy of any scheme for the main drainage and sewerage interception of the metropolis before further steps be taken to carry into execution the 135th section of the Metropolis Local Management Act of 1853.

Mr. Dover asked Dr. Barnes whether the *Dreadnought* hospital ship was supplied with Thames water or with water from the shore.

Dr. Barnes said that drinking the water was very different from inhaling the air that came from it. The old *Dreadnought* took the water from the Thames, but then it was not so healthy as the present one, which was supplied with filtered water by a company. The speaker was of opinion that the question of the drainage assumed four aspects. With regard to the Thames, it could not be shown that any disease arose from it, nor did he think that it at all increased that upon its banks, for diseases of London had been declining, the condition of the Thames had been gradually getting worse. With regard to operations they had been much more successful than in the hospitals on shore.

After some further discussion, the resolution was carried unanimously.

After that, Mr. Death and Mr. Doulton brought forward the following resolution:—

"That it being admitted that the improvement of the bed of the Thames within the metropolis is indispensable, and this meeting believing that such improvement, if properly designed and executed, would increase the navigable and commercial capabilities of the river, and tend to remove all malarious influences now liable to arise from its waters and its banks, considers the outlay of the large sum of money proposed to be expended for the interception of the sewage from the river within the metropolitan area is impolitic and unnecessary."

It is to be regretted that the representatives of the metropolitan parishes have come to the above conclusion.

One of the speakers argued that as the health of London is improving, in spite of the increased impurity of the Thames, the stream is not unwholesome, and that it would therefore be a waste of money to intercept the drainage of this vast population. It must, however, be remembered that the improvement of health is not to be attributed to wholesomeness of the river, but to those sanitary precautions which have been taken within the boundaries of the city. The courts and alleys have been drained, ventilation improved, and overcrowding lessened. In other parts of the metropolis similar efforts are made to a sufficient extent to account for the improvement in the public health. Since the last cholera attack, several thousands of cesspools have filled up, and large neighbourhoods drained. Each year must add (if other means are not used) to the immense body of sewage which must be passed into the stream. The increase of the population has converted the brooks and little rivers, such as the Fleet and Hackney Brook, into noisome channels, which either have been or ought to be covered over.

In considering the health of the Thames' banks the neighbourhood of the metropolis, it should be remembered that a large proportion of the buildings which adjoin are occupied as warehouses, wharfs, manufactories, &c.; therefore the population which is close to the river is comparatively small. As regards the water for drinking purposes, Dr. Barnes admits its unfitness by mentioning the fact that it has been considered necessary to supply the hospital ship with filtered water supplied by the companies, and that the health of the patients has been much improved in consequence.

The terrible effects of the Thames water in Bermondsey, Vauxhall, and other neighbourhoods where it was used, is unfortunately too well known; and great has been the saving of life since better water has been brought into the houses. The water of our river has been examined times out of number, and its impurity year after year found to be greater. It is, in fact, also a large scale approaching to the condition of the streams just mentioned; and although the banking may prevent the collection of foul mud on the shores, it will not prevent the Thames from being impregnated with the sewage of nearly three millions of people residing in the metropolis, and also of those large populations which are on other parts of its banks and near the communicating streams; and it should be borne in mind that even now large districts require drainage, that the population is constantly increasing, and that before five and thirty years are past we shall have a population of five millions in London alone. The other towns will largely add to this number; and when we look at the opaque condition of Father Thames at the present day—when we find that he has become so dirty that it is necessary to deny him admission into the hospital ship and inhabited dwellings, and consider that in a short time the quantity of pollution will be doubled, we cannot fail to look with alarm at those objections which have been made by the representatives of the London parishes and are likely to have some effect in delaying the improvements which are so imperatively called for, in order to render the chief of our British rivers a thing of beauty and an aid to health, instead of a colossal sewer, unsightly and prejudicial to all who come within its influence.

Mr. James Walker, the engineer, appears to take somewhat the same view of the question as the delegates. He has recently published some "Notes," referring to his early reports on the improvement of the Thames, to be obtained by giving a uniform depth to the river by dredging, and a uniform width by embanking, and urges that the effect of these improvements should be tried before undertaking any great and expensive scheme for sewerage.

ON THE APPLICATION OF HYDRAULIC LIMES AND OTHER CEMENTITIOUS MATERIALS TO CONSTRUCTIVE PURPOSES.*

AMONGST the most important observations which have been made on the use of limes and cements in the Atlantic ports, may be cited those made at Fort Boyard, by M. Garnier, and especially those contained in a report by M. Feburier, inserted in the "Annales des Ponts et Chaussées" for June, 1852 (3rd series, 2nd year, 3rd number), and in which he relates the experiments made by himself at St. Malo, upon several descriptions of limes, puzzuolanos (natural and artificial), and trass. Some very sad failures have, indeed, occurred at St. Malo in the recent concrete, or other masonry works, there executed, in consequence of the action of the sea-water upon them; so that M. Feburier's Report had a strong adventitious interest at the date of its publication. The result he arrived at does not, however, appear to me to be perfectly correct, nor does he seem to have taken a sufficiently comprehensive view of the subject. The substance of the report, and the principles M. Feburier has since acted upon, are, indeed—1st, that mortars made of rich lime and Dutch trass do not resist the action of sea-water; 2nd, that ordinary artificial hydraulic limes, or the natural feebly hydraulic limes, even when mixed with feebly hydraulic puzzuolanos, equally do not resist; 3rd, that the only limes he distinctly states to be capable of resisting the action of sea-water, are either the twice-burnt artificial hydraulic limes, or the natural hydraulic limes which approached the limits of the cements. M. Vicat has expressed a very unqualified approval of the principles thus enunciated; but really any person who has witnessed the extraordinary results obtained by the Dutch engineers in their hydraulic works, wherein they use almost exclusively mortars made of a mixture of the richest shell lime with trass and sand, must object to the absolute condemnation of such mixtures in the terms adopted by MM. Vicat and Feburier.

Towards the completion of the breakwater at Cherbourg, some remarkable applications of cementitious materials were made under conditions which more nearly resembled those of ordinary English practice. The breakwater itself is, as you are no doubt aware, composed of a hearting of rubble-stone, *à pierre perdue*: upon the top of the mass a bed of concrete nearly 7 feet thick, composed of hydraulic lime mortar and broken stone, was laid; the bottom being at the level of low-water of ordinary spring tides. Upon this bed, an upright wall of about 31 feet high towards the sea, and 30 feet wide at the platform level, was built of solid masonry, consisting of a coarse ashlar face of granite and large rubble hearting, set in hydraulic lime mortar when time could be allowed for its setting; or in cement (either Roman or Pouilly) when the masonry was likely to be covered rapidly by the tide. In many cases cement was mixed with the lime precisely in the manner of puzzuolano; and in the course of the work countless experiments were tried upon the values of all these materials. Latterly it was found to be advisable to protect the exposed base of the wall, seawards, by means of huge artificial blocks which should be able to resist, unmoved, the mighty waves of the Atlantic. These blocks were made just double the size of those used in the Mediterranean, or they were of about 720 cubic feet in volume, and weighed about 44 tons; yet one of them has been carried bodily a considerable distance. In building these blocks a mixed system was adopted: they were formed of rubble masonry, built up by hand on a platform on the risberme of the inner side of the breakwater, in a position wherein they were covered by each returning tide. The stone used was principally obtained from the schistous rock of the neighbourhood, and the mortar was either composed of Parker's or Medina cement and sand, or of Portland cement and sand, or of a mixture of Portland with one of the other cements. As a rule, M. Bonin, in his recent account of this gigantic undertaking, states that the engineers preferred the mixed cements; and that they only used the Parker's and Medina cements pure, when they required to guard against immediate immersion. The proportions adopted were 1½ sand to 1 of cement (Parker's or Medina); or 2 sand to 1 cement Portland; or intermediate proportions when the mixed cements were used. M. Bonin observes that the Roman cements lose their power of rapid setting by being kept a long time in store, but that their ultimate resistance did not appear to be thereby affected; whilst, on the contrary, there was often danger in the use of Portland cement when it was too fresh. The engineers at Cherbourg appear to have given the preference to the built blocks of rubble masonry over concrete blocks, on the score of their obviating the necessity for wooden moulds; and the remarkable success of the system, notwithstanding the violent storms to which these blocks have been exposed since the first trials in 1846, has perfectly justified its adoption.

At Dover and at Alderney, Portland cement has been employed on a larger scale even than at Cherbourg, and the artificial blocks made at those two harbours are actually used instead of large blocks of ashlar. The jetties in these cases are formed of granite facings filled in with blocks of concrete at Dover, or with very rudely built blocks of rubble masonry at Alderney. The concrete at Dover is made by mixing about one proportion of Portland cement to ten proportions of dry shingle, in a box which is maintained in a perpetual state of eccentric revolution so long as the materials are in the interior; and then the concrete is forced into moulds, where it remains from eight to ten days, in order to set, thoroughly: the blocks thus made are slacked for two or three months at least before being placed under water by the aid of the diving-bell. At Alderney the concrete is made usually of one part cement, two parts of sand, and four of shingle, and into this material irregular masses of rubble, constituting about 40 per cent. of the block, are inserted. This appears to be a very strange complication of the Dover plan, and I confess that it is one I do not admire; because the use of moulds is compulsory in either case, and the insertion of the broken rubble by hand into the gangue of concrete cannot produce so homogeneous a mass as would be produced if the concrete were made by one operation, and by the simultaneous mixture of the rubble itself, broken to the usual size of road metalling.

At Southampton docks, and at Liverpool, the quay walls recently executed have been formed either by means of a rubble, or of a concrete backing, into the composition of which blue lias lime enters largely. Perhaps the Liverpool mortar-making machinery is the most perfect of any we have at work in our island, and the masonry executed with it is well worthy of examination. But, inasmuch as I have not been able to obtain particulars of it, I may be allowed merely to state that the various ingredients are mixed by edge runners revolving on fixed axles; but working in moveable troughs. The advantage of this system consists in the fact of its causing all the lime which may have passed through the screens after slacking to be equally hydrated, and at the same time; and thus it obviates both the irregularity in the setting, and the waste, which usually attends the use of blue lias lime.

In the execution of the Maidenhead-bridge, Mr. Brunel adopted a form and dimension of arch which, when the nature of the material employed is taken into account, must be considered to obtain its stability solely from the cohesion of the cement with which the bricks were set. The span of the arch was, in fact, 128 feet, and the radius of curvature at the crown was 169 feet; so that with ordinary bricks it was impossible that they should have at all acted as voussoirs. So closely, indeed, also did Mr. Brunel approach the actual limits of the resistance of the cement that the bridge was not completed without accident; and it must always be regarded as one of the hardiest even of his experiments. Latterly, in France, engineers have trusted even more openly, and avowedly, to the adhesion of cements and concretes; and after some small bridges of concrete had been built upon a mould, as a test of this new style of monolithic construction, M. Gariel proceeded to construct, in a somewhat similar manner, the arches of an aqueduct over the river Cousin (in the Yonne) of 103 feet span, 10 feet 4 rise, and 3 feet 2½ deep at the crown, and of the Pont aux Double, Paris, also of the span of 103 feet, rise of 10 feet 4, and with a depth of 4 feet 4 at the crown. These were executed in ordinary rubble masonry set in cement, and were built in sections upon the centres, leaving intervals at the springings on each side of the key section, which were subsequently filled in and wedged closely together. Subsequently the Pont d'Alma, at Paris, of 141 feet span, 28 feet 2½ rise, and 5 feet depth of crown, was executed in the same manner. The advantages of this application of cement are, that they dispense with the necessity for the use of expensive ashlar voussoirs, and that they allow great economy in the construction of the centres. Moreover, as the vault can be commenced at several places at a time, the temporary load can be distributed more evenly than can possibly be the case with the voussoirs, working up regularly from the springing: thus not only is there an economy of time, but also the deformation of the centres is avoided. Advantage might be taken of the peculiar properties of the rapid setting cements to execute other forms of structures, such as domes, groined vaulting, &c. with considerable economy over the ordinary systems.

But perhaps the most interesting observations yet made on the class of materials under notice are those recorded by MM. Chatoney and Rivot in the "Annales des Mines" for 1856, in an article upon building materials used in sea water, of which I have published a translation in the "Journal of Gas Lighting," &c. MM. Chatoney and Rivot do not indeed recommend any new processes, nor do they introduce any new materials; but they elucidate many obscure points in the philosophy of limes and cements which have hitherto escaped notice. Thus, for instance, they enunciate distinctly the principle that the formation of an artificial silicate of lime must be a slow process when effected in the humid way; and therefore it is that the system of allowing the various materials time to digest, as it were,—a system which formerly prevailed here, and still prevails in Holland,—is very correct. Mixtures of lime, trass, or puzzuolano, in fact, require to be worked over frequently before being employed, care of course being taken to complete these operations before the crystallization begins. MM. Chatoney and Rivot with equal justice attributed the resistance of mortars to the action of sea water, to their compactness; and what is more doubtful, to the fact of their containing a proper proportion of free lime at the time of their application, which should form a coating of carbonate of lime able to protect the hydro-silicate of lime during its formation. I say this latter proposition is doubtful, because the experiments of Professor Way go to prove that the hardening of lime depends solely upon the manner in which the crystallization consequent upon the hydration takes place, and the eminent French engineers whom I have cited certainly have omitted to examine the effects of the excessive burning to which Portland cement is exposed, or the startling changes produced in plaster by a second calcination after having been slacked in saturated solutions of alum and borax. The degree of calcination affects this question to a far greater extent, I believe, than our

* By Mr. G. R. Burnell. See p. 172, *ante*.

French guides—for they are our guides in these matters—have yet admitted; and whilst I beg to be allowed to express my admiration for MM. Chatoney and Rivot's labours, I cannot but consider that much still remains to be solved in the mysterious theory of limes and cements.

I cannot conclude this very imperfect sketch of the recent applications of the class of materials under consideration, without recording as formal a protest as I can against the ordinary mode of making concrete in this country. The system usually is to pour lime (in a ground state) out of a sack upon a heap of ballast, without measuring either lime or ballast. The lime is slacked immediately upon the ballast, and turned over, until the Irish labourers, who usually are charged with this work, are satisfied with its appearance. It is then put into a barrow, and shot into its place from a height. Anything more absurd than the whole of this system could not, I believe, be imagined. There is no security for the perfect hydration of the lime, none for equal and intimate mixture, none for the compactness or solidity of the mass. Without dwelling upon the abstruse chemical questions involved in the scientific part of the theory of limes and cements, I believe that I am justified in saying that good concrete can only be made by carefully slacking the lime as the first operation; by carefully mixing it with sand in proper proportions, so as to make a good mortar; by mixing this mortar with sharp angular ballast; and finally, by compressing the whole mass of the concrete so made by means of a careful ramming. We hear still of practical men, as they are called, and of professional men who ought to know better, attaching importance to the use of lime "hot," as they call it. Of course no one who knows anything of the real philosophy of the subject would listen to such nonsense; but the prejudice in its favour is still so strong, and I have lately encountered it in so many unexpected quarters, that I feel bound to remind the worthy partisans of the opinion I thus impugn, that the mere fact of the lime's being "hot" proves that it has not completed the whole of the process of hydration, and that therefore, there is always a danger of a subsequent disturbance of the materials with which it is thus mixed. I believe that the mortars for concrete ought to be made with the same care as the mortars of the best brickwork, for concrete is, indeed, but a rubble masonry of small materials. It would, I am also convinced, be preferable to make this mortar under edge rollers, and to mix it with the ballast in pug-mills; and certain I am that the carelessness, if not the ignorance, of our practical builders in the use of limes, is one of the principal reasons for the excessive use of cements we witness in England, in positions wherein lime properly used would answer every reasonable purpose. It was principally with the hope of reviving interest in the inquiry into the right use of these materials, both limes and cements, that I have felt it desirable to bring before you the above brief notice of some of the proceedings and researches of our neighbours.

PROPOSED MEMORIAL OF THE GREAT EXHIBITION OF 1851.

THE committee for erecting a Memorial of the Great Exhibition, at a meeting held on Monday, March the 15th, selected the design No. 22, marked, "One in the Race for Fame," as the best; and it was determined that application should be made to the authorities for permission to erect a memorial on the site of the Exhibition in Hyde-park, in accordance with that design, or such a modification of it as might be preferred.

On opening the letter accompanying the design the author was found to be Mr. Joseph Durham, of Devonshire-street, Portland-place; whose bust of her Majesty was presented not long ago by Sir Fras. G. Moon to the Corporation of London, and is now at Guildhall. The same sculptor also executed the statue of Hermione, now in the Egyptian-hall at the Mansion-house.

In accordance with the request of some of the competitors, the committee have notified that artists who desire to affix their names to their designs are at liberty to do so.

THE SHRINE OF ST. OSWIN—TYNEMOUTH PRIORY.

THE mouldering remains of Tynemouth Priory, with its Norman arches and rows of Lancet windows, are scarcely surpassed in beauty by any of the ancient ruins which are left in England. Their situation is also fine. On one side is the Prior's Haven, a pleasant little bay: on another, are picturesque rugged rocks: in front is the sea.

At the present time a breakwater, of immense strength, is in course of erection, reaching from the Prior's Haven towards the breakwater from the Hard Sand, on the opposite side of the entrance of the river. When this is completed, it will not only improve the river, but also make this dangerous coast a safe harbour of great extent. It is thought that this work will, in some measure, interfere with the appearance of the ruins, but in consideration of such a useful work even artists will scarcely complain.

In spite of the care which has been taken, during the last few years, of what remains of this Priory, the hand of time has had a serious effect upon it; and it is remarkable to notice the encroachment of the sea upon the promontory on which the ruins stand.

In a map of Tynemouth Castle, of about the date of Queen Elizabeth, a large space of land is shown between the east end of the Priory and the rocks. Only a comparatively small space now remains; and if the action of the sea go on in the same manner, it is evident that the eastern extremity will soon be on the verge of the precipice.

THE SHRINE OF ST. OSWIN: TYNEMOUTH PRIORY.

The small quaint-looking structure, of which we give an interior view, has been built against the eastern extremity of the choir of the church. Its weather-beaten exterior is very picturesque, and its diminutive proportions seem to give dignity to the surrounding edifices. The interior is curious. The bosses in the roof contain various carvings and heraldic devices.

The interior having become very dilapidated, the Duke of Northumberland entrusted it to the hands of Mr. Dobson, the architect, who, with good taste, put it into substantial condition, without interfering much with the venerable aspect of the place.

LANSDOWNE PROPRIETARY COLLEGE, BATH.

THIS structure, completed not long ago, is a prominent object, in the distance, on approaching the Bath Station, on the Great Western Railway. The style of the building is Gothic, of the Geometric period. The principal front to the west runs parallel to the Lansdowne-road, and comprises a lofty central tower, with staircase; turret at the angle, surmounted by a spirelet, 148 feet higher; a gable, with an oriel window, carved, with moulded tracery windows, and the arms of the Rev. Sydney H. Widrington carved on a shield; a smaller gable and turret, on the north side of it, from the centre of which two wings run north and south, containing the several halls for the various classes of study, by a moulded doorway, with the arms of the Duke of Beaufort and Marquis of Lansdowne on either side, on shields. From these a spacious vestibule leads into the committee and secretary's rooms, on the left hand, and through folding-doors, opposite the entrance to the staircase, ascending which by a wide central flight, branching into two at the first landing, approach is gained to the large school in the north wing, containing an area of 3,500 square feet. It is lighted by a series of traceried windows, towards the east and west; and one large window, of five lights, in the north gable. The roofs throughout the floor are open timbered, plastered and coloured in pattern between the rafters, and stained.

In the south wing is a similar room, of an area of 2,100 square feet, with a raised stage at one end. On this floor are rooms also for the principal and vice-principal, and a spacious library. On the ground floor the north wing is appropriated to five smaller halls of study (four of these averaging an area of 150 square feet each, and one containing 810 square feet), approached through a cloister, with windows facing the west. In the south wing is the dining-hall for the daily boarders and adjoining it a residence for the janitor, with a good cooking kitchen, stoves, &c. and steps to spacious cellarage under the whole of this wing. The rooms on this floor are lofty, with direct light towards the playgrounds at the rear of the building. The buildings are all panelled, with moulded wood ribs. All the rooms are warmed by open fire-grates, on a new plan. The grounds belonging to the college are eight acres in extent, with entrances towards the Lansdowne-road and Richmond-hill. The former is by an arched gateway, moulded and recessed, to be surmounted by the Royal arms and motto carved in relief. The works have been executed from the design of Mr James Wilson, F.S.A. architect, of Bath, and the builder is Mr. Streeter, of the same city.

PHOTOGRAPHIC SOCIETY.

ON Saturday, the 13th, the Photographic Society held their first *conversazione* at the Museum of the Department of Art at Brompton. The whole of the Museum was lighted and thrown open to visitors, and refreshments were provided in the Board-room. About 700 persons were present, and the meeting passed off very successfully.

The warming of the Gallery in which the Exhibition is held will require some further consideration. The difference of the temperature in the neighbourhood of the large stoves, and in other parts of the apartment, is too great for comfort or safety.

Mr. Philip Owen, with whom the responsibility of the general management of the Museum rests, exerted himself, as he always does, to make the arrangements for visitors satisfactory.

The Photographic Exhibition contains, as we have already said, many fine specimens, and should be visited by all who are interested in art.

GAS TESTS.—Mr. Riechenbach, of the Borough-road, Southwark, has patented a gauge whereby it is said, the quality, temperature, and pressure of gas can be ascertained at a glance.

LANSDOWNE COLLEGE, BATH.—Mr. James Wilson, F.S.A. Architect.

CHURCH-BUILDING NEWS.

Leckhampstead (*Berks*).—There is to be a new church built at this place, which is one of the districts of the parish of Chieveley, and the efforts to accomplish it are mainly to be attributed to the vicar, the Rev. J. Elliott Robinson. Mr. S. S. Teulon is the architect, and the church will consist of a nave and chancel, with its tower rising between, terminating in a depressed broach just above the ridge of the nave. The style is Early Middle Pointed; the material, brick of the country.

Mellis.—The vestry have resolved to proceed upon a plan and specification for the repair and restoration of the oak roof of the church here, prepared by Mr. Johnson, of Bury St. Edmund's, architect.

Worcester.—The style of the selected design for the Angel-street Independent Chapel is Grecian, with a large semi-circular portico supported by columns. Entrance to the body of the building is obtained under the portico by two different doorways, and to the gallery by a door on each side of the portico. The interior of the chapel will be about 79 feet by 59 feet. It will be lighted from the roof, which will have a dome in the centre, filled with glass, besides other smaller openings for the admission of light. Immediately at the back of the chapel are vestries and other apartments, and behind these are school-rooms for boys and girls on the ground-floor, with an infant school and half-a-dozen class-rooms above. Still further at the rear of the premises there is to be a warden's house of two stories in height. The new chapel will accommodate upwards of 1,000 people. The chapels, schools, warden's house, and all the buildings, are estimated to cost 4,500*l.* though from the style of the design it is doubted, says the *Chronicle*, by some, whether they can be erected within that estimate.

Taunton.—A vestry meeting was held last week for the purpose of considering the advisability of granting a rate for some 2,000*l.* being the balance, besides subscriptions &c. of 4,000*l.* necessary to complete the estimated cost of rebuilding the tower of St. Mary's Church; and also giving authority to rebuild. Mr. Liddon, in moving the resolution, gave the following account of the tenders, according to the local *Courier*:—"Mr. Pollard's tender for the works is 6,259*l.* which includes the whole of the carving: if executed with stone from Trask's Quarry, his tender is the sum of 5,959*l.* The next is your townsman, Mr. Henry Davis, who is willing to execute the whole of the works specified (and any extra work at the prices stated in the schedule), for 5,422*l.* That does not include the carving. Mr. J. Spiller, of North Town, offers to execute the work, of Hambdon-hill stone, for 6,421*l.*; with stone from Messrs. Trask and Co. 6,218*l.* Mr. Liddon then read the amounts affixed to the other tenders, as follows:—

	Hambdon-hill Stone.	Stone from Trask and Co.'s.
G. Myers London	£8,041 0	£7,930
H. and R. Holland and Hannem, do.....	8,419 0	7,210
Piper and Son, do.	6,687 0	6,300
Robinson and Son, Coventry	7,432 0	7,232
Mr. Davis, Langport	7,300 0	——
T. Hutchings, Bridgwater	7,070 12	——
Staple and Parish	6,333 0	——

Mr. Liddon continued: In order to show you the lowest sum for which it can be built, I will take the lowest tender for taking down and rebuilding, and also the lowest for executing the carving work. The lowest for carving is William Farmer, who lives in London; and we are told by Scott and Ferrey that he is a most skilful and competent carver. The amount of his tender is 435*l.* The other tenders for the carving separately, are as follow:—Casentini and Co. 549*l.*; G. Myers, 984*l.*; G. H. White, 640*l.* We will take Mr. Davis's tender (5,422*l.*), the lowest for taking down and rebuilding, and add to that the carving (435*l.*) according to the tender of Mr. Farmer, and we have the sum total of 5,857*l.*" After some discussion the meeting was adjourned for a week.

Manchester.—The cathedral tower is to be rebuilt. The architect to the cathedral, Mr. J. P. Holden, recently made a careful examination of the structure, and, from his assurance that no time should be lost in its demolition, steps have already been taken for pulling down the upper portion, which is the most unsafe part of the tower. It has not been decided, according to the *Courier*, to remove the tower quite to the base at present.

Bowden (*Cheshire*).—It is intended to rebuild and enlarge the parish church of Bowden on plans and specifications prepared by Mr. Breakspear, of London, and at an estimated cost of 5,000*l.* of which nearly a moiety has been raised. The tower will be retained. Tenders have been called for.

Chesterfield.—A meeting was held in Derby last week with reference to a memorial to the late Duke of Devonshire. A window and carved armorial bearings in St. Michael's church had been suggested, but the promoters of the movement thought that something of more general character might be desired. After some discussion as to whether the memorial should take the form of a statue, reformatory, or orphan asylum, it was resolved, "that a suitable memorial should be erected to perpetuate the memory of the late Duke of Devonshire, and to testify the respect and esteem in which he was held by all classes of society." The meeting then adjourned.

Wakefield.—The committee met last week to receive the tenders of the several builders for the execution of the first contract in the parish church restoration, the restoration of the tower. The successful competitor is Mr. Latham, who is now employed in the erection of St. Michael's church, Westgate Common.

Doncaster.—The family of the late Mr. George Jarratt Jarratt, of Elmfield, intend perpetuating his memory by filling in the east window of Christ Church with stained glass, from a design by Mr. Scott; and by a new carved pulpit, also designed by Mr. Scott; and the cost of which will be about 100 guineas. The works are in progress.

Newcastle-upon-Tyne.—The foundation-stone of a new church, in the district of St. Paul, has been laid by Lord Ravensworth. The locality of the new church is at High Elswick, immediately adjoining the quarry; and around the edifice streets of buildings already planned may be expected soon to be built. The church will be in the Early English style, and constructed, without gallery, to contain 930 sittings; 583 free. There will be a vestry and bell-turret; and the interior of the building will be some 60 feet broad by 120 feet long. It will have an open timber roof, and a long clerestory, with triangular windows. Six chamfered arches will divide the nave from the aisle. The whole will be constructed from the design of Mr. Dobson; and the principal contract has been taken by Mr. Joseph Kyle, builder, being for the masons and carpenters' works, at 3,327*l.* 1s. 7d. The other contracts bring this sum up to near 4,000*l.* Towards this amount, one lady alone has contributed 1,000*l.*

THE FALL OF CAERHOWELL-BRIDGE.

THE fall of Caerhowell-bridge is an event that demands more notice on the part of the *Builder*, as the exponent of a class, than is afforded by the publication of the particulars that took place at the coroner's inquest, held in consequence of the death that ensued from the fall of this bridge. I make free, therefore, to forward you these observations, and trust they may be found suitable for the columns of your journal.

If Caerhowell-bridge were the first of Dredge's bridges that had failed, and were the circumstances attending its fall less unsatisfactory, one might be excused for not inquiring too closely into its construction, or the causes of its failure; but when we know that it is notorious that other bridges, constructed on the same principle, have failed, to the great injury and sacrifice of human life, and that Caerhowell-bridge fell with a passing load of nine tons, when at any time it might have been subjected to a dense crowd of people, equal to 150 tons, it is scarcely to be desired that the failure should be allowed to pass without an expression of opinion from the engineering profession, as to its merits of design and construction; and in consequence I tender the following opinions, with the hope that they may provoke discussion, and so elicit from others, more capable of judging, the true causes which produced this deplorable accident. The fact that there are seventy similar bridges in existence, demonstrates how necessary it is to ascertain the correctness of the principle on which they are constructed.

The difference in the principle of Dredge's suspension bridges, on which principle Caerhowell-bridge was built, and the principle of the suspension-bridges erected by Telford and other eminent engineers, is, that the suspension-rods are placed obliquely, radiating from the towers towards the centre of the bridge, instead of being placed vertically. This variation in the direction of the suspension-rods is the only basis for the remarkable modifications adopted in the construction of Dredge's bridges.

The effect produced by placing the suspension rods obliquely is, that the strain is partly transferred from the chains to two longitudinal beams, or horizontal chains, which extend on either side the roadway, the whole length of the bridge; and at the centre of the bridge, owing to the chains tapering there to almost nothing, these longitudinal beams have to sustain the whole tension due to the weight of the load suspended. In the other suspension-bridges the chains alone carry the whole weight, and the longitudinal girders, which it is now the practice to place on either side the roadway, act only in stiffening the roadway, and in preventing too great an undulatory motion.

With regard to the economy of Dredge's bridges, it is evident that whether the rods are placed obliquely or vertically the weight to be carried remains the same; and in the former principle, whatever reduction is made in the section of the chains, by the abstraction of any portion of the tension, has to be given to the longitudinal beams, which not only have to sustain the tension taken from the chains, but have also to resist the transverse strains which their horizontal position necessarily subjects them to. The tension, moreover, has to be transmitted from the chains to the longitudinal beams by rods, which require, from the disadvantageous position they occupy as compared with the bars of the chains for which they become substitutes, to be of far greater strength than what is due to the reduction of metal made in the chains. These rods are also subjected to great transverse strains, inasmuch as they, from their position, act as levers, being secured at the bottom and weighted at the top with the full weight of the amount of horizontal tension they are required to convey to the longitudinal beams, and, therefore, unless made very strong, are most liable to fracture.

From what has been said, it follows that notwithstanding the slight structures that have been erected on Dredge's principle, it would not be difficult to prove that much more material is required in the construction of these bridges, to make them equally stiff and strong, than what is required in a bridge built on the principle of vertical suspension. The engineer to the Caerhowell-bridge seems to admit this, for he says the Caerhowell-bridge was made 32 per cent. stronger than the bridges of Telford, Clark, and Brown; yet it fell soon after erection with a comparatively light load, whereas the bridges of Telford, Clark, and Brown—works of far greater magnitude—have stood for years monuments of engineering skill and genius, and show no signs of weakness or decay.

In considering the causes which produced the downfall of Caerhowell-bridge, the reason assigned by the county surveyor, and corroborated by the engineer, that the vibration broke the head of a bolt, and so occasioned the bolt's displacement, is one that will not probably be much credited, and deserves little notice further than it is somewhat startling that gentlemen occupying the position of these witnesses should seize with avidity upon such a cause to account for the accident; as if it were not more reprehensible on the part of the officials connected with the bridge to have allowed it to jolt to pieces from want of the commonest attention, as for the bridge to have failed from its defects of construction or design.

There is, however, little reason to suppose that the bridge was so destroyed; for if it had failed from the chain on the one side giving way, the load that was on it at the time would have slipped off on the side that gave way, and in all probability the chain of the opposite side would have been left standing. And when it is considered that the whole tension of the bridge, amounting, in this case, according to the engineer's calculation, to 129 tons, is brought upon and held by the bolts, and that the friction of iron upon iron is one-sixth the weight, it is clearly demonstrable that the bolts cannot be easily displaced, even supposing them deprived of their heads by the inconceivable cause stated, or by any other means. It remains on this point only to notice Mr. Dredge's statement, that the displacement of the bolts on which the entire safety of the bridge depends, and to which displacement, according to Mr. Dredge's account, his bridges seem peculiarly liable, can only be prevented by "periodical surveys,"—a defect of construction of most grave importance, and one that cannot be too widely known.

Whatever the cause, it is palpable that Caerhowell-bridge fell from being torn asunder; and when its strength is compared with the strength of other suspension-bridges, erected by eminent engineers (notwithstanding Mr. Dredge's statement that Caerhowell bridge was 32 per cent. stronger than the bridges of the engineers he names), it will be found that this result is not much to marvel at, particularly when we take into consideration its peculiar construction. For

instance, the suspension-bridge lately erected over the ornamental waters of the St. James's Park has a span of about the same dimensions as Caerhowell-bridge had; but although of little more than one-half the width of Caerhowell-bridge, and intended only for foot-traffic, it has, besides two strong longitudinal girders, of which, I believe, the Caerhowell-bridge was deficient, a section of chain of 56 square inches, two-and-a half times the section of Caerhowell-bridge. Further, it would appear from the particulars given in the *Builder* of 27th June, 1857, that the tension on the chains of the St. James's-park-bridge, when the platform is densely crowded with people, is 5½ tons per square inch,—about one-quarter the breaking weight of good iron. Now, supposing Caerhowell-bridge to have been weighted to the same extent, the tension on the chains and beams would have amounted to 12·2 tons per square inch, about the total strength of the iron, as is to be assumed from the accounts given of the quality used in its construction,—and this independent of all transverse strains. To those who have been on the St. James's-park-bridge when crowded with people it is palpable that the bridge has no unnecessary excess of strength.

There can be no hesitation in stating that the chains and beams of Caerhowell-bridge should have been at least three or four times—according to the quality of the iron used—greater than what they were, and even then the roadway would have required stiffening before the bridge could have been considered safe for heavy traffic. That it fell with a passing load of 9 tons argues that the material or workmanship, or both, were of inferior quality. It also demonstrates that the peculiarity of the design subjects the iron of these bridges to extraordinary strains, and also that a moving load produces far greater effect than a dead load uniformly distributed. The greater effect produced by a moving load is noticed because the engineer or designer of Caerhowell-bridge has, in the calculations published in his report to Messrs. Young and Company, evidently considered the load that was on the bridge at the time of its fall as so much dead weight distributed over the surface of the roadway.

In concluding these remarks, I will observe that whatever the foregoing statements are worth, there can be no doubt that Caerhowell-bridge fell from its inherent weakness or from neglect. Either the bridge was faulty in design, defective in construction, or it fell from some such cause suggested by the county surveyor and by the engineer. I subscribe to the former opinion; but, take which view you will, a glaring culpability is evident, free of extenuating circumstances. The case cannot be considered as belonging to the list of unavoidable accidents, or excusable from any novelty or economy of its design, and consequently demands, at the very least, an outspoken and unvarnished expression of opinion. A. B.

NOTES UPON IRON.

The iron trade is not in so hopeful a condition as at the time of the publication of our last "Notes." The prospects of a revival in the American trade that shall be generally felt, and so felt as to produce a marked increase in the work done at home, are not so encouraging as they then were. The number of unemployed workmen, wherever there are ironworks, is very great. And this feature in the trade is beginning to assume a serious aspect. The hands employed about Willenhall, and the first-class houses at Wolverhampton engaged in the manufacture of locks and bolts, and other hardware articles required in the building trades, are fully employed.

NATIONAL INSTITUTE OF FINE ARTS.

PORTLAND GALLERY.

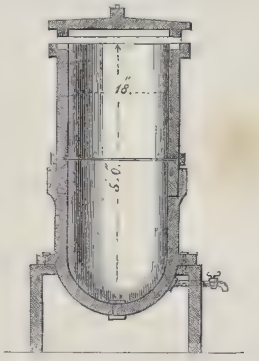
The art-tree is budding with the spring. First evidence of awakening life comes "The British;" after that "The National;" then one by one open the rest, culminating in the big "blow" at the Academy. The dinner for the Artists' General Benevolent Fund will take place on the 27th, and in the following month the Art-Union of London will distribute its thousands amongst artists. Returning to our second "bud," the National, let us say that it has a pleasant aspect. There are here 576 pictures and one piece of sculpture, all more agreeable than great. The president, Mr. R. S. Lauder, has a picture of mark, "Christ Betrayed" (331), but wanting in the high devotional feeling called for by the subject. The "men and officers," who when they heard him speak, "went backward and fell to the ground," are represented rather as slain men; and the fringes on the arm of one in the foreground seem to grow from the flesh. Mr. J. E. Lauder has an effective picture, 'titled:—

"Winking tapers *jointly* peep
High from my lady's bower."

The proportions would seem to be exaggerated, but parts are admirably painted. Of figure pictures there are but few: the strength of the gallery is in landscape, and the strength of the landscape is in the Williams family, including thereby Messrs. Boddington, Gilbert, C. Leslie, and J. Percy. No. 60, "A Golden Sunset," by A. Gilbert, is a very charming work; and the same may be said of 392, "A Bright Day at Ulleswater," by Sidney Percy. Mr. Montague has scarcely progressed as he should have done; there are several agreeable specimens, however, of his art, 23, 137, and others. (117) "Charity," by W. Underhill, shows more refinement than some works of the same artist. (129) "Ffos Noddyn," F. W. Hulme, is a good landscape;" and the same may be said of his (352), "An old Bridge near Wales." Mr. Robins, in 168 and 513, exhibits his mastery over water. (349), "Village Coquettes," by C. Rossiter, barring its flatness, is a work of merit. 372 is a very elegant little landscape, by J. A. Hammersley, "Tendersdorf," from Andernach, on the Rhine. (440), "The Young Mariners," by Henry Moore, is too much like a work of Mr. Hook,—the more to be objected to as the artist has ability; (35), "An English Landscape," by H. B. Gray; (84), "In the Highlands," by B. W. Leader; (306), "Lane Scene," by J. Godet; (343), "Rosamond," by J. D. Wingfield; (446), "The Head of Loch Lomond," by James Peel; and, 468, "Llyn Idwal," by H. C. Whaite, deserve notice; as do pictures by Provis, Dukes, Pasmore, L. J. Wood, the Pettitts, Bridell (527); Bell Smith, and others.

HINTS TO POTTERS ANSWERED.

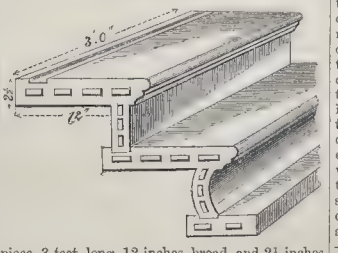
Water Cisterns.—In answer to Mr. Sydney Smirke's suggestion of the earthenware water cistern, I am ready to supply earthenware reservoirs of cylindrical form, of any size, from 15 inches diameter to 3 feet, in salt-glazed stoneware.



I have made the one shown by engraving 5 feet long (and the length may be increased *ad libitum*), and fitted with a wooden or earthenware cover, and strong low frame to stand on: it makes a splendid cistern, takes up but little room, and is both cheap and durable (imperishable, in fact), besides being much more cleanly in use than the ordinary lead cistern or the old wood oil butt. The price of these, as made to the above form, brings the cistern within the reach of all.

Now as to hint No. 2 in your Journal of 6th instant:—

Earthenware Stairs.—I am ready to supply these, too, with the rise and tread made in one



piece, 3 feet long, 12 inches broad, and 2½ inches thick. I propose to make them hollow, and am inclined to think they would be perfectly noiseless to the tread in consequence. Where light was required under the stair it might be given by ornamental perforations in the riser. As regards the cost, I cannot attempt to compete with the present *cheap joinery* that we see in most of the houses erected, or rather "run up," in the neighbourhood of the metropolis; but I doubt not these earthenware stairs can be supplied at a price to bring them into general use with all practical men.

I might give another hint to builders, now that we are on the subject, and that is to use earthenware sink stones, glazed. They are very extensively employed in the north for cottages, being strong and smooth, and requiring less attention than the common stone to keep them clean and sweet. M. B. Newton.*

COMPETITIONS.

Halifax Baths.—A competitor says,—The designs were sent in on the 18th of January. Surely it would not take two months to decide which was the most suitable of twelve A hint from you would hasten the movements of the good folks at Halifax, and perhaps throw some light on the whereabouts of the several designs.

Leeds Workhouse.—At the last weekly meeting of the Leeds Board of Guardians, resolutions were passed to the effect that a workhouse should be built according to the plan approved by the Poor-law Board, and that the necessary steps be taken to proceed with the works without delay. The architects are to have a commission of 5 per cent. on the cost of the building. Mr. Middleton, the chairman of the Leeds Board of Guardians, has forwarded to us a report of one of its weekly meetings, extending to nearly two columns of one of the local newspapers, with a request that we would republish it as a "reply" to our previous brief reports of previous proceedings. This is out of the question; but we may say that at the meeting referred to, the chairman stated, that "the design which has obtained the first prize is decidedly the best," and that this "is the opinion of 99 persons in every 100 of the 800 who have inspected the plans." The chairman then moved the following resolution:—"That the plans submitted to this Board by Messrs. Perkin and Backhouse having received the first prize as being the best in the opinion of the Board, and having been approved and confirmed by the Poor-law Board, the same be adopted as the plans upon which the new workhouse for this township shall be built; and that Messrs. Perkin and Backhouse be employed to superintend and carry out the building of the same at a commission of 5*l.* per cent. upon the outlay, less 100*l.* the amount awarded to them as the successful competitors." This resolution was agreed to by five to two, one remaining neutral.

Leominster Corn Exchange.—The plans prepared by Mr. Cranston, architect, of Birmingham, have been selected from the designs submitted in public competition, and the works are to be carried out forthwith.

THE GLASGOW ARCHITECTURAL SOCIETY.

INAUGURAL MEETING.

This new society was inaugurated on Tuesday, the 2nd instant, in the Bath-street Exhibition Rooms, Glasgow. There was a large muster of architects and others, and the building trade was not unrepresented, although an important meeting of builders happened to be held at the same hour in another place.

Mr. Salmon, one of the vice-presidents, took the chair, in the unavoidable absence of Mr. John Baird, the president of the society.

The Chairman,—in allusion to the association of the Glasgow Architects, hitherto, with the Architectural Institute of Scotland, as a mere branch of that Edinburgh Society, and the necessity for now separating from it, and forming an association of their own, said; having proposed this separation, and carried it into effect, we can scarcely come before you as an association, and ask you to join us, without being able to assure you that it is our settled desire and intention to make this society thoroughly practical. The formation of a museum of art, a library, and whatever else appears to be useful, are among the matters which will engage our earliest attention. For these ends, it will also be important that we should soon have premises of our own, so that our society may have a local habitation as well as a name; and surely in a city like Glasgow,

* As the first response to the queries in our pages we insert this communication, though open to objection.

where we have evidence of the mind to appreciate, and the spirit to encourage fine buildings, and where we have unquestionably the wealth capable of paying for their erection, where we have so large a population, with the prospect of progressive advancement,—surely it is not too much to expect that architects, and those connected with the building trade, will come forward and encourage this association. It is the interest both of architects and builders, as well as their duty, to do so; and I think we may say that we have a right to expect also the support of the public at large. Our object is not a selfish one, for what we wish is to elevate the public taste, and see our city standing out conspicuous not only for wealth and commercial enterprise, but as a great land-mark of art, with its yet unfeued parks and streets rivalling the greatest cities of Greece and Rome.

Mr. Charles Wilson said that while he concurred in the necessity of forming a separate association for Glasgow, he could have wished that the constitution of the Architectural Institute had admitted of a sort of federal connection between the Edinburgh and Glasgow associations. Mr. Wilson then proceeded to make some remarks upon the past and present state of architecture in Glasgow. Glasgow, he remarked, took a great start in architectural progress at different periods. The first he would mention was at the middle of the seventeenth century. At that period a great fire took place in Glasgow, which destroyed all that portion of the town from the High-street down Saltmarket and along Trongate and Gallowgate. The houses at that time were mostly constructed of wood, and the fire was a very serious calamity. But it proved an ultimate blessing; for the new streets and buildings, on the site of the property which had been destroyed, were constructed in beautiful arrangement, well adapted for street architecture, though, in the present state of the population at that part of the town, the arcades and piazzas, some of which still remained, were, perhaps, quite properly closed up. These improvements were designed and carried out by Sir William Bruce, of Kinross, architect to Charles II. who also designed the Merchants' Hall and steeple in Bridegate. He was inclined to think that the same architect had designed the Town-hall, but he had not been able to ascertain that as a fact. From 1650 the city continued growing and increasing till it took another great start about 1750. At the beginning of that century the western boundaries of the city did not extend farther than about where the Tron Steeple now stands, except that there were a few straggling houses beyond. But about the middle of the eighteenth century, what was then called the New-town of Glasgow sprang up, and Glassford-street, Virginia-street, Miller-street, Hutcheson-street, and Queen-street were constructed. In the last decade of that century, and the first decade of the present century, there was a busy time in the erection both of public and private buildings. Looking to the present state of architecture in Glasgow, it is absolutely necessary that we should have an architectural society for the purpose of keeping up good feeling among members of the profession, stimulating one another, and endeavouring to raise the character of architecture in the city, to awaken proper appreciation of architecture in the minds of the public, and induce them to give it more unbounded patronage.

Mr. Honeyman proposed the following resolution:—"That this society deserves the special support of all persons connected with building operations, as well as of the public generally;"—in other words, said the proposer, that the objects contemplated are worthy and noble, and that it is, therefore, the privilege, no less than the duty, of all to become connected with this society, and to lend a helping hand towards the accomplishment of these objects. A pervading indifference, continued the speaker, is the grand fundamental evil against which we have to struggle, — the insuperable barrier in the way of progress,—the dead and crushing incubus which grinds in the dust our noble art, and effectually thwarts every effort made for its elevation. Let us turn our energies against this malignant evil. Let us unite heart and hand for its extirpation; and, if possible, let us rear in its room some intelligible standard of taste, based on principles of universal applicability. Then, but not till then, we may expect to see copyism and deformity become insufferable, and a new and brighter era dawn in our architectural history. Unhappily, such a state of things remains still to be inaugurated. At present there seems to be no acknowledged standard of taste, and every manner of style, Pagan, Mahommedan, and Christian, has its admirers, if not its worshippers. We are asked to design a house in the Italian, the Greek, the Gothic, the old Scotch style, but which of us was ever required to prepare a design in the new Scotch style? We are asked to design a church in the Norman style, in the style of the fourteenth century, and even in the style of the sixteenth century, but whoever heard of a church court seriously coming to the determination that their new church should be erected in the style of the nineteenth? The very idea of such a thing seems to be ridiculous, though in truth nothing could possibly be more reasonable; and we ought to be ashamed to think that the thing is impossible. The inspiration of new life into our architecture,—the creation of a national style,—can never be the result of mere individual caprice or prejudice. It must bear the impress of the nation's mind, and so only shall it bequeath to future generations intelligible records of the thoughts and actions of the people. But this great achievement demands unanimity, — consistent, persistent energy. Let us be up and doing, working together for the accomplishment of these great ends—ends for which I could wish to see not only every architect and builder, but every man and every woman in the kingdom, united in one grand harmonious architectural society.

Mr. Steel, modeller; Mr. Watson, builder; Mr. Gildard; and Mr. Cairnie, glass-stainer, afterwards addressed the meeting.

SWEARING IN THE WORKSHOP.

THE article in your paper, p. 158, by a "Foreman of a Manufactory," on swearing in the workshop, brought to my mind Sir Christopher Wren's order, which he caused to be posted up in various parts of the edifice of St. Paul's cathedral during its erection, and I am glad to see you have since printed it. It is suggestive of a means to lessen that profane practice so much indulged in by our workmen, and, I am sorry to say, in a great many instances by foremen, and even by some masters. I have often found that a kindly reproof on hearing the utterance of profane language by men in works under my superintendence, and an earnest request that it may not be repeated, has not been without effect. I should think Sir C. Wren's order must have had great influence in abating the practice, not only in St. Paul's, but in all the works about the City in his day, and architects would do well to consider his course.

Let masters and foremen set the example, and then they have as much right to insist on proper conduct in the workshop as they have to demand good work; and courage in the foreman will do a great deal towards it. J. E. G.

The "Foreman," who so commendably wishes to repress profane swearing in workshops, may derive some aid from the following extract from John Wesley's "Journal:"—

"At Darlington, it being the fair day, we could scarcely find a place to hide our head. At length we got into a little inn, but were obliged to be in a room where there was another set of company, some of whom were swearing and cursing much. Before we went away, I stepped to them, and asked, 'Do you think yourselves that this kind of talking is right?' One of them warmly replied, 'Sir, we have said nothing which we have need to be ashamed of!' I said, 'Have you not need to be ashamed of disobliging your best friend? And is not God the best friend you have?' They stared first at me, and then at one another; but no man answered a word." M. D.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

EVASIONS.—ENLARGEMENT OF WAREHOUSE.

IN the Westminster Police Court, Mr. Arnold gave judgment a few days ago in a case brought before him by Mr. Foxall, district surveyor of St. George's, Hanover-square. The defendant was Mr. John Walker, of Millwall, Poplar.

Mr. Stocken, coachbuilder, Eccleston-place, Pimlico, wishing to extend his warehouses, availed himself of a large space of ground contiguous to his premises, and surrounded by walls, within which Mr. Walker erected a structure. It was complained that this being an extension of the original building, and occupying with it more than 216,000 cubic feet, the provisions of the Building Act had been violated. The answer to this, on the part of the defendant, was that the new erection was not a building within the provisions of the Act, and therefore could not be added to that which essentially was, so as to constitute the interdicted area. The peculiar character of the structure, and other points bearing upon the matter, will be found in the decision of the case.

Mr. Arnold said—The main question seems to be whether the warehouse or structure marked No. 2 on the plan, together with the building marked No. 1 (the original building), form one building within the meaning of the Metropolitan Building Act,—a question full of difficulty, chiefly arising from the want of definition in the Act. The warehouse (the new structure) is, considered by itself, a large shed having no external walls of its own, although it contains a staircase and wooden floors supported on iron girders. It consists of iron props or pillars let into solid masonry or brickwork, and supporting a roof of zinc or corrugated iron. It has been erected in what was formerly an open yard, surrounded by the walls of the adjacent buildings. The iron pillars have been brought close to these walls, but are in no way connected with them. The girders or rafters have likewise no connection with the walls. The roof does not rest upon or touch the walls. There is a communication by a doorway from the basement of No. 2 to that of No. 1, and a similar communication from what may be called the first-floor of the warehouse with the floor of the building No. 1, which is on the same level; but the floorings of the two structures do not join together at the doorway so as to make them absolutely one, although the division between them is very narrow. I understood it to be conceded by Mr. Foxall, when I inspected the premises, that if all the surrounding walls were removed the warehouse No. 2 would still remain intact. On the other hand, if the iron pillars of the warehouse were removed the roof of the warehouse would fall in. There is great doubt with regard to the warehouse No. 2 of itself, as to whether or not it is a building within the general meaning of the Act. It would appear not to be so, as, although there is no definition of the term building, that term would seem to imply a structure with "enclosing walls," by which I understand walls forming a part of the structure itself (see s. 8, and sched. 1, s. 1). It would probably, however, be a building "to which the rules of the Act are inapplicable," under s. 86, and, therefore, if connected with the other building, No. 1, so as to form together one building, though the general provisions of the Act might not be applicable to it, I think those which require it to be divided by party-walls, so as to leave no area of greater dimensions than 216,000 cubic feet would be applicable to it (ss. 27, 50). But, according to the best opinion I have been able to form, it does not seem to me that the warehouse No. 2 is so connected with the building No. 1 as to form together one building, and that, as the dimensions of neither No. 1 nor No. 2, taken separately, exceed those above mentioned, the provisions of the Act do not apply. Assuming that the object of the Act is the prevention of the spread of fire (although that object is, as far as I can find, nowhere stated in the Act), there can be little doubt that the premises in question come within the spirit of the Act, but they do not seem to me to fall within its letter, and according to that I feel bound to decide the case. It seems an ingenious evasion of the provisions of the Act, but a successful one; the summons is therefore dismissed.

The magistrate having delivered this judgment, intimated that if the complainant was dissatisfied with it, the case might be taken to a superior court.

ARCHITECTS' BILLS.

LIABILITY FOR AN AGENT'S ACTS: STATUTE OF LIMITATIONS.

AN action, O. C. Arthur, architect, *v.* G. Frean, was brought in the Stonehouse County Court, to recover 171*l.* 7*s.* 4*d.* for work and labour done by the plaintiff as architect for defendant. Four persons, employing an agent, engaged in building houses, three of which Mr. Moore, a solicitor, had settled for, but declined to pay Mr. Frean's account. Mr. Frean refused to pay, and pleaded the statute of limitations. Mr. Pridham for the plaintiff, could not deny that a portion of the work was executed more than six years ago, and consequently could not now be claimed. The houses were begun in September, 1851, when a portion of the work was executed, and were not completed until December, 1853. Mr. Arthur had reasons for reducing his fee in this case to 3½ per cent. some of the work having been done by another.

After evidence had been heard in the case, the judge said that, taking the whole of the circumstances into consideration, he was of opinion that the defendant was liable. No evidence had been adduced showing that Mr. Arthur's present charges were unreasonable, although Mr. Moore had stated that he thought they were rather too high; but, in the absence of professional evidence on the point, Mr. Moore's opinion could not have much weight with the court. His honour was also of opinion that, as the houses were not completed until 1853, none of the items in the account were barred by the statute of limitations, and judgment would therefore be for the full amount, allowing the advocate's fee.

SOULAGES COLLECTION AND WOOD-CARVERS.

THE following memorial of the Society of Wood-carvers was addressed to the Chancellor of the Exchequer before the late Government quitted office:—

SIR,—Your Memorialists are a Society of Wood-carvers, meeting at their rooms, No. 6, Tottenham-street, Fitzroy-square, numbering ninety members, who, during a period of twenty-five years, have been engaged in accumulating a collection of casts, prints, books of engraving, and works of acknowledged merit, with a view to the improvement of themselves and fellow-workmen in the exercise of their art.

In addition to a number of casts in a variety of styles of ornamental art, their library contains about 250 volumes of books on ornament, among which the following may be particularized, viz.—Piranesi, Vulliamy, San Micheli, Halfpenny, Cottingham, Pugin, Collings, Raphael, Le Pautre, Babtiste, Leinard, Flaxman, and Owen Jones.

Your Memorialists have seen with satisfaction various efforts to obtain and diffuse a knowledge and just appreciation of works of art, among both purchasers and producers of such works, in order to confer on the English workmen many of the advantages enjoyed in Continental states; and, being conscious of the value to the studious workman of frequent opportunity of educating himself in a thorough knowledge of the varieties of style as applied to decorative art, take a special interest in the public exhibition of all such works as have genuineness as to period and style, as well as excellence in workmanship.

Your Memorialists have learned that a variety of articles of ornamental art, known as the "Soulages Collection," is now offered to her Majesty's Government for purchase; and believing, from the recommendation it has received

from many eminent persons connected with art, as well as from its genuineness and merits, that it would be of great advantage to your Memoralists and workmen in various departments of art, humbly but earnestly solicit you to purchase the "Soulages Collection" for public instruction and use in the chief seats of manufacture.

Signed, on behalf of the Society,

RICHARD MOORE,
THOMAS WILSON,
WILLIAM MORRIS,
HENRY HALL,
} Committee.
RICHARD HAWARD, Librarian.
GEORGE WM. COLLINS, Secretary.

ROYAL DUBLIN SOCIETY AND THE ROYAL INSTITUTE OF ARCHITECTS IN IRELAND.

SIR—Now that the proposed amalgamation of this former body with such local, scientific, and artistic institutes as may wish to unite with it has been recommended by the council, permit me to suggest that one of the first societies which should take advantage of the arrangement, in every respect seeming so desirable and calculated to strengthen the position of all parties concerned, may be the Institute of Architects. It is no secret that this latter body, which from its constitution possessed facilities for upholding the dignity of the profession and imparting general as well as mutual art information amongst its members, has, for upwards of a year, from want of energy on the part of its officers, systematic management, and a due regard to observance of rules, merged into a state of lamentable obscurity, and occupied a degenerate position amongst institutes of its class; but here is presented a glorious opportunity for its reconstitution on a broader and firmer basis than hitherto. Want of funds to comply with the required conditions may, but cannot reasonably, be pleaded; for, notwithstanding the recent sale of the effects to meet a demand of the treasurer, there still remains, or ought, a sum invested in the public securities more than ample, if judiciously disbursed, to "set up" the institute again, lay the foundation for a museum and library (as originally provided by section 1 of the bye-laws), meet current expenses, and leave a fair sum for contingencies. Possibly, also, the fact of its coming in contact with other societies which, from their flourishing condition, are a credit to their promoters, may awaken its members to a sense of their duty.

The Royal Dublin Society, despite its faults (and I had recently occasion to censure it through your columns for its conduct in the competitions for the roofing in and re-arranging of the cattle yard), is a public benefactor and a bountiful dispenser of favours, especially to those identified with the arts and sciences; and its union with our professional institute appears to me the only likely means to enable that body to fulfil its intended mission with credit to itself and advantage to the public. I should, however, regard the infusion of some new blood as a necessary ingredient in its constitution, absenteeism being, perhaps, the chief secret of its state of nothingness.

Further, I would suggest that a special meeting of the institute be called forthwith to consider this subject.

JOHN J. LYONS.

Books Received.

A Treatise on Electricity, in Theory and Practice. By AUG. DE LA RIVE, F.M.R.S.L. &c. Translated for the Author by CHARLES V. WALKER, F.R.S. &c. In three volumes. Vol. III. London: Longmans and Co. 1858.

THIS is probably the most interesting of all the volumes of De la Rive's standard work. It comprises two divisions, on the relations of electricity with natural phenomena, and on the applications of electricity; with an appendix, in which various interesting questions are treated of. The first of the two divisions contains chapters on the production of electricity in physiological actions, on atmospheric electricity, and on terrestrial magnetism. The second division treats of the physical, chemical, and therapeutic or physiological applications of electricity. Under the head of "Physical Applications," of course comes a learned disquisition on telegraphs, clocks, &c. The most recent discoveries and inventions connected with electrical science are embodied in this important work, and more especially in the volume now published.

Handbook of Zoology. By J. VAN DER HOEVEN, Corresponding Member of the British Association, &c. In two volumes. Volume II. Translated from the second Dutch edition by the Rev. WILLIAM CLARK, F.R.S. &c. Longmans and Co. London: 1858.

THIS is the completion of another very valuable work, also already noticed in our columns. The present volume treats of the whole series of vertebrate animals,—namely, fishes, reptiles, birds, and mammalia, and is, therefore, the most important of the two volumes of which the work consists.

VARIORUM.

THE thirty-sixth edition of Laxton's "Builders' Price-Book" (1858), now edited by Mr. F. W. Laxton and Mr. Henry Laxton, contains an Appendix, with illustrations of several new inventions and materials adapted for building purposes, together with the Building Act, and a large amount of valuable information. —— "Every Child's History of Rome" (Dean and Son, Ludgate-hill), is an adaptation of "Miss Corner's History of Rome," and is a very sensible and useful epitome. —— The diagrams and tables given in the Report of the Commission appointed to inquire into the Sanitary State of the Army have been reprinted, under the title of "Mortality of the British Army as compared with the Mortality of the Civil Population of England" (Harrison and Sons, St. Martin's-lane). In one of these diagrams a black line represents the deaths of males in healthy districts, in each year, and a red line the deaths of soldiers in the same year. Very frightful indeed is the length of the red line. In 1843, for example, the black line measures not quite 1½ inch, and the red line measures 8 inches all but 1-16th!! —Mr. Cotton has published "A Catalogue of the Portraits painted by Sir Joshua Reynolds, Knt. P.R.A." as a further contribution towards a perfect memoir of the artist. "The Diary of Reynolds's Tour in Italy," and his Account-Book, are to follow. The advance made by Reynolds in his charges was progressive. For a three-quarter canvas or "head" he charged, in 1755, twelve guineas; in 1758, twenty guineas; in 1760, twenty-five guineas; in 1770, thirty-five guineas; and in 1781, fifty guineas. ——The first number of "The Englishwoman's Journal" opens with a paper "On the Profession of the Teacher," containing some particulars of the Governesses' Benevolent Institution, which ought to increase the number of subscribers to that excellent institution.

Miscellanea.

ARCHITECTURAL MUSEUM: TO ART-WORKMEN.—We are asked to say that Mr. Scott's lecture, to be given at the Architectural Museum, on Wednesday, March 24th, "On the Selection of Objects for Study in the Architectural Museum," being intended especially for carvers and art-workmen, he is anxious that they should be made aware of it, and that they should come early and take the seats from which they can best see any illustrations he may make use of. Tickets may be obtained, free, on application by letter to the honorary secretary, at the Architectural Museum, South Kensington, W.

MR. JOHN TIMBS, F.S.A.—We understand that Mr. Timbs has withdrawn from the editorship of *The Illustrated London News*, which he has in part filled about fifteen years, or almost from the commencement of that journal. Mr. Timbs's antiquarian knowledge and habits of correctness, as well as his general information and experience in literary matters, must have been of great service to the paper, and have aided in obtaining for it the world-wide circulation it enjoys.

CAMBRIDGE ARCHITECTURAL SOCIETY.—The last meeting of the society for the Lent term was held on Thursday evening, March 11, the Rev. the President in the chair. The secretary read a report upon the state of Shepreth Church, which had been drawn up by desire of the society. Mr. J. W. Clark, B.A. Trinity College, then read a paper on some of the churches of Gottland. He prefaced his accounts with a short description of the island, and a sketch of its history, which is extremely obscure, as the original records have been lost. Wisby, the capital, was probably a place of importance in Pagan times, and continued to be a great commercial city until it was sacked by the Danes, A.D. 1361. The ruins are very extensive: the walls and the remains of eighteen churches may still be seen. In the island are upwards of 100 churches in good repair, all built between A.D. 1050 and 1200.

THE METROPOLITAN TRAMWAY BILL.—A deputation of the promoters of this bill had an interview last week with the new Chief Commissioner of Works, Lord John Manners, who promised to give the subject his best consideration. Afterwards a deputation from the parishes through which it was proposed to run the tramway waited on his lordship for the purpose of stating their objections to the scheme, and urging the Government to resist the second reading of the bill. In the outset Lord John stated that he did not think the subject was one coming fairly within the province of his office. The bill has since been thrown out in the Commons.

DULWICH COLLEGE.—The governors of Dulwich Gallery, with the view of rendering the classification of pictures, and their cataloguing, more instructive, have commissioned Mr. Redgrave, R.A. to report upon the present state of the gallery, and to make suggestions for the more efficient display of the pictures. It has been determined, as we mentioned would be the case, that the gallery shall be opened for six days in each week, without the necessity of obtaining tickets.

SAINT IVES (HUNTS) SURVEYORSHIP.—As you inserted a paragraph in your paper some short time back, stating that the Improvement Commissioners of this town were about appointing a surveyor, at an annual salary of 15*l*; it may not be uninteresting to your readers to know that the appointment duly took place (according to advertisement) on Tuesday, the 9th ult. when an unusual number of commissioners attended. There were four candidates, all inhabitants of the town, neither of whom, however, happened to be a "barber's clerk" or "tailor's errand boy," but an auctioneer's clerk, a bricklayer, a gardener, and a gasfitter; the first-named being the successful man. It is indeed evident, as your correspondent "Cambridge" remarks, that auctioneering architects, advertising surveyors, would-be civil engineers, or something worse, are bringing the profession to a pretty pass.—SAINT IVES.

BUILDERS' TENDERS.—A correspondent, "W.W." commenting on some of the widely-differing tenders that at times have appeared in our columns, urges "that the party tendering whose tender was nearest the medium, should be accepted." As we do not find in this a solution of the difficulty, we do not print the letter.

PROPOSED VESTRY-HALL FOR CHELSEA.—The Chelsea Vestry have determined to erect a Vestry-hall at a cost of 3,500*l*. The site spoken of is in the King's-road, opposite to Robert-street, which leads to St. Luke's Church, and may be had for 1,920*l*. It has a frontage of 68 feet by 123 feet in depth, and has three houses upon it. A building committee has been appointed, consisting of Messrs. Legg, Todd, Fielder, Jackson, G. W. Richards, Lawrance, Robson, Carter, Callow, Hall, Livingston, Miles, and Watkins.

REMOVAL OF TEMPLE-BAR.—On Friday, at a meeting of the Metropolitan Board of Works, on the motion of Mr. Bristow, the following resolution was carried *nem. con.*:—"That Temple-bar presents an obstruction to the traffic of the Strand and Fleet-street, and that its removal for widening the street is desirable; that a communication be addressed to the corporation of London, and also to the City Commission of Sewers, inclosing the opinion of the Board, and requesting that they will take the subject into their early consideration."

RAILWAY RATING.—At the Norfolk Quarter-sessions on Wednesday week, the Eastern Counties Railway Company appeared as appellants, and the parish authorities of Moulton, Norfolk, as respondents, with reference to the assessment attempted to be imposed by the parish on 1⅛ mile of the Eastern Union line. The amount of assessment which the parish sought to establish was 200*l*. per annum, and the railway company were ready to agree to an assessment of 100*l*. per annum. The Court amended the rate by reducing the assessment to 93*l*. 15*s*. Costs to the amount of 50*l*. were also awarded to the railway company.

PRICE OF COPPER.—A letter from Messrs. Richardson and Co. of Swansea, dated March 6th, says, "We beg to inform you that a fall of 1d. per lb. took place yesterday in the price of copper, making the present price of manufactured copper 13d. per lb."

LECTURE ON ART AT CHELTENHAM.—Mr. J. P. Knight, master of the Cheltenham School of Art, delivered a lecture in week before last to the members of the Cheltenham Athenæum. The lecture was numerously attended. It was illustrated by diagrams, carvings, casts, &c. The lecture included notices of the carvings, &c. of savage tribes; Egyptian, Greek, and Roman ornament; touched upon the progress and causes of the decline of classic art, and entered more fully upon the Norman and Gothic styles,—instances and examples being referred to in the cathedrals and churches of the neighbourhood, ranging in date from the supposed Saxon window of Deerhurst to the Perpendicular work of Gloucester Cathedral.

THE AMERICAN HANDRAILING CHALLENGE.—We are requested to draw attention, which we have no objection to do, to the "Challenge for 500*l*." to "any man in England," by Mr. Robert Riddell, from the United States, whose book on "Handrailing" we some time since noticed. Mr. Riddell, from the terms of his advertisement in the *Builder*, appears to be very confident in the superior merits of his American system of handrailing; but he says that if any man in London, or in England indeed, can "lick" him in the art, he will at once return to the United States and acknowledge the superiority of the English workman: it is evident, however, that he thinks there is little likelihood of such a result. In the provinces, he says, the advantages of his system over any known in this country have been universally admitted.

GREAT MEETING OF UNEMPLOYED AT BIRMINGHAM.—An immense gathering of the unemployed was held at Birmingham last week, when a Mr. Mills proposed that "in the judgment of this meeting the present unparalleled distress of the working-classes is brought on by circumstances over which they have no control, and as such their severe wants require immediate relief." The motion was carried unanimously. A second resolution, calling upon all municipalities to memorialize the Government for the adoption of a broad *plan of emigration*, was also carried. A third resolution appointed a deputation to wait upon the borough magistrates, and confer with them upon the measures to be adopted for the immediate relief of the memorialists. The meeting was then adjourned.

ELECTRO-TELEGRAPHIC PROGRESS.—The Atlantic Telegraph Company have got 100 miles of cable formed to replace what was lost in the Atlantic last summer, and have also ordered an additional 300 miles to allow for slack. The renewed endeavour to lay the cable will be made in June, beginning in deep water, and paying out towards either shore simultaneously, the *Niagara* laying the cable towards the British side, and the *Agamemnon* towards the American. —— The Admiralty have at length resolved to supersede their old telegraph stations by the electric telegraph.——The Police Committee of the city of London have resolved, as a preliminary arrangement, to unite a few of its stations by a telegraph, according to the plan submitted by Mr. Waterlow, and upon the over-house system.

LIVERPOOL ARCHITECTURAL SOCIETY.—The fortnightly meeting of this society was held on Wednesday night, the 10th, in the Royal Institution. The chair was occupied by Mr. James Hay. The ordinary business having been gone through, Mr. A. Hobbs gave a *viva voce* lecture on the subject of locks. The number of members present was very limited. Mr. Hobbs showed the insecurity of warded locks in general, and stated that one principle only pervaded all warded locks; and that another equally simple to the understanding pervaded all the tumbler locks. He reviewed the different locks which he had succeeded in picking.

CITY OF LONDON SCHOOL: BUST OF EX-MAYOR SALOMONS.—Mr. Alderman Salomons having, over and above the 50*l*. a-year scholarship, granted to the City of London School a sum of 1,050*l*. Consols, producing thirty guineas a-year, for the education and support of a youth of less wealthy parentage and belonging to the school, it has been unanimously resolved by the Court of Common Council, on the School Committee's recommendation, to request Alderman Salomons to allow a bust of him to be executed at their expense, and placed in the City of London School, as a memorial of one of its chief benefactors.

ENGRAVINGS AND PICTURES.—Messrs. Colnaghi and Co. of Pall-mall East, have published a very charming engraving by Mr. S. Cousins, after Winterhalter's picture of "H.R.H. Victoria, Princess Royal," whom we have lost and Prussia has gained. The picture itself is exhibited at this moment in the French Gallery, Pall-mall, with two or three other works of interest; —"The Empress of the French, with her Ladies of Honour," by the same artist; and "General Williams leaving Kars," painted by Mr. Barker. It is a very elegant portrait of the Princess, marred somewhat, as it seems to us, by the colour of the face being too brown. In the engraving, which we cordially recommend to those who desire a memorial of the Princess, this does not appear. Vigorous and fresh, the face contrasts strongly and agreeably with the somewhat worn aspect of the French beauties,—beauties though unquestionably some of them be.

IRISH WHITING.—With reference to the discussion at the Institute of Architects on the hydration of lime, T. D. E., of Belfast, urges the superior value of Irish whiting over that made in England, and says the "elbow grease" is given by machinery. He gives no reason, however, why it should be better there than here.

HUNGERFORD BRIDGE.—Charing-cross bridge is most usefully situated for any part of the metropolis. The proprietors have done good service to the public by charging a very moderate toll. May this bridge not be made available for light-carriage traffic? Additions to the piers by iron frames, or cylinders, could be resorted to, and the roadway made wide enough. The approaches would be of the best: it might enter straight into York-road, close to the South-Western terminus, and the other end through the almost unused market, into the Strand. It would be a capital improvement, such a one as is greatly wanted.—L.

THE KENSINGTON GORE ESTATE.—The gross total amount expended on this estate, as made up to the 31st of January, 1858, is returned at 312,035*l*. (against 206,000*l*. granted by Parliament)—viz. 298,624*l*. expended by the Royal Commissioners, and 13,411*l*. by the Department of Science and Art. The sum of 259,136*l*. has been paid for the purchase of the estate, 15,692*l*. for laying out grounds, draining, and road-making, and 15,000*l*. for building the Museum. Other sums will have to be paid to complete the purchase of the estate out of moneys in the hands of the Royal Exhibition Commissioners, including 54,716*l*. (less the deposit of 6,000*l*. Consols) to be paid to the Earl of Harrington upon completion of the purchase of the Harrington estate.

MONUMENTS AND MEMORIALS.—According to a report of committee, read at a meeting in Durham, of subscribers to a monument to be erected to the late Marquis of Londonderry, the amount of subscriptions is now upwards of 2,000*l*. The committee recommend the erection of a colossal statue, representing the late marquis on horseback, dressed in hussar's uniform, and that it should be placed in the centre of the market-place in Durham. The artist on whom their choice has fallen, is Signor Raffælle Monti, an Italian sculptor, long resident in this country. The monument is proposed to be erected in copper bronze, by the galvano-plastic process; the size to be double that of life, and the figures of the monument and the horse to be elevated on a pedestal of stone, 14 feet high. The work of designing, modelling, and casting the figures, and placing them on the pedestal, Signor Monti is ready to undertake for 1,800*l*. The report was adopted, and the committee were authorised to enter into a contract with Signor Monti. —— The Rutland memorial at Newmarket, instead of being a statue as at first intended, is to consist of a parsonage-house, for the very poor living of Newmarket, All Saints' parish. About 900*l*. have been subscribed, but some of those who had promised contributions under the impression that a statue was to be erected, have refused to assist in the construction of the parsonage.

PROPOSED TURKISH RAILWAY.—The proposed line from Samsoun, on the southern shores of the Black sea, to Sivas, the old Sevastia, seems likely now to go on. The company, formed in England for the construction of this line, sent out last summer Messrs. Austin, Graham, and Drew, civil engineers, to make the necessary surveys: with them went out likewise Mr. Edward Price, the contractor. Based on these surveys, the concession was asked from the Turkish Government, and readily obtained. The line will be 250 miles in length, and the outlay is estimated at 16,500*l*. per mile, so that the whole capital required will be about 4,500,000*l*.

A NEW SAW AT SHEFFIELD.—Messrs. Atkin and Peace, saw manufacturers, of Union-lane, says the *Sheffield Independent*, have manufactured a machine belt saw, for cutting deals, 50 feet long and 4 inches wide; space of tooth, ⅜; thickness, 18 wire gauge. The advantage of this saw consists in continually revolving, so as to perform the double work of the usual mill saw web, by being continually on the cut, thereby saving the loss of time and labour in the up-stroke. It is the largest saw of the kind ever manufactured in Sheffield.

NEW GRAVING DOCK AT CARDIFF.—A new graving dock for Messrs. Hill, of Bristol, has been formed at the north extremity of Cardiff West Dock. The width of the graving dock gate is 40 feet, giving 13 feet depth of water over sills: the total length is 238 feet, but it is so formed as to hold two vessels of the respective lengths of 165 feet and 135 feet, thereby giving graving dock accommodation for about 500 or 600 tons more shipping than if it had been constructed on the ordinary principle. It is entirely built of stone, and the bottom is pitched: the stone in the sides is blue lias, whilst the entrance lock and coping are composed of massive blocks from the Forest of Dean. The masonry of the dock has been executed by Mr. Daniel Thomas. The whole of the works have been completed under the superintendence of Mr. Hooper, of Bristol, who was the engineer. The blue lias lime-stone was from the contractor's works at Llandough. The entrance lock is fitted with a caisson, built of iron, by Messrs. Finch and Heath, of Chepstow, the contractors for the Chepstow bridge. The dock can be dried in about two hours, by a communication with the main sewer of Herbert-street. The erections in the yard were built by Mr. Flower, of Bristol, and comprise a large smithy, a long range of building, containing joiners' workshop, general store and warehouses, offices, foreman's residence, and porter's lodge. It is said to be the intention of Messrs. Hill to erect another graving dock of still greater dimensions (460 feet long), on the west side of the East Bute dock.

GLASGOW.—A house has been erected near the foot of Alston-street which has excited some attention. Mr. Honeyman was the architect. The local *Guardian* says,—"We observed, yesterday, a new tenement near the foot of Alston-street, the mason-work of which is all but completed, and the shop-story has been made to correspond with the adjoining new tenement, and is composed of the usual series of iron pillars, deep frieze, and cornice. Above that point the building is entirely original, and unlike anything of the kind in Glasgow. The style on which the detail seems to be based is Gothic, but the arches of the openings are semi-circular. The jambs of the windows are relieved with semi-detached shafts with foliated capitals. The abacus is square, and is continued round the building as a string course. The arches are richly moulded with mouldings of an early Gothic character. The windows of the top story have also shafts in the jambs with carved capitals, but they are more slender, to correspond with the mullions of these windows. As below, the abacus is carried round the building. The sills of the upper tier of windows rest on a bold string course, with square blocks at either end, intended to be carved into bosses. It may be mentioned that the arches of the windows are true arches, the stones going through the wall, thereby adding greatly to the strength of the building and its security in case of fire."

[ADVERTISEMENT.]

22 and 23, Felix-terrace, Liverpool-road,
June 10th, 1857.

Messrs. CLARK and CO.
15, Gate-street, Lincoln's-inn-Fields.

Gentlemen,—The Patent Revolving Wood Shutters you fixed for me at my shops here about eight years ago, have worked in the most satisfactory manner, the whole of your charges for repairs, &c during that time amounts to 10s.—just 1s. 3d. per year. I have strongly recommended them, as I think no window should be without them.
I am, yours obediently,
ROBERT CLIEVES.

TENDERS.

For new markets, guildhall, corn-exchange, grammar-school, &c at Cardigan. Mr. Withers, architect. Quantities supplied:—

A. Jones, Newport, Monmouth	£8,490 0 0
W. Lewis, Carmarthen	7,885 14 2
Whitby and Co. London	7,869 0 0
Evans, Brothers, London	6,999 0 0
Jenkins, Thomas, and Davis, Cilgarren	6,195 19 0
Morgan, Jenkins, and Davies, Cardigan	5,792 16 6

For new school and master's-house, Pembryn, Cardiganshire. Mr. Withers, architect. Quantities supplied:—

Evans, Brothers, London	£689 0 0
B. Davies, Lampeter	512 0 0
D. Morgan, Cardigan	390 0 0
D. Davis, Clay (for school and offices—accepted)	290 11 0

For the erection of new schools and master's-house at Wombourn, Staffordshire. Messrs. Bidlake and Lovatt, architects, Wolverhampton. Quantities supplied:—

Edmonds, Wombourn	£1,588 14 10
Burkitt, Wolverhampton	1,542 10 0
Elliott, Wolverhampton (accepted)	1,486 0 0

For the erection of house, workshop, and pipe-kilns, in the Woodbridge-road, Guildford, Surrey (exclusive of the plumbers', glaziers', painters', and smiths' works,. Mr. Henry Peak, architect. Quantities supplied:—

Bristow	£473 2 6
Beagley	452 3 5
Elliss	419 10 3
West	418 0 0
Moon and Son	397 0 0
Pollard	393 4 0
W. and T. Smith	379 5 0
Nye	379 0 0
Mason and Son	372 3 0
Loe and Sons	365 0 0

For the plumbers', glaziers', painters', and smiths' works:—

Randall and Son	£41 19 6
Sturt	39 9 0
Roto	37 0 0
Waller	36 7 0
Edmead	34 9 6
Miller	34 9 3
Batty	32 0 0
Furlong	32 0 0
Fibbens	32 0 0

For a new police station at Salisbury:—

Curtis, Salisbury	£874 2 9
Young and Co. Salisbury	785 0 0
Fisher, Salisbury	785 0 0
Davis, Frome	748 0 0
Phillips, Swindon (accepted)	748 0 0

The coincidences are somewhat remarkable.

For rebuilding Newnham-bridge Inn, near Tenbury. Mr. James Granston, architect :—

Briggs, Birmingham	£1,168	0	0
Smith, Tenbury	1,154	0	0
Mountford, Birmingham	1,125	0	0
Hardwick, Birmingham	1,113	0	0

For restoring and re-seating chancel, &c. at Panfield, Essex. Mr. Withers, architect. Quantities not supplied :—

Parmenter, Brocking, Braintree	£325	0	0
Evans, Brothers, London (accepted)	297	0	0

TO CORRESPONDENTS.

COTTAGE BUILDING. The rector of Pillingham says,—"If the country rector who wrote to you for information relative to agricultural cottages will communicate with me, I shall be very happy to send him plans of cottages to copy, such as I hope some day to erect on my own glebe."

SMOKE STAINS.—I should feel obliged if you, or any of your numerous readers, could inform me of a chemical composition for a wash to take out the smoke stains of ceilings and walls in cottages,—as I often meet with many such in the large chimneys smoking. H. C.

J. G. S.—F. and A.—B. L.—K. L.—H. D.—T. M.—W. H. (already mentioned).—W. J. P. (will appear).—B. B.—S. E. M.—W. T. D.—J. W.—A Competitor.—W. G—W. L. (thanks).—T. B. (shall have attention).—K. and W.—W. L. (will find information on what he seeks in previous volumes of the *Builder*).—The Rev. Mr. A.—W. J. C. (we are unable to repeat Leigh's often before given).—W. S. *Prize Reformer*.—A. J. H.—J. E. M.—F and Son.—Mr. W.—W. M.—A. T. (shall hear).—Alpha (write Weale, Holborn). Royal Engineers (next week). Reform. (ditto).—American Chippings (ditto).

"BOOKS AND ADDRESSES." We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

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WANTED, in North Wales as working Builder's Foreman, an experienced JOINER and CARPENTER, competent to manage, with strict economy, the building and repairs of cottages, farm-buildings, and houses of a higher class.—Apply by letter, stating terms, to Mr S. D. DARBISHIRE, Postoffice, Conway. Unexceptionable references as to character and competency indispensable.

TO ENGINEERS.

WANTED, for the Dover Water-works, a PRACTICAL ENGINEER, to take charge of and drive the Engines, and to perform such other duties as may be required. A resident cottage will be provided. Further particulars may be obtained at my Office. Written applications, stating age of applicant, and salary required, and accompanied by testimonials of character and ability, are to be sent to my Office on or before WEDNESDAY, the 24th day of MARCH, instant. The person appointed will be required to enter upon his duties on the 6th day of APRIL next.—By order,

T. B. BASS, Town Clerk.

Dover Local Board of Health Office, March 11, 1858.

WANTED, TWO or THREE first-class POLISHERS of ALABASTER. None need apply who do not thoroughly understand the business. Address, A. P. Post office, Leicester

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WANTED, by a Builder near London, a Young Man as CLERK. None need apply who have not filled a similar situation.—Apply, in first instance by letter only, to J. A. Office of "The Builder," stating age, salary required, and where last engaged.

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WANTED, immediately, by a steady, sober Young Man from the country, aged 24, CONSTANT EMPLOYMENT on the above trade, either in a firm or on an estate. Good references can be given if required. Address, Q J Office of "The Builder."

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WANTED, by JOHN WILSON, of Grantham, a MAN who has a thorough knowledge of the Mason's Department in Ashlar or Bath Stone. He must also be a Bricklayer, and attend drawings, and take the active lead of his men, which will be varied from ten to thirty. Liberal wages will be given to one whose habits and ability are equal to the subscription of a portion of an establishment where all the branches of the Building Trade are carried on.—Grantham, March 15, 1858.

TO PLUMBERS, PAINTERS, &c.

WANTED, immediately, a steady, respectable MAN, not under 30, as WORKING FOREMAN, to SUPERINTEND a BUSINESS in a country town. He must be capable of giving estimates for work, &c. Good reference required.—Address, J. H. W. Post-office, Chelmsford, Essex.

TO CIVIL ENGINEERS AND CONTRACTORS' AGENTS.

WANTED, a thoroughly competent Person to take the ENTIRE CHARGE of the CONSTRUCTION of the WORKS on a large FOREIGN RAILWAY, under a liberal arrangement. None need apply who has not had charge of important works, and cannot produce first-class testimonials and references.—A. [illegible] by letter only in the first instance, to J. O. W. care of Mr. Adlard, 5, Parliament-street, S. W

WANTED, by an Architect in the Midland Counties, an ASSISTANT well qualified for general office work, also having a good knowledge of the Pointed and Italian styles. Address, giving terms and references, to ALPHA, 30, Devonshire-street, Portland place, London.

TO COMMISSION AGENTS.

WANTED, by a first-class Manufacturer of PORTLAND CEMENT, who is very considerably extending his business, a Gentleman with a good connexion of both the home and foreign trade.—For further particulars, address to F. N. Crown Cement Wharf, Great Scotland-yard, Westminster, S. W.

TO BUILDERS, DECORATORS, &c.

WANTED, EMPLOYMENT, by a Young Man who writes a good plain hand, understands book-keeping, measuration, &c.; is a quick and correct accountant, and has had six years' practical experience in the trade. Three years' good character from last employer.—Address, A. B. 2, Thornhill-street, Caledonian-road, Islington, N.

TO BRICKMAKERS.

WANTED, a WORKING FOREMAN, to take the management of brickworks, where facing bricks and moulded pressed of the best quality are the principal manufacture. Apply by letter, stating where last employed, &c. to Messrs. NELSON and BOYS, 58, Pall mall, S W.

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WANTED, by the Advertiser, aged 21, a RE-ENGAGEMENT, either temporary or permanent, in town or country. He is capable of preparing finished and working drawings, also surveying, levelling, &c. having all the instruments for carrying out of same, and accustomed to the routine of the office. A small salary only is expected.—Address, ARCHIMEDES, Office of "The Builder."

TO MASTER PLUMBERS AND PAINTERS

WANTED, a SITUATION, as PLUMBER, by a Young Man, leaving his present situation. Has no objection to fill up his time in painting, &c. Good references can be given.—Address, J. C. 7, Knight's-place, Wandsworth road.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

WANTED, by a Youth, aged 17, a SITUATION as JUNIOR DRAUGHTSMAN, in an Office of the above. He is accustomed to neat drawing and colouring. He has been engaged in Government and Town Surveyors Offices. A moderate salary required.—Address, ROMANO, care of Mr. Breaks, 22, Stephen-street, Tottenham court-road.

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WANTED, by the Advertiser, a SITUATION as ASSISTANT, &c. in either of the above offices.—Address, F. R. H. C. 20, Great Ormond-street, Queen-square, W.C.

TO CONTRACTORS AND BUILDERS.

WANTED, a SITUATION, by a Young Man, 26 years of age, who has just completed his engagement, as TIMEKEEPER, who can have first-rate references as to his ability and integrity.—Address by letter, F. F. Post-office, Ware, Herts.

TO PROPRIETORS OF SAWMILLS AND BUILDERS.

WANTED, a SITUATION as SAW-SHARPENER and HAMMERER, or to work deal or timber frames, circular or rack bench, with every improvement in the erection of the above machinery. With good recommendation from the place he has just left. No objection to the country or abroad.—Address to A. B. Mr. Bonus, 34, Surrey place, Old Kent road, London.

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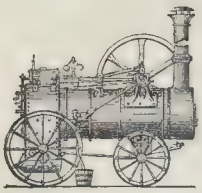

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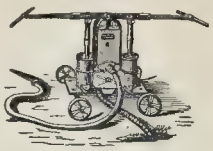

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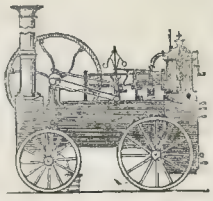

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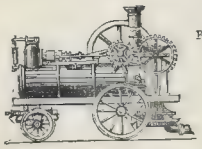

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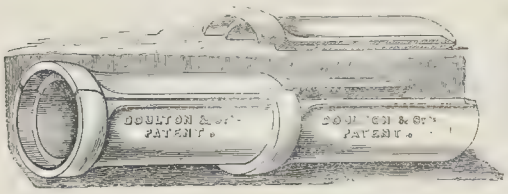

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18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the pumps to give one hundred per cent. duty, and to be drawing out in the pumps a matter of impossibility.—Prospectuses, price lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot-water pipes. Vulcanized Rubber Door-springs, and Solid Red Rubber Cord of all sizes of any length. Bands, Cushions and Rubber Strips cut to any pattern for bootstelle tables.
Dyed caoutchouc of superior make, and improved Vulcanized Rubber Supply pipes for ditto.
Vulcanized Rubber, in sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows, and Cushions inflating Portable Baths, Invalid Cushions, and Articles of this kind made to any pattern to order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell Road, London.

CARTS, VANS, WAGGONS, LADDERS, BARROWS, &c.
GEORGE ELL, Cart Wheelwright, Ladder, and Barrow Maker, has constantly on sale, Trucks, dobbin, and other carts, spring vans, and also a large stock of ladders, barrows, trestles, steps, and other trade implements for builders, contractors and decorators, on the most improved principles and low prices.
Scaffolding, Ladders, Barrows, Steps, Trestles, &c. Lent on Hire.
The new Price Lists are now ready, and will be forwarded on application.
G. ELL, 279 and 280, EUSTON-ROAD, N.W.

GEORGE JENNINGS,
OF HOLLAND-STREET, BLACKFRIARS,

Respectfully calls attention to his improvements in

DRAIN-PIPES, FLUE-PIPES, CLOSETS, LAVATORIES, PUMPS, TRAPS, SLUICE-VALVES, FIRE AND OTHER COCKS, WATER-WASTE PREVENTERS, SHOP SHUTTER-SHOES, &c.

Architects describing JENNINGS'S Double-seated Valve Water-closet, or his Earthenware Closet, will have efficient and durable closets, noiseless in action, and independent of the usual wires and cranks. JENNINGS'S Self-acting Water-closet, for Public Works, would be found SIMPLE, SUBSTANTIAL, and DURABLE. Upwards of seventy of these Closets are satisfactorily working at different stations on the Great Northern and other Railways. A visit is respectfully requested to

JENNINGS'S SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS-ROAD.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

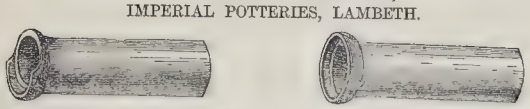
Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his

GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

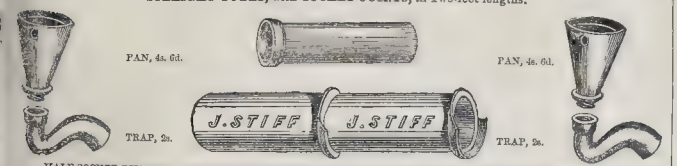
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's acre, Westminster-bridge road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's road, Camden-town.
Messrs COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 3, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Edeen Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under certain high pressure, varying from 100 to 300 feet; their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short street, Newcut, Lambeth.

WARNER'S PATENT

VIBRATING STANDARD PUMPS.—PATENT CAST IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 1 0
2½ ,, long	3	gutta percha	1 14 0
3 ,, ditto	2	or cast iron	2 6 0
3½ ,, ditto	3	flanged pipe,	2 12 0
4 ,, ditto	3	as required.	3 3 0

2½ ,, short, with 15 feet of lead pipe attached, ready for fixing 2 14 6
2½ in. long ditto ditto 2 15 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses, they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London. Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

J. MILLS (late Shop Foreman to Messrs.

Lawrence and Sons), JOINER to the TRADE, 7, Princes-street, Stamford-street, Lambeth. Shop fronts, fittings, staircases, &c. Well-seasoned materials and superior workmanship at the lowest possible prices. A quantity of doors and sashes always in stock.—By enclosing a postage-stamp, a full list of prices will be returned.—Workshops, 110, Broadwall.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE,

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London. When opening the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland street, Blackfriars-road.

JOINERS' WORK in all its branches,

EXECUTED with despatch, and cheaper than any house in London.

S. A. JEFFS,
43 and 45, Cornwall-road, Stamford-street, Lambeth, S.
N.B. Price-list on application.

FOURTH SALE—PIMLICO IMPROVEMENT

MR. W. R. GLASIER is favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, MARCH 23rd, at TWELVE for ONE, in lots, the valuable BUILDING MATERIALS of Four large Houses, Nos. 14, 15, 16, and 17, Staff-street, Pimlico, comprising about 200 stock bricks, load of useful timber, floors, sashes, and frames, French casements with plate-glass, doors, staircase, iron and pine rails, York paving and landings, very capital mahogany shop fronts glazed with plate glass in large dimensions, gas fittings, copper, bath and cisterns, grates, 4 cooking kitchen and eastern marble chimney-pieces, excellent mahogany 14 counter, 21 ft. 6 in. long, shop-fittings and other capital fixtures and fittings.—May be viewed the day prior, and morning of sale, and catalogues had at the Office of Messrs. 22, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; at Garraway's; in the Premises (No. 14); and of the Auctioneer, 41, Charing-cross.

NEWGATE-STREET.—Extensive Sale of Building Materials.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 29, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS of the Premises, Nos. 81 and 82, Newgate-street, comprising about 60 stock bricks, large quantity of paving and landing stone, well-seasoned Yorkshire and other timber in roofs and floors, sashes, doors, chimney pieces, floor boards, shop fronts, iron bars, and a great variety of useful materials, fixtures, and fittings.—May be viewed on Saturday previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN and SON, 80, Fore-street, Cripplegate.

ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES, TABLES, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, 31st inst., at TWELVE o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, the remaining STOCK of about ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES, of the most modern designs, and finished in the best style of workmanship, many of a valuable description, in Genoa cast, Jaune de Sienne, Rance Royal, St. Anne, Serpentine, Dove, Black, Emperor's Red, Vernid and Statuary Marble, also an Ancient Pulpit, Gothic Stone Gothic Tablet, with Statue in Bas-relief, Plate, polished Marble Slabs, &c.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs FULLER and HORSEY, Billiter-street, E.C.

Forty Tons Cast, Shear, and Spring Steel, Steam Boilers, Two 10-Ton Cranes, Wrought-Iron Wheels, and many Effects

MESSRS. FULLER and HORSEY will SELL by AUCTION, on MONDAY, MARCH 29, at ELEVEN o'clock, on the PREMISES (if Messrs SWAYNE and BOVILL, Millwall, Poplar, FORTY TONS CAST, SHEAR, and SPRING STEEL, Turnery, and other Bars, one Quilp's Patent Three new Steam Boilers (one built to stand), Two 10 Ton Cranes, Twenty-five Pairs Wrought-iron Wheels, Coils, Chains, and many tons of Ironwork. Twenty new Capstans (Allport's), Patent Dog Cross Bar and Rod Iron, and their Effects.—To be viewed, and Catalogues had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Loose Tools and Stores of the Sawing-Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 31st, 1858, at the following hours, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 13 to 55 inches diameter; pit-saws, planing and adzing tools, a boring-and-planing and shaping machine by Paveman; leather bands, 1 ton cast and shear steel, 10 tons rod and bar iron, weighing machines, anvils, tools, vices, 10 and bottom stones, mandrels, grindstones, &c. 100 cwt. pig iron, 3 cwt. patent new-process case hardening pump, copper tubes, wrought and cut nuts, spikes, sash-weights, 10 cwt. old files, crown and sheet glass, dry ash-ground colours, 1 ton white and red lead and linseed oil, ten dozen 14 and 16 gallon painters' and varnishers' pots, 10 dozen hammered saw plates, saw pales and heels, buckles, sieves, 200 yards road grit, 20 yards granite and Portland sand, well-built sand pipes, pulley wheels, 2 cwt. well-seasoned elm, block and axle, 2 sets of falls, barrows, two 4 ft. and one 8 ton Hafey's racks, carpenters' benches, several tons of ironwork, a moveable travelling crane, 60 feet span, equal to 10 tons, and numerous other effects. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO CONTRACTORS, DEALERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, in the month of APRIL, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs. LEE and HAYES, 1, Ironstone-yard, Battersea, Belvedere-road, Lambeth, in lots, comprising a 30-horse power centre-to-centre steam engine, 21 wheels, by Medwin and Hall; a 10-horse power portable table steam engine and boiler, with 21-ft. mill and iron circular saw bench attached, with gearing to work the same, Gwynne's centrifugal pump and pipes, 1 more as held pipes and tanks, 500 pairs, 9 and 10 inches, 6 pit saws, 10 cwt. assorted iron, 3 dozen cast-iron fluted columns, each 10 feet high; 700 yellow deals and battens, several thousand feet of dry seasoned pine and other boards, double and single panel doors, timber-carriage, about 100 loads of timber, carts, harrows, two 4 ft. and one 8 ton Hafey's racks, carpenters' benches, several tons of ironwork, a moveable travelling crane, 60 feet span, equal to 10 tons, and numerous other effects. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, APRIL 12th, 1858, and following day, at TWELVE o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the remaining portion of the valuable and extensive STOCK of DRY SEASONED WOODS, carefully selected timber, 2,000 well-seasoned deals and battens, white pine and battens, 500 pine planks, 200 red pine deals and battens, pine boards, planter timber, 30 squares prepared flooring boards, 1,000 feet dry seasoned mahogany, 500 mahogany poles, cedar rails, 1,000 yards yellow deal moulding, and many other Private and other day previous to the sale, when catalogues may be had in the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NOTE.—Removed from three months' credit, and will be taken from purchasers to the extent of 50*l.* and upwards, or a discount of 1*l.* per cent. will be allowed for cash.

TO MARBLE AND STONE MERCHANTS, AND MASONS

having extra Stock of Marble and Stone

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, APRIL 15th, 1858, and following day, at TWELVE o'clock each day, on the MARBLE WORKS, Commercial-road, Pimlico, in lots, the remaining portion of the large and valuable STOCK of MARBLE and STONE, in block and slab, including 11 block, 10 feet 6 inches cross, 6 feet 6 inches deep; 5 ditto, 9 inches by 6 feet Sienna, 40 feet serpentine, 1,000 feet veined, 3 cabin, black, amber, dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Italian marbles, 1,000 feet in block of the same assortment; in 3 slabs to three inches, 1,100 feet polished slab; mouldings; 3,000 feet Portland stone, in block; 500 feet of Caen stone, 1,000 feet French stone; 150 feet Wingerworth stone, 3,000 feet of 3-inch to 6-inch of York landings; 3,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 6 inches; 2,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, 2 inch to 6 inches; head, and foot stones; 1,800 feet run of granite curb, 13 feet by 6 inches and 12 feet by 8 inches; five blocks of granite, and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works; and of Messrs FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

BEAR-LANE, GRAVEL-LANE. Blackfriars road — To Cabinet makers, Coach-builders, Wheelwrights, and Others — Genuine extensive sale, without reserve

MR. PEAKE is instructed by the Proprietor, Mr. Samuel Rutt, who is quitting the premises, to SELL by AUCTION, as above, on WEDNESDAY, MARCH 31st, 1858, and following days, at TWELVE for ONE precisely, the well-selected STOCK, suitable for the above trades, comprising about—

40,000 Feet Honduras Mahogany, in planks, logs, and curls.
12,000 Feet superior wide Panel Board.
4,000 Feet Veneers and Beading.
1,000 Planks, Deals, and Battens
500 Pine Plank, sawn and unsawn.

A large quantity of wainscot, Enel oil, oak, ash, birch and sycamore, timber carriages, carts, 1 crane, harness, erections of saw pits, scale-board machine complete, and part of steam engine, trade implements; also a few lots of useful household furniture, 10 feet rail and numerous other effects. May be viewed the day previous and morning of sale, and catalogues had on the Premises; and of Mr. PEAKE, Auctioneer, 14, Tenter-street, south Surrey, S.E.

CAPITAL LEASEHOLD INVESTMENT, Lissongrove North, Marylebone, within a few minutes' walk of extensive premises

MR. DANIEL CRONIN will SELL by AUCTION, at GARRAWAYS, on WEDNESDAY, APRIL 7, at TWELVE, in one lot, 36, LISSONGROVE NORTH, let to Mr. Naylor, on an agreement for lease, at 56*l.* per annum; or, let in like manner to Mr. Nunn, at 40*l.* per annum; and the extensive BUSINESS PREMISES and WORKSHOP, with gateway entrance, adjoining the above property, of the value of 70*l.* per annum, and if with immediate possession may be had, rendering them more than rent free, the whole are in good repair and let to tenants on lease of 14 years, at the rent of 60*l.* per annum. May be viewed by leave of the tenants, and part, unless had at Garraway's, at the King Alfred Tavern, Lissongrove North, near the property; and of the Auctioneer, 1, Vernon place, Bloomsbury-square, W.C.

TO TIMBER MERCHANTS, PIANOFORTE MAKERS, CABINET-MAKERS, BUILDERS, CARMEN, AND OTHERS.

MESSRS. THOS. EDWARDS and SON are instructed by the Proprietors, who are giving up the Premises, to SELL by AUCTION, at NORWAY WHARF, Mulbank-street, Westminster, on TUESDAY, 23rd MARCH, 1858, at ELEVEN o'clock precisely, the entire STOCK in TRADE, consisting of large quantities of dry Honduras, Cuba, and Spanish Mahogany; dry Maple wood, dry Satin wood, dry figured Birch and Beech, dry Walnuttree and Cedar, in logs, planks, and scale yard, Pine Planks and Deals, Yellow and Spruce Deals wainscot, Also Spanish and Cuba Mahogany veneers, Maple veneers, Rosewood veneers, Satinwood veneers, Walnut veneers, and Holly veneers; quantities of oak and other firewood; two strong Timber Carriages, Trucks, Saws, and other utensils of trade.—To be viewed two days previous to and on the morning of sale. Catalogues may be had on the Premises; and of THOS. EDWARDS and SON, Mahogany Brokers and Auctioneers, 15, Pinner's-hill, Old Broadstreet, E.C.

The complete clearance Stock of a Builder, Greenhalgs, Islington.

MR. F. HALL will SELL by AUCTION, on WEDNESDAY, MARCH 24, at ONE for TWO o'clock, on the Premises, adjoining the Weaver's Arms, Greenhalgs, Ballspond, Islington, a large quantity of NEW TIMBER, DEALS, &c, comprising 1,000 clean white, yellow, and pine planks, deals, and battens, cut and sawn, 200 sashes (7 feet and seasoned floorings, 1,000 feet of pine, selling at a quarter-ring, 3 cwt. fast flooring and wide pine panel boards (suitable for carriage builders); 200 nearly new scaffold boards, putlogs, &c; also a quantity of excellent old materials, viz. 2 cwt. of iron, 1 cwt. of brass, quartering plates, &c. &c.—May be viewed two days previous and morning of sale, and catalogues had on the Premises; Angel, Islington; various other houses adjacent; and of Mr. F. HALL, Auctioneer and Valuer, Chester-street, Kennington, S.

MARYLEBONE LANE—Building Materials.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, corner of Highstreet and Marylebone-lane, on FRIDAY, MARCH 26, at TEN o'clock precisely, the BUILDING MATERIALS of THREE SMALL HOUSES and SHOPS, to be taken down by the purchasers. May be viewed the day previous, and Catalogues had on the Premises; and of the Auctioneers, 8, Pall-mall, west-end.

WESTMINSTER.—Builder's Stock, Plant, and Implements.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, on the PREMISES, Eaton-street, Pimlico, on TUESDAY, MARCH 30, at TEN for ELEVEN precisely, the number 1 portion of STOCK-IN-TRADE, comprising about 500 feet run of 7-inch and 6-inch and 5-inch pine deal boards, and battens, a large quantity of useful stuff, quartering and planks, about 10,000 new stock bricks, Sewell's patent hop-bond, five crates of glass, sheet lead, ironmongery, and fittings of a builder's shop, about 40 tons of paving and landing stone, powerful cart and parcel harness, in excellent condition, springs, and three builder's carts, one set of 4-inch wheels and axles, 2 good trucks, timber trestles, cash engines, screw-jacks, iron and pine shoots, set of hooks and falls, coal lifting cords, boards and putlogs, a nearly new second-hand patent 3-inch pump, 1 set of 3-inch leaden soil pipes, earthenware pipes, pulley-block, and sundry effects. May be viewed the day prior, and morning of sale, and catalogues had of the Auctioneers, 40, Parliament-street, or Coal Exchange.

TO BUILDERS AND OTHERS.—Important to Builders

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the SHOW ROOMS, No. 3, Eaton-road, West Pimlico, on WEDNESDAY, MARCH 31st, at TWELVE for ONE (in consequence of the lease of the portion of the Premises having expired), about 100 MARBLE CHIMNEY PIECES, the greater number of which are finished, inexpensive stock, but many with a number of new and superior designs of execution unusual in this class, which render them peculiarly adapted for chambers of first and second rate houses, or for general use in those of the third and fourth class. There are also many of such designs in statuary, black and gold, Bardilla, green, and Sienna marbles, suitable for the respective uses of first-class residences. The whole of which must be cleared off the premises, as the lease cannot be renewed. Also, a variety of vases, pedestals, and figures. Approved bills at three months from buyers of above 30*l.*—May be viewed two days prior to the sale, when catalogues may be had on the Premises; and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

NORWOOD.—The valuable Freehold Site of the Central London District School, with or without the Materials, including a recently-built Gothic Chapel, and contracts for the principal entrance of the Central Poor.

MESSRS. EVERSFIELD and HORNE are favoured with directions from the Board of Management of the Central London District School, to SELL by AUCTION, not later than the 1st MAY next, the whole of the [illegible] portion of the Estate, comprising about [illegible] acres of FREEHOLD GROUND, with double frontage, containing three acres, or thereabouts, with buildings thereon, situate at the angle of the Upper Norwood road, close to the station on the Crystal Palace and West End Railway, forming a choice site for building operations, as it is more elevated than the best of the surrounding well-timbered residential estates. On the eastern portion of the property a capacious and well-built chapel has recently been erected, with school rooms adjacent, which may be treated for separately.—Further particulars may be obtained, and a plan of the property inspected, at the offices of Mr. HEATH, Solicitor, 19, Bucklersbury; of Messrs EDWARDS and SMITH, 20, Great Carter-lane, Doctors'-commons; and of Messrs. EVERSFIELD and HORNE, Auctioneers to the Commissioners of Her Majesty's Woods and Forests, 4, Parliament-street, Westminster, or Coal Exchange.

MR. F. HALL'S TIMBER SALE and COMMISSION YARD, Chester-gardens, Kennington (S), is OPEN for the RECEPTION of all KINDS of GOODS relating to the BUILDING TRADE in general. Sales held here every month, of which due notice is given in this paper. Timber Merchants, Builders, or others who may have Property for disposal, can forward the same upon first giving notice by post. A LARGE COVERED TIMBER SHED for MAHOGANY or other DRY GOODS.

SALES BY AUCTION.

PEREMPTORY SALE, THE PREMISES BEING ABOUT TO BE BUILT UPON.

MR. MESSITER is instructed to SELL by PUBLIC AUCTION, at Mr. STEEL'S TIMBER-YARD, Printer's-place, Bermondsey, near the Spa-road Station, on MONDAY, MARCH 29th, 1858, and the two following days, the numerous STOCK of a TIMBER MERCHANT, comprising planks, deals, and battens; scantlings, yellow and white pine and spruce deals, and a quantity of flooring boards, seasoning, &c. together with the desk stools and other erections in the Premises.—May be viewed the day previous and morning of Sale, and catalogues had on the Premises, and of the Auctioneer, 24, Acton-place, Kingsland-road.

BRICKFIELD.—TO BE SOLD, or LET, with immediate possession, a FIELD of about SIX ACRES, containing thick earth of the finest quality, with an excellent dwelling house, five substantial cottages, and a baker's shop and dwelling-house. The property is near Milton, next Sittingbourne, Kent, and close to a line of railway, and is well supplied with water.—For particulars, apply to Mr. T. CLARKE, 3, Dean's court, St Paul's churchyard.

NEAR NEW-CROSS STATION.—FIVE ACRES of FREEHOLD to BE LET or SOLD, three miles from the Bank of England, situate on a good road direct from the high road, where houses let at high rents as fast as built. 400,000 old bricks at half the price of new on the ground.—Apply to THOMAS SINGLE, Esq. Erith House, Queen's-road, near New-cross.

MARBLE QUARRIES.—TO BE LET, or the LEASE SOLD, all those first-rate MARBLE QUARRIES, together with House, Offices, and Lands, at Anglaheen, situate within three miles of Galway, better known as the Galway Marble Quarries. For particulars, apply to HENRY ABBOTT, Anglaheen, Galway; or JAMES MALLEY, 86, Upper Sackville-street, Dublin; or to SAMUEL TRICKETT, Stone wharf, Isle of Dogs, London, E. The above is a first-rate concern, and offers large advantages to a man of some capital or acumen. The plant may be had at a valuation, all ready for work, so that the quarries might be worked at once. The Galway Block is noted throughout the world.

HOLBORN.—Valuable FREEHOLD PROPERTY, having a frontage to Holborn of about 16½ feet, running southward about 200 feet, and frontage to Whetstone-park of about 100 feet. The property includes the well-known old established Inn and Hotel called THE GEORGE and BLUE BOAR. The whole offers a most desirable property for an establishment of the first consequence, or may be subdivided very advantageously. The Freehold may be treated for, or a long Lease will be granted on most favourable terms. For further particulars, inquire of WARTERS and LOVEJOY, 55, Chancery lane.

LAND TO LET, for building, suitable for semi-detached Villas, abutting on the Station, Barking, Essex, or, if sooner on completion of houses, the freehold will be sold at a price previously agreed on. Barking is only twenty minutes from Fenchurch-street, on the Tilbury line, is a first-class and junction station, and there is within eight minutes' walk, a capital free landing quay, up to which trade, timber, &c. may be brought from the Thames, at a very small cost.—Particulars and plans with Mr. BURT, Land Agent, Barking, Essex; or of Messrs. WILLIAMS and SMITH, 52, Old Broad-street, City, E.C.

LAND TO BE SOLD, or LET, on building leases, upwards of two acres, situated on the Finchley Oak-hill, Arundel-road, close to Grove Pond street Station of the Hampstead Junction Railway.—Plans and particulars with Messrs WILLIAMS and SMITH, 52, Old Broadstreet, E.C.

FREEHOLD.—TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is eminently eligible for the erection of villas, or tenancies of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the property. The land is ripe for building purposes, and is now partly covered. The houses hitherto built have commanded an immediate tenancy. Further particulars, and to inspect the plans, apply to Messrs. GREGORYS and CO. No. 1, Bedford-row, W.C.

SALE of GROUND-RENTS.—CITY IMPROVEMENTS, New Cannon-street, Crooked-lane, New Earlstreet, Broad-street, St Mary-at-Hill, and St Paul's Churchyard, in the City of London.—The Commissioners for Improvements within the City of London hereby give Notice, that they will meet at GUILDHALL, London, on MONDAY, the 19th day of APRIL next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing from parties willing to PURCHASE sundry GROUND-RENTS of Premises in the above situations.—Particulars and conditions of sale, with forms of tender, and other information, may be had on application at the Comptroller's Office, Guildhall. MERCWETHER.

Guildhall, London, March, 1858.

CARPENTERS' COMPANY.—A large FREEHOLD ESTATE, belonging to this Company, situate at STRATFORD, near the railway station, and suitable for manufactories and workshops, TO BE LET, for a long term, in large or small plots. The property is excepted from landlord and tree from tithe. For particulars apply to Mr. E. B. JUPP, Clerk's Office, Carpenters'-hall, London-wall.

WORCESTERSHIRE.—TO BE DISPOSED OF, with immediate possession, a first-rate BRICKYARD, with a large Kiln (20 yds.), in the banks of the severn, near Worcester, where the Worcester and Hereford Railway, and other works are in progress.—For part. iars apply to PARKER, GOLDINGHAM, and PARKER, Solicitors, Worcester

BOTTLE WORKS. TO BE DISPOSED OF (or a Partnership will be entertained), a current-going and valuable BOTTLE WORKS, situate on the River Wear, having four excellent cones capable of producing 400,000 each bottles per annum. The Premises are complete, fitted for carrying on a most extensive and profitable business, and the proprietors retiring are willing to leave a large portion of their present capital in the concern. None but Principals or their Solicitors may apply. For further particulars and information, apply to Mr THOMAS JOHN JERWOOD, Solicitor, 17, Essex-street, Holborn, London, E.C.; or to JAMES HARTLEY, Esq. West Glass Works, Sunderland

TO CARPENTERS.—TO BE LET, and IMMEDIATELY, a CARPENTER'S SHOP, with other conveniences, where a jobbing business has been done for many years. The above is a good opening for a party wishing to start, the owner retiring from the business.—Apply to Mr. KELLY, Surveyor, 2, Arthur-street, New Oxford street

TO BRICK and TILE MAKERS, and ORNAMENTAL POTTERS.—TO BE LET, a fine FIELD of RED CLAY, of a quality capable of making fine and plain bricks, long tiles, large ornamental and plain flower-pots, vases, chimney shafts and pots, &c. Contiguous to four railway stations. For particulars apply to Mr. BLYTH, Ufington, near Stamford.

FREEHOLD LAND TO BE SOLD, in the neighbourhood of London, adapted for building purposes, in a thickly populated district. Parties wishing a valuable investment, or to secure a desirable opportunity, part of the purchase need only be paid.—Address, A. B. Suter and Alexander's, No. 22, Cheapside.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 20, 1858.

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PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The ANNUAL DINNER of this Institution will take place on TUESDAY, the 4th MAY, at the London Tavern, Bishopsgate-street, supported by the following gentlemen:—

Mr. Angell, S. esq. F.S.A.
Mr. Bellamy and Son, messrs.
Mr. Buckland, J. B. esq.
Mr. Cubitt, Baker, G. W. esq.
Mr. Cubitt, Henry, M. esq. A.S.A.
Mr. Cubitt, James, Wm. esq. F.S.A.
Mr. Dellman, V. esq.
Mr. Dobson, Wm. E. esq.
Mr. Edwards, Blythe, J. esq.
Mr. Grissell, Chassey, T. esq.
Mr. Hardwick and Akerovd, esqrs.
Mr. Hardwick, Clarke, J. esq. F.S.A.
Mr. Hellyer, Hilton, R. N. esq.
Mr. Hollins and Stanbury, messrs.
Mr. Hounsage, Wm. esq.
Mr. Kingswood, Eastwood, J. and W. esqrs.
Mr. Lockwood, Ridder, H. esq.
Mr. Lucas, Lammon, E. B esq.
Mr. Manning, Harling, H. B. esq. A.S.A.
Mr. Mocatta, Edwin, G. esq. F.R.S.
Mr. Morgan, Griffith, J. esq.
Mr. Nicholson, Trisell, Thos. esq.
Mr. Nicholson, Sandwick, F. esq. R.A.
Mr. Nicholson, Sandwick, P. C. esq. F.S.A.
Mr. Nightingale, Agnes C. esq.
Mr. Nightingale, Nightingard, Jas. esq.
Mr. Nightingale, Holland, H. C. esq.
Mr. Nightingale, Jackson, Thos. esq.
Mr. Nightingale, Ivy, Jno esq.
Mr. Nightingale, Mullings, G esq.
Mr. Nightingale, Nightingale, esq. F.S.A.
Mr. Nightingale, Nightingale, R. W. esq.
Mr. Nightingale, Nightingale, Wm. esq. Aldm.
Mr. Nightingale, Nightingale, E. H. esq.
Mr. Nightingale, Nightingale, Young, Jno. sen. esq.

The gentlemen desirous of supporting the chairman on this occasion are requested to oblige by forwarding their names to—

Mr. WILLIAM ALLARD, Secretary.

Bow-bell-tree Tavern, St. Swithin's-lane

ART-UNION of LONDON.—SUBSCRIPTION LIST CLOSES on WEDNESDAY NEXT, the 31st inst. Subscribers select from the Public Exhibition. Every Subscriber of One Guinea will have, besides the chance of a Prize, an impression of a large and important line Engraving, by J. T. Willmore, A.R.A., after a the well-known original picture by the late J. M. W. Turner, R.A. "Avenice."

GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.

Offices, 4, West Strand.

MEMORIAL of the GREAT EXHIBITION.—TO COMPETITORS.—The Exhibition of Designs at South Kensington Museum will close on SATURDAY, the 10th of APRIL. Competitors are requested to remove their Designs on the SATURDAY and TUESDAY following. The Committee tender their best thanks to the Artists who responded to their invitation.

JAMES BOOTH, } Honorary
GEORGE GODWIN, } Secretaries.

Offices, West Strand, March 24th.

ROYAL ITALIAN and OPERA, COVENT-GARDEN.—The Nobility, Gentry, Subscribers, and the Public are most respectfully informed that the NEW THEATRE will OPEN on SATURDAY, MAY 15. Full particulars will be duly announced.

General Manager.

Royal Italian Opera, March 24, 1858.

ROYAL ACADEMY of ARTS, Trafalgar-square. NOTICE to ARTISTS. All WORKS of PAINTING, SCULPTURE, ARCHITECTURE, or ENGRAVING, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 5th, or TUESDAY, the 6th day of APRIL next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited.

FRAMES. All Pictures and Drawings must be in gilt frames. Oil Paintings under glass, and Drawings with wide margins are inadmissible. Exceptions to this rule in frames, as well as projecting mouldings, may prevent Pictures obtaining the situation they otherwise merit. The other regulations necessary to be observed may be obtained at the Royal Academy. JOHN PRESCOTT KNIGHT, R.A. Secretary.

Every possible care will be taken of works sent for exhibition; but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any packages.

The prices of works to be disposed of may be communicated to the Secretary.

CONTRACTS.

NEW CONGREGATIONAL CHAPEL and SCHOOLS, Angel-street, Worcester.—To BUILDERS and CONTRACTORS.—Parties willing to CONTRACT for the above BUILDINGS, may see the plans, specification, and conditions, at the Chapel, between the hours of TEN and FOUR, on and after WEDNESDAY, the 7th day of APRIL next. Tenders sealed, endorsed, and addressed to the "Building Committee") to be delivered to the Secretary, Mr. W. JOSELAND, 28, High-street, Worcester, not later than FRIDAY, the 16th of APRIL, at FOUR o'clock, p.m. The lowest, or any of the Tenders, will not necessarily be accepted. Information and bills of quantities, can be obtained on application to Messrs. POULTON and WOODMAN, Architects, Reading.

MORETON-IN-THE-MARSH PARISH CHURCH, GLOUCESTERSHIRE.—To BUILDERS.—Parties willing to CONTRACT for REPEWING the above church, a NEW CHANCEL, and other works, may see the plans and specifications at the Boys' National School-house, Moreton, between the hours of TEN and FOUR, on and after MONDAY, the 29th of MARCH. Tenders sealed, endorsed, and addressed to the Building Committee) to be delivered at the above-mentioned School-house not later than WEDNESDAY, the 7th of APRIL next, at FOUR o'clock p.m. The lowest or any of the Tenders will not necessarily be accepted. Information and bills of quantities can be obtained on application to the Architects, Messrs. POULTON and WOODMAN, Reading.

TO BUILDERS and CONTRACTORS.—The Building Committee are desirous of receiving TENDERS for RE-BUILDING the NAVE, AISLES, &c., of the PARISH CHURCH of MARDEN, in the County of Hereford, and one mile from the Moreton Station, on the Hereford and Leominster Railway. The plans and specifications are to be seen at the Office of Mr. T. NICHOLSON, Diocesan Architect, Hereford, to whom the Tenders are to be sent, on or before the 8th of APRIL, endorsed, "Tender for Marden Church." No pledge is given by the Committee that the lowest Tender will be accepted.

CITY of LONDON. FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 11th MAY next, at TWELVE o'clock noon precisely, to SELL by TENDER the following FREEHOLD GROUND-RENTS.—1. The Rental of 140*l* a year for eighty years, from Lady-Day, 1858, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Chancery lane, with the reversion to the same. 2. The Rental of 126*l*. a-year for eighty years from Lady-day, 1858, secured on the premises known as the Mitre Tavern, Chancery lane, with the reversion to the same. 3 The Rental of 86*l*. a year for eighty years from Michaelmas, 1858, secured on the substantial business premises in Fetter lane, on the east side, in the occupation of Messrs. Shaw and Bean, with reversion to the same. 4. The Rental of 50*l*. a-year for seventy nine years from Midsummer, 1853, secured on substantial business premises on the east side of Philpot-lane, in the occupation of Mr. Curtis, with the reversion to the same. Tenders for the same must be sent in, sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next. Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground-rents to be sold are for the remainder of the terms, as above described in each case, from and after Midsummer day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858.

TO BUILDERS and CONTRACTORS.—Persons desirous of submitting TENDERS for BUILDING SCHOOLS, Master's House, &c. at Much Cowarne, near Hereford, are informed that they can inspect the plans and specification at the Office of Mr. T. NICHOLSON, Diocesan Architect, Hereford. The Tenders are required on or before the 8th of APRIL, and no pledge is given that the lowest will be accepted.

NOTICE to CONTRACTORS.—The Commissioners for the Port and Harbour of Londonderry are prepared to receive TENDERS for BUILDING a GRAVING DOCK, according to plans, sections, and specifications to be seen at the OFFICE of the COMMISSIONERS any day between the hours of TEN and FOUR o'clock.—The Tenders to be sealed and addressed to the Secretary of the Commissioners, and endorsed with the words "Tenders for Graving-Dock," and to be delivered or posted on or before the 30th day of APRIL next. The Commissioners do not bind themselves to accept the lowest or any of the Tenders.—By order,

A. H. STEWART, Secretary.

Port and Harbour Office, Londonderry, 6th March, 1858.

NOTICE to BUILDERS. — WANTED, TENDERS for the ERECTION of a HALL for Trade Society Meetings. Plans and Specification may be seen on the premises, situate 30, Castle street, Oxford street. The Tenders must be delivered to Mr. GODDEN, 66, Ernest-street, Regent's-park, on or before the 9th of APRIL next. The lowest Tender not necessarily accepted.

March 20th, 1858.

CONTRACTS.

SEAFORD. — To BUILDERS. — Persons desirous of TENDERING for the ERECTION of SCHOOLS and HOUSE, with offices and enclosures, at Seaford, Sussex, in separate Tenders, can see the plans and specifications, and obtain quantities, on application to the Rev. J. CARNEGIE, at his House in Seaford; or at the Office of the Architects, Messrs. W. G. and E. HABERSHON, 48, Bloomsbury square, London. Tenders are to be delivered (personally) at Mr. CARNEGIE'S House, on WEDNESDAY, the 31st instant, at FOUR o'clock precisely. The lowest Tender will not necessarily be accepted.

TO SEWER CONTRACTORS, BUILDERS, and OTHERS.—NEW SEWERS and PIPE DRAINS at UPPER CLAPTON, STAMFORD HILL, and KINGSLAND. Copy quantities may be had on payment of 1*l*. 1*s*. of the quantities, plans, sections, and detail drawings on payment of 1*l*. 1*s*. GARDNER and TO Surveyors, &c. 1 and 2, Southampton-street, Addington square, Camberwell, S.

TO BUILDERS and CONTRACTORS.—TENDERS are required for the following WORKS, viz.—Completing Four Villas at Norwood, near the Crystal Palace; completing a Tavern at Forest-gate, Essex; Rebuilding a House in Fenchurch-street, City; Erecting a Lodge, Farmhouse, and Covered Homestall, at Harrow, Middlesex. The plans and specifications for inspection at the Office of Mr. BROWN, Architect, No. 1, Scott's-yard, Bush lane, Cannon street, City.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for SEWERS.—NOTICE is hereby given that the Sewers Committee will meet on TUESDAY, the 6th day of APRIL, 1858, to RECEIVE TENDERS from persons willing to CONTRACT for the CONSTRUCTION of certain intended LINK SEWERS in Carr street, Henry-street, Catherine street, Eastfield street, North-street, and Richard-street, Limehouse-fields, in the Parish of St. Anne, Limehouse, with other works in connection therewith, and for the maintenance of such works in complete repair for twelve calendar months.—Plans, sections, and a specification of the works, together with form of Tender, may be inspected and other particulars obtained at the Office of the Board, White Horse-street, Commercial-road, E. between the hours of TEN and FOUR, on and after FRIDAY, the 26th day of MARCH, 1858. Tenders, sealed up and endorsed "Tender for Works in Limehouse-fields," must be delivered at the said Office not later than THREE o'clock on the said 6th APRIL, 1858. No Tender will be received unless accompanied by a 10*l*. Bank of England note, as an evidence that the same is bona fide. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required. The Contractor will have to pay the costs of the contract. No Tender will be received after the time specified, nor unless strictly in accordance with the printed Instructions.—By order,

THOMAS RATCLIFF, Clerk of the Board.

18th March, 1858.

TO ROAD CONTRACTORS and OTHERS. The Justices of Cheshire are desirous of receiving TENDERS for the EXCAVATIONS for the MILITIA BUILDINGS and FORMATION of PARADE GROUND at Macclesfield. The drawings, specification, and conditions of contract may be seen on and after MONDAY, the 5th day of March, between the hours of TEN and FOUR, at the Office of the Town Clerk, in Macclesfield, or that of the Architect, Mr. F. H. FOWNALL, 16, Lower street, London. The quantities have been taken out, and copies may be obtained by parties proposing to Tender at either of the above-mentioned Offices, on the payment of a deposit, which will be returned when the Tender is sent in. Sealed Tenders will be received at the Clerk of the Peace's Office, in Chester, not later than FOUR o'clock, p.m. on TUESDAY, the 30th of MARCH. The Justices do not bind themselves to accept the lowest or any Tender.

CHAS. WM. POTTS, Deputy Clerk of the Peace.

Chester, March 15, 1858.

BOROUGH of LEEDS. — To CLOCK-MAKERS and BELL FOUNDERS.—WANTED, by the Town-hall Committee of the Borough of Leeds, TENDERS and SPECIFICATIONS for a large CLOCK, including suitable Bells for Chimes, to be placed in the Tower of the Town-hall, now in course of erection. Printed particulars, prepared by CUTHBERT BRODRICK, Esq. the Architect, may be had on application to me, and all Tenders to be sent in to me after the MONDAY, the 5th day of APRIL next, addressed "To the Chairman of the Town-hall Committee, Town Clerk's Office, Leeds, Tender for Clock." The Committee do not bind themselves to accept the lowest or any Tender, and no allowance will be made for Tenders. By order,

JOHN A. IKIN, Town Clerk.

Leeds, 17th March, 1858.

TO PAVIORS, STONE-MASONS, and OTHERS.—The Vestry of the Hamlet of Mile-end Old Town will meet at the Town House, Mile-end-road, on WEDNESDAY, the 31st day of MARCH inst. at SEVEN o'clock p.m. precisely, to receive TENDERS for PAVING and KERBING certain STREETS and PLACES in the said Hamlet, and will, after a subsequent meeting, take the same into consideration. The works are to be done according to the terms of a specification which may be seen at the Office of the Surveyor, at the Town House, between the hours of TEN and ONE, and comprise 140,000 feet of pavement, more or less. The contractor will be required to enter into a contract to be prepared by the Clerk to the Vestry, at the expense of the contractor, not to exceed four guineas in stamp duty, and to find two approved sureties in the sum of 1,000*l*. for the due performance of his contract. Tenders, containing the names and addresses of proposed sureties are to be delivered at my office before THREE o'clock in the afternoon of the day of the meeting. The Vestry will not bind themselves to accept the lowest or any Tender.

THOS. PRICE, Clerk to the Vestry

Town House, Mile-end road, March 18th, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of TWO HOUSES, situate at Bennett-road, Peckham lane, Deptford, may see the drawings and specification at the Office of Mr. J. LIDDIARD, Surveyor, No. 5, Kent terrace, Deptford. The lowest, or any Tender, will not necessarily be accepted.

[*For remainder of Contracts see next page.*

CONTRACTS.

TO BUILDERS and CONTRACTORS. — TENDERS are requested for the ERECTION of NEW NATIONAL SCHOOLS for boys, girls, and infants, and TEACHERS RESIDENCE, at Well, Somerset. The plans and specification may be seen at the office of Mr. HELPS-LEY, Architect, Wells, up to the 2nd day of APRIL, 1858, between the hours of TEN and FIVE. Sealed Tenders addressed to Sender, for schools" are to be sent to Rev. T. TROTTBECK, Vicarage Wells, by TWO o'clock, SATURDAY, 17th APRIL. The lowest Tender will not necessarily be accepted

ST. MARYLEBONE, March 13, 1858. — TO BUILDERS and CONTRACTORS — CONTRACT for SEWERS. — Notice is hereby given that the Vestrymen of the Parish of St. Marylebone in the County of Middlesex, will meet at the Board-room of the Court-house of the said Parish, on SATURDAY the 3rd day of APRIL, 1858, at ELEVEN o'clock in the forenoon, to receive TENDERS for making and erecting a SEWER in Adam-street West, and Square BUILDING, North SEWERS in Adam-street West, and Square place, Upper York-street, and Harcourt-street, and Pipe Sewer in William's mews, in the said Parish. — Further particulars may be known on application to Mr. NOBLE, of the Vestry Surveyor, at his daily attendance at the Court-house from TWELVE to ONE o'clock. The Tenders to be delivered to the Vestry Clerk, at the Court-house, at or before ELEVEN o'clock in the forenoon of SATURDAY, the said day of APRIL, and not earlier. Tenders for sewers to be dated the day that will be delivered that hour. The Contractor will have to provide satisfactory sureties for the performance of the works, and to pay the expenses of the Board and Clerk. The Vestry will expect the persons Tendering to be present at their Meeting, or to be represented by some person on their behalf, to enable them to explain the nature of their Tenders. The Vestry do not pledge themselves to accept the lowest or any of the Tenders. — By Order,

W. E. GREENWELL, Vestry Clerk.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH. — TO BUILDERS, CONTRACTORS and OTHERS. — The Local Board are prepared to receive TENDERS for the ERECTION of a covered FILTERING TANK, at their Sewage Works at Cowley Mead, and for ALTERATIONS to other parts of their Works. The specification and plans may be seen at the office of Mr. EVES, surveyor, Uxbridge, after MONDAY, the 29th day of MARCH, when forms of Tender and other particulars may be had on application. Sealed Tenders, endorsed "Tender for Filtering Tank," addressed to the Chairman, are to be delivered at the Board room, Public-house, Uxbridge, on the evening of THURSDAY, the 8th day of APRIL, 1858. The Board do not bind themselves to accept the lowest Tender By order of the Board,

CHARLES WOODBRIDGE, Clerk

Uxbridge, March 18, 1858.

LOCAL BOARD of HEALTH, WHEATLEY, OXON. — TO CONTRACTORS. — The Board are prepared to receive TENDERS for the 17th day of APRIL next, for the execution of certain DRAINAGE WORKS in the Parish of Wheatley, according to the specifications, &c. of Mr. E. B. BROMAN, C.E., to be seen at the Surveyor's office, Cuddesdon, of which notice is given. New Police Guard, Westminster, and duties of which may be obtained at the Clerk of the Local Board. — The Board do not pledge themselves to accept the lowest Tender By order of the Board,

W. H. LOVELOCK, Clerk.

Wheatley, March 24, 1858

EGHAM BURIAL BOARD. — TO BUILDERS. Persons desirous of CONTRACTING for the ERECTION of the CHAPEL, LODGE, FENCES, GATES, DRAINAGE, &c. for the new burial ground at Englefield green, can inspect the plans and specification at the Office of Mr. CAPES, No. 3, Furnival's-place, Holborn, London, on or after the 29th day of MARCH instant, and TENDERS to be delivered on the 7th of APRIL next, at the Office of the Clerk to the Burial Board at Chertsey. The Board does not bind itself to accept the lowest Tender.

HENRY G. GREGEBROOK, Clerk to the Board

Chertsey, March 19th, 1858

TO CONTRACTORS. — MARGATE WATERWORKS. — CONTRACT for WORKS. The Directors are prepared to receive TENDERS for the ENGINES, PIPES, RESERVOIRS, BUILDINGS, and the entire construction and completion of the WATERWORKS, according to the Plans and Specification, which, with the form of Tender may be inspected, at the Office of the Engineer, 31, Great George-street, Westminster, on and after SATURDAY the 27th day of MARCH instant. Sealed Tenders endorsed Tender for Waterworks, are to be delivered at the Office of Mr. GEORGE CHEXFIELD, in Margate, on or before NOON, being the appointed day of MONDAY, the 5th day of APRIL, 1858. The Directors do not pledge themselves to accept the lowest or any other Tender. By order,

GEORGE CHEXFIELD, Secretary

Margate, 24th March, 1858.

TO BUILDERS. — ISLINGTON. — TENDERS will be received by the Committee appointed by the Vestry for the ERECTION of a NEW VESTRY HALL and OFFICES. The drawings and specifications, with the form of Contract may be seen on and after TUESDAY next, between the hours of TEN and FOUR, at the Offices of Mr. THOMAS ALLOM, 12, Brokenwharf-street, Strand, and sealed Tenders are to be sent, indorsed "Vestry Hall Tender," to me before WEDNESDAY, 21st of APRIL next, to the Vestry Offices, 21, Milner-square, Islington, and parties tendering are requested to be at the said Vestry-offices, on the following morning (the 22nd), at TEN o'clock precisely, prepared with the names of two sufficient sureties. The Committee do not pledge themselves to accept the lowest or any Tender By Order,

JOHN LAYTON, Vestry Clerk.

Vestry Offices, 21, Milner-square, March 25, 1858

TO CIVIL ENGINEERS, SURVEYORS, and OTHERS. — Persons desirous of CONTRACTING for making MAPS and PLANS of the Borough of Yeovil, for the purpose of laying down a complete system of Drainage thereof, may ascertain the particulars required at the office of the Town Clerk, to whom to deliver, stating the remuneration required, on or before the 17th of APRIL next, but the Committee do not bind themselves to accept the lowest, or any Tender

TO BUILDERS. — Persons willing to TENDER for the ALTERATION and REPAIR of PREMISES in Titchfield-street, Portland-road, for the North-west Branch of the Young Men's Christian Association, may see the plans, specification, and blank particulars at the Office of the Architects, Messrs. W. G. and E. HABERSHON, 38, Bloomsbury-square. The Tenders are to be delivered at the Office of the Architects, on FRIDAY, APRIL 9th, at ELEVEN o'clock, precisely. The lowest Tender will not necessarily be accepted.

TO BUILDERS. — Persons desirous of CONTRACTING for the ERECTION of a CATHOLIC CHURCH and PRESBYTERY, at Westby-near Kirkham, Lancashire, can inspect the plans and specification, and obtain copies of the same, at the Office of Mr. WEIGHTMAN, Surveyor, Lancaster-street, Liverpool, after the 29th day of APRIL next. By Order,

PUGIN and MURRAY, Architects

London, May 15th, 1858

VESTRY of ST. MARY, NEWINGTON, Surrey. — CONTRACTS for PAVING, CURBING, BROKEN GRANITE (Guernsey, Bombay, and Aberdeen), FLINTS, KENTISH RAG, GRAVEL, and SMITH'S WORK. — The Paving Committee of the Vestry will meet at the Vestry-room of the Parish Church, on MONDAY, the 29th day of MARCH instant, at SEVEN o'clock in the evening, to receive TENDERS from persons willing to CONTRACT with the Vestry for PAVING, to the extent of about [illegible] superficial yards, and also for the supply and doing of CURBING, to the extent of about 12,000 feet lineal; BROKEN GRANITE, GRAVEL, and SMITH'S WORK; and the supply and laying of FLINTS, KENTISH RAG, GRAVEL, and SMITH'S WORK, on the Vestry and Parish roads. The contracts for the 29th MARCH instant, until the 25th MARCH, 1859. — For further particulars and forms of tender, apply to [illegible] Surveyor, at his residence as above, between the hours of [illegible] on MONDAY, the 22nd MARCH instant, when and where all persons tendering are required to attend the committee.

H. and F. CHESTER, Joint Clerks to the Vestry,

1, Clarence-terrace, Newington Butts

STEVENS AND SON,

ENGINEERS,

IRON AND BRASS FOUNDERS AND MANUFACTURERS,

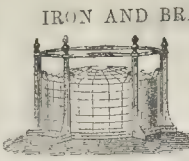
CONTRACTORS

FOR THE

ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,

With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;

WATERWORKS FOR THE SUPPLY OF TOWNS, WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Cathedral, Southwark, and numerous Churches, Chapels, &c.

Also Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.

DEVICES FOR GAS ILLUMINATION.

IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.

These Turnstiles were selected for the Entrances of the Great Exhibition, New York.

PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.

Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.

DARLINGTON WORKS, 16 to 19, SOUTHWARK-BRIDGE-ROAD, LONDON.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a SAVINGS BANK, in the town of Newport, Monmouth, may see the plans and specification, and obtain quantities upon application to the Architects, Messrs W. G. and E. HABERSHON, 38, Bloomsbury-square, London; to Mr. DIXON, at their Local Office, King's-hill-fields, Newport; or to Mr. FAWCKNER, 7, Charles-street, Cardiff. The Tenders are to be delivered at the present Savings' Bank, Newport, on WEDNESDAY, APRIL 7th, at 11 a.m. precisely. The lowest Tender will not necessarily be accepted

IRON GULLY and AIR GRATINGS. — The Vestry of Bethnal-green will meet at the Town Hall, Church-row, Bethnal-green-road, on THURSDAY, the 1st of APRIL next, at ELEVEN o'clock in the Forenoon precisely, to receive TENDERS and then CONTRACT for the IRON GULLY GRATINGS and AIR IRON SEWER AIR GRATINGS, according to patterns, which may be seen, at the Office of the Surveyor, during the Week ending the Saturday further information how to obtained. Tenders, addressed to the Clerks of the Vestry, must be delivered at their Office on or before WEDNESDAY, the 31st instant. The Vestry do not bind themselves to accept the lowest, or indeed any Tender.

ROBERT BRUTTON, ROBERT VOSS, } Vestry Clerks

Town-hall, Bethnal-green-road, 22nd March, 1858.

BRICKS.—Messrs. OATES and INGRAM of the Brick makers on an extensive scale, that the PATENT SOLID BRICK MACHINE is now brought into effectually tested, and they are prepared to offer the following contracts to the trade in all districts, for the ROYALTY or PURCHASE MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, GLOUCESTER, HERTFORD, BERKS, HUNTINGDON, DEVON, CORNWALL, DORSET, WILTS, HANTS, and ISLE of WIGHT. With the Patent Machine the ordinary soft or clay bricks can be repressed into solid bricks of a richer nature and superior quality, and merely to pass through the usual wet and thence, WITHOUT ANY TEMPERING INTO THE MACHINE FROM WHICH THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Machine is now working at the rate of THIRTY BRICKS PER MINUTE, at the Works of Messrs. Kirkham and Co., Patentees of Cheadle, near Manchester, and also at the Patent Solid Brick Works of T. Wills, Esq., Oldbury, near Birmingham. Apparatus for sale, and the Machine is open for inspection at the works of OATES and INGRAM, Bristol-street, Birmingham. Specimens may be sent and passed through the Machine and the bricks burnt, or a sample brick will be sent to any party writing for the same

BRICKS.—Bricks direct from the Works. MALMS, STOCKS, GRISSELLS, and PLACE BRICKS, of large size and superior quality, for SALE at reduced rates, at J. JOHNSON'S BRICK-FIELDS, WALHAM-GREEN, Fulham. — Gentlemen are respectfully invited to inspect the quality of these bricks, which can be delivered to any part of London

BRICKS. IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows for cash on delivery:—

Best Grey Stocks	23s	per Thousand.
Rough Stocks and Grizzles	19s	"
Place Bricks	18s 6d	"
Bright Stocks	20s	"
Shippers	20s	"

Address, GEORGE SMEED, Sittingbourne, Kent.

P.S. Up any of the Canals on payment of Dues extra

BRICKS. — Mr. RYDON having made more Bricks than he requires for the buildings, on his Highbury New Park Estate, is willing to make arrangements with builders and others for SUPPLYING a quantity of first-class BRICKS of every description. — Address, Estate Office, Bell's Farm, Stoke Newington-green.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles always in stock from fourteen years with James Newton of Patent Dock, Bankside, beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. Depôt for Baggaley's superior Newcastle Fire bricks, Clay Retorts, &c. Sanitary Pipes, Chimney tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c. — Notice is hereby most respectfully given, that the LONDON DEPOT for the ware is REMOVED to No. 81, WHARF, Macklin-street North, Drury-lane (Bazaar), only, for the trade terms. "TERRO-METALLIC," is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW and CO'S pattern book, designed by M. Digby Wyatt, esq., together with a priced list and estimate of cost, may be had by any good draughtsman. Plans, &c. immediately forwarded, free, &c. will be sent on application to Benthall Works, Broseley, Salop.

MINTON and CO.'S ENCAUSTIC and other PATENT TILES, for Churches, Entrance Halls, Conservatories, Balconies, &c.; Antique, Geometrical, and Alhambric Mosaics, manufactures of a highly decorative character, and extreme durability, also Tiles for Fireplaces and Hearths, Copings for Garden Door Pillars, Wall Copings, and Ornamental Tesserae for Halls, Dairies, and Kitchens, may be had, in great variety, at their Ward-row, Stoke-upon-Trent, Staffordshire.

BRICKS. Malm Cutters, Yellow and Pale Seconds, Paviors, and Pickings, of good and sound quality constantly on sale at H. DODD'S Brickfields, which are only a quarter of an hour's walk from the City. H. D. earnestly requests purchasers to favour him with a visit, in order to inspect his stock, and to judge for themselves.

Malm Place, half-washed Stocks, and Place Bricks, also on sale. These stocks are sound, well burnt, and unusually free from defects; a very large proportion of the stock being suitable for external facing.

Apply to HENRY DODD and CO. at the Counting-house, Horsley Brickfields, Grange-walk, near the Rosemary Branch, Hoxton.

N.B. Light-coloured Pit sand of approved quality constantly on sale, on reasonable terms. This Sand, from its not containing any salt matter, is acknowledged to be preferable to river Sand

GARRETT, BROTHERS (late H. and E. Haywood), Manufacturers of METALLIC TILES, PIPES, &c. Blue, red, and buff paving tiles, of various designs, for churches, entrance halls, vestibules, dairies, &c. Hadton, Grecian, plain, and ornamental roof and ridge tiles, of great variety; the facing and paving bricks, vitrified stable pavors and chalkers plain and basket pipe, grids, channel bricks, coping, fireproof flue linings, &c. all of a superior quality, with numerous other articles. Lists, illustrations, and their particulars in the same may be obtained of GARRETT, BROTHERS' Manufactory, Brownhills Tileries, Burslem, Staffordshire; or their London Depot, 15, South Wharf, Paddington.

HART AND SON,

ECCLESIASTICAL AND DOMESTIC METAL WORKERS,

53 to 58, WYCH-STREET, Strand, London, W.C.

Illustrated catalogues free on application.

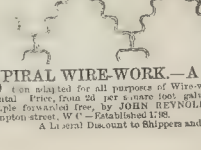
Designs and Estimates furnished.

SMALL GAS APPARATUS, FREE from NUISANCE.—BOWER'S PATENT NATIONAL COAL GAS APPARATUS, for private residences, farm buildings, churches, chapels, railway stations, workshops, and other places hitherto not lighted with gas, being simple in construction, economical, and durable, and it may be had in sizes varying from fifteen to one hundred lights. Sole Licensee, Mr. J. T. B. PORTER

N.B. Further particulars, testimonials, &c. on application

FLAT-BOTTOMED WROUGHT-IRON BARGES.—WANTED, TWO or THREE FLAT-BOTTOMED WROUGHT-IRON BOATS, or BARGES, of strong build, capable of carrying from 80 to 100 tons each. State lowest cash price. Address E. P. Office of "The Builder."

TO BUILDERS, IRONMONGERS, and OTHERS.—Returned GOODS from Australia, for SALE, consisting of DOOR and WINDOW FURNITURE, &c. &c. in brass, iron, in first rate condition.—Apply to Mr. THOMAS BRAIN, St. Peter's-court, St. Martin's-lane, W.C.



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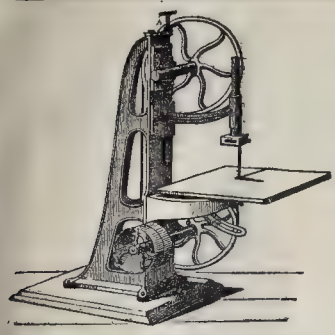
A Liberal Discount to Shippers and the Trade



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ENGINEERS AND MANUFACTURING IRONMONGERS,

26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of House and Coach Builders, Cabinet and Chair Makers, and others using such Machinery, to their improved ENDLESS BAND-SAW, both of HAND and STEAM POWER, which are well adapted for every variety of work, CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT, of any thickness: the TABLES are swinging so as to CUT to any ANGLE.

Also, their CIRCULAR SAW-BENCHES for HAND or STEAM POWER. The HAND POWER one will RIP UP 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and it is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.

Contractors and Proprietors of SAW MILLS are particularly invited to inspect at work, at POWIS, JAMES, and CO.'S Manufactory, their

IMPROVED PATENT PLANING, TONGUEING, and GROOVING MACHINE,

doing SEVENTY FEET per minute of board of any thickness, and GOOD WORK.

*** Contracts for Steam Engines and the Fitting-up of Saw Mills supplied on application.
Drawings and prices to be had on application.

POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE,

With full set of solid Cast-Steel Tools, complete,

IS NOW REDUCED TO FOURTEEN POUNDS.

PIERCE'S CELEBRATED PYRO-PNEUMATIC FIRE-LUMP WARMING AND VENTILATING STOVE GRATES,

WITH THE CHEERFUL, OPEN FIRE, PRODUCING HEALTHFUL WARMTH, WITH CONTINUOUS, SELF-ACTING VENTILATION,

FOR CHURCHES, SCHOOLS, PUBLIC BUILDINGS, BANKING-HOUSES, &c.

These Grates are manufactured solely by PIERCE, the Inventor, for which he received the Prize Medals of London, in 1851, and of Paris, in 1855.

Price, from £7 10s.

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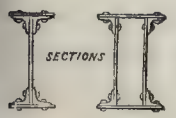
INVENTOR AND SOLE MANUFACTURER, **PIERCE**, No. 5, JERMYN-STREET, REGENT-STREET.



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For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

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ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

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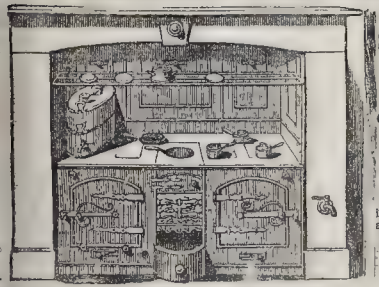

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THE LARGEST AND BEST SELECTION IN LONDON.

KITCHEN RANGES and COOKING APPARATUS, BATHS, &c. for Large or Small Establishments.

CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.

HOT WATER APPARATUS, GAS-FITTING, &c.

BENHAM'S IMPROVED KITCHENER.

The Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c.

It is an effectual cure for Smoky Chimneys.

BENHAM and SONS, 19, Wigmore-street, Cavendish-square, London;

ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.

ADOPTED BY THE GOVERNMENT.

EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

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and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.

Drawings and estimates furnished.

Architects' designs accurately executed.

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SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for maintaining a uniform lighting, by adjusting the pressure, and preventing any irregularity in the height of the flame.

D. HULETT and CO. 65, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS TILES, &c. &c. A large assortment of the new [illegible] always on show, and [illegible] in plain figures. Purchasers [illegible] purchase of the Mercurial Gas Regulator. Complete pattern-book and price-list, 10s.—Nos. 59 and 60, High Holborn.

THE PATENT NAIL and SPIKE COMPANY,

Manufacturers of the Crown Wrought Nails and Spikes which are about Twenty per cent lighter than hand-made. Orders of from one to fifty tons will be at once executed direct from the works, in sizes varying from 1- to 6 inches.—Price lists and samples [illegible] obtained on application only by letter to the Secretary at Dudley, near Birmingham.

IS NOW OPEN, YOUNGS IRONMONGERY WAREHOUSE, 24, Davies street, three Doors from

[illegible] street or the equally convenient Carriage Entrance [illegible] Mansion-house, &c. [illegible] connection with his old established No. 14, Berkeley-street, Mayfair, facing square, running out to Bakers-street, Portman-square, London, W.

IMPORTANT TO GAS-FITTERS, LAMP

MAKERS [illegible] DRAWINGS REGISTERED [illegible] CHAINS [illegible] every weight [illegible] by [illegible] Birmingham.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED

TUBE for GAS; Galvanized ditto, for Water; High pressure [illegible] &c. Manufactured from Dr. Arnott's Improved Vertical Retorts.

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ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS,
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS,

ENAMELLED,

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GALVANIZED.

ALL KINDS

OF

STABLE

FURNITURE.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY
THE ROYAL VETERINARY COLLEGE.

"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

THOMAS PUGH and CO. WHOLESALE BUILDERS' IRONMONGERS,
13, KING-STREET, SNOW-HILL, CITY, LONDON, INVITE ATTENTION TO THEIR
NEW PATENT ECONOMIC SELF-ADJUSTING MORTICE AND RIM LOCK FURNITURE.
Also, to
GREEN AND JACKSON'S
NEW PATENT MORTISING, TENONING, BORING, AND DRILLING MACHINE,
Which may be seen and tried at 13, KING-STREET, SNOW HILL.—Illustrations and particulars of both sent upon application.

JAMES HAYWOOD, Jun.
PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

SMITH AND McGAW,
(FROM THE GENERAL WOOD-CUTTING COMPANY)
MOULDING WORKS,
NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.
Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.
Priced List, with every information, forwarded on receipt of One Stamp.

JOHN HARDMAN AND CO.
BIRMINGHAM,
MANUFACTURERS OF
EVERY DESCRIPTION OF MEDIÆVAL METAL WORK,
In SILVER, BRASS, and WROUGHT IRON.
MONUMENTAL BRASSES AND STAINED GLASS WINDOWS.
Designs and Estimates FREE, on application to the
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CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

W. HARMER AND SON,
IRONMONGERS, SMITHS, BELL-HANGERS, AND GAS-FITTERS,
MANUFACTURERS OF CLOSE AND OPEN FIRE KITCHEN RANGES, including the BEST LEAMINGTON KITCHENER.
REGISTER STOVES, 3d. per inch and upwards; ELLIPTIC STOVES, from 2½d. per inch; SELF-ACTING COTTAGE RANGES, from 21s. each; BEST SELF-ACTING OVEN and BOILER RANGES, with Wrought Bars and Bright Fittings, from 5½s. each.
CAST RAIN-PIPES—2-in. 10d.; 2½-in. 12½d.; 3-in. 1s. 2½d.; 3½-in. 1s. 6d.; 4-in. 1s. 10d.; 5-in. 2s. 3d. per yard.
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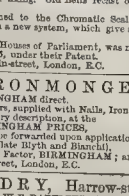

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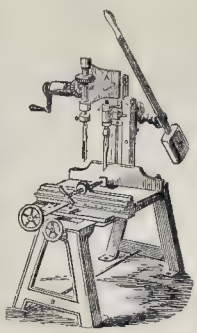

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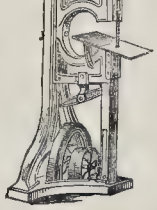

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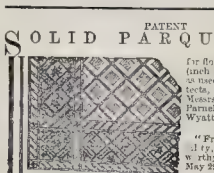

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MERCHANTS' and TRADESMEN'S LIFE ASSURANCE SOCIETY.—At a meeting of the members of the Merchants' and Tradesmen's Life Assurance Society, held at the Clarendon Rooms, Liverpool, on FRIDAY evening, MARCH 19th, 1858, at which upwards of ninety members were present,

JAMES STEEL, Esq. in the chair,

Explanations having been given, and numerous inquiries satisfactorily answered in reference to the amalgamation of the above Society with the Bank of London and National Provincial Insurance Association,—

It was moved by Mr. Pickstock; seconded by Mr. Nickson; and unanimously resolved,

"That this meeting having heard the explanations given by the deputations from the Merchants' and Tradesmen's, and Bank of London Insurance Associations, desires to express its cordial approval of the recent arrangement entered into with the latter Association, and its entire confidence in the stability and management of that Company."

It was moved by Mr. Cathray; seconded by Mr. Lewis; and unanimously resolved,

"That this meeting views with indignation the unprincipled and unscrupulous means resorted to by some of the dismissed servants of the Merchants' and Tradesmen's Assurance Society to endeavour to shake the confidence of the members in the arrangements recently entered into with the Bank of London Insurance Association; and casts upon the members throughout the country and [illegible] be influenced by the statements of these individuals, who, whilst professing to be acting solely for the benefit of the members at large, are, in reality, only seeking to serve their own private interests."

It was moved by Mr. Nelson; seconded by Mr. Salthouse; and unanimously resolved,

"That this meeting also views with much concern and disapprobation the conduct of another Insurance Company, who are indirectly seconding the anti-Bank efforts of the dismissed servants of the Merchants' and Tradesmen's Assurance Society to produce dissatisfaction and distrust in the minds of the members, by issuing statements and misrepresentations made with regard to the amount of bonus offered by them to induce the members to withdraw their policies."

It was moved by Mr. Geary; seconded by Mr. Foot; and unanimously resolved,

"That the cordial thanks of this meeting are due and hereby given to the chairman for his impartial conduct in the chair."

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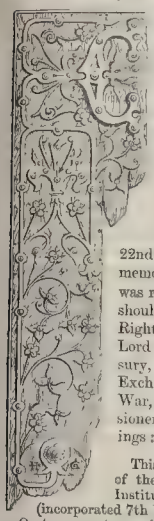
VOL. XVI.—No. 790.

The Government Competitions, and the Institute of British Architects.



COMPETITIONS continue to be ill-managed, and will continue to be so until public opinion on the subject be properly formed. The Institute of Architects are about to make an effort in the highest quarter to induce fair dealing towards competitors. At a meeting of the Council, held on the 22nd instant, the following memorial was adopted, and it was resolved, that copies of it should be forwarded to the Right Honourable the First Lord of her Majesty's Treasury, the Chancellor of the Exchequer, the Minister at War, and the Chief Commissioner of Works and Buildings:—

This the humble memorial of the Council of the Royal Institute of British Architects (incorporated 7th Wm. IV.), showeth, that—

On two recent occasions, public exigencies requiring improved Barrack accommodation and new Government Offices, programmes have been published under official sanction, holding out inducements of small immediate, and great contingent profit and honour to architects, whose designs might be adjudged to be the best for national works, the precise nature, extent, and importance of which were clearly defined. Those invitations were amply and ably responded to by many men of great ability and standing in a *liberal* and *honourable* profession, at no small sacrifice to them of time, energy, and money. Authorities, nominated and sanctioned officially, adjudicated upon the designs so proposed, and determined their relative degrees of merit.

The Government are now in actual possession of the best of the designs so selected. Hitherto, the honours and profits contingent upon the realization of their designs have been withheld, in the manner hereinafter stated, from the architects adjudged by the authorities so constituted to be most deserving.

The *Council of the Royal Institute of British Architects* desire *respectfully to represent* that the administration of the country as officially responsible for the issue of such programmes, must remain in the position of parties who have broken faith with those whom they have, of their own motion, induced to assist them professionally, until, as in duty bound, they carry out the engagements for which they stand responsible in the eyes of the world. It would be obviously unworthy of the Government of this country, in dealing with the architectural profession, to shelter itself under any evasion or limitation of responsibility, if such could be alleged; the fact being clear that they have induced a large body of professional men to assist them on conditions which yet remain to be fulfilled by the Government.

It is true that for reasons of policy or economy, it may be inexpedient to carry out the designs fulfilling the conditions framed by those who officially invited the competition, and it would be without the province of any professional body to suggest the impropriety of any Government's modifying or even changing its views; but it may with reason be submitted, that the test of merit having been applied by competition, it would be but fair and wise to consult the successful competitors on any deviation from the scheme officially proposed, and to employ them to adapt their premiated designs, or to make new ones providing for any alterations which may be required.

In the case of the designs for the improved barrack accommodation, the Ordnance estimates show that since the date of the decision on that competition, many hundred thousand pounds have been allotted for works involving a recognition of the principles set forth in that competition. Yet up to the present time not one of the authors of the premiated designs has been consulted or employed to advise in the matter of the great outlay above referred to, although in this case an altogether unconditional pledge was given that the architect who obtained the highest prize, an infantry barrack, should be employed to "execute his plans," and "the same for the cavalry."

In the case of the new Government Offices, it appears from the correspondence moved for by Mr. Tite, that the highest official authority is given to the revival of an old design, or the formation of a new one, by an architect not among the premiated in the comparatively recent competition.* Your memorialists cannot sufficiently strongly express their opinion of the impropriety of persistence in any such line of action. Its obvious injustice would entirely destroy all confidence in the integrity of Government, and any reliance professional men might be induced to give to official programmes in the future. While its realization would inflict a serious and almost irreparable injury on the dignity and integrity of a liberal profession.

The attention of Her Majesty's Government is respectfully invited to these circumstances, in the confident hope that they may cause justice to be done in the public interest, and honourable confidence to be reposed where it is assuredly not likely to be abused.

(Signed) M. D. WYATT, } Hon. Secs.
C. C. NELSON, } pro the Council.

With the copy sent to the Chief Commissioner of Works, Lord John Manners, a note will be forwarded asking him to receive a deputation from the Institute to support the prayer of the memorial. It is unnecessary for us to say that we fully agree in the prayer of the memorial, as we have for years urged the point involved. In addition to the question of honesty towards competitors, the condition of our barracks, which shows but too plainly the failure of the present system, and the want of proper professional superintendence, comes into the argument, and leads us to place the memorial prominently before our readers, preceding some further observations on the latter most important subject,—important alike in a financial, moral, and political point of view.

METROPOLITAN BARRACKS.

THE Commander-in-Chief is fully aware, it would seem, from his recent speech, of the manner in which our soldiers have been dealt with for years past; admits the truth of the statements which have been made recently on the subject; and throws the blame wholly on those who withhold the funds necessary to provide proper lodgings, where soldiers may live at any rate as long as those who are engaged in the most unhealthy trades in the metropolis. The matter will now probably die away,—and so will our troops, as fast as heretofore. At the first outbreak of the Indian mutiny we urged the Government to send out a sanitary commission with the army, satisfied by the strongest evidence that thousands of lives would be saved by the act. The greatest ignorance of sanitary requirements appears to prevail in India, and the condition of the barracks is frightful. This the Government have known for years; but frightful it still remains. "General Lumley's letter," says Sir Charles Napier, "asks what measures the medical men recommend to prevent a recurrence (of fever among the troops in India, in 1843)? It may be diminished by building good barracks, especially for the Europeans. The stench of a low, bad barrack is in the morning horrible. No European barracks should be less than 30 feet high; the number of men should be painted on the doors, and officers in command be held responsible for this being observed. The heat of this country is tremendous, and if men have not thick walls and lofty rooms, sickness is inevitable. Such barracks are expensive, no doubt; so are sick soldiers; so are dead soldiers. But the difference of these expenses is, that the first is once and done with; the second goes on increasing like compound interest, and quickly outstrips the capital."—"Life of Napier," vol. iii. p. 9.

Coming back to London again, let us look in at—

The Knightsbridge Barracks.—To some extent the description we gave of St. George's barracks will apply to these. The block of buildings occupied by the soldiers and such families as are allowed to reside within the barracks, surround an open space; the main front is inclosed by a lofty wall; fronting the park are the officers' quarters, with stables and band-room; certain other parts of the space are occupied by the canteen, dung-heaps, and other inconveniences. The windows of the soldiers' and other rooms are smaller than those of St. George's barracks, and the ventilation is even more deficient. The basement is chiefly occupied by stables, which if anything are better ventilated than the places above. Both here and at the barracks in Albany-street, several of the dwellings of the married soldiers are situated immediately over the stables (we should like to have the statistics of these particular rooms), and many of them have only half a window to light each room. Some of the windows which, with the doors and chimneys, are the only means of ventilation, open with a slide, and this no doubt leads to disputes when there are several families supplied by such a light, half of which is in each room; for when it may be convenient for some to have it open to let in a current of fresh air, it may not be so with others. Seeing how easy it would be to make arrangements which would occupy very little more space if a proper plan were adopted and a true principle of ventilation arranged, it seems like going back to a barbarous age to see the accommodation which is here provided. Not long ago we examined the dormitory of a London prison, not considered one of the best, early in the morning, just after 200 prisoners had left, and found the place with scarcely a perceptible taint. The prisoners slept as closely together, side by side, as the soldiers in the barracks, but there was a sufficient height and a current of air from side to side and at each end, which passed high above the heads of the sleepers without doing harm.

In a properly ventilated barrack, as in the prison, the air in all parts should be, during both day and night, without that heavy and oppressive scent which pervades such of the apartments of the barracks as we have had an opportunity of examining.

We are told that several improvements have been made here during the last dozen years. Formerly the closets were not even provided with cesspools: even now, however, they are neither well constructed nor properly placed. The drainage has also been improved: nevertheless, these barracks are still quite unfit for the reception of even half the number of men and horses now lodged there. As in the case at both St. George's and the Portman-street barracks, even such means as are at hand seem to be little used, showing the great need of sanitary education; for, surely, if the soldier knew better, the present condition of things would not be allowed to remain. From the educated officers of our army we might, at any rate, have expected better things. Great pains are taken to scrutinize the purity of the pipe-clay, the brightness of swords and bayonets, and the polish of brasswork: surely, the inspection of the dwellings of the soldiers should be considered of equal, if not greater, importance. We are told, however, that the superior officers seldom visit the rooms; a fact which of itself shows the necessity of a sanitary staff for the army, whose express duty it should be to examine into and report upon the arrangements which are necessary for the preservation of life and health, and who should be held responsible for neglect. As we have elsewhere said, too, properly qualified architects should forthwith be consulted.

* This correspondence has since been published. It chiefly turns on the decision of the Government to erect a new War-office and a new Foreign-office, and the proposal of Sir B. Hall to invite architects of all nations to compete for the designs. A discussion ensued between Sir B. Hall and the late Lords of the Treasury on the subject of the "premiated" designs of the architects, and the proposed adoption of the plans of Mr. Pennethorne, a step tantamount, as Sir B. Hall contends, to a total disregard of the competition, an architect who did not compete being substituted for the successful competitor. The Lords of the Treasury (the 28th of November, 1857) adhered to their proposed course, although they regretted to be obliged to adopt one not altogether in accordance with the views by which Sir B. Hall had been governed in carrying out the recommendations of the select committee of the Commons' House. On the 28th of December Sir B. Hall urged the Treasury to allow the successful architect for the Foreign-office in the late competition to submit designs for the new office on the limited site acquired by the Act of 1855, instead of employing an officer of the Board of Works. Their lordships (on the 25th of February) adhered to their previous decision, from which it would appear, as we mentioned some time ago, that Mr. Pennethorne's plan for a Foreign-office is likely to be carried out.

ON THE SELECTION OF OBJECTS FOR STUDY IN THE ARCHITECTURAL MUSEUM.*

BEFORE entering upon my subject, I wish it to be recollected that the lectures given in connection with the Architectural Museum were from the first intended (as was the Museum itself) to be expressly and directly for the benefit of the *art-workman*. There is a certain degree of collateral utility in lectures which will convey instruction to architectural students, or suggest topics of thought to architects themselves, or excite the interest of others whose tastes lead them to take pleasure in such subjects; and there can be no doubt that the objects which we have collected here are both useful and interesting to all these classes; but let us never forget that it was *for the use of the art-workman* that the Museum was formed, and that it is to his improvement that the lectures given in connection with it ought to be directed. I beg that this may be understood to be my present object, though, if anything I have to say should be of interest to others, so much the better.

I have on two former occasions attempted a kind of historical sketch of the origin and progress of architectural ornamentation during the Middle Ages, especially as illustrated by objects in our collection. My task on the present occasion is to offer suggestions as to the selection from among the objects of study here presented to you, of such as are most useful in the formation and improvement of your own taste, and most practically suggestive as to your own actual work: and to add to these some further suggestions as to the best uses which can be made of such objects of study.

The importance of a careful selection of objects on which the eye is permitted especially to dwell, cannot be too strongly insisted on. As, in society, a man's character is known by the company he keeps; as our sense of right and wrong is dulled or rendered more sensitive by our careless or scrupulous choice of companions, books, or amusements, so are our perceptions of beauty, harmony, and grandeur in objects of art, in a very great degree dependent upon the care we take in abstaining from the contemplation of those which are calculated to deteriorate, and in seeking out and dwelling upon such as are fitted to refine and elevate our natural taste.

When God "created man in his own image," he implanted in his mind certain powers, both moral and intellectual, which were in a faint degree emanations from His own essence; but every one of which is liable to be corrupted, effaced, or even changed into the very reverse of what was their intention, if we neglect to cultivate the precious germ or abuse it to pernicious purposes. Among the intellectual powers in which man faintly resembles his Creator one of the most conspicuous is, that of producing beauty. We have only to look around us, in whatever direction, to perceive how all-pervading is the presence of beauty in the works of God. Whether we look at the varied surface of our globe with its rich, verdant landscapes, its majestic mountains, whose snowy caps assume ever-changing hues from the purest azure to the most glowing crimson;—its rivers, now flowing with majestic serenity through verdant plains, now dashing violently over rocky beds or overleaping precipices;—the great and wide sea, at one time glistening placidly like a mirror, at another tumultuously raging; or whether we "consider the heavens, the work of His hands, the moon and the stars which He has ordained;"—whether we avail ourselves of the telescope, and penetrating the infinite recesses of space find the utmost distances the eye can reach to teem with His mighty creations; or, reversing the scene, we examine with microscopic aid the smallest of His works, and find them replete with objects invisible to the unaided eye; or whether we direct our attention to organised nature and examine the herbs, the shrubs and trees, with the fruits and flowers which clothe the surface of our globe; or the animals of endless form which inhabit it; and finally, the most perfect of the creations of God, "the human form divine," the one thing which strikes us, before entering upon questions of utility, mechanism, or organisation, is the great fact of their ever-varying, though harmonious and all pervading BEAUTY.

Man has from the first shown evidence of partaking, though at an infinite distance, of this characteristic of his Creator's image; but differs from it in this,—that whereas God is the fountain of all beauty, whether moral, intellectual, or physical, and His works, of necessity, show this; the efforts of man in producing like results are ever liable to be frustrated, if he follow his own unaided imaginations, or is led to concentrate his thoughts, or to lean for guidance upon unworthy objects.

This particular faculty is only given in any great degree to a few, and is subject to the same rule which regulates all other human powers and duties,—the rule of *labour, cultivation*, and *watchfulness*.

Even the fertile surface of the earth will not produce what is necessary to human sustenance, without labour and culture. "Thorns and thistles shall it bring forth to thee." "In the sweat of thy brow shalt thou eat thy bread." To cause the earth to produce what is needful to us, it must be cleared from its spontaneous growth,—the soil turned up and broken,—the right manure with proper seed introduced, and that at the proper season, and with the most suitable manipulation; and even then to bring the crop to perfection, it must be watched and tended, or the birds will devour it, the beasts trample it down, the insects blight it, or weeds spring up and choke it. If such be the lot ordained for man in his least intellectual employments, how much more are cultivation and watchfulness needed to bring to perfection the subtle and delicate operations of his mind and imagination? You may depend upon this, that if you have left mechanical handicrafts such as masonry, carpentry, or the plain working of metals, to become carvers or ornamental metallurgists, you will find yourselves grievously mistaken, if you imagine that you are leaving a life of labour for one of ease. You may have,—and if you were right in making the change you *will* have,—far greater enjoyment in your work, inasmuch as not your hands only, but your intellect, your imagination, and your feelings and affections will be employed: but instead of reducing your labour you will be increasing it tenfold; for not only must the labour of your hands be accompanied every moment by that of your head,—in a double sense "the sweat of your brow,"—but when your day's work is over, instead of spending your evenings in rest or recreation, you must devote them to study, to drawing, to examining the works of nature and of the artists of other days, and to thinking over the lessons which those productions are calculated to suggest, and the mode of applying those lessons to your own work. You should study what you see as you walk along the streets;—not their usually base and depressing architecture, but rather the lessons of human expression and of animal life which present themselves, and practise yourselves in transferring them to paper, or rendering them in stone; or, if you are in the country, you should be looking at every plant you pass for suggestions, and studying the habits of birds and wild animals: in short, you must be at work "when you sit in your house, and when you walk by the way, when you lie down, and when you rise up," or you will never do any great things in your art.

We have, however, not only to foster and cultivate our artistic powers with the utmost possible diligence, but we have, further, to guard them against contamination; we must not only study, and, so far as we are able, surround ourselves with what is ennobling, but we must also guard our eyes against what is calculated to deteriorate. We must in our artistic, as in moral, culture, "turn away our eyes from beholding vanity."

We know how strong is the effect of frequently seeing an object, whether beautiful or otherwise: how often we find that which at first sight offends the eye become tolerable by use, or a portrait which a single glance shows us to be bad, seems to lose its defects as we become familiarised to it; yet these deficiencies exist as certainly as at first: it is our own perceptions which are blunted.

The love of colour so constant among the North American Indians has been attributed to the custom of hanging brilliantly coloured toys before the eyes of infants, to amuse them while their parents are hunting; and our own distaste for it to the sombre character of our dress.

We often hear people excuse themselves for mixing in disreputable company or frequenting places of doubtful morality, by saying that their confidence in their own principles is such as to render them proof against any evil results; or even retort upon those who are more careful by attributing their scruples to conscious weakness; yet assuredly the company of the drunkard, the profane, or the licentious has ever been found to undermine the morals of their associates; and just the same will be the case with the artist, if, trusting to his inherent perceptions of beauty, he ceases to exercise a rigorous censorship over the objects on which he allows his eye and his mind to dwell, or consents to work in styles of art which he knows to be corrupt.

At all great periods of art, the objects which most frequently met the eye have been such as to foster and aid the artistic perceptions, and even to promote a hereditary instinct for the beautiful, so that the whole population has become imbued with a feeling for, and an appreciation of art, and everything which was executed was more or less good. The very contrary to this is the case with ourselves; the objects continually presented to our view are so depressing and deadening to the taste as to have undermined our sense of beauty, so far as architecture is concerned, and I verily believe to have physically damaged our natural faculties; and that, just as sporting dogs, if left untrained for two or three generations, lose the instincts peculiar to their breed, we are actually born without our due proportion of those feelings which are necessary to the appreciation of art. From the long-continued influence of vicious examples, we have become a damaged race, and can only recover ourselves by a generation or two of extra training.

The formation of this museum was intended to promote this training, and I verily believe it has done a good deal to help it on; and the subject on which I would wish to offer you a few suggestions is the best mode of using the collection to further this great object of artistic renovation.

The great fault of our collection is its miscellaneous character. I do not mean as to style so much as the actual merits of the specimens it contains. In those which we have ourselves systematically collected, we have been able to take some pains in choosing what is really good; but the mass of the collection has been somewhat accidental in its origin. Large quantities of specimens have been purchased for the sake of a certain proportion of meritorious ones they contained; private collections have been presented, containing of necessity objects of different degrees of merit, not to mention the double object of such a museum as this, which is expected, not only to furnish models for study, but to illustrate the historical changes in art, whether they take the form of progression or deterioration. All these causes tend to make a careful selection on the part of the student the more necessary.

The *motives* also of selection on your own part are twofold. You have to inform yourselves on the history of your art, as well as to learn its practice: and even in the practice of your art you are from time to time called upon to execute works in styles differing from that you would deliberately choose, for the sake of harmonizing with existing work which is under reparation; so that a collection which illustrates the history of a style of art has great practical utility, though I would advise the student to pass *very lightly* over all but the works of the best periods.

I would advise you, in obtaining a knowledge of the history of art, to pursue a totally different method from that which you follow in studying for the practice of it. This is the only age in which such a class of knowledge has been deemed necessary. In all former ages people have studied only what they wished to practise, and that has always been *one single style*. The Greek knew nothing of the history even of the style of art of his own country, and in developing which he was himself a practical agent. The Roman knew a little of Greek lineage of the style he was working in, but nothing more. The Mediæval architect never gave a thought to anything but that scene in art-history which he was himself enacting; and even the architects of the Renaissance did not dive further into architectural history than was necessary to enable them to understand the relics of the mighty works of the ancient world whose style they had undertaken to reconstruct.

The history of architecture, as a systematic study, has been reserved especially for the present age, and is one of the peculiar characteristics of our present position. We shall be behindhand with our age if we neglect it, but I am strongly convinced that if we make it our leading object,—if we make it a subject of actual study instead of one on which we should possess general information,—if we endeavour so intimately to acquaint ourselves with every link in the long chain of style, as to be able to reproduce any one of them at pleasure, and to feel almost as much interest in one as in another,—though we may become accomplished antiquaries,

* Read in the theatre of the Museum at Brompton, on Wednesday evening, the 24th, on which occasion, we are glad to be able to acknowledge, the invitation given to carvers and art-workmen was responded to by a very full attendance. At the close of the lecture a cordial vote of thanks to the lecturer, on the motion of Mr. Godwin, was passed.

good art historians, or popular lecturers, we shall not only be *not* fostering our own artistic powers and perceptions, but we shall be actually destroying our capacity for producing any genuine and healthy work of art; and, much as I wish we could, as in former ages, all by common consent and united effort, join in pursuing one noble style of art and one course of vigorous development, I infinitely prefer the zealous and exclusive advocates of any schools of art, be they Greek, Roman, Gothic or Renaissance, to the pampered, nerveless, historical architect, who deems all strong preferences narrow-minded, and who, priding himself on a catholic love of all styles, incapacitates himself from the vigorous practice of any.

I would, then, advise the student, after having taken a general and popular survey of the history of art, passing over it so lightly as not to permit its details to impress themselves too strongly upon his mind, to decide by the best consideration he can give as to what line of art he will himself follow, and to concentrate his studies especially upon *that*. The objects of our early studies should always be those from which we can derive the *best nutriment*, and such as are most easily digested and least mixed with what is not nutritious. A more matured artist may venture to study objects in which the good food has to be severed from the husks—the meal from the bran; but the *student* should begin with the *pure milk* of his art; and, as in these days we none of us rise much above the level of mere babes in art, it will be wiser for us all to keep very closely to real, wholesome, unadulterated food, and not to be for ever running off after objects of study from which a mere modicum of serviceable instruction can be derived, and from which, with our present amount of discernment, we are just as likely to extract poison, or at best something very unsuited to our own constitution and digestive powers, as wholesome food.

I now come to the practical question: which are the examples which we must select for study, and on what principles should our selection be guided? Here my difficulty commences, for among the multitude who think upon such subjects every variety of opinion is to be found. As a general rule, however, I would first suggest that whatever style of art we are studying,—and this rule would hold good equally with Grecian or Gothic,—we should select for special study those of its productions which belong to its most vigorous period of *progression*.

Every style of art has had its *archaic* period, or that in which its first ideas show themselves; its period of *rapid advancement*, with the object of aim still in view; its period of *actual attainment*,—that in which the art ceased to improve; its period of *over-refinement*,—that in which pretty, elegant, and over-elaborated detail was introduced, asperities softened down, the whole made "eye-sweet," and the suggestions of the hypercritical all attended to, but at the same time the noble sentiment of earlier periods evaporated; and lastly, its period of *decline*, more or less rapid, but *inevitable* in its result.

Now, if we are studying a style with a simple view to *self-improvement*, there can be little doubt which of these has the strongest claim upon our regard. Surely we should value more the example of those who were ardently pressing on towards perfection,—whose every thought and energy was devoted to one all-absorbing object—the advancement of their art, than of those of the next generation, who having, through the labours of their predecessors, just attained—or, perhaps, through their own short-comings, just failed of attaining—perfection, were commencing that course of over-refinement which was destined to be the ruin of their art!

The moment of the highest attainment is, no doubt, the focus on which our admiration will be especially concentrated, but the path by which that culminating point was reached has even stronger claims upon the student,—just as with a soldier, while victory is the grand object of his *admiration*, the means of attaining it are the subjects of his *study*. The summit of the hill is exciting, and the descent easy, but it is the *ascending path* which affords really healthful and invigorating exercise.

I would, then, especially commend to the student the productions of that portion of the history of his art which precedes its highest attainment: not the first archaic effort, but the vigorous, determined struggle which immediately precedes the climax of success.

Next in importance is, of course, the culminating point itself. It must of necessity be the great centre of attraction, yet it is less safe as a subject for study than the steps by which it was reached. It needs more caution, lest we mistake the descending path for the summit, and prefer the first steps towards weakness and enervation to those in which primæval vigour is still retained.

The productions of the descending course are hardly to be recommended to the student. In all great styles of art the progress of decay has been attended with continued outbursts of genius, and its earlier stages have often a beauty more fascinating than is found perhaps in the rough laborious path by which the height was gained; but it is a luxurious rather than a manly and vigorous beauty, and, though a matured artist may extract from it lessons which he may correct by his studies from more generous periods, none of us are really proof against the risk of enervation if we dwell too long upon them.

I do not wish to prescribe too narrow bounds to the range to which I would advise you to limit your studies, but would broadly define it as *including every period which is neither so early as to savour of barbarism nor so late as to show symptoms of enervation and luxury.*

Now, let us apply this rule to the productions of Mediæval art, to which I shall limit my remarks.

I have on previous occasions gone over the history of the early days of Mediæval art, showing how in the dreary interval between the fall of the ancient and the dawn of modern civilization, art became (in Western Europe) absolutely dormant; how about the commencement of the tenth century there came a stirring of the dry bones, which resulted in the generating of Romanesque architecture of which our own Norman is to us the most familiar type; and how towards the close of this style a mighty movement took place, which led to the development of Pointed architecture with all its multitude of collateral arts; how during its early days a style of architectural foliage was generated, founded in a great measure (as I then stated, generally, but have since traced out in detail) upon the reminiscences of Classic art, kept alive in the East, and about that time brought more directly under the notice of Western artists through the erection of St. Mark, at Venice, and of a number of churches built in imitation of it in the centre of France. I have, further, shown how from this comparatively lifeless germ sprang forth a style of foliated ornament, perhaps the most remarkable that has ever been made use of;—purely architectural in character, as if invented expressly to be carved in stone, and to grow out of architectural features; approaching closely to nature without directly imitating her; embodying the principles of vegetable growth, without selecting as types its individual productions; and uniting the freedom and elegance of natural foliage with that *firmness, decision, breadth*, and *rigidity*, so especially demanded by architecture.

I then showed how, in the middle of the thirteenth century, this idealization of nature gave way to more direct imitation of her individual works, sometimes modifying them to meet the necessities of material and position, and always "bringing them into service," and arranging them so far artistically as to suit them to architectural purposes, yet in the main faithfully following them, with or without the retention of some conventional features. I then traced the softening down of the rigidity of manner in which natural forms were first used,—a process at its commencement appearing to increase their beauty, but eventually destroying force and nobleness of sentiment, and ending in the abandonment of nature in favour of a second conventionalism,—not as the first, bold, strong, and noble, and ever approaching to and embodying natural principles, but now comparatively feeble and devoid of sentiment, and ever departing further from the rules of nature. Now, I do not wish to take a narrow view of this chapter in the history of art,—it is throughout replete with beauty,—yet in selecting the most worthy subjects for your study, it is manifest that the most profitable are those which unite in the greatest degree refinement with grandeur and noble sentiment.

I would not direct your studies to the early Norman, though it is full of archaic grandeur; much less to the later periods in which that vigour had become so scarce an element as to be quite an exception when we meet with it; but I would especially beg you to concentrate yourselves upon that point of the history of the art which commences with the formation of a new style of foliage out of the Byzantine element, and terminates with the full use of natural foliage in its rigid, unsoftened, and vigorous form. This period commences about 1170, and lasts till the close of the thirteenth century. Of its earliest productions, I will mention the foliage in the nave of Notre Dame at Paris; in the Trinity Chapel at Canterbury; in Glastonbury Abbey and St. David's Cathedral; and among its latest, that in the monuments of Crouchback, in Westminster Abbey, Peckham, at Canterbury, and De Luda at Ely.

A matured and strong-minded artist may learn much by going both earlier and later, but the *student* will be in danger of getting into the habit of imitating rude, archaic efforts if he goes too early, and of losing his sense of vigour and manly force if he is tempted to extend his studies to later periods. Now, you will observe that the range I have taken embraces two very distinct styles of foliated carving—those commonly known as the *conventional* and the *natural*—that in which the foliage is the artistic creation of a particular period, though founded on natural principles; and that in which it goes directly to nature herself for types. It may appear inconsistent to commend both of these systems equally to your study, and I dare say I may be thought extremely latitudinarian in doing so. My friend Mr. Street, in his recent, and in most respects admirable, lecture, said that we must all sooner or later range ourselves under one or other of these banners—the conventional or the natural—and seemed to intimate that, if we adopt the first, we shall be securing strength of character, and if the second, shall be as certain to sink into enervation. I confess I do not see this. I do not see that the principles are antagonistic: on the contrary, I think that the union of the conventional and the natural is necessary to a perfected art; and, holding this, I urge the careful, humble, and loving study of nature herself; the study of the best examples of the application of her productions to purposes of art, and of the best examples of that idealized embodiment of her principles which we understand by the term "conventional." I am quite sure that, by the study of these three things, you have the best chance of striking out a noble course in your own works, and of profiting by the works of those who have gone before you, without falling into a dead and servile reproduction of them.

I intended to have given this lecture in the Museum itself, and to have pointed out, *seriatim*, the classes of objects which I would commend to your special attention; but the present occupation of the Museum by a series of not very cheering illustrations of the prevailing monumental art of our day, and of what it has gained by the Exhibition of 1851, has prevented my carrying out my intention. I will, therefore, roughly enumerate a few of the most striking buildings in which you will find wholesome aids to your studies, and will illustrate the list by specimens selected from the Museum, or by other means which I may chance to have at command.

I will commence by pointing out the two sources out of which the foliated decoration of the thirteenth century was developed—the purely Romanesque and the Byzantine. It is probable that the Romanesque may have itself originated from the Byzantine; but it had settled down into a separate style, such as we see in our own Norman buildings, in the Romanesque of Germany, and in that previous to the twelfth century in France, when, in the last-named country, it was violently disturbed by a fresh importation from the East. We accordingly find in France that the foliage used just at the time of transition into Pointed architecture, is, for the most part, neither Romanesque nor Gothic, but almost purely Byzantine.

Of the Romanesque type of foliage, in its most refined form, you would find a beautiful series of illustrations at St. Cross, near Winchester, and, in our own collection, in the beautiful specimens from the west doorway of Dunstable Priory. Of the Byzantine we have few specimens in England, excepting in the work of William of Sens in the choir (not in the Trinity Chapel) at Canterbury. The specimens of it I will show you are from St. Denis, near Paris, built in 1141, nearly the earliest specimen of the Pointed style, in the earliest parts of Notre Dame, at Paris, about 1170, and one or two other places. You will see that they are merely a Byzantine rendering of the Corinthian; they contain precisely the same class of art as we find in works of the tenth century at Constantinople, in St. Mark's at Venice, and in the church of St. Froud, at Perigueux,—a church built under Venetian influence in Central France.

Now what I have hitherto pointed out I refer to only as the *historical basis* of what follows, *not* as recommending it to your *actual study*. It is most interesting and instructive, and, after you have matured your taste by other means, you may revert to these early works with much advantage; but they are not those to which I would direct the special attention of the student. They are, in the first place, too distinctly derivative from an

older art; and, secondly, they do not yet show that bold striking out in a new line which would qualify them for the special selection of the student.

Almost immediately afterwards, however, we find this wonderfully instructive course of advancement to have commenced. In Notre Dame, at Paris, the earliest carving is of the dead Byzantine type, but before even the choir was finished we find a new style of art in the course of being generated,—in the nave to be fully developed, and in the west front to be brought to the highest degree of perfection. In the same way, at Canterbury, though the choir built between 1174 and 1179 has Byzantine foliage, the Trinity Chapel, which immediately follows it, exhibits that of the new type.

Our Museum contains some noble specimens of the earliest productions of this new style, from the nave of Notre Dame, and these I, *in the most unqualified manner*, commend to your careful study. They contain elements of grandeur scarcely to be equalled, and, though I do not advise the actual reproduction of their style, I am quite certain that it is impossible to study them without imbibing something of the truly noble and generous sentiment which pervades them.

You will better understand this magnificent style of foliage, by examining the specimens I exhibit, than by any verbal description; but I may briefly say that its characteristics are *breadth, firmness, truth of curve; harmony with strong, bold architecture, and distinct adaptation to architectural uses.* It contains no minute disturbing detail; its lights are broad, and its shadows deep, without being so undercut as to give an idea of weakening the material: in short, it contains every element of grand architectural ornament, though in its earliest form (of which I am at present speaking), it is less remarkable for that class of beauty which is suited to those smaller features in which grandeur is not one of the objects aimed at.

This, then, is the style especially adapted to afford you lessons in the bolder and nobler elements of your art; and as they are infinitely the more difficult of attainment, and just those in which *you* all,—or I should have said *we* all,—in these days most glaringly fail, I do not care how long you dwell upon this noble phase of the art you have to study.

Though it is most strikingly developed in France, you will find examples equally worthy of your attention in our own country. In English buildings you will always recognize the style of which I am speaking by its nearly constant accompaniment, the *square* abacus. In France, that feature continued very much later, so that it is no mark of very early date; but with us the square abacus very rarely shows itself after the end of the twelfth century, the fully-developed Early Pointed being with us always accompanied by the round abacus. This distinction is the more important as the square form of necessity affected the distribution of the foliage, which had to be so placed as to support the salient angles, whereas no such functional requirement existed where the round abacus was used.

The eastern part of Canterbury I view as a French example, and being the only one many of you may have the chance of seeing, I would strongly recommend to all of you a *Canterbury pilgrimage;* but among purely English works of this period, I would especially single out *Glastonbury.* The pillars there being more subdivided than is usual in French buildings of the same age, it follows that the capitals are not on the same grand scale; but, making due allowance for this, they are, I think, quite equal in merit; and the more closely you study them the better. I regret that we have no specimens of them in our museum; indeed, I hope we may soon take measures to remedy a great defect in our collection, which is at present very poor in English specimens of the Transitional period, though rich in those of the immediately succeeding date.

Besides Glastonbury, I may mention St. David's Cathedral, in which the capitals are very curious, and many of them very fine: some parts of Chichester Cathedral, the Castle Hall at Oakham, some exquisite fragments of the Abbey of St. Mary at York, and a multitude of examples, in which the square abacus prevails. Many of the capitals in this style are, however, of a much simpler kind, having only a plain water-leaf under each angle, but are nevertheless very effective. These abound in the north, as in the refectories of Fountains and Rievaulx abbeys, at Tynemouth, Jedburgh, Kelso, Dreyburgh, and many other noble examples of the style. The only instance of it we have in our museum is, I think, from Farnham Church, in Yorkshire.

The principal English works of the Transitional style in our collection are, one fragment from Canterbury, a series from Dunstable (early in the style), a few from Haughmont Abbey, near Shrewsbury, and some from Worksop Priory.*

THE TREATMENT OF MONUMENTAL SCULPTURE.

PROFESSOR WESTMACOTT'S LECTURES AT THE ROYAL ACADEMY.

The intention to erect a memorial to General Havelock, on a prominent site in the metropolis, should induce some further consideration of certain questions of art and æsthetics—especially belonging to monuments and sculpture—which may have been departed from in recent works, where the result is unsatisfactory, as well as inferior to what might be expected from the executive skill of our living sculptors, and the actual works of Flaxman and others. Portrait sculpture, the branch to which the intended memorial may chiefly belong, indeed, might be supposed to escape the difficulty which the mind of the artist must solve in the production or design of any monumental or imaginative work of the higher class. That, however, is by no means the case: whether viewing a monument as a simple portrait statue, or considering accessory details—as, for example, *rilievi*—attention to the true principles cannot be dispensed with; whilst the question of the proper treatment of costume is a novel and peculiarly difficult one.

Strongly impressed with the public evidence that misconception of monumental sculpture as a branch of art, did exist; believing that the character and limits of the sculpturesque, and the importance in general grouping and in subordinate details, of the architectonic element, were not understood; we were induced on several recent occasions, to state the views which we had derived from the study of matters belonging to general art as well as to architecture, but which have lately had more attention from architects, and writers on art-manufacture and decoration, than from painters and sculptors. For this course, we claim no present merit of originality: the principles were valuable precisely inasmuch as they were dependent upon natural and immutable laws, to be tested by all; and they had been often before set forth in our pages. But, we may refer to the articles on Sculpture, including the notices of the Westminster-hall exhibition of the Wellington Monument Models,† and other matter, in which we have urged the importance of not merely that paternal alliance between architects and sculptors, which is so desirable for the success of either art in its highest walks, but also of the identified view of what is really one and the same thing as art. For, there are certain principles which belong to all art, and principles which may be adopted from one branch to another; and there are other principles of not less importance, constituting that distinction of aim which is assumed in the vulgar acceptation, and, indeed, properly in professional practice. Either the architect's art or the sculptor's may predominate in a monument; but in either case there must be certain principles which we call architectonic: after these, the distinction between the two classes of works, and integral character respectively, will be sufficiently derived from the professional bias of the artist.

Referring to sculpture for sites out of doors, we suggested that the failure might be due partly to the disregard of the architectonic element, or grouping as a whole, necessarily the pervading principle demanded in a public monument; partly to the want of art in the details of the pedestal, and in the arrangement of the site and accessories; and partly to disregard of the fact that there was a distinctive treatment proper to each material. We showed that the principle suited to bronze, was departed from in a manner which must necessarily be fatal to our works; and we have lately instanced the bronze copies at Manchester, of the marble statues of Dalton and Watt, as special examples of the mistaken line of treatment alluded to. A suggestion as to the desirableness of reconsidering the ingredients of the material, bronze, the composition of which, though of minor importance, might not be unworthy of notice in reference to one of the objectionable characteristics of modern statues,—their heavy, black, and monotonous appearance,—was the subject of some correspondence. Perceiving the limitation of sculpture as a separate art, we have objected to all such allegory as required the aid of description in a guide-book; to all appeals to the observer to take things on trust as representations, excepting, however, the recognised symbolic; to violent and dramatic action in sculpture; and to the confusion between the respective offices of painting and sculpture, as shown in the attempts at perspective and fore-shortening in many modern *rilievi*. The point last named, was, indeed, dwelt upon (not to speak of earlier observations), in the course of the notices of the courts at the Crystal Palace, in our volume for 1854,—particularly with reference to some of the works in the Renaissance Court, the originals of which were executed very soon after the discovery, so-called, of perspective.

These views, we confess, we put forward with some feeling of apprehension, not arising from doubt as to their propriety, but lest we should be considered to assume unduly to teach a class of artists out of our own profession. We have now, however, the highest testimony, on the part of a sculptor, the professor at the Royal Academy, to the correctness of the ground we took as to all the points we have just mentioned, and others. Professor Westmacott, in the four lectures which he has lately delivered, has afforded whatever support might be needed to views which go far to explain the ill-success of recent attempts, and therefore to detract from the taste of many living sculptors. He shows the necessity of the same considerations in sculpturesque treatment, and monumental art, as we have advanced. Having referred to the value of the antique, and the right use of precedent, in terms which may be commended to the attention of every architect, he insists on the inevitable, or proper limitation of the sculptor's art, to expression by *form*, or "unaided by artificial effects of light and shade, or by atmospheric illusion, such as the painter may employ in the sister art;" and speaks of simplicity and repose, approaching to severity, as a principle, and of energetic action even as exceptional. He puts forward "taste, judgment, and selection," in opposition to "mere servile imitation," as belonging to the very idea of Fine Art. He urges the force of the example left us by the ancients, of sculptors and architects working together, and that where sculpture is "to be combined with architecture," it should be treated so as to "serve the purpose of increasing, not injuring, the effect intended by the architect." The question of materials he enters into at some length, saying,—

"It is not the fact that a statue, however well composed, is fitted for whichever mode of execution, carving or casting, may be determined upon. It must be obvious, on a little reflection, that bronze lends itself to the display of energetic action, in works in the round, much more readily than marble. In the former the limbs may be stretched out to their full extent, if necessary, unsupported by any of those unsightly stays which are absolutely necessary in marble; but which, after all, while they clog the lines and deface the composition, frequently do not fulfil their object of securing the safety of the work. It may be received as a general rule that for casting or works in bronze, the style of open composition may be employed. On the other hand, a work in marble or stone requires support in all its parts; and, therefore, demands such a compact style of composition as shall secure, without too prominent an exhibition of the contrivance by which it is effected, the strength of the whole. Bronze, also, is well adapted to show clearly against a sky background; and the work intended for such open situation should be designed with reference to this condition. The limbs, for instance, should be defined, so as to show the action, clearly, at a distance."

Mentioning some examples, he says of one of them, the Mercury of Giovanni Bologna,—

"Such a work could not have been so treated in marble; while in bronze, all this lightness and action are combined with perfect safety and security of the parts."

He instances the Apollo Belvidere, as composed on the principle that applies to a bronze statue, and as being a copy from bronze in the opinion of some of the best authorities, including Flaxman; and the Laocoon as open to the same conjecture; whilst he names the Perseus holding with extended arm the head of Medusa, of Cellini, as an example of the quality of treatment suited to works in metal. And he says:—

"The principle of design in marble differs from this, inasmuch as the sculptor should endeavour so to arrange the parts of his work that the lighter and more delicate details, as the extremities and any flying drapery, should derive support from the parts near them. The hands should be so arranged that, without its appearing to have been a studied expedient, each finger should have a rest at some point: and it is scarcely necessary to tell you how important an element in expression are the hands, and how well it is worthy a sculptor's care that they should not be exposed to injury.

We have ourselves contended that it was the true principle in art, to take advantage of the properties of materials, and seek a distinct character of design as proper to each. And on the other subject we adverted to, he says,—

"It may be interesting to you to know that the mere questions arising out of materials alone, were thought of sufficient importance to engage, of old, the serious attention of the greatest masters of our art. * * * * The

* To be continued.

† Vide vol. xv. p. 29, "Sculpture;" p. 213, "Monuments and Statues;" and pp. 415, 425, 445, 457, and 489.

composition of the metal used was a subject of the greatest care and interest among the artists of different localities. There were rival schools; those of Ægina and Delos; and Pliny records the competition in the quality of the material. In his Thirty fourth Book he says, 'The most ancient honour was that given to the Delian bronze,—the next to that of Ægina. Myron used the former; Polycletus the latter. They were equals and fellow-scholars; but there was *emulatio* rivalry—in the material each chose to use.' The mere list of names of the different kinds of bronze used is curious. There was the Corinthian, the Delian, and the bronze of Ægina; that of Tartessus, the 'æs Demonesium' the 'æs nigrum,' or black bronze, and the 'æs candidum,' or light-coloured, supposed to have been produced by mixing a large proportion of silver with it. There was also the 'æs lepidozon,' a dark-coloured bronze, of a liver colour, and others. The whole history of the metal-working of the ancients is interesting, from its rude beginning, in different kinds of 'hammer-work,' to its perfection, in the founder's art; and we learn from it how much study and careful thought the ancient sculptors considered it worth while to bestow upon every branch of its practice. At some future time, this class of art may, with great propriety, be made the subject of more extended observations."

On the proper treatment of *rilievo*, the remarks were extended and valuable; and the management of *alto-rilievo* and *basso-rilievo* in works of the early Revival, and of late and recent date, was duly commented upon, without, however, referring to the copies at the Crystal Palace. In contradistinction to the different receding planes, and diminution in the size of figures,—involving the absurdity of shadows falsifying the intention, as well as the want of atmospheric gradation,—he noticed the treatment of the sculpture of the Parthenon of the several varieties. The inadmissibility of some subjects, as, for instance, a front view of the Fighting Gladiator, for *basso-rilievo*; the advantage of representing profiles rather than front views; and the necessity for considering the intended position, the light, and other elements of the result, were well shown. On the same principle that we objected to features in certain designs at Westminster Hall, he asks how it is possible for a sculptor to represent falling rain, or a flash of lightning, or a rainbow; though equally with us he tolerates the *merely* emblematic or symbolic; and, saying that "a sculptor shows his talent and capability almost, if not quite as much, in the choice of his subjects as in the manner in which he treats them," he again urges that he must choose them, paying consideration to his *means* of illustration.

In the last of his lectures on Monday, the 8th, when he dwelt chiefly on the treatment of accessories, which he showed should never be made so important as to overpower the principal feature in the design, the lecturer said,—

I must, at the risk of repetition, again advert to the subject of the antique, in order that I may make clear the great ultimate object I have in view in undertaking the duties of the office I now hold. Though great stress has been laid on the value of the study of the ancient sculpture of the best schools, I shall have been misunderstood if it is supposed my aim has only been to show how the student may become a good academical artist; as if that were the end and sole object of all his study. I have, on the contrary, desired throughout to impress upon him that this is only a means to an end. The history of our art should be his warning here. I have wished to show that the repetition of mere classical and academical sculpture in modern days, even when practised by sculptors of the highest talent, has uniformly failed to establish a hold on the popular feeling, and to maintain its ground for any long period. As Art, there has been no indisposition to admit that there has been much in it that was excellent, as is seen in many works still existing, by the best artists of Italy and France—from Michelangelo, Sansovino, and others, downwards. But still the fact of its failure is undeniable; and there must, of course, be some cogent reason for the comparatively little interest that is felt in it. May it not have been because, not being real, but artificial, in its origin, it did not reach or appeal to general sympathy,—the popular feeling could not be warmed to it? It is, therefore, a subject deserving attention, whether it might not be possible to establish a school of Sculpture pure, and simple, and expressive which might touch modern sympathies, and attract the attention and the liking of the public. The refined scholar and connoisseur, and lover of classical poetry and imagery, might still be gratified with works which might occasionally be produced in illustration of ancient Greek subjects. But there are many who, from habit and feeling, have no sympathy with the usual mode of presenting classical sculpture, or whose education may not have prepared them to understand its subjects, who still are capable of being affected and improved by seeing subjects of which they can comprehend the meaning presented under beautiful forms. Even the most familiar need not be vulgar, nor does their treatment involve the necessity of low and common forms or bad taste. Genius and refined feeling can elevate the commonest subject, as may be seen in that most simple one of a 'Boy taking a Thorn out of his Foot,' one out of many ancient works of the kind, and modern sculpture has, we know, successfully treated others of the same class. This may be carried still further in the illustration of subjects requiring deeper reflection in the artist, and capable, at the same time, of awakening corresponding sentiments in the people. It has already been effected once, and at a period in the world's history remote from classical feelings and classical associations, and when the artists had not the advantage of being acquainted with the masterpieces of the Greek schools to direct their studies and improve their knowledge of form. I allude, of course, to the Revival and Renaissance in the thirteenth and fourteenth centuries,—when earnest feeling threw into rude and untaught Art a quantity of expression that we in vain look for, in an equal degree, in any school of sculpture of any age? Why should not that which has been, again be? And, why should it not be effected by our own artists? Little more than half-a-century ago, England scarcely dared to count a sculptor Roubiliac, Ryshach, Schumacher, and many others, all foreigners, were alone the gift worthy to be employed, and native aspirations were depressed for want of encouragement. Banks, Flaxman, Bacon, Nollekins, and others, at length vindicated the national capability of taking our place in the republic of Art, and have left works which take high and honourable place amongst the productions of modern sculpture. Why, then, it may be asked, should not earnest and well-directed genius again originate, in our time, new forms of thought that may have their illustration in consistent forms of beauty, adapted to the spirit of the age?

Such observations, along with the timely contribution to knowledge of principles which have lately been too little regarded, if pondered over and acted upon, will do much to remedy the defects before adverted to, in monumental sculpture, and conduce to the effective character of our streets and public places.

ART AND THE CHURCH.

"The most impenetrable panoply in which to confront error is the nakedness of truth."—Rev. Baden Powell, "Christianity without Judaism."

I HAVE no intention of entering on a purely theological discussion; and this I say, because, unexplained, the title of our subject might somewhat mislead, or be somewhat alarming to those who may dislike what is abstruse and dry. Although there is much division of opinion as to how far art is, or is not, entitled to a place in the church—although much needless fear has unhappily been elicited on this topic—yet it appears to have been seldom inquired into in anything like a dispassionate manner. We wish, however, to see whether common reason has anything to advance on the matter. It may be enough to say, that I do not advocate the views I hold in any factious spirit; for which purpose this at least were not the place, nor is it to be apprehended that any one will object to a free expression of opinion. With regard to whatever of religion may lie near our faith, I shall not (mindful of a certain saying) seek "to rush in where angels fear to tread;" but if our subject sometimes brings us within view of the celestial gates, I feel sure that (as it is necessary to our subject) I shall be forgiven; and it becomes therefore unnecessary to apologise.

It might perhaps have been more philosophical, and doubtless more imposing, to have put forward certain very lofty terms in the van of our subject, and much might be said in favour of the word "esthetic;" but, in general, most of these terms are very mysterious, Kantian, transcendental. The moment one enters within their sphere, confusion of mind begins—general indefiniteness prevails. We have perhaps to consider ourselves as entities, and not men, and to pass our time wandering about the labyrinth of some gigantic Isis or other, equally unable to proceed or retreat with certainty from a region of difficulty and delusion. But it is better to be a man than an entity, or any other abstraction; it is better to understand than to be blest with suggestive perceptiveness; for in this part of the mind's world, all the words are of Presidamute dimensions,—they are the megatheria and saurians of speech They grow to an unwieldy length, so much so, that it is a question whether many of these voluminous monsters of obscurity are anything more than mere developments of polysyllabicism names without objects, just as there are objects without names.

In approaching these then, we wish to inquire whether, in the worship of the Most High Creator, we are justified in availing ourselves of those noble arts which are the consolers of human life, the lovely companions of the human mind. I believe that the affirmative can be distinctly proved. On the other hand, if reason can show that, to whatsoever else open, the gates of heaven are closed against the arts, there ensues an end to all noble architecture and music, and the dreary reign of sloth and slovenliness begins. But it is proposed here to set forth that the arts and their development are congruous with the nature and faculties of man. That, as it is natural to man to worship, so, in worshipping, he must engage those faculties and the means suitable to their organization. We shall show how, by the operation of this very process, the arts have been maintained and fostered. We shall prove also that the arts are indissolubly connected, and that the plea for the employment of one holds good for the adoption of the rest. And we shall also endeavour to state those principles which, in the higher and grander public offices of life, such as those of religion, appear best fitted to guide and purify our taste.

It has no doubt been esteemed a very fine thing to pursue, even under difficulties, the stoical sublime. Very possibly grand is it to crush out all the gentler feelings of the soul, to look upon simple affections as personal foes, and to cry in a dreary manner that all is vanity. But this may be pushed to a morbid unhealthy point, and it is often forced to an ascetic conclusion. It is more Solomonian than Christian. When we are in this condition, we are apt to declaim long and solemnly about the dreadful nature of man. Man "His last and fairest work,"—

> "Who trusted God was love indeed,
> And love creation's final law,"

becomes in our eyes—

> "——— a monster then, a dream,
> A discord. Dragons of the prime,
> That tare each other in their slime,
> Are mellow music matched with him."

We tremble at the tyranny and hostility to our peace of the senses. The mind becomes haunted, dogged by them as by five "frightful friends." We bewail the insignificance, the nothingness of everything around; we talk in whispers about eternity, immensity, infinity, or else about ruin, thunder, fire, and woe; and, generally, we are always meditating on misery, and devices of misery, and proceed to make ourselves as miserable as we possibly can. With the greater part of this coldness and supposed depth I have now nothing to do. The state of mind alluded to, though it has been much cried up, is for the most part a delusion altogether, if it be not worse. But it suffices to call attention to the awful denunciation of the senses with which this frigid school is for ever resounding. There must clearly have been an error somewhere. Man (miserable creature!) could never have been intended to have eyes, ears, and nose, if this school be right; to possess the senses, sight, hearing, smell, touch, taste; to have been endowed with a brain and nerves (special nerves) corresponding to and mainly to be influenced by those senses; to obey, and sometimes to wield, a power expressly made, and fitted to reflect on the sensations derived from such gross, such evil channels. But, in spite of this, we must accept the very evident fact that he was intended to have them, because they were given to him. They were given to him in order that he might employ them, not here or there, not to-day or to-morrow, but everywhere and always. Nature, be assured, is no Dejanira, nor the senses a Dejanira's gift to man. For the mind can receive no report of the external world without the aid of these senses. Just, for instance, as the eye and the ear are to the brain, so are sight and hearing to the mind. As the eye is to the ear, so is sight to hearing; as sight is to hearing, so are colours and forms to sounds and tones, combined. And as sight and hearing are to the mind, so are the arts of painting and music to the understanding. I am speaking now as to the effect produced from without. But when we turn to creating in art, a like relation holds. For the painter beholds all the beautiful images of his work with the eye, that is with the visual faculties, of the mind (which are, in this case, originally much dependent upon, and instructed by, the external organ of sight), and with his understanding he reflects, arranges, and combines. The musician, also, hears his Songs without Words by the ear of the mind, and the faculty most engaged is especially that most conversant with sound, the memory and imagination of sound, and chiefly connected with the external organ of hearing. So that the chain ascends from nature to the mind, and descends from the mind to nature. There is continual action and reaction; *flection*, so to speak, and reflection. For (to pass over technical acquirements, the practice of the hand and the like) a man first learns an art through an organ, a sense, and the brain, by the mind and understanding. The understanding reflects, improves, and invents; and in turn creates in art from the mind, and appeals, by the converse process, to the minds of all. Every generation records its progress, and adds something to the knowledge of its predecessor. Thus art is founded upon nature, and the light of experience. But science has been of a much more tardy and more gradual growth, and the senses are here much less certain guides, if guides at all. Art precedes science in the order of development; and the fine arts had reached to extraordinary excellencies ages before the right method of proceeding in science was even truly investigated. And several mechanical arts of daily life, the "heavenly motions in astronomy, and harmony in music, and the letters of the alphabet," were almost of primeval discovery; but the inauguration of the true processes of science dates only from about the time of Bacon. The powers, therefore, in virtue of which man has created the works of art, are essentially part of his being, inseparably mingled in the tissues of the mind's life. Poetry, painting, architecture, are all natural. They arise, moreover, from natural gifts and desires, and no more possess in themselves the nature of evil than do sight and hearing, eyes and ears, touch and taste, or, indeed, any of that wonderful and fearful structure called man. As long as some can paint, build, or compose, as long as others can hear, see, or feel, shall these noble arts be practised, as from the earliest times they have been, to adorn and civilize the world. The universal consent of ages is in their favour; they are as venerable as those twin nurses "Use and Wont," they were the delight and glory of the ancient peoples, as they are to-day of the modern; they are kept alive by means of the highest aspiration, by an intense longing to attain to true conception and expression of beauty and grace, they have been reared by a laborious creative being, the work of his hands, the delight of his eyes, the embodied emanations of his intellect. How little reason, then, is there in regarding the arts as something dangerous and basely seductive; as glittering tempters fashioned in wrong; as syrens singing from an evil isle. Yet have they by mankind been ever invested with an almost sacred character they were the handmaids of the gods in Egypt and the primeval East; with divinities they dwelt in their own majestic temples in Greece and Rome; they took refuge in Christian Byzantium when the North arose to conquer; they were kept alive and fostered in Europe by monastic institutions, which on this ground alone like Leo X. and the Medici generally) are deserving of the eternal gratitude of mankind. At a later period still we see the arts growing with the growth, and strengthening with the strength, of the Christian Church. We observe the rise and development of Gothic architecture in the North, and in the South we find the sacred shrines become a refuge for the works of painting and sculpture. It would not, therefore, be too much to say, that, from first to last, the arts have been fostered and maintained by Religion, and sheltered in their need at her feet. They were born in the temple, bred in the sanctuary, developed gloriously under the very shadow of the Cross.

We observe, then, that both the nature and history of man concur, as to the development and employment of the arts in the offices of religion. There is no occasion to make a trite enumeration of the most majestic edifices in the world, and to show that nearly every one is a temple raised here to the true Lord of man, or to some deity the worshippers presumed to be so—some name they supposed to be His. In every age history shows us the sacred sisters sitting at the foot of the "great world's altar stairs, that slope through darkness up to God."

The arts, too, are closely allied as to their principles of composition. It is natural to imagine that architecture, being an art of design, is more closely related to painting and sculpture than to poetry and music. But although all are more or less dependent upon similar principles, the resemblance lies closest between architecture, music, and poetry. These are all creative. They command the widest range of expression, and a low of the greatest freedom of choice in the artist. In these, all his ideas may become embodied; may assume the form his free mind stamps upon the materials of his choice; and, so combined together, no longer airy nothings, but, possessing local habitations and names, tell forth their wondrous tale. Language possesses rhythm and metre, vivid and noble imagery, the most touching, most telling, means of expression,—and these in unison form poetry. Music possesses sounds obedient to rule and measure, and expresses in characteristic accents the passions and emotions of the mind, both good and bad, divine and human. Milton describes the angels marching in heaven as accompanied by music; and perhaps Beethoven's march at the end of the C minor symphony would not have been unworthy of the occasion. All will call to mind how,—

> "The bright seraphim, in burning row,
> Their loud uplifted angel trumpets blow,
> And the cherubic host, in thousand quires,
> Touch their immortal harps of golden wires."

Although these harps may be too substantial, the value of Milton's authority arises from his being in many respects a Puritan of the Puritans, who nevertheless delighted in poetry, music, and architecture.

All poets have celebrated the many-sounding organ. Dryden's Cecilia "drew an angel down," and so might his own Ode too. To take an instance from it, on the evangelic side:—

> "Sharp violins proclaim
> Fury, frantic indignation,
> Depths of pain, and height of passion,
> For the fair, disdainful dame."

But it is needless to multiply examples from writers of all shades of opinion, to show that "in harmony—in heavenly harmony—this universal frame began;" and there are many which refer alike to all the arts. Music connects and combines these sounds—her words together in melody of "linked sweetness;" she enters the soul by the gate of hearing, and speaks to it with a voice that is no servile echo of the voice of Nature. Architecture deals with material parts, which she submits to the laws of proportion, and arranges in harmonious taste. These are her words and sounds, and with these she recites her poem, or symphony in stone, in the length, breadth, height, and proportionate divisions of the palace or the cathedral. She lends a material shape to the greatest ideas of the mind. For architecture is particularly expressive of power and sublimity; her appeal is to the eye, and, through that, as music through the ear, she addresses the mind. The greatest works of music, poetry, architecture, possess alike an exhaustless beauty; they render us continual delight, and gaze, read, listen as long as we may, we never leave them but unwillingly. But rather, we ought to say we cannot leave them; for they follow us everywhere, we hear their airy voices, and their shapes arise before us even by "sands and shores and desert wildernesses." Thus, then, between these three (architecture, poetry, and music,) we may have observed a very close analogy. Architecture, painting, and sculpture alike require a cultivated eye, and the taste that arises from careful observation and careful comparison, whether of Nature or of works of art. Every noble and beautiful object leaves as it were its photograph in the mind. The gallery of a richly-stored memory becomes often a powerful seat of taste.

The eye and memory of the sculptor are continually at work; and his art may contribute to architecture a more immediate knowledge of forms of beauty, a more ready habit of accurately estimating proportions, and, consequently, of effecting better combination. To sculpture, painting adds perspective and a judicious harmony of colour. The charm effected by her secret of contrast also is well calculated to moderate in theory the severity of proportions, and the mathematically strict principles of construction necessary to architecture: and thus may all the arts find assistance in each other. They proceed on like, and sometimes common, principles; and these, but few in number in which vast and numerous the combinations that have resulted from them), are the very source of all that order, grandeur, and harmony which together constitute beauty.

In all, the observation of Nature is of the highest importance. The arts are all dependent upon her; and must all conform to her laws:—

> "Nature is made better by no mean,
> But Nature makes that mean; so, o'er that art
> Which you say adds to Nature, is an art
> That Nature makes."

And so of each of the arts we may say,—

> "This is an art
> Which does mend Nature—change it rather, but
> The art itself is Nature."

I think it is sufficiently shown that the arts are so closely allied, that their virtues and vices, so to speak, are common to all of them. That if to be approved, they are approveable on the same ground; if to be condemned, condemnable on the same ground. But it is very clear, although like everything else, they may be abused, that there is essentially no evil about them. Our inquiry has shown that to understand them, the student must seek for the principles of the sublime, the beautiful, and the harmonious. They depend entirely on those laws by which the Creator himself has fashioned the world. They employ the material He has given; imitate the forms He has adopted; array themselves in the colours of His work. His is the hardness of the granite, the smoothness of the marble—His every beautiful shape. His the light, and the laws of light, which invest all works with various hues, that give expression alike to the landscape and the grandest structure; that allow us the blessing of sight by means of an organ made by law, in direct conformity with the laws of objects about us. From Him we learn height, breadth, depth, proportion. We are fitted to observe them, having senses formed for the purpose; His work and our senses, and the arts through our senses learnt from His work, are assuredly not evil, though we may make evil to ourselves from the abuse of them. Man has ever been a worshipper, whether a saint, a savage, or a sage. Is then the worship of this creature, endowed corporeally, intellectually, spiritually, to be the worship of the whole or of the part? Is it to be only corporeal, only intellectual, only spiritual so called? The first tends to make religion consist in the Hindu agony of self-torture, the second, to cause that abstract speculation and mysticism, to indulge in which men make a Pantheon of their own dreams; the third, as if in vindication of the neglect of all warm and genial feeling, to engender a calm, perennial chill of soul. But this attempted division of an indivisible being—this separation of things by nature inseparable, is against reason and against truth. The worship of man must evidently be of man as a whole; whence it follows immediately that the intellectual faculties are as much concerned in worship as any other part; that that cannot be complete worship in which they have no share, that if the intellectual faculties are thus bound to the service of God, then are the productions, their natural modes of expression,—as, among others, are the arts,—bound to be exercised to His glory and honour. Thus, the chief privilege of the man of art, as of the man of science, is to express his gratitude for the sublime gifts bestowed upon him, by means of their devotional employment; and this term devotional employment should be understood in a very wide sense. For, indeed, whatever of our work tends to raise and improve the minds of our fellows, does good service in the cause of religion; and may, just in the degree in which it so acts, be termed sacred. It is indisputable that the greatest achievements of the arts in poetry, architecture, music, and painting have been performed directly and professedly with a religious object. It is, then, the highest and noblest province of the arts to serve the Creator. It is so by universal admission for music and poetry; therefore for painting, sculpture, and architecture. For all these are intimately connected to such a degree, that much architecture is little else than music transferred into stone, and much painting nothing but poetry in colours. They vary but as the senses; they are the expression of one human mind in different languages, the children of one goddess clad in different robes. Therefore, there is no reason in separating them, and in saying we will have architecture and music in our worship, and no others. We might as well say we will have eyes and no ears, ears and no eyes. The same arguments lie for and against them all; their effects only are more or less direct and palpable.

We perceive, then, how closely the arts are allied. History shows us how often the great Italians combined the mastery of several at a time. And one is led to believe that in those days men understood some general principles of art, generally viewed, and which they were able to apply to any branch of it. And possibly these branches are more supplemental to each other than we altogether realise. Here there is still too much of the old monopoly spirit. Because a man is an architect, *therefore* he can know nothing of painting; because a painter, *therefore* nothing of architecture; and so on. But these therefores have very little truth or reason in them. On the contrary, the more thoroughly a man learns to trace the principles of art in its different developments, the better will he succeed in his own specialty; and the better he understands his own, the more likely is he to appreciate the real art. For these principles are, as has been said, very similar, almost identical, and must be equally observed in designing a building, or composing an oratorio or a poem. It is at this point, this process of development of principles into systematic shape, that art begins to change into science. "Principles are not to the artist direct objects of meditation. They are secret powers of nature, to which the forms which tenant the world owe their constancy, their movements, their changes, their luxuriant and varied growth, but which the artist can nowhere directly contemplate. They are unseen guides leading by invisible strings through paths where the end alone is looked at. But science directs our vision so that these airy ties become distinct objects." Indistinctness of ideas, we read, was first remedied among architects and engineers. The honour of this belongs to the painter and engineer Leonardo da Vinci, especially as regards the laws affecting the lever. In his remarks Leonardo observes that "Theory is the general—experiments are the soldiers." Lord Bacon has similar statements. Nature is the true teacher of men of genius; or, as Dr. Whewell (above quoted) says, "Experience and nature are the writing, and the intellect of man the interpreter."—(Whewell, Philosoph. Induc. Sci.) From all this it results that it is useful for the man of art (and especially the architect) to strengthen his scientific powers.

Public worship partakes of the nature of a national ceremony. It exacts, therefore, at least as much decorum and appropriateness as any other of our public acts. One would say that certainly no less care and reverence befit those who approach the temple, than those who wait upon the throne. We have seen that it has ever been the highest privilege of individuals to devote their art to the worship of the Deity. The poet, the architect, the musician—all have claimed and exercised this privilege; but the architect, the musician, the poet, the painter, the sculptor, are of us and among us. They belong to us, and we warmly assert their greatness and their glory. For us the mind of Wren still lives and broods in St. Paul's, the genius of Milton shines in every library, the spirit of Handel leads the overwhelming chorus of praise. The names of these men, and their brethren in art abroad, though their visits were those of angels, are familiar in our mouths as household words. We have adopted the very life and colour of their thoughts,—we must also adopt their responsibility, and lovingly discharge the sacred debt of gratitude they owed for their marvellous gifts, and that we, who have been soothed, taught, and elevated by those gifts, shall owe for ever. And in what better way can we make acknowledgment than by the use of the very highest efforts of our arts in our public acts of adoration? What is more natural, what, in the ordinary passages of life, would be more graceful, than to express your thanks for a valued gift, by means of that very gift itself? The grateful mind, that "by owing owes not, but at once repays, indebted and discharged," must surely make some sign that it is grateful. Were there a king of all the world, who should give any of us some estimable order, should we go into his presence without wearing it? And as there is (in a much higher sense) such a monarch who has bestowed upon us the arts, far more priceless than stars and ribands, shall we go into His court,—His church, without them? Consider the very example of these men, on whom Heaven bestowed heavenly minds for our instruction. Did they offer of that which cost them nothing? Is there in the "Paradise Lost" one single resource of the poetic art left unemployed, and that, too, of the very choicest kind? This blind, neglected, lonely bard, was no sensualist, no idle dreamer, no lukewarm worshipper, in need of excitement. But he had thought of endeavouring to justify the ways of God to man: he invoked the muse Urania and verily she heard in heaven, and came down. This great man did not say to himself, "O, my master is infinite; the best I can do will be nothing in his sight: therefore there is no use taking any pains about it." Had Milton been an architect, is it to be supposed he would have acted differently? Would he have built barns for the worship of God? Would he have chosen a bad style, worked it out clumsily, and revelled in compo and shams? Had Handel been a poet, would he have been contented with tame or timid diction, false imagery, indifferent grammar? For whatever name we use, we designate only the same human mind in another form. There is the human mind Newton, the human mind Milton, the human mind Handel, the human mind Angelo. The human mind is like a diamond in the hand of Time, being indeed one, but exhibiting different colours as he turns it in the advancing ages. This mind, in all its phases, has solemnly and incontestably lent its sanction to the principle, that in treating of those matters which concern the Most High, the noblest efforts of the art, chosen as a vehicle of expression, shall be called into play. The "infinity" school, the "best-will-be-nothing" school, the "not-taking-any-pains" school, in short, the school of the Buried Talent,—cold, discouraging, and inert,—would never have given the world a single art, nor have begotten a single art-mind.*

H. T. BRAITHWAITE, B.A.

* To be continued.

AMERICAN CHIPPINGS.—SCHOOLS.

THE first railway ever constructed in the republic of Venezuela has been opened for passenger traffic, and steam communication had with the interior. The event was celebrated by a gathering of "the wealth, fashion, and intelligence" of the country.

The Brooklyn public school-house, recently destroyed by fire, whereby seven children were suffocated and several injured, out of a school of 800 pupils, was erected in 1853, at a cost of 17,000 dollars, at the corner of Concord and Navy Streets, opposite the City Park. The loss is total, there being no insurance; and this case adds another to the list of fearful calamities almost daily occurring, owing to the want of proper provision for free exit in case of accident, a precaution frequently and earnestly urged in the pages of the *Builder*. The building was of brick, three stories in height, the basement being used as a playground. On this floor, also, were the heaters, three in number. The second story was devoted to the primary department, and the third story to the grammar-school. Both floors were divided into eight apartments, connected by large folding-doors. The frontages towards Nassau and Navy Streets were similar, viz., 97 feet. In the former was the main entrance for visitors, with stairs 8 feet in width; leading therefrom, also, an entrance to the female department, and in the latter one from the boys' department, 6 feet in width. The fire was first discovered in the primary department (first floor); and on one of the children crying out "Fire!" a tremendous rush was made, but the teachers of the girls' school succeeded in handing them out safely. Not so, however, with the boys: the stairs became choked, and the killed were between six and seven years of age, death having been occasioned by the trampling and suffocation—*not one burned*. The fire originated near the girls' entrance, and was occasioned by the overheating of a flue.

Our Trans-Atlantic friends have devoted much time and study to the designing of scholastic buildings; and many important buildings of this class have been executed, amongst which we may particularise those at Hartford, Conn.,—Octavius Jordan, architect,—cost 1,800 dollars,—Italian in character, with a belfry serving as a smoke and ventilating shaft likewise; Washington village, town of Coventry, Rhode Island,—cost 2,300 dollars, is two stories high, has a library of 400 volumes, and is considered one of the best school houses in Rhode Island; the Union School-house at Woonsocket and Chepachet, Rhode Island,—cost 7,000 dollars,—Mr. Teft, architect, and has a library of 900 volumes; Public High School-house, in Warren; Public School-house at Providence,—an important structure, with chiselled granite stone basement, and superstructure of Danvers's pressed brick, roof of *tin*, painted,—general dimensions, 76 feet by 50 feet,—*three* stories high, denticulated projecting cornice forming eave, pedimental ends, and containing a lecture-room to accommodate 250 pupils, progressive school-rooms for both sexes, &c. &c. Public High School-house, Salem, fitted up very completely, and combining English and Latin schools. An appropriate species of decoration is introduced here in the ceiling of the English lecture-room, which presents the circle of the zodiac, 29 feet in diameter, a ventilator, 3½ feet in diameter, representing the sun and the spots upon the nucleus, the divergence of the solar rays, the four seasons, the equator, tropics, and polar circles, all fully indicated, as we mentioned some time ago. In the angle panels of the square which incloses the circle, and on the four sides of the room, are also astronomical subjects. At New York, the Public School Society has done much; and we find in Twenty-fourth Street, between Seventh and Eighth Avenues, a school-house, with a frontage of 54 feet and 95 feet in depth, designed by Mr. T. B. Jackson, architect. The staircases afford ample means of egress, and are constructed to provide against accidents. The same architect has also built another structure at the corner of North Moore and Varick Streets, with a primary department for 300 pupils, two departments for 500 girls of different ages, and one for a similar number of boys, and having frontages of 87 feet and 75 feet respectively. The Free Academy, however, is the most important structure noticed yet, its general dimensions being 125 feet by 80 feet, by 65 feet to eaves, and to top of towers 110 feet. Style, Gothic of the fourteenth century, five stories high. Its principal apartment is the great hall, 125 feet by 60 feet, with open roof and carved ribs. Mr. Renwick was the architect. In addition to the foregoing, we may remark, *en passant*, the Primary School-house at Boston, three stories high;

the Bowdoin Grammar School-house, 76 feet, by 55 feet, and three stories high, Mr. Bryant, architect, who also designed the Quincy Grammar School-house at Boston, 80 feet by 58 feet, four stories high, and cruciform on plan; the Putnam Free School-house, same architect, and the Grammar School in Philadelphia, 82 feet by 66 feet, Mr. S. Sloan, architect; the Public High School, in the same city, and a variety of others, too numerous to notice; but the principle of having school over school appears to be carried out through America, and in some cases with a *vengeance*. Peculiar attention, however, appears to be paid to classification, fittings, and ventilation; and many valuable hints might be taken from the general arrangements, though by no means faultless in many respects.

The new plates for the treasury notes, ordered from Philadelphian and New York artists respectively, are said to be magnificent specimens of the graver's art. The head of the President will adorn the 1,000-dollar notes, and the 500-dollar ones.

The harbour of New York is getting filled up to a serious extent by deposits, and it is said that, on the representations of some engineers, the Government is about taking steps to clear it.

The American Telegraph Company now sends despatches from both ends of the line, and simultaneously, by a *single* wire, the electric currents meeting and crossing, but causing no irregularity. Two ordinary cells of the Grove battery are used. This is the invention of a Mr. Hughes.

The Pacific Railroad Bill is matured, and the line will pass between the Big Sioux and the mouth of the Kansas river to San Francisco; alternate sections of land to be granted, and 12,500 dollars per mile advanced on the completion of every twenty-five miles of the road until 25,000,000 dollars be reached.

A new city hall is proposed to be erected at New York, and a bill for that purpose has been applied for to the Legislature. It is also proposed to erect an inebriate asylum at same place, and to appropriate 50 per cent. of the Excise moneys towards the expenses.

Fire companies in Philadelphia are now purchasing steam fire-engines. Two companies are fully provided with them already.

In Baltimore a suit has been instituted against a "gas company" for *retailing whiskey* without license, it being put into the metres, to prevent freezing, and the consumers charged for it.

A "dummy engine" has been placed on the city portion of the north Pennsylvanian road. Its progress, it is said, is unattended by noise, and the construction such that it can be stopped in an instant, even when progressing at its highest speed. The invention is by Jos. Harrison, jun. of Pennsylvania, and essentially different from anything hitherto known.

The lake end of the Pontchartrain railroad is about half destroyed by a tremendous storm that lately swept over New Orleans.

The snow fence on the Central railroad has been set for seventy-eight miles, and cost 130,000 dollars. The posts are of oak, set 3 feet in the ground, and the boards are about 10 feet high.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Monday, 22nd inst. a meeting was held at the Rooms, in Grosvenor-street, Mr. Scoles, V.P. in the chair.

A letter was read from Mr. John Bell, sculptor, presenting to the Institute photographs of an obelisk and fountain, designed by him, to commemorate the Great Exhibition of 1851, with suggestions as to the introduction of the entasis in obelisks.

The Hon. Secretary read a memorial that had been adopted, with reference to the recent competitions for the Government offices and barrack accommodation, which we have printed elsewhere.

Professor Donaldson announced that there would be a scientific congress at Paris from the 5th to the 15th of April, and that M. Caumont, of Caen, had invited the Institute to send delegates to meet others from various continental cities. Many subjects would be discussed, and among them some that would be interesting to the Institute, and the architectural profession generally. He thought it would not be quite within the province of the Institute to delegate any gentleman to attend this congress, but if any of the members were disposed to go to Paris on the occasion, he would personally be happy to give them an introduction to M. Caumont, who, he was sure, would give them a cordial reception.

Mr. Digby Wyatt then read some "descriptive particulars and critical remarks, on the remains of the Abbey of Kilconnell Abbey, Ireland," by Mr. James Blake, architect; the paper (which was illustrated with well-executed drawings and detailed plans), being the one to which the Institute at a late meeting awarded a medal and five guineas.

Professor Donaldson, initiating a discussion, said he rather differed from Mr. Blake in the conclusion that foreign influence had affected the designs of the abbey and other works in Ireland of a similar class, and in doing so referred to drawings he had himself made in a recent tour through Ireland of the Abbey of Kilmallock, and which were remarkable for their identity in plan and design with the characteristic features of Kilconnell. Both these abbeys were constructed of similar materials—the black limestone, found in the county, and which was susceptible of a high polish, but its colour being almost black, rendered it unfavourable in an architectural point of view, as not being sufficiently relieving in its effect on the landscape and surrounding objects. He (the professor) hoped that the effect of this paper would be to induce other young men in Ireland and Scotland to produce equally desirable illustrations of the buildings of their respective countries.

Mr. Nicholl suggested that instead of these buildings having been influenced by any foreign taste, they were rather late imitations of early works executed from memory by persons who had seen them abroad, and referred to various buildings in Ireland in support of his hypothesis.

Mr. Wyatt observed that the Mediæval buildings he had seen near Dublin, presented decidedly English features; and was of opinion that the originality that characterized these buildings arose from a want of knowledge of other styles.

Mr. Nicholl added that the spire in Ireland, from the circumstance of its being considered an English and Protestant feature, was seldom adopted.

Mr. C. Barry congratulated the Institute on having developed in the present and past papers the architectural antiquities of Ireland, which had received far less attention than they deserved, and the value of which had yet still further to be developed, though it was hardly fair to judge of the merits of the greater works of Ireland from the isolated though highly interesting specimens that had come before them.

ROYAL ENGINEERS *versus* MILITARY ARCHITECTS.

CONDITION OF BARRACKS.

SINCE I last occupied a portion of the *Builder's* pages by a few observations on the above topic,* the attention of the public has been more fully drawn to the subject, and the verity of my statements proved by the Commissioners' report and your own investigations on the sanitary condition of our military establishments.

The startling fact that we annually sacrifice 2,500 of our devoted soldiery upon the altar of ignorance or official routine, cannot be contemplated without exciting a corresponding amount of disgust for the most ineffectual, enormously expensive, and ridiculously cumbrous Engineer Department, whose past working has brought about these disastrous results, and at whose door the blood of its victims must now be laid. Will a nation that so eagerly responded to appeals on behalf of the Crimean or Indian sufferers, or that employs its power to sever the chains of the African slave, look without sympathy upon this subject, and continue unaltered a system proved to have destroyed so many of our bravest sons by means, perhaps, less revolting than the savage massacre of Cawnpore, but, nevertheless, equally odious in our eyes and certain in its effect? That the evils complained of are traceable to the ill-arranged and badly-ventilated barrack accommodation we cannot for a moment doubt, when we consider the facts now made known by the Commissioners' report. It is not possible to preserve health in such apartments as have been illustrated in late numbers of the *Builder*. There is evidently no exaggeration, and they might be taken as examples of a large portion of existing barrack-rooms, which are generally as ill-constructed and equally calculated to spread the contaminating influences of disease. I have seen *four families* stationed in one barrack-room!! the floor of which was *below* the level of the surrounding ground, and the only light or ventilation it received was from a single window which opened into a small yard where the soiled bed-clothes from the hospital and dead-house were frequently washed—and this, too, in a barrack where the Royal Engineer officer—without a family—occupied quarters sufficient to comfortably lodge at least thirty or forty men.

I have also known soldiers to be obliged to stop up holes above the skirting of their barrack-room, when retiring to bed, that their rest might not be disturbed by a number of *rats!* that infested the place from a neighbouring sewer, making way at the same time for the passage of those deleterious gases which are naturally generated at the same impure source. But we need not multiply such instances: it is sufficient to know that, with few exceptions, every barrack in the kingdom is most defective, and that notwithstanding the enormous amount annually expended through the medium of the Royal Engineer Department, there is not that improvement manifest which the public has a right not only to *expect*, but *demand*. As a nation, we liberally provide means sufficient, in judicious hands, to maintain our military establishments in a state worthy of our position amongst other nations; and it is a sad reproach to us to find that means in the hands of improper or incompetent officials fail to accomplish the end desired. At present the majority of our barracks might be defined as irregular piles of buildings thrown together, without order or arrangement, disregarding even the ordinary requirements of those who are expected to occupy them; and we fear they must continue as such, if there is not forthwith a well-digested scheme for the improvement of *each barrack*, laid down as the groundwork of all future building operations, which operations should be carried out in the furtherance of this scheme, so as ultimately to secure its perfection. And there must be competent persons entrusted with carrying out the details, and responsible for the proper fulfilment of such a scheme, who should *permanently reside* in the neighbourhood of their charge; unlike the Royal engineers and their civil staff at present, liable to be shifted about to all points of the compass, which in a measure removes their responsibility, as they cannot be expected to be answerable for defective barrack accommodation at stations where they have not remained a sufficient time to enable them to acquaint themselves with existing defects, or suggest adequate improvements; or their energies may be cramped by being bound to the "regulation pattern;" or, as it often happens, their suggestions may be cancelled, when submitted for approval to a series of officers, from their own rank, up to the highest "authorities," few *if any* of whom could possibly justly estimate the necessity of the project, being personally unacquainted with the circumstances that called it forth.

Let me, then, in conclusion, again urge the necessity of removing the Royal Engineer officers from their present civil appointments, and substituting professional men in the capacity of military architects, who will have permanent charge of the military districts, and be *directly* and individually responsible to the inspector-general for their proper maintenance, without that circumlocution of official red-tapeism which now usurps the place of independant professional knowledge.

C. E.

* Vol. xv. p. 726.

MEMORIALS AND MONUMENTS.

Proposed Memorial of the Great Exhibition.—A deputation of the committee, consisting of the chairman and the two honorary secretaries, attended the Chief Commissioner of Works, Lord John Manners, on Monday last, and made a formal application for leave to erect the proposed memorial, or such modification of it as may be arranged, on the site of the Exhibition building, in Hyde-park. The Chief Commissioner entered fully into the matter, and promised attention to it. The committee have announced that the exhibition of the designs will close on the 10th of April.

Memorial of Princess Royal's Marriage at Banbury.—The committee appointed to consider the memorial to be erected in honour of the marriage of the Princess Royal at Banbury have decided to erect a cross and fountain combined, in the Horse-fair, where the roads meet. Several designs have been exhibited, but that of Mr. Gibbs, of Oxford, architect, has been selected. It is in the Decorated Gothic style, and the height about 50 feet. There will be six niches filled with statuary, and three semicircular basins will receive the water which is to flow from the conduit. Mr. E. Hutchings having offered to exhibit some stereoscopic views in aid of the funds for erecting the memorial, the offer has been accepted with thanks.

Statue of the late Duke of Devonshire at Derby.—It has been determined to erect a statue of the late Duke of Devonshire in his county town of Derby. Should there be any surplus funds, they are to be devoted to some charitable purpose, such as the late duke would have approved of.

The Rutland Memorial, Newark.—The plan of the parsonage for All Saints' parish resolved on as a memorial of the late Duke of Rutland, will comprise a front of two tower sides, and the centre formed by a large tablet, surmounted by a monumental tower or spire (?)

The Morley Monument, Newtown.—The monument, erected by subscription to the memory of

the late Mr. Arthur Thomas Morley, proprietor of the Newtown-hall property, has been placed on its site over the grave of that gentleman, in the Newtown churchyard. The monument is an obelisk, standing about 14 feet from the base, in freestone, ornamented. The execution of the design, and the erection, were entrusted to Mr. Edwards.

The Brotherton Memorial.—The subscriptions amounted to 2,532*l.* of which 600*l.* have been paid Mr. Noble on account of the statue to be placed in Peel-park: Mr. Noble will receive 1,000 guineas in all. There is a balance in hand of 1,870*l.* The interest on the surplus will be expended in books for the public libraries of Salford and Pendleton. Mr. Noble reports that the statue is steadily progressing at the bronze foundry, and that he expects it will be quite completed, and fixed in Peel-park, by the 1st of May next. Messrs. Holmes and Walker, the architects of the memorial for the cemetery, state that the carving and labour upon the monument are progressing satisfactorily, and that they expect the monument will be ready by the 1st September next.

Sculpture for the Public Parks.—In the House of Commons, last week, Mr. T. Duncombe asked the President of the Board of Works whether, in the event of any offers of sculpture, as approved specimens of the fine arts, being made, by way of gifts, to the nation, with a view to their being placed in the parks, any objection would be raised on the part of the Government to their acceptance. Lord J. Manners replied, that if any public-spirited individual made such an offer, he should be prepared to take her Majesty's pleasure upon the subject. At the same time, he should recommend the acceptance of none but really meritorious works.

The Washington Monument at Richmond (U.S.).—The inauguration of the Washington monument, at Richmond, took place on the 23rd of February last. There was a procession, a banquet, and an oration.

LONDON STREET TRAFFIC.

THE system referred to by your correspondent, "R. M. Major," in his letter on "Street Railways for London" (p. 185), is, I presume, the one patented about the year 1821, by the late Mr. H. R. Palmer, who was some time engineer to one of the dock companies in London. I think he intended it for comparatively slow and heavy traffic: but it appears to possess peculiarities which, if developed, would not only render it available for the leading street traffic, but also for cheap and comparatively quick communication in many parts of the country, where costly railway works would not pay for carrying out, so little land is required for it; in fact, just width enough for a bridle way on each side the rail, to work it with horses, at a sharp trot. It has struck me as being so far capable of development, especially for the country, in various ways, that I have been on the point of addressing your journal, more than once, upon the subject, since the "street railway" system has been in agitation. One difficulty attending its application to the London passenger traffic, would be the constantly varying load: this, however, might possibly be overcome on looking closely into the question. The mode of traction suggested by "R. M. M." would, I think, be inadmissible, from the great noise of the friction-rollers, both before and after the passage of carriages, alone.

I think it possible the atmospheric principle would be the most manageable; and, if this were used, the rail for the carriages to run on might be placed on the top of the tube, and partly supported by it. But I think after all, horse traction would answer every purpose, as a very fast rate might be attained by this means from the easy draught, at the same time taking a large number of passengers; and the horse or horses might run in advance of the carriages, on a light platform, about 6 feet wide, fixed sufficiently below the rail, to let the flanges of the wheels have full play for any side motion, owing to unequal loading. There would be a slight platform at each of the supporting columns, level with the bottom of the carriages, with steps from it to the level of the street. I would then suspend the carriages (which should have only one seat longitudinally, with the backs outwards), so that doors might open from a narrow passage, running the whole length of the carriage, towards the above platform, for the egress of passengers.

I also thought a footway-crossing might be combined with this plan, at the intersection of all the leading thoroughfares, the danger of the present crossings to the aged and infirm being so often the theme of complaint at the present day. The telegraph and lighting might also be combined with the structure.

HENRY L. PRICHARD, C.E.

THE ECLIPSE.

A GLANCE BACKWARD AND FORWARD.

Thousands of years have rolled away
Since from Chaldæa's awe-struck plain
A deep gloom chased the light of day,
Remain'd awhile, then fled again.

Her wise men watched with eager eye
The leaden shadows close around;
The dark'ning, dim, descending sky,
That well nigh seem'd to touch the ground.

Then, as the heavy curtain cleared
From off the broad disc of the sun,
Soft, varied rainbow tints appear'd,
Chasing each other one by one.

And when the solemn scene was o'er,
The Sabæans left the brighten'd plain,
To con afresh their ancient lore,
And learn when 'twould occur again.

They thought and studied long and well,
And graved their cabalistic lines,
To after ages to foretell
The advent of these wondrous signs.

Their dumb words slept in sculptured stone,
Till chance restored the missing clue;
And now, no longer mute and lone,
They speak their prophecies anew.

The long-predicted day has come,
And hark! through lands to them unknown,
From prince's hall to peasant's home,
The Chaldæans' winged words have flown.

I stand beside a calm, deep pool,
With grassy carpet round me spread;
The young spring day is damp and cool,
And clouds are gathering overhead.

I watch the thronging gazers pass,
To where more open space is found;
With helioscope and tinted glass,
They come, and gather thickly round.

But while the darkness grows apace,
The curious mists obscure the sky;
I turn to earth, and o'er her face,
Watch the strange phantasms that fly.

Again is seen the oppressive cloud,
Descending on the stifling world;
And o'er the water, like a shroud,
An inky metal wave is hurl'd.

The death-like stillness of the trees,
Recalls to mind that army wan,
Ere yet Ezekiel bade the breeze
Transform each corpse to living man.

The birds have hush'd their joyous tone,
And sound the hurried call of fear;
Faint twittering cries are heard alone,
And cocks proclaim some danger near.

But see! the wreaths of mist divide,
And show the bright ring of the sun,
Yet quickly close again, and hide
The marvel, ere our gaze is done.

Thus is the "Sun of Righteousness"
Obscured by mists that rise from earth:
Our vanity, our worldliness,
Our busy plans of little worth.

And self-love is the broad shade cast—
The dire eclipse that hides the light,
The light of truth; and binds us fast
In ignorance and hopeless night.

March, 1858.

MEDICAL ATTENDANCE ON THE POOR.

IN the course of inquiries respecting the dwellings and condition of the London poor, we have often noticed, with gratification, the kind and well-directed exertions of the medical men appointed by the parishes to superintend the large number of sufferers who, but for this in times of sickness, would be without advice. In addition to their care during ill health, the labours of the district surgeons have in many instances been most usefully directed to the removal of unsanitary matters. Knowing the value and importance of the services of this body of hard-working professional men, surprise must be felt in noticing the reward offered in an advertisement put forth by the parish of Clerkenwell, for a medical officer for a part of that district. *The sum offered is* 50*l. a year*, and the surgeon is expected to find the *drugs and other medicine*.

We are told that in one of these districts the number of cases which came under the care of the medical officer was 1,750, which, on an average, required twenty attendances each: the consultations at surgery and patients' homes were about 7,000; the repetition of medicine, 2,770. The sum of 50*l.* a year for the services of an educated and duly qualified practitioner seems to be very inadequate; but, when drugs and chemicals have to be found, we should think that, if justice be done, the medical officer will find himself money out of pocket.

Fifty pounds a year for medical attendance and medicine for nearly 2,000 sick is about sixpence each case for attendance, on an average, during twenty days each, with medicine. Surely this is neither wise nor just.

EXHIBITION GROUNDS, KENSINGTON-GORE.

SINCE the removal of the Crystal Palace, when a scope of some forty acres was placed at the disposal of the Commissioners, the plot reserved for the immediate objects of that Board has lain in a state of desolation. Including the grounds of Gore House, the quadrangular inclosure is bounded by the Gore-road on the north, Cromwell-road on the south, Exhibition-road on the east, and the Prince's-road on the west. The parallelogram is complete, except at the north-east corner, where Lord Auckland's mansion and about five acres intercept that portion of park frontage. The Gore House and offices have been demolished, and the beauteous shrubbery, with which many of our sage senators and *literati* of twenty years' back were so familiar, has run to waste and wilderness.

Whatever the object of the Commissioners may be,—and the general opinion seems to have been adopted, that a park surpassing all that has been yet achieved is destined here to delight the public,—it is clear that until the gardens of *Eden* are purchased and superadded, we cannot complete the promised Hesperides.

In the view that the grounds are to be kept open, magnificent ranges of houses are now rising rapidly on the off sides of the three noble boundary roads, which are each 100 feet wide. These handsome elevations are the best possible finish for an intra-urban park: but, except as to the fence consisting of park paling, there is no evidence of design as yet visible upon the lands obtained at so enormous a cost. Some activity is, however, observable; as within a few months large quantities of rich manure have been laid down as agriculturists do on pasture lands. This looks like thrift, with a view to profit; but landscape gardeners, who wish to produce a smooth and soft turf, avoid of all things "engraissement," more particularly on rich alluvial soil like this.

Again, the work of destruction has begun upon the few trees, some of them of full growth and reverent age; a dozen noble hollies, of 50 to 100 years' standing, have already been felled; and one venerable and highly-ornamental yew now lies bleeding on the sward he shaded for a century: the axe is laid to the roots of the trees generally, and havoc rages in those woodlands once the haunt of Cromwell!

Can it be that a *model farm* for the instruction of juvenile oppidans is here contemplated, so that as students in arborage (if not botany) now derive knowledge from the labelled trees and shrubs of Kensington-gardens and St. James's, so the nascent farmer may acquire accurate data of productiveness per acre from the various guanos and chemical substitutes latterly used in place of farm-yard waste?

Should the experimentalist in these grounds mean, however, to indulge his taste for landscape gardening, and really be commissioned to plant the area in question, it is hardly conceivable wherefore he should have swept away so many fine trees and shrubs, which even, although he were to form his new plantations from beds of three yearlings, could in nowise have impeded the work. It is possible to plant, as at Strathfieldsaye, a few forest trees of large growth; but the substitution of a single holly or yew, such as have been *gothickly* hacked away, is an utter impracticability.

A grove of apple trees remains. We Brompto-nians have often at this season turned our eyes towards these and others, their mates of the orchards, now no more, in anxious expectancy of the roseate bloom that ushers in the spring. Better allow them to stand than to convert the whole inclosure into one extended paddock. The new houses, the old town of Kensington, even its an-

cient steeple, will be a poor exchange for these once fascinating orchards. To the inhabitants of the western limb they were fascinating, as the only evidence at hand of blooming fruit-trees.

The recently beautified parks and such inclosures as the Exhibition grounds do make some amends to citizens far distanced from the country; and now that Sir Benjamin Hall has proved the perfect feasibility of forming lovely bosquets, shrubberies, and even forest glades within very circumscribed spaces, it is to be hoped that the opportunity may not now be lost of effectuating on the splendidly placed *enceinte* of the Exhibition park something that may even surpass what Hall or Loudon ever have done.

The improved taste of this generation, if it expects no more, will not be satisfied with less than the finish and style of examples already provided for them; therefore the Commissioners are practising on ticklish ground. The little strip of frontage facing Hyde Park-gardens proves to what perfection the choicest shrubs and flowers may be brought when treated with taste and judgment. What is easy on the north of Hyde-park cannot be difficult on the south side, where the soil is much better and the temperature even more genial, provided always that the right man be put in commission.

QUONDAM.

CARDIFF BUILDERS' ASSOCIATION.

AT the annual dinner in connection with this association, held on the 15th instant, various grievances as against architects were stated. Mr. Daniel Jones, the vice-chairman, said, in the course of an address,—There were many grievances which it would be impossible to remove by the individual exertions of one man, but which might be accomplished by united aid. They all, no doubt, strongly disagreed with certain clauses in specifications. It was a common occurrence for a gentleman requiring a house to be built for 1,000*l.* to take the lowest estimate, paying at the rate of 80 per cent. as the work proceeded. Now, in nine cases out of ten, it was laid down in the specifications that "the work must be done to the satisfaction of the architect," although the architect might not have properly explained his work. The contractor must finish his work to the satisfaction of the architect, and nothing could be omitted which the latter considered necessary to the finish of the work, though it were not mentioned in the specifications. He considered that a most "diabolical" clause. "If you don't take that down," said the architect, "I will not certify." In fact, the poor contractor got into a deep hole, and often had to swallow bitter pills. He had made up his mind to refuse any work when the specifications contained this clause. It had been the custom lately for the architect to furnish a bill of "quantities." No mistake which he might make in his quantities was allowed after the estimates had been sent in. Now he (Mr. Daniel Jones) contended that the builder or contractor ought in common fairness to be guaranteed that these quantities were correct. The idea of paying 2 per cent. on unguaranteed quantities! But the architects not only charged 2 per cent. on the quantities, but a few guineas for the paper on which the quantities were sent, which was preposterous. There was also a charge for the building plan, and he considered both these charges an imposition. Mr. P. Price said that they had suffered for the want of fair play on the part of the architects, who encouraged the public to take contracts at a price too low for the work to be done in a satisfactory way. The architects were thus accessory to the ruin of the builder. The architects considered themselves gentlemen and men of honour, and the public only laughed at the builder when he was taken in. They must not be fools enough to be swindled out of their money. The honesty and courtcousness of the builders had been tried, and it should not be abused.

NOTRE DAME, PARIS.

THE great works undertaken for the restoration of Notre Dame de Paris have completely changed its interior aspect. The building is separated into two parts by a temporary partition running the whole length of the transept. The choir and the sanctuary, of which the great arches are in course of reconstruction, are at present abandoned, and a temporary altar has been erected at the end of the principal nave for the celebration of Divine service. As soon as the above arches are finished, the remaining ones, viz. those of the transept and nave, will be also restored, for they are as leaky as the others were.

The exterior works are being proceeded with as rapidly. Already the north façade along the Rue du Cloître-Notre-Dame has been attacked on all points, from the Porte-Rouge to the grand lateral porch. Different changes are being made in its decorations, especially in those over the lower great windows.

There existed between the two towers, formerly, a very high spire, rivalling in fineness and elegance that of the Sainte-Chapelle. Owing to some doubts as to its solidity, it was taken down in the last century. The present plan of the Government is to rebuild this beautiful spire, whose demolition caused so much regret, and which is shown on all the elevations of the church anterior to the nineteenth century.

The south façade is now in all its pristine grandeur.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

A MEETING of this Institute was held on Monday, the 15th instant, in George-street Hall, Mr. Cousin in the chair. A number of ladies, for the first time, in compliance with the invitation of the council, attended the meeting.

Colonel M'Niven, of Tusculum, read a paper on "Imposing Approaches and Entrances into Towns and Cities, with miscellaneous personal Reminiscences of Rome, Greece, Syria, and Palestine." The reader referred in the first place to some of the ancient structures of Rome, whose Arch of Constantine, he thought, would prove a most desirable model for a structure to adorn the west approach to Edinburgh. Passing on to ancient Athens and to the Holy Land, he commented upon some of the magnificent ruins and antique monuments which had attracted his special admiration, and took occasion to remark upon the want of refined classic taste in some of the more prominent monumental structures of "Modern Athens."

Mr. William Miller, the secretary, read the report of the council upon the drawings and models submitted in competition for the Institute's prizes, which stated that thirty-seven drawings and two models had been received. The drawings sent in competition for the silver medal for the best geometrical drawing of an architectural subject were twenty-one in number, and the successful competitor was John Alexander Hamilton, apprentice to Mr. David Rhind, architect. The drawings of William Leiper, apprentice to Messrs. Boucher and Coustand, architects, Glasgow, G. S. Aitken, James Honekirk, apprentices to Mr. Robert R. Raeburn, architect, Edinburgh, and William Fettes, apprentice to Mr. Jas. Matthews, architect, Aberdeen, were entitled to honourable mention. For the second prize, to be competed for by apprentices of not more than three years' standing, eight perspective drawings were sent in. The successful candidate was Robert Morham, apprentice to Mr. Rhind. Those entitled to honourable mention were J. M. Smith, apprentice to Mr. James Salmon, architect, Glasgow, Hugh Clark, apprentice to Mr. J. Honeyman, architect, Glasgow, and James Souttar, apprentice to Mr. Matthews, Aberdeen. For the third prize—for best design of a pulpit, Gothic style—the successful competitor was Thomas Ross, apprentice to Mr. A. Kirkland, architect, Glasgow. For the fourth prize—for the most novel and beautiful design for mural decoration—two drawings were sent in, but the council did not consider themselves justified in awarding a medal. For the fifth prize—for the best model or cast of a model—two models were sent in, the successful competitor being William Gellatly, Edinburgh. The other, a specimen of modelling from nature, was the work of Samuel Hunter, Edinburgh. The prize drawing of Mr. Morham the interior of the chapel of Versailles—was very skilfully executed.

"IS THE PRODUCTION OF STAINED GLASS AN ART, OR A MANUFACTURE?"

OXFORD ARCHITECTURAL SOCIETY.

AT a meeting of this society, held on the 11th inst. Mr Buckeridge read a paper on "The Production of Modern Stained-Glass Windows," in the course of which he said,—"Are we satisfied with the majority of modern stained-glass windows? Methinks we shall be unanimous in answering to this question in that little monosyllable, 'No.' And why not? Because for the most part they are fearfully wanting in true artistic merit: the arrangement of colour is bad: the grouping of figures is bad; and the drawing of the figures is worse. You will not be surprised at this when I tell you that, with a few exceptions, our stained-glass windows are turned out of establishments the owners of which have no more artistic skill than a linendraper: these men turn art into a trade, and deal with it in much the same spirit as a greengrocer deals in vegetables. Such doings as these make one ask the question, 'Is the production of stained-glass windows an art or a manufacture?' Some call it one, some the other, and others split the difference and call it an 'art-manufacture,'—a very ambiguous term this, which generally means that manufacture has more to do with it than art. That it is an art, and that, too, of the highest description, may be asserted from the fact that 'there is no aptitude that an artist can possess by nature or education for colour, poetry, or composition, no power of expression, draughtsmanship, or invention, that may not in glass be legitimately wedded to its materials and the true principles of its requirements in design.'* It is as much an art as architecture, sculpture, or painting—I mean picture-painting; the art of stained glass-painting is a perfect and true art; but, at the same time, it is an individual one, which arises from the nature of its materials, and the peculiar treatment, most thoroughly opposed to picture-painting, which is necessary to produce a good piece of stained-glass painting. Picture artists for the most part have neither skill in, nor knowledge of, architecture and ornament, both of which are essential in works of stained glass. We need only go to New College Chapel, where we shall see how miserably such a man as Sir Joshua Reynolds, great in his day as a picture-painter, failed in his attempt to produce a stained-glass window. The west window was designed by him and a wretched thing it is. A similar infliction awaits one on visiting Magdalen College Chapel. It is quite refreshing to turn from the old dingy brown saints, who cast a gloom over the whole of Magdalen College Chapel, and look at the new window lately put in by Messrs. Hardman and Co. in which the true principles of glass-painting are carried out, though I fear not to such perfection as Messrs. Hardman and Co. generally manifest in their productions. Artists in glass-painting must be thoroughly imbued with the spirit of Mediæval art, having a thorough knowledge of the human figure, the management of draperies, and be well skilled in the knowledge of architecture and ornament. A few such men there are, and their numbers will doubtless go on increasing as pupils from time to time go forth from their masters' studies imbued with their spirit and skilled in their art." Mr. Buckeridge concluded his paper by reading other extracts from an article on this subject which appeared in the *Builder* of Dec. 19, 1857.

REMOVAL OF SMOKE STAINS.

IN reply to your correspondent, "H. C." I shall be pleased if the following remarks prove of service to him or others.

The stains on walls and ceilings, resulting from smoky chimneys, are various in their nature. Where a film of soot is deposited on a porous surface, —such as plaster, —it is almost impossible to remove the stain: if rubbing with water, to which has been added a little plaster of Paris and solution of ammonia, will not do it, nothing else will, and the disfigurement must be concealed by whitewash or colouring.

Where, however, the material is not very absorbent (as, for instance, wood or marble), the stain produced by the various hydrocarbons existing in all smoke may be got rid of by the application of *benzole*, or *coal-tar naphtha*. It is, of course, essential that the benzole itself be free from colour: if only a small quantity be required, it should be purchased *pure* of an operative chemist. But the ordinary commercial coal-tar naphtha can be rendered quite as good, by the addition of a little quicklime and subsequent distillation.

The benzole used in my laboratory for various purposes, I obtain from Mr. Halliday, of Holborn, who supplies it retail, at about 4*s.* per gallon. By the above simple process, it is purified from all non-volatile matters.

Coal-smoke, as it generally contains sulphuretted hydrogen and sulphide of ammonium, is apt to discolour lead-painted surfaces in another way, viz. the formation of the black sulphide of that metal. Here, again, if the stain is not a very old one, benzole may prove of use, when cautiously and rapidly applied, by veneering a thin film of the paint itself, and exposing a fresh, clean surface. As is well known, zinc paints are not discoloured by any sulphurous gas, and those colours containing lead may be perfectly protected by a coat of some hard varnish.

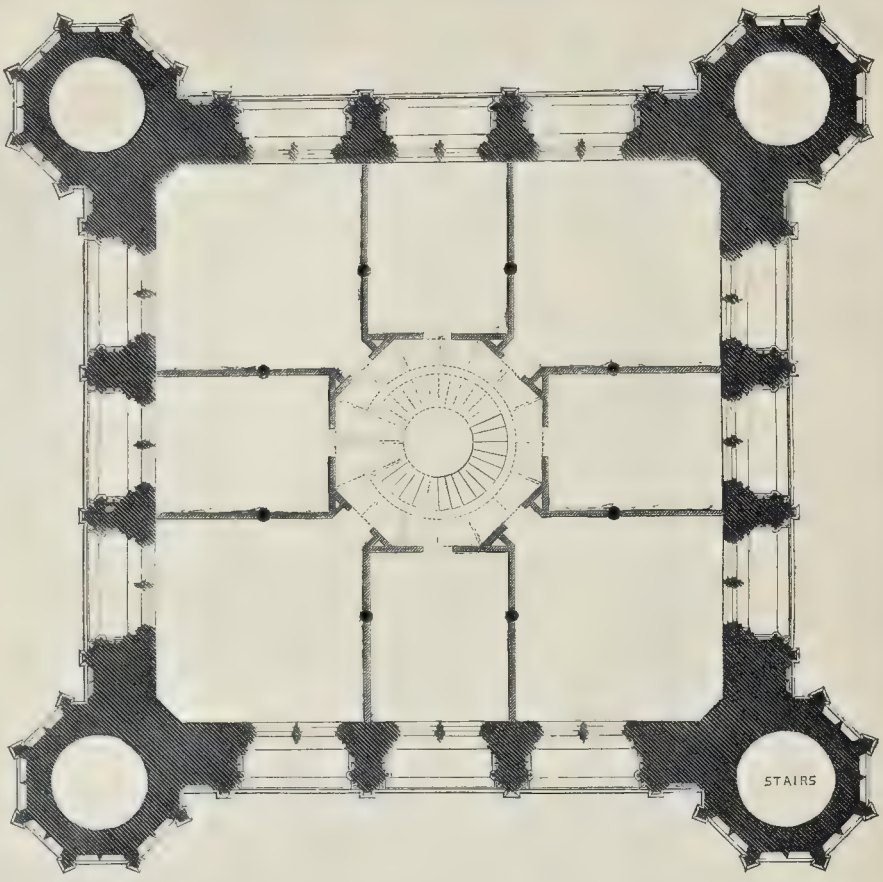
WENTWORTH L. SCOTT.

PRESBYTERIAN CHURCH COMPETITION, BRISTOL.

THE following award has been made in this competition:—1st prize, Mr. Neale, Bristol; 2nd prize, Mr. Knightley, London; 3rd prize, Mr. Hirst, Bristol.

The treasurer informed the author of the 2nd design that, although it did not meet all their requirements in as great a degree as the one selected, in an artistic point of view it stood first.

* The *Builder*.



VICTORIA TOWER, WESTMINSTER: PLAN SHOWING UPPER TIER OF WINDOWS.

THE VICTORIA TOWER, WESTMINSTER.

THE smiths are hard at work hammering together the iron roof which is to form the termination of the Victoria Tower, as shown in the annexed view, which, added to the engraving given in our number for March 13th (p. 179), affords a perfect representation of the tower from the ground to the flagstaff, to a large scale. Our illustrations of the Westminster Palace extending through several volumes, will be found to embrace nearly all the principal features of this enormous structure. "With which," as was said by Mr. Scott from the chair of the Institute lately, "no other building of the present, or of the last three or four centuries, can be compared, either in respect of its magnificent towers, its internal finishing, or its adaptation to the multifarious wants it is intended to supply." "Before such a structure," exclaimed a foreign ambassador, the Count St. Aulaire, when viewing it, "before such a monument of science and art as I now gaze on, I feel my own littleness." We name in a note the chief of these illustrations,* and for descriptive accounts of the various parts, which have appeared from time to time, our readers must themselves refer to the indexes.

Of the Victoria Tower so many particulars have been given that little remains to be said. We may briefly recapitulate that the tower is 325 feet high from the ground to the top of the finial of the turrets: these turrets themselves are 84 feet high from the cornice of the tower,—the height of a good-sized church tower. The internal diameter of the tower is 51 feet, and the external width, including the turrets, 70 feet. The noble groined vault over the inner area of the tower to form the Royal Porch below is about 63 feet from the ground. It is unnecessary to tell professional readers that great care was required in forming the foundations, especially as the ground was bad and full of quicksands. A double close row of piles was driven, completely surrounding the site, the earth within this enclosure was then excavated, and concrete was thrown in to the depth of 10 feet 7 inches. Two courses of 6-inch landings were then placed on the concrete, and upon these the walls were carried up, without accident of any sort, a certain number of feet every year. If the tower contains, as Mr. Charles Barry stated in his account of the scaffolding,* 117,000 cubic feet of stone, 1,350 rods of brickwork, and 1,190 tons of iron, there is a weight of at least 28,000 tons on the foundations. The enormous resisting power of good brick and stone, in position, is well exemplified by consideration of the weight on every foot cube of the lower part of the walls of the tower. The corner turrets, of which, as the plan shows, there are four, are built hollow, and were intended to be used by Dr. Reid for the passage of air. In one of these turrets, the south-east, is a winding staircase of iron, which leads without interruption to the roof, by 472 steps around a small well-hole. Hereafter, the steps will be continued up the turret to a balcony, which may be recognised in the engraving, whence is to be had, on a clear day, an unmatchable view of the metropolis and its surroundings. The buildings near the tower are greatly changed in aspect by the position: the Abbey, for example, looks prim and squeezed up, more lofty too, and the cloister-court is nothing more than the backyard of a town house; the muddy Thames winds its course immediately beneath your eye, and the hundred churches of the City are close upon you. For the speculative observer, then, here are materials and to spare, but he must wait until the roof is finished, for the men are banging about the plates which are to cover it, and the standing is not the most convenient.

We came a little too fast up the iron corkscrew, and must return. Just notice the effect from the bottom, looking up the well-hole to the small dot of light which marks its present termination. The steps are perforated, which, though advantageous as to light and lightness, have the inconvenience of allowing the dust of one in the ascendant to fall through on another. It is a long, long turn; and we heard an energetic little lady sighing for some diversity on the way—a morsel of carving, or a quaint piece of groining, such as she had met with in many an old turret at home and abroad. We must be contented, however, with the fact, that so commodious and easy a mode of ascent is not to be found in many other towers. Moreover, this is not the only way up. The section in our previous volume, already

* Interior of House of Lords, vol. v. p. 183.
Entrance to House of Lords from Peers' Lobby, vol. v. p. 194.
Throne in House of Lords, vol. v. p. 230.
Candelabrum, vol. v. p. 231.
Reporters' Gallery in House of Lords, vol. v. p. 254.
The Victoria Lobby, vol. v. p. 303.
Interior of the House of Commons, vol. viii. p. 6.
Interior of House of Commons as altered, vol ix. p. 611.
The New Cloister Court restored, vol. ix. p. 675.
St. Stephen's Porch, with Section and Plan, vol. xi. p. 562.
The Peers' Entrance, vol. xiv. p. 219.
The Peers' Staircase, vol. xiv. p. 627.
The Clock Tower and Section of upper part of it, vol. xv. p. 62.
Scaffolding and Section of Victoria Tower, p. 567, &c. &c.

* Vol. xv. p. 508.

THE VICTORIA TOWER, WESTMINSTER.—Sir Charles Barry, R.A. Architect.

mentioned, shows that above the vault, over the ground story, the interior of the tower is formed into nine floors, irrespective of the apartments in the roof, by iron girders and columns carrying brick arches; and the plan in our present number shows how each of these floors is divided by brick walls into a certain number of rooms, altogether fire-proof, intended to serve as receptacles for records and other documents of value; and that, in the centre of these is a staircase around a large well-hole, to admit of a lift passing up to communicate with the various floors. A corresponding circular opening in the crown of the vault over the porch, ordinarily covered with flaps, permits the descent of the lift to the ground.

The staircase is light in construction, and is suspended by rods to the iron girders. The iron gates which fill the main gateway below have been thought too light for their position: they are of admirable workmanship, for the most part wrought, and we are not certain that ironwork of more massive character would be an improvement. The flagstaff, which will terminate the roof, is to be of rolled sheet iron, bolted together, 110 feet long, and 3 feet in diameter at the base. We may mention here that the iron columns and girders were provided by Mr. Jabez James, who is also now executing the roof, a costly work. The masonry was commenced by Mr. Thomas Grissell, by whom the bulk of the Palace was erected, and has been completed by Mr. John Jay, in a sound and excellent manner.

We had intended to speak of the frescoes and other adornments of the Westminster Palace finished since our last notice, and to allude to the Speaker's house, now fast approaching towards completion: of these, however, we must seek another opportunity to speak, contenting ourselves at this moment with the observation that the coloured decorations of the state rooms in the latter are nearly finished, and are very successful. When posterity reviews the difficulties which Sir Charles Barry had to encounter in conducting, during twenty years, the works of a building covering more than eight acres of ground, with 1,100 rooms, nineteen halls, 126 staircases, and more then two miles of corridors and passages, under orders, often contradictory, involving extensive changes of plan, whereby no less than twelve official residences (now eighteen in all), and much extra accommodation, increasing the cubical contents of the building, more than half were added; when the interruptions by the sittings of Parliament are considered, the nature of the foundation, and the successful result, it will be felt that the labours, anxieties, and responsibilities of the architect were not duly appreciated by the governing powers. As we have before now asked—who shall tell—who inquires, indeed,—how many sleepless nights, this tower alone has cost its architect? "Putting aside the question of art, its successful completion, in a constructional point of view, must be regarded as a great achievement. Had the foundation proved insufficient, had it settled unequally and fallen out of upright, had an arch yielded or the ponderous groined vaulting slipped, loud of course would have been the outcry,—ruinous, probably, the blame. But, disaster being avoided, difficulties overcome, the structure successfully raised, how few stop to appreciate the comprehensive grasp of all circumstances, the prevision and the varied skill demanded for the result!" Long may the tower stand a symbol of the power and dignity of England, and long may its accomplished and esteemed architect live to enjoy a reputation which will grow with the coming years.

Posterity will not ask what the work cost; it will simply be proud of what it has.

DISC SIGNALS, PARIS AND ST. GERMAIN RAILWAY.

ON the Paris and St. Germain railway an ingenious system of disc signal is at present in constant use, and succeeds admirably. It is the invention of Monsieur Baranowski, who has so contrived the mechanism that the flange of the wheel of any train, fast or slow, turns the disc of the signal, which remains showing the "stop" or transverse sign for a time, after the train has passed, proportional to the velocity, and then slowly returns to its place, showing the way clear. The principle is based on the great specific gravity and incompressibility of mercury. A small pump placed beside the rails contains about two *litres* (three pints and a half) of mercury, and is furnished with a piston loaded with a weight of 63 *kilogrammes* (about 140 pounds), so disposed that it is raised by the passage of the train to a height corresponding to the velocity with which it is going. The movement is executed by a beam seven mètres long, placed inside the rail, but touching it towards the middle of its length;—the flange of the wheel separating this beam from the rail with a shock proportional to the speed, and which acts by levers on the mercury in the pump, at the same time turning the disc. The slow descent of the mercury into its previous position causes the disc to remain up for such a time as will insure safety from accidents caused by any train following running into the first one.

PROVINCIAL NEWS.

Harwich.—This port being selected as the principal coast-guard station of an extensive district, the force has been considerably increased, and the Lords of the Admiralty obtained possession of the Ordnance Cement Factory for the purpose of erecting suitable dwellings for the occupation of the officers and men connected with the service. Designs for an officer's residence and fifteen cottages were prepared by Mr. Horace Darken, architect, of this town. The contract was executed on the 22nd of September last, and the premises were to be finished and handed over to the Admiralty on the 22nd of the present month. The buildings, which are erected in the form of a square, facing the sea, present an elevation worked in red kiln bricks of the neighbourhood, with white brick quoins, chimneys, and dressings to windows and doors, and an ornamental eaves cornice with brick consoles. The total cost has not exceeded 4,000*l.* The works have been executed by Messrs. Newton and Butcher, carpenters; Mr. Wilding, bricklayer, plasterer, and stonemason; Mr. Cottingham, plumber and glazier; and Mr. Alexander, painter. Mr. Charles H. Perkins was the clerk of the works appointed by the Admiralty.

Bicester.—The following tenders for the erection of schools and master's residence, at Bicester, have been received.—Messrs. Orchard, Banbury, 1,761*l.*; J. Thomas, Abingdon, 1,698*l.*; Young and Co. Oxford, 1,695*l.*; G. Cooper, Aylesbury, 1,534*l.*; C. Selby, Oxford, 1,500*l.*; W. Bartlett, Witney, 1,475*l.*; J. Munday, Buckingham, 1,095*l.*

Worthing.—The sewerage contractors having been at law with the local Board, a verdict has been given, by consent, for Messrs. Frend and Hamill, with leave to the Board as defendants to move to set aside the verdict upon the legal defence. In the actions in which Messrs. Gent and Billing were the plaintiffs, the Board has to pay 490*l.* and a considerable sum in costs.

Brighton.—At the last weekly meeting of Directors and Guardians, two tenders were sent in for sinking a well, and constructing a reservoir, &c. for the Industrial Schools on the Warren Farm; one from Samuel North, 5, Southampton-street, Brighton, offering to do the works for 334*l.* 15s.; the other from Thomas Tilley, Brighton, the sum named in his tender being 875*l.* Some of the guardians thought that, before either tender was accepted, there being such an extraordinary disparity in the amounts, they ought to be referred back to the committee. The original estimate for the completion of the works was 417*l.* Mr. North's tender, however, was ultimately accepted, and his sureties were also accepted, for the due performance of the contract.

Gloucester.—The charity known as the Crypt Grammar School, having of late years very much increased in value, it has been decided to build a larger and very superior school, capable of accommodating about 400 boys.

Chippenham.—The plans, &c. for the new workhouse, prepared by Mr. C. C. Creeke, of Bournemouth, architect, have been approved by the Poor-Law Board, and the guardians have issued an advertisement soliciting tenders for the erection of the building. A site has been found for the building at Rowden, close to the town, and to which will be attached six or seven acres of land for cultivation by the inmates.

Swansea.—The works at the docks have been begun. The contractors, Messrs. Tredwell, of London, expect to complete the half-tide basin in four months. The whole dock area of thirteen acres, and also the railway thereto, will be completed without delay.

Liverpool.—A project has been revived, having for its object the connection of the Liverpool and Southport and Manchester and Sheffield Railways with all the Liverpool railways, and, with the proposed Garston Line Extension to Liverpool, forming an "all round town" railway, and passing through Everton, West Derby, Toxteth, and Garston. The surveys have been made by Mr. Fulton, engineer, who estimates the probable cost of the line at 250,000*l.* The railway would be about 8 miles long.

York.—A new organ has been constructed for the York Blue Coat Boys' Charity School. The makers are Messrs. Forster and Andrews, of Hull. There are in it upwards of 1,000 pipes and nineteen stops. It is inclosed in an oak case, and the front is occupied by burnished block tin pipes. The hall has been painted and grained. Mr. Joshua Oldfield is about to restore the mutilated springings of two arches, and ultimately the hall will be completely restored and renovated.

Doncaster.—It is contemplated either to erect a new stand or add a wing to the present subscription one. The estimated cost is upwards of 500*l.* which will be defrayed by twenty subscribers of 25*l.* each, who, for their payment, will have the privilege of entry for themselves and their families, subject, notwithstanding, to the same charge for admission as to the grand stand.

CHURCH-BUILDING NEWS.

Saling Magna (Essex).—The foundations of the new Parsonage are in, and the whole is to be completed by Michaelmas. It will be of red brick, with black bands and arches, of simple and inexpensive construction. The contract has been taken by Mr. Parmenter, of Bocking, for 987*l.* The first contract for the restoration and enlargement of the parish church is nearly completed: it comprises the entire restoration of the chancel, with a new chapel on the north side of the chancel for school children, and a new vestry. The works have been carried out by the same contractor for 420*l.* The carving is by Mr. H. Earp, of London. It is intended to complete the reseating and restoration of the nave by Michaelmas. Mr. Withers is the architect carrying out these works.

Odiham. — Three stained-glass windows have just been placed in the parish church of All Saints, Odiham, in Hampshire, as memorials of the late Lieut.-col. Short. They have been executed by Messrs. Hardman, from the designs of Mr. H. Woodyer.

Walsall. — The foundation stone of a new chapel, about to be reared for the accommodation of a portion of the Independent congregation in this town, who seceded some months ago, has been laid by Mrs. Stephens. The architect is Mr. Jerome, and the builders are Messrs. Taylor. The site of the new chapel adjoins St. Mary's-row, on the northern side, and the building will stand at a considerable elevation from the road. Its style will be the Decorated Gothic of the fifteenth century. The western front has two entrance doors, with a window of stained glass, on either side of which will be two octagon turrets to contain staircases to the galleries, between which will be a portico, ornamented in conformity with the style, and fronted by a flight of six steps. The building will be principally of brick, with dressings of Bath stone. The apex of the roof will be surmounted with carved pinnacles, the whole building, including the portico, being 85 feet in length by 46 feet. The roof will be an open one, and spring from cast-iron columns parallel with the side walls. At the back an arch will cross the chapel, behind which will be the organ gallery, and underneath a chancel communicating with two side vestries.

Rawden.—By the plans of Mr. Paull, of Cardiff, architect, selected for the new Baptist College here, the college, the style of which partakes of the Tudor, will stand near the edge of the plateau, at the top of Cragg Wood. The aspect of the front will be south-west. No room, chamber, or office will have a north aspect. The front of the building will be devoted to the president's residence, the educational apartments, and the students' rooms, the latter ranging on either side of the two former departments, which last occupy the central division. In the rear, and branching at right angles from the centre of the front building, will be the refectory and domestic offices. The proposed building will accommodate twenty-five students; but the plans will admit of enlargement, without interference with the original accommodation, so as to afford room for fifteen or twenty in addition. The lecture and class-rooms above (called the "educational apartments"), are in the centre of the buildings. They are entered from the corridor, and are equally accessible by all. The lecture-room is 18 feet by 24 feet, and the class-rooms are each 18 feet by 15 feet. All these have a uniform height of 13 feet. The library is on the one-pair floor, and is approached by the central staircase. The dimensions are 39 feet by 26 feet, and 20 feet high. There is room for 10,000 volumes, "octavo" being taken as the average size. The dining-room is at the rear of the front building, and its dimensions are 35 feet by 23 feet. The tutor's residence in front is arranged as a detached house. On the ground-floor are a draw-

ing-room, 18 feet by 15 feet, with a bar window; a dining-room, 18 feet by 15 feet, and a store-room. The estimated cost of the whole building is 6,000*l*.

Shipley.—A memorial window of stained glass has been placed in the chancel of St. Paul's church, Shipley. The work has been executed by Mr. F. Barnett, of Edinburgh. The window, as described in the *Leeds Intelligencer*, is of seven lights, divided by a transom-bar, and may be described as consisting of two fenestrellæ, with a complemental light. The head is filled in with tracery. The general design of the glass is to give a representation of the twelve apostles of our Lord, having our Saviour in the central lights. At present only the portion above the transom is filled in with coloured glass. The order of figures observed, beginning on the left hand, is the following:—St. Thomas, St. James the Great, St. Peter, St. Andrew, St. John, and St. James the Less. These are represented each as bearing his appropriate symbol; whilst our Lord occupies the centre light, and appears with uplifted hand, as in the act of blessing. The whole of the figures are placed within canopies, and are draped in dresses of varied colours. The outer robes are all diapered with crosses, and bordered with a border of gold. Beneath these there is a series of medallions representing the following subjects in our Lord's history:—The Angel appearing to Mary, the Birth of Christ, the Presentation in the Temple, the Flight into Egypt, Jesus in the Temple sitting in the midst of the Doctors; the Crucifixion, the Burial of Jesus. Above and below five of these medallions are legends setting forth the donors, and the persons to whose memories they, along with the lights above, have been erected. The tracery in the head of the window is filled with the Evangelistic symbols, the Resurrection, the Ascension, the pelican with its young, the lamb and the vexillon, and ribbons bearing an inscription.

Newcastle-upon-Tyne.—At a meeting held in the vestry of St. Nicholas's Church, the mayor presiding, it has been resolved to erect a memorial window in the church as a tribute to the late Dr. Ions. A committee has been appointed to carry out the object, towards which a considerable amount has already been subscribed.

NEW ROMAN CATHOLIC BUILDINGS IN IRELAND.

Tramore Church (Waterford).—This building was commenced on the 14th of September, 1856, and since that date the walls have been raised to the level of the top of the aisles, and the pillars separating the latter from the nave are fixed. The plan comprises nave with side aisles, transept, chancel with eastern chapels, tower and spire standing to the east of the north transept, sacristy east of the south transept, and north and south porches. Total length in clear, 165 feet; width, across nave and aisles, 65 feet; transepts, 103 feet by 25 feet; height from floor to ridge, 75 feet; and height of tower and spire, 195 feet. The style of architecture is "Perpendicular." The principal doorway in the tower has marble jamb shafts, with rich mouldings over them. The tower is divided into three stages,—the lower having a moulded plinth course, the middle a single-light trefoil-hooded window on three faces, and the upper two double-light tracried belfry opes on each face, and finished with corbelled eave course, from which level rises a broach spire, with gabled projecting lights and niches, and terminated by the emblem of Christianity. The tower is decorated with a pair of buttresses at each angle. The stone used in the construction of this building is the blue trap-rock of the neighbourhood, and granite for the dressings. Messrs. Ryan, of Limerick, are the contractors. The cost of the shell, exclusive of the bell-stage of the tower and spire, is 8,000*l*.

In the town of Wexford are two new Roman Catholic churches, identical in dimensions and design, and which are now being fitted up interiorly, but differently. They were built by, and from the plans of, the late Mr. Pierse, formerly clerk of works under the late Mr. Pugin, and are said to be impressive buildings in the Gothic style. The Bishop insisted that they should be identical, to prevent jealousy and unpleasant comparisons amongst the townspeople.

St. Patrick's, Celbridge, County Kildare.—The plan consists of nave, side aisles, chancel, eastern chapels, and tower, not yet commenced; dimensions in clear being 115 feet by 50 feet, and height from floor to ridge 58 feet. The aisles are lighted by long, narrow, single-light windows, and the clerestory has double-light windows, with tracery and label mouldings. At the ends of aisles also are double-light windows similar in character, and in the western gable are two tall lancet-headed lights, with rose window over, and connected externally by a wide relieving arch and label moulding. Buttresses are introduced at the angles of the nave and aisles, as also of the tower, which is divided into four stages, in three of which are windows, and terminated by a spire with gabled lights. The contractor is Mr. Robert Farrell, of Dublin, and the amount of contract 3,000*l*. The stained glass is from Hardman, of Birmingham, and Wales, of Newcastle-on-Tyne. Style Early English. The clerestory is being built at present.

St. Michael's Rathdrum, County Wicklow.—This church consists of nearly the same plan as the foregoing, but it has a chancel arch, and the roof of the chancel is lower than that of the nave. Its style is more ornamental than that of Celbridge, being transitional between Early English and Decorated. Its size in clear is 105 feet by 50 feet in width. The west gable is surmounted by a very handsome belfry for two bells. Material of walling is granite, and the works are being carried on under the charge of Mr. Crimean, clerk of the works. This church is now in progress of roofing.

St. Mary's, Blessington, County Wicklow.—This little church consists simply of nave, chancel, and transepts, without any aisles or side chapels. It has a sacristy and north and south porch. Dimensions of nave and chancel are 80 feet by 25 feet, and the transepts 60 feet by 16 feet; height to ridge 46 feet from floor. The style is Decorated, and the contractor Mr. Robert Farrell. Amount, 1,850*l*. Material, granite. The walls are just finished.

All Hallows College, Drumcondra, near Dublin.—The west wing of this college was commenced last year. It will show a frontage of 230 feet and three stories in height towards the Swords-road. It contains a refectory 100 feet by 30 feet, an aula maxima 70 feet by 30 feet, a large physic-hall, a grand staircase, professors' rooms, and accommodation for sixty students. Mr. Connolly is the contractor. Amount about 8,000*l*.

Convent of Mercy, with Schools and Orphanage, Belfast.—This extensive group of buildings has greatly progressed during the last year, and they are situated on a plot at the side of the Crumlin-road, and face Donegal-street. The south wing of the convent is finished, and occupied by the nuns. The schools, containing 1,500 children, are also completed. The orphanage, for forty children, will be finished next month. The cloisters, and north, east, and west wings of the convent are now being built, and will be completed before the end of this year. The style throughout is Decorated Gothic of monastic and collegiate character. Material red brick, with dressings of Scotch stone. Contractor, Mr. Thos. Byrne, of Belfast and Armagh. Amount of contract, 10,700*l*.

Mr. J. J. M'Carthy, M.R.I.A. of Dublin, is architect to all the foregoing. Messrs. Weightman, Hadfield, and Goldie, of Sheffield, are building a new cathedral at Ballaghadreen, county Mayo, a church at Charlestown, and alterations and additions to St. Peter's Church, Phibsboro', Dublin. All are in the Gothic style.

Mr. P. Byrne, architect, has designed a new church for the picturesque little village of Enniskerry, to be erected on a free site given by Lord Powerscourt, and near a Protestant Church also to be built at the expense of his lordship's mother the Marchioness of Londonderry.

New churches are in progress of erection at Ballyvaughan, county Clare, Ballybay, county Clare, and at Bundoran. The latter is expected to be open for divine service by the 1st of August.

DAMP WALLS.

IT has been my misfortune to be the tenant, as well as the owner, of several houses built of oolite stone, and I have invariably found that distemper-coloured walls were damp, while those painted in oil literally streamed under certain changes of the atmosphere, and especially after the breaking up of frost. Papered walls were better than either, but even these were sadly expensive, from the frequent renewals rendered imperative. Each room in my present dwelling has two walls of stone, one of brick, and one lath and plaster: on the two former the paper is worse at the end of one year than in seven years of either the latter two. Last summer I hung my ordinary sitting-room with a twopenny paper—dark chocolate ground, with a buff pattern on it, and the setting in of winter soon convinced me of increased expenditure in lighting. My "moderator lamp," which before did wonders, now made but darkness visible. I am, however, amply repaid by having perfectly dry walls, through all changes of weather, while every other room in the house exhibits its former "moist miseries." When I have tried another room, I shall be happy to give the readers of the *Builder* my further experiences. In the meantime, I should be glad of a solution of the problem. Is it that the same property which absorbs light also prevents condensation of vapour upon the otherwise cold walls? I presume such condensation is the general cause of damp interiors, though it may sometimes be from without.

A. B. SORDENT.

BOTTLE-NECKED THOROUGHFARES

WILL exist as long as we continue to have bottle-necked ideas respecting our duties as citizens. As the streets are wide in the middle and narrow at the ends, so we are by no means deficient in good inward feeling as regards the public welfare; but are too apt to lose sight of the best means of showing that good feeling. Our ideas of benevolence are narrowed and contracted to the relieving of those who are actually in need, and in this matter we are perhaps liberal enough. But we do not enter into that more broad-minded field of benevolence commonly called "public spirit." We should consider what tends most to the good of all, without distinction; and we cannot do so in a better manner than by endeavouring as much as possible to improve the town we live in, so as to render its air healthy, and its thoroughfares good and safe. And in so doing we shall necessarily give employment to many whom we otherwise might have to maintain at a greater expense, and in a manner less honourable both to them and to us. We who live in provincial towns should compete together with a good will to see who can make their own town the healthiest, most prosperous, most enlightened, and most sightly. We have many (glorious I might almost say) examples of what this good feeling may do;—Carlisle, Nottingham, Bedford, and Ipswich. And, on the other hand, sad examples of the effects of private spirit. Look at that poor old disenfranchised borough: its wealthy inhabitants say, "Every man for himself, and let the public take care of itself." And so the poorer inhabitants, following in their beat, when an election came, held out their hands slyly for bribes. The town gets disenfranchised. It has no manufactures; no navigable river. A railway passes but seven miles on the west, another but seven miles on the east, but none goes through it. And now, perhaps, as a last resource, this brick-and-mortar seedy swell would like "one of the priest's offices, that it may eat a piece of bread." The decaying borough would fain be made a bishoprick! I cannot be accused of being personal, for a town is not a person. Local I may appear; and if, in so appearing, I have hit home, I will be glad that there is public spirit enough to feel it. But, to return to London. Our chief capital, belonging to no county in particular, has no one to care for it,—has no nominal rival to excite emulation, except in foreign countries. But it has actual rivals many times less than itself in our own country: let its people visit them. As a port, it has Liverpool, which town should also serve as a model as regards its pavements. Architecturally it has Oxford; but, as regards natural advantages, London stands pre-eminent. There is no air finer than Middlesex air, in its pure state; no water equal to Thames water, if taken above the influence of the London sewers. It is neither too exposed by proximity to the eastern coast, nor too secluded by surrounding hill or forest. Let London improve itself as other towns have done, lest, while it is getting more and more disagreeable, they, moving in the opposite direction, shall draw from it its inhabitants. Let every one do what he can to improve the town he lives in; and he will be doing an act of patriotism, the greatest within the power of most men, and the most successful and grateful in its results to himself and to his country.

W. S.

ARTISTIC COPYRIGHT.

ARCHITECTURE.

THE Artistic Copyright Committee appointed by the Society of Arts, after ten meetings, have agreed upon a report to the council, urging that the laws of British artistic copyright require to be amended. With reference to any Bill that may be prepared, the committee resolved that—

"1. The chief object it is desirous to effect by the Amending Act, is to secure a copyright for the author's life, and 30 years after, for such of the designs of an artist as he may himself have conceived, and as have been produced by his own hands or by those of his assistants, and as he may himself have signed or marked so as to claim copyright for." This should apply, they say, to architects, with this qualification, that "As to architectural plans, models, &c. only the use of the originals to be secured; but not to prevent new drawings, &c. being taken from executed buildings or works."

This is not going far enough; but the difficulties in the way of enforcing more are considerable. We draw attention to the subject in order to elicit suggestions and observations on it.

It must not be supposed that the artist alone, even in the case of the architect, is interested in obtaining protection for copyright. There are many cases in which a good design might be obtained at small cost, if the architect were protected, for which he is now forced to make such a charge as prevents his employment.

ARCHITECTURAL PUPILAGE.

ON reading your report of the meeting at the Architectural Association, held on the 5th ult. I am induced to offer a few remarks, and to send you a case which has come under my own observation, in the hope that others will do likewise: by this means your readers will perhaps arrive at some satisfactory conclusion upon a point of great importance to many members of the profession.

A young gentleman of good connections was articled some years since to ——, in ——; the premium paid for a term of five years being nearly 320*l*.

He was required during his pupilage to take an active part (equal with the salaried clerks) in the general duties of the office, to trace, mount drawings, attend the door-bell, and run errands! He remarked, and I think with justice, "I appear to have paid nearly 25*s*. a week to assist in the miscellaneous duties of an office, to work for others, and am compelled to glean a knowledge of my profession which I really expected constant assistance in abundantly gathering as best I may."

Remonstrance with the principal proved useless: the practice was upheld as "customary in the profession."

I trust, however, that this assertion is a false one, and that many will be found to refute it; if, alas: it should be true, surely it is a custom which urgently demands reform.

I fancy it is rather a prevalent idea amongst members of professions that they are not bound to teach their pupils anything; but clearly (allowing it to be so) they are bound not to hinder their professional studies by thrusting work upon them which they ought to keep a sufficient stock of clerks and messengers to execute.

No conscientious man would take pupils as a source of income; but in cases like the above, that would appear to

be the sole intention; for, not content with a handsome premium in consideration of the "run of the office," principals contrive to extract the greatest amount of benefit to themselves, without for an instant thinking of the real object for which the pupil has paid them.

If pupils are to be placed exactly on a footing with salaried clerks and messengers, as regards the working of an office, it is obvious that they ought to be paid a salary instead of paying to serve their articles, as amongst tradesman; apprentices in their case pay a premium for one or two years to be initiated into their duties, and then receive certain wages in consideration of their services for the remainder of the term agreed on. REFORM.

DEFINITION OF ARCHITECTURAL PRINCIPLES.

THE suggestion of Colonel Nelson in your journal is worthy of considerable attention, and I hope your readers will not let the subject drop without at least an effort to carry out that suggestion. The principles of architecture have never been satisfactorily defined, and the student is often sorely perplexed by the contradictory elucidation he meets with of the same architectural principle. The endless battle of the styles, and the wholesale condemnation of "modern builders" and their works, seem to absorb that attention which would be better employed on such subjects as the above. It would, no doubt, be difficult, if not impossible, to express by words all that is comprehended by the principles of architecture; but from these principles we may deduce a series of maxims or laws more numerous than the subtle principles themselves, and as varied as the minds engaged in their contemplation. If, therefore, you would kindly open your pages for this object, and solicit definitions of, for instance, construction, harmony, expression, simplicity, grandeur, symmetry, &c. &c. and publish your own selection from the replies as they are sent in, you would give such a check to arbitrary criticism as your numerous readers would justly appreciate. C. E.

DECISIONS UNDER METROPOLITAN BUILDINGS ACT.

WOODEN BUILDINGS.

AT the Thames Police-court, on Saturday last, Mr. Dobson, a builder, attended to answer the summons of Mr. John Billing, district surveyor of St. George's-in-the-East, relative to the erection of a wooden building about 20 ft. long by 9 ft. wide, and 14 ft. high, in Cannon-street, St. George's-in-the-East. He was supported by the owner, Mr. Smith, and his solicitor; Mr. Selfe entered fully into the case, and, considering it was a building to which it might be said the rules of the Act were inapplicable, adjourned the case until Saturday, the 2nd of April, to afford time for Mr. Dobson to apply for the sanction of the Metropolitan Board of Works. Mr. Selfe stated that, if this consent was not then granted, he should make the order as requested by the district surveyor, that the building be constructed conformably to the Act, with brick or stone walls, and a foundation placed upon the solid ground.

THE PREVENTION OF COLLIERY EXPLOSIONS.

AT the opening of the last session of the Institution of Civil Engineers, Mr. Wright read a paper "On Lighting Mines by Gas," in which he described the success of an experimental attempt at lighting the Balleswidden mine, in Cornwall. The annual cost of candles had been 834*l.*: of gas it was not more than 487*l.* The ventilation was better, and there was an entire absence of the sickening smoke and bad odour previously existing. It might not be impossible to draw off the gas now floating dangerously in coal mines, and make it subservient for lighting up the mines in which it may abound. Probably, in many or most cases, however, the gas generated in coal mines would be found too impure and mixed with other gases and air to be usefully employed. We will premise, therefore, that the gas to be used is made in the usual way, and above ground, to be forced down by pressure, as in the case of the Cornish mine already referred to. The pipes and apparatus for furnishing the light being fixed in disposition, the gas in the coal mine, whether in a great or small quantity, must be exploded by the electric current. The mine then being immediately lit up, gas will never again accumulate in dangerous quantity so long as the illumination is continued, and throughout the pit. The chief cause of danger in coal mines arises from the insufficiency of outlets for the gas that has collected. However the area of a pit may be enlarged, there is seldom more than the two or three shafts originally bored. Pit owners are generally intent upon the realization of large profits, and are loth to expend money which brings no pecuniary increase. The safety of the poor pitmen, whose labour is perhaps the most repulsive of any that exists, demands that, as the mine increases in extent, fresh shafts should be constructed at certain regular specified distances. These shafts need not necessarily be of such dimensions as those used for conveying coals to the surface. Probably a fourth part of the diameter of the coal and ordinary shafts would be amply sufficient to carry off the foul atmosphere that endangers human life now to so frightful an extent. Coal mine explosions are now of very frequent occurrence, and injustice to a labouring class of men, and to those dependent upon them for support, who are now so often left in a state of suffering destitution, requires that this important subject should be considered attentively, and with as little delay as possible. PLEBIS DEFENSOR.

THE PROJECTED TORONTO AND GEORGIAN BAY SHIP CANAL.

As may be seen on the map of North America, the chain of lakes issuing out into the St. Lawrence and the Atlantic is so scattered across the Continent, that, though running mainly from west to east, some of them run southward and others northward, so that there is a long circuit, in certain cases, which offers temptations to make shorter (yet, in fact, sometimes very long) cross cuts by canal, to facilitate the great lake traffic from the far west through the St. Lawrence and the Atlantic. One of the most tempting of these cross cuts would be that whereby the long circuit from Lakes Superior and Michigan, through Lakes Huron and Erie to Lake Ontario, on which Toronto stands, might be shortened by a ship canal running from Georgian Bay, (opening eastward out of Lake Huron), through Lake Simcoe, to Toronto, there being in fact a chain of small lakes and rivers already occupying the intermediate space, so as to be capable perhaps of being turned to account in the formation of a ship canal in this direction.

Such a junction forms the subject of a grand project lately started by the Toronto people. The route has been surveyed by Mr. Kivas Tully, C.E. and declared practicable. This gentleman suggests several routes, but the best, he considers, is that from the river Humber, west of Toronto, to Lake Simcoe, and from thence to Lake Huron, by the Nottawasaga river. The length of this line would be 100 miles; and the cost 22,170,750 dollars. This cost, as remarked by Mr. Tully, though "considerable," is much less than the actual cost of another grand scheme which is now in a fair way of completion, namely, the Grand Trunk Railway of Canada, the estimated cost of which is 48,000,000 dollars. It may be questioned, however, whether the estimated cost of the canal project be sufficient, when it is considered that immense quantities of excavation are estimated at 25 cents per cubic yard. There are no less than between three and four hundred millions of yards of such excavation. The soil would indeed require to be very "light" at this rate. It is said, however, to be so.

IRON SAFES AND SAFE BORERS.

MENTION has been made in the newspapers of the discovery at Manchester and elsewhere of some instruments for boring through iron safes, and very powerful and ingenious instruments they are. The key-hole is made to receive the fulcrum of the apparatus, and in the course of a couple of hours a hole 2 inches in diameter can be bored through an ordinary iron safe, and the means afforded to destroy the lock and open the door. To meet such cases, Mr. Chubb has patented an arrangement which at any rate increases the chance of safety: holes are drilled in the inside of the door, thickly together, around the lock, not through to the face of the door, but very nearly; and into these are screwed cast-steel plugs, which destroy the edge of any cutting instrument which can be brought to bear upon the safe. Where safes are left any considerable time unwatched, as in warehouses and establishments not occupied during Sunday, for example, the additional precaution ought not to be overlooked.

The bores in society were already numerous enough, without such an addition to them as these discoveries in Manchester disclose. It is lucky, while Roguery has his mechanician, that Prudence has her Chubb. When *he* steels a safe it is to protect it from robbers. Thank you, Mr. Chubb.

GRAVEL-PIT CHAPEL, HACKNEY.

THIS chapel has been erected for the Unitarians on the east side of Paradise-place, in the parish of Hackney. The building is Early Decorated in style. Its plan is cruciform, and consists of a nave and aisles, north and south transepts, and their entrance porches, and a chancel. Its total length is 81 feet 9 inches; its width, across the nave and aisles, 43 feet, and that across the transepts, 65 feet 6 inches, exclusive of the porches. The nave ridge is 43 feet from the ground line; the transept ridge, 36 feet; and the eaves of the aisle roofs, 18 feet above the same level. There are 500 sittings on the ground-floor, and accommodation for the choir and fifty children in a gallery over the western entrance, which is approached by two separate staircases at the extremities of the aisles. Above the south staircase a spirelet rises to the height of 65 feet from the ground line, and groups well with the trees by which it is surrounded. The roof consists of open timber framing: the nave arches are also of timber, having their spandrils filled in with ornamental tracery work. The pewing is open, stained and varnished. The pulpit and organ are traceried, and very ornamental. The gas-fittings are of brass, and supplied by Debaufer and Co. of Old Fish-street. The interior is heated with hot air by Haden and Son, of Trowbridge; and the whole of the works were conducted by Mr. G. T. Carter, of Hornsey-road, under the direction of Mr. H. A. Darbishire, the architect of the building. The foundation-stone was laid on the 26th of June last year, and the building is to be opened this week.

NOTES UPON IRON.

SUCH a period as that through which we are now passing has not been without its parallel in the history of the iron trade.

Notwithstanding that there are now fifty blast furnaces less in operation than there were in the first week in October, yet the make of pig iron is considerably in excess of the demand; and though a large number of works are standing, throughout the kingdom, at which malleable iron is produced, yet the orders that are coming in are so few, that it is the exception to the rule where any establishment has orders sufficient to keep half their machinery in gear.

It is not surprising, therefore, that, in such a state of things, prices should be nominal.

The preliminary meeting of the Masters' Association is expected to be held on Wednesday next, when, however, it is not probable that any alteration will be declared in the rates adopted at the last meeting.

Books Received.

The History and Design of the Foundling Hospital: with a Memoir of the Founder. By JOHN BROWNLOW, Secretary of the Hospital. London. 1858.

THE history of the Foundling Hospital, in Guildford-street, is rather a curious one. It appears that Captain Coram, the founder's, design was to erect an hospital for foundlings "after the example of France, Holland, and other Christian countries;" and, accordingly, a system of general and indiscriminate admission of illegitimate children was carried into effect, partly by aid afforded, on application, by Parliament. The institution was incorporated in 1739; and Hogarth, besides some of his best paintings, contributed a design for the corporation seal, representing rather a sinister sort of Britannia, with a cap of liberty on the end of a pole, supporting, on one side, as did a female with a multitude of "nipples proper" on the other, a central shield, on which lay a naked infant, "extending its right-hand proper." Hogarth, good man, even took out a few basketfuls of the early foundling fruits to nurse, at Chiswick, where he and Mrs. H. resided. Handel, too, was a generous contributor. He presented an organ to the hospital, and "the Messiah," itself, to be performed for its benefit; but when it was proposed by the corporation to petition Parliament for power to appropriate "the Messiah" more legally and completely to themselves, Handel burst into a rage, exclaiming, "Te Deivel! for vat sal de Foundling put mein oratorio in de Parlement? Te Deivel! mein music sall not go to Parlement!"

Meantime, the objects of the charity became very numerous: frequently there would be 100 women with children at the doors when only 20 could be admitted; the upshot being, of course, much clatter, riot, and disturbance. In 1756, the Commons, taking pity on these and such as these poor women, generously voted 10,000*l.* in order that, "to render the hospital of general utility and effect, it should be enabled to appoint proper places in all counties, ridings, or divisions of this kingdom, for the reception of all exposed and deserted young children." As for the London hospital, a basket was hung at the gate, in which the children were to be deposited after ringing a bell. The fruits of the collective wisdom and beneficence of the Commons were speedily and incontinently reaped. "On 2nd June, 1756, the first day of general reception, 117 children were received; and between that day and 31st December in that year, 1,783 children: in the ensuing year, 3,727 were admitted." Advertisements were issued in June, 1757, and notices stuck up at the corners of the streets and in places of public resort, apprising the public of their

new privilege! The consequences, as might have been foreseen, were lamentable: prostitution was greatly encouraged and increased. Moreover, out of 14,934 children thus collected, no less than 10,389 perished in early infancy! The Legislature precipitately retraced its steps, taking upon itself, however, the burden it had so inconsiderately imposed upon the public funds. In 1760 there still were more than 6,000 to provide for, and it was not till 1769 that they were reduced by apprenticement, &c. below 1,000. More stringent measures were adopted, and the last vestige of the free-and-easy system was abolished in 1801. The hospital, as now conducted, is believed to be instrumental in doing much good. There are at present 460 children supported by it up to the age of fifteen, when the boys are apprenticed, or go into the army bands, &c. and the girls are made domestic servants.

We have not derived our previous remarks from the secretary's volume, although in its pages the original mistake in the foundation is acknowledged. The book under notice is an interesting production; only there is one rather singular omission, namely, the want of any account or description whatever of the hospital building itself, although the chapel is pretty fully described.

VARIORUM.

"THE Geology and Extinct Volcanos of Central France," by Mr. G. Poulett Scrope, M.P. and F.R.S. has been issued by Murray, of Albemarle-street, in a more compact, yet enlarged and improved form, with its illustrative maps, views, and panoramic sketches, reduced in size so as to suit an octavo volume. The first edition of this valuable work on an interesting district of country was issued at a time when the Wernerians were rampant and tyrannical in geological theory; and it is believed that Mr. Scrope's work had much to do with their downfall, the district described having so obviously *not* been "precipitations from the archaic ocean."——In the "School Series," edited by the Rev. G. R. Gleig, Chaplain-General to her Majesty's Forces, "A History of the English Language," by John Edwards, has been published by Messrs. Longmans and Co. This is a very instructive little volume, even to many who have long since gone through their "school series." Would not a comparison of our modern provincial dialects with the ancient forms of the English language constitute an interesting chapter in such a work? Rude and awkward speech of the present day would often be found to be little else than the polite English of old times. There are many striking instances of identity between these; and although some of our northern brethren would resent the idea of calling the Scottish language a provincialism of the English, it, too, is evidently in great part neither more nor less than old English. Some of it is even almost identical with Anglo-Saxon of the seventh century! Thus, for example, a Scot would be perfectly understood in many parts of Scotland were he to say, "I wunna tholl sae mucle wyte" (I won't stand so much blame); and such a phrase would have been precisely so understood by an Anglo Saxon of the seventh century! It was to the comparison of modern English provincial dialects with ancient English, however, that we referred, and we have little doubt that an interesting chapter in the history of the progress of the English language might be written on such a subject. ——As to "A Catechism of Chemistry; including Heat, Magnetism, and Electricity," by the Rev. J. W. Neat, M.A. of Corpus Christi College, Cambridge (Longmans and Co. publishers), we are rather at a loss what to say. In ordinary cases, if a "book received" do not deserve commendation, we prefer throwing it aside without thinking it necessary to bring it under the notice of our readers at all; but really this little book is so singular a mixture of well-condensed facts and glaring errors, and it seems so capable of being made a good and useful aid to those for whom it is mainly intended,—namely, those about to undergo the new army and other examinations,—that we think it better to notice it, in the hope that by pointing out a few examples of its errors the public may ultimately have the benefit of a corrected edition. Thus, then, in the second page we are told that "hydrogen and nitrogen form water." This would be a fearful world we live in were it so; for hydrogen and nitrogen form the potent alkaline ammonia, while oxygen and hydrogen constitute water. Steam is on the same page called the gaseous condition of water. Steam is vaporous, not gaseous, and the only true gases of water are oxygen and hydrogen. "The most important of the metals" include "magnesium," but not zinc,—rather an odd idea of relative importance! On page 33 "chlorate of potassium" is alluded to: there is no such substance: it is chlorate of potash, the word potash implying that it is chlorate of the oxide of potassium. On page 35, the most powerful alkalies are said to be "ammonia, potassa, and sodium, or soda." Sodium is not an alkali at all, and if it were, so would potassium. Sodium is a metalloid of silvery aspect. On page 36, among salts composed of an acid and an alkali, are described "sulphate of sodium, sulphate of potassium, of zinc, iron, copper, &c." Copper, iron, and zinc are not alkalis, even were they oxides, which alone combine with sulphuric acid to form such salts: moreover, it is sulphate of soda and sulphate of potash—not of sodium and potassium, although there *are* salts of both these, such as chloride of sodium, bromide of potassium, &c. On page 47, the author speaks of "chlorides and bromines": there are no such substances as bromines. But enough: we can spare no more space for such errors: yet they could easily be corrected, and the catechism really be made a good one of its kind.——Richards, of Great Queen-street, London, has published an important and interesting paper by Dr. Greenhow, the lecturer on public health at St. Thomas's Hospital, "On the Study of Epidemic Disease, as illustrated by the Pestilences of London." This paper was originally read before the Epidemiological Society of London. As regards cholera, Dr. Greenhow is of opinion that it was "caused in the seventeenth century by the want of the careful removal of excrement, and has probably returned in our own century in consequence of the rapid growth of towns and the difficulty of removing their excrementitious products." This is precisely what we have ourselves maintained. The open dung-heaps of the seventeenth century were superseded by the covered but more confined, insidious, and dangerous cesspools of later times, and these have so saturated the subsoil of towns, that the evil which the removal of the open dung-heaps for a time suspended, has returned upon us with redoubled intensity. That this is the abiding cause, whatever be the special moving cause in any one season more than another, we think there can be little doubt. It may be that in certain seasons certain malignant infusoriæ or organic microscopic pests may have their nidus in this abomination, and may thence propagate, or may attack human beings before weakened and contaminated by it; or it may be that in certain seasons the scavenging ozone or electrified oxygen of the atmosphere may be awanting, and the evil become rampant; but were the abiding cause to which we allude removed, it is questionable whether either infusoriæ or anything else could possibly produce malignant cholera. ——Half a dozen plain and useful "Directions for the Preservation of Health and the Prevention of the Spread of catching or infectious Diseases," by Dr. Lankester, the medical officer of health for St. James's, Westminster, have been issued in a printed form, and ought to be widely distributed among the poorer classes. We have scarcely seen anything so likely to take the eye of such persons, and to be treated by them as an oracle for their guidance.

Miscellanea.

SILVER IN BELLS.—At the Royal Institution, on Friday, February 19, Mr. Edmund Beckett Denison delivered a lecture "On some of the Improvements in Locks since the Great Exhibition of 1851," the substance of which will be found, among other matters relating to locks, in the second edition of Mr. Denison's book on "Clocks and Locks," to which we have already referred. At the close of it, Mr. Denison exhibited three small bells, made by Mr. Mears: one of the same metal as the great bell of Westminster, which he is now recasting; another, with the addition of as much silver as would amount to 1 cwt. and cost 500*l.* in a 16-ton bell; and the third with rather more. These bells, it is said, bore out the statement made in the lecture on bells last year, that the tone would not be improved by adding silver, of which also no trace has been found in any old bell-metal that has been analyzed.

THE NEW WATERWORKS FOR GLASGOW.—The Loch Katrine Waterworks are progressing rapidly. The piping for the city has been contracted for. Messrs. Thomas Edington and Sons, Phœnix Foundry, are the contractors for about 1,500 tons (in addition to their former contract); and Messrs. Robert M'Laren and Co. Eglington Foundry, for about 3,500 tons. It is expected that the water will be introduced to the city in the autumn of next year.

THE AMERICAN HANDRAILING CHALLENGE.—I Mr. Riddell is really in earnest in undertaking t defend his system against any other, why n reduce the sum named in his advertisement,—sa to 5*l.* or 10*l.*—then no doubt he will find som practical man with means and ability to defend method equal to his own. The enormous sum mentioned appears to me to be named only to giv importance to the work. As for the conclusiv account he appears to have gleaned in the pro vinces, it is particularly absurd, as most practica men in the line are aware that it is in London, with few exceptions, where they become acquainte with those principles of handrailing which are alone countenanced in a respectable London firm By the insertion of this, or the substance of it, in your valuable journal, you will, sir, greatly oblige a number of working men, among whom is your humble servant,—A. BEIDEL, a London Joiner.

THE APPOINTMENT OF SURVEYOR FOR BRIGHTON.—In consequence of a vacancy having occurred in the surveyorship of the borough of Brighton advertisements were issued for the appointment of another person to fill that office. The number of applicants was no less than sixty-five, and four were selected by a committee of the town council as most fitting for the appointment. This latter number included the name of Mr. John Laing, the borough surveyor for Hastings, but Mr. Lockwood of Arundel, proved the successful candidate. The votes of council, according to the local *Gazette* were thus given:—At the outset, "there were seventeen for Mr. Suter, fourteen for Mr. Lockwood, eight for Mr. Laing, and seven for Mr Rumble. The last name was then struck out, and they proceeded to the next vote, and the result was that those who had voted for Mr. Rumble and Mr. Laing, seeing that the two latter had no chance, coalesced with the Lockwood party, throwing their whole strength in without an exception, thus swelling up Mr. Lockwood's number to twenty-nine, whereas Mr. Suter's party remained in number the same: Mr. Lockwood, therefore, gained the victory. A declaratory motion, that Mr. Lockwood was duly elected, was carried, and the meeting then broke up, after a stormy debate of two hours and a half duration."

ARCHITECTURAL DESIGN, BUCKS AND BERKS.—The "Bucks and Berks Lectures' Association," of which the Rev. Edward Hale, of Eton, is the honorary secretary, propose to hold a central examination, and give various prizes. Amongst those offered we find "A prize of 1*l.* for the best original architectural drawing done in a class accompanied by a certificate from the teacher of his belief that the design is original." This is a novelty in such a programme, and may serve as an indication of popular feeling.

NEW OFFICES IN WATER-LANE, TOWER-STREET.—These offices (Mr. John Whichcord, architect) now approach completion. They have been erected in Water-lane on account of its vicinity to the Custom House, docks, river side, and corn, coal, and colonial markets. The ground, first, and second floors, are suited for offices, counting-houses, sample rooms, and for similar purposes, and are so arranged that a greater or less quantity can be taken *en suite*, according to requirement, the divisional partitions not being arbitrarily fixed. Space, light, and ventilation have been considered, and all the floors are furnished with lavatories and other conveniences. The ground-floor offices have a large part of their area covered with skylights for the exhibition of samples, &c. The building is entered from Water-lane, and a fireproof corridor extends from thence through the building to an exit in Beer-lane. A stone staircase leads from the centre of this corridor to the upper floor.

THE SCOTTISH NATIONAL GALLERY. A Treasury minute, drawn up by Mr. Wilson before leaving office, has been passed recalling arrangements for the permanent occupation and appropriation of this building, which contains two series of galleries, or twelve octagonal saloons. The five eastern and one central galleries are to be devoted for four months every year to the exhibition of the Royal Scottish Academy: the five western and one central galleries shall be reserved for the formation of a Scottish National Gallery of Art, and shall be permanently and exclusively so occupied. For the formation of a National Gallery there are four collections of paintings immediately available, namely, the collection of the Royal Scottish Academy, the collection belonging to the Royal Institution, the collection bequeathed to the city of Edinburgh by the late Sir James Erskine, of Torrie, and the collection belonging to the Board of Manufactures, besides various pictures belonging to the National Association for the Promotion of the Fine Arts, and others belonging to private individuals.

Accident at the New Covent Garden Theatre.—On Monday last, a fatal accident occurred to a man named Jeffrys, about forty-five years of age, who has for the last ten days been engaged as a carpenter on the works of the above building. The deceased was walking across the top of the roof for the purpose of continuing his work upon the wooden frames of the skylights, upon which he had been previously engaged, when he suddenly fell through the roof of the centre of the theatre, a distance of upwards of 97 feet, and by his fall he received frightful contusions.

Wynnstay, near Wrexham.—The mansion of Sir Watkin Williams Wynn, unfortunately de stroyed by fire on the 6th instant, is to be rebuilt forthwith, under the direction of Mr. B. Ferrey. The first accidental meeting with Sir Watkin in a railway train will be an incident for Mr. Ferrey's biography.

Death by a Kitchen Boiler Explosion.—A shocking and fatal accident has taken place at the house of Mr. John Turner, of Hadley, near Hyde, Cheshire. Without any warning of impending danger, the boiler in the kitchen exploded with a loud report, blowing out a piece of the wall at the end of the house, which is a detached building, and causing the instantaneous death of Mr. Turner's daughter, a young lady of about nineteen years of age, who was in the kitchen at the time. The boiler had a self-feeding apparatus, but it is supposed that it had been choked, and the supply of water had failed. It is said the boiler had no lid or safety-valve, and hence there was no exit for the steam. This occurrence opens a serious and important question as to the proper and improper construction of kitchen boilers.

Gas Companies and the Public.—The petition presented by the parochial and district delegates of the metropolis to Parliament, complaining of the monopoly likely to arise from the present arrangements between the gas companies, states that, in the metropolis, 840,000 tons of coal are annually consumed in the making of gas, yielding 7,728,000,000 cubic feet of gas, which, sold at 4s. 6d. per 1000 cubic feet, produces a gross income of 1,738,800*l.* per annum, and that the annual sum paid to the various gas companies in London is near 2,000,000*l.* per annum,—a sum which must of necessity be continually increasing. The petitioners submit that the several gas companies should be restricted by legislative enactments to a maximum charge for, and be bound to a particular standard in the quality of, the gas supplied by them to their customers.

The Cost of Macadam Pavement at Liverpool.—Mr. James Newlands, the borough engineer, has submitted to the health committee a circular return, showing the comparative expense of macadam per square-set pavements. The expense of macadam, as compared with square sets, in round numbers, may be put down as five to one. To keep in repair twenty-three streets, named as being macadamized, requires a total average annual outlay of about 8s. 10½d. per square yard; whilst sixteen of the streets paved with square sets, and which bear the heaviest traffic in town, only cost a total of 1s. 9½d. per square yard. To specify in detail,—for example, Church-street, which is macadamized, costs 11½d. per square yard per annum, to keep in repair; whilst Park-lane, with square sets, costs 2½d. per square yard per annum. These figures, remarks the local *Journal*, will probably open the eyes of some of our townspeople, and render them less prone to patronise the expensive macadam pavement.

Architectural Association.—On Friday, March 19th, a meeting of the members was held at Lyon's-inn Hall, when a paper was read by Mr. Aickin on "The Science of House-building;" who he was "desirous that his paper should not be published," and there can be no objection to let his wish by permitting its omission.

Proposed Market Buildings at Montrose.—It has now been resolved upon by the Montrose Council to proceed with these buildings, according to the design of Mr. Moffat, of Edinburgh, architect. The tenders for executing the works accepted by the committee are the following, viz.:—

Masons Work, D. Scott, Builder, Montrose	£730 0
Carpenter Work, John Gordon, Wright, do.	540 0
Plumber Work, C. Middleton and Sons, do.	144 16
Slater Work, John Lindsay, Slater, do.	112 12
Plaisterer Work, D. Hogg and Co. Plasterers, do.	32 0
	£1,569 10

The amount very much exceeds the sum originally proposed to be expended on these buildings. The ordering for the works by the various tradesmen, according to the local *Review*, was very close.

The Salvation of Life by Science.—We mentioned not long ago how life was saved on the Scotch coast by a barometer. On this subject, at a recent meeting of the Scottish Meteorological Society, Dr. Stark said:—"I cannot sufficiently impress on you the value of the barometer to navigators and to people whose occupation leads them to trust themselves on the dangerous main. Before every storm timely warning is given, by the sinking of the barometer, that a storm is approaching; and, seeing that so many lives are annually lost on our coast from fishermen having no barometer to consult, or not knowing how to read those they have, it would be becoming in our Government to present a barometer to every fishing village, and instruct some of the more intelligent fishermen in its use. But every barometer presented to a village ought to be entrusted to the care of one man, whose duty should be to set an index at a certain fixed hour every night, in order that before the fishermen start in the morning they may see whether the mercury has sunk or risen from the time when the index was set. It would, however, render all barometers much more valuable to fishermen and mariners on our own coast, could a table be constructed showing the periods during each month at which storms might be expected."

Women and Watchwork.—A very interesting report appears in the *Clerkenwell News* of the 13th inst. of a meeting of watchmakers and others, to hear (or rather to interrupt) a lecture on watchwork and the employment of women in its manufacture, delivered by the well-known clock and watch maker, Mr. Bennett, whose exertions on behalf of our unemployed females, as well as of the best interests of our English watchmaking business itself, must be also well known to many of our readers. Mr. Bennett endeavoured to enlighten the more ignorant portion of his hearers by showing that the employment of their wives and daughters in some of the more delicate and mechanical portions of their business would be the means of extending their trade and preserving it from that utter extinction which the enterprise of the Swiss manufacturers threatens it with; but the lecturer was continually met with absurd outcries of "Shame!" and with hisses and confusion. It is to be hoped these mistaken men will open their eyes to their best interests ere it be too late. From what the lecturer said, it appears that in Switzerland no less than 20,000 women derive an honourable and fair livelihood from watchmaking. And what is the consequence to the Swiss themselves?—that the male part of the population engaged in the trade are thereby driven out of employment? By no means; but, on the contrary, that watches are so delicately, so correctly, and yet so cheaply made in Switzerland that no less than 1,500,000 are yearly produced there, besides movements for the American market; while in all England only 186,000 are turned out! One consequence of this state of things has been, that at a time when the American market was closed, both to our own watchmakers and the Swiss, our own market was deluged with watches made in Switzerland! Mr. Bennett thinks, however, that were our watchmaking operatives to see the advantage of employing women and girls, the trade might still be preserved for this country. And let us add, for our own part, that means such as these, put in operation in this and other branches of trade, would go far of themselves to solve the sad question of the great "social evil," as it is called, by providing honourable industrial employment for our surplus female population.

The Fortifications of Dover.—Every part of the castle, according to the local *Chronicle*, is undergoing substantial repair, while bastions and mounds, &c. daily arise to view. New buildings are also being erected on the heights, and others enlarged and repaired. Here, also, between the redoubt and the citadel, a chapel-school has been erected for the soldiers and their children. It is composed of brick, with ragstone facings and Bath stone dressings. The style is an approximation to the Gothic. There will be accommodation, as a chapel, for about 800 persons. There is a schoolmaster's residence adjoining. Mr. Moxon is the contractor. The barracks near the grand shaft have been enlarged by the addition of another story and a new wing: they will now accommodate 1,200 men. The subterranean works of the citadel are described as almost impregnable points of attack and defence. Considerable sums have been expended to render the citadel complete in all respects. Some of the more expensive works here were contracted for by Mr. Moxon. A new canteen has been erected at the barracks on the western heights, and various other works done connected with them.

Goodchild's Patent Economic Stove.—A stove has been patented by Mr. Thomas Goodchild, of Guildford, architect. The fire is lighted at the top, in the manner of "the *Builder's* smokeless fire." There is an ash-box fitted on air-tight below, and a guard in front moves down as the fire burns down. The fire is laid, as well as lighted, much as was instructed for the *Builder's* smokeless fire, and it is said that this new stove will burn either Newcastle or Nottingham coal, or a mixture, broken small; that it gives more heat than an ordinary stove, with half the amount of fuel and of trouble; and that the price scarcely exceeds that of an ordinary register.

New Application of Electricity: Music "laid on."—Electricity is about to be applied to music, says a contemporary. A performer seated before a piano, constructed for the purpose, in London, Moscow, or St. Petersburg, will play a *morceau*, every note of which, by means of the electric wire, will be repeated by another instrument in one of the concert-rooms in Paris. Thus Thalberg will be enabled, without leaving London, to give a concert by telegraph 2,000 miles off.

Falling in of the Roof of a House.—On Wednesday morning an occurrence which fortunately was attended with no serious results, took place at the Spread Eagle Tavern, Bristol, near the railway station. It appears that the house was erected about five years since, and was covered with a flat roof of cement. Since the late fall of snow the roof has been in a very bad condition, water continually running and dropping from it, and the woodwork with which it was constructed being completely destroyed. On the morning in question, however, it came down with a crash, and was only prevented from falling on the occupier by the flooring of the first story, or an accident of a serious nature must have taken place.

Want of Employment at Newcastle-upon-Tyne.—At a meeting of the unemployed and of workmen generally held last week, at Newcastle, it was stated that there are 800 workmen out of employment there, and that 120 are working at 1s. a day on the town moor. The main object of the meeting was to adopt a memorial to the Treasury, praying for the reversal of a decision of their predecessors as to the sale of corporation property to Mr. Walters, whereby the working classes would be benefited by an expenditure of something like 150,000*l.* in improvements.

Lansdowne College, Bath.—We are asked to say that part of the building is warmed by an apparatus put up by Haden and Son, of Trowbridge.

Ornamental Brickwork: Chimneys.—Mr. Henry Childs sends us drawings of twenty-five different sorts of bricks made at his own kiln, and which he has had in use several years, such as chamfered plinth bricks; cornice or base; hollow bricks, to form flue in a 9-inch wall; mullion and jamb for windows; arch bricks, and others. "Having been very successful," he says, "in curing smoky chimneys, I am thoroughly convinced that, if the chimney is carried high enough, and the flue of a reasonable size, the only way to prevent its smoking is to pay attention to the shape and size of the aperture at the bottom, taking into consideration the kind of fuel used, and ensuring a plentiful supply of fresh air by any convenient means of ventilation. I think it is a very great error to cover chimney-tops with the many cork-screw contrivances invented now-a-days, but instead would give the smoke free exit as soon as possible."

Ornamental Windows.—As the clergy and laity are in the habit of spending so much money upon stained glass windows in churches, might it not under some circumstances be a good plan to adopt photographic pictures—copies, for example, from the ancient masters, properly selected. The photograph being completed, and also painted, another piece of glass could be placed on the face of the photographic picture, which is on glass, and the edges be cemented together air tight. Thus the picture would be perfectly safe from all damage from the atmosphere.—J. E. M.

TENDERS.

For erecting a tavern and two shops in the Curtain-road, Finsbury. Mr. A. Newman, architect. Quantities not supplied:—

Brown	£2,445 0 0
Scott	2,400 0 0
Brake	2,371 0 0
Wood and Sons	2,348 0 0
G. Todd, jun.	2,243 0 0
McLennan and Bird	2,185 0 0
Green	1,987 0 0

For building new National Schools and teachers' residences, at Littlington, near Royston, Cambridgeshire. Messrs. Kendall and Edlin, architects. Quantities not supplied :—

Williams	£1,034	16	0
Goodchild	805	0	0
French	739	0	0
Gimson	693	0	0
Thody and Co.	685	0	0
Oates	650	0	0
Gibbons	650	0	0
Gray	597	0	0
Ayres and Co. (accepted)	575	0	0

For Sneyd Parsonage House, Burslem, Staffordshire. Messrs. Ward and Son, architects. Quantities supplied :—

Batty	£1,230	0	0
Holme	1,068	0	0
Evans	1,045	0	0
Wood	960	9	0
Massey	875	0	0
Walley	870	0	0
Bryan	830	0	0
Jones	800	0	0
Boon	788	6	9

For stores for the Electric and International Telegraph Company, Camden-town. Quantities supplied by Mr. D. T. Brown :—

Piper and Son	£3,230	0	0
Greg	3,125	0	0
Batterbury	2,998	0	0
M'Lennan and Bird (accepted)	2,885	0	0

For house, in Bishopsgate-street Without. Mr. Legg, architect. Quantities supplied :—

Wells	£1,790	0	0
Sergant	1,698	0	0
Cammon	1,615	0	0
Heath and Son	1,595	0	0
McLennan and Bird	1,483	0	0
Thompson	1,375	0	0

For a pair of semi-detached villas, at Richmond, Surrey, for Mr. G. A. Wall. Messrs. Gosling and Hartrup, architects, Twickenham. Quantities supplied :—

Sweet and Carless	£1,680	0	0
Gascoyne, Brothers	1,663	0	0
Houghton and Son	1,653	0	0
Jacklin	1,653	0	0
Sims	1,542	0	0
Towers (accepted)	1,538	5	0

For proposed works at Halesworth Church, Suffolk. Mr. Jeckell, architect :—

Ringham, Ipswich	£1,335	0	0
Lloyd, Norwich	875	0	0
Spaul and Ollett	858	0	0
Peebles and White, Dereham	830	0	0

For works, 314, Regent-street. Mr. Charles Broadbridge, architect :—

	Painting, &c.			Shop Front.		
Foxley	£113	18	0	£189	2	0
C. Fish	110	0	0	170	0	0
Baker	107	17	6	160	0	0

For construction of dock on Roff's wharf, Woolwich, for the Directors of the Woolwich Steam Packet Company. Messrs. Church and Son, Woolwich, architects. Quantities supplied :—

		Extra for Wrought-iron Girders.		
Moxon, Dover	£2,417	0	0	£225 0 0
Alcock, Hertford	2,252	10	0	220 0 0
Munday	2,228	0	0	296 0 0
Shelborne and Smith	2,200	0	0	238 0 0
Gomm and Bryon	2,158	0	0	410 0 0
McIntosh	2,146	0	0	353 0 0
Nicholson and Sons	2,060	0	0	240 0 0
Knight	1,999	0	0	225 0 0
Hack and Son	1,967	0	0	208 0 0
Houghton and Ley	1,948	0	0	305 0 0
Watts	1,938	0	0	230 0 0
Wardle	1,916	0	0	240 0 0
Piper and Son	1,903	0	0	270 0 0
Tongue	1,805	0	0	216 0 0
Dethick (accepted)	1,638	0	0	347 0 0

For the St. Marylebone National Schools. Mr. Thomas Little, architect. Quantities supplied by Mr. D. J. Brown :—

	With cement dressings.			With Bath stone dressings.		
Rudkin	£4,960	17	0	£5,064	17	0
I'Anson	4,480	0	0	4,644	0	0
Morris and Phillips	4,428	0	0	4,578	0	0
Stephens	4,346	0	0	4,451	0	0
Bird	4,360	10	0	4,468	10	0
Cubitt and Co.	4,302	0	0	4,419	0	0
Holland	4,079	0	0	4,154	0	0
Keys and Head	3,940	0	0	4,140	0	0
Myers	3,807	0	0	3,868	0	0
Mansfield and Son	3,763	0	0	3,848	0	0

TO CORRESPONDENTS.

The completion of Mr Picton's article on Modern German Art will be given next week.

Staining Stone.—A reader wants to know "how to operate on new stone so as to give it the appearance of old; the building under restoration is of the fifteenth century."

Trinity Church, Edinburgh (in addition to the names given in our columns of authors of designs commended in No. 12), two architects sent us their names as the author of design, marked "*Fides*." We postpone, therefore, giving either.—C. R. (what would be gained by it?).—S. S. S.—Dantzic (will find calculations left for him at the office).—T. L.—W. S.—H. D.—W. G.—I. B. N.—G. T.—H. and Sons.—J. W. B.—W. W.—G. and H.—T. J.—Salford.—J. B.—C. R.—P. D.—W. H.—W. J. (the number for March 6th).—W. W.—T. P.—S. H. G.—T. E. K.—G. J.—F. H. (in type).—W. J. P. (ditto).

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

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London, 25th March, 1858.

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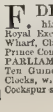

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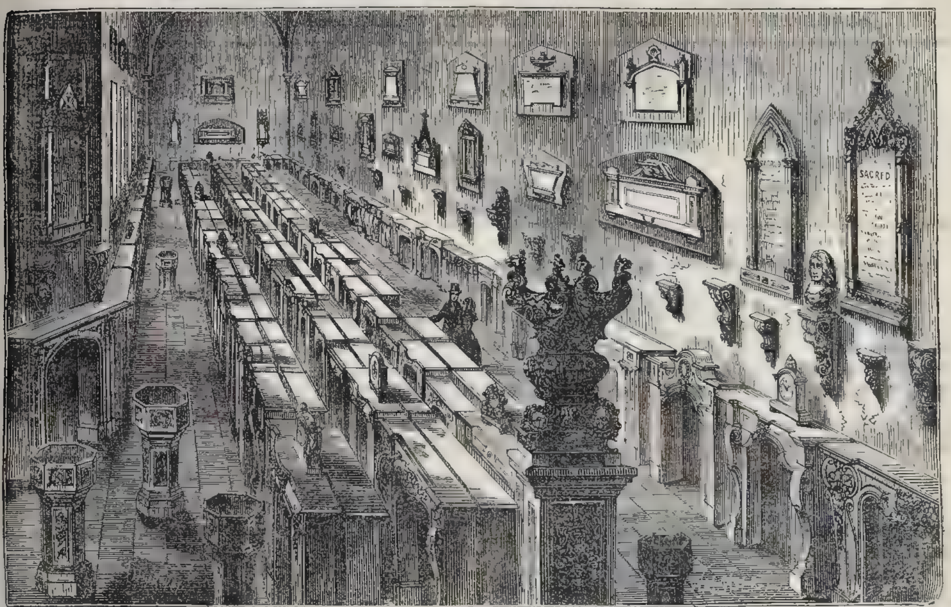

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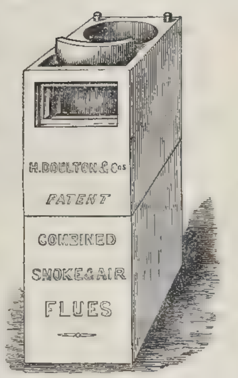

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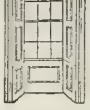

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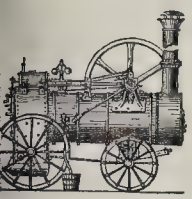

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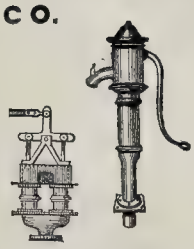

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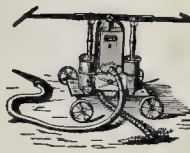

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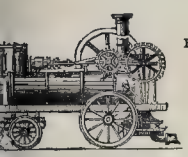

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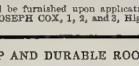
By Her Majesty's  Royal Letters Patent.

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May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 27,988!

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London, E.C.

DURABILITY of GUTTA PERCHA

TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER

VALVES, for Feed Pumps of Steam Boilers, enable the Pumps to give one hundred per cent. of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price-lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED

INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

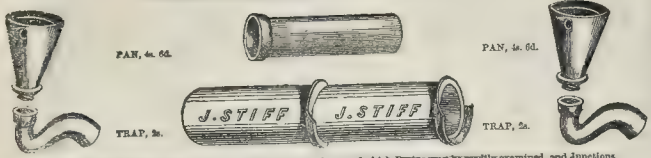
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Westminster bridge road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Denyers Wharf, Chelsea; Pratt Wharf, King's-road, Camden town

Messrs. COLES, SHADBOLT, and CO'S St. James's and Thornhill Wharfs, Caledonian road, Pentonville.

Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich

Mr. LAVERS'S, Deptford Wharf, Canal road, Hoxton.

Messrs. COLWILL (BROTHERS), 92, Bryd[illegible]-street, Covent garden.

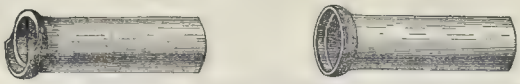
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

By the use of which Drains may be examined without the necessity of breaking a Pipe.

SALT GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

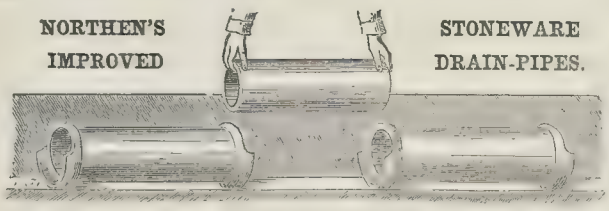
TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. BROWN, Town Agent.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 12, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of surveyors, contractors, Builders, [illegible] to his REGISTERED IMPROVED STONEWARE DRAIN PIPE, which does away with the difficulty of removing a pipe in case of stoppage, [illegible] taken up without disturbing the [illegible] entirely [illegible] yet manufactured, for quality [illegible]

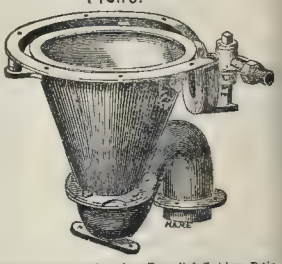
[illegible] improved pipes W. N. [illegible] PRICES AS THE COMMON SOCKET PIPES.

W. N. [illegible] first that manufacture [illegible] the Drains, [illegible] to make the best [illegible]

Having made very extensive alterations [illegible] Drain machinery of the most improved descriptions, he is prepared to execute orders to any extent.

LAMBERT'S SELF-REGULATING and SELF-ACTING ENAMELLED IRON CLOSET PAN.

FIG. 18.



This arrangement consists of an Enamelled Cast-iron Basin and Syphon Trap, supplied by a Lambert's Patent Self-regulating Valve bolted to the basin, adjusted so as to deliver any quantity of water required at each action of the seat; it is the cheapest, most durable and efficient self-acting water-closet yet produced, requiring no reservoir or intermediate cistern, the valve itself measuring at each action of the seat a given quantity of water into the pan.

Price complete, with enamelled iron syphon trap, 42s.

THOS. LAMBERT and SON, Patentees and Sole Manufacturers of their Flexible Diaphragm Water valves, Cottage Closet valves, &c. Short-street, New-cut, Lambeth.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.

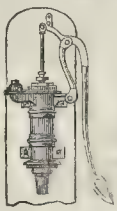
No. 7.

is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 15s. 6d. each.

TO BUILDERS AND PLUMBERS.



The attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan

Beer and Water Engines for raising fluids from a depth not exceeding 28 feet; also Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS

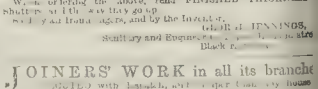
The Health of Towns Commissioners having recommended the adoption of the high-pressure principle in all towns, WARNER'S HIGH PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins with suppy-valve for attaching direct to main pipe without a cistern. cocks, or ware.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

J. MILLS (late Shop Foreman to Messrs. Lawrence and Sons), JOINER to the TRADE, 7, Princes-street, Stamford-street, Lambeth. Shop fronts, fittings staircases, &c. Well seasoned mahogany and other woods, planed at the lowest possible prices. A quantity of doors and sashes always in stock.—By orders a postage-stamp, a full list of prices will be returned.—Workshop 110, Broadwall.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOT

SHOP SHUTTERS are SHOD and SECURED by the above at HALF THE COST of the UNSIGHTLY and OBSTRUCTIVE SHUTTER BAR. Shops referred to in every part of London. Works for fixing the above, read FINISHED THROUGH shutters [illegible] Black [illegible]

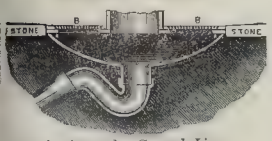
JOINERS' WORK in all its branches [illegible] SHOD with Lamb's, and other Patent [illegible] London.

S. A. JEFFS,

43 and 45, Upper-road, Stamford-street, Lambeth, S.

N.B. Price-list on application.

Elevation of Urinal.



Section under Ground Line.

THE OBJECTIONS TO PIPE DRAINAGE

(Formerly the subject of so much discussion), ARE NOW ENTIRELY REMOVED BY

"JENNINGS'S IMPROVEMENTS IN DRAIN-PIPES."

These Improvements have led to their introduction in many of the most important Public and Private Works, and they are now specified by all Architects and Engineers, who desire that their Drainage should be permanently efficient.

The favour with which they have been received has given birth to many spurious imitations. Comparison between these and JENNINGS'S PATENT PIPES is respectfully solicited.

Arrangements are now made for the delivery of these Pipes in every part of the United Kingdom, at the following PRICES, subject to a DISCOUNT of TWENTY PER CENT. FOR CASH:—

3-in. 5d. 4-in. 6d. 6-in. 8d. 9-in. 1s. 1½d. 12-in. 1s. 10d. 15-in. 3s. 18-in. 4s.

JENNINGS'S PUPLIC URINALS

For RAILWAY STATIONS, SCHOOLS, PUBLIC BUILDINGS, THOROUGHFARES, ASYLUMS, BARRACKS, &c. &c.

These Urinals, which have been fixed at various places, have met with universal approval. The one recently fixed for the "St. Giles's District Board of Works," in the centre of the Seven Dials, is now open to the public, and will on inspection be found to offer the following advantages:—

1st. All the materials employed are nonconducting and imperishable.

2nd. It is more private than any fixed for public use.

3rd. It occupies less space, as within a circle of FOUR FEET it gives ample accommodation to six persons.

4th. The galvanized grating (shown in the section at BB) ensures a dry footing.

5th. It offers little or no soiling surface.

6th. The basin, which contains 20 gallons of water, dilutes and passes down the overflow all offensive matter.

7th. The saving effected in the water supply is so great, that the cost of construction will be soon repaid.

8th. The price is nominal as compared with others.

These Urinals are made and arranged for ONE, TWO, FOUR, or SIX persons.

Prices and further particulars can be had on application to

GEORGE JENNINGS, SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS.

JENNINGS'S LAVATORIES, VALVE CLOSETS, SELF-ACTING DITTO, SLUICE-VALVES, FIRE and other COCKS, PUMPS, &c. &c. would repay a visit to his Show-rooms.

DRAWINGS, ILLUSTRATIVE of JENNINGS'S IMPROVEMENTS in CONSTRUCTION and VENTILATION, are now being lithographed, and will shortly be ready for circulation.

WALTER MACFARLANE & Cº

IRON FOUNDERS AND SANITARY ENGINEERS, SARACEN FOUNDRY, GLASGOW,

PATENTEES and MANUFACTURERS of PUBLIC SANITARY APPLIANCES,

For Dwellings, Schools, Asylums, Barracks, Railways, Streets, &c.

No. 1. Water-closet Range.

URINALS, Single, Double, and in Ranges.

WATER-CLOSETS, Single and in Ranges.

WASH-HAND BASINS, Single and in Ranges.

WASH-FOOT BASINS, Single and in Ranges.

No. 1. Wash-hand Range.

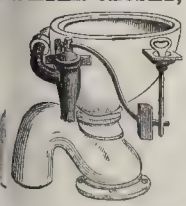
Composed wholly of CAST IRON; now in use in every large Town in the Kingdom, as well as the Colonies, and on the Continent.

LONDON HOUSE,

MR. THOMAS BEGGS, 37, SOUTHAMPTON-STREET, STRAND, General Depôt for Sanitary Articles and Plumbers' Brasswork.

Illustrated Price Lists on application.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,

AND

LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S,

STORES—70, SOHO-STREET, LIVERPOOL.

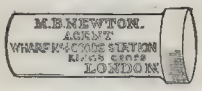
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter.
Connection can be made with the sewer at any time.
And the Pipes guaranteed to stand better than any Brickwork.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4 in.	6-in.	9-in	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability

GAS SOIL put on BOARD BARGES, at GRAYS.—Apply to MESSON and CO. Grays, Essex; or 12, George yard, Lombard-street, E.C.

SALES BY AUCTION.

Forty Tons Cast, Shear, and Spring Steel, Steam Boilers, Two 10-Ton Cranes, Wrought-iron Wheels, and other Effects.

MESSRS. FULLER and HORSEY will SELL by AUCTION, on MONDAY, MARCH 29, at ELEVEN o'clock, on the PREMISES of Messrs. SWAYNE and BOVILL, Millwall, Poplar, FORTY TONS CAST, SHEAR, and SPRING STEEL, Turton's, Sanderson's, and Oxley's make; Three new Steam-boilers (one multitubular), Two 10-Ton Cranes, Twenty-five Pairs Wrought-iron Wheels, Chills, Chucks, and many tons of Ironwork; Twenty new Capstans (Allyn's patent), Ten Tons Bar and Rod Iron, and other Effects.—To be viewed, and catalogues had on the Premises; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Loose Tools and Stores of the Sawing-Mills and Marble Works.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on WEDNESDAY, MARCH 31st, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the LOOSE TOOLS, IMPLEMENTS, and STORES of IRON and IRONMONGERY, 100 dozen frame saws, 4 feet 6 inches to 8 feet; 100 circular saws, 1 to 55 inches diameter, pit saws, planing and edging tools, a flooring-board, planing, and tonguing machine, by Parssons; leather bands, 1 ton cast and shear steel, 10 tons rod and bar iron, weighing machines, smiths' tools, anvils, top and bottom swayes, mandrels, hammers, &c. 100 dozen files, 100 gross iron and brass screws, brass lift pump, copper tubes, wrought and cut nails, spikes, sash weights, 10 cwt. old files, crown and sheet glass, dry and ground colours, 1 ton white and red lead and litharge, sash tools, ten troughs, 70 dozen hammered saw plates, saw-pokes and heads, buckles, sieves, 200 yards road grit, 20 yards marble and Portland sand, well pumps and pipes, pulley wheels and ropes, well boring apparatus, blocks and falls, barrows, two 4 ton and one 8 ton Harvey's jacks, carpenters' benches, several tons of ironwork, a moveable travelling crane, 60 feet span, equal to 10 tons, and numerous other effects.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES, TABLETS, &c.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, APRIL 14th, 1858, at TWELVE o'clock, at the MARBLE WORKS, Commercial road, Pimlico, the remaining STOCK of about ONE HUNDRED and FIFTY MARBLE CHIMNEY-PIECES of the most modern designs, and finished in the best style of workmanship, many of a valuable description, in Genoa Green, Bardilla, Rouge Royal, St. Ann's, Serpentine, Dove, Black, Emperor's Red, Veined and Sicilian Marble; Statuary Mural Tablets, Caen Stone Gothic Tablet, with Statuary Inscription Plate; polished Marble Slabs, &c.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO CONTRACTORS, DEALERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, in the month of APRIL, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs. LEE and LAVERS, Contractors, Sutton-street, Belvedere road, Lambeth, in lots, including a portable 6-horse power contractor's steam-engine, on wheels, by Medwin and Hall; a 10-horse power portable [illegible] steam engine and boiler, with mortar mill and iron circular saw bench attached, with gearing to work the same, Gwynne's centrifugal pump and pipes, [illegible] scaffold poles and boards, 500 putlogs, scaffold cords, four pile engines with monkeys, [illegible] cast iron fluted columns, each 16 feet high, [illegible] yellow deals and battens, several thousand feet of dry seasoned [illegible] boards, double and single purchase crabs, timber carriage, stone truck, 15 tumbril carts, six useful draught horses, sets of harness, trucks, stable implements, turntable, large quantity of earthen sewage pipes, wrought iron pumps, [illegible] screw and lifting jacks, blocks and falls, mortising machine by [illegible], smiths' tools, vices, anvils, 20 carpenters' benches, cramps, [illegible] crow bars, pickaxes, chains, [illegible], two tons of lead pipe, rails and [illegible], ironmongery, [illegible] iron, 50 bags of wrought and cut nails, leather bands, portable sewage pumps with leather hose, 50 pair of water boots, weighing machine, scales and weights, three portable offices, sewer gratings and frames, sink traps, and other numerous effects.—To be viewed and catalogues had in due course, by application to Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, APRIL 12th, 1858, and following day, at TWELVE o'clock each day, on the PREMISES, Commercial road, Pimlico, in lots, the concluding portion of the valuable and extensive STOCK of DRY SEASONED GOODS, carefully selected, comprising 2,000 yellow deals and battens, 500 white deals and battens, 500 pine planks, 200 red pine deals and battens, 100 loads Dantzic timber, 200 squares prepared flooring boards, 7,000 feet dry seasoned wainscot, new scaffold poles, oak wands, and other goods.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the extent of 50*l.* and upwards, or a discount of 1½ per cent. will be allowed for cash.

TO MARBLE AND STONE MERCHANTS, AND MASONS.—Important Stock of Marble and Stone.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, APRIL 15th, 1858, and following day, at TWELVE o'clock each day, at the MARBLE WORKS, Commercial road, Pimlico, in lots, the concluding portion of the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in block, 100 feet Genoa green, 200 feet of statuary, 20 feet Emperor's red, 60 feet Sienna, 450 feet serpentine, 1,000 feet veined, Sicilian, black, amber, dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles, 10,000 feet in slabs of the same assortment, from ¼ inch to three inches, 1,100 feet polished slab; mouldings; 3,000 feet Portland stone, in block; 300 feet of Caen stone, 1,400 feet French stone, 150 feet Wingerworth stone, 2,000 feet of 3-inch to 6-inch of York landings; 3,000 feet Portland slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to 6 inches; 2,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, ¾ inch to 6 inches; head, and foot stones; 1,500 feet run of granite curb, 12 feet by 6 inches and 12 feet by 8 inches; five blocks of granite, and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Ten Acres of highly desirable Freehold Building Land, adjoining the Railway Station, St. Alban's, Herts.

MESSRS. PAGE and CAMERON are instructed to SELL by AUCTION at the MART, London, on FRIDAY, APRIL 9th, 1858, at TWELVE for ONE o'clock, in one lot (but if not so sold, then immediately afterwards, in two lots, as shown by plans which will be attached to the particulars of sale), the FREEHOLD ENCLOSURE known as "Bull Mead," land-tax redeemed, containing about TEN ACRES, most eligibly situate adjoining the terminus of the Watford and St. Alban's Railway, immediately contiguous to the town of St. Alban's, having a considerable frontage most valuable for building purposes; with early possession.—The property may be viewed at any time, and particulars and conditions of sale (with lithographed plans annexed) had at the Auction Mart; of Messrs. TAYLOR and WOODWARD, Solicitors, 28, Great James-street, Bedford-row, London, and of Messrs. PAGE and CAMERON, Land Agents and Surveyors, 64, Old Broad street, E.C. and St. Alban's, Herts.

PEREMPTORY SALE, THE PREMISES BEING ABOUT TO BE BUILT UPON.

MR. MESSITER is instructed to SELL by PUBLIC AUCTION, at Mr. STEEL'S TIMBER-YARD, Printer's-place, Bermondsey, near the Spa-road Station, on MONDAY, MARCH 29th, 1858, and the two following days, the unreserved STOCK of a TIMBER MERCHANT, comprising planks, deals, and battens, mahogany, yellow and white pine and spruce deals, and a quantity of floor boards, scantling, &c. together with the deal stages and other erections on the Premises.—May be viewed the day previous and morning of Sale, and catalogues had on the Premises, and of the Auctioneer, 24, Acton place, Kingsland road.

SALES BY AUCTION.

WESTMINSTER.—Builder's Stock, Plant, and Implements.

MESSRS. EVERSFIELD and HORNE have received instructions to SELL by AUCTION, on the PREMISES, Earl-street, Westminster, on TUESDAY, MARCH 30, at TEN for ELEVEN, on account of the number of lots, the STOCK IN-TRADE; comprising about 5,000 feet of yellow and white deals and battens, prepared floor-boards and battens, a large quantity of useful cut stuff, quartering and planks, about 10,000 new stock bricks, 5 cwt. patent hoop band, five crates of glass, sheet lead, ironmongery, and fittings of painter's shop, also the plant and implements, including a powerful cart horse and five sets of harness, an excellent cart on springs, and three builder's carts, stone truck, timber carriage and van, hand trucks, ladders, trestles, crab engines, screw-jacks, iron cramps, Samson, sets of blocks and falls, scaffold poles, cords, boards and putlogs, a nearly new mortising machine, twenty-four work-benches, scales and weights, portable counting house, a small quantity of stone, earthen drain pipes, useful ironwork, and other effects.—May be viewed one day previous; and catalogues had on the Premises; and of the Auctioneers, 40, Parliament street, or Coal Exchange.

TO BUILDERS AND OTHERS.—Important Sale of Chimney-Pieces, &c.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the SHOW-ROOMS, No. 135, Euston road, near St. Pancras Church, on WEDNESDAY, MARCH 31st, at TWELVE for ONE (in consequence of the lease of a portion of the Premises having expired), about 150 MARBLE CHIMNEY-PIECES, the greater number of which are of a plain, inexpensive style, but got up with a neatness of design and superiority of execution unusual in this class, which render them peculiarly adapted for chambers of first and second-rate houses, or for general use in those of the third and fourth class. There are also many of rich designs in statuary, black and gold, Bardilla, green, and Sienna marbles, adapted for the reception-rooms of first-class residences. The whole of which can be confidently recommended, and must be cleared away immediately. Also, a variety of vases, pedestals, and figures. Approved bills at three months from buyers of above 30*l.*—May be viewed two days previous, and catalogues had on the Premises; and of the Auctioneers, 40, Parliament street, or Coal Exchange.

NORWOOD.—The valuable Materials and Fittings of the Central London Schools.

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District Schools to SELL by AUCTION, on the PREMISES, adjoining the Woodman, Upper Norwood, on TUESDAY, APRIL 13th, at TEN for ELEVEN, on account of the number of lots, the excellent MATERIALS and FITTINGS of the school buildings and dwelling houses: comprising about 200 squares of tiling, sound timber roofs, of various spans, 250 squares of flooring-boards, posts, and girders, numerous doors and sashes, lining boards, partitioning and weather boarding, iron and open rail fencing, iron palisading, cooking apparatus, and large iron pans, steam boiler, pipes and metal cocks, force pumps, gas-fittings, kitchen ranges and stoves, five tons of lead, 4,000 superficial feet of Yorkshire paving, fifty rods of sound stock brickwork, and numerous other effects, the whole of which will be put into suitable lots, to be taken down by the purchasers.—May be viewed three days previously, and catalogues had at the Woodman; also of Mr. HEATH, Solicitor, 10, Basinghall-street; and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

NOTE.—The FREEHOLD SITE, with CHAPEL and SCHOOL-ROOM, will BE SOLD, in MAY next, in one or more lots.

BROMPTON HOSPITAL ESTATE.—*Re* Delay, deceased.—Twenty Modern valuable Houses for Absolute Sale, by order of the Administratrix.

MESSRS. PETER BROAD and PRITCHARD will SELL by AUCTION, at the MART, on WEDNESDAY, MARCH 31, at TWELVE o'clock, in Twenty Lots, SEVEN excellent brick-built DWELLING HOUSES, with Shops, being Nos. 8 to 14 inclusive, Rose-terrace, Fulham road, Brompton; Thirteen first-class Private Residences, being Nos. 1 to 13, Foulis-terrace, Brompton road.—May be viewed. Particulars of Mr. WRIGHT, at the Office, Foulis-terrace, Brompton; of HENRY ROSE, Esq. Solicitor, Victoria-street, Westminster; at the Mart; or at the Auctioneers' Offices, 28, Poultry.

HAMPTON, MIDDLESEX.—Lot Land, equal to Freehold, eligibly situate for building on, cheerfully elevated, with a view of the Thames.

JOHN DAWSON and SON are instructed to SELL, at the MART, on THURSDAY, APRIL 15, at TWELVE, in lots, adapted for a good class of house, FOUR ACRES of BUILDING GROUND, gravel subsoil, fine water, and delightful scenery, on the Upper road from Hampton-court to Sunbury, conveniently near to Hampton village church, &c. Particulars, with conditions of sale, may shortly be had of E. J. KERLY, Esq. 1, Guildhall-chambers, Solicitor; at the Auction Mart; and at Messrs. JOHN DAWSON and SON'S Offices, Kingston-on-Thames, and Marlborough-chambers, 49, Pall-mall.

WEYBRIDGE-PARK, SURREY.—A Freehold Estate, highly eligible for building purposes, having frontages extending from the bridge on the Chertsey road to the centre of the village, and consisting of about eighty acres; contiguous also to Oatlands Park, and a short walk from the South Western Railway Station.

JOHN DAWSON and SON are instructed to SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, MAY 12, at TWELVE, in one lot, as an investment for builders and land societies, who will find it a very tempting opportunity for a secure and profitable use of capital, a FREEHOLD ESTATE. Should no adequate sum be offered then, or by private contract previously, portions of the estate will be immediately offered in lots adapted for the erection of a respectable class of houses.—Particulars, with plans and conditions of sale, may shortly be had of Messrs. YOUNG and JACKSON, 12, Essex street, Strand, Solicitors; at the Auction Mart; and at Messrs. JOHN DAWSON and SON'S Auction and Land Offices, Marlborough chambers, 49, Pall mall.

GIRDER.—TO BE SOLD by AUCTION, by

SOUTHGATE and BARRETT, on THURSDAY, APRIL 1, at B. SAVORY'S, 26, Cornhill, opposite the Royal Exchange, a WROUGHT-IRON GIRDER, 16 feet long, made by Messrs. Mare and Co. Blackwall, for the above premises. The superior Spanish Mahogany Upright and Counter Glass-cases, for the shop and show room, will also be sold on the same day.—Now on view, and catalogues to be had.

BEAR-LANE, GRAVEL-LANE, Blackfriars-road.—To Cabinet-makers, Coach-builders, Wheelwrights, and Others.—Genuine extensive Sale, without reserve.

MR. PEAKE is instructed by the Proprietor, Mr. Samuel Rutt, who is quitting the premises, to SELL by AUCTION, as above, on TUESDAY, MARCH 30th, 1858, and two following days, at TWELVE for ONE o'clock each day, in lots, the well-seasoned STOCK, suitable for the above trades, comprising about—

[illegible] Feet Honduras Mahogany, in planks, logs, and curls.
12,000 Feet superior wainscot Panel Board.
4,000 Feet Veneers and Beading.
[illegible] Plank, Deals, and Battens.
500 Pine Plank, sawn and unsawn.

A large quantity of wainscot, English oak, ash, birch, and sycamore, timber carriages, carts, horses, harness, erections of saw-pits, scale-board machine complete, and part of steam-engine, and trade utensils; also a few lots of household furniture, pianoforte, and numerous other effects.—May be viewed the day previous and mornings of sale, and catalogues obtained on the Premises; and of Mr. PEAKE, Auctioneer, 14, Tooley street, Southwark, S.E.

TO TIMBER MERCHANTS AND BUILDERS.

MESSRS. DAVIS and VIGERS are directed by Mr. Sykes, who is retiring from business, to SELL by AUCTION, on the PREMISES, Osborne street, Whitechapel, on MONDAY, APRIL 12, and following days, at TWELVE for ONE each day, the well assorted and SEASONED STOCK, comprising 9,000 pieces of wide pine, and white and yellow planks, deals, and battens, 350 squares of white and yellow prepared floor boards and battens, 50 squares of matched and beaded lining boards, 1,000 feet of oak sash sill, 1,500 feet of oak scantling, 1,000 feet of die square, 10,000 feet of quartering, a very large and useful assortment of dry cut stuff, 40 loads of long Dantzic timber, 20 loads of long Swedish timber, a fine log of oak, quantity of oak board, double purchase jack, strong spring cart, three timber trucks, a piling horse, three benches, and numerous other valuable items.—May be viewed the Saturday before and mornings of sale; catalogues to be had on the Premises; of Messrs. WARRINGTON and BEETSON, New City chambers, Bishopsgate street; and of Messrs. DAVIS and VIGERS, 3, Frederick's-place, Old Jewry.

SALES BY AUCTION.

NEWGATE-STREET.—Extensive Sale of Building Materials.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on MONDAY, MARCH 29, at TWELVE, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of SIX large HOUSES and SHOPS, 101, 102, 103, 91, and 92, on the north side of Newgate-street, and a house in the rear in Christ Church passage, to be taken down, for the purpose of widening the street: comprising capital sound brickwork, a large quantity of plain and pan tiles, several tons of lead, prime timber in roofs and floors, sashes, doors, chimney-pieces, floor boards, mahogany counters, drawers, stoves, ranges, cisterns, plate-glass shop fronts, iron columns, and a great variety of useful materials, fixtures, and fittings.—May be viewed on Saturday previous. Catalogues had at the Architect's Office, Guildhall; and of PULLEN and SON, 80, Fore street, Cripplegate.

LONGTON GROVE, SYDENHAM.—Eligible Building Land, occupying one of the choicest sites in the neighbourhood of London, where villa residences are in great demand, and readily let immediately they approach completion.

PULLEN and SON are directed to SELL by AUCTION, at the MART, on TUESDAY, APRIL 27, at TWELVE o'clock, FIFTEEN PLOTS of most eligible and attractive BUILDING LAND, in one of the choicest and most favourable situations in the neighbourhood of the metropolis, Sydenham, on the north and south sides of Longton grove, where building operations have been successfully carried on, and immediately adjoining the elegant villa residences already erected, and occupied by tenants of the highest respectability; close to the church, within five minutes' walk of the Sydenham station, and very little further from the Crystal Palace. The plots have frontages of 40 and 50 feet each, with considerable depth, and are held for a term of upwards of ninety years, at a merely nominal ground rent.—May be viewed and particulars had of Messrs. NEWBON, EVANS, and NEWBON, Wardrobe-place, Doctors' commons; at the Mart; and of PULLEN and SON, 80, Fore-street, Cripplegate.

THURSDAY NEXT.—By Order of the Executors of the late Mr. T. W. ELLSTON.—LONG LEASEHOLD HOUSES, SHOPS, and GROUND-RENTS, producing 406*l.* per annum.

MR. T. S. SMITH will SELL by AUCTION at the MART, on THURSDAY next, APRIL 1st, at TWELVE for ONE, in TEN or more Lots, the FOLLOWING PROPERTY:—Lot 1.—A Ground-rent of 5*l.* on the Police Station, Bermondsey-street. Lot 2.—A Ground-rent of 32*l.* 6*s.* on fourteen houses, Fergusson's-rents and Suffolk place, Snow's fields. Lot 3.—A Ground rent of 18*l.* 0*s.* 6*d.* (with a reversion) on twenty houses, Deverill-street and Margaret-place, Dover-street. Lot 4.—A Ground-rent of 20*l.* 5*s.* on four houses and shops, Southampton street, Camberwell. Lot 5.—A Ground-rent of 32*l.*, on manufacturing premises, houses, &c. Walworth. Lot 6.—Three Long Leasehold houses, St. Ann's terrace, Rotherhithe, producing 64*l.* 12*s.* Lot 7.—Four houses, Adam's gardens, Rotherhithe, producing 46*l.* 16*s.* Lot 8.—Three houses and shops, Bermondsey street, and dwelling house, Tyer's gateway, producing 110*l.* Lot 9.—Three houses, Russell street, Bermondsey, producing 53*l.* 6*s.* Lot 10.—Two houses, Richardson-street, Long lane, producing 33*l.* 16*s.*—May be viewed and particulars obtained on the Premises, at the Mart, the Estate Exchange, of Messrs. DREW and GRAY, Solicitors, Hibernia chambers, London bridge; of Mr. T. W. ELLSTON, 109, King-street, Borough; and of Mr. T. S. SMITH, Auctioneer, 44, Lombard street and Upton, Essex.

TO TIMBER MERCHANTS, MAHOGANY MERCHANTS, CABINET MAKERS, and OTHERS. The next LIVERPOOL PERIODICAL AUCTION SALES, comprising cargoes of City and other St. Domingo mahogany, Mexican baywood, cedars, Havana, Mexican, and Sardinian, Italian walnut, &c. will take place on THURSDAY morning, the 8th of APRIL next, at ELEVEN o'clock precisely, in the WOODS' SALE SHEDS, Brunswick and Toxteth Docks, Liverpool; and the sale will be resumed at TEN o'clock on the following morning (Friday) until noon, when, precisely, will be sold the cargo, to be landed in time (having now arrived), ex "Montezuma," from St. John, already lotted in catalogue No. 1, of MARCH 18th, to be followed with St. John birch (now stored), and other American and Baltic firs, &c.; particulars of which may be had, on account of the original importers, from EDWARD CHALONER, Timber Broker and Measurer, No. 6, east side, Queen's dock, Liverpool.

NOTE.—Messrs. EDWARD LLOYD and Co's cargo of St. Domingo mahogany, per "Samuel," and a cargo of Cuba (on their way here) have arrived at Falmouth, and Messrs. IMRIE and TOMLINSON'S choice cargo of Mexican baywood, ex "Merlin," is already illustrated in a catalogue and their City St. Domingo, per "Blanch," has arrived here.

MARBLE QUARRIES.—TO BE LET, or the LEASE SOLD, all those first-rate MARBLE QUARRIES, together with House, Offices, and Lands, at Angeham, situate within three miles of Galway, better known as the Galway Marble Quarries.—For particulars, apply to HENRY ABBOTT, Anglebam, Galway; or JAMES MALLEY, 48, Upper Sackville street, Dublin; or to SAMUEL TRICKETT, Stone wharf, Isle of Dogs, London, E. The above is a first-rate concern, and offers large advantages to a man of some capital or a company. The plant may be had at a valuation, all ready for work, so that the quarries might be worked at once. The Galway Black is noted throughout the world.

FREEHOLD.—TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is peculiarly eligible for the erection of villas, or tenancies of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate. The adjoining land is all let for building purposes, and is now partly covered. The houses hitherto built have commanded immediate tenancy.—For further particulars, and to inspect the plans, apply to Messrs. GREGORYS and CO. No. 1, Bedford-row, W.C.

SALE of GROUND-RENTS.—CITY IMPROVEMENTS, New Cannon-street, Crooked lane, New Earl-street, Bread-street, St. Mary-at-Hill, and St. Paul's Churchyard, in the City of London.—The Committee for Improvements within the City of London hereby give Notice, that they will meet at GUILDHALL, London, on MONDAY, the 19th day of APRIL next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing from parties willing to PURCHASE sundry GROUND RENTS of Premises in the above situations. Particulars and conditions of sale, with forms of Tender, and further information, can be obtained upon application at the Comptroller's Office, Guildhall. MEREWETHER.
Guildhall, London, March, 1858.

FREEHOLD LAND, HOLLOWAY.—TO BE SOLD or LET, on Building Leases, EIGHTEEN ACRES of LAND, situate between the Holloway and Hornsey Roads, containing brick earth with good sewerage, well suited for public institutions, villa residences, and terraces, and affording an eligible opportunity for investment or a building operation.—Apply to Mr. PEACHEY, 17, Salisbury-square, Fleet-street.

BUILDING GROUND TO LET, at Camden New Town, suitable for Third and Fourth-rate Semi-detached Cottages, at low ground rents, roads and sewers made, gas and water laid on, bricks and timber supplied if required.—For particulars apply to Mr. WITHERS, House and Estate Agent, 1, Murray Villa, St. Paul's-road, Camden New Town, N.W.

BUILDER'S PREMISES at WESTMINSTER TO BE LET, and STOCK, PLANT, and FIXTURES TO BE DISPOSED OF.—The Premises are very extensive, and conveniently arranged, having been built purposely for the business. They are situate adjacent to the river, and afford ample scope and every facility for conducting a concern of magnitude. The incomer will have the benefit of the old-established connection.—Particulars of Mr. DEBENHAM, 80, Cheapside. (2,257).

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, March 27, 1858.

The Builder.

A Journal for the Architect, Engineer, Operative & Artist.

C. D. LAING Sc.

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PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The ANNUAL DINNER of this Institution will take place on TUESDAY, [illegible]th MAY, at the London Tavern, C. R. COCKERELL, Esq. R.A. in the chair, supported by the following gentlemen:—

Angell, S. esq. F.S.A.	Lawrence, Wm. esq. Aldm.
Ashby and Son, esqrs.	Lee, H. esq.
Axford, J. B. esq.	Lee, W. esq.
Baker, G. W. esq.	Lee, J. esq.
Barnett, Jno. esq.	Lewis, T. H. esq.
Barry, E. M. esq. A.S.A.	Lucas Bros. esqrs.
Barnes, Wm. esq. F.S.A.	Mansfield, Geo. esq.
Bellman, V. esq.	Meakin, W. F. esq.
Betts, E. L. esq.	Moseley, W. esq.
Blythe, J. esq.	Myers, Geo. esq.
Brassey, T. esq.	Norris, W. esq.
Chadwick and Akeroyd, esqs.	Page, Thos. esq.
Clarke, J. esq. F.S.A.	Pennethorne, Jas. esq. F.S.A.
Clifton, E. N. esq.	Penrose, F. C. esq. F.S.A.
Collins and Stanbury, esqrs.	Peto, Sir S. M. Bart.
Dunnage, Wm. esq.	Piper, Wm. esq.
Eastwood, J. and W. esqrs.	Piper and Son, esqrs.
Fielder, H. esq.	Plucknett, Geo. esq.
Francis, Alfred, esq.	Richardson, C. esq.
Gammon, E. B. esq.	Scott, G. G. esq. F.S.A.
Garling, H. B. esq. A.S.A.	Scott, J. S. esq.
Godwin, G. esq. F.R.S.	Smirke, S. esq. A.R.A.
Griffith, J. esq.	Smith, Geo. esq.
Grissell, Thos. esq.	Stedall, R. esq.
Hardwick, P. esq. R.A.	Stevens, J. B. esq.
Hardwick, P. C. esq. F.S.A.	Stirling, Thos. esq.
Haynes, C. esq.	Taylor, J. esq.
Hayward, Jas. esq.	Tillott, J. esq.
Hemmings, E. H. esq.	Trickett, S. esq.
Holland, H. C. esq.	Vulliamy, L. esq.
Jackson, Thos. esq.	Wallis, E. and T. esqrs.
Jay, Jno. esq.	Webb, W. esq.
Jennings, G. esq.	Wilson, J. esq.
Jones, Owen, esq. F.S.A.	Woodthorpe, E. esq. F.S.A.
Kennard, R. W. esq.	Young, Jno. sen. esq.
Knowles, J. T. esq. A.S.A.	Young, Jno. jun. esq.

Gentlemen desirous of supporting the chairman on this occasion will oblige by forwarding their names to—

WILLIAM ALLARD, Secretary.

[illegible]-tree Tavern, St. Swithin's-lane.

ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.
Sir Robert Smirke, R.A. | George Stanley Repton, Esq.
PRESIDENT—Sidney Smirke, Esq. A.R.A.
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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq., St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, [illegible], Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W. OPEN DAILY from [illegible] till FOUR, FIVE, or SIX, according to the season; and on Monday, Tuesday, and Wednesday evenings, from SEVEN till TEN. Annual admission (including the whole of the collections in the South Kensington Museum), Members (with orders for introducing visitors), [illegible]s.; Students, 10s.; Art-Workmen, 5s. Prospectuses, &c. may be obtained of the Attendant in the Gallery of the Museum. Subscriptions received by the Treasurer, 20, Spring gardens; and the Honorary Secretary, 13, Stratford-place.

GEO. GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

EXHIBITION of the SOCIETY of BRITISH ARTISTS. Incorporated by Royal Charter. The THIRTY-FIFTH annual EXHIBITION of this Society is NOW OPEN, from NINE a.m. until dusk. Admittance, 1s.—Suffolk street, Pall Mall East.

ALFRED CLINT, Secretary.

THE INSTITUTE of BRITISH ARCHITECTS hereby give Notice, that an EXAMINATION of persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the rooms of the Institute, No. 16, Grosvenor-street, Grosvenor-square, on TUESDAY, the 27th day of APRIL, at TWELVE o'clock at Noon. Persons desirous to be examined, must, on or before FRIDAY, the 16th day of APRIL, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the rooms of the Institute.

C. C. NELSON, M. DIGBY WYATT, } Hon. Secs.

SOCIETY of ARTS.—The TENTH ANNUAL EXHIBITION of INVENTIONS will be OPEN at the SOCIETY of ARTS, on and after MONDAY, the 5th APRIL. Admission Free. Open from TEN a.m. to FOUR p.m.—By order,

P. LE NEVE FOSTER, Secretary.

John-street, Adelphi, London, W.C.

EASTER HOLIDAYS.—The South Kensington Museum will be OPEN, FREE, Morning and Evening, from 5th to 10th APRIL, inclusive.—By order of the Committee of Council on Education.

PRACTICAL GEOLOGY, KING'S COLLEGE, LONDON.—PROFESSOR TENNANT, F.G.S. will give a Course of TWELVE LECTURES on GEOLOGY, having especial reference to the application of the Science to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE. The Lectures will commence on FRIDAY MORNING, APRIL 16th, at NINE o'clock. Fee, 1l. 11s. 6d.

R. W. JELF, D.D. Principal.

COMPETITIONS.

THE Committee of the Havelock Memorial Fund are now prepared to receive DESIGNS and ESTIMATES for a STATUE, to be erected at the South-east corner of Trafalgar-square, in Memory of the late GENERAL SIR HENRY HAVELOCK, K.C.B. The Statue must correspond with that of Sir Charles J. Napier.—3, Pall-Mall East.

BOROUGH of BIRMINGHAM.—To ARCHITECTS. The Council of this borough are desirous of obtaining PLANS, SPECIFICATIONS, and ESTIMATES for the ERECTION of PUBLIC BATHS, on land in Woodcock street. The total cost of erecting the same not to exceed [illegible]l. Architects desirous of submitting plans for the approval of the Council are requested to send in their plans, specifications, and estimates, endorsed, "Plans for Public Baths," under cover, to the Town-clerk, on or before the 26th day of APRIL next. A plan of the proposed site, and particulars of the accommodation required, may be inspected on application to the Superintendent, at the Public Baths, Kent street. By order,

THOMAS STANDBRIDGE, Town-clerk.

Town-clerk's Office, Temple street, Birmingham, March 9, 1858.

CONTRACTS.

BOROUGH of LEEDS.—To CLOCK-MAKERS and BELL FOUNDERS.—WANTED, by the Town-hall Committee of the Borough of Leeds, TENDERS and SPECIFICATIONS for a large CLOCK, including suitable Bells for Chimes, to be placed in the Tower of the Town-hall, now in course of erection. Printed particulars, prepared by CUTHBERT BRODRICK, Esq. the Architect, may be had on application to me, and all Tenders to be sent in not later than MONDAY, the [illegible]th day of APRIL next, addressed "To the Chairman of the Town-hall Committee, Town Clerk's Office, Leeds, Tender for Clock." The Committee do not bind themselves to accept the lowest, or any Tender, and no allowance will be made for Tenders. By order,

Leeds, 17th March, 1858. JOHN A. IKIN, Town Clerk.

TO BUILDERS and CONTRACTORS.—TENDERS are requested for the ERECTION of NEW NATIONAL SCHOOLS, for boys, girls, and infants, and TEACHERS' RESIDENCE, at Wells, Somerset. The plans and specifications may be seen at the Office of Mr. HIPPISLEY, Architect, Wells, up to the 12th APRIL, 1858, between the hours of TEN and FIVE.—Sealed Tenders, endorsed "Tenders for Schools," are to be sent to Rev. J. TROUTBECK, Vicarage, Wells, by TWO o'clock, SATURDAY, 17th APRIL. The lowest Tender will not necessarily be accepted.

TO CONTRACTORS, SLUICE BUILDERS, and OTHERS. Notice is hereby given, that the Commissioners of the Second District for Drainage by the River Witham, will at their next Meeting to be holden at the PEACOCK INN, in Boston, on WEDNESDAY, the 14th day of APRIL next, at TWO o'clock in the Afternoon, be prepared to consider TENDERS for the REMOVAL of COOK'S LOCK, &c., at the Junction of the Cut Drain with the South Forty-foot Drain, and for the CONSTRUCTION of a NEW SLUICE of LOWER LEVEL and increased WATERWAY, with Abutment Walls, Stone Hollow Quoins and Coping, with Dams, Piling, &c., and new pointing Doors next the South Forty-foot Drain, and new Land-pointing Doors next the Cut Drain, with Haling Bridge, &c. Plans, Specifications, &c., to be seen at the Office of Mr. WILLIAM LEWIN, Civil Engineer, Bridge-street, Boston, on and after the 5th of APRIL next. Sealed Tenders addressed to the said Commissioners to be delivered at our Office, in Bargate, Boston, at or before TWELVE o'clock on the said 14th April. Security will be required for the due performance of the Contract. The Commissioners do not bind themselves to accept the lowest Tender.

S. H. JEBB and SON,
Clerks to the Second District Commissioners.

Boston, 26th March, 1858.

TO BUILDERS.—TENDERS are required for FINISHING TEN HOUSES, at Haverstock-hill, by the 12th instant.—The plans and specifications may be seen here after TUESDAY next.—The owners do not bind themselves to accept the lowest or any Tender.

EDWARD SALTER, Architect.

123, Chancery-lane, London, W.C. 1st April, 1858.

CONTRACTS.

NEW CONGREGATIONAL CHAPEL and SCHOOLS, Angel street, Worcester.—To BUILDERS and CONTRACTORS.—Parties willing to CONTRACT for the above BUILDINGS, may see the plans, specifications, and conditions, at the Chapel, between the hours of TEN and FOUR, on and after WEDNESDAY, the 7th day of APRIL next. Tenders (sealed, endorsed, and addressed to the "Building Committee") to be delivered to the Secretary, Mr. W. JOSELAND, 28, High-street, Worcester, not later than FRIDAY, the 16th of APRIL, at FOUR o'clock, p.m. The lowest, or any of the Tenders, will not necessarily be accepted. Information and bills of quantities, can be obtained on application to Messrs. POULTON and WOODMAN, Architects, Reading.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 11th MAY next, at TWELVE o'clock at noon precisely, to SELL by TENDER the following FREEHOLD GROUND-RENTS:—1. The Rental of 140l. a year for eighty years, from Lady-day, 1856, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Chancery-lane, with the reversion to the same. 2. The Rental of 136l. a-year for eighty years from Lady-day, 1855, secured on the premises known as the Mitre Tavern, Chancery-lane, with the reversion to the same. 3. The Rental of 80l. a-year for eighty years from Michaelmas, 1856, secured on the substantial business premises in Fetter-lane, on the east side, in the occupation of Messrs. Shaw and Bond, with reversion to the same. 4. The Rental of 50l. a year for seventy nine years from Midsummer, 1853, secured on substantial business premises on the east side of Philpot-lane, in the occupation of Mr. Curtis, with the reversion to the same. Tenders for the same must be sent in, sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next. Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground rents to be sold are for the remainder of the terms, as above described in each case, from and after Midsummer day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858.

TO CONTRACTORS.—MARGATE WATERWORKS CONTRACT for WORKS.—EXTENSION of TIME till MONDAY, the 12th day of APRIL.—Plans and specifications at the Offices of Messrs. BIRCH, C.E. 43, Parliament-street. Sealed Tenders to be delivered at the house of Mr. GEORGE CLEXFIELD, Margate, on or before ONE o'clock in the afternoon of MONDAY, the 12th day of APRIL, 1858. The Directors do not pledge themselves to accept the lowest or any Tender.—By order,

GEORGE CLEXFIELD, Secretary.

Margate, 29th March, 1858.

TO EXCAVATORS, &c.—CONTRACT for REMOVING EARTH and FOUNDATIONS for a WAREHOUSE, in Wormwood street, Bishopsgate street.—Particulars of Messrs. WALES and SPARKS, Surveyors, No. 8, Great St. Helen's, Bishopsgate street, E.C. Tenders to be delivered on FRIDAY, 9th of APRIL next.

TO BUILDERS.—BUILDERS are hereby invited to send in TENDERS for the ERECTION of BOYS' and GIRLS' NATIONAL SCHOOLS, with out-offices, boundary walls, and two residence houses, proposed to be built at Grantham. The plans and specifications may be seen at Mr. BROWNING'S Office, Broad-street, Stamford, on and after APRIL 5th. Tenders to be sent in on TUESDAY, the 27th of APRIL, by Half past ELEVEN o'clock, a.m. on that day. The Committee do not pledge themselves to accept the lowest or any Tender.

TO BUILDERS, CONTRACTORS, &c.—The London Patent Brick Company (Limited) are prepared to enter into CONTRACTS for the SUPPLY of BRICKS, either radiated for sewers, or for common building.—For terms and prices, apply to Mr. GEO. HADLEY, No. 8, Old Jewry.

TO CIVIL ENGINEERS, SURVEYORS, and OTHERS.—Persons desirous of CONTRACTING for making MAPS and PLANS of the Borough of Yeovil, for the purpose of laying down a complete system of Drainage thereof, may ascertain the particulars required at the Office of the Town Clerk, to whom Tenders, stating the remuneration required, are to be sent on or before the 17th of APRIL next; but the Council do not bind themselves to accept the lowest, or any Tender.

METROPOLITAN BOARD of WORKS.—To BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Council Chamber, Guildhall, in the City of London, on FRIDAY, the 9th of APRIL, at TWELVE o'clock at noon precisely, and will be prepared to OPEN TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of the following WORKS, viz.:—2,226 feet in length, or thereabouts, of Main Brick Sewer, with other Works in connection therewith, in the Uxbridge-road, in the respective parishes of St. Mary, Paddington, and St. George, Hanover-square, and county of Middlesex (in one Tender); 1,060 feet in length, or thereabouts, of Main Brick Sewer, with other Works in connection therewith, in Jamaica-row, Bermondsey Low-road, in the parish of St. Mary, Bermondsey, and county of Surrey (in one Tender); and for the maintenance of such Works in complete repair for twelve calendar months.—Plans, sections, and specifications of the above Works, together with the forms of Tender, may be inspected, and other particulars obtained, at the Office of the Board, No. 1, Greek street, Soho square, between the hours of NINE a.m. and FOUR p.m. until THURSDAY, the 8th of APRIL next. Tenders, addressed to the Metropolitan Board of Works, must be delivered at the Office of the Board before FOUR o'clock on the last-mentioned day, and no Tender will be received after that hour. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

E. H. WOOLRYCH, Clerk of the Board.

No. 1, Greek-street, Soho square, March 29, 1858.

[*For remainder of Contracts see next page.*

CONTRACTS.

SWANSEA LOCAL BOARD of HEALTH. To MANUFACTURERS of SEWERAGE PIPES.—CONTRACT No. 1. The LOCAL BOARD of HEALTH for the [illegible] of the [illegible] of Swansea, in the county of Glamorgan, are prepared to receive Tenders for the [illegible] YARDS of EARTHENWARE SEWERAGE PIPES, BENDS, JUNCTIONS, GULLY TRAPS, &c. [illegible] Form of Tender and Schedule for Tendering, &c. [illegible] be obtained after WEDNESDAY the 7th of APRIL next, [illegible] of Mr. EDWARD COUSINS, [illegible] the Surveyor, Guildhall, Swansea. Sealed Tenders to be delivered at the Clerk's Office, Guildhall, on or before WEDNESDAY the [illegible] of APRIL next, endorsed "Tender for Sewerage Materials, Contract No. 1." The Local Board [illegible] hold themselves bound to accept the lowest or any Tender.—By Order,

C. B. MANSFIELD, Clerk.

Guildhall Offices, Swansea, 30th March, 1858.

SWANSEA LOCAL BOARD of HEALTH.—To CONTRACTORS for SEWERS and PUBLIC WORKS.—SEWERAGE CONTRACTS C and D. The LOCAL BOARD of HEALTH for the Borough and District of Swansea, in the county of [illegible] are prepared to receive TENDERS for the construction of the following Sewerage Works:—

CONTRACT C.—[illegible] of Brick Sewers, as under:— About 1680 Yards of Brick Sewers, varying from 3 feet 9 inches by 2 feet 6 inches to 2 feet 3 inches [illegible], with manholes, lamp [illegible] other works [illegible].

CONTRACT D.—For [illegible] and laying earthenware [illegible] of Earthenware Pipe Sewers, with manholes, lamp-holes, street gullies [illegible] work, and other works [illegible].

The Drawings [illegible] a copy of the specifications [illegible] after WEDNESDAY the [illegible] APRIL next [illegible] of Mr. EDW. COUSINS, the [illegible] Surveyor [illegible]. Sealed Tenders to be delivered at the Clerk's Office, Guildhall, on or before WEDNESDAY, the 21st of APRIL next, endorsed "Tender for Sewers, contracts C and D." The Local Board will not hold themselves bound to accept the lowest or any Tender.

By Order,

C. B. MANSFIELD, Clerk.

Guildhall Offices, Swansea, 30th March, 1858.

TO GAS-HOLDER MAKERS.—The Commissioners of Walsall are ready to receive TENDERS for a 70-FEET TELESCOPIC GAS HOLDER [illegible] weights [illegible]. The plans [illegible] Clerk's Office, Bridge-street, Walsall [illegible] "Tender for Gas holder," [illegible] 22nd day of APRIL next.

SAMUEL WILKINSON, Jun., Commissioners' Clerk.

Walsall, 31st March, 1858.

TO BUILDERS and OTHERS.—The Commissioners of Walsall are ready to receive Tenders for the ERECTION of a BRICK TANK, 72 feet in diameter, by 18 feet deep, to be built at the Gas Works. The plan, section, and specification may be seen at the Commissioners' Clerk's Office, Bridge-street, Walsall, where sealed Tenders, marked "Tender for Tank," must be sent on or before the [illegible] of APRIL next.

SAMUEL WILKINSON, Jun., Commissioners' Clerk.

Walsall, 31st March, 1858.

LONDON and NORTH WESTERN RAILWAY.—To CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for erecting a NEW STATION at [illegible]. Parties desirous of Tendering may inspect the Drawings and Specification, and obtain a statement of the Quantities, at the Engineer's Office, Euston Station, on MONDAY, APRIL 5th, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary at this Office, to be sent in on or before THURSDAY, APRIL 8th, at TEN o'clock a.m. The Directors do not bind themselves to accept the Lowest Tender.—By Order,

CHAS. E. STEWART, Secretary.

Secretary's Office, Euston Station, March, 1858.

TO ROAD-MAKERS, CONTRACTORS, and OTHERS.—The Trustees of the White Horse Estate, Norwood, are prepared to receive TENDERS for the EXECUTION of certain WORKS and ROADS [illegible] through the said Estate. Plans and specifications may be seen at the Offices of Messrs. NORTON, HOGGART, and TRIST, 62, Old Broad-street, London; at Mr. PEACOCK'S, [illegible] Station; and at the Greyhound Inn, at Croydon. Tenders to be sent, directed to the Trustees of the White Horse Estate, [illegible] Mart, London, on or before TUESDAY, APRIL 13, at ELEVEN o'clock. The Trustees do not bind themselves to accept the lowest or any Tender.

INDUS STEAM-FLOTILLA.—To STEAM-BOAT BUILDERS and ENGINEERS.—The Directors of the Scinde Railway Company are prepared to receive TENDERS for the CONSTRUCTION and DELIVERY in INDIA, of the FIRST PORTION of their FLOTILLA for the NAVIGATION of the INDUS, between Hyderabad, [illegible] the Scinde Railway, and Moultan, [illegible] Punjaub Railway. The contract will comprise Six Iron Steam-vessels, of the following dimensions:—Length, 220 feet; breadth, 38 feet; depth, 6 feet; draught, 2 feet. And Twelve Cargo Barges of the following dimensions:—Length, 190 feet, breadth [illegible], depth [illegible], draught, 2 feet. The plans, specifications [illegible] at the Offices of F. A. YARROW, Esq., the Company's Consulting Engineer [illegible] House, Old Broad-street, London, E.C., on and after MONDAY the 5th APRIL. The Company do not bind themselves to accept the lowest or any Tender.

W. P. ANDREW, Chairman.
THOMAS BURNELL, Secretary.

Gresham House, Old Broad-street, London, March, 1858.

TO BUILDERS. ISLINGTON.—TENDERS will be received by the Committee appointed by the Vestry for the ERECTION of a NEW VESTRY HALL and OFFICES. The drawings and specifications, with the form of Contract, may be seen on and after TUESDAY next, between the hours of TEN and FOUR, at the Offices of Mr. THOMAS ALLOM, 12, Buckingham-street, Strand, and [illegible] to be sent, indorsed "Vestry Hall Tender," on or before WEDNESDAY, 21st of APRIL next, to the Vestry Offices, 21, Milner-square, Islington, and parties tendering are requested to attend at the Vestry Offices on the following [illegible]. The [illegible] do not bind themselves to accept the lowest or any Tender.—By Order,

JOHN LAYTON, Vestry Clerk.

Vestry Offices, 21, Milner-square, March 26, 1858.

TO CONTRACTORS and BUILDERS.—ASHFORD BURIAL BOARD, KENT.—Notice is hereby given that the [illegible] are prepared to receive TENDERS for the ERECTION of TWO CHAPELS, LODGE, and other [illegible] for the Cemetery; together with entrance-gates and boundary [illegible]. Plans and specifications may be seen [illegible] at the Offices of [illegible], Ashford; and at the Office of the Architect, CHARLES H. EDWARDS, [illegible] APRIL next [illegible] 27th APRIL, at [illegible]. The Board do not bind themselves to accept the lowest or any Tender.

ROBERT FURLEY, Clerk to the Board.

Ashford, March [illegible], 1858.

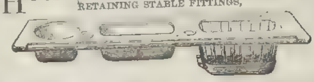
TO BUILDERS.—Parsonage House at K[illegible], in the county of Cornwall, twenty miles from Bideford, [illegible] Cornwall. Builders desirous of TENDERING for the ERECTION of the above named House, may see the [illegible] of Mr. FREDERICK DELMAR, Esq., Stratton, on and after MONDAY, the 5th of APRIL [illegible] APRIL [illegible] GEORGE GILBERT SCOTT, [illegible]. The lowest or any Tender [illegible] not necessarily be accepted [illegible] Architect, GEORGE GILBERT SCOTT, 20, Spring-gardens, London.

CONTRACTS.

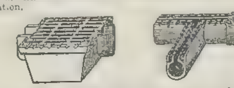
TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION of a HOUSE [illegible] at Stroud, in the county of Gloucester, [illegible] FRED. JAMES, [illegible] specifications [illegible] on or before E. [illegible] the 14th day of APRIL, to Mr. JOHN GEO. BLAND, of Birmingham, Architect, [illegible] may be obtained.

TO BUILDERS.—Persons desirous of TENDERING for the ALTERATION and REPAIR of PREMISES in Tichbourne-street, Edgware-road, for the North-west Branch of the Young Men's Christian Association, may see the plans and specification, and obtain particulars at the Office of the Architects, Messrs. W. G. and E. HABERSHON, 38, Bloomsbury-square. The time for opening the Tenders [illegible] MONDAY, APRIL 1[illegible], at ELEVEN o'clock precisely. They are to be opened at the office of the Architects, who do not bind themselves to accept the lowest Tender.

HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

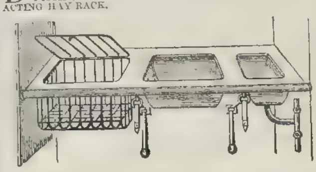


Enamelled or plain, effectually prevent the waste of hay, corn, [illegible] fitted with enamelled roll-on and seed box, and [illegible] variety with the [illegible] with [illegible] also
ANGLE LOOSE BOX FITTINGS, with guard rollers, and every variety of Furniture for stables. Engravings and prices forwarded on application.



HOOD and SONS' STABLE GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of loose top-plates, are easily cleaned; also, with their CHEQUERED DOUBLE TRAPS, from the safest and most complete surface drains for stables and [illegible].—West London Iron Works, Notting-hill; and Castings Warehouse, 68, Upper Thames-street, London.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY RACK.



These Fittings are now made with the newly-invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Reins [illegible] which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858 with numerous Engravings, forwarded on receipt of four postage stamps.—JAMES BARTON, Iron Founder, &c. 370, Oxford-street, London, W.

JOHN HENDERSON PORTER, ENGINEER AND CONTRACTOR, IRON BUILDING AND ROOFING WORKS, GAS STREET, BIRMINGHAM.

LONDON OFFICE—1, RICHES COURT, LIME STREET.

JOHN WALKER, CORRUGATED GALVANIZED IRON MANUFACTURER, IRON ROOF, BRIDGE, and PORTABLE BUILDING CONTRACTOR.
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Merchants and Shippers supplied, and Drawings and Estimates furnished.

MOREWOOD and CO. (late Morewood and Rogers), Dowgate Dock, Upper Thames-street, London; and Baskerville Works, Birmingham.
PATENT GALVANIZED TINNED IRON and TILES,
GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges,
Also, BLACK or PAINTED CORRUGATED IRON,
GALVANIZED or BLACK CAST GUTTERS, PIPE, &c.
All kept in Stock.
Also Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Hooping, Nails, Rivets, Pails, Bowls, Shovels, &c.
Estimates given for Roofs, and every description of Galvanized Building, at the
OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

TUPPER and COMPANY,
Manufacturers of
GALVANIZED IRON, and
GALVANIZED TINNED IRON,
In Sheets, Tiles, Iron Roofs, Houses, Cisterns, Tanks, Iron Fences, Telegraph Wire, and Strand.
Offices, 61, Moorgate-street, E.C. London.
Works,
LIMEHOUSE, LONDON,
BERKELEY STREET, BIRMINGHAM.
Merchants and Shippers supplied.
Iron of every description galvanized.

SKAIFE and CO. (late Skaife and Pollock),
Manufacturers of
PATENT GALVANIZED IRON
Sheets, corrugated and plain; Fencing and Telegraph Wire, Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Iron and Tile for export.
IRONWORK GALVANIZED
Roofing orders promptly and carefully attended to.
Office, [illegible] road, [illegible], London.
Works, [illegible] Wharf, Limehouse.

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron [illegible], and
STEWART'S PATENT CAST IRON GAS and WATER-PIPES.
Office, No. 7, [illegible], London.

STEAM POWER TO BE LET, with WORKSHOPS attached, at JAS. PURTON, SONS, and WALLER'S, Engineers, Holland-street, Southwark.

KITCHEN RANGES. BROWN and GREEN'S PATENT, with the late Improvements, is the best [illegible] It is a certain cure for a smoky chimney. Prospectus post free. BROWN and GREEN, Luton, Bedfordshire. Agents: R. W. KENNARD and CO., 67, Upper Thames-street.

IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 24, Davies-street, three Doors from Oxford-street, for the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general at wholesale prices. In connection with his old establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.

Drawings and estimates furnished.

Architects' designs accurately executed.

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PATENT WROUGHT-IRON WELDED TUBE for GAS, Galvanized ditto, for Water: High pressure cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT and CO. 55, High Holborn.

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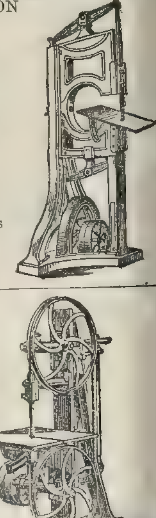
PATENT SASH and BLIND LINE, can be obtained of all ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY.
Established 1774.

RAILS WANTED.—One hundred tons of CONTRACTORS' RAILS, new or good second-hand, from 40 to 42 lbs. per yard.—Apply to Mr. L. GODSELL, Contractors' Office, Docks, Swansea.

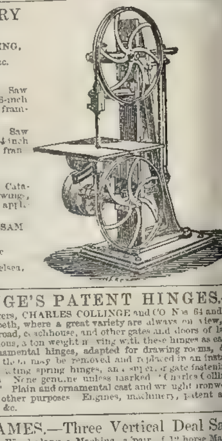
TO STONE MERCHANTS, CONTRACTORS, and OTHERS.—TO BE SOLD, FOUR IRON WHEELS, with Arms complete, suitable for a stone truck or portable house. Two 2 feet 8 inches, and two 1 foot 10 inches, 5-inch gauge. Price Three Guineas.—Apply to Mr. JOHN EASTON, Builder, 20, Clapham-road place, Kennington.

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l*.



Drawing sent on application.

MACHINERY
FOR
SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55*l*.

Price of Band Saw Machine, with 24-inch pulleys and light framing, 32*l*.

A descriptive Catalogue, with Drawings, may be had on application to
SAMUEL WORSSAM and CO.
Engineers, &c.
King's road, Chelsea, London.

COLLINGE'S PATENT HINGES.—Manufacturers, CHARLES COLLINGE and CO. No. 64 and [illegible], Bridge-road, Lambeth, where a great variety are always on view, for church, park, railroad, coachhouse, and other gates and doors of large and small dimensions, a ton weight moving with these hinges as easy as a wicket. Ornamental hinges, adapted for drawing rooms, &c., doors fitted with them may be removed and replaced in an instant. Rising and locking spring hinges, and superior gate fastenings, at moderate prices. None genuine unless marked "Charles Collinge's Patent, Lambeth." Plain and ornamental cast and wrought ironwork for building and other purposes. Engines, machinery, patent axle-trees, sugar mills, &c.

SAW-FRAMES.—Three Vertical Deal Saw-frames and Wood-planing Machine, a pair of 12 horse Marine Engines, a 20 horse Side Lever ditto, 18 horse Stationary Engine, Hick, of Bolton, and a variety of others. Boilers, Double Bone-mills, Hydraulic and Screw Presses, and other useful Machinery.—Apply to T. TAYLOR, 187, Southwark-bridge-road, Newington-causeway.

IRONMONGERY.
PFEIL AND STEDALL.
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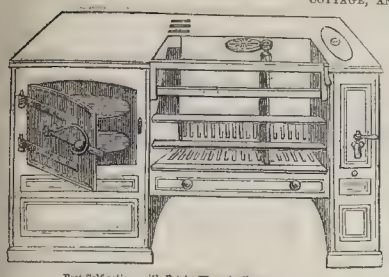

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34 inches 54s
36 ,, ... 56s.
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Register Stoves, with Solid Bars, per inch, 5d
Improved New Pattern, Circular Check Register, with strong Bars and Trivets, 5d per inch.
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Bright Stoves, with Tin Pans, 4th 1 Inch each
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13 inch 14 inch 2 ft. 2½ inch 3 ft.
16s. 15s 6d 17s 11s 17s per cwt
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Best Cut Lath Nails, 10s. per cwt
2 in. 2½-in. 3-in.
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4 in 5 in
O G Gutters,—1s. 1s. 3d per yard
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Patent Line,—3s 6d 4s 5s 7s 9s per gross
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Brick Moulds kept in stock Any size made to order
BLACK ANNEALED FENCING WIRE, 12s PER CWT.

Self-acting Cottage with Oven and Back Boiler.
30 inches ..... 26s.
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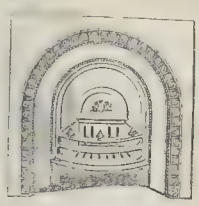

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IS AS
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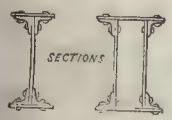

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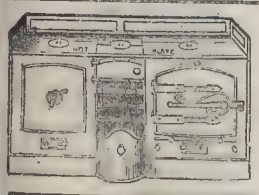

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These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.
The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.
A large STOCK of SELF ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.
All Goods delivered free within five miles.
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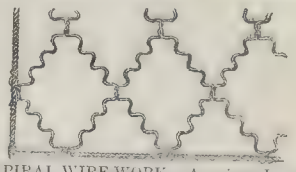

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J. W. and SONS have effected great improvements in the art of Bell Casting, have recently invented and patented a new process whereby they are enabled to manufacture Bells of any size, note, or weight, of superior tone and finer in form, and at less cost than has hitherto been accomplished.
Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals.
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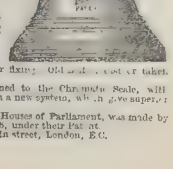

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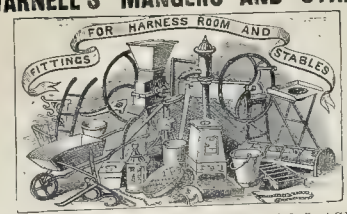

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"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

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FOR THE
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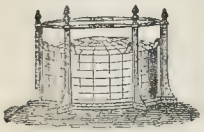

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Specimens can be seen on application. They are only one third the price of bronze ones, hitherto used, and are superior in the purity and melody of their tone, and in their non-liability to break.

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Price about ... 85*l.*	125*l.*	227*l*

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Weight about 3,700 lbs.	7,000 lbs	7,400 lbs	11,200 lbs
The Tenor .. 42 in	52 in.	52 in.	64 in diameter.
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FOR WARMING TWO OR MORE ROOMS, AND DISPENSING WITH COLD DRAUGHTS FROM DOORS AND WINDOWS,
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Price of a good Stove £2 0 0
Do. with handsome Chimney-piece . . . 3 10 0

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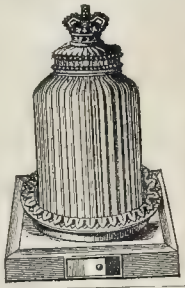

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Economy and effectiveness are the advantages offered.
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Castings and wrought ironwork of every description.
A large stock of patterns for building and other purposes, for the use of which no extra charge is made.
Estimates on application
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Three-eighths-inch diameter	1*s.* 0*d.* per foot.
Half-inch diameter	1*s.* 6*d.* "
Five-eighths-inch diameter	2*s.* 0*d.* "

R. S. Newall and Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men in all parts of the world.
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IRON FOUNDRY, Harrow-street, Lant-street, Southwark, S.E.—W. R. BARTLETT, Manufacturer of Girders, Columns, Cantilevers, Railing, Baluster and Newel Bars, Iron Coping, Panels, Tomb Enclosures, Area Gratings, &c. Also Fly and other Wheels, Riggers, Engine and Machinery Castings; Forge Backs, Furnace Bars, Kilns, Pans, Pipes, Tank Plates, Soap Frames, and other Castings, to patterns or drawings.

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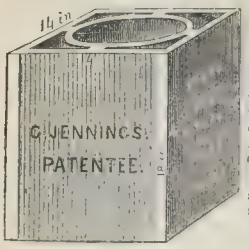

Fig. 1.

THE QUESTION OF VENTILATION
HAS BEEN FOUND SO DIFFICULT,

And the efforts made so uncertain, that although every one knows Fresh Air to be necessary to support life and combustion, it is allowed in almost every case to struggle in through the window-frames and under the doors. Examine the houses of our Aristocracy, or the homes of our Merchants, and NOTE what steps have been taken for the supply of the first essential of human life, or for its extraction after use!

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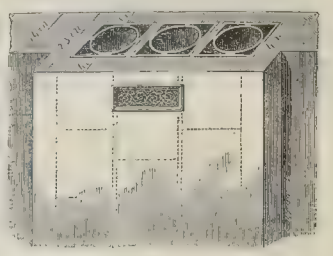

Fig. 2.

Also to his

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Third.—The PATENT "AIR-CHAMBER SMOKE-FLUE." By examining fig. 1, it will be seen that the Smoke-flue is formed in the centre of a square air shaft, and that not a particle of heat is lost, the whole contributing to promote a rapid extraction from the rooms in connection with the extraction-chambers.

Fig. 2 is a Sectional Plan taken at the Ceiling line, and showing THREE of Jennings's Air chamber Smoke-flues, so formed and so arranged as to comply with the provisions of the METROPOLITAN BUILDING ACT.

For example: Suppose the centre flue to be from the kitchen, and connections made with the extraction-chambers at the ceiling line (as shown) ON EACH FLOOR, with a proper supply of fresh air, to be hereafter referred to, the circulation would be constant, and all impure air would be carried off.

In an advertisement it is impossible to enter into details, or submit drawings necessary to afford proper explanations. These are in course of preparation (as stated in last week's *Builder*), and will shortly be sent to every architect who may desire copies.

In conclusion, GEORGE JENNINGS would observe, that if all the flues of a building were commenced in the basement WITH FIG. 1 BLOCKS, the bottom block being fitted with a proper iron door, every flue might be swept on the ground story (the registers of the different rooms being first closed), and the sweep's attendance in the drawing-room hereafter dispensed with.

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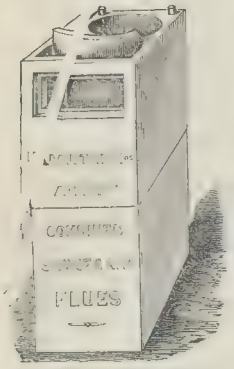

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Ancient Pottery.

THE history of ancient pottery might almost be defined to be the early history of history itself. Certainly, amongst the earliest of human inventions, fictile manufactures, from their first production, appear to have been elevated to the rank of historical monuments. The stamps upon the most ancient bricks of Egypt and Assyria, with the cuneiform inscriptions and other devices engraven, for the express purpose of record and memorial, upon the clay cylinders of Nimrûd and Babylon, commence the great volume which the ceramic art has dedicated to the history of man. Next succeed vases and other vessels, with their painted, engraven, and embossed decorations. And then the plastic art, modelling in clay the forms of the physical world, fully develops the versatile powers of the ceramic processes, and sets forth an infinitely diversified series of graphic illustrations of history.

But, besides exciting in a remarkable degree that peculiar interest which attaches itself to all historical monuments, the works of the ancient potters possess strong claims upon our attention from their intrinsic excellence as fictile productions. Thus, while in some of these works we may study chronicles written and illustrated in indestructible materials, we may, at the same time, and from the same class of relics, derive lessons of the utmost value in the practical treatment of the most useful of the arts. In investigating the history of ancient pottery, accordingly, we deal with a widely comprehensive subject: and it will be found that the knowledge thus to be obtained, however varied its character, is always attractive, because in all cases it is both highly important and eminently useful.

As might naturally be expected, the great impulse which during the last few years has been imparted to every branch of archæological inquiry, has acted with the utmost energy upon all that is connected with ancient fictile art. This department of archæology appears also to have been very judiciously treated. The gradual development of the art, with its wonderful improvements, has been carefully traced, from its origin and through its early progress. Their proper value has been assigned to the innumerable specimens that have been discovered; and collections have been formed, with the twofold motive of illustrating the art, and of exemplifying what the art can teach, and this teaching has been very successfully applied to the improvement and exaltation of fictile art, as it is now practised amongst ourselves. With the exception, however, of occasional notices in periodicals, coupled with various brief essays, the subject of ancient pottery had not been treated of in any recent work expressly devoted to it until the appearance of Mr. Birch's volumes.* These volumes most satisfactorily supply what had long been required. At once comprehensive and concise, they combine the information that was previously scattered through many memoirs and treatises with the original stores of the author's own observation and experience; and they place before the student, in one continuous narrative, a general history of the fictile art of the ancients. The book is characterised throughout by the evidences of patient research, careful discrimination, and sound learning; it is, in a word, precisely such a work as would be expected from its author.

In introducing Mr. Birch's volumes to the favourable attention of our readers, we are not only influenced by the desire to do justice to one of the most valuable additions that has recently been made to the general literature of art, but we also discharge a duty directly incumbent upon us in connection with that great form and expression of art to which our pages are specially devoted. Ceramic manufactures and the art of Architecture have been in close alliance from the most remote antiquity. Bricks were the earliest building materials, and bricks, tiles, and other productions formed from clay, will always continue to occupy a highly important position in the construction, and also (though in a comparatively subordinate degree) in the decoration of every class and variety of edifice; and hence the history of ancient pottery appears in some respects to be identified with certain portions of the history of architecture.

Mr. Birch's work comprises the principal features in the history of the art, from the most ancient period until the decadence of the Roman empire. In the Oriental division it embraces the pottery of Egypt and Assyria—the two great centres of primæval civilization. In classical antiquity it treats on the pottery of Greece and Rome; and it ends by a concise account of that of the Celtic and Teutonic nations. Throughout this ample field of inquiry the author directs his attention with equal care to the two great divisions into which his subject necessarily resolves itself, that is to say, he invariably associates the strictly historical element with the technical and scientific part of his subject: he enters into the details of materials, manipulation and constructive processes, at the same time that he frames a history of the art itself, and both shows how ancient literature may be applied to its elucidation, and gives an account of the light thrown by monuments in clay on the history of mankind. This is an inquiry, as Mr. Birch well remarks, which "is neither deficient in dignity, nor limited to trifling investigations, nor rewarded with insignificant results." It extends, indeed, beyond the range of civilization itself, and shows how the same simple material that, by a provident beneficence, is almost universally diffused, may at once minister to the wants of the rudest savage, and be made the vehicle for giving expression to the highest refinements of art.

The plastic qualities of clay we may presume to have been understood in every primæval community that was organized amongst the post diluvian races; yet it is Egypt which has transmitted to us specimens of fictile productions, of considerably earlier date than any others that are known to be in existence. Attributed, like their other arts and sciences, by the Egyptians themselves to the invention of their gods, the art of pottery was certainly practised in the valley of the Nile before the historical period, and was at least coeval with the adoption of hieroglyphic writing. The long series of genuine Egyptian pottery commences from the remote period of the third and fourth dynasties, whose epoch may be placed between B.C. 3000—2000. Earthenware vessels in use for ordinary domestic purposes appear in the sepulchres of the fourth dynasty; and vast mounds, composed entirely of clay that once was moulded by the potter's hands, lie around the most ancient ruins, and significantly declare both the former greatness of those almost primæval cities and the amazing abundance of the produce of fictile art. It is remarkable that Egyptian pottery is found throughout its long history to have been formed from a paste of similar composition, and that the types both form and ornamentation should have continued the same. In consequence of these facts, at first it might appear to be impossible to determine the periods to which various specimens of Egyptian pottery ought to be assigned; but the ever-present hieroglyphics supply the desired information, and form a complete chronicle of the art.

The rich alluvial soil of Egypt was, as it still continues to be, peculiarly adapted to the uses of the potter; and, as the great quarries are situated at a very considerable distance from the site of the ancient cities of Lower Egypt, we may conclude that those cities were for the most part constructed from materials fabricated in the vast brick-field which surrounded them. The bricks chiefly in use by the Egyptians were unburnt or simply sun-dried: they vary in size, but in form are almost always rectangular, and the greater number of them are remarkable from their being held together by chopped straw, either of wheat or barley, or else in some cases by means of fragments of broken pottery. They were made by the usual process, and stamped out by a wooden case. The prænomen of the reigning king, or some other distinctive mark, expressed in hieroglyphics, began to be generally impressed upon these bricks about B.C. 1500. They were laid in regular layers, and occasionally were formed into arches. The process of manufacture is represented with the utmost minuteness of detail in the tomb of Rekshara, an officer of the court of Tothmes III. of the eighteenth dynasty, about B.C. 1400. Asiatic captives appear employed in the work of brick-making, under the superintendence of taskmasters, who accelerate the movements of the labourers by the free application of the stick; and the whole scene forcibly recalls to mind the condition of the Hebrews in the house of their bondage. Mr. Birch gives a most characteristic woodcut from this highly interesting relic. Besides bricks, various objects in use among the humbler classes were also formed from sun-dried clay.

The first important advance in the progress of the potter's art is the application of the furnace, to impart hardness and tenacity to manufactures in clay. In Egypt bricks form the earliest class of baked pottery, and they have been observed of a date anterior to the eighteenth dynasty. This process, when once established in operation, led to a rapidly-developed improvement in all fictile productions, and accordingly the furnace-burnt bricks are speedily followed by sarcophagi, *shabti*, or sepulchral figures, which were deposited with the dead as funeral relics, the singular cones so common in Egyptian sepulchres, that appear to have originally formed patterns of ornamental brickwork for the appropriate decoration of the sepulchral chambers, sepulchral vases, and various other vases for domestic uses, with lamps and other objects. This pottery is all genuine terra cotta, or red baked clay; and the Egyptians have left to us not only abundant specimens of it under every variety of form, but they have also in their graphic paintings most fully illustrated the mode of production.

* "The History of Ancient Pottery." By Samuel Birch, F.S.A. In 2 vols. Illustrated with coloured plates and numerous engravings. London: Murray. 1858.

Another variety of Egyptian pottery exhibits its productions polished, either by means of a very thin vitreous glaze, or by a mechanical process. The polished vases are black and brown in colour, as well as both a brilliant and a dull red. After the subjection of Egypt by Alexander, the vases are distinguished by several characteristics, which form them into a separate class. "It is owing," says Mr. Birch, "to the circumstance of the Egyptians depositing these vases in their tombs, filled with various kinds of food and other substances for the future use of the deceased, that so many in a perfect state have been preserved. In them have been found corn, barley, lentils, the dates of the doum palm," and various other substances. "The celebrated historical papyri of M. Sallier were also said to have been found in vases, and the Greek ones of the Turin Collection came from these fictile repositories in the tombs of the western bank at Thebes. In fact, vases answered, at that period, the purposes for which caskets or boxes are employed now. It would be an endless task to attempt to detail all their manifold uses, as they were the silent companions and humble ministers of all classes, from their cradles to their graves."

Inscribed tiles constitute another most important group in the history of Egyptian pottery: they belong chiefly to the Greco-Egyptian class, and many of them are glazed. These last named tiles lead to the consideration of the second and more important division of the fictile productions of ancient Egypt, which exercised the higher qualities of the potter's art, and which demonstrate how skilful an artist he was. The glaze applied by the Egyptians to their finer ceramic productions was of a vitreous character, and the paste employed in the manufacture of the various objects contained so large a proportion of sand that the plasticity of the compound was almost lost. Such a substance would not be well suited for the formation of vases, but it would be very easily stamped in moulds in the shape of small figures. The Egyptians appear to have employed this paste in consequence of the readiness with which it combined with their silicious enamel-like glazes. These glazes (the use of lead in glazing had not yet been discovered) were apparently composed of finely-ground sand and soda, to which certain metallic oxides were added to produce the colours required. For the fine celestial blue, which the lapse of thirty centuries has not taught us to surpass, an oxide of copper was employed. The application of this species of pottery in the arts was very extensive; it commenced as early as the sixth dynasty, and was in sufficiently high esteem at later periods to be exported to Greece and Italy.

The term porcelain has been commonly applied to the glazed pottery of Egypt, but not correctly. This pottery altogether wants the translucent character essential to true porcelain, and it is also deficient in both the hardness and the compact quality of that substance. It is, and it ought always to be, designated glazed pottery.

The Egyptians used their glazed pottery for the purpose of inlaying, as well as for producing complete objects. This inlaying was adopted in the ornamentation of various sepulchral productions, and in other manufactures. It was also applied to the minute object, which appear to have been so much prized by the Egyptians. The Duke of Northumberland possesses an excellent specimen in a scarabæus about an inch in length, the body of which is made of steaschist, covered with a vitreous green glaze, while the *elytra* are inlaid with coloured pottery. The British Museum also contains, amongst others, two small specimens, evidently intended for inlaying in a similar manner: one is a tile, on which is traced the figure of a royal scribe; and the other, which is circular, has a curious representation of a spider in the centre of its web. The vases formed of glazed pottery are few in number, and of small size: they exhibit, however, many singular varieties of contour and decoration. Amongst other productions in this material, toys, beads, and amulets of different kinds, are found in great abundance, and they all have their own strange tale to tell of Egyptian history. Finger-rings were also constantly made, and many of great beauty and of the utmost interest are in existence. The small sepulchral figures, so universal in Egypt, were made in great numbers in glazed pottery: they are distinguished by the uniformity of their type, and from their having been considered equally essential to every class of ancient Egyptian society. Mr. Birch concludes the Egyptian portion of his work with a brief notice of "the application of a vitreous glaze to different substances carved in certain hard materials, so as to produce a peculiar glazed ware." This class of Egyptian relics, however, cannot claim to be numbered with the works produced by fictile processes. They are, indeed, closely allied to these works; and they are specially valuable from the light which they throw upon the community of art in Assyria and Egypt, as well as from the direct historical information that they convey.

The pottery of Assyria and Babylonia bears a general resemblance to the kindred productions of the Nile valley, and yet it is impressed with distinctive characteristics peculiarly its own. "As a general rule, it may be stated to be finer in its paste, brighter in its colour, employed in thinner masses, and for purposes not known in Egypt." Unfortunately, the wall-sculptures of the Assyrians fail to give that insight into the domestic habits and the private life of the people, which is afforded by the paintings of Egypt; and hence the art-processes employed in Mesopotamia are not illustrated by pictorial representations. The Assyrian bricks were both sun-dried and kiln-baked. The former were made in immense numbers, to form the elevated platforms upon which the greater edifices were placed, and for the construction of fortifications and ordinary dwellings. The latter were chiefly employed in situations where it was necessary to exclude moisture, and they were commonly covered with cuneiform inscriptions, stamped (or perhaps incised with a style) in intaglio. Cylinders, hollow, hexagonal prisms, and tiles of the same materials, were also regularly used by the Assyrians for the purpose of historical records. These most precious and unique documents, the most enduring of written annals, were formed of a remarkably fine paste, and they have obtained an excessive hardness from the action of the furnace; sometimes they are found to be unpolished and unglazed, while other examples are covered with a vitreous glaze or white coating. The researches already made in ancient Assyria have disclosed various specimens of terra-cotta figures, vases, architectural ornaments, and other objects, destined as well for religious purposes as for domestic uses; these fictile works are also found both with and without a superficial glazing; the numbers of the specimens, however, that have hitherto been found are comparatively small, though it is evident that this class of manufactures was once very extensively employed. The unglazed productions already known are superior in their character to the glazed works; and the inferiority of these last objects becomes peculiarly apparent when they are contrasted with the finer forms and the more skilful manipulative treatment of the glazed pottery of Egypt.

Fragments of glazed pottery are found scattered in great abundance throughout the ruins of Babylonia, and they closely resemble the similar relics found at Nimrûd. Mr. Loftus discovered great numbers of coffins of the Sassanian period, formed of glazed pottery, and profusely ornamented. Of unglazed pottery, various specimens have also been recovered from the Babylonian mounds, and these specimens include some small slabs of terra-cotta having figures in *bas-relief*. A few most interesting inscribed cylinders, and other earthenware documents of a similar nature to those found in Assyria, have been discovered in the ruins of the ancient Babylonia Proper; the great mass of fictile relics of Babylon, however, consists of the bricks with which its edifices were built, and which bear silent witness to the grandeur of the ancient cities, in the immense mounds that stretch far and wide over the now desolate region. The Babylonians used sun-dried bricks, revetted or cased with others that had been burnt in the kiln. These last are generally found of a pale red colour, with a slight glaze, and they are impressed with inscriptions in the cuneiform character. It is remarkable that these Babylonian inscriptions differ altogether in their arrangement from those of Assyria, and rather resemble the system adopted by the brickmakers of Egypt. The inscriptions, in lines varying in number from three to seven, are about six inches long, and are set upon the face of the bricks without any regard to their occupying the centre of the surface, or to their ranging in parallel lines with the edges of the bricks themselves.

Having observed that the pottery found on the coast of Syria is principally of the second period of the Greek and Roman occupation, Mr. Birch passes on to treat of the ceramic works of the Greeks themselves. This portion of his subject he discusses with admirable skill, and with sufficient minuteness to familiarise his readers with the manifold and most interesting works of the Greek ceramists. The art of working in clay, as it was practised amongst the Greeks, and among all other nations, may be considered under three heads, according to the nature of the process employed:—the first comprises objects formed from sun-dried clay; the second, such as are baked, but without a glaze, and are distinguished as terra-cotta; and the third, the productions in furnace-baked clay to which a glaze has been added. The Greeks produced fictile works of all these three classes; works of the first class, however, were comparatively but little used, and all examples of them have ceased to exist. Pausanias distinctly mentions the application of sun-dried clay for various purposes of internal architectural decorations. We also read of statues modelled in this material, and of edifices entirely constructed of it: and we are further led to suppose that it was occasionally in use for constructive purposes in Greece, at least until the time of the Roman dominion. It is worthy of special notice that sun-dried bricks were found more serviceable than baked ones in the construction of military defensive work. The walls of Mantinea are a famous example. The sun-dried bricks offered the most effectual resistance to the stroke of the battering-ram; they approximated somewhat to the earthworks, which form the most effective defences as well of the skilled engineer as of the savage warrior.

"The use of terra-cotta amongst the ancients," says Mr. Birch, with special reference to the Greeks, "was very extensive. It supplied the most important parts both of public and private buildings, as the bricks, roof-tiles, imbrices, drain-tiles, columns, and other architectural members. It also served for pavements, and for the construction or lining of cisterns or aqueducts. Among its adaptations to religious purposes may be noticed the statues of the gods which stood in the temples, besides copies of them on a reduced scale, and an immense number of small votive figures. It also supplied the more trivial wants of every-day life, and served to make studs for the dress, bases for spindles, tickets for the amphitheatres, and prizes for victors in the games. Of it were made the vats or casks in which wine was made, preserved, or exported; the pitcher in which it was served, and the cup out of which it was drunk; as well as all the various culinary and domestic utensils for which earthenware is used in modern times. It furnished the material for many small ornaments, especially figures, which are often of a comic nature; and supplied the undertaker with bas-reliefs, vases, and imitative jewellery, and the other furniture of the tomb."

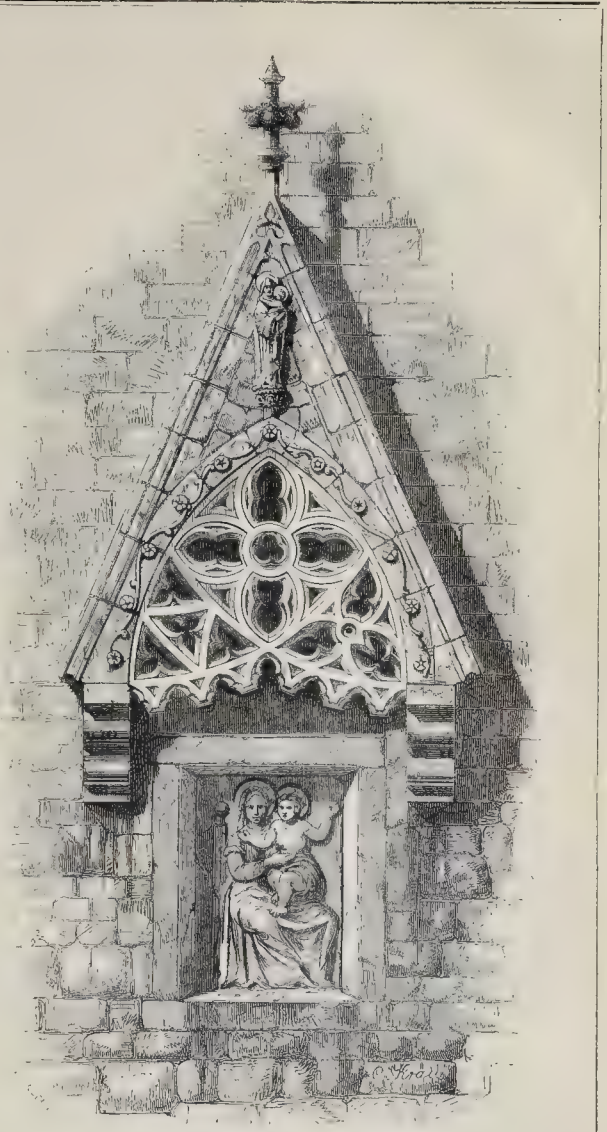
In a country abounding with stone and marble, bricks would not be in general demand for building purposes. The Greeks, accordingly, as civilization advanced amongst them, almost invariably employed the nobler materials in their edifices, and left to terra-cotta the production of roofing-tiles in all their varieties and modifications of form and application, with occasional friezes and other objects executed in relief. Similar decorative accessories were retained in use in houses and halls, after marble had been introduced for the production of these members of the more important structures.

The tiles made for different purposes by the Greeks were often stamped with the name of the œdile during whose period of office they were produced. The paste employed for the production of statues and figures in terra-cotta is distinguished by its softness and its porous quality. It is not sonorous, and is remarkable for its comparative lightness. The art of modelling in plastic clay dates from a period of remote antiquity, and certainly must have been thoroughly understood anterior to the working in bronze. Casts from works in sculpture were also made at an early period in terra-cotta. These figures were produced in immense quantities amongst the Greeks; and it appears that on certain festive occasions there were competitive exhibitions of fictile productions, including statues, statuettes, and figures in both low and salient relief. The subjects represented in terra-cotta comprise all the gods of the Hellenic Pantheon, with various mythic and historical personages, grotesques, and imaginary figures. Various processes were adopted for colouring their terra-cottas. Small discs and cones bearing brief inscriptions were also formed from unglazed clay, and used for different purposes; and puppets, or children's dolls, were made of the same substance. The last class of objects that we now propose to specify consists of the lamps of terra-cotta, that are so commonly found amongst Greek ceramic relics, and which in the times of Aristophanes were in common use in Greece. These Greek lamps are distinguished from the Roman by their superior quality, their smaller size, paler colour, and more delicate art; but, above all, by their inscriptions. They vary in form as well as in the character of their decorations, but they invariably claim a place amongst the most interesting and valuable remains of Greek pottery. Mr. Birch gives a list of names of lamp-makers found stamped upon the lamps which they had produced.

We leave the vases of the Greeks for consideration on a future occasion, together with the pottery of the Romans. We may also extend our notice of this subject to the pottery of the Middle Ages, and even of more recent periods; and to these last branches of the inquiry we shall find trustworthy guidance in the pages of Mr. Marryatt's new edition of his excellent volume on "Modern Pottery and Porcelain."

STONE CANOPY, HESSE DARMSTADT.

The accompanying elegant canopy is on the outside of the church, in Beuven, in the province of Oberhessen, one of the three provinces of the Grand Duchy of Hesse Darmstadt, a place of no great importance. It protects, it will be seen, a sculptured representation of the Virgin and Child. The artist has restored slightly in the drawing some of the parts which have suffered from exposure to the weather. It will be observed, on reference to the engraving, that the section of the tracery of the quatrefoil at top is different from that of the lower part.



STONE CANOPY, HESSE DARMSTADT.

ON ANCIENT TIMBER FRAMING.*

The aim of an architect, while arranging the plan of his building, should be to dispose and group the various parts thereof so as to form an artistic and pleasing whole, to employ his building materials to the best advantage, and to give grace and beauty to the different features which form *necessary* and component parts in the design.

In the following paper I propose briefly to call your attention to the architecture of the Middle Ages as contrasted with that of other times, in order to show how admirably, in my opinion, the architects of those days suited their designs to the materials they had at their command, never seeking to give them a different character, nor to conceal them in any way; but using them in a rational manner, and trusting entirely to the merit of their design, and to the truthful and judicious treatment of their building materials, to produce the desired effect.

If, in the course of these remarks, I call attention to the architecture of other periods, and that haply not always in terms of praise, I beg it may be understood that I am far from undervaluing the efforts of earlier ages. In their days the temples of Greece were unsurpassed for grandeur and majesty, and they were also (a most important point) well suited for their purpose. They had eclipsed in beauty and chasteness of design their prototypes in Egypt, which, in their time, had excelled all former efforts in architecture. It is because I believe that we may yet as far surpass the architecture of the Middle Ages as the Greeks did that of Egypt, that I would urge all my brother artists in the profession diligently to study and compare the different styles of architecture, with a view to ascertain, if possible, the spirit or guiding principle which had animated their authors, bearing in mind that in any design, after the requirements of the plan are arranged, the real construction of a building is the first and most important point to be considered; and after that has been sufficiently cared for, the construction may be rendered ornamental according to the funds at command or the purposes to which the building is destined, but never at the sacrifice of any constructional truth.

When this course is pursued we may the sooner hope to have an opinion by general consent as to a style best fitted to the requirements of the age. It is not enough that a few have already done this: all cannot be expected to take their *ipse dixit* on the subject: all must study and become convinced by their own researches and observations. This is what must be done before we can hope to hand down to posterity an architecture of the nineteenth century. We must all, or (if that desire be too European) the great majority must, act in concert: the rivalry among architects should not be as to *style*, but as to the merit of design in that style *only*, which all must be desirous of improving.

Be assured that in art we can never remain stationary; and that if year by year we are not visibly advancing, it is because, too indolent to think for ourselves, we are contented with merely copying the works of others,—a most unworthy practice, by which the copyist seeks to obtain for himself the credit for the thoughts and labour of other artists.

I fear that I, as well as other authors, may

* By Mr. Raphael Brandon. Read at the Architectural Museum, on Wednesday, March 10.

have been (quite unintentionally) in some measure instrumental in fostering this lazy habit, by making and publishing a collection of sketches, or works of precedent, as they are improperly termed.

In my first work "The Analysis of Gothic Architecture," which, I had the pleasure of finding, met with a favourable reception, my object was to produce a collection of accurately-measured examples of the various details of an ecclesiastical edifice. This I had hoped would prove of use to the profession generally (as many could not devote the time necessary for visiting the remains of our then almost unknown ancient architecture), and I had the satisfaction of finding that to a certain extent it was so. I say only to a certain extent, because, while in the hands of skilful architects, who would give themselves the trouble of thinking for themselves, it was serviceable by enabling them to seize the spirit in which the old examples were designed; by others I have often had the mortification of seeing the examples either diminished, enlarged, or servilely copied, and placed in positions quite unsuited to them: as a window repeated *pour se mouvoir* with prim useless buttresses between them spaced out at regular distances, for no conceivable reason, and actually wearying and disgusting the eye with their dull monotony and repetition; so that I have been quite surprised at, and for some time unable to account for, the unsatisfactory appearance of such window (perhaps accurately copied and well executed), but which appeared to have lost all its life and character, and to be no longer able to recall those pleasurable sensations the original had awakened in my mind.

How different had been the effect of the old example from which I had made my sketch! Well can I remember gazing with admiration on many a little village church, built of the roughest materials, with scarcely any buttresses (sometimes without any), and only here and there a window, which, however, had been carefully wrought in dressed stone, and of beautiful design, and which I had esteemed myself most fortunate to have secured as a gem for my book of reference; and often, after making my sketches, I have still lingered with delight, charmed with the effect produced by such an edifice;—perhaps only a simple chancel and nave, with a low square tower at the west end, and a small plain porch on the south side; the roofs of good pitch, but wholly devoid of ornament, being covered with plain tiles, projecting boldly over the eaves, and slightly over the well-defined gables, there being no copings nor parapets;—and lingering there, I have pondered in my mind to account for what it was that caused such a charm in a building of so little pretensions. Was it anything in the relative proportions of the different parts of the structure? No; or at any rate not that only, for several specimens would be equally charming and have nothing in common as to proportion. Nor was it owing to any natural beauty in the materials with which it was constructed, for several buildings erected with different materials would be equally pleasing.

I next imagined it might be owing to a general tint thrown over these buildings by the weather-stains of time: this cause would be common to all old buildings, but the explanation was not satisfactory to my mind, because all old buildings ought, if that were the reason, to be pleasing, which I need scarcely say they are not.

Could the charm be owing to the knowledge of the sacred purpose to which these edifices were devoted and had been used from generation to generation?

Undoubtedly, this cause would act powerfully on the imagination, but failed to account for the satisfaction felt on beholding so simple a structure, because secular buildings of the most ordinary kinds, such as some old cottage or barn, I have found to possess the same power.

What was it, then, that could give to these simple, unpretending buildings a charm for the eye of me who was familiar with the architectural glories of our cathedrals and palaces?

It was, I am convinced, the truthfulness with which the authors had treated the different parts of the structure, and the materials at their command. The roofs showed themselves for what they were,—a covering for the building, and a protection from the weather for those assembled within it for prayer. Entirely devoid of ornament externally, the apex of the eastern gable perhaps surmounted with a small cross, not as a decoration for the roof, but as a symbol of the sacred purpose to which the building was consecrated, all ornament to the roofs being reserved for the interior of the church, if, perchance, the builders had acclaimed them in cunning in the carpenter's craft, of which more anon.

But I think I hear myself asked, "What have you to say about the walls? Can anything be urged in praise of them, either externally or internally; ugly rubble constructions, without any architectural character,—without even, as you admit, a single buttress (just as if buttresses ought to be built merely for ornament)? Can they be compared with our modern construction, where the wall surface is tastefully covered and ornamented with columns, pilasters, entablatures, &c. one over the other, so that the plain wall can scarcely be seen at all, and these said tasteful columns and pilasters appearing to do all the work, and the wall surface, if seen anywhere, appearing merely to serve as a filling in between the grand orders of architecture?"

How shall I answer such a home-thrust? I do not like what might be called abuse: it ever shows weakness, whereas I feel the cause is strong, and yet I must raise my voice against such false ideas.

My answer is, that I would rather have the wall in its naked simplicity and *truth*, showing itself capable of the task required of it, than the most exquisite specimens that could be conceived of such aforesaid *sham* construction. Away with them! They are utterly worthless, useless, unmeaning.

It does appear strange that any architects should so lose sight of the essentials of their art; and yet they have in times past, and still do so. The object of architects should not be to conceal the necessary construction with false constructional features (which are only introduced, sometimes at great expense, for the sake of ornament), but, on the contrary, to render it intelligibly, and if funds are at their command, to decorate it suitably. This, it may be observed, is so true as not to require repetition; but so long as the contrary is the common practice, the error cannot too often be pointed out.

In every building the two most essential parts are the walls and roof; and yet, as if by common consent, until lately these have both been concealed: the claims of the roof have at last been recognized; and it is rarely now that we find it hidden as a thing to be ashamed of; so for the present we will say no more on that head; but it is still so usual to spoil the effect of buildings by concealing the wall-space with the before-named and other false constructional features, that I cannot think a few words on that subject will be out of place.

Let us turn our attention to the architecture of the Middle Ages. Any one looking at the remains of the old castles and fortified places of those times, cannot fail being struck with the grandeur of effect produced by very simple means. This is owing, mainly, to the breadth with which the walls are treated: unbroken masses of masonry, either circular or square on plan, rise majestically from the ground to the top stories, which are formed by bold projecting machicolations, supporting the galleries of defence just under the eaves of the roofs. This it may be argued is the effect of chance that the buildings in question are just what were required for places of defence, and that any projecting decorations would have been, not only out of character, but would in some measure have defeated the object of the builders. True, but therein lies the excellence of the works; and look from these castles to any other buildings of the best periods of the Middle Ages, and you will still find the walls treated with the same dignity: the only constructional features (with one exception) which project beyond their surfaces being base-mouldings, string courses, hood-mouldings over the openings, and the cornice under the eaves of the roof, which was, in fact, the gutter to carry off the rain-water. The base-mouldings and string-courses occur where the walls diminish in thickness, and serve to throw off the wet from the lower surfaces, or else were used as ties or bond through the masonry of the walls. The hood-mouldings were used to prevent the wet from following the mouldings of the arches down over the doors and windows. No other constructional features, projecting from the walls, occur in any of these buildings, with the single exception of buttresses, and these should only be used where any extraordinary pressure from within the building, such as the thrust of a vault or any large arch, requires an abutment stronger than the wall itself would afford.

In Gothic architecture, after their first necessary introduction, it appears to me that buttresses were in later times often employed more for decoration than for use, much to the detriment of the effect of the buildings in which they occur: this, in future architecture, should be strictly guarded against. Any other projections beyond the surface of the walls in buildings of the period of which we are treating, such as porches, bay windows, oriels, &c. must be looked upon as, and are, in fact, parts of the walls themselves, occasioned by the irregularities of the plan, which, of course, would be made to suit the requirements of the building.

Now as to the materials of which the walls are built, if in a district where freestone was scarce, or could not easily be obtained, and the building was not of sufficient importance, or means were not at command to incur the expense of bringing it from distant parts, the builders were content to use the local rubble stone at hand, or flints. In building walls with these materials, it was *necessary* to use dressed stone quoins to form the angles, which could not well be worked with the flints or rubble stone. If, however, freestone was in abundance, and the walls were constructed with that material, the old builders would never have thought of bestowing their labour on the imitation of these aforesaid stone quoins. In a building of dressed stone they form a part of the walls themselves, and require no distinct expression; and surely nobody will contend that there is anything in them at all beautiful or ornamental; yet how common is the practice of finding them introduced in Classic architecture, purely for ornament sake, under the name of rusties. No matter what the walls are built with, they are imitated in brick, stone, or even cement constructions. Sometimes the whole surface of the wall is covered with them; additional labour being bestowed on those round the openings and at the angles of the building, merely to give them the appearance of having had no labour at all bestowed upon them. To such a pitch has this mania for rustication been carried, that at times detached columns were erected, the stones composing their shafts being alternately circular and square; and even in architraves round window and door openings the mouldings are to be found broken at every alternate joint, by square blocks of stone. At other times the rusties will be met with run up as square piers at the angles of the building, and between the opening, or else confined to the lowest story, but always with the appearance of having enormous joints, which would practically be useless. A notable variety of this decoration by rusticated stone-work has lately been executed at New York, in which (if the illustration published of it in this country be correct) the joints are actually made to project instead of receding from the face of the stone-work. Whether this is all done with the view of adding ornament to the building, or not, I really cannot say: if so, it is a most mistaken idea, for surely there is nothing beautiful, in the abstract, in large square stones piled one upon the other with impossible joints. They are of no practical use, and without even the plea of beauty to recommend them, it is quite time they were discarded altogether.

I hold that all labour bestowed on a building, beyond what is actually requisite for its construction, should be for the purpose of improving the natural appearance of the materials employed therein; and if in Mediæval architecture a richness of surface was required to be given to any parts of the stone walls, the builders did not throw away their labour by endeavouring to imitate rough or undressed stone, but wrought or carved on such surfaces beautiful patterns in low relief (called diapers), this was often to be met with, as an interior decoration occasionally, though not so frequently externally, where they more often endeavoured to impart an additional richness to a large wall surface, by using materials of different colours. Some beautiful instances of this description of work are to be met with in the counties of Norfolk and Suffolk, where very elegant designs are worked out in strong contrast with dressed stone and faced flints, but always leaving the surface of the wall as even as the materials would admit of, and therefore not destroying its breadth. One great advantage that was gained by preserving these broad surfaces of wall was the bold and powerful effect of masses of shade thrown from the projecting portions of the building, and the clear cutting contrast of the openings therein. They also served to bring out in stronger relief any legitimate objects of decoration, such as statues supported on brackets, or standing under canopies, &c. The arches and jambs of window and door openings were always of dressed stone, deeply recessed, and frequently well moulded; but the mouldings, with the single exception before mentioned of the hard moulding, never projecting from the surface of the walls. In classic architecture, on the contrary, it is the usual practice to project all the mouldings above the windows beyond the face of the wall, and to support them on columns or pilasters.

Now, practically, all that is necessary to bridge over the space of a door or window opening is an arch or lintel of the same thickness as the wall itself: a projection for that purpose, therefore, beyond the external surface is useless, and, as such, should be avoided. Besides that, any projection from the wall, as we have shown, tends to diminish the grandeur and repose of effect in the building, by frittering and cutting it up. I know of no instance that better exemplifies this defect than the building known as the Banqueting House, at Whitehall, which, unless looked at almost directly opposite, appears a confused jumble of columns, pilasters, and cornices. The entablatures broken over each column serving greatly to increase the confusion. In this building all idea of the wall performing its duty is utterly lost, though if one proceeds to analyse the design, it is impossible to assign a practical use to any of the many architectural features so profusely collected together.

Porticoes, as entrances to mansions or public buildings, are not so well suited to this climate as projecting porches, on account of the little protection they afford from the wind and rain; and when, as is often the case, they are erected of greater height than the story to which they form the approach, they not only fail in affording any protection, but altogether destroy the grandeur of the building to which they are attached. At London University the portico, which is used as an entrance to the *first* floor instead of the ground story, is approached by a complicated arrangement of external steps, and actually rises higher than the main body of the building itself, giving it the appearance of an immense portico (which it might be imagined formed the approach to a large building in the rear), with a low wing on either side. But there is no large building in the rear to communicate with this enormous portico, and after the visitor has toiled up the flight of steps, and passed into the interior through the central door, a feeling of disappointment is the natural result, reminding him forcibly of the fable of the mountain in labour, which, after all its heavings and groanings, produced only a ridiculous mouse. At the new Custom House, London, an almost more ridiculous attempt at a portico has been stuck on to the centre of the principal façade, without any access to it except through the windows of the first floor (the excuse for this, no doubt, would be that it was intended as a balcony, and not a portico); but it is probable that the author of this absurdity never contemplated the possibility of any one being fool-hardy enough to use it at all, as it has no breastwork or parapet to prevent an unwary visitor from falling to the ground, who in his simplicity might be excused for imagining that a portico was naturally intended for ingress or egress to a building of which it formed the principal feature.

In the same way as I have shown with the rustications, after their real use had been lost sight of, and they were employed by thoughtless copyists with the idea of adding ornament only to their designs, so with these porticoes, which, from having been used in situations where they were not only useful but ornamental for the latter sake they came to be considered as an essential feature in any building of importance, or that aspired to the title of an architectural composition, and he who could induce his employer to erect the largest portico, was considered a great architect, the mere size of his work being the test of his greatness.

When the funds at command were not sufficient for its erection, or the ground space would not allow of its projection, the architects of these buildings could not give up altogether their beloved portico (the *one* attempt at architecture in their design), and had recourse to the ingenious device of sticking the front of it only against the building to be decorated, the columns projecting either a half or three-quarters of their diameter from the face of the walls, according to the available space of ground; and thus one absurdity led to others in quick succession. The columns once introduced where they were of no use, like rank weeds, soon spread over the whole surface of the walls, which became thereby quite lost sight of, and ignored as an essential part of the building.

In Gothic architecture, porches were never erected except as *entrances* to buildings. They are met with in infinite variety, from the small plain porch of a village church to the magnificent portals of Chartres, Amiens, Rheims, and other continental cathedrals; but as they increased in size and richness of decoration according to the size and magnificence of the buildings to which they formed the approaches, they varied also in design, no two ever being found alike. Now, in the so-called Classic architecture, a large portico is merely a magnified copy of a smaller one.

Instances of these absurdities might be multiplied *ad infinitum*, but I think I have written enough to show how much more consistently and successfully the Mediæval architects carried out their buildings, where stone of different descriptions were the materials employed, than did their Classic brethren, though to go into the merits of this class of construction thoroughly, a whole volume might be written without exhausting it.

Let us now turn from stone to timber-framed buildings. Here the material to be employed was altogether different in its nature and properties, and required a distinct mode of treatment. For a building erected principally of timber, posts and beams were the essential features, with braces straight or curved, to prevent their rocking, and brackets to support the projecting parts: this was the natural and rational mode of employing it; and the Mediæval architects, taking it for their ground-work, succeeded in producing a style of architecture different from any that have preceded it, and have handed down to us buildings of exquisite beauty and wonderful variety of design.

How differently did the architects of last century employ the material: by them columns, pilasters, entablatures, and all stone features, even to the rusticatious, were executed in their wooden buildings in exact imitation of the Italian or Roman stone buildings which they took for their models, without for a moment considering whether they were suitable either for the purposes required, or for the material they had to work with. The builders of the present century have even gone further in their debasement, and actually sanded and painted their woodwork in imitation of stone, and no doubt thought this a most ingenious devise. To show that they did, I will give you an extract from a work published on the practice of modern Gothic architecture, by an architect, in the year 1828, in which the author, after alluding to the "taste for the Gothic style having then become prevalent," says: -

"I am induced to make some observations on the true style or character applicable to houses of this description, and the materials to be employed therein.

The buttresses to houses in the Gothic style, should be of bricks to receive stucco; but the sides (or walls) may be of quartering filled in, or what is commonly called brick-nogging. The pinnacles may be of stone, artificial stone, or wood, painted and sanded to look like stone. The sides, or walls, should be covered with stucco."

Happily for architecture, thirty years have done much to overthrow such false notions.

We will now proceed to the more pleasing task of describing constructions, where sound sense and legitimate ornamentation had guided the architects.*

DEPUTATION OF INSTITUTE OF ARCHITECTS TO CHIEF COMMISSIONER OF WORKS.

On Monday, the 29th ult. a deputation of the Institute attended Lord John Manners, at Whitehall-place, by appointment, to urge on the consideration of Government the prayer of the memorial on the subject of the Barracks and Public Offices Competition, published in the *Builder* last week. The Chief Commissioner was accompanied by General Peel, Secretary of State for the War Department. The deputation, introduced by Mr. Beresford Hope, M.P., Mr. Tite, M.P., and Mr. Stirling, M.P., included Professor Donaldson, Mr. Scott, Mr. T. H. Wyatt, Mr. Ashpitel, Mr. Godwin, Mr. C. Barry, Mr. Garling, Mr. Morgan, Mr. Hakewill, Mr. Clutton, Mr. Scoles, and Mr. C. C. Nelson and Mr. M. D. Wyatt, Hon. Secs.

Mr. Beresford Hope said they came not for a favour, but for justice. In the Barrack Commission many gentlemen of talent came forward and sent in drawings. The labour and expenditure of thought, money, care, and loss of professional time, and the chance of getting on in the world, are much greater than occur to the public mind. The competitor gives up much, so that when a competition has been started, with a promise to give the successful competitor the erection of the buildings, it is a cruel disappointment to find himself thrown over, and the commission given to others. In the case of the public offices, the design the Government is now falling back upon was made by a gentleman holding an official position at a time when the requirements were very different from what they are now. The competition was elicited by the late Administration, and Sir B. Hall would not have put it forward as he did, had he not been backed by Government. They went with great care into the adjudication, and after all, it seems by the correspondence laid on the table of the House of Commons, that the Treasury had shown itself unwilling to spend all the money before mentioned, and expressed a wish to build only the Foreign Office. That was taken as a reason for throwing over the whole of the competition, and not giving any prize at all, falling back upon an old plan. Under all these circumstances, the Royal Institute of British Architects thought it requisite to ask of the good faith of the Government, for the interest of architects and the public service; to solicit, not as a favour but as a claim, that the designs selected in competition should be carried out as far as possible; but if it be found that these cannot be literally carried out, there are other means of doing something towards that end.

Mr. Tite thought it right to remark that the two cases were distinct ones. With regard to the Barracks, it was an unconditional arrangement that the architect whose design was the best, should be employed in carrying out the works, without any qualification whatever. In the Government Offices competition, it was not quite so distinctly stated, but it was fully understood to be so. It had been stated by members of the Government, that giving for prizes the sum of 5,000*l.*, would be considered a very handsome award in proportion to the expenditure of the profession; but he differed from that opinion, as being much below the mark. There were 200 sets of drawings sent in, and their value might be put at 150*l.* a set. He had no doubt 25,000*l.* were expended in getting up the designs, and he could not believe that it would have been done if it had not been understood that the successful candidate would be employed to carry out his design. In the case of the new palace at Westminster that had been the course, and when he was himself in the profession, he had in two or three cases in which he had competed successfully, followed as architect as a matter of course. He wished it understood that the profession joined in no observations disparaging to Mr. Pennethorne, who had received the most extraordinary testimonial that any one could receive, in the shape of a gold medal from his brother architects. But when a competition was thrown open in order to obtain fresh ideas, the expectation is that the successful architect should be employed.

Mr. Stirling said, "As my friend Mr. Hope alluded to me as one of the judges in the selection of the designs for the Public Offices, I beg to bear out what he said, as regards variety and merit of the plans submitted. I am sure if the judges were present they would agree me, and I can only say that the variety and care, labour and expense bestowed upon them were a subject of daily remark. I have not had any opportunity of communicating with the other judges, and therefore I must disclaim on my own part, and on the part of other judges, any desire to appear here by way of vindicating our judgment. It was given according to the best of our ability, and I come here in a private capacity, and not to support any judgment we pronounced upon it."

Professor Donaldson read an extract from the report of the committee on which the competition for barracks was founded, stating that the author of the successful design should be employed. If this were not understood, he went on to say, no professional men would bestow time or expense in competing. He had been called in by the Government in the barrack competition to assist in the selection, and certainly would have had nothing to do with it unless he had been assured the successful competitor would be employed. The wish of the Government was, that whoever succeeded in producing the best design should carry it into execution. In the barrack competition, not merely the premiated, but the whole of the drawings were detained by the Minister of War; and the consequence was, that an immense amount of information had been obtained by the Government without a fair return. He concurred generally in the selection, and it was suggested that the author of both of the two designs should be employed, as possessing about equal merit. The profession would never have responded,—indeed, it would have been an insult that the best men should have been selected in competition and then not employed. He felt, as a professional man, that unless these matters were carried out now in good faith, in other competitions, men who are independent, the best men in the profession, men in whom the Government might rely, would never offer themselves in competition.

Mr. M. D. Wyatt said,—"I think, to a certain extent, both the Barracks and the Public Office

* To be continued.

competitions stand upon similar grounds. In the former, it was stated that the Government had determined to erect barracks forthwith, and the selected competitor was to be employed. In the case of the Government offices, there was a certain limitation of employment of the architect; still, when the Government stated their intention of erecting forthwith great public buildings, and advertised it not only to England, but to the whole of Europe, it must be accepted as their determination and intention to employ the selected candidate; and then, after all, to throw them overboard, could not be considered fair. If they objected to the designs selected, they should take the authors of them into their counsels, as being those who are most competent. It appeared to him very dangerous that any body, more particularly the Government, should invite architects to expend a great amount of labour and then altogether to take the real prizes from them."

Mr. Godwin said it was notorious that competitions fail to produce those results which might be expected, from want of confidence on the part of architects in the tribunal—want of faith; and if the Government of the country should break faith, it would be nonsense to expect any improvement elsewhere. He would not dwell on the question of justice to the successful competitors, which had been already urged, but would confine himself to an observation growing out of recent personal examination of the metropolitan barracks, where he had found exhibited the greatest want of professional knowledge in respect of sanitary arrangements, and the greatest contempt for human life. Government had appealed to the whole body of architects for suggestions in respect of the construction of barracks, and had received an amount of information which could scarcely be added to. The condition of barracks showed that the present system under which they were built had failed, and that civil architects should be called in: and the architects who should be called in were those who had shown their superiority in the competition. He would further point attention to the fact that the system under which the military buildings were now executed was exactly such as would lead one to expect insufficient results. He had in his possession letters from various stations showing that while the work was done by the civil officers, known as clerks of works and foremen of works, they were not recognised, and the credit—such as it was—was taken by engineer officers, notoriously unacquainted with architecture and construction. It was not to be wondered at, therefore, that we should find barracks altogether ill-adapted for their requirements, and dealing death upon those who inhabit them.

Lord J. Manners told the deputation that his object, of course, was far more to hear what they had to say with regard to the memorial, than to address any words to them on his own part, or on the part of the Government. Whatever had been said would receive the most careful consideration of the Government. He had heard one observation from Mr. Hope (touching the Government architect) with great pain; and although he did not think it necessary then to dwell on it, he would say that he agreed with Mr. Tite, and would not imagine that the efficiency of Mr. Pennethorne was in any way questioned by the deputation. It had been stated that the successful competitor was usually employed. One case, at any rate, occurred to him, namely, the rebuilding of the Carlton Club, where this was not the case.

Mr. Hope wished to add, that what he said, and what Mr. Tite said, were quite capable of being taken together. He did not say anything against the efficiency of Mr. Pennethorne; but it was more than efficiency that was wanted in constructing a building like the Public Offices. We wanted genius; we had been too long satisfied with efficiency. Continental statesmen had not been so, but had sought for genius, and reaped the admiration of the world.

Lord J. Manners observed that Professor Donaldson had alluded to the magnificence of public buildings in Paris, and saw no reason why this country should not have similar fine structures. But a little reflection on the varying temper of the House of Commons would, he thought, show it was not to be expected. The first commissioner of that office was little more than a clerk to the Treasury. The matter had to be referred to the Treasury, and from them to the House of Commons, and that House fluctuated very much, and one year they might be very liberal, while another they would cut down expense to the greatest possible extent. The matter should receive the most careful attention of himself, and also of the other members of the Cabinet. He would leave General Peel to give a reply as to his own department.

General Peel desired first to exonerate himself from any responsibility in respect of what had been done by his predecessors. In consequence of the statement in the memorial that thousands of pounds had been spent in barracks since the competition, he had applied for information, and the reply (which he read) was to the effect that whatever had been spent had been for works determined on before the competition took place. Barracks were talked of for Nottingham and Glasgow, and he should certainly consider himself bound to offer the superintendence of these, although comparatively small matters, to the successful competitors in the late competition. Touching what had been stated by Mr. Godwin as to the condition of our barracks, he could only say he deplored it, and that a committee had been appointed to examine them, and effect such improvements as could be made.

Professor Donaldson inquired if there was an architect on that committee, as if not, it would not do what was required.

Mr. Tite, before leaving, would venture to suggest, in respect of the Government Offices, a course, as a *tertium quid* which had been adopted in other cases, namely, that the Government architect and the successful competitors should jointly be employed: and the deputation then withdrew.

ON THE SELECTION OF OBJECTS FOR STUDY IN THE ARCHITECTURAL MUSEUM.*

I OUGHT to have mentioned that it was at this period [the Transitional] that that strong architectural stalk was introduced which is so characteristic of early capitals. Those which contain it are called by the French "*capitals à crochet*," or crocket capitals. It arose from a plain water-leaf, introduced into France with the Byzantian Corinthian capital, but was soon worked up into a perfectly new form and one of peculiar architectural value. It gives a kind of backbone to the foliage, rendering it rigid and strong, and capable of supporting the abacus. It is in France often carried to a vicious excess; but when used in moderation it is a truly valuable feature.

We now come to the fully-developed foliage of the Early Pointed style,—that known in this country as "Early English" foliage—the conventional foliage in its matured form.

In France it only differs from that which preceded it in being more refined. The square abacus continuing there in use demanded still the same decided and formal arrangement.

Of French specimens we have a most beautiful series from the western façade of Notre Dame, to which I would call special attention; but besides these we have a magnificent collection of other features, as cornices, &c. &c. containing some of the finest works ever executed. The boldness of many of these is truly admirable, and it is impossible for you to devote to them too close and careful study. These, of all others in our museum, have the greatest claim upon your attention. They are the very perfection of purely architectural foliage,—the very embodiment of all which architectural requirements suggest. Not only do they possess force and strength equal to any position, but are also susceptible of any degree of delicacy and refinement. I would call your attention, in proof of this, to the beautiful series of representations of embroidery from the vestments of the figures in the side porches at Chartres; a set of patterns of surface ornament more exquisitely delicate can hardly be imagined.

Of English specimens of this style we have a very noble collection.

I would first call your attention to the capitals (sadly shattered) from the western porches of St. Alban's. They are among the earliest specimens of the style, having been executed before the year 1205, and are of extraordinary boldness. I would strongly advise you to see them in the work itself, which is one of the very finest fragments of this noble period. We have a second series, almost as early, from the west porch of Ely, executed about 1215. These are of exquisite richness and beauty. A third set I would call your attention to is from Llandaff, and is remarkable both for originality and boldness.

Next to these, I will mention two or three specimens from the eastern part of Ely, about 1240 or 1250. They are from the clerestory, about 70 feet from the eye, and are very effectively treated. Then we have a wonderfully elaborate series from the Chapter-house at Westminster, mostly executed in Purbeck marble, showing of what a great degree of richness the style is capable. There is also a parallel series (in this case of original fragments), from the sister Chapter-house at Salisbury. And, finally, I would call your attention to some specimens from the eastern part of Lincoln Cathedral, exhibiting the style in its highest stage of refinement. A series of cusp terminations from the wall arcading are of wonderful richness.

Hitherto the specimens to which I have called your attention are all of conventional foliage, or that which is not directly imitated from nature, but of a kind which came into use as by common consent by development little by little from the Romanesque and Byzantine ornaments. I have now to point out the change from this style to that more directly founded upon natural forms.

The imitation of natural foliage came in by little and little during the prevalence of the conventional ornament. We find it in the side porches at Chartres as early as 1220, during the highest perfection of the olden style; and, what is more remarkable, we find the natural leaves thus early introduced executed with a degree of skill never excelled. In Amiens Cathedral we find natural foliage largely used in the parts near the eye, while the higher portions retain that of the conventional form. In the Saint Chapelle at Paris (built about 1248), the same is the case. The capitals in the crypt, the doorways, and in the wall-arcading, all have natural foliage, and that of the most exquisite kind; while in the other parts the conventional is adhered to. In Westminster Abbey the two are used together almost indiscriminately, and competing with one another in beauty of design and execution. Even in the bosses of the vaulting this competition continues and it is difficult to determine to which to adjudge the palm. In the specimens I have alluded to from the Chapter-house at Salisbury, the same contest goes on, and with the same result. At Newstead Abbey there is a notable instance of the concurrent use of the two kinds of foliage, both in high perfection; and even in the Chapter-house at Southwell, so celebrated for its natural foliage the conventional is still freely admitted.

In the earlier days of natural foliage, nothing could be more admirable than the manner in which it was usually treated. The leaves were represented as rigid and crisp, and were generally arranged in such groups as to harmonise with and aid the architecture. In France they were very usually, in early instances, attached to the conventional stalk or crocket, before described, which, as I have already said, formed a kind of backbone, giving them that degree of strength requisite to architectural purposes.

I will call attention to a number of specimens we have from the same chapel, from Chartres, and many of the French examples, also to a number of English specimens as to those from Southwell, from the tomb of Archbishop Peckham, at Canterbury, from Waltham Cross, Ely-place chapel, and other buildings; and beg you to distinguish these clearly from those of later date, in which this strength of character is lost sight of as those from the Eastern chapels at Notre Dame, from the exquisite screen at Winchester, the Lady Chapel at Ely, and other late specimens. All these have their beauties; but I wish to stop short of them in the series to which I desire to direct your special attention. It may be necessary to study the less vigorous styles, and many lessons may be learned from them; but it is from those which I have enumerated that the most wholesome instruction is to be obtained. No prudent miner would work a poor vein of metal when a rich one is at hand; it is useless wasting his energies on extracting a small quota of metal if he has at hand a mass of ore which will repay him richly for his labour. The same is the case with the choice of objects for special study; but it is here far stronger, for the dross we have to reject is not always distinguishable from the good metal, and not only damages its quality, but tends to destroy our own judgment as to what is good and what is bad.

I now come to the great and all-important question as to our practice: are we to follow implicitly any of the examples we select for our study, or, as our forefathers did, to strike out for ourselves? and, especially, is our practice to take the conventional or the natural form?

To the first of these questions I would unhesitatingly answer that, after availing ourselves to the full of the rich inheritance of examples we have at our command, and learning from them all those noble lessons they are so well calculated to teach, we must *especially* follow that one example which they all set before us—that of *bold*,

* By Mr. G. Gilbert Scott, A.R.A. See p. 202, *ante*.

energetic action: we should learn, on the one hand, veneration for the genius and skill of our predecessors, and, on the other, reliance on, and determination to foster and cultivate in ourselves those powers of producing beauty which have been implanted by our Maker as well in us as in them.

The second question demands very careful consideration, and I feel it the more incumbent upon me to undertake the discussion of it, as I have in two previous lectures strongly advocated nature as the grand basis on which a revival of decorative sculpture should be founded,—an opinion very vigorously disputed by my friend, Mr. Street, in his recent talented lecture in this place.

I am the more anxious to give this question the most full and careful consideration, and to test it in every way, inasmuch as I most thoroughly sympathize with the feeling which has led to its being raised, namely, the want of force and vigour in nearly all, and the absolute vulgarity of many, of the modern works professedly founded on natural types,—and from feeling that I may have contributed towards this admitted failure by advocating too broadly and without sufficient limitation a falling back upon nature. Certain it is that one feels nauseated by the constant repetition of ill-understood and ill-adapted leafage in our carved work. No amount of talking has, for the most part, any effect in inducing the majority of our carvers to give energy, simplicity, breadth, or architectural character to their productions. Is not this, however, our own fault as architects, and your fault as carvers, rather than the result of taking nature as our guide? Would it not have been just the same whatever type we had been working on? We architects ought to be able ourselves to show you in your own material what we mean, and you ought so to cultivate and train your own tastes and perceptions of right and wrong as to avoid the evils of which you cannot but be conscious. The bad workman finds fault with his tools and his materials. Are the faults of our works those of the material which nature has given as the groundwork of our taste, or are they not rather our own deficiency in using them? This is the real question for discussion.

The grand argument against the use of natural foliage is this:—That during the period (including the latter quarter of the twelfth and the first half of the thirteenth century) in which the style of conventional foliage prevailed which I have described, the ornament was more bold and effective, and more thoroughly suited to architectural uses than during the immediately succeeding period, when the productions of nature were used as the types; and that during the fourteenth century the art rapidly declined in force and vigour, till all trace of its pristine power was lost.

It is further argued that it is a poor and vulgar thing to imitate the productions of nature,—that works so generated evince no intellectual effort or inventive power, and, while failing in representing the beauty of the original, equally fail in producing architectural effect. It is consequently urged that architectural foliage should not be founded on the individual productions of nature, but should be an *idealisation* of nature in general, following its general principles so far as they are suited to the requirements of architecture; that it should, in short, be a kind of foliage invented expressly for architectural purposes; and that such a form of foliage is found ready to our hands in the works of the early part of the thirteenth century; and that these works, not those of nature, should consequently be our guide.

Now, I would yield to no one in my admiration of the works in question. You will admit this from what I have already said in this lecture, and I will take the liberty of referring you to my former lectures in further proof of it. The more we study these noble works of art the better; but I hold it as an axiom that though the mechanical and structural forms of a bygone art may be revived, so far as they are applicable to present requirements, it is contrary to principle to revive a merely conventional system of ornamentation. Such systems were not deliberate and abstract inventions, but were elaborated out of types presented by accidental circumstances to the artists of particular periods. True it is that they worked out of these types a style of art of the highest merit; but for us to adopt the styles of art thus accidentally generated *ready-made*, would be a most dead and servile piece of copyism, infinitely more so than going to the fountain-head and copying, however servilely, from natural forms.

If a conventional or monumental style of architectural foliage is necessary, we must generate one for ourselves. If we content ourselves with merely adopting one which approves itself to our taste, we shall utterly fail in recovering the life which animated it; we may recover outward forms and satisfy antiquarian demands, but not one breath of life, not one spark of intellectual fire will animate our works.

Further, it does not follow that because the works in the second half of the thirteenth century, which were founded on nature, may chance to have been less effective than those of the first half, which were conventional,—that such should be of necessity the case with our own. With them it happened, as a mere accidental circumstance, that the period of the most determined and strenuous architectural progression occurred before the thought of adopting natural types had generally occurred. It followed, therefore, that the main force of the movement had been applied to the perfecting of the conventional system. The progressive changes in architecture took, as has ever been the case, the form of increasing refinement and subdivision, and of reduction of mass. Thus, the nave of Notre Dame is more massive and nervous in its character than the west front, which is thirty or forty years later, and its foliage is consequently bolder, though both are of the conventional type; and, in the same way, the architecture of this façade itself is more massive than that of the Sainte Chapelle, which is some five-and-twenty years later still.

Mr. Street told us very truly that the conventional foliage of the former was more telling than the natural foliage of the latter; but this is not *because* one is conventional and the other natural, but because one was carried out at a period when mass and energy were more the characteristics of the architecture. In proof of this I would mention that the Sainte Chapelle contains as much conventional as natural foliage, but in this building the conventional is actually less forcible than the natural, and, for its relative position, *very far less* so. The natural foliage in this building is near the eye, and is really extremely bold for its position; while the conventional, which is high up, is in many instances comparatively ineffective. In the bosses in the vaulting of Westminster Abbey, which are 100 feet above the eye, though all are too elaborate, those with natural foliage are, on the whole, more effective than the others.

The question of effectiveness is not, in fact, dependent upon that of the material of art, but upon the *mind*, *sentiment*, and *judgment* of the artist. If he be imbued with a bold and vigorous tone of thought, his works will be bold and vigorous, whether he adopt the productions of nature or inventions of his own as the medium of expression; and I am perfectly convinced that if we cultivate this grandeur of aim, we need not apprehend the failure of its realisation from any inaptitude for expressing it in the materials nature has placed at our disposal. It is, however, essential that we select our types so as best to suit our purpose. We must modify, arrange, enlarge, simplify, and omit needless details, so as to fit them to their respective materials, positions, and functions; we must (according to the hackneyed phrase) "conventionalise" them, or, more correctly speaking, adapt them to our purpose; and by doing so we may obtain an infinite variety of noble expression, equally fine with that produced by the conventional carvers of old times, and far more varied, *provided* our own sentiments are as fine and our own skill in expressing them as great as theirs. But to argue that, if we wish to produce works equal to theirs, we must adopt the idealised foliage of their day, is as unphilosophical as to hope to vie with Homer by writing in Greek, or with Phidias by working Pentelic marble.

It is the *inner man* which must be worked upon to produce noble sentiment, and if this be done, its expression will be better aided by the works of God than by the conventions of any period of art, however glorious.

It has been further argued against the use of natural types, that some have so abused them as actually to colour their carving like the natural objects, and that as our own common sense rebels against this, and demands that, if coloured, it should be in some conventional way, it follows that we should do the same with their *forms*. Now, apply this for a moment to the human form. If coloured like nature the statue becomes a mere wax-doll—we at once rebel against it; but, does it follow from this that our figure sculpture must become a merely ideal or conventional representation of human beings? True, the liberty of conventionalising, or the idealisation of form, varies with the dignity of the object. We may not alter the human form, but may occasionally represent ideal animals, and have still greater liberty in our use of vegetable forms. I am not, however, arguing against the *liberty* of conventionalising, but against the *slavery* of being deemed bound to do so, and more especially against being held bound to revive bygone conventions,—real, vigorous, and living in their own day, but unreal, powerless, and dead, if merely imitated.

Now, I am not going through this argument merely for the sake of establishing or overthrowing a theory, but simply from a conviction that the position of our art at the present moment imperatively demands of us to fall back upon first principles, and to lay down for ourselves a sound, practical, and intelligible course. I feel that those who take a different view have a strong *primâ facie* case, nor do I wish to weaken it. I not only admit, but strongly assert, that no style of architectural foliage ever prevailed so thoroughly answering its conditions as the conventional sculpture of the beginning of the thirteenth century; that the natural carving which followed it, though magnificently fine, was often less effective; that it subsequently sunk into feebleness; and that in our recent attempts at natural foliage we have very often failed in meeting architectural requirements, and almost wholly failed in producing grandeur or energy of expression. It would, then, be a very easy way of getting out of the difficulty to tell you to revive the style of ornament which was practically so successful, and which I so ardently admire, but it is a very different question whether I should be *right* in doing so. I beg you to *study* these noble works, in hopes you may imbibe their sentiment, and discover their principles of beauty and expression. A professor of painting might advise a student to study Raffaelle, Giotto, or Albert Durer, but he would not lead him to hope to rekindle their inspiration by elaborately reproducing their individual manner. The sentiment lies infinitely deeper than this,—you must endeavour to kindle in your own hearts the fire of the old artists, and to cultivate your personal skill up to their level, and, depend upon it, that whether it is representing human form, human feeling, the habits of animal life, or the principles of vegetable growth at which you aim, you will have to look for your types to the fountain-head more than to the rendering of them by the old masters in your art, however glorious their own works may have been.

True, however, as I think it is, that nature is the only foundation on which we can safely fall back in a time of confusion like the present, you may rely upon it that it is no easy task to apply her types successfully to architectural uses. Mr. Street was quite right when he said that natural objects when applied to art, *as is usually the custom to apply them*, evince no intellectual effort whatever; but the very reverse is the case when they are successfully applied.

I am convinced that an artist (whether in carving or other kinds of decoration), who wishes to take nature as his guide, must, in the first instance, familiarise himself far more with natural productions than has yet been done. He must thoroughly study every form and every curve, every tendency and habit of the plants or animals he wishes to take as his types; he must make accurate and studious drawings of the plants *as they grow*, and get thoroughly to understand the characteristics and the sources and causes of beauty and character. The object of this is not to enable him to copy them exactly, but the contrary: it is to enable him to hit off their real character without going into irrelevant detail; to preserve the true characteristics, when he is modifying the actual form to suit his material and purpose, just as a true artist can convey the idea and general impression of a particular countenance where none of the features are really drawn. He must be able to suppress all minute detail; to simplify the outlines of the leaves; to arrange them geometrically; to give them increased breadth and strength; in short, to architecturalise them to any necessary degree, and yet preserve the likeness.

The great difficulty is to give strength of character by means of objects so tender and supple as leaves. This is the great object to be aimed at. It is easy enough to make things *pretty*; don't bother your heads much about that; but let your great effort be to make them *noble, vigorous*, and *energetic*—to give by means of natural types those grand architectural effects and outline which we see in the early conventional capitals, &c. such as those from Notre Dame. I beg of you to devote your minds to solving this great difficulty. If you master this, everything else worth doing will follow. Aim at *broad unruffled* lights, at strong general lines, at perfect architectural curves, and at suiting all these to the position in which the foliage is used, so as to make it part and parcel of the architecture, as all good ornament must be.

The foliage should never be out of harmony with the architecture around it. A great deal of what is now done is most glaringly so. You see a plain round column with a simply chamfered or slightly moulded arch, both presenting a great majority of plain undisturbed surface; but between them comes a capital as highly curled as an eighteenth-century wig, enormously rich, but utterly out of tune with the work above and below it.

One of the great means of producing a fine effect is to husband your means; to make it apparent that it has been done without a violent effort, and without undue richness; but tell a carver, now-a-days, that you want something very good, he at once thinks you mean something prodigiously rich, and involving an enormous amount of labour, and nothing you can say will convince him of the contrary.

It may be said, that with natural foliage we shall find it impossible to attain all I have been urging upon you. I think you will find it otherwise if you set about it in thorough earnest; and if you succeed, you will, at any rate, have given a practical refutation to one of the objections made, —that the use of natural types demands *no intellectual effort*.

In selecting your natural types you must carefully consider which are the best suited to the proposed position, and what is the position best suited to each. There are some which are too delicate for any work of art, others which will only suit the most highly-wrought metal-work or minute illuminations; others, again, suited to carved work, which is near the eye; and only a small proportion which are well fitted to the bolder, more distant, and lofty positions. As a general rule, stronger and grander leaves are to be found in the larger shrubs than in trees. There are magnificent leaves to be found among plants so familiar to us, that to name them would provoke a smile, and give the opponents of natural foliage a laugh at our expense. Even the acanthus is but a lowly shrub, yet it has been found worthy to crown the noblest columns of antiquity. Search out, therefore, the most fitting models whenever you can find them,—thoroughly study how to use them aright, and "let them laugh who win."

I have now exhausted my time, and, I fear, your patience, though I have not gone beyond the one subject of foliated ornamentation. I need hardly say that even purely ornamental carvers must study the human figure and animal carving, or their works will be very lifeless and uninteresting. The absence of the power of introducing human and animal life cleverly and vigorously into ornamental carving, is one of the most striking weaknesses of modern art. Much as people laugh at the quaintness of Mediæval figure-carving, we are not fit to hold a candle to the architectural carvers of Gothic days in this respect. The power, *naïveté*, and ease with which they introduced animals and figures into their ornamentation are truly remarkable, and I commend this to your special attention, and as a special subject of self-training and practice. I have not time to go into it in detail, but you will find in our Museum numerous examples of it, though it is not, I am sorry to say, a class of works in which we excel.

I will now close my remarks by urging upon you to press forward with all your energy, and to cultivate your tastes and powers by every means which are within your reach. Do not be discouraged by any unfavourable criticisms which I or others may have made, but ever make stronger and stronger endeavours to render your works noble, vigorous, so far as may be simple, and thoroughly suited to their purpose; and, above all, to render them—as Mr. Ruskin so eloquently urged upon you, in opening the course of lectures which I have now unworthily closed, the medium of giving expression to your own love, and exciting the love of others for the glorious works of Him who has implanted in your minds all you possess of artistic conception or power, and, in the end, you *will* be rewarded by success.

* Mr. Scott writes,—I was annoyed, after giving the above lecture, to recollect that I had omitted to call attention to my full-sized drawing which my son and myself had just been preparing to illustrate a style of foliage peculiar to the architecture of the Abbey of the conventional. One of these is from one of the pillars which support the vaulting of the crypt below the Sainte Chapelle. Its foliage is of a Corinthianesque form, but is founded on some local and Gothic ideal. The original is small, [illegible] eye, but executed on a scale to suit a large column, it would be strong, bold and telling. The other is from the noble refectory of the Abbey of St. Martin des Champs at Paris. This also is small in scale, the column not exceeding a foot in diameter, but for boldness and simplicity of treatment, breadth, truth of curve, and perfectly architectonic character, it excels almost any capital I ever saw. It has the conventional stalk of the period, and this terminates in a [illegible] bud of conventional form, but [illegible] was.

THE RIGHT USE OF ANCIENT EXAMPLES.

"CONVENTIONAL" AND "NATURALISTIC."

Mr. Scott's recent lecture at the Architectural Museum consisted to so great an extent of a criticism upon that which I had delivered a month previously, that I feel bound to make a few remarks in reply to it, in order that it may not be supposed that I, or those who think with me in this matter, are convinced by Mr. Scott's re-statement of his own view.

I was, of course, not unprepared to find that Mr. Scott would still abide by his often-expressed opinion; and I owe him my thanks for the moderation with which he has expressed it; whilst at the same time, I think that I see some signs of wavering on his part which lead me to hope that in time he may modify his views still more. Even now, I rejoice to find that he no longer urges upon sculptors the pursuit of "absolute beauty," and that he repented somewhat of the extent to which he has hitherto aided those who in the common way recommend the exact imitation of Nature. The object of my lecture was to show that in all respects—in architecture, painting, and sculpture—the thirteenth century afforded us a safer guide than any later period. I attempted to prove this by reference to examples of English, French, German, and Italian art. At the same time, if ever any one expressed himself strongly against copyism of old work, I did so in the beginning, throughout, and at the end of my lecture; and Mr. Scott should have known better than to attempt to raise a cheer at my expense by saying that I wished to impose upon the world the "*slavery* of being bound to revive bygone conventions—real, vigorous, and living in their own day, but unreal, powerless, and dead, if merely imitated." I think, too, that Mr. Scott knows well enough that my practice has never consisted of this "mere imitation," and that it was improbable—to say the least—that I should wish to enforce that as a rule upon others, against which in my own work I have ever protested. But to return. The main object of my lecture was to show that the successful revival of Pointed architecture involved an attempt at least to catch the spirit of the men who brought it to what seems to me to be, beyond doubt or question, its highest excellence. To do this, I maintained, involved as a first necessity the entire avoidance of anything like eclecticism. I asserted, and I assert again, that no great artist ever was eclectic in his work: I maintained that in this respect we in this day run the very greatest risk of ruining all our work; and I witnessed with grief, therefore, the way in which Mr. Scott advocated what will prove to be practically (*i.e.*, as interpreted by most of his admirers) the most broadly eclectic view about architectural sculpture. I did so, not only for what he said, but much more for what he left unsaid; for I could not but suppose that, in attacking a view which I had put forward as to *all* art, though he was speaking of sculpture only, he really meant his remarks to be taken as bearing equally on architecture and painting.

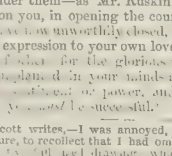
In reply to Mr. Scott's complaint of my total repudiation of nature as a guide in our sculpture, I must, moreover, object that his statement of my views is not borne out by what I really said. Mr. Scott, professing to quote me, said that my view was that "we must all sooner or later range ourselves under one or other of these banners—the conventional or the *natural*."

If he will look again, he will see that my word was *naturalistic*, and that throughout my lecture I maintained that the early conventional sculptors were really dealing with natural forms, even when they appeared to be most conventional, giving us an idealization or concentration of natural forms, natural growth, vigour, and elasticity, such as no attempt at the direct imitation of nature has ever succeeded in producing. My division of "conventional" and "naturalistic" is, I still believe, a perfectly sound and true division; and the words fairly represent the main features of art before and after the end of the thirteenth century. In the former, natural forms were occasionally used; but surely no one can deny that the essence of the style was its conventionality of ornament; whilst in the latter the exact converse is equally true. The style was naturalistic; but conventional ornaments were nevertheless often used.

The naturalistic school not only used nature, but did so in a licentious spirit, without the order and dignity which marked the work of the conventional school. The difference between the two styles is that of force and weakness; of manly beauty and mere prettiness; of virtue and luxury; in short, as I said before, I repeat now, the earlier work was objective, the latter subjective; the one an expression, in the noblest way, of man's adoration and love; the other, an evidence of his conceit and pride. Mr. Scott, therefore, in misquoting my words, and arguing from them, has not expressed what I said; and I maintain, most strenuously, that, to meet my views, men must study nature quite as thoroughly as even he desires; but I submit that, considering the character of most modern work, it is, to say the least, a safer course to protest, as I did, against the flagrant "*vulgarity*" of the "*direct*" imitation of nature, than to address a crowd of working men, whose present tastes are so avowedly naturalistic, as Mr. Scott did, in a general condemnation of my protest. The very applause his remarks elicited from them must, I think, have made him suspect how far he was doing good. He would probably agree with me in thinking that there were not five out of the whole working part of his audience who really understood anything about conventional forms; and my firm belief is, that they went away with a fresh impulse given to their naturalistic practice.

Mr. Scott himself allowed that in all former ages people have always studied a *single* style: and yet, forgetting the truth contained in this fact, he afterwards led his audience to suppose that they were systematically to study two styles, and to supersede an attempt at imitating nature also. I believe they would be better advised if they were told to study one style thoroughly, and if they were told also which style is the best. I trust that students who consult Mr. Scott about architecture and painting do not get quite the same kind of advice. If they did, we should soon have even a worse medley of styles than we have now on all sides, and even less art.

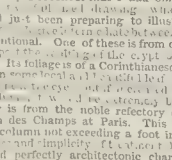
I am quite aware that mine is not the popular view; but this is no reason why it should not be the truest view of the necessities of our position. I think Mr. Scott agrees with me in many of my thoughts, and I trust therefore that, as is often the case, we differ more in the form of expressing them than in anything else. It seems that he joins with me in lamenting the weakness, poverty, and vulgarity of most modern architectural sculpture: it seems, too, that he joins me in thinking that the casts in the Architectural Museum, from examples of conventional sculpture of the first half of the thirteenth century, have a greater claim on our study than any others; and the vague generalities under which he shrouded the style of the future made it, as I found, very difficult to know what kind of work he really hoped for. So far as I could judge, I should say, that the capitals of Rheims Cathedral would come nearer to what he means than any other ancient examples I have ever seen; and if this be so I wish that he had not only given us enlargements of the woodcuts in M. Viollet le Duc's "Dictionnaire," of the capitals from St. Lon and Notre Dame, Paris, but also an example from Rheims. I think then, that I should have asked for nothing more than a comparison between the two drawings, to carry conviction to the mind of every one really able to form a judgment in the matter. To repeat words used by me in my Lecture, the capitals at Rheims are "indeed beautiful, but those others have something very far above mere beauty:" they possess, too, those elements of vigour, simplicity, and harmony with architectural lines, which we so much want; and I confess, therefore, that I see no greater unreality in telling architectural sculptors to learn their work by diligent study of these unequalled remains, than there is in telling (as I did) architectural students to study chiefly the architectural remains of the same age, if they

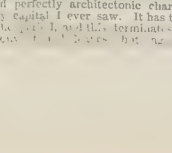


and nearly covering it and the intervening surface, is a broad, grand, natural leaf, something resembling a fig-leaf, presenting a wide and almost unruffled surface to the light. I am the more vexed that I forgot to mention it, as I had wished to put it forward as almost the *ne plus ultra* among the types of architectural foliage. M. Viollet le Duc says of the series of capitals of which this is one —

"If we were to consult our own particular case, we should say that it is the point at which sculpture might well have stopped. For, notwithstanding their exuberance of vegetation, these magnificent capitals of the refectory of St. Martin-des-Champs preserve a character of purity and resistance which is in agreement with their function. They are, at the same time, both rich crowns to the columns and supporters (*encorbellements*), whose energy forms in unison with the enormous load which rests upon their head."

I will just mention that a beautiful capital which we have seen, of the same character, in which conventional and natural forms are happily united, is from the refectory of St. Martin-des-Champs, at Paris. This also is small in scale, the column not exceeding a foot in diameter, but for boldness and simplicity of treatment, breadth, truth of curve, and perfectly architectonic character, it excels almost any capital I ever saw. It has the conventional stalk of the period, and this terminates in a [illegible] bud of conventional form, but [illegible] was.





wish to avoid effeminacy, prettiness, and the other most common faults of the present day. My advice to one class of students as much as to the other is, first, not to copy, and next, to suspect themselves when they find themselves designing very easily. For I repeat that the best capital ever sculptured in direct imitation of nature could never require a tithe of the thought, power, or sense of beauty and fitness, which are evidenced by a really fine piece of conventional sculpture. Nature is the groundwork for both; but it surprised me not a little to hear Mr. Scott pronounce it to be more difficult really to copy than to conventionalize her.

My experience of modern sculptors, and my own small attempts at designing, have taught me the contrary most unmistakeably. Mr. Scott should recollect, too, that the great thirteenth-century artists did not conventionalize because they *could* not imitate nature, but because they *would* not. The delicate natural foliage hidden at the bottoms of the columns at Chartres, and the roses round the doorways at Amiens, are sufficient evidence that they could imitate nature; but the fact that natural forms are not exactly imitated, except in such insignificant positions, and where they have no architectural work or service to do, is an equal proof that they knew the limits and dangers of doing so. The truth is that the thirteenth-century sculptors imitated nature only just so far as to show that they had studied her, and not at all in the modern naturalistic way; and I trust that on consideration Mr. Scott will agree with me, that in looking at ancient examples it is best to confine ourselves as much as possible to the elements of strength contained in them, and as little as possible to those which in the slightest degree evidenced or paved the way for weakness. Our nineteenth-century work wants strength and vigour more than anything else; and it seems to me that work which approaches to the naturalistic style of the fourteenth century is therefore just the most dangerous of all for our architectural sculptors to study. When they have studied the earlier work thoroughly, they will, I believe, know better than ever wherein the true value of nature and natural forms lies.

How far, however, they are to blame for the state of affairs which it seems that Mr. Scott equally with myself deplores, I will not now consider. My own impression is, I confess, that we architects are very much more to blame than they are; and that until we, as a profession (which I do not expect), or individually, each in his own practice (which we have a right to expect), come to some clear, definite conception as to the proper style and object both of our architecture and of all its subordinate decorations, we cannot expect that men working under us will achieve any real success. The object of my lecture was to direct men's attention to this necessity, and though I wish I could see in Mr. Scott's lecture a more satisfactory teaching than I think it contained, I am nevertheless glad to find the subject under discussion, hoping almost against hope for some improvement in the end.

George Edmund Street.

MILITARY MATTERS.

THE BARRACK QUESTION—CLERKS OF WORKS IN ENGINEERS' DEPARTMENT.

The debate on the sanitary condition of the army in the House of Lords on Friday last is worthy of careful consideration, and shows that while all the different parties of the State express the best feeling towards the British soldier, we can expect only slow improvements from those in authority, without they are urged forward by the press as the exponent of public opinion.

On the occasion above mentioned Lord Panmure moved for a return of the sums of money proposed in the army estimates of 1856-7, 1857-8, and 1858-9, to be expended on barracks, showing, 1. The sums required for the erection of new barracks, and stating the different localities in which they are to be erected, and whether they are intended to replace old barracks. 2. The sums required for supplying water, improving drainage, or for ventilating existing barracks. 3. The sums required generally for sanitary purposes connected with barracks or hospitals, and for the provision of quarters for married non-commissioned officers and soldiers.

His lordship stated that it appeared to be believed out of doors that no attention had been paid to the sanitary improvement and arrangements of military hospitals and barracks; but before directing attention to that subject, in order to show that such an opinion is a mistake, he noticed the changes which had been made for lettering the social position of the soldier. Amongst these he mentioned Mr. S. Herbert's system of regimental education, a better arrangement of pensions, the prevention of the sale of spirits in canteens, &c. Passing slightly over these to the sanitary part of the question, Lord Panmure continued—"It had been said that the condition of the barracks was so bad that it was a sin to compel the soldiers to live in them, and that no sanitary science had been applied to them; and that soldiers, instead of being well accommodated, were put in buildings for the mere purpose of throwing them into bad health. Now in all barracks built during the last few years, sanitary improvements had been introduced. Drains, ventilators, baths, and the supply of water had been strictly attended to, and they had also, to some extent, been supplied in old buildings where they did not originally exist, buildings which were erected when no man gave heed to sanitary improvements. When he went into the army, fifty men were put without compunction into a room that would now be thought overcrowded by twenty-five." In reference to this, it should be remembered that, when the fifty men were put into one room, there were many at that time who looked upon such a practice as perfectly wholesome: we have no doubt, however, that if the statistics are to be had, it would be found that the due proportion of death and loss of life took place. In the course of a few years, we trust that the circumstance of twenty-five soldiers being placed in such conditions will be as great a curiosity of the past as the overcrowding to which his lordship refers. Lord Panmure, while admitting the large number of deaths in the regiments of the Guards, does not think that the whole of that excessive mortality was to be attributed to the barrack. But even admitting that, he said it was wrong to lay the blame on the colonels of regiments: the cost of barracks for 1,000 men, in the neighbourhood of London, would amount to not less than 150,000*l*. His lordship proceeded to remark, that it was necessary to consider other departments of the service as well as barracks. "He denied, however, that the excessive mortality of the Guards was to be attributed to the barracks. There were some curious things about barracks as about other things. Many new barracks, which should apparently be the best, have turned out more unhealthy than the old ones, upon which nothing like the same amount of money and care has been expended. He believed that the Wellington barracks were not nearly so healthy as the Portman-street barracks, which, although surrounded by houses, and unattended to from year to year (for they are only rented), were more healthy than any in which the Guards were placed, and which had cost thousands of pounds."

His lordship stated that though the engineers at Chatham were not provided with so many cubic feet of air as the Guards; they were evidently much more healthy. Respecting the latter circumstance, we have not had the opportunity of examining the quarters of the engineers, but it might be worth while to compare the ventilation of that place with either the St. George's, the Wellington, or the Portman-street barracks. It is of little use providing a certain number of cubic feet of air, if means are not used to circulate it; and it is in regard to this, that we think both the superior officers and the medical men have been at fault: for if careful inspection had been made, such conditions of the atmosphere, which even in the daytime are to be found in these barracks, could not have been allowed.

The Duke of Cambridge, in an earnest manner, pointed out the difficulties which beset the subject, —the large cost of fitting up libraries, and other matters, for the comfort of the soldier, and throughout his speech seemed to be impressed with the necessity of much change. Not so the Earl of Cardigan, who was of opinion "that the discomforts of the soldier had been greatly exaggerated. The apartments were by no means characterised by the absence of cleanliness, or of the necessary comforts he had a right to expect; the rooms were not overcrowded, nor rendered unhealthy by any defective arrangements." It is not wonderful that loss of life should take place in the army when we hear an officer of the Earl of Cardigan's great experience believing in the perfection of such homes of the soldiers as these to which we have recently directed attention.

The Duke of Somerset thought that if Government would look into the question they would find that something might be done without any great expense. His grace, too, however, harped on the unwillingness to lay out money on the wants of the army, while immense sums were being laid out in providing palaces for their lordships and the Commons, and even for the Government clerks. That, he said, was the feeling of the public; but he hoped that the Government would deal with the subject in a proper and enlarged spirit. In speaking of the Wellington Barracks, his grace confirmed the truth of all that has been said either by ourselves or by others as to the state of our barracks generally. The Wellington Barracks, he remarked, were model barracks. When he was at the Office of Works some business took him there, and he said he would go over them. It was between two and three o'clock in the afternoon, when the rooms ought to have been tolerably fresh, but when he went downstairs he found the room so foul and disgusting that he said he was sure it was not a fit place for people to sleep in. The soldiers said, "It is very bad now, sir, but you can have no idea how bad it is unless you came in the morning." It struck him so forcibly that something ought to be done, that he went at once to the Ordnance and made a representation upon the subject. The Government ought to postpone some other expenses, and apply to Parliament for money to do what was necessary for the soldier.

The Earl of Derby remarked, that the increased ideas of comfort and luxury on the part of civilians has led, is leading, and must still lead, to a very great and constantly accumulating increase in the improvements required. The ordinary accommodation of thirty or forty years since was utterly insufficient now. The Premier seems, here, however, to have lost sight of the fact that this is not so much a question of luxury or comfort as one of life or death to the soldier. Where sanitary improvement, continued his lordship, requires such an enormous amount of expenditure, we cannot do all that is desired at once. Four sub-committees had been appointed by Lord Panmure to take the sanitary report into consideration, and represent to Government what should be done: they awaited the issue, but would not hesitate to act on it gradually.

Lord De Ros thought that great improvements were required in the guard rooms in almost all the barracks, so as to make them more airy. The condition of the guard-rooms was now extremely bad, and they were very imperfectly ventilated. If they were what they ought to be, a great improvement would take place in the health of the soldiers.

The Marquis of Breadalbane hoped that something would be done to check the frightful mortality that was going on, by improving the barrack accommodation. It would also be necessary to establish strict rules about ventilation.

We trust that the improvement of the soldiers' homes will be vigorously proceeded with,—not at wasteful expense, but in that true spirit of economy which performs work in a complete manner, and not in ineffectual patches. Independently, however, of the building of new barracks, a great deal might be done at a comparatively small cost by improving the ventilation of the London barracks which already exist, and by lessening the number of occupants of the rooms.

There is another question connected with military affairs of which we have some occasion now to speak. To the equivocal and unsatisfactory position of the clerks of works (or architects in fact) in the engineers' department of the army we have frequently been forced to draw attention. This position is so fully explained in a memorial sent last month from Bermuda to Lord Panmure by a gentleman who felt obliged to resign in consequence of the peculiar humiliations to which he was exposed, that we shall make some extracts from it such as bear more particularly on the general question, to which, indeed, Mr. Dorner's memorial is mainly confined, the exposition being made upon public grounds, and not with the view of seeking personal redress.

In the outset the memorialist calls attention to the following grievances:—

"First.—That the Royal Engineer Department consists of two classes, viz.—military and civil officers; that the military officers, who receive a large amount of pay, comparatively do nothing, and, as far as my experience goes, are incapable of performing any important professional duty, of themselves; and are therefore improperly placed over the civil officers, who have to perform the duties.

Secondly.—That the civil officers are miserably badly paid, having to do the whole of the professional duties, but they have to submit to be deprived in the most unjust manner of the credit of their professional labours.

Thirdly.—That, according to the 'Engineer Code,' the civil officers hold the rank of commissioned officers, but they are deprived of that position by the engineer officers, who endeavour to degrade them as much as possible.

Fourthly.—That the civil officers have great difficulty in seeking redress, from the want of a proper representative, and therefore are obliged to suffer a great amount of injustice."

The memorialist, after stating that the expense

of maintaining five engineer officers at Bermuda is nearly equal to the total amount granted for all the works at that station, says,—

"My lord, I must declare that I never knew an instance of an engineer officer making an original drawing or an estimate, neither have I ever met any person in the department who ever knew any of them to do so; and, indeed, I am convinced in my mind that any of the engineer officers that I have met are not capable of making a set of plans or estimate for a four-roomed cottage of themselves, the same 'as an architect would make them.'"

After quoting Sir F. Smith's evidence as to the acquisitions made by engineering students at Chatham, the memorial thus proceeds:—

"The public are told that in sixty days (Sundays included) the young officer learns two professions, which require in private practice several years to learn one: and these young gentlemen, notwithstanding their ignorance of the profession, are placed over men of experience, frequently old enough to be their father, who must not only make good their deficiencies, but submit to be treated by them with a great amount of rudeness and injustice."

"The principal duties of a clerk of works in the engineer department correspond with those of an architect and surveyor, and I believe that a misapprehension of their duties, and of the nature of their services, has arisen, and is likely to continue, from the inappropriate title of clerk of works.

"According to the 'Engineer Code,' section 17, paragraph 1, 'The duties of the responsible situation of clerk of works in the engineer department, requires the strictest integrity, activity, and attention: he must be fully acquainted with designing, building, artificers' work, and the qualities of building materials of every description: he should be competent to draw with neatness and accuracy plans, sections, and elevations, and be qualified to give detailed working plans for the different parts of a building: he must understand thoroughly how to estimate and measure works of all kinds.'"

From the same code, it appears that the following is—

"Their comparative rank with military officers, &c.:—

1st class clerk of works rank with captains.			
2nd	"	"	do.
3rd	"	"	lieutenants.
4th	"	"	ensigns.
Foremen of works		"	do.

This, however, is—

"A perfect mockery and a delusion, for in reality the civil officers in the engineer department neither hold rank nor position. They are treated by the engineer officers as menials, represented as holding only the rank of non-commissioned officers."

Accordingly, officers in the army—

"Being under a wrong impression respecting his rank, naturally look to him for the same respect that he would receive from a non-commissioned officer; in this he is disappointed, and what would be considered as common civility on the part of the civil officer, if he had his proper position, now appears to the military officers as an unwarrantable piece of impudence."

And, at Bermuda,—

"Which is a sort of demi-transportation, with the additional punishment of solitary confinement, the civil officer is excluded from all respectable society, on account of the general impression here that he ranks as a non-commissioned officer, a class of persons that the Bermudian petty shopkeeper (men of very little intelligence), would be horrified to think of associating with."

The detriment to the public service arising from such a state of things may well be conceived, especially when the peculiar relationship between the clerk of works and the sappers and others of an inferior station is considered. The sapper, and even the convict, think nothing, seemingly, of treating this their actual superior officer in all that relates to *work*, with cool contempt; standing idle in his presence and defying his authority; knowing well (the sapper especially) that thus he will ingratiate himself with his military officer. As for the latter, he considers that it is no part of his duty to *work*, even in the sense of overseeing the sappers and convicts; and when he gives his orders, often through a sapper, to his coequal, the clerk of works, he takes care to give no written order, so that the clerk of works incurs the responsibility which may attach to these very orders; in consequence of which, moreover, great waste of money is frequently incurred through orders and counter orders clashing with each other.

Such is the memorialist's account of the degrading and disagreeable position of a clerk of works, or architect, in the engineering department of the army.

The memorial concludes by requesting—

"That a strict inquiry may be made into the duties and expenditure of the engineer department, when I feel confident it will be found that the present system is as rotten as expensive: it must be so, while a staff of engineer officers are well paid for doing that of which they have no knowledge. It is quite evident that such is the case, for the engineer officers at the head of the department would as soon think of recommending the abolition of the corps of engineers as that of the civil branch; or, to use their own words, 'take away the clerks of works, and you remove the main spring of the department.'"

Society of British Artists.—The thirty fifth annual exhibition of this Society is now open in the Suffolk-street Galleries, and comprises 919 works of art. The collection contains few pictures of high class, but has some good landscapes and pieces of *genre* painting. We may return to it

CHURCH-BUILDING NEWS.

Sevenoaks.—The original tenders for a chapel-of-ease intended to be erected at St. John's-hill having been about twice the amount calculated on, the size of the building was reduced by Messrs. Morphew and Green, the architects, and fresh tenders were advertised for. Tenders were sent in, as follows:—Marchant and Colman, 1,200*l.*; How and Faulks, 1,050*l.*; Burton, 977*l.*; Evans, Brothers, 975*l.*; Sutton and Co. 945*l.*; Smith, 915*l.*; D. and J. Grover, 896*l.*; Dadley, 847*l.*; Punnett, 841*l.*; F. and W. Barker, 820*l.* The tender of Mr. Punnett, builder, Tunbridge, which included a bell (not specified), was accepted. The site is given by the Marquis Camden, who also subscribes to the building fund. The greater portion of the stone that will be used in the erection was dug from a quarry on the Knole estate, and placed at the command of the building committee by the Dowager Countess Amherst. A further sum is yet required to complete the undertaking. The chapel is to be built in the Early English style, of Kentish rag, with dressings, of Bath stone. It will be a plain building, with a bell turret only: its external length is 66 feet, breadth 32 feet, and it will accommodate about 300 persons.

Kerry.—On the 23rd ult. the foundation-stone of the new church at Sarn, in the parish of Kerry, was laid by the Rev. Archdeacon Clive. The edifice will be built by the grant of 600*l.* from Lady Edwards, and assistance from the church societies. It will be in the Early English style, and will be built by Mr. J. Thomas, of Churchstoke, from designs by Mr. T. M. Penson, of Chester.

Taunton.—On a poll being taken as to the question of granting a rate for rebuilding the tower of St. Mary's Church, the matter was decided by a large majority in favour of the rate. The Wells Consistorial Court have granted a faculty to the churchwardens to enable them to take down and rebuild the tower.

Anglesea.—The parish church of Llangefin, in Anglesea, was reopened on the 23rd ult. This church, which was rebuilt about thirty years ago, was very inconveniently arranged internally, being blocked up with high pews, besides other objectionable details. The incumbent, therefore, deemed it advisable to have the interior remodelled, and gave instructions to Mr. H. Kennedy, of Bangor, to prepare the necessary plans, from which the works have been executed by Mr. W. T. Rogers, of Pen Parc. The church is now calculated to accommodate 294 persons, and is a parallelogram, 70 feet by 24 feet, the eastern portion of which is reserved as a chancel, the design of the roof denoting the extent of each. There are also at the west end a tower, having the lower floor appropriated as a porch, and a minstrel-gallery. One of the pleasing features of the undertaking has been the preparation, by the rector's lady and others in the neighbourhood, of scrolls with illuminated texts, which have been affixed to the walls. A new window, in the Third Pointed style, has been inserted in the eastern wall of the chancel, and filled with stained glass, executed by Messrs. A. Gibbs and Co. of London, as a gift from the wife of the rector.

Manchester.—The second synagogue, for reforming Jews resident in Manchester, has now been consecrated. It is situated on the Cheetham-hill-road. Its eastern, or "ark" end abuts upon the high road, though the entrance, by a broad flight of steps, is on the north-west side, facing Park-place. The edifice has been built from the design, and under the superintendence of, Mr. E. Salomons, of Manchester, architect. The architecture is a Saracenic modification of the Byzantine, and the building is about 100 feet long by 50 feet wide. The materials are red and white bricks, with stone dressings. There are three tiers of windows visible outside, basement, ground-floor, and gallery. The basement will be used for schools. It is little underground, the floor of the synagogue being 10 feet above the street level. The interior of the synagogue is divided into nave and side aisles, with two-light pointed windows below, and three-light circular headed windows in the clerestory. The arches of the aisles are supported on iron columns, with foliated capitals. The aisle arches are of the Saracenic or horse-shoe form. The roof is open timbered. At the east end is the apse, of octagonal shape, in which is situated the ark, at present a temporary one. The ark is approached by steps, and before it is the reading-desk, of carved oak. The building is very light, from the large number of windows, and the absence of stained glass and colouring. This defect will be remedied. The whole of the central floor and side aisles are filled with seats, accommodating about 100 men, and the galleries will hold about 250 women. There is an organ in the west gallery. The cost of the synagogue will be about 3,500*l.* the greater part of which was collected before the corner stone was laid, in March, 1857. Mr. Robert Neill was the general contractor, and the brickwork was done by Mr. William Higgins.

Hull.—The new Wesleyan Chapel at Newland, has been opened. The new chapel and school-room are situated with the side front to the Newland-tofts-lane, and with the end front to the Newland-street or Cottingham-road. The building is of white brick, with stone dressings, and is in the Early English style. The entrance is by a projecting porch, with arched doorway. The sides of the building are divided by buttresses, with a lancet window in each compartment. The end fronting the street has a large triple window of the same character, with louvre in the gable above for ventilation. The roof is covered with slate, with an ornamental crest at the ridge. Internal dimensions of the chapel, 37 feet 6 inches by 25 feet 9 inches, and the school-room, 22 feet by 14 feet. The roof is open nearly to the ridge, with the timbers exposed to view, the principal trusses being framed with curved ribs, springing from moulded stone corbels on each side. The pews and sittings are formed with stall ends, and low backs, giving accommodation for about 160 persons. All the internal woodwork and fittings are stained in imitation of oak, and varnished. The cost, including the land, is about 600*l.* which is to be raised by voluntary contributions. The building has been erected from the designs of Mr. Botterill, of Hull, architect. The brickwork was executed by Mr. Cressey, of Hull; and the carpenter's and joiner's work by Messrs. J. and J. Benton, of Grimsby.

Blaydon.—The church at Blaydon is to be considerably enlarged and extended. The designs of Mr. J. E. Watson, of Newcastle, architect, have been adopted. The additions are to consist of a new aisle (to accommodate 200), chancel, vestries, tower, and spire. It is also intended to take off the present low roof, and substitute one with a high pitch.

SELECTED DESIGN FOR THE PROPOSED MEMORIAL OF THE GREAT EXHIBITION.

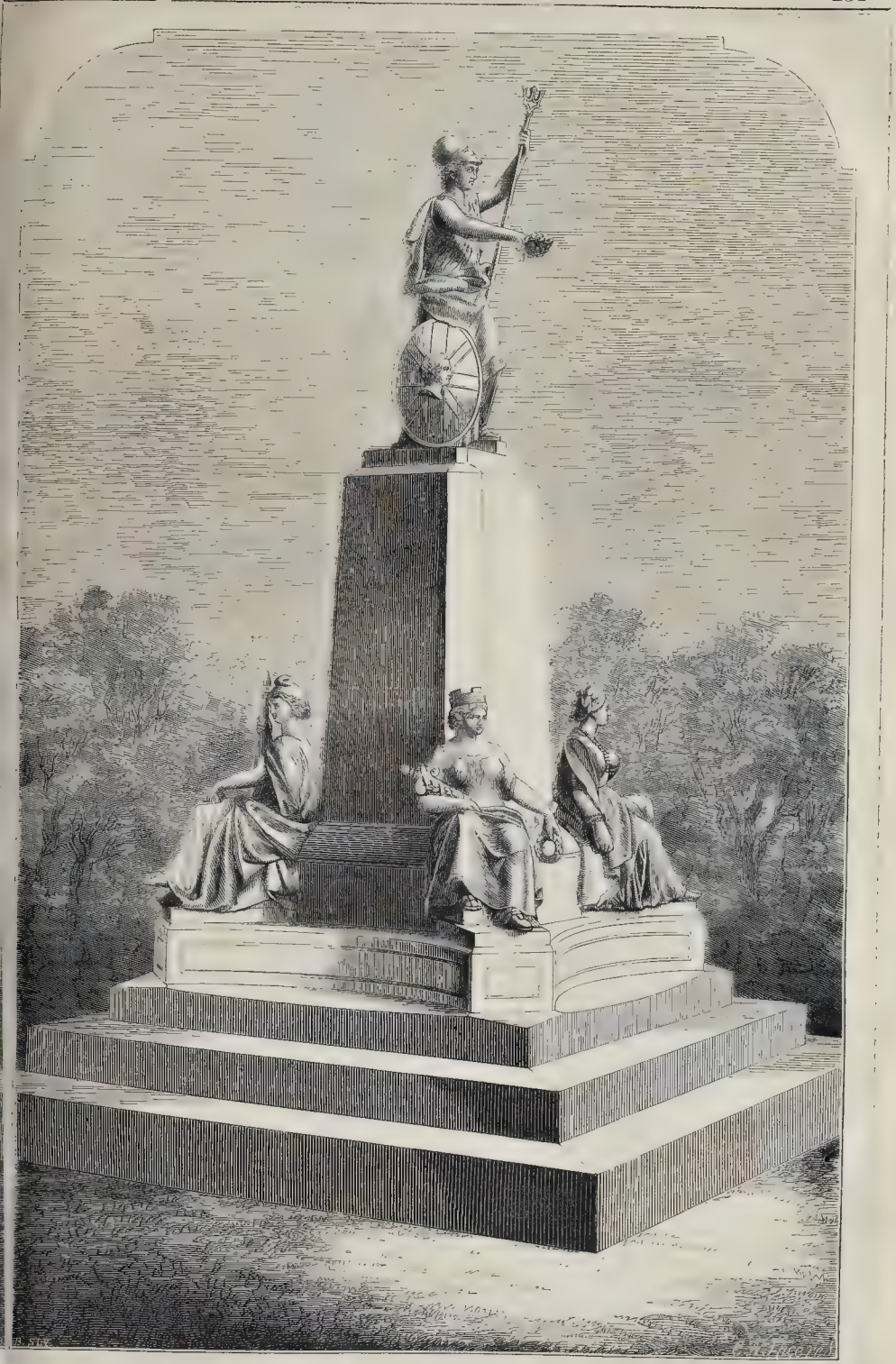
We have engraved a view of the design for the proposed memorial of the Exhibition of '51, by Mr. Joseph Durham, selected by the Committee as the best amongst those submitted to them in competition. The sculptor, in his descriptive particulars, says:—"As all nations contributed to the Great Exhibition upon the invitation of England, the author of this design thought such fact would be best illustrated by a statue of Britannia, supported by the four quarters of the world." There were three things which he considers may be urged in its favour; first, that the idea embodies the origin and fulfilment of the Exhibition; next, that the form chosen for its memorial is such as would present in every point of view some fresh arrangement, each having an interest of its own; and, further, that there is no monument or memorial of any kind in the metropolis partaking of the same form or composition. It may be added that the figures symbolizing the four quarters of the globe are not of the hacknied types, and display very considerable beauty.

The central figure, 12 feet high, and the sitting figures, 10 feet high, would be of Sicilian marble; the pedestal and basement of granite or Mansfield stone. The whole would be about 35 feet high and 20 feet square at the base; and would probably stand on a mound. The pedestal would receive inscriptions. The committee, however, have not yet come to consider details, waiting to have the question of site first determined.

It will be remembered that six designs were first selected: to some of the remainder of these the artists have since affixed their names: No. 11, "The Earth is the Lord's," is by Mr John Bell; No. 12, "Here stood the Great Exhibition," by Mr. E. G. Papworth. A contemporary ascribes No. 15, "Civilization," to Mr. W. Calder Marshall, R.A. The very clever architectural design, No. 31, *Architectura autem constat, &c.* also one of the six selected, is by M. Bourgerel, of Nantes.

Nos. 17, 18, and 19, not amongst the selected, have the names attached to them of three brothers, Mr. Joseph Farrell, Mr. John Farrell, and Mr. Thomas Farrell. No. 4, is marked, Mr. John Bailey.

The very elaborate and remarkable set of drawings, depicting a Triumphal Gallery, of iron, (No. 26), are by M. E. Vandenbergh, architect, of Lille.



SELECTED DESIGN FOR MEMORIAL OF THE GREAT EXHIBITION.—Mr. Joseph Durham, Sculptor.

MODERN GERMAN ARCHITECTURE.*

THE mania for the revival of Gothic architecture has arisen in Germany as well as amongst ourselves. Its origin, however, has not been indigenous, nor has the study been attended with the same results as in England. The application of the Pointed style to modern buildings in Germany has been principally, though not exclusively, confined to churches; and of these nearly the whole are built in brick. The peculiar treatment required by the material adopted, has necessarily influenced the application of the style to a great extent. There are also other circumstances which have tended to separate widely the modern German Gothic from the style as practised in England. In our own country, our ancient ecclesiastical remains have been for a long period the subjects of the most careful investigation. Their history has been traced; their chronology determined; every detail and moulding accurately illustrated; the peculiarities of each transition and period made popular. The leading idea of our most distinguished modern Gothic architects is, so thoroughly to imbue themselves with the spirit of the past, that Mediæval forms shall be the language in which their ideas of beauty shall naturally flow, carrying forward the consistent development and progress to which every art possessing a living principle must attain. In Germany the case has been very different. Until recently, architectural works on Gothic architecture could scarcely be said to have an existence. At present their number is extremely limited; very few of their great edifices have any illustrations strictly architectural, giving sections and details, and no attempt has been made to classify and arrange the peculiarities of the successive styles of art.

The course adopted by the German architectural mind, seems to have been to resolve all Gothic forms into their primitive elements, which it is the province of the artist to re-combine into new forms of beauty. Hence, what we are accustomed to consider the grossest solecisms, are perpetrated by the German architect without the slightest feeling of compunction.

The same range of windows will display tracery heads of early geometrical, curvilinear, perpendicular, panelled, flamboyant, and German stump patterns, without any sense of inconsistency. The stiff thistle—like foliage of the early thirteenth century, may be found side by side with the elegant flowing curves of the fifteenth century. All this would strike an ecclesiologist with horror; yet, probably, something may very gently be suggested in its defence. Forms of beauty are as various as the qualities of the human intellect out of which they spring; and it is possible that out of this apparent chaos, a new style of Pointed, with a consistency and harmony of its own, may eventually spring.

As specimens of the modern German Gothic I will cite two examples,—one a Protestant church at Berlin, the other a Roman Catholic one at Munich.

St. Peter's at Berlin is built of brick, with dressings in stone and terra cotta. The plan is a Latin cross, with tower at the west end. Each angle is flanked by an octagon turret, crowned with spirets in terra cotta. The tower is square below, breaking into an octagon above, crowned by a terra cotta spire, covered with blank panelling. The outside, though noble and lofty, and highly decorated, strikes the eye as tiny and angular. The interior is very fine, groin vaulted in one span with brick, having terra cotta ribs. The piers supporting the vaulting are detached about 4 feet from the side walls, adding much to the effect of the boldness of construction. A little polychromic decoration is introduced.

The church of St. Maria Hilf, in the suburb of Au, at Munich, was built from the designs of Oehlmüller, and completed in 1839. The dimensions are large, being 222 feet in length, by 80 feet wide. The plan is simple and effective, consisting of three equal aisles, running the whole length, with apsidal east end, round which the aisles are carried. The three aisles are equal in height, about 80 feet to the apex of the groining, which is very rich, nearly approaching the principle of the English fan groining. The general effect of the interior is grand and noble. Externally the building is brick, with stone dressings. The west front, a combination of brick and stone, is very rich. The tower is at the west end, crowned with an octagonal pierced spire, 276 feet in height. The windows are modern stained glass, from the Royal manufactory at Munich, and are supposed to be some of the finest of this school of art. Whatever may be the defects of detail when examined from an English point of view, the merits of these two churches, as bold, original, and tasteful compositions, is very great.

A similar church, but of smaller dimensions, has recently been erected in the suburbs of Leipsic, by the architect Heideloff, and others of the same description are in course of erection at Berlin and elsewhere. The Byzantine style, connecting itself with the early Venetian, is also much affected. Of this character are the new Catholic church in the new town of Dresden, and St. Matthew's church, in the suburbs of Berlin.

This style, first introduced at Munich, has extended itself over the whole of Germany. At Mannheim a Jewish synagogue has recently been erected of this character, from the designs of Landorf, of Heidelberg, having a very characteristic west front of stone, with richly-carved doorway, wheel window, elaborate corbel tabling and cornice. The interior is ornamented with marble columns and arcades, and is richly polychromatized throughout.

Next to the ecclesiastical, the æsthetical condition of a people receives its best illustrations from the buildings of a public and monumental character. We will glance at a few of these as subjects for comparison with those of France and of our own country.

From the monarchical and somewhat despotic government of most of the German states, it is naturally to be expected that the kings' and princes' palaces should occupy a very distinguished architectural position. There are not many of them which are of very recent date, and still fewer which have very high claims on the score of architectural merit.

The Schloss or King's Palace at Berlin, is an enormous mass surrounding two courts. The architecture is of various dates, principally of the Italian, such as we see in the works of Wren. The greater portion of the building is in brick covered with cement, very dilapidated and ragged looking, and now undergoing the process of renovation.

The palace of the Prince of Prussia, now become the abode of a daughter of our royal house, has its main façade of a crescent form on plan, with a projecting portico in the centre, of eight coupled Corinthian columns, the attic crowned with statues, with a group in the centre. The wings also project, having corresponding porticos, convex in plan, crowned with similar statues and groups. The effect of the contrasted curves is good. The new portion of the palace fronting the Unter den Linden, is neat and simple street architecture. The treatment of the attic, having panels filled with coats of arms and small statues between, is original, the cornice rather small.

Potsdam is usually termed the Versailles of Berlin, and justly so, standing as they do in much the same relation to their respective capitals. Instead of one colossal edifice, as at Versailles, with its small adjuncts of the two Trianons, there are at Potsdam four distinct palaces, three of them of very large size and considerable architectural pretensions.

The Residenz Palatz, the oldest of the group, was erected in the latter part of the seventeenth century, in the heavy Italian style. Internally some of the apartments of the great Frederick, finished in blue and silver, might furnish a few hints in decoration. There is also a noble marble hall. Externally the building is connected by an architectural screen of columns and entablature, with the façade of a large riding-school. This façade is crowned with groups of equestrian statuary, the horses in every position of violent action.

The screen connecting this with the palace has its inter-columns filled in with groups of statuary, representing gladiatorial combats in all their intensity of fierce struggle. The general result is somewhat extraordinary, producing an effect on the eye of movement and bustle, directly contrary to the stability and repose usually expected from architectural works. I may here add a word on the profusion of statuary observable in many of the German public buildings. They are displayed in all positions, in niches, on pedestals, under arcades, on porticos, on attics, single or in groups to an extent unknown in this country, or even in France. Of course they cannot all be of a very high order of merit, but they are sufficiently so to add very materially to the effect of the buildings. In breaking the sky line they are admirable, and, wherever introduced, they give life and piquancy to what would otherwise be flat, stale, and unprofitable. The lines of the human figure, sufficiently vertical not to be discordant with the features of the building, soften by their gentle curves the rigidity and hardness of the square masses with which they are connected. The Greeks, better than any who have succeeded them, understood the true value of the human form as an architectural accessory, but every school of true architectural taste has adopted it as a most valuable adjunct except the modern English, which, from whatever cause, has strangely omitted to make use of it to any extent.

One of the finest displays of sculpture in connection with architecture is to be seen in the Schloss Brücke or palace bridge at Berlin, connecting the Unter den Linden with the old town. A series of marble statues, heroic size, are placed on pedestals on each side, connected by the balustrade. They represent the hero or warrior in the different phases of his life, from adolescence to his death in the arms of victory. They are executed in the highest style of art by the most eminent German sculptors, Rauch, Schwanthaler, Wolff, and others.

The new palace, which lies about two miles off, was built by the great Frederick about the middle of the last century. It is a large structure of red brick faced with stone, much in the style of the more modern portion of Hampton Court. The centre and wings have advanced porticos, the central one finished with a pediment. A balustraded attic crowns the whole, surmounted by large statues. A range of statues, mounted on pedestals, stands in front of the building one opposite each pilaster. A bronze dome is raised in the centre of the building.

The interior is finished with considerable richness, and a profuse use of polished marbles and inlaid woods; but the enrichments are of the vile Rococo school, prevalent at that day.

The fore-court of the palace is inclosed by a curved Corinthian colonnade, with a triumphal arch in the middle, and pavilions, surmounted by obelisks, at the extremities. These are again flanked by two colonnaded erections, most probably guardhouses, approached by noble flights of steps. The palace is not now inhabited.

The palace of Charlottenhof resembles an English villa surrounded by gardens and shrubberies in the English style. Its principal attraction is the reproduction at large of the Pompeian house of Glaucus, which is exceedingly well carried out; and, with its vines trained over long lines of trellises, carries the mind to the shores of Campania and the imperial domain of Rome. The group of "Hermann and Dorothea," by the sculptor Henschell, of Cassel, forms an appropriate decoration of the atrium. The walls are covered by frescoes copied from the Pompeian examples.

The celebrated palace of Sans Souci is a long low building, principally of one story, having a circular centre crowned by a low dome. A curved colonnade on the back front forms a graceful appendage to the *corps de logis*. The building is situated on the summit of an eminence, the slope of which is occupied by a succession of terraces connected by flights of steps, all in white marble. The profusion of this material in statues, pedestals, benches, tazzas, fountains, fish-ponds, balustrades, &c. is absolutely dazzling.

Palaces, I have already said, abound in Germany, and it would be tedious and unprofitable to attempt descriptions where, with great splendour and richness, there is nothing to indicate the position and prospects of architecture at the present day. With a glance at the royal palaces of Munich, which do possess something of this character, we will quit this part of our subject.

The original royal palace of Bavaria was erected in the seventeenth century, and contains nothing worthy of special notice. To this have been added by the late king two additional portions. These have been designed in the Eclectic style, which is the distinguishing feature of most of King Ludwig's plans. The Konigs Bau, on the south side, was designed by Von Klenze, and completed in 1835. Externally it is an adaptation of the Pitti Palace at Florence. The Saal Bau, the new portion on the north side, is in the Italian Columnar style, presenting a façade to the Hofgarten (the Pabis Royal of Munich), 500 feet in length. The centre is formed by an advanced arcade of nine arches in two tiers, forming a loggia on each story. The upper piers are faced with Ionic columns, the entablature broken round them and crowned with statues. The ceiling of the upper corridor is divided into low domes painted with frescoes, with sculptures over the openings in the wall behind.

Internally the state apartments are exceedingly fine, the decorations worthy of a great monarch. The floors are very richly parqueted; the walls for a portion of the height, are scagliola with a fine polish. The upper part of most of the walls is finished with encaustic paintings by the first artists. One suite is decorated in the Pompeian

* Continued from page 192, *ante*.

style. The ceilings are gilded, panelled, and painted in very good taste. The throne-room, with its gilded capitals and ranges of gigantic gilt statues; the banqueting room, very large and lofty, with galleries at each end; the ball-room, decorated with bas-reliefs by Schwanthaler, are especially worthy of notice.

The Wittelsbach Palace was erected from the designs of Gaertner, about fifteen years since. It is stated in the guide-books to be of red brick, in the style of a palace of the fourteenth and fifteenth centuries. In reality it is covered with cement, painted to represent brick, and in design it is a bad imitation of the latest and worst school of Gothic, without any of its ingenuity and mechanical dexterity.

As the limits of this paper will not permit an extended analysis of the various classes of modern buildings scattered over Germany, I will call attention to a few of those erections, irrespective of their purpose, best calculated to throw light on the progress of architecture in that country in recent times.

The museum at Berlin is generally considered as the masterpiece of its architect, Schinkel. Its form on plan is rectangular, without any projections. The front has a portico extending the whole width, comprising eighteen Ionic columns, in antis, standing on a stylobate, approached by a flight of steps in the middle. On one of the pedestals of these steps stands Kiss's noble equestrian statue of the Amazon, which attracted so much attention in the Exhibition of 1851. The portico is well recessed, with a further colonnaded recess in the centre, adding variety and depth. Within the portico two bold flights of stairs give access to the upper entrance-hall. Within the portico, also, is placed the statue of the architect, holding in his hands the plan of the building. Over the portico a low blocking is carried along the cornice, with a bronze eagle over each column. An attic, set back some distance from the portico, is carried over the central hall. It is low, and utterly without ornament, except a very plain cornice. Its appearance is greatly heightened by bronze copies of the horses from Monte Cavallo at each angle, raised on pedestals. The inner walls round the portico are decorated with large frescoes by Cornelius, illustrative of the development of civilization and the progress of the arts. The order employed in the building is the Ilyssus Ionic.

The whole external display is lavished on the portico. The flanks and back of the building are plastered with cement, having two tiers of square-headed windows, surrounded with plain architraves surmounted by a very plain cornice.

The exterior of this building undoubtedly possesses some merit, but combined with very grievous defects. The style chosen—the severe Greek—opposed fetters on anything like originality of ideas, but in the portico the architect has done the best he could under the circumstances. He has imparted variety to his plan by the double recess. The double staircase within the colonnade is a bold and striking feature, and above all the broad band of fresco painting, forming the background of the portico, mingles life and grace with the severe lines of the architecture, the brilliant colours harming up into beauty the cold grey hues of the stone. At the same time the long range of columns, without any distinct feature to direct the eye to the centre, detracts from the compact centralised appearance which the eye always expects in the entrance front of a great building. The lowness and plainness of the recessed attic does nothing to redeem this defect, whilst the sides and back of the building are bald almost to meanness. Internally there is a noble central hall, circular on plan, about 80 feet in diameter, surrounded by a Corinthian colonnade, supporting a gallery. The shafts are polished yellow marble. The interc olumns are filled in with antique statues on pedestals. The building is well planned, and adapted for its purpose of a gallery of sculpture and painting.

Most of the public buildings in Berlin are covered with compo. Besides the palaces,—the Opera House, the University, the Arsenal, the New Arts Academy, the Cathedral, are thus treated. The natural consequence is feebleness, baldness, and common-place. That this does not arise from want of ability to design or skill to execute is sufficiently evident when we examine the brick buildings. The Bau-Academie or architectural school is from a design by Schinkel. It is entirely of brick, from floor to summit; the doorways, enrichments, strings, cornices, all worked in the same material,—the colour varied with cream, red, and bands of light blue. The aspect of the building is honest, truthful, and satisfactory.

One of the most recent public buildings erected in brick is the new Lying-in Hospital in the Karls Platz, at Munich, which would, I should imagine, delight the heart of Mr. Street or Mr. Ruskin. Its style approaches closely the Italian Mediæval, freely treated without servile copyism. The bricks are red, with an admixture of cream-colour. There is a good deal of enrichment, principally in terra-cotta.

These beautiful brick façades are not carried up along with the corpus of the building. The solid bearing walls are first constructed in common brick, with indents, projections, and toothings left on the face. After the building is covered in, scaffolding is erected externally, and the new face is carried up and tied into the old work as it proceeds

The introduction of this beautiful material into England would be a new power of design at the disposal of the architect,—but where shall we get the bricks?

Another museum well worthy of notice is the one at Dresden, which contains the celebrated gallery of pictures. It was erected within the last few years from the designs of Semper. The design is simple and grand, consisting of what may be called a nave with clerestory, flanked by aisles, crossed in the middle by a transept, forming the centre of each façade. This advanced centre has a triple arcade below, under which the entrance road passes, with two heights of detached columns, on pedestals, over; round which the entablature breaks, and is crowned with an octagonal dome. There are statues in niches, bas-reliefs on the pedestals and in panels; and statues over each column in front of the attic. The spandrils of all the upper window heads have figures in bold relief. The interior of this picture-gallery is admirable for arrangement, light, construction, and decoration.

The museums at Munich are well worthy of attentive study. The Glypthothek, or Gallery of Sculpture, designed by Von Klenze, is a very good adaptation of pure Greek architecture to a purpose for which it is well suited. The principal façade has an octostyle pedimented portico of Ilyssus Ionic, the pediment filled in with sculpture, the order raised on a bold flight of steps. The wings are lower, the cornice and attic abutting under the entablature of the higher order. The wings have niches, with statues and frontispieces. The interior is divided into ranges of apartments, the ceilings formed into domes lighted from above. The decorations and the grouping of the statues are a model for study.

The Kunst Ausstellung, or united collection, is a building directly facing the Glypthothek, and of the same Greek character, but of the Corinthian order, designed by Ziebland in 1843. A third building, forming the third side of the quadrangle, has been commenced, but remains unfinished. When completed, the "Place" will present probably, the best modern illustration extant of the beauty of the severe Greek school of art.

The Pinacothek, or picture gallery, was designed by Von Klenze, and completed in 1836. Externally it is not very imposing in its appearance. The material is cream-coloured brick, with stone dressings. The central gallery is raised above the corridors and cabinets, which run round it, with projections at the ends, forming an H plan. The apertures are large, with semicircular heads, and Ionic columns between, the entablature surmounted by a balustraded attic, crowned with statues on pedestals. A corridor runs the whole length of the building on the south side on the upper story, having low domes in each bay, beautifully painted in fresco by Cornelius and others. The central gallery is exceedingly gloomy, the light being far from sufficient to see the pictures properly. As a whole, this celebrated gallery of Munich is inferior in its architecture, as well as in the quality of its pictures, to its rival at Dresden.

The new Pinacothek is a building of very recent construction,—the design in a somewhat novel style. Externally it is comparatively plain, being a cemented building with a corbelled cornice of Byzantine character. Its distinguishing feature is that of immense fresco paintings in panels carried round the exterior, containing portraits of the most eminent architects, sculptors, and painters, in various scenes and groups illustrative of the revival and progress of the arts in Bavaria. The effect is novel, and induces a doubt whether painting ought thus to constitute the main external feature of a building. It gives a temporary, tent-like appearance to the structure, like a building made of canvas, and rather too much reminds one of the booths at a fair.

Some of the modern theatres exhibit great skill in arrangement and beauty of design. That at Dresden was designed by Professor Semper. It is a large building situated in the middle of an open esplanade, and gives the idea, on a smaller scale, of one of the great Roman edifices for the same purpose. The architect has had in his eye the theatre of Marcellus. A large *corps de logis*, square at one end, semicircular at the other, in three stories, is crossed by a transept, forming a centre on each side with columns and pediments, and advanced entrance porticos. Round this central mass a lower portion is carried, like an aisle in two stories. The whole is enriched with niches, statues, and sculpture, forming a very imposing *ensemble*.

The new theatre at Munich is fronted with an octostyle Corinthian portico in antis, with a pediment, over which rises behind the mass of the main building, finished also with a pediment. The tympana of both pediments are painted in fresco, the lower one with figures on a deep blue ground. The ground of the upper one is a light stone or cream colour.

The front of the post-office, in the same square, has an arcaded colonnade along the front, the arches springing from the capitals and supporting a story above. The back wall of the colonnade is painted deep red, with groups in the Pompeian style. A Greek frieze under the cornice, the ornaments above the windows, and a string-course and frieze in the colonnade, are painted and picked out in bright colours.

I will only allude to two rather remarkable erections in Munich, before concluding my imperfect catalogue. The first is the Ruhmeshalle, or Hall of Fame, erected to the memory of the distinguished natives of Bavaria, in front of which stands the colossal statue of Bavaria, in bronze, 90 feet in height to the summit. The monument stands on a slightly rising ground, about a mile outside the city. The hall is in reality a cloister, or colonnade, forming three sides of a quadrangle, open on the inner side, against the back wall of which are placed the monumental busts of the worthies commemorated. The style is pure Grecian Doric, of the Egina type, designed by Von Klenze, and is in itself a large and noble structure. The colossal statue also is dignified in attitude, and magnificent in conception, worthy of its artist, Schwanthaler. There is, notwithstanding, something unsatisfactory about the combination of the statue with the building. The monument being placed on a slight eminence, in the midst of a wide open plain, there is nothing by which the eye can readily measure the distance or scale, except when in close proximity. The human figure, unless there is something which at once shows the contrary, is naturally referred to the ordinary standard. The consequence is, that at the distance of half a mile, the statue looks to be of the usual human stature, with a toy building behind it. Instead of the building enhancing the grandeur of the statue, the statue dwarfs the building. This delusion is, of course, removed, when we get within such a distance as allows of comparison, but it exhibits in a striking point of view the reason of the disagreeable results of the Nelson column, intersecting the National Gallery, and of the twin pillars of Jachin and Boaz, in front of the Liverpool St. George's Hall.

The other construction to which I will briefly allude, is the new Public Cemetery, or Friedhof, being an extension of the older one now entirely occupied. The new portion forms a square of about 112 yards each side, surrounded by an arcaded cloister, after the manner of the Campo Santo at Pisa. The cloister was designed by Gaertner, and is built with ornamental brickwork and open wood roof, decorated in colours. It is of course intended for the reception of monuments, of which some very fine examples are already fixed, amongst others one to the memory of the distinguished architect, born 1792, died 1817. A singular custom exists in this cemetery, of exhibiting the bodies of the deceased for a day previous to interment, dressed as in life, laid on couches, in a room prepared for the purpose, furnished with large glass apertures, that they may be properly seen. Another circumstance is worthy of notice. Though Bavaria is a Roman Catholic country, there is no separation amongst the dead, no walls built up between consecrated and unconsecrated ground. All sects and parties mingle their dust in the same common enclosure. Catholic priest and Protestant pastor are alike free to celebrate the last rites at the grave's mouth without distinction. Protestant England has yet something to learn on the score of mutual toleration.

I must omit all allusion to the triumphal arches and colonnaded city gates, the obelisks and places and boulevards and public gardens, the value of which to a crowded population is so well known

and appreciated on the Continent, and will conclude by one or two general remarks as to the inferences to be drawn from our survey as a whole.

In the style of architecture which preceded the Greek revival, and which we may call Palladian, for want of a better term, the Germans have not been very successful. Copyism, mannerism, and common-place are the general characteristics of this style down to its latest period. Nor can it be maintained that the architecture of the severe Greek school, as practised by Schinkel, Von Klenze, Ziebland, and others, have been much more satisfactory. Von Klenze, in the Glypthothek, and Schinkel, in the Berlin Museum portico, have produced some pleasing and elegant results, but of originality, of the evidences of a creative mind, there is absolutely nothing, whilst in the interiors they have been obliged in all cases to resort to the Roman arch and dome to carry out their purposes. It is to the new school, inaugurated at Munich, and mixed up at first with much of eclecticism and copying, that we owe any development of progress, and any germs of a successful future for architectural art in Germany. The present tendency is towards the Byzantine and early Venetian forms. In the new streets and villas of Munich, Berlin, Dresden, and Stuttgart, this is sufficiently manifest. In the Pointed style, the German architects have struck out a path for themselves, which they have followed with considerable success in some cases and failure in others. They have adopted Gothic forms freely, and subjected them to whatever adaptation modern ideas required.

Much has been written of late respecting the architecture of the future, and the development of a new style. He must be a very inattentive observer of things architectural who cannot perceive that, in spite of ourselves, we are all, whatever style we may practise, approximating towards each other, and drifting more or less rapidly towards a common centre, in which the pedantry of every style will be broken down, and whatever there is of good in it fitted for blending with the excellent from every other source. Behind and above the peculiarities of Gothic, Greek, and Roman, there are principles and beauties common to all, and in each that which is ephemeral and technical, will eventually soften down and melt away, leaving the pure gold behind.

Towards this great consummation, the recent volume of Mr. Gilbert Scott will do excellent service. Whether our starting-point be, as with him, from the fourteenth-century forms, or, as I rather prefer, from the every-day forms around us; by working with an eye observant of the principles of nature and the essence of beauty spread before our eyes, analyzing the sources of power, and advancing steadily, yet carefully, step by step, our successors at last will reach a platform to which there leads a way through every style in which beauty and strength, grace and power, shall find their true and proper expression, and place architecture in its own proper rank, as the noblest of conventional arts—

> "The art where most magnificent appears
> The little builder, Man."

J. A. Picton.

A PLEA FOR THE BEAUTIFUL IN ART.

Mr. E. Nugent, of Upper Canada, in his letter which appeared in the *Builder* of the 13th March seems so entirely to have misconceived the substance and tendency of much that is contained in my paper bearing the above title, that I must ask the favour of a small space in your columns for the purpose of addressing a few words in reply to him.

The whole of your correspondent's critique seems to be based on the very erroneous supposition that I am an advocate for unfinished, in preference to finished, works of art,—an assumption so utterly at variance with both the letter and spirit of all that is contained in the paper in question, that I am at a loss to imagine how he could have arrived at so strange a conclusion, if he has read it with any degree of attention.

The mode of criticism adopted by Mr. Nugent is one which almost uniformly leads to error and misconstruction—that of making disjointed quotations of sentences and parts of sentences, without having reference to their context, taken along with which alone can the real meaning of the writer be fairly understood. But your correspondent goes further than this, for after making these mutilated quotations, he indulges in a sort of comment of his own, putting upon them an interpretation which, even as he uses them, they will not bear,—thus setting up straw men of his own creation, for the pleasure of knocking them down again.

The first position to which Mr. Nugent takes special exception is contained in a paragraph which has reference to the judging an artist rather by his power of perception of the beautiful, than from his dexterity of hand,—a part only of which he quotes. If, however, it be fairly taken together (beginning with the words, "it is one of the distinguishing traits of genius," &c. to the end of the paragraph), it will be found that the substance of what I assert amounts to this, that *mind*, in the exercise of the fine arts, must, under all circumstances, be ranked before manual skill, which, unless the practice of art is to be reduced to a mere mechanical trade, none will surely deny.

Your respected correspondent next does me the honour to quote the following short detached sentence,—"The fire of genius may often be too impatient to spend time over minute finish; but if the inspiration of beauty be there, the mind will be more influenced by a hasty production from such a hand than it ever can be by the exhibition of elaborate manipulation or practical knowledge possessing no corresponding evidence of mental vigour;" and adds, "the truth of this statement, so far as it goes, I do not call in question." Then why not let it pass? But no; he thinks "that the case so submitted does not involve the real question at issue," which he asserts to be, "whether, *all things else being equal*, a work of art possessing beautiful lineaments, but wanting in elaborate finish, is more worthy of admiration, and more capable of raising pleasurable emotions in the mind, than a work possessing the same beautiful lineaments, and in addition evincing elaborate finish;" and he then imposes upon himself a considerable amount of unnecessary trouble to prove that the well-finished work is preferable to the imperfect or badly-finished one. Of course it is. Who has denied it, or put any such question in issue?

I do not think that the beauty of a wheelbarrow with one leg is likely to excite my admiration any more than it would that of Mr. Nugent; but it is really the first time I ever knew that a wheelbarrow had a place amongst works of art, and might be taken in illustration of the principles involved in them.

It is by no means necessary to endeavour to define genius: every man has a right to his own opinion on such a subject: for my own part, however, I have no faith in the powers of untaught genius, and I agree with Dr. Johnson that "it is like fire in a flint, only to be produced by collision with a proper subject;" but the flint must be there. *Cultivated sensibility* is the true combination which constitutes a great artist.

No doubt my "critical acumen" may frequently be at fault; but, if ever I felt tolerably confident in anything, it is in the fact that, artistically speaking, "human nature is the same in all ages, and is ever affected by the same sympathies." By what means do the works of such men as Shakspeare, Milton, and Michelangelo retain their influence over the minds of succeeding generations? Is it not because, as Sir Joshua Reynolds expresses it, "they are built upon general nature," and, therefore, live for ever?" And, while rambling through the aisles of our cathedrals, does not every sensitive mind for the same reason feel that they still possess a like charm over us, which those great men who conceived and executed them, ere "the paths trodden by the footsteps of ages were broken up," intended that they should have the power of exercising on the sympathies of their own generation.

Some parts of the paper which is the subject of Mr. Nugent's comment, so far had reference to the modern English system of pre-Raffaelliteism, with the peculiarities of which, especially as to finish, Mr. Nugent is probably, and I am tempted to say happily, not very familiar, that they cannot be entirely disconnected from its consideration: the few paragraphs which were omitted in print, and, as being rather of local than general interest, were not, perhaps, very suitable for publication, would, in some instances, have more fully illustrated my meaning. However, I am quite willing to abide by the paper as it stands.

In conclusion, I beg to assure Mr. Nugent that nothing was further from my wish or intention than to speak with disrespect of our Transatlantic brethren, more especially of that portion of them who constitute our enterprising and loyal fellow-subjects in the Canadas, amongst whom we have the pleasure of numbering him. I am aware that the West has produced some good artists; but notwithstanding what they may individually have done, and of what Mr. Nugent has written on the subject, he must permit me still to express the belief "that the commercial and speculative atmosphere which seems to envelope all men and things in that busy land is far from being favourable to the development or growth of any branch of high art." Experience attests this: one of their greatest authors acknowledges it; and the fact mentioned by Mr. Nugent himself, of the genius of the artists whom he names having been "in good part developed in the schools of Europe," still further confirms it; but my observations had more especial reference to architectural art.

Mr. Nugent states that "there are agencies at work on that continent which at no very distant day will produce artists that will astonish the world." When that time arrives, I doubt not that the genius so developed will be cordially hailed and generously acknowledged by all true lovers of art in England. And should the flame first be kindled under the auspices of "The Upper Canada Board of Arts," such an event will afford to the parent country the additional gratification of a sense of national triumph. F. Horner.

THE UNITED SERVICE MUSEUM, WHITEHALL.

With the growth of the metropolis, many institutions have sprung up for the uses of distinct classes pursuing distinct paths. We have, for instance, the Institute of Architects and the Institution of Civil Engineers: the Royal Society and the Society of Antiquaries were earlier; and there are fifty other associations, each having for its object the gathering to one centre of those who are pursuing similar studies or have similar tastes. Many of these have, from simple beginnings, accumulated suitable museums of great value. The East India Company, in a different category, has formed a collection of works of art, manuscripts and other matters connected with their vast possessions, such as is not to be met with elsewhere. The Geological Society formed the nucleus of the Museum of Economic Geology: the Royal Academy possesses an excellent art library: the Engineers, the Architects, the Antiquaries, have also good libraries, and some specimens and curiosities belonging to their departments. The commencement of a museum is a thing not to be made without consideration, for it grows rapidly and is attended with expense. At the United Service Institution, Whitehall, in addition to the library, which contains a fine collection of books and manuscripts useful and interesting to the members of the two professions, a very large museum has been brought together. It had become so extensive that it was found necessary to increase the space for it, to exchange duplicates and newly arrange the contents; and very ably has this been done under the superintendence of some of the members.

The first room after entering contains specimens of the stone spear-heads, hammers, and other implements (none of metal) used in the last half-century by the aborigines of Australia and New Zealand, and which, by their similarity to those found in ancient British graves, arrest attention. Some of these primitive yet modern arms and implements are now no longer to be met with among these races, who are rapidly vanishing before the advance of civilization. The spears with handles formed of the thin bent branches of trees, show good workmanship: some of formidable size are serrated with the teeth of sharks and other fish. On some of the shields of hard wood may be traced the first glimmerings of ornamental art. Here, the fibres of the wood have been deepened by scratching, to make a pattern, and on others may be noticed the arrangement of simple zigzag lines, which, on some examples, are complicated and skilfully devised. The armour of these savage people, plaited with a material like rope, is well worthy of notice; and it may be remarked that the weapons from New Zealand are very much superior to those from Australia. Some of the clubs of heavy wood from the former district are remarkable for elaborate and even beautifully executed carving.

While examining such objects as these, the visitor will compare them with not only the early but the developed arts of various nations, and trace the strong resemblances which the ornamental designs of the New Zealanders bear to those of India, ancient Scandinavia, and the Anglo-Saxons. A book, which would pictorially make evident this connection, would be a valuable addition to our art-literature.

In another room are many relics from the South-Sea Islands, the Cape of Good Hope, and other places. Amongst these is a part of the stem of the tree, pierced with two or three bullets, against which that famous navigator, Captain Cook—better known to schoolboys than any other navigator, real or imaginary, except Robinson

rusoe, -fell slain. Over this is hung a description of breast and back defence, formed of the eth of bears, arranged one over the other in ch a manner as to be capable of "turning" a ll; together with a helmet from the South Seas, hich bears a striking resemblance to those used y the ancient Romans, and displays elegant ornaentation.

The drums and other objects here are so arnged as to afford material for thought. Another om contains native arms. Here an opportunity afforded of tracing the progress of the musket its present state of perfection. There are also nnon-balls of stone,—some from the Tower tch and Malta. Some of these are of large size, d weigh 78 lbs. each. Not far off, space has been ft for a complete collection of the marching arms d accoutrements of the soldiers of each country Europe. This, when completed, will afford a st valuable means of comparison, and ought to d to much improvement in our own army.

In cases, scattered here and there, are relics hich deserve examination. Sir Francis Drake's alking-stick, a substantial cane of a dark colour, rmounted by a massive round head of carved ory; the admiral's shoe-buckles and snuff-box; e quadrants and other astronomical apparatus Captain Cook; and memorials of the Spanish rmada are amongst them. A cocked-hat of rd Nelson; a piece of lace from the coat in hich he was killed; a carved ornament from e mast of the *Victory*; the blade of a boy's cket-knife, which belonged to the famous miral in youthful days, and was for a long time the possession of his sister, who presented it; d a wreath of laurel from his coffin, will interest all observers. Not far from Lord Nelson's t is a portion of the topmast of the French p *L'Orient*, from which the colours flew when is vessel was blown up at the battle of the le. The explosion was so great that the rage of e battle was stilled "for a time."

Then there are examples of shot, ancient and odern shells; portions of ship-masts, showg the action of the shot; models of improveents in artillery; cartridge-boxes, both curious d useful: one of these, made with a needle and cead, is of vellum, richly illuminated, with the nealogical tree and other particulars of a French nily. A portion of one of the ships sunk in the ebour of Sebastopol, riddled by insects into cells e a honey-comb, shows that the fleet here sunk l not do us or others much damage. To notice detail the numerous objects of interest would far more space than we can command. We ust not omit to notice, however, the terrible oden cage, scarcely large enough for a sheep, in hich an English lady was kept during the last r in the East, and subjected to the heat of the mate, and worse exposure.

In apartments of considerable size, large and merous models of ships of war, both British and reign, are arranged: most of these are beautiful look at, for the perfection of their finish in all rts. Here and elsewhere are also life and other rts, lighthouses, breakwaters, forts, telegraphs, d notched sticks for the conveyance of secret rmation to and from beleaguered towns. The dels of military hospitals, barracks, &c. are rth examination. Increase in this department the collection would be valuable.

The models of the steam-engine, from the most cient inventions to the latest improvements, hich have been presented by E. Jekyll, esq. late the Grenadier Guards, will find a place in this partment.

Some of the daggers and sheaths display rgant specimens of damascening, chasing, and ving in ivory. Oliver Cromwell's sword, the twate signals of the American navy taken from *Chesapeake*, flame-shaped swords, the Chinese n gun, a piece of larch from a ship belonging to n Emperor Tiberius, sunk in Lake Nemi, and a re of other items, would afford texts for comnt. The model of the arrangements made by btain Dickenson for raising the treasure from *Thetis* is instructive. One of the tickets, by way, says erroneously the *Thetis* was sunk in -0,—it should be 1830.

We must, however, retrace our steps to the crease which leads to the Waterloo room and er apartments. This has been tastefully decoed with banners, armour, and other trophies, ch ought to be labelled. The Waterloo-room been refitted and the ceiling coloured (light n and drab), under the direction of Mr. Owen , es, and is well lighted, and of good proportion.

Here are arranged numerous banners, captured the Dutch, French, Indian, Chinese, Russian, d other wars. The relics from Sebastopol have ish interest; so has the large and well-known model of the field and battle of Waterloo, by Siborn Another model of similar size, of Sebastopol and the neighbourhood, is in course of preparation, under the direction of Colonel Hamilton.

In this room is a model of a marble column, which was designed by the late Russian emperor for Moscow. This is in outline a Greek pillar, which is formed of many upright tiers of cannon, with port-holes here and there, from which other cannon project;—a piece of imperial absurdity. Here, too, are many relics of the great Duke, and of Napoleon, including Marengo's skeleton.

The collection of natural history, even weeded as it has been under the direction of Mr. Gould, is very large, and contains some rare specimens. The jaws of the shark placed here, with the papers of a slaver found in him, and which led to her capture and condemnation, should go down-stairs among the other curiosities.

The works of repair have been performed by the Metropolitan Board of Works, in consequence of damage done to the building by the operation of repairing the celebrated sewer here; Mr. Pennethorne overlooking on the part of the Crown and Mr. Poynter on the part of the Institution.

We shall be glad to see the Museum made even more accessible than it is. It possesses many things of great interest and value, of which not the least so are the personal relics we have mentioned of able men, trifling as they may seem to some. Just recollect, young Blue-jacket, what these relics teach: they teach that your country prizes her heroes and their memory; that bravery, wisdom, energy, and endurance will not be exhibited in vain: they tend to maintain, in the hearts of all, feelings of love and reverence for fine qualities and noble sacrifices; and they should prompt you to follow such a course as may win you a name your country "will not willingly let die."

MACHINE BRICKMAKING.

Recently I was permitted to visit the works of Messrs. Kirk and Parry, the contractors for building Fort Elson, near Gosport, being one of the line of forts now in course of construction, extending from Southampton to Gosport, and intended to offer a formidable resistance to any enemy who, having landed, shall attempt the destruction of the dockyards from the shore side.

It is not my intention to inflict on you a description of these works, but, with your permission, to bring to your notice one of the novelties in machinery which attracted my attention, and one which I consider to have much merit.

The machines used are the invention of Mr. Joseph Pimlott Oates, surgeon, of Erdington, near Birmingham, which, while being ingeniously constructed, are very simple. Each machine consists of a cylinder, in which revolves a compound screw, for collecting, macerating, and propelling the clay into a pressing chamber: this chamber is of greater area than the parallel portion of the cylinder in which the screw works, forcing the clay into it in a manner somewhat similar to that in which liquids are forced into the hydraulic press. In this chamber is placed an aperture for the escape of the clay when the pressing chamber has become overcharged: there are also apertures for delivering the clay into the brick-moulds. The result of this arrangement is that the clay is forced into the moulds with immense pressure, and that the bricks are made of such a density that they may be at once stacked in the kilns.

The clay used at Fort Elson is drawn from the mine up a very steep incline by means of a drum and chain, to which is attached a metal waggon, travelling on a tramway, and worked by the same steam-engine as that which propels the brick-machine. The waggon discharges itself near the mouth of the hopper, into which the clay is thrown without any previous preparation, the screw, as already described, driving the clay into the pressing-chamber, under which, by arrangement of the machinery, alternately pass the moulds, which are open throughout, resting for two or three seconds while being charged: they move under the discharging-press, which, falling on the brick, forces it out of the mould on to the endless belt, and, thus delivered from the machine, it is removed by a boy, who places it on a barrow, which being filled, is at once wheeled off to the kiln, and there stacked. The bricks are made at the rate of from twenty-five to thirty a minute, according to the speed at which the machine is driven.

The steam-engine used was one of fifteen horse-power—a force quite unnecessary for the brick-machine, but not too great considering the very steep incline up which it has to drag the clay.

The number of men employed were five in the mine, two at the hopper, and three boys—two to take the bricks from the belt, the third throwing up the clay accumulating from the waste-pipe. Two barrow-men, wheeling thirty-five bricks at a trip, convey them to the kiln. The kilns used are the common Scotch kiln, and contain 50,000 bricks: to these are attached two kiln-men. In six days the bricks are ready for use: the only care requisite is in the heating of the kiln, so that too great a heat is not at first applied.

The advantage of this machine is, that the troublesome, expensive, and often difficult process of drying is done away with. The proportion of moisture in the brick will of course vary in different localities: it is, therefore, not easy to define the quantity: comparatively, it is very trifling. I doubt not that you will consider this result, if the machine had not—which it has—the merit of turning out a very excellent brick, a sufficient recommendation in itself, affording as it does to contractors an almost certainty of being able to complete any engagement they may enter into, and which, under ordinary circumstances, could only be completed in summer. H. G.

DEATH OF HOGAN "THE IRISH SCULPTOR."

This melancholy event, which deprives Ireland of one of her proudest artistical boasts, took place on Saturday, the 27th ult. at his residence in Dublin, and in the 57th year of his age. John Hogan needs no panegyric. He was a great artist, and his works have immortalized him. Amongst those which perhaps most attracted particular notice we may mention his "Drunken Faun," Dead Christ," statues of the late Dr. Doyle, Dr. Collins, and O'Connell, which latter has been recently cast in bronze and erected in Limerick. Hogan also submitted a model for a statue of "Erin's Bard," for the pedestal lately placed in College-street, Dublin; but it was rejected, we believe, to the dissatisfaction of the public. At the period of his death he was engaged on a *bas-relief* for the Wellington Monument in the Phœnix-park, and was to receive 1000*l.* for the work; as also on a statute for Father Mathew. It was believed he would receive a commission to execute one of the statues in the Houses of Parliament. Hogan died a poor man! He was born in 1800, in Tallow, Co. Waterford, where his father carried on the business of a builder, and by his mother's side he was descended from Lord Chief-Justice Sir Richard Cox. In 1812, he was placed with an attorney, at Cork, Mr. Michael Foote, with whom he remained two years, but like Chantrey, he preferred becoming an artist. At the age of 14, he entered the office of Mr. Deane, now Sir Thomas (Deane and Woodward), with a view of becoming an architect, and while in his office commenced the study of anatomy, under Dr. Woodroofe, and executed many carvings; his first for the public view being the statue of Minerva, in the South Mall. A subscription enabled the aspiring artist to visit Rome and open a studio there, whence emanated some of his best productions. The subject of the first which introduced him to professional life in Italy, was "Eve after her expulsion picking up a dead Bird." This is now in the possession of the De Tabley family. His statue of O'Connell, in the Exchange, Dublin, is considered a masterpiece. The "Drunken Faun," was a composition resulting from a challenge given to Hogan by the sculptor Gibson, to produce any attitude or expression in the human figure not previously appropriated by the great sculptors of antiquity. Thorwaldsen pronounced the result a *miracle*.

SCHOOL-BUILDING IN THE PROVINCES.

Woking.—Alterations are about being made in the Sunday-school here, so as to render it available for a daily infant-school, by the addition of a teacher's residence, partial re-erection of present building, new entrance, staircases, and other works, under the superintendence of Mr. Thomas Goodchild, of Guildford, architect.

Bicester.—The Bicester New Schools Committee have accepted the tender of Mr. J. Munday, of Buckingham, for the erection of the new parochial schools and master's residence. The tender is for 1,095*l.*

Pembryn (*Cardiganshire*).—The new school, offices, and walls, are just commenced. The structure will be of local stone, with red pine fittings throughout, and bell spirelet covered with lead: it is designed to accommodate fifty children. Mr. David Davies, of Clay, is the builder, for 296*l.* The master's house is omitted for the present for want of funds. Grants, in aid, have been made

by the Privy Council and National Society. Mr. Withers is the architect employed.

Stockport.—A site for new Roman Catholic schools has been purchased in St. Peter's Gate. The cost will be 3,000*l.* and the building will accommodate 1,400 scholars. It will be in the Elizabethan style of architecture, with Gothic accessories, and will be arranged into three distinct compartments,—boys', girls', and infants' schools. The designs have been prepared by Mr. Hadfield, of Sheffield; and the building is to be called "St. Joseph's Schools, Stockport."

Newcastle upon-Tyne.—The new Seaham schools, erected at the expense of the Marchioness of Londonderry, for her workpeople, have been completed and opened. The schools, which were planned by Mr. Middlemiss, of Sunderland, contain school-rooms for boys, girls, and infants, class-rooms, and other accommodation. At the opening, Lady Londonderry delivered one of those characteristic addresses for which her ladyship is celebrated.

PUBLIC WORKS AND BUILDINGS IN THE PROVINCES.

Reigate.—Contracts have been made with Messrs. Easton and Amos, engineers, Southwark, to complete the waterworks: they have already commenced laying down the pipes. The water is to be pumped up by a stationary engine to the high ground of Earl Somers's park, and from thence it will flow by a natural level to all parts of the town.

Dover.—The Admiralty pier, should it be completed according to the plans proposed, says the local *Chronicle*, will afford shelter and anchorage for above 200 ships. The pier already extends several hundred feet into the sea, and has given proofs of its strength by withstanding storms. Messrs. Lee are the contractors. Below the surface of the water, operations are going on, and soon an additional 100 feet will emerge from a depth of 10 to 13 fathoms, at which depth the foundation is laid in chalk. At the north-east side of the castle, extensive operations have been carried on by Mr. Diggle, Messrs. Lee and Laver, and other contractors. These works consist chiefly in embankments, batteries, &c. The barracks do not appear to be either of the most commodious or capacious kind. Little has yet been done towards improving or enlarging these buildings. There is a range of buildings, lately erected by Mr. Moxon, for the accommodation of the officers. The style is Mediæval, and consists of a range of about 370 feet, portions of which, that is to say the centre and outer wings, are four stories high, and the remaining part three. It is of brickwork, with irregular blocks of Kentish rag facings, and Bath stone dressings. It is yet to be seen what arrangements are to be made for behoof of the soldiers. A project is said to be in contemplation to throw Castle-hill farm (already the property of the Crown) into one vast parade-ground, while the paper just named says there is a rumour that extensive cavalry barracks are to be built in the valley below.

Weston-super-Mare.—The Assembly Rooms Company have entered into a contract with Messrs. J. and S. Harvey, of Torquay, for the erection of new assembly rooms.

Cardiff.—The following estimates for building the new Nisi Prius Court were received, viz.:—

Thomas and Owen Thomas, Cardiff	£3,159
David Harris, Cardiff	2,902
James Vincent, Bristol	2,500
Samuel Bowden, Bristol (estimated cost)	2,380
James and Price, Cardiff	2,379

The architect (Mr. Horace Jones) had estimated the cost to be 2,400*l.* The estimate of Messrs. James and Price, being the lowest, was accepted.

Chester.—It having been decided to erect suitable buildings for the accommodation of the permanent staff of the local Militia on the field in front of the Castle, the county magistrates requested designs to be sent in by architects, when that prepared by Mr. T. M. Person was unanimously selected. It is in the style of the castles erected in the reigns of the Edwards, including towers, battlemented parapets, deeply arched gateways, and oriel windows. The structure will be of the native red sandstone, with a tower at the angle nearest the road, and another at the principal entrance, to the centre of the building, 60 feet high. The front range will be flush up, and, next to Nicholas-street, 170 feet in length. The form will be quadrangular. The parade-yard inside will be used as a drill-ground, and around it will be erected dwellings for twenty-three sergeants and twelve buglers, to five sergeants' houses containing five rooms each, and eleven sergeants' houses containing four rooms each, with general wash-houses and baths, with water, gas, &c. Architects from Liverpool and Manchester sent in designs for the barracks, according to the *Chronicle*, but no advertisements respecting them were issued.

Nottingham.—It is proposed to erect new military barracks at Nottingham. The corporation, at the instance of Lord Panmure, a short time ago selected a site. General Sir Richard Airey, accompanied by Dr. Cooper, of Manchester, and Colonel Charter, of the Royal Engineers, stationed at Birmingham, have just visited Nottingham, and inspected the ground set apart by the corporation. After due examination, the general, it is said, expressed an opinion that the site was too small to meet the views of the Government, who proposed to erect barracks sufficiently large to accommodate 1,000 men, and a squadron of cavalry or a corps of artillery.

Norwich.—At a recent meeting of the Town Council, the Town Clerk read a report from the special committee appointed to survey the new building for the Free Library. They had consulted Mr. Cuthbert Broderick, of Leeds, architect, and requested him to survey the building, and report as to its safety. Mr. Broderick, with the city surveyor and the committee, made a thorough examination, and Mr. Broderick's written report was laid before the committee. It stated that the building was "perfectly secure and fit for the purpose intended, except the first and second floors, which are decidedly too weak, and not capable of carrying a number of persons who may occasionally assemble there." Each floor had but one girder to support it, and the floor joists were unusually small for their great length, which fully accounted for the springing of the floors. To remedy this defect, the report recommended two additional wrought iron girders being placed under each of the floors. The committee obtained an estimate by the city surveyor, the amount being for the upper floor two girders, 160*l.*; for the lower-floor two girders, 143*l.*: total, 303*l.* No award had been made as to matters referred to arbitration; but an umpire would be appointed. After some discussion, it was resolved that the matter should stand over till the special committee had made a report as to the cost of the building.

Sheffield.—The committee of the Savings' Bank have decided on a plan for the new bank to be erected in Norfolk-street. The competition was confined to architects practising in Sheffield, and eight plans were sent in. The committee ultimately selected one bearing the motto, "Rara Fides," forwarded by Messrs. Flockton and Son. This decision is, however, subject to the approval of the Commissioners for the Reduction of the National Debt. It is proposed to erect the building on the fireproof system of Barrett, with a solid flat roof. The front and parts exposed to view will be faced with cleansed ashlar, and the remainder of brick. It is proposed to warm and ventilate the banking room, waiting hall, and stairs, with Sylvester's patent Gill stoves. The main building is detached from adjoining property. The style of architecture adopted is Italian. The estimated cost is 3,500*l.*

Holbeck.—The foundation-stone of a new mechanics' institution has been laid at Holbeck by Mr. James Garth Marshall, by whom the site, in Sweet-street West, has been presented. The building will be in the Italian style, faced with brick, and stone dressings. It will be erected from designs prepared by Mr. E. Milnes, of Bradford, and the joiners' work has been let to Messrs. Midgley and Ogden, of Bradford. The cost of the building, exclusive of the fittings, will be 1,350*l.*—1,200*l.* of which has been already raised, a considerable proportion by the working classes of the district.

Blackburn.—It has been at length resolved by the Blackburn Guardians that it is expedient to proceed to the erection of a new workhouse for the union.

Carlisle.—The tenders for the erection of the new county lunatic asylum for Cumberland and Westmorland were laid before the Lunacy Committee on Saturday last. The contract was divided into three tenders; first, excavation, masonry, bricklaying, slating, and iron-work; second, carpenters' and joiners' work; third, plasterers', plumbers', painters', and glaziers' work. Any one had the option of tendering for one, two, or the whole contracts. The tender of Mr. George Black was accepted for the whole of the work, at 18,775*l.* The departments of the contract are to be executed as follows: Joiners' and carpenters' work, the contractor; masonry and bricklaying, Messrs. C. and J. Arming; plumbing, Mr. D. Thomson; iron-work, Messrs. Porter, Hin and Porter; plastering, Mr. Robert Ormr painting and glazing, Messrs. Stephenson and The contract will be submitted for the approval the magistrates at next Quarter Sessions.— The new dispensary here has been completed a opened. It adjoins the Scotch Church in Chap street. The material is brick, with a white st front. On the ground-floor are waiting roo consulting-room, retiring-room, and surgery; a upstairs are a committee-room and residence the apothecary. Mr. John Hodgson was the arc tect of the building, Mr. Richard Wright t builder, and Messrs. Cameron and Briggs t joiners. The total cost has been 722*l.*

Hawick.—The new bank buildings in progr are beginning to show their fronts above t wooden work which surrounds them. The n Episcopal church is also progressing. The to stands much in need of a new grammar-school.

Montrose.—New market buildings are about be erected in Montrose. The tenders for the wo amount to 1,569*l.*

THE NEW OPERA-HOUSE, COVENT GARDEN.

THE amount of work to be done at the new ope house between this time and the 15th May, which date the performances are announced commence, is, as might be supposed, very co siderable. Little more than the outer parallel gram of brickwork in the plan, roofed over, w apparent internally up to within the last f days. Now the iron columns and girders of t boxes are being fixed; the carpenters are at wo on the gallery and the domed ceiling of t auditory, and the plasterers have begun to lathing. The plastering to the entrance-hall finished, and the terminal vases, capitals, a other enrichments of the exterior are considerabl advanced. Little opportunity, however, at press is afforded in the building itself for forming opinion as to the space of the auditory, and t suitableness of the building for theatrical rep sentations.

The axis of the plan is transversely to that of t old building, or is at right angles, instead parallel, to Bow-street. The stage end, beh the proscenium, it appears, will be of great tent. The gallery is likely to be better adap for the view of the stage than that part of auditory is in most theatres of large dimensi

In construction, the building displays very i portant points of difference with the old theat Light iron girders and tile arches are commo used, and, in place of the elaborate timber princip such as we find engraved in books on carpent the roof is carried by trellis girders in iron, covering taking the ridge-and-furrow arran ment, though with spans of greater width than the better known recent examples. The leve the pit is indicated by a few arches in brickwo and the proscenium wall is in progress; but, beyo what we have referred to, the interior of building affords little scope for notice. Mes H. and M. D. Grissell are supplying the la amount of iron-work which is used. Mes. Lucas, as our readers know, are the contractors

HOUSES FOR THE WORKING CLASSES.

MR. JAMES GOWAN, the railway contractor, been describing before the Architectural Instit of Scotland and elsewhere a set of small s contained houses at Rosebank, Edinburgh, labourers' cottages at Redhill-quarry, recen erected by him, in order to carry out certain provements in the arrangement, accommodati heating, ventilation, and other sanitary provisi which had occurred to him as necessary in th classes of houses. The principal objects which had endeavoured to secure were—1st. An in pendent entrance to each house, in order to av the inconvenience, untidiness, and ill-feeling aris in many cases from common stairs. 2nd. Separ access to each apartment from the lobby. Separate sleeping-places for the male and fem members of a family, and in the case of child separate bed-rooms for both sexes, distinct f that of their parents. 4th. Water-closet scullery to each house, with bath in the scull which might also be used as two washing-tubs means of a moveable division. In all cases which the kitchen was used habitually as a sitt apartment, a large and roomy scullery distin from it, in which washing and cleansing operati could be performed, was essential to comf cleanliness, and order. 5th. To place the scull and water-closets so as to simplify the drain one drain only on the outside of the building be

essary. 6th. To heat and ventilate each apartment in a simple and efficient way. After detailing in detail the mode in which the drains were placed, Mr. Gowans stated that, instead of carrying the drains at the end next the closet and cesspool, he had continued it by a funnel up into the chimney-head, by which contrivance the foul air was carried off. The drains, in short, were ventilated on the same principle as the houses; and he found that, from the large quantities of hot water passed from the scullieries, sinks, and baths into the drains, the upward current was very active. He considered the efficient carrying off of foul gases from drains and soil-pipes a matter of paramount importance to the health and comfort of the community; and he thought that an Act of Parliament were required to enforce the consumption of smoke, much more was such an act required for the consumption of the deleterious effluvia arising from drains. The method adopted to ventilate the houses was to carry a column of fresh air from the outside into a receiving chamber at the back of the kitchen grate, and after being heated, to pass it by hollow bricks in the partitions, and throw it into the different rooms by moveable ventilators. The air was afterwards carried by an "extracting flue" in the wall up to the ridge of the roof, and expelled. The total cost of these thirty-six houses is within the sum of 8,000*l.* being at the rate of about 222*l.*

The gross rental is about 522*l.* and after deducting fire-duty and taxes, the balance yields £6 per cent.

THE SOCIETY OF FEMALE ARTISTS.

This society and all will agree such society is to be pleasant have located themselves in Egyptian Hall, next door to "Mont Blanc," and have brought together 419 pictures and drawings, and sixty-one pieces of sculpture, cameos and wax models, the latter two, forty in number, being all the work of the Misses Pistrucci, and of great excellence. The exhibition would have been better if it had been smaller; still there is no reason that the know of, why young or moderately able artists should not have an opportunity of exhibiting their works and selling them, if possible, for what they are fairly worth. Some of the exhibitors on the present occasion are amateurs, the greater number professional artists; and amongst the latter there are many possessing considerable merit. Miss Linnell, Miss M. A. Cole (Hagar and Ishmael), Miss Stoddart, Margaret Robinson, Mrs. Cumming, Mrs. Higford Burr, Mrs. Robertson Rose, Mrs. Elizabeth Murray (supereminently), Miss Davidson, Miss Blake, Miss A. M. Rowe, and Miss John Thornewill, have sent the best works.

RAILWAY MATTERS.

The West-end route to the Crystal Palace is now complete by railway from Battersea, where the railway line ends for the present, near the end of the New Chelsea-bridge. Here is a station erected at a cost of 30,000*l.* intended, we presume, as the terminus, before the necessary arrangements were made for crossing the river and continuing the line from Grosvenor-basin, or Victoria Station, Westminster. Mean time, to the convenience of the new bridge, which was opened on Monday last, contemporaneously with the railway, will be added that of a steam-boat pier, which was floated down to its proper station from Battersea on the same occasion. The bridge will only be crossed by foot passengers as yet, by payment of toll, whether to the railway or to the new park, which will be by the way, already begins to look quite attractive with the new spring adornments. It is to be hoped the Admiralty, like that of Lord Palmerston, will see the propriety of opening such a park for the people, and thereby making it up to those most in need of its healthful attractions, here, by clapping a toll on foot passengers on the Chelsea-bridge.

The country intersected by the new line of railway, though short in distance, is extremely intricate, necessitating tunnels, embankments, deep cuttings, and viaducts; some of them of the most formidable description. The line has consequently been one of the most costly in the kingdom, the expense of its construction being estimated between 600,000*l.* and 700,000*l.* or nearly 100,000*l.* a mile. Beginning from the Palace, the line is carried through a tunnel below the building itself, half a mile in length; then, after passing through several deep cuttings and over a viaduct of thirteen arches, built of brick, with stone borders, at Lower Norwood, and again encounters a tunnel a quarter of a mile long, at Streatham. It runs parallel with the South-western Railway for some little distance, and then crosses it underneath. The whole line has been constructed under the personal superintendence of Messrs. Charles Watson, the principal agent of Messrs. Peto, Brassey, and Betts, the contractors. The engineer was Mr. P. Bidder.

The new line will be used from its terminus at Battersea branch of the main line from London to Brighton, with which it joins at the Upper Norwood station. The convenience to the Western by the opening of this line will be greatly enhanced were a few omnibuses to run between points to the new bridge, as many will still prefer the long route by London-bridge so long as they can reach *it* by omnibus and not the other.

The traffic returns of the railways in the United Kingdom for the week ending March 21, amounted to 390,030*l.* and from 407,990*l.* showing a decrease of 17,970*l.* The gross receipts of the eight railways having their termini in the metropolis amounted to 158,972*l.*; and last year to 165,738*l.* showing a decrease of 7,466*l.* The decrease on the Great Northern was 978*l.*; on the North-Western, 5,464*l.*; Brighton, 120*l.*; South-Western, 762*l.*; and South-Eastern, 357*l.* There was an increase of 97*l.* on the Eastern Counties; 88*l.* on the Great Western; and 25*l.* on the Blackwall. The receipts on the other lines in the United Kingdom amounted to 231,748*l.* and for the corresponding period of 1857 to 242,252*l.* showing a decrease of 10,504*l.*

Mr. J. C. Haddan has provisionally specified the disposing of two lines longitudinally one over the other, and arranging such combined ways with lifts or inclines for shifting the carriages from one line to the other. He also proposes forming the carriages with the floor or bottom lying below or nearly at the level of the rails. He proposes to occupy the middle portion of wide streets, and over each portion to erect a simple wooden platform, carrying tram at two or more levels above the surface of the ground; the bottom or ground level being intended for slow traffic.

The foundation-stone of the Crewe and Shrewsbury Extension Railway station at Whitchurch has been laid, in the midst of a general local rejoicing.

DECISIONS UNDER METROPOLITAN BUILDING ACT.

DISTRICT SURVEYOR'S FEES. LIABILITY OF LESSORS.

The District Surveyor of Bow and Poplar v. *Randall.*—In this case, heard before Mr. Selfe, at the Thames Police-court, Stepney, on the 26th ult. a Mr. Clarke had given notice to build, and had built some houses at Upper-grove street and Randall street, Poplar, but being in indigent circumstances was unable to pay the fees. Clarke had taken the ground of the defendant, the lessors and application was made to him, as the owner, for payment of the amount due.

At the hearing, the district surveyor quoted the definition of the word "owner," given in the third section of the Act; and on the magistrate asking the defendant why he refused to pay the demand, he contended that he was not the owner, and that he had nothing to do with the houses, that Clarke was the builder and owner, and that he (Randall) had no control over the buildings; but admitted that he held a lease of the ground for eighty years, and that he had underlet to Clarke the ground on which the houses were built, and that he received the ground rents.

The magistrate decided that the defendant was clearly liable as owner, under the Act, to pay the fees, and ordered the amount to be paid, with costs.

GREENHOUSES.

The District Surveyor of Bow and Poplar v. *Perry.*—In this case, heard before Mr. Selfe, at the Thames Police-court, on 12th ult. Perry had, in building six dwelling-houses at Addington-road, Bow, amongst others, committed an alleged irregularity in inclosing the spaces under the sashes about 4 feet in height from the level of the floor to the sash), of certain greenhouses put up in the rear of the buildings, with woodwork, instead of brick, stone, or other hard and incombustible substances, as the district surveyor considered the Act required, the exemption as to greenhouses referring only to the "*necessary woodwork* of the sashes, doors, and frames." At the hearing, it was contended for the defendant that the woodwork below the sashes formed part of the frame of the sash, and that greenhouses were exempt from the operation of the Act. The magistrate decided that the sash and framework being all made together, came within the meaning of the exemption, and was allowable by the Act.—Order to amend the other irregularities complained of, with costs.

*** The decision seems to us clearly erroneous, and calculated to produce much mischief.

CUBICAL CONTENTS OF BUILDINGS AND THICKNESS OF WALLS OF STORIES ABOVE CERTAIN HEIGHTS.

The District Surveyor of Bow and Poplar v. *Dudgeon.*—Mr. Dudgeon, an engineer of the Sun Ironworks, Millwall, Poplar, was summoned before the magistrate at the Thames Police-court, Stepney, on the 5th ult. to show cause why he had made default in complying with the requisition of the district-surveyor's notice, requiring him to amend certain alleged irregularities.

It appeared that a notice had been given by the bricklayers employed to make an addition to a manufactory, 30 feet in height, and two stories, situate at Millwall, Poplar, and that previous to the commencement of the work the defendant had been cautioned as to the cubical contents, and the requirements under the Act in that respect. The works proceeded, and eventually the roof of the addition was put on, when it appeared that the addition, instead of being two stories as stated in the notice given to the district surveyor, was only intended to be one story in height, and that the cubical contents of the buildings taken together considerably exceeded 216,000 feet, the limit allowed by the Act.

At the hearing of the case on the 5th ult. and again at an adjourned hearing on the 12th ult the defendant, through his solicitor, stated that the notice given to the district surveyor was to build the addition one story in height, and that the cubical contents of the buildings did not exceed 216,000 feet. He also accused the district surveyor of having neglected his duty, by declaring that he had not been near the building to inspect it until it was almost finished. The witness, however, who was called to corroborate this statement informed the magistrate on oath that he had seen the district surveyor on the premises continually from the commencement of the work up to the time of the building being roofed in.

Mr. Morris, surveyor, was also called by the defendant, to give evidence as to the cubical contents, and contended that the measurement of the height of the buildings was to be taken up to the tie-beam, and not up to the top of the roof, notwithstanding the whole space was open to the story, and that by his measurements he made the cubical contents come within the 216,000 feet.

The district surveyor stated that, in the absence of any special rule to measure the cubical contents, he had calculated the whole space occupied by the buildings, and proved to the satisfaction of the magistrate, that the several buildings taken together, exceeded 250,000 feet; and with regard to the complaint of the insufficient thickness of the enclosing walls, the irregularity was caused by making the addition one story only in height instead of two, as intended by the notice, which notice was put in to prove the fact. The thickness of the walls as executed, was in accordance with the Act for a building two stories in height; but the addition having been made one story, 30 feet high, the rule in the second part of the first schedule of the Act required the enclosing walls to be one-fourteenth part of the height of the story, but allowed them to be confined to piers, properly distributed, of which the collective widths must amount to one-fourth part of the length of the walls.

Mr. Selfe, the magistrate, stated that he was quite satisfied that the cubical contents meant the entire space occupied by the buildings, including the space in the roofs, and that he should make an order to amend the irregularities complained of, but should not allow any costs.

TO LESSEN THE EFFECT OF FROST ON EARTHENWARE CISTERNS.

I believe slate or earthenware cisterns to be preferable to any other kinds of receptacle for the storage of water, but care must be taken to guard against the common enemy of both (frost).

I have at different times tried many experiments as to the expansion of water when frozen, by suspending tubes of different sizes filled with water, and by constructing small vessels of thin lead and charging them with water, and allowing them to stand exposed, without any support on the outside, and I find no perceptible difference until the surface is frozen three-eighths of an inch deep; after that, the gauges I employed showed the expansion to be about double that usually allowed for contraction in iron castings of the same size and thickness.

As it is desirable that the use of slate and earthenware should be extended, I beg to say, accidents by frost may in a great measure be prevented by having a large and thin "standing waste," commonly called the overflow pipe. This, if made from 6-lb lead, with a trumpet-mouth of four or five inches, will yield sufficiently to prevent the expansion due to the frozen surface from acting on the cistern sides. George Jennings.

FIRE IN BLOOMSBURY.

One of the most fatal fires, considering the extent of the premises destroyed, that probably have ever occurred even in the crowded metropolis, has taken place in Gilbert-street, a narrow thoroughfare running out of Museum-street into Bury-street, where the houses in Great Russell-street, opposite the British Museum, flank the premises on the northern extremity. The house consisted of not more than eight upper rooms. The upper floors were crowdedly occupied; while the ground-floor had been converted into a carpenter's shop. There was no basement floor. While a number of poor people were thus living over a bonfire as it were, they had no way on to the roof, and no opening at the back. The house, moreover, is said to have been so built that it had no hold on those adjoining, its front and back walls having been run up without any connection with these, and the brest-summer rested entirely on wooden story-posts, without the intervention of bricks or iron. It is not to be wondered at, therefore, that when the carpenter's shop took fire, the story-posts were attacked, and gave way in the middle, and the brestsummer fell, bringing with it the entire front of the house, which, in turn, brought down the back; and that all this occurred before the poor people men, women, and children, who were all in bed and asleep when the fire broke out, could be extricated from the infernal fire-trap in which they were so fatally caught. Only five persons escaped, together with a sixth who threw himself out of one of the windows, and was smashed on the pavement, so that he did not long survive. In two of the rooms alone there were a man and his wife and nine children. It was one of the last of these who threw himself out of the window. All the rest, with another family, were either suffocated, burnt, or smashed in the ruins, most of them probably meeting their death from all these causes combined. The house had belonged to a Mr. Taylor, who held it on lease from the Duke of Bedford, and had sublet it to Stubbs, a carpenter, who again sublet the upper floors to lodgers. The building was erected in 1850. The fire may have originated in a dust-bin inside the carpenter's shop, where hot cinders had been cast! No doubt the dust-bin was a wooden one.

MASTERS AND MEN. SWEARING.

Sir,—I have read some letters in the *Builder*, relative to men swearing in their workshops; and the writer of the last letter that appeared in the *Builder* on the subject seems rather surprised to think that foremen swear in their shops as well as their men. Now, sir, if the writer of that letter had really observed what sort of men it is in general that masters select for their foremen, he would not be so much surprised. Has he observed that it is the policy of masters to select tyrannical men, and all that masters care about their workmen at present is, what they can get out of them. In fact, the honest, the moral, and the intelligent man, stands little chance of getting a job when trade is slack; because the foremen, in general, are ignorant of the qualities that constitute a good moral man.

Besides treating, the workmen often give back to their foremen two and three shillings per week of their wages, for the sake of being kept on a job; and often the foremen like their men to lose time, where they have the paying of them, by robbing their masters, through pocketing the amount of the lost time of the men.

Now, sir, this is a true picture of the present state of affairs that is practised, between masters, their foremen, and their workmen, connected with the building trades: then is it to be wondered at, that there is immorality practised in the workshops, when you see it springs from the masters and flows on to the workmen, leaving the sediment of vice through its course, corrupting all that comes within its contagious grasp?

Sir, if masters would learn to be just to their men, they would soon put a stop to swearing in their workshops, by selecting just, efficient, and moral men, for their foremen, which would act as a safety-valve against swearing, because such foremen would encourage respectful language, and discourage the low language.

A Working Man.

*** The writer's statement may be correct in special instances,—we fear it is,—but it is not so as respects the majority of builders' foremen, who, as a class, include in their body a large number of able, intelligent, and upright men.

BISHOP BURNET'S HOUSE IN ST. JOHN'S-SQUARE, CLERKENWELL.

The London topographer, and the student of English history, particularly that portion of it which relates to the dynasty of the Stuarts, will be pleased to learn, if not already familiar with the fact, that the original residence of Dr. Gilbert Burnet, Bishop of Salisbury, who figured so conspicuously in the events of the revolution of 1688, is still standing, and the house, now divided, forms Nos. 43 and 44, St. John's-square. Five or six years before his death, about the year 1708, Burnet, tired of the political strife of opposing factions, wearied of the society of court, and desiring to be more abstracted from the world, as well as to avoid those formal visits from a host of sycophants to which a man in his high position was particularly subject, he sought retirement by settling in St. John's-court,—*i.e.* square,—Clerkenwell, "then a spacious pleasant place." Here, on the west side, he lived in domestic tranquility, maintaining an intercourse with only his most intimate friends. Of these were the great Duke of Marlborough, the Duke of Newcastle, Earls Godolphin, Cowper, and Halifax, Lord Somers, Lord Townshend, Lord King, Lord Chief-Justice Eyre, and the Master of the Rolls, Sir Joseph Jeykyll,—truly noble associates for a man of genius and refinement. On Sunday evenings he had a lecture in his house, in St. John's-square, upon some select portion of Scripture, to which many persons of distinction resorted, though at first it was intended only for the spiritual good of his own family.

Early in the year 1710 his peace was disturbed by a riotous mob, the deluded partizans of Dr. Sacheveral, "a bold, insolent man, with a very small measure of religion, virtue, or good sense," who made himself popular with the rabble by his railings at Dissenters and Low Churchmen. The word upon which all shouted, says Burnet, in the "History of his Own Times," "was the church and Sacheveral,* and such as joined not in the shout were insulted and knocked down, before my own door: one with a spade cleft the skull of another who would not shout as he did. There happened to be a meeting-house† near me, out of which they drew everything that was in it, and burned it before the door of the house. They threatened," continues Burnet, "to do the like execution on my house, but the noise of the riot coming to court, orders were sent to the guards to go about and disperse the multitudes, and secure the public peace, and as the guards advanced the people ran away."

Two years after this *émeute*, the venerable prelate lay stretched upon a bed of sickness: his friend, Dr. Cheyne, attended upon him; and, in the last extremity, Sir Hans Sloane and Dr. Mead were sent for; but their skilful efforts to avert his destiny were unavailing: he succumbed to the malady from which he was suffering, a pleuritic fever, and expired on the 17th March, 1715, in the seventy-third year of his age. On the night of the 22nd, his remains were buried near the communion-table of St. James's, Clerkenwell, to which, says a journal of the period, he was carried in a hearse, attended by mourning-coaches, from his house in St. John's-square. As the corpse was being conveyed to church, the rabble (that shows no distinction to men of great parts and learning when once they conceive an ill opinion of them) flung dirt and stones at the hearse, and broke the glasses of the coach that immediately followed it. Such was the pitiable demonstration of feeling in a weak, ignorant, and deluded mob.

The old mansion we have referred to has undergone many changes since the good bishop and his family were its occupants. It had then a double frontage, embayed, and the windows were full of small lattice frames; and its forecourt, now a waste, was adorned with trees and shrubs; and what was formerly the grand entrance is now a bricked passage through the house leading to Ledbury-place, a double row of small tenements built upon what was the bishop's garden. The house, though built of brick, has from its exterior a crazy, tumble-down appearance; and the stucco with which it is covered is begrimed with the sooty dirt of unnumbered years. The lofty and well-proportioned rooms of this noble residence have been partitioned off in every conceivable way, and at present, exclusive of the underground kitchens, there are no less than twenty-three apartments, occupied by thirteen poor but industrious families, many of whom are manufacturers in a small way, and busily pursue the trades of shoe-making, box-making, picture-frame-making, stay-making, &c. in the very rooms set apart by the prelate for the reception of his distinguished guests. The old staircases have all been removed, and replaced by less substantial ones of modern construction. On the basement floor, the compartments of which are without doors or windows, are the original wine-cellars and kitchens. In one of these may be noticed an old range, and the vestiges of two brick-built ovens. In several of the rooms are very handsome mantelpieces, different in design, the ornaments in relief upon them consisting of flowers and leaves, in festoonings, medallions, interlacing lines, and groups of female figures. The chimney jambs are of white marble, as are also the hearths. The old stoves have been all removed, and replaced by smaller ones of more recent date. There was formerly a very curious back to one of the grates in this mansion: it was a bas-relief in iron of Charles I. with the date of 1644 upon it, and represented that monarch triumphantly riding over a prostrate female figure, the Spirit of Faction: on each side were pillars encircled with bay leaves, and a scroll of palm branches. On the top was the regal crown, and the initials, C. R.; and below, the effigies of two women seated on low stools, having baskets of fruit before them. Nothing is known by the present inmates of this device, and it was probably either burnt out or removed. In the north-east corner of the yard of the right wing of the house, raised about 18 inches from the ground, on two piers of brickwork, is an old leaden cistern, the dimensions of which are 4 feet 2 inches in length, 20½ inches in width, and 2 feet 6½ inches in depth, with a mean thickness of ½ an inch. This cistern, which is a massive piece of cast work, is ornamented with several devices in *relievo*. On the front and at either end, is a figure of the goddess of plenty, recumbent, by the side of a cornucopia overflowing with flowers and fruits, and behind her is a sheaf of full-eared wheat. Within a panel there is also a shield, quite plain, and over this as a crest, is a lion passant, the dexter paw resting on a blazing star. Near the upper edge of the cistern is the date of its casting, 1682, and the initials A. B. M. doubtless those of an occupier antecedent to Burnet's tenancy of the premises.

There was, until recently, another cistern on the premises, similar to the above, bearing the date of 1721, and the initial G., for Gilbert, surmounted by a mitre. This may have been recast by one of Burnet's successors, as a memorial of him. During the past year it having fallen from its position, it was removed altogether off the premises, and sold for old metal, and it is said to have weighed 4 cwt. We cannot but regret the spoliation of this relic of the past, and it is our earnest hope that this mention of the old cistern at present remaining may lead to its ultimate preservation.

In concluding this notice we cannot refrain from offering a few observations on the present defective sanitary arrangements of this old dwelling. The water supply is barely sufficient, and the receptacles for it are inconvenient in the extreme, being without any coverings or taps by which to draw the water, compelling the poor inhabitants, upwards of fifty in number, to resort to the uncleanly practice of dipping for the water. On looking over into a butt through which, carelessly into a corner to receive the water we observed lying at the bottom two Dutch plaice, in a very questionable state. There is no dust-bin, and the ashes and other refuse are strewn over the yard. We also observed that one of the kitchens was flooded with stagnant water, emitting a most fœtid odour. The rooms, without exception, are smoky; and, lastly, the general state of dilapidation the house is in renders it very probable that before long it will be deemed unsafe under the Building Act, and its removal decided on, the present leases having only a few months to run.

W. J. Pinks.

* Then under trial at Westminster Hall for preaching two sermons which the House of Commons had voted to be malicious, scandalous, and seditious libels.

† Aylesbury Chapel, now St. John's Church.

Miscellanea.

Sanitary Legislation.—A correspondent [illegible] Swindon says, that "Chloride," in the *Builder* [illegible] the 14th of March, plainly proved he was writing "about us," and he evidently had no intention to over-colour the blunders made by the "Nuisances Removal Committee." A culvert [illegible] 15 inches diameter, and 90 feet in length, was put in to receive the sewage of two other culverts, 3 inch and a 15 inch; the whole of which terminates in a 12-inch culvert of 400 yards long, where the whole, 15-*inch and all, suddenly diminish* to a 12-inch. The Swindon method of lessening the difficulty is by there being a sudden rise, of about 18 inches, in the drain. "I saw these things with my own eyes. I challenge contradiction: and I emphatically call upon all, to put their shoulder to the wheel in aid of the new Public Health Act, which I would put in active operation whenever an inspector should decide that sanitary regulations were not the best that the locality would permit. I would *not* render essential that pestilence should, for a given number of years, have been slaying a given number out of every thousand, more than the average of the country. I would make it imperative, that if the inhabitants of a district had failed to do the best that could be done, a Council of Health make step in and *prevent* the decimation, which it may be but a question of time to bring about."

Wooden Church, Paris.—The novelty of a Gothic church, all constructed of white wood steeped in some antiseptic preparation to render the timber incorruptible, can now be seen near the Boulevard Mont Parnasse, at the Caen and Nantes station. Its best recommendation is its wonderful economy. "Notre Dame des Champs" will be inaugurated next Sunday.—*Globe Paris correspondent.*

Prevention of Railway Accidents.—A correspondent, Mr. Arthur J. Holdsworth, informs us that he has secured a patent for an invention whereby oral communication may be made between passengers, guards, and drivers, on a train in transit, the invention simply consisting of "tubes fixed longitudinally underneath each carriage, coupled together by strong vulcanized India-rubber elastic tubing, effectually jointed by screw coupling, easily united or disunited when required; such longitudinal tubing being connected by other tubing at right angles, and conveyed to the engine driver, guard, and such of the passenger railway carriages as may be required." Such invention have been frequently suggested, but there may be details which entitle our correspondent to a patent. The want of train communication does not arise from want of adequate inventions, but from want of will in railway officials to apply them. Means of enabling guards to visit each carriage in a train as a regular watchman's beat, would be the most efficient mode of preventing many accidents and crimes committed in railway carriages; but, failing that, there certainly ought to be adopted some such means as that patented by our correspondent for mutual communication on every train in transit.

Canterbury Hall, Lambeth.—Mr. Morton, the proprietor of this place, is about adding to it a fine-art gallery, 110 feet in length and 26 feet in height, with a balcony round its sides, for the purpose of exhibiting to the public his collection of pictures and works of art. There are also to be two billiard-rooms, 33 feet by 23 feet, a large addition to the ante-hall, with other offices. The contemplated outlay is 2,700*l*. The architect is Mr. Samuel Field, from whose designs the Hall was built; and the builder is Mr. Reynolds.

New Hospital at Woolwich.—Preparations are making for laying the foundation of the new hospital at Woolwich, which is to be built on a new plan proposed by Sir John Liddle, the Director-General of the Medical Department of the Navy, and will occupy the site on the north of the Marine Barracks, commanding a view of the river, east and west.

THE MASTER ATTENDANT OF CALCUTTA.—Some the Indian papers are condemning in strong nguage the course which has been pursued by East-India Company in filling up this office, r the heads of those who have long laboured in department; thus leaving them without hope promotion. The *Friend of India* points the great injustice thus done in respect of tain Dicey, the assistant master-attendant, has been in the Company's service, 23 years, who when in command of the *Tenasserim*, specially thanked by the Governor-General conspicuous service during the Burmese war. d Dalhousie's letter was of the strongest racter, but seems to have little weight against ate interest. The Court of Directors appear ish to maintain to the last their character disregarding the claims of their own servants.

BURFORD'S PANORAMA OF LUCKNOW.—By ting his picture *from* the Residency, making the centre of it, Mr. Burford has given up a ure of great interest. Nine out of every ten ons who visit it will ask which is the Resi- cy where our heroic countrymen and country- men defended themselves so long against the narian hordes, and will be disappointed with reply that you are supposed to be standing on Nevertheless it is a picture full of interest, charmingly painted,—very like English ery, by the way, in parts. Many will be prised to see in Lucknow so many costly struc- s, gilded domes, vast palaces, and slender arets, and will be dazzled by "a *coup-d'œil* uxuriance and beauty rarely witessed from an tern city." Mr. Burford has had for his ague in the work, as heretofore, Mr. Henry C. us; and the picture was painted from draw- taken by Mr. Bland Hood Galland, C.E.

SUNDAY EVENING CONCERTS FOR THE PEOPLE. is is intended to commence a new series of these erts, on Easter Monday, in the theatre of Mechanics' Institution, Southampton Build- , Holborn, when, in addition to the usual l performance, a new feature will be intro- ed, in the form of a musical and pictorial rtainment, illustrative of the story of Cin- lla, the designs for which have been kindly tributed by several artists.

WHAT MULTIPLICATION DOES.—Suppose (says *Messenger*) that any one were allowed to pay *Leviathan* a visit once a week for a single r, upon condition that a pin must be dropped h her deck at the first visit, and that upon of the succeeding weekly visits the number ins must be doubled. On the first week there ld be one pin, on the tenth week there would 512 pins, on the twentieth week there would 524,288 pins, on the fortieth there would be 755,813,888, and on the fifty-second, or the , there would be the enormous number of 71,799,813,685,248 pins. The weight of this ntity of pins would be, as nearly as possible, 1316,943 tons 7 cwt. 67 lbs. 5 oz.; so that it ld require about 1,117 *Leviathans*, calculat- the tonnage of each at 22,500, to carry the ght of pins that might be deposited in fifty-two ks, upon the simple condition of commencing a the unit and doubling the quantity each .

GRAND THEATRE.—This little theatre has been ired and decorated, under the superintendence Mr. Samuel Field, architect, at an outlay of . under a contract with Mr. Reynolds. It be opened on Easter Monday, with a new pany.

FOREST HILL SCHOOL COMPETITION.—The igns of Mr. Joseph Messenger have been ac- ed for these schools. There were upwards of competitors. The whole of the designs e exhibited to their authors and to the inhabi- s of Sydenham, on Saturday last, in a large m at the Foresters' Inn, Sydenham.

ARCHITECTURAL INSTITUTE OF SCOTLAND.—In textract from the minute of the Architectural itute of Scotland, in which the awards of that itute in their late competition are quoted, m mentioned as being apprenticed to Mr. ert R. Raiburn. This is not the case. My ployers are Messrs. Peddie and Kinnear, Edin- gh.—G. S. AITKEN.

IRONWORK OF THE VICTORIA TOWER.—In your good description of the Victoria Tower in week's *Builder*, I see you state that Mr. James ne contractor for the ironwork. I beg to rm you that I am doing all the ironwork, as as all other works for the Victoria Tower, have done so ever since Mr. Grissell's contract ended (except the carving).—JOHN JAY.

* The ironwork by Mr. James was for the lk Tower and smoke louvres.

A HINT TO CEMENT MANUFACTURERS AND BUILDERS.—In your very interesting journal we find almost every important subject in connection with the building trade treated openly, and discussed by parties according as each might feel interested, and many derive a great deal of information from this source. But there is one very important subject (I allude to that of cements) which does not receive that attention from your correspondents, and which is very much felt by many in the trade? I would ask how it is that cement manufacturers do not come forward and assist such men as Burnell and others, who have given us some very valuable information on this important question? It is very desirable that practical men should come forward and give that information which many builders require, as to the use of cements, their proper treatment, &c.; and let it not be said that there are many builders quite ignorant on this point. It is well known that good cement, for the want of proper treatment, has been condemned as bad.—T. L.

INSTITUTE OF BRITISH ARCHITECTS.—The next ordinary meeting will be held on Monday evening, the 12th of April, Earl de Grey, president, in the chair, when the royal medal, the institute medal, the Soane medallion, and the medals of merit, will be presented in conformity with the award of the special general meeting, held March 1; and the following paper will be read:—"Some Remarks on the old Vatican Basilica, and its Conformity to the Christian Rules of Building known to us, of subsequent date," by C. R. Cockerell, Fellow, R.A.

[ADVERTISEMENT.]

New Market-hall, Warrington,
December 24, 1856.

GENTLEMEN,—I hereby certify that you have fitted the fourteen shops of this Market with your Patent Revolving Wood Shutters in a very satisfactory manner.

I am, your obedient servant,
EDWARD HOLBROOK, Clerk of Works.

Messrs. CLARK and CO.
15, Gate-street, Lincoln's-inn-Fields.

TENDERS.

For the erection of a villa and two semi-detached villas, for Thomas Farsey, esq. at Bray, near Windsor. Messrs Tillott and Chamberlain, architects. Quantities supplied:—

Mickley (Bray)	£3,517	17	0
Vickery (Bray)	3,496	15	6
Calow (London)	3,254	0	0
Hollis (Windsor)	3,228	0	0
Sturgess (Windsor)	2,996	3	6
Nicholson (Wandsworth) (accepted)	2,996	0	0

For three chapels, entrance gateway, and lodge, at Glossop. Messrs. Weightman, Hadfield, and Goldie, architects. Quantities not supplied:—

G. Thorpe	£1,682	0	0
M. Ellis	1,678	0	0
Blunt and Ramage	1,665	0	0
T. G. Holroyd	1,540	0	0
T. Sully (accepted)	1,335	0	0

For additions and alterations to the Guildford British School (exclusive of the stainers', plumbers', glaziers', and smiths' work). Mr. Henry Peak, architect. Quantities supplied:—

James Smith	£522	0	0
Speakman	475	10	0
Duke	467	0	0
Goff	453	10	0
Loe and Sons	432	0	0
Strudwick	415	18	0
Mrs. Mason and Son	415	18	0
Pollard	409	0	0
W. and T. Smith	399	9	0
Nyc	398	15	0
Swayne	390	11	0
West	367	10	0
Bristow	367	0	0
Beagley	366	6	0

For the stainers', plumbers', glaziers', and smiths' work:—

Hooke	£79	10	0
Miller	76	16	0
Roto	73	0	4
Furlong	62	9	9
Waller	59	19	0
Edmead	55	9	2

For additions and alterations to Chingford Lodge, Essex. John Burges Watson, esq. architect:—

Rivett	£393	0	0
Carr	590	0	0
Longmire and Burge	513	0	0
Forrest (accepted)	494	0	0

TO CORRESPONDENTS.

E. F.—G. S.—Academicus (we know of no such agency).—An Architect (drawings which have been already publicly exhibited will not be received).—A. P.—J. J. W.—R. and R.—Imprimeur.—M. S. D.—E. B. F.—W. S.—H. W.—S. P.—W. H. (for artificers' work it is not necessary).—H. K. R. B.—W. J. R. G. P. R. (shall appear).—T. S. (Little).—R. P. (If Temple-bar be removed, it would not be wise to erect a similar obstruction, though in the shape of a triumphal arch, in its place).—C. H. D. (arrived, and has appeared. Number was forwarded).—J. J.—J. W.—T. G.—T. S. (will appear).—M. S. S. D. (ditto).—Theta.—J. P.—W. J.—Mr. P.—C. C. and A. D.—The Tower.—Silvio.—M. H.—G. W.—W. S.—Messrs. B.—Fides.—Mr. G.—Italy (in type).—W. G. and Co.—J. H. P.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

ADVERTISEMENTS.

"THE BUILDER."—Wanted, the Numbers or Part for JANUARY, 1857.—Apply at the Office of "The Builder."

KELLY'S PRACTICAL BUILDERS' PRICE-BOOK: or, Safe Guide to the Valuation of all kinds of Artificers' Work; with the Modern Practice of Measuring, and an abstract of the New Building Act for regulating the Construction of Buildings. Revised and Corrected by New Calculations upon the present Value of Materials and Labour. Arranged by an Architect of eminence, assisted by several experienced Measuring Surveyors. Illustrated and exemplified by Steel Engravings and numerous Woodcuts. Royal 8vo. price 8s. neatly bound.

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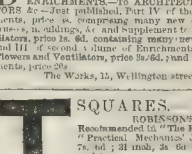

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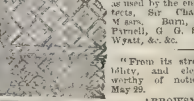

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PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSS'S WHOLESALE WAREHOUSE, 22, GREAT QUEEN STREET, Oxford street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, and PURCHASE CHEAPER than any other house in the trade. Decorators, Dealers, and large consumers, will do well to call at the establishment.

SOUTH WALES RAILWAY.—The Directors of the Company are now prepared to issue DEBENTURE BONDS bearing interest at the rate of £4 per cent. per annum, for periods of one, two, three, four, and five years, to meet Debentures as they fall due. The Directors can also prepare and issue Debentures to bear interest at higher rates at the rate of £5 per cent. per annum, which will enable the holders to take the place of Debenture Bonds of the Company, and to which application is to be addressed the undersigned.—By order, FRED. G. SAUNDERS, Secretary.
South Wales Railway, Paddington Terrace, Paddington, W.
March 29, 1858.

NEW WESTMINSTER PALACE HOTEL COMPANY (Limited).—Incorporated, with liability limited to the amount of the shares subscribed, under the Joint Stock Companies Act, 1856. Capital in 10,000 shares, of £10 each, £5 per share.
CHAIRMAN.—The Right Hon. the EARL of CHELSEA, Lowndes street and Cheveley park.
DEPUTY CHAIRMAN.—Sir CHARLES RUSSELL, Bart. 18, St. James's-place.
Sir Benjamin Hall, Bart. M.P. Basily, esq. Berrygate-in-Beare House, Dorchester, Dorset.
Thomas Bonsfield Brook, esq. 6, Portsdale Place, Brighton.
Charles Cochrane, esq. 6, Cleveland-place.
Henry Cubitt, esq. Northumberland street, Strand.
Thomas Hall, esq. Ashley place, Westminster, and Purfleet, Surrey.
Thomas Hayward, esq. Fulham.
Thomas Norton, esq. Wyvol's-court, Swallowfield, Berks.
Thomas Ramsay, esq. Eaddington-street, Tavistock-square.
Thomas Walmsley, the Shire, Crowley, Sussex.
Solicitors.—Charles Brooke, esq. 29, Reg[illegible]-street; William Henry Ashurst, esq. 66, Lincoln's-inn-fields, Regent's-park.
Bankers.—Messrs. Ransom, Bouverie, and Co. Fall mall, East.
Auditors.—Messrs. Marsh, Ward, and Marsh, 7, Clarence-gate.
Solicitors.—Messrs. A. Clarke Hook, esq. Great George street, Westminster.
Engineers.—Messrs. Burnell, 5, Broad Sanctuary, Westminster.
Secretary (pro tem.).—Mr. Henry Winfield Grace, esq.
Offices.—2, Parliament-street, Westminster.
The present company originated in the acknowledged necessity of providing a first class hotel in Westminster.—The present establishments, which are only resorted to in consequence of their proximity to the New Palace and Westminster Hall, are not merely inadequate to meet this necessity, but will soon be removed to make room for the new Government buildings in Palace yard and Parliament-street.

The site selected for the hotel is a plot of ground already cleared at the south-eastern end of Victoria-street, having a frontage to that street of more than 350 feet, close to the Abbey, the law courts, the new Houses of Parliament, the Government offices, and the principal clubhouses, and presents unusual facilities of access by means of omnibuses, cabs, and river-boats. A railway, moreover, will shortly be constructed from the line on the south of the Thames in connection with the Victoria Railways, which will render the complete, if not the most expeditious, and ensure the irrespective of its other advantages, the safety and character of business unequalled at any existing establishment.

The hotel will contain about 200 sleeping and dressing rooms, suites of apartments for families, dining and coffee rooms, including one for ladies, several private and consultation rooms, spacious halls for committees, deputations meetings, and a library and reading saloon. It will be replete with all the comforts and economy of a club with the accommodation required in a first-class hotel.

The capital invested in an hotel differs from that employed in other companies, in being virtually a mortgage upon the building, its furniture, plate, and other stocks, and consequently in being free from many of the contingencies to which other commercial enterprises are liable. The large annual profits may be estimated from the success attending the principal hotels of the United States, as well as those recently established in the metropolis and elsewhere. The Great Western Hotel, at Paddington, conducted by a joint stock company, has realized the profits upwards of 30 per cent of which it has been divided among the shareholders, and the shares are not obtainable except at a very high premium.

Calculations which have been made, and are set out at length in the prospectus, it is estimated that the annual net profits will exceed 20 per cent.

The terms of the company will be made up and the dividend declared yearly.

A number of the shares have been already allotted and the deposit thereon paid, and for the remainder application can be made to the Secretary, at the Offices of the Company, where and the detailed prospectus and plans may be obtained.—By order,
H. WINFIELD GRACE, Secretary
Parliament street, Westminster, March 20, 1858

BANK of DEPOSIT (established A.D. 1844), 3, PALL MALL EAST, London.—Parties desirous of investing money are requested to examine the plan of the Bank of Deposit, by which a high rate of interest may be obtained with ample security. The interest is payable on January and July.
PETER MORRISON, Managing Director.
Forms for opening accounts sent free on application.

ESTABLISHED 1838.

MONEY LENT for Two Years, One Year, or Six Months, upon Personal, Freehold, Leasehold, or other tangible Security, without Mortgage or Insurance, from £5 to £50, repayable by Weekly, Monthly, or Quarterly Instalments.—FINSBURY LOAN OFFICE, 111, St. John street road, Clerkenwell, E.C. Open daily. All communications strictly confidential

LOAN and INVESTMENT AGENCY ASSOCIATION CHIEF OFFICE, 9, ADAM STREET, STRAND, W.C. Loans of any amount, from 20£ on real and other securities. 150,000£ trust funds ready to be invested.
R. T. JOPLING, Actuary.

SHOP-FRONT.—WANTED, a SECOND-HAND DOUBLE RETURN SHOP FRONT, with door in the centre, shutters, &c.; length of the whole, about 17 feet.—Full particulars, with price required, addressed to A. Post-office, Tunbridge

WHITE and MITCHELL, JOINERS and SASH-MAKERS to the Trade, 11, Commercial-road, Lambeth Entrance. Shop fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage stamp.—Workshops, 2, Commercial-road, Lambeth.

J. MILLS (late Shop Foreman to Messrs. Lawrence and Sons), JOINER to the TRADE, 7, Princes-street, Stamford-street, Lambeth. Shop fronts, fittings, staircases, &c. Well-seasoned materials and superior workmanship, at the lowest possible prices. A quantity of doors and sashes always in stock.—By enclosing a postage-stamp, a full list of prices will be returned.—Workshops, 116, Broadwall.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland street, Blackfriars road.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.
S. A. JEFFS,
48 and 49, Cornwall-road, Stamford-street, Lambeth, S.
N.B. Price-list on application.

BUSINESS to be DISPOSED OF, by the Executors of the late Proprietor, Mr. William Thompson.—The PLANT and STOCK IN TRADE of an established concern of long standing, employing a steam engine of 8-horse power, and doing a good regular trade as a timber yard and saw mills, in connection with the brick trade. The sum required will be from £5,000 to £7,000. The purchase may be either purchased or taken on lease for the remaining term of sixteen years, offering an excellent investment for capital.—Apply (if by letter, to the Executors, post-paid, on the Premises, 55, King-street, Clerkenwell

RIVER-SIDE WHARF, adapted for Timber Merchants, Stone Merchants, or the Coal Trade, and with Steam-engine, Crane, Foreman's Cottage, and Outbuildings, situated at Kingston-on-Thames, and being the only Wharf to be let in that thriving locality.—Address to R. KERMOTH, Kingston-on-Thames

WHARF TO LET, upon the Regent's Canal, near the Great Northern Railway.—For particulars, apply to Mr. DENNIS, upon the Premises, Pembroke Wharf, Caledonian-road, King's cross, N.

WHARF at HAMMERSMITH to BE LET.—A convenient WHARF, with suitable offices, dwelling, stabling, and yard. Possession may be had immediately. If desired it may be converted to other purposes.—Apply to Messrs BAILEY, SHAW, SMITH, and BAILEY, 5, Berners-street, London; or W. RODELL, 11, Wellington-terrace, Hammersmith.

HIGHGATE. Eligible PLOT of GROUND, situate in the Grove, at the corner of Hampstead lane, TO BE LET on a BUILDING LEASE for a term of ninety-nine years.—For particulars apply to WADMORE and BAKER, Architects, 33, Great St. Helen's, E.C.

BUILDING PLOTS at LEWISHAM and SYDENHAM.—TO BE LET by TENDER, on BUILDING LEASES for ninety-nine years, several PLOTS of GROUND, situate at Lewisham, Kent, close to the junction station of the North-Kent and Mid-Kent Railway at Lewisham, also at Sydenham, Kent, near the Forest-hill Station, both estates being part of Matthew Hill's Estate. A form of Tender, with plan, may be obtained at the Office of Mr. SAMUEL FISHER, Solicitor, Merchant Taylors Hall, Threadneedle street, London, where Tenders, under seal are to be delivered on or before TUESDAY, the 6th day of MAY, 1858 by TWO o'clock in the afternoon, and the same will then be opened, and the parties tendering will be expected to attend. Forms of Tender, with plans, may also be obtained of Mr THOMAS MILLS, Surveyor, 28, York street, Westminster; also upon payment of 1s. at the Rostrack Inn, on the Estate at Lewisham; and at the Dartmouth Arms Inn, near the Estate at Forest-hill.

LAND TO LET.—A SITE for a first-class Public house, at and close by the entrance to, or just on station eight miles from town, where shortly will run trains every half hour to Fenchurch-street and Blackfriars station.—Also SITES to suit detached villas, one of which, on completion of the houses, the freehold will be sold at a price previously agreed on.—Apply to THOS. NUNN and SONS, 21, Lambs-conduit-street, W.C.

TO MILLERS and OTHERS. TO BE SOLD, by PRIVATE CONTRACT, the whole of that newly-erected FLOUR MILL, situate at Cannington, near Bridgwater, Somerset, late in the occupation of Mr. William North; comprising an excellent high-pressure steam engine of 25 horse power with two good millers, furnace-doors and bars, and the settings of the same, eight pairs of best French burr mill stones, with all the necessary spur and levelled gearing, line shafting, plower blocks, pulleys, and driving-straps; two smutting-machines, one flour-machine with two sieves, one belting mill, one grinding stone two sets of elevators, &c. &c. In the second lot is comprised the whole of the building materials of the above mill, lately erected at considerable outlay by Mr. North.—For further particulars, and leave to view, apply to Mr. EDWARD MURCH, Ironfounder, Bridgwater, Somerset.

BUILDING LAND TO BE LET, upon long Leases, at moderate ground-rents, and find the freeholder, in the following excellent situations:—Denmark-hill, Camberwell, Camberwell, Norwood, Peckham, St. John's-wood, Hackney, &c. Respectable parties will have great facilities afforded them. Apply to ARTHUR ASHPITEL, Esq. Architect, 9, Pont's-corner, S.W.; or to JAMES LUDMESTON, Jun. Esq. Architect, No. 5, Crown court, Old Broad street, E.C.

PADDINGTON ESTATE.—BUILDING LAND TO LET, on the most eligible part of this estate, laid out in the most attractive manner, adapted for houses of a superior class and having large ornamental gardens several acres in extent. Terms liberal.—For plans and particulars apply to Mr. PHILIP WILKINSON, Architect, 74, Connaught terrace, Edgeware road, W.

LEYTONSTONE, adjoining Epping Forest. LAND TO BE LET for BUILDING PURPOSES, at a very moderate ground-rent, in the rural and healthy village of Leytonstone, freehold and land-tax redeemed. Terms, ninety years, direct from the freeholder. Two minutes' walk from the Leytonstone Station, on the Woodford and Loughton Railway, with train to and from Bishopsgate-street and Shoreditch. Capital frontage road, with main sewer. The land is dry, has a gravelly subsoil, and is well adapted for detached or semi-detached villas.—For terms and particulars apply to Messrs. DRIVER, Surveyors, Land Agents, and Auctioneers, 5, Whitehall, S.W.

TO BUILDERS of VILLAS. TO BE LET, SEVERAL ACRES of LAND, in plots, in the most choice situation at Sharesbrook, two minutes' walk from the Station, on the Woodford Railway to Fenchurch street. The soil is gravel, and the ground covered with splendid evergreens.—Application can be had for Leases on lease to pay, exclusive of ground rent, about 7 per cent.—Apply to Mr. NOBLE, Surveyor, Woodford; or to Mr. NISSEN, at 43, Mark lane, London.

VALUABLE FREEHOLD ESTATE, West of London, four miles from Hyde-park and Kensington-gardens, TO BE LET, on building leases, as detached or semi detached villa-residences,

ARLINGTON PARK ESTATE,

Situated on the south side of the high Western-road, in the Parish of Chiswick, containing about EIGHTEEN ACRES of LAND, on a gravel soil, beautifully wooded with fine old timber, good water, and perfect drainage with open view of gardens and country all round. Near the Horticultural and Kew Gardens, Kew and Chiswick Railway stations, from which are trains, boats, and omnibuses pass to the City and West-end.—Apply to H. R. KENDALL, Esq. Architect, No. 1, Spring-gardens, Charing cross.

CARPENTERS' COMPANY.—A large FREEHOLD ESTATE, belonging to the Company, situate at SURBITON, near the railway station, and suitable for manufactories and workshops, TO BE LET, for a long term, either as large or small lots. The property is exempted from land tax, and free from tithe. For particulars apply to Mr. E. B. JUPP, Clerk's office, Carpenters'-hall, London wall.

FREEHOLD, TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is peculiarly eligible for the erection of villas, or tenancies of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate. The building land is all let for building purposes, and is now partly covered. The house subject to built have contracted and immediate tenancy.—For further particulars, and conditions of sale, which may be had of Messrs. GREGORYS and CO. No. 1, Bedford row, W.C.

SALE of GROUND-RENTS.—CITY IMPROVEMENTS, New Cannon street, Crooked-lane, New Earl-street, Broad-street, St. Mary-at-Hill, and St. Paul's Churchyard, in the City of London.—The Commissioners for Improvements within the City of London hereby give Notice, that they will meet at GUILDHALL, London, on MONDAY, the 19th day of APRIL next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing from parties willing to PURCHASE such GROUND RENTS or Premises as hereafter mentioned.—Particulars and conditions of sale, with forms of Tender, and further information, can be obtained upon application at the Commissioners' Office, Guildhall, Guildhall, London, March, 1858.

MEREWETHER

Desirable Waterside Premises, suitable for Saw-mills, Builders, or Timber Merchants, &c.

THOS. EDWARDS and SON are instructed by the Proprietor to SELL by PRIVATE CONTRACT, the very valuable LEASE of which [illegible] years are unexpired of those commanding Premises known as the CANAL BRIDGE WHARF, KINGSLAND, comprising a large dwelling house, detached counting house, sawpits, large sheds, with lofts; stables, engine-house, brick and well-built timber stage, powerful landing crane, &c. &c. The lease may be seen, and particulars had of THOS. EDWARDS and SON, 15, Pinner's Hall, Old Broad-street, E.C.

HAMPTON COURT.—In Matham-road, near the above station, several eligible BUILDING PLOTS TO BE LET. Advances to respectable parties.—Apply to Mr. F. LETI, Architect, 36, Essex-street, Strand.

DULWICH WOOD.—BUILDING GROUND. Eligible Plots of Land for building Villas upon this property, in the immediate neighbourhood of the Crystal Palace, and Penge Gates and Station, of the West End, Railway, to be now published, Apply to Mr HART, at the Architect's Office, Crystal Palace

TO BUILDERS.—LAND at Tulse Hill, Lower Norwood, suitable for the erection of good ten-roomed houses, also, a Small Plot near the Railway Station, Harrow, for four or six rooms houses, to be Let on Lease.—Address two letters to Apply to Mr. HIGHAM, 29, Poultry.

FREEHOLD BUILDING LAND.—TO BE LET OR SOLD, TEN ACRES, close to Forest-Gate Station, having upwards of 1,000 feet of frontage to good newly-laid roads.—Also, about TWELVE ACRES, consisting of parts of a valuable estate, some of which has been sold for building on, situate within a few minutes' walk of the Carshalton Station; also about SIX ACRES, pretty well studded by capital roads and possessing a frontage of upwards of 2,000 feet, situate at Woodside, within a few minutes walk of the Norwood station.—Apply to D. B. SLADEN, Esq., 2, King's-arms-yard, Moorgate-street, E.C.

BROAD-STREET, BLOOMSBURY, No. 11. In the best part of this thoroughfare a good SHOP and DWELLING HOUSE TO BE LET on lease.—For particulars apply to Mr. HARDWICK, No. 1, Henrietta-street, Cavendish-square.

FREEHOLD BUILDING LAND, within two miles of the Houses of Parliament.—TO BE SOLD, with possession on 29th June, 1858, a VALUABLE ESTATE of about 14 acres of valuable BUILDING LAND, with a good Family Residence and Offices thereon, and which is surrounded by lanes, either built upon, or let to Tenants at high rents, and which is neighbouring to other properties now in great demand. The substratum is fine gravel, of at least 8 feet deep, which gravel is estimated to be worth 2s per yard, or 1,452£ per acre. It is considered that the gravel is worth 6d per yard, at least, when the value of property will be proportionately increased.

Taken, however, at 1,000£ per acre only, the value of the gravel alone would be [illegible] £14,068

Materials on the estate, offices, stabling, green and hot houses, are estimated at 700

Showing assets available of about 14,768

The building land is estimated at 1,000£ per acre, or 14,000

Total £27,968

Price for the whole, 18,000£, of which 10,000£ may remain on mortgage for five years, at 4 per cent. per annum.—A Plan of the Estate, suggestive of the way in which the land can be laid out, may be seen at the offices of FRANCIS FULLER and CO. 10, Cornhill

ALABASTER! ALABASTER! This beautiful material, from the quarries, Humberstone, near Leicester, surpassing in quality, and variety and richness of colour, the best Italian alabaster, is now being extensively used by architects in the internal decoration of churches and mansions. It takes and sustains a most brilliant polish, and exceeds in appearance many of the most costly marbles, at a far less price. It can be supplied in blocks of any dimensions, and in polished slabs. Specimens, full part culars as to price, and reference to works already executed, on application to CLEMENT PARKER, Agent, Victoria Works, Humberstone, near Leicester.

TO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), Importer of all sorts of Marble, keeps a constant well-supplied Stock of Marble, in Blocks, at the under-mentioned Wharf, comprising STATUARY, VEINED, VEINED PAONAZZO, SICILIAN, DOVE,—all the produce of his own Quarries at Carrara. Bardilli, Black and Gold, Sienna, Orcette, St. Anna's, Vert des Alpes, Breccia, &c. &c.; Vases, Monuments, Garden and Gallery Statues manufactured in Italy; and takes Contracts for all the above sorts of Marble to any extent connected with the Trade.
Carrara Wharf, Thames bank, Pimlico; and 150, Leadenhall-street, City.

JOHN BAZLEY WHITE and BROTHERS, MARBLE MERCHANTS, MILLBANK STREET, WESTMINSTER
Marble of all kinds as Chiffi Slabs, in Block and Slab. Mastic Mortars &c.

GRANITE.—King William and Nelson Monuments, Plinth and Steps of the Royal Exchange, and Terrace at the Crystal Palace Supplied by the Hyarr Company under Royal Charter For terms, apply to Mr C HOAR, Hayfor Granite Office, 4, Millbank row, Westminster

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall. London Agents TREWELLES and TAYLOR, 54, Old Broad street. Manager—JAMES J TRATHAN, Liskeard
This Granite is selected for the New Westminster bridge.

RANSOME'S SILICEOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material, at prices not exceeding the ordinary Cements.
Full particulars furnished on application to
Mr. FRED. RANSOME,
Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich

TO BUILDERS and OTHERS.—ONE THOUSAND CHIMNEY-PIECES kept in Stock, at prices from 6s each.—W B WILKINSON and Co. Manufacturers, Prudhoe street, Newcastle-on Tyne

DUNDRY STONE QUARRIES. Dundry, near Bristol.—This valuable stone for Architectural purposes, may now be obtained in any quantities. Mr. C. H Smith, of London, as well as Local Architects of eminence, have repeated used it greatly upon the continent of Europe, and it is now being used for extensive reparations at the Cathedra, Llandaff, at 151 Mary Redcliff Church, Bristol. The price at the Bristol Railway Terminii is 3s per foot cube, in block. The price may be had priced at the quarries, at prices to be agreed upon if preferred. All further particulars, estimates, and reports, may be obtained on application to GEO. C ASHMEAD and SON, Surveyors and Agents, 19, Small-street, Bristol.

SAMUEL TRICKETT, general STONE-MERCHANT—Masons and contractors supplied at the lowest wholesale prices, direct from the quarries, or from stock, by way of railway London depots—Victoria Wharf, Isle of Dogs, and No. 9, Stone Depot, Great Northern Railway, King's cross, where large stocks are kept. Chief Office, Millwall, Poplar, E.—Sole Agent for Rawdon-hill Stone

BATH STONE OF BEST QUALITY.
RANDELL and SAUNDERS, QUARRYMEN and STONE-MERCHANTS, BATH.
List of prices at the Quarries and Depots, also cost for transit to any part of the kingdom, furnished on application to Bath Stone Office, Corsham, Wilts

WILLIAM S. LAWRENCE, Pennant Stone Merchant, Stapleton Office—10, Merchant-street, Bristol.—All descriptions, of Steps, Landings, Troughs, Tombs, Curb, Ashlar, Paving, &c. on sale at the Stone Quarries, Stapleton, and at Corsham, on the Avon, near Bristol.

LITTLE CASTERTON FREESTONE.—Apply for prices, &c. to
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F. FOUCARD, Stone Merchant and Quarryman Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Depots: Granite Wharf, East Greenwich, Lett's Wharf, Waterloo-bridge. Office: No. 246, High-street, Southwark, near the Town-hall

TIMBER and SLATES.—Regent's Wharf, Mill-wall, Poplar, E. near West-India South Dock.
JOHN EADES solicits the attention of builders and others to the undermentioned low prices for his Deals, Battens, Flooring, Plaster Laths, and also his Welsh Roofing, Slates, and Slate nails, which for quality and price are not to be surpassed by any other House

Yellow deals, from 20f. per 120—12 ft. 3 in. by 9 in.			
Spruce ditto	17f.	"	"
Battens	10l.	"	12 ft. by 7 in.

Prepared flooring from 19s per square
Ceiling and plaster laths, from 23s per load
Roofing Slates

Duchess	24 in by 12 in.	11f 0s per mille of 1,200	
Small ditto	22 in. by 11 in.	8 15	" "
Countess	20 in by 10 in.	6 15	" "
Small ditto	18 in. by 10 in.	6 5	" "
Ditto	18 in. by 9 in.	4 15	" "
Ladies	16 in. by 8 in.	3 15	" "

Slate slabs sawn all round and planed on one side—

	1½-in.	2-in.	2½-in	2¾-in.
From 5 to 10 ft. in each slab, at per foot	5d.	6d.	8d.	9d.
" 12 ft. and over	7	8	11	12

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices, and estimates for special contracts, including quarry work or other labour, forwarded on application.—Offices, 87, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S-PARK BASIN, WEST-END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods SCOLES and WOOD invite the attention of Builders, Masons, and others, to their Stock as above, where everything will be charged at the lowest prices Headstones, ledgers, steps, landings, &c cut on the shortest notice.
Country orders promptly attended to

ROOFING SLATE, LARGE SLABS, FLOORING, &c.—The CAMEL SLATE COMPANY, near Wadebridge, Cornwall, execute extensive orders in roofing, slabs, floorings of slate goods
N.B.—Vessels of large tonnage can approach the quarry, and lie in safety.

GATES and GEORGE, CAEN and AUBIGNY QUARRYMEN, and GENERAL STONE MERCHANTS.
CAEN WHARF, ROTHERHITHE.
Seasoned Caen Stone always on hand, and a large assortment of Yorkshire Sawn Slab, and other Stone

BANGOR WHARF, King's-road-bridge, Camden-town. STRINGFIELD and COOPER, late W W Rawlins, beg to call the attention of Builders and others to their stock of Bangor slates, Lastly Reads, Bands, Peasil, and Kremel cement, blue lias, Dorking and chalk Lime, plaster of Paris, Yorkshire flags, pan, and ridge tiles, glazed sewerpipes, closet pans, and traps, Welsh fire bricks, gravel and shells for garden paths, ballast, sand, &c. Materials landed, wharfed, and carted.

YORKSHIRE STONE.—THOMAS TILNEY, Stone Merchant, Threshfield, Leeds, begs to inform Builders, Surveyors, and Local Boards, that he can supply direct from his quarries, by water or railway, paving, landings, steps, &c. got out to sizes, on the most advantageous terms—Prices sent on application.

VALENTIA SLATE SLABS.—The Valentia Slab Company invite attention to their Slabs, now supplied of very large dimensions and of superior quality. They have been used at the British Museum, National Gallery, Bethlehem Hospital, various Lunatic Asylums, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stand at Brighton, Portsmouth Barracks and are kept in Stock in large quantities by Messrs FREEMAN, Millbank-street; and at Messrs. BRADY'S, Belvedere road, where terms may be obtained.

WESTMORLAND PALE GREEN SLATE.—T. MANDALL begs to acquaint Architects, Builders, and Others, that he has on hand a good STOCK of ROOFING SLATES, ready for shipment, or to transmit by rail to any part Best quality, 42s. per ton at the Works.—All orders addressed to THOMAS MANDALL, Quarry Proprietor, Coniston, Windermere.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at he Great Exhibition, 1851, and Two First class Medals at the Paris Exhibition.
Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney-pieces, billiard-tables, table-tops, baths, wall-linings, &c. a new Illustrated Catalogue of which can be had at the Public Slate Works, 39 and 40, Upper Belgrave-place, Pimlico, S W.

THE LLANGOLLEN SLAB and SLATE COMPANY (Limited) beg to call the attention of Merchants, Architects, Contractors, and Builders, to their present STOCK of superior SLATE SLABS (the latter several in hand of not less than 70 superficial feet), thin and thick Roofing Slates, roll and ridge Coverings, Sinks, Mangers Salt Troughs, Flower Boxes, and Enamelled Chimney-pieces, Chiffoniers, Table Tops, and Slabs.
Their Enamelled Articles are much appreciated, and are in great demand, and all the principal towns in this country, Scotland, Australia, and Canada, need fear no Rival Designs can be had on application to the Manager, at 4, Wharf, South Wharf road, Paddington, W.

ASPHALTE—TRINIDAD—
Rendered of uniform consistency by steam power.
PREPARED { for every description of Building, Railway and Agricultural Work.
TEMPERED { for paving purposes, home consumption, and export to every climate
The Trade supplied on advantageous terms, and estimates given for works in any part of the country, also for LAYING TAR PAVEMENT
THOMAS HARRISON,
ASPHALTE, WHITING, AND PAINT WORKS:—
Cambridge-Heath Wharf, Hackney;
Sandy-Hill Wharf, Hounslow;
City Offices, 19, London-street, E.C. opposite the Blackwall Railway.

ASPHALTE, FOREIGN and BRITISH, for FLAT ROOFING and every description of PAVING, especially in damp situations.
FROM 2s 9d PER SQUARE YARD
Country Builders supplied with Asphalte for Footings and Barn Floors, with instructions for using it.
Apply to JOHN PILKINGTON, Patentee and Manager Asphalte Office, 37, Monument-yard, Fish-street hill, London.
N.B. Importer of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover.

IMPORTANT TO BUILDERS AND PAINTERS
W. PRICE, Grainer, &c. begs to call the attention of the trade to the following low scale of prices. All work guaranteed to be done by workmen of first rate ability:—

Wainscot	0 5	per yard
Maple or Satin Wood	0 8	"
Mahogany or Walnut	1 0	"

Marbles equally low.
Address, W. PRICE, 7, Grenville-street, St. Pancras.

FIR TIMBER.—10,000 POLES for SALE, from 3 to 9 inches diameter, and will be cut in any lengths, to suit purchasers, and delivered at Nine Elms, or any other railway station on the South-Western Railway, within fifty miles of London.—Apply by letter, to C. C. York Hotel, Waterloo-road, London.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¼-inch Prepared Flooring	£0 11	6 per square.
½-inch Prepared Flooring	0 13	0 per square.
Inch Prepared Flooring	0 15	0 per square.
Good Yellow Deals	0 3	3 each.
Spruce Deals	0 3	0 each.
Pine Planks	0 3	6 each.
Yellow Battens	11 10	0 per 120.

Mahogany, in logs and planks, from 6d. per foot.
All sawn goods delivered within three miles free of cartage
ALFRED CARTER, Old Bethnal-green-road, N.E.

GEORGE NOKES and CO. Cambridge-Street, Old St. Pancras-road, invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES Books of designs of mouldings forwarded on application.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5d.; ¾-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¼ do. 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ do. 13s. Bird's-eye Maple Veneer, 8d. Cartage free to any part of town.—T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth, S.

ACORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to
E SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S-ROAD, CHELSEA.

ALFRED ROSLING and SONS beg to inform the Customers and the Building Trade generally that they are enabled to allow a discount of 15 per cent. upon the list-prices for Mouldings. A large stock of dry flooring at low prices, Southwark Bridge Wharf, Bankside, S.E.

PREPARED FLOORING! PREPARED FLOORING!—W. G WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	¼	½	¾	
Spruce	12s.	13s.	15s.	— per square
White	15s 9d.	18s. 6d.	19s. 6d.	18s. "
Yellow	15s 6d.	16s 6d.	18s 6d.	19s 6d. "

Delivered within three miles free of cartage
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S

AT the LOWEST PRICES.—SAMUEL PUTNEY solicits the attention of Buyers to greatly reduced prices:—

¾ inch prepared Flooring	£0 11 6 per square.
Inch ditto	0 15 0 per square.
Yellow Battens	11 10 0 per 120.
Spruce Deals, from	0 2 9 each.
Pine ditto, from	0 3 6 each.
Yellow ditto, from	0 3 3 each.

Mahogany, in boards and planks, from 6d. per foot.
All Sawn Goods delivered three miles free of cartage.
Borough road, Southwark, and Elm street, Gray's-inn-lane

PADDINGTON STEAM SAWING PLANING, and MOULDING MILLS.
MOULDINGS to any design, manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process, a large Stock always on hand, as per Pattern-list
FLOORING (dry) in a large Stock, of various description.
MATCH-BOARDING of any width.
Also,
Timber, Deals, and Mahogany, on either Wharf, or at the Docks
JOHN BUTTY, 2 Wharf, Praed-street, and 2, Irongate Wharf, Paddington
Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town references

REDUCED PRICE LIST
WILLIAM GILBERT,
BLUE BRICK AND TILE WORKS,
SANITARY TUBE POTTERIES,
Tividale, Staffordshire.

BRICKS.—MR. RYDON having made more Bricks than he requires for the Buildings on his Highbury New Park Estate, is willing to make arrangements with Builders and others for SUPPLYING a quantity of first-class BRICKS of every description.—Address, Estate Office, Dell's Farm, Stoke Newington-green

BRICKS.—Messrs. OATES and INGRAM inform Brick makers on an extensive scale, that their PATENT SOLID BRICK MACHINE is now thoroughly and efficiently tested, and they are prepared to offer the following counties to the trade, DISPENSING ROYALTY or PURCHASE—MIDDLESEX, SURREY, SUSSEX, ESSEX, KENT, NORFOLK, SUFFOLK, CAMBRIDGE, OXFORD, GLOUCESTER, HERTFORD, BERKS, HUNTINGDON, WORCESTER, CORNWALL, DORSET, HANTS, and the ISLE of WIGHT. With this Patent Machine the ordinary surface clay requires no preparation whatever; whilst that of a rocky nature has merely to be passed through rollers in the usual way, and then WITHOUT ANY TEMPERING, INTO THE MACHINE, FROM WHENCE THE BRICKS ARE REMOVED DIRECT TO THE KILN IN A STATE READY FOR BURNING. The Machine is now making upwards of THIRTY BRICKS PER MINUTE, at the Works of Messrs. Cook and Parry, Government Contractors, Fort Elson, near Gosport; and also at the Patent Solid Brick Works of T. Wells Ingram, Oldbury, near Birmingham.—Application for orders to see the Machine in operation to be made to OATES and INGRAM, Bradford-street, Birmingham. Samples of clay may be sent and passed through the Machine, and the bricks burnt, or a sample brick will be sent, gratis party wishing to see one.

BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for each on delivery:—

Best Grey Stocks	28s. per Thousand.
Rough Stocks and Grizzles	19s. "
Place fires	12s to 15s "
Bright Stocks	23s. "
Shippers	30s. "

GEORGE SMEED, Sittingbourne, Kent.
P.S. Up any of the Canals on payment of Dues extra.

BURSTALL'S PATENT BRICK MACHINE.—To BRICK-MAKERS.—The attention of the Trade is called to the above Patent Steam-pressure Brick Machine now successfully employed at the London Patent Brick Company's Works, near London, and at the Kinson Pottery Works, at Poole. The advantages of the Machine are perfect security against breaks, the pressure being elastic; one machine produces 10,000 bricks per day, equal to fourteen, at less cost than common bricks made by hand, and being used in a dry state, the bricks are taken at once from the machine to the kiln. Bricks can, therefore be made at all seasons. For fine clay, the machine is peculiarly adapted, as any amount of grind ing can be obtained without any admixture of rough stuff. For particulars, apply to Mr. GEO. HADLEY, No. 8, Old Jewry; or Mr. BURSTALL, the Patentee, Southall, London.

BRICK MANUFACTURERS' MEETING at the SWAN INN, BIRMINGHAM, including most firms within twenty miles of Birmingham.
WILLIAM GILBERT, Jun.,
Of the General Architectural Pottery, Pipe, Blue Brick, and Tile Works, Tividale, Staffordshire.
Unanimously passed—
25th March, 1858.
That our resolution of February 19th last, as to only One Uniform Size of Common Brick being made, namely, 9 in. by 4½ in. by 3 in. now be confirmed; and each manufacturer pay One Guinea to the fund for securing the successful agitation of this question.

George Wood	Z. Guest
William Gilbert	James Collins, Jun.
John Foster	Thomas Crew
John Jennings	Hamblet and Parkes
Thomas Jeffcock	John Pugh
Fox and Bartley	William Morris
John Lewis	John Bond
Aaron Whitehouse	Joseph Hughes
John Robinson	S. and J. Pidgeon
G. B. Haines and Son	James Smart
Partridge, Gunn, and Raybould	William Mansfield
Parkes and Whitehouse	Samuel Baggott
William Finney	John Brown
E. Strongitharm	Joseph Robinson
Martin and Phillips	Thomas Upton
William Horton	Cornelius Bagnall
Thomas Harrison	Allsop and Burke
Joseph Johnson	George Parsons
G. F. Whitehouse	James Green
James Collins	Charles Jones
N. Millward	Charles Machin

R. BEASLEY, J. RADFORD, And Another, } Working Brickmakers' Association's Deputation.

(Signed) WILLIAM GILBERT, Jun. President and Treasurer.
J. FOSTER, Bordesley-green, Birmingham, Secretary.
About a dozen letters from other eminent local firms, expressing their hearty adhesion, were received.

TO BLIND-MAKERS and OTHERS.—TO BE LET, a SMALL HOUSE, with good back yard. Established fourteen years Benches, lathe, and some good furniture to take.—Apply to R GILLESPY, 31, Upper Marylebone street, W.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

17, NEWMAN-STREET, OXFORD-STREET.

EDWARDES, EDWARDS, and CO. PROPRIETORS,

The LARGEST and MOST SUPERIOR STOCK of CHIMNEYPIECES in EUROPE on VIEW at the above-named Establishment.

Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

HARTLEY'S PATENT ROUGH PLATE GLASS,

1-8th of an inch thick, or 2 lbs. to the foot; 3-16ths, or 3lbs.; and 1-4th, or 4 lbs. is now universally used for

RIDGE AND FURROW ROOFS, GREENHOUSES, RAILWAY STATIONS, MILLS, MARKET HALLS, BATHS AND WASH-HOUSES, FACTORIES, WORKSHOPS, SHIP-BUILDING SHEDS, AND OTHER EXTENSIVE BUILDINGS.

By a carefully prepared Estimate, it has been ascertained that FOUR-FIFTHS of the ROUGH PLATE, or non-transparent Glass, consumed in the United Kingdom, in 1854, manufactured by HARTLEY'S PATENT—thus affording the most incontestable evidence of its superiority over every other article of the kind, and as being the only cription of Glass suitable for the purposes above named. It combines size and strength with economy of cost, and is manufactured in sizes expressly for RIDGE and ROW ROOFS, giving a SPAN of TWELVE FEET, at a price not exceeding, weight for weight, that of Common Crown Glass. Its non-transparency renders BLINDS NECESSARY, and no scorching occurs in Greenhouses glazed with it; hence the preference given to this Glass for all Horticultural purposes.

For further particulars, apply to

JAMES HARTLEY AND CO. SUNDERLAND; AND 19, EARL-STREET, BLACKFRIARS, LONDON.

Sole Manufacturers of Lockhead's Patent Perforated Glass for Ventilation.

*** *Hartley and Co.'s Glass Tariff Newspaper will be forwarded gratis, on application.*

WATERLOW, DRAPER, AND WEBB,

ANUFACTURERS OF HOUSE AND COTTAGE JOINERY, TREDEGAR WORKS, BOW, E.

Beg to call the attention of the Building Trade to their extensive Stock of

DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

WAREHOUSE, 121, BUNHILL-ROW, FINSBURY, E.C.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

HE PATENT REVOLVING IRON AND WOOD SHUTTERS,

NUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

nd holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

don Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

NOTICE OF REMOVAL,

From Opposite the London Docks.

ALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.

ODY PAINT, a combination of Metals, forming a bright stone colour Paint. Being indestructible by heat, is well adapted for iron steamers and engineering works.

UBBUCK'S PATENT WHITE ZINC PAINT and SNOW-WHITE ZINC

ECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a ful Reflector of Light, and is unchangeable by Gas.

THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

FLOORING AND MATCHED BOARDING.

R. SLADE

Begs to inform Builders and the Trade that he has now on hand a WELL-SEASONED STOCK of the above, in Yellow or White Deals and Battens, at considerably reduced Prices. Also,

MAHOGANY, MOULDINGS, WAINSCOT,

AND ALL KINDS OF TIMBER REQUIRED FOR BUILDING PURPOSES.

DDRESS—R. SLADE (LATE EDWARD SIMMS), WILTON-ROAD, PIMLICO BASIN.

WINDOW-GLASS.

HOMAS MILLINGTON'S REDUCED PRICES.

ET GLASS, fourths, very superior, in 100, 200, or 300 feet cases, per 100 feet, or about 1½d. per foot.

Ditto, thirds ditto, at 1s. 5d. ditto, or 2¼d. ditto.

Ditto, seconds, ditto, at 2½ ditto, or 3d. ditto.

Ditto, firsts, ditto, at 4s. ditto, or 5d. ditto.

oxes of 1 to feet each at 10s. 12s. 14s. or 16s according to size.

21oz 26oz 32oz and 42oz in various qualities.

Also, CRYSTAL SHEET GLASS.

and 21oz. Ground, Matted Glass of various Patterns, and Coloured

British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, ¼ to 1 inch thick.

COLOURS, VARNISHES, &c.

uine White Lead, 33s.; seconds ditto, 31s. per cwt. Linseed Oil, Boiled ditto, 3s. 10d.; Turpentine, 3s. 2d per gallon. Pale arnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. nd Ground Colours, Brushes, &c

The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.

LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER-CLOSETS.

Cocks and Valves of every description.

Sheet Lead and Pipe of all sizes. Old Lead bought or taken in Exchange.

T. MILLINGTON, 87, Bishopsgate street Without, London. Established upwards of One Hundred Years.

LOOMSBURY STAINED GLASS WORKS, 38, Bedford-square, London, W.C.—ALEXANDER and COMPANY, Practical Artists in Stained Glass, and Ecclesiastical Decorators, invite the attention of the nobility, clergy, architects, &c. to the facilities afforded by their long practical experience in branch connected with the above art, and respectfully solicit favour of a personal visit to their show-rooms, to inspect their and varied collection of Cartoons and Water colour Designs for and Domestic Windows. Designs and Estimates forwarded, ification, to all parts of the kingdom.

LASS PAINTING and MURAL DECORATION.—N. W LAVERS, No. 30, Southampton-street, Strand, informs the clergy, architects, and others, that having entered engagements with artists of repute, he will be happy to submit for such windows as may be entrusted to him, as also for tical decoration. He begs still to call attention to his and quarry glass, of an inexpensive but very effective character—Prices, &c. forwarded on application.

GLASS BENDING, STAINING, and EMBOSSING WORKS.

W. HICKS (late Hicks and Dickson),

80, Rahill-highway

ESTIMATES FORWARDED ON APPLICATION.

CRYSTAL WHITE SHEET GLASS, First, Second, and Third Quality, in Cases of 100, 200, and 300 feet, suitable for Pictures and superior glazing, from 3d to 6d per foot, also in cases of 100 and 200 feet, assorted sizes. Belgium Sheet Glass, in cases 200 feet each; 3rds, 36s. and 39s.; 4ths, 57s. 6d. Squares, in Boxes of 100 feet each, 6 by 4, to 10 by 8, 1½d. per foot. Larger sizes, up to 24 by 14, 2½ per foot. Ground Glass in Cases, 36d per foot Crown and Sheet, British and Patent Plate, HARTLEY'S Patent Rolled Rough Plate, English and Foreign Fluted Stained Glass, Glass Slates, &c. &c. Price-lists and estimates forwarded on application to ROBERT METTAM, 30, Princes-street, Leicester-square.

E. and W. H. JACKSON supply PATENT PLATE, BRITISH PLATE, ROLLED PLATE, CROWN, SHEET, COLOURED, and ORNAMENTAL GLASS, in every variety, of the best manufacture, at the lowest terms. WHITE SHEET and WHITE PATENT PLATE, English manufactured, the best articles ever produced for drawings, prints, and all purposes where perfect absence of colour is a requisite. All applications for estimates and lists of prices to be made at their Warehouse, 315, Oxford-street, W

SOHO PLATE-GLASS WAREHOUSE, No. 26, SOHO-SQUARE, LONDON, W.

PLATE-GLASS,

Of a superior Quality and Colour,

SUPPLIED AT THE LOWEST CURRENT RATES.

Contracts given upon application.

SHEET WINDOW-GLASS.—16-oz. of good glazing quality, flat and clear. Sold by the undersigned, in cases, containing 200 square feet each, up to size 44 by 30, at 45s the case, for cash payment only.—Apply to EDWARD DRIVER, No. 18, Cullam street, Fenchurch-street.

PIMLICO IMPROVEMENTS. — NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, No. 14, Stafford-row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public, are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN-STREET, Lincoln's-inn-fields. Estimates given for the inlaying of Pulpits, Reredos, Fonts, &c. &c. Tesselated Pavements, with Patent Tesseræ. The New Transparent Glass Mosaic. Descriptive Catalogues on application.

N.B. 56, GREAT QUEEN-STREET, LINCOLN'S-INN.

WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, &c. Wells not exceeding 20 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ „ long	3	gutta percha	1 14 0
3 „ ditto	3	or cast iron	2 8 0
3½ „ ditto	3	flanged pipe,	2 12 0
4 „ ditto	3	as required.	3 3 0
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto	ditto		2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses, they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c. Engravings sent on application.

TO ENGINEERS, MILLOWNERS, AND OTHERS

S. W. SILVER & Co. MANUFACTORIES SILVERTOWN, LONDON 93 & 94 CORNHILL, 3 & 4 BISHOPSGATE WITHOUT

MANUFACTURERS OF

VULCANISED AND UNVULCANISED INDIA-RUBBER,

IN EVERY FORM,

Buffer, Bearing, and Carriage Springs; Valves for Marine and Land Engines.

Tubing and other Appliances for Scientific Purposes.

ELASTIC CANVAS AND INDIA-RUBBER STEAM PACKING,

Which wears six times longer, economises Labour and Tallow, is always ready for use, and causes less Friction than any other Packing.

IMPORTERS OF

AMERICAN BELTING, BREWERS' HOSE, &c.

S. W. SILVER and CO.

Nos. 3 and 4, BISHOPSGATE-STREET, opposite the London Tavern.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing

THE GUTTA PERCHA COMPANY, PATENTEES,

18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the Pumps to give one hundred per cent. of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price-lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables

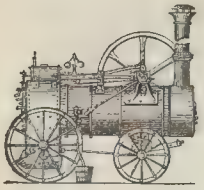
Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

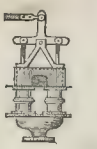
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

TO BUILDERS and OTHERS. — At a meeting of Sand Lightermen, held at the Feathers Tavern, Waterloo-bridge-road, March 30th, 1858, it was unanimously agreed that, in order to meet the charge made by the Conservators of the Thames for a License to get Sand, that after this date the price per cubic yard for above-bridge Sand will be 2s. 3d.; for below 2s

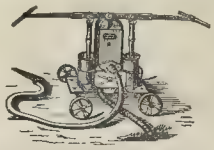
"PUMPS." — FOWLER & CO.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.



YARD, FARM, AND HOUSE PUMPS.

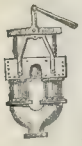


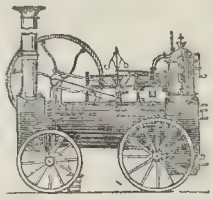
HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.
CONTRACTORS' PORTABLE PUMPS.
PUMPS FOR MANUFACTURERS, FOR STEAM OR HAND POWER.

MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE STEAM ENGINES,

FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

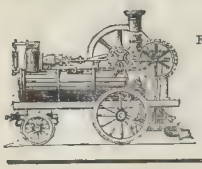




PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

PORTABLE STEAM PUMPING-ENGINES,



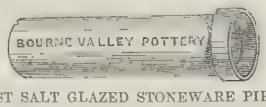
From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,
For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

DOULTON'S PATENT INVERT BLOCKS.

MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS. The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS, which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.
This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage-works.
DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.
DOULTON'S GLAZED STONEWARE SOCKET, HALF-SOCKET, AND OPERCULAR PIPES.
HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.
LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
By the use of which Drains may be examined without the necessity of breaking a Pipe.
SALT GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.
List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. BROWN, Town Agent.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient and portable ever known for warm climates. 1st. It can be laid under 2nd. It is portable, being packed in rolls, and not liable to damage in carriage. 3rd. It effects a saving of half the timber usually required. 4th. It is easily applied by any unpractised person. From its lightness, weight only about 42 lbs. to a square of roof, the cost of carriage is small. 5th. Under slates, metal, tiles it is a most effective non-conductor. Testimonials, Plans, &c. upon application. 6th. Under slates, metal, tiles it is a most effective non-conductor. Testimonials, Plans, &c. upon application. Price ONE PENNY per Square Foot for Roofing, and for damp Boats, under carpets and floor cloths. Price ONE PENNY per Square Foot for CROGGON and CO.'S PATENT FELT SHEATHING, for Covering Ships' Bottoms, &c. and DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the Radiation of Heat, saving 25 per cent. of Fuel, and rendering Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

UNDERHAY'S PATENT REGULATOR CLOSETS for consist of intercepting supply, connected with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fixing, and a better flush of water obtained in use.
Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed. 5,000 of them have been sold, and no instance of failure has occurred.
These Closets are cheaper, stronger, and more ornamental, than any other. Many thousands are in use, and great approval of.
Manufactured by
CHARLES BOTTEN and SON,
Brass Founders, Crawford-passage, Clerkenwell, London.

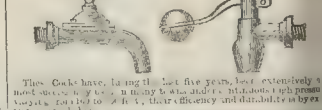
UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Barber's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in	4-in	6-in	9-in	12-in	15-in
2d	3d.	5d.	6d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, E.
Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are requested to leave the street postal address of the materials they affect the delivery.

TO WATER COMPANIES AND PLUMBERS.

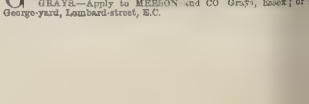
HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adaptation of High-pressure Apparatus to the Supply of Water, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, which supply water to flush them in pipes without cocks, or valves.
LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.

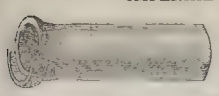
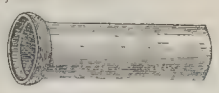


These Cocks have, during the last five years, been extensively used, and have proved to be, in many cases, decidedly superior to the old, their efficiency and durability are by far greater than the common Cocks now in use.
The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.
Manufactured by the Patentee, and may be had of all other Closets, upon economic principles, for the supply of public buildings, cottages, asylums, &c.
THOMAS LAMBERT and SON
Brass and Iron Founders, Short-street, New cut, Lambeth.

GAS SOIL put on BOARD BARGES, at GRAYS.—Apply to MERSON and CO. Grays, Essex; or George-yard, Lombard-street, E.C.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

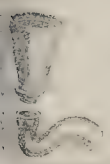
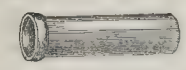
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

PAN, 4s. 6d. PAN, 4s. 6d. TRAP, 2s. TRAP, 2s.

HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

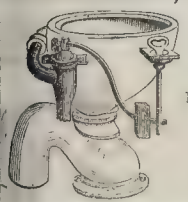
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Fruit Wharf, King's road, Camden town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Brydges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.



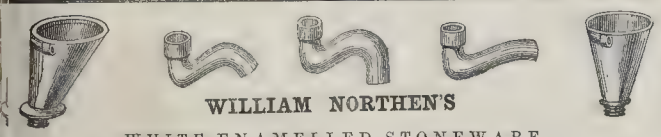
DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,

AND

LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.



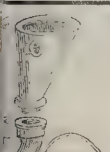
WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.



JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

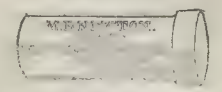
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES are the strongest in the London Market.



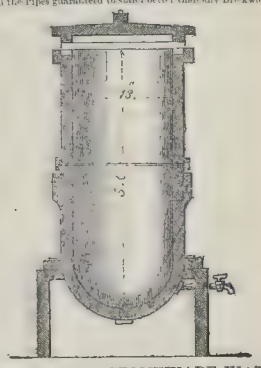
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

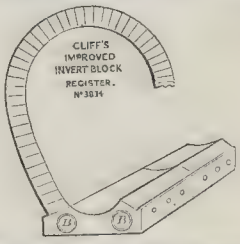
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15 inch.
12s.	8s. 3d.	8s. 6d.	6s.
8s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.

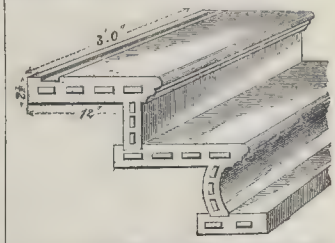


These GLAZED STONEWARE WATER-CISTERNS are made of any size from 15 inches diameter to 3 feet, capable of containing from 50 to 300 gallons. As a Cottage Water-Cistern they are the CHEAPEST, the PUREST, and most DURABLE article made. Vide "The Builder," March 20th, 1858.



By use of CLIFF'S IMPROVED INVERT,

The uniform level of sewer is easier of attainment.
Greater rigidity is ensured by the ring-joints inserted at B.
The work is executed with more speed.
The notched sides ensure better support for the bricks, and the subsoil is more perfectly drained through the lateral apertures O O O in connection with the down thoroughfares B B.



This EARTHENWARE STAIRCASE commends itself, being FIRE-PROOF. It is also strong, durable, and NOISELESS, and is made to any length up to 4 feet 6 inches.

In the Manufacture of FIRE-CLAY RETORTS for Gasworks, JOSEPH CLIFF has brought to bear the experience of now more than thirty seasons, and he with confidence invites the attention of all Gas Engineers to their superiority of finish, correctness of form, and FREEDOM FROM SURFACE CRACKS. A stock is always kept in hand; also Fire Bricks, Lumps, Guards, Tiles, and Clay, at the

WHARF No. 4,

INSIDE GREAT NORTHERN GOODS' STATION, KING'S-CROSS, LONDON.

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, APRIL 12th, 1858, and following day, at TWELVE o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the concluding portion of the valuable and extensive STOCK of DRY SEASONED GOODS (removed from the Commercial Docks), carefully selected, including 2,000 yellow deals and battens, 500 white deals and battens, 500 pine planks, 200 red pine deals and battens, 100 loads Dantzic timber, 200 squares prepared flooring boards, 5,000 feet dry seasoned wainscot, new scaffold poles, oak sills, and other goods. To be viewed on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the extent of 50*l.* and upwards, or a discount of 1½ per cent. will be allowed for cash.

ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, TO SELL by AUCTION, on WEDNESDAY, APRIL 14th, 1858, at TWELVE o'clock, at the MARBLE WORKS, Commercial road, Pimlico, the remaining STOCK of about ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES of the most modern designs, and finished in the best style of workmanship, many of a valuable description, in Genoa Green, Bardilla, Rouge Royal, St. Ann's, Serpentine, Dove, Black, Emperor's Red, Veined and Sicilian Marble, Statuary Mural Tablets, Caen Stone Gothic Tablet, with statuary Inscription Plate; polished Marble Slabs, &c. To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS.—Important Stock of Marble and Stone.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION, on THURSDAY, APRIL 15th, 1858, and following day, at TWELVE o'clock each day, at the MARBLE WORKS, Commercial road, Pimlico, in lots, the concluding portion of the large and valuable STOCK of MARBLE and STONE, in block and slab, including, in block, 100 feet Genoa green, 200 feet of statuary, 200 feet Emperor's red, 60 feet Sienna, 450 feet serpentine, 1,000 feet veined, Sicilian, black, amber, dove, black and gold, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles, 10,000 feet in slabs, of the same assortment, from ½ inch to three inches, 1,100 feet polished slabs, mouldings, 3,000 feet Portland stone, in block, 300 feet of Caen stone, 1,400 feet French stone, 150 feet Wingerworth stone, 2,000 feet of 3 inch to 6 inch of York landings, 3,000 feet Portland slabs, 1 inch to 6 inches, 1,000 feet Wingerworth slabs, 1 inch to 6 inches, 2,000 feet Park Spring, Rawdon Hill, Robin Hood, Hare Hill, and Potter's Newton slabs, ½ inch to 6 inches; head and foot stones, 1,500 feet run of granite curb, 12 feet by 9 inches and 12 feet by 8 inches, five blocks of granite, and other items. To be viewed three days previous to the sale. Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO SHIP CHANDLERS, BOAT AND BARGE BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, APRIL 19, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, No. 257, Rotherhithe street, in lots, without reserve, the extensive and well-assorted STOCK of the late firm of CRISTALL and CO. including, thirty loads English oak, twenty loads elm, three loads teak, 600 feet teak plank, 200 oak posts, 700 feet oak battens, 1,000 feet oak quartering, 1,000 feet old ship timber, 1,000 feet for quartering, thirty large floors, 100 large and timber heads, twenty fathoms oak slabs, ten fathoms teak slabs, fifty fathoms fire-wood, 600 feet American oak and elm plank, 1,500 feet English oak plank, 1,000 feet elm boards, 20 squares flooring boards, 2,000 feet forward boards, 1,000 feet boat boards, 1,000 feet feather edge boards, 10,000 oak trenails, fifty stage [illegible], 120 ash and fir oars, thirty bundles teak laths, ten barrels Stockholm tar and pitch, ships and barge pumps, 150 fathoms chain cables, five tons chain various, double and single purchases, fifteen lifting and screw jacks, two steelyards, crabs, scale beams, several tons iron weights, 10 horse power steam engine, [illegible] edge runners, thirty grindstones, spars and scaffold poles, tarpaulins, anchors and kedges, ten tons bar and rod iron and steel, five new sets Marryatt's signals, seventeen dozen new flags, several hand signals and flags, 100 pieces new bunting, seventy bolts sail-cloth, six tons new rope, five tons old rope, two hawsers, one ton old canvas, 400 sheave blocks, 30 cwt. old lead, 2 cwt. copper sheathing, copper oil cisterns and powder magazines, 3 cwt. hoop and plate iron, 15 tons wrought and cut nails, 1 cwt. copper nails, 1,500 gross brass and iron screws, large assortment of brass cabin furniture, a large and general stock of ironmongery, black lead ware, tin ware, oils and colours, turnery, two punts 20 and 30 tons, three lug boats, skiff, timber carriage, timber wheels, two trucks, two pile engines, three powerful wharf cranes, and numerous other effects. To be viewed on Friday and Saturday previous to the sale, and catalogues had (at 6d. each) of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 26th of APRIL, 1858, and following days, at ELEVEN o'clock each day, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs. LEE and LAVERS, Contractors, Sutton street, Belvedere road, Lambeth, in lots, including a portable 6 horse power contractor's steam engine, on wheels, by Medwin and Hall; a 10 horse power portable table steam engine and boiler, with mortar mill and iron circular saw bench attached, with gearing to work the same, Gwynne's centrifugal pump and pipes, 1,000 scaffold poles and boards, 500 putlogs, scaffold cords, four pile engines with monkeys, 14 massive cast iron fluted columns, each 16 feet high, 700 yellow deals and battens, several thousand feet of dry seasoned pine and other boards, double and single purchase crabs, timber carriage, stone truck, 15 tumbril carts, six useful draught horses, sets of harness, trucks, stable implements, turntable, large quantity of earthen sewage pipes, wrought iron pumps, 10 screw and lifting jacks, blocks and falls, mortising machine by Cousin, smiths' tools, vices, anvils, 20 carpenters' benches, cramps, 100 crow bars, pickaxes, handslings, two tons of lead pipe, oils and colours, ironmongery, rod and bar iron, 50 bags of wrought and cut nails, leather bands, portable sewage pumps with leather hose, 30 pair of water boots, weighing machine, scales and weights, three portable offices, sewer gratings and frames, sink-traps, and numerous other effects. To be viewed on Friday and Saturday previous to the Sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

London Marble and Stone Working Company's Works, Esher street, Millbank, Westminster.

MESSRS. FULLER and HORSEY are instructed to SELL BY AUCTION, at the MART, on FRIDAY, APRIL 30th, at TWELVE o'clock, in one lot, in consequence of the termination of the partnership (unless an acceptable offer be previously made by private contract) the LONDON MARBLE and STONE CUTTING WORKS, together with all the valuable plant and machinery, including four iron sawing frames for marble, working horizontally from 11 feet by 1 foot 10 to 16 feet by 3 feet 4, two iron circular saw frames for marble; two polishing machines to work by power, circle cutting machine, sand bin, trade bin, moulding bed, four engine turning lathes, 8 inches to 14 inches centres, single saw stone cutting frame, a ten-horse power condensing steam engine, by Dryden, with tubular boiler, all the requisite shafting, drums, riggers, and driving gear, two very powerful overhead travelling cranes, and every other requisite for carrying on the business on an extensive scale.

The premises are leasehold for a term of fifty-two years, at a ground rent of 75*l.* per annum, and comprise a spacious and substantially erected manufactory of two floors, handsome and lofty show room, with workshops under, offices, two yards, and manager's dwelling. To be viewed till the sale by cards only, which may be obtained at the Offices of the Auctioneers. These works were established in 1821, and the proprietors have carried on a very extensive ready money business, with adequate profits, up to the time of the termination of partnership in 1855, as can be satisfactorily shown. The connection already attached to the concern and the increasing demand for marble work, render this opportunity well deserving the attention of those seeking for an old-established business. Printed particulars will be ready fourteen days prior to the sale, and may be had on the premises, of Messrs. WARRY, ROBINS, and BURGESS, 78, Lincoln's-inn-fields, W.C.; at the Mart, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

The Gallery of beautiful Works in Terra cotta, copied from the antique and from many charming specimens of modern sculpture, the whole executed by Mr. Blashfield, in a material durable as marble or stone, and finished in a manner surpassing every other similar manufacture of the present day.

MESSRS. RUSHWORTH and JARVIS beg to announce for peremptory SALE by AUCTION, at the GALLERIES in PRAED STREET, Paddington, on THURSDAY, APRIL 22, and two following days, the FIRST PORTION of the extensive and valuable STOCK of WORKS in TERRA-COTTA, the property of Mr. J. M. Blashfield. Amongst a vast variety of objects of the highest excellence, will be found statues and statuettes of the Apollo Belvidere, Diana robing, Flora, Ceres, and other renowned works, several highly finished figures and busts of celebrated persons of antiquity, a beautiful variety of classical vases, including the Townley, Warwick, Albani, Medici, Borghese, and other Greek and Roman vases, tazze, and fountains suitable for the saloon, library, terrace, conservatory, and garden, flower trays, garden seats, pendant and standard flower vases, terminals for gate piers, pedestals, &c. in every variety of form and size, illustrating the high degree of perfection attained by Mr. Blashfield, who has succeeded in producing works worthy the admiration of every lover of the fine arts, in a material which the test of some years has proved to be imperishable. The gallery will be open to public view two days prior to the sale, when catalogues may be obtained of Messrs. RUSHWORTH and JARVIS, Savile row, Regent-street, and 19, Change alley, Cornhill, and on the Premises.

LONGTON GROVE, SYDENHAM.—Eligible Building Land, occupying one of the choicest sites in the neighbourhood of London, where villa residences are in great demand, and readily let immediately they approach completion.

PULLEN and SON are directed to SELL by AUCTION, at the MART, on TUESDAY, APRIL 27, at TWELVE o'clock, FIFTEEN PLOTS of most eligible and attractive BUILDING LAND, in one of the choicest and most favourable situations in the neighbourhood of the metropolis, Sydenham, on the north and south sides of Longton grove, where building operations have been successfully carried on, and are near to by adjoining the elegant villa residences already erected, and occupied by tenants of the highest respectability, close to the church, within five minutes' walk of the Sydenham station, and very little further from the Crystal Palace. The plots have frontages of 40 and 50 feet each, with considerable depth, and are held for a term of upwards of ninety years, at a merely nominal ground rent.—May be viewed and particulars had of Messrs. NEWBON, EVANS, and NEWBON, Wardrobe place, Doctors' commons, at the Mart; and of PULLEN and SON, 80, Fore street, Cripplegate.

TO TIMBER MERCHANTS AND BUILDERS.

MESSRS. DAVIS and VIGERS are directed by Mr. Sykes, who is retiring from business, to SELL by AUCTION, on the PREMISES, Osborn street, Whitechapel, on MONDAY, APRIL 12, and following days, at TWELVE for ONE each day, the well assorted and SEASONED STOCK, comprising 3,000 pieces of yellow pine, and white and yellow planks, deals, and battens, 350 squares of white and yellow prepared floor boards and battens, 50 squares of matched and beaded lining boards, 1,000 feet oak sash sill, 1,500 feet of oak scantling, 1,000 feet of die square, 1,000 feet of quartering, a very large and useful assortment of dry cut stuff, 40 loads of long Dantzic timber, 20 loads of long Swedish timber, a fine log of oak, quantity of oak board, double purchase jack, strong spring cart, three timber trucks, a piling horse, three benches, and numerous other valuable items. May be viewed the Saturday before and mornings of sale; catalogues to be had on the Premises; of Messrs. WARRINGTON and BEETSON, New City-chambers, Bishopsgate-street; and of Messrs. DAVIS and VIGERS, 3, Frederick's place, Old Jewry.

TO TIMBER MERCHANTS AND OTHERS.—ASTON END WOOD, near Bragbury end, Herts, 2 miles from the Stevenage Station, on the Great Northern Railway.—By

MR. T. Y. KIMPTON, on WEDNESDAY, APRIL 7, at ONE, 111 OAK TIMBER TREES, in convenient lots.—Catalogues had at his Auction Offices, Bull plain, Hertford.

Brickfields in full Working Order, Lease, Plant, and Stock of about Three Millions, near West Drayton.

MESSRS. EVERSFIELD and HORNE are instructed by the Executor to SELL by AUCTION, at the MART, in TWO or THREE WEEKS, the LEASE of a PIECE of LAND, containing 8 acres, lying between the Railway and the Grand Junction Canal, in the parish of Harlington, and near the West Drayton Station, on the Great Western Railway, with permission to make bricks thereon, granted for 21 years, or till the land is exhausted, from September, 1856, since which time the late proprietor has improved the property by the erection of cottages and formation of a dock. The portion of land not being worked is let as orchard ground at a rent which nearly covers the whole. The necessary preparations have been made for making five millions this season, and the incoming party may take the stock now on the ground; he will also be required to take the plant and utensils, and to pay for the soiled earth according to the amount expended thereon. Further particulars will be duly advertised, and may be had of Messrs. FUTVOYE, SAWELL, and LIGHTFOOT, 23, John street, Bedford row; and of the Auctioneers, 40, Parliament street, Westminster.

NORWOOD.—The valuable Materials and Fittings of the Central London Schools.

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District Schools to SELL by AUCTION, on the PREMISES, adjoining the Woodman, Upper Norwood, on TUESDAY, APRIL 20th, at TEN for ELEVEN, on account of the number of lots, the excellent MATERIALS and FITTINGS of the school buildings and dwelling houses, comprising about 200 squares of timber and timber roofs, of various spans, 250 squares of flooring boards, joists, and girders, numerous doors and sashes, lining boards, partitioning and weather boarding, ornamental fencing, iron palisading, cooking apparatus, and large iron pans, steam boilers, pipes and metal cocks, force-pumps, gas fittings, kitchen ranges and stoves, the wrought iron clothes drying frames and other fittings of laundry, five tons of lead, 10,000 superficial feet of Yorkshire paving, fifty rods of sound stock brickwork, and numerous other effects, the whole of which will be put into suitable lots, to be taken down by the purchasers. May be viewed three days previously, and Catalogues had at the Woodman; also of Mr. HEATH, Solicitor, 10, Basinghall street; and of the Auctioneers, 40, Parliament street, Westminster, S.W.

NOTE.—The FREEHOLD SITE, with CHAPEL and SCHOOL-ROOM, will BE SOLD, in MAY next, in one or more lots.

TO ARCHITECTS, BUILDERS, and OTHERS.—Superior Marble Chimney pieces, &c. Paddington.

MESSRS. EVERSFIELD and HORNE are instructed by the Proprietor, Mr. James Simmons, TO SELL by AUCTION, on the PREMISES, Marble Factory, 20, Bridge terrace, Harrow road, Paddington, on WEDNESDAY, APRIL 28, at TWELVE for ONE, about ONE HUNDRED MARBLE CHIMNEY PIECES, got up with great care, and polished by steam power. They are principally of an inexpensive character, but there are others of more elaborate designs in statuary and various coloured marbles. There will also be included in the sale, 20,000 feet of Simmons's improved Wood Mouldings.—May be viewed two days previous, and catalogues had on the Premises, or will be sent post free, on application to the Auctioneers, 40, Parliament street, Westminster.

Freehold Mansion and Grounds, suitable for a scholastic establishment, sanatorium, boarding house, or hotel, close to a Station on the Great Western Railway, and forty minutes' ride from town, in a proverbially healthy neighbourhood.

MESSRS. EVERSFIELD and HORNE are instructed to SELL or LET, a FREEHOLD MANSION, substantially built of the best Cowley bricks, within the last few years, and containing twenty five bed rooms, with bath room and water closets, on the upper floors, nine apartments, mostly of large dimensions, on the first-floor, and numerous rooms on the ground-floor, including a suite of three, 70 feet in length, opening into the pleasure grounds; there are also ample domestic offices and storage in the basement. The grounds are planted with a profusion of choice shrubs and evergreens, and abound with shady walks and green lawns, the whole comprising about 4a. 2r. 30p. Rent for a term, 280*l.* a year. Purchase money of freehold, 4,800*l.*; or the grounds alone will be let on a building lease for the erection of villa residences. Further particulars may be had of Messrs. EVERSFIELD and HORNE, Auctioneers and Estate Agents, 40, Parliament-street, E.C.

SALES BY AUCTION.

TO BUILDERS AND OTHERS.

MESSRS. PUGH will SELL by AUCTION, at the MARBLE WORKS, Lorrimore road, Walworth, on MONDAY, APRIL 19th, 1858, at TWELVE o'clock, about 15 superior STATUARY, SICILIAN, and other MARBLE, and STONE CHIMNEY-PIECES in great variety, suitable to every class of house. The whole being manufactured with good Architectural design, and properly arranged for fixing.—May be viewed on Saturday previous and morning of Sale. Catalogues may be had at the Elephant and Castle, Newington Butts; Duke of Sutherland, Lorrimore road; on the Premises; and of the Auctioneers, 6, Blackman street, S.E.

IN BANKRUPTCY.—TO IRONFOUNDERS, ENGINEERS, AND OTHERS.

MR. JOHN THOMAS is instructed to SELL BY AUCTION, on THURSDAY, APRIL 8th, 1858, at ELEVEN for TWELVE o'clock precisely, on the premises, THOMAS'S IRONFOUNDRY, STROOD, next ROCHESTER (on the banks of the Medway), KENT, the whole of the FOUNDRY PLANT, MACHINERY, and IMPLEMENTS, comprising an excellent 6 horse power horizontal steam engine, with boiler, two wrought iron cupolas, Lloyd's patent fan blast, 25 ton foundry crane, 15 ton ditto, 8-inch back gear self acting screw cutting lathe, with 11 feet bed and 6-feet connection piece, two other lathes, 40 feet iron shaft, with flat riggers and brackets, stocks, taps, and dies, and steel tools, about 30 tons of moulders' boxes and flasks, about 30 tons of Scotch pig iron, three stove carriages, iron rails and plates, three crane ladles, shank and hand ladles, grindstone and frame, scales and weights, large iron tanks, foundry and smiths' tools, smiths' bellows, vices, workbenches, collection of patterns in wood and iron, the castings for a beam and coal dust mill, quantity of new castings, quantity of useful blacksmith's iron, gas meter, about 1,000 feet of iron gas-pipe, with burners, quantity of racks and other effects.—May be viewed the day before the sale, and catalogues had of WILLIAM BELL, Esq., Official Assignee, 3, Coleman street Buildings, London; of R. PRALL, Jun. Esq. 19, Essex street, Strand, London; of the Auctioneer, at his Offices, 147, East gate, Rochester; and of Messrs. THOMAS and CADDEL, King street, Gravesend.

POTTER'S FIELDS, ST. JOHN'S, SOUTHWARK.—Extensive Sale of BUILDING MATERIALS, comprising two brick built dwelling houses, granary, long ranges of warehouses and sheds, stabling, and counting house, consisting of about 20,000 pan tiles, several tons of lead in gutters and pipes, capital sound timber in long lengths and large scantling, flooring boards, doors, sashes and frames, and other wood fittings.

MR. PEAKE is favoured with instructions from the Freeholder, TO SELL the above Property upon the PREMISES, on WEDNESDAY, the 14th APRIL, 1858, and following day, in lots, at TWELVE for ONE o'clock each day. Also, at the same time, will be sold, in lots, the counting house fittings, iron safe, office table and desks, two powerful cranes, an cistern lined with lead, oil casks, large iron tank, 40 street lamps, quantity of pitch, tar and rosin, in barrels and casks; excellent patent chaff cutting machine, and numerous other miscellaneous effects.—May be viewed two days previous and mornings of sale; and catalogues obtained on the Premises, and at Mr. PEAKE'S Offices, 44, Tooley street, Southwark, S.E.

GLOUCESTER.—IMPORTANT NOTICE of EXTENSIVE and POSITIVE UNRESERVED SALE.—To TIMBER MERCHANTS and DEALERS, CONTRACTORS, BUILDERS, CABINET-MAKERS, and OTHERS.

SAMUEL BLOORE is favoured with instructions from Messrs. Heane and Co. Importers and Timber Merchants, the Docks, Gloucester, to arrange for positive SALE by AUCTION, on TUESDAY, the 20th of APRIL, and following days, commencing each day punctually at ELEVEN o'clock, the whole of their valuable and well selected STOCK of BUILDING and other TIMBER, TRADE REQUISITES, &c. as follows:—

20,000 Spruce Deals, containing about 250,000 feet.
4,600 First Quebec Pine Deals, containing about 61,200 feet.
5,200 Second ditto ditto containing about 54,720 feet.
800 First Petersburg Red Deals, containing about 10,000 feet.
2,300 Wyburg Red Deals, containing about [illegible] feet.
1,100 Memel Red Deals, containing about 18,720 feet.
1,800 Swedish Red Deals, containing about 32,800 feet.
77 Pine Board Logs Quebec Yellow Pine, containing about 5,500 feet.
28 Logs Quebec Red Pine, containing about 1,500 feet.
183 Logs Memel, containing about 4,500 feet.
53 Logs American Birch, containing about 1,510 feet.
4,000 Feet of Crown Wainscot Oak Boards, 12 fathoms of Lath Wood, many thousand feet of prepared Red and White Floor Boards, Slate Laths, Red Pine Masts, Spars, Ropes, Tools, Office Fixtures, and other valuable Property.—Further particulars in next week's paper.

N.B. The spacious Yard and Premises, three Acres in extent, to be Let, with immediate possession, having railway and canal communication with all parts of the kingdom.—Apply to Messrs. HEANE and CO. Gloucester.

BUILDERS willing to ERECT really substantial HOUSES suitable for families of respectability, may obtain the usual facilities with the privilege of purchasing up the ground rent and converting the land into freehold, on fixed terms.—Apply to Mr. COLE, Spring Grove Estate Office, Middlesex, W.; or at No. 17, Warwick street, Regent street, London.

FREEHOLD LAND TO BE SOLD, or LET on LEASE, for Building Purposes, at very moderate ground rent, within five minutes' walk of the Colney Hatch and Southgate Station on the Great Northern Railway. Capital frontages, roads made, with main sewers. The land has a gravelly subsoil, and is well adapted for detached or semi-detached villas, for which there is a great demand. Assistance to responsible parties if required. For terms and particulars apply to Mr. ROBERT J. BREDE, Architect and Surveyor, No. 26, Martin's lane, Cannon street, E.C. and Colney Hatch Park, N.

WATERSIDE PREMISES, Shad Thames, very accessible from the City, and in sound repair; now used as a granary. LEASE TO BE SOLD. Principals or solicitors only apply to W. A. BOULNOIS, Architect, 6, Waterloo place, S.W.

TO BE SOLD, by Private Contract, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq. No. 17, Serjeants' inn, Fleet street, E.C.

TO BUILDERS or Parties requiring extensive PREMISES, near the City.—The LAND opposite the Elephant and Castle, Newington, within one mile of London bridge, containing a frontage of 70 feet, TO BE LET, by the Fishmongers' Company, on building leases, by TENDER, on the 21st day of APRIL next.—For particulars, apply to Mr. W. B. TOWSE, the Company's Clerk, Fishmongers' hall, London-bridge; or at the Office of Mr. RICHARD SUTER, the Company's Surveyor, 28, Fenchurch street.

TO BUILDERS and OTHERS.—FREEHOLD BUILDING GROUND, near the Old Kent road, TO BE LET or SOLD, three miles from the Bank of England, situate on a good open road direct from the high-road, where houses let at high rents as fast as built.—Apply to THOMAS SINGLE, Esq. Bath House, Queen's road, near New cross.

TO BUILDERS and TRADESMEN.—TO BE LET, on lease, for twenty-six years, for conversion into shops, all those eligible PREMISES, numbered 2, in WHITE CONDUIT-STREET, Pentonville, and having a frontage to the street of about 34 feet.—Apply to Mr. JOHN HEALY, Auctioneer and Valuer, 43, Bedford-row, W.C.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn fields, in the Parish of St. Giles in the Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, April 3, 1858.

The Builder.

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PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—THE ANNUAL DINNER of the Institution will take place on TUESDAY, 11th MAY, at the London Tavern, C. R. COCKERELL, Esq. R.A. in the Chair, supported by the following gentlemen:—

Angell, S. esq. F.S.A.
Ashby and Son, es.rs.
Axford, J. B. esq.
Baker, G. W. esq.
Barnett, Jno. esq.
Barry, E. M. esq. A.R.A
Barnes, Wm. esq. F.S.A
Bellhuni, V. esq.
Bietz, E. L. esq.
Blythe, J. esq.
Bramley, T. esq.
Brodwick and Akeroyd, esqrs.
Brown, J. esq.
Clarke, J. esq. F.S.A.
Clifton, E. N. esq.
Collins and Stanbury, esqrs.
Dowson, and Co. esqrs.
Dunnage, Wm. esq.
Eastwood, J. and W. esqrs.
Felder, H. esq.
Francis, Alfred, esq.
Gammon, F. B. esq.
Harling, H. B. esq. A.S.A.
Hoover, Bros. esqrs.
Jenkins, G. esq. F.R.S.
Griffith, J. esq.
Grissell, Thos. esq.
Hardwick, P. esq. R.A
Hardwick, P. C. esq. F.S.A
Haynes, C. esq.
Hayward, Jas. esq.
Hemmings, G. H. esq.
Hobbs, A. C. esq.
Holland, H. C. esq.
Jackson, Thos. esq.
Jay, Jno. esq.
Jennings, G. esq.
Jones, Owen, esq. F.S.A.
Lennard, R. W. esq.

Knowles, J. T. esq. A.S.A
Lawrence, Wm. esq. Aldm.
Lee, H. esq.
Lee, W. esq.
Lee, J. esq.
Lewis, T. H. esq.
Lyon Bros. esqrs.
Mansfield, Geo. esq.
Meakin, W. F. esq.
Moseley, W. esq.
Myers, Geo. esq.
Norris, W. esq.
Page, Thos. esq.
Pemberton, Jas. esq. F.S.A
Penrose, F. C. esq. F.S.A
Peto, Sir S. M. bart.
Piper, Wm. esq.
Pipe and Son, esqrs.
Pitt Knett, Geo. esq.
Richardson, C. esq.
Scott, G. G. esq. F.S.A
Scott, J. S. esq.
Shirke, P. esq. A.R.A.
Smith, Geo. esq.
Stedall, R. esq.
Stevens, J. B. esq.
Stirling, Thos. esq.
Tait, J. esq.
Tillott, J. esq.
Troggon, Wm. Thos. esq.
Trickett, S. esq.
Vulliamy, L. esq.
Wallis, E. and T. esqrs.
Webb, W. esq.
Wilson, J. esq.
Woolthorpe, E. esq. F.S.A.
Young, Jno. Scott, esq.
Young, Jno. esq.

Gentlemen desirous of supporting the chairman on this occasion will oblige by forwarding their names to

WILLIAM ALLARD, Secretary.

Albany-tree Tavern, St. Swithin's-lane.

HORTICULTURAL SOCIETY of LONDON.—EXHIBITIONS of 1858.—TICKETS may now be had, personally, or by letter enclosing a remittance, at the House of the Society, 21, Regent street, S.W.; at the Gardens, Chiswick, W.; or of the principal Nurserymen and Seedsmen in and around the Metropolis. FELLOWS and the HOLDERS of IVORY TICKETS have the privilege of purchasing an unlimited number of Tickets for the Exhibitions of 1858 at Chiswick at 3s. 6d. each up to MAY 31 inclusive; but the privileged Tickets can only be had at 21, Regent street.

EXHIBITION of the SOCIETY of BRITISH ARTISTS, Incorporated by Royal Charter.—The FORTY-FIFTH annual EXHIBITION of this Society is NOW OPEN, from NINE a.m. until dusk. Admittance, 1s.—Suffolk street, Pall-Mall East.

ALFRED CLINT, Secretary.

THE INSTITUTE of BRITISH ARCHITECTS hereby give Notice, that an EXAMINATION of persons desirous of obtaining a CERTIFICATE of COMPETENCY to perform the duties of DISTRICT SURVEYOR, will take place at the rooms of the Institute, No. 16, Grosvenor-street, Grosvenor-square, on TUESDAY, the 27th day of APRIL, at TWELVE o'clock at Noon. Persons desirous to be examined, must, on or before FRIDAY, the 16th day of APRIL, send an application, which must be accompanied by a statement, according to a form to be previously obtained at the rooms of the Institute.

C. C. NELSON, }
D. DIGBY WYATT, } Hon. Secs.

PRACTICAL GEOLOGY, KING'S COLLEGE, LONDON.—PROFESSOR TENNANT, F.G.S. will give a Course of TWELVE LECTURES on GEOLOGY, having especial reference to the application of the Science to ENGINEERING, MINING, ARCHITECTURE, and AGRICULTURE. The Lectures will commence on FRIDAY MORNING, APRIL 16th, at NINE o'clock. Fee, £1. 1s. 0d.

R. W. JELF, D.D. Principal.

LECTURES to WORKING MEN.—GOVERNMENT SCHOOL of MINES, JERMYN-STREET.—The THIRD COURSE of SIX LECTURES on METALLURGY by Dr. PERCY, F.R.S. will be commenced on MONDAY, APRIL 19th, at EIGHT o'clock, p.m. Tickets may be obtained by Working Men only, on MONDAY, APRIL 12th, from TEN to FIVE o'clock, upon payment of a registration fee of 1s. Each applicant is requested to bring his name, address, and occupation, written in a piece of paper, for which the ticket will be exchanged.

TRENHAM REEKS, Registrar.

CONTRACTS.

NEW CONGREGATIONAL CHAPEL and SCHOOLS, Angel-street, Worcester.—To BUILDERS and CONTRACTORS.—Parties willing to CONTRACT for the erection of the BUILDINGS, above the plans, specifications, and conditions of the Chapel, between the hours of TEN and FOUR, on and after WEDNESDAY, the 7th day of APRIL next. Tenders sealed and addressed to the "Building Committee," to be delivered at the Secretary, Mr W. JOSELAND, 28, High-street, Worcester, on or before that FRIDAY, the 16th of APRIL, at FIVE o'clock p.m. The lowest or any of the Tenders will not necessarily be accepted. Bill of quantities can be obtained by application to Messrs. POULTON and WOODMAN, Architects, Reading.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 11th MAY next, at TWELVE o'clock precisely, to SELL, by TENDER, the following FREEHOLD GROUND RENTS:—

Rental of £40 a year for eighty years, from Lady-day, 1858, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 114, Chancery-lane, with the reversion to the same at the Rental of £80 a year for eighty years from Lady-day, 1938, secured on the house known as the Mitre Tavern, Fleet-street, with the reversion to the same.

The Rental of £67 a year for eighty years from Michaelmas, 1858, secured on the substantial business premises in Fetter-lane on the east side, in the occupation of Messrs. Reed and Bond, with a reversion to the same at £71 Rental and a year for seventy-four years from Michaelmas, 1858, secured by substantial business premises on the east side of Philpot-lane, in the occupation of Mr. Cutts, with the reversion to the same.

Tenders for the same must be sent in sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next.

Particulars may be obtained on application at the Sewers Office, Guildhall. The ground rents to be subject to the approval of the Corporation, as shall be fixed in each case, from and after Michaelmas next.

The Commissioners do not bind themselves to accept any Tender addressed unless the same be delivered originally.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858.

SWANSEA LOCAL BOARD of HEALTH.—To MANUFACTURERS of SEWERAGE PIPES, &c. CONTRACT 1.—The LOCAL BOARD of HEALTH for the Borough and Local District of Swansea, in South Wales, are prepared to receive Tenders for the supply of about 1,000 YARDS of EARTHENWARE SEWERAGE PIPES, BENDS, JUNCTIONS, GULLY TRAPS, &c. The Specification, Form of Tender, and Schedule for Prices, may be obtained after WEDNESDAY, the 31st of MARCH next, by personal application at the Office of Mr EDWARD COUSINS, the Clerk's Office, Guildhall, in or before WEDNESDAY, the 21st of APRIL next, endorsed "Tender for Sewerage Materials Contract No. 1." The Local Board do not bind themselves to accept the lowest or any Tender.—By Order,

C. B. MANSFIELD, Clerk.

Guildhall Offices, Swansea, 5th March, 1858.

SWANSEA LOCAL BOARD of HEALTH.—CONTRACTORS of SEWERS and PUBLIC WORKS.—SEWERAGE CONTRACTS C and D.—THE LOCAL BOARD of HEALTH for the Borough and District of Swansea, in the County of Glamorgan, are prepared to receive TENDERS for the execution of the following Sewerage Works:—

CONTRACT C.—For the construction of Brick Sewers, as under—About 1050 Yards of Brick Sewers, varying from 3 feet 9 inches by 2 feet 6 inches to 2 feet 3 inches by 1 foot 6 inches diameter, with manholes, lamp-holes, street gullies, culvert work, and other works connected therewith.

CONTRACT D.—For excavating the ground and laying earthenware pipe sewers, as under—About 1200 Yards of Earthen-Pipe Sewers of various sizes, with manholes, lamp-holes, street gullies, cast iron work, and other works connected therewith.

The Drawings may be inspected, and a copy of the specification obtained, at the Guildhall Offices, and schedule of Prices obtained, on WEDNESDAY, the 7th of APRIL next, by personal application at the Office of Mr EDWARD COUSINS, the Surveyor to the Board. Further information relative to the proposed works may be obtained. Sealed Tenders to be delivered at the Clerk's Office, Guildhall, on or before WEDNESDAY, the 21st of APRIL next, endorsed "Tender for Sewerage Contract No. 2." The Local Board will not bind themselves to accept the lowest or any Tender. By Order,

C. B. MANSFIELD, Clerk.

Guildhall Offices, Swansea, 30th March, 1858.

TO ROAD CONTRACTORS and OTHERS.—TENDERS are required for the MAKING and COMPLETION of the ROADS, DRAINS, FOOTPATHS, RAIL FENCING, and other Works necessary to be executed on the formation and laying out of an Freehold estate situate at West-green, Tottenham, Middlesex. Plans and specifications will be deposited at the Black Boy Inn, West green, Tottenham, on ONE o'clock, on THURSDAY, the 15th inst. and on the two following days. The owner does not bind himself to accept the lowest or any Tender.

CONTRACTS.

TO BUILDERS.—BUILDERS are hereby invited to send in TENDERS for the ELECTION of BOYS' and GIRLS' NATIONAL SCHOOLS, with out offices, boundary walls, and two residence houses, proposed to be built at Grantham. The plans and specifications may be seen at Mr BROWNING'S Office, Broad-street, Stamford, on and after APRIL 5th. Tenders to be sent in on TUESDAY, the 20th of APRIL, by Half past ELEVEN o'clock, a.m. on that day. The Committee do not pledge themselves to accept the lowest or any Tender.

NOTICE to CONTRACTORS.—The Commissioners for the Port and Haven of Londonderry are prepared to receive TENDERS for BUILDING a GRAVING-DOCK, according to plans, sections, and specifications to be seen at the OFFICE of the COMMISSIONERS, on days between the hours of TEN and FOUR o'clock. The Tenders to be sealed and addressed to the Secretary of the Commissioners, and endorsed with the words "Tenders for Graving Dock," and to be delivered or posted on or before the 26th day of APRIL next. The Commissioners do not bind themselves to accept the lowest or any of the Tenders. By order,

A. H. STEWART, Secretary.

Port and Harbour Office, Londonderry, 6th March, 1858.

TO BUILDERS.—TENDERS are required for the ERECTION of a NEW TOWER, and for other WORKS, at the Parish Church of High Ongar, Essex. The plans and specification may be seen at the Residence of Mr. E. CLEEVE, Architect, Harlow Bush, Ongar, on and after TUESDAY, the 13th of APRIL next, until 10 o'clock on the following Saturday. Mr. E. SWAN-BURTON GH, Architect, 2, Broad street-buildings, London, E.C.—Sealed Tenders, forwarded to Mr. E. CLEEVE will be received not later than MONDAY, the 26th of APRIL. The lowest or any Tender will not necessarily be accepted.

BLACKBURN INFIRMARY.—To BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the ERECTION of an INFIRMARY at Blackburn may see the plans and specification at the Town Hall, Blackburn, on MONDAY and TUESDAY, the 12th and 13th of APRIL next, between the hours of TEN and FOUR; and at the Office of the Architects, Messrs SMITH of SATURN-HILL, 31, John Dalton-street, Manchester, on the 21st and 22nd of APRIL, and the 4th and 5th of MAY. The day on which Tenders are to be delivered and Contracts entered into will be stated in the Bills of Quantities.

J. WILD BLACKBURN, Blackburn. J. KANEY, Secretary.

TENDER for MASON'S WORKS.—The Board of Works for the Fulham District are prepared to receive TENDERS for Contractors for certain PAVING WORKS, &c. in the several districts, descriptions of which may be seen in the Surveyor's Office, Bridge-road, Hammersmith. Parties tendering must in plain figures place the price in the column in the schedule opposite to the description of work to which they give such price, and the prepared forms for the same can be had of the Surveyor, on application at the Office, Bridge-road, Hammersmith, from the date of this advt. and thereof. Any further information may be had on application to Mr BEAN, Surveyor to the Board. Tenders to be addressed to the Chairman, marked on the outside, "Tender for Paving Works," and sent in or before TEN o'clock, WEDNESDAY, the 14th inst. The Board do not engage to accept the lowest or any Tender.—By order,

W. LOVELL, Clerk.

April 5, 1858.

TO BUILDERS. Persons desirous of TENDERING for the ERECTION of TWO VILLA RESIDENCES at Leytonstone, Essex, can have the necessary particulars and inspect the drawings and specifications at Messrs. DRIVER'S Office, No. 4, Wellclose Square, near the London Docks, on and after MONDAY, the 12th inst. Separate Tenders must be sent in for each house, and delivered on or before the 17th day of APRIL, inclusive. Tenders to be addressed to the undersigned, and delivered on or before ELEVEN a.m. of the 5th day of MAY, endorsed "Tender for New Houses, Leytonstone," or "Tender for Villas." They do not bind themselves to accept the lowest or any Tender. The contractor for the new houses is required to enter into a bond for the due performance of the contract, and to name them in the Tender. The contractor for the old land to remove it from the churchyard on or before the 19th day of June, 1858, to such place as directed.

INDUS STEAM FLOTILLA.—To STEAM-BOAT BUILDERS and ENGINEERS.—The Directors of the Scinde Railway Company are prepared to receive TENDERS for the CONSTRUCTION and DELIVERY in INDIA, of the FIRST PORTION of their FLOTILLA, for the NAVIGATION of the INDUS, between Hyderabad, the Upper Terminus of the Scinde Railway, and Mooltan, the Lower Terminus of the Punjaub Railway. The entire length, 220 feet; breadth, 36 feet; depth, 6 feet; draught, 4 feet. And Vessels of large dimensions, of the following dimensions:—Length, 180 feet; breadth, 28 feet; depth, 5 feet 6 inches; draught, 2 feet. The Flotilla will consist of Vessels of various sizes and descriptions. Plans, specifications, and conditions may be seen at the Offices of the Company's Consulting Engineer, Gresham House, Old Broad street, London, E.C. on and after MONDAY, the 5th APRIL.—The Company do not bind themselves to accept the lowest or any Tender.

W. P. ANDREW, Chairman.
THOMAS BURNELL, Secretary.

Gresham House, Old Broad street, London, March, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

TO GAS-HOLDER MAKERS.—The Commissioners of Walsall wish to obtain TENDERS for a 70 FEET TELESCOPE GAS HOLDER, with guide columns, guide bars, balance weights, and friction rollers complete. The plans, section, and specification may be inspected at the Commissioners' Clerk's Office, Bridge-street, Walsall, where sealed Tenders, marked "Tender for Gasholder," are to be sent on or before the 22nd day of APRIL next. The Commissioners do not bind themselves to accept the lowest or any Tender.

SAMUEL WILKINSON, Jun. Commissioners' Clerk.

Walsall, 31st March, 1858.

TO BUILDERS and OTHERS.—The Commissioners of Walsall are ready to receive Tenders for the ERECTION of a BRICK TANK, 72 feet in diameter, by 18 feet deep, to be built at the Gas Works. The plan, section, and specification may be seen at the Commissioners' Clerk's Office, Bridge-street, Walsall, where sealed Tenders, marked "Tender for Tank," must be sent on or before the 22nd of APRIL next. The Commissioners do not bind themselves to accept the lowest or any Tender.

SAMUEL WILKINSON, Jun., Commissioners' Clerk.

Walsall, 31st March, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a MANSION HOUSE and OFFICES at Sandridge, near Melksham, Wilts, may inspect the drawings and specifications daily after MONDAY, the 12th of APRIL, at Sandridge, between the hours of NINE a.m. and SIX p.m. Security will be required for the due performance of the works. The lowest or any Tender will not necessarily be accepted, and no payment will be made for estimates. Sealed and endorsed Tenders are to be delivered at Sandridge, on or before the 26th day of APRIL, 1858. Further information may be obtained on application to DAVID MACKINTOSH, Architect, Exeter.

Dated St. Sidwell's, Exeter, April 3, 1858.

TO BUILDERS.—TENDERS are required for the ERECTION of COW SHEDS, STABLING, and SUNDRY ALTERATIONS, at Nos. 110 and 111, Goswell-road, for Mr. WAKEFIELD. The drawings and specification may be seen until the 15th instant, at the Offices of the Architects, Messrs. FINCH, HILL, and PARAIRE, 1, St. Swithin's-lane, City.

TO BUILDERS.—Parties willing to TENDER for the WORKS in Proposed New National Schools at Neston, may see a copy of the plans and specification upon application at the Vicarage, Neston, or at my Office in Chester. Tenders, endorsed "Neston National Schools," to be sent in, addressed to the Rev. R. W. GLEADOWE, the Vicarage, Neston, on or before SATURDAY, the 24th instant. The Committee do not bind themselves to accept the lowest or any Tender. N.B. Quantities can be supplied.

THOS. M. PENSON, Architect, the Bars, Chester.

TO ROAD-MAKERS, CONTRACTORS, and OTHERS.—The Trustees of the White Horse Estate, Norwood, are ready to receive TENDERS for the EXECUTION of certain WORKS on the ROADS proposed to be made through the said Estate. Plans and specification may be seen at the Offices of Messrs. NORTON, HOGGART, and TRIST, 62, Old Broad-street, London; at Mr. PEACOCK'S, close to the Norwood station; and at the Greyhound Inn, at Croydon. Tenders are to be sent, directed to the Trustees of the Norwood Estate, Auction Mart, London, on or before TUESDAY, APRIL 13, at ELEVEN o'clock. The Trustees do not bind themselves to accept the lowest or any Tender.

TO CONTRACTORS and BUILDERS.—ASHFORD BURIAL BOARD, KENT.—Notice is hereby given, that the above Board are prepared to receive TENDERS for the ERECTION of TWO CHAPELS, a Lodge, and other necessary buildings, for the purpose of a cemetery; together with entrance gates and boundary wall, fencing, [illegible]. Plans and specifications may be seen and further information obtained at my Office, at Ashford; and at the Office of the Architect, CHARLES H. EDWARDS, Esq. 4, St. James's-terrace, Camden town, on and after TUESDAY, the 6th APRIL next. Tenders to be submitted as per form, which will be given, and to be forwarded to me on or before the 27th APRIL next. The Board do not necessarily bind themselves to accept the lowest or any Tender.

ROBERT FURLEY, Clerk to the Board.

Ashford, March 30, 1858.

TO ROAD-MAKERS, CONTRACTORS, and OTHERS.—NEW ROADS on the WHITE HORSE ESTATE at NORWOOD.—Copy Quantities, Plans, Sections, and Specification may be had, on payment of 15s. of Messrs. GARDNER and CO. Surveyors, &c. 1 and 2, Southampton-street, Addington-square, Camberwell, S.

TO BUILDERS.—NEW WORKHOUSE for the HEMSWORTH UNION.—Persons desirous of CONTRACTING for the ERECTION of a NEW UNION WORKHOUSE at HEMSWORTH, near Pontefract, Yorkshire, may see the plans and specification at the Board-room, in Hemsworth, from MONDAY, the 12th, to THURSDAY, the 22nd inst. Further particulars and bills of quantities may be had, on application to the Architects, Messrs. WEIGHTMAN, HADFIELD, and GOLDIE, Sheffield. Sealed Tenders, endorsed "Tender for Union Workhouse," must be sent, or delivered to me, at my Offices, in Pontefract, on or before the 29th inst. The Guardians do not pledge themselves to accept the lowest or any Tender, nor to make any allowance for estimates, or otherwise.—By order,

JNO. FOSTER, Clerk to the Guardians.

Pontefract, April 7, 1858.

N.B. This advertisement will not be repeated.

TO BUILDERS.—Persons desirous of submitting TENDERS for the execution of Sundry Works of ADDITION and ALTERATIONS to a HOUSE and PREMISES, situate at Theydon Green, near Loughton, Essex, may see plans and specification, upon application to Mr. DYBALL, Architect, No. 98, Cheapside, on and after MONDAY, the 12th instant. Tenders are required on or before the 21st day of APRIL, and no pledge is given that the lowest will be accepted.

ALABASTER! ALABASTER! This beautiful material, from the quarries Humberstone, near Leicester, surpassing in quality, and variety and richness of colour, the best [illegible] alabaster, is now being extensively used by architects in the internal decoration of churches and mansions. It takes and sustains a most brilliant polish, and gives in appearance many of the most costly marbles, at a far less price. It can be supplied in blocks of any dimensions, and in polished slabs. Specimens, full particulars as to price, and reference to works already executed, on application to CLEMENT FARMER, Agent, Victoria Works, Humberstone, near Leicester.

TO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), Importer of all sorts of Marble, keeps a constant well-supplied Stock of Marble, in Blocks, at [illegible] Wharf, [illegible] STATUARY, VEINED, VEINED PAONAZZO, SICILIAN, DOVE, all the produce of his own Quarries at Carrara; Bardiglio, Black and Gold, Sienna, Griotte, St. Anne's, Vert des Alpes, Breccia, &c. &c.; Vases, Monuments, Garden and Country Statues manufactured in Italy; and takes Contracts for all the above sorts of Marble to any extent connected with the Trade.

Carrara Wharf, [illegible], and 170, Leadenhall-street, City.

JOHN BAZLEY WHITE and BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER. Marble of all kinds and of best quality, in Block and Slab. [illegible]

LITTLE CASTERTON FREESTONE.—[illegible] TRAS and [illegible] SIMPSON, STAMFORD; [illegible] Office of Messrs. PINDER, SIMPSON, and SONS, 29, [illegible]-row, London.

GRANITE.—The Cheesewring Granite Company Limited, Liskeard, Cornwall. London Agents—TREGELLES and TAYLOR, 54, Old Broad-street. Manager—JAMES J. TRATHAN, Liskeard. This Granite is selected for the New Westminster-bridge.

GRANITE.—King William and Nelson Monuments, Plinth and Steps of the Royal Exchange, and Terrace at the Crystal Palace. Supplied by the Haytor Company under Royal Charter. For terms, apply to Mr. C. HOAR, Haytor Granite Office, 4, Millbank row, Westminster.

RANSOME'S SILICEOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material, at prices not exceeding the ordinary Cements.

Full particulars furnished on application to

Mr. FRED. RANSOME,

Whitehall Wharf, Cannon row, Westminster; or Patent Stone Works, Ipswich.

TO BUILDERS and OTHERS.—ONE THOUSAND CHIMNEY PIECES kept in Stock, at prices from 6s. each.—W. B. WILKINSON and Co. Manufacturers, Prudhoe street, Newcastle-on-Tyne.

BATH STONE OF BEST QUALITY.

RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS, BATH.

List of prices at the Quarries and Depots, also cost for transit to any part of the kingdom, furnished on application to Bath Stone Office, Corsham, Wilts.

WILLIAM S. LAWRENCE, Pennant Stone Merchant, Stapleton. Office—10, Merchant-street, Bristol.—All descriptions of Steps, Landings, Troughs, Tombs, Curb, Ashlar, Paving, &c. on sale at the Stone Quarries, Stapleton, and at Conham, on the Avon, near Bristol.

CAEN and AUBIGNY STONE.—P. FOUCARD, Stone Merchant and Quarryman. Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Depots: Granite Wharf, East Greenwich; Lett's Wharf, Waterloo-bridge. Office: No. 246, High-street, Southwark, near the Town hall.

TIMBER and SLATES.—Regent's Wharf, Mill wall, Poplar, E. near West-India South Dock. JOHN EADES solicits the attention of builders and others to the undermentioned low prices for his Deals, Battens, Flooring, Plaster Laths, and also his Welsh Roofing, Slates, and Slate Slabs, which for quality and price, are not to be surpassed by any other house.

Yellow deals, from 20l. per 120—12 ft. 3 in. by 9 in.
Spruce ditto „ 17l. „ „ „
Battens „ 10l. „ 12 ft. by 2½ in.
Prepared flooring from 12s. per square.
Ceiling and plaster laths, from 28s. per load.

Roofing Slates.

Duchess	24 in. by 12 in.	11l. 0s.	per mille of 1,200.	
Small ditto	22 in. by 11 in.	8 15	„	„
Countess	20 in. by 10 in.	6 15	„	„
Small ditto	18 in. by 10 in.	5 5	„	„
Ditto	18 in. by 9 in.	4 15	„	„
Ladies	16 in. by 8 in.	3 15	„	„

Slate slabs sawn all round and planed on one side:—

	1½-in.	2-in.	2½-in.	2¾-in.
From 5 to 10 ft. in each slab, at per foot	5d.	6d.	8d.	9d.
„ 12 ft. and over	7	8	11	12

BRAMLEY FALL! BRAMLEY FALL! Rawdon-hill, Potternewton, and all kinds of Yorkshire Stone supplied direct, by vessel or rail. TRICKETT and PERKIN'S Quarries being on the railway, no delay takes place in delivery to any part. Large Stocks are kept at the Depots, No. 3, King's-cross Railway, and Victoria Wharf, Isle of Dogs.

Address,

TRICKETT and PERKIN, Headingley, near Leeds; or,
SAMUEL TRICKETT, Victoria Stone Wharf, Isle of Dogs, London, E.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank-street, London, S.W.

MARKET WHARF, REGENT'S-PARK BASIN. WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. Also Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. SCOLES and WOOD invite the attention of Builders, Masons, and others, to their Stock as above, where everything will be charged at the lowest prices. Headstones, ledgers, steps, landings, &c. cut on the shortest notice.

Country orders promptly attended to.

ROOFING SLATE, LARGE SLABS, FLOORING, &c.—The CAMEL SLATE COMPANY, near Wadebridge, Cornwall, execute extensive orders in roofing, slabs, flooring, manure tanks, water cisterns, chimney pieces, and all other descriptions of slate goods.

N.B.—Vessels of large tonnage can approach the quarry, and lie in safety.

ROBINSON'S SLATE ROLL RIBBING, for HIPS and RIDGES. This Ribbing, being manufactured by Patent Machinery, is much superior to that made in the ordinary manner. It is much cheaper, neater, and more durable than lead, and not likely to be stolen, as metal often is. Price lists forwarded on application. A truck load, of 5 tons, sent carriage free to any Station on the North Western Railway, or any line communicating with it. To be had of the principal slate merchants throughout England, and of

A. A. ROBINSON, Bow Bridge, Stratford, London, E. and Victoria London Docks.

Roofing slates from the best quarries, and every description of plain and enamelled slate work executed.

VALENTIA SLATE SLABS.—The Valentia Slab Company invite attention to their Slabs, now supplied of very large dimensions and of superior quality. They have been used at the British Museum, National Gallery, Bethlehem Hospital, various Lunatic Asylums, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stand at Brighton, Portsmouth Barracks, and are kept in Stock in large quantities by Messrs. FREEMAN, Millbank-street; and at Messrs. BRABY'S, Belvidere-road, where terms may be obtained.

WESTMORLAND PALE GREEN SLATE.—T. MANDALL begs to acquaint Architects, Builders, and Others, that he has on hand a good STOCK of ROOFING SLATES, ready for shipment, or to transmit by rail to any part. Best quality, 42s. per ton at the Works.—All orders addressed to THOMAS MANDALL, Quarry Proprietor, Coniston, Windermere.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.

Chimney-pieces, billiard-tables, table-tops, baths, wall-linings, &c. [illegible] may be had at the Pimlico Slate Works, and 49, Upper Belgrave-place, Pimlico, S.W.

CROGGON and COMPANY, Manufacturers of PATENT ASPHALTE ROOFING, BOILER, RAILWAY, SHEATHING, and INODOROUS FELT, For Damp Walls and Lining Iron Houses. 2, DOWGATE-HILL, London, and 2, GOREE PIAZZA, Liverpool.

ASPHALTE—TRINIDAD—Rendered of uniform consistency by steam power.

PREPARED { for every description of Building, Railway and Agricultural Work.
TEMPERED { for every purpose, situation, and export to every climate.

The Trade supplied on advantageous terms, and estimates given for works of any magnitude; also for LAYING TAR PAVEMENT.

THOMAS HARRISON,

ASPHALTE, WHITING, AND PAINT WORKS:—Cambridge-Heath Wharf, Hackney; Sunderland Wharf, Rotherhithe; City Offices, 19, London-street, E.C. opposite the Blackwall Railway.

ASPHALTE, FOREIGN and BRITISH, for FLAT ROOFING and every description of PAVING, especially in damp situations.

FROM 2s. 9d. PER SQUARE YARD.

Country Builders supplied with Asphalte for Footings and Barn Floors, with instructions for using it. Apply to JOHN PILKINGTON, Polonceau and Limmer Asphalte Office, Monument chambers, 14, Fish-street-hill, London. N.B. Importer of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover.

WHITE and MITCHELL, JOINERS and SASH-MAKERS to the Trade, 11, Commercial-road, Lambeth. Staircases, Shop-fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp.—Workshops, 2, Commercial road, Lambeth.

AT the SPONSALIA, 246, REGENT-STREET, first-class FIXTURES FOR SALE, by private contract, consisting of elegant glass-cases, mirrors, screens, &c. &c.—Apply to Mr. G. FOXLEY, 36 and 37, King street, Regent street.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.—SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

GEORGE JENNINGS, Sanitary and Engineering Depôt, Holland street, Blackfriars-road.

TO BUILDERS and CONTRACTORS.—FOR SALE, a quantity of capital well seasoned 1½-inch and 2-inch FOUR PANELLED DOORS, plain or moulded. Boards and Scantlings for Building and other purposes.—Prices and particulars may be had on application to TREDWELL and CO. Railway Timber and Iron Works, Gloucester.

JOINERY of every description, Staircases, Shop Fronts, Sashes and Frames, Doors, &c. of well seasoned Materials and superior workmanship, supplied at the Lowest possible Prices, by T. MILLS, 110, Broadwall, and 7, Prince's street, Stamford-street, Lambeth (late Shop Foreman to Messrs. LAWRENCE and SONS). By enclosing a postage stamp a full list of prices will be returned.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

S. A. JEFFS,

48 and 49, Cornwall-road, Stamford street, Lambeth, S.
N.B. Price-list on application.

IRON WORKS for SALE.—TO BE SOLD, by Private Contract, the BEDLINGTON IRON WORKS, situated at Bedlington, on the river Blyth, and adjoining the Blyth and Tyne Railway, with a branch. The works consist of two powerful engines of 110 and 100 horse power, drawing three finishing, two puddling, and one plate mills, with two squeezers and shears attached. There are thirty puddling and eleven heating furnaces; also one engine for large plate shears, with small pumping-engine and donkey and a good 25 horse power engine for working a good use forge, with two heating furnaces. The works are capable of making from 300 to 500 tons of finished iron per week. The advantages connected with these works are their being situated in a large coal district; also their being connected with the Blyth and Tyne Railway, where goods can be shipped either at the Haystole Docks, on the Tyne, and sent to any part of the kingdom by rail, or at Blyth, at a very small cost, where also the raw material can be delivered ex ship. The works could be ready for immediate operation at a very small cost. There is attached to the works a mansion-house, a manager's house, offices, and several cottages; also a first-rate dam and a large reservoir of water, capable of driving a water wheel of 100 horse power.—For further particulars apply to Mr. GIBB, at the works, to Mr. JOSEPH THORNMAN, Newcastle-on-Tyne; or to Messrs. LACE, MARSHALL, and GILL, Solicitors, Liverpool.

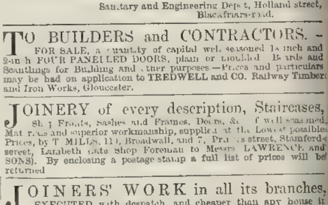
HART AND SON,

IRONMONGERS AND MANUFACTURERS,

ECCLESIASTICAL AND DOMESTIC METAL WORKERS,

MALLEABLE IRON AND BRASS FOUNDERS,

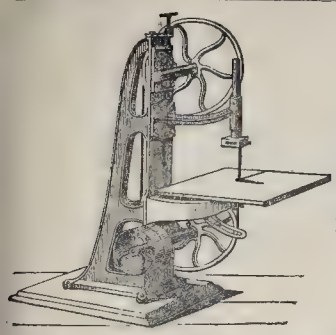
53 to 58, WYCH-STREET, Strand, London, W.C.



Illustrated catalogues free on application.

IRON GATES.—WANTED, immediately, a PAIR of IRON GATES, for an Entrance into Private Grounds; the width about eight feet, height of no consequence; but if with [illegible], more desirable.—Price and particulars may be sent to Mr. JOHN CALLOW, Builder, 4, Queen's road West, Chelsea.

FOR SALE, a SMALL LATHE, with slide-rest, drill-chuck and drills, surface-plate, and four small dogs, [illegible] bed, [illegible] centre cast bed and fly-wheel, wrought frame and crank, a large vice, and sundry tools; price 10l.—Apply to S. J. LONDON, 105, Great Dover street, Southwark, London.



POWIS, JAMES, AND CO.

ENGINEERS AND MANUFACTURING IRONMONGERS,

26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of House and Coach Builders, Cabinet and Chair Makers, and others using such Machinery, to their improved ENDLESS BAND-SAW, both of HAND and STEAM POWER, which are well adapted for every variety of work, CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT, of any thickness: the TABLES are swinging so as to CUT to any ANGLE.

Also, their CIRCULAR SAW-BENCHES, for HAND or STEAM POWER. The HAND POWER one will RIP UP 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and it is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.

Contractors and Proprietors of SAW MILLS are particularly invited to inspect at work, at POWIS, JAMES, and CO.'S Manufactory, their

IMPROVED PATENT PLANING, TONGUEING, and GROOVING MACHINE,

doing SEVENTY FEET per minute of board of any thickness, and GOOD WORK.

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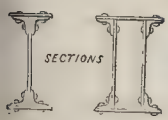

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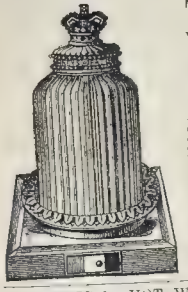

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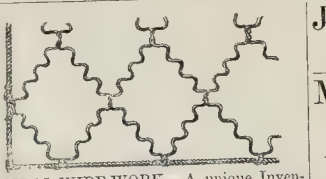

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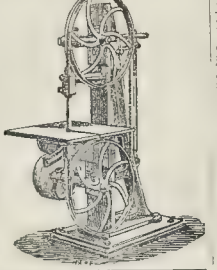

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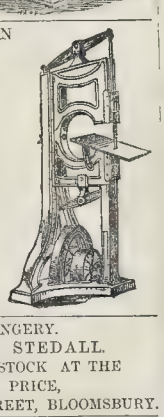

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"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE. This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials, of the highest possible character, are gladly given by the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 2l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER STABLE, and DRAIN-TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with unqualified approval. These articles may be had of all Ironmongers, and of the General Iron Foundry Company (limited), 44, Upper Thames-street. Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Chemical and Soap pans, Furnace bars, and all other kinds of Castings, for manufacturing and building purposes.

NOTICE.—DRY RUBBISH, free from vegetable matter, may be shot (where directed) within the Royal Arsenal, Woolwich.—Application to be made at the Royal Engineer Office at that place.
Royal Engineer Office, Royal Arsenal, Woolwich, 30th March, 1858.

AN Unlimited SUPPLY of SPRING WATER from the Chalk, can be had within Twenty Miles of London.—Address, M, Post-office Romford, Essex.

HENDON UNION.—To ARCHITECTS. Those gentlemen who have sent in plans, &c. for building the new Schools, except those under the cyphers of "Faith," "Star," "E. A. E." "Education," and "Nec timide nec temere," may have the same again, on application at Red hill Workhouse; or they shall be forwarded on addressing a line to Mr. TOOTELL, the Clerk to the Guardians, Edgware. If not applied for before the 14th instant, they will be sent by carrier —April 3, 1858.

TO BUILDERS.—TO BE LET, a GENERAL BUILDING BUSINESS in the Market Town of Alton, Hants, with railway communication, where there is a good opening for a Builder and Surveyor, the present proprietor having embarked in a different line —For particulars apply to Messrs. HELLIS and VINES, Auctioneers, Odiham.

WHARF.—TO BE DISPOSED OF, a CEMENT, BRICK, and TILE WHARF, situate near Battersea-park. The wharf is spacious, and a timber trade might advantageously be introduced There is a good street and river frontage, and a commodious residence. The premises are held on a long lease, at the low rental of 30l. per annum.—Address, H. POTTER, Seedsman, 1, Farringdon-street.

RIVER-SIDE WHARF, adapted for Timber Merchants, Stone Merchants, or the Coal Trade, and with steam-engine, Crane, Foreman's Cottage, and Outbuildings, situated at Kingston-on-Thames, and being the only Wharf to be let in that thriving locality.—Address to E. KERMOTH, Kingston-on-Thames.

BUILDING PLOTS at LEWISHAM and SYDENHAM.—TO BE LET by TENDER, on BUILDING LEASES for ninety-nine years, several PLOTS of GROUND, situate at Lewisham, Kent, close to the junction station of the South Eastern and Mid Kent Railway at Lewisham, also at Sydenham, Kent, near the Forest-hill Station, both estates being part of Matthew Hill's Estate. A form of Tender, with plan, may be obtained at the Office of Mr. SAMUEL FISHER, Solicitor, Merchant Taylors' Hall, Threadneedle-street, London, where Tenders, under seal, are to be delivered on or before TUESDAY, the 4th day of MAY, 1858, by TWO o'clock in the afternoon, and the same will then be opened, and the parties tendering will be expected to attend.—Forms of Tender, with plans, may also be obtained of Mr THOMAS MILLS, Surveyor, 24, Yorkstreet, Westminster; also upon payment of 1s. at the Roebuck Inn, on the Estate at Lewisham; and at the Dartmouth Arms Inn, near the Estate at Forest hill.

LAND TO LET.—A SITE for a first-class Public-house, at and close by the entrances to a junction station on the mains from town, where shortly will run trains every half-hour to Fenchurch-street and Bishopsgate station Also SITES for semi-detached villas; or, if wished, on completion of the houses, the freehold will be sold at a price previously agreed on.—Apply to THOS. GUNN and SONS, 21, Lambs-conduit-street, W.C.

TO MILLERS and OTHERS.—TO BE SOLD, by PRIVATE CONTRACT, the whole of that newly-erected FLOUR-MILL, situate at Cannington, near Bridgwater, Somerset, late in the occupation of Mr. William North; comprising an excellent high-pressure steam-engine of 28-horse power, with two good boilers, furnace doors and bars, and the settings of the same; eight pairs of best French burr mill stones, with all the necessary dust and bevelled gearing, line shafting, plower blocks, pulleys, and driving-straps; two smutting-machines, one flour-machine with two reels, dusters, one bolting-mill, one grinding-stone, two sets of elevators, &c. In the second lot is comprised the whole of the building materials of the above mill, lately erected at considerable outlay by the Vendor For further particulars, and leave to view, apply to Mr EDWARD MURCH Ironfounder, Bridgwater, Somerset.

VALUABLE FREEHOLD ESTATE, West of London, four miles from Hyde-park and Kensington-gardens, TO BE LET, on building leases, as detached or semi-detached villa residences,

ARLINGTON-PARK ESTATE,

situated on the south side of the high Western-road, in the Parish of Chiswick, containing about EIGHTEEN ACRES of LAND, on a gravel soil, beautifully wooded with fine old timber, good water, and perfect drainage, with open view of Gardens of the Nursery and Seed Growers, Horticultural and Kew Gardens, Kew and Chiswick Railway station, from whence trains, boats, and omnibuses pass to the City and Westend.—Apply to H. E. KENDALL, Esq. Architect, No. 1, Spring-gardens, Charing-cross

FREEHOLD.—TO BE SOLD, within three miles of St Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is peculiarly eligible for the erection of villas, or tenancies of houses. The soil is gravelly, and sewers and roads have lately been made up to the boundary of the estate The adjoining land is all let for building purposes, and is now entirely covered The houses hitherto built have commanded an immediate tenancy—For further particulars, and to inspect the plans, apply to Messrs. GREGORYS and CO. No. 1, Bedford-row, W.C.

SALE of GROUND-RENTS.—CITY IMPROVEMENTS, New Cannon street, Crooked-lane, New Earl-street, Bear-street, St Mary-at-Hill, and St Paul's Churchyard, in the City of London —The Committee for Improvements within the City of London hereby give Notice, that they will meet at GUILDHALL, London, on MONDAY, the 26th day of APRIL next, at ONE o'clock in the afternoon precisely, to receive TENDERS in writing from parties willing to PURCHASE sundry GROUND RENTS of Premises in the above situations.—Particulars and conditions of sale, with forms of Tender, and further information, can be obtained upon application at the Com troller's office, Guildhall. MEREWETHER. Guildhall, London, March, 1858.

TO BUILDERS. LAND at Tulse Hill, Lower Norwood, suitable for the erection of good ten-roomed houses; also, a Small Plot near the Railway Station, fitted for two semi-detached houses, to be LET on Lease. Advances to a third—Apply Mr. HIGHAM, 29, Poultry

FREEHOLD GROUND, MAIDENHEAD-COURT.—The Commissioners of Sewers of the City of London hereby give Notice that they will meet in the GUILDHALL of the said City on TUESDAY, the 11th day of MAY next, to receive PROPOSALS for taking on Building Leases, for eighty years from the 24th June next, at a ground rent, certain PLOTS of GROUND, situate in Maidenhead court, Aldersgate street —Further particulars may be had and seen on application to Mr HAYWOOD, Engineer to the Commissioners, at these offices, where forms of proposal may also be obtained. The Commissioners will require plans and elevations of the premises proposed to be built to be submitted to them for approval, and will not bind themselves to accept any proposal, unless deemed advantageous Persons tendering must attend on the above day, and the party whose offer is accepted will be required to execute an agreement at the time. Sewers' Office, Guildhall, JOSEPH DAW, Principal Clerk. 31st March, 1858.

OLDWICH WOOD.—BUILDING GROUND.—Eligible PLOTS of LAND for building villas upon or a property, in the immediate neighbourhood of the Crystal Palace, and 8 of the Gipsy-hill Station, on the West-end Railway, may now be obtained.—Apply, between the hours of Ten and Four, to Mr HART, Accountant's Office, Crystal Palace, from whom plans and particulars may be obtained.

WATERSIDE PREMISES, Shad Thames, very accessible from the City, and in sound repair; now used as a granary. LEASE TO BE SOLD—Principals or solicitors only treated with by W. A. BOULNOIS, Architect, 6, Waterloo-place, S.W.

TO BUILDERS.—VOTE for LONDON.—TO BE SOLD or LET, on a Building Lease, a PLOT of FREEHOLD LAND (west to east, north side, 45 feet; south ditto, 40 feet; north to south-west front, 24 feet; east front, 23 feet); the site of a house formerly No. 14, Fetter-lane, Fleet-street.—For particulars apply to Messrs. NICHOLS and CLARK, Solicitors, 9, Cook's-court, Cursitor's-inn.

AN UNFURNISHED HOUSE WANTED, within six miles of the General Post-office, or three quarters of an hour's ride from town, by rail, containing good dining, drawing, not less than six bed-rooms, garden, and stabling; a dry soil, with healthy situation, is indispensable.—Apply by letter, stating particulars, with lowest rent, to X. Y. Messrs. Combe and Wainright, Staple-inn, London.

TO BE SOLD, by Private Contract, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham-common, on the high road from Clapham to Wandsworth —For particulars apply to JAMES CROWDY, Esq. No. 17, Serjeants'-inn, Fleet-street, E.C.

TO BUILDERS or Parties requiring extensive PREMISES, near the City.—The LAND opposite the Elephant and Castle, Newington, within one mile of London bridge, containing a frontage of 500 feet, TO BE LET, by the Fishmongers' Company, on building leases, by TENDER, on the 21st day of APRIL next.—For particulars, apply to Mr. W. B. FOWSE, the Company's Clerk, Fishmongers'-hall, London-bridge; or at the Office of Mr. RICHARD SUTER, the Company's Surveyor, 28, Fenchurch-street.

TO BUILDERS.—FOR SALE, at Ilford, less than half a mile from the Railway Station, SEVEN HOUSES, in complete carcase, the corner one a Public-house. The purchase money, which is extremely moderate, may remain on mortgage.—Apply to Messrs. MORPHEW and GREEN, 4, Queen street-place, Cannon-street.

BUILDING GROUND at 1s. per foot, near Nunhead Cemetery.—TO BE LET, on a Building Lease for 88 years, a CORNER PLOT of LAND, at 1s. per foot frontage, with an average depth of 70 feet, suitable for the erection of Small Houses. Also, a Corner Plot at 8s per foot, 120 feet deep, adjoining some seven-roomed houses. It is fenced in, and can be drained into the main sewer Gas and water-pipes are laid down in front.—Apply at 115, Borough-road, Southwark, S.E.

TO SPECULATING BUILDERS. — TO BE LET, by the Freeholder, TWO PRIVATE HOUSES to be brought out as SHOPS, to complete a road in a business situation at Islington. Long term at a low rent—Particulars of W. HOLLINGSWORTH, Auctioneer, 13, High Holborn.

THE PROPERTY of a WIDOW LADY.—TO BE SOLD, for 1,300l the remaining portion of a valuable ESTATE of BUILDING GROUND for seventy semi-detached Villas, each having a frontage of 25 feet, as shown in plan. There is a large sewer recently finished, at a cost of 800l The property is delightfully situated at the west-end of Hainmersmith, Middlesex, and joins Ravenscourt park. Omnibuses pass one entrance of the estate to Knightsbridge and Piccadilly, and the other end to Notting-hill and Oxford street, every few minutes. It is within three minutes' walk of the steam-boat pier and the new railway, which will be opened on the 8th inst. The usual charge of 1l per villa for road and drainage will produce the purchaser 280l, back of the purchase-money.

	Per Annum.
The lowest estimated value for ground rent....	£218 0 0
Balance of original rent, to pay	33 14 0
Net income	£183 6 0

P S Every house built upon the estate is let (except one recently finished).—Apply to E. S. RAINBOW, King-street, Hammersmith, W.

TO BUILDERS. TO BE SOLD, FOUR TERRACE CARCASES, for 700l. and ONE PAIR of VILLA, do. for 300l which sums may remain on mortgage. Also EIGHT PLOTS of FREEHOLD LAND, at 40l each, at the corner of the W with Back walls, roads, and sewers made. The situation is very high, and is within five minutes of the Gipsy-hill and Crystal Palace Stations, and two minutes of the Palace itself For viewer's address, apply to the Housekeeper, 19, Great Carter lane, Doctors'-commons

TO BUILDERS of VILLAS.—TO BE LET, SEVERAL ACRES of LAND, in plots, in the most choice situation at Sunbrook, two minutes' walk from the Station, from the Woodford Railway to Fenchurch-street. The soil is gravel and the ground covered with splendid evergreens —Applications are out, and fair houses on lease, to pay, exclusive of ground rent, about 7 per cent—Apply to Mr. NOBLE, Surveyor, Woodford; or to Mr. NISSEN, at 41, Mark lane, London.

VALUABLE FREEHOLD BUILDING LAND to be SOLD or CONVEYED, at a chief rent, situate on high ground, about one mile from the towns of Plymouth and Devonport, on the Tavistock road, and overlooking the surrounding country Excellent supply of water, and stone for building purposes, to be found on the spot.—For further particulars, apply to Mr. A. C. HOOK, Land Agent and Surveyor, 15a, Great George street, Westminster, S.W.; or to Mr. LUXMORE, Solicitor, Plymouth, where plans of the property may be seen.

FREEHOLD BUILDING LAND, situate in the Queen's road, Richmond-hill (land-tax redeemed), belonging to the Vestrymen of the parish of Richmond, TO BE LET in plots for a term of ninety nine years, at low ground rents, for the erection of detached or semi-detached villas The roads and sewers are made. Particulars and plan of the ground may be obtained on application to Mr R. BREWER, Surveyor, 3, Hill street, Richmond, S.W. where a draft of the proposed leases may be seen

TO BUILDERS.—Within eight miles of London-bridge.—TO LET, close to a station, with splendid views over the most beautiful part of the counties of Kent and Surrey, several PLOTS of LAND for villas, to cost 1,800l. the pair; and single houses to cost 1,400l each, excellent pipe-drainage, and good supply of water. 70l. per cent advances made to respectable builders possessed of capital and credit. The houses now finishing are let to good tenants at 100l. a year each.—For full particulars, apply at Mr A. C. HOOK'S Offices, Land Agent and Surveyor, 15a, Great George-street, Westminster, S.W.

HOUSES WANTED to PURCHASE. A Gentleman wishes to PURCHASE HOUSE PROPERTY, Freehold or Leasehold. Small houses not objected to, or advances would be made on the same for short periods, without the expenses of mortgage deeds.—Apply to Messrs SEYMOUR and CO. 24, Martin's lane, Cannon-street, City.

TO WORKING BUILDERS and BUILDING SOCIETIES.—About THIRTY ACRES of FREEHOLD LAND, near a market and manufacturing town, fifty miles from London, and which is considered very eligible for building, would be LET or SOLD on very advantageous terms, and advances made at 4 per cent. if required.—Address, ESSEX, 76, Strand.

TO BUILDERS, CABINETMAKERS, and OTHERS —ALFRED CARTER submits the following very reduced prices for really useful sorts. -

¾-inch Prepared Flooring	£0 11	6	per square.
¾-inch Prepared Flooring	0 13	0	per square.
Inch Prepared Flooring	0 15	0	per square.
Good Yellow Deals.....	0 3	3	each.
Spruce Deals	0 3	0	each.
Fine Planks	0 3	6	each.
Yellow Battens	11 10	0	per 120.

Mahogany, in logs and planks, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a Large assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned, and ready for use; also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes —Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton-road, Pimlico.

TIMBER, Deals, Battens, Prepared Flooring, Laths, Slates, Stoves, Rain-water Pipe, O. G. Gutters, Ironmongery, York Paving, Window Sills, Sinks, Chimney-pieces, Stoneware Glazed Drain-pipes, Water-closet Pans. The Advertiser, who resides near London, is anxious to barter the remaining part of a stock of Woollen Drapery and Manchester goods in part payment for any of the above named —Letters, post-paid, to be addressed to A. B. Mr. Walker, Tailor, Neville-court, Fetter-lane, London.

MAHOGANY and DEALS at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of buyers to his large and well-selected Stocks of Mahogany (including counter-top and dining-table boards) and Deals of every description, commencing at the following prices, viz. :—

Honduras Mahogany, plank and board, from 6d. per foot.
Yellow Deals, from 2s. 3d. each.
Spruce Ditto, from 2s. 9d. each.
Fine Planks, from 3s 6d. each.
Yellow Battens, 11l. 10s. per 120, 12 by 2½.
¾-inch Flooring, 11s. 6d.; 1-inch Ditto, 15s. per square.
An assortment of Italian and American Walnut.—Elm-street, Gray's-inn-lane; and Borough-road, Southwark.

TO BUILDERS and OTHERS.—TO BE SOLD, cheap, a quantity of YELLOW DEALS and PLANKS, and DRY PINE and YELLOW BOARDS.—Address, J. J. S. Office of "The Builder."

SMALL OAK TREES, about 15 miles from London, TO BE SOLD, at 3s. per foot, under and over 6 inches, or a competent person to manufacture them at the place, and sell produce for the owner, may be arranged with. — Address, B. 76, Strand.

ACORN TIMBER WHARF and SAW MILLS, CANAL BRIDGE, OLD KENT-ROAD, LONDON. A Monthly Price Current forwarded on application. RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-Street, Old St. Pancras-road, invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES. Books of designs of mouldings forwarded on application

ANOTHER GREAT REDUCTION. — Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5½d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 13s. 6d.; ¾ do. 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ do. 13s. Birch-eye Maple Veneer, 5d. Cartage free to any part of town —T. FORMAN, 1, Walnut-tree-walk, Walnut-place, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list-prices for Mouldings A large stock of dry flooring at low prices — Southwark-bridge Wharf, Bankside, S.E

PREPARED FLOORING! PREPARED FLOORING !—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring :—

	½	¾	1	1¼	
Spruce	12s.	13s.	15s.	16s.	per square
White	12s 9d.	13s. 6d.	15s. 6d.	18s.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within three miles free of cartage. "
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S

PROPOSED INTERNATIONAL HOTEL COMPANY (Limited).
Capital, 330,000l.

In 9,000 Shares of 20l each..... ...	£180,000
And Mortgage or Debentures.....	150,000
	£330,000

Deposit, 3l per Share.

TRUSTEES

Thomas Alers Hankey, esq. (Messrs. Hankey and Co. Fenchurch-street, Bankers).
John Benjamin Heath, esq. 31, Old Jewry.
Henry Thomas Hope, esq. 116, Piccadilly
Samuel Scott, esq. (Messrs. Samuel Scott and Co. Cavendish-square, Bankers)

BANKERS.

Messrs. Hankey and Co. Fenchurch-street.
Messrs. Samuel Scott and Co. Cavendish-square.

SOLICITORS.

James Thomas Knowles, esq. F.R.I.B.A. 1, Raymond-buildings, Gray's inn

This Company proposes to erect a first-class hotel on a square plot of freehold ground, having a frontage of 800 feet, abutting on the Strand, Burleigh street, Exeter street, and Wellington street, including the site of the Lyceum Theatre. The ground story in the Strand and Wellington-street will be devoted to first-class shops, the revenue from which alone is estimated to amount to 4,250l per annum.

For a statement of the cost of the land, buildings, &c. together with an estimate of the expected returns to the Company from all sources, which shows that the earnings of the Hotel, based on the most moderate calculations, will afford the shareholders a return of 20 per cent, and possibly a much higher rate, see the Prospectus.

PROPOSED INTERNATIONAL HOTEL. Persons intending to become subscribers on the terms set forth in the prospectus must pay a DEPOSIT of 3l. per share, on or before the 15th APRIL, into the banks of Messrs HANKEY and CO. Fenchurch street, or Messrs SCOTT and CO. Cavendish-square, to the credit of the above named trustees.

SAMUEL STOCKTON, Secretary to the Promoters
Office, 38, Cannon-street, London, E.C.

MONEY ADVANCED to BUILDERS and OTHERS LAND TO BE LET, very eligibly situated, directly opposite the Crystal Palace Railway Station, Anerley-road, Anerley, and within three minutes' walk of the trains. Road and sewer made Lease 120 years, at low ground rents A space is hoted, with a number of other house, are now erected on the land Cheap trains run daily every quarter of an hour to the City and Westend, also to all parts on the London, Brighton, and South Coast Railway.—Apply to Mr. W. HEY, Surveyor, 87, Newington-causeway; Messrs. BRIANT and JEFFERYS, Kennington park; and 21, Motcomb-street, Belgrave-square

ESTABLISHED 1836.

MONEY LENT for Two Years, One Year, or Six Months, upon Personal, Freehold, Leasehold, or other available Security, without Mortgage or Insurance, from 5l. to 500l. repayable by Weekly, Monthly, or Quarterly Instalments.—PINSBURY LOAN OFFICE, 144, St John street road, Clerkenwell, E.C. Open daily. All communications strictly confidential.

LOAN and INVESTMENT AGENCY ASSOCIATION.—CHIEF OFFICE, 9, ADAM-STREET, STRAND, W.C Loans of any amount, from 20l. on real and other securities. 150,000l. trust funds ready to be invested.
R. T. JOPLING, Actuary.

DRAUGHTS round Doors and Windows EFFECTUALLY PREVENTED by GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS, the neatest, most simple, and effectual method of making air-tight joints to joiners' or cabinet work, OLD or NEW. Self-acting Spring Slope, for the bottoms of doors. The most imperfect door can be made air-tight without rehanging. The Trade supplied on liberal terms.

JOHN GREENWOOD, Patentee,
10, Arthur-street West, London-bridge.

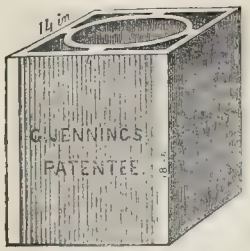

Fig. 1.

APPLIANCES FOR VENTILATION.

Fig. 2.

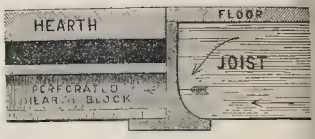

Fig. 3.

The attention of Architects is respectfully invited to GEORGE JENNINGS'S

PATENT AIR-CHAMBER SMOKE-FLUES,

PERFORATED IRON FIREPLACE TRIMMERS, and HEARTH BLOCKS.

It will be seen at fig. 3 that these Hearth Blocks not only allow the Heated Air to escape from lower apartments through the Perforations, but they form an excellent substitute for the Half-brick Trimmer Arch now turned in front of all Fireplaces.

The Smoke Flue being IN THE CENTRE OF THE AIR-SHAFT, not a particle of Heat is lost. The ends of all the Smoke Flues are formed to receive a Hoop of Galvanized Iron, which firmly secures each Block, and renders the escape of Smoke at the Joints impossible.

In offering these APPLIANCES to the notice of Architects, GEORGE JENNINGS would leave them to be used as they, in their judgment, might consider best; but he would respectfully suggest that (on a ground story) Two, or even all the Air Spaces round the Smoke Flue might, from the Fireplace up to within a foot of the Ceiling, be used as a means of WARMING FRESH AIR, which might be conveyed by Hollow Bricks to the Air Spaces, and from them to any desired part of the room. Of course the Pure Air Spaces would be sealed from the Extraction Chambers above them by a Junction Block, CLOSED AT THE TOP, and made specially for the distribution of Warm Air. Thus, from the Fireplace up to WITHIN A FOOT OF THE CEILING, the Smoke Flue would warm the air before entering the room, and above that level the vitiated air would be free to escape.

At GEORGE JENNINGS'S POTTERY WORKS, the

SOUTH-WESTERN POTTERY, POOLE, DORSET,

The Air Flues are made to take every inclination, and Architects desiring to employ these Ventilating Appliances (to prevent mistakes) would do well to send a figured tracing showing the direction of their Smoke Flues, length and depth of Trimmers, Hearth Blocks, &c.

Any further information will be gladly furnished by

GEORGE JENNINGS, HOLLAND-STREET, BLACKFRIARS,

At whose Sanitary Depôt may be seen many useful Appliances for every class of Building. Articles manufactured in Stoneware or Terra Cotta, to the Designs of ARCHITECTS OR ENGINEERS.

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By SIR CHARLES LYELL, F.R.S.
5th Edition, revised, with 700 Woodcuts. 8vo. 15s
*** A Supplement, containing the Recent Discoveries in Geology and Fossil Botany. 8vo. 2s.
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The Builder.

Vol. XVI.—No. 792.

The Fire in Bloomsbury—District Surveyors and Builders.

BY fatal accidents from time to time, such as a fire or fallen house, the condition of localities not supposed to be places of shelter for those removed, perhaps, from improved districts, who are huddled up in buildings never intended to receive large numbers, is made known to the public, as well as the state of danger from other circumstances in which thousands constantly dwell. The loss of fifteen lives in Gilbert-street, Bloomsbury, in a building so arranged that it must have shortened the lives of all who lived in it, and so constructed that, after a short exposure to fire, the bressummer gave way, and the superstructure fell, burying the half-smothered and partly burnt occupants in the ruins, has shown the extent to which such tenements are crowded. It would seem that twenty-one persons slept in the two floors above the carpenter's shop on the night of the fire, fifteen of whom occupied the two small rooms at the top of the house. The back wall was built with sunk windows, bricked up. No light, therefore, being afforded from the back, a skylight was formed in the roof so as to allow some borrowed light to the back rooms from over the staircase. Nothing could be much worse than such an arrangement for a large number of persons.

These pages have shown again and again that in places where it would not be expected overcrowding prevails to an immense extent, and that little care is taken to provide ventilation. In the house where the accident happened there was probably no provision for the escape of air, and this is proved to some extent by the circumstance that the chief of the sufferers seem to have perished from suffocation before the fire reached them: no springing of policemen's rattles, nor the noises attendant upon a London fire, appear to have reached any but those of the sleepers on the top floor. Before the smoke rose, the atmosphere of these rooms must have been such as to cause a partial suffocation, or at any rate a heavy, stupid, unnatural sleep. It is unfortunately the case that the more children a working-man has, in London, the less able he is to pay house-rent; and the consequence is, that in thousands of instances there are to be found in nearly all parts of the metropolis such cases of overcrowding as this which has been so prominently brought under public attention. The danger is great, and a remedy in proportion is required. If we were to say that it is necessary to attend to a much greater degree than at present the sanitary inspection of London dwellings, it would not be agreeably received by many; and it must be acknowledged that much difficulty hedges the question: still the health and lives of the multitude are at stake, and it must be viewed in a broad and enlightened manner.

The sad occurrence in Gilbert-street has induced many letters to the daily papers, suggesting constructive arrangements that should be made to prevent fire or facilitate escape, many of them remarkable for want of wisdom. Thus, one calls for doors in the party-walls to afford communication from house to house; and another, who sees the objection to that course, points out, in order to condemn, that "the Metropolitan Building Act, while it not merely omits all mention of such a proviso [a trap-door], positively insists upon so much of an obstruction to all escape from one roof to another in the shape of a raised party-wall, that were the inhabitants of a burning house in almost any quarter of London to be sufficiently fortunate in reaching the roof, they would be prevented from all further escape, unless gifted with superhuman presence of mind, as well as most extraordinary agility." He adds,—"I could pen a few amusing anecdotes concerning the absurdities of our Metropolitan Building Act, but your space is too valuable, and I refrain. Let our legislators, however, look to it; and that minister, or that member of the House of Commons, who will speedily 'overhaul' the faulty Act in question, will earn well of his country;"—and we agree with him; but the requirement of a party-wall above the roof (15 inches, and no great obstruction) will not be found one of its "absurdities." This, on the contrary, as our readers know perfectly well, is essential to safety.

If speculative builders would honestly carry out the instructions of the Act, instead of seeking, as some of them do, to impose on the district surveyor; and if police magistrates would show that they are disposed to assist that officer in the proper discharge of his duty, instead of throwing every technical obstacle in his way, and looking for the means of permitting the evasion of his requirements, as is the case in some quarters,—the chances of fire or fall would be lessened. Immediately on the occurrence of an accident, the district surveyor is blamed, no one seeming to think it necessary first to inquire into the facts of the case. A few weeks ago the church at Herne-hill was unfortunately burnt down. The Rev. Matthew Anderson, the incumbent, showed that the cause of the fire was "the usual one,"—"the plate-beams of the principal roof, on which the rafters rested, ran into each of the four chimneys at the four corners of the building, so that, whichever flue we had used, the destruction of the church some time or other was inevitable. The only wonder is, it lasted so long. The fire burst out in the woodwork of the ceiling, close under where the plate-beam entered the flue, and just above the pulpit."

Immediately after this was known, one of the City members of the Metropolitan Board of Works proceeded, by implication, to throw discredit on the district surveyors for neglect of duty; and, though the Board were afterwards informed (as they ought to have been at the time) that when the church was built, 1844, Camberwell was not a district within the control of the Building Act, and therefore had no surveyor,—the explanation obtained no publicity as compared with the attack.

This running of timber into flues, or too close to the inside of flues, is indeed a fertile source of disaster; and great is the difficulty of the district surveyor—where there *is* a district surveyor—in getting the requirements of the Act in this respect attended to. The surveyor sees what is wrong, and points out to the builder that the end of the plate—let us say—must be cut off. A promise is given, the surveyor departs, and the brickwork is carried up without any change in the timber. Admit that the surveyor afterwards discovers that the irregularity has not been remedied. The builder again promises, the works proceed, the surveyor entreats; the builder pleads that he does not see how to do it,—that it will cost him money; and the surveyor, if he be not moved by his persuasions to take the responsibility, is forced to go to the police court and run the chance of the magistrate discovering that some little informality, or a weakness in the Act, enables him, with a glow of something like satisfaction, to dismiss the case, with an intimation perhaps, by way of soother, that "the surveyor was quite right to bring the case before him, but," &c.

In respect of two recent fires, Mr. Braidwood has drawn the attention of the Metropolitan Board of Works to the fact that both were caused by the hearths being laid upon timber which took fire. "Both these buildings," he says, "have been erected within a few years; and you are well aware that such practices as I have alluded to are directly contrary to all the Building Acts which have been in force for the last seventy or eighty years. Can nothing be done to stop such flagrant violations of the Building Acts? I have no doubt that many fires, the causes of which are marked in the fire report as unknown, arise from timber under the hearths."

The thing to be done is to awaken builders to a sense of the guilt which attaches to them for acts endangering property and life.

THE BRITISH MUSEUM READING-ROOM.

AUTHORSHIP OF THE DESIGN.

In our eighth volume, at page 295, in June, 1850, we published a plan, with particulars of a project by Professor Hosking, "for extending the accommodation and improving the means of internal communication of the British Museum, within the site enclosed by the present building;" and more recently, reference has been made in our pages to the suggestion referred to, as a precursor of the Reading-room now erected. The object of a publication, which is before us,* is to show that the credit of the idea of a circular room or building is not due to Mr. Panizzi, who, Lord John Russell was reported to have said, in the House of Commons, last July, "was the first to suggest the erection of a building on so magnificent a scale;" that Mr. Panizzi's scheme of 1852, for utilizing the quadrangular court, was of a different character; and, as we must understand the case advanced, that the idea of the actual plan adopted was appropriated from Mr. Hosking. In support of this Mr. Hosking states, and is prepared to give further proof, that his design, originally laid before Lord Ellesmere's commission in February, 1848, and before the trustees at the end of 1849, was brought to Mr. Panizzi's notice on the 14th of June, 1852, by means of a copy of the number of the *Builder* sent to Mr. Panizzi, consequently upon the appearance of Mr. Panizzi's design *of May*, 1852; and that early in 1854, "nearly two years after Mr. Panizzi was in possession of the print" showing his (Mr. Hosking's) design, Mr. Panizzi put forward his other design, "presenting, as a leading feature, the cupola-covered rotunda," which was "the distinguishing feature" of the design by Mr. Hosking—Mr. Panizzi either not perceiving, or desiring it should escape notice, that his designs were "two, and not one." Mr. Panizzi, on the other hand, informs Mr. Hosking that he had "never seen" the project of the latter, before suggesting the work which was undertaken; and he intimates that when he did see the plan as published in the *Builder*, it was long after the works had been commenced. The date of the first commencement of the works is fixed by Mr. Smirke as at the latter end of March, 1854,—the laying of the footings being begun even later. So that on these *data*, it seems hard to discover that the full credit given to Mr. Panizzi has been well grounded; and we are constrained to think Mr. Hosking has a proper claim on Lord John Russell for a correction of the statement in the House of Commons.

This view will not be altered by any of the other points affecting the question of the merit of the building. These, however, should be men-

* "Some Observations upon the Recent Addition of a Reading-room to the British Museum; with Plans, Sections, and other illustrative Documents," by William Hosking, Architect and Civil Engineer, Professor of Architecture and of Engineering Constructions, at King's College, London. Fcp. fol.; pp. 34; six pl. and cuts: London; E Stanford. April, 1858.

tioned. Mr. Hosking contends that the appropriation of the court, for a reading-room and adjuncts, was less desirable than his suggestion, which went to provide a hall and corridors for sculpture or like objects of *the museum*; that an opportunity for an improvement in the internal communications of the building has been thrown away for the sake of that in which the *public* can have no interest; that the new structure has been raised at extravagant cost; that the internal effect is inferior to that which would have been gained by his proposed adoption of the exact proportions and main character of the Pantheon on a reduced scale; and that, for the required reading-room, the King's Library could have been used with advantage such as hardly attends the exhibition of some literary curiosities, and its service as a passage-way. The scheme of Mr. Hosking involved what was professedly a "modified copy,"—the originality of the suggestion lying merely in the application to the Museum building, and to the particular wants of the general museum department, and in the added corridors and staircase, which, as it is claimed, would have improved the main arrangement; whilst the new, or existing structure, by its appropriation, is considered as interposing an obstacle to positive requirements, as ill-adapted, by the loss of space in a circular plan, to the purpose of a reading-room, and as a failure by comparison with the interior of the Pantheon. This last-named view we are inclined to think our author presses too far. The proportions of the Pantheon may be faultless; albeit decoratively, the restoration of its design might afford matter for difference of opinion. But, were the intention to show that every circular and domed structure should choose the proportions of the one example, or that the relation of height of the Pantheon to diameter, in contradistinction to the lowness of the Reading-room, should be observed, of necessity, for an equal result, we should hesitate to accept such a conclusion. There may be a beauty in the very breadth of a low vault; whilst in the Reading-room, the windows make all the difference between the one case and the other,—modifying the springing line of the vault in ordinary effect on the eye, although the actual springing may yet be discoverable.

As to the authorship of such a design as that under consideration, the loss of due credit in these particulars is too frequent, and yet too important to an individual, for us to treat lightly the subject, —to the right understanding of which we are glad that we have contributed in the manner which is acknowledged. Still, with what is due to Mr. Hosking, the merit of Mr. Smirke's work, whether in essentials of design or as a structural achievement, cannot be lessened, as by suggestion of a source from which it may have been primarily derived.

It would remain to be considered whether the present location for the Reading-room would not be the best, supposing the Museum given up wholly to the library department. This latter measure, under the present posture of affairs, Mr. Hosking contemplates, along with, amongst other objects, the erection of a "Museum of the Natural Sciences" in Lincoln's Inn-fields.

THE LATE MR. HERBERT MINTON.

It is with deep regret that we have this week to record the death of Mr. Herbert Minton.

As an eminent manufacturer, who has done the State good service by the improvements he effected in the art to which, through an extended period, he was devoted, as a man of enlarged heart and sympathetic feelings in all that affected the welfare of his fellow-men—and as one whose munificence was great and incessant in the creation and support of institutions for their temporal and spiritual welfare, and in numerous contributions to the good works of others—Mr. Herbert Minton's name will take a high place as a benefactor of his country.

Mr. Minton was the second son of the late Mr. Thomas Minton, the founder of the Ceramic establishment which, under the presidency of the son, attained so wide-spread a celebrity. He was born in 1793, and was consequently in his sixty-sixth year when he expired, after having been engaged for half a century in the improvement of the art to which he was so much devoted. Mr. Minton was conspicuous for indomitable energy and perseverance; and during the long period referred to, not one of his numerous work-people ever applied himself more sedulously or for a greater number of hours to business than he. In this respect, he was an example to them all. He was endowed with a quick perception of the beautiful, and the readiness with which he discovered any imperfection in the form or ornamentation of his work was extraordinary: these qualities developed themselves at an early period of his career, and gave promise of the success which he subsequently achieved. Mr. Minton began, at the early age of fourteen, to acquire that practical knowledge of the potter's art in which he became so proficient. It may truly be said of him that he never lost an hour. That was the great secret of his success. It is to Mr. Minton that the public are indebted for those beautiful picture pavements, as they may be truly called, which now ornament so many of our churches and chapels, the palaces of Royalty, the residences of our nobility and gentry, and public institutions, and which have, indeed, obtained a world-wide celebrity. The idea of reviving this beautiful branch of mediæval art manufacture originated, we believe, with the late Mr. Samuel Wright, of Shelton, about 25 years ago; but, like many other brilliant conceptions, it would have been lost to the world had not a Minton been found to give it force and effect. He at once, with his usual penetration, saw that at no distant day the manufacture of these tiles must become of national importance. His early experiments were very disappointing; but his motto was *Persevere!* On one occasion, we are told, he was remonstrated with, for spending so much time, and labour, and capital, in experiments which had not realized his expectations. The reply was characteristic of the man—"Say not a word more; I will make these tiles, even if they cost me a guinea each." A determination like this, formed by so clear-headed a man, was certain to result in ultimate success. The late Welby Pugin was heard frequently to remark that, if Mr. Minton had done nothing more for his country than the revival of this beautiful art, there ought to be a public statue erected to his memory, with one hand holding a specimen of his tiles; and we hope to see Mr. Pugin's idea realized. Mr. Minton, during a series of years, continued to improve the quality of his productions, and to apply his cultivated and refined taste to raise the character of English pottery. With this view he was forming the nucleus of a museum for the study of his art workmen, and which for its variety and the beauty of its specimens, is now, perhaps, unrivalled, regard being had to its somewhat limited extent. One trait of Mr. Minton's character was conspicuous—that of the pleasure he always felt in amply acknowledging the value of the assistance and co-operation of his workmen.

About two years since, Mr. Minton's failing health compelled him to retire from the active duties which he had so long delighted to perform. He chose Torquay for his future abode; its mild and salubrious climate being considered the most suited for his complaint a neuralgic affection—which, we are sorry to say, entailed occasionally much acute suffering. At Torquay, as we learn, his loss will be deeply felt, and his memory long be cherished. The suavity of his manners, the kindness of his heart, his liberality, and his sterling principles, could not fail to gain him a high place in the estimation of any community that could have the pleasure and advantage of his society. His great maxim was that the principal use of worldly possessions was to enable a man to become his own executor—to do all the good he could in his lifetime. He was successful—he gained wealth—but he recognised the hand that gave it, and distributed it as a good steward of the manifold gifts he had been blessed with. By one who had ample opportunities of appreciating his benevolent tendencies, we are assured that there must be thousands of unknown instances of his untiring Christian benevolence. His liberality in promoting the extension of education and religion was not confined to his own neighbourhood: he responded to appeals from all parts of the country. The church and schools near his residence at Hartshill were built and endowed at his sole cost; and at the consecration of that church in October, 1842, the collection made on the occasion was devoted to the completion of the adjacent church of St. Thomas, Penkhull, although neither Mr. H. Minton nor his brother, the Rev. T. W. Minton (who had contributed 2,000*l.* towards the erection of that church), possessed even an acre of land in that parish. Mr. H. Minton, in addition to paving Penkhull Church, finding that a debt of between 400*l.* and 500*l.* existed, told his nephew, the then incumbent, that it was a bad state of things to be encumbered with debt, and handed him a cheque for the entire amount. He gave 500*l.* towards the erection of public baths in Stoke-upon-Trent: these baths will be erected contiguous to the Minton testimonial building, of which we have before spoken. Of late years how frequent was our occasion to state, in our notices of "church building news," that the chancel, the nave, or whatever it might be, of some new church, was "paved with encaustic tiles presented by Mr. Minton!" Some ten years ago it transpired that depredators had intended to rob and murder a messenger Mr. Minton was in the habit of sending weekly to the bank at Newcastle. He considered that, had the crime been committed, his loss would probably have been about 500*l.*, and that sum he then presented to the Church Building Society, in order, as he said, that a neglected population might be taught to keep the commandments, and especially those that enjoined "Thou shalt not kill; thou shalt not steal." Anecdotes of such Christian feeling and philanthropy might be multiplied; but our space forbids.

The verdicts of two international juries had assigned to Mr. Minton a European fame, and the chief place among manufacturers of Pottery. Since the days of the first Wedgewood, no one had done so much to advance his art as Mr. Minton. Both at the London and Paris Exhibitions his works proved that individual enterprise was more than a match for State Subsidies. For its extensive variety of manufactures, earthenware, Majolica, Palissy, encaustic tiles, pressed powder mosaics, and porcelain for useful purposes,—the single factory at Stoke-upon-Trent surpassed all the Imperial manufactories at Sèvres, Meissen, Vienna, and Berlin. Only in decorative Porcelain did Sèvres surpass the Stoke works. Mr. Minton, by his sole ability, raised the factory established by his father to the first position among the Potteries of Europe. He possessed in a remarkable degree, that English pluck which never knows when it is beaten. For many years he battled against the difficulties in making pavement tiles and mosaics by machinery, sinking, as we have already said, an immense capital year after year without any return. His perseverance was rewarded at last, and he established the manufacture as a truly national one, and witnessed the paving of our Houses of Parliament and the House of Representatives at Washington, of many of the palaces of Europe, and most of the new churches in England with his tiles. Mr. Minton was one of the first to discuss and promote the international feature of the Exhibition of 1851. He made it his boast that he spent all his wealth—that he had no money in the Funds, and possessed neither land nor shares, and was therefore free of all cares. He used to say that he could spend his money best himself, to his own liking, and that he would not trouble his successors.

He often times declined to enter Parliament, but was made a Deputy-Lieutenant for Staffordshire, almost against his will. The Institute of Architects elected him an honorary member not long ago; and he was on the council of the Art-Union of London. He was married three times, but has left no children. His flourishing business devolves upon his nephews.

THE EXHIBITION OF THE SOCIETY OF BRITISH ARTISTS, IN SUFFOLK-STREET.

Consistency and perseverance are truly excellent qualities: their excellence, however, is conditional,—it depends, that is, upon the direction in which they are applied. Now the Suffolk-street artists are both consistent and persevering; but, unfortunately, they have set their faces in the wrong direction, and are persistent in their mannerisms to an extent that threatens a fatal result. The present exhibition is consequently not a good one; but amongst the landscapes there are many pictures possessing very decided merit. Landscapes always occupy a considerable portion of the walls of this gallery, and the landscape group of the present year comprises a numerous series of pictures. The "British artists" are not in the habit of covering their walls with portraits. The small number of pictures of this class that are now exhibited possess no claims for particular comment: they are very fair portraits, No. 6, for example, Mr. Hawkins's portrait of the Lady Mary Grimstone (now Viscountess Folkestone) being something much better than a very clever and effective "sketch." The historical and *genre* pictures constitute a large proportion of the 706 works in oil that form the collection. The existence of the great majority of these productions is a mystery to us, while their public appearance is, indeed, a misfortune. It is altogether impossible to account for such pictures as Nos. 14, "St. Peter's Repentance;" 34, "Lucius Junius Brutus;" 97, "The Death of Lord Marmion;" 220, "Prospero and Miranda;" 228, "The Pedlar;" and 263, "Othello." There are several scenes from the Indian mutiny, all of

them lamentably bad. Mr. Earl has two nice little bits, Nos. 10 and 12; Mr. J. J. Hill's "Gleaner Girl and Boy," with "the ballad," No. 42, is cleverly painted, and the expression is felicitously rendered. "The Firstborn," No. 77, by Mr. E. J. Cobbett, and the "Music Lesson" (a bullfinch being taught the art of "piping"), No. 107, by Mr. T. Roberts, are clever, and painted with both care and feeling. Mr. Hemsley's "Boys with the Basket of Game," No. 121, will take rank with his other pleasing productions of the same character. Miss S. Brownlow, a young artist of promise, has given a very happy representation of "Our Little Brother," in No. 155*. Mr. W. Shayer's "Figures on the Beach," No. 176; Mr. H. Hawkins' "May," No. 212; Mr. J. J. Hill's "Fern Gatherers," No. 536; and Miss Blunden's "Window-peep," No. 579, are agreeable and clever pictures; and Mr. Horlor has painted some capital calves at their "Morning Meal," No. 286. No. 488, by Mr. Henzell, "A Rustic," is a good work of its class. Another good picture is No. 564, by Mr. D'Arcy Bacon: the subject is an eagle gazing down from his rocky fastness upon some long lines of wild fowl on the wing far below him: the motive of the picture will be gathered from its title, "On the Look-out for a Meal."

Mr. Hurlstone exhibits four pictures, the most important of which, 196, represents an old man instructing a boy to play on the pipe, and is 'titled' "The Modern Silenus."

Mr. J. P. Pettitt has given up Assyria to enrol himself amongst the painters of British landscape. There is some feeling in his compositions, but the colouring is crude and harsh, and the execution always appears over-strained. Let Mr. Pettitt carefully study his No. 139, and as carefully compare it with the scene on the Conway, and he may learn a valuable lesson. Mr. C. Pettitt has a single small landscape, No. 164, "A Cambrian Cottage," that is charmingly painted. Mr. Pyne's six pictures illustrate in a striking manner both his high qualities and those eccentricities which he has permitted to become serious faults. In his No. 468, "Lias Rocks on the Dorset Coast," the artist has almost succeeded in shaking off his own mannerism under the potent influence of natural feeling, and the result is a fine picture. The boat coming on shore is the weak point in the composition, because it is less true to nature than either rocks, sea, or sky, and also because it is conventionalized after Mr. Pyne's but too familiar habit. Mr. Pyne's other pictures are Nos. 44, 84, 662, 733, and 801, the last two being executed in water colours. Mr. T. L. Rowbotham's "Study on Deal Beach," No. 25, is thoroughly well painted, and just the kind of little picture that will find a welcome in the choicest collection. Mr. Vicat Cole has three pictures, Nos. 36, 320, and 362: all are satisfactory; No. 320, a fine landscape, near Guildford, being the most important. Mr. Alfred Clint's landscapes we have studied with much regret. They are not worthy of him, though 687, "Lynton," is interesting. Mr. H. J. Boddington has contributed seven pictures, and Mr. W. West eleven: all are landscapes; the scenes represented by the latter gentleman, being for the most part rocks or rocky landscapes, with cascades. All these pictures are meritorious, and all also suffer from the peculiar mannerism of the artists. Mr. Boddington's grass and trees are often more nearly akin to green velvet than to genuine vegetation, and Mr. West's rocks have all been subjected to the same peculiar stratification and the same convulsive shattering. Mr. Boddington also exhibits but one effect of either sunshine or atmosphere: this is a very beautiful effect, certainly; yet if he would but commune more heartily with nature, we would find that, as Nature herself ever varies her dairest expressions, so a really great artist conveys under ever-varying images the same natural effects. The shadows, as they seem to pierce to the very depths of a still lake, are finely rendered in No. 175—"An Autumnal Evening, North Wales." Mr. Shalders has an agreeable landscape in No. 28. Mr. J. J. Wilson and Mr. J. Syer add largely, and particularly the former gentleman, to the landscape series. Nos. 62, 98, 229, 359, and 633, by Mr. Wilson, claim particular attention. The water in these pictures is fresh and sparkling, and the general treatment of the subjects effective. Mr. Syer's four pictures, Nos. 103, 201, 530, and 578, are all views in Wales: they are distinguished by their effective colouring, and their fidelity of representation. Of the remaining pictures, Mr. W. H. Ward's "Flowers and Fruit," No. 74, and Mr. J. C. Ward's small landscape "near Hereford," No. 161, are very clever. Mr. Hayes's "Dutch Vessel beating to windward," No. 382, and Mr. C. Smith's "Water Mill," No. 383, are good pictures, the latter being very small in size: and Mr. W. W. Gosling has two able sketches, Nos. 490 and 504; the former "in the corn-fields," and the latter "on the Thames."

Mr. J. Campbell, jun. in No. 454, and Mr. G. A. Storey, in No. 531, have painted some wonderfully real details, and both evidently are thoroughly impressed with the conviction, that in the human figure ugliness is the quality most valuable for the artist. If Mr. Campbell had but painted his "Wife's Remonstrance," as the earnest, deep-feeling living woman would have remonstrated with her sottish, but not hopeless husband, he would have produced a powerful picture. Mr. Rossiter's "Haunted Chamber," No. 22, deserves notice.

We reserve to the last the single contribution of Mr. D. Linn, "The Ferry," No. 147, a picture distinguished at once by ability and promise. A heavy squall has suddenly struck the river, and the ferry-boat has been driven back to the safe shelter of the bank, where she lies assailed by the agitated waters. The artist has shown that he felt the full force of the incident, and that he could express his feelings with truth and animation.

The drawings in water-colour, 210 in number, include some good landscapes by Mr. Pyne, Mr. Rayner, Mr. Whaite, Mr. Macquoid, Mr. Penley, and Mr. Powell, of which Nos. 801, 802, 740, 741, and 746, are the most satisfactory. Miss A. B. Edwards, Mrs. Duffield, Mrs. Withers, and Mrs. Croudace are amongst the lady artists in this room.

ART AND THE CHURCH.*

I do not say that there is no true grandeur in many works of a secular character so called. But even with regard to these, if we take the works of Shakspeare, for instance, what are the most familiar and beloved passages but flights of the most noble understanding, the most exalted sentiment? Surely in them we hear rather the voice of the wisdom of Solomon, of the Minerva of the Greeks, of the Beatrice of Dante, of the Urania of Milton, than a mere ordinary mortal. And the same may be observed of many remarkable works which are not professedly religious in their aim. But often they seem to have become so in spite of their makers: the heavenly inspiration shines out uncontrollably, and manifests so great a power and principle of light, that one almost doubts whether the souls that it illumined were really any longer waiting for the touch of death to set them free of earth, and were not, on the contrary, lingering late among men from love and pity. But we see that the Christian Church has been a nursing mother to the arts; and it is an astonishing thing that in this age of the world, and in this country, many people have discovered that it is from this very Christian worship that the use of the arts is to be excluded. But I cannot in reason see on what ground the exclusion even of painting and sculpture from our churches can be justified. The fear that people would take it into their heads to worship a portrait, or adore a statue in an idolatrous sense, seems to be only fit to be classed with a belief in witchcraft. We do not live in the days of Jeroboam or Nebuchadnezzar, although we can still make golden calves and golden images; and indeed, for aught we can tell, we are no more likely to worship a picture than a preacher. For the very eloquence so often employed in denouncing the unhappy senses, in describing from an ugly pulpit the lures of the arts, is itself more liable to perversion than the pursuits on which it makes a suicidal onset. Passionate appeals and sophistical argument are worse than any amount of music or any display of painting. We continually hear of a fanciful, not real, spirituality—a thing so undefinable, so intangible, that we know not where it is, or is not. It is often nothing but a confused idea, to which men give a mysterious name. It argues itself out of life into a state of abstraction, and shrinks together in an attitude of continual alarm and protest. How then does it propose to supply the want of those arts which it rejects? By strengthening itself in speech, in facility of tongue, so that pathetic and glowing descriptions of sacred events are to be esteemed and studied by those who decline a touching picture of the same to be false and idolatrous. Impassioned appeals to the senses against the senses by voice, gesture, and action to the ear and eye, it upholds and glories in; but architecture and sculpture, whose works, once well designed, remain unchangeable, immutably offering for ages the same pure and holy expression first bestowed upon them, these the unruly member disdains and traduces. But true spirituality cannot be inconsistent with a love of art. As for idolatry—do we adore our stained glass windows? What religious advantages have they over statues? As to pride—does not any reasonable man know his greatest and best of any kind to be little enough? But it is, nevertheless, the greatest and best manifestation of his de-ire and intention to honour the Creator and Giver that is borne in mind, so that He may be approached in a manner not forgetful of His majesty. Must it not be an omission to express this desire worse than we can? Why are discord in church-singing, disproportion in a column, want of harmony in colours, any more to be tolerated than bad grammar in a prayer? To say that the man who shows the most devotion necessarily least feels it, is but to make excuse for negligence. So also dumbness might be held a greater proof of wisdom than speech, and sometimes it is a proof of prudence. But let not architecture be dumb; let her be as eloquent as possible of her devotion in style and form, and all the language of design. It would be only in a world of madmen that the tree should be condemned according to the value of its bearing, and praised according to the multitude of its rustling leaves. Having advanced thus far in a difficult and somewhat delicate subject, it becomes necessary to prevent any misapprehension; and, in the first place, I am perfectly aware that, in religion, the very first and chief thing is true spirituality. Against that there is indeed not a word to be said. We know that the true spirit of religion does not depend upon externals, but upon faith, hope, love, and charity; and that men might still adore their Maker though there were not a single fine art in the world; for there is no necessary union between faith, or any kind of faith, and the senses. But it is a mistake, therefore, to take it for granted that the arts are continually protesting against the Thirty-nine Articles. To see in the building of a noble church a declaration against justification by faith; to detect in a portrait of St. Peter or St. John an insinuation against the Atonement; to discover in the tesselated paving of the choir an aim at the deification of priests. But what has been objected to is, a so-called spirituality—a state that is neutral and almost negative, rejecting every external religious manifestation, and making itself no sign. This is the bitterest foe of the arts. This would have no churches at all, no service at all, and no art at all. In its poetical phases it is somewhat Druidical: if it has sung one hymn in favour of woodland worship and the glorification of trees, in preference to the worship of the Church, it has sung a thousand. It is also somewhat of a fire-worshipper, and is particularly moved by the sun, moon, and stars, and their various risings and settings. In its lower moods it becomes cold, hard, and prosaic, dwelling in an ascetic house, terrifying little children on Sundays (Sundays of gloom, self-invented), and forbidding the most innocent amusement. In its fits of violence it is apt to stable horses in cathedrals at the very altar of God, and to shatter and destroy and to break down the carved work with axes and hammers. All this is a pretended spirituality. Further, the position is this. You are going to build a house, which you will call the House of God: you ought, therefore, to employ the best architecture. You are going to celebrate His praises: you must have the best music. To preach His word, the best English. To depict the acts of our Saviour's life, the best drawing and painting. And this best is to be a devout, a reverent *best*—a spirit of excellence where it stands, and which, with bowed and adoring attitude, shall at once express the sense of its own unworthiness, the hope that its presence is acceptable, and gratitude and love for gifts of mind bestowed. This is what we have endeavoured to establish, and trust that it has been satisfactorily shown.

Furthermore, I see no sort of necessity or benefit in the arts, or their works, being made or esteemed vehicles of doctrine. This is the greatest evil that can possibly befall them. They become fettered at once, or at least trammelled, with all the clumsy harness of party tournament. I cannot perceive that they can in any way be held to express particular views, or forms of particular creeds. They are free,—free as thought; the property of all mankind. It seems somewhat droll to imagine that the arts are, or have been, contaminated by being employed in the service of pagan or alien forms of worship. What! because there was a Parthenon, should there be no St Peter's? Because there is a St. Peter's, should there be no St. Paul's? Shall St. Paul's remain unfinished, because St. Peter's has been finished? We might as well say that the art of poetry had been defiled by the Greeks and Latins, and that, therefore, we have no right to a Shakspeare, Pope, Dryden, Young. But to build the most beautiful place for public worship is clearly perfectly consistent with any amount of religious soundness. Nor does it necessarily imply the possession of any particular views. At this rate men might be charged with believing in the Greek mythology, for the arts have already expressed every kind of belief and non-belief imaginable! But they are a free language; and such as the heart is, so will the words be. Now is it, therefore, just to denounce the arts because they have been adopted by the Church of Rome, which has done so much to exalt them. She should in this respect rather be grateful to her for her care; and on the same principle of sweeping rejection should possibly find ourselves bound to repudiate our own creeds.

No one will doubt the value and efficacy of the arts in the cause of civilization. But when their works are further made to express emotions and sentiments of the highest order, derived from the devotion of the most learned and accomplished minds, it cannot be doubted that their influence must be of the most excellent and enduring character. Never can we be brought to believe that danger lurks under those wonderful works of art which are the delight of the world. Danger here, danger there, danger everywhere. One would think this beautiful earth, and all the works of man together, had been expressly designed for an enormous man-trap or a huge delusion, just as though ourselves and the whole world were as flat and as double in reality as stereoscope photographs—mere shades that only *seem* substantial in virtue of some binocular or general binosensual process. Nor are the noble building, the solemn strain of music, the sacred poem or picture, drawing the mind away from the din of the world to calm and holy thought, to be denounced as snares, devices of evil, betrayers of the soul. Betrayers to what? Is virtuous meditation of no account, because it is suggested from without? In that case all human instruction must be counted futile, since no man could be held to be really good, or truly religious who had been rendered so by means of another's teaching or example. Better are the sensations produced by the contemplation of the true and beautiful in art than all the dreary notions that inhabit a soul of gloomy fanaticism and puritanical moroseness; for those sensations are the very food of reflection, which often takes the colour of that it feeds upon, and thereby adorns and beautifies the mind. But those dreary notions are little else than mental mummies and lumber, suggestive of decay and desolation in the past, and despair in the future. Not all are cold, not all are stern, not all susceptible, not all imaginative. The dull, the ungenial, the hard, are intolerable to gentle, warm, and impressible spirits. And if Religion take up a chilling, unloving attitude towards the arts, she will but be like a mother who answers the beaming looks of youth with a frown, and harshly repulses the outstretched hands of the most affectionate of her children.

The arts, in entering the church, should, like those who practise them, observe a reverent demeanour; and, indeed, taking it as a whole, it is impossible to conceive anything more reverent in its expression than that Gothic style which Architecture has adopted to tell of the devotion of the North; for this is eminently a Northern art—an expression of the Teutonic soul. Such is the opinion of many great writers. If it have any connection with the East, it is one very faint and very remote. So also the Gothic races and language exhibit some marks of ancient affinity with the Oriental. But for all that, we do not generally count ourselves descendant from ancestors who dwelt in the plains of India, nor claim cousinship with sepoys. Assuredly those progenitors would neither recognise nor understand their progeny. Nor would they claim us theirs our language, our laws, and our arts.

* See p. 206, *ante*.

To resume.—I know not whether even this Gothic be not, in some minor particulars, susceptible of improvement. True spirituality will always lean rather to the severe, rare, and chaste. The grotesque, the fantastic, the gaudy, are all somewhat impertinent in the house of God. The fiery steed of Imagination should not gallop into the sanctuary fresh from the regions of romance and glamour, and had inebriate with the draught of enchanted streams. For this reason, the quaint fancies of the monks of old in their decoration, much of their animal and vegetable creation, their stone faces of convulsion and terror, their bewildering and complex salads of colour, their very dim, though, it may be, very religious light, need not be all abandoned indeed, but they need all to be somewhat modified, chastened, restrained in use, as indeed in many cases they have been. The dreams of superstition, the gloom of asceticism, the demonology of sculpture, have fallen and lie with the dead leaves of the past, and the tree of our Christian life to-day puts forth a fairer, a fresher, a more cheerful foliage. The mind of the student will be reflected in his works. That mind is not to-day what it was in the grey light of the Gothic dawn. It is penetrated more with the light, the love, the joy of true religion. His imagination has not been tempered in the nether fires of torment. He does not sit trembling on the brink of the bottomless pit. His ears ring not with the groans of agony, the discordant cries, the unintelligible lamentations which haunted the mind of the thirteenth century. For this reason, whenever he simply imitates that which was done ages since, where he merely copies and reproduces good and bad alike, he may be said not rightly to express his own mind and the mind of the age in which he lives, but to be indeed little better than dumb, and so far as he is not telling his own tale, to be giving a false account of his genius to the future. If the circumstances are different, if the faith of our day be not the same in kind as it was, but truer and purer, if the ideas, rather, the wilder fancies of the past be exploded, the symbolism which expressed them in architecture is fallen out of date, is fallen and dead. I do not say that there should be no symbolism. But it must be remembered this is a kind of language which it is simply absurd to employ, where it no longer applies. Why symbolize the ideas of superstition or demonology, when they are passed away? And so, if there be even any symbolism of doctrine, and that doctrine is not maintained now by the Anglican Church, then in our churches that symbolism should be no longer resorted to. Art-morality and symbolism are both somewhat perplexing. There are many noble ideas, good as a whole, which will not bear working out into the pettiest details. Thus one can understand symbolizing the sublimity of religion by a sublime style; but one could not understand Protestant columns, gnostic tracery, or Pelagian arches. There is nothing easier than to convert the sublime into the ridiculous. This arises sometimes from the over-exacting tendency of logical minds, which do not enough take into account the actual state of things. For in many respects it is generally wiser not to deal with things as they ought to be, but with things as they are. The former method evolves many pretty theories, which break down on the application. The latter, founded on observation and practice, originates many useful improvements. This is the English way. For instance, we owe our freedom to it, though there are many anomalies and inconsistencies in the constitution. The French, sublime in theory, exact perfection and complete logical sequence, and fail in securing freedom at all. It is a question worth consideration whether in some respects our churches cannot be better adapted to the ritual celebrated in them. The style and its beauty may be retained, though the form be somewhat changed. There is no occasion for any great variety of styles; and there is already too great variety of modes which can hardly be called styles at all. As to buildings not belonging to the Church, especially, one is absolutely confounded by the different sorts and fashions. Pointed, high, low, square, columnar and non-columnar, galleried and non-galleried, theatrical and anti theatrical, Gothic-Greco-Italico-non-descriptico, flourish in their deformity far and wide. This, alas, is the age of the pantomime style; and a good deal of this is probably owing to a doubt as to whether the old form is best suited for what is somewhat quaintly called Protestant worship—that is, I suppose, the worship of the Reformed Church of England, and various reformed dissents. But, as Lord Bacon said of books, the cure lies not in diminishing the number of these vicious fashions, but in establishing more good ones, which, like the rod of Moses, shall devour the serpents of the Egyptians. In our churches it appears that topics we might attend to, are the number and disposition of the columns, the necessity or not of rood-screens, aumbries, and the like; the general appropriateness of the decoration and not alone the designs in painted glass, the amount of light, the mode of arranging galleries, if any, and the principles of acoustics, and we should not consider these matters from too antiquarian a point of view, nor be too forgetful of new ideas and materials; for we have to deal with the religious necessities of the present. We must be not only restorative, but creative; and this national Gothic style of ours appears to be fully equal to accommodating itself without loss of beauty, to the wants and changes of the age.

Very often there does not seem to be accommodation enough given in proportion to the expense. Sometimes in a building, which is a complete celestial conservatory of devices, there is too little light. Sometimes there is an almost intolerable mixture of red and green, breaking up the lines of the building, into short vegetable lengths. Sometimes the name of the columns is legion, and sit where you will, out of the immediate nave, you find one before you. Sometimes the diapering dazzles and dances before your eyes, so that that delicate sense is in continual torture. Sometimes a complete stream of distorted shapes pours down the sunbeam from the windows, and you find yourself in company of figures with no necks,—figures with their heads on one shoulder,—figures with their arms coming below their knees, and all indescribably mingled together with spidery feet, brush-like triangles meant for wings, faces of amazing eccentricity, stares, frowns, and grins, and glories as solid looking as gold plate. Indeed, much of this might be amended, and with regard to those figures in stained glass, it were better to have none which would be a great pity, than to put up against the night images so painfully distorted as some are. But it is fair to admit there has been much improvement of late, and our churches boast many noble specimens of this art, considering where its displayer, grotesqueness assumes almost the character of serious importance. If anywhere barbaric gaudiness and deformity should be avoided, surely it is in temples reared to Him who is the Lord of all order and beauty.

It will have been seen that objection is taken to the excess of colour employed in some of our churches; also to its prevailing fashion. I think that it were better to adopt the great masses, as of the nave sunshine, the pale and chaster tints. It is the only defence of the present practice to say that it has the warrant of antiquity, that is scarcely sufficient: on that ground what enormities might we not now perpetrate? The question is whether it is such as taste and propriety require. I confess to have seen ancient tombs in some churches so "restored," that they were perfectly startling in their holiday attire. They looked as if they had undergone some wonderful metamorphoses at the hands of Pomona. For me the centuries gone by, the solemnity of the tomb, the sacred character of the place vanished as by a touch in harlequinade. A tomb should look hopeful, but it need not look merry. That sepulchre might have grown up in a night like a magical fungus; I thought how different was the calm and holy image of Christian death, and how different should be its memorials, from that half Pagan barbaric figure that arose before the mind, the skeleton in the war-paint of his office.

In the Gothic style, *disguises* of colour are not necessary. It possesses in itself all the elements of the sublime and beautiful—length, height, vastness, multitude, all belong to it. Whatever tends to break up that length, diminish that height, contract that vastness, destroy the effect of its repetition, is by no means desirable. Judicious colouring assists; over colouring, or violent colouring disturbs. It brings down the vaulted roof, shortens the perspective, and creates confusion. And besides, it sometimes gives the whole an unsubstantial motley appearance an air of unreal mockery, to which one cannot forbear saying, "Hence!" It does not at all agree with the religious ideas of purity and simplicity. It is better for stone to look like stone, than flower-stalks of Paradise. If, indeed, they made a mistake of old, there can surely be no good in repeating it, and reproducing that which belonged to a less informed period of intelligence.

Our space forbids us to enter at much length into the subject of church painting, sculpture, and music. The last stands almost unrivalled in its grandeur and simplicity of taste. It forms an excellent model for the sister arts. For in all, for religious purposes, that kind of sublimity should be aimed at which is at the same time *simple*. This is the best for church music; it is the best for pulpit oratory; and it seems natural to infer that it would prove the best also for the other arts. But it is also the most difficult of attainment, and that may in some measure account for its rarity.

Nor can we here treat of the objections some have raised against sculpture out of the second commandment of the Decalogue. It may be enough to observe to those who may feel inclined to follow up the subject, that it was the opinion, I believe, of the illustrious Dr. Arnold, that by the fact of the incarnation that commandment had been annulled, and was not binding on a Christian. And thus, too, touching the representation of an image of the most important character, the use of which has given rise to many stormy discussions in the world. With this remark, I leave the question in the hands of those who may be more specially called to inquire into it. The authority quoted was entitled to great respect, nor could he be suspected of leaning in any particular direction away from the Church he was brought up in.

With regard to painting (disregarding expediency), it is very hard to see why any number of figures can be tolerated in the window, when you may not design a work of beauty and majesty upon the wall.

What is the superior orthodoxy of transparency? It is not that I like stained glass less, but that I like pictures more. I do not at all believe that the cartoons of Raffaelle would be any more worshipped in a cathedral than they are in a palace. But it is a singular thing, that our form of Christianity allows us to fill St. Paul's Church with the effigies of warriors and statesmen, when the interior does not, I suppose, contain a single statue of that most Christian and most illustrious apostle to whom the very building itself is dedicated. This is an inconsistency which it is to be hoped will disappear in time; for the shutting the doors of the church in the face of painting and sculpture, has tended very much to discourage the formation of a school of sacred art, which might by this time have bequeathed inestimable treasures to posterity.

As to the morality of art, so much has been said so well by a writer whose works will shine for ever in the English language, that it would be superfluous to discuss it here. It is only necessary to observe that if anywhere *not* binding, in the church it must be implicitly regarded. Let the very shadow of pretence be far from the house of God; and even in a doubtful case, let the strictness of the rule be maintained. Though there may be some objections to be taken, as by those who assert a right of imitation, who disclaim the intention to deceive, the principle is sound in the main, and, at the least, is deserving of great respect. For everything connected with a church ought to be as just, true, pure in its kind as possible, that it may the better befit the exercises of that pure, just, and true religion for whose services it is built.

There is no doubt that the conscientious student will work the best. He has not mere words to put together, mere sounds to combine, mere wood and stone to build up. He has nothing to do with anything *mere*. But he has feelings in his soul, faith and love which he endeavours to express. He holds "high converse" with high intelligences, and is taught to be a child at the feet of Wisdom. To him every hour is an angel, bringing angelic thought. He pours out his spirit into his work; and that work seems to share the principle of life, and is clad with the immortality of the master-mind. Even in his ashes burn his wonted fires. And we have seen, and reflection shows, how bright and glorious those fires are; and how imperishable are the works by which the most highly conscientious, the religious student has endeavoured to celebrate the praises of God in the arts.

And, knowing as we do, how great is the power of the arts to civilize and improve the mind, is it not incumbent upon us who have the opportunity, to see that that power be maintained of glorious brightest efficacy, a polished sword of the intellect against all that is low, mean, and degrading? Above all, is it desirable that in those temples, which are so many centres of light, diffusing a benign influence around, the arts there enshrined should exist in their purest and noblest form. For these are the places that all most venerate. To them will men look for the highest standard, and they will come to love the sacred structures, to regard them as the very home of what is chaste and lovely, and to revere religion as the immediate protector of the muses of peace, since in her presence they abide, and tend her sanctuary.

For the great office of the arts is to please, that they may the better teach. Nor can it surely be held that their power is evil, and their work a delusion, especially in that very place where they are found humbly bending in their beauty before Him from whom all intellect emanates, and at whose fiat all grace and beauty were created.

H. T. BRAITHWAITE, B.A.

FROM ITALY.

DECORATION.

HAVING read with interest some remarks in one of your late numbers from a correspondent in Italy, I venture to offer you a few notes of what I saw there last year. Passing through France, I left Lyons in a thick fog, but entered bright sunshine at Valence, and at Avignon I found myself in the glow of an Italian evening. Among the ancient buildings worthy of notice is the palace of the Popes, containing some relics of the frescoes of the school of Giotto, more, probably, being hidden by the whitewash. This old palace is now used as a barrack, and accordingly the pestilential air is a sad check to the ardour of the antiquary.

The first place in Italy in which I stayed was Nice. The old town is a labyrinth of narrow streets and lofty houses; the new suburb, where most visitors reside, consists chiefly of blocks of houses, let in flats, and of villas. The bad taste shown in the exterior decoration of these is most striking. The walls are covered with an ill-favoured kind of plaster, and thereupon are painted sham columns, entablatures, arcades, and window mouldings in perspective. When fresh, this attempt at ocular deception produces at least a lively effect; but as the colours fade the meanness of the device becomes evident. A judicious application of colour would no doubt be pleasing in such a climate, and might possibly be so with us, but a failure results when painting tries to imitate features which it is the province of architecture to supply, and such is often the case in Italy. In some buildings the plastered wall is coloured in imitation of brickwork, a strange notion to us English, who are so over anxious to conceal our bricks. In better taste are the decorations in the interior of houses. The ceilings are painted with flowers and arabesques, and lines of colour, and this, though roughly and cheaply done, produces a most cheerful effect. Why, then, should our ceilings have such a painfully white and cold appearance, or be decorated only at a great expense?

Between Nice and Genoa there are a few relics of the old Italian Gothic churches worthy the attention of the antiquary; but the greater part have been coated with plaster, and the elegant towers perverted into wretched specimens of the modern Italian style, doubtless by direction of the priests, who since the Renaissance have done more to spoil the churches of the Continent than ever our puritanical churchwardens did in England. But for the Reformation, we might have had half our old churches Italianized.

But the later Italian style is worthily represented in some of the palaces and churches of Genoa. We may learn much from these. The portals of the palaces are of noble size, and put the doorways of our London mansions to shame; they are supported by huge columns, often of one block of granite or marble, and in one case by gigantic caryatides. Another feature worthy of imitation is the elegant arcade usually surrounding the interior court, the light arch springing from a column, and not from a heavy pier. We scarcely ever see such arcades in England, though they might be very usefully and ornamentally introduced, especially in country houses or villas.

At the same time, these architects did not despise plaster: a marble entrance often stands against a plastered wall.

In the Villa Doria at the western end of the town, the ceiling decoration is specially worthy of notice. This consists of small and apparently highly finished pattern and figure painting, giving a far more pleasing effect than the chaos of gods and goddesses, with flowing robes and bare limbs, that tenant most of the Genoese palace ceilings. For ceiling decoration, let me also commend to the attention of the traveller a church near the old house of Andrea Doria,—St. Ambrogio, I think; and if he go thence to the church of the Annunciata, lately restored, he will at once perceive the difference between elegance and extravagance in coloured decoration.

For one of our Government buildings the Palazzo Ducale would be a good study.

At Milan, I particularly noticed the great use made in many old buildings of moulded brick and terra-cotta. The early English-like windows of St. Eustorgio, and the later ones of St. Maria delle Grazie, are good specimens. The windows of the grand front of the Ospedale Maggiore have mouldings of leaves and birds, fresh as on the day

of their insertion; and above are terra-cotta medallions, with heads in high relief. The windows in the court of the old Palazzo Borromeo deserve notice: they are pointed and have beautiful mouldings. If these old Italians did not need to resort to stone to give a finish to the appearance of their brick buildings, why should we? Why should not every brick church, and school, nay, every house, have dripstones, corbels, window-mouldings, and even capitals of moulded brick or terra-cotta. Our builders should be rather less fond of the Elizabethan, and should see what they can learn from the old Italian mouldings, and also from the portals, arcades, and ceiling painting of the modern style.

L. Y. M.

THE CHOICE OF OBJECTS FOR STUDY.

If anything which I have said in my lecture at the Architectural Museum has had any tendency to weaken what was the general drift and object of Mr. Street's excellent address at the same place, viz.—the inculcation of all which is vigorous and masculine in our architecture and its subordinate arts—I am sure that I not only owe him every apology, but our art every reparation in my power. It is a tendency of our nature so to magnify points of difference, as to reduce our perception of those in which we agree; and I really hope that it may be found by those who heard, and those who do me the favour to read, my remarks, that my object was throughout *absolutely identical* with that of my talented friend, and that if I differed from him in *one* point as to the mode of attaining that object, it was a point on which the most earnest among us honestly differ, and one which involves so much difficulty, that, with our differently constituted minds, it would be almost miraculous if we all agreed. My object in now writing is not to discuss this point, but to show how narrow are the limits of difference.

1. Your readers will smile at hearing me accused of broad eclecticism; and if they compare my lecture with Mr. Street's, they will find us almost precisely agreed as to the period which we recommended to the special attention of the student. My dates were from 1170 to 1300—his comprised the twelfth and thirteenth centuries. Indeed, Mr. Street's list of buildings goes a century earlier; and in a circular I have seen of his, he claimed a later range for the study of painting. I do not quarrel with either of his extensions, but only mention them to show that on the whole I am less eclectic than he; indeed, the main object and drift of my lecture was to *limit* the range in which the student should indulge.

2. *Force* and *energy* were my watchwords throughout, and, as a means of attaining them, I urged in the strongest terms the study of the *very same* examples which Mr. Street so strenously recommends—the conventional sculpture of the beginning of the thirteenth century; nor could any terms which I was master of exceed what I used in its praise, and I urged its study for the very same purpose which Mr. Street states, that we might catch from it the spirit of the old sculptors.

3. In my love of the thirteenth century I believe I even go beyond Mr. Street; for, though he includes the whole of it in his dates, he appears practically to limit his affection to its earlier half. Now the thirteenth century was as pre-eminently the age of natural as of conventional carving. The latter half of it in France, and the last quarter of it in England, was the period which excelled all others in the world's history in the application of natural objects to architecture; as the former part had (in my opinion) excelled them all in conventional ornamentation. My first point of difference with Mr. Street lies perhaps in this opinion, though the two styles he complains of my commending to the student equally belong to the century he himself commends, and the imitation of nature is one of the two great lessons which the works of that century inculcate.

4. I had thought Mr. Street was in favour of the actual revival of the conventual style of this period; but, if I rightly understand his letter to me, I was mistaken—so that our difference is still further reduced. I will now endeavour to define it, both to show how narrow it is, and to aid its practical solution; for it will not be solved by argument, but by practical means.

The conventional foliage of the thirteenth century was in both of our opinions as nearly perfect as any human work has ever been. If it were still living among us, we should have every reason to be satisfied; but it is not so, and with sorrow I fear that it cannot be successfully revived, and that if it were so in form, it would fail in vitality: I therefore recommend nature as a groundwork, but these glorious works as an aid in using her, and I think Mr. Street does the same. I have further urged (not only in my last lecture, but in earlier ones) that if we want a purely monumental style of foliated ornamentation we must generate one for ourselves, though I will not go so far as to object to imitating the old style as a stepping-stone and a means of attaining this; and in this I almost think that I am still in agreement with Mr. Street. Here, however, the real difference commences. He thinks, if I rightly understand him, that such a style *must* only symbolize nature *generally*,* and must not represent even in a conventionalized form her individual productions. I hold the same opinion, only substituting the word "may" for "must." I hold that such a general idealization is a most desirable, and might, if again attainable, be a truly glorious thing; but I further hold that it is not contrary to the principles of sound art either to *idealize* the *individual* productions of nature, or to go further and so far *imitate* them as is consistent with so adapting, architecturalizing, and (to use an incorrect term) "conventionalizing" them, as to fit them to their position, uses, and material. And the task I prescribed to my working hearers was, to do this in such a manner as will produce as vigorous and energetic an effect as that we see in the old conventional carving. It was this, not the copying of nature, that I pronounce to be so difficult a work; and instead of thinking it easy, I imagine that Mr. Street will pronounce it *impossible*. At any rate I cannot but hope that the imitation of God's works will not necessarily be found to foster man's "conceit and pride," or chill his "adoration and love." The two tasks are, I think, as glorious as any which can be prescribed to the modern architectural artist. I commend the one to Mr. Street as especially suited to his talents and artistic vigour, and heartily wish him success; and should my humble exhortations lead to any good result in the other, I cannot help thinking he would be also as gratified as I should in his own achievement.

I will only add two very trifling remarks. 1. I had no idea of quoting at all, much less *mis*quoting, my friend's lecture: if I wronged him by using the word "*natural*" instead of "*naturalistic*," I willingly retract. 2. There are at Rheims two classes of capitals. The majority are early thirteenth century, and are conventional: the others, belonging to the age of the west front, have natural foliage of a minute, over-wrought, and somewhat feeble character. If my description of what I urged my hearers to aim at appeared to point at either of these, I frankly admit that Mr. Street has most fully made good against me his charge of want of perspicuity of language.

Geo. Gilbert Scott.

* I do not wish to be egotistic, but, so far as I am aware, I was the first to give this definition of the conventional foliage of the thirteenth century. In my lecture at the Museum in 1854 I find this description of it:—"The fact is, however, that the foliage of the period is not an imitation of particular leaves, but a beautiful conventional representation of foliage *in the abstract*. It is so perfectly founded on natural principles, that one is loath to believe that no such leaf ever actually grew. It approaches to many, yet represents none. It is the perfect symbol of foliage *in general*, without individualizing any one particular leaf." In my lecture in 1855 I described it as "an ideal representation or symbolizing of foliage in the abstract, without descending into particulars," as seeming "invented on purpose for stone carving and for architectural uses," as "so like nature that one searches in all directions for its living type, and can scarcely believe that none exists," yet meeting so perfectly all the exigencies of architecture, that if it had a type in nature, one would be fain to believe that it had been created expressly to be copied in stone."

THE MUFFLED STATUE.

Sir,—All who feel an interest in the statuary of our public places are grateful to the *Builder* for numerous strictures published on the subject; knowing well that, as a qualified arbiter, his reiterated observations act as stimuli upon wealthy collectors of art-treasures, and at the same time as an encouragement to many gifted artists of this nation who languished hitherto in obscurity.

Latterly several new statues have been erected on pedestals which have stood vacant for years; and others, pedestal and all, have risen anew. One there is that puzzles inquirers who peer through the open gates of the Burlington courtyard: for several months it has stood wrapped in swaddling-clothes like a farmer's scarecrow.

Perhaps one of the more curious sex may be excused for inquiring into the objects of so much mystery. Is it, as they say, a statue of Lord Hardinge, and that they await the anniversary of Sobraon to unveil the work? or is it that the exhibition of a glittering effigy in copper may dazzle beholders (as that of George III. in Pall-Mall) when the spring rains are passed? If the latter, you, sir, must recollect that both horse and rider, which were bright as a new pennypiece in June, were of an invisible green colour before a year had elapsed.

Our tardiness in adorning the many positions of London favourable for statuary (and many pedestals there are, naked and crying aloud for tenants), is, alas! too notorious; but that we should muffle and conceal the excellencies (if any there be) in those we have, is truly unaccountable.

The position of this statue is a most happy one, in a noble courtyard, on the most commanding route of London. True, the space is masked by an obscene wall; but the *Builder* has shewn already, that by abating that wall, and reversing the grand and beautiful colonnade—that is, by turning the semi-line with open arms to the street, one of the most commanding spaces for statuary might be secured, and a view of good architecture, with *light* and *freedom*, thrown into Piccadilly!

May I suggest, that as the space in question fronts the halls of the Royal Society, a statue of the prince who favours and cherishes the arts might find here a most appropriate station. Native art has not as yet consecrated one to his merits—save only that which stands in *plaster model* at the Colosseum, by Mr. J. Wyatt. Wherefore this statue has not been realized in marble doth not appear.

It may be alleged that the Dutch are phlegmatic: it is much more palpable that we English are slow;—but Maecenas was not honoured until after the lapse of 1500 years; nor until Maro was read in print.

Imogene Praxiteles.

WESTMINSTER PALACE HOTEL.

The success of the great hotels which have been built near the metropolitan railway stations has raised up a competition by which the public, at least, will be gainers. The plans and elevation on the other side are those of one "first in the race," the "Westminster Palace Hotel," designed by Messrs. W. and A. Moseley, and for building which, arrangements, we understand, are now being made.

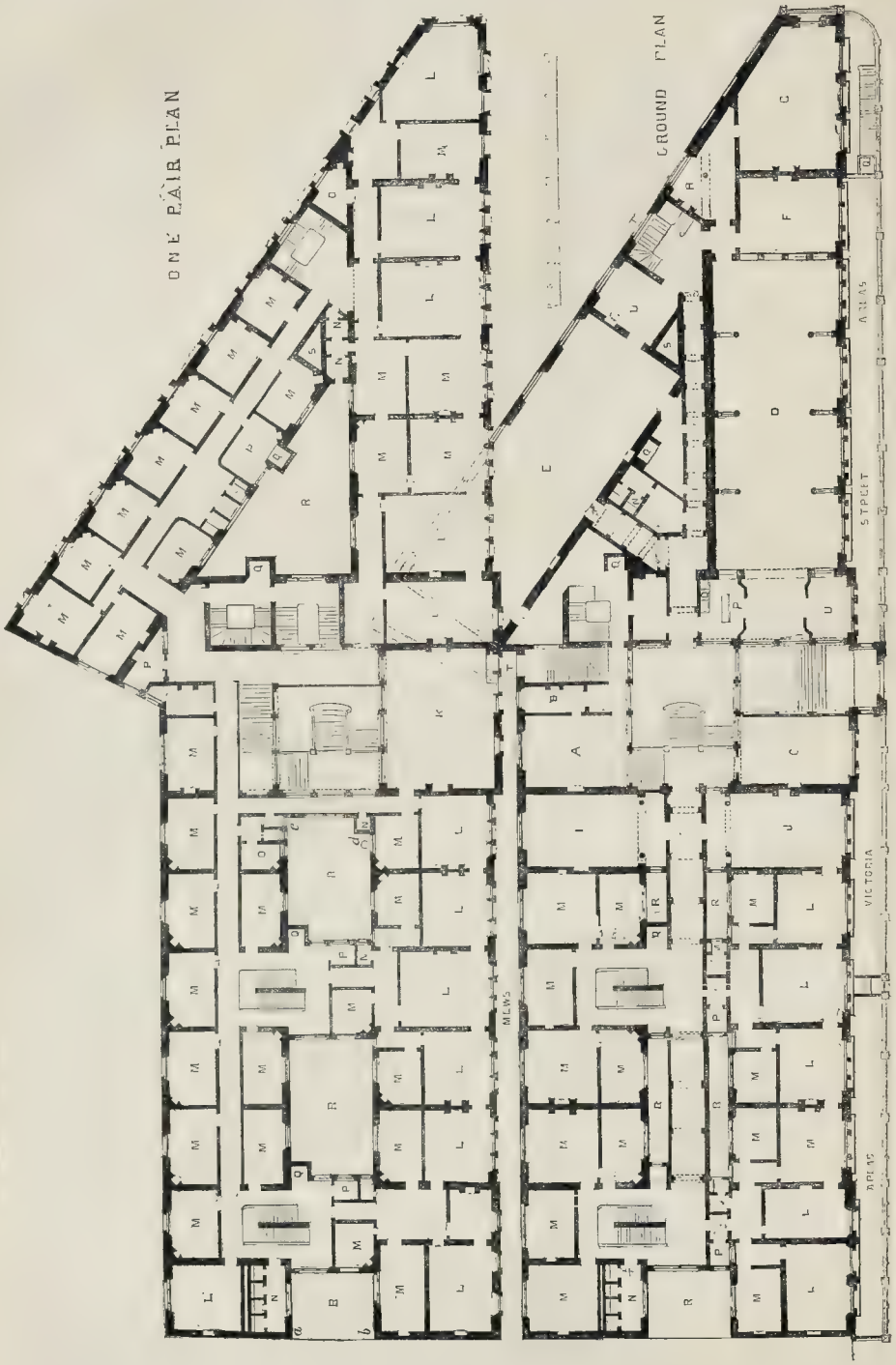
The site of the intended building is at the east end of Victoria-street, on the north side; and it occupies the angular plot of ground between it and Tothill-street, about 100 yards from the Abbey, and 300 yards (across the churchyard) to the front of the Law Courts. The company look to the members of the Legislature and attendants upon the courts of justice and Parliamentary committees for their chief support. The accommodation to be afforded by this hotel is very extensive; as, besides the usual public rooms, there will be committee and arbitration rooms, these being placed on a mezzanine story, obtained by depressing the ground floor of that part of the building which lies to the left of the entrance: as the internal divisions will be comparatively small, two stories of ample elevation are given on this side, in the same height which is necessary for one, on the other side, in which all the great rooms are placed.

The total number of apartments from which a revenue will be separately obtained amounts to nearly 260, and the plans are intended to contain an ample supply of all domestic offices, and to be fireproof throughout.

Reference to the Plans.

A. The manager's room.
B. Clerk's office.
C. Board-room; porters' and luggage room under.
D. Coffee-room.
E. *Salle à manger.*
F. Library.
G. Engineers' club-room.
H. Smoking-room.
I. Small dining-room.
J. Parliamentary agents' club-room.
K. Ladies' coffee-room.
L L L. Sitting-rooms.
M M M. Chambers.
N N N. Closets.
O O O. Bath-rooms.
Q Q Q. Lifts.
R R R. Internal courts.
S. Ventilating shaft.
T. T. Entrances from Mews and Tothill-street.

Classical Restorations at Rome.—The restoration of the portico of the *Dii Consentes*, at the foot of the *Tabularium*, in the Roman Forum, is now about brought to completion.



WESTMINSTER PALACE HOTEL: PLANS.

WESTMINSTER PALACE HOTEL.—Messrs. W. and A. Moseley, Architects.

POISONING IN OUR BARRACKS.

The *Medical Times*, in treating of this subject, after pointing out to its readers the deadly influence of the carbonic acid expelled from the lungs, either in small apartments, or in close ones, however large, and representing the architect, the carpenter, and the glazier, as if *they* were perpetually at war with fresh air, and ever doing their best to seal up apartments hermetically,—goes on to say,—"Remembering all this, any one may see what nonsense it is to talk about the mere cubic space of our barracks, as a matter of great importance in relation to the health of the men. It is not the size of a room in which men sleep, but the purity of the air in it, we should consider,—the supply of fresh air, and the outlets for the poisonous gas. It is the 'want of pure air,' not 'want of space,' which kills our soldiers in barracks. A man might live a long time in a diving-bell well supplied with pure air, while he would soon be poisoned in a cathedral hermetically sealed. *Of course he has a better chance of getting pure air in a large room than in a small one*; but it is perfectly possible and easy to keep a small room sufficiently and abundantly supplied with pure air." The writer then instances "Arnott's pumps which have worked for years past at Brompton, York, and other civil hospitals, or Reid's tubes, or syphon or suction,"—not in the least aware, apparently, that doubts are ever and anon being cast on the efficiency, in some cases, of one and all of these as well as of other elaborate systems of artificial ventilation. Now as to the mere theoretical truth of a good deal of what this writer says there can be no question, as every reader of the *Builder* has had frequent occasion to know even from *its* pages alone; but the practical question here is, whether large space with ordinary arrangements for ventilation, or small space with extraordinary arrangements for ventilation, be what is really requisite. That much more might be done, even with the present restricted limits of our barracks, than has been done, as regards ordinary ventilation, we freely admit, and indeed were the first to point out; but if elaborate systems of pumping fresh air into and foul air out of small and otherwise close apartments are to be the order of the day throughout our many extensive military establishments, let the cost of Dr. Reid's system, as applied to the Houses of Parliament, evidence whether much "expense," such as the *Medical Times* so markedly places between inverted commas, will be saved to the country by elaborate and perpetual systems of pumping large quantities of air to and from small apartments, instead of by the erection of additional accommodation for our troops, and by the improvement of ordinary means of ventilation in connection with such accommodation as we have. We will venture to say that in small and confined apartments in which many human beings are obliged to sleep within what we may call a breath-cast of each other, no mere pumping of foul air out and of fresh air into such apartments would suffice for their healthful occupancy, even as barracks, far less for the restoration of health as in hospitals. So restricted is the space given to each man in too many instances, that it would require nothing less than perpetual currents forming constant draughts to keep up a sufficient circulation of pure air to prevent the evils proved by statistics to have arisen from "want of space" in our barracks. Even as it is, so confined and so crowded are some of these sleeping-places that the soldiers suffer from colds arising from their unavoidable proximity to openings but too necessary even as ordinary means of ventilation. The *Medical Times* ought to have been one of the very last and most unlikely of publications to overlook or neglect such facts as these, in its anxiety to follow out a fine theory at the "expense" of due practical considerations.

EXHIBITION OF INVENTIONS AT SOCIETY OF ARTS.

The Tenth Exhibition of Inventions in the rooms of the Society of Arts consists of 367 articles, including building, sanitary, and domestic appliances, which deserve to be examined.—

110. The Patent Caisson de Fer, for obtaining foundations for marine and other structures, by Lieut. E. Manico, is three feet square, made of three-inch by half-inch flat bar iron, put together with three quarter-inch screw bolts and nuts, and, when filled with rough stones, and the interstices with sand, weighs upwards of two tons. It is intended to be used on any exposed coast, for the construction of floating docks or canals, reclaiming land washed down by the sea, &c.

111. Chambered Graving Dock; Richard R. Grantham. The object of this invention is to accomodate two or three vessels at the same time, according to their lengths, so that the repairs of one or more can be proceeded with while the others can be taken out of and put into dock, without impeding the work or keeping one vessel waiting in dock till the other is completed.

112. Patent Sluice for Canal Locks; by Lawrence Brothers. The pressure of the water against the sluice is made to assist in raising it.

155. Improved Surveying Level; Pastorelli and Co. The peculiarities of this instrument are—an improved tripod or staff head; the substitution of a ball-joint and clamp for the ordinary parallel plate screw; and an improved mode of suspending the telescope.

162 marks the perspective models of E. L. Paraire. The objects are solid, as in nature; lines passed from their various points represent visual rays, which intersect a transparent plane, pourtraying the picture, which corresponds with mathematical accuracy to the object itself, the manner of obtaining the vanishing points and other perspective operations being clearly shown.

191. Patent Ledge Drain Pipe; John W. Milnes. These drain pipes are constructed with a ledge and tongue at the joints, so as to prevent the pipes from sinking unequally—a common occurrence in agricultural draining.

201. Under the heading "Arch constructed of Patent Cement," we have a specimen of what is called Dennett's "Patent Plastic or Compound Arch," a misnomer, but deserving of attention. A printed prospectus says:—"This arch has only been made one week. It is two and a-half inches thick in the centre, and four and three-quarter inches at the haunches; has a five feet span, with a rise of two and a-quarter inches; and as many persons may get upon it as can stand, without its having any butments or lateral tie." Writing to us on the subject, the patentees say,—

"We have used the arches with great success already, in cottages and factories; they are composed of one measure of sulphate of lime and one of an artificial pouzzolana; and they form both floor and ceiling, in these cases, in one mass: and are not coated in any way, either underneath or above. We purpose using the arches as a fire-proof construction, between floors and ceilings, and we may here observe that we have have the sulphate of lime, when set in masses 9 inches thick, stand a white heat without falling to pieces, and it is also a bad conductor of heat. The material we have used is the same as the plaster of Paris is manufactured from—gypsum; but for our purpose it only requires to be burnt, without picking, and does not require grinding: it is thrashed upon a floor, and can be manufactured and sold for 5d. per bushel in the midland counties, or 10s. per ton; the same article is known as floor plaster; it gives plenty of time for using before it sets. We spread the material about one inch thick on the boarded centre, then put a layer of broken bricks, or fragments of any hard porous material, and tread them in until the material rises through, and thoroughly embeds them; then we laminate the centre part of the arches if they are of large span and require it), laying the laths or hoops diagonally, more material, and then laths across the other way; in fact, we can make the arches any strength we may require. If hoop iron be used, we recommend the ends to be turned up or down about three-quarters of an inch, which will prevent its drawing By one plan we can dispense with the sulphate of lime, and use the ordinary lime of any locality, with a sufficient quantity of broken bricks (which act as an artificial pouzzolana, and very much improve the setting quality); and in consequence of the ceiling-joists being lathed on the top side, and thereby forming permanent centres, it may have any time to arrive at its permanent set; and after which, say twelve months, you will have arches equal to brick ones, between the floors and ceilings; and the ceiling-joists might be burnt and fall away, and the arches would still stand and support the floor."

The material has evidently great tenacity.

West and Hubbell exhibit their "Oak Hall Window," 205, and Dick and Co. their arrangement for allowing the window-sashes to be taken out.

The numbers are somewhat scattered with more room a better classification would, doubtless, have been effected. Not to blink the matter, the apartment is too dark, and in no way well fitted for the purpose.

PROVINCIAL NEWS.

Swansea.—The Swansea Post-office, in Castle Bailey-street, is now completed and opened. It is in the Tudor style. The frontage towards Castle-street is 97 feet 6 inches, and towards Worcester-place 36 feet. At the west end is a tower 14 feet 2 inches square, enclosing a staircase leading to a suite of rooms above the Post-office, which is on the ground-floor. The height of the tower externally is divided into four stages, or compartments, formed by string courses. This tower is 77 feet 4 inches high, from the pavement to the top of the flag-staff turret, which surmounts a battlemented parapet crowning the tower. The walls throughout are of local grey sandstone rubble walling, faced with random-range hammer-dressed courses, the joints struck and jointed. The windows have Bath-stone mullions and transoms, and moulded sills. The dressings generally are of Bath stone (Combe Down quarry). The window towards Castle Bailey-street are in bays projecting from the face of the main wall 1 foot 9 inches. The entrances are approached by Cornish granite steps. A granite plinth forms a base to the building towards Castle Bailey-street and Worcester place. Here are arched cellars under the Post office floor, approached from Worcester-place. Mr. J. Henry Baylis, of Swansea, was the architect; and Mr. William Rayner, also of Swansea, the contractor.

Bedford.—The following tenders were given in on the 27th of March, and the lowest accepted for new dwelling-house and alterations for Mr Thos. Rose, High-street, according to plans and specifications prepared by Mr. John Usher. Bricklayers: Mercer, 327*l.*; Lawson, 316*l.*; Haynes 310*l.*; Houghton, 295*l.*; Norman, 264*l.* Carpenters: C. Day, 249*l.*; Cunvin, 247*l.*; Bryant 237*l.* 10s.; Joy, 229*l.* 15s.; Craddock, 215*l.* Plumbers, &c.: Small, 49*l.* 17s.; Carling, 45*l.* 15s.

Stockport.—The Vernon-bridge having been condemned as dangerous, and contracts taken for erecting a new one, the approaches have been blockaded and a portion of the bridge removed. The contractors for the new erection are Messrs. Thackeray and Pearce.

Bolton.—The plans for the new workhouse at Fishpool, by Messrs. Woodhouse and Hall, have been approved by the guardians, and await the sanction of the Poor-law Board. The building will be arranged similarly to the Chorlton Workhouse at Withington, but will not be so expensive a work. The cost is expected to be about 21,000*l.*

Leeds.—At the last weekly meeting of the Leeds Board of Guardians, seventeen tenders were read for executing the excavation and drainage required in the erection of the new workhouse and for building the foundation walls. The tender of Mr W. D. Boothman, builder, Leeds, was accepted. Mr. Thomas Wigglesworth, foreman of the works at the Town hall, was appointed clerk of the works at a salary of 2*l.* 2s. per week.

Hutton Lowcross (*near Gainsborough, Yorkshire*).—The new schools here were opened with great *éclat* on the 26th ult. The buildings comprise a school-room containing about 1,900 superficial feet, with separate entrances for boys and girls, two class-rooms, 18 feet by 14 feet each together with separate play-grounds, &c.; also a teacher's residence adjoining; the whole group being of Gothic design, built of red bricks, with freestone dressings. The work has been carried out from the designs of Messrs. Richardson and Ross, of Darlington, architects, at a cost of about 1,200*l.*

DAMP WALLS.

Sir,—In a late number of your valuable journal (p. 214, *ante*) I read a letter signed "A. B. Sorbent," on the important subject of "damp walls." The writer states, that in his house distempered walls were damp, and painted walls, at some season of the year, literally streamed with water: papered walls were better, but expensive, from the frequent renewals necessary, and the paper was found to stand much longer on the lath and plaster, or brick partitions, than on the stone walls: he also ask for a solution of the reason why a room papered with a dark chocolate paper should by such means be dry, when all the other rooms in his house continue to exhibit their "former moist miseries."

Observation and experience on this subject lead me to opinions that may not be uninteresting to some of the numerous readers of the *Builder*.

I have met with hundreds of cases in which the internal surfaces of walls are damp from the stone of the building drawing water by capillary attraction from below the foundation; and when the building materials favour such a process, the dampness will rise many feet above the surface of the floor: yet this is an evil that may be prevented in the building of new houses by a layer of sheet-lead, of blue slate stone, set carefully in cement, or of cement only (if good in quality) of the thickness of the wall and above the surface level of the ground on which the building stands; thus forming a stratum that must effectually repel any water that might otherwise appear.

Other internal dampnesses, which do not occur from leakage in walls or roof, are all occasioned by condensation of the water caused by the atmosphere in the form of vapour, and condensed by coming in contact with surfaces lower in temperature; and it will be found that, in proportion as the walls of a room vary in this respect, so will they appear dry, damp, or streaming with water.

A stone wall is colder than a lath-and-plaster partition, and will always be damper. The remedy would be, to lath and plaster on battens fixed against the stone-work, so as to prevent the stucco from

coming into immediate contact with the stone: it would then be quite as dry as any other part of the house.

On damp walls distemper colouring will soon fail: the absorbing power of the surface is increased, and this causes the destruction of some of the materials with which the distemper is made; but the walls so coloured will not condense the moisture of the air so rapidly as when the naked, smooth stucco is left uncoated.

Painted walls may almost be said to have a metallic coating, which is a cold, non-absorbent enamel: the temperature of any room would be lowered by it, and every particle of vapour coming in contact would be at once condensed into water, which would be seen to stream over it, particularly when the atmosphere is most charged, as after the breaking up of frost.

The same laws apply to paper-hangings, which in themselves, as materials, maintain a higher temperature than the walls or partitions on which they may be placed; then less condensation of vapour takes place, and the dampness is removed from the room as the process of ventilation goes on. To a great extent paper is an absorbent, but then the moisture is given off in the same form, or may escape by other means

The reason why dark papers are dryer than light ones is still due to the same action. All dark materials imbibe more light and heat, and will thus maintain a higher temperature; besides which, many of the very light-coloured papers (particularly the better ones) have a glazed or satin face, which is produced by the use of a large quantity of China clay,—a material that from its coldness at once causes condensation of moisture, and thus facilitates its own decay.

I have troubled you thus much, because I believe it to be a subject of considerable importance, the consideration of which is essential to all interested in the proper sanitary condition of our dwellings. The health of thousands, both among the rich and poor have been affected by living in cold, damp houses, the dampness causing decomposition of the vegetable matter in the paper or the colouring on the walls, and the putrefaction of the animal substances used as a vehicle for the colours: thus the atmosphere becomes impregnated with impurities, is rendered unfit for respiration, and is unequal to the sustenance of human life in a healthy form.

T. SOLOMON.

ST. PAUL'S SCHOOL.—LIGHT AND AIR.

I BEG to direct attention to the open arcade for shelter and exercise beneath St. Paul's School, in St. Paul's Churchyard. The extreme narrowness (of Old Change, in the rear, and the rusticated basement of solid piers supporting a portico in the front, and projecting over the public way, cause the arcade to be always in a gloomy and *darkness-visible* condition, which you no doubt have often noticed; and as the light and the sun themself can at a trifling outlay be admitted into the playground by substituting rough plate glass for the coffers of the ceiling, without being detrimental to the building, I have thought it not altogether unworthy of notice; and the more especially so, as you have already devoted so much space in your Journal to, and (very properly) laid so great a stress upon the importance, in a sanitary point of view, of admitting light and air into buildings of all classes, and particularly into public buildings. Medical men complain of the gloom in the library of the College of Surgeons, occasioned by its portico — similar treatment might be extended to this building,—and the glass in the coffers might be ornamentally enamelled.

W. P. GRIFFITH.

"PREVENTIBLE ACCIDENTS."

SIR,—Observing in the *Builder*, p. 217, a report of the death of a workman at the new Covent-garden Theatre, from his falling through an opening in the roof to the ground or floor within, a depth of 70 feet, I venture to suggest to builders and others, that in all operations involving the construction of large skylights, as in factories, picture and exhibition rooms, a large net, or sail, should be stretched across the interior of the building, so as to catch any unfortunate victim of a false step, or a weak or loose board; and that where extensive ceiling decorations are in course of execution (as will, doubtless, be the case at the new theatre), nets or tarpaulins should be laid or stretched under the large floor of loose foot-boards, to prevent accidents: and that the *edges* of the scaffolding should be guarded or protected with nets or otherwise.

You were obliging enough to notice some suggestions of mine (forwarded under the signature of "A Londoner") for the prevention of scaffold accidents, as far back as November, 1856; and, to show that some better precautions are really needed than are usually taken for the safety of building operatives and others, I beg to submit a remark from the "Statistics of Guy's Hospital for 1856," p. 9:—

"When we exclude the effects of intemperance, which may with propriety be regarded as the primary cause of a very large proportion of the injuries, we shall find that falls from heights—such as windows and scaffolding—and falls on the ground, form by far the most prolific sources of the accidents annually admitted."

I may add that the total number of accidents (excluding cases of sudden illness or emergency not fairly to be called "accidents"), which are treated at the London hospitals in one year, can hardly be estimated at less than 15,000 (nearly 3,000 at Guy's alone in 1856, including severe cases admitted as in-patients, and lighter cases treated at the surgery); that a very large proportion of the sufferers belong to the working-classes, and that the building trades furnish a full contingent.

I have ventured to head these remarks with the title, "Preventible Accidents," believing, after consideration of statistics and other information obtained, together with my own observations, that a very considerable number of the injuries suffered by the working-classes especially, might be prevented by the adoption of more care and the use in some instances of very simple means of protection.

M. S. S. D.

SPIRITUAL TERRORS BROUGHT TO BEAR UPON ARCHITECTS AND CONTRACTORS.

AN action of an extraordinary description, at the instance of a clergyman, against a contractor, has just been decided at the Taunton Assizes before Mr. Justice Willes and a jury who returned a verdict for the defendant.

From the evidence given it appears that plans and specifications for a rectory-house at Pitney having been obtained from Mr. Carver, the county surveyor, tenders were called for and handed over to the responsible party, Captain Dudman, father of the plaintiff,—the rector of the parish Captain Dudman returned two of the tenders to Mr. Carver, instructing him to select either of them as the successful tender, both being of nearly the same amount. Mr. Carver selected the lowest, which turned out to be that of Mr. Shewbrooks, the defendant, with whom, accordingly, an agreement was entered into, and who eventually completed the work, to the satisfaction of the architect, as well as, generally, it would appear, of the employer and his son themselves. By the agreement, and in order to reduce the cost within the sum for which Captain Dudman had become responsible to the trustees of Queen Anne's Bounty, the attics were to be left unfitted up, and the contractor was to have some old materials, allowed for by him in his contract. As to these and other points, however, the Rev. Mr. Lumsden Shurrff Dudman soon got into loggerheads both with the contractor and with his own architect, to the latter of whom he sent a letter, with the following extraordinary exordium in reference to his architect's simple declaration that such and such were the terms of the agreement:—

"In making such a statement you have committed a deadly sin—a sin for which it is my duty as God's minister to forewarn you. Except you repent and make restitution the eternal flames of hell await you as a just reward,—as it is written in the Word of God, 'All liars shall have their part in the lake which burneth with fire and brimstone,' which is the second death. Amen! Trusting you to the way of God in the prayer that He may grant you repentance with salvation, I remain (although I refuse my confidence in you as my architect) your faithful servant," &c.

This was not the only letter of a similar description sent to the architect.

Meantime, the contractor, as he states, had much difficulty in obtaining his agreed for instalments, even after obtaining the certificate of his employer's architect as to the quantity and quality of the work done; and not being a capitalist, he appears to have hence had some little difficulty in paying those he himself employed; at least it is stated, on the part of the plaintiff, that some of these persons were not promptly paid, although even this is denied on the part of the defendant. Under these circumstances, the Rev. Mr. Dudman, assuming the position of the party responsible to the contractor, caused an advertisement to be published in the local newspapers, and circulated in the form of hand-bills, to the effect quoted in the following hand-bill by the defendant in reply, which latter was the libel complained of by the rev. gentleman:—

"TO THE INHABITANTS OF PITNEY, NEAR LANGPORT, AND ITS NEIGHBOURHOOD.

"The rector of Pitney having caused an advertisement to be inserted in the *Western Flying Post*, headed 'In the Matter of a Contract for Building a Rectory House at Pitney,' a portion of which is as follows:—'Whereas a complaint has been made to me at various times by persons who have supplied materials or labour in building the rectory-house aforesaid, that Mr. Shewbrooks, the contractor for building the said house, had failed to pay their just demands for the same, I hereby give notice that all moneys due to the said William Shewbrooks have now been paid in full.' I deem it due to myself to inform you and the public generally, under what circumstances the money was paid to me, and the motive which alone would induce him to publish the scandalous and wicked paragraph above quoted, he have nothing to do with the payment of the money, the contract being made with his father, who was responsible to the Bounty-office, from which the money was obtained. I built, for the reverend rector, a house in such a manner as to challenge the inspection of any surveyor in the kingdom. Throughout the whole of its progress this man behaved in the most uncharitable manner. He attempted to extort from me, by every possible means, more work than I was bound to perform, and endeavoured to take from me the surplus old material, which was my property, although advised to the contrary by his architect. This man, a minister of the Gospel, who, because I stood on my rights, and was about to obtain by law that which I could not obtain by fair means, four months after the completion of the work, and after having the architect's certificate, in a spirit of diabolical vindictiveness, sought his revenge—how? He well knew he could not injure me by pointing to the work which I had performed, and therefore meditated how he could do it, and the fiendish thought occurred to him that he would try to injure my credit. The result was the advertisement above alluded to, dated the 24th of November, the money having been paid to my attorney, through his father's solicitor, Mr. Parsons, on the evening of the 16th. I challenge your rev. rector to name the persons who complained to him, the dates when they so complained, and the sums due to them; also to publish the architect's certificate, of which I have no copy. Inhabitants of Pitney, this is the man who ought by example and precept to teach you all the Christian virtues! I take this opportunity of stating that Captain Dudman, the father, invariably paid the different instalments reluctantly: he was always abusive on such occasions, and in one instance I was obliged to apply to him personally three times for it, having on each occasion to incur the loss of time and expense of a journey from Taunton, although I never applied to him for money until after the architect had properly certified that the same was due to me. WILLIAM SHEWBROOKS."

The Judge, in summing up the case after a good deal of precedure, adverted to the letter written by the plaintiff to Mr. Carver, and observed that it was perfectly melancholy to see persons occupying a respectable position, and who ought to set a better example, mingling sacred things with profane in such a manner as had been presented in this case; and he could not help advising Mr. Dudman to consider his own ways, and to abstain for the future from such blasphemy.

The jury retired for a short time, and then, as we have said, returned a verdict for the defendant.

ARCHITECTURAL PUPILAGE.

IT is unfortunately my lot to be apprenticed to one of those architectural masters your correspondent, "Reform," so graphically describes, who considers it no sin to receive pupils with a large premium, promising in return for the same to teach and engraft in them the principles and practice of his profession; but instead of so doing, does not scruple to require that they answer the door-bell, run of errands, and do such other rough office-work alike degrading to both master and pupil, and, moreover, who treats them with no more respect and consideration than is due to an office-boy, whose services are rewarded with 3s. 6d. per week, and whose office, in short, they have to fill; for it must be borne in mind, that in our office, and similar, the services of the last-named member of the community are not required, because their duties are forced upon the pupils.

Again, I am now in the third year of my apprenticeship, and during such time I unhesitatingly affirm that my professional master has not condescended to give me so many minutes' instruction in the profession that I am destined to follow, and by which I am hereafter to earn my bread; and yet mine is no singular case, but, alas! alas! a common one. AN ARCHITECTURAL PUPIL.*

There are, it seems to me, many reasons why architects' pupils cannot, perhaps, be treated with the deference which "Reform" seems to claim for them, some of which, with your permission, I will endeavour to point out.

Firstly.—There is much out-door work to be done. Is this what he alludes to as "errand running?"

Secondly.—The business of an architect is constantly fluctuating: and as all professional men have a natural dislike to take in assistants for short periods, except in times of urgent need, it stands to reason that pupils will sometimes have to do work of a miscellaneous nature. Better they should do so, than be always superfluous in an office; as, in that case, it seems to me, their opportunities of learning are very circumscribed.

Left in a great measure to themselves, they will, except in rare instances, do but little. A pupil's greatest chance of obtaining information is, keeping up constant intercourse with his master; and this can only be effected by working assiduously for him.

As to the other duties objected to by "Reform," I can assure him that in times of pressure I have known a London principal of some standing, assist both with tracing and mounting drawings, and that if a man will only take full advantage of the simple process of opening an office-door, he will find it an easy means of obtaining a knowledge of the building trade.

Much might be said on both sides, but I am inclined to think that if a young man works steadily and uprightly under his master, whatever the rule of discipline, he will sooner or later find his account in it: if not, he will have the satisfaction of knowing he has done his duty.

FIDES B.

"IRON SAFES AND SAFE BORERS."

OUR brief note on Mr. Chubb's invention (p. 215), appears to have instantaneously excited the bile of another safe manufacturer, Mr. Price, of Wolverhampton, who wrote us, before we thought the *Builder* could have reached him, along with a printed sheet, already containing a quotation from the *Builder* of that same date, as to Mr. Chubb's invention, the whole forming an advertisement of Mr. Price's "Thief-proof Safes," which he appears to be very desirous that we should aid him in circulating; promising, if we do, to "patronise the *Builder*," as "in days gone by," and to "wipe out the old offence" of exposing, as we very well remember doing, a somewhat notable instance of injustice towards another of the fraternity of lockmakers, in his ponderous book on "Safes and Locks." In noticing Mr. Chubb's invention, it appears, we had "a bias" in favour of Mr. Chubb. If we now notice Mr. Price's invention, some one else will tell us we have a bias in favour of Mr. Price. What are we to do? Is it not pitiful that one cannot do a just or a kindly act towards any one, however thankless in all probability that act itself may be—and generally is,—without an immediate objurgation from some one else whom the very naming of a rival rules!

The invention which this gentleman *naïvely* regards as so complete in itself, and so effectual for its purpose, that Mr. Chubb ought to have refrained from the "uncalled-for introduction" of his invention for a like purpose, and have left it to Mr. Price to meet the public demand, is a fire-proof and thief-proof safe, consisting, as alleged, of case-hardened iron all over; not merely studded with case-hardened knobs like Mr. Chubb's. Mr. Price does not seem to see that the very difference of resistance offered by such knobs, concealed

* This letter represents half a dozen to the same effect.—ED.

under a softer material, may serve a purpose of its own in discouraging a burglar. Of the question of relative cost, too, we know nothing. We have not the slightest wish, however, to undervalue Mr. Price's case-hardened safes. We have no reason to believe them to be anything other than an efficient invention, in every way adapted to the end in view.

IRISH MATTERS.

A NEW Roman Catholic church is being built at Ballycorrick, from designs by Mr. Corbett, of Limerick. Style, Gothic. Mr. Thomas Rice Henn (a Protestant) gives a *free* site and 50*l*. A novel occurrence in Ireland!

We hear that the Bank of Ireland intend erecting a new banking-house at Belfast (Mr. Symes, architect), having received the initiative from the Ulster Banking Company, who recently decided on Mr. Hamilton's (Glasgow) design, submitted in competition. The latter will be an important edifice of Roman character, with a central projecting portico, carried up two stories, with coupled Doric columns below, and Corinthian above, surmounted by an elaborately ornamented entablature. Messrs. Fulton are the contractors.

An extension of seven miles is intended to be made to the Limerick and Castleconnell Railway, which is now in course of construction, and an additional capital of 37,000*l*.

A new railway company, entitled the Leitrim and Lough Allen Pier, is projected.

The proposed Dublin and Meath Railway will be twenty-three miles long, commencing near Clonsilla Station, on the Midland Great-Western Railway, terminating by junction, near Navan, with the Kells branch of the Dublin and Drogheda line. An extension of twenty-five miles is proposed from a junction with Ballynahinch branch to a junction with Dublin and Belfast Junction Railway, in the townland of Drumartine. Additional capital, 150,000*l*.

A line is also proposed to commence at the Athenry Station on Midland Great-Western Railway, and to terminate at Tuam, in Galway. Length, about fifteen miles, and increased capital, 90,000*l*.

It is proposed to transfer the Waterford and Kilkenny line to the Irish South-Eastern Company, and to raise a sum not exceeding 200,000*l*.

A new bank is proposed to be erected at Templemore, and plans have been furnished by Mr. W. Murray, architect.

The roofing arrangement of the cattle-yard, Royal Dublin Society, as it is being carried out according to the adopted designs of Mr. Clarendon, consists of *five* spans (not *three*, as directed by the committee when the instructions were issued to competitors), the central one being the greatest width, and with one at each side semicircular in form; the remaining two consisting of plain king-post roofs, with chamfered timbers. The semicircular ribs of the three central, though not material elements in the construction, preserve an outline similar at first sight to the aisles of the Great Industrial Exhibition of 1853. The work progresses rapidly, and a cattle-show will be held this month, as also an exhibition of the Decorative Arts, in the new museum building on the lawn.

Messrs. Cannock and Co. of Limerick, have completed their large additions and alterations, Messrs. E. P. Gribbon and W. Fogerty being the joint architects.

St. Saviour's Church, at Dominick-street, Dublin, has progressed to a considerable extent, and is roofed in. A great wheel window has been substituted at the western end for that originally described, and a cloister surrounding the semi-octagonal chancel has been added. When the old houses on the surrounding site are removed, the building will have a very imposing appearance. The tower and spire are not yet commenced. Mr. M'Carthy, architect; Mr. Beardwood, contractor; Mr. John Doyle, clerk of works.

The Ballymona, Ballymoney, Coleraine, and Portrush Junction Railway will cost about 12,000*l*.

The ordnance contract for repairing the barracks at Athlone, Mullingar, and Shannon-bridge for three years, has been obtained by Messrs. M. and P. Lyster, builders, of Athlone. We are told that there are extensive buildings in course of erection at the several barracks in Dublin district, especially those at Beggar's-bush; also that the barracks throughout Ireland generally are replete with comforts for the soldier, and free from those defects, so pernicious to health and so fatal to the occupants, that we have drawn attention to in recent numbers of the *Builder*, as existing in the *model* buildings of our metropolis.

The Irish—though tardy in accomplishing their intentions—are nevertheless *surely* paving the way to pay tribute to the memory of one of their proudest boasts, Oliver Goldsmith! The subscription list increases favourably. Doubtless the next consideration will be the site, which is so far settled (we believe) as to be at least within the precincts of the University; but even there one position may be better than another, and the proposed improvements will considerably influence the decision of the committee. We may mention that the unsightly wall in College-street is understood to be doomed, and to yield its place to a handsome railing; also, that the segmental area in front towards College-green is to be reduced, and an additional 15 feet, or thereabouts, thrown into the street. This was the site of "the late grand charge of the Dublin police on the College boys;" and we certainly hope it is not *true* that "the event is to be commemorated by a testimonial on the spot to the bravery of that worthy body," for we should much prefer seeing Goldsmith's instead, in view of his distinguished successor, Thomas Moore.

John Hogan's remains were interred—free—in Glasnevin Cemetery, in the circle with O'Connell, and within the same grounds where repose the celebrated John Philpot, Curran, and Drummond. Does Hogan need a monument?

The foundation-stone of the new Roman Catholic Church at Enniskerry was laid on Easter Monday, by the Roman Catholic Archbishop, Dr. Cullen.

A TRIBUTE TO THE MEMORY OF HOGAN.

GOD-LIKE the art that claims the power to bid
The sleeping beauty in the marble hid,
Wake into life, with all the charms that grace
More the celestial than the mortal race;
Touch'd by the magic of the tutor'd hand,
For evermore to take exalted stand,
Through every age that consecrates to fame
The poet's, painter's, or the sculptor's name.
Such task was Hogan's, with whose name shall blend
A patriot's, a patron's, and a friend,
'Mongst those of Genius, highest in the throng,
Immortalized in history and song.
All honour to Cloncurry's* noble heart,
Refined by constant intercourse with art;
Who, when the lamp of hope but feebly shone,
With kindred feeling led the artist on;
And thus by modest, well-timed aid hath won
Unfading laurels for Hibernia's son.
Yet still, 'twould seem, each silent group can tell
The art he loved "not wisely, but too well,"
Hath been by fate ungratefully decreed
"To steal his purse, and leave him poor indeed!"
E'en now a widow'd Roman mother grieves
The pulseless heart and prostrate hand that leaves
A husband's mem'ry crown'd with honour rare,
Yet all her children to his country's care.
But Erin's sons the privilege shall claim
To shield from ignom'y her sculptor's name;
Nor be it on the hearts of Tiber said
A child of Hogan's sued in vain for bread.†

Dublin. C. G.

THEATRES AND DIORAMAS.

The Haymarket Theatre.—Mr. Buckstone is again very successful in his extravaganza for Easter, which is called "Pluto and Proserpine," and has Sicily for its locality. Some of the scenery is charming. The interior of "Minerva's Seminary," with openings beneath the ceiling and a fine frieze running round it, and the exterior of the same building, show good Greek feeling. The plains of Enna, with Mount Ætna in the distance, is an extensive and effective landscape somewhat too leafy for the truth. The waving cornfields of Sicily is another landscape of great excellence, and the piece concludes with a gorgeous allegorical tableau, representing "the Awaking of Nature to Fertility and Gladness." Alfred Crowquill has shown his skill in some of the costumes. In conjunction with Mr. Tom Taylor's "Unequal Match"—a capital piece capitally acted—"Pluto and Proserpine" will entertain many guests for a long season at the "Little House" in the Haymarket.

The Adelphi.—At this theatre, the rebuilding of which appears to be in abeyance, the music of Boieldieu, in an operatic drama, named "The Caliph of Bagdad," has been called in as an Easter aid, and is very pleasantly rendered by Miss Roden, Mr. Rolfe (new to London), and the sprightly Miss Mary Keeley, who is following in the footsteps of her versatile and clever mother, and making rapid improvement in her profession. The scenery is gay and appropriate. Mr. Webster and Madame Celeste are repeating their admirable personations of Pierre and Marie Leroux, in "The Poor Strollers."

China at the Great Globe.—Mr. Wyld has added, to the already numerous attractions of the "Globe," a diorama of the Canton River, from Hong Kong to the city, of which a view is given. The views are painted (some of them very well) from sketches by officers of the army and navy, and, coupled with the letters of the *Times* correspondent, will assist in removing the veil from the barbarian Chinese and their country. We may express a hope, in the interest of civilization, that these people will not be permitted much longer to maintain their privacy. We know who said "Let there be light."

Theatre Royal, Dublin.—The Theatre Royal Dublin, was re-opened on Easter Monday night, after being thoroughly decorated and beautified, at an expense of, it is said, nearly 3,000*l*. The Renaissance style has been adopted, and the ornamentation is elaborate. Statuary has been also introduced, and a new act-drop, by Mr. Telbin, painted. The chief artists employed were—for the Carton Pierre and Papier Maché, Messrs. Jackson and Son, London; upholstery, Messrs. Fry and Co. of Dublin; decorating, painting, gilding, &c. Quinlan and Son, Dublin; chandeliers and branches, the Alliance Consumers' Gas Company; burnished gold pillars, Mr. Lombard; medallion portraits on ceiling, W. Morgan; tropophies, Cuthbert and Hayes; emblematical figures, designed by E. Corbould, and painted by Mr Telbin, jun.; the entire under the surveillance of Mr. John M'Curdy, architect. The ceiling is divided into eight compartments, in four of which are painted female figures, representing Poetry, History, Music, and the Drama.

CRYSTAL PALACE RAILWAY.

SIR,—Some idea may be formed of the *liberality* with which the visitors from the west of London will be treated on the new branch, by the following statement:—On Good Friday evening, after two hours' waiting, I reached the platform of the station at a quarter past eight, with about sixty or seventy others. In about ten minutes a train arrived, evidently destined for Chelsea. We were directed into it by the porters; but, five minutes afterwards, were requested to descend, as that train was not going. It was shunted back on to the City line, and six trains were despatched on that line before we were placed in a Chelsea train. But now we had to wait till the Brighton excursion-train had passed; and the consequence was, we left the station at twenty-five minutes to ten o'clock, and, after a sharp walk from the bridge, arrived at Sloane-square at half-past ten. This is bad enough, but worse remains. The tunnels are not lighted. Omnibuses which carry twelve passengers are required to carry a lamp: nothing of the kind was visible in our carriage. I leave you to judge what check there is on the behaviour of the "roughs." Either lamps, with reflectors at an angle of 45, must be placed in the tunnels on a level with the carriage windows, in order that offenders may be recognised, or lamps must be placed in each carriage. Without one of these alternatives, no father, husband, or brother should take his daughter, wife, or sister by this line.

Another arrangement must also be made as to dividing the visitors. Why should the passengers be compelled to wait in one mass? There is ample room to allow the West-end visitors to have access to the platform without being mixed up with the City ones; and, above all, there should be a superior officer of the company present on the platforms to whom references might be made. W. H. B.

ARCHITECTS' ACTIONS.

THE BRIGHTON WORKHOUSE COMPETITION CASE.

AT the Surrey Assizes, at Kingston, on the 26th of March, before Mr. Justice Erle, the case of Dollman (executor of the late Mr. Carpenter), v. John Patching (Chairman of the Brighton Directors and Guardians) came on for hearing. The case was a claim made by Mr Carpenter's executors for designs and drawings sent in by that gentleman for the erection of the new workhouse; but the scheme was abandoned, and the money not paid the guardians refusing to pay on the ground that Mr Carpenter's estimate was beyond the sum named to him. At the suggestion of Mr. Justice Erle, who considered it more a case of law than of fact, it was agreed that a rule of court should be drawn up for submitting the question in dispute to the Court of Queen's Bench, as a special case; and if the parties differed as to the form of facts of the case, then the same to be referred and settled by Mr. Beedes, the barrister. Several architects went from London to give evidence as to the custom.

Books Received.

VARIORUM.

A NEW edition has been published of Mrs Jameson's charming little volume "Memoirs of the Early Italian Painters, and of the Progress of Painting in Italy" (Murray). It is well printed, has numerous illustrations, and is just the book to spread abroad a knowledge of the great artists of Italy.——"Wealth without Money; or, Suggestions for the Practical Development of the boundless Resources of Nations" (Thackers and Co. Bombay, Calcutta, and Newgate-street, London), is a pamphlet advocating the initiation and production of useful and profitable public works, such as waterworks, railways, markets, &c. by means of national or treasury notes, of small value, to be granted as a true representative of the cost or value of the works, and put in circulation amongst the workmen, tradesmen, merchants, and others, employed

* Hogan said, "when Lord Cloncurry died he had lost his best friend and supporter."

† Hogan has left a widow and eleven children unprovided for. Mrs. Hogan is Roman, and unacquainted with our language and country. A subscription is about to be opened in aid of them.

or interested in the works, as well as amongst the public at large, as a legal tender; the actual cost of the works to be repaid to the treasury by small instalments raised from rates or profits on the works in a course of years, without interest, unless it be a small per-centage to render the proposed Public Works Department of the Government self-supporting. Thus, it is maintained, may useful public works be constructed, without either subscriptions, loans, mortgages, bonds, or interest. The idea is not wholly speculative. Useful public works *have* been formed, on a nearly identical principle, as at Guernsey, where markets were erected without money, other than notes of hand issued for the purpose, and redeemable (and which were redeemed and cancelled) as the market yielded the means for so doing. If we remember rightly, Mr. Picton, at Liverpool some years since, advocated the execution of public works there by some such means. The institution of building societies, and the practice adopted by the Government of late years in lending money itself for the formation of public works, such as sewerage and drainage, waterworks, markets, &c. the money repayable in a long series of years, all seem to indicate that the time is at hand when some such scheme as that advocated by the author of the pamphlet under notice (who appears to be a civil engineer) will be discussed and adopted. It would even now form a useful and important subject for public discussion. The precious metals are not the only or the indispensable representative of wealth,—scarcely even a true one, indeed; and are for ordinary bank notes, such notes as those proposed would certainly be preferable, for general use local circulation, to "British Bank" ones, *et hoc genus omne*. The production of useful works is certainly much hindered by that straight-laced and defective representative of wealth—the precious metals. The pamphlet relates more especially to the development of the wealth of India, by the construction of roads, canals, &c. in the way indicated. ——"Boyd's Marine Viaduct or Continental Railway-bridge between England and France," by Mr. C. Boyd, of Barnes, in Surrey, as appears from a tract under this title, with plans and maps, is just such a work, were it well approved and found advisable, as might be constructed in the way just referred to. But is it so unquestionably desirable as many seem to think? Mr. Boyd proposes to throw a tubular viaduct across on vast towers and pedestals from the summit of Dover cliffs, to an artificial height raised on the promontory of Griznez, on the other side of the channel. The cost would be thirty millions, and the money, he considers, might be redeemed in ten years from the enormous profits, having the works as a clear gain to begin anew upon.——In "Life Doubled by the Economy of Time," the popular author of "How a Penny became a Thousand Pounds," makes war upon that mysterious and seducing, yet useful and indispensable land of oblivion—sleep, whose coasts and shallows he would rightly have us to restrict and circumscribe possession of with our active waking forces. And there cannot be a doubt that by damming up and contracting its wide wastes and shallows we deepen the stream of wholesome sleep, and intensify its beneficial influence; while, on the contrary, long and intermitted slumbers unstring and unnerve the whole system. The style of the author is somewhat oracular, and reminds one of Franklin; and although we are not advocates for paying the bow for ever bent, and do not agree with him in all he urges, still this is a decidedly useful book, especially for the young.——Of the little volume which turns up to us, Charente's "Exercises adapted to the new and complete Course of Grammatical and Idiomatic Studies of the French Language" (Longmans and Co.), all we need say is that it has been selected for use at the Woolwich Royal Military Academy.——A second edition of Dr. R. P. Cotton's practical and valuable treatise "On Consumption," and its Causes, Nature, and Treatment (Churchill, New Burlington-street), has just been issued. Some general knowledge of a subject which bears, in certain of its dire aspects, so closely upon such arbitrary questions as those of ventilation, and fresh air, ought to be acquired by every professional reader of the *Builder*. Dr. Cotton does not neglect these particular phases of consumption, nor fail to point out how necessary to health are to freedom from consumption, are free space and fresh air in our workshops, especially in the metropolis. The condition of the poorer classes, generally, in our large towns, and the necessity of providing for their proper accommodation on in so-called improvements, which but often drive them to herd still closer and more crowdedly in their unwholesome haunts, forms another subject of consideration treated of. The power of close apartments to produce consumption is well known, but, perhaps, no more striking example ever occurred than that in the new building erected in the Zoological Gardens, Regent's-park, some years since, for the monkey tribes, which has been often quoted. Openings were arranged by the architect in the upper part of the building for ventilation, but the keepers used them only in summer; and meantime in a single month fifty out of sixty healthy animals died, and the other ten were dying, all with symptoms of consumption—tubercles in the lungs. No sooner were the ventilators opened, however, than the sick ones recovered, and those since inhabiting the same building have remained comparatively healthy. Even such apparently strong animals as cows, when kept in unventilated cellars, as remarked by Dr. Cotton, frequently fall victims to tubercular diseases.

Miscellanea.

The Inwood Family.—Brief as the period may seem since Mr. Inwood and his sons Henry and Charles were building the churches of St. Pancras, Somers-town, Regent's-square, and Camden-town, also All Saints at Great Marlow, Westminster Hospital, and numerous other structures, after long and careful examinations of the architectural remains of Athens and other parts of Greece, both the father and sons are dead, and Mrs. Octavius Young Thiselton, a daughter, departed this life, much lamented, on Thursday last, April 1st, and now the family is almost extinct: no member remains to bear the name of these architects.

The late Mr. John Seaward.—This inventive engineer died on 26th ult. at his residence, in Camden-town. He was educated as an architect and surveyor, and distinguished himself by various papers and communications on subjects connected with engineering, chemistry, &c. by which he was early brought into connection with Sir Humphry Davy, Thomas Telford, Davies Gilbert, and other eminent men. He afterwards became extensively engaged in the design and construction of iron bridges and docks; also in the development of lead-mining in Wales, and subsequently in the extension of gas-lighting on the Continent. In 1825 he established, in conjunction with his brother, the large manufactory for steam engines at Limehouse, known as the Canal Iron Works. Mr. Seaward was the inventor of various improvements in the marine engine; but the most important will undoubtedly be considered his design for superseding the heavy beam engine (as left by Watt, and up to that time the only kind used in large ships), by a plan of direct-acting engine, which having been fitted into a Government vessel called the *Gorgon*, originated the title of the "Gorgon Engine;" and Mr. Seaward, in consequence, soon became extensively engaged in the design and construction of numerous engines on his new plan for the British navy, &c. Amongst his other inventions are an improved paddle-wheel for swift steamers, the telescopic funnel for ships of war, the disconnecting crank, the hydraulic lifting apparatus for the propeller, the cheese coupling for disconnecting ditto, the marine tubular boiler, &c.

Drinking Waters of the Metropolis.—In a paper on this subject read at the Royal Institution, Dr. Lankester stated circumstances from which it was concluded that the water from deep wells was most desirable and unobjectionable as drinking water; that the water from surface wells ought under no circumstances to be drunk at all; and that if Thames water was used, it ought to be filtered, or, what is better, boiled and filtered. Boiling expelled the carbonic acid from water, and rendered it vapid; but its briskness might be restored by passing it through the gasogene. In the filtration of water, various agents may be used, as sand, sponge, charcoal, rock, &c. The most effectual is animal charcoal, which may be introduced into any of the ordinary forms of filter. Dr. Medlock had shown that the addition of iron to water containing organic impurities, precipitated them without rendering the water metallic. Water which had been filtered in contact with iron twelve months since was exhibited, and compared with water which had not been thus filtered: the latter showed a large quantity of impure vegetable growth, whilst the former was quite pure. Water which had been obtained from the wells at Watford three years ago was also exhibited, and showed no signs of vegetation; also water which had undergone "Clark's process," and was equally pure.

Progress with the Atlantic Telegraph.—An official statement has been issued, from which it appears that the cable is now being coiled on board the *Agamemnon* and the *Niagara* at Devonport; that the additional 300 miles of cable for slack is in course of manufacture by Messrs. Glass, Elliot, and Co.; that a new paying-out machine has been invented and ordered, and will shortly be set up at the works of Messrs. Easton and Amos, and subjected to severe experimental tests, after which engineers and machinists will be invited (rather late in the season, it is to be feared) to inspect it and offer suggestions; that "if no good cause be shown for further important alterations in the machinery," the ships will proceed to sea about the end of next month and rehearse a series of experiments in paying out and hauling in; returning to England to report progress, and effect any requisite alterations; after which they will finally start at the period deemed most favourable to the successful completion of the undertaking. This precise "period" is not specified. Additional steamers will accompany the expedition. Eminent electricians have been called in to the aid of Mr. Whitehouse, and other electricians and telegraphists are to be consulted as to speed in signalling, &c.

Congress of Scientific Societies, Paris.—The first meeting of the "Congress of Delegates of Learned Societies" was held on Monday, the 5th. Little was done but the formal business of opening the congress. We shall give a report of the proceedings.

Artists' and Amateurs' Conversazione.—The conversazione on Thursday, April 1st, was not so numerously attended as on some previous occasions, but especially interesting in respect of artistical contributions, such as Richardson's "Beilstein on the Moselle;" Carl Haag's "Foro Romano;" "St. John," by Dobson; a capital "Interior of Milan Cathedral," by Samuel Read (in the old Water-Colour Exhibition, if we remember rightly); "Study for Millais' 'Huguenot,'" a drawing by Ary Scheffer; "Leonora" (the heroine considerably out of drawing); and Cattermole's "Grace"—a noble drawing, scarcely to be matched. We must mention, too, some pen and ink sketches by Miss Ada Claxton, drawings by Mr. Collingwood Smith, and others. The closing meeting will be held on May 6th, when all the members are expected to contribute.

Chelsea Bridge Works.—We are asked to mention that the whole of the works on the foot and roadway of the Chelsea new bridge were contracted for by Messrs. Gilpin and Co. and that the novel application of cork concrete and oak paving set in bitumen, designed by Mr. Page, has been carried out entirely by the same firm.

The Plate-glass Trade.—We understand that the various firms, few in number, by whom the manufacture of plate-glass in England has been carried on, have coalesced and formed one joint-stock company, with limited liability. The public have reason to fear such amalgamations: it is to be hoped, however, that the new company, under good advice, will not seek to take advantage.

The Unemployed at Birmingham.—The artisans out of employment in Birmingham have organised a committee to raise a fund for their relief. Mr. Alderman Allday and Mr. Councillor Maher are the treasurers, and have opened an account at Messrs. Lloyd's, where donations will be thankfully received. Gentlemen connected with the theatre and other places of amusement have liberally contributed. The committee have been receiving applications for relief, which are numerous.

Destruction of a Railway Station at Salisbury.—The Salisbury station of the South-Western Railway has shared a similar fate to that which befel the more extensive range of premises at Vauxhall little more than twelve months since. The offices and covering of the platform adjoining extended over a distance of about 125 yards, and were chiefly of wood. The building having been erected nine or ten years, the materials had become exceedingly dry, and the fire ran along the sides and leapt from rafter to rafter with astonishing rapidity, and in little more than an hour the whole range of building was reduced to ashes.

Staining Stone.—In the last paragraph of my communication on the removal of smoke-stains (p. 209, *ante*) there is a slight misprint: the word "veneering" ought to have been "removing." For the purpose of staining *new* building-stones, I should recommend a solution of shell-lac in borax and water. (See my articles on the "Lac-boracic Paint" on Sept. 29th, 1855.) Any required tint could be given by varying the quantity and quality of the resin. Wentworth L. Scott.

IMPROVEMENTS IN THE CITY. — *Fenchurch-street.*—The new buildings in this street, erecting by Messrs. Ashby and Sons, for Messrs. Hankey, under the direction of Mr. Bell, architect, are rapidly approaching completion. It is in contemplation to rebuild the premises adjoining eastwards, in Mincing-lane, and a corridor of communication, leading therefrom into Fenchurch-street, will unite the whole. *Leadenhall-street.*—No. 105, a building of considerable antiquity, is about to be pulled down, and rebuilt, under the superintendence of Mr. John Young, jun. architect *Sussex-hill*, -well known in connection with the Literary Institution attached thereto, is likely to change hands. It is proposed to adapt the hall as a music and supper room, on the same scale as Weston's Music-hall, Holborn. *Warwick-square.*—The corporation completed the purchase, last week, of several freehold houses in Warwick-square, with the view of making further improvements to Newgate prison. Mr. Norton, the auctioneer, was the umpire as to the value thereof; a difference of opinion having naturally arisen between Mr. Bunning, on behalf of the City, and Mr. Young, jun. on behalf of the freeholder.—*City Press.*

TAUNTON ASSIZE COURTS. — Very loud complaints against the arrangements of the new courts have been addressed to us. We hope, however, that experience will show how to remedy the oversights, so that the efforts, which have undoubtedly been made there, may prove successful.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY. -At the twelfth meeting of this body the paper read was "An Apology for Classicism," by Mr. W. H. Leeds, of London.

TRINITY CHURCH, EDINBURGH. — We beg to inform you that we are the authors of the design sent in competition for the above church, marked "Fides," and numbered 10, and we believe that to be the design that was honourably mentioned.—FLOCKTON and SON.

EARTHENWARE STAIRS.—J. W. wants to know at what cost the manufacturer who adopted the suggestion could supply stairs, and adds:—"I cannot but think if a good sound step and riser, turned out tolerably true, be manufactured, the demand must be such as to make the production remunerative; and, although the first cost may exceed the present method, the ultimate expense to house-owners, I am inclined to think, would not." The manufacturer says:—"The riser and tread in one piece, 2 feet 9 inches long, for 4s. 6d. each; 3 feet long for 5s. each; at Leeds, where our works are situate: cheaper, perhaps, when we have proved the thing in manufacture." We must now leave the matter to our advertising columns.

NORWICH SCHOOL OF ART.—The annual general meeting of the subscribers to this institution was held in one of the rooms of the school, on Tuesday in last week. The mayor presided. The report of the managing committee was read and adopted. Appended to the report is a statement of the number of pupils on the books of the central school. From September 10th, 1856, to March 31st, 1858, there were 268, being an increase of seventy-two over the return for the previous eighteen months. The number of students in the out-door schools amounts to 1262, including 137 in the central school at the present time.

ARCHITECTURAL INSTITUTE OF SCOTLAND.—At a recent meeting of the Architectural Institute, the Solicitor-General presiding, a paper was read by the secretary from Mr. Henry Fulton, Dublin, suggesting a new order of Greek architecture—namely, an adaptation of the Doric to smaller buildings than its due proportions suited, the pillars to have lotus-leaved capitals, and various of the Doric characteristics being modified. A paper was then read by Mr. Murray, of Murrayshall, advocate, "On Architecture as applied to the Commemoration of distinguished Persons," with some remarks on the completion of the National Monument, Calton-hill. To bring the completion of the National Monument within more practicable attainment, he proposed that its scale should be reduced from forty-six to thirty-four columns, and that, instead of imitating the model of the Parthenon, we should take the scale, but without strict adherence to the style, of the temple of Theseus at Athens. Taking the cost of the twelve pillars now standing (15,000*l.*) as his datum, he stated that to complete the building on the Parthenon scale, without sculpture, would require 95,000*l.*; while to follow that of Theseus's temple would only require other 63,500*l.* It was remitted to the council to inquire whether anything could be done to revive public interest in the National Monument, with the view of its ultimate completion

IMPROVEMENTS IN PARIS.—"It is in contemplation," says the *Siècle*," to construct a monumental fountain in the Bois de Boulogne, near the entrance of the Avenue de l'Impératrice. It is also said that the wood is to be every year ornamented with groups in marble, consisting of copies of the models which obtain the greatest success in the annual exhibitions of the fine arts."

BOTTLE-NECKED THOROUGHFARES.—We have them all over our (the Surrey) side of the water. At the corner of Mint-street opposite St. George's Church, there are two houses now being pulled down. If they are built up without widening the entrance it will be a disgrace to the age we live in. The eastern end of Lambeth-walk is similarly contracted; Vauxhall-walk the same; Horsemonger-lane, the Borough end, completely throttled in the same way; the Bone and Pottery District (behind Lambeth Palace) in its present disgraceful state, in a great measure owing to Bishop's-walk being closed, except to foot-passengers. (More of this anon.) We in Lambeth, sir, are nearly strangled by this bottle-necked and closed-upsystem; and, till we have these and other entrances battered open by your artillery, it is useless to struggle for internal improvement.—T. S.

IRON TRAMWAY PLATES FOR METROPOLITAN ROADS. — A correspondent, Mr. John Palmer, wishes us to draw the attention of our readers to a scheme which he states that he brought before the Metropolitan Board of Works two years ago; namely, the laying down of tramways of iron plates flush with the surface, and about 15 inches wide, so as to be easily run on or off by vehicles, as circumstances may require; the number of these plates or ways to be regulated by the width and traffic of the street. Traffic, our correspondent remarks, would thus be facilitated, comfortable and cheap transit secured, and noise and dust prevented; while the public would benefit equally, the ways being laid down—not by private and self-interested parties, but by the public authorities themselves, for the general advantage. A trial on a small scale could easily be made.

CHARGE OF FRAUD AGAINST A BUILDER.—At the Brighton Borough Court, a fortnight ago, Benjamin Stone, a builder and plumber, was charged by the secretary of the Conservative Land Society with having obtained 30*l.* by falsely pretending that two houses, Nos. 2 and 3, Ranelagh-terrace, Brighton, the property of the Society, were completed by him as the builder, all but the papering, whereas the internal lead pipes had not been put in and fixed. The cost or value of the work not done was estimated at 10*l.* After some evidence, including that of a carpenter, who stated that he had called prisoner's attention to the want of pipe, there being only a small piece at the ceiling where it could be seen, the prisoner was committed for trial at the Sussex assizes in Lewes, bail to be accepted.

BREACH OF BUILDER'S CONTRACT.—An action was lately brought before the County Court, Wrexham, to recover 2*l.* 13s. 4d. balance due to plaintiff, Mr. Samuel Williams, mason, Wrexham, by defendant, Mr. Lester, Penygelli, as agent to Miss Casson, of Adwy'rclawdd, Minera From the evidence it appeared that plaintiff agreed with the defendant to erect a portico in front of "Offa Cottage," for 7*l.* 10s. producing at same time a rough drawing of the plan. When completed, defendant complained, first, that it was not built according to the plan, and, secondly, that it was altogether disproportioned. Certain alterations were made, but on final settlement were charged for extra, making the account in all 10*l.* 13s. 4d. of which defendant paid 8*l.* The judge gave a verdict for defendant (each party to pay his own costs) on the ground that the portico was not built according to the original sketch, and also that it was evidently "a monstrous architectural building."

THE COTTAGE IN WHICH THE STEPHENSONS RESIDED.—The cottage at Willington-quay, in which George Stephenson resided, and in which Robert Stephenson was born, is, after all, it appears, to be pulled down, notwithstanding the assurance given, at the time we first drew attention to the subject, that there was no intention to demolish it. Nearly 600*l.* have been subscribed towards the cost of the schools to be erected on the site. Photographs of the cottage have been taken, and are meeting with a ready sale.

TENDERS.

For a New Meeting Hall to the Roman Catholic Church, Spicer-street, Spitalfields. Messrs. Gilbert and Blont, architects. Quantities supplied:—

Smith	£1,270 0 0
Patman	1,175 0 0
Bird	1,148 0 0
Kelly (accepted)	1,130 0 0

For an Orphan Girls' school at Llandaff, South Wales, for the Drapers' Company. Mr. Herbert Williams, architect. Quantities supplied by Messrs. Wright and Gould:—

Builders' Names.	For Main Building.	Lodge and Entrance.	Roads, Boundary Walls, &c.	Fittings, Stoves, Bells, Gas, &c.	Total.
	£	£	£	£	£
James and Price	18,340	1,493	2,047	1,929	23,809
Williams	14,991	822	3,741	1,595	21,149
Wilcox	15,500	1,300	1,800	1,700	20,300
Yates	14,846	1,372	2,016	1,754	19,889
Brown	13,200	1,350	2,000	1,620	18,170
Hardwick	13,400	1,145	1,842	1,642	18,029
Barnsley and Son (accepted)	13,350	1,129	1,650	1,635	17,764

For an Orphan Girls' school, at Denbigh, North Wales, for the Drapers' Company. Mr. Herbert Williams, architect. Quantities supplied by Messrs. Wright and Gould —

Builders' Names.	For Main Building.	Lodge and Entrance.	Roads, Boundary &c.	Fittings, Stoves, Bells, Gas, &c.	Total.
	£	£	£	£	£
Rogers	1,3500	900	3,800	1,613	19,813
Holme and Nicol	11,255	780	3,140	1,508	16,683
Yates	11,126	666	3,022	1,585	16,401
Hardwick	11,158	784	2,143	1,644	15,730
Barnsley and Son (accepted)	10,850	750	2,100	1,610	15,310

For 17,000 feet of brick and pipe sewers, opened on the 1st inst. at the Hackney Vestry:—

	No. 1 Contract.	No. 2 Contract.	Total.
Lee	£6,200	£5,330	£11,530
Munday	4,982	4,134	9,116
Kebble	4,936	3,920	8,316
Gomm and Byron	4,284	3,867	8,151
Yeoman	3,978	3,655	7,633
Hocker	3,736	3,246	6,982
Abbott and Hopwood	3,829	3,151	6,980
Wood and Sons	3,698	3,255	6,953
Armstron	3,655	3,226	6,891
Hull	3,782	3,050	6,838
Dethick	3,801	3,031	6,832
Ragg	3,627	2,992	6,839
Marshall	3,655	2,999	6,654
Alder	3,638	2,935	6,573
Lawrence	3,280	3,200	6,480
Haines	3,592	2,882	6,474
Rogers	3,199	2,997	6,196
Murray	3,242	2,755	5,997

For building school and house at Seaford. Messrs. Habershon, architects:—

	School.	House.	Total.
	£ s.	£ s.	£ s.
Colwell, Brighton	976 6	343 10	1,319 16
Palmer, ditto	782 0	298 0	1,080 0
Davy, Lewes	765 0	279 0	1,044 0
Ayres and Co. Dover	753 0	282 0	1,035 0
Morling, Seaford	744 16	288 16	1,033 12
Card, Lewes	743 16	289 16	1,033 12
Anscombe, Brighton	698 0	272 0	970 0
Cane, ditto	700 0	238 0	938 0
Haynes and Banks, Seaford	682 0	268 0	950 0

For St. Margaret's proposed Church, Plumstead. Mr. W. Rickwood, architect. The quantities were supplied by Mr. H. Church:—

Mr. Tongue, Woolwich	£8,184 0 0
Nicholson and Son	7,429 0 0
Joshua Higgs	7,230 0 0
George Smith	7,200 0 0
Kirk and Parry	6,900 0 0
Lucas, Brothers	6,700 0 0
Piper and Son (accepted)	6,576 0 0

For the erection of a warehouse, in Milk-street, Cheapside, for Mr. D. Evans. Messrs. Tillott and Chamberlain, architects. Quantities supplied:—

Thos. Rider	£4,790 0 0
Lucas, Brothers	4,704 0 0
Ashby and Sons	4,695 0 0
Myers	4,492 0 0
Lawrence and Sons	4,338 0 0
Brass and Son	4,327 0 0
Jay	4,306 0 0
Piper and Son (accepted)	4,114 0 0

For rebuilding house, No. 33, Castle-street, Long-acre:—

Morris and Phillips	£529 10 0
Walton	425 0 0
Keast and Moon	399 0 0
Howard	377 10 0
Parkiss	369 10 0

For paving the footways, Uxbridge Board of Health, under the direction of Mr. George Eves, Surveyor:—

J. Tomlinson	£577 18 11
W. E. Tomlinson	535 15 6
Adamson and Sons	526 9 10
Haselgrove	527 17 8
Passnidge	504 1 11
Watkins	466 5 9
Barker	458 5 7
Gibson	449 5 6
Knight (accepted)	423 14 0

TO CORRESPONDENTS.

PROPOSED BUCHANAN-STREET STATION, GLASGOW.—A Competitor wants to know what has been done in this matter.

J. B. R.—Mr. L.—Dr. G.—J. L. (a short notice will be acceptable)—R. H. D.—T. O.—W. G.—A. J. T.—Constant Reader (we are forced to decline recommending).—J. G. S.—B. W.—G. J.—C. G.—C. E.—F. L. (thanks. Next week)—F. D.—Office Boy (look to your "Tutor's assistant")—G. P.—W. V. S.—P. and B.—H. Notes on Towers (in type).—J. H.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other communications should be addressed to the Editor," and NOT to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

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MESSRS. DANIEL DODD & SON are directed by the Executors of the late Mr. Thomas Cubitt, to SELL by AUCTION, on TUESDAY, WEDNESDAY, and THURSDAY, APRIL the 20th, 21st, and 22nd, Important, very Extensive, and attractive Unreserved SALE.—To TIMBER-MERCHANTS, and DEALERS, CONTRACTORS, BUILDERS, CABINET MAKERS, and OTHERS

SAMUEL BLOORE is favoured with instructions from Messrs HEANE and CO. Importers and Timber Merchants, the Docks, Gloucester, to arrange for positive SALE BY AUCTION, on TUESDAY, the 20th day of APRIL, at Twelve following days, commencing each day promptly, at ELEVEN o'clock, the whole of their Valuable and well selected STOCK of BUILDING and other TIMBER, TRADE REQUISITES, &c., as follows:—

- 50 Spruce Deals, containing about 250,000 feet
- 50 First Quebec Pine Deals, measuring about 31,250 feet.
- 50 Second ditto ditto containing about 24,750 feet
- 30 First Petersburg Red Deals, containing about 10,000 feet
- 30 Wyborg Red Deals, containing about 10,000 feet.
- 20 Memel Red Deals, containing about 18,750 feet
- 50 Swede Red Deals, containing about 32,000 feet
- 7 Fine Boards Quebec Yellow Pine, containing about 5,500 feet.
- 8 Logs Quebec Red Pine, containing about 1,300 feet.
- 3 Logs Ash, containing about 1,200 feet.
- 5 Logs Pine American Birch, containing about 2,200 feet.
- 50 Feet of Crown Wainscot Oak Boards; 12 fathoms of Lath Wood, many thousand feet of prepared Red and White Floor Boards, Slate Laths, Red Pine Masts, Spars, Ropes, Tools, Office Fixtures, and other valuable Property

The whole will be arranged in lots to suit the trade and consumers generally, purchasers having the option of taking one or more lots of any value, as may be agreed upon

Catalogues are preparing, and may be had on and after MONDAY next, APRIL 12th, at the Place of Sale; the Offices of the Auctioneer, Temple-street, Birmingham; and at the Offices of the various newspapers in which an advertisement of the sale appears throughout England and Wales

NB. The spacious Yard and Premises, three Acres in extent, to be Let with immediate possession, having railway and canal communication with all parts of the kingdom. Apply to Messrs HEANE and CO. Gloucester

FOR SALE by PUBLIC AUCTION, at Mr. F. K. BARNES and SONS' TIMBER-YARD, Canons' marsh, Poplar, on WEDNESDAY, the 21st of APRIL, 1858, at TWELVE o'clock precisely, for account of Importers:—

- 1 Logs very fine Honduras Mahogany.
- 1 Pieces Pine Timber, being the cargo ex "Crimea," from St. John, N. B. now discharging.
- 7 " Birch, "
- 8 " Spruce Deals "
- 7 Cords Lathwood
- 1 Spruce Deals and Battens.
- 1 Quebec Pine Deals.
- 30 W. O. W. L. Puncheon Staves.
- 30 Miramichi Pine Deals
- 30 Gregg's Red Deals.
- 30 Memel Red Deals.
- 30 Swed. L. Red Deals
- 7 Loads Quebec Yellow Pine.
- 1 Loads Quebec Elm
- 1 Loads of Red Pine,
- Loads best large Dantzic.
- 1 Loads best Dantzic Oak.
- 1 Loads Petersburgh Pine
- 30 Norway Masts, Spars, and Rickers.
- Red and Spruce Prepared Flooring Boards.

A quantity of Mahogany, and Cedar Plank, Boards, &c.—Catalogues will be issued in the week of sale

F. K. BARNES and SONS, Brokers.

Stations'-marsh, April 3, 1858

N.B. It is requested that buyers will look over the lots, and mark their catalogues before the sale, to enable the brokers to sell in the course of the day should prove wet.

CLAPTON GROVE, SYDENHAM Eligible Building Land, occupy one of the highest sites in the neighbourhood of London, where villa residences are in great demand, and readily let immediately on any approach completion

MULLEN and SON are directed to SELL by AUCTION, at the MART, on TUESDAY, APRIL 27, at TWELVE o'clock, FIFTEEN PLOTS of most eligible and attractive BUILDING LAND, in one of the choicest and most favourable situations in the neighbourhood of the metropolis, Sydenham, on the north side of Longton grove, where building operations have been actually carried on, and immediately adjoining the elegant villas and residences already erected, and occupied by tenants of the highest respectability; close to the church, within five minutes' walk of the Sydenham station, and very little further from the Crystal Palace. The Plots have frontages of 40 and 50 feet each, with considerable depth, and are held for a term of upwards of ninety years, at a merely nominal ground rent.—May be viewed and particulars had of Messrs. JACKSON, EVANS, and NEWBON, Wardrobe place, Doctors'-commons; at the Mart, and of PULLEN and SON, 80, Fore street, Lincoln's-inn-fields.

TO TIMBER MERCHANTS AND BUILDERS.

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BURGHLEY-PARK, near Stamford.—To TIMBER-MERCHANTS, COACH BUILDERS, WHEELWRIGHTS, TURNERS, FARMERS, and OTHERS.—Valuable and important Sale of superior Ash and Elm Timber, excellent Poles, Fire-wood, and Faggots.—To be SOLD by AUCTION, by

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Stamford, March 31, 1858

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AN ARCHITECT is desirous of receiving in his Office an active, intelligent, and well brought up YOUTH, not under 16 years of age, who will have opportunities of advancing himself by good conduct, but to whom only a trifling salary is offered at first. He must have been accustomed to Office work for at least three years, and be well recommended.—Apply, by letter, to A. B. at Kimpton's Library, Great Russell street, Bloomsbury

BUILDER'S CLERK.—WANTED, by a Builder, of small practice, a Young MAN, as CLERK, who has been accustomed to the business. He will be required to keep the same hours as the men (punctuality indispensable), have a thorough knowledge of drawings, be a good accountant, capable of measuring work, and taking out quantities expeditiously.—Address, G. T. Office of "The Builder," stating age, qualifications, and amount of salary required.

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- 30 Miramichi Pine Deals
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- 30 Memel Red Deals.
- 30 Swed. L. Red Deals
- 7 Loads Quebec Yellow Pine.
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TO PLUMBERS, BUILDERS, AND OTHERS.

WANTED, constant EMPLOYMENT as PLUMBER. No objection to fill up his time with painting and glazing. Town or country. Address, A. W. Mr. B. Smith's, Builder, 2, Green street, Kentish town-road.

WANTED, by a first-class PLUMBER, a constant SITUATION. Has a good knowledge of gasfitting, and would not object to fill up his time with glazing, &c. Town or country. Good reference, if required. Address, A. 3 G. 42, Wilcomb-street, Haymarket, London.

WANTED, by a Young Man, aged 25, practically acquainted with Bricklaying, a SITUATION to Superintend Drainage Work, and keep time if necessary, or to take work by the piece, in town or country. Good testimonials.—Address, H. E. Knapp's Coffee-house, Mildenhall.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by a Man of steady and industrious habits, aged 36, who has been twelve years at the bench, in London and the country, and for the last two years has been engaged in architectural drawing, which he thoroughly understands, a SITUATION, as CLERK of the WORKS, or ASSISTANT in the Office. Can take levels and survey. A moderate salary required.—Address, Mr WILKINSON SMITH, Penrith, Cumberland.

TO BUILDERS AND PLUMBERS.

WANTED, by a steady and experienced PLUMBER, aged 38, a SITUATION, in town or country. Understands deep well, pump, and bath work, in every department; can fill up his time at painting and glazing. Has been and has no objection to go abroad.—Address S. S. 18, Trafalgar-street, Walworth-road.

WANTED, by the Advertiser, a SITUATION as GENERAL FOREMAN. Has a thorough knowledge of the building trade, in all its branches.—Address, A. B. 13, Lorrimore-street, Walworth, S

WANTED, by a Lad, 15 years of age, pupil of the St. Martin's Branch School of Art, a SITUATION in any business or profession where a knowledge of drawing is required. No premium can be given, but a small salary expected.—Address, R. W. 87, Stanley-street, Pimlico, S.W.

TO MASTER BUILDERS AND CABINET-MAKERS.

WANTED, constant EMPLOYMENT as TURNER, in a shop in either of the above lines. Can work at the bench occasionally if required; can French polish, &c.—Address, K. G. F. 5, Church street, Twickenham, Middlesex.

TO PLASTERERS.

WANTED, a SITUATION as FOREMAN, or to take a job in town or country. A good practical hand, of many years' experience.—Address, A. B. C. Crimean Coffee-house, 71, Seymour street, Euston square

WANTED, a SITUATION, by a good Oil Grainer, Marbler, Writer, &c. Wages, 30s. per week. Specimens can be seen.—Address, T. C. 51, High street, Camden-town, London.

TO ARCHITECTS.

WANTED, a London ENGAGEMENT, by a thoroughly practical Assistant. Terms moderate.—Address, X. Y. Z. Office of "The Builder."

WANTED, in an Architect's Office, a respectable, well educated, and intelligent YOUTH. He must write well, and make himself generally useful. One who has been in an Architect's office preferred. Salary moderate, but increasing. State full particulars.—Address, C. D. Mr. Scripps's, News Agent, Southmolton street, W

TO BUILDERS' CLERKS.

WANTED, by a Builder, near London, a CLERK. None need apply who have not filled a similar situation.—Apply, in first instance, by letter only, to P. C. Office of "The Builder," stating age, salary required, and where last engaged.

TO BUILDERS AND DECORATORS.

WANTED, by a good GRAINER and MARBLER, a CONSTANT SITUATION, in town or country. Specimens can be seen, if required. Direct to W. P. J. 17, White Lion-street, Pentonville, N.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT as GENERAL or OUTDOOR FOREMAN, by an active, experienced Man, carpenter by trade, having had the carrying out of several extensive jobs. Unexceptionable testimonials. Locality no object. Terms moderate; or would take piecework.—Address, H. H. F. 19, Clayton-street, Caledonian road, Islington

TO CARPENTERS, &c.

WANTED, by a Young Man, aged 19, a SITUATION as IMPROVER, in the above line. Has been two years at the staircase and jobbing work. Wages 10s. per week. Good reference. J. D. 36, Queen street, Edgware-road.

WANTED, by the Advertiser, a SITUATION as CLERK of WORKS. Has had considerable experience in large buildings, and can have an excellent testimonial of six years' experience from last employer.—Address, G. B. Alder's Zinc Works, 1, Cumberland-place, Newington Butts, S.

TO PAPERHANGING MANUFACTURERS.

WANTED, by a Young Man, a COMMISSION for the SALE of CHEAP PAPERHANGINGS.—Address, A. B. 184, Rodney street, Pentonville.

TO ARCHITECTS.

THE Advertiser, who is a first-rate Draughtsman, and has a thorough knowledge of detail and construction, is open to an ENGAGEMENT.—Address, A. Z. News-rooms, 76, Strand.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

THE Advertiser requires a RE-ENGAGEMENT as JUNIOR CLERK. Is acquainted with the usual routine of an Office, and refers to his present employer. Address, A. B. 39, Theobald's-road, Holborn.

TO BUILDERS AND CONTRACTORS.

THE Advertiser, who has been several years with a City firm practising as Architects and Surveyors and accustomed to prepare finishes and other drawings, with a good knowledge of quantities and other accounts, and the usual routine of an office, desires an ENGAGEMENT. Good references can be given.—Address, B. A. 2, London-street, Pentonville-street, E.C.

THE Advertiser, a practical Carpenter and Joiner, is open to take any quantity of SASH WORK, labour only. No objection to take one or two cottages of houses, in part payment.—Address, C. H. Office of "The Builder."

TO BUILDERS AND TIMBER MERCHANTS.

THE Advertiser, aged 40, who has had many years' experience of these trades in operations of magnitude, and been accustomed to direct and control large numbers of workmen, correspondent, and generally well educated; can give first rate references, and security, if required, and is willing to go to any part of the world.—Address, A. Z. Archbutt and Co's, Accountants, 80, Basinghall-street, E.C.

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN, who has been in the profession for nine years, is open to a RE-ENGAGEMENT in an Architect and Surveyor's Office. He has had considerable experience in the Gothic and Italian styles, and is accustomed to the general routine of the business.—Address, X. Y. Z. Office of "The Builder."

THE Advertiser, aged 20, wants a SITUATION as IMPROVER. He has served five years of his time. Understands Marqueterie.—Address, A. B 5, Chiptone street, Fitzroy square

TO BUILDERS AND CONTRACTORS.

THE Advertiser wishes for a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN. He has a knowledge of machinery, and all classes of Joiners' and Carpenters' work.—Address, Z. Z. Office of "The Builder."

TO MANUFACTURERS.—The Advertiser, having been engaged as accountant and book-keeping traveller to extensive works, and possessing a knowledge of every article of consumption, and use among the building trades generally, is desirous of representing a manufacturing house as COUNTRY TRAVELLER or TOWN REPRESENTATIVE, being well known to the London trade. Security given.—Address, C. D. 32, Jewin-street, City, E.C.

TO ARCHITECTS' ASSISTANTS.

THE TEMPORARY SERVICES of an ASSISTANT are required in an Architect's Office in the country. Applicants must be perfectly competent to prepare working and detail drawings, and to have a thorough knowledge of the routine of office practice. It is requested that none will reply to this advertisement who are qualifications do not fully answer the foregoing requirements.—Address, stating terms, references, &c. to Messrs. MEDLAND and MABERLY, Architects, Gloucester.

MECHANICAL DRAUGHTSMAN WANTED, in an Engineer's Shop in town.—Apply by letter, stating age and previous experience, to X. Y Scudding's Library, Belgrave road, Pimlico

IMPORTANT to POTTERS.—A Young Man, having a thorough practical knowledge of stone pottery in all its branches, can produce a white enamel upon his stoneware, and glazes of all kinds that are required in the trade, is desirous of a SITUATION as MANAGER of a POTTERY. Can be well recommended.—Address, P. A. at Mr Hubes's, Newspaper-office, 5, Surrey place, Wanesworth road, surrey, Lambeth

TO ARCHITECTS, DISTRICT SURVEYORS, AND GENTLEMEN OF PROPERTY.

A SURVEYOR, accustomed to the charge of a district under the Metropolitan Building Act, experienced in the management of property, a good draughtsman, and quick at accounts, and used to meet Trustees of the parishes, is open to an ENGAGEMENT, exclusive or otherwise Remuneration moderate.—Address, Mr. J. BRAMWELL, 5, Derwent-terrace, Spa-road, S.E.; or 43, King street, Southwark

AS CLERK of WORKS, or to generally superintend under a contractor, a thoroughly practical Man, fully qualified, having just completed very extensive works, is desirous of a RE-ENGAGEMENT. Salary moderate References (to last employer) undeniable.—Address, ALFRED, 25, Noe street, St. James's, W.

TO ARCHITECTS, &c.

AN ASSISTANT, accustomed to prepare finished, working, and detail drawings perspectives, specifications, and superintend works, wishes for a RE-ENGAGEMENT, either in the OFFICE or as CLERK of WORKS. Has a thorough knowledge of building matters. Terms moderate.—Address, ARCHITECT, 34, Aldergate street

TO ARCHITECTS

A PRACTICAL CLERK of WORKS, of many years' experience in first-class works, is desirous of a RE-ENGAGEMENT. Is a good measurer.—Address, O. S. H. Office of "The Builder."

TO CEMENT MERCHANTS, DRAIN PIPE MANUFACTURERS, &c.

A GENTLEMAN having a good connection among Contractors, Builders, &c. is desirous to enter into an ENGAGEMENT with a house in the above line, to whom he would introduce the same. The highest of references can be given with the business, and would be willing to make himself generally useful in any establishment he might connect himself with Moderate salary, or if preferred, the part salary and commission. Unexceptionable references, and security offered.—Address, L. N. Office of "The Builder"

TO CARPENTERS, BUILDERS, &c.

A YOUNG MAN, aged 21, wishes for EMPLOYMENT as an IMPROVER, at the BENCH; is very steady and has a fair knowledge of the general work Address, J. E. Post office, Farringdon street, E.C.

A RESPECTABLE YOUTH, aged 16, who writes a good hand, can copy and trace drawings carefully, and is pure cleanliness, and is accustomed to office work, and willing to make himself useful, wishes for EMPLOYMENT in a Professional or Builder's Office. Salary 5s. a week.—Address, post-paid, to ALFRED, Adams's Newspaper Office, 9, Parliament-street, S.W.

TO ARCHITECTS, SURVEYORS, OR BUILDERS.

AN ASSISTANT, who is well qualified for either of the above offices, is now OPEN to TERMS Is a good practical draughtsman, and is willing to make himself generally useful. For further particulars, address, G. H. care of Mrs Hatton, 9, Bryanstone-street, Portman square, W.

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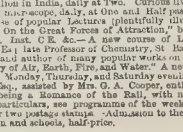

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All Persons who effect Policies on the Participating Scale BEFORE JUNE 30th, 1858, will be entitled at the NEXT BONUS to one year's share of Profits beyond later Assurers.

Proposals should be forwarded to the Office before June 30th.

The last Annual Report, as also a statement of the Sixth Bonus declared in January, 1857, setting forth in detail the whole state and affairs of the Office, and especially the benefits which will hereafter accrue to persons now assuring, can be obtained of any of the Society's Agents, or at the Office.

GEORGE H. PINCKARD, Actuary. GEORGE CUTCLIFFE, Assistant Actuary.

13, St. James's-square, London, S.W.

ACCIDENTS of EVERY DESCRIPTION. £1,000 IN CASE OF DEATH; OR A FIXED ALLOWANCE OF 6l. PER WEEK IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 27,988.

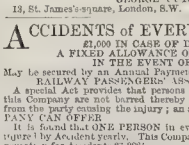
Terms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company, Offices, 3, Old Broad-street, London, E.C.

PATENT SOLID PARQUETERIE,



for floors, walls, and furniture (inch thick from 1s. per foot), as used by the eminent Architects, Sir Charles Barry, Messrs. Barn, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Times, May 29.

ARROWSMITH, No. 80, New Bond-street.

PAPERHANGINGS, at 332, Marylebone-road, one door from the Edgware-road.—THOMAS PARKER and SON, late Townsend, Parker, and Co. Paper Stainers, Goswell-street, respectfully invite an inspection of their large and first-rate STOCK of PAPERHANGINGS, all new designs. Architects, builders, and the public generally, will find this establishment unsurpassed by any house in London for elegance of style, excellence in quality, and cheapness in price. Bed-room papers from one half-penny, and satin papers from two-pence per yard Paperhangers sent to all parts of the country.

N.B. The new Designs for Paperhangings, by Owen Jones, Esq., we shall publish shortly.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSSE'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

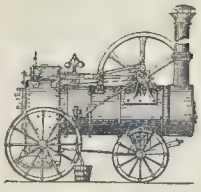
PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

"PUMPS." — FOWLER & CO.

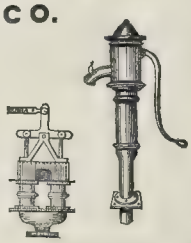


ENGINES, SINGLE & DOUBLE PUMPS,

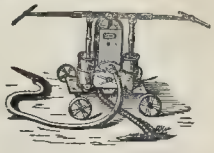
OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.



YARD, FARM, AND HOUSE PUMPS.

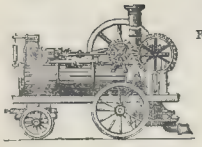


HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.

CONTRACTORS' PORTABLE PUMPS.

PUMPS FOR MANUFACTURERS, FOR STEAM OR HAND POWER.

MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,

For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his

GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.

BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works.

HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW WHITE ZINC.

1850 OXIDE WHITE FOR CEILINGS, the whitest of all Pigments, gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.

THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

TO DRAUGHTSMEN AND CIVIL ENGINEERS

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No 149, Fleet-street, London

These pencils are prepared in various degrees of hardness and shades

H H H H for drawing on wood.	F F light and shading.
H H H for architectural do.	F for general use.
H H for engineering.	B black for shading.
H H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.
M medium.	

Sold by all the principal Stationers in town or country.

IMPERISHABLE TESSELATED PAVEMENTS combining a highly decorative and economical material for ornamental floors, dairy, bath, conservatory, &c. MAW and CO.'S Patterns, published by M. Digby Wyatt, Esq., bound together with specimens of the tiles, and adapted to any given arrangement of wall, ceiling, or floor, can be had gratis, and will be sent on application to Broseley Works, Broseley, Salop.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description (seventeen years with James Newton of Fulham, Basic Bricks, Lumps, Dust, the patentee of Gas Purifiers, Lime-burners, Benches, &c. &c. Depôt for Rosendale Cement, Portland, Clay Retorts, &c. Sanitary Pipes, Chimney Tops, Bricks, Cisterns, &c. at the lowest prices. Sewerage works executed with despatch.

MINTON and CO.'S ENCAUSTIC and other PATENT TILES, for Churches, Entrance Halls, Conservatories, Balconies, &c.; Antique, Geometrical, and Alhambric Mosaics, manufactures of a highly decorative character, and extreme durability; Slabs and Tiles for Fireplaces and Hearths, Covings for Grates, Door Furniture, White Glazed and Ornamental Tiles for Baths, Dairies, and Kitchen Ranges, now in use in a great variety, at their Warehouse, 9, Albion-place, Blackfriars-bridge, London; and at their Manufactory, Stoke upon Trent, Staffordshire.

GARRETT, BROTHERS (late H. and R. Haywood), Manufacturers of METALLIC TILES, PIPES, &c.—Blue, red, and buff paving tiles, of various designs, for churches, entrance halls, schools, dairies, &c. Italian, Oregan, Plain, and ornamental roofing and ridge tiles in great variety; plain facing and paving bricks, vitrified stone pavers and kerbers, plain and socket pipes, grids, channel bricks, coping, fireproof flue linings, &c. all of a very superior quality, with numerous other articles—Taste, Illustrations, Price List, and Testimonials of the same may be had at GARRETT, BROTHERS' Manufactory, Brownhill-Tileries, Bedlam, Staffordshire, or their London Depot, 15, South Wharf, Paddington.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, [illegible] Road, Pimlico. In consequence of the [illegible] of the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and Tiles, &c. in "Relief of the Jurors, Judges, and the Royal Exhibition, note the grant of a First-class Medal, and rank the Manufacturers own to [illegible] "The Illustrated Catalogue" [illegible] the first of the kind in the world.

REDUCED PRICE LIST

WILLIAM GILBERT,

BLUE BRICK AND TILE WORKS,

SANITARY TUBE POTTERIES,

Tyndale, Staffordshire.

BRICKS.—Mr. RYDON having made mo[re] Bricks than he requires for the Buildings on his Highb[ury] New Park Estate, is willing to make arrangements with Build[ers] and others for SUPPLYING a quantity of first-class BRICKS, [of] every description. Address, Estate Office, Delt's Farm, Stoke N[ew]ington green.

BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Ratcliff Bridge as follows, for each in delivery —

Best Grey Stocks	23s. per Thousand.
Rough Stocks and Grizzles	18s. "
Place from	13s. to 16s. "
Bright Stocks	29s. "
Shippers	20s. "

Address, GEORGE SMEED, Sittingbourne, Kent.

P.S. Up any of the Canals on payment of Dues extra.

TO BUILDERS, CONTRACTORS, &c.—The London Patent Brick Company (Limited) are prepared to enter into CONTRACTS for the SUPPLY of BRICKS, either stocks for [illegible], or for common building. For terms and prices, apply to Mr. GEO. HADLEY, No. 8, Old Jewry.

BURSTALL'S PATENT BRICK MACHINE.—To BRICK-MAKERS.—The attention of [the] Trade is called to the above Patent Steam pressure Brick Machine, now successfully employed at the London Patent Brick Company's Works, near London, and at the Kinson Pottery Works, near Poole. The advantages of this Machine are perfect security against breakage of the pressure being elastic; one machine produces 11,500 bricks in a day, equal to twenty hands, at less cost than common hand-made bricks, and being used in a dry state, the bricks are taken at once from the machine to the kiln. Bricks can therefore be made at all seasons. For fire clay, this machine is peculiarly adapted, as any amount of granulation can be obtained without any admixture of rough stuff. For particulars, apply to Mr. GEO HADLEY, No. 8, Old Jewry; or to Mr. BURSTALL, the Patentee, Southall, London.

BRICK MANUFACTURERS' MEETING at the SWAN INN, BIRMINGHAM, including most firms within twenty miles of Birmingham.

CHAIRMAN—WILLIAM GILBERT, Jun.,

Of the General Architectural Pottery, Pipe, Blue Brick, and Tile Works, Tyndale, Staffordshire.

Unanimously passed—

25th March, 1858.

That our resolution of February 19th last, as to only the Undo[ubled] Size of Common Brick being made, namely, 9 in. by 4½ in. by 3 in. now be confirmed, and each manufacturer pay One Guinea to the Fund for securing the successful agitation of this question.

George Wood	Z. Goodall
William Gilbert	James Collins, Jun.
John Foster	Thomas Crew
John Edmunds	Hamblet and Parkes
Thomas Jellis	John Pugh
Fox and Bartley	William Morris
John Lewis	John Bond
Aaron Whitehouse	Joseph Hughes
John Robinson	S. and J. Pidgeon
G. B. Hatton and Son	James Smart
Pattrick, Gibbons, and Reid	Wilmot Mansell
Gould	Samuel Baggott
Parks and Whitehouse	John Brown
William Finney	Joseph Robinson
E. Strange Charm	Thomas Upton
Martin and Phillips	Cornelius Bagnall
William Horton	Allsopp and Burke
Thomas Harrison	George Parsons
Joseph Johnson	James Green
G. F. Whitehouse	Charles Jones
James Collins	Charles Machin
N. Millward	

R. BEASLEY, J. RADFORD, And Another, } Working Brickmakers' Association's Deputation.

Caused by

WILLIAM GILBERT, Jun. President and Treasurer.

J. FOSTER, Broseley Green, Birmingham, Secretary.

About a dozen letters from other eminent local firms, expressing their hearty adhesion, were received.

GAS SOIL put on BOARD BARGES, at GRAYS.—Apply to MEESON and CO. Grays, Essex; or to George-yard, Lombard-street, E.C.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

PAN, 4s. 6d.

PAN, 4s. 6d.

TRAP, 2s.

TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

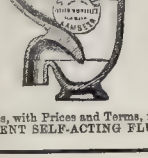
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

G. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from ntructions, and meets the demand for removing Pipes at any point.

7s. each; fitted with PATENT AIR-TIGHT VALVES, 6. 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

KINSON CLAY, POTTERY, AND BRICK COMPANY, LIMITED.

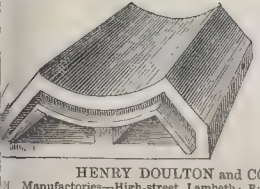
MANUFACTURERS OF EVERY DESCRIPTION OF SANITARY GLAZED SEWAGE-PIPES, CLOSET-PANS,

FURNACE-BLOCKS, FIRE-BRICKS, GAS-RETORTS, CRUCIBLES, &c.

THE POTTERY is situate about a mile and a half from the town and port of Poole. It is worked by steam power, and the pipes are made on most approved patent machinery, and will bear favourable comparison with any manufactured in the kingdom. The fire-bricks have been tested, and are found fully equal in all respects to those manufactured at Stourbridge and Newcastle. All articles are made from the clays and materials found on the estate. There is an inexhaustible quantity of all descriptions of Dorsetshire clay used for pottery purposes, which may be supplied to the Staffordshire, North Country, and London markets, upon favourable terms.

*** Lists of Prices, and all other information, will be furnished upon application to Mr. GILBERT E. MITCHELL, Manager, at the Works; or to Mr. JOSEPH COX, 1, 2, and 3, High-street, Lambeth.

DOULTON'S PATENT INVERT BLOCKS.



MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS.

The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS, which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.

This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage works.

DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.

DOULTON'S GLAZED STONEWARE SOCKET, HALF-SOCKET, AND OPERCULAR PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

UNGLAZED DRAIN-PIPES.—GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.

No. 7.

is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced. Price, complete, 13s. 6d. each.

TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Bore and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852. In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected."

N.B. From the testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON.

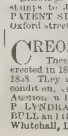
PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the Pumps to give one hundred per cent. of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price-lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 38, Mark-lane, City, E.C.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET-RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of any length. Billiard Cushions and Rubber Strips cut to any pattern, for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply pumps for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.



SMOKY CHIMNEYS.—The best cure is KITES PATENT VENTILATING and SMOKE-CURING ALBERT CHIMNEY CAPS, suited to any style of architecture. 200 on BUCKINGHAM PALACE, 150 on St. James's Palace, 50 on Claremont Palace, 50 on Windsor Castle, 250 on the Western Heights Barracks, Dover, in use all over the Halls and Mansions of the nobility, Government Offices, Club-houses, &c.; also extensively adopted by the public in general. Price 25s. 30s. and 38s. each.

Drawings and testimonials forwarded on receipt of two postage-stamps to JAMES BARTON, Ironworks and Manufactory for the PATENT STABLE FITTINGS and ENAMELLED MANGERS, 370, Oxford-street, London, W.

CREOSOTING WORKS, AMSTERDAM.

These Works situated in the Groote Wittenburger Straat, erected in 1856, will be OFFERED for SALE on the 19th of APRIL, 1858. They are of the present time in work, and impregnate efficient condition, capable of preparing 150 loads of timber per week. The Auction will take place at FIVE o'clock pm before the Notary, P. LYNDRAYER.—For further particulars, apply to the brokers, DE BULL and GOSELING, Amsterdam; or to Mr. F. WARREN, No. 6, Whitehall, London.

SALES BY AUCTION.

ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION on WEDNESDAY, APRIL 14th, 1858, at TWELVE o'clock, at the MARBLE WORKS, Commercial-road, Pimlico, the remaining STOCK of also about ONE HUNDRED and FIFTY MARBLE CHIMNEY PIECES of the most modern designs, well finished in the usual style of workmanship, many of a valuable description, in Genoa Green, Bardilla, Rouge Royal, St. Ann's, Serpentine, Dove, Black, Emperor's Red, Veined and Sicilian Marble; Stationary Mural Tablets, Grates, Stone Gothic Tablet, with Stationary Inscription Plate; polished Marble Slabs, &c.—To be viewed on Monday and Tuesday previous to the sale, when catalogues may be had at the Works, and of Messrs FULLER and HORSEY, Billiter-street, E.C.

TO MARBLE AND STONE MERCHANTS, AND MASONS. - Important Stock of Marble and Stone

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required for the Victoria Station and Pimlico Railway, to SELL by AUCTION on THURSDAY, APRIL 15th, 1858, and following day, at TWELVE o'clock each day, at the MARBLE WORKS, Commercial-road, Pimlico, in lots, the concluding portion of the large and valuable STOCK of MARBLE and STONE, in block and slab, in Belgian, in Black, 160 feet Genoa green, 200 feet of statuary, 200 feet Emperor's red, 6 feet Sienna, 450 feet serpentine, 1,000 feet veined, Sicilian, black, shaded dove, black and white, American green, Devonshire red, St. Ann's, Brocatella and Bardilla marbles; 10,000 feet in slabs, of the same assortment, from 1 inch to three inches; 1,100 feet polished slab mouldings; 3,000 feet Portland stone, in block; 300 feet of Caen stone, 1,400 feet Bramley stone, 150 feet Wingerworth stone, 2,500 feet of 3-inch York landings; 2,000 feet Bartied slabs, 1 inch to 6 inches; 1,000 feet Wingerworth slabs, 1 inch to two inches; 2,000 feet Park Spring, Rawson Hall, Roker Head, Hare Hall, and Potter's Newton slabs, 1 inch to 6 inches; head and foot stones; 1,500 feet run of granite curb, 12 feet by 6 inches and 12 feet by 8 inches, five blocks of granite; and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works, and of Messrs FULLER and HORSEY, Billiter street, E.C.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, esq. whose works are required by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, APRIL 19th, 1858, and following day, at TWELVE o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the entire and unreserved portion of the valuable and extensive STOCK of DRY SEASONED GOODS (received from the Commercial Docks), carefully selected, including 2,000 yards needle and battens, 500 white deals and battens, 500 pine planks, 2 set pine sash and lattices, 100 loads Dantzic timber, 200 square prepared flooring boards, new scaffold poles, oak rails, and other goods. To be viewed on Friday and Saturday previous to the sale, when catalogues may be had in the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Note. Approved bills at three months' date will be taken from purchasers to the extent of 50*l.* and upwards, or a discount of 1*l.* per cent. will be allowed for cash.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 26th of APRIL, 1858, and following day, at ELEVEN o'clock each day, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs LEE and LANGER, Contractors, Saint-street, Belvidere-road, Lambeth, in lots, a fine powerful 8-horse power contractor's steam engine, by Newton and Bodmer, Hull; a 10-horse power portable tube steam engine (in chimney, with mortar mill and iron, circular saw bench attached), with casing for ditto; Gwynne's centrifugal pump and pipes, 7,000 scaffold poles and boards, 500 puttigs, scaff boards, four; 1 excellent with machinery, 14 massive cast-iron fluted columns, each 16 feet high; 700 yellow deals and battens, several thousand feet of dry seasoned pine and other boards, planks and sleepers, purple ash crabs, timber carriage, stone truck, 15 tumbril carts, six useful draught-horses, sets of harness, trucks, stable implements, turntable, a large quantity of earthen sewer-pipes, wrought-iron pumps, 10 screw and lifting jacks, blocks and falls, mortar machine by Gibson, smiths' tools, vices, anvils, 12 carpenters' benches, cramps, 100 mortar hods, pickaxes, beetles, two tons of lead pipe, oils and colours, grainagers, pot and bar iron, 50 tons of wrought and cast iron, lumber boards, portable screw jacks with leather jaws, 40 feet of water hose, weighing machine, scales and weights, three portable offices, sewer gratings and frames, sink-traps, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had in the Premises, and of Messrs FULLER and HORSEY, Billiter street, E.C.

TO WAX BLEACHERS, MANUFACTURERS, SPERMACETI REFINERS, & OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY APRIL 29, 1858, at ELEVEN o'clock, on the PREMISES, New Road Green, Surrey, in lots, without reserve, the PLANT of a SPERMACETI REFINERY and WAX-BLEACHING WORKS, including 2 10-cwt. melting pans, and large brass cocks; 7 enamelled iron pans, 2 pewter jacket steam-pans, 3 large cast iron melting-pans with furnaces, 4 upright and 2 horizontal hydraulic presses with pumps, 2 6-in. iron screw presses, 2 copper and iron hoop receivers, large lead and copper-lined cisterns, bagging frames and bags, wrought iron steam-boiler, small copper steam boiler, steam pipes and cocks, double purchase crane, iron plates, counters, bleaching racks, and other effects. To be viewed on Tuesday and Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, City.

London Marble and Stone Working Company's Works, Esher-street, Millbank, Westminster

MESSRS. FULLER and HORSEY are instructed to SELL BY AUCTION, at the MART, on FRIDAY, APRIL 30th, at TWELVE o'clock, in one lot in consequence of the determination of the partnership now existing between the parties, (previously held by private contract the LONDON MARBLE and STONE-CUTTING WORKS, together with all the valuable plant and machinery, including four iron sawing frames (the last now working horizontally from 11 feet by 1 foot 10 to 16 feet by 3 feet 4; two iron circular-saw frames for marble; two polishing machines; two powerful cutt ng and turning lathes, including Lukin, moulding bed, for circular turning, either 8 inches to 16 inches centres, single saw stone-cutting frame, a ten-horse power condensing steam engine, by Tinsley, with 6-in. bore, all the requisite shafting, drums, riggers, and driving gear, two very powerful overhead travelling cranes, and every other requisite for carrying on the business on an extensive scale.

The premises are leasehold for a term of fifty-two years, at a ground rent of 75*l.* per annum, and may be viewed by cards only, which will be issued by the Auctioneers, 9, Lincoln's-inn-fields, W.C., at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO CONTRACTORS AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Assignee of Messrs. Brown and Myers to SELL by AUCTION, on SATURDAY, the 1st of MAY, 1858, at ONE for TWO o'clock precisely, on the RAILWAY WORKS, Hillingdon, Kent, near the Swan Station on the Fast Kent Railway, in lots, without reserve, the CONTRACTORS PLANT comprising about 40 horses of the most approved description, 20 strong wagons, timber wagons, 2 new waggonettes, trucks, and rails, 10 excellent 3,000 sleepers, wheelbarrows, tool sheds, contractors' cars, carriage two wagons, two sets of hoof harness, two sets of fast harness, implements and effects.—To be viewed on the morning of sale. Catalogues may be had at the Works; of E. EDWARDS, Esq. Official Assignee, Basinghall-street, E.C.; of Messrs. WRIGHT and VENN, Solicitors, 2, Paper-buildings, Temple; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

SALES BY AUCTION.

TO SHIP CHANDLERS, BOAT AND BARGE BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, MAY 3, 1858, and following day, at ELEVEN o'clock each day, on the PREMISES, No. 26, Rotherhithe-street, in lots, without reserve, the extensive and well-assorted STOCK of the late firm of CRISTALL and CO., including Derby Lath English oak, twenty boat timbers, three beds teak, 1,000 feet fresh plank, 200 oak posts, 700 feet oak battens, 1,500 feet oak quartering, 1,000 feet 4½ inch timber, 1,000 feet for quarterings, thirty large floor, 100 feet 3 inch plank, 1,000 feet 2½ inch, seven sets iron fall-boat davits, fifty fathoms new firewood, one feet American oak and elm plank 1,500 feet English oak, 1, one feet elm boards, 20 pairs of fine rigging cranes, 2 large deck pumps, 1 patent deck pump, 1,000 feet feather edge boards, boats oak transoms, fifty stage deals, 12-inch and 9-inch, thirty bullocks teak bilge, 1 barrels stock fir and pitch, ships and barge pumps, 150 fathoms chain cable, five tons chain various, double and single crabs, fifteen lifting and screw jacks, tackle blocks, cramps, sash bars, several iron weights, 1 ton patent yellow metal, and thirty copper nails, thirty grind stones, anchors and hooks, ten tons assorted iron, five new sets Marriott's signals, seventeen dozen new flags, seven ensigns and flags, 100 pieces new bunting, seventy bolts sail-cloth, six tons new rope, five tons old rope, two hawsers, one inch canvas, 500 sheave blocks, 36 cwt. old lead, 3 cwt. copper sheathing nails, 2 cwt. pitch, tar and resin, one hundred weight hoop and plate iron, 15 tons wrought and cut nails, 1 cwt. copper nails, 1,000 feet 3-inch and 4-inch screw, large assortment of tin plate, furniture, a large and general stock of ironmongery, black hollow ware, tin ware, oils and colours, turnery, two punts, 20 and 30 tons, three log trucks complete, timber carriage, timber waggon, two trucks, steam engines, three powerful capstan crabs, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, and catalogues had (at 6*d.* each) of Messrs. FULLER and HORSEY, Billiter-street, E.C.

IMPORTANT FREEHOLD.—Sufferance Wharf, with the newly-erected Saw and Planing Mills, Engine-house, and Offices, a Dwelling-house, and Two Freehold Public-houses,—Rotherhithe, Surrey.

MESSRS. FULLER and HORSEY are instructed by Messrs Grissell, Brothers, to SELL by AUCTION, at the MART, on FRIDAY, MAY 21 (unless an acceptable offer is previously made by Private Contract, of which due notice will be given), a highly-important FREEHOLD PROPERTY and SUFFERANCE WHARF, known as Cuba Is Wharf, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 2a. 3r. The premises have recently been erected by Messrs. Grissell as a timber-yard, wharf, and saw mills. The buildings, newly erected in the most substantial manner, comprise—the saw-mill, about 70 feet by 64 feet; engine and boiler-house, planing shed, offices for clerks and principals, stabling, and carriage-house; also, a dwelling-house, with private entrance, suitable for a manager. The Horns old-established and well-customered public-house, adjoining the watermen's stairs, and the Blacksmiths' Arms public-house, in Rotherhithe-street. The distance of the property by carriage road from London-bridge is about three miles, but, by the Blackwall Railway to Limehouse and the ferry boat across, it may be reached in the city in about twenty minutes. Advantageous offers have been made in fitting machinery of the most modern and approved description for sawing and planing, worked by a highly finished double cylinder steam engine of 16-inch power, by Hoy, of Hertford. The saw and planing machinery may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the mills. The arrangement of the buildings and situation of the property for the purposes intended by the present occupiers are most beneficial in every respect, or the site would also be for the erection and formation of any large manufactory requiring water and premises. The property may be conveniently sub-divided, or let in lots, at the option of the Purchaser. Printed particulars and plans may be had of the Auctioneers, 9, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

NORWOOD.—The valuable Materials and Fittings of the Central London Railway School to SELL by AUCTION, on the PREMISES, adjoining the Norwood Station, on the Croydon Railway, on MONDAY, and following day, at TEN for ELEVEN, on account of the number of lots, the excellent MATERIALS and FITTINGS of the school and dwelling-house, including bricks; prepared roofing slates; 500 squares of tiling, sound timber roofs, of various spans, 250 squares of flooring-boards, joists, and girders, numerous doors and sashes, lining boards, partitioning and wainscot, bedsteads, chests of drawers, washstands, painting and gas apparatus, and large iron pans, steam-boiler, pipes and metal cocks, fire-lining, gas fittings, kitchen ranges and stoves, the wrought iron tubular railings, and all the effects of comfort, the whole forming a most superior class of workmanlike building, the whole of which will not be available to be taken down by the purchaser before the 1st of May next, and catalogues had at the Auctioneer's, Mr. HEATH, Norwood; Messrs. Bousfield, Bread-street; and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

N.B. The FREEHOLD SITE, with CHAPEL and SCHOOL-ROOM, will BE SOLD, in MAY next, in one or more lots.

PADDINGTON.—T. ARCHITECTS, BUILDERS, and OTHERS.

MESSRS. EVERSFIELD and HORNE are instructed by the Proprietor, Mr. James Simmons, TO SELL by AUCTION, at the MARBLE FACTORY and MOULDING MILLS, Bridge-terrace, Harrow-road, on WEDNESDAY, APRIL 28, at TWELVE PRECISELY, ONE HUNDRED MARBLE CHIMNEY PIECES, set up expressly for a show-room, and the whole of the valuable steam machinery, the brilliancy of their surface is little inferior to plate glass. The stock consists principally of best statuary, Siena, and other useful chimney pieces, in the rich and stately marble; their also a large assortment of hardly varied statuary, as well as a variety of Bardilla, St. Ann's, Black, Alfred, and other deserved marbles. Also 50,000 feet of Simmonds improved Wood Moulding, tipped and plain of the newest designs, above and May be viewed two days previous; and catalogues had on the Premises, or will be sent free on application to the Auctioneers, 9, Parliament-street, Westminster, S.W., and 100, Ex-lane.

Freeholds in Bath. Wharf and Lease, Plant, and Stock of about Five Mills, near West Drayton.

MESSRS. EVERSFIELD and HORNE are instructed by the Executor TO SELL by AUCTION, at the MART, in TWO LOTS, the LEASE of a PIECE of LAND, situate on the west side of the Railway at the Grand Junction Canal, in the parish of Harlington, and near the West Drayton Station, on the Great Western Railway, with the premises erected thereon, consisting of Three Cottages, erected and completed, from September, 1855, since which time the late proprietor has improved the property by the erection of extensive Saw and Planing Mills. The portion of land not being required for the present is let as a yard-ground at a rent which nearly covers the outgoings. The necessary power has been made for working the saw and planing mills, and the incoming purchaser may take the stock now on the ground; he will also be required to take the plant and utensils, and to pay for the wood cut or sawing to the amount expended in labour. Further particulars may be had of the Auctioneers, 9, Lincoln's-inn-fields, W.C.; at the Mart; of Messrs. FUTVOYE and SAWTELL, at LIGHTFOOT, 22, John-street, Bedford-row; and of the Auctioneers, 40, Parliament-street, S.W.

Freehold Mansion and Grounds, suitable for a scholastic establishment, sanatorium, boarding house, or hotel, close to a Station on the Great Western Railway, and forty minutes' rail from town, in a healthy and healthy neighbourhood.

MESSRS. EVERSFIELD and HORNE are instructed to SELL or LET, a FREEHOLD MANSION, substantially built of the best Cowley bricks, within the last few years, and containing twenty-five bedrooms, with bath room and water-closets, on the upper floors; nine spacious, lofty rooms of large dimensions, on the first-floor; and numerous rooms on the ground-floor, including a suite of three, 70 feet in length, opening into the pleasure grounds; there are also ample domestic offices and cellarage in the basement. The grounds are planted with a profusion of choice shrubs and evergreens, and abound with shady walks and open lawns, the whole comprising about 4a. 3r. 30p. Rent for a term, 250*l.* a-year. Purchase money of freehold, 4,800*l.*; or the grounds alone will be let on a building lease for the erection of villa residences.—Further particulars may be had of Messrs. EVERSFIELD and HORNE, Auctioneers and Estate Agents, 40, Parliament-street, S.C.

SALES BY AUCTION.

POTTER'S FIELDS, ST. JOHN'S, SOUTHWARK.—Extensive Sale of BUILDING MATERIALS, comprised in two brick-built dwelling-houses granary, long ranges of warehouses and sheds, stabling, coach-building house, consisting of about 30,000 pan tiles, several tons lead in gutters and pipes, capital sound timber in long lengths and large scantling, flooring boards, doors, sashes and frames, and other fittings.

MR. PEAKE is favoured with instructions from the Freeholder, TO SELL the above Property upon the PREMISES, on WEDNESDAY, the 14th APRIL, 1858, in lots, TWELVE for ONE o'clock. Also, at the same time, will be sold, lots, the counting-house fittings, iron safe, office table and desks, 10-powerful cranes, oil cistern lined with lead, oil casks, large iron tank in street lamps, 25 hhds of pitch, tar and resin, 100 barrels of casks; excellent patent chaff-cutting machine, and numerous miscellaneous effects.—May be viewed two days previous and morning of sale; and catalogues obtained on the Premises, and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

SAW-MILLS, NEW KENT-ROAD.—To Contractors, Builders, and Others. Unreserved Sale of the extensive Stock and Implements in Trade of Messrs. Taylor and Buckley, Builders, in consequence of their Dissolution of Partnership.

MR. PEAKE is directed to SELL by AUCTION, on the PREMISES, opposite Webb's County-Arms, New Kent-road, TUESDAY and WEDNESDAY, APRIL 20 and 21, 1858, at TWELVE o'clock each day, without reserve, 8,000 Planks, Deals, and Battens, sawn and unsawn; 100 square 1-inch stuff, Boarding, Lath, and prime Timber, quantity of Stone, Scaffolding, Match Lining, Ladders, Carpenter's Benches, Ironmongery; Two Builder's Carts, Chaise Cart, Chaise, Harness, Two Horses, &c.—To be viewed the Monday and Tuesday previous and mornings of Sale; and catalogues obtained at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

N.B.—The extensive Building Premises, Machinery in Carpenter's Shop, and Saw-mills, in capital working order, to be Let, at a moderate rental.

Freehold Building Land, adapted for public and charitable Institutions, or private residences, adjoining Westbourne-park, Paddington, and surrounding the beautiful church of All Saints.

MR. ROBINS is instructed to prepare for SALE by AUCTION, unless previously disposed of by private contract, in one or more lots, about EIGHTEEN ACRES of FREEHOLD BUILDING LAND, in the almost the only open space which a large sum has been expended in laying out roads and constructing sewers for the formation of a first class district, allotted to the church; but it is presumed that this admirable locality will supply important sites for public buildings or charitable institutions, as much sight for it, moderate proximity to the west end of the metropolis, and affording the prospect of a large return for enterprise. In the meantime full particulars may be had of MR ROBINS, Piazza, Covent-garden, at whose Office a plan may be seen.

PECKHAM, close to the High-street.—Eight Freehold 8-roomed Houses, Nos. 14 to 20, Marlborough-road.

MR. ROBINS is instructed to SELL by AUCTION, at the MART, on THURSDAY, APRIL 22nd, at TWELVE, in EIGHT FREEHOLD HOUSES, four of them nearly ready for occupation, and four in carcase, being Nos. 18 to 24 Marlborough-road, close to High-street, Peckham, and leading to Peckham Park and New-cross. A most desirable, healthy situation, in the main high road to Croydon, and offering the property being freehold), with some further outlay, a most desirable investment, capable of being let to a most respectable class of tenants. Particulars of the Premises, of Messrs. BLUNT and SHADWELL, Solicitors, Austin Friars; at the Mart; and at Mr. ROBINS'S Offices, Covent-garden.

SYDENHAM.—Plot of Freehold Land, No. 29, Acacia road, opposite Myrtle-grove, close to the station.

MR. ROBINS will SELL by AUCTION, at the MART, on THURSDAY, APRIL 22, at TWELVE, a PLOT of FREEHOLD BUILDING LAND, No. 29, Acacia-road, opposite Myrtle-grove, and 118 feet deep, at present let to the Trustees of the Parish Church of England and General Freehold Land Allotment Society, and held at 17*l.* per annum. Sold by Particulars had at the Stable Hotel, Sydenham; at the Auction Mart; and at Mr. ROBINS'S Offices, Covent-garden.

The Gallery of beautiful Works in Terra-cotta, copied from the antique and from many charming specimens of modern sculpture, the whole executed by Mr. Blashfield, in a material durable as marble or stone and finished in a manner surpassing every other similar manufacture of the present day.

MESSRS. RUSHWORTH and JARVIS have received instructions for peremptory SALE by AUCTION, at the GALLERIES in PRAED-STREET, Paddington, on THURSDAY, APRIL 22, and two following days, the FIRST PORTION of the extensive and valuable STOCK of WORKS in TERRA-COTTA, the property of Mr. J. M. Blashfield. Amongst a vast variety of objects of the highest excellence will be found statues and statuettes of the Apollo Belvidere, Dancing Faun, Flora, Ceres, and other renowned works, varied high finished figures and busts of celebrated personages of antiquity, a beautiful variety of classical vases, including the Townley, Warwick Albani, Medici, Borghese, and other Greek and Roman vases, tazze, and fountains suitable for the saloon, library, terrace, conservatory, and garden; flower vases, garden seats, pedestals, timber flower vases, terminals of regular pieces, pedestals &c. in every variety of form and size, illustrating the high degree of perfection attained by Mr. Blashfield, who has succeeded in producing work worthy the approbation of every lover of the fine arts, in a material which, for strength and durability, may be unjustly called imperishable. The Gallery will be open to public view two days prior to the sale, when catalogues may be obtained of Messrs. RUSHWORTH and JARVIS, Sarville-row, Regent-street; and 19, Change-alley, Cornhill; and on the Premises.

TO BUILDERS, CARPENTERS, AND OTHERS

MR. W. HOLLINGSWORTH will SELL, at his ROOMS, 13, High Holborn, on TUESDAY next, the 13th of APRIL at TWELVE, a CAPITAL ASSORTMENT of BUILDERS' IRONMONGERY, fitted in good mahogany boxes, and comprising most articles used by the trade; also, thirty four well-made and polished mahogany four-panel doors, suitable for first-class houses; eight cabinet-maker's large range, two valuable lifting-jacks (10 and 20 tons); carpenters' benches, and other effects. On view on Monday.

Auction Mart, 13, High Holborn.

TO BUILDERS AND OTHERS.

MESSRS. PUGH will SELL by AUCTION, at the MARBLE WORKS, Lorrimore-road, Walworth, S., on MONDAY, APRIL 19th, 1858, at TWELVE o'clock, about 120 superior STATUARY, SICILIAN, and other MARBLE, and STONE CHIMNEY-PIECES in great variety, suitable to every class of house. The whole being manufactured with good Architectural design, and properly arranged for viewing. Catalogues may be had on the Premises, and particulars of Sale. Catalogues may be had at the Hall and Castle, Newman's-yard, Duke of Sutherland, Drummond-road; on the Premises, and of the Auctioneers, 6, Blackman-street, S.E.

Building Materials of Three Houses.

MR. ELLIS is directed to SELL by AUCTION, on TUESDAY, APRIL 13, at TWELVE, in lots, to take down, on the premises, the MATERIALS of Nos. 8, 9, and 10, Leander-road, Brixton, comprising 40 feet sash, 3-inch and other flooring, 2 squares of deal, 800 mitres, sash partitions, and the internal fixtures and fittings throughout. May be viewed day previous and morning of sale. Catalogues had on the Premises; and of Mr. ELLIS, Market-place, Brixton.

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The Builder

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PROVIDENT INSTITUTION of

...E BUILDERS' FOREMEN and CLERKS of WORKS.—The ...NUAL DINNER of this Institution will take place on TUESDAY, ...DAY, at the London Tavern, C. R. COCKERELL, Esq. R.A. in the ...r, supported by the following gentlemen.—

...ell, S. esq. F.S.A.
... by and Son, esqrs.
...ford, J. B. esq.
...ar, G. W. esq.
...mett, Jno. esq.
...ry, E. M. esq. A.S.A.
...ss, Wm. esq. F.S.A.
...man, V. esq.
...s, E. L. esq.
...he, J. esq.
...sey, T. esq.
...dwick and Akeroyd, esqs.
...bb, J. esq.
...ke, J. esq. F.S.A.
...on, E. N esq.
...ns and Stanbury, esqrs.
...ll, H. esq.
...son and Co. esqrs
...coage, Wm. esq.
...ewood, J. and W. esqrs.
...ler, H. esq.
...cis, Alfred, esq.
...mon, E. B esq.
...ng, H. B esq. A.S.A.
...er, Bros. esqrs.
...rin, G. esq. F.R.S.
...rth, J. esq.
...ell, Thos. esq.
...lwick, F. esq. R.A.
...wick, P. C. esq. F.S.A.
...nes C esq.
...ward, Jas. esq.
...nning, G. H esq.
...s, A. C. esq.
...und, H. C. esq.
...son, Thos. esq.
... Jno. esq.
...ngs, G esq.
...s, Owen, esq. F.S.A.
...rd, R. W. esq.

Knowles, J. T. esq. A.S.A.
Lawrence, Wm. esq. Aldm.
Lee, H esq.
Lee, W. esq
Lee, J. esq
Lewis, T. H. esq.
Lucas Bros. esqrs
Mansfield, Geo. esq.
Meakin, W. F. esq.
Moseley, W. esq.
Myers, Geo. esq.
Norris, W. esq.
Nye, Thos esq.
Page, Thos. esq.
Pennethorne, Jas. esq. F.S.A.
Penrose, F. C. esq. F.S.A.
Peto, Sir S. M. bart.
Piper, Wm esq.
Piper and Son, esqrs.
Pitknett, Geo esq.
Richardson, C. esq.
Scott, G. G. esq. F.S.A.
Scott, J S esq
Smirke, S esq. A.R.A.
Smith, Geo esq.
Stedall, R esq
Stevens, J. B. esq.
Stirling, Thos esq.
Taylor, J. esq.
Tillott, J. esq.
Trickett, John, esq.
Truggon, Wm Thos esq.
Trickett, S. esq.
Vulliamy, L. esq.
Wallis, E. and T. esqrs.
Webb, W. esq.
Wilson, J. esq.
Woodthorpe, E esq. F.S.A.
Young, Jno esq.
Young, Jno. jun. esq.

...omen desirous of supporting the chairman on this occasion ...lge by forwarding their names to—

WILLIAM ALLARD, Secretary.

...ree Tavern, St. Swithin's lane.

HORTICULTURAL SOCIETY of

...N LONDON.—EXHIBITIONS of 1858.—TICKETS may now be ...ed, personally, or by letter enclosing a remittance, at the House ...ociety, 21, Regent-street, S.W.; at the Gardens, Chiswick, W.; ...the principal Nurserymen and Seedsmen in and around the ...lis FELLOWS and the HOLDERS of IVORY TICKETS have ...dge of purchasing an unlimited number of 5s Tickets for the ...ate at Chiswick at 3s 6d each up to MAY 30 inclusive, but ...vileged Tickets can only be had at 21, Regent-street.

ARCHITECTURAL MUSEUM,

...OUTH KENSINGTON MUSEUM, W. OPEN DAILY from ...FOUR, FIVE, or SIX, according to the season; and on Mon- ...s admission (including the whole of the collections in the South ...ton Museum), Members (with orders for introducing visitors), ...Students, 10s.; Art-Workmen, 5s. Prospectuses, &c may be ...of the Attendant in the Gallery of the Museum. Subscrip- ...eived by the Treasurer, 20, Spring-gardens; and the Honorary ..., 15, Stratford-place.

GEO GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

SOUTH KENSINGTON MUSEUM.—The

...W ROOMS, containing the Collections of Ornamental Art, ...OPEN to the Public, daily.

CONTRACTS.

LAMBETH and PROVINCIAL FREEHOLD LAND SOCIETY.—To ROAD CONTRACTORS The Directors of this Society are desirous of receiving TENDERS for the COMPLETION of the ROADS on the BEULAH SPA ESTATE, in the parish of Croydon, Surrey Plans and specification may be seen at the office of the Society, 239, High-street, Borough, between the hours of TEN a.m. and FOUR p.m. The Directors do not bind themselves to accept the lowest or any Tender. Sealed Tenders are to be delivered, post-paid (marked "Tender for Roads), on or before TWELVE o'clock, a.m. TUESDAY, the 27th instant, at the Office of Mr. J SMITH, Surveyor, 38, Ely-place, Holborn, E.C.

TO BUILDERS.—SEVENOAKS UNION. The Guardians of the Poor are desirous of receiving TENDERS for ERECTING ADDITIONAL BUILDINGS to the INFIRMARY, and OTHER ALTERATIONS connected therewith, at their Union Workhouse, situate at Birchfield Wood, Sundridge, in the county of Kent, at which place the drawings, specification, and conditions may be seen, from SATURDAY, the 17th, until TUESDAY, the 27th inst. between the hours of TEN and FOUR Sealed Tenders to be sent to the Union Workhouse, endorsed "Tender for Works, Sevenoaks Union Workhouse," on or before WEDNESDAY, the 28th inst by ELEVEN o'clock a.m. after which time no Tender will be received, and the same will be taken into consideration at the weekly meeting of the Guardians, to be held on THURSDAY, the 29th inst at ELEVEN o'clock Ample security will be required for the performance of the works, and the Guardians do not bind themselves to accept the lowest or any other Tender Further information may be obtained of Messrs MASON and WHITE, Architects, 9, Great Saint Helen's, London.—By order of the Board.

GEORGE F. CARNELL, Acting Clerk.

Sevenoaks, April 9, 1858.

SWANSEA LOCAL BOARD of HEALTH. To IRONFOUNDERS.—The SWANSEA LOCAL BOARD of HEALTH are prepared to receive TENDERS for the supply of about 1,000 yards of CAST IRON PIPES and other Castings Specifications and schedules for prices may be seen on application at the Office of Mr. EDWARD COUSINS, Surveyor, Guildhall, Swansea Sealed Tenders to be delivered at the Clerk's Office, Guildhall, on or before MONDAY, the 19th APRIL next, endorsed "Tender for Supply of Iron Castings." The Local Board will not hold themselves bound to accept the lowest or any Tender.—By Order,

C. B. MANSFIELD, Clerk.

Guildhall Office, 3rd April, 1858.

TO CONTRACTORS and OTHERS.—The Town Council of Carmarthen are desirous of receiving TENDERS for the MAKING of a RESERVOIR to contain about FIVE MILLION GALLONS Specification and drawings, with form of Tender, may be seen at the Office of the Town Clerk, on and after the 12th inst. Sealed Tenders to be sent in, addressed to the Town Clerk, Carmarthen, not later than WEDNESDAY, the 21st inst.

GEORGE THOMAS, Town Clerk.

Carmarthen, April 6th, 1858.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH.—To WELL BORERS.—The Local Board are prepared to receive TENDERS for BORING, COMPLETING, and MAINTAINING an EIGHT INCH BORE-HOLE, and other works, at their works on Uxbridge-moor Particulars may be obtained on application to Mr EVES, Surveyor, Uxbridge Sealed Tenders, endorsed, "Tender for Bore-hole," are to be delivered at the Board-room, Public Rooms, Uxbridge, by SIX o'clock, in the evening of THURSDAY, the 22nd day of APRIL, 1858 The Local Board do not bind themselves to accept the lowest or any Tender

CHARLES WOODBRIDGE, Clerk.

Uxbridge, April 8, 1858.

TO BUILDERS AND OTHERS.

PERSONS desirous of CONTRACTING for the ERECTION of a small FARM-HOUSE, a DOUBLE COTTAGE, and sundry ADDITIONS to a FARM-HOMESTEAD, in the Parish of Dibden, in the county of Southampton, may see the plans and specifications at the Inman and Arms, Hythe, or at the Minster, on and after the 19th inst. Tenders to be forwarded to Messrs. DENTON and DRAKE on or before the 1st day of MAY.

TO BUILDERS, CARPENTERS, and OTHERS.—COUNTY POLICE STATION—LAMBOURN, Berks.—The Magistrates for the County of Berks are willing to receive TENDERS for the ERECTION of a POLICE STATION, at Lambourn, Berks Persons desirous of contracting for the works may see the plans, specifications, and part culars, and obtain bills of quantities, at the County Police Station, Friar-street, at my Office, Broad-street, Reading, and at the Office of Mr. BARNES, Lambourn, after THURSDAY, the 22nd inst. between the hours of TEN and FOUR Tenders, sealed and properly endorsed, to be sent under cover to the Chief Constable, Berks Constabulary, Reading, on or before SATURDAY, MAY 1st The lowest Tender will not necessarily be accepted—By order of the Magistrates,

J. B CLACY (Architect), County Surveyor

Broad-street, Reading, April 17th, 1858.

TO ROAD CONTRACTORS.—The Directors of the Birkbeck Freehold Land Society, are desirous of receiving TENDERS from persons willing to CONTRACT for the FORMATION of the ROADS and FOOTPATHS on their Estate, situate at Upper Holloway. The Directors do not bind themselves to accept the lowest or any Tender The specifications and plans to be seen at the Office any day between TWELVE and FIVE o'clock, where printed forms of Tenders may be obtained Sealed Tenders to be delivered on or before MONDAY, 3rd MAY, 1858, addressed "Tender for Roads," to FRANCIS RAVENSCROFT, Manager, 29, Southampton buildings, Chancery-lane.

TO BUILDERS and CONTRACTORS.—TENDERS WANTED for the EXCAVATION and BRICKWORK of a TANK for a GAS HOLDER, 29 feet. Drawings, &c may be seen on application to Mr CHURCH, Manager of the Gas Works, Romford, Essex. Tenders to be sent in on or before the 3rd day of MAY next. The Directors do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

CALEDONIAN RAILWAY.—To ARCHITECTS and OTHERS.—The Directors of the Caledonian Railway Company beg to offer their best thanks to the gentlemen who sent in Plans for a New Passenger Station and Offices at Buchanan street Terminus, Glasgow, in compliance with the Company's advertisement of 4th December last, and to inform them that the prizes have been awarded as follows, viz.:—The first premium to the gentleman giving the motto, "Caledonia Romana." The second to the gentleman giving the motto, "Arbroadabra:" and the third to the gentleman giving the motto, "Adsum." The unsuccessful competitors may have their plans returned to them on application to the undersigned during the course of this month (April). In the meantime, the letters containing the names of these gentlemen remain unopened.

Glasgow, April 6, 1858. ARCH. GIBSON, Secretary.

BUILDERS desirous of CONTRACTING for the ERECTION of a DWELLING-HOUSE at Hadleigh, Suffolk, for W. BACON, Esq. may see the plans and specification at the Offices of the Architect, G. E. PRITCHETT, 14, Queen square, Bloomsbury, and Bishop Stortford; as also at Mr. BACON'S, Hadleigh, from APRIL 21 to MAY 6.—For further particulars and supply of the quantities, apply to the Architect.

TO BUILDERS and CONTRACTORS.—TENDERS are required for the ERECTION, at Cambridge, of a BLOCK of ALMSHOUSES, for the Royal Albert Benevolent Society. The Plans and specification may be seen at the Offices of Mr JOHN BILLING, Architect, Cambridge, and Mr. H E KENDALL, Jun 33, Bruns wick-square, London, on and after the 21st inst between the hours of TEN and FIVE o'clock The Tenders are to be addressed to Mr THOMAS CLAYTON, Cambridge, endorsed "Tender for Almshouses," and they must be delivered in on or before TWELVE o'clock, noon, on WEDNESDAY, the 5th day of MAY ensuing The Committee do not bind themselves to accept the lowest or any Tender.

Cambridge, April 13, 1858

BRIDGEWATER ESTATE, near Great Berkhampstead. To BUILDERS.—Persons desirous of CONTRACTING for DOUBLE COTTAGES in the parishes of Little Gaddesden, Shipton, Pitstone, and Northall, also new ESTATE OFFICES and RESIDENCE HOUSE at Little Gaddesden, together with FARM-HOUSE and TWO FARMSTEADS, and other repairs, may see the plans and specifications by applying to WILLIAM PAXTON, Esq. Little Gaddesden, on and after the 22nd day of APRIL sealed Tenders, according to the form supplied, to be sent in by ELEVEN o'clock on the 5th day of MAY No pledge is given to accept the lowest or any Tender for the works.—Further particulars may be had by applying to Mr. BROWNING, Stamford, the Architect.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 11th MAY next, at TWELVE o'clock noon precisely, to SELL, by TENDER the following FREEHOLD GROUND-RENTS:—1. The Rental of 140l a year for eighty years, from Lady-day, 1856, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Chancery-lane, with the reversion to the same. 2. The Rental of 130l. a-year for eighty years from Lady-day, 1855, secured on the premises known as the Mitre Tavern, Chancery lane, with the reversion to the same 3. The Rental of 80l a-year for eighty years from Michaelmas, 1856, secured on the substantial business premises in Fetter-lane, on the east side, in the occupation of Messrs Shaw and Bold, with reversion to the same 4. The Rental of 50l a-year for seventy-nine years from Midsummer, 1853, secured on substantial business premises on the east side of Philpot-lane, in the occupation of Mr Curtis, with the reversion to the same Tenders for the same must be sent in, sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground-rents to be sold are for the remainder of the terms, as above described in each case, from and after Midsummer day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a MANSION-HOUSE and OFFICES at Sandridge, near Melksham, Wilts, may inspect the drawings and specifications daily, after MONDAY, the 12th of APRIL, at Sandridge, between the hours of NINE a.m. and SIX p.m. Security will be required for the due performance of the work The lowest or any Tender will not necessarily be accepted, and no payment will be made for estimates. Sealed and endorsed Tenders are to be delivered at Sandridge, on or before the 30th day of APRIL, 1858. Further information may be obtained on application to DAVID MACKINTOSH, Architect, Exeter.

Dated St. Sidwell's, Exeter, April 3, 1858.

TO BUILDERS.—Parties willing to TENDER for the WORKS in Proposed New National Schools at Neston, may see a copy of the plans and specification upon application at the Vicarage, Neston, or at my Office in Chester. Tenders, endorsed "Neston National Schools," to be sent in, addressed to the Rev R W GLEADOWE, the Vicarage, Neston, on or before SATURDAY, the 24th instant The Committee do not bind themselves to accept the lowest or any Tender NB Quantities can be supplied

THOS. M. PENSON, Architect, the Row, Chester.

BLACKBURN INFIRMARY.—To BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the ERECTION of an INFIRMARY at Blackburn may see the plans and specification at the Town-hall, Blackburn, on MONDAY and TUESDAY, the 19th and 20th APRIL next, between the hours of TEN and FOUR; or at the Offices of the Architects, Messrs. SMITH and TURNBULL, 47, John Dalton street, Manchester, from the 31st of MARCH to the 5th of MAY The day on which Tenders are to be sent in will be announced in future advertisement.

Town-hall Building, Blackburn J. J. KANEY, Secretary.

[For remainder of Contracts see next page

CONTRACTS.

INDUS STEAM-FLOTILLA.—To STEAM-BOAT BUILDERS and ENGINEERS.—The Directors of the [illegible] are prepared to receive TENDERS for the CONSTRUCTION and DELIVERY in INDIA, of the FIRST PORTION of their FLOTILLA for the NAVIGATION of the INDUS, [illegible] The contract [illegible] Tenders must be sent in before TWELVE o'clock on FRIDAY [illegible]. The Company do not bind themselves to accept the lowest or any Tender.
W. P. ANDREW, Chairman.
THOMAS BURNELL, Secretary.
Gresham House, Old Broad-street, London, April 14th 1858.

TO BUILDERS.—Parties desirous of TENDERING for ADDITION of a NEW FEMALE WARD at the [illegible] Asylum [illegible] Great Russell street, London. [illegible] The Committee of Visitors do not pledge themselves to accept the Lowest Tender.

TO BUILDERS and CONTRACTORS.—Parties desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS [illegible] SATURDAY, MAY 1st, by [illegible] The party [illegible] N.B. [illegible] the Lowest or any Tender.

LONDON and NORTH-WESTERN RAILWAY.—CONTRACTS for STORES. The Directors are prepared to receive TENDERS for the SUPPLY of the undermentioned STORES, viz.:—

No. of Contract.		No. of Contract.	
3	Copper	19	Lead, White and Red.
4	Canvas	19a	Lead, Ingot, Sheet, and Pipe.
5	Carpets and Rugs.	20	Iron, Yorkshire.
7	Axles	20a	Iron, Staffordshire.
8	Cans	21b	Tyre Bars.
9	Candles	21	Iron Castings.
10	Curled Hair.	22	Ironwork.
12	Colours.	23	Wheels.
12a	Drysaltery	26	Oil-cloth.
13	Coach Trimmings.	27	Steel.
15	[illegible]	28	Springs and Files.
16	[illegible]	29	Tin, Block.
16a	[illegible]	31	Varnishes.
17	Lamp Cotton.	34	Hats.
18	Leather.	35	Caps.
18a	Leather.		

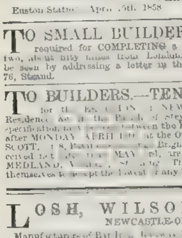
Specimens and forms of Tender may be had on and after MONDAY, APRIL [illegible], on application to the Secretary, Euston Station, London. [illegible] Tenders may be sent in before TEN o'clock on MONDAY, MAY [illegible]. By order of the Directors,
CHAS. E. STEWART, Secretary.
Euston Station, April [illegible], 1858.

TO SMALL BUILDERS. TENDERS are required for COMPLETING a SMALL HOUSE, and perhaps two, about fifty miles from London. The specification, &c. can be seen by addressing a letter in the first instance to COTTAGE, 76, Strand.

TO BUILDERS.—TENDERS are required for the [illegible] NEW SCHOOLS, with Teacher's Residence, &c. at the Parish of Steyning, Sussex. The plans and specification may be seen between the hours of TEN and FIVE, on and after MONDAY, APRIL [illegible], at the Office of the Architect, Mr. E. E. SCOTT, [illegible] Brighton. Sealed Tenders, to be received [illegible] MAY [illegible], are to be directed to the Rev. B. MEDLAND, [illegible] Steyning. The Committee do not pledge themselves to accept the lowest or any Tender.

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, [illegible] Bars, Forge and Engine Work, [illegible] Goods, and STEWART'S PATENT CAST IRON GAS and WATER PIPES. Office, [illegible] Lane, London.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished.
Architects' designs accurately executed.
MANUFACTORY, 190, HIGH HOLBORN, LONDON.

IRON WORKS for SALE.—TO BE SOLD, [illegible] the [illegible] IRON WORKS, situated at [illegible] There are thirty puddling and eleven heating furnaces; also one engine [illegible] and a good 25 horse power engine for working a good use forge, with [illegible] The advantages connected with these works are their being situated in a large coal district; also, [illegible] raw material can be delivered [illegible] to the works a mansion house, [illegible] cottages; also a first-rate [illegible] works; to Mr. JOSEPH THORNMAN, Newcastle-on-Tyne; or to Messrs. LACE, MARSHALL [illegible] Liverpool.

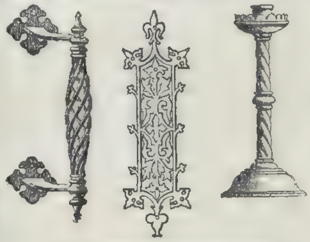
HAWKINS'S REGISTERED SASH CHAIN [illegible] inventions for hanging window sashes, of any weight, up to 4 cwt. [illegible] Chandeliers, &c. Sold by every [illegible] in the Kingdom. Manufactory, 27, Dale End, Birmingham.

CHUBB'S LOCKS, with all the recent Improvements. Strong Fire-proof Safes, Cash and Deed Boxes. Complete lists [illegible] CHUBB and SON, 57, St. Paul's Churchyard, London; 28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furniture [illegible] and the New Registered Venetian Ventilator, so much admired, &c. Send [illegible]
J. H. BOOBBYER, late STURCH and BOOBBYER, established nearly 2[illegible] years, for the supply of Goods from the best Manufactories, at the Lowest prices.—14, Stanhope street, Clare market, London.

TO ARCHITECTS AND BUILDERS.
HOBBS, ASHLEY, and CO. are now manufacturing, by the aid of their patent steam machinery, a class of MORTISE LOCKS at a moderate price, superior to any other in the market [illegible] The security [illegible] Locks, they are manufacturing every [illegible] prices.
. These Locks can be procured from any wholesale ironmonger, or from the manufacturers direct, at the usual trade terms. Price-lists forwarded per post [illegible] application.
HOBBS, ASHLEY, and CO. Wholesale and Retail Warehouse, 76, Cheapside, E.C.

HART AND SON,
IRONMONGERS AND MANUFACTURERS,
ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,
MALLEABLE IRON AND BRASS FOUNDERS,
53 to 58, WYCH-STREET, Strand, London, W.C.



Illustrated catalogues free on application.

SMALL GAS APPARATUS, FREE from NUISANCE.—BOWER'S PATENT NATIONAL COAL GAS APPARATUS, for private residences, farm buildings, churches, chapels, railway stations, workshops, &c. [illegible] economical, and durable, and may now be had in sizes, varying from fifteen to one hundred lights.—Sole Licensee, Mr. J. T. B. PORTER, Lincoln.
N.B.—Further particulars, testimonials, &c. on application.

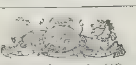
AUSTIN'S IMPERIAL
PATENT SASH and BLIND LINE can be obtained of all ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY. Established 1774.

KITCHEN RANGES.—BROWN and GREEN'S PATENT, with the late Improvements, is the best and most economical. It is a certain cure for a smoky chimney. Prospectuses post free. BROWN and GREEN, Luton, Bedfordshire. Agents, R. W. KENNARD and CO. 67, Upper Thames street.

HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER.—This apparatus forms a complete register stove, and may be fixed in the library or dining room, the same fire heating a conservatory, greenhouse, or anywhere that heat is required, without the expense of extra fuel. Also his improved VENTILATING GREENHOUSE, which can be erected at 1s. per foot.—Application at the MANUFACTORY, 18, George-street, Portman Square.

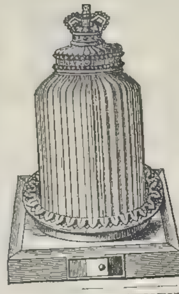
ECONOMIC COOKING-STOVE.—DEANE and CO. recommend with confidence their IMPROVED COOKING STOVE. It is cheap in first cost, simple in construction, easy of management, capable of doing a large amount of work with a comparatively small consumption of fuel, and is manufactured in sizes suitable for large or small families, hotels, [illegible], dining rooms, &c. [illegible] daily in the Stove and Fender Department of Deane and Co.'s Establishment. Engravings, with prices, forwarded free by post. Register Stoves, with Leslie's and Stephen's patented improvements.—DEANE and CO. (opening to the Monument), London bridge. Established A.D. 1700.

J. RUNCIEMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, Newcastle-on-Tyne, beg to [illegible] enabled to guarantee the efficiency of all apparatus they fix; and from [illegible] All work warranted for [illegible] years.

HEATING BY  HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS. [illegible] JOHN WEEKS and CO. can give numerous references [illegible] where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

BATHS and HOT-WATER APPARATUS.
J. TYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application. Estimates and Plans for Fixing given.
J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate-street, London.



THE LONDON WARMING and VENTILATING COMPANY, Limited,
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Manager, WM. WOODCOCK,)
undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.
Economy and effectiveness are the advantages offered.
Particulars and Testimonials forwarded on application.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to churches, schools, private residences and business premises in which it has been long in use, by applying either to their Manufactory, Roscoe place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 20, John-street, Adelphi.

WELCH'S PATENT CALORIFIC REGISTER STOVE, FOR WARMING TWO OR MORE ROOMS, AND DISPENSING WITH COLD DRAUGHTS FROM DOORS AND WINDOWS. May be seen in operation at 30, Ely place, Holborn hill.
Price of a good stove £2 0 0
Do. with handsome Chimney-piece ... 3 10 0

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.
Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure, and preventing any irregularity in the height of the flame.
D. HULETT and CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.
D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete pattern-book and price List, 10s.—Nos. 55 and 56, High Holborn.

NAILS and IRONMONGERY from BIRMINGHAM direct.
Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth and Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM; and at 16, Gresham-street, London, E.C.

IRONMONGERY.
PFEIL AND STEDALL.
THE LARGEST STOCK AT THE LOWEST PRICE,
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SKAIFE and CO. (late Skaife and Pollock), Manufacturers of PATENT GALVANIZED IRON.
Sheets, corrugated and plain; Fencing and Telegraph Wire, Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets and Tiles for export.
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PATENT GALVANIZED TINNED IRON and TILES, GALVANIZED IRON,
PLAIN or CORRUGATED, and CURVED, of all Gauges.
Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c.
All kept in Stock.
Also Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Hooping, Nails, Rivets, Pails, Bowls, Skips, &c.
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In Sheets, Tiles, Iron Roofs, Houses, Cisterns, Tanks, Iron Fences, Telegraph Wire, and Stores.
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Call attention to their **IMPROVED ENDLESS BAND-SAWS**, for Steam and Hand Power; **CIRCULAR-SAW BENCHES**, for Steam and Hand Power; **IMPROVED STEAM POWER PLANING, TONGUEING, and GROOVING MACHINE**, doing **SEVENTY FEET** per minute, and **GOOD WORK**. Also their **PATENT MORTISING, TENONING, and BORING MACHINE**, which is self feeding, and doing the three kinds of work by One Machine, and of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone.

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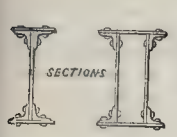

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WITH THE CHEERFUL, OPEN FIRE, PRODUCING HEALTHFUL WARMTH, WITH CONTINUOUS, SELF-ACTING VENTILATION,

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Three-eighths-inch diameter	1s. 6d. per foot.
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SOLE PATENTEE AND MANUFACTURER OF STRONG WROUGHT-IRON

FIRE-RESISTING AND THIEF-PROOF SAFES,

WITH DRILL-PREVENTIVE DOORS,

CLEVELAND SAFE WORKS, WOLVERHAMPTON.

PRICE'S IMPROVED STRONG WROUGHT-IRON DOORS AND FRAMES FOR STRONG ROOMS.

No. 130 C.

Frames, 3 to 3½ in. by ⅝ in. with half-inch rebate, strongly made with corner plates. Doors, half-inch solid boiler plate. Moulding on outside to show either four small panels or two large ones. Knob to throw four bolts at front, with four dogs at back; secured by patent, unpickable and powder-proof lock, of the best quality and construction, with two small keys, fitted with hardened drill-proof plate between the door and the lock.

Outside Measure of Frame. Height.	Width.	£	s.	d.	Fire-proof. £	s.	d.
5 ft. 9 inches, by	2 ft. 3 inches	12	0	0	15	0	0
6 ... 0 „	2 ... 6 „	15	0	0	18	0	0
6 ... 3 „	2 ... 6 „	17	0	0	20	0	0
6 ... 6 „	2 ... 6 „	19	0	0	22	0	0
6 ... 6 „	2 ... 9 „	21	0	0	24	0	0
6 ... 6 „	3 ... 0 „	24	0	0	28	0	0

Extra Strong, 130 D.

Outside Measure of Frame. Height.	Width.	£	s.	d.	Fire-proof. £	s.	d.
6 ft. 0 inches by	2 ft. 6 inches	18	0	0	22	0	0
6 ... 3 „	2 .. 9 „	22	0	0	26	0	0
6 ... 6 „	3 ... 0 „	26	0	0	30	0	0

WROUGHT IRON GATES FOR THE VENTILATION OF BANKERS' STRONG ROOMS,

Fitted with best Patent Spring Locks, one-third less than the above prices.

As the majority of the Iron Doors and Frames made are sold as *fire-proof*, whereas there is no fire-proof composition whatever in their construction, it is suggested to Architects and Builders, where really Fire-proof Doors are required, to specify that the back of the lock-chamber must be filled with patent steam-generating composition. On comparing the strength of the iron of the above Frames and Doors with those of other makers, it will be perceived that PRICE'S are about twenty-five per cent. cheaper. Doors of a less thickness than half-inch should never be used.

N.B. The Doors can be made to open inwards or outwards, to the right hand or left hand, as may be required; but will always be sent as shown in the engraving unless ordered to the contrary. Besides the hole at each corner of the frame, two other holes are made through each side of the frame to firmly secure it to the masonry with iron pins or screws.

The following Safes are constructed of strong Wrought Iron, and are made Fire-resisting on the principle of steam-generation and non-conduction, the patent for which (THOMAS MILNER'S, 1840) expired in 1854. Each Safe is fitted with an unpickable Lock of the best construction, for use in all climates, with two small Keys. The Lock is made Gunpowder-proof under the patent of GEORGE PRICE, dated the 31st January, 1855, the only true principle of construction. The Door is fitted with a hardened Drill-proof Plate over the Lock, which effectually protects the latter from the operation of the London and Manchester burglars' cutting and drilling machine, the steel drill, or other "cracksmen's" instruments. Safes constructed in this manner are sufficient for all ordinary risks, but for detached offices, or for premises upon which no one resides during the night or on the Sunday, PRICE'S Patent Case-hardened Door Safes are the only safes affording the necessary security.

B, or strong quality, have ⅝ in. Door and ½ to $\frac{7}{16}$ in. Body Plates; **C**, or extra strong quality, have ¾ in. Door and ½ in. Body Plates; **D**, or extra extra strong quality, have 1 in. Door and ½ to $\frac{7}{16}$ in. Body Plates.

SIZE (OUTSIDE MEASURE). Inches high.	Inches wide.	Inches deep.	201 **B.** £ s. d.	201 **C.** £ s. d.	201 **D.** £ s. d.	Extra for Case-hardened Doors. £ s. d.
No. 00 — 20	— 14	— 14 (One Drawer)	6 0 0	—	—	1 0 0
0 — 22	— 16	— 16 „	7 0 0	—	—	1 10 0
1 — 24	— 18	— 18 (Two Drawers)	8 0 0	10 0 0	12 0 0	2 0 0
2 — 26	— 20	— 20 „	9 0 0	11 0 0	14 0 0	2 0 0
3 — 28	— 22	— 22 „	10 10 0	12 0 0	16 0 0	2 0 0
4 — 30	— 24	— 24 „	12 0 0	14 0 0	19 0 0	2 10 0
5 — 33	— 25	— 25 „	14 10 0	17 0 0	22 0 0	3 0 0
6 — 36	— 26	— 25 „	17 0 0	20 0 0	25 0 0	3 0 0
7 — 42	— 28	— 26 „	21 0 0	25 0 0	30 0 0	4 0 0
8 — 48	— 30	— 27 „	25 0 0	30 0 0	35 0 0	5 0 0
WITH DOUBLE DOORS.			202 **B.**	202 **C.**	202 **D.**	
No. 9 — 30	— 30	— 24 (Two Drawers)	17 0 0	20 0 0	24 0 0	4 0 0
10 — 33	— 33	— 24 „	19 0 0	23 0 0	27 0 0	4 10 0
11 — 36	— 36	— 25 „	22 0 0	27 0 0	31 0 0	5 0 0
12 — 42	— 36	— 26 „	28 0 0	34 0 0	38 0 0	6 0 0
13 — 48	— 38	— 28 „	34 0 0	41 0 0	45 0 0	8 0 0
14 — 54	— 42	— 30 „	40 0 0	48 0 0	55 0 0	10 0 0

"Mr. PRICE'S mode of case-hardening the doors of safes is most important. The case-hardening of the door seems to impose an impassable barrier to the efforts of the thief, and with the keyhole so constructed that not a sufficient quantity of gunpowder can be poured into it to injure the lock, a safe, guarded on that principle, must be impregnable." — *The Engineer*, on "Safes and Safety," November 13, 1857.

PRICE'S DRILL PREVENTIVE SAFES.—Our attention has been recently called, we presume as guardians of the rights of patentees, to a not very dignified controversy that has been going on in some of the local papers, between Mr. George Price, of Wolverhampton, and Messrs. Chubb and Son, of London, on the subject of Mr. Price's claim to the use of the title "drill preventive," as applied to safes. It appears that Messrs. Chubb and Son have lately obtained a patent for a mode of fitting their safes in the neighbourhood of the locks with a number of steel studs screwed into the plate, of which the door is made, and that they have advertised these safes as having "drill preventive" doors. There is no doubt that Mr. Price was the first to case-harden the metal, of which the doors of safes are constructed, and the term "drill preventive" was first used by him, as applied to safes so made. He has also, it appears, since August last, fitted the doors of his safes with a steel plate at the back of the lock, but there being no patent for this arrangement, it is open to all safe-makers to adopt it, and we know that the plan has been adopted by more than one maker. As this plate covers considerably more than the lock itself, it is fair to presume that it gives more security than the plan adopted by Messrs. Chubb, which, as we have said, consists of steel studs screwed into the door, which of course leaves the spaces between the several studs wholly unprotected. Whether the doors be fitted with studs or a plate, however, it does not prevent them from being drilled from the outside, in those parts away from the neighbourhood of the lock, and it would doubtless be easy to drill between the studs for the purpose of getting gunpowder into the locks, which being ignited, would certainly blast the door off. It was to prevent this contingency, as well as drilling into the lock, that Mr. Price adopted the principle of case-hardening the entire surface of the door, and it is for this application of case-hardening that he obtained a patent in January, 1855. To safes thus fitted, he gave the name of "drill preventive," and this title they doubtless fully deserve. Our attention having been called to this matter we cannot, although feeling no desire to mix ourselves up with an "untradesmanlike" (?) proceeding, withhold our opinion that the title of "drill preventive" as applied to safes, should be left to be enjoyed by Mr. Price, and would suggest to Messrs. Chubb that they should register their safes as the "drill-*semi*-preventive," or "drill-*all-but*-preventive" safes, in which case the distinction would be more apparent than it is at present.—*From The Engineer*, April 2, 1858, p. 272.

ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS,
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.

ENAMELLED,

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PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

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EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

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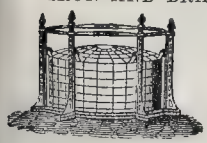

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Gas Cooking Stoves and Ranges on the most improved principles.

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Superior Rolled Brass for Engravers, Castings in Fine and Common Brass, Gun Metal, &c. at
RICHARD EVERED'S Brass and Bell Foundry and Metal Warehouses, Nos 10, 11, and 12, Charles street, Long acre, London.

CONDENSING STEAM-ENGINE and BOILER, equal to 15-horse power.—TO BE SOLD, by Private Contract, a CONDENSING STEAM BEAM ENGINE, with 18 inch cylinder, 3 feet stroke, beam 9 feet long, height to entablature 10 feet 8, fly-wheel 10 feet 4 diameter, Cornish boiler 18 feet long, 4 feet 9 diameter, tube 3 feet, steam chest and fittings. Now at work. Price 140*l*.—Apply to Messrs. FULLER and HORSEY, Bullister-street, E.C.

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HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed box; and combine the most perfect safety with the greatest economy, both in cost and use.

ANGLE LOOSE BOX FITTINGS, with guard rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.

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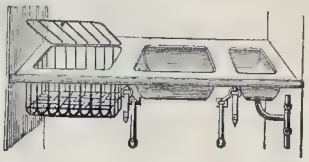
BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY RACK.



These Fittings are now made with the newly-invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all Kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage stamps.—JAMES BARTON, Iron-founder, &c 370, Oxford-street, London, W.

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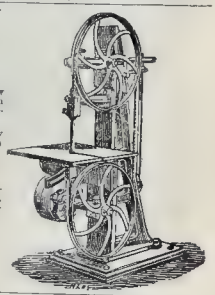

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Price of Band Saw Machine, with 24 inch pulleys and light framing, 22*l*.

A descriptive Catalogue, with Drawings, may be had on application to
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JUROR (CLASS XXVI.)

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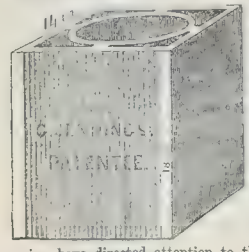

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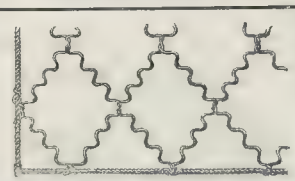

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The Builder.

Vol. XVI.—No. 793.

The Trade Museum and Technological Collection in the Crystal Palace.

SILENTLY and slowly a very large and valuable technological collection, under the heads of vegetable, mineral, and animal, has been formed in the second gallery of the central transept of the Crystal Palace, on the garden side, which deserves what it does not yet get,—the careful examination of all who desire to derive from visits to the extraordinary building at Sydenham something more than mere amusement. Dr. David Price, who has had the charge of its formation, and is still engaged upon it, has had many difficulties to contend with: the fear lest the educational character of the establishment should be swamped by endeavours on the part of the directors to attract the multitude by means most likely to effect it, without any care as to what those means were, has led many to hesitate who were about to present specimens. The public, however, are becoming a little reassured on this head, so that we may expect that Dr. Price's praiseworthy perseverance will be rewarded by many accessions to his cases. In the meanwhile, however, the collection is, as we have said, of great extent, and, in some departments, of unrivalled completeness. A proper account of it would involve essays on all the industrial arts. We must content ourselves with a glance at the contents of the cases, and such a notification of them as may serve to convey an idea of the collection, and induce our readers to examine it for themselves. A plan suspended in the gallery shows the location of the several divisions. The vegetable products come under two heads—those used in the arts and those used as food: the specimens are labelled with brief items of information, and a second plan in the gallery gives visitors the means of finding, in the flower-beds below, many of the various plants themselves in their growing state—a capital arrangement. Under the head of vegetable products used in the arts, of course we find dye woods, tanning, gums, resins, and gutta-percha in their numerous forms and applications, vegetable tallow, and some newly-imported oils and dyes. Paper-making is somewhat largely set forth, including the new cartridge and rocket cases, made without a seam by simply drawing a mould through the pulp. If the glycerined paper easily take impressions from wood engravings as good as some specimens exhibited, it deserves the attention of all engaged in the production of illustrated literature. What is called parchment paper, the result of accidentally dipping cartridge-paper in a solution of sulphuric acid, would be useful where toughness is required. In examining the papier-mâché case, the mode adopted for gilding ornaments upon the finished specimens will be seen to be very ingenious, but very wasteful of gold, unless, indeed, it is again collected. The best papier-mâché consists, as most know, of sheets of prepared paper pasted on to an iron mould, then hardened with linseed oil, and dried. Looking at the specimens of cork, many visitors will learn for the first time that it is an oak,—one bough is full of acorns. The examples of the medicinal plants exhibited have an additional interest, from the circumstance that these are for the most part supplied to us by the sect known as the Society of Shakers, in the United States. Here is one of their pattern-books, a very creditable production. Little facts get stated which ought to induce examination, that we may know the reason why. For example, the nut, *strychnos potatorum*, is called the clearing nut, being used in Madras to precipitate the impurities in water: is the way in which this operates known?

Fibres form an important class: here, of course, is seen cotton in all its shapes,—from the bursting pod to the morning dress. It would make a story to trace the history of a cotton gown: the material, perhaps picked by "Uncle Tom," fetched from the United States; the science and skill of years united to produce the machinery at Manchester by which it is manufactured; a journey to France, either to buy or steal a pattern; optical science and the engraver called in to place this upon the material, and then the result sold to Molly, the housemaid, for twopence a-yard; the manufacturer, the warehouseman, and the linen-draper all ultimately making colossal fortunes by repetitions of the transaction, to say nothing of the slaves fed, ships chartered, artizans supported, mills built, and clerks, travellers, porters, and a hundred others maintained in a decent condition, and enabled to bring up fresh families of clerks, travellers, and porters!

The violet colour seen in one of the cases is a new dye, just obtained from coal-tar, and will be extensively applied if it can be obtained in large quantities and prove permanent. That pink is obtained from *guano*, and the green from the colouring matter of grass,—chlorophyle, by Schlumberger's process.

The foreign muslins are objects for imitation: the specimen from Dacca is worth two guineas a-yard there. The fibre that has grown most into use is that of the cocoa-nut tree, the extent of the commerce in which passes belief. *Coir*, as it is termed, which is mostly obtained from the husky covering of the nuts, is in some places the established standard of barter, its value not varying. Coir cables are coming into great use. Sir W. Hooker has urged that much of the cellular matter that comes to be wasted when the fibre is extricated might be used for the manufacture of that desideratum,—paper.

Vegetables used for food are shown by models. Tea and its substitutes make an interesting case, and so does tobacco to some. One drop of the nicotine, or poisonous principle of tobacco, you see it in the little bottle there, will kill a dog; a few more, a man. Its teaching would seem to be,—don't smoke.

The mineral products have special interest for a large body of our readers. The cases devoted to the silicates show the constituents of glass and the steps in the manufacture of a wine-glass, the three little balls of glass from which are formed the bowl, the stem, and the foot. The colouring material of the piece of ruby glass is gold, which, by the way, does not produce the colour when first mixed with the glass, but has its effect when subjected to greater heat. The frosted glass, that has so agreeable an effect on the dinner-table, is produced by plunging the vessel, when hot, into cold water, which fractures the whole surface. The manufacture of sheet glass and crown glass is illustrated, and the mode of etching on glass, by which ornamental effects are obtained at small cost, is shown. The pattern is marked out on the glass plate with a varnish. The plate is dipped into hydrofluoric acid, and this acts on all the exposed surface. The varnish is then washed off by a solvent, and leaves the pattern in transparent glass. Mr. Abel's process for the preservation of wood from fire is here exemplified. It consists in treating the wood with silicate of soda and a wash of lime, and then again with the silicate.

Several plans have been patented for affording to wood some amount of protection from fire; thus Maugham's patent consists in saturating the wood with an aqueous solution of phosphate of soda and muriate or sulphate of ammonia; and in Jackson's process, the wood is impregnated with a solution of salts of zinc, and of ammonia. In other processes, the protecting material is forced into the wood by the application of considerable pressure. Mr. Abel's plan has the merits of cheapness and simplicity, and some experiments made by Colonel Sandham, and recorded in the "Professional Papers" of the corps of Royal Engineers, seem to show that silicate of soda, as applied by Mr. Abel simply as a coating, in conjunction with lime-wash, has great power in retarding the inflammability of wood. In applying it to wooden buildings the wood should be completely coated with the preparation before it is put together.

The timber and woodwork of the huts at Aldershott, we are told, are now so prepared. Had some such precaution been taken when we early pointed out the risk that was being run, and the trumpery nature of the improperly-placed buildings there, the country would have saved money.

In tracing the manufacture of salt, a reason is found for the different shape and appearance that rocks present upon the earth, when we see that salt, which, when boiled rapidly, forms small crystals, if allowed to crystallize slowly, forms large masses of a totally different aspect. Plasters and cements will be found duly set forth, aluminium and asbestos. In the case appropriated to lead may be seen something of the making of white-lead; and as this may not be understood by all our readers, we will pause a little longer here, and see what the labels say. White-lead is carbonate of lead containing hydrated oxide of lead. Analysing various samples produced by the Dutch method of manufacture, it is found to consist of,—

Oxide of lead . .	84·7	. . . 85·372
Carbonic acid . .	13·373	. . . 12·173
Combined water	1·11%	. . . 1·167

And what is this method? It may be briefly told. Refined lead is cast into small crosses, so as to expose a large surface of metal. The crosses are piled on earthen pots, about seven to each pot, containing dilute pyroligneous acid or wood vinegar. The pots are ranged upon a bed of spent tan procured from the tannery yards, and boarded closely over in brick-built chambers about 20 feet high. Upon the boards another layer of tan is placed with another set of pots and lead crosses, and so on for sixteen beds. Each bed may contain about 1,000 pots and three tons of lead. The tan undergoing decomposition emits the necessary heat to vapourize the ascetic acid, the presence of which with a humid atmosphere induces the oxidation of the metal and its combination with the acid forming basic acetate of lead. The carbonic acid, which is also evolved as a product of decay of the tan, acts upon the basic acetate of lead in such a manner as to abstract a portion only of the oxide of lead, forming with it white lead, and leaving neutral acetate of lead. The neutral acetate again takes up more oxide of lead, which is again separated as carbonate, the action going on from the surface inwards, so that the process is continuous, and theoretically requires sufficient acetic acid only to start it. From ten to twelve weeks are required for the corrosion of the crosses. When the operation is finished,

the corroded crosses are removed, ground through mill-stones, levigated, and finally dried in a hot-air stove, by being placed in unglazed dishes of porous earthenware, containing about 16 lbs. weight of white lead. The stoves contain from twenty to thirty tons of white lead, and these require one week to dry.

About 18,000 tons of white lead are annually made in England by this process, which, though the most ancient, furnishes a lead of greater opacity than that manufactured by the Clichy process by direct precipitation from solution.

The porcelain, Parian, and earthenware we must pass over: there is a collection of building stones from Scotland, and iron is very fully illustrated: the different sections of *rails* used by different companies may here be usefully consulted. The clays, and what they produce, figure in the collection; and woods have not been overlooked. We have probably said enough already, however, to justify our recommendation of Dr. Price's Technological Collection at the Crystal Palace.

MAIN DRAINAGE OF THE METROPOLIS.

THE REPORT OF MESSRS. BIDDER, HAWKSLEY, AND BAZALGETTE.

A LATE distinguished man and university professor of modern history—asked why he of all qualified persons had never attempted the history of England—replied to the effect that he held back from the very knowledge that he had, of the existence of documents and authorities which it would absorb his whole life-time to read through, as preparatory labour. We are tending to a like view of a very different subject. The literature of metropolitan drainage grows and accumulates too rapidly for the proper digestion of it in the time allowed by the pressure itself, of the question of public health; and when we have gone through all that has been said on the matter that may seem applicable to London, chances are that the condition of other populous districts—such as we have lately noticed—will not have received that equal and collateral attention which is necessary to the settlement of a principle—a "logical solution" of the difficulty—applicable universally, or modifiable by local conditions in details exceptional but defined. Such a principle fixed upon, will offer the only permanent mode of relief for London: all schemes yet suggested, leave us still too much under apprehension of having to commence work again, under fresh exigencies, within some small number of years.

When we took up the ponderous volume that came from the hands of Captain Galton and Messrs. Simpson and Blackwell, we broadly hinted at regret that the Referees had been induced to hurry their report—more with regard to the time of closing a session of Parliament, than to the due use of their *data*, and the formation of matured opinions. Every subsequent incident of the controversy between the Metropolitan Board and the Government Office of Works has corroborated that idea; whilst independent statements published, and opinions expressed, during the interval, have introduced new elements into the question deserving to be listened to, or refuted, and affecting the first principles of action—even those sought to be established by the main clauses of the Act of Parliament. We recognise, indeed, progress towards truth; but, if the horizon is cleared, some cherished doctrines have been shaken in a manner which we only hope will introduce no bitterness into the discussion. We have all much to unlearn, whether taking a popular or a professional view of the subject of sewerage.

The scheme of the Government Referees has been amended and re-amended, and modified in the most important features of the proposed outfall channels, at various dates. Drs. Barnes and Odling, and others, and now Dr. Letheby, have put forward statements which are of the utmost importance, both in corroboration of and in deduction from the conclusions of Dr. Hofmann and Mr. Witt and others, on which those of the Referees were to great extent grounded. Some of these views relate to the actual state of the Thames, and the operation of the water upon the sewage, and others refer to the results of the lime process for deodorizing. Also during the interval, subsequent to the Referees' report, has appeared Mr. Gurney's report to the First Commissioner of Works on the state of the Thames in the neighbourhood of the Houses of Parliament, in which again many current views as to the condition of the sewage in the river are inquired into. Mr. Haywood has reported in favour of the discharge of the whole of the outlets of the city sewers by culverts below the low-water line,—though probably regarding the measure only as a temporary one; whilst the Metropolitan Board, on the motion of Mr. Cubitt, and under the advice of Mr. Bazalgette, have decided upon certain works of the same character. We need only remind our readers that it has been urged that the ejection of the sewage by numerous small outlets into the river, would entail less evil than the collection of it into large intercepting sewers,—as to which we have ourselves dwelt upon the necessity of attention to the ventilation, as a prominent branch of the whole question, in the event of decision in favour of such sewers,—whilst, even, it has been advanced that with the extension of the outlets, along with certain measures otherwise required for the improvement of the river, no other works, such as those of the proposed arterial drainage, would be wanted. The Referees, however, may be considered to have settled the necessity of intercepting sewers, unless the low-level districts are proposed to be cleared of habitations. Mr. Haywood has now presented to the City Commissioners, a long and able report upon the question of ventilation, wherein he treats the demand for the complete removal of exhalations as imperative, and recommends that efforts should be made through the agency of furnaces and chimney-shafts, as offering the best chance of success.

We have now before us the latest addition to this body of facts and arguments, in the "Report to the Metropolitan Board of Works, upon the Main Drainage of the Metropolis, presented by Messrs. Bidder, Hawksley, and Bazalgette, in accordance with a Resolution of the Board, dated 23rd November, 1857," and which was laid before the Board last week. The documents are hardly yet complete, and certain maps and tables of gaugings, with some additions to the Appendix relative to the cost of deodorisation and other matters, are wanting in the early copy with which we have been favoured. We shall be able to understand, however, the precise nature of the views and conclusions that are embodied.

The Report and Appendix extend to over 130 pages; and they are to be illustrated by seven maps and diagrams. The first map will show the "Area of the Metropolis, as fixed by Act of Parliament, = 117 square miles;" and the "Additional area for which provision is proposed to be made by the Government Referees = 236¼ square miles;" and the second, the variations in "the three designs" of the Government Referees, in respect of route of their outfall sewers. The third and fourth plates will give the longitudinal sections of the same sewers according to the "three designs;" the fifth illustration will have "Sections of River Thames and Higham Creek, at outlet of Government Referees' Outfall Sewer;" the sixth, "Diagrams, showing the variations in the the designs supplied, in respect of level, size, and form;" and the seventh plate, a "Diagram, purporting to show the results of experiments made with floats in the River Thames, above and below Barking Creek," and which last will exemplify the extent of certain errors alleged in the present Report, in the results, as shown in the diagram of the Referees, where the mere change in the direction of the floats is assumed as identical with the reach of the tide, so as to involve, as we understand the statement, errors of sometimes as much as seven miles in a single tide.

The present Report (dated April 6th), after some preliminary observations and a succinct view of the "Recent History" of the London Main Drainage question, enters into an "Examination of the Report of the Government Referees upon the Outfall Sewers," the bulk thereof being divided into heads of "The Outfall Sewers," and "The Reservoirs," each of which subjects again is treated of as according to each of the "three plans" of the Referees. The general estimates are also considered. The other sections of the Report comprise the heads,—"General Observations upon the Sewage and Rainfall;" "Area to be drained;" "Condition of the River;" "Internal Drainage;" "Outfalls proposed by us;" "Expense of other Outfalls,"—*i. e.* "1. To the points called B*," and "2. To points of outfall midway in Searcach;" and, lastly, "Conclusions." In the Appendix, amongst other matter, we find a report by Mr. John Oakley, land-agent and valuer, as to the property affected by the outfall sewers, and the compensation for it; a report by Dr. Letheby, "On Chemical and Sanitary Inquiries" &c. to which are added analyses of the Thames water at Greenwich at high and low tides, by Dr. Odling, with his opinions; and a "Table of the Amounts of dissolved and suspended Matters, and of combined Sulphuric Acid in Thames Water at different Parts of its Course," &c.; with particulars and opinions as to the effect of the Thames on the health of persons likely to be affected by emanations from it; a table showing the composition of the water in the docks, and sundry tables referring to the composition of the sewage, as well as to the effects of the lime process of treatment; and "check estimates" of the cost of the Referees' outfalls.

At the outset, the Reporters assume the adoption of a system of main intercepting drainage, as "already determined upon," and that the Metropolitan Board has decided, "upon principles of which no one can doubt the correctness," that such drainage, "shall, as far as practicable, be carried out by lines of arterial sewers, running parallel with the river Thames, on both sides of the river." They, therefore, regard themselves as "not now called upon to consider the merits of the many ingenious inventions and plausible proposals that have at various times been submitted to the public." It should be recollected, however, that such schemes occupied no small space in last year's "blue book." The points remaining to be settled, they say, are,—the area to be drained; the amount of sewage and rainfall to be provided for; the dimensions of the sewers; the points of outfall, and the modes of reaching them; and the possibility of purifying and improving the river.

The short review of the history of the question, traces it from the consolidation in 1847 of the eight districts, down through the leading incidents of the reign of the six commissions which succeeded, one after another, up to January, 1856, when the Local Management Act came into operation, and thenceforward continues it; and had we space to give the story, supplying the omissions of the present account, we should now probably surprise even those who heard particulars as the events transpired. It might then be seen both, how much must have been "unlearned" to allow of the present prospect in the question, taking it as presented to the public; and, on the other hand, what must have been the injustice of the clamour under which one commission at least succumbed, merely from asserting in effect that with the volume of the Thames, the sewage, if once placed there, must be so far diluted as to render injurious consequences from that source at least, extremely doubtful. We are not, indeed, just now stating our own opinion; but we advert to the circumstance that with the view taken by the commission, one expressed in the Report before us, to which we shall further allude, appears to be accordant; whilst we find a good and independent authority, Mr. Gurney, (of whose Report it is curious to see no use made in the present Report,) stating that, if certain measures which he recommends, and which, it seems to us, are not very dissimilar to those advised by others, were carried out, "a question would probably arise as to whether any drainage of London, beyond the natural outcast power of the river, would ever be required." If this be so, and if the ground taken in the Report before us, in several main points be correct, what becomes of the chief difficulty and cause of delay, the *entire* removal of the sewage from the river? We long since argued that if the Referees were correct in their reasons for taking in so large an area, the same reasons would require them to go much further, and to intercept sewage from the Thames and its tributaries in every part of the course. But we are anticipating the Report. This document, as already stated, assumes the principle of interception; and, in the main, it is a report in favour of the scheme of the engineer of the Board of Works. But its incidental matter is as important as its "conclusions."

Thus, it appears to prove the paramount importance of the Thames embankment, to the removal of the sewage and the purification of the river. It treats the mud banks as the cause of the offensiveness of the Thames. Their influence had been noted by the Referees, but hardly placed in the first light, though Dr. Hofmann and Mr. Witt had spoken of the *mud* deposit as "*by far the most serious evil* which results from the discharge of the London sewage into the Thames." It dwells upon the fact of the purifying process which is constantly going forward in streams, and without which, the Thames, having received the sewage of towns in the upper part of its course, could not be so pure as we find it—say at Hampton—or pure as it even is after having received the sewage of Kingston and Richmond. It is argued, as often heretofore, that it is impossible that the Thames could be made at all times "a perfectly pellucid stream by the diversion of the drainage;" that within the metropolis, "the Thames never could have been a 'silvery' stream;" and that "if every particle of sewage were removed," "the Thames, as it now exists, with its rapid tide and its enor-

mous traffic, must still remain a muddy water;" and further on, the report speaks of "the production of a clear or sensibly purified stream, in and near the metropolis," as "a hopeless task," unless some powerful ruler should in a future age determine to "improve the appearance of the river at the expense of its commerce, by damming back the tide at Greenwich or Woolwich." Even this latter measure has been advocated by some parties, as our readers may know.

The mischief of the sewage after emission from the sewers, arises from the banks, where it is deposited, and will be, to a certain extent, retained, so long as they exist,—especially, of course, when the stream is low, as in hot weather. River water is an agent of purification. There is an exception to this, however, in the case of the Thames and tidal rivers generally, and which, amongst few points in this complicated subject that we can take credit for having recognised, we do happen to have made prominent. We refer to the effect of sea-water. The Reporters say,—

"In the course of the investigations we have had occasion to make of this subject, we have been brought to the conclusion that many impurities in tidal rivers proceed not from the admixture of sewage with the river waters, but from the admixture of sea-water with land-water. The inhabitants of London are generally impressed with the opinion that the waters of the sea do not ascend within the limits of the Metropolis; and the fact would be established if experiments with solid floats were found to represent the paths taken by the particles of a fluid. This, however, is not the case. The tables we publish in our Appendix from the medical officers of the *Dreadnought* hospital ship, exhibiting the results of analyses made without any reference to our inquiries, confirmed as they are by the investigations of Dr. Letheby, most distinctly prove—

First.—That the matters held in suspension by, and dissolved in, the river waters exist in the greatest proportion at high water—that is to say, when the intermixture of sea-water over the land-water is the greatest. They are then nearly four times as abundant as at low water when the tide is returning loaded with all the mechanical and chemical impurities discharged from the sewers of London.

Second.—That, irrespective of temperature, at periods after heavy rains, when the river is most largely charged with land-waters combined with waters from the sewers, the proportion of impurity is much diminished."

On the grounds, then, afforded by their own experience, and confirmed by the experiments of Dr. Letheby and Dr. Odling,—not only "that it is extremely undesirable, in a sanitary point of view, to cause sewage matter to become intermixed with sea-water, and especially under circumstances which will occasion it to be brought up the river by the flood tide," but also that "if the sewage matter were poured into a much larger volume of fresh or freshened water in a flowing stream, it would become immediately oxygenized, and cease to exist as a noisome and offensive agent,"—the Reporters have come to "a clear and decided opinion that the remote outfalls proposed by the Referees are unnecessary for effecting the objects of the 135th section of the Metropolis Local Management Act." They say in another place,—"We are, indeed, of opinion that if the local circumstances favoured such an arrangement, it would be preferable to place the outfalls within the Metropolitan boundary rather than without it," &c. They have therefore,—

* * * * "unhesitatingly selected for recommendation, as points of outfall, places situated in approachable situations as near as possible to the metropolitan boundary, and as far as possible from human habitations—Barking Creek on the north side, and Crossness Point on the south side, fulfil all the favourable conditions that are attainable on either side of the river. Both are situated in low and dreary marshes, where neither the works nor the sewage can give reasonable cause of offence to any one. Barking Creek is two miles from Woolwich, and four miles from Erith. Crossness Point is midway between the two places, and three miles from each. The mean sectional area of the river at these places is *four times as great as at London Bridge*, and the average volume of tidal water *about four hundred times as much as the volume of the sewage water to be admitted into it*. The river is fresh, or nearly so, at low water, and only moderately mixed with salts of marine origin at high water,—more so, it is true, than we could wish; but much less so than at any point lower down the river.

These now suggested points of outfall contrast favourably with the outfalls which have recently been much under discussion, and are popularly known as B* (B star). The B* outfall on the north is situated at the mouth of Rainham Creek, and on the south at a point of the river about a mile above the town of Erith."

These last points of outfall they understand were recommended to the First Commissioner of Works on conclusions from the experiments with floats, which they think erroneous,—whilst they observe that "any views that are not based upon a knowledge of the deodorising effects of air and water upon sewage, must necessarily be empirical."

Referring to several specified rivers, as "the river Soar, which quitted Leicester of inky blackness, and yet became beautifully pellucid, and full of fish and vegetation, before its arrival at Loughborough," they say,—

* * * "in all these instances, we have remarked, with wonder, the rapidity of the oxydizing process by which nature causes the disgusting feculæ of towns to become resolved into pure and inoffensive substances."

As to the mud-banks, they say,—

"Much of the mischief would no doubt be removed by the construction of sewers of interception; but this operation would not be sufficient for its entire suppression."

Whilst they—

* * * * "believe that the only certain remedy for the inconveniences thus referred to will be found, conjointly with the construction of the sewers of interception, in the construction of an embankment on either side of the river, extending ultimately from London-bridge to Chelsea reach, and of such ample breadth as shall confine the tidal waters within a channel of sufficient depth to insure the covering of the bottom even at low-water of greatest springs. We are quite sure that if the river were properly trained between vertical walls, the deposition of mud would become nearly impossible, and the scour would become so great as in a short time to establish a new depth, and a new and improved régime in the navigable channel. It would be foreign to our present duties to do more than to add, that we believe the advantages which would result from the construction of a Thames embankment would not be confined to the improvement of the sanitary condition of the river, but that, on the contrary, it would give relief to the over-crowded thoroughfares, improve the commercial value of the river frontages, afford desirable opportunities for the quiet recreation of the people on Sundays and holidays, and contribute greatly to the architectural embellishment of the metropolis."

They propose to discharge the sewage during the first three hours of ebb-tide,—though, were it not for "the possibility of reasonable objection" from "parties locally interested," they are convinced the sewage might be safely emitted at all periods. The reservoirs are proposed to be so constructed as to allow of the application of the lime process of precipitation. Of this they speak far more favourably than did the Referees. Dr. Letheby says,—

"I do not regard the process as one that completely fulfils the demand of science, or that will ever become a profitable source of speculation; but as a cheap and efficacious means of separating the insoluble matter of sewage it is certainly the best with which I am acquainted.

Judging from the experiments which I have made, and the observations of practice on a large scale, it is ascertained that about twelve grains of lime to a gallon of sewage will effect the speedy separation of all the suspended matters, and also of about one-fourth of the dissolved organic matter, leaving a clear liquor which has lost a great part of its offensive odour; and when the clear liquor is mixed with from five to seven times its bulk of water, and is exposed to the air, it is no longer offensive. This I have demonstrated by experiment, and my results are entirely at variance with the hypothetical conclusions of the Government referees."

And—

"I do not at all agree with the opinion expressed by Dr. Hofmann and Mr. Witt, in the concluding paragraph of their report, namely, that the clear water from the sewage deposit might give rise to the most offensive and dangerous effluvia, and might seriously affect the river; and that the erection of works in the immediate neighbourhood of the metropolis for the deodorization of the London sewage, might prove very prejudicial to the health and comfort of the inhabitants of London; for, apart from the fact that these opinions are altogether unsupported by any acquaintance with pathology, or hygiene, but are merely based upon abstract chemical hypothesis, there is the positive and incontrovertible fact, that such works have been established for years, not only without the least prejudice to health, but with the greatest advantage to the public—and so, again, as I have already shown, the clear water which runs from the sewage deposit has *not* been found to have an injurious influence upon the streams into which it flows, or to be a source of offensive or dangerous effluvia."

With this view Dr. Odling agrees; but it should be well looked into, seeing that it goes beyond the Report of Mr. Austin on the branch of the subject in question. We can only quote further from Dr. Letheby's Report, the following, on an interesting point before dwelt upon:—

"Now experience has shown that whenever putrefying organic matter comes into contact with soluble sulphates, it decomposes them, and causes the evolution of sulphuretted hydrogen. 'In hot climates, as on the coast of Africa, where the water of the rivers, highly charged with organic matter, mixes with the sea-water which contains sulphuric acid, the same decomposition takes place—extending sometimes to a distance of twenty-seven miles from the mouths of the rivers' (Gmelin); and, according to Dr. Daniell, the miasm which is thus produced is the cause of the malignant fevers which are common to the African coast. The same miasm is produced even upon our own coast when sea-water mixes with fresh water charged with putrefying organic matter; and this will account for the almost intolerable nuisance which is experienced wherever the sewers of a town discharge themselves into the sea."

The Report of Messrs. Bidder, Hawksley, and Bazalgette, winds up with the following—

CONCLUSIONS.

First, as to the Condition of the River.

That the causes of the apparent impurity of the river have been greatly exaggerated, and much misunderstood; we find—

1. That the mechanical discolouration of the water is not due to the presence of sewage matter, but chiefly to the presence of inorganic substances, brought down by land floods, or washed up and kept in motion by the tide.

2. That the chemical condition of the flowing water is not sensibly altered by the admission of sewage, because the organic matters become rapidly decomposed and disinfected by the action of the oxygen contained in the water through which they are diffused.

3. That mud containing much organic matter, derived in great measure from the sewage discharged above low-water mark, is deposited on the foreshores of the river, and there putrefies.

4. That the condition of the flowing water of the river is not injurious to health; but—

5. That the condition of the stagnant mud is injurious to health.

6. That the offensive matters deposited with the inorganic mud are principally derived from the metropolitan sewers, and not, to an appreciable extent, from any more distant sources.

7. That the discharge into the river of comparatively small quantities of sewage matter from areas difficult to drain to any common outfall, may be continued *by outlets extended to low water*, without any sensible injury to the appearance of the river or its banks, or any detriment to the health of the inhabitants of the metropolis.

8. That the proper remedies for the evils arising from the present state of the river are two:—

1st. The interception of the greater part of the sewage of the metropolis above the present outlets, and its removal to, and discharge at, parts of the river below London, where its presence will be harmless.

2nd. The construction of terrace embankments on both sides of the Thames to confine the tidal channel, accelerate the stream, and prevent the exposure of the bed and banks of the river.

Secondly, as to the Scheme submitted by the Government Referees.

That the plan recommended by the Referees is needlessly large, excessively costly, and, as a work of construction, all but impracticable; we consider it especially objectionable in the following particulars:—

1. Because the amount of rain-flow proposed to be carried off (two-fifths of an inch in eight hours, or six-fifths of an inch in twenty-four hours), is much greater than is requisite for the *reasonable* purification of the river.

2. Because the internal sewers necessary for the reception of the above amount of rain-flow would be extremely difficult to construct under the streets and buildings of the metropolis, and would entail much loss and inconvenience to the inhabitants.

3. Because, although the peculiar arrangements of the Referees have been professedly made with a view to insure the dilution of the sewage to the extent of six times its maximum flow, yet that many of the most populous parts of the metropolis in which the largest amount of dilution is necessary, are proposed to be provided for to only a much smaller extent.

4. Because, with the object of increasing the extent of the gravitating area, the Referees have adopted lower levels and smaller inclinations than are in practice found to be advantageous.

5. Because no means are suggested for obtaining the stated amount of dilution *within* the metropolis (but only *without* the metropolis), although rainfalls of the amount necessary for cleansing the enlarged sewers will occur only at distant intervals.

6. Because the outfall channels are of enormous size, and would be extremely difficult and expensive to construct in the stated situations, and at the stated levels.

7. Because the outfall channels commence at 3 feet and 4 feet respectively below *low-water* mark, and discharge at 15 feet and 16 feet respectively below *low-water* mark, and consequently cannot be drained off.

8. Because these drowned channels and their open outfalls will accumulate deposits which it will be extremely difficult, and very expensive, to remove.

9. Because the water to be applied for the dilution of the outfall channels will re-act on the internal drainage, and put it back to its own level.

10. Because the cost of the proposed works will, upon any one of the three plans, very greatly exceed the amount at which they are estimated by the Referees, the probable cost of the smallest project being upwards of 9,000,000*l.*

Thirdly, as to the Scheme of the Metropolitan Board.

That the plan already adopted by the Board, with the modifications hereafter mentioned, is adequate to the satisfactory drainage of the metropolis, and the reasonable purification of the river and its banks, and is also capable of effecting the following improvements, and of affording the following facilities:—

1. The removal of the maximum sewage water of three and a half millions of people.

2. The removal, in six hours of maximum sewage-flow, of a rain-flow equivalent to one-fourth of an inch per diem (produced by a rainfall of four-tenths of an inch per diem) from the area to become hereafter occupied by the above amount of population.

3. The relief of the low-lying districts from the effects of ordinary floods and tide-locking.

4. That the delivery of the sewage and rainflow at points on the river where they will not be injurious to the health of the inhabitants of London, or of the population residing on the banks of the Thames, or be prejudicial to navigation.

5. The substitution of covered sewers for several of the existing open sewers.

6. The construction of the works at a reasonable cost (2,300,000*l.*), and in a reasonable period of time (five years).

7. Facilities for treating the sewage with lime or other chemical agents, with a view to its defecation before admission into the river, or to the realisation of its fertilizing contents, if such should ever become commercially valuable.

8. Facilities for discharging the sewage at any (the most desirable) period of the tide, and for securing its transmission in an innocuous condition to the sea.

Fourthly.—The modifications we recommend for more perfectly effecting the foregoing and other objects, are chiefly the following:—

1. That the Northern Outfall Channel shall discharge at Barking Creek, in preference to any lower part of the river.

2. That the Southern Outfall Channel shall, for the purpose of more completely complying with the intentions of the Metropolis Local Management Act, and without, at the same time, giving just cause of offence to the inhabitants of Woolwich and Erith, discharge into the river near Crossness Point; although, in our opinion, a situation equally eligible in every practical point of view, presents itself in Greenwich marshes, near the terminus of the branch line of the North Kent Railway.

3. That covered reservoirs of moderate size be formed near each outlet, for the reception of the sewage water, until it shall be discharged during the first hours of the descending tide, or to enable it to be defecated by lime or other chemical agent.

4. That the northern outfall sewer be constructed in brickwork rather than in iron, as designed by your engineer, and that a carriage road of 40 feet in width be formed over it.

5. That the dimensions of the southern outfall sewer be somewhat increased in size, for the purpose of adding about 4,000 feet per minute to its capability of discharge.

6. That the outfalls of the few outlying sewers which cannot be reasonably brought within the major scheme, be advanced into the river, so as to discharge below low-water mark.

And finally, we beg to express our earnest conviction that, as regards the north side, the middle and high level sewers should be first proceeded with, not only for the more speedy relief of the low-lying districts from floods, but also to afford time for a determination to be come to with respect to the suggested formation of a Thames embankment in connection with the construction of the northern low level sewer."

We have not noticed one or two matters which would call for further consideration. But, the Report deserves to be commended to attentive perusal; and, with that expected from the Sewage Commission, said to be at press, may remove some erroneous views, and will help to the settlement of the subject.

CONGRESS OF DELEGATES OF LEARNED SOCIETIES AT PARIS.

This meeting, held annually at Paris under the direction of the Institute of the French Provinces, assembled on the 5th instant at the Palais de la Société d'Encouragement.

Mons. de Caumont, the president, opened the proceedings. In the course of his address he gave a *résumé* of the various provincial meetings of the Institute, known as *Assises Scientifiques*, and alluding to the extension of its beneficial influences, stated that meetings were already organized to be held in twelve towns during the present year.

A peculiar feature in this Institute is that it includes within the circle of its operations the different branches of physical and natural science, agriculture, history, archæology, and the fine arts; allusion to which was thus made in a letter from the great Humboldt, one of the members, read by the president to the meeting:—"You were inspired, my dear *confrère*, with a patriotic and a felicitous idea, when you laid the foundation of this noble institution, comprehending, as it does, in a single grasp, so many elements scattered over the varied surface of France."

A subject which occupied largely the attention of the congress was the architectual and archæological, or, more strictly speaking, epigraphic remains in France; their importance as historical evidences; the necessity for their preservation; the mode by which that preservation shall best be effected; and the question as to whether it ought to be carried out by the Government or be left to the care of learned societies and individual enterprise.

Out of seven questions set down in the programme of the congress, coming under the head of Archæology, History, and the Fine Arts, four bear directly upon this point.

But we shall not enter upon them now, as we propose in our next number to give some details respecting such portions of the transactions of the congress, which only terminated its sittings on Thursday last, as are likely to be acceptable to our readers. We shall conclude the present brief notice with an account of a discovery lately made at Bayeux, which, independently of its importance in an archæological point of view, cannot fail to possess a certain historical interest for Englishmen.

Mons. le Vicomte de Cussy drew the attention of the congress to the discovery, within the last three months, of two ancient capitals in the cathedral of Bayeux. It is known that the original cathedral, of which the crypt alone remains, was built by Odo, bishop of Bayeux, brother to William the Conqueror, and was consecrated in the presence of that king and his wife Matilda in 1077.

These fine fragments had been used as ordinary materials at the time of the restoration of this cathedral at a subsequent period, and were brought to light within the period named during the removal of the walls supporting the cupola.

The capitals are thus described. They are of Caen stone, with the ground painted red. Upon one a divine personage, richly clothed, is seated in the centre, surmounted by a double glory. His right arm is raised, with the hand extended, and the palm presented. On his right thigh he supports a child unclothed, and distinguished by no particular characteristics; while in his left hand he seems to hold the little spirit, which he presses to his breast. On the right are figures of seraphim.

Upon the other capital the same divine personage is represented standing, the right arm extended, with the hand as in the first. The left arm is mutilated. The attitude is that of the Redeemer, as exhibited on many monuments in the north of France. On the right is St. Paul, holding in his left hand a sword, of which the hilt alone remains. He wears an ample cloak, which drapes his right arm. On the left is St. Peter, who occupies (according to modern ideas on the subject), but a secondary place. The keys, cut through, are of remarkable proportions. With his right hand he points to his Master.

M. de Cussy is of opinion that the sculptor has here represented the spirit of the Saviour received by the Heavenly Father, at the moment of His expiration on the cross, and believes the execution to be contemporaneous with a very similar work in Westphalia, long considered to be of the Carlovingian era, but to which Massman has affixed the exact date of 1119, or forty-two years after the consecration of the cathedral of Bayeux.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

PRESENTATION OF MEDALS.

On Monday, the 12th inst. a meeting of the members was held in the rooms in Grosvenor-street, the Right Hon. Earl de Grey, president, in the chair.

On the name of Dr. Petrie, of Dublin, being proposed as hon. member, –

Mr. Digby Wyatt said the name of Dr. Petrie would be familiar to the members of the Institute in connection with his celebrated work on Irish Antiquities, his illustrations of the Round Towers of Ireland, and his profound knowledge of the archæology of that country. He would also take that opportunity of calling the attention of the Institute to the great loss the Institute, and, indeed, all England, had sustained in the death of Mr. Herbert Minton, one of their hon. members. It would be superfluous to dwell upon his merits as the first English art manufacturer to whom we were indebted for a vast advance in ceramic manufacture, and for bringing that beautiful art to bear on the labours and profession of the architect. His revived manufacture of encaustic tiles; his general improvement in porcelain; the application to lithography, so as to supersede the hard lines that formerly existed in china, together with the distinction he attained at the Great Exhibition in 1851 and more recently in Paris, were all alike most honourable to himself and to the English nation, as tending to show how our manufacturers, unassisted by Government aid, could fairly compete in all the ordinary supplies of common wants with the more distinctly protected establishments of foreign countries.

Mr. C. C. Nelson, hon. secretary, announced the receipt, amongst divers other donations, of photographs of some drawings of buildings at Bhurtpore, by the East-India Company; and of a series of twelve plates from Mr. Gailing, Fellow, of Ancient Rome, published in 1561 and 1773.

Professor Donaldson observed that these representations of Rome were published when the study of antiquities was at its height, and were founded on ancient medals and authors.

Mr. Nelson regretted to announce the decease of Dr. Lang, one of their honorary fellows, and called attention to some carvings in wood sent by Mr. Rogers.——Mr. Wyatt presented a lithographic portrait of the president, Earl de Grey. ——Thanks having been given to the various donors, the Honorary Secretary said that the deputation from the Institute had waited on Lord John Manners, her Majesty's first commissioner of works and public buildings, and on General Peel, and brought before them the memorial that had been adopted at the last meeting. Lord John Manners and General Peel gave the greatest attention to the memorial and to the representations of the speakers, promising that every attention should be given to the subject, and hopes were held out of a more satisfactory result than had hitherto attended the subject.

The noble chairman said it now became his pleasing duty to proceed with the presentation of the prizes awarded by the Council of the Institute. The first name was that of Mr. Blake, to whom a silver medal and five guineas had been awarded for his illustrative description of Kilconnel Castle, Ireland. He (the noble lord) had not had an opportunity of seeing Mr. Blake's production, but felt quite confident in the propriety of the award made by the Council; and he felt all the greater gratification in giving the medal, from being reminded of the fact that this was not the first occasion on which Mr. Blake had received a prize from the Institute. It often so happened that a man might obtain a minor prize in his profession, and when first starting in life, with which his aspiring spirit did not rest contented. He was honestly and honourably dissatisfied with it, and this induced him to make a further, and yet more successful effort, which resulted, as in the present case, in the presentation of a second prize, which had on this occasion been awarded by the Institute with great impartiality and good will to a gentleman in their own profession from Ireland, who had no direct connection with the Institute, showing that no personal feeling or partiality actuated the Council in their award; and he (the chairman) only hoped that, once in every year, he should have the pleasure of distributing prizes on a similar principle among the various aspirants to fame, favour, and future prosperity in the profession. Mr. Blake had rendered a valuable service to the architectural antiquities of Ireland, and he trusted that he would long successfully pursue the cultivation of the profession and architectural peculiarities of his native country.

Mr. Blake having received the prize amid applause,

The noble lord again rose for the purpose of presenting to Mr. D. Paton Low, the Soane medallion, for his design of a marine sanitarium, and congratulated that gentleman (who, owing to inattention to a particular point, did not receive a prize on a previous occasion), on its acquisition on the present.

Mr. Low acknowledged the gift, and said it would, he hoped, be a stepping-stone to greater endeavours, and yet higher honours.

A medal of merit was also presented to Mr. Fuller, and one to Mr. Kempson (who was not present), for the second and third best designs for a similar sanitarium.

His lordship then said that the next prize, that of the Royal gold medal, given by her Majesty, was one he always felt the greatest pride and pleasure in presenting. He did not know whether there were other institutions of a kindred character that participated in similar proofs of her Majesty's kindness, and recognition of the objects the Institute had in view; but her Majesty and the Prince Consort had always shown the greatest readiness, willingness, and kindness in promoting the objects of their honourable and privileged Institute. The honour of conferring a Royal gold medal was one which was now conferred very sparingly, and was in consequence to be looked upon as a mark of high distinction. No one, moreover, could lay claim to it: it was the impartial award of the Institute, and the recipient of it was often not aware that his name had been considered. The object the Institute had in view in the distribution of these medals was to promote the progress of architecture and art, thereby holding out an incentive, and a stimulus to the attainment of still higher perfection and achievement among all ranks, nations, and people; and if one thing was more remarkable than another, from the earliest foundation of these prizes, it was the fact of their general distribution with so much impartiality and public satisfaction. It might naturally be supposed that an English Institute, in awarding gold medals from an English Queen, would bestow them on English architects. This would undoubtedly be the natural notion of all those who had embarked in the pursuit of an arduous profession requiring a knowledge of art and science, and the possession of industry, intelligence, and integrity; and it might on the first blush appear hard, and in some degree unjust, that where a prize was given by a British sovereign, British architects alone should not be the exclusive participators; but he (the noble lord) considered that the circumstance of its being given elsewhere periodically was one of the greatest proofs of its universal advantage. For his own part, as president, he had great pleasure in giving the prize to gentlemen who had no connection with this country. Last year, if he remembered rightly, they gave the prize to an English architect, having already given it to a French, an Italian, and a Bavarian architect, and now they were about to present it to M. Stüler, a Prussian architect. He (the chairman) had been in Berlin, but it would be presumptuous on his part to express any critical opinion on the noble architectural works of that great capital; but when he found men in this country in the highest position in their profession uniting in the conclusion that the gold medal was justly awardable to M. Stüler, he could not help feeling that he justly deserved it. The honour conferred reflected equal credit, no less on those who gave it than on him who received it, in view more emphatically of the tender ties and renewed relationships that had recently taken place between the kingdom of Prussia and Great Britain. He only hoped that the same feeling of esteem and kind spirit that

had induced the highest names in the architectural profession of this country to confer the gold medal on one of the distinguished confraternity of a foreign country would be long continued between all ranks of the two nations, whether in arms, in arts, in science, or in song, and that their alliance would be as perpetual as it was illustrious. (The sentiments expressed by the noble earl were re-echoed by the meeting in applause.)

The Prussian Consul-General (M. Hubner) returned thanks on behalf of M. Stüler and the government he represented; adding that his Majesty the King of Prussia had only recently, through the mediation of M. Stüler, caused two gold medals to be sent to England, to be awarded to English architects connected with church-building societies. He did not know if they had been awarded yet; but it was a strong proof that the King of Prussia was as heartily and cordially disposed towards the architects of England as the latter were towards the architects of Prussia.

The noble Earl thought the meeting would express their gratification conjointly with himself at the coincidence that had occurred on this occasion in their having the unprecedented pleasure of presenting a prize to a Prussian architect, an Irish architect, a Scottish architect, and to an architect who could not be presented because he lived in Wales. No stronger illustration could be afforded of the impartial manner in which the Royal Institute of British Architects bestowed its honours on all who deserved them.

Professor Cockerell, R.A. then read "Some Remarks on the old Vatican Basilica, and its Conformity to the Christian Rules of Building known to us of subsequent Date,"—setting forth, in fact, the use made by the Mediæval architects of the equilateral triangle and the *vesica piscis* in designing, as illustrated by *Cæsare Cesariano*. We shall return to the professor's paper. Most of our readers know the essay by Kerrick on the use of the *vesica piscis*, in the "Archæologia" for 1821, and that the investigation has been carried much further since by Mr. Griffith and others.

The thanks of the meeting were given to the professor for his communication, and the meeting was adjourned to April 26.

THE GREAT BELL OF WESTMINSTER.

The great bell of Westminster was recast at Mr. Mears's foundry, in Whitechapel, last Saturday evening. It is yet to be seen whether or not the operation was successful. We are told that not air was blown into the mould all the day, as required by the contract, and that there was an ample dead head of metal on the top of the casting. The bell will have to remain in the pit for a fortnight to cool; so that nothing can be known with certainty of its note or quality for some time yet. So much has been said of the failure of the former bell, that it is only due to Messrs. Warner to state that similar misfortunes are by no means uncommon, both in this country and abroad. The great bell of Montreal, the largest ever made here before Big Ben, was cracked in its first year. The St. Paul's bell was cracked, and had to be recast twice, even in Sir Christopher Wren's time; and the still more famous bell of Notre Dame, at Paris, was cast no less than three times over between the years 1680 and 1686, before a satisfactory result was obtained. The sooner the bells of Oxford and York share the same fate the better, as they are both obviously defective: the former so much so, that it has been doubted whether it is not really cracked somewhere already; and the latter is almost disused.

THE INAUGURATION IN PARIS OF THE NEW BOULEVARD DE SEBASTOPOL.

On the 5th inst. was witnessed in Paris the ceremony of inaugurating a new street, called the Boulevard de Sébastopol, commencing from the right bank of the river Seine, and extending from the Place du Châtelet to the Boulevard St. Denis, affording a very long line of communication. It is a gratifying result of one of the many works recently accomplished in the city. It is of a noble length and width, rivalling, if not surpassing, some of the old boulevards between the church of La Madeleine and the column erected on the site of the Bastille. It is bordered with houses, which, whatever objection prejudice may raise against the French manner of taste, are models of street architecture. The street is planted with trees along its entire length on either side: it is paved with asphalte, and well macadamised. It cannot be denied that the French architects sometimes succeed admirably in combining the useful with the ornamental; a result, however, that is not obtained without some effort, and the co-operation of different departments of art to one end. In viewing the public buildings of Paris, and in walking along the streets, no visitor whose mind is open to receive impressions from such objects can fail to admire the general character of the street architecture of the present epoch, and the improvement made in it since the last few years. At present, as some instances of this fact, we shall merely mention the general use of good marble and stone, marble especially, which is got from the environs of Paris; the excellent limes; the practice of working the ornaments from the blocks left as an integral part of the building and of the size required for that purpose, but not worked in a shed or apart from the buildings they are intended to decorate; the sound construction; the rapidity with which they build, and yet the necessary rest they give to these works under certain temperatures; the precautions against fire, and the means adopted to escape from it; the ornaments which the chimneys become, rising with dignity to a considerable height—higher than, or as high as, the steep Mansart or similar roofs, which are always made a conspicuous, instead of being a concealed feature, in their edifices, and which, with bold, tall, and projecting dormer windows, remind us of the works of the early architects of the Louvre and the ancient *châteaux* of France.

The ceremony of opening a new street, which has caused the disappearance of nests of dirty, unhealthy, and inconvenient houses, is hailed by the Parisian population with enthusiasm. The new Boulevard de Sébastopol is certainly another embellishment to the capital; and it is not every day that one of such importance, and of such extent, is the scene of rejoicing and pomp that took place on the 5th. Venetian masts were erected on each side at regular distances, from which waved national banners, bearing figures or inscriptions, the tri-coloured flags, and other hangings of scarlet or green, with the initial and crown of Napoleon III. encircled by a wreath; as also escutcheons bearing the arms of the emperor, and the mural crown of the city of Paris. The different regiments garrisoned in Paris marched to the sounds of the music of different bands, and formed two ranks along each side of the Boulevard, preserving a clear road for the imperial *cortége*. But, before this arrived, there was a procession, consisting, first, of the firemen, then a body of the *gendarmerie*, the *Chasseurs-à-pied*, detachments of Lancers, the National Guard, the Infantry, the Grenadiers; and, while the troops were under arms, and the way cleared for the generals who gave orders, and for the expected emperor and his retinue,—the fine horses, the beautiful costumes, and the glitter of arms and colours, all heightened by a sun that shone bright during the ceremony, afforded sufficient to feast the eyes and prevent among the bystanders any sensations of *ennui*. At two o'clock the distinguished personages forming the chief attraction of the procession left the Tuileries, and entered the Boulevard from the Place du Châtelet. The emperor rode on horseback at the head of the marshals, commander-in-chief of the army in Paris, generals, officers, admirals, and ministers of his court. The empress was in an open carriage, accompanied by the Princess Matilda, and came after the emperor: she was preceded and followed by a detachment of a hundred lancers of the guard. The crowd of persons of all ages and classes assembled to witness this day's spectacle was immense: it may be said that all Paris was out to see the *fête*: great numbers stood to see it from the roofs, the balconies, windows, and the scaffolding where not removed from some of the houses. All showed themselves very eager to catch a glance at the passing pageant. Their cries of "*Vive l'Empereur! Vive l'Impératrice!*" were very enthusiastic. At half-past two, at the moment the *cortége* approached the Boulevard St. Denis, an immense drapery of gold, worked with stars and garlands of flowers, which was lowered during the ceremony, was drawn up like a drop-scene in a theatre. It was suspended from Moorish columns, upon the pedestals of which were represented some allegorical figures of the arts, the sciences, commerce, and peace. From the top of the light towers (decorated with Arabesque ornaments, which they supported), the eye could take in the long perspective of the new boulevard, with its multitudes, extending from the Eastern Railway station to the River Seine. A few minutes more, and the emperor received at the station the ministers and the municipal council, the architect of the new plan of Paris, the engineer of the bridges and highways; and the ceremony terminated with brilliant gas illuminations in the evening. F. L.

THE BRITISH MUSEUM READING-ROOM.

AUTHORSHIP OF THE DESIGN.

With reference to your article of last Saturday, on the new reading-room and libraries, I beg to observe that Mr. Hosking suggested a massive building for the exhibition of sculpture, but no accommodation for readers or books; whereas, the structure which I suggested, and that has been built, was intended, and is used, solely, for readers and books. His scheme included quadrilateral halls, central halls, ample staircases, corridors, &c. all of the usual materials; the building which I suggested and have seen carried out, is original and unique in plan, use of materials, arrangement, and construction. Mr. Hosking says (p. 4) that it is not the plan of the Pantheon that he claims, "but the application of its form, disposition, and proportions," and the plagiarism he alleges, is the application of such his device, with certain of his combinations, contrary to honour and good faith, not only on my part, but also on that of the trustees. It will be obvious to any one who will come and inspect the building that neither the form, nor the disposition, nor the proportions of the Pantheon, have been adopted in the new building at the Museum. There is no resemblance whatever between the architectural features of the two schemes. Mr. Hosking proposed a reduced Pantheon,—a cupola 120 feet in height, and the same in diameter. The cupola of the reading-room is 140 feet in diameter, and 106 feet in height. Are these two conceptions alike? If you, Mr Editor, will come here and point out in the new building any single part suggested in Mr. Hosking's plan, I am ready to admit his claim to the whole.

I should not have noticed Mr. Hosking's publication, if you had not; nor should I add a word to the above, if Mr. Hosking had not so far forgotten himself as to accuse me of untruthfulness.

Mr. Hosking states that, on the 14th of June, 1852, he sent me a copy of the *Builder*, dated June 22, 1850, in which his scheme of building was set forth, and he goes on to say that I am a "pirate," having taken from his scheme my suggestions for building the reading-room and surrounding libraries; which suggestions I made on the 5th of May, 1852.

I distinctly aver that I did not receive that number of the *Builder* on the 14th of June, 1852, nor in any part of 1852 or 1853, and that I never knew of Mr. Hosking's plan till the latter part of 1854, when I did see, for the first time, the *Builder* of the 22nd of June, 1850.

Long after the works for the new building were begun, I found in my study at the British Museum (not at my private residence), a paper merely addressed to me, in which was carelessly wrapped up a copy of that number of the *Builder*. I showed it at once to Mr. Jones and to Mr. Fielder, as a document just received, and wondering whence it came. I learned then, for the first time, from Mr. Fielder, who Mr. Hosking was. The moment I received Mr. Hosking's letter of the 30th of April, 1857, I showed it to both those gentlemen, who recollected, immediately, my having shown them the number of the *Builder*, as I have just stated. The works for the new building were begun late in March, 1854, the contract was made some time after: I became acquainted with Mr. Fielder after the contract was made.

Mr. Hosking admits that I could not have received his paper in May, 1852, when I put forward my "first design," but is positive that I had, when I put forward "the other, early in 1854." My answer is, that I never put forward any design whatever after May, 1852. I have freely made suggestions to Mr. Smirke; he has most unreservedly consulted me from May, 1852, to the present day; but I have never made any other design than that shown by the two plans of May, 1852, accompanying my report of the 5th of that month, and printed by order of the House of Commons on the 30th of that same month.

The rashness of Mr. Hosking in making groundless statements is only equalled by his intemperate and unbecoming language. He accuses me of having made an interpolation in a letter of Mr. Smirke to him, whereas I had no such letter, nor a copy, to interpolate, as he will learn from Mr. Smirke, who will also tell him that I was perfectly justified in what I said to Lord John Russell. He gratuitously charges me with writing, or causing to be written, an article in the *Athenæum*, in which article opinions are advanced which I do not hold, and which I have repeatedly combatted. He contends that the cupola does not rest entirely on iron supports; that is, however, a fact of which he may convince himself by coming to look at the building: he avers that the maps and charts of the Royal Collection have been kept somewhere

else, and are now brought back to the King's Library from their hiding-places; the truth being, that the removal, the hiding-places, and the bringing back, are pure inventions of his own. He affirms that that library was built "for a library and reading room," a story for which there is not the slightest foundation, and which was never dreamed of by any one before.

British Museum. A. Panizzi.

REMARKS ON CEMENT.

How many mysteries, in this our day, are presented to our notice and admiration; and whilst they enticingly invite our investigation, they lead us often into the wild regions of speculation, and leave us in the dark at last. The philosopher, with the lamp of science in his hand, in the pursuit of useful knowledge, has brought to light many facts of a startling nature, by which our race is benefited, facts which show clearly enough that certain matter, being brought into peculiar relation to other matter, will produce definite, unmistakeable results, whilst the secret mode of their operation remains yet undiscovered. Two dissimilar metals, of almost insignificant dimensions, immersed in an acid solution, silently, invisibly, and powerfully put particles of matter into motion, the effects of which, with proper conductors, are transmitted to incredible distances, in the twinkling of an eye. Here is a practical fact, now well known, but who can explain the thing fully, and reveal the why and wherefore of this strange agency. It seems as though nature drew aside the veil, so far as is necessary, to enable us to arrive at conclusions for practical utility, almost to the extent of making us proud of our discoveries, but is pleased still to conceal the explanation of the mystery, in order to keep us humble and still inquiring.

Amongst many other things of a similarly mysterious nature, that of the setting property of cements, is one which has to the present time set all explanation at defiance. This is true with regard to cements generally, but the subsequent remarks are intended to apply to that kind which now so universally obtains, and which is called "Portland."

Here, then, is a mass of powder, the particles of which lie together simply in mechanical combination, at present obeying only the law of gravitation, but possessing within themselves properties which fit them for union with another substance, and with one another. This other substance is water, having in itself no fixedness or solidity, but how marvellous is the change when these two, the powder and the water, are legitimately brought together in close companionship, a bond is established, which becomes strengthened with time ever, and can be separated in time never, otherwise than by the decomposing influence of an intense furnace.

The whole mass, by the chemical affinity of its elements for each other, is condensed into considerably less space than was originally occupied in the uncombined state. That this change takes place is obvious to every observing manipulator; but who can explain the mode of its operation, and show why the water should enter into combination with the dust, and lose its liquid form? It may be supposed by some persons that the water goes off in vapour during the process of setting, or in the subsequent drying of the cement: this, however, is not the case; the water becomes a permanent inhabitant in the mass, which can be easily proved.

Many have been the conjectures of learned and scientific men as to the cause of the hardening of cements; it still, however, remains unexplained. All that we know at present is, that by mixing a certain quantity of water with a given quantity of cement, a combination takes place, rendering the compound suitable for the purpose for which it is intended to be used; and perhaps, practically considered, this is all the explanation that is required: a future generation may be able to explain what at the present is hidden from our view.

It has been thought that the solidification of cement was due to the absorption of carbonic acid gas by the lime during the process of crystallization, as mentioned on page 172 of the *Builder* of March 13th, in the paper on cements by Mr. Burnell; but I am glad to see that that gentleman, as well as others with him, has given up that theory, because it did not coincide with some opinions that I have for a long time had on the subject of solidification, founded on experiments made, and tending to prove that the play of carbonic acid can have nothing whatever to do with it.

I have mixed Portland cement quickly, and placed it under the receiver of a good air-pump, removed the air as rapidly as possible, in order to leave the yet soft composition in a partial vacuum, so that neither the carbonic acid of the atmosphere nor its oxygen could exert any influence upon it: notwithstanding the exclusion of these, the hardening went on, the same in degree and rapidity as though it had been exposed to the external air.

When it is considered, therefore, that Portland cement hardens as well *in vacuo* as in air; as well when buried deep in the earth as when above ground; as well under water as out of water, we arrive at the conclusion that whatever may be the efficient cause of the hardening, it is not due to carbonic acid.

My object in writing this paper is to offer a few practical suggestions that peradventure may be useful to some, at least, of the readers of the *Builder* on the using of Portland cement, as requested by your correspondent, "T. L." p. 239. "T. L." says truthfully,—"It is well known that good cement, for the want of proper treatment, has been condemned as bad."

The question then is,—what is good Portland cement, and how shall the person about to make use of this article be able to prove it good or otherwise, as the case may be? Different persons have different standards of goodness, each according to his own peculiar taste. One, if it set slowly, will say it is not good; another, if it set quickly, will pronounce it bad. Now neither of these conditions is a proof of its essential goodness or badness, each being merely a circumstantial feature in it. Cement may be either quick-setting or slow-setting, and yet be very good; or it may possess either of these peculiar features, and yet be very bad.

It does appear to me, therefore, a desideratum to possess some certain rule whereby the quality of cement may be speedily ascertained; so that the manufacturer who supplies a good article may not be improperly blamed on the one hand, and that the work to be performed may not suffer in want of solidity through the using of unsuitable material on the other.

I think that the four following questions will embrace all that is necessary on the subject in hand, supposing them to be asked by a person just about to use some Portland cement supplied to him:—

First. Will it set at all, and, if so, in what time?

Second. Will it remain hard and sound after having been used, or will it crack or blow?

Third. Will it carry its proper quantity of sand?

Fourth. Will the colour be good?

The first question can be easily answered by gauging a small quantity, using as much water as is sufficient to bring it into a pasty mass, taking care that the water is well incorporated with the powder. The time of setting may range according to circumstances, from one minute to half an hour. Should the cement be very quick-setting, there is danger of "killing" it in the gauging, especially if too much is mixed at a time, and the workman does not use it immediately. By killing it is meant that the process of solidification is interfered with; that, in order to keep the mass in a workable state, after the setting has commenced, the man charged with the mixing goes on chafing it up, and probably adds more water: in this way not only has its attempt to set been frustrated, but more water has been supplied than was consistent with its requirements to insure its proper hardening. Such a compound can never be so compact and dense as it would have been, had not its setting been arrested by the remixing. Work completed with material thus treated would some time after produce appearances which would seem to indicate that the cement was bad; for instance, arrisses will be found in a crumbling condition, and small surfaces will peel off, this arising from the composition having had worked into it more water than could properly combine with it; the cement at the same time might have been good, requiring only to be mixed in smaller quantities, and used more quickly; or the cement required cooling, that it might set more slowly. I say the cement may have been very good, and it can be proved, yea or nay, thus:—Let a small quantity of the quick-setting cement be spread out, about half an inch thick, upon a sheet of iron, for a few hours; this, being a good conductor, will extract the native heat of the article. On gauging an article of this cooled stuff, it will be found quite practicable, and will set in good time. Soon after gauging, immerse such a sample in a vessel of water, and, after a few hours' immersion, take it out and examine it for soundness; for remarks on which see further on.

The next question is, will it remain hard and sound after having been used, or will it crack or blow?

This I consider is a question of great importance, and although some phases of unsoundness have been spoken of arising from unskilful manipulation, yet others remain to be noticed.

For running mouldings to cornices or architraves, or for forming projections or salient angles, and other work, where much exposed to the alternations of our climate, hot and cold, wet and dry, frost and thaw, and, as much labour and skill are usually expended on these works, it is absolutely necessary that the cement should be of that quality to resist all these vicissitudes. Whilst, however, it is true that good cement has often been spoiled by bad workmanship, it is no less true that good workmanship has been expended upon a worthless material; apparently good when used, but after a few months had elapsed, when changes of weather had produced their effect, a painful exhibition of blowing and cracking has met the eyes of the proprietor, to his great annoyance.

Now I think it is worth the taking of a little pains, before commencing an important job, to ascertain whether the cement supplied is of the required character or not; and this is by no means difficult of accomplishment, for that which takes place in ordinary practice, after some months, in cases where cement is really bad, may be ascertained in a few hours, in the following way:—Take samples from sundry packages, gauge them, taking care not to kill them in gauging by prolonging the time indefinitely in mixing.

An hour or two after they are set immerse them in water until the next morning, then take them out, and expose them for a few hours to the action of the wind or sun; if they do not continue solid, or if they crack all over, or blow in any way, then the material is not suitable for the job, and ought not to be used; if, on the contrary, they remain sound, without any flaw or fissure, or alteration of form, it may be used, as no disastrous result in the structure need be anticipated ever after.

The foregoing has reference to plastering work, but the same applies to other work as well.

When Portland cement is used for brickwork in any situation, but more particularly in the formation of tanks or reservoirs intended to contain a liquid, one thing should be strictly attended to; that is, fully to saturate with water the bricks or stones to be joined, in order to prevent the abstraction of any part of the water from the cement with which it is mixed.

The setting of cement, although we cannot fully explain it, we know is governed by the laws of chemical affinity. These laws require that the ultimate atoms of matter should be in certain definite proportions, with regard to each other, to render their union complete and lasting, for the want of the proper share of either substance will destroy the solidity of the whole. This might be illustrated by reference to the formation of many compound substances, and is no less true in the case before us. For, if the unsoaked, porous, thirsty bricks or stones are permitted to deprive the cement of a large portion of its water, which is required for its own crystallization or solidification, it is left minus so much of that which is necessary to its proper internal action, and want of soundness in the structure is the result. Should the reader have any doubt about this, let him, by a simple experiment, test it for himself thus:—Let some cement be properly mixed (not killed): with this let two dry bricks be joined together face to face. Let two other bricks be well soaked in water, and put together also with the same mixture. After a few days shall have elapsed, let a measurable strain be applied at right angles to the plane of the joining, tending to separate one brick from another. The difference in the adhesion of the one pair, compared with that of the other, will manifestly show the importance of attending to the above suggestion.

The next and last two questions are, as to the quantity of sand the cement will carry, and also as to that of colour.

The former of these two is the economical part of the subject. I should say, however, that it is not unreasonable to expect to be able to mingle three measures of sand to one of cement, for plastering plain face-work; the quantity will much depend upon the cleanness of the sand and the sharpness of the grit. All loamy matter should be carefully excluded, as this is very detrimental to the cement employed, however good.

A few specimens of cement, gauged with different proportions of good sand, will readily show the limit to which the quantity of this material can be extended.

As to the colour of cement, it is a remarkable fact

that strength and good colour generally accompany each other; that is to say, if a Portland cement shows, after being used, a deep colour, inclining to redness, it rather indicates that the same is not strong; but if all other things concerning it be right, the grey, or lighter colour, would indicate strength. I conclude with a recommendation, that when a front is to be done, the quantity of cement required to complete it should be estimated. The total quantity should be obtained, and turned out on some floor in bulk, after having tested it as before described. Thus by mixing the whole quantity together, uniformity in colour and time of setting will be more likely to be obtained. Moreover, should the cement happen to be too fresh or hot, it would by this exposure become cooled down, and thereby work much more pleasantly.

It may be urged, that all this is a source of trouble; but what is a little trouble, compared with the satisfaction of making a good, sound job, that shall be creditable to all parties concerned in it.

Isaac Chas. Johnson.

ON ANCIENT TIMBER FRAMING.*

I can bring to your notice no examples of timber houses earlier than the fourteenth century, nor do I think it probable, owing to the perishable nature of the material, that any of an earlier date, in a perfect state as to their original design, are to be met with.

M. Viollet le Duc, in his admirable and most useful work now issuing from the press, describes, as follows, a small house of this period, which was in existence about three years ago, opposite the south façade of the cathedral at Chartres.

The timber framing, which is only one floor high, commences at the one-pair story, the construction underneath being of rubble stone-work, strengthened under the bearings by piers of solid dressed stone on these are placed the beams which support the floor joists. These beams extend to the outer face of the wall, and on their extremities are placed the sills, into which are framed the principal posts directly over the beams. Between these principal posts, smaller ones rise from the sill, and are framed into a head, which is tenoned into the principal posts. These posts serve as the divisions of the windows, the heads of which are formed by trefoiled curved braces, and the whole framework is further strengthened by the window-sills and the cross braces beneath them. Into the head are framed posts, in line with those below them, supporting the plate on which the roof rests. This plate is, as was usually the case, a double-framed one. The outer plate, which carries the secondary rafters, is placed on the ends of the beams which rest on the principal posts, and, projecting beyond them, are supported by brackets. These beams serve as tie-beams to the roof, and also carry the ceiling joists. The inner plate, which is well supported by the posts, receives the feet of the main rafters of the roof. The spaces between the framing not reserved for lights are filled in with light masonry.

When a house of several stories was built entirely of timber, it was the usual custom for each of the upper stories to overhang the one below it: the general reason assigned for this has been, that in towns (which in those days were always surrounded with walls), space was too valuable to be lost, and, therefore, that which was necessarily given up for the streets, was sought to be recovered by increasing the size of each floor as the house rose, by thus overhanging the stories. I am not at all inclined to agree with this explanation, because houses without the walls were so erected. It is true that the custom of such building may have been followed as the population gradually spread over the land, but I think that the necessary requirements of the material are more likely to have suggested the practice. The reasons that I think induced the builders to overhang their stories are, that if the same beam into which the lower posts were framed was mortised to receive the feet of the upper ones, it would have been too much weakened by all the mortises: a second beam was therefore employed, which ought certainly have been placed directly over the first one which served as a head to the lower framing, but by projecting it over, as was their custom, they thus formed a good protection from the weather for the framework below.

It would be for this same reason that the gabled fronts of these timber houses were always made to project over the face of the upper story.

In the decoration of framings the same breadth of treatment is discernible as that which regulated the architects of the period in their stone buildings. The edges of the different timbers were chamfered, carved, or moulded, according as the artist required to employ more or less richness in his design; but these mouldings always receded from the general face of the structure in which they occurred, the only exception being that, here and there, as under the windows, a small piece of timber would be framed, projecting slightly, and moulded after the manner of a string course, to throw off the wet.

A house from Halberstadt, in Prussia, of about the middle of the sixteenth century, is a very pleasing example of this style of framing, affording a variety which I have not met with elsewhere. The space under the windows, also, instead of being filled in and stiffened with cross-braces, as in the example from Chartres, is provided with triangular pieces of timber, which rest on the beam and unite it with the upright posts. This expedient answers the purpose of stiffening the uprights admirably, and at the same time offers a good field for decoration, which the artist has very judiciously availed himself of.

Another drawing which I have had prepared is that of a house at Orleans, somewhat later in date than the one just described from Halberstadt, and, though still pleasing in its general effect, bearing in it the elements of debasement, the whole of the decoration being brought out in front of the solid timber which forms the construction of the building, and not applied; but they are inappropriate and out of character, inasmuch as the posts which support the several beams are carved to represent pinnacles, which of course would be inadequate to give support to any superincumbent weight.

I have, from want of time, been unable to place before you any of the well-known specimens of timber houses with which our own land abounds: this is the less to be regretted, as they are probably familiar to most of my hearers, and have been illustrated so frequently, that I have thought it would be taking up your time uselessly to dwell further upon them. I must not, however, dismiss the subject without briefly calling your attention to the interiors of these buildings, every part of which was carefully attended to; and in country villages even now you may not unfrequently meet with houses which externally show no signs of antiquity (thanks to the improving hand of stucco), but which internally yet retain some lingering traces of their original beauty, as some quaint old oak staircase, or a richly-panelled apartment with the timbers of the ceiling well moulded or carved, or even, in some out-of-the-way corner, a panelled door and frame. They are, however, I regret to say, fast disappearing.

Most interesting examples of timber framing are yet to be found in the porches of some of our village churches: these always have a very pleasing and picturesque effect. In addition to these, sometimes, though more rarely, the ancient lych-gate is to be found. Within the churches themselves (though these would come rather under the head of church furniture than timber framing) I would call your attention to the magnificent remains of chancel-screens, with which many of our churches are still enriched: the greater number of them, I am sorry to say, are much mutilated, and in a sadly dilapidated condition.

Among the most important works, and which demanded the utmost care on the part of the carpenter, was the construction of roofs, and on this head I propose now to offer you a few remarks, which I shall confine entirely to the works of the Middle Ages, as it is only among them that we find these essential parts of all buildings treated in an architectural and artistic manner.

It is not my purpose to enter upon the subject of the origin and gradual development of roofs, or to draw a comparison as to the respective merits of stone vaulting or open timber roofs as coverings for our buildings, but to occupy what time we have yet to spare this evening with the description of Gothic roofs from the time they first began to be treated with artistic skill.

It is somewhat singular, but, nevertheless, I believe a fact, that no other country can boast of such magnificent roofs. Though there are many to be met with abroad of very large span and of clever construction, yet none at all compete in artistic merit with our own.

For the more convenient description of these roofs we will divide them into two classes. The one where the rafters are supported on a ridge and purlins, framed in between the several trusses, and which we will call double-framed roofs; the other, where every pair of rafters is trussed in a similar manner, requiring no other support, and which we will call single-framed roofs. Roofs of this last-named class are to be met with in this country more frequently than those of any other description: they were constructed with or without tie-beams, which in these roofs were sometimes employed quite independently of the other timbers, being simply laid across the building from wall to wall, notched down, and pinned to the wall-plates.

In roofs of high pitch these tie-beams are far from pleasing to my eye, appearing as they do to detract from the loftiness of the interiors; and I am induced to think that they were looked upon by the early framers of these roofs in the light of a necessary evil; and though they sought at times to render them ornamental by richly moulding them, yet they were as frequently introduced, and left quite plain, as in the chancel of Northfleet Church, Kent, where they are left almost in their natural roughness, notwithstanding that the roof itself is divided into panels with moulded ribs, having carved bosses at the intersection.

Various methods were resorted to at different times to endeavour to make this feature harmonize with the rest of the architecture, but with no very great success. As the carpenters, however, became more expert in their craft, it was found to be quite possible to frame roofs securely without tie-beams, and having once cast off the restrictions which these imposed upon them, and by which the genius of the artist was greatly fettered, the architects of the Middle Ages appear immediately to have profited by their newly-acquired freedom: they saw that their favourite form, the pointed arch, could be safely employed in their roofs without the accompaniment of the unsightly tie-beam, and at once carried to a perfection, till then unattained, and hitherto unsurpassed, those splendid roofs, the pride of our oak-bearing land.

Single-framed roofs are sometimes met with having only diagonal braces connecting the rafters. These occur where the span is small, as over a porch. It was probably first had recourse to there for the purpose of gaining headway, but its superiority in general effect over a tie-beam roof could not but lead to its being preferred and substituted for the latter.

In roofs of this class, but of wider span, each pair of rafters was framed with a collar-beam, and was also further stiffened by braces crossing at times above the collar, and at others being tenoned into its under side: when the latter was the case, a second collar or wind-beam was generally introduced above the first.

Though we find these roofs mostly with their naked timbers exposed, it is certain that they were frequently boarded underneath, forming thus a polygonal barrel-vault. Moulded ribs were generally in this case applied on the underside of the boarding, dividing it into panels, the intersections of these ribs being covered with carved bosses.

A perfect barrel-shaped vault was at times formed by the employment of curved braces framed into the angles of the trusses formed by the intersection of the different timbers, as over the chancel of Solihul Church, in Warwickshire: in this instance the timbers are left quite plain. A very handsome specimen of this description of roof was discovered some years ago by Mr. Scott over the chancel of St. Martin's Church at Colchester: all the timbers are richly and beautifully moulded. This roof, though only of small span (about 14 feet 6 in.) has tie-beams with king-posts of octagonal form supporting a longitudinal stiffening-rib, with which the curved braces unite, their intersections being covered with elaborately carved bosses. This roof was, when Mr. Scott first discovered it, and I believe still is, concealed by a flat plaster ceiling. It is a great pity that it should be allowed to remain so, as the roof is unquestionably one of the most beautiful and interesting of its description that can be met with.

These roofs even without tie-beams are by no means confined to buildings of small span. One occurs over the nave of Reedham Church, in Norfolk, which is 31 feet wide. The nave of Ely Cathedral is also covered with a roof of similar construction.

In M. Viollet le Duc's work a very fine example is given. Its span is about 36 feet. It covers the great hall of Sully-sur-Loire, which, as was usually the case in these buildings, occupied the whole of the upper story. The walls, which beneath this chamber are nearly 6 feet thick, are, at the level of the floor, reduced to about half, the space thus gained forming part of the galleries of defence outside each wall. The additional width required for these galleries is carried on the machicolations, the inner end of which tails well into the walls, and the weight of the breastworks is counterbalanced by the inner walls of the hall itself, which runs up above the roof-plates: these are placed at a height from the floor just sufficient to allow headway for access to the galleries of defence; they (the plates) are, as usual, double-framed, and from the external one rise the rafters at a very acute pitch. Into these are framed two collar-beams, the lower one being somewhat more than half way up the roof from the wall-plates. Between these collars run two longitudinal pieces of timber the whole length of the roof, connected together with cross-struts, which serve as a great steadiment for the roof, and prevent the trusses from racking or leaning over sideways. From the wall-plates spring curved pieces of timber the same thickness as the rafters, connected with them at their feet, and into which they are again framed, where they become tangent, uniting at their upper extremities just under the lowest of the longitudinal pieces, thus forming an arched covering the whole length of the chamber. The galleries of defence are roofed over, with secondary rafters, pinned at their upper extremities into the main rafters, and pitching on a plate which rests on the thin wall forming the breastwork of defence. This secondary rafter is further stiffened and prevented from spreading by a strut, which connects it with the principal wall-plates. The underside of this strut, and the corresponding part of the rafter into which it is framed, are curved on their undersides, forming an arched head the whole length of the gallery. This hall is lighted by dormers on each side of the roof about 15 feet apart, and probably by large windows at either end, but of this I am not sure.

The next roof which I shall beg to call your attention to is also from France, over the church of St. Jean, Chalons-sur-Marne, with a span of nearly 20 feet. In this instance a tie-beam is introduced, with a king-post, into the upper end of which is framed a longitudinal ridge piece, stiffened with braces, which spring from the king-post, just above the intersection of the cross braces, with which all the rafters are connected together: each pair are also further strengthened by curved pieces of timber, the upper ones uniting the rafters with the cross braces, the lower ones bringing down the line of the arch formed by these curved pieces to the inner face of the wall, and connected with the bottom of each rafter by a cross piece, which we will call a wall beam; thus forming a foot for the roof the whole thickness of the wall.

The feet formed by these wall beams, connected with the rafters by struts, perform a very important duty in all Gothic roofs, and are the germ of the hammer-beams, which were introduced in roofs of later date.

I will now proceed to describe more fully the origin and use of these hammer-beams. If you compare the foot of a rafter as framed in a trussed-rafter roof, and likewise the lower part of a hammer-beam trussed roof, the similarity of construction in the two specimens is evident. The timbers of the latter are only increased in size, and the base of the triangular foot widened by increasing the length of the horizontal connecting piece, and bringing the strut further into the building: into the underside of this horizontal piece is tenoned the wall-piece, and any strain on the projecting front of the hammer-beam is diminished, and the weight of the roof carried lower down upon the wall by means of a curved brace, which connects the wall-piece and hammer-beam together. In these roofs the collar-beam was at first retained, but instead of cross braces, as were used in trussed-rafter roofs, the collar-beams, principal rafters, and hammer-beams are connected together by curved braces, which are tenoned and pinned into all three of them, forming an arch which not only serves to enhance the beauty of its roof, but is of main importance in binding the whole together.

This construction completely obviates all danger of the roof opening at its base, or slipping on the wall plates; indeed, it is almost impossible for these roofs to spread, so securely are they tied together, and at the same time stiffened by the curved braces with which all the principal timbers are connected; and, besides the strength imparted to the truss by these braces, the wall-pieces acting against the wall would have to resist the weight of about two tons of masonry for every linear foot of wall on which these roofs rest before they could spread at all.

Among the many varieties of this description of roof, we may notice, first, those as just described, with hammer-beams, collars, and struts connected together with curved braces; secondly, those in which the collar-beam is omitted, the curved braces being carried up almost to the ridge, and framed at the apex of the arch into a strut, which receives also the upper ends of the principals; thirdly, we meet with hammer-beam roofs having collar-beams and no struts, the collars, principals, and hammer-beams being united with curved braces; and, lastly, we meet with hammer-beam roofs, without either collar-beams or struts, the whole of the truss being connected together and stiffened with curved braces only. In this instance the arched brace is formed of three pieces of timber, one on either side of the roof, tenoned into the hammer-beam and principal, and reaching up as far as the purlin, the centre piece forming the apex of the arch, being tenoned into each principal, and itself acting as a brace, and to a certain extent as a collar-beam.

In roofs with complete collar bearing, the arched braces were usually made in four pieces, two uniting the hammer-beams with the lower half of the principals, and the other two connecting the upper halves with the collar-beams.

Hammer-beam roofs were always what I have termed double-framed roofs, that is to say, the rafters are supported by a skeleton framing of purlins and ridge, resting on or framed into the principal trusses.

The next variety of these double-framed roofs is one in which the collar-beams are retained and the hammer-beams omitted; but though these latter are dispensed with, the wall-piece (which in the roofs just described was tenoned into their underside) is still made use of, and is framed at once into the underside of the principal rafter, descending as low down on the wall as formerly, and the arched brace springs directly from this to the collar-beam, uniting them both with the principal rafter. An illustration of this mode of framing occurs over the nave of St.

* By Mr. Raphael Brandon. See p. 223, *ante*.

Mary Magdalene's Church, Pulham, Norfolk. On examining the construction of this roof it will be apparent that the effect of the upper portions of the curved braces is also of the same as the collar-beam was framed lower down, into the principals, and the lower portions of the curved braces connect those points with the foot of the wall-pieces, so that it would be impossible for this roof to spread until it had completely broken the curved braces.

A slight variation of this construction occurs at Starston Church, in the same county. In this the collar-beams are dispensed with, the upper portions of the curved braces being tenoned into a strut, that hangs down, fixed in the summit of the principal rafters, which are framed into it so as to prevent the possibility of its dropping. Mortises are cut in the four sides of this strut, into two of which the main arched braces are tenoned, and the two other braces receive the ends of the arched ridge braces: by this arrangement, it is almost impossible for the roof either to spread outwards, or to rock from east to west.

The curved braces in all the foregoing description of dog-legged roofs, besides answering the purpose already described, that of conveying the thrust of strain down on the walls, where of course of the roofs power to any lateral pressure, serve there as a great support to the walls themselves. This latter, indeed, being one of the most important part of their services, for they are to be met with in roofs, where no lateral thrust occurs, such as most tie beam roofs, or the flat roofs, which over the late perpendicular clear stories of many of our churches. In neither of these cases, is there any danger to be apprehended from an outward thrust of the roofs, and to align the arched braces act as a great support to the massive beams, yet in connection with them, they form a most effectual counterpart to the walls themselves—a very necessary provision, when we contemplate the lofty clear stories so perforated as to present almost the appearance of the long window opening, and call to mind that these are not supported on solid foundations, but merely poised on slender shafts, at wide intervals apart.

Before dismissing the subject of roofs, which I have only been able to bring to your notice in a very cursory manner, I must say a word on the construction of aisle roofs, which were mostly (what is called) lean-to roofs, whereas all those I have been describing are span roofs. The formation of these roofs is very simple, and may be described as usually consisting of strong timbers, answering the purpose of principal rafters, in gable roofs, laid at each end on plates, the lower plate resting on the external wall, the upper one either supported on corbels projecting from the nave-wall, or inserted therein: wall-pieces are tenoned into the upper and lower extremities of the principals, and curved braces springing from the feet of these meet in the centre of the principal, forming a perfect arch, having the spandrils generally filled in with tracery; a purlin is usually framed into the principals, and on this and the plates the common rafters are supported. In aisle roofs the whole of the timbers, even to the common rafters, were frequently found more richly moulded than those of the naves, these roofs being so much nearer the eye of the spectator than those in other positions of the church, will possibly account for the greater care bestowed on the details thereof.

I should be wearying you, and trying your patience most unwarrantably, were I to attempt to enumerate any more of the most beautiful varieties of open timber roofs with which these counties (especially the most noted ones, such as those at Westminster, Hampton Court, Eltham, Beddington, Archbishop, South, Wrexhall, Ceylon, &c. &c. having frequently been illustrated, must be familiar to most of you. I greatly regret, however, that I have not been enabled to lay before you as I had hoped to do, an illustration of a roof, upwards of 62 feet span, which is to be seen at La Hague, in Holland. It is of very bold construction, but is not to be compared in richness and beauty of design with our roofs in this country. I will not, therefore, trouble you with any further description of it, which would scarcely be intelligible without a drawing. My paper is now almost at an end, and I fear I shall have keeped the many, if not most of my hearers, by not having alluded to any particular style of architecture, or to the ornamental accessories and decorations of designs. I have purposely avoided this, because to my mind mere decorations are as nothing compared with soundness of construction, and the truthful use of building materials. After these have been sufficiently studied, the general masses and outline of a building, are much more important points to be attended to than the ornamentation of the different features: if the grouping of the various parts of a building is well managed, it really matters little whether the arches over the openings are round or pointed. The selection of one or other mode of covering an opening will sometimes be decided by the position in which it is placed, and the same building may contain both without its effect being thereby injured. The choice, too, must, and may safely be left to the taste of the architect, who shows himself ineligible for the other and more essential requirements of his work. In ornamental decoration, it must always be borne in mind that decoration should be a grace or beauty added to any necessary constructive features: for instance, the jamb of a door opening might for all necessary purposes, be left quite square: the fear of this square edge being chipped or otherwise injured by the use of such opening, probably led to the jamb being cut out. Pointed arches, and subsequently with the view of adding ornament, the chamfer was worked into the mouldings, with carved heads at the intersections of the latter between the different members. This would be a legitimate manner of ornamenting a necessary feature in a building, but you will, I am sure, readily understand that it would be simply absurd, because a beautiful door jamb had been introduced judiciously (and, I may say, it was rejected heavily before), to attempt in a situation where there was no doorway.

So, again, a porch outside an entrance doorway is useful, and from its ornamental it matters little, if it answers its purpose, whether it assumes the form of a close porch or a portico; but because the columns are beautiful when attached to the latter, it does not follow that a similar feature is right when placed on each side of the doorway: this is just as ridiculous as executing a door jamb where there is no door. Blank windows, as they are called, inserted in a wall where light is not required, every one will admit, is an equal absurdity, and yet how commonly they are seen, in the present day.

Innumerable instances of such mistaken ideas of the beautiful could be mentioned, but I believe it is enough to point at the error generally, to prevent its repetition. Art cannot be more truly true than mankind, when not common sense can teach.

NOTES ON TOWERS.

THE three chief uses of church towers are:—

1. To serve as a means of lighting the church.
2. To support a clock; and,
3. To hang bells in.

1. When a tower stands at the intersection of the nave and transepts of a cruciform church, it should be used as a lantern, and not for bells. For, in the first place, a lantern tower adds a lightness and majesty to the interior of the building, the loss of which the finest toned bells will not fully compensate for; and you cannot have, without danger or misproportion, a lantern story, ringing story, and bell story, all in the same tower; and much mischief has been done to some of the finest structures through attempting it.

At Durham it has been done at the expense of proportion; at Salisbury, with danger to the whole fabric. At Lichfield, the centre tower is beautifully proportioned externally, and would form a splendid lantern if it were open up to the top; but now it is wholly lost to the interior of the church to accommodate bells. St. Saviour's tower, in Southwark, has two stories, both taken up for bells and bell-ringers, so that the centre of the church is nearly dark. A gallery is sometimes substituted for the ringers' floor, as at Southwell Minster; but this is inconvenient when the opening is large enough to admit the light, and obstructs the light when of sufficient width for the convenience of the ringers. And here I may take the opportunity of expressing some surprise, that after what occurred at Ely in the fourteenth century, such a thing as a square central tower has ever been erected; and that such a glorious example as what was there done, has never been imitated but once.

2. As a clock-tower, the central tower is well adapted when, as in England, it is the highest tower; and if there are no swinging bells in the same tower with the clock, so much the better. It is obvious that bell-ringing must affect the movements of the clockworks, even had we not facts to demonstrate it. Those clocks in London which have been remarkable for correct time, are in towers which have but one or no swinging-bell. Whereas, of those in towers with peals of bells, few can be depended upon. The most complicated clock in London is that of St. Clement Danes. It has to work four pair of hands, to chime quarters, on four bells, to strike every hour twice, and to play tunes at two hours of the day and night. It is placed at a high level, on a slender tower, with three tiers of bells over it. The middle tier of two were added a few years ago. No wonder that the clock should chime false, and the four dials denote four different hours of the day.

3. A tower built for the reception of bells intended to be raised, should have a solid foundation, not four arches nearly as wide as the tower itself, leaving four piers not much bigger than the thickness of the wall which they support. Bells require a tower to themselves, for they will spoil the best clocks if raised. In Sir Christopher Wren's towers, and others built by his imitators, the substance of the walls was concentrated at the angles, leaving a moderate-sized arch on each side, and only the same internal area as would exist in the case of four straight walls. I think this is the soundest construction, and is as suitable, or even more so, in Gothic architecture than in Classic, for I think Sir C. Wren took his idea from the Mediæval tower of Antwerp Cathedral. This arrangement also admits of a staircase being carried up in the substance of the wall, without diminishing strength, besides doing away with the necessity for buttresses, a desirable object in some large towers; and the tower, if thus carried up its whole height, will be more fit to support an octagonal or circular spire or lantern. The mean internal area should be half the external area: all then, if well built and of good materials, the tower will safely bear as many bells as can be hung on one level. I have seen towers which have had two or more bells subsequently added to the above-named complement, which showed but too plainly, when viewed externally, in which corner the two new bells hung.

A diminution and entasis are desirable both for appearance and strength. They are common features in Essex and Middlesex, and the absence of them may be noticed by any one going from Essex into Suffolk.* The tower of All Saints', Colchester, has an entasis, and diminishes from 22 feet to 19 feet, and has internally an offset at each floor and at the roof, so that no timbers run into the walls. This is one of the few towers in Colchester that escaped from damage at the siege, and yet it was struck several times, as may be seen on the side most exposed, and facing the hottest point of attack; the tracery and mullions of the bell-story being battered evidently from without. With regard to other uses to which towers are applied, a few suggestions may not be out of place.

There are two towers in London and some few in other places having octagonal lanterns not containing bells—St. Dunstan's, Fleet-street, and St. George's in the East. These lanterns might be glazed and illuminated. This would not only be ornamental, but useful, especially in the case of the latter church, which stands near the port of London, and is visible for miles down the river. Another use to which towers might be applied is that of a water tower. One of the west towers of a cathedral is generally a mere ornament to match the other. This empty tower could be made to contain a water-tank for supplying fountains in front of the church.

S.

* The round towers of Suffolk have the entasis, but not those of later date.

BROMPTON AND KENSINGTON IMPROVEMENTS.

IN the progressive increase of London, no quarter has advanced so much in style and finish as the district lying between the Old Brompton and Kensington roads. The aspect and position of the site is decidedly the best, as well as the most vicinal of the new suburb: it ascends gradually from the New Cromwell-road (which has an elevation of 30 feet) to the Kensington Gore-lane, varying from 56 to 60 feet above Trinity high-water mark. The gradual ascent much favours the drainage; and the altitude is quite sufficient to raise it above the fuliginous and swampy influences of Pimlico and Belgravia; whilst the quality of the soil, which is a light loam, on a deep substratum of dry gravel, assures an atmosphere the most favourable to health.

It would appear that the Royal Commission, in a spirit of true liberality, has secured to the public the inestimable advantage of another park in this locality. A long parallelogram, of about 40 acres, opens out from Hyde-park, dropping by an easy slope towards Thurloe and Onslow squares. As yet it is unembellished, save by the luxuriant evergreens and trees of the grounds, late Lady Blessington's, and by the few straggling forest trees, hollies, and orchards, which formerly flourished and fructified on this the most genial of our metropolitan precincts. The scope reserved is paled in, but save the eradication and removal of some trees and shrubs of ancient growth, there is no symptom of landscape gardening, nor of adaptation to the predestined horticultural effect.

We have seen naked hills and swampy hollows suddenly transformed into smiling gardens; the Crystal Palace, Victoria and Battersea Parks, demonstrate what taste and skill can effect, even in the least favourable positions; what, then, may not be achieved on the area now before us, under the direction of arborists and florists such as this age possesses? On the noble roads skirting the new Hesperides—the Exhibition-road on the east, the Princes-road on the west, and the Cromwell-road on the south,—ranges of houses are being soundly constructed, and rapidly finished. As yet, however, the whole line of frontage to Hyde-park has not been secured; the frontage of the late Exhibition offices has been demolished, and now stands, as the palaces of Canton are said to exist, barring approach to parks of jungle, which our adventurous inyaders have discovered lying as in primæval wilderness! But there is a portion of the frontage, perhaps about four acres, at the north-east angle, which still continues to be private property, and which is essential to the integrity of the new park.

London is decidedly a utilitarian city; great thoroughfares stand for years unimproved, even where improvements are most easy of effectuation; newly-projected streets continue as at first laid out, trackless apertures between arched causeways, simply because it is left to private enterprise, or private caprice, to build up the lateral ranges. The difficulty in England is, that any proprietor may obstruct the completion of a grand design, as the blacksmith of Brighton stuck to his forge and anvil, until the Fourth George gave 10,000*l.* for his smithy!—he was his own assessor. Utilitarianism and the zealous guardianship of private rights have their advantages, but power and authority may also be too diffident in the assertion of matters that are of vital urgency to public convenience. In all great public plans, private interest ought to yield to the general welfare, that is, they ought to give place upon receiving fair and equitable compensation. We are, however, notoriously slow in the completion of grand projects. Victoria-street, Farringdon-

street, and other conceptions of civic grandeur, perhaps more aërial and visionary, slumber on, notwithstanding the great prosperity of the State—we go to work cautiously, and bit by bit. The present national exhibition buildings are but temporary; to aid in the righteous and lustrous objects which they so admirably subserve, no less than five very ancient mansions, with their tiled roofs and dormers, have been whitewashed and utilized. Without, there is no indication of art or science; within, a school such as in England, has never been methodized before, teaches the multitude gratuitously, and elevates the taste of our rising generation, by divine collections, such as the Vatican cannot equal for the purposes of education.

Whilst we admire the conception, the merit whereof is chiefly due to an illustrious authority, we cannot help deploring the tardiness of execution in matters external to the art treasures so bounteously collected. We regard with anxiety the waste aspect of the fine inclosure of green meadows—people accustomed to see luxuriant shrubberies and plantations improvised in a season, and that, too, in situations far less favourable to vegetation, think with pained reflection of the loss of time and opportunity. Trees have been felled, and preparations are being made for new plantations, still the new park is in nakedness and darkness. There are no lights around it to assimilate the place with other public domains, and while enterprising builders are enclosing the borders with colossal ranges, the public work languishes, and the retirement of Cromwellian times hangs about the vicinage as if in mockery of the fast encircling town.

Vox Querens.

ANECDOTES OF HOGAN, THE SCULPTOR.

I trust a few words from one who knew him well may not be unacceptable to the readers of the *Builder*. Besides possessing great talent and application, he had the simplicity of a child and the heart of a lion; kind, but fearless, an enemy to tyranny and oppression, and although a Roman Catholic, he abhorred the Papal domination, and yearned for Italia's freedom. He laboured incessantly in his studio, and being of a most powerful constitution, required but little repose. His chief variations from close study were foot rambles with gun or sketch-book. He once walked from Naples to Rome in three days, and while his companions were quite done up, Hogan, on reaching the city gates, offered to walk round the walls of the Eternal City On another occasion, after spending the night with some English visitors, in place of retiring to rest, he returned to his studio, it being daylight, and resumed his studies as though nothing unusual had occurred. His absence of fear frequently caused it to be dangerous to accompany him in his walks and adventures, and his escapes from the knife and rifle were miraculous. On one occasion he was dared to commit an indignity to a young Italian girl, in a thronged thoroughfare on a Sunday. The next moment a gun was levelled at him by the girl's father, who happened to be standing at his street door. Fortunately for Hogan, it missed fire, and in an instant he was on his knees before the offended parent, explained the freak, and, from his frank and earnest manner, obtained apparent forgiveness. On another occasion, while snipe-shooting on the banks of the Tiverina, with a half-pay naval officer, they were surprised by the threatened attack of some ferocious half-bred wolf-dogs. His friend, who was on the safe side of the stream, called to Hogan to ford or swim the narrow stream; but John knew no fear, and with a steady arm and sure aim he awaited the attack, and, after discharging his piece down the throat of the first hound, not having time to reload, he shouldered his musket to renew the combat: but no, his dauntless bearing and the prostrate beast deterred its fellows, who turned tail and took to the hills again. He was equally fearless with the gloomy and revengeful Roman. Making a remark one day somewhat offensive to a native sportsman, each party having a companion, the Italian—a strong and resolute-looking fellow—demanded satisfaction on the spot. "By all means," said Hogan; and springing to the opposite side of the lane, he raised his gun, and demanded, in a clear, firm voice, "Are you ready?" "No," said the Roman, "I will have knives." "Agreed!" said John, giving his rifle to his friend. At this juncture the Italian drew from his sleeve a formidable dagger-knife, the very opening of which, click, click, click, would have tried the nerves of a hero. John, in the same given time, had taken from his waistcoat pocket a small English clasp knife: opening it with the utmost energy, he whirled his toy-like blade three times round over his head, and with a voice of thunder demanded, "Are you ready?" Hearts, not knives, decided the contest. The Roman, thunderstruck and cowed, expressed himself satisfied, and received from his noble and daring, but frequently thoughtless antagonist, his iron grasp, and so they parted. When visiting Hogan last year, we talked over these and numerous other hairbreadth escapes, from fire, knife, and flood. I found him grey-headed, but still the same resolute, warm-hearted, and hard-working John Hogan I had known twenty years before,—with one difference, however. He had married an Italian lady, and had by her a numerous family, varying in age from 16 to 6 years, or less. These, I fear, under present circumstances, must require the aid of friends to assist and bring them out. Ireland will, no doubt, do her part; but I name it that if necessary his friends on this side of the water may know, and may not be backward. I do not think, from what I saw, that his commissions were of much account.

Edward Richardson.

A SANITARY FACT.

In an annual report recently published of the Blue-coat School, we notice that the number of children in both the town and country establishment amounts to 1,080, and that the deaths in the year have only been *two*. This is a marked contrast with the deaths per 1,000 in the London barracks.

It would be instructive to those who still believe in the perfection of the London barracks to examine the arrangement of the dormitories of this school, and then compare them with the homes of the soldier, and they would soon find the reason why so few lives per thousand are lost in this building in the heart of the City.

Children from five to fourteen years of age are not even so safe as the strong men of the Guards, but then plenty of space, good ventilation, and the most scrupulous cleanliness and order are brought into play.

BRISTOL GENERAL HOSPITAL.

The Bristol General Hospital was founded in 1832, and, from that period to the present, has been carried on in some old and unsuitable premises in Guinea-street.

In 1845, the inhabitants of Bristol were informed that Mr. Joseph Eaton, a well-known citizen and a member of the Society of Friends, had made the munificent offer of 5,000*l.* towards the erection of a new building; the offer, however, being upon condition that the further sum of 10,000*l.* should also be raised towards the same object.

It was not until 1850 that efforts were made to secure to the public the advantages of this princely gift; but at that time the matter was taken up in earnest, and so liberally did the citizens come forward to sustain their ancient fame for charity, that, in an incredibly short period, an amount was subscribed far exceeding the stipulated sum.

A committee was then appointed to select a site, and to obtain and carry out a design for the new building. A site was purchased in close proximity to the old hospital, and architects were invited to submit plans in competition. Twenty-four were sent in, May 1, 1852. The sub-committee appointed to investigate them met fifteen times, each meeting being fully attended, and averaging three hours; and, having selected eight designs, decided to avail themselves of professional assistance, and called in Mr. G. Wightwick, the well-known architect, then retired from practice, and residing at Clifton, who made a thorough investigation of the whole of the designs. Votes were taken upon the four designs recommended by Mr. Wightwick, and the designs were accepted by a majority of nine to two.

Upon the report of the sub-committee being presented to the building committee, it was determined that the four selected plans should undergo a further ordeal, and Mr. T. H. Wyatt was called in to adjudicate upon them; and his report confirmed both the result of Mr. Wightwick's labours and the decisions of the sub-committee; whereupon the design by Mr. William Bruce Gingell, of Bristol, was finally adopted, and he was appointed the architect.

The cost of the building was very much increased, it is stated, by the rise in the value of labour and materials that took place about the time of obtaining tenders, in consequence of the war; but contracts amounting to 14,959*l.* were entered into, in June, 1853, and the works were all completed last autumn.

The hospital occupies a peculiar, and, as it seems to us, ill-chosen site, and may be said to be almost surrounded by water, having the tidal river on the south, the floating harbour on the north, and the Bathurst basin on the west. The site, too, presented singular impediments to the ready planning of a hospital that should combine every modern improvement, and the utmost economy of labour in working with the best and most cheerful aspects; and the manner in which the difficulties have been met will be best judged of by an inspection of the plans.

The principal fronts of the building are executed with pitch-faced blue Pennant stone, squared, jointed, and set in random work, thus imparting a very bold and enduring character, while the appearance of heaviness is avoided by the plentiful admixture of Bath stone about the colonnades, windows, quoins, cornices, strings, &c. Great additional importance is given to the building, by its being raised upon a basement, the front walls of which are slightly battered, so as to throw out and give extra elevation to the tower and breaks in the front, and are executed with pitch-faced Pennant stone, set in courses, diminishing regularly from the plinth upwards, the whole being relieved by mullioned windows and deeply recessed archways, with massive pitch-faced rustics, and voussoirs of Bath stone, and finished with a moulded string course. This basement is not simply an architectural feature, but was adopted for four reasons, viz. to accommodate the ground-floor of the building to the level of the working entrance, which was required to be from Guinea-street, and is about 14 feet above the level of the Basin-wharf, to elevate the wards as much as possible, to obviate the necessity for underground apartments, and to obtain dry and light warehouses, with entrances from the wharf, which should produce a revenue for the Institution.

The warehouses under and about the hospital, are all fire-proof, and contain about 8,000 super. feet, and 82,000 cubic feet; and over those to the southward, there is a spacious airing ground, laid out as a garden, the walks and flower-beds being formed in Pilkington's asphalte, with upwards of 250 tons of mould deposited upon it.

The court-yard on the Guinea-street side is pitched with limestone, the warehouses below being vaulted, and covered with asphalte. The colonnades not only form a feature in the design, but afford ambulatories for the patients to take out-door exercise in showery weather. One is appropriated to males, the other to females; and both these and the garden command an uninterrupted view of the busy scenes occurring at every tide, from the arrival and departure of the passengers, &c. by the Welsh steam-boats, and the large number of coasting vessels always entering and leaving the basin.

The basement plan of the hospital contains two kitchens, scullery, coal and wood stores, two larders, bread, wine, vegetable, and other stores, servants' bed rooms, laundry, washhouse, drying closet and drying yard, steam-boilers, and apparatus-rooms. The entrance for stores is from the Basin-wharf, and a steward's office is placed thereby.

In the ground plan the most cheerful and sunny parts of the building are appropriated to the resident officers, the committee, &c. and the north-west portions to the out-patients, the latter being severed from the in-patients' department, except by a door for the use of the officers.

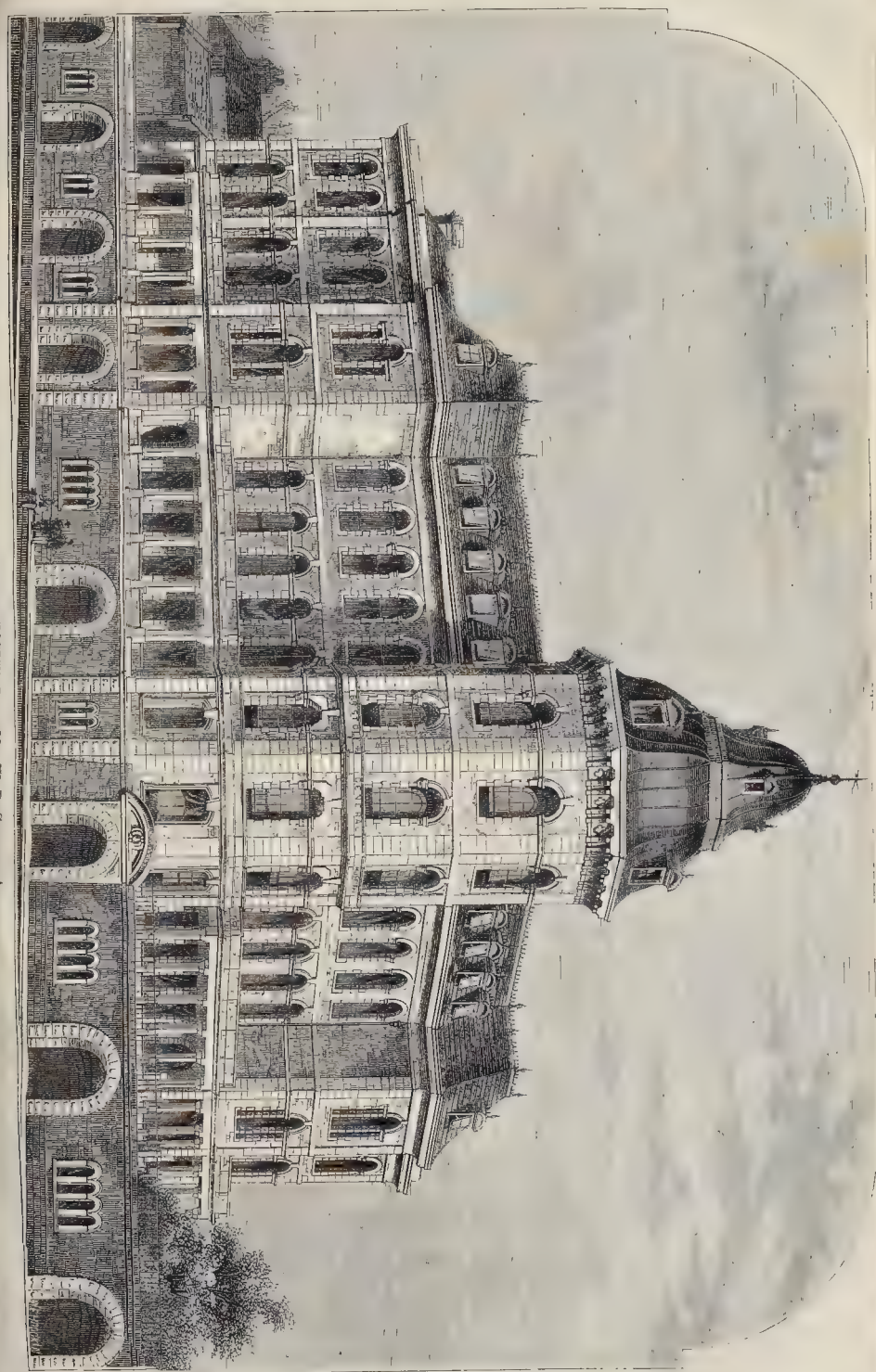
The out-patients' department will accommodate upwards of 300, and is arranged to prevent confusion through the retracing of steps. The sexes are separated in the waiting-rooms, and the seats are fixed upon the alternating principle, so that all pushing is avoided, and each person passes to consultation, in proper turn.

Speaking-tubes run from the porter's-room to the house-surgeon's and matron's rooms, the committee-room, the surgeon's and physician's rooms, and all the wards and corridors. Also from the house-surgeon's and matron's rooms, dining-room, and all the corridors direct to the kitchens.

The first floor is appropriated solely to male patients, and is reached by its own staircase. The second floor is devoted solely to female patients, and is approached by another staircase, divided off from the males' corridor, where passing the same, by an obscured glass screen, but affording communication for the officers only. By this arrangement the patients of each sex can exercise in the corridors, and pass uninterruptedly to and from their wards and day-rooms.

There are ten principal wards, five on each

BRISTOL GENERAL HOSPITAL.



BRISTOL GENERAL HOSPITAL.—Mr. W. B. Gingell, Architect.

the whole well lighted, –four having south, est, and two north aspects; these last being ht not undesirable for the treatment of par- cases. Two fire-places have been put in ward, so that the temperate air from the atus may be dispensed with when desired. room for the nurses on duty is so placed as out of the wards, and at the same time com- a view over a large portion of them, by which , it is said, three nurses can overlook five . There is a private ward and an exceptional on each floor; also the nurses' sculleries, a ts" bath-room, clothes and linen stores, slop- coal-stores, &c. All the water-closets are ting, and have external ventilation. A nce from the wards is obtained by the inter- n of the lavatories; and extraction power is always at work, with a view to prevent the om the closets entering the wards. Each ry is supplied with hot and cold water. large and cheerful day-rooms are provided tower for the male and female convales- each room being octagonal, and having five ws commanding fine views, and overlooking er, harbour, and basin; several principal ys into Bristol, and the country about inster and Ashton; a large portion of the with Brandon-hill, Clifton, Cotham, Kings- , and Knowle.

team lift passes from the basement up to the f the building, well lighted throughout its e, and communicating with each floor at the central point. The theatre is on the second and by the lift communicating with it, a nt can be taken from any part of the house to the operating-table. The room is hex- d, has the galleries for students, and is amply ed both vertically and horizontally.

ere are twelve sleeping-rooms for nurses off all obtained upon the floor formed partly in oofs, where they are wholly removed from usy parts of the building.

e large top room in the tower will be used special ward, as required.

e hospital will accommodate 170 in-patients, he wards contain an average of 1,090 cubic per patient

e whole of the building, except the roofs, is ed upon Messrs. Fox and Barrett's fire-proof m, and all the floors and skirtings, except in nurses' rooms, are finished with cement; of the wards and corridors being of Keene's nt, and all the others of White's Portland; so there are no apertures for harbouring vermin rt; and the floors being non-absorbent, are diately dry after their daily washing, thereby ating the danger arising to the patients from having to lie for some time daily in the sphere of a swamp, while the moisture, ab- d by wood floors at every cleansing, is being wards evaporated

e warming and ventilating works were exe- d by Messrs. Haden and Son, of Trowbridge. fresh air is taken by a shaft in the airing- lad, and under the basement, into the warm- pparatus, and thence to all parts of the ding. The vitiated air is drawn out near the ages by means of flues connected with a large uction shaft, 160 feet high above the level of wharf, wherein the air is always kept highly ted by coils of hot-water pipes, and a large rn, through which nearly boiling water is ulating day and night, for the supply of all the s, lavatories, and sinks. It is supposed that, the doors and windows in the wards all ed, upwards of 120 cubic feet of air per minute wn out through each ventilator, 9 inches by taches; and with the door or a window open quantity is increased to upwards of 150 feet minute. The theory is, that the extraction is gular and powerful that the atmosphere of worst wards will never be foul; nor can it be municated to the other wards by means of the idor, there being always an in-draught, it is rted, from the corridors to all the wards. confine ourselves now to description, but we not be supposed to assent to the propriety ecuring an hospital in such a situation as to ter the elaborate system of artificial ventila- necessary.

he lift is worked by a small steam-engine con- ed with the boiler that serves the cooking els and washing department, all of which ks were also executed by Messrs. Haden.

as and water are led on to all parts of the ding, and distilled wa can be drawn on each r and in the dispensary.

he entrance in Guinea-street is a large and propriate archway, in which at a set of iron es, each showing the city arms and the date of blishing and erecting the hospital

The contractors were Messrs. Willcox and Sons, for masonry; S. Bowden for carpentry, joinery, and plumbing; Lewis and Sons for plastering, slating and painting; T. Allen for smiths', founders', gasfitters', and bellhangers' work; and W. Gay for glaziers' work, all Bristol tradesmen. Mr. Wm. Long was the clerk of works.

REFERENCES.

Ground-floor Plan.

A A. Entrance-porch and lobby.
B B B. Corridor.
C. Principal stairs.
D. Stairs to male wards only.
E. Stairs to basement only.
F. Lift.
G G. Matron's sitting-room and bed-room.
H H. Matron's stores.
I. Matron's china pantry.
K. Matron's w.c.
L. Officers' dining-room.
M. Pupils' sitting-room.
N N. House surgeon's sitting-room and bed-room.
O. Lobby for coats, &c.
P. Library.
Q. Museum.
R. Committee-room.
S. Secretary's office and strong-room.
T. Entrance for visitors, and from garden.
U U U. Pupils' bed-rooms.
V. House surgeon's and pupils' w.c.
W. Pantry.
X X X X X. Sunk areas.
Y. Door separating in and out patients.
Z Z Z. Glazed apertures over windows, &c.
a. Out patients' entrance.
b. Out patients' exit.
c c. Porter's rooms.
d d. Surgeon's consulting-room and his patients' waiting-room.
e e. Ditto ditto.
f f f. Physician's consulting-room, and his patients' waiting-rooms.
g. Patients' waiting-hall.
h h. Casualty wards and dressers' rooms.
i. Medical officers' w.c.
j. Dispensary waiting-room.
k. Dispensary.
l. Laboratory.
m m. Sashes for receiving bottles and giving out ditto.
n. Out patients' corridor.
o. Male patients' w.c. and urinals.
p. Dead house.
q. Post mortem.
r. Porter's office.
s. Female patients' w.c.
t. Roof of old building belonging to hospital museum, and not to be interfered with by new building.
u. Roof over new warehouse.
w. Visitors' entrance from Bathurst basin.
x. Colonnade for females.

First-floor Plan.

A A A. Wards.
B. Exceptional ward.
C. Private ward.
D. Day-room.
E E E. Nurses' rooms.
F F. Nurses' sculleries.
G. Patients' bath-rooms.
H. Medical officers' bath-room.
I I. Coal stores.
K K. Patients' clothes-rooms.
L. Slop-room.
M. Lift.
N. Instrument-room.
O. Store for ward linen.
P. Stairs to wards over.
Q. Stairs for males only.
R R R. Patients' lavatories, urinals, and w.c.
S. Nurses' w.c.
T. Foul air extraction flue from ground-plan.
U. Roof over porch.
V. Roof over dispensary and laboratory.
W W. Corridors.
X X X. Roofs over colonnades.

ON COLOUR AND LIGHT AND SHADOW IN ENGRAVING.

The merits of our great engravers scarcely meet with that degree of appreciation which the peculiar and difficult artistic efforts required to produce a high-class engraving really deserve. It is true that the engraver does not in his works display the mental power of great and original painters; nevertheless, he requires a remarkable faculty of imitation, considerable artistic and mechanical skill, and a perfect knowledge of the principles of light and shadow. The painter, by the use of his reds and blues, and a multitude of other tints, produces both startling relief and harmony in a comparatively easy manner; but the engraver, not having the advantage of colours, is obliged, by the ingenious contrasts of textures and lines, and by the proper management of black, white, and grey, to convey the idea of glorious tints –to make distinctions between bright yellow garments and the pale blue sky, which, so far as actual tint is concerned, are but little different in the weight of colour. He has also to study the power of lines, and produce foreground, middle distance, and the more remote parts by the foil of strong and delicate lines, which have also to be suitable to the forms to be copied.

In examining the marvellous engravings of the Italian school before the introduction of etching, it is with admiration that we behold the remarkable effect produced by the simple graver; and it is difficult to decide whether most to admire the exquisite beauty of the drawing or the brilliancy of the general effect. While admitting the above admirable qualities, it must be acknowledged that with the introduction of etching the depth and power of engravings was materially increased; the textures became more varied, and consequently the variety of colour became more clearly expressed. The engravings by Woollett are examples of the clear and transparent depth which can be produced by lines of great thickness, and eaten down far below the surface by the repeated application of acid, refined upon by toning with the graver, cross-etching, and other delicate applications. The thatch of cottages, mixed with and partly covered by mosses; the gloomy yet rich shadows of the foliage; the decayed stone and wood work; the picturesque weeds of the foreground; the human form, the coats of animals, vessels, &c.—are touched in a way which convey with singular force the effect of a highly-finished and coloured picture.

The engravings by the elder Heath had also the merit of successfully representing variety of colour; so do the vigorous engravings by Strange, Sharpe, and others of the English school, whose works for certain high qualities have not been surpassed by those of any other. The works just referred to are distinguished by a glowing harmony of a sort of golden hue, which is peculiar to engravings on copper plates; and this will be readily seen by a comparison with the impressions from the steel plates which during the last twenty or thirty years have come so generally into use; for notwithstanding the skill of engravers such as Goodall, Stocks, Willmore, Prior, and others, there is in these works a want of that vigour which is such a marked and characteristic feature in the prints above mentioned. The effect produced on steel is to a certain extent silvery, cold, and somewhat thin.

In certain instances this, which may be considered a fault, has, we think, been increased by the application of machine tints to the skies. This has been done with a view to the saving of the long time which is required to etch a sky by hand. There is, however, an artistic feeling in a hand-etched sky which the machine always fails to exhibit; and, moreover, it is a query if it produces any saving in the end; for, in order to work the different parts of the plate, so that they may be made to harmonise with the smooth metallic regularity of the machined skies, there is an excess of toning which not only causes much labour, but also leads to the destruction of much of the beauty and freedom of the etched lines, which frequently give so much expression.

SUBMERGING TELEGRAPHIC CABLES.

INSTITUTION OF CIVIL ENGINEERS.

The evenings of March 2nd, 9th, 16th, and 23rd—Mr. Joseph Locke, M.P. in the chair—were entirely devoted to the discussion of the papers "On Submerging Telegraphic Cables," by J. A. Longridge and Mr. C. H. Brooks, and "On Paying out and Repairing Telegraph Cables," by Mr. F. C. Webb. The official report of it is long and interesting.

The discussion was commenced by remarks upon some of the deductions in the two papers, which, it was argued, could not be accepted implicitly. It was contended that there was not any proof of the cable arranging itself in folds or coils at the bottom of the sea, and that the "waste," or surplus length of cable laid down, could not be as much as 30 to 50 per cent. more than the actual distance traversed. There was not sufficient foundation for these statements, and therefore they were considered to be erroneous. By a model exhibited, it

was shown that a small chain, when uncoiled from a roller, round which it was wound, was delivered in a straight line as the roller travelled along upon the upper plane of the model. Hence it was argued, that, allowing for the greater buoyancy, or the reduction of specific gravity, by immersion in water, a cable could be laid at the bottom of the sea, in the track of the ship, exactly as it left the coil in the hold, without any loss of length.

It was remarked, that simple cables with a single conductor had cost large sums of money for maintenance and repairs, while under the compound system, with two exceptions, but little or no expense had been incurred. This should be borne in mind in designing submarine cables in future. The plan of paying-out a cable from the stern of the vessel was objectionable; for the stern, in rough weather, would evidently rise and fall considerably. The effect of this would be to throw great strain on the cable, unless it was allowed to pay itself out to such an extent as to prevent any alteration in the catenarian curve, and thus waste a large portion of the cable, a loss being sustained on the passage of every wave. The preferable part of the vessel for the cable to leave the ship seemed to be the centre, or the centre of gravity, by which all waste from the pitching or rolling of the vessel would be avoided. A conical hole, with the apex of the cone tending upwards, should be made for the purpose, and then the cable would not be chafed by rubbing on its departure on any part of the vessel. The almost certainty of a storm occurring during the operation of laying down the Atlantic Cable rendered it the more desirable, that every precaution should be taken which could be devised to insure success. And if it were not possible to alter a vessel so as to pay out at the centre, then a ship should be specially built for the purpose.

With respect to the durability of electric cables after submersion, it was remarked that pieces of iron fished up from the bottom of the sea were found to be coated with a solid mass of concrete; so that it was fair to presume that the Atlantic cable, when once submerged in the still depths of the ocean, would, before it was destroyed, form for itself a protecting covering. And though gutta-percha, when exposed to the atmosphere, or laid underground, might be subject to decay, yet, when submerged in the ocean, it was found to be perfectly preserved, as was proved in the case of the Dover and Calais cable.

It was remarked that the great experiment of the Atlantic telegraph had the best wishes of all engineers; but it was felt that sufficient attention had not been paid, either to the mechanical appliances, or to the construction of the cable itself, which the vast importance of the undertaking demanded. The cable had not been submerged in its entirety, and tested in that state, to ascertain its condition. Nor had any effort been made to determine what would be the effect upon the gutta-percha core of a pressure of 3 or 4 tons to the inch, at a depth of 2,000 fathoms. The failure was stated to have occurred when the cable was momentarily left in the charge of a workman; but it was much to be deplored that so great an enterprise remained, even for an instant, in the care of unscientific hands.

The statistics of the submarine cables hitherto essayed, showed, that out of forty-three attempted to be laid, six only had failed during the process of laying, four subsequently, and one of the Hague cables was at present under repair, leaving thirty-two in perfect working order. These facts completely disposed of the assertion, that 50 per cent. had either failed in being submerged, or immediately afterwards. Of the ten total failures, three were strictly light cables, with no outer wires, being the only uncovered cables tried; and the two failures of heavy cables after submersion, arose from their being too light. Several cables had, it was true, been broken by anchors, in consequence of the absence of sufficient iron protecting wires, but these had been immediately repaired, and were now in regular work.

On March 30th the proceedings were commenced by the reading of an abstract of a paper entitled "Observations on the Electrical Qualifications requisite in long Submarine Telegraph Cables," by Mr. Alfred Varley.

The communications lately read, and mentioned above, on the subject of submarine telegraphy, had suggested the inquiry whether the cables, as at present constructed, did fulfil, in the best manner, the electrical portion of the problem.

The laws of conduction, as ascertained by the author, as the result of direct experiments, were, first, that a wire one mile long offered half the resistance of one two miles long. Secondly, that two wires, each two miles long, when placed side by side, which was the same as one of double the area, offered the same resistance as one wire one mile long. With regard to induction, the results of experiments tried by the author and Mr. C. John Varley, showed that with flat plates it followed the same law as conduction, decreasing in regular proportions, as the insulating medium was increased; that was to say, if the inductive force through one plate was twelve, through two plates it would be six, through three plates four, and so on.

The second paper read was "Description of the Improvements on the Second Division of the River Lee Navigation, with Remarks on Canals generally," by Mr. R. C. Despard.

The walls and pier were of brickwork, faced with hard pavior stocks, set in Portland cement, and backed with concrete; hoop-iron bonds being introduced at every eighth course. The invert of the smaller lock was composed of Portland cement concrete: that of the larger lock was originally of the same material; but, owing to the percolation of water, a width of 6 feet in the centre was of two half-brick rings set in cement.

The principal points of novelty were the combined pointing cills and hollow quoins, both of cast iron, and the sluices. The cills were each cast in one piece, and were of sufficient length to allow of the ends being firmly built into the lock walls, thus forming the foundation plate for the gate pivots. The arrangements were such that each cill and pair of hollow quoins were placed in position and firmly bedded in less than two days. When the locks were sufficiently advanced, the gates, framed ready for fixing, were lowered entire, instead of being, as usual, erected piecemeal in the lock-pit—a tedious operation, necessarily performed after the lock-walls were built; whilst, by the plan adopted, the construction of the gates was entirely independent of the lock-work. The balance beams, anchor caps, foot sockets of the heel posts, and fender frames (of which there were four built into each lock wall), were all of cast iron.

A steam dredging machine was employed for deepening the river, the average cost of raising material being from 10d. to 11d. per cubic yard, according to the weight, including a "lead" of 1½ mile, and allowing for wear and tear of machinery.

The total cost of the works was about 22,000*l.* which amount included 4,000*l.* for land, and 2,000*l.* for plant, now being used on works higher up the river. They were designed and executed by Mr. Beardmore, assisted by the author, without the intervention of a contractor.

FOREIGN RAILWAYS AND OTHER WORKS.

The Algerian railway surveys from Algiers to Blidah are nearly finished to "*Maison-Carrée.*" Owing to the favourable nature of the soil for railway works, it is expected that the works will shortly commence, under a concentrated force of 4,000 soldiers, who willingly exchange the bayonet for the pickaxe. Their pay is to be doubled. It has been already stated that in default of any company presenting itself, these railways will be open to the volunteers of the French army. The supply of tools, such as waggons, wheelbarrows, picks, &c. is ready for the work and sufficient; and it may be noted that the Government of France will facilitate, by special means, the emigration to Algeria of the skilled Paris workmen who can either superintend or do the work themselves. As to the French soldiers, they are to receive high wages while at such work.

The great tunnel under the Alps, near Modane, proceeds with uninterrupted activity. At that end the heading is driven 85 mètres: at the Bardonniche end more than 100 mètres have been done; and as the rock is very hard, full section is being taken for a length of 60 mètres.

On the favourable report of the Spanish engineers appointed to inspect the line from Madrid to Alicante, it was opened to the public, the first regular train having started from Madrid on the 6th ultimo, at 8·30 p.m. and transported the principal functionaries of the company to the seaside. The inauguration ceremony is postponed till May, when it is expected that the Queen will honour it with her presence.

In the south of Spain the works on the Seville and Cordova and the Seville and Cadiz lines are pursued actively. On the latter the works are much advanced, all the land has been purchased, the earthworks, masonry, and guard-houses, &c. are finished for double line for 90 kilomètres in length. The materials for the telegraph are on the ground, as are also the sleepers, rails, and fishes for 22 kilomètres. The ballast is ready, and the first delivery of engines and waggons, whi took place lately, enables the line to be ballast rapidly, and the permanent way to be complete Everything permits the company to hope for t completion of all the line at the end of this ye The section of Cadiz to St. Fernando is expect to be opened next May.

According to the *Gazette de Carlsruhe*, t following railways have been presented to t chambers by the Grand Duchy of Baden:—

1. Extension of the Waldeshut Railway to Co stance. It is not yet decided whether this line is pass through the Swiss Canton of Schaffhouse whether it is to be wholly in the Baden territor

2. A railway from Durlach by Pforsheim Wurtemburg, joining the state railways of Wu temburg near Mühlacker.

3. Junction of the Baden state railways wi those on the left bank of the Rhine, near Kehl a Waldeshut.

The above lines are to be constructed at the e pense of Government. In addition to these ne projects, the following have been conceded to cor panies, with interest guaranteed by the Gover ment:—

1. Heidelberg to Nosbach, in the direction Warzbourg.

2. The Offenbourg Railway by the Kinsig va ley to Hansach, and the Villingen Railway Donaneschingen to some convenient point on th Waldeshut and Constance Railway.

The Ducal Government proposes to contract fo a loan for the construction of the Heidelberg an Warzbourg line. Nothing has yet been decide upon as to the means of raising it, and it is no necessary that it should be obtained before Ma next, as the Government have sufficient funds t proceed with the surveys without waiting for th loan for construction.

In July the Cambrai and Saint-Quentin line to be opened. At St. Valery the earthworks hav been completed: the masonry necessary for the solidity is the wonder of all the passengers fro Noyelles to St. Valery, who have a good view o the works. In that section all is ready for th rails.

The Lapaliss and Roanne line is to be opene for public traffic on the 15th June.

The works on the Thionville and Luxembour Railway are about to commence. Messrs. Sturel an Co. of Metz, are contractors. The Grand Duc Government are to execute at their own expens that portion of this line destined to unite th French frontier with Luxembourg. It is to b finished in two years.

In Belgium, the works of the Ecaussines an Erquelinnes line are in most active progress. Th works are unusually heavy for a flat country i general. Between Hoedeng-Goegnies and L Louvière there is the greatest embankment i that country; it is 22 mètres and a half high that of Lodelinsart is only 19 mètres 60 centime Moreover, the embankment is 700 mètres long and cubes 300,000 mètres. During the las month, 32,000 were tipped, and 40,000 are ex pected to be done this month (March).

The Russian Railway Company (*La grand Com pagnie des Chemins de Fer Russes*), have not suc ceeded in getting any rails in Belgium, but they have concluded bargains in France for 40,000 tons and in England for 400 only.

In Russia a new company is in course of forma tion. It proposes to construct 2,000 kilomètres of line, which on the one hand will join Odessa (by Kieff and Mohileff), with the French Company's railway, and so effect a junction with Moscow and St. Petersburg, and on the other hand a branch line passing by Radzurl, will join the Austrian railway, and be in direct communication with Vienna. Mr. Beckendorf is the founder of this company, in connection with the important English banking firm of St. Petersburg, Messrs. Thomson, Bonnar, and Co. The company have expressed their intention to employ none but Belgian or French engineers: so Bresson's *Gazette des Chemins de Fer* states.

The Russian Government have just given a concession for a railway from Ribiusk (on the Volga) to St. Petersburg. The communication between these towns (700 kilomètres) is at present by canal, and some idea may be formed of the importance of railway traffic in that part of the world, when we consider that it takes *two years* or even *two years and a half* for a cargo to accomplish this distance (440 miles English), owing to stoppages at intermediate ports, insufficiency of water, ice, administrative formalities, and other obstructions.

The works on the Schweinfart (Bavaria), Bebra, and Fulda (Cassel) are to begin shortly, the

iations between the two governments having brought to a favourable conclusion.

e François Joseph Eastern Railway of Aus- has sent an order for thirty locomotives to a y at Essling.

e Northern Railway of the Tyrol is certainly opened on the 1st October next. The and Passau line will also be finished within rescribed time.

Bâle, on the 12th ult. there took place the nge between the ambassadors of the Grand y of Baden and the N.E. Company of Swiss ays of the ratifications of the treaty of the August last. This treaty relates to the junc- f the railway groups of the two countries at eshut. Previous to this important conference, s determined by the Confederation that a *ment* bridge should be built across the).

e Lyons and Geneva Railway, which unites e with Switzerland and Sardinia, and thereby direct communication from Paris to Germany taly, was opened on the 16th ult. by a reli- ceremony. The Bishop of Belley gave the tomed benediction to the locomotives, to the ors, and the officials; also to the workmen, ad behaved very well in the work of diffi- in that rough country. The French engi- of section received the cross of the legion of ur.

e commission appointed by the French Go- nent have recommended that the following s are necessary, for three objects, to be red into before seriously undertaking the cted tunnel between Dover and Calais:—

To take the vertical relative dispositions of ifferent formations lying in the axis of the s; to verify the exact levels and inclination e stratification of the Jura formation under nglish shore in the direction of the proposed el.

To measure, by pumping apparatus, or other s of exhaustion (*au moyen d'appareils eisement*), the relative force of the aqueous riexisting, or possible to exist, in the interstices ese strata, all of which dip towards the Eng- hore.

To make, by competition, the experiment of en-engines for boring rocks rapidly in tunnels, ctacking, by *steel*, without the aid of powder, nard and soft resistances, and so solve the ion of the probable duration of the work ssary for the completion of the tunnel.

L: LATE ACCIDENT IN GILBERT-STREET AND BUILDING MATTERS.

E public generally are much indebted to you building matters, whether it be on "sanitary" building "reform;" while the press generally, gh not slow to avail themselves of the amount information to be found in your pages, are not ys so prompt in acknowledging the services have been rendered, or in correcting the te from want of positive and exact information h they may have unintentionally circulated their fallacy has been proved by you.

is is the fashion,—the notion is a common —to impute most of the disasters that occur uildings to the district surveyor. If a build- is half-timbered too, he is blamed, although in rfirst matter he has no power whatever, in the nd very little: the real offender, the builder, pes. Again, woodwork is improperly placed wall too near a flue, possibly running into it: ths are not of solid, incombustible materials, he full thickness of 7 inches, as required, but lled on timber: the real offender, the builder is men,—he may have been deceived by his —escapes. And, let me ask, is the surveyor us-eyed, and is he a ubiquitous individual, he can so narrowly watch many works going simultaneously at many houses? If the de- be to deceive the surveyor or the master, men have ample opportunities and facilities, n which no amount of supervision on the part he surveyor can protect the public.

piece of wood or plate, as you say, is impro- fly fixed in a wall or flue, covered up or plas- d over. The work is done when the surveyor has He is, perhaps, if the matter be recent and covered, summoned before a magistrate, who, h wholly mistaken view of the matter, lets him or the matter goes on for years, and is only covered on a fire occurring, when the real lender escapes, and the surveyor is blamed for sting to men's promises, and for not doing an ossibility.

On the late fire permit me to add a suggestion the crudities that have appeared in the daily s, one notable expedient being to destroy the greatest guarantee of public safety,—the integrity of party-walls, and have openings of communication in them; the other to insist on trap-doors. When the difficulty, even under the most favourable circumstances, of drawing rusty bolts in a trap-door, and finding perhaps a broken ladder, are added to the confusion and alarm of a fire, it is not a means of escape that can be made immediately available.

A perfectly simple mode adopted by the late Mr. Cubitt in Belgravia and by myself is to continue the staircase right up through the roof, opening with a dormer door on to it, and thus affording a ready access to it right or left.

PAULATIM.

LEEDS.

THE foundation-stones of two important buildings have just been laid at Leeds, and a third new building opened.

The ceremony of laying the foundation-stone of the new workhouse at Burmantofts, and also of the chapel in connection with it, took place on the 5th inst.

The workhouse, which is to be built from the prize plan of Messrs. Perkin and Backhouse, of Leeds, is designed to harmonise with the Industrial Schools, and is in the Elizabethan style of architecture. Its frontage will face Beckett-street, and will be in a line with the Industrial School. This plan will give the appearance of both establishments being one complete building. The chapel, a cruciform structure, will be erected in the centre of the ground betwixt the schools and the workhouse, and is in the Byzantine style. It will be surmounted by a tower on the south side, in which it is proposed to place a clock, with quarter bells. The chapel will be fitted up with open pews, and in the transept two galleries will be erected, to accommodate 200 children. In the rear of the chapel, at the south-west end of the principal building, is the infirmary; and contiguous to it, but totally separate and distinct, are the idiotic and fever wards. The workhouse itself will be built to accommodate 810 paupers—360 males and 450 females, and it is contemplated that the whole will be complete in about two years.

The foundation-stone, or rather one of the corner-stones, of the new Grammar School, Leeds, was laid on Tuesday in last week, by the Bishop of Ripon. The site of the building, which, with the playground, covers 8 acres, is situated on the south-east side of Woodhouse-moor. The land has been purchased for 3,000*l*. The building will contain a residence for the head master, besides the rooms necessary for the school. The two principal school-rooms will be 95 feet long and 28 feet wide, lighted by large windows on both sides, and at one end, at a considerable height from the floor, and will accommodate 200 boys each. They will be placed one over the other. A library and lecture-room, each 25 feet square, will also be provided, as well as cloak-rooms and other accommodation. A stone staircase will give access to the upper school-room, the floor of which will be carried by strong wrought-iron beams. The building will be entirely faced externally with stone, the plain walling being executed in Potternewton stone, and the windows, string courses, and other architectural features in stone, from the Weetwood quarries. The style of architecture adopted by the architect (Mr. Edward M. Barry, of Westminster) is Gothic, of the Decorated period. The windows are ornamented with small columns and tracery heads. The sides of the school-rooms display buttresses and dormer windows, and all the roofs are of a high pitch, and covered with slates of different colours. The upper school-room will have an open timber roof.

The works were let a short time ago to the late Mr. Hall, builder, and will be carried on by the executors, under Mr. Whiteley, and the estimated cost is about 10,000*l*. of which it is intended to raise 7,000*l*. by subscripiton. The foundations are already constructed, and the building may be finished by the 1st of October, 1859.

The new National Schools in connection with the parish church have been completed and opened. The designs were prepared by Messrs. Dobson and Chorley, of Leeds, architects, under whose superintendence the work has been executed. The building includes a boys', girls', and infants' school. It is erected upon a plot of ground on the south-east side of the parish church, and occupies altogether about half an acre of ground. The buildings comprise—on the ground floor, infants' school, 57 feet by 18 feet, and 39 feet 4 inches by 35 feet, with lavatories to the same, also covered and open play-grounds for boys, girls, and infants. On the first floor are boys' school, 76 feet by 18 feet, and 37 feet 9 inches by 18 feet, with class-room and library, 38 feet 6 inches by 16 feet; girls' school (also on the first floor), 76 feet by 18 feet, and 52 feet by 18 feet, with class-room, 18 feet by 16 feet. Ante-rooms are screened off from both the boys' and girls' school, and fitted up complete as lavatories and cloak-rooms. The school-rooms are in the shape of the letter L. There is a lecture-room, 39 feet 6 inches by 16 feet, communicating with the girls' school, and having a separate staircase and entrance at the north-west corner of the building. There is a washhouse and cooking kitchen in connection with the girls' school, fitted up complete. The schools are capable of accommodating 937 children, allowing 9 superficial feet to each child. The whole of the schools have separate entrances. The tower at the north-east angle contains the staircase and entrance to boys' school and play grounds. There are three teachers' residences. The building is in the Perpendicular style, in harmony with the church, the materials used being brick and stone dressings. The upper part of the tower is used as a foul air extracting flue. The following were the contractors for the various branches of the work:—Mr. Thomas Whiteley, stonemason, Woodlouse; Messrs. Swale and Brown, bricklayers, St. Peter's-square; the late Mr. Thomas Hall, carpenter and joiner, Harper-street; Mr. John Garlick, plumber and glazier, Crown-street; Mr. Charles Proctor, plasterer, Woodhouse; Mr. Samuel Croft, slater, Water-lane; Mr. W. Nelson, painter, Briggate; and Messrs. Singleton and Tennant, ironfounders, Briggate.

The cost of the building will be nearly 6,700*l*. The subscriptions raised have been aided by a Government grant of 2,700*l*.

MASTERS AND MEN.

MANY have written much on the subject of the advantages of a good mutual understanding existing between employer and employed: they cannot over-rate them were such the case. But, alas! how opposite they are; and until the retarding causes are removed, their writing is all in vain; they do not know where the evil lies. "A Workman," I have no doubt, could enlighten you very much in these matters. Do not imagine, sir, we desire *equality*. We do not envy the successful capitalist. He has a right to all the profits which he gains by the exercise of his capital and skill; but we do desire to be recognised as the means of bringing about these results, and treated accordingly. Deeds are better than words. Let our employers *show* us they have an interest in our welfare: let our homes be built more for our comfort: let our wives be better fitted (by their mothers) for the duties they will have to perform;—then, and not till then, shall we gain self-respect; quit the excitement, light, warmth, and comfort (?) of the gin-palace or pot-house (and which we cannot always get at home), and become better members of society.

AN OPERATIVE.

IMPROVEMENT OF TOWNS.

IN the number of your journal dated March 27, you favoured me by the insertion of some remarks on the above subject, under the heading of "Bottle-necked Thoroughfares." Allow me to add, in continuation, some practical suggestions as to the means of carrying out this object.

It would be well for each town to have its "society for the improvement of the town," which society should invite the inhabitants from time to time to contribute to that object, at the same time pointing out to them the advantages which would arise from so doing. People would be more willing to subscribe to the funds of such a society than to submit to the involuntary taxation of borough and county rates, which are often insufficient for the purposes required.

The first object to which the society should turn its attention is the purchase and improvement or rebuilding of dilapidated house property, as the society would thereby permanently endow itself, and become less dependent on future subscriptions and donations, and would be enabled to effect every year some of those improvements which would bring any pecuniary return to the society, but which would benefit the public generally; such as paving unpaved streets, and providing parks, gardens, and public walks. One thing much wanted in provincial towns is public baths. These have been erected in London partly from subscriptions, and now are self-supporting. Cleanliness is especially necessary to the health and consequent energy of the people, and a good scrubbing would perhaps put a little of that pluck so much wanting into the sleepy, unprogressing

inhabitants of some of our neglected and decaying old country towns.

The society might also advance money to inhabitants who wished to take out patents, on condition of the patent articles being manufactured in the town, as the reputation of mental industry would thereby attach itself to the town. And for similar reasons the society should assist as much as possible in bringing out and upholding the literary talents of the inhabitants, which object would be greatly advanced by the publication of a magazine bearing the name of the place. Corporations can sometimes do a great deal. The corporation of Carlisle have done so much in improving that city and its vicinity, and by making public walks, that people of independent fortune are flocking to it as a residence. As a single example of public spirit (not the less worthy of remark on account of its apparent insignificance), some swans, the property of a farmer in the neighbourhood, escaped, and chose the Eden river as their swimming-bath. The proprietor, observing their preference for city life, gave them to the city, and (which shows how one act of public spirit will evoke another) the corporation appointed a warden for them at a good annual salary. The Government might do much by offering the franchise to some of those towns which, not being boroughs, should make most improvements within a given time; or, on the same conditions, offering a premium to be laid out in some way beneficial to the inhabitants. But it is best for the people to take an interest in their own town, independent of any such inducements. W. SCARGILL.

CHURCH-BUILDING NEWS.

Newport (Essex).—The tower of the fine old parish church of Newport, built about 800 years ago, has been restored. The materials are rubble, encased with flint, with Caen stone dressings. Nine windows are entirely new: they are in the Early English style. The west door is antique in character, with carved bosses, and gargoyles in keeping with the original. The height of the tower is 98 feet from the floor, the summit having four octagonal turrets. There were formerly five bells; but it is intended now that there shall be six. The length of this church is 144 feet from east to west, and the transepts 98 feet wide. The present works have been done under Mr. G. E. Pritchett, architect, and Mr. W. Brown, of Lynn, was the contractor for the building of the tower, which is now completed. The clerk of the works was Mr. Whitehead.

Chelmsford.—The contract for building the new Independent Chapel, in Baddow-road, Chelmsford, has been taken by Mr. S. Balderstone, of Ipswich, at 1,408*l.* and the old materials. The new chapel is to be erected from designs of Messrs. Poulton and Woodman, of Reading, architects.

Horsham (Surrey).—The circular chapel in this parish, erected in 1844, has been remodelled, repewed, an end gallery and external porch erected, the latter of Gothic design, about 18 feet to the apex of the gable. The roof and floor are covered with blue and red terro-metallic tiles, in alternate courses. The gallery is provided with a stone staircase. The roofs are pierced in the centre for ventilation, and surrounded by a rib, receiving the converging ribs, and stained and varnished. The benches are all moveable, having chamfered ends and sunk bevelled backs, all let into framed mitred and chamfered sills, stained and varnished, and of different lengths, the aisles being of curved form, to afford an increase of accommodation. The whole of the works have been finished by Mr. Charles Pratt, builder, under the superintendence of Mr. J. G. Stapelton, jun. the architect. The building was re-opened on Good Friday.

New Windsor.—The Established Church portion of the new cemetery has been consecrated. The approach to the cemetery has been widened. The entrance consists of ornamental oak-framed folding gates, with iron scroll-work introduced in the various compartments. The gates are hung to two ornamental piers of stone, and on the sides of the piers are flank dwarf walls of pierced stone-work, each opening being filled with ornamental iron-work. The lodge is close to the entrance. It is a building harmonising in style with the entrance and the chapels. Near to the lodge is a small mortuary receiving-house. The whole of the buildings are constructed of Kentish ragstone in rand an masonry, with Bath stone dressings, and are in the Decorated style of Pointed or Gothic architecture. The ground contains about five acres, of which nearly three acres at the east or end entrance have been consecrated. The Episcopal Chapel has a nave and chancel, the extreme external length being 37 feet 6 inches, and the width 17 feet 8 inches. A robing-room is attached to the north side, and from the junction of this projection with the north wall rises the tower and bell-loft, above which the spire rises to a height of 60 feet above the ground. The east and west windows are adorned with geometrical tracery, and the side windows present considerable variety of design. Internally, the roofing is open. The Dissenters' Chapel is a plain parallelogram in plan, of about the same area as the Episcopal Chapel, with a vestry on the south side and an open timbered porch with ornamental barge-boards in the north. The east and west windows are filled with tracery, and over the former the gable is terminated with a crocketed finial of considerable relative altitude. The fittings are of the same character as in the Episcopal Chapel. The designs for the buildings and laying out of the grounds were produced by Messrs. Poulton and Woodman, of Reading, architects. The whole of the works have been carried out under contract with Mr. Strong, of Windsor. The planting is in course of execution by Mr. Whomes, of Windsor, and the ornamental iron-work of the entrance has been supplied by Messrs. Wellman.

Stoke, near Guildford.—The small west gallery is about to be removed, and a new one erected, extending the whole width of the nave and aisles, for the accommodation of the increased number of children who attend the large schools recently erected, from the designs of Mr. T. Goodchild, Guildford, architect, who is to carry out the proposed gallery. It is also in contemplation to remove the organ, which now obstructs the view of the handsome west (perpendicular) window, and to place it over the vestry upon the south side of the chancel.

Boughton Monchelsea.—The following tenders were received for the works connected with the erection of a new parsonage-house in this parish: Punnett, Tunbridge, 1,684*l.*; Bradshaw, Maidstone, 1,535*l.*; Spicer, Strood, 1,486*l.*; Tompson, Maidstone, 1,295*l.*; Sutton, Walter, and Goodwin, Maidstone (accepted), 1,287*l.*

Bristol.—Mr. Hatherly, the active honorary secretary of the Commercial Auxiliary Association, has lately received the sum of 20*l.* from Mr. J. S. Brymer and Mrs Brymer, of Bath, to restore the columns of the church of St. Mary Redcliff. It is suggested that if twenty-eight subscribers of a similar amount could be induced to come forward, the whole of the aisle columns could be renovated. Mr. Hatherly and his friends have also obtained 80*l.* towards the memorial window to the late Mr. and Mrs. Hall, for which 100*l.* are required.

Taunton.—The opponents of the proposal of the churchwardens for taking down and rebuilding the tower of St. Mary's Church, and raising 2,000*l.* by way of a rate towards the expenses, have taken the opinion of Mr. C. J. Foster, LL.D. on the subject, who advises, "that the vestry has no power by law to entertain the proposal of the churchwardens." A subscription has been commenced for opposing the rate.

Bowdon.—It is intended to commence, as soon as possible, the erection of a plain temporary brick building, to accommodate 800 persons, to be used whilst the work of restoring the church is going on. The restoration is to be begun when the temporary building is ready for occupation. It is calculated that the restoration will be completed about October, 1859. The plans include the heightening of the tower, 14 feet 6 inches, and the lengthening of the building, as well as the addition of transepts. The restored church will seat 1,134 persons, and an addition will be made to the present rather limited number of free seats.

Scarborough.—The screen which has so long concealed the chancel of the parish church of Scarborough is at length removed, and the east window (Dr. Harland's gift) is again seen in all its proportions. The crumbling plaster has at same time been removed, and the surface of the stone wall restored to its original state. A reredos has been erected, the groundwork of which is formed by coloured tiles, of Mediæval pattern, by Minton; surmounted by a carved stone cornice, consisting of vine-leaves and wheat-ears,—with text. The roof of the chancel has been decorated, the ground being azure, with gold stars; the ribs and cornice picked out with gold, introducing oak-leaves and roses, &c. Mr. Dove, of Scarborough, has executed the carving; the whole being under the direction of Mr. E. Christian.

Ely.—The foundation stone of the new Wesleyan chapel and schools to be erected at Ely was laid on Wednesday, the 7th instant, by Mr. E. Ball, M.P. The buildings will be plain; erected with bricks and Ancaster stone. The works are being carried out under the direction of Mr. Freeman, at an estimated cost of about 1,100*l.*

Miscellanea.

PRACTICAL TEACHING. On Saturday, the 2 of March, Professor Donaldson went with classes of architecture and construction to Cove garden Theatre, by the permission of the arc tect, Mr. Edward Barry, who accompanied t party over the works, showed them the drawin and described the peculiar points in the arrang ments and construction. The pupils, we n scarcely say, were much gratified by the court of Mr. Barry, and the information and experie which they gained by their visit to this importa edifice.

THE EXHIBITION OF 1861.—The Council of t Society of Arts have resolved, "That the insti tion of decennial exhibitions in London for t purpose of showing the progress made in indust and art, during each period of ten years, wo tend greatly to the encouragement of arts, man factures, and commerce." "That the first of th exhibitions ought not to be a repetition of t Exhibition of 1851." And "That the Council w proceed to consider how the foregoing resolutio can be best carried into effect."

THE BORDEAUX FOUNTAIN COMPETITION.—A correspondent asks for information as to the resu of the competition for a monumental fountain Bordeaux, a notice of which competition appear in the *Builder* of the 27th of June, last yea Perhaps some friend at Bordeaux will let us kno what has been done.

PUBLIC WORKS AT ADELAIDE, SOUTH AU TRALIA.—The review of public works is divided b Mr. Davenport, late commissioner of public work into five sections, namely, waterworks, magnet telegraph, harbour trust, colonial architect's d partment, and central road board. The whole o the working surveys for the waterworks by la review had been for some time completed, at cost of 1,100*l.*; and contracts for iron pipes to th value of 75,000*l.* had been taken. Valves, sluice lead, &c. had also been ordered from England t the amount of 12,750*l.* According to a statemen since made by the commissioners of waterworks works have been undertaken towards carrying out the scheme to the amount of 115,198*l.* The wate it is now determined, shall be collected by a syste of surface drainage, whereby 80,000*l.* will be save out of the contemplated outlay of 280,000*l.* Th working of the magnetic telegraph is declared i the review to be extremely satisfactory. The esti mated receipts for 1857 were put down at 500*l* but they had reached 791*l.* by the end of Jun only. In the colonial architect's departmen numerous works have been and are being carrie out, such as the custom-house at Robe, court houses at Redruth and Gawler, additions to the Legislative Council Chamber. These and othe works commenced and completed in 1857 cost 5,047*l.*; and others then completed, but previously begun, cost 3,296*l.* On works still in progress including the new Adelaide Hospital, additions t lunatic asylum, Cape Northumberland Lighthouse &c. 25,199*l.* had been expended in 1857. Fo works projected and proposed, but not yet begun, 16,240*l.* were required. The total amount of Government expenditure on public works and im provements during the first half of 1857 was 199,151*l.* The total amount during 1856 was 110,312*l.*; and during 1855, 306,369*l.* It was estimated that the total probable expenditure of 1857 would be 442,786*l.*

BUILDING WORKS AT SYDNEY, IN AUSTRALIA.—Among the new structures that are making pro gress in Sydney, are St. Andrew's Church of England Cathedral, St. Mary's Roman Catholic Cathedral, St. Philip's Tower (to receive a peal of eight bells (given by Mr. John Campbell), "splendid" buildings for the Bank of Australasia, the English, Scottish, and Australian Chartered Bank, and the Oriental Bank, an observatory, and the bridge to the suburb of Pyrmont, now separated from the city by Darling harbour.

BRIDGES OVER THE BOYNE.—Mr. Gibbons, C.E. says the *Dreghedu Argus*, has approved of the designs and plans of the contemplated bridges over the Boyne, as furnished by Mr. Bowers, C.E.

WHAT MULTIPLICATION WILL DO.—In the statement you have quoted from the *Messenger* in respect of the calculation of dropping a pin the first visit, and doubling each following visit for fifty-two times (p. 239) to the *Leviathan*, there is an error. I make the figures to be as follows, viz.:—The first ten weeks, 1,023,—the paragraph says, 512; and on the 52nd, 4,503,599,627,370,495,—the paragraph says, 2,251,799,813,685,248; and of course the weight is more than double; likewise the number of ships to carry them would be in the same ratio. F. DUNBAR.

The late Mr. Alexander Black's Library.—Few men were better known or respected in Scotland than the late architect to George Heriot's Hospital, and the tribute paid to his professional abilities, judgment, and benevolence, by an eminent number, at a recent meeting of the Architectural Institute, must have been highly gratifying to his numerous friends. His library, which has been long, was rich in architectural and engineering books, and included many illustrated books connected with the fine arts and general literature.

Cloud Painting.—No feature in nature offers perhaps so many striking beauties as the ever-changing clouds, tinged with every possible shade of colour, according to the particular position the glorious sun may hold, and the state of the atmosphere. The clouds that have hitherto figured in the painter's canvas have been generally tame in functions, giving but a feeble *portraiture* of their real presence. By the aid of photography the blemish may be removed, and we may hope to see landscapes in which the most beautiful feature, the celestial canopy, may form—not a mere subordinate part, but a main feature in this class of paintings. At the time of taking such photographs the varying lines may be easily marked in a rough sketch, and afterwards painted on the photograph at leisure.—Tassiel.

Building Accidents.—The danger connected with temporary buildings was exemplified recently at Halifax. A wooden structure was erected over the portion of the Piece Hall, capable of holding 20 persons, in which Mr. Spurgeon preached to 12,000. A few hours afterwards the building was crushed in by the weight of snow which had fallen, and the benches broken to pieces, the timbers smashed, and the large tent of the Halifax Horticultural Society, which formed the covering to the building, was rent into shreds. Had this accident taken place about three hours earlier, no doubt hundreds of people would have been injured. On the previous evening, when the congregation were dispersing, a portion of the large wooden gallery gave way, and a young man and a young woman were precipitated with others amongst the fallen timber, each sustaining a fracture of the leg.——During a very high wind at Preston last week, a small erection adjoining the main building of Messrs. J. Haywood and Sons' spinning and manufacturing establishment, in Ribbington-lane, was blown down. The building consisted of a lapping and other rooms, and was two stories high. One man was buried among the ruins, and nearly suffocated. The building destroyed was of very slight construction.

Temple-Bar: "What shall we do with it?" Sir: In the event of Temple-bar being removed, I think that, by reason of its being a work—though an inferior one—of Wren's, and because of its historical associations, it would be a great pity to destroy it altogether. If it were converted for an entrance to Victoria-park it would still in some measure retain its connection with east London. Ipsta.

National Manchester Academy of Art.—The collection of Art-treasures in Manchester has given new life to a scheme long ago projected and postponed for the foundation in that city of an Academy of Art, the laws of which are already framed. It is to consist of academician associates and students. The limit is to be placed on the number of members, and ladies are to be admitted to each class.

A Mine of Glass.—The *California Chroniele*, published at San Francisco, says:—"We have in possession several specimens of glass taken from a hill situated about sixteen miles from the town of Napa, and on the creek of that name. The article possesses all the characteristics of glass, being both brittle and translucent. Those well acquainted with the properties of glass state that the only operation necessary to make good marketable glass out of the article under consideration is to extract the small quantity of oxide of iron it contains. The hill or mountain from which the glass is obtained seems to be composed almost entirely of this material, and is capable of supplying the whole world for many years."

Submarine Cable to America.—I do not doubt but that you have had many plans proposed to you for laying the submarine cable to America, where was a failure last year. I should suggest laying two ships, the one to follow the other; the latter to have the cable payed out over it; the ships to be kept at a distance apart according to the strength of the cable, merely paying over the pulleys. Then there would be *more slack*, and would give the machinery a better chance; and the second ship there might be a brake applied in case of an accident, to hold the end from going to the bottom. Henry Taylor.

Albany, New York, U.S. *America*.

New Paper File.—An improvement in paper files has been registered by Mr. J. Faulkner, of St. Martin's-le-Grand. The point of the file is protected by a shield, and both file and shield are affixed to a metallic plate, with holes for screws, so that it can, if required, be screwed to a desk or wall. The guard must be useful in preventing accident from the point of the file.

The Earl of Caithness's Pavement Works and Inventions.—An account of the Caithness pavement quarrying and manufacture is given in the *John O'Groat's Journal*, from which the following particulars, chiefly as to the Earl of Caithness's new works and inventions, have been gleaned. The principal works in the county of Caithness are at present those attached to the quarries of Mr. Traill, Castle-hill, Mr. Sinclair, Forss, Mr. Adam, Lyneger, and Mr. Craig; and at the first of these—Mr. Traill's—a series of machines has for some time past been driven by water, while both by Forss and by Mr. Craig, it is believed, steam-engines are at present in course of erection. The works at which most enterprise, or at any rate ingenuity, has been exhibited are, however, those lately erected at Barrogill by the Earl of Caithness. The works referred to have been established in connection with the quarries lately opened on the Mey estates, near Barrogill Castle, the seat of the earl. The stone is removed from the quarries, a distance of two miles, to the works, where they are cut, dressed, polished, or otherwise prepared, for pavement, floors, jambs, mantelpieces, &c. There are saws, polishers, and dressers here worked by machinery impelled by steam. The dressing-machine is most worthy of note. It consists of a set of vertical parallel bars of metal, arranged in suitable guides in a substantial framing, and furnished at their lower ends with steel or hardened metal cutting or reducing edges. From each of these bars protrudes an adjustable stud arm, and as the shaft revolves, a number of cams, disposed helically upon it, strike the arms on the other side, and so raise up the operating cutters to a predetermined height, when they are allowed to drop in succession upon the face of the stone under operation, and thus chip or cut away the material to the required extent. While the cutting bars are thus operating, the stone being dressed is also caused to traverse at a slow rate beneath them. There is also a polishing apparatus, and three double sets of saws or cutting-machines. In all there are seven machines in the different departments, all subordinate to one shaft, worked by an engine of 10-horse power, made by Messrs. Forest and Barr, of Glasgow. There is a new pier at hand for easy export to market.

Dr. Arnott's Plan for Ventilating and Warming Buildings.—"A Governor of the York County Hospital," in a letter to the *York Herald*, in reference to what he calls a "puff" by Dr. Arnott, in the *Times*, on the subject of his plan of ventilation, adopted in the York County Hospital and elsewhere, says:—"The more the medical men have seen of its workings the less they will like it, and I believe that its entire removal is now under consideration. Instead of answering all the purposes for which it was erected, it has turned out a complete failure, for a difference of ten degrees in the temperature of the different wards has often been noticed, and has often baffled the skill of those who attempted to restore something like a uniformity of heat in the hospital. As a ventilating power, it has also been found very deficient, and additional means have had to be used to keep the hospital in a salubrious state."

Thames Tunnel.—In the week ending April 10th, 21,170 passengers passed through the tunnel, and paid 88*l* 4*s*. 2*d*. in tolls.

The Merthyr Surveyorship.—Mr. J. W. Harrison has been re-appointed surveyor to the Merthyr Tidfil Board of Health.

To Surveyors.—Sir: Will one of your able correspondents favour me with replies to the following questions?—1. How is the ink made that is used for writing on maps, and which retains a deep black and glossy appearance? 2. Is there any instrument in use among land surveyors by which the areas of small irregular strips of ground may be measured off from the map,—more particularly such strips as may remain, supposing you to first draw and ascertain the area of some regular figure *within* the boundaries of the enclosure, leaving the area of the irregular projecting portions to be afterwards ascertained? 3. What is the best kind of mounted paper to use for plotting a parish map, upon 4 ft. 6 in. by 3 ft. 6 in.; and can such be had without joint? 4. What is the readiest method of making a *fac-simile* of such a map; also on mounted paper (not tracing)?

Silvio.

Liverpool Architectural and Archæological Society.—The thirteenth meeting for the session of this society was held on Wednesday night, 7th inst. The paper for the evening was by Mr. F. Howard, "On Conventionality of Art."

Department of Art.—The Queen has sent the presents of the King of Siam for public exhibition at the Museum of the Department, at Brompton, and Lord Palmerston has added to them the Siamese sword of state which was presented to himself.

Roman Remains and New Buildings at Chester.—In excavating for new buildings opposite the Feathers Inn, Bridge-street, several bases of columns of Roman character have been discovered at the depth of 4 feet below the surface. They are in their original position, forming a colonnade, placed four yards apart, resting on large blocks of stone 12 inches thick. The new building will be brick, with white stone dressings, in the Mediæval style of fourteenth century, presenting a gable to the street, and having a projecting bow-window to the room over the row. A shop, in Bridge-street-row, is also to have a new front of timber work, characteristic of Chester in the fourteenth century. Mr. James Harrison is architect to both buildings.

TENDERS.

For Warehouse, No. 93, Wood-street, and Bull's Head-passage, Cheapside. Mr. William G. Bartlect, architect.

H. Lee and Son	£2,105	0	0
Ashby and Sons	1,998	0	0
Gammon	1,917	0	0
Piper and Son	1,867	0	0
Rider	1,785	0	0
F. and F. J. Wood (accepted)	1,783	0	0

Alterations and additions to the Mansion, Mount Echo estate, Chingford, for J. D. Waters, Esq. Mr. Herbert Williams, architect. Quantities not supplied.

Turner and Sons	£1,048	0	0
Crutch	984	0	0
Chesham	939	0	0
Holding	877	0	0
Fuld	837	0	0

For repairs to Farm Buildings and Cottages on the estate of Colonel Goulbourn, at Betchworth, Surrey. Mr. Muggeridge, Dorking, architect.

Holdsworth, Reigate	£995	0	0
Carruthers	975	0	0
Fisher	974	0	0
Batchelor, Betchworth	896	0	0

For repairs of Nutfield Church, Surrey.

Carruthers, Reigate	£547	0	0
Barnes, Nutfield	487	0	0
Fisher, Reigate	474	0	0

Additions and alterations at the Bull Inn, Kingsland. Messrs. Finch, Hill, and Paraire, Architects. Quantities not supplied.

R. Lawrence and Son	£689	0	0
Elston and Son	570	0	0
Hodges	568	0	0
Turner and Sons	499	0	0

For the erection of the *Suffolk Chronicle* Offices, at Ipswich. Mr. R. M. Phipson, architect. Quantities not supplied.

Cornish	£430	0	0
Gibbons	398	0	0
Baldeston	385	0	0
Luff	379	0	0
Girling (accepted)	350	0	0

TO CORRESPONDENTS.

S. S.—W. H. C.—A. P.—W T—W D. M.—M. S R. P.—J. B.—E. R.—W. H.—A. P.—J. J. W.—British Art (shall appear).—C. F. H. Mr G. A. P—W P G. W. C A Subscriber—S. H. (Vermish ought not to produce such an effect; but we cannot venture to say how).—Messrs. T.—R. M. P.—R. R. E.—S. H. (In an advertisement).—W. M.—J. D.—Practicalist—E. H. E.—C. B.—J. H.—H. S.—J. W.—W.—B. S.—G N D—J. A J P—W. G J W G. H.

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

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AN OUT-DOOR APPRENTICE Wanted by a Grainer.—Address, by letter, F. C. 8, Euston-grove, Euston-square, N.W.

A CLERK of WORKS (a thoroughly practical Man, who can prepare plans, sections, elevations, and detail drawings, and is well versed in construction and Gothic details) requires a RE-ENGAGEMENT as CLERK of WORKS or ASSISTANT to an ARCHITECT. Address, ALPHA, 12, East-road, City road, Hoxton.—Unexceptionable testimonials.

TO ARCHITECTS.

A YOUNG MAN, whose Articles have recently expired, is open to an ENGAGEMENT. He is a good ornamental and perspective draughtsman, and fair colourist, and generally acquainted with the duties of an office.—Address, A. N. care of Mr. Flower, 25, Lawrence Pountney-lane, Cannon-street, E.C.

A BUILDER'S FOREMAN wishes for an ENGAGEMENT. Is a Carpenter by trade, and is well versed in all branches connected with buildings, having had the superintendence of many large jobs, alterations, waterside works, &c. References good; liability no object. Terms moderate.—Address, J. B. No. 2, Newman-yard, Fitzroy-square, Kennington road.

TO MASTER BLIND-MAKERS.

A PRACTICAL BENCH HAND and SPRING MAKER wishes for an ENGAGEMENT as SHOP FOREMAN. Has a thorough knowledge of measurement, fixing, and setting out work in the above line. Age, 36.—Address, B. M. 8, Mr. Savage's, 71, Admiral-terrace, Vauxhall road.

A GENTLEMAN is desirous of a RE-ENGAGEMENT in an Architect's Office. He is a neat and expeditious draughtsman, accustomed to perspective and working drawings, specifications, and the measurement of artificers' work. Salary 100l per annum.—Address, A. X. Z. Robey's Post-office, Hammersmith, W.

LARGE CONTRACTORS FOR DOCKS, RAILWAYS, &c
FIRST-CLASS ENGINEER is open to
ENGAGEMENT. He is thoroughly capable of carrying out
k, railway works, and extensive public buildings requiring
ne and ability; also of furnishing all plans, working drawings,
ences of the highest respectability.—Address, C. Q. Office of
ider."

TO ARCHITECTS.
ARCHITECTURAL DRAUGHTS-
AN is in want of IMMEDIATE EMPLOYMENT. He has
en years in the profession, and, having been in business
competent to take the entire management of an office in
e of the principal. -Address, A. B. C. Post-office, Throg-
reet, London, E.C.

TO ARCHITECTS AND OTHERS.
IRST-RATE ARCHITECTURAL
RAUGHTSMAN and clever DESIGNER, having time unoc-
uld be glad of an ENGAGEMENT Salary moderate. The
e has been regularly educated to the profession.—Address,
n of "The Builder."

TO ARCHITECTS AND DECORATORS.
ARTIST, of considerable experience in
esigning and decoration, is desirous to obtain an ENGAGE-
XECUTE the several BRANCHES of the DESIGNING and
TIVE ART. Unexceptionable testimonials, and of the
espectability, will be given, on applying to W. C. A. at the
, 6, Brecknock-place, Camden New Town, N.W.

TO BUILDERS, CONTRACTORS, &c.
OUNG MAN (20 next July), who writes
good hand, a clever in architectural drawing and generally
cted, and who for the last four years has learned and prac-
ntry, in which he is well advanced, desires a SITUATION
ANT to a BUILDER, SURVEYOR, or CONTRACTOR.
s a primary object.—Address, J. A. R. Post-office, Ramsgate.

TAINERS, WRITERS, AND GENERAL DECORATORS.
THOROUGHLY competent and expe-
nced Hand in the above branches may hear of a permanent
ON.—Applications by pre-paid letter, stating age, qualifica-
salary required, to W. O. 8, Clifton-terrace, Southampton,
ended to. One who can superintend men, and will make
enerally useful in house-painting, will be preferred Specu-
be required, and an unexceptionable character of one year,
rom the last employer

TO ARCHITECTS AND BUILDERS.
OUNG MAN, 30 years of age, returning
om the Continent, who has been superintending a large
there, wants an immediate ENGAGEMENT; upon his arrival
d next week, either as CLERK of WORKS or BUILDER'S
N. He is acquainted with the construction of the Turkish
sonable a secondary consideration.—Address, R. H. D. Office of
ilder"

FIRST-RATE DRAUGHTSMAN,
DESIGNER, and COLOURIST is open to an ENGAGEMENT;
employed in an eminent architect's office; understands
d Classic ornament, perspective, &c. Can take out quan-
easure up works, and is thoroughly acquainted with all offices
small salary required. London preferred.—Address, A. R. S.
f "The Builder."

TO ARCHITECTS.
THOROUGHLY Practical CLERK of
WORKS is desirous of a RE-ENGAGEMENT. Is fully qualified
ntend the erection of any extensive works, or manage an
With first-class testimonials. Locality no object.—Address,
Office of "The Builder."

CHITECTS, DISTRICT SURVEYORS, AND GENTLEMEN
OF PROPERTY.
URVEYOR, accustomed to the charge
f a district under the Metropolitan Building Act, experienced
anagement of property, a good draughtsman, and quick at
and used to boat business of the profession, is open to an
GEMENT, occasional or otherwise. Remuneration moderate.—
Mr. J. BRAMWELL, 8, Derwent-terrace, Spa-road, S.E.; or
-street, Southwark.

GENTLEMAN, who has had consider-
able experience in a First-class Survey, is open to an ENGAGE-
In He is a neat and expeditious draughtsman. Terms moderate.
t references —Address, C Z Post office, Derby.

RTNER WANTED.—The Proprietor of
h old established and increasing business, closely connected
Architectural Embellishments in Stone, Plaster, &c wishes
with a Gentleman to take a MOIETY of the same, fully com-
ng, with a knowledge of the profession, capable of
stimates, &c. to be an active and honourable man of business,
ent owner will undertake the management of the practical
tails. For particulars, apply to Mr R L CURTIS, Surveyor,
ndon-court, Old Broad-street, City, by letter, or personally.

TO ARCHITECTS AND SURVEYORS.
RTNERSHIP. — A GENTLEMAN,
ed 27, engaged in railway and sanitary engineering, trigono-
town surveys, &c. possessing also a knowledge of architec-
desirous of obtaining a SHARE in a well-established practice.
A. Z. 165, Aldersgate-street, London, E.C.

ATHEMATICAL DRAWING INSTRU-
TS MENTS.—JOHN ARCHBUTT, 20, Westminster-bridge-road,
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Instruments manufactured by superior workmen The prices
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SMITH, and LEWIS, Civil Engineers, Surveyors, &c of
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ot.

LCHITECTURAL and ENGINEERING
DRAWING CLASSES, for Architects, Builders, and Engineers'
Assistants, Clerks of Works, &c Established by Messrs
SMITH, and LEWIS, Architects, Civil Engineers, &c for giving
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chanical Drawing, Perspective, Isometrical, and Geometrical
y Making Finished and Working Drawings, Preparing Spe-
ns, Taking out Quantities, Estimating Builders' Work, &c.
—Day Pupils, Three Guineas per Quarter; Evening Pupils,
uineas per Quarter. There are no extras: the Terms include the
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ge, Models, &c.—Prospectuses, and full particulars may be had
Offices, 24, Guildford-street, Russell-square, London.

IELEFELD'S PAPIER MACHE
ENRICHMENTS.—To ARCHITECTS, BUILDERS, DECORA-
&c.—Just published, Part IV. of the second volume of Enrich-
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mouldings, &c. and Supplement to Tariff of Flowers and Ven-
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of second volume of Enrichments, price 3s. each; Tariff of
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price 20s.
The Works, 15, Wellington-street North, Strand.

COMPETITION and OTHER DRAW-
INGS.—A good DRAUGHTSMAN and COLOURIST OFFERS
his SERVICES in Preparing General Finished, and Perspective
Drawings, for competition or private works Address, ALPHA,
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MESSRS. BELLRINGER and PILBEAM,
ARCHITECTS and SURVEYORS, of 18, Adam-street, Adelphi,
W.C continue to Prepare Plans, Specifications, &c.
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TOGRAPHIC ARTISTS, No. 26, WALNUT-TREE WALK,
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kinds, Carriages, Furniture, Chimney Pieces, Machinery, &c. Photo-
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FREDERICK DENT, Chronometer, Watch,
and Clock Maker to the Queen and Prince Consort, and maker
of the great clock for the Houses of Parliament, 61, Strand, and 34,
Royal Exchange No connection with 33, Cockspur street.

AN Unlimited SUPPLY of SPRING
WATER from the Chalk, can be had within Twenty Miles of
London.—Address, M. Post-office Romford, Essex.

WANTED, to PURCHASE a SECOND-
HAND SLATE-SAWING MACHINE.—Price and particulars
to be forwarded, pre-paid, to M. N. care of Mr. Mesll, Bookseller, &c.
Quay, Yarmouth, Norfolk.

BUILDING PLOTS at LEWISHAM and
SYDENHAM.—TO BE LET by TENDER, on BUILDING
LEASES for ninety-nine years, several PLOTS of GROUND, situate
at Lewisham, Kent, close to the junction station of the North Kent
and Mid-Kent Railway at Lewisham; also at Sydenham, Kent, near
the Forest-hill Station, both estates being part of Matthew Hill's
Estate. A form of Tender, with plan, may be obtained at the Office
of Mr. SAMUEL FISHER, Solicitor, Merchant Taylors' Hall, Thread-
needle-street, London, where Tenders, under seal, are to be delivered
on or before TUESDAY, the 4th day of MAY, 1858, by TWO o'clock
in the afternoon, and the same will then be opened, and the parties
tendering will be expected to attend.—Forms of Tender, with plans,
may also be obtained of Mr. THOMAS MILLS, Surveyor, 28, York-
street, Westminster; also upon payment of 1s. at the Roebuck Inn, on
the Estate at Lewisham; and at the Dartmouth Arms Inn, near the
Estate at Forest-hill

TO BUILDERS of VILLAS.—TO BE
LET, SEVERAL ACRES of LAND, in plots, in the most
choice situation at Sharesbrook, two minutes' walk from the Station,
on the Wood ford Railway to Fenchurch street. The soil is gravel,
and the ground covered with splendid evergreens Applications are
on hand for houses on long or short leases, exclusive of ground rent, about
7 per cent —Apply to Mr NOBLE, Surveyor, Woodford; or to Mr.
NISSEN, at 43, Mark-lane, London.

FREEHOLD.—TO BE SOLD, within three
miles of St. Paul's, on the south side of the Thames, about
NINE ACRES of most valuable FREEHOLD BUILDING LAND,
with a good family residence. The property is peculiarly eligible for
the erection of villas, or tenements of houses. The soil is gravelly, and
sewers and roads have lately been made up to the boundary of the
estate. The adjoining land is all let for building purposes, and is now
partly covered The houses intended built have a commanding an immo-
diate tenancy. For further particulars, and to inspect the plans, apply
to Messrs. GREGORYS and CO. No. 1, Bedford-row, W.C.

SALE of GROUND-RENTS.—CITY
IMPROVEMENTS, New Cannon-street, Crooked-lane, New Bar-
street, Bread-street, St. Mary-at-Hill, and St. Paul's Churchyard, in the
City of London.—The Committee for Improvements within the City of
London hereby give Notice, that they will meet at GUILDHALL,
London, on MONDAY, the 19th day of APRIL next, at ONE o'clock
in the afternoon precisely, to receive TENDERS in writing from
parties willing to PURCHASE sundry GROUND-RENTS of Premises
in the above situations.—Particulars and conditions of sale, with forms
of Tender, and further information, can be obtained upon application
at the Comptroller's Office, Guildhall. MEREWETHER.
Guildhall, London, March, 1858.

DULWICH WOOD. — BUILDING
GROUND.—Eligible PLOTS of LAND for building villas upon
this property, in the immediate neighbourhood of the Crystal Palace,
and of the Depot hill Station, on the West-end Railway, may now be
obtained Apply, between the hours of Ten and Four, to Mr HART,
Accountant's Office, Crystal Palace, from whom plans and particulars
may be obtained

HAMPTON COURT. — In Matham-road,
near the above station, several eligible BUILDING PLOTS
TO BE LET Advances to respectable parties.—Apply to Mr. F.
LETT, Architect, 36, Essex-street, Strand.

FREEHOLD GROUND, MAIDENHEAD-
COURT.—The Commissioners of Sewers of the City of London
hereby give Notice that they will meet in the GUILDHALL of the said
city on TUESDAY, the 11th day of MAY next, to receive PRO-
POSALS for taking on Building Leases, for eighty years from 24th June
next, at a ground rent, certain PLOTS of GROUND, situate in Maiden-
head-court, Aldersgate-street.—Further particulars may be had and
plan seen on application to Mr. HAYWOOD, Engineer to the Commis-
sioners, at these offices, where forms of proposal may also be obtained.
The Commissioners will require plans and elevations of the premises
proposed to be built to be submitted to them for approval, and they will
bind themselves to accept any proposal, unless deemed advantageous
Persons tendering must attend on the above day, and the party whose
offer is accepted will be required to execute an agreement at the time.
Sewers' Office, Guildhall, JOSEPH DAW, Principal Clerk.
31st March, 1858.

TO BUILDERS.—VOTE for LONDON.—
TO BE SOLD or LET, on a Building Lease, a PLOT of FREE-
HOLD LAND (west to east, north side, 45 feet; south ditto, 40 feet;
north to south-west front, 24 feet; east front, 23 feet); the site of
the house formerly No. 14, Fetter-lane, Fleet-street.—For particulars
apply to Messrs. NICHOLS and CLARK, Solicitors, 9, Cook's-court,
Lincoln's-inn.

TO BUILDERS or Parties requiring
extensive PREMISES, near the City.—The LAND opposite the
Elephant and Castle, Newington, within one mile of London bridge,
containing a frontage of 360 feet, TO BE LET, by the Platemongers'
Company, on building leases, by TENDER, on the 21st day of APRIL
next For particulars, apply to Mr W B FOWSE, the Company's
Clerk, Platemongers'-hall, London-bridge; or at the Office of Mr.
RICHARD SUTER, the Company's Surveyor, 28, Fetchurch street

FREEHOLD BUILDING LAND, situate
in the Queen's-road, Richmond-hill (land-tax redeemed), be-
longing to the Vestrymen of the parish of Richmond, TO BE LET in
plots for a term of ninety-nine years, at low ground-rents, for the
erection of detached or semi detached villas. The roads and sewers
are made. Particulars and plan of the ground may be obtained on
application to Mr. R. BREWER, Surveyor, 8, Hill-street, Richmond,
S.W. where a draft of the proposed leases may be seen.

HOUSES WANTED to PURCHASE.—A
Gentleman wishes to PURCHASE HOUSE PROPERTY, Free-
hold or Leasehold. Small houses not objected to, or advances would be
made on the same for short periods, without the expense of mortgage
deeds. -Apply to Messrs. SEYMOUR and CO. 94, Martin's-lane, Can-
non-street, City.

TO BUILDERS and OTHERS.—Hargraue
Park Estate, Upper Holloway.—The Trustees of this highly
eligible FREEHOLD PROPERTY are prepared to entertain offers for
the SALE or LEASE of BUILDING PLOTS, on liberal terms. Houses
built on adjacent property command both ready tenants and pur-
chasers.—For particulars apply to R. L. ROUMIEU, Esq. 10, Lan-
caster-place, Strand; or to P. A. HANBURY, Esq. 36, Southampton-
row, Russell square

WATERSIDE PREMISES ON THE LEA-CUT, LIMEHOUSE.
TO BE SOLD, or LET on LEASE, these
extensive FREEHOLD MANUFACTURING PREMISES,
which have been erected but a few years, comprising two ranges of
brick-built ground-floor factories, with iron roofs, tiled, lighted with
skylights, each building measuring 135 feet by 34 feet; a brick-built
factory, communicating, consisting of one lofty ground story 80 feet long
by 23 feet wide; lofty square-built chimney-shaft, yard, with five-ton
crane; manager's dwelling, and cottage adjoining; four-stall stable,
cottage, and large yard. Total area about 30,000 feet There is an
abundant supply of water from a fine deep well sunk on the pre-
mises —For further particulars apply to Messrs FULLER and HOR-
SEY, Billiter-street, E.C.—The plant, or any portion of it, may be
taken at a valuation, or the whole will be removed at the option of
the incoming tenant or purchaser

TO BUILDERS.—LOWER NORWOOD.
TO BE LET, on Building Lease, for 99 years, a PIECE of
LAND, with frontage 80 feet by 250, on the High Road from London
to Croydon.—For particulars apply by letter to A. B. 210, Tooley-street.
N.B. A small portion of Money can be advanced by the freeholder.

FREEHOLD LAND, three miles from Lam-
beth (land-tax redeemed), 171 feet by 234, suitable for a manu-
factory, having excellent drainage, and being let by the walls of the
surrounding property Lease 99 years, ground rent 16l per annum.
Or 80 feet will be LET on the same terms, or the Freehold SOLD for
1,700l —Apply to EDWIN CARTER, Auctioneer, Spencer-road, Batter-
sea-rise, S.W.

TO CONTRACTORS, BUILDERS, and
BREWERS.—FOR SALE, EIGHT STRONG CAST-IRON
COLUMNS (about 15 cwt. each), eleven feet in height and nine inches
diameter, with caps and bases. Also Two Fifty-Barrel (three-inch
fir) Working Squares, nearly new.—Apply to NEWTON and HORN-
CASTLE, Auctioneers, Stratford, Essex.

WEYMOUTH, DORSET.—To BUILDING
SOCIETIES, CAPITALISTS, and OTHERS —The opening of
the broad and narrow-gauge Railways to the fashionable and now
commercial Port of Weymouth, combined with the circumstance that
the neighbourhood has suddenly become a Naval and Military Station
(immense Government Works being now carried on), thus causing a
great demand for house accommodation, has induced the owner of the
Bellfield Park Estate (immediately adjoining the town) to devote it
for Building purposes. It may, with confidence be asserted, that few
properties in England present so many and various advantages. The
Estate comprises a Mansion House of an imposing character, very ex-
tensive Stabling, beautiful Pleasure Gardens, and a finely Timbered
Park and Grounds of more than one hundred statute acres, so charm-
ingly situated that an entire town or hundreds of villa residences may
be erected thereon, the rates of which would be 150 per cent less than
in Weymouth. The property, which is about 100 feet above the level
of the sea, lies beautifully undulating, and is admirably calculated for
drainage The aspect is due south, and commands views of the stu-
pendous Breakwater at Portland, and Coast Scenery of an ever-varying
and interesting character. The soil is dry and healthy, and singularly
productive. Water of the purest quality, and never-failing. As an
instance of the salubrity of the locality, it may be mentioned that the
ages of the two last occupiers averaged 92 years. Turnpike and other
roads which intersect the property offer a frontage of more than two
miles in extent. Part of the Estate abuts on the Smallmouth Sands
(more than a mile in length), which, for solidity, are almost unequalled.
The Tenure is Freehold. Without a personal inspection it is impos-
sible to form an adequate idea of the many advantages for Building
purposes of this magnificent Property, for which object it has been
laid out by artists of great merit, whose plans may be viewed by
cards only, and conditions known, on application to Mr. ROBERT
DAMON, House Agent, Augusta-place, Weymouth, Dorset.

OFFICES TO LET, in Parliament-street.—
TWO FRONT ROOMS, one about 20 feet by 18, and the other,
16 feet by 11, well lighted. Rent moderate.—For particulars, address
A. P. Office of "The Builder"

TO CAPITALISTS and BUILDERS.—
HOUSE WANTED.—A liberal Rent, up to the termination of
the ground lease (60 years), will be given for a House and Premises, if
built at Bridgend, in accordance with a plan to suit the purpose
required. 1,000l or 1,200l will be requisite —Apply, post-paid, to Mr.
SMITH, Bank, Bridgend, Glamorganshire.

TO BUILDERS and CAPITALISTS.—At
IPSWICH —TO BE LET, on Building Leases from the Corpo-
ration of Ipswich, in plots varying from twenty-five rods to sixty
rods, TWELVE ACRES of very desirable BUILDING LAND, part of
the Handford hall Estate, with frontages towards the Colchester and
Bildleigh roads, and to the intended new railway station road. First-
class villas are in great demand, for which the site is well adapted,
commanding views of the Stoke hills and the Gipping valley.—Appli-
cations are to be made to Mr F BARNES, Architect, Lower Brook-
street, Ipswich; or to Mr. W. HUTCHINSON, Soane-street, Ipswich,
where plans and particulars may be obtained.
Ipswich, March 8th, 1858

BUILDING LAND TO BE LET, at Canon-
bury, Holloway, Norwood (Knight's-hill), Denmark-hill, Can-
berwell, Peckham, St. John's-wood (Avenue-road), Wimbledon, &c. All
the usual facilities to respectable parties.—Apply to ARTHUR
ASHPITEL, Esq. Architect; or to JAS. EDMESTON, Jun. Esq. Archi-
tect, 5, Crown-court, Old Broad-street, E.C.

TO BE LET or SOLD, with immediate
possession, the large and commodious MANUFACTURING
PREMISES, situate, as under, in Camden-town, consisting of the remains
of a spacious and lofty fire-proof hall, 120 feet long and 41 feet wide,
two engine-houses and stacks, very extensive workshops and store-
rooms, and spacious offices, suitable for a large public company.
These premises are situated close to the Regent's Canal, have an
ex cellent WHARF, 77 feet long, and are in the immediate vicinity of
the Goods station of the London and North Western Railway. The
attention of carriage and coach builders, warehousemen, and of public
companies, is especially invited to these eligible works —For particu-
lars apply to the present lessees, Messrs. BOYDELL and GLASIER,
on the spot.

FREEHOLD BUILDING LAND.—TO BE
LET or SOLD, TEN ACRES, close to Forest-gate Station,
having upwards of 4,200 feet of frontage to good newly-made roads.
Also, about Twelve Acres, consisting of parts of a larger estate, some
of which has been sold for building on, situate within a few minutes'
walk of the Carshalton Station Also, about six Acres, principally
bounded by capital roads, and possessing a frontage of upwards of 2,000
feet, situate at Woodside, within a few minutes' walk of the Norwood
Station —Apply to D. B. SLADEN, Esq. 9, King's Arms-yard, Moor-
gate street, E.C.

BUILDING GROUND TO BE LET for
third and fourth-rate houses, in the best part of the Parish of
Clerkenwell —Apply to Messrs WILLIAMS and SMITH, Architects,
32, Old Broad street, City.

TO BUILDERS, DECORATORS, and
UPHOLSTERERS.—TO BE DISPOSED OF, in consequence of
the sudden death of the Proprietor, a first-class BUSINESS in the
above line, together with the Lease of the Dwelling-house and Pre-
mises, which are situated in a leading thoroughfare at the West-end.—
For further particulars, apply to Messrs. SIMPSON and DAWS, 103,
Strand.

TO BUILDERS, BRICKLAYERS, and
PLASTERERS. — An OLD-ESTABLISHED BUSINESS in the
above line to be DISPOSED OF, near Holborn, the Advertiser leaving
England.—Every information and terms may be obtained on appli-
cation, by letter, to A. B. at Mr. Dunsmore's, 17, Middle-row, Holborn.

NOTICE.—DRY RUBBISH, free from [illegible] matter, may be shot in lots directed within the Royal Arsenal, Woolwich. Application to be made at the Royal Laboratory Office at that place.
Royal Engineer Office, Royal Arsenal, Woolwich, 30th March, 1858.

FOR SALE (London made), a NEW TWO-HORSE Highpressure Vibrating STEAM-ENGINE.—To be seen at H. LETHBRIDGE'S, 45, Mary-street, Hampstead-road.

WANTED, SECOND-HAND MORTAR MILL with Working Gear for Horse or other Power—Send price and particulars to Mr. L. BARNES, No. , Parliament-street, Westminster.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 47, LUDGATE HILL, Manufacturer, SUPPLIES COCOA NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c. of the best quality on the most reasonable terms. Warehouse, 42, Ludgate-hill, E.C.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL.

With single roller, from 6s. each; with double pulley, from 6s. 6d. These Vent-bricks are arranged that the requisite quantity of air may be admitted for the ventilation of any apartment without the slightest draught being felt by the occupants; and as they are fixed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 196, Blackfriars-road, and 317, Oxford-street, Borough; and of all respectable Ironmongers, Builders, &c.

SPECIAL NOTICE

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY, 13, ST. JAMES'S-SQUARE, LONDON, S.W. Established 1824.

All Persons who effect Policies on the Participating Scale BEFORE JUNE 30th, 1858, will be entitled at the NEXT BONUS to one year's share of Profits beyond later Assurers.

Proposals should be forwarded to the Office before June 30th.

The last Annual Report, as also a statement of the Sixth Bonus declared in January, 1858, setting forth in detail the whole state and affairs of the Office, and especially the benefits which will hereafter accrue to persons now assuring, can be obtained of any of the Society's Agents, or from the Office.

GEORGE H. PINCKARD, Actuary.
GEORGE CUTCLIFFE, Assistant Actuary.
13, St. James's-square, London, S.W.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH, OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY
May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.

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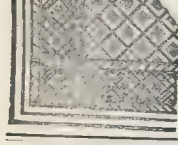

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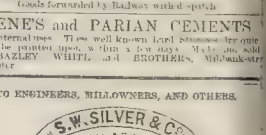

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WHITE and MITCHELL, JOINERS and SASH MAKERS to the Trade, 11, Commercial-road, Lambeth. Staircases, Shop fronts, Fittings, &c. of well seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp.—Workshops, 2, Commercial road, Lambeth.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE. SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, Holland-street, Blackfriars road.

WANTED, a handsomely Carved Old PULPIT, in the style of Grinling Gibbons. Also, a well-carved Eagle Lectern—Address, stating all particulars as to price and dimensions, to be as compared, if possible, with a sketch, to Z. Z. Lawson's Library, Drummond-street, N.W.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 22s. per cwt.; Linseed Oil, 2s. 6d.; Turpentine, 3s. 2d.; Boiled Oil, 2s. 9d.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Copal, 14s. per gallon. Dry and Ground Colours, Brushes, &c. &c. for Cash
P. LANGTON'S, 142 to 144, Whitecross street, St. Luke's, E.C. and 12, T. Tenham-court road, W.

A SUBSTITUTE for PAINT and at HALF the COST.—STEPHENS' DYES or STAINS for WOOD. Mr STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHURCHILL, of Dunkley, near South Molton:
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now used for, in order to finish the church."
54, Stamford-street, London

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather. Prices 6s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 81, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

TO BUILDERS, PAINTERS, &c.—Oak Graining, in Oil, 4½d. per yard, in quantities of not less than 6 yards. Church writing done in the Elizabethan style. Reference given. Specimens may be had by paying 1s. each, to be allowed for out of the above quantities.—Apply to C. PETIET, 12, Maida-hill, Paddington.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 22s. per cwt.; Linseed Oil, 2s. 7d. per gallon; Boiled Oil, 2s. 10d. per gallon; Turpentine, is 3d. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Colehill street, Pimlico.
Every article for the Trade at the lowest price.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floorings, their perishable coverings. MAW and CO.'S Patterns-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this WARE is REMOVED to No. 21 Wharf, Macdonald-street North, City-road Basin, N. Kindly note, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and drills, that the "Reports of the Jurors," pages 661, of the Great Exhibition, note the grant of a Prize-class Medal, and not the Manufacturers shown, so as to pass "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

THE PATENT ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAID MOSAIC TILES; also superior TESSELATED TILES, 6 inches by 4 inches, &c. white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; also for external decorations, gable finials, friezes, string courses, pilasters, &c. and white enamelled tiles, for baths, dairies, &c. Various specimens of the above may be seen, and every information obtained, at the Offices of the Company, No. 9, Buckingham-street, Strand, from Messrs. WM. W. BONNIN, and J. G. H. MACCOLLA, "Sole" Agents for London.

A BARGAIN.—FOR SALE, a SEWAGE-PIPE MACHINE, equal to new, half-power, well wrought-iron, 3 in. 6 in. 9 in. 12 in. 15 in. in clear; cost 70l. to be sold for 30l. And a Brick Press, with dies for building and paving bricks. Price 4l. A Potter's Wheel, with bevel-cog wheels, iron top. Price 4l. Eleven Acres of Land, to let to Lease or Lease, with abundance of good marle to be had on the premises, within one mile of Southampton.—Apply to BEAVIS, Builder, Shirley, Southampton.

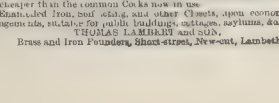
KINSON CLAY POTTERY and BRICK COMPANY (LIMITED).—WORKS KINSON, near POOLE, DORSET.—PATENT PIPE BRICK MANUFACTURERS.—Pottery Glazed Sewage-pipes, closet pans, Furnace Blocks, Bars, Quarries, and all goods used for fire purposes. Fire-clay of the finest description. Glazed sewage Pots, Furnace ranges, and Pot and Tan Tiles for hot-houses manufactured by Bridel's new patent machine, from our own pulverised clay, are naturalised for beauty of finish and fire resisting properties, have been severely tested, and pronounced quite equal to and superior, to any other fire-brick known. Salt-glazed Stoneware Pipes, Bends, Junctions, Closet-pans, and Traps, Invert Blocks, and every article of Drainage made to order for sanitary drainage purposes. Here is an unexhaustible quantity of all descriptions of Potter's Clay used for pottery ware on their estate, which can be supplied on the most favourable terms.—Lists of prices, and all other information, will be forwarded upon application to Mr GILBERT E. MITCHELL, Manager, at the Works; or to Mr JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth.

WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST IRON PUMPS fitted with J. W. and sons Patent Ba ket and Sucker, which cannot clog in action, for farms, cottages, and walls not exceeding 30 ft

Diameter of Barrel	Length of Barrel		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron	1 10 0
2½ " long	3		1 14 0
3 " ditto	3 6		2 8 0
3½ " ditto	3 6	flanged pipe, as required	2 12 0
4 " ditto	3 6		3 3 0
2½ " short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto ditto			3 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 9, Cross-st. Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

PRIZE MEDAL, CLASS 2.
HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns under constant high pressure, vary in from five to 500 feet, their efficiency and durability to be experienced established.
The Equilibrium Ball valve is simple and certain in its action, and is cheaper than the common Cocks now in use.
Enamelled Iron, Soil Stands, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.
THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

BRITISH AND FOREIGN MARBLE GALLERIE

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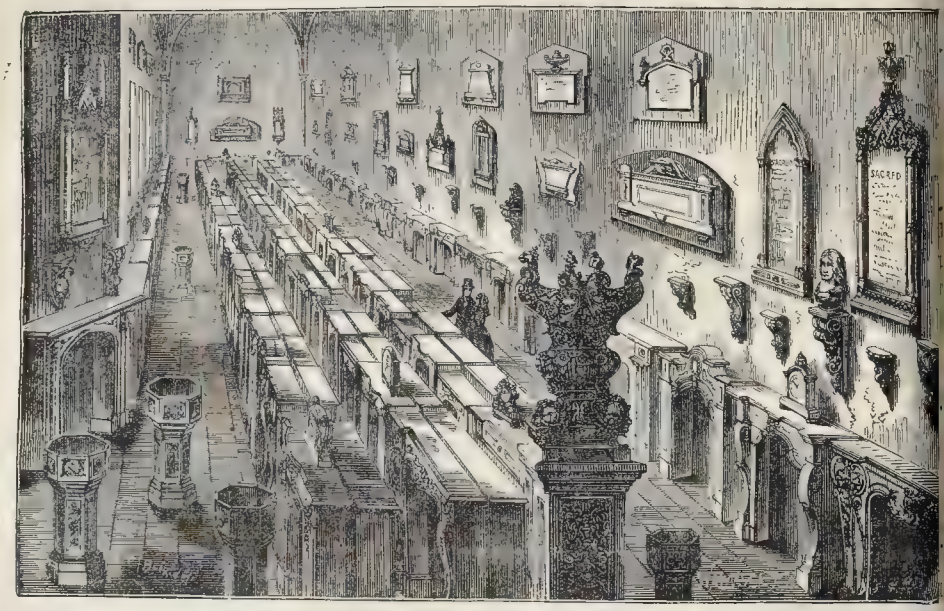
EDWARDES, EDWARDS, AND Cº PROPRIETORS.



VIEW OF CHIMNEY-PIECE GALLERY.

THE LARGEST MANUFACTURED STOCK of CHIMNEY-PIECES in EUROPE, on view, from 25s. to 300*l.* each. Monum- Tombs, Tablets, Head and Foot Stones, Fonts, Pedestals, Vases, Statuary Figures, Original Compositions and Copies from the Antique, & *Vide* "Building News," April 13th, page 158, "Works in Marble." Estimates given for all kinds of Marble Work.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor 2nd It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required 4th It can be readily applied by any unpractised person. 5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor

INODOROUS FELT, for damp walls and for lining floors, under carpets and floor cloths Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.

BODY PAINT, a combination of Metals, forming a bright stone colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works

HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW-WHITE ZINC.

DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.

THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

MAHOGANY and DEALS at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of buyers to his large and well selected Stocks of Mahogany (including counter top and dining table boards), and Deals of every description, commencing at the following prices, viz —

Heirloome Mahogany, plank and board, from 6d. per foot.
Yellow Deals, from 3s. 3d each.
Spruce Ditto, from 2s 8d each.
Pine Planks, from 3s. 6d. each.
Yellow Battens, III 1½ per 120, 12 by 2¼.
¾-inch Flooring, 11s. 6d.; 1-inch Ditto, 15s. per square.
An assortment of Italian and American Walnut.—Elm-street, Gray's-inn-lane; and Borough-road, Southwark.

A CORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-Street, Old St Pancras road, invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c at the LOWEST Remunerative PRICES. Books of designs of mouldings forwarded on application.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s 3d, Spruce, 2s 8d; Pine Plank, 3s 6d; Mahogany and Walnut, 3rd. 2¼ inch White Battens, 5/ 10s; Yellow, III 1½ 1 inch White Flooring, 15s 6d 1¼ do 11s 6d; 1 inch Yellow, 10s 6d. ¾ do 9s Cartage free to any part of town.—T FORMAN, 1, Walnut tree walk, Waterloo-place, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S E.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned, and ready for use; also, Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton road, Pimlico.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0	11	6 per square.
¾-inch Prepared Flooring	0	12	0 per square
Inch Prepared Flooring	0	15	0 per square.
Good Yellow Deals	0	3	3 each
Spruce Deals	0	3	0 each.
Pine Planks	0	3	6 each.
Yellow Battens	11	10	0 per 120.

Mahogany, in logs and planks, from 6d per foot
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethna. green road, N.E.

PREPARED FLOORING! PREPARED FLOORING!—W G WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	¾	⅞	1	1¼	
Spruce	12s	13s	15s	—	per square
White	12s. 9d.	13s. 6d.	16s. 6d.	18s.	"
Yellow	11s 6d	14s 6d	16s 6d	19s 6d.	"

Delivered within three miles free of cartage.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

BRICKS.—Mr. RYDON having made more Bricks than he requires for the Buildings on his Highbury New Park Estate, is willing to make arrangements with Builders and others for SUPPLYING a quantity of first-class BRICKS of every description.—Address, Estate Office, Dell's Farm, Stoke Newington green.

BRICKS.—IMPORTANT to BUILDI
Bricks delivered at any part of the Thames below Ba
Bridge as follows, for cash on delivery:—

Best Grey Stocks	25s. per Thousand.
Rough Stocks and Grizzles	19s. "
Place from	13s. to 15s. "
Bright Stocks	20s. "
Shippers	30s. "

Address, GEORGE SMEED, Sittingbourne, Kent.
P.S. Up any of the Canals on payment of Dues extra.

REDUCED PRICE LIS
WILLIAM GILBERT,
BLUE BRICK AND TILE WORKS,
SANITARY TUBE POTTERIES,
Tividale, Staffordshire.

TO BUILDERS, CONTRACTORS, &
The London Patent Brick Company (Limited) are prepa
enter into CONTRACTS for the SUPPLY of BRICKS, either par
for sewers, or for common building. For terms and prices, ap
Mr GEO. HADLEY, No 8, Old Jewry

BURSTALL'S PATENT BRIC
MACHINE.—To BRICK-MAKERS.—The attention o
Trade is called to the above Patent Steam-pressure Brick Ma
now successfully employed at the London Patent Brick Comp
Works, near London, and at the Kinson Pottery Works, at
The advantages of this Machine are perfect security against bres
the pressure being elastic; one machine produces 10,000 brick
day (equal to facings, at less cost than common bricks made by h
and being used in a dry state, the bricks are taken at once
the machine to the kiln Bricks can, therefore be made at all sea
For fire clay, this machine is unequalled, as any amou
granulation can be obtained without any admixture of rough ste
For particulars, apply to Mr. GEO HADLEY, No. 8, Old Jewry;
Mr BURSTALL, the Patentee, Southall, London.

JOHN NEWTON and CO. HONDUR
WHARF, 74, BANKSIDE, Southwark, S E Fire-bricks, Lu
and Tiles of every description (seventeen years with James Newto
Falcon Dock, Bankside), beg to solicit the patronage of Consu
Gas Companies, Engineers, Builders, &c. &c Paper Stainers, Cove
superior Newcastle Fire-bricks, Clay Retorts, &c Sanitary P
Chimney Tops, Dutch Clinkers, &c. at the lowest prices Ship
orders executed with despatch.

PAPERHANGINGS, at 332, Marylebo
road, one door from the Edgware-road.—THOMAS PARI
and SON, late Townsend, Parker, and Co Paper Stainers, Cove
street, respectfully invite an inspection of their large and first-
STOCK of PAPERHANGINGS, all new designs Architects, bui
and the public generally, will find this establishment unsurpasse
ably large in London for elegance of style, excellence in quality,
cheapness in price Bed room papers from one half-penny, and s
papers from two pence per yard Paperhangers sent to all parts of
country.
N.B.—The new Designs for Paperhangings, by Owen Jones, esq
we shall publish shortly.

PAPER-HANGINGS.—The CHEAPE
HOUSE in London for every description of PAPERHA
INGS is CROSS'S WHOLESALE WAREHOUSE, 22, GRE
PORTLAND-STREET, Oxford-street, where you can select from
LARGEST and MOST EXTENSIVE Assortment in the Kingd
THIRTY PER CENT. CHEAPER than any other house in the tra
Builders, Decorators, Dealers, and large consumers, will do wel
visit this establishment.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.'S

WOOD OR IRON REVOLVING SHUTTERS ARE EQUAL TO THOSE OF ANY OTHER MAKER, AND MUCH CHEAPER.

BRASS SASH-BARS, AND STALL-BOARD PLATES, AT A GREAT REDUCTION IN PRICE.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS POST-FREE ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN.

CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,
FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT.

RK'S NEW PATENT REVOLVING IRON SHUTTERS for Shop-fronts and other openings, have great advantages over all others extant, being stronger, more durable, and far cheaper.

Brass-drawn Sash-bars, Brass Name-plates, Double and Single Acting Spring Hinges, and all Metal-work connected with Buildings.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

CLARK AND CO. ENGINEERS, 15, GATE-STREET, LINCOLN'S-INN-FIELDS, LONDON.

IE PATENT REVOLVING IRON AND WOOD SHUTTERS,
IUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

RE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

n Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

SNOXELL'S
PATENT REVOLVING WOOD AND IRON SHUTTERS,
WITHOUT MACHINERY,

96, REGENT-STREET, AND AT HIS STEAM-WORKS, 195, OLD STREET.

Testimonials from Architects, Bankers, &c. of their security and durability, forwarded.

NUFACTURER OF METALLIC DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

WATERLOW, DRAPER, AND WEBB,
NUFACTURERS OF HOUSE AND COTTAGE JOINERY,

TREDEGAR WORKS, BOW, E.

Beg to call the attention of the Building Trade to their extensive Stock of

OORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

WAREHOUSE, 121, BUNHILL-ROW, FINSBURY, E.C.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

SMITH AND McGAW,
(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

to inform their Friends and the Trade generally, that they have erected New Premises and oved Machinery, for the manufacture of MOULDINGS as above. They continue to make the Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

JOHN EMERY,
14, GRAY'S-INN-LANE, W.C.

SASHES AND FRAMES, DOORS, MOULDINGS, SHOP-FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERS' WORK, ON THE SHORTEST NOTICE, AND AT THE LOWEST PRICES.

Lists and Estimates on application.

WILLIAM SANDS,
CURSITOR-STREET, CHANCERY-LANE.

MANUFACTURED JOINERS' WORK, AND MOULDINGS OF EVERY DESCRIPTION, ON THE SHORTEST NOTICE, AND AT THE LOWEST PRICES, PACKED AND FORWARDED TO ALL PARTS OF THE COUNTRY.

Lists of Prices and Estimates forwarded on application.

GLASS.
JAMES PHILLIPS AND CO.
Beg to intimate that they have Removed their Business from

116 TO 180, BISHOPSGATE-STREET WITHOUT,

hey have an extensive Stock of CROWN, SHEET, PATENT PLATE, PICTURE PLATE, and HORTICULTURAL S. They would also further add, that they keep in Stock and Supply the TRADE with HARTLEY'S ROUGH PLATE, D, FLUTED, DIAMOND, and PERFORATED GLASS, of various Substances. They have fitted up a large Warehouse ely for COLOURED and STAINED GLASS, in which they have a carefully-selected Stock of all the NEUTRAL TINTS, NTIQUE and MODERN COLOURS, thus offering to Artists advantages they have not hitherto possessed, namely, an opportf selecting their own Colours in any quantity.

180, BISHOPSGATE-STREET WITHOUT.

BLOOMSBURY STAINED GLASS WORKS, 38, Bedford-square, London, W.C.—ALEXANDER GIBBS and COMPANY, Practical Artists in Stained Glass, and Ecclesiastical Decorators, invite the attention of the nobility, clergy, architects, &c to the facilities afforded by their long practical experience in every branch connected with the above art, and respectfully solicit the favour of a personal visit to their show rooms, to inspect their large and varied collection of Cartoons and Water-colour Designs for Church and Domestic Windows—Designs and Estimates forwarded, on application, to all parts of the kingdom.

GLASS PAINTING and MURAL DECORATION.—N. W. LAVERS, No. 30, Southampton-street, Strand, begs to inform the clergy, architects, and others, that having entered into engagements with artists of repute, he will be happy to submit designs for such windows as may be entrusted to him, as also for ecclesiastical decoration. He begs still to call attention to his grisaille and quarry glass, of an inexpensive but very effective character.—Prices, &c. forwarded on application.

GLASS BENDING, STAINING, and EMBOSSING WORKS.
W. HICKS (late Hicks and Dickson),
80, Ratcliff Highway.
ESTIMATES FORWARDED ON APPLICATION.

CRYSTAL WHITE SHEET GLASS, First, Second, and Third Quality, in Cases of 100, 200, and 300 feet, suitable for Pictures and superior glazing, from 3d. to 9d. per foot; also in cases of 100 and 200 feet, assorted sizes. Belgium Sheet Glass, in cases 200 feet each; 24in. 36s. and 36s.; 44in. 57s. 6d. Squares, in Boxes of 100 feet each, 6 by 4, to 10 by 8, 1½d per foot. Larger sizes, up to 24 by 14, 2d. per foot. Ground Glass in Cases, 3d. per foot. Crown and Sheet, British and Patent Plate, HARTLEY'S Patent Rolled Rough Plate, English and Foreign Fluted Stained Glass, Glass Slates, &c. &c. Price-lists and estimates forwarded on application to ROBERT METTAM, 30, Princes-street, Leicester square.

E. and W. H. JACKSON supply PATENT PLATE, BRITISH PLATE, ROLLED PLATE, CROWN, SHEET, COLOURED, and ORNAMENTAL GLASS, in every variety, of the best manufacture, at the lowest terms. WHITE SHEET and WHITE PATENT PLATE, English manufactured, the best articles ever produced for drawings, prints, and all purposes where perfect absence of colour is a requisite. All applications for estimates and lists of prices to be made at their Warehouse, 315, Oxford-street, W.

SOHO PLATE-GLASS WAREHOUSE,
No. 26, SOHO-SQUARE, LONDON, W.
PLATE-GLASS,
Of a superior Quality and Colour,
SUPPLIED AT THE LOWEST CURRENT RATES.
Contracts given upon application.

CHEAP GLASS! CHEAP GLASS!—Crown and Sheet, cut to order, at 9d. per foot; sashes primed and glazed at 3d. a foot. Hartley's rough plate at 6d. a foot; ornamental glass at 6d. a foot. Sheet, in boxes of 100 feet, glazing quality, 12 by 9 to 16 by 12, 14s.; 24 by 16, 14s. 6d. Cases of 200 feet at 27s. 6d. At GRIST'S City Glass Warehouse, 47, Chiswell street, opposite Whitbread's Brewery.

PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, No 14, Stafford row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public, are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN-STREET, Lincoln's-inn-fields. Estimates given for the inlaying of Pulpits, Reredos, Fonts, &c. &c. Tesselated Pavements, with Patent Tesseræ. The New Transparent Glass Mosaic. Descriptive Catalogues on application.
N.B. 56, GREAT QUEEN-STREET, LINCOLN'S-INN.

WINDOW-GLASS.
THOMAS MILLINGTON'S REDUCED PRICES.

SHEET GLASS, fourths, in 200 feet cases, at 26s. per case.
" thirds, " 33s. "
" seconds, " 56s. "
" best, " 80s. "

Boxes of 100 feet each, at 10s. 12s. 14s. or 16s. according to size.
21oz. 26oz. 32oz. and 42oz. in various qualities.
Also, CRYSTAL SHEET GLASS

16oz. and 21oz. Ground, Matted Glass of various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

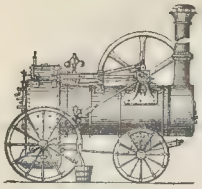
COLOURS, VARNISHES, &c.
Genuine White Lead, 32s. 6d; seconds ditto, 30s. 6d. per cwt. Linseed Oil, 2s. 6d.; Boiled ditto, 2s. 10d.; Turpentine, 3s. 5d. per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c
The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.
LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER CLOSETS.
Cocks and Valves of every description
Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in Exchange.

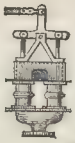
T. MILLINGTON, 87, Bishopsgate-street Without, London.
Established upwards of One Hundred Years.

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.
MOULDINGS to any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Pattern-list.
FLOORING (dry) in large Stock, of various description.
MATCH-BOARDING of any width.
Also,
Timber, Deals, and Mahogany, on either Wharf, or at the Docks.
JOHN RUTTY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.
Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference.

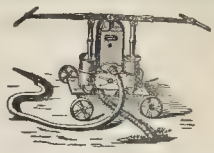
"PUMPS." — FOWLER & CO.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.



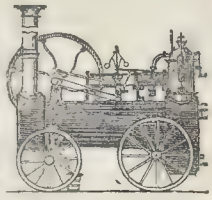
YARD, FARM, AND HOUSE PUMPS.



HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.
CONTRACTORS' PORTABLE PUMPS.
PUMPS FOR MANUFACTURERS, FOR STEAM OR HAND POWER.

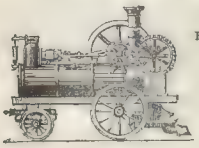
MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE
STEAM
ENGINES,
FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.



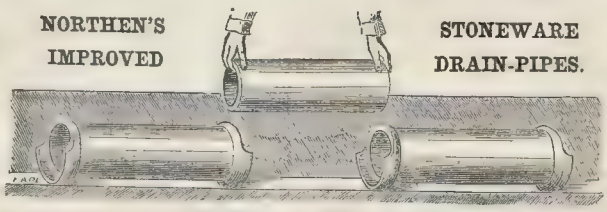
PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,
For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

BOURNE VALLEY POTTERY,
NEAR POOLE, DORSET.
LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
By the use of which Drains may be examined without the necessity of breaking a Pipe.
SALT GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. M'WILLIAM, at the Depôt, 8, Belmont-place, Nine-Elms.

NORTHEN'S
IMPROVED
STONEWARE
DRAIN-PIPES.



WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which he can supply with the usual quality of removing a pipe in case of stoppage, or to connect another drain, as every alternate pipe can be taken up with the fingers, without the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and economy of any access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

LAMBERT'S SELF-REGULATING
SELF-ACTING ENAMELLED IRON CLOSET PA
FIG. 18.

This arrangement consists of an Enamelled Cast-iron Bas Syphon Trap, supplied by a Lambert's Patent Self regulating bolted to the basin, adjusted so as to deliver any quantity of required at each action of the seat; it is the cheapest, most di and efficient self-acting water-waste valve provided, requiring n your or intermediate action, by the valve itself measuring it each of the seat a given quantity of water into the pan.

Price complete, with combined lever syphon trap, 45s.

THOS LAMBERT and SON, Patentees and Sole Manufacto their Flexible Diaphragm Water-valves, Cottage Closet-valv Short-street, New cut, Lambeth

UNGLAZED DRAIN-PIPES. — GR
REDUCTION in PRICE D. MOUNTAGUE, Leigh Southend, Essex, is now making superior RED PIPES, by prese Burton's Machine, warranted to bear a pressure equal to a Pipes.

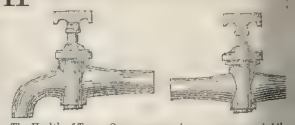
3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s 3d. per

Samples may be had at Falcon Wharf, Battersea, and at I Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain to any extent are recommended to have the strength tested, as c materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOS



The Health of Towns Commissioners having recommended th tion of the High-pressure principle to all towns, WARNER'S I PRESSURE COCK is now manufactured as a Cock free from leaks, applicable for all purposes and climates. Patent Check and with supply valve for attaching direct to main pipes without a c cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent Jewin-street, London.

TARPAULINS for COVERING RO
during Repairs, SCAFFOLD CORD, and every descrip
TOOLS used by Builders upon the lowest terms. Mariners an perary Awnings on sale or Line. Orders per post receive th prompt attention.

H. PIGGOTT,
115, Fore-street, City, Manufacturer, by appointment, to her M Honourable Board of Ordnance.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

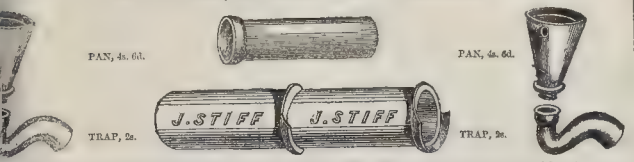
GREAT REDUCTION IN PRICES.

JAMES STIFF,

NUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Brydges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

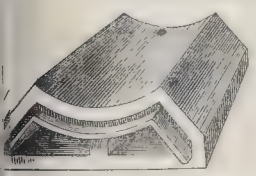
G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle ILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from ructions, and meets the demand for removing Pipes at any point.

s. each; itted with IATENT R-TIGHT ALVES, 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN's PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

DOULTON'S PATENT INVERT BLOCKS.



MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS. The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS, which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.

This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage-works.

DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.

DOULTON'S GLAZED STONEWARE SOCKET, HALF-SOCKET, AND OPERCULAR PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

M. Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

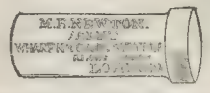
MANUFACTURED BY

DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

Price 6s. 6d. each.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT GLAZED DRAIN-PIPES are the strongest in the London Market.



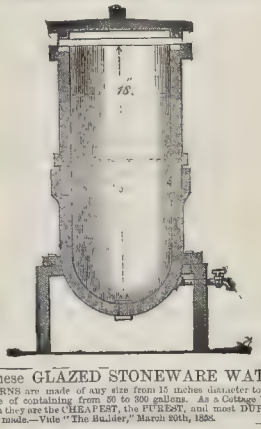
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade

A HANDSOME DISCOUNT IS GIVEN,

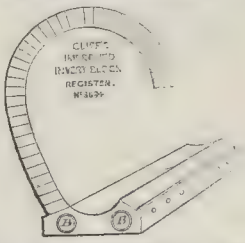
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
	11s.	8s. 3d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
	8s.	4s. 3d.	3s. 2s. per foot.

The thickness of each Pipe is commensurate with its diameter.
Connection can be made with the sewer at any time.
And the Pipes guaranteed to stand better than any Brickwork.

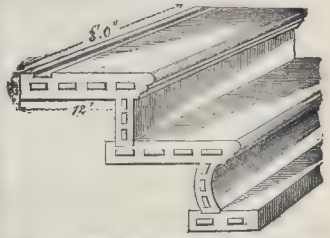


These GLAZED STONEWARE WATER-CISTERNS are made of any size from 15 inches diameter to 3 feet, capable of containing from 50 to 300 gallons. As a Cottage Water-Cistern they are the CHEAPEST, the PUREST, and most DURABLE article made.—Vide "The Builder," March 20th, 1858.

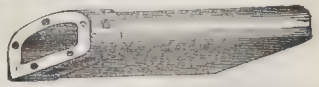


By use of CLIFF'S IMPROVED INVERT,

The uniform level of sewer is easier of attainment.
Greater rigidity is ensured by the ring joints inserted at B.
The work is executed with more speed.
The notched sides ensure better support for the bricks, and the sub-soil is more perfectly drained through the lateral apertures C C C in connection with the down thoroughfares D D.



This EARTHENWARE STAIRCASE commends itself, being FIRE-PROOF. It is also strong, durable, and NOISELESS, and is made to any length up to 4 feet 6 inches.



In the Manufacture of FIRE-CLAY RETORTS for Gasworks, JOSEPH CLIFF has brought to bear the experience of now more than thirty seasons, and he with confidence invites the attention of all Gas Engineers to their superiority of finish, correctness of form, and FREEDOM FROM SURFACE CRACKS. A stock is always kept in hand, also Fire Bricks, Lumps, Guards, Tiles, and Clay, at the

WHARF No. 4,

INSIDE GREAT NORTHERN GOODS' STATION, KING'S-CROSS, LONDON.

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by Thos. Jackson, esq. whose works are now being carried on by the Victoria Station and Pimlico Railway, to SELL by AUCTION, on MONDAY, APRIL 19th, 1858, and following day, at TWELVE o'clock each day, on the PREMISES, Commercial-road, Pimlico, in lots, the concluding portion of the valuable and extensive STOCK of DRY SEASONED GOODS principally from the Commercial Docks—carefully selected, including 2,000 yellow deals and battens, 500 white deals and battens, 500 pine planks, 1,000 red pine deals and battens, 100 loads Dantzic timber, 4001. ids Swede timber, 5 loads birch, 2½ squares prepared flooring boards, new scaffold poles, oak sills, and other goods. To be viewed on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NOTE.—Approved bills at three months' date will be taken from purchasers to the ext nt of 50*l.* and upwards, or a discount of 1½ per cent will be allowed for cash.

TO CONTRACTORS, BUILDERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 26th of APRIL, 1858, and following days, at ELEVEN o'clock each day, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs LEE and LAVERS, Contractors, Sutton-street, Belvedere-road, Lambeth, in Lots, including a portable 6-horse power contractor's steam-engine, on wheels, by Modwin and Hall; a 10 horse power portable trade steam-engine and boiler, with mortar mill and 18-in circular saw by the same, with gearing to work the same; a new centrifugal pump and pipes, 1,000 scaffold poles and boards, 500 pairings, scaffold cords, four pile engines with monkeys, 24 massive cast-iron fitted cranes, with 16 feet jibs; 700 yellow deal battens, several thousand feet of dry seasoned pine and other boards, double and single purchase crabs, timber carriage, skeleton truck, 15 tunnel carts, six useful draught horses, sets of harness, trucks, stable implements, turntable, large quantity of earthen sewage-pipes, wrought-iron pumps, 10 screw and lifting jacks, blocks and falls, new tiling machine by Colson, smiths' tools, vices, anvils, 20 carpenters' benches, cramps, 100 crow-bars, pickaxes, chainslings, two tons of lead pipe, oils and colours, forges, red and white lead barrels, bags of wrought and cut nails, leather hands, portable sewage pumps with leather hose, 30 pair of water boots, weighing machine, scales and weights, three patent sewer gratings and frames, hand-trays, and numerous other effects. To be viewed on Friday and Saturday previous to the sale, when catalogues may be had, on the Premises, and of Messrs FULLER and HORSEY, Billiter-street, E.C

TO WAX BLEACHERS, MANUFACTURERS, SPERMACETI REFINERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, APRIL 29, 1858, at ELEVEN o'clock, on the PREMISES, Stokewood Green, Surrey, in Lots, without reserve, the PLANT of a SPERMACETI REFINERY and WAX BLEACHING WORKS, including 2 10-cwt. melting coppers, and large brass cocks; 7 enamelled iron pans; 2 powter jacket steam pans, 3 large-stationary melting pans with furnaces, 50 pright and 2 horizontal hydraulic presses with pumps, 8 6-in. iron screw presses, 2 copper underground receivers, large lead and copper-lined cisterns, hanging frames and bags, 2 wrought iron steam-boilers, 2 small copper steam worked pumps and cocks, double purifier crips, iron plates, counters, bleaching racks, 50 cannon-posts, 100 wrought-iron hurdles, an excellent turret clock, and other effects. To be viewed on Tuesday and Wednesday previous to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, City

London Marble and Stone Working Company's Works, Esher street, Millbank, Westminster

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on the MART, on FRIDAY, APRIL 30th, at TWELVE o'clock, in one lot in consequence of the termination of the partnership (unless an acceptable offer is previously made by private contract), the LONDON MARBLE and STONE WORKS, together with all the valuable plant and machinery; including four iron sawing frames for marble, working horizontally from 11 feet by 1 foot 10 to 16 feet by 3 feet 4; two iron circular-saw frames for marble, two polishing machines to work by power, circle cutting machine, 4 sanding tables, 2 rubbing beds, four engine turning lathes, 8 inches to 13 inches centres, single and stone-cutting frame, a ten-horse power condensing steam engine, by Dryden, with tubular boiler, all the necessary shafting, gearing, riggers, and driving gear, two very powerful overhead travelling cranes, and every other requisite for carrying on the business on an extensive scale. The premises are leasehold for a term of fifty-two years, at a ground rent of 73*l.* per annum, and comprise a spacious and substantially erected manufactory of two floors, hands me and lofty show-room, with workshops, counting-house, yard, and manager's dwelling. To be viewed till the sale by cards only, which may be obtained at the offices of the Auctioneers. These works were established in 1821, and the proprietors have carried on a very extensive ready-money business, with adequate profits, up to the time of the termination of partnership in 1853, as can be satisfactorily shown. The connection already attached to the concern, and the increasing demand for marble work, render this opportunity well deserving the attention of those seeking for an old established business. Printed particulars will be ready fourteen days prior to the sale, and may also be had on the Premises, of Messrs. WARRY, ROBINS, and BURGES, 70, Lincoln's-inn-fields, W.C.; at the Mart, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO CONTRACTORS AND OTHERS

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs. Benham and Morris, to SELL by AUCTION, on SATURDAY, the 1st of MAY, 1858, at ONE for TWO o'clock precisely, on the RAILWAY WORKS, Gillingham, next the intended station on the East Kent Railway, in lots, with out reserve, the CONTRACTOR'S PLANT used in the construction of the section lately completed, including fifty wrought-iron ballast-waggons, in good working order, and fifty contractors' tip-waggons, 3,000 sleepers, wheeling planks, timber-whim, four-wheel timber-carriage, two waggons, two sticks of timber, two tons of iron, various implements and effects. To be viewed on the morning of sale. Catalogues may be had at the Works; of R. EDWARDS, Esq. Official Assignee, Bankruptcy-court, E.C.; of Messrs WRIGHT and VENN, Solicitors, 2, Paper-buildings, Temple; and of Messrs FULLER and HORSEY, Billiter-street, E.C.

IMPORTANT FREEHOLD.—Sufferance Wharf, with the newly erected saw and Planing Mills, Engine house, and Offices, a Dwelling house, and Two Freehold Public Houses,—Rotherhithe, Surrey

MESSRS. FULLER and HORSEY are instructed by Messrs. Grassell, Brothers, to SELL by AUCTION, on the MART, on THURSDAY, the 20th of MAY (unless an acceptable offer is previously made by Private Contract, of which due notice will be given), a highly-important FREEHOLD PROPERTY, and SUFFERANCE WHARF, known as Canada Wharf, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 2a. 3r. The premises have been arranged by Messrs Grissell as a timber yard, substantial manner, comprise—the saw mill, about 70 feet by 64 feet; engine and boiler house; planing shed, offices for clerks and principals, stabling, and carriage house; also, a dwelling house with private entrance, suitable for a manager. The Horse Oldman's Stairs, and the well-established public House, adjoining the waterstreet entrance of this property, have frontage to Rotherhithe-bridge of about three miles, but, by the Blackwall Railway to Limehouse it twenty minutes. A large outlay has been made in fitting machinery, worked by a highly finished double cylinder steam engine of 30 horse power by Hall, of Dartford. The sawing and planing machinery may be taken at a valuation, if not agreed upon. There are the mills. The artesian well supplies an abundance of water for the property for the purposes intended by the present occupiers are most desirable premises in every respect, for the site is equally available for the sale premises. The property may be viewed by cards only, which may be had at the Office of the Auctioneers.—Printed particulars and plans are in course of preparation, and may be had shortly of Messrs. Gale II, London street), E.C.; of R. F. WATSON, Esq. Solicitor, No. 11, Birchin-lane, Lincoln's-inn-fields, W.C.; at the Mart, and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

SALES BY AUCTION.

TO SHIP CHANDLERS, BOAT AND BARGE BUILDERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, MAY 3, 1858, at ELEVEN o'clock, in 2 LOTS, 1,000 loads of PRIMISOL, No. 2, 8, Bartholomew-street, in lots, with the reserve the extensive and well-assorted STOCK of the late firm of CRISTALL and Co., including thirty 1-inch English oak two-plank boards, three loads teak, 500 feet teak plank, 200 oak posts, 75 feet oak buttels, 1,500 feet oak quarter rag, 1,000 feet 4-in. ship timber, 1,000 feet for quarter-rag, fifty barge floors, 1,000 barge and timber heads, twenty fathoms oak slabs, ten fathoms teak slabs fifty fathoms firewood, 600 feet American oak an 1-in. plank, 1,500 feet English oak plank, 1,000 feet 1-inch boards, 25 square flooring boards, 2,000 feet bulwark boards, 1,000 feet boat boards, 1,000 feet feather edge boards, 10,000 oak treenails, fifty stage deals, 12 loads and 6-ears, thirty bundles teak laths, ten barrels Stockholm tar and pitch, ships oil, large English pump, two fathoms chain cable, five parachutes various, blocks and sundry cranes, fifteen lifts, and a new jacks, two sheerlegs, cranes sash lumber, several tons iron in weights, 20 horse power steam engine, coal trucks, pile drivers, thirty grindstones, spars and scaffold poles, tarpaulins, anchors and 4 edges, ten tons bar and rod iron and steel, the new sets Marriett's signals, seventeen dozen new flags, sea and land vessels and flags, 100 pieces new bunting, seventy bolts sail-cloth, six tons new rope, five tons old rope, two hawsers, one ton old canvas, 500 sheave blocks, 30 cwt old lead, 2 cwt copper sheathing, copper oil casters and powder magazines, 30 cwt hoop and plate iron, 15 tons wrought and cast nails, 2 cwt copper nails, 1 ton cast brass and iron screws, large assortment of brass cabin furniture, a large and general stock of iron-agery, black & yellow ware, tin ware, oils and colours, turnery, two punts, 20 and 30 tons, three log boats, skiff, timber carriage, timber whim, two trucks, two pile engines, three powerful wind cranes, and numerous other effects. To be viewed on Friday and Saturday previous to the sale, &c. Catalogues may be had at 6d. each) of Messrs. FULLER and HORSEY, Billiter-street, E.C

The Gallery of beautiful Works in Terra cotta, copied from the antiques and from modern sculpture, including the whole of the groups of modern sculpture, the whole executed by Mr. Blashfield, in a material durable as marble in stone, and finished in a manner surpassing every other similar manufactured by the present day.

MESSRS. RUSHWORTH and JARVIS beg to announce for peremptory SALE by AUCTION at the GALLERIES in PRAED-STREET, Paddington, on THURSDAY, APRIL 22, and two following days, the FIRST PORTION of the extensive and valuable STOCK of WORKS in TERRA COTTA, the property of Mr. J. M. Blashfield. Amongst a vast variety of objects of the highest excellence, will be found fine and statuettes of the Apollo Belvidere, Diana robune, Flora, Ceres, and other ancient works, several highly finished figures and busts of celebrated persons of antiquity, a beautiful variety of classical vases, including the Townley, Warwick, Albani, Medici, Borghesi, and other Greek and Roman vases, tazze, and fountains suitable for the saloon, library, terrace, conservatory, and garden, flower urns, garden-seats, pendant and other flower vases, terminals for gate posts, &c. &c. forming a large variety of form and size, illustrating the high degree of perfection attained by Mr Blashfield, who has succeeded in producing works of a style approachable of every lover of the fine arts, in a material which, the test of 3,000 years has proved to be imperishable. The galleries will be open to public view two days prior to the sale, when catalogues may be obtained of Messrs. RUSHWORTH and JARVIS, Saville-row, Regent-street, and 19, Change-alley, Cornhill, and on the Premises

HACKNEY A very valuable and improvable Estate, nearly equal to Freehold, being Copyhold of the Manor of Hackney, and subject only to a mere nominal quit-rent and a small fine certain on death or alienation

MESSRS. RUSHWORTH and JARVIS will SELL by AUCTION, at the MART, on FRIDAY, APRIL 30th, at TWELVE, in one lot, a very compact and eligible PROPERTY, situate on the west side of Mare-street, Hackney, in the centre of the important suburban village of Hackney, occupying an extensive plot of ground, and comprising six dwelling-houses and shops in Mare-street, possessing a frontage of 111 feet, and a spacious residence, with large garden and premises in the rear, approached from Lamb's-lane, to which there is a frontage of about 400 feet, partly available for building. The property is let on lease to expire at very long terms of years, expiring at Michaelmas next, at rents amounting to 78*l.* per annum, but it is underlet at a considerable increase, and is of the description of property which affords a most desirable investment. To be viewed only by cards, to be had of the Auctioneers, and printed particulars, with plans, may be had of Messrs FALKNER and NEWBALD, Solicitors, Newark-upon-Trent; at the principal Inns at Hackney; at the Mart; and of Messrs. RUSHWORTH and JARVIS, Savile-row, Regent-street, and 19, Change-alley, Cornhill

TWICKENHAM MEADOWS, opposite to Richmond-hill and Petersham Woods.

MESSRS. RUSHWORTH and JARVIS have received directions from the joint residuary legatees to SELL by AUCTION, with immediate possession, at the MART, in the month of MAY (unless an acceptable offer is previously made by private contract), the important FREEHOLD ESTATE well known as TWICKENHAM MEADOWS, for many years the residence of the late Archdeacon Cambridge. The house, an elegant, compact villa, possessing suitable accommodation for a moderate-sized family, abundant, with garden, lawn, detached stabling, and other buildings, stands on a ridge skirting the high road leading from Richmond-bridge, and is within ten minutes' walk from the railway station of Richmond and Twickenham. It has long been known as one of the most healthy and beautiful spots in the neighbourhood of London, and having an extensive frontage to the river, it presents singular opportunities for erecting a few additional detached villas, which would command equally beautiful views. The value of the property, either as a residence or in reference to its future capabilities for extensive building operations, will be best ascertained by a personal inspection, rendered easy by its vicinity to London.—Particulars and plans are preparing, and may in due time be had of Messrs. NICHOLL, BURNETT, and NEWMAN, Solicitors, 18, Carey-street, Lincoln's-inn; and at the Offices of Messrs. RUSHWORTH and JARVIS, Land Surveyors and Auctioneers, Saville-row, Regent-street, and 19, Change-alley, Cornhill

GLOUCESTER -On TUESDAY, WEDNESDAY, and THURSDAY next, APRIL the 20th, 21st, and 22nd, Important, very Extensive, and positive Unreserved SALE -To TIMBER MERCHANTS, and DEALERS, CONTRACTORS, BUILDERS, CABINET MAKERS, and OTHERS

SAMUEL BLOORE is favoured with instructions from Messrs. HEANE and CO Importers and Timber Merchants, the Docks, Gloucester, to SELL by AUCTION, on TUESDAY next, the 20th of APRIL, and two following days, commencing each day promptly at ELEVEN o'clock, the whole of their Valuable and well selected STOCK of BUILDING and other TIMBER, TRADE REQUISITES, &c, as follows - .

2,000 Spruce Deals, containing about 250,000 feet.
400 First Quebec Pine Deals, containing about 61,200 feet
500 Second ditto ditto containing about 54,750 feet.
800 First Petersburg Red Deals, containing about 10,000 feet.
2,329 Whitby Red Deals, containing about 10,000 feet
1,100 Memel Red Deals, containing about 18,72 feet
3,000 Swede Red Deals, containing about 22,000 feet.
77 Pine Board Logs Quebec Yellow Pine, containing about 5,500 feet
98 Logs Quebec Red Pine, containing about 1,300 feet.
180 Logs Memel, rested and approved timber, about 2,200 feet.
78 Logs Fine American Birch, containing about 2,200 feet.
4,000 Feet of Crown Wainscot Oak Boards, 12 fathoms of Lath Wood, many thousand feet of prepar. Red and White Floor Boards, Slate Laths, Red Pine Masts, Spars, Ropes, Tools, Office Fixtures, and other valuable Property.

The whole is arranged in lots to suit the trade and consumers generally, purchasers having the option of taking one or more lots of the same value, as may be agreed upon.

Catalogues may be had at the Place of Sale; the Offices of the Auctioneer, New-street, Birmingham; and at the Offices of the various newspapers in which an advertisement of the sale appears throughout England and Wales.

N.B. The spacious Yard and Premises, three Acres in extent, to be Let, with immediate possession, having railway and canal communication with all parts of the kingdom.—Apply to Messrs HEANE and CO Gloucester

SALES BY AUCTION.

PADDINGTON To ARCHITECTS, BUILDERS, and OTHERS

MESSRS. EVERSFIELD and HORNE are instructed by the Proprietor Mr James Simmons, TO SELL by AUCTION, at the MARBLE FACTORY and MOULDING MILL in Praed-street, Harrow-road, on WEDNESDAY, APRIL 28, at TWELVE for ONE, ONE HUNDRED MARBLE CHIMNEY PIECES, got up expressly for modern-sized houses, and being polished by steam machinery, the brilliancy of their surface is little inferior to plate-glass. The stock consists principally of neat moulded, trusted and thereof bunny pieces, in veins and statuary marble; but there is also an assortment of Italian, richly carved statuary, as well as a variety in Bardiglio, St. Anne's, black, Ashene, and other colour marbles. Also 20,000 feet of Stimmons's improved Wood Moulding. Approved bills at three months from buyers at six per cent. May be viewed two days previous; and catalogues had on the Premises, or will be sent, post free, on application to the Auctioneers, 30, Parliament street, Westminster, and Civil Exchange

Brickfields in full Working Order, Lease, Plant, &c. near West Drayton

MESSRS. EVERSFIELD and HORNE are instructed by the Executors, TO SELL by AUCTION, at the MART, on FRIDAY, the 23rd of APRIL, at HALF PAST ONE, the LEASE of a PIECE of LAND, containing 35 acres, lying between the Railway and the Grand Junction Canal, in the parish of Hayes, and near the West Drayton Station, on the Great Western Railway, with permission to make 700,000 bricks, granted for 21 years (of till the land is exhausted), from September, 1857, after which time the late proprietor has improved the property by the erection of cottages and formation of a dock. The portion of land not being used for brick-ground, is let at a rent which nearly covers the whole. The necessary preparations have been made for making five million bricks this season, and the remainder next season. Also, upon the ground, he will allow the purchaser to take the plant and utensils, and to pay for the sealed earth according to the amount expended thereon. Further particulars will be duly announced by bills and of Messrs. HUTCHINS, SAWELL, and LIGHTFOOT, 24, John street, Bedford-row; and of the Auctioneers 30, Parliament street, Westminster

SAW-MILLS, NEW KENT-ROAD.—To Contractors, Builders, and Others.—Unreserved Sale of the extensive Stock and Implements in Trade of Messrs. Bagnall and Bailey, Builders, in consequence of their Dissolution of Partnership.

MR. PEAKE is directed to SELL by AUCTION, in the PREMISES opposite Wells's County Terrace, New Kent-road, on TUESDAY, WEDNESDAY, and THURSDAY, APRIL 20, 21, and 22, 1858, at TWELVE o'clock each day, without reserve, 6,000 Planks, Deals and Battens, saw, and unsawn; 100 square Teak and 4-inch Batten Flooring, Twenty Loads prime Timber, quantity of Stock, Small Iron, Ladders, Carpenter's Benches, Ironmongery; Two Builder's Carts, Chaise Cart, Chaise, Harness, Two Horses, Stable Utensils, &c.—May be viewed the Monday previous and mornings of Sale; and catalogues obtained at Mr. PEAKE'S Offices, 11, Bedford-st., Southwark, S.E.

N.B. The extensive Building Premises, Machinery in Carpenter's Shop, and Saw mills, in capital working order, to be Let, at a moderate rental

TO BUILDERS, MASONS, AND OTHERS.

MESSRS. PUCH will SELL by AUCTION, at the MARBLE WORKS, Lonsdale-road, Walworth, S., on MONDAY, APRIL 19, 1858, at TWELVE, 4 tons PORTLAND TOMBS, and about 150 tons of STATUARY, SICILIAN, and other MARBLE and STONE CHIMNEY PIECES, great variety, suitable to every class of house. The whole being manufactured in good architectural manner, and properly arranged for Sale.—May be viewed on Saturday previous, and morning of Sale. Catalogues had at the Elephant and Castle, Newington Butts, Duke of Sutherland, Lorrimore-road, on the Premises, and of the Auctioneers, 6, Blackfriars-road, S.E.

TO TIMBER MERCHANTS, BUILDERS, CABINETMAKERS, AND OTHERS

MR. LEREW will SELL by AUCTION, on the PREMISES, 42, Union-street, Somers-town, on MONDAY, APRIL 19th, at TWELVE, about four dry Mahogany, 1,400 feet Birch, 1,000 feet Spanish Cedar, 2,000 feet Walnut, 3,000 feet Pine Planks, Deals, and Battens; 200 squares of 1-inch, 1 and ¼-inch, and 1-inch prepared Flooring, 9,000 feet wide Pine Board, 10,000 feet Quartering, 5,000 cut Pine and other Deals, Scantling, and useful Stock. May be viewed on Saturday prior and morning of Sale, when catalogues may be had on the Premises; and of the Auctioneer, Cardington-street, Hampstead-road, near the Euston Station.

FOR SALE by PUBLIC AUCTION, at F. K. BARNES and SONS' TIMBER-YARD, Canons' marsh, Bristol, on WEDNESDAY, the 21st of APRIL, 1858, at TWELVE o'clock precisely, by account of importers —

100 Logs very fine Honduras Mahogany
280 Pieces Baltic Timber, } being the cargo ex "Crimea," from St.
87 Birch, } John's, N.B. now discharging
3,734 Spruce Deals }
7 Cords Lath wood.
6,000 Spruce Deals and Battens
5,000 Quebec Pine Deals
7,300 W. O. W. Pipe Hoop Staves.
1,000 Miramichi Pine Deals
1,500 Onega Red Deals
1,000 Memel Red Deals
5,000 Swedish Red Deals
500 Loads Quebec Yellow Pine
20 Loads Quebec Elm
100 Loads ditto Red Pine,
50 Loads best large Dantzic.
20 Loads best Canada Oak
30 Loads Fitch Pine
300 Norway Masts, Spars, and Rickers.
6 00 Quebec and Spruce prepared Flooring Board.

A quantity of Mahogany, in Cedar Plank, Boards, &c.—Catalogues will be issued in the week of sale.

F. K. BARNES and SONS, Brokers.

Canons' marsh, April 8, 1858

N.B. It is requested that buyers will look over the lots, and mark their retail prices before the sale, to enable the brokers to sell in the shed, if the day should prove wet.

SOUTHFLEET, near Gravesend, Kent

MR. WILLIAM HODSOLL is directed by Thos Colyer, esq. to SELL by AUCTION, at the SHIP INN, Southfleet, on FRIDAY, APRIL 23d, 1858, at TWO o'clock, 17 Oak Trees and 1 Beech standing in Southfleet Ruffet, with their lop, top, and bark, 73 Oak Trees and 42 Tellers (winter felled), lying in south fleet Buffet; also 3 fine Elm Trees, a very large and valuable Walnut Tree, lying at Southfleet aforesaid; and 500 Oak The Poles.—RICHARD REEDER, the Bailiff at Rock Place, will show the timber, of whom catalogues may be had; and of Mr. WILLIAM HODSOLL, Auctioneer, Sevenoaks, Kent.

The Capital Premises belonging to the Land and Penzance Serpentine Company, at Penzance, Cornwall.

MR. BOYES is instructed by the Official Liquidator appointed by the Court of Chancery to SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, London, during next MONTH, the valuable PROPERTY, consisting of a row of many thousand pounds, with the plant of or taking the valuable Plant and Machinery at a fixed sum.—Abchurch-lane, April, 1858.

TO NOBLEMEN, GENTLEMEN, ARCHITECTS, BUILDERS, AND OTHERS.

MR. BOYES respectfully announces that he will SELL by AUCTION, in LONDON, during MAY, the Extensive and Valuable STOCK-IN-TRADE and RESIDUE, at cost of many thousand pounds, of the LONDON and PENZANCE SERPENTINE COMPANY, consisting of a Large Assortment of Chimney Pieces, of elegant design, Beautiful Tables, Fountains, Columns and a great variety of ornamental items The days of sale and further particulars will be advertised in a few days.—Abchurch lane, April, 1858.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St Paul, Covent-garden, both in the County of Middlesex.—Saturday, April 17, 1858.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 794. APRIL 24, 1858. PRICE FOURPENCE. Stamped, 6d.

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PROVIDENT INSTITUTION of

BUILDERS' FOREMEN and CLERKS of WORKS.—The
NUAL DINNER of this Institution will take place on TUESDAY,
MAY, at the London Tavern, C. R. COCKERELL, Esq., R.A. in the
r, supported by the following gentlemen:—

bell, S. esq. F.S.A.	Knowles, J. T. esq. A.S.A.
bby and Son, esqrs.	Lawrence, Wm. esq. Aldm.
ford, J. B. esq.	Lee, H. esq.
ker, G. W. esq.	Lee, W. esq.
rnett, Jno. esq.	Lee, J. esq.
rry, E. M. esq., A.R.A.	Lewis, T. H. esq.
rnes, Wm. esq. F.S.A.	Lucas Bros. esqrs.
dman, V. esq.	Mansfield, Geo. esq.
te, E. L. esq.	Meakin, W. F. esq.
ythe, J. esq.	Moseley, W. esq.
ssey, T. esq.	Myers, Geo. esq.
adwick and Akeroyd, esqrs.	Norris, W. esq.
nbb, J. esq.	Nye, Thos. esq.
rke, J. esq. F.S.A.	Ostler, J. esq.
ston, E. N. esq.	Page, Thos. esq.
lins and Stansbury, esqrs.	Pennethorne, Jas. esq. F.S.A.
dd, H. esq.	Penrose, F. C. esq. F.S.A.
wson and Co. esqrs.	Peto, Sir S. M. bart.
nnage, Wm. esq.	Piper, Wm. esq.
twood, J. and W. esqrs.	Piper and Sons, esqrs.
bdder, H. esq.	Plucknett, Geo. esq.
ands, Alfred, esq.	Purkiss, Wm. jun. esq.
ckman, W. esq.	Richardson, C. esq.
seman, J. esq.	Scott, G. esq. F.S.A.
mmon, E. B. esq.	Scott, J. S. esq.
rling, H. E. esq., A.R.A.	Smirke, Sydney, A.R.A.
ver, Bros. esqrs.	Smith, Geo. esq.
dwin, G. esq. F.R.S.	Stedall, R. esq.
ith, J. esq.	Stevens, J. B. esq.
sell, Thos. esq.	Stirling, Thos. esq.
rdwick, P. esq. R.A.	Taylor, J. esq.
rdwick, P. C. esq. F.S.A.	Tillott, J. esq.
ynes, C. esq.	Trickett, Josh., esq.
rward, Jas. esq.	Tregent, Wm. Thos. esq.
mmings, G. H. esq.	Trickett, S. esq.
bbs, A. C. esq.	Vulliamy, L. esq.
lland, H. C. esq.	Wallis, E. and T. esqrs.
ckson, Thos. esq.	Webb, W. esq.
kson, Wm. esq.	Wilson, J. esq.
y, Jno. esq.	Woodthorpe, R. esq. F.S.A.
nings, G. esq.	Young, Jno. son, esq.
es, Owen, esq. F.S.A.	Young, Jn., jun. esq.
nnard, R. W. esq.	

ntlemen desirous of supporting the chairman on the occasion
bblige by forwarding their names to—

WILLIAM ALLARD, Secretary

ng-tree Tavern, St. Swithin's lane.

RT-UNION of LONDON.—The

ANNUAL GENERAL MEETING to receive the Council's
ort, and to distribute the amount subscribed for the purchase of
s of art, will be held at the Theatre Royal, Haymarket (by the
permission of J. B. Buckstone, esq.), on TUESDAY next, the
inst. at Half-past ELEVEN for TWELVE o'clock. The Right Hon
Montcagle, President, in the chair. The receipt for the current
will procure admission for members and friends

GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.

Strand, West Strand.

WILL OPEN MONDAY, THE 26TH.

CIETY of PAINTERS in WATER-

OUR COLOURS.—The FIFTY-FOURTH ANNUAL EXHIBITION,
ALL-MALL EAST (close to Trafalgar-square).—Admittance, 1s.
logue, 6d. JOSEPH J. JENKINS, Secretary.

LECTURES to WORKING MEN.—

Government School of Mines, Jermyn street.—The FOURTH
D LAST COURSE of SIX LECTURES on MINERALS, by Mr.
INGTON W. SMYTH, M.A. will be commenced on FRIDAY,
L 30th, at EIGHT o'clock.

Tickets may be obtained, by working men only, on MONDAY, the
APRIL, from TEN to FIVE o'clock. Each applicant is requested
bring his name, address, and occupation, written on a piece of paper,
which the ticket will be exchanged.

TRENHAM REEKS, Registrar.

SOUTH KENSINGTON MUSEUM.—The

NEW ROOMS, containing the Collections of Ornamental Art, are NOW OPEN to the Public, daily.

SCIENCE and ART DEPARTMENT,

SOUTH KENSINGTON.—A course of TWELVE LECTURES on the HUMAN FORM will be delivered by JOHN MARSHALL, Esq., F.R.S., F.R.S., Assistant Surgeon to University College Hospital, in the Lecture Theatre, during the Spring Session, 1858.

N.B. This course is such as may be attended by female students. The lectures will be illustrated by diagrams and sketches. Students are recommended to provide themselves with note-books for pencil outlines and memoranda. Time will be allotted at the end of alternate lectures for the examination of such note-books as are handed to the lecturer.

The course will be delivered on Friday afternoons, at Four o'clock. Masters in training, and registered students of the Department, are admitted free. The public are admitted on payment of 6s. for the course of twelve lectures, or 1s. each lecture.

COMPETITIONS.

TO ARCHITECTS. The Town Council of the Borough of Hertford give Notice, that they are desirous of receiving Designs on or before the 1st of JUNE next, PLANS and ESTIMATES for the IMPROVEMENT and RE-CONSTRUCTION of the HERTFORD CORN EXCHANGE, which is also to be adapted for the purposes of a Public Library. The plan is to include a new front elevation and an outer roof of the most improved construction, considerably higher than the present one, with a glass ceiling, and provision for perfect ventilation, and an ample supply of light for all the purposes of a corn-exchange, and, in addition, a light gallery at second story, to be used for the Public Library purposes. The plans are to comprise a ground plan, elevation, and sections (not in perspective). The cost (not, exclusive of the old materials, is to be about 800l. A premium of 20l. will be given for the plans, &c. most approved of. Further particulars may be had at the Town Clerk's Office, or from him by post. PHILIP LONGMORE, Town Clerk.

Hertford, April 16, 1858.

CONTRACTS.

TO BUILDERS.—Persons desirous of CONTRACTING for the RE-ROOFING of the CHANCEL of EDMONTON CHURCH, and for other Works connected therewith, are informed that the drawings may be seen on application to Mr. CHRISTIAN, 10, Whitehall-place (S.W.). Tenders must be delivered at his Office on or before FRIDAY, 30th instant, at TEN a.m. The Committee do not bind themselves to accept the lowest or any Tender.

BUILDERS desirous of CONTRACTING for the ERECTION of a DWELLING-HOUSE at Hadleigh, Suffolk, for W. BACON, Esq., may see the plans and specification at the Offices of the Architect, C. E. PRITCHETT, 14, Queen's square, Bloomsbury, and Bishop Stortford; as also at Mr. BACON'S, Hadleigh, from APRIL 21 to MAY 5. For further particulars and supply of the quantities, apply to the Architect.

TO ROAD CONTRACTORS. The Directors of the Birkbeck Freehold Land Society, are desirous of receiving TENDERS from persons willing to CONTRACT for the FORMATION of the ROADS and FOOTPATHS on their Estate, situate at Upper Holloway. The Directors do not bind themselves to accept the lowest or any Tender. The specifications and plans to be seen at the Office any day between TWELVE and FIVE o'clock, where printed forms of Tenders may be obtained. Sealed Tenders to be delivered on or before MONDAY, 3rd MAY, 1858, addressed "Tender for Roads," to FRANCIS RAVENSCROFT, Manager, 27, Southampton buildings, Chancery lane.

TO BUILDERS and OTHERS. —LUNATIC ASYLUM, BARNWOOD, near Gloucester.—Persons desirous of CONTRACTING for the ERECTION of TWO large WINGS, proposed to be added to Barnwood House, together with certain alterations, with a view of converting the same into a Lunatic Asylum, can see the plans and specifications at the Offices of Messrs. FULLJAMES and WALLER, No. 1, Barton street, Gloucester, any time between the hours of TEN a.m. and SIX p.m. from the 26th of APRIL to the 8th of MAY inclusive. The Tenders to be sent under cover to the Offices of the Architects, endorsed "Tender for Works at Barnwood House," on or before the evening of the 8th of MAY, and addressed to the Chairman of the Committee.—The Committee do not pledge themselves to accept the lowest or any Tender.

CONTRACT for SEWERS.—The Board of Works for the Hackney District will meet at the Town Hall, Church street, Hackney, on THURSDAY, the 6th of MAY next, at TEN o'clock in the forenoon precisely, to CONTRACT for about 15,540 feet of BRICK and PIPE SEWERS, to be constructed chiefly in Kingsland, Dalston, and London Fields. No. 3 Contract will comprise about 8,360 feet in length of Sewer; No. 4 Contract will comprise about 5,635 feet in length; and No. 5 Contract will comprise about 2,130 feet in length.—Plans, sections, specifications, and conditions, and the Form of Tender of the Works, may be seen daily, between the hours of NINE and FOUR, at the Office of Mr. JAMES LOVEGROVE, Surveyor to the Board, at the Town Hall, Church street, Hackney. Sealed Tenders to be delivered to the Clerk to the Board, at the Office of Town-hall, Hackney, on MONDAY, the 3rd of MAY. The contractors, or some authorized agent will be required to attend the Board on the 6th day of MAY, at TWELVE o'clock a.m. The Board do not bind themselves to accept the lowest or any Tender.

By order of the Board,
RICHARD ELLIS, Clerk.

Dated April 20, 1858.

TO ROAD CONTRACTORS and OTHERS. LAMBETH FREEHOLD LAND SOCIETY.—NEW ROADS on the BEULAH SPA ESTATE, Norwood.—Copy, plan, sections, specification, and quantities, may be had on payment of 1l. of Messrs. GARDNER and CO. Surveyors, &c. 1 and 2, Southampton-street, Addiscombe-road, Croydon, as well as

TO BUILDERS and ROAD CONTRACTORS.—ST. MARYLEBONE EXTRAMURAL CEMETERY.—The Burial Board of the Parish of St. Marylebone will meet on THURSDAY, the 6th day of MAY next, at ELEVEN o'clock in the forenoon, to receive TENDERS for DRAINING a PORTION of the CEMETERY, situate at Finchley, and making new roads therein.—Further particulars may be known on application at the Office of Mr. GOTTO, Civil Engineer, 35a, Great George street, Westminster, where plans and specifications may be inspected, and bills of quantities may be obtained. Tenders to be delivered, sealed, at the Court-house, Myrtle-place, before ELEVEN o'clock, at the forenoon, on the 6th day of MAY next, and the parties tendering, or some person on their behalf, to be in attendance at the time of opening the Tenders. The Parish Board do not bind themselves to accept the lowest or any Tender.—By order,

W. E. GREENWELL, Clerk.

ST. MARYLEBONE PUBLIC BATHS and WASHHOUSES.—April 16th, 1858.—To BUILDERS, CONTRACTORS, &c.—Notice is hereby given, that the Commissioners of the St. Marylebone Public Baths and Washhouses will meet in the Board Room of their establishment, in Marylebone road, on TUESDAY, the 4th day of MAY, 1858, at THREE o'clock in the afternoon, to receive TENDERS for the CONSTRUCTION of a NEW FIRST-CLASS SWIMMING BATH, on the said Premises. Further particulars may be known, and the drawings and specifications seen, upon application to Mr. EDWARD SMITH FOOT, Superintendent, at the said Baths and Washhouses, daily from TEN till FOUR. The contractor will be required to give security for the performance of the works. The Commissioners do not pledge themselves to accept the lowest or any of the Tenders.—By order of the Commissioners,

E. SMITH FOOT, Clerk and Superintendent.

NOTICE to BUILDERS.—Plans and Specifications for ALTERING and REPAIRING the VICARAGE, Sonning, near Reading, will be lying at the Vicarage on MONDAY, the 27th instant, and three following days; and all persons intending contracting for the same must send in sealed TENDERS addressed to the Rev. HUGH PEARSON, Sonning Vicarage, Reading, on or before the 6th day of MAY. The contractor, if called upon, will produce two good and approved sureties, and enter with them into the usual legal bond for the due performance. Plans to be inspected, at his own expense. The lowest Tender will not necessarily be accepted.

TO IRON-FOUNDERS.—SCARBOROUGH PUBLIC BATH COMPANY (LIMITED).—CONTRACT for CAST-IRON PIPES and TANK. The Directors are prepared to receive TENDERS for the SUPPLY of the undermentioned WORK:—

CONTRACT A.—Cast-iron Flange and Socket Pipes, Bends, Branches and other Work.

CONTRACT B.—Cast-iron Tank.

The plans and specification may be seen at the Office of JOSIAH FORSTER FAIRBANK, Esq., Civil Engineer, Scarborough, on and after MONDAY, the 19th APRIL. A printed copy of the several specifications, with forms of TENDER, will be forwarded, on receipt of a shilling, and a separate form for each contract. Tenders addressed to the Directors of the Scarborough Public Bath Company (Limited), must be forwarded under cover to the undersigned, on or before the 28th APRIL, 1858.

JOSIAH FORSTER FAIRBANK, C.E.
Engineer to the Company, Scarborough.

Scarborough, April 14, 1858.

TENDERS are required for the ERECTION of a PARSONAGE-HOUSE.—Plans and specification may be seen on application to Mr. COLE, at the Estate Office, Spring grove, Hounslow. Tenders are to be sent on or before TWELVE o'clock noon on SATURDAY, the 8th MAY.—The lowest Tender will not necessarily be accepted.

BLACKBURN INFIRMARY.—To BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the ERECTION of an INFIRMARY at Blackburn may see the plans and specification at the Town Hall, Blackburn, on and after MONDAY, APRIL 26th, to MONDAY, APRIL 26th, both days inclusive, between the hours of TEN and FOUR, instead of the 19th and 20th of APRIL only, as previously advertised; or at the Office of the Architects, Messrs. SMITH and TURNBULL, 11, John Dalton street, Manchester, from TUESDAY, APRIL 27th, to WEDNESDAY, MAY 5th, 1858, by tickets to be had from the Architects on MONDAY, APRIL 26th, previously advertised. Sealed Tenders, endorsed "Tender for the Erection of the Blackburn Infirmary," to be sent to the undersigned, on or before SATURDAY, MAY 22nd, 1858. The Infirmary Committee do not bind themselves to accept the lowest or any Tender.

By order,
J. J. KANEY, Secretary.
Town-hall Buildings, Blackburn.

TO CONTRACTORS and OTHERS. The Conservators of the River Thames, having several thousands of cubic yards of MATERIAL to DISPOSE OF, arising from the dredging operations in the Lower Pool, suitable for the purpose of filling in or of raising low ground, are prepared to receive PROPOSALS from parties requiring the same; and further information desired, will be given on application at their Office, at 41, Trinity square, Tower-hill.

April 20th, 1858. E. BURSTAL, Secretary.

TO CONTRACTORS and BUILDERS.—STOCKTON BATHS and WASH-HOUSES.—BUILDING DEPARTMENT.—Contracts and Builders desirous of TENDERING for the several WORKS required to be done in ERECTING Public BATHS and WASH-HOUSES at Portrack Lane, Stockton on Tees, including Masons' and Bricklayers', Carpenters' and Joiners', Slaters', Plasterers', Painters', and Glaziers' Work, may see the drawings, specification, and conditions, at the Office of Mr. GEORGE EDWARDS, Borough Surveyor, Town-hall, Stockton-on-Tees, and duplicates thereof at the Offices of Messrs. OLIVER and LAMB, Architects, 96a, Northumberland-street, Newcastle-on-Tyne, of whom copies of the quantities may be obtained, from SATURDAY, the 1st, to SATURDAY, the 8th day of MAY next. Tenders to be sent, or delivered, on or before the 8th day of MAY next, to Mr. WILLIAM BEST, Borough Hall, Stockton-on-Tees, endorsed "Tender for Baths and Washhouses." The Committee reserve to themselves the power to accept or reject any Tender.

Stockton, April 19, 1858. JOSEPH DODDS, Mayor.

[For remainder of Contracts see next page.

CONTRACTS.

CARDIFF CATTLE-MARKET EXTENSION. To CONTRACTORS, BUILDERS, MASONS, and SMITHS. The Town Council of the borough of Cardiff are prepared to receive TENDERS for the CONSTRUCTION of EMBANKMENTS, WALLS, SHEDS, OFFICES, PENS, IRON RAILING, ROADWAYS, SLAUGHTER HOUSES, and other works [illegible] the Little [illegible] Mary [illegible] Plans [illegible] and specifications [illegible] on and after MONDAY the [illegible] at the office of the Surveyor [illegible] St. Mary-street [illegible] the 2nd of APRIL [illegible] "Tender for Cattle-market," on or before MONDAY, the [illegible] of MAY next.—By order,
BENJAMIN MATTHEWS, Town Clerk.
Cardiff, [illegible]

NOTICE to CONTRACTORS. The Commissioners for the Port and Harbour of Londonderry are prepared to receive TENDERS for BUILDING a GRAVING DOCK, according to plans [illegible] at the OFFICE of the COMMISSIONERS [illegible] the hours of TEN and FOUR o'clock. The Tenders [illegible] to the Secretary of the Commissioners [illegible] "Tenders for Graving Dock," and [illegible] on or before the 30th day of APRIL next. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,
A. H. STEWART, Secretary.
Port and Harbour Office, Londonderry, 6th March, 1858.

TO BUILDERS and CONTRACTORS.—WHITTLESEY BURIAL BOARD.—Persons desirous of TENDERING for the ERECTION of TWO CHAPELS, LODGE, and FRONT WALL, in the New Cemetery at Whittlesey, in the Isle of Ely, in the county of Cambridge, [illegible] the drawings, plans, and specifications at the Office of Mr. ROBERT HUTCHINSON, Architect, Huntingdon, on and after TUESDAY, the 27th day of APRIL instant, between the hours of NINE [illegible] and SIX [illegible]. Tenders under seal [illegible] on or before TUESDAY, the 11th day of MAY [illegible] "Tender for Cemetery Buildings," such Tenders [illegible] of two sufficient sureties for the due completion of the works, but the Burial Board are not pledged to accept the lowest or any Tender. The Contract is to be in writing, and prepared by the [illegible] at the expense of the Contractor.
By order, JOHN W. WILLDERS, Clerk.
Whittlesey, April 21, 1858.

TO BUILDERS, CARPENTERS, and OTHERS.—COUNTY POLICE STATION, LAMBOURN, Berks.—The Magistrates for the county of Berks are willing to receive TENDERS for the ERECTION of a POLICE STATION, at Lambourn, Berks. Persons [illegible] for the works may see the [illegible] and obtain bills of quantities, at [illegible] Station, [illegible] Office, Broad-street, Reading, [illegible] of Mr. BARNES, Lambourn, after THURSDAY [illegible] TEN and FOUR. Tenders, sealed [illegible] to be delivered to the Chief Constable, Berks Constabulary, Reading, on or before SATURDAY, MAY 1st. The lowest Tender will not necessarily be accepted.—By order of the Magistrates.
J. B. CLACY (Architect), County Surveyor.
[illegible] Reading, April 17th, 1858.

TO BUILDERS.—SEVENOAKS UNION.—ALTERATION of TIME, &c.—The Guardians of the Poor are desirous of receiving TENDERS for ERECTING ADDITIONAL BUILDINGS to the INFIRMARY, and OTHER ALTERATIONS connected therewith, at their Union Workhouse, situate at Bradfield [illegible] Sundridge, in the county of Kent, at which place the drawings, specification, and conditions may be seen, from SATURDAY, the 17th, until WEDNESDAY the 28th inst. between the hours of TEN and FOUR. Sealed Tenders to be sent to the Union Workhouse endorsed "Tender for Works, Sevenoaks Union Workhouse," on or before THURSDAY, the 29th inst. by TEN o'clock a.m. after which time no Tender will be received, and the same will be taken into consideration at the weekly meeting of the Guardians, to be held on the same day, at ELEVEN o'clock. Ample security will be required for the performance of the works, and the Guardians do not bind themselves to accept the lowest or any other Tender. Copies of the quantities (5s. each) may be obtained of Messrs. MASON and WHITE, Architects, 9, Great Saint Helen's, London.—By order of the Board,
GEORGE F. CARNELL, Acting Clerk.
Sevenoaks, April 22, 1858.

TO BUILDERS and CONTRACTORS.—TENDERS are required for the ERECTION, at Cambridge, of a BLOCK of ALMSHOUSES, for the Royal Albert Benevolent Society. The plans and specification may be seen at the Offices of Mr. JOHN EDLIN, Architect, Cambridge, and Mr. H. E. KENDALL, Jun. 33, Brunswick-square, London, on and after the 21st inst. between the hours of TEN and FIVE o'clock. The Tenders are to be addressed to Mr. THOMAS CLAYTON, Cambridge, endorsed "Tender for Almshouses," and they must be delivered on or before TWELVE o'clock noon, on WEDNESDAY, the 5th day of MAY ensuing. The Committee do not bind themselves to accept the lowest or any Tender.
Cambridge, April 1[illegible], 1858.

BRIDGEWATER ESTATE, near Great Berkhampstead. TO BUILDERS.—Persons desirous of CONTRACTING for DOUBLE COTTAGES in the parishes of Little Gaddesden, [illegible], Pitstone, and Northchurch; new ESTATE OFFICES and RESIDENCE HOUSE at Little Gaddesden, together with FARM HOUSE and TWO FARMSTEADS, and other repairs, may see the plans and specifications by applying to WILLIAM PAXTON, Esq. Little Gaddesden, on and after the 22nd day of APRIL. Sealed Tenders, according to the form supplied, to be sent in by ELEVEN o'clock on the [illegible]th of MAY. No pledge is given to accept the lowest or any Tender for the works. Further particulars may be had by applying to Mr. BROWNING, Stamford, the Architect.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 11th MAY next, at TWELVE o'clock noon precisely, to SELL by TENDER the following FREEHOLD GROUND RENTS:—1. The Rental of 14[illegible] a year for eighty years, from Lady-day, 1856, secured on the spacious premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Chancery-lane, with the reversion to the same. 2. The Rental of 15[illegible] a year for eighty years from Lady-day, 1855 secured on the premises known as the Mitre Tavern, Chancery-lane, with the reversion to the same. 3. The Rental of 80*l.* a year [illegible] years from Midsummer, 18[illegible], secured on the substantial business premises in Fetter-lane, on the east side, in the occupation of Messrs. [illegible], with reversion to the same. 4. The Rental of [illegible] a year for [illegible] years from Midsummer, [illegible] secured on substantial business premises on the east side of [illegible], in the occupation of Mr. Curtis, with the reversion to the same. Tenders for the same must be sealed up and sent to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next. Particulars and plans [illegible] at the Sewers Office, Guildhall. [illegible] after Midsummer-day next. The Commissioners do not bind themselves to accept any Tender delivered [illegible].
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, March 2[illegible], 1858.

INDUS STEAM-FLOTILLA.—To STEAM-BOAT BUILDERS and ENGINEERS. The Directors of the [illegible] Company are prepared to receive TENDERS for the CONSTRUCTION and DELIVERY in INDIA, of the FIRST PORTION of their FLOTILLA for the NAVIGATION of the INDUS between [illegible] the Scinde Railway, and [illegible] the Punjab Railway. The contract will [illegible] of the following dimensions:—Length, [illegible] feet, [illegible] width, [illegible], depth [illegible] feet, draught, [illegible] feet. And Two [illegible] the following dimensions:—Length, 190 feet [illegible], draught, 2 feet. The plans [illegible] may be seen at the Offices of [illegible] Consulting Engineer, Gresham House, [illegible]. All Tenders must be sent in before TWELVE o'clock on FRIDAY [illegible]. The Company do not bind themselves to accept the lowest or any Tender.
W. P. ANDREW, Chairman.
THOMAS BURNELL, Secretary.
Gresham House, Old Broad-street, London, April 14th, 1858.

CONTRACTS.

TO WATER CART BUILDERS and OTHERS.—Persons desirous of CONTRACTING with the Wisbech Local Board of Health for TWO WATER CARTS are requested to send [illegible] sealed Tenders on or before the [illegible] of MAY next, with [illegible]. The carts are intended for watering the streets [illegible] required for that purpose, the [illegible] the water [illegible] that each cart should be provided with [illegible]. For further information [illegible].
WILLIAM ADAMS, Surveyor.
W[illegible], [illegible] April, 1858.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of NEW FARM BUILDINGS, [illegible] Messrs. [illegible] Market [illegible] plans and specifications at the office of Messrs. DANBY and CALEN, Surveyors, 13, Market Place, [illegible] between the hours of NINE and SIX. Sealed Tenders to be delivered on or before SATURDAY, MAY 1st, at TWELVE o'clock, and [illegible] in the presence of the parties. The party contracting will be required to give sufficient security.
N.B. Not bound to accept the lowest or any Tender.

LONDON and NORTH WESTERN RAILWAY.—CONTRACTS for STORES. The Directors are prepared to receive TENDERS for the SUPPLY of the undermentioned STORES, viz.:—

No. of Contract.		No. of Contract.	
3	Copper	19	Lead, White and Red.
4	Canvass.	19a	Lead Ingot, Sheet, and Pipe
5	[illegible]	20	Iron, Yorkshire
7	Axes	20a	Iron, Staffordshire
8	Cords	20	Tyre Bars
9	Crucibles	21	Iron Castings
1[illegible]	Curled Hair	[illegible]	Ironwork
1[illegible]	[illegible]	23	Wheels.
1[illegible]	[illegible]	26	Oil Cloth.
1[illegible]	Coach Trimmings	27	Steel
1[illegible]	Bags, Ropes, &c.	28	Springs and Files
1[illegible]	[illegible]	29	Tin, Block.
16	Oils, various	31	Varnishes.
17	Lamp Cotton.	34.	Hats.
18.	Leather.	35	Caps
18a	Leather		

Specifications and forms of Tender may be had on and after MONDAY, APRIL 19th, on application to the Secretary, Euston Station, London. Forms of Tender for each Contract are printed separately, and parties applying should state the particular Contract or Contracts for which they propose to tender. Patterns may also be inspected on and after MONDAY, APRIL 26th, from TEN to FOUR o'clock, at the Company's Pattern Room, Euston Station, and any further information required, may be obtained on application to the Heads of the several Departments. Tenders [illegible] sent in before TEN o'clock on MONDAY, MAY 3rd. By order of the Directors,
CHAS. E. STEWART, Secretary.
Euston Station, April 15th, 1858.

WORTH NOTICE. To BRICKLAYERS and OTHERS.—An old-established JOBBING BUSINESS in the above TO BE DISPOSED OF, in the county of Kent, the advertiser [illegible]. The whole of the plant and large stock [illegible] 40*l.* [illegible] to the trade. Rent of premises, 20*l.* Apply to J. H. 41, Lovell-grove, Gravesend, Kent.

TO BE SOLD, an Old-established BUSINESS of a BUILDER, DECORATOR, HOUSE and ESTATE AGENT, and UNDERTAKER, situate in the western central district of London, doing an excellent jobbing business, with a very respectable connection. Rent [illegible] and workshops very moderate. 450*l.* will be required to take the stock, business, &c. Immediate possession may be had, the present proprietor having an engagement in another part of England. For further particulars apply to Messrs. GADSDEN, WINTERFLOOD, and ELLIS, No. 18, Old Broad-street, City, E.C.

TO PLUMBERS, GLAZIERS, and DECORATORS.—TO BE DISPOSED OF, an Old-established BUSINESS in the above line, situate in a flourishing market town, fifteen miles from London.—For particulars apply to Messrs. ALDERSON and Co. Blandford-street, Oxford-street; or to Mr. RAWLINSON, Uxbridge, Middlesex.

A READY MONEY BUSINESS, returning 10*l.* weekly in the timber trade, near Lambeth Palace, ONE HALF TO BE DISPOSED OF, worthy the immediate notice of a small industrious man, at whose exertion with the present proprietor would insure a much larger return. Apply to W. G. J. 15, Union-grove, Wandsworth-road, S.W.

ANY Person, with slight Architectural Abilities and a capital of One Thousand Pounds, can either PURCHASE, for a small sum, a well-established HORTICULTURAL BUSINESS, under an improved system, or conduct the same by Partnership, in London, without risk. The strictest investigation will be allowed and expected personally. Address, under cover, to E. A. Mr. Durrant, [illegible], Holland-place, Kensington.

PAPERHANGINGS.—LARGEST STOCK in the WORLD (of [illegible] pieces), of London, French, and own manufacture. Paperhangings, Decorations, [illegible], Borders, &c. wholesale, retail, and for exportation. W. SHIERS and CO. Paperhangings Manufacturers, [illegible] 5, Deansgate, Manchester. Patterns by post for six stamps.

PAPERHANGINGS, at 332, Marylebone-road, one door from the Edgware-road. THOMAS PARKER and SON, late Townsend, Parker, and Co. Paper Stainers, Goswell-street, respectfully invite an inspection of their large and first-rate STOCK of PAPERHANGINGS all new designs. Architects, builders, and the public generally, will find this establishment unsurpassed by any house in London for elegance of style, excellence of quality, and cheapness in price. Bed-room papers from one half-penny, and satin papers from two pence per yard. Paperhangers sent to all parts of the country.
N.B.—The new Designs for Paperhangings, by Owen Jones, esq. we shall publish shortly.

PAPER HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSS'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

ST. JAMES'S MUSIC HALL.—The whole interior of this noble Hall has been plastered with MARTIN'S PATENT CEMENT. The elaborate Ceiling, including the rich Gilding and Colouring of the principal and intermediate Ribs, Mouldings, Recessed Columns, &c. as well as the Ground-work, were all completed in less than a month on the SAME MATERIAL. Manufactured by STEVENS and SON, Drury-lane, and Derwent Mills, Derby.

TO ARCHITECTS and BUILDERS.
T. TRELOAR, 42, LUDGATE HILL,
Manufacturer,
SUPPLIES COCOA-NUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c.
of the [illegible] quality on the most reasonable terms.
Warehouse, 42, Ludgate-hill, E.C.

HOUSES WANTED to PURCHASE.—A Gentleman wishes to PURCHASE HOUSE PROPERTY, Freehold or Leasehold. Small houses not objected to, or advances would be made on the same for short periods, without the expenses of mortgage deeds.—Apply to Messrs. SEYMOUR and CO. 24, Martin's-lane, Cannon-street, City.

SAW-FRAMES.—An 18-horse, and a variety of other STEAM ENGINES, BOILERS, from 1 to 30 horse power; Hydraulic and Screw Presses, Lathes, Drilling Machines, a [illegible] Bone Mill, and a variety of other useful Machinery, including Portable Steam Engines, ON SALE OR HIRE.—Apply, T. TAYLOR, 18[illegible], Southwark-bridge-road.

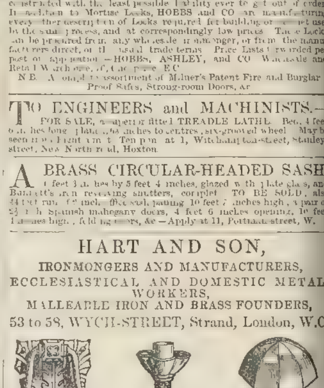
A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails, wrought [illegible], Copper, and Zinc Patent Locks of all descriptions, China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles, [illegible] Ventilators 4s., and the New Registered Venetian Ventilator, [illegible] Set [illegible] each.
J. H. BOOBBYER (late STURCH and BOOBBYER) established nearly 20 years, for the supply of Goods from the best Manufactories, at the lowest prices. 14, Stanhope-street, Clare-market, London.

TO ARCHITECTS and BUILDERS.—MORTISE LOCKS are now being manufactured by patent steam machinery, at a moderate price superior to any others in the market. All the parts of these locks are made of the best materials, and their perfect action secured by the exact precision of machines that cannot err. By the adoption of HOBBS'S PATENT FRICTIONLESS FOLLOWERS, the excessive wear upon the parts connected with the latch bolt is avoided. The plates are made of "No. 12 gauge" iron, and being so thick the pins cannot be loosened by the constant jarring of the door. The security consists of four double-acting levers, constructed with the least possible liability ever to get out of order. In addition to Mortise Locks, HOBBS and CO. are manufacturing every other description of Locks required for building or cabinet use, by the same process, and at correspondingly low prices. These Locks can be procured from any wholesale ironmonger, or from the manufacturers direct, on the usual trade terms. Price Lists forwarded per post on application.—HOBBS, ASHLEY, and CO. Wholesale and Retail Warehouse, 76, Cheapside, E.C.
N.B. A large assortment of Milner's Patent Fire and Burglar Proof Safes, Strong-room Doors, &c.

TO ENGINEERS and MACHINISTS.—FOR SALE, a superior fitted TREADLE LATHE. Bed, 4 feet 6 inches long; plate, 5½ inches to centres; six-grooved wheel. May be seen from Eight a.m. to Ten p.m. at 1, Witchampton-street, Stanley-street, New North-road, Hoxton.

A BRASS CIRCULAR-HEADED SASH, [illegible] feet 3 inches by 5 feet 4 inches, glazed with plate glass, and Bunnett's iron revolving shutters, complete, TO BE SOLD; also 24 feet run, 2½ inch office sash, panning 10 feet 7 inches high; a pair of 2¼ inch Spanish mahogany doors, 4 feet 6 inches opening, 10 feet [illegible] inches high; folding doors, &c.—Apply at 11, Portman-street, W.

HART AND SON,
IRONMONGERS AND MANUFACTURERS,
ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,
MALLEABLE IRON AND BRASS FOUNDERS,
53 to 58, WYCH-STREET, Strand, London, W.C.



Illustrated catalogues free on application.

CLARK and HUNT'S IRONMONGERY, STOVE, and METAL WAREHOUSE, 159, Shoreditch.
A great variety of Elliptic Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.

Improved Self-acting Cottage Ranges, with Large Oven and Boiler, [illegible] 2[illegible] 3[illegible] [illegible]-inch. 26s. 28s. 30s. 32s.
Best Self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars 34 36 38 42 inch. 54s. 56s. 58s. 60s.
Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

Register Stoves, with Solar Bars, per inch, 7d.
Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 7d. per inch.
Best Solar ditto, with Fire-brick Back, per inch, 10d.
Bright Stoves, with Two Fires, 40s. to 100s. each.
Best Cut Clasp and Rose Nails.

1½ inch	1¾ inch	2 inch	2½ inch	3 in
16s.	15s. 6d.	15s.	14s.	13s. per cwt.

Best Sheet Cut Floor Brads, 12s. 6d. per cwt.
Best Cut Lath Nails, 18s. per cwt.

Cast Rain-water Pipe	2	2½	3 inch.
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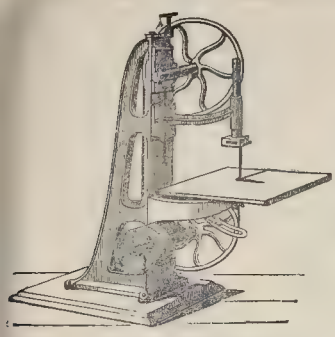

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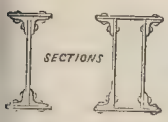

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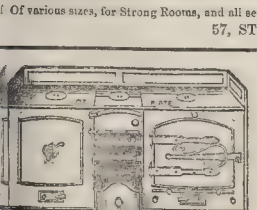

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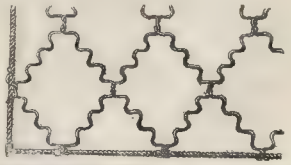

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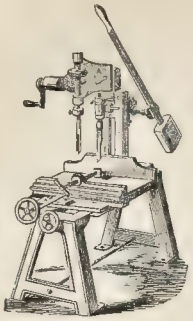

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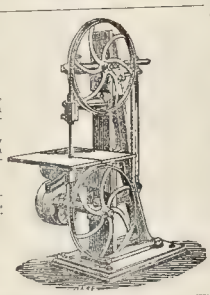

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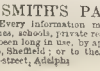
HEATING BY  HOT WATER.

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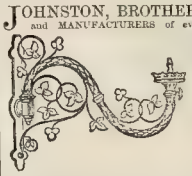

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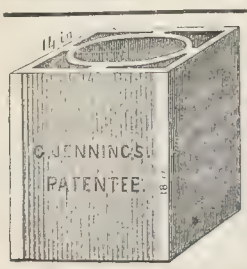

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Vol. XVI.—No. 794.

The New Theatre: Covent-garden.

AY is to see the opening of the new theatre in Covent-garden. Great progress has been made in the works since the date of our last notice, though but a few days, so to speak, from that time have elapsed. Only after well-matured arrangements in all matters belonging to designs and drawings, and with perfect organization of the executory department, could so much have been accomplished as we are now able to discover in the interior of the building. Already, we can form an approximate idea of the appearance of the house when completed. But, two or three weeks of the labour of upwards of 900 men (for such actually is the number at present engaged in the building at Covent-garden), striving from early morn to late at

well directed, must produce an effect
e largest or most elaborate piece of
—the habitual rapidity of theatre-build-
en not being left out of the question.
eculiarity of the present case, however,
the novelty of the objects prescribed, and
means adopted, not merely for obviating
e extent danger from fire, but in regard
comfortable accommodation of the
ce in every part of the house,—as
h point, the new Opera-house makes a
advance such as no London theatrical
r, or proprietary, had before been
aned or enterprising enough to hazard
periment of.

dom from anxiety on the score of danger
e, or crowding; comfortable seats; in-
atmosphere (such as peculiarly, indeed,
a theatre, as remodelled, had the ad-
of, by the attention to ventilation to
ts); these can hardly be said to be
ble in any of the existing theatres, or
been duly regarded at the only time
h they could be provided for, namely,
original designing of those buildings.
jects, to those not under the hallucina-
gendered by the atmosphere of the
om and the habit of "motley," would
y seem just as deserving of attention,
ngagement of highly-salaried actors,
elaboration of costly "properties" and

The theatrical-proprietary, like the
oping "interest," appear to ground
alculation of theirs upon the same
wit, that the visitor will come to the
ament offered, as seldom as possible.
think it would be easy to show that,
the smallest diminution in the quality,
splendour, of the drama or *spectacle*, it
possible to conduct theatrical affairs
ater cost, giving to matters before the
that attention which has been often
, but as yet has never been paid, unless
now record what Mr. Gye, with the aid
M. Barry, is doing, as a first example.
from the lengthened periods that many
eatres remain unlet, or unremunerative
managers, and from the variable numbers of audiences, it would almost seem not to have occurred to the mind of those most concerned, whether better, or at least less precarious, returns might not be realized by appealing to the tastes of the public, in a manner more consistent with the circumstances of the present state of society and the legitimate demands. To the managers we would, in short, say, fail to improve your arrangements for the auditory; and the middle classes will continue coming to your houses once in a season, or less frequently; and at other times, will take the new facilities which there are for the pleasures of reading, or prefer home-occupation; and the drama will not maintain that position to which, as an art, it is, when properly administered, duly entitled.

To say what changes would be required in theatres,—that is, in whatsoever modern arrangement of plan,—to allow each person in the house to see, as well as hear, completely, would be beyond our present ability,—particularly in the limits of this notice. We can, however, point to the facts, obvious enough, namely, that without any change made in the arrangement of theatres, "spectacle," as a branch of dramatic art,—and such *spectacle* as is designed on the supposition that each person in the house has an equally good view,—impracticable as that supposition actually is,—is becoming more and more predominant; that even out of the field of pantomimes and extravaganzas, the same requirement of a view of the business of the scene, should be better recognised than it is; yet, that the ancient theatre has afforded the only form of plan adapted to the particular dramatic object. The application of that plan to the modern theatre, without the alternatives of a contraction, as compared with what is now desired, in the area of the pit, or of giving so great width to the proscenium opening as might lessen the illusory effect of depth in the stage, does not seem to have been satisfactorily pointed out.

We refer to these things in order that it may be better understood what are really the improvements effected in the case of the new Opera-house, and what are those which, however desirable theoretically, it prefers no claim to have made, and which, after all, may be impossible without change in the stage and the spectacle itself, such as no architect would yet be allowed to venture on. Besides, it may be said, in an opera-house, hearing has greater importance over seeing, relatively, than in the ordinary theatre, and will afford sufficient enjoyment of itself.

The plan in the new building, as defined by the fronts of the boxes, does not exactly take the elongated horse-shoe form of the principal modern examples, yet cannot properly be said to approach the form of the Greek theatre, as might be supposed from a cursory reading of a recently published statement. This fact will be understood from a description, with the dimensions, of the part of the actual plan referred to. The greatest width, or measuring from the box-fronts on one side, across the house, to the fronts on the other, at the building in Bow-street, is 62 feet. If the reader will draw a line of that length, as diameter; take the half, or radius, and describe a semicircle; prolong the curvature at each end, or side, some 3 feet; and then join the curve, by straight lines, to the proscenium opening of 50 feet, at a distance of 44 feet 6 inches from the first-named diameter, he will have defined the plan. The distance of the proscenium from the front of the centre box is 75 feet 6 inches. The circle at the springing of the domical ceiling, omitting the cornice mouldings, will have a diameter of 65 feet.

The real modifications of the arrangement as usual in theatres, beyond those of the structural sort for security from fire, which we shall again speak of, have for their main object, greatly increased space to each sitting in the stalls both of pit and gallery, with ample width between the rows of seats. But, also, the divisions of the boxes are so designed and fixed as to be removeable in a few hours; so that the whole of what will be usually private boxes can be thrown together, should the theatre be devoted to ordinary dramatic entertainments, at certain seasons, according to an arrangement which has entered into Mr. Gye's calculation, and has in several respects modified structural features or dimensions. There are but three tiers of boxes, exclusive of those on the level of the lower gallery or "amphitheatre." They will be called "pit tier," "grand tier," and "first," or "upper box tier." The floor of the boxes of the pit tier is 8 feet 6 inches above the level of the entrance-hall, and on the same level as the front of the stage. The height of these boxes in the clear may be about 8 feet 6 inches. The floor of the boxes of the grand tier is 9 feet 6 inches higher, and the height of these boxes in the clear is about 10 feet. The height of the upper boxes in the clear is about 9 feet. The domical ceiling is borne by four elliptical arches, and pendentives. To the crown of these arches, from the floor of the lowest of the lower gallery, or "amphitheatre" stalls, there is a height of 22 feet 9 inches; above which, the rise of the ceiling to its crown at the circular ventilator (12 feet in diameter) is 8 feet.

The whole height to the crown of the ceiling from the floor of the boxes of the pit-tier, and the corresponding level at the front of the stage, will be 61 feet. Below this level, the lower basement-floor, under the stage and pit, descends to 23 feet. The whole height from the bottom of the footings to the lower flange of the roof-girders (themselves 9 feet additional), is about 85 feet. The highest portion of the walls, at the west end, reaches to about 93 feet from the street, and 109 feet from the basement-floor level.

The depth of the boxes, added to the width of the corridors, makes up a dimension of 13 feet 6 inches, and the tiers of iron columns are placed at a distance of 6 feet 6 inches from the box fronts. The columns connect with one another, tier and tier, being specially provided with flanged heads and base plates, and tenon-ends to fit into a bored portion of the hollow of the column above. They are also cast with boxed heads, allowing the iron cantilever girders to pass through, and the principal cross girders, or binders, to tail in. There is another binder, or joist, parallel with the last-named binders, at the fronts of the boxes, and a third for the support of the 3-inch rubbed York paving of the corridors. The boxes themselves are to have boarded floors, for which wooden joists are fixed between the cantilever girders, or parallel with the iron binders or joists. The cantilever girders are of wrought and riveted iron, and the binders of rolled iron.

There are four tiers of columns, namely, those of the three tiers of boxes and those of the pit corridor. They are respectively 9, 8, 7, and 6 inches in diameter, and of $1\frac{1}{2}$-inch, $1\frac{1}{4}$-inch, $1\frac{1}{8}$-inch, and $\frac{7}{8}$-inch metal; and at the junctions of the tiers, besides the tenoning, the top and bottom plates are attached by four $\frac{7}{8}$-inch bolts.

The back of the boxes was originally intended to be on the line of the columns; but about a foot of extra depth has since been given to the boxes, and taken off the passage. Each bay, or intercolumn, will be divided into two boxes of the ordinary size; but the whole of the partitions are so arranged as to be removable, as before alluded to. But, in addition to the provision for removal of the partitions, the box-fronts of the pit-tier will be removable, in order that the whole space under the grand-tier may be thrown into the pit.

The partitions will be canvassed and papered; and the ceilings, as generally throughout the house, the domical ceiling inclusive, will be covered with Bielefeld's "fibrous slab" material,—to the good properties of which we first drew attention. As part of the means of ventilation, the fanlights of the doors of the boxes are made to open. The warming of the house will be by hot-water pipes, carried round the house below the level of the pit floor, the air being admitted by apertures below the fronts of the boxes of the pit tier.

The boxes in the pit tier, and first or upper tier, of the regular dimensions, will be respectively thirty-six in number, two in each bay, but capable of any other arrangement. On the grand tier there are thirty-one boxes, the difference being made up by the boxes for the Queen and the suite, reached by a separate staircase and entrance from Hart-street, and by the box of the Duke of Bedford (the last on that side of the house), to which there is also a distinct staircase and entrance. The seats in the pit will be divided into two distinct classes. Of these, the seats of the best class occupy by far the largest space. As the advertisement says, "Each person will have a separate arm-chair, occupying a space of 2 feet," and a distance of 1 foot 8 inches, or more, appears to be provided for between the rows. There will be 316 of these stalls. The other pit seats will also be very superior to ordinary sittings, differing only from the others in allowing about 1 foot 8 inches to each seat, and about 1 foot 2 inches to the spaces apart. Thus 191 of these latter stalls are provided in a comparatively small space; but even there, with more than usual advantages. The lower gallery, or "amphitheatre," has 356 stalls, each 1 foot 8 inches. The framework of the seats is of iron, and the arms and back and seat will be well cushioned. There will be sixteen private boxes at this level. The principal upper gallery provides 380 sittings, from which there will be an excellent view; and side galleries also are being constructed.

Having thus shown what are the more important features of the new Opera-house, so far as the accommodation for the auditory is concerned, the description of the general plan and structural character may be completed. The building occupies a space of ground measuring 210 feet on the Hart-street side, and 219 feet on the south side, next the intended flower-garden, and about 123 feet 6 inches along the Bow-street end, and about the same at the other. But at the Bow-street end there is the enclosed carriage-porch and portico, projecting about 17 feet in addition, whilst the western end wall is strengthened externally by buttresses, projecting about 3 feet 6 inches. The area of the plan comprising the stage and auditory, is bounded north and south by longitudinal and cross walls of great strength, for the support of the massive trellis girders, which carry not only the iron cross girders or binders for the wooden floor of the carpenter's shop, but also the "flies;" and the whole system of framed curbs, ceiling joists, "fibrous slab," and decorative mouldings of the domed ceiling, with the cradling of the elliptical arches and pendentives, and much other work. This system of construction,—that is to say, the arrangement of suspending weight from the top of lofty walls,—necessarily calls for extraordinary strength, as where superadded to the weight of each girder itself, said to be nearly eighteen tons. Of the longitudinal walls, the external ones are 2 feet 4 inches in thickness, all the way up. The girders are, however, borne directly by the *inner* longitudinal walls, parallel with the others; and these walls are, in the basement, 3 feet 4 inches in thickness; to the first box tier, 3 feet; and for the remainder of the height, 2 feet 8 inches. In them occur great openings to the docks for the scenes; but the inner wall is tied to the external wall by cross walls of 2 feet thickness all the way up (generally about 20 feet apart), and by four tiers, each of two 1-inch iron bolts with plates, nuts, and screws. These cross-walls of course act as counterforts, though they are not in all cases opposite the ends of the girders. The girders themselves are carried on stone templates, 12 inches thick, below which twelve courses of brickwork in cement, with hoop-iron, are laid all round the building. The spaces of the plan formed by the parallel longitudinal and the cross-walls, are appropriated to staircases, dressing rooms, the docks for scenery, and other uses.

The area of the stage (exclusive of the bow-front in advance of the proscenium) measures 90 feet by 88 feet 6 inches, the former dimension being the bearing of the roof girders. The whole length of roofing, inclusive of the roofs to the painting-room and the "amphitheatre" and gallery, is divided into nine bays, the distances of the eight girders, from centre to centre, varying from 19 feet 3½ inches to 21 feet. The girder above the proscenium is placed at a lower level, the valley gutter of the roof being supported from it by iron stanchcons. A girder of the same kind as the others is placed for the support, on one side, of the floor of the painting-room; whilst at the other side, or next the rear wall of the building, where, as usual, space is left for the scene to be dropped down whilst work is in progress, the floor is carried by massive iron stancheons, bellied in the middle (as to their appearance in elevation), which are built up in great piers of brickwork. The girders (of 90 feet bearing and 9 feet in height), are formed of wrought and riveted iron, with top and bottom flanges, each of 18 inches in breadth, and double cross-bracing and uprights. They were proved to 150 tons. They were taken up in three pieces, with the aid of a strong staging erected in the middle of the building, and were then finally completed. The floor of the carpenters' shop seems intended to be formed only of wooden joists, laid on the iron binders, at distances of 2 or 3 feet apart, the floor-boards being little more than the ordinary thickness. Each bay is covered by a light iron roof, with slate slabs laid on iron purlins, and skylights. The painting-room has a "lean-to" spanning 30 feet 10 inches, with trussed rafters. The roofs of the ordinary bays are of simple construction. The iron gutters of the building vary from 16 inches in width to 2 feet, which last is the dimension of those next the external walls.

A few particulars may be added to complete the present notice. The timbers of the stage are now being framed together, with the co-operation of Mr. Sloman, in aid of the architect and contractors. The iron stancheons and diagonal bracing of timber forming the supports to the floor of the pit, are fixed. The "fibrous slab" for the ceilings, is being attached to the joists; and at the front of one of the boxes of the grand tier, there was lately "offered up" a specimen of the bow-fronted finishing, enriched with decoration in gold on a white ground. These fronts are to be executed in the newly-invented moulded canvas material, by Monti. The ceiling will be by Jackson and Son. The proscenium will measure 50 feet in the opening, and will be 42 feet 4 inches in height to the crown of the arch.

There are eight main staircases in the building, besides six of less importance. The whole of these are fire-proof, and carefully planned to avoid risk of accident. Besides the principal box-entrance, there appear to be five entrances for the pit also available for the boxes; but the precise application of these and the staircases to the upper parts of the house, is perhaps not settled. The entrance-hall, from which the principal staircase ascends, measures 60 feet by 25 feet, besides a recess, and is 26 feet 9 inches in height. There are twelve or more principal dressing-rooms, and long ranges of rooms, or galleries, in the upper part of the building, for the chorus and ballet.

The portico, it seems, is to be completed in time for the opening, and the columns are now fixed. The external dimensions of the portico are 80 feet by 16 feet: the columns are 36 feet 6 inches in height; and the height from the street level—or inclusive of the basement or carriage-porch—to the apex of the pediment, will be about 82 feet. The figures and *reliefs* by Flaxman, from the old building, are in their places; the latter works having now backgrounds of dark blue colour. The casement doors of the crush-room, which is 81 feet 6 inches by 25 feet, and 26 feet 6 inches height, will open into the portico. Sc alteration seems to have been made in piers and openings of the carriage porch si our view of last year appeared,* by which th will be square windows, glazed, rather t what was shown. The plastering, about wh obviously great difficulty lies in works of character, is chiefly confined to the box co dors, entrance-hall, staircases, and the cri room of the present building; but inclu a great amount of work. It has been execu with a first coat of Portland cement, an floating and a setting coat of Parian cemer

We must take opportunities of referring other points in the plan and construction the building,—in which there is much thi suggestive,—and to the decorative finishi which will be chiefly in white and gold, rose-coloured hangings to the boxes. Mr Miller is the clerk of the works, under Edward M. Barry.

REMNANTS OF THE PAST IN NEW CASTLE-ON-TYNE.

THE old castle stands on a platform w descends almost precipitously towards the and the street called the Side. Various flight steps lead to the Castle Garth. From the there are the "Dog-loup stairs." All appearan antiquity has vanished from this part. The C Garth stairs, which rise from the close, are picturesque. Near the top is a postern of strength. Many of the shops here, and near the Black Gate, are occupied by deal old clothes; and the gay colours, with the so tints of the building, aid in pleasing an ar eye. Reaching the top of these stairs, and s ing against the railings of the county cou building of Grecian design, the view of th castle is very fine. The battlements which erected on the top some years ago are no keeping. The walk from the castle to the Gate is particularly interesting. The shops pent covering and mostly unglazed; the 1s projecting story over story; and other evid of unchanged antiquity, give us an idea of many of the London streets were like in fo days.

The superstructure of the Black Gate massive masonry; and visitors here would do to examine the traces of Early English work are to be found, and, if possible, make an e ration of the interior. It will be seen fro engraving that a building erected at diff periods has been raised to a considerable he above the gate. Great alterations have been in this neighbourhood by the erection of the C Railway station, and it is proposed to mu street which shall come in line with the sides of the new corn exchange and St. Nich church. To the front of the Central statio will make a fine approach, but it will remove curious groups of houses. The Black Gate, ever, stands back, and we hope that it will r necessary to take down this characteristi striking example of ancient workmanship. the strength and solidity of the masonry it be no easy matter to remove it.

The picturesque and remarkable house in the engraving is situated in High Friar- It is substantially built with the stone neighbourhood. The cherubs, group of dol and mouldings, are all of stone. The inte the house seems to have become dilapidate at the time of a recent visit the place was u pied, and it was said that it might be short moved. It affords an example of peculiar do architecture of probably the seventeenth ce Perhaps some of our antiquarian readers at castle may be able to give some account of i

THE ARCHITECTURAL ASSOCIATION.—At a ing of the members on Friday, April 16, a f contribution was made by Mr. S. E. Rosser, construction of chimneys. Messrs. Bunk Herring, the hon. secretaries, announced th next *conversazione* of the Association wo held on the 30th April, at Lyon's Inn Ha that the members generally would dine to on May 4. At the *conversazione* Mr. Kerr will read a reproduction of his "Dis on the Beautiful and the Fine-Arts," prepa the Architectural Exhibition; and will, w have a good audience. The meeting is op believe, to all members of the profession.

* Vol. xv. p. 611.

REMNANTS OF PAST TIME, NEWCASTLE-ON-TYNE.

The Black Gate.

Old House in High Friar-street.

BACKWARD SANITARY LEGISLATION.

A PRIVATE Bill is now before Parliament, drawn up, brought forward, and promoted by the corporation of Manchester, in which Bill there are clauses proposing to especially tax existing water-closets, and, inferentially, to prevent the erection of new ones. Such clauses, if passed, must, of course, compel the retention of existing cesspools, and provide for the formation of additional ones. The Sanitary Association of Salford has petitioned the General Board of Health, soliciting aid in opposition to the enactment of such clauses. The General Board, however, decline to interfere: and, as the Bill is otherwise unopposed, we may see the revival of cesspools, or their continuance, in Manchester and in other places, in spite of heavy annual mortalities. The annual average mortality of the places named below will show the relative sanitary condition of Manchester; and if cesspools are not only to be retained, but to be added to, we may infer the results. Average annual mortality for the seven years, 1850 to 1856, both inclusive, per 1,000:—London, 24·07; Birmingham, 26·79; Manchester, 31·18; Liverpool, 32·73. London, it will be seen, is very much healthier than the three towns named. Liverpool is the most unhealthy town in England, and Manchester the next. Surely there is reason why sanitary legislation should advance, and not retrograde. If we take the population of Manchester at 300,000, and could reduce the annual mortality to the standard of London, some 2,223 lives would annually be saved.

If the General Board of Health and Parliament learned that in Manchester there took place annually upwards of 2000 deaths by poison, imperial interference might be considered proper. Cesspool poison in the most subtle, deadly, and certain manner. Ask the surgeons of Manchester "where the typhus cases occur," and they will answer, "in close proximity to cottage cesspools." "Where cholera," the same answer. Surely there must be some fatally mistaken influences at work in the town-council of Manchester, or retrograde clauses of the kind named could neither have birth nor obtain support. It is bad enough to stand still, but it is worse to go back. Sanitary legislation may have had indiscreet friends; but most assuredly there are influential and powerful enemies, vested interests, and rude, healthy, robust, "look-at-me" opponents. This Manchester Bill should not be allowed to pass unchallenged. We have done our duty in drawing attention to it.

THE NEW SOCIETY OF PAINTERS IN WATER COLOURS.

THERE is always something to interest and delight in the exhibition of this Society; and the collection which is now open to the public, although scarcely equal to some that have preceded it, will not be found to afford an exception. There are 333 pictures contributed by fifty-three artists. Mr. Louis Haghe has five pictures; and, although no one of them is equal in importance to some of the works he has before exhibited, they are drawings of the highest merit. The most elaborate, "The Transept of the Church of St. Mark, Venice" (195), seen when Carmaniole repaired to St. Mark's, in 1428, has less human interest, the figures being but small, than (172) "The Drill," or (85) "The Spy," which includes an admirably painted view of a room in the Castle of Saltzburg. Mr. Henry Warren, besides some smaller but not less interesting works, gives the result of many laborious days, in a large picture inspired by Moore's "Light of the Harem," entitled "Song of the Georgian Maiden" (182). The strained position of the singer, though founded on truth, is painful; and the hand of Nourmahal, who is veiled with—

> "A mask that leaves but one eye free,
> To do its best in witchery,"

is over masculine; but the foreground group, as a piece of elaborate manipulation and gorgeous colouring, is entitled to high praise. Near it is an admirable picture by his son, Mr. Edmund Warren, "In the Forest of Dean," 207,—to our mind the most perfect work in the gallery. Mr. Warren has planted his tent "under the wide-spreading beech-tree," and has patiently and skilfully set forth the impression nature conveyed to him, with a result which will be a delight for many years to come. Mr. Bennett's landscapes want atmosphere even more strikingly than on former occasions, but still have merits of their own. Mr. Whymper has improved. His No. 11, "The Home of the Sea Fowl," should have had a better place: it has more of the poetical sentiment than any picture in the gallery. Of Mr. Vacher's contributions, we may especially name for praise,

(117) "View from the Punta di Tragara, Capri," showing Monte Salaro and the town. Mr. Chase has some good architectural drawings, including (115) "Roslyn Chapel," and (162) "Hurstmonceux Castle." Mr. Edward Corbould gives an elaborate piece of antiquarianism, called "Noah, a Miracle Play performed in the Streets of Hull in the fourteenth and fifteenth Centuries." Mr. Tidey supplies Mr. Absolon's place with a large conversation picture, called "A Field-day in the Last Century." Mr. Wehnert, who is abroad, sends four small drawings of buildings in Florence, of great excellence,—Nos. 299, 305, 313, and 316. No. 6, "The Poissons Rouges," by E. Morin; (11) "The Stye Head Pass, Wastdale, Cumberland," by Jas. Fahey; (36) "Port of Carnarvon," by T. S. Robins; (69) "The Last Leap of the Lledr," by D. H. McKewan; (165) "Safe off the Rocks," by J. H. Mole, are good specimens of the several artists' work. Nearly fifty pictures were sold on the private-view day.

CONGRESS OF DELEGATES OF LEARNED SOCIETIES, UNDER THE DIRECTION OF THE INSTITUTE OF THE PROVINCES OF FRANCE.

PRESERVATION OF MONUMENTS.

WE gave some account in our last number, of the opening of this congress.

The three first questions coming under the lead of archæology and the fine arts were,—

1. In what state are the epigraphic collections existing in different towns of France?

2. Is it not desirable to direct the attention of the Government to the little interest taken in many places in these precious historical monuments?

3. Is it not desirable that towns possessing inscriptions and ancient sculptures, but having no fitting locality in which to preserve them, should be obliged to construct cheap sheds (*hangars*), to preserve them from the effects of the rain and the frost?

M. de Caumont suggested that these three questions should be discussed together, so as to embrace the whole subject of the preservation of architectural and archæological remains in provincial towns. He observed that, although during the last twenty years artistic taste had greatly increased in the provinces, many fine remains had been destroyed, and become lost to the country, for want of a little ordinary care. He quoted a remarkable instance, which had recently occurred at Grenoble, a town by no means wanting in inhabitants of taste and learning. One of the professors of the college, passing along a street in which the foot pavement was under repair saw, among the large stones being thrown out of a cart, one on which was a Roman inscription. Having searched further, and found many others, he applied to the proper authorities, and was so fortunate as to save these appliances to art from the utilitarian purpose designed for them. Instead, however, of being carried to a fitting place, they were put away in the cemetery of St. Laurent, where the inscriptions could not but suffer from the damp. But in addition to the damp, another and a more terrible enemy met them. Monsieur le Curé declared that they took up so much space as to interfere with the ceremonies of public worship, and must be removed. What might have been their fate it is impossible to say, had not relief appeared in the shape of the Scientific Congress, which chanced to meet that year at Grenoble. The consequence was, a vote of 300 francs as the nucleus of a subscription for their preservation. Even at Bordeaux (where a sum of 200,000 francs has just been voted for a botanical garden) the Epigraphic collection one of the richest in France—is greatly neglected, the inscriptions being placed in a room entirely deficient in accommodation for study. Epigraphic collections placed in open courts are liable to be broken, and injured by the weather. Admitting that it behoves the country at large to preserve these valuable monuments of history and art, how is that end to be attained? Who is to do it? Too much should not be asked, or nothing may be obtained. The evil is growing. The most obvious remedy appears to be temporary accommodation, which must not only be rapidly executed, but economical; and it was to this end that M. de Caumont suggested sheds. The expense can hardly be urged as an objection, since in few cases could it exceed 5,000 or 6,000 francs (200*l.* to 240*l.* sterling).

M. Bardy objected to sheds, upon the general principle that all such provisional measures tended to prevent effectual remedies. He thought the great hope was in the action of the Learned society upon the numerous provincial societies, and through the latter upon the local authorities. It was necessary to encourage the search for the valuable architectural and archæological remains believed to be scattered over France.

M. Driolle thought the idea of *hangars* unworthy of art. He urged the adoption throughout the provinces of the system pursued in Paris, where inscriptions are encrusted in the walls.

M. Garinet was convinced of the great improvement in the public taste for antiquarian remains. Formerly, if a peasant found a bronze statuette or a number of coins, they would be sold to the melter. Now, such objects would surely find their way to collections of provincial amateurs. The clergy are more or less men of intelligence and taste; and they might be urged to keep all discoveries of ancient remains in view. He was opposed to the centralization of works of art. They could, in most cases, be beneficially allowed to remain as historical evidences and illustrations, near the spot on which they were found. Architectural monuments, fortunately, could seldom be removed.

M. Boulatignier thought four elements should combine for the preservation of architectural and archæological monuments,—Learned Societies, Municipal Administrations, Conseils Généraux, and the Government. From the first, however, the chief aid must come. As they are not rich, they must substitute energy and activity for wealth. The funds at the disposal of the Municipal Administrations are required for many purely material but most necessary objects; and they can hardly be expected to create local taxes for intellectual purposes. The communes are in general poor, and it is not likely that Government will seek to promote epigraphic taste by prefétorial edicts. Still he thought that municipal and communal ambition might be roused by public appeals, and thus museums be founded to which private individuals would contribute money or objects of art. Though the title of *Hangars* seemed unfortunate, he liked the principle of light constructions, and pointed to practical England as an example. The construction of such light and cheap buildings he thought the utmost extent to which any public bodies are likely to go. But let such bodies, or the Government, give what money they may, the foundation and organization of public museums must be the work of scientific associations alone. He illustrated the inability of the Government to deal with such matters, by stating that some registers of the "*Arrêts du Parlement*," having been stolen from among the public archives, application was made to the Imperial library for the copies of the same deposited there, and which, to the library, were of comparatively little value. The Government, he assured the meeting, had been endeavouring *for the last twenty years* to obtain these copies, but hitherto without success. He arrived at the conclusion that, for the conservation of works of art out of the capital, the initiative must be taken by learned societies.

M. Garinet thought, that as the Government was now forming depôts for public archives in provincial towns, at a small additional expense, protection might be afforded in the same buildings to works of art.

M. de Caumont was unwilling to have recourse to Government, if it could be avoided. As far as sculpture was concerned, monuments might be placed in the lower rooms of public buildings. He believed such a course was to be adopted at Evreux. He concluded by laying on the table the ground-plans and elevation of a light building, which he designated a *hangar*, about to be erected, under the superintendence of M. Raynal, at the "Exposition Régionale," about to be held at Angers. He proposed that a committee should be appointed to consider the subject of the use of such light buildings at provincial scientific and industrial meetings.

M. Garinet pointed to Rome for an illustration of the results which may be obtained by Government supervision in the conservation of works of art.

M. Driolle approved of the system of incrusting inscriptions in walls. They were thus displayed to every eye.

M. Calemart de la Fayette urged individual energy upon the members of the congress. As an instance of what might thus be attained, he referred to the town of Puy, where a few individuals, having resolved upon the formation of a museum, exerted their personal influence with the municipal authorities so successfully as to obtain a grant of 30,000 francs. The expenses actually incurred, however, were 90,000 francs, the full amount of which was afterwards obtained, partly from the Government and the Conseil Général, and partly by means of private donations.

Ultimately the motion resolved upon was, "that in order to ensure the preservation of architectural and archæological remains, it behoves learned societies to redouble their zeal and activity, to recognise the great value of these national monuments, and to solicit subventions from municipal administrations, Councils General, and the State."

Upon the question "What have been the results occasioned of late years by the negligence of municipal administrations in regard to the preservation of ancient monuments?"

M. Raymond, Bordeaux, expressed his disappointment at finding that in the case of a building for the preservation of the archives at Evreux, no provision was made (as M. de Caumont had hoped would be the case) for the preservation of epigraphic monuments. He mentioned a flagrant instance of neglect on the part of the authorities of that town. Two years ago le comte de Bastard had presented to the public a beautiful baptismal font of the twelfth century, which, instead of being placed under cover, had been exposed to the destructive action of rain and frost. Other architectural fragments had been actually used in the construction of grottoes and imitation ruins.

M. de Caumont, in proof of the absence of support on the part of the local administration in the Department, drew attention to the fact that scarcely any remains are now to be seen of the once celebrated abbey of St. Samson.

Le Comte de Montreuil (member of the Conseil Général alluded to) thought the facts overstated as regarded the local administration; but he promised to take note of them.

M. Garruel said that, whatever might be the difficulties in the case of architectural remains, it was easy to preserve inscriptions, by encrusting them in the walls of the lower apartments of the Prefectures.

The Abbé Pascal, in allusion to his work on the introduction of Christianity among the Celts, animadverted with some severity upon the "Ecole Romantic Catholic School," which, he said, was regretful of the Benedictine maxim, "*nihil scribi nisi verum*," affects to despise such trustworthy sources of authentic ecclesiastical history as Gregory of Tours, and Sulpicius Severus (the Christian Sallust), and seeks inspiration from Jacques de Voragine (the Dominican author of "The Golden Legend"), whom they almost raise to the rank of a fifth evangelist.

The next question was, "Why has the French Government of late turned its attention chiefly to some few great religious monuments of the Middle Ages, to the exclusion of other remains in general? Ought not its views to be directed equally to the preservation both of the civil and military monuments of the Middle Ages, and to Roman remains?"

M. Garinet believed the preference shown to the architectural remains of the Middle Ages to be accounted for by the interest universally taken in "Ogival art," and by their bearing directly upon religion. He admitted the value of Roman remains in an archæological point of view. He thought, all things considered, no Roman remains of real value had been neglected.

M. de Caumont did not share the "archæological optimism" of the last speaker. He cited the towns of Frejus, Vienne, and the Department of the Lot, in all which places fine ruins, having been excavated, were allowed, through sheer neglect, to become utterly useless as architectural archæological monuments.

M. de Montreuil said the public support was easily be obtained for the preservation of architectural or archæological monuments, whether Roman or of the Middle Ages. He perceived with pleasure, a revival of respect for the past among the people at large, for which thanks were mainly due to M. Caumont and the society which he presided so ably. Mention had been made of the town of Gisors. He begged to remind the meeting that its ancient castle, built by William Rufus, and justly regarded as one of the most interesting remains in the country, had acquired additional celebrity from the fact that a museum had been formed within it. To the museum, moreover, contributions were continually sent, not by the learned and the wealthy alone, but by the small proprietor and the industrious peasant. He dwelt in eloquent language upon the latter theme. He was pleased, he said, to see that some of the good old blood yet flowed in popular veins, and that popular hearts had not entirely ceased to beat with just pride at great historical recollections. The medals and other objects

by persons of the humbler class might possess indeed no great value in the eyes of the antiquary, but they had an immense value for the moralist, and might well be regarded as tokens of a healthy progress in public feeling, and a return to a better order of things from those principles of universal destruction which tend to the annihilation of every old association and the severance of every link which binds us to the past. The hon. delegate was loudly applauded at the conclusion of his speech, of which our want of space compels us to give but a very brief outline.

M. Driolle, while admitting the importance of tempting the public of all nations to visit monuments of French architecture, could not but regard modern tourism as "one of the scourges of art!" He mentioned the Château de la Bride, the residence of Montesquieu, from which, as he had been assured by the proprietor, innumerable portable objects, such as locks, keys, nails, and other unconsidered trifles had been carried away by tourists.

M. de Gadebled condemned the spirit of "Art centralisation" on which the collections of the Louvre were enriched at the expense of the provinces.

M. Calemard de la Fayette doubted whether the learned societies had as yet done all in their power towards bringing administrative effort to bear on the subject.

M. Bardy declared that administrative action was, in some cases, directly opposed to the preservation of monuments of art. In Poitiers, a town in which there exists a great love of art, the amphitheatre, a well-preserved specimen, had been levelled to make room for a market-place. He considered it absolutely incumbent upon the Government to keep in a state of preservation such world-wide monuments as the Palace of the Papes, at Avignon, and the house of Jacques Cœur, at Bourges.

We shall continue this notice of the proceedings in our next.

DESCRIPTIVE PARTICULARS OF THE REMAINS OF THE ABBEY OF KILCONNEL, IRELAND.*

Among the numerous tourists and archæologists who run round the country every year, there are but few who know that the West of Ireland, the county of Galway in particular, abounds with remains of the most important character, as examplars of Ireland's only perfect style of mediæval church building, and of its peculiarity as compared with the contemporary styles in England. From among these remains I have chosen the present for illustration, in consequence of their comparatively good state of preservation, and of their being perhaps the most peculiar in plan and detail.

Kilconnel, a village to which the Abbey gives its name, lies about 10 miles distant in a westerly direction from Ballinasloe, thirty from Tuam, and twenty from Loughrea. The country for very many miles round is comparatively flat: the tower consequently constitutes a very important feature in the landscape from numerous points of view. As to that of most of its class, the history of Kilconnel is scanty, being almost limited to local traditions. The name is derived from two Gaelic words, *Kil*, a burial-place, also cell, and *Chonaile*, O'Connell, the name of the person who founded the Abbey in the territory of Minitch and Hyamen, and was a contemporary of St. Patrick. His establishment, however, soon came to an end; and in 1400 William O'Kelly erected a house here for Franciscans. On his death, in 1420, his son Kelachy undertook a more extensive scheme, and completed the whole about the year 1460, to which period I consider that most of the present remains belong. It is recorded, that the suppression of James I. being favourable to the Roman Catholic cause occasioned most of the religious houses, not in too ruinous a state, to be repaired and reoccupied by monks or friars. Among them, up to the year 1604, we find the names of Multifarnham, in Westmeath; Kilconnel, in Galway; Ballysariel, in Mayo; Buttevant Kilkrea, and Timoleague, in Cork; Quin, in Clare; Garrinagh, in Desmona; with others in the cities of Waterford and Kilkenny. I find, however, no traces of repairs characteristic of this period at Kilconnel, and I am led to suppose that the works were confined to re-roofing some portions, and fitting up the tracery of some of the windows with masonry in lieu of the original glass. An inventory of the Abbey while complete mentions, besides the church, a house called a "council house" [chapter house?], a chapel called "Tonhill Donelan's Chapel," six chambers with fireplaces, twenty-eight small chambers or dormitories, three orchards, six gardens, a mill and water-course, and sixty ash trees. Tradition points out the sight of the mill, but the watercourse must have been considerably diverted Of the ash trees, one only remains, which, from its great size, must be of considerable age. It grows in a very extraordinary position within the walls, and against the east window of Tonhill Donelan's Chapel. The trunk, at the height of 6 or 8 feet, divides into two arms: one grows out through the window, the other upwards, but both unite their branches above the wall in one mass of foliage. The position of this tree fixes the ruin of the chapel at a remote period; even though the chapel is shown to be an addition to the original building, by its character, and by not being "tied" or "bonded" into the work of the transept. There is no doubt that Kilconnel Abbey, in its pristine condition, was a very important establishment in the West; and that it had many endowments from numerous ancient families about it, whose descendants are still existing. Many interesting reliques have been from time to time found in the locality, particularly in a small swamp or morass to the north of the abbey. It would appear, that at the destruction of the monasteries, the friars or monks took the precaution of concealing their valuables in the adjacent bogs, either on account of the supposed preservative qualities of the turf, or of their being secure from discovery by marauders. From this cause, no doubt, the small bog near the Abbey of Kilconnel retains to this day the cognomen of "Moan-na-mraihar," or "Friar's Bog," and various reliques of the old abbey have been found in it from time to time. Some years ago an ingot of fine gold of considerable value was dug up.

Like those of most communities of the class, the founders of this took good care to secure a spot where fuel and water were abundant. In addition to the excellent running stream alluded to, there is a spring to the north of the most exquisite quality. It is commonly called the "Lanthorn Well," but I find that the proper appellation is "Lanfiera's Well," the name, I should conjecture, of one of the abbots, or of a local saint. In most other western monasteries such springs are generally called "Holy Wells," and are commonly reported to possess healing qualities for all diseases.

The entire structure of Kilconnel Abbey is built in flat courses or layers of flint, and flags of various sizes and qualities, principally self-faced. It has as good an effect as the most perfect style of masonry. All the finer or wrought work is of the exceedingly hard limestone peculiar to Ireland, but found nearest to Kilconnel, at Brackerna, near Ballinasloe, about twelve miles distant. The very hard quality of this stone has allowed the highest finish to be given to all the work, and the greatest exactitude to every detail; while such is its state of preservation, that the chisel marks are as fresh as might be expected only a year after completion. The marks are very fine, in consequence of the sharpness of the tool required to disintegrate the stone; but they still remain, and with one exception where the stone is rubbed or polished, they form the finish of the work. Doubtless, the expense of first-class artisans to work this stone, and the labour and time it must have required, have occasioned the introduction of a small amount of ornament; but wherever it does appear, it bears the impress of masterly and free treatment. We cannot attribute the use of this very hard material to anything but the necessity of using local materials, but the result is forcibly in favour of hard stone in monumental buildings, with a small amount of ornament accurately finished, in preference to many ornaments badly executed in soft stone, and the consequence — early decay and premature destruction.

Every traveller who has given his ideas upon these structures has emphatically pronounced them to possess a very foreign aspect. Probably in none is this more evident than in Kilconnel, whether viewed in the mass or in the detail. One of its greatest peculiarities is (should my assumption of the date not be erroneous) that, while at the period of its erection Perpendicular Gothic was the only style practised in England (and to a far greater extent than the preceding ones), we do not find any evidence of the slightest influence of the English style or taste at Kilconnel, so far as broad principles give scope for consideration. But in France and other continental countries, where the Perpendicular never obtained proper hold, we find the same flowing style as that of Kilconnel, and just about the same period. The east window, the south transept, and the chancel windows are decidedly Flamboyant, and entirely devoid of any cusping. Of all the traceried windows, the south window of the aisle alone is cusped, and has any impress of English character; and this only if Mr. Garbet is correct in asserting, in his "Rudimentary Treatise," that the difference between our own flowing style and that of the Germans and French is, "that while the upper ends of our loops or leaves are round or simply pointed, *i.e.* with *finite angles*, the upper ends in France terminate like the lower, in *angles of contact*." The only English windows showing the same mode of treatment as this which I can call to mind, are the west window at York Minster, and a window in Kirton church, Lincolnshire. The square head Tudor looking windows in the aisle of the nave are very well executed, but too much frittered away in lines and small members. Another difference in respect to the windows is, that while in England they are generally recessed with a bold single or double chamfer, or otherwise more deepened and moulded, in Kilconnel they are fixed in every case within an inch, or an inch and half of the face of the wall, and sometimes flush with it. This I consider to be a decided fault; æsthetically, because it deprives the window of shadow necessary to give it boldness; and constructively, because it tends to expose it more to accident. Many of the windows have no splay inside. The three-light window above the eaves line in the south wall of the chancel must be a much later addition.

After a few leading elements in the nave and chancel, irregularity and want of symmetry seem to be prevailing features in Kilconnel Abbey.

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It would appear that the transept and aisles were a sort of after-thought in the erection of the main structure,—but that both were built during the same period cannot, I think, be for a moment doubted. Not so, however, with "Tonhill Donelan's" chapel. This certainly, as previously stated, must be an addition subsequent to the main erection. I presume that "Tonhill Donelan" erected this at first as a mortuary chapel, and that afterwards it was used, in conjunction with the transept and aisles, as a chapel for the general services; high mass and the more solemn ones being performed in the chancel. Squints in the side arches, now almost effaced, enabled the worshippers to participate more easily in the services at the altar at the east end. The piscina in this little chancel is of the most exquisite finish, and seems to be of a different material from the rest of the work; a sort of dark marble, which had at one time, no doubt, a fine polish. The arches have the same characteristic as those already mentioned, *i.e.* a near approach to the semicircle; and the pillar, its antæ and their capitals and bases, have very free and beautiful profiles. This piscina is, perhaps, one of the most finished and exquisite pieces of work in the whole fabric. Indeed, it is more reasonable to assume that it was removed from another site in the church and inserted here, than that it is of a contemporary style with Tonhill Donelan's addition. The other piscina in the transept also shows highly finished workmanship There is little doubt, judging from the height of the east window above the floor line, and the racked appearance of the wall, that a reredos existed above the altar; but the place is now so encumbered with tombs and ruins, that it is impossible to arrive at any satisfactory conclusion. There is no trace left of sedilia or a piscina, in the chancel, though it, no doubt, possessed them; and the fact of two piscinas being found in one small chapel, made up of various parts into what might be termed the "Lady Chapel," leads to the conclusion, that the most important and solemn portion of the edifice would also possess these adjuncts to an extent commensurate with its importance.

The roof must have been an open timbered one; the stone corbels, of the plainest description, which supported the ribs, still remaining in many places, particularly in the chancel.

The distribution of the little amount of ornament to be seen is singularly peculiar. A few leaves are found on one of the main springing courses (and only on one) of the tower. An angel with a book supports one corbel only of one of the tower arches; and in one corner, above the springing of the arches, an owl is carved in bold relief, as if stuck against the wall. At the junction of the nave and transept aisle, is a springing stone of nearly the same profile as the more elaborate capitals in the transept, but having a

* The following is condensed from the paper for which, with its measured illustrations, the Silver Medal of the Institute of British Architects, with five guineas, was presented to Mr. James Blake, on Monday, 12th instant, as mentioned.

running *fleur-de-lis* on the frieze. In other places small scroll devices, little bits of leaves, &c. are found.

The tower is a remarkably strong and solid structure, the walls retaining their thickness for nearly the whole height. The floor is nicely drawn to the square by a series of discharging arches—the groined ceiling under is of excellent workmanship and finish, having no bosses at the intersections of the ribs, which are too often the means of concealing indifferent work. The whole is well done, and "line meets line" with geometrical exactness. The stepping in of the upper portion of the tower leaves considerable spaces outside to the north and south—these are but very slightly weathered, and in so peculiar a manner as to render their use a mystery. The weather stones, each in two steps, are hollowed considerably in the middle in the direction of the drip, so as to resemble tiles; and each of the platforms has a door at about its own level, but about 6 feet above the floor in the tower—its purpose I am unable to conjecture. The most remarkable feature in these monastic towers, all of which in some measure resemble the one in question, is the termination, which entirely differs from anything of the kind in Great Britain. All those I have seen are finished in the same way, or at least on the same principle. Those of Jerpoint, Castle Galway, and Abbey Knocking may be cited as instances. Above the top string course (it cannot be called a cornice) is a series of oblong holes through the parapet, carrying the water from the roof to the drip of the string course. These, at some little distance, produce almost the effect of large denteles reversed, and give a peculiarly pleasing weight and importance to the upper portion and battlements. Such battlements, according to Fergusson, are identical with many found in the north of Italy. * * *

The abbey, in its finished condition, must have possessed many splendid monuments and tombs, but most of them, from wilful destruction or neglect, are entirely defaced. That in the nave, however, near the west door, would be found, were the ivy removed, to be in a tolerably good state of preservation. The altar part of this tomb I should consider, from the character of the figures, to be a century or more earlier, but the canopy and its adjuncts belong to the date of the present church; and if the lower part is older, it has most likely been transferred from some older structure that occupied the same site. The canopy is a splendid piece of workmanship of very delicate finish and adjustment. Fault may be found with the multitude of small members into which it is cut up by the alternate hollow and round mouldings, but the accuracy with which these members are mitred upon spherical lines, deserves great commendation. The character of the tracery is as Flamboyant as anything in France or Germany, and certainly different from anything of the kind in England that I am aware of. There is no history of this tomb extant: it belongs to the "Keogh" family, and is commonly called "Miss Keogh's tomb."

In conclusion, I venture to express my opinion that the architects of all these western monasteries, Kilconnel in particular, were either foreigners, or that, if natives, they studied in foreign countries, and thence imported the style into Ireland. The latter opinion is, perhaps, the more correct, as it is very probable that, as in England, the bishops and clergy of the Middle Ages in Ireland were their own architects; and it is well known that students from Ireland went into Italy and Spain to be ordained, where it is not improbable that they studied the elements, and imbibed the principles of architecture, which they subsequently transferred to their native country. Indeed, not only in the style of architecture here treated, but in all the Irish architecture of a much more ancient date, is this foreign influence always to be remarked. English feeling, or the influence of English style, is not apparent in either. This would not be so much matter for surprise, notwithstanding the close proximity of the two islands, had there been no connection between them in an imperial point of view; but when we find that, at the period to which these remarks especially apply, Ireland was under the almost absolute domination of the English, it must be considered remarkable that some English spirit was not infused into the vernacular architecture of the country, more particularly at that advanced age. On the other hand, when we remember that the Irish chieftains and their followers never could brook the yoke of their English subduers, and that at the time Kilconnel and like abbeys were built, that is, the commencement of the fifteenth century, the country was subject to serious and continual disturbances, we may understand the reasons which may have prevented the adoption of any English type. Again, we find in almost all other countries contiguous to each other, foreign influence apparent in some shape or other. Thus, in France, we occasionally find German influence, and *vice versâ*. In Spain, we find French influence, and in Italy we find even English influence. But in Ireland, at a short distance across a narrow channel, where English influences in other respects prevailed, and where, according to Hardiman and Debrett, some of the founders of these western monasteries must have been of Anglo-Saxon blood, there is scarcely anything to indicate the union of the two countries,—while there is everything characteristic of the spirit and thought of more distant climes and more foreign influences.

There are many abbeys in the counties of Galway, Mayo, and Clare, which, if properly investigated, might throw much light upon a mystery hitherto not fathomed. It would be very interesting to the antiquary to discover some definite reason for the southern influence prevailing in the Mediæval architecture of the sister isle; and why she should, in that respect, be so much alienated from this country, with which she was otherwise so nearly connected. There is food enough for the archæologist among these ancient structures to enable him at least to arrive at a conclusion whether their characteristics are entirely foreign, or whether they were, in any degree, affected by the influence of Great Britain.

THE ADORNMENT OF THE INTERIOR OF ST. PAUL'S CATHEDRAL.

A STRONG wish having been expressed in various quarters that the interior of St. Paul's Cathedral should be thrown open for evening services similar to those at Westminster Abbey, Dr. Milman, the Dean of St. Paul's, in a long and earnest letter to the Bishop of London on the subject, mentions the peculiar circumstances that prevent the dean and chapter from incurring the expense of 1,000*l.* which would be required to carry out this intention, even in the most homely manner. It appears that this cathedral, having been built partly by national subscriptions and partly by a duty on coals, only a very limited annual sum is set apart for necessary repairs; and it is thought creditable to the architect and all concerned that so much has been done with little means.

The dean says:—"The smallest sum for which such a work can be accomplished, as I have said, in a temporary and unadorned way, would be at least 1,000*l.* But I confess that I should be deeply grieved to see such works executed in a manner unsightly, unbecoming so noble an edifice, almost irreverent. For it is not for those especial services alone that the fitting up of the space under the dome is imperatively required.

Our afternoon service has far outgrown the narrow limits and unsatisfactory accommodation of the choir. By opening the iron gates, we have admitted to some partial hearing—of the music at least—several hundreds of persons who were precluded, from want of room, from becoming worshippers and hearers within. The ample space, if properly arranged and adapted for choral service, would, I am persuaded, be filled, and the congregation doubled; for the area which we contemplate opening would accommodate at least 2,500 persons."

Dr. Milman, after some remarks on his anxiety to improve the present "cold, dull, unedifying, unseemly appearance of the interior," says,—"That exterior, I presume to say, from its consummate design in its style of architecture, is the noblest church in Christian Europe,—the masterpiece of our great British architect, Sir Christopher Wren,—the glory,—it should be the pride, of the city of London,—of the Christian people of the realm. I should wish to see such decorations introduced into St. Paul's as may give some splendour, while they would not disturb the solemnity or the exquisite harmonious simplicity of the edifice;—some colour to enliven and gladden the eye from foreign or native marbles—the most permanent and safe mode of embellishing a building exposed to the atmosphere of London. I would see the dome, instead of brooding like a dead weight over the area below, expanding and elevating the soul towards heaven. I would see the sullen white of the roof, the arches, the cornices, the capitals, the walls, broken and relieved by gilding,—as we find, by experience, the most lasting as well as the most appropriate decoration. I would see the adornment carried out in a rich but harmonious, and as far as possible from gaudy, style, in unison with our simple form of worship.

If instead of 1,000*l.* for temporary, mean, and unbecoming fittings, we could command 11,000*l.* or 12,000*l.* not merely may our purpose of adapting the dome area for public service be fully and creditably carried out, but something at least would be done towards the general adornment of the cathedral. The large estimate would comprehend a complete and effective plan for warming as well as lighting the church, and also either an enlargement of the present or the providing another organ.

I cannot think this an exorbitant sum to be expended on the metropolitan church of this opulent city,—on the last resting-place of so many of our greatest heroes, statesmen, men of letters, and of arts,—the centre, if I may so speak, of the Christian worship of the land. When I see the enormous sums lavished on buildings for the purposes of trade, some soaring in their disproportioned height, in the neighbourhood of the cathedral—when I contemplate the costliness of private mansions—the prodigal expenditure on buildings for the purposes of amusement, or for the grave and more important affairs of public state and business, I cannot but think it time that the metropolitan church should share in the general munificence and general liberality."

We believe that few of our readers will differ from the sentiments expressed by the Dean of St. Paul's, and hope that a well-arranged appeal will be made to the British public for funds for the purpose of adding to the beauty of this truly national monument, which is not only a crowning glory to the metropolis, but also the boast of the country at large. The interior of St. Paul's is a splendid opportunity for the display and promotion of high and true art; and we feel sanguine that if it were generally understood that a sum of 20,000*l.* or 30,000*l.* would be the means of adding materially to the beauty of Sir Christopher Wren's work, the amount would be speedily collected. A great deal might be done by a simultaneous appeal to the congregations of the churches, not only of the metropolis, but also of those throughout the country.

In carrying out any extensive works of adornment, the glazing of the windows, in a proper manner, with coloured glass, would, of course, not be omitted

The Bishop of London and the Dean of St. Paul's have opened a subscription with 100*l.* each, to which Canons Dale, Champneys, and Archdeacon Hale offer 50*l.* each.

AMERICAN INSTITUTE OF ARCHITECTS.

THE first annual dinner of the American Institute of Architects came off on the 22nd of February (Washington's birthday). There were present some twenty architects, of the city of New York, belonging to the Institute. After doing justice to the dinner provided for the occasion, Mr. Richard Upjohn, the president, read an address, urging the advantages of union and organization.

Mr. Leopold Eidlitz, after an interesting speech in reply to the toast, "The Day we celebrate," proposed, "The pioneer of American art—our president. May he live long to guide us by his example as an artist and as a man."

In reply to "The country we live in," Mr. Rich said,—While Europe had her patrons of art in her sovereigns and the nobility, the American people would yet encourage art as it never had been encouraged before. Their desire for development of taste was so great, that they were apt to rush into extravagancies: all they needed was advice and instruction in the right direction, which he hoped the American Institute of Architects would make it their duty to afford them, and he was confident it would be appreciated and rewarded by the community at large.

ST. PAUL'S CHURCH, YORKVILLE, TORONTO.

THE mother is interested in the progress of her children. The annexed engraving of St. Paul's church, Yorkville, erected under the superintendence of Messrs. G. K. and E. Radford, architects, will serve to show what is being done at Toronto, in the way of church building, and may well be termed satisfactory. It is a cross church, and has a bell-tower and slender spire at the north-west angle of the north transept. The material used is white brick, with stone facings. The cost has been about 4,000*l.*

THE FRENCH GALLERY.—The fifth annual exhibition of works by artists of the French School has been opened at the French Gallery in Pall-mall.

ST. PAUL'S CHURCH, YORKVILLE, TORONTO.—Messrs. G. K. and E. Radford, Architects.

CHURCH BUILDING NEWS.

Sandringham (*Norfolk*). The church here, with its fine old oak roof, has been entirely restored, and new oak fittings provided in the place of unseemly boxes. The chancel windows are all filled with painted glass, by Mr. Clayton, who has now in hand two more for the nave. Over the entrance to the porch, in a niche, is a figure of the Virgin and child. A litch-gate is now being erected at the south-east entrance to the churchyard. The whole has been done under the direction of Mr. S. S. Teulon, by Mr. Wm. Brown, of Lynn, builder.

Kennett (*Cambridgeshire*). The present owner of this parish, the Rev. W. Godfrey, is carrying out a general restoration of the tower, nave, aisle, and chancel of his church, by expending a liberal sum yearly. The chancel is now undergoing restoration, and is to have a new roof, boarded and covered with Westmorland slates. There is a triplet at the east end, in a very decayed state, which is to be carefully reinstated. Mr. G. E. Pritchett is the architect, and Mr. Wm. Brown, of Lynn, is the builder now employed upon the chancel.

Pan field (*Essex*). —The parish church of Panfield, the nave of which has lately been reseated, at the expense of the rector, is about being still further restored and enlarged by the same liberal hand. The works in progress comprise the external restoration of the nave, new east window of five lights, new fittings to chancel, and new chancel aisle for school-children. The east window will be filled with cartoon glass, by Lavers, Messrs. Evans, Brothers, of London, are the contractors for the work; from designs by Mr. Withers, architect. The carving will be by Mr. H. Earp.

Seven Oaks.—The foundation-stone of a chapel of ease has been laid at this place, by the daughter of the Rev. Thos. Curteis, the rector. The land has been presented by the Marquis Camden. The contract has been taken by Mr. Punnett, of Tonbridge, at the sum of 940*l*. exclusive of the stone and interior fittings. The architects are Messrs. Morphew and Green.

Stoke.—The restoration of Stoke church has been carried out under the superintendence of Mr. J. B. Clacy, of Reading, architect. The contractor for the works was Mr. Thomas, of Abingdon.

Plumstead (*Kent*).—This once comparatively retired and thinly populated village, having, from the increased railway and general traffic through Woolwich and its vicinity, largely added to the number of its buildings, and received a large accession to its population, arrangements have been made for the erection of a new church, for which the design of Mr. Rickwood, architect, has been approved. A contract has been entered into with Messrs. Piper and Son, builders. The church will be dedicated to St. Margaret.

Tranmere (*Cheshire*). The little village church built here some few years since is about to receive some new chancel-stalls and prayer-desk, together with other fittings, from the design of Mr. Withers.

Tunstall. — The new chancel of Kidsgrove Church, erected at the sole cost of Mrs. Kinnersly, of Clough Hall, as a memorial of her late husband, the founder of the church, was to be opened and consecrated on the 7th inst. The chancel has been erected from designs by Mr. Scott. The reredos is of alabaster, the window of stained glass, the floor of marble and encaustic tiles, and the fittings of carved oak.

Babworth.—It has been decided to carry out the restoration of the church here. Mr. Pearson, architect, London, has been called on to prepare the plans and working drawings.

Kilnhurst. — The foundation-stone of a new church, to be called St. Thomas's Church, and which is in progress of erection at Kilnhurst, near Swinton, has been laid. The church, it is expected, will cost about 1,500*l*. The style is Early English, with bell turret. It will accommodate 350 people and 50 school children: it is not intended to erect galleries. Messrs. Pritchett and Son, of York, are the architects; and Messrs. Chadwick, of Masbro', contractors, for the stone-work.

East Retford.—A stained-glass window has been placed in the north side of the chancel of the parish church of East Retford, as a memorial, on the departure from Retford to India, as a missionary, of the Rev. W. A. Plumptre, the late curate. The top tracery is filled up on a crimson and blue ground, with foliated designs in gold, and the compartments compose a representation of the offerings from the wise men in the East on the birth of Christ at Bethlehem. Above the whole is a canopy with the star of Bethlehem and the sky set out. At the background a castellated building is shown: on the foreground, as a contrast, and in a stable, are the Virgin with the infant Jesus on her knees, as she sits on a hassock of straw, with Joseph at the back looking on. There has also been placed in the tracery of the fourth window of the north aisle a quantity of stained glass. The centre piece exhibits a monogram, "I.H.S." on a blue ground, in deep coloured gold, surrounded with foliage. Nine pieces of the tracery are arranged below in foliated designs of different colours. Mr. David Evans, of Shrewsbury, was the artist. Mr. S. H. Davies, plumber and glazier, fixed the window and tracery gratuitously.

Laneham.—Measures are being taken to obtain funds for the restoration of the parish church of Laneham, Notts. The edifice is of Norman architecture. The interior is in a shocking condition, although the walls are good and substantial.

Newton-le-Willows.—A stained glass window has just been placed in St. Peter's church by the Rev. Peter Legh, the incumbent, in memory of his deceased wife, Emily East Legh. It is a medallion window containing three subjects, viz.:—In the centre is represented the Good Shepherd: above is the raising of Jarius's daughter by our Lord; and below, St. Peter is represented raising Tabitha. Between each medallion and above each subject are two angels, one on each side, bearing scrolls, on which are written suitable texts. At the bottom of the window is the inscription. Messrs. Edmondson and Son, of Manchester, designed and executed this window. They have also been commissioned to get up a similar window for the same church,—a memorial to the incumbent's brother.

Poynton.—Workmen have been engaged in taking down the old Episcopal Chapel at Poynton, which was in a very dilapidated and dangerous state. The *débris* having been removed, arrangements, we believe, have been made for laying the foundation-stone of a new church. The style of the building, to be erected on the old site, will be similar to that of the new church at Alderley; and the design and plans have been furnished by Mr. Crowther, of Manchester, architect.

Bacup.—A new Zion Chapel has been opened at Bacup. The erection is in the Norman style of architecture, and is capable of seating 750 persons, the inside measurement being 68 feet by 42 feet. The height from the floor to the ceiling is 30 feet. The chapel is lighted from the ceiling. Instead of a pulpit, a permanent platform has been erected, large enough to accommodate a dozen persons. Below the chapel is a room designed for a Sunday school. It is 58 feet long and 42 feet wide. The height from floor to ceiling is 11 feet. The school is adapted for 500 children. The cost of erection is 2,630*l*. towards which 1,400*l*. have been raised by subscription.

CHURCH-BUILDING IN IRELAND.

Portlaw, County Waterford. — A new (R.C.) church has been commenced here. The plan consists of nave, aisles, chancel, and side chapels, north and south porches, sacristy on the south side of one of the lateral chapels, and bell-turret on the north-west angle of nave. The style is Early English, and materials rubble of the grit stone of the district, with dressings and internal pillars and arches of granite from Bagenalstown. Total length in clear, 109 feet; width, 60 feet; height, to ridge of nave roof, 59 feet; height of bell-turret, 87 feet. Contractor, Mr Richard Pierse, of Wexford. Amount of expenditure, exclusive of interior finishings, 2,300*l*.

The (*R.C.*) *Church of Tralee*.—Considerable alterations and additions have been in progress in this church during the last nine or ten months. They consist in enlarging the church in an eastern direction, by building a spacious chancel of three bays in length, with side aisles terminating in chapels, a lateral choir situated beyond the northern side chapel, for the use of the nuns of the adjoining Presentation convent, and a large sacristy on the south side. The roof of the old nave and transept to be removed, a new clerestory built, and a tower and spire are to be added to the west end of the nave. The east end of the chancel has a window of seven lights, with tracery. Those of the side chapels are three-light windows, with tracery. The materials are red sandstone of the neighbourhood and limestone dressings. The style is the Decorated. The contractor is Mr. B. Sweeney, of Tralee.

Killarney Cathedral.—One of the side chapels of this cathedral has been fitted up, as a memorial of the late Bishop Egan, with an altar and reredos, stained-glass window, monumental brass laid on the floor; the remainder of the floor filled with Minton's encaustic tiles. The altar and reredos were executed by Messrs. Lane and Lewis, of Dublin and Birmingham; the stained glass and metal-works, by the Messrs. Hardman and Co. of Grafton-street, Dublin, and Birmingham. The altar for the Blessed Sacrament Chapel has been contracted for by Messrs. Lane and Lewis. The Kenmare chantry is about being finished, at the expense of the Earl of Kenmare and his family. The decorations of the walls and ceiling, and the stained glass, are to be executed by Mr. Frederick S. Barff, M.A. of Dublin, the decorator of the Metropolitan Cathedral.

Enniscarthy Cathedral.—The interior finishing of this cathedral has been commenced. The great seven-light and traceried window of the chancel is being filled with stained glass, representing our Lord, the Blessed Virgin, St. Joseph, and the Patron Saints of nearly all the parishes in the diocese of Ferns,—by Messrs. Hardman. Another window is being put up in the south aisle, as a memorial of the late Bishop Murphy. The high altar, pavement of chancel floor, &c. are being executed by Messrs. Lane and Lewis.

Carmelite Church, Whitefriar-street, Dublin.—An aisle has been built on the north side of this church. It is in the Italian Romanesque style, resembling that of San Miniato, near Florence. The windows are arranged in semicircular-headed triplets, with internal jamb-shafts, curved capitals, and moulded and carved arches. The roof is open, and will be decorated in colours. Six bays of the aisles were built last year: the remaining two are now to be added. The exterior is calp, with granite dressings; the interior, Caen stone. Mr. Robert Farrell is the contractor. A large addition is being built to the priory. Mr. John Rooney, of Dublin, is the contractor. Mr. J. J. M'Carthy, M.R.I.A. is architect to the foregoing.

New (*R. C.*) *Church of St. Augustine, Galway*.—This church, now nearly completed, consists of nave, aisles, channel, and side chapel, with lofty tower and spire. The style throughout is Early English. The dimensions in the clear are 120 feet in length by 60 feet wide. The aisles are separated from the nave by an arcade of seven arches, springing from octagon piers of highly-polished limestone, surmounted by moulded capitals of the same material. The chancel and side chapels are separated from the nave and aisles by equilateral arches, the floors of which are to be raised three steps higher than that of the nave, and paved with encaustic and other tiles, from the works of Messrs. Maw and Co. The nave is lighted by a triple lancet in front, and clerestory single lights. The roof of chancel is lower than that of the nave. The material of walling is limestone, with chiselled dressings of the same. Probable cost, 7,000*l*. Mr. M. B. Moran, of Dublin, is the architect.

New Church of Ballyroughan, County Clare.—The plan consists of nave, 80 feet by 36 feet; chancel, 25 feet by 20 feet, separated from the nave by an arch, with. soffit moulding springing from moulded corbels of polished marble. The principal entrances are on the west end and lower stage of tower on the north side. The nave is lighted by a triple lancet at the west end, and long and narrow single lights on the sides. A two-light window, filled with stained glass, dedicated to the Blessed Virgin, will stand outside the chancel on the south side, rising into the roof, with gable; the spandril between the heads of lights to be pierced, and the whole connected by label moulding. The angles of nave and chancel are decorated with buttresses. The turret and spire will be 72 feet to the top of the cross. All the gables are to be surmounted by the emblem of Christianity. The material to be used is limestone; the floor of chancel to be paved with tiles from the works of Messrs. Maw and Co. Style, Early Gothic. Probable cost, 2,500*l*. Mr. M. B. Moran is the architect.

Adgate, County Wexford.—A new church is also about to be erected here, from plans by the same architect.

VENTILATION OF GUY'S HOSPITAL.*

Attention having lately been prominently directed to the sanitary condition of hospitals, it may be useful to give a brief description of the system of ventilation and warming adopted in the new buildings of Guy's Hospital, and which has now been in use nearly five years.

The new buildings, of which the centre and southern wing were erected in 1852, from the designs of Mr. M. Rhode Hawkins, form an important addition to this munificent foundation. The structure comprises a central hall and spacious staircase, which, when the whole is completed, will give access to six wards for patients, arranged three

* The following, which is the result, we are informed, of a large number of observations and experiments, is to be received as the statement of the writer.—Ed.

on each side of the centre. The centre is flanked by two square towers, surmounted by octagonal turrets, which act as fresh air-shafts, to supply air to the building. In the rear is a lofty square tower, surmounted by an octagonal lantern and spire of open ironwork. This tower is the extraction or ventilating shaft, and receives the vitiated air from the wards as well as the smoke from the furnaces and fireplaces. There are no chimney-stacks in the building. The structure is five stories high. On the ground floor are situated the receiving rooms for out-door patients, men's and women's dressing rooms, bath-rooms, physicians' and surgeons' consulting-rooms, dispensary, laboratories, physicians' and surgeons' private rooms, dentist's room, apartments for the laboratory attendant, &c. The first, second, and third floors form three wards, arranged on a uniform plan, and comprising within each ward four large divisional or sub-wards, each 70 feet long, 21 feet wide, and 14 feet high; and a spacious day-room, 48 feet by 30 feet, situated at the intersection of the four divisional wards, with private rooms for the Sisters, lavatory, bath-room, scullery, water-closet, and store-rooms, opening out of it. Each division has also its own water-closet, the latter being in almost all cases external to the ward.

The number of in-door patients accommodated in the wing already erected is 150, or fifty to each ward on the first, second, and third floors; the sub-wards containing twelve and thirteen beds alternately. There are six attendants to each ward, viz. two sisters and four nurses.

The cubic space allotted to each patient in the wards averages from 1,500 to 1,700 cubic feet.

On the top floor are dormitories for the nurses and other attendants.

The whole of the building, with the exception of the central hall and great staircase, and some of the officers' apartments on the ground-floor, is artificially warmed and ventilated. The cubic content of the spaces so warmed and ventilated is 500,000 feet.

Of the above there are 110,000 cubic feet in the various apartments on the ground-floor, about 105,000 cubic feet in each ward, and 75,000 cubic feet in the dormitories, &c.

In the system of ventilation adopted, the fresh air taken from a high level, in order to ensure greater purity, descends by the fresh-air shafts to the basement, where it is conducted by horizontal channels parallel to the main walls, to the lower openings of vertical air-flues carried up in the thickness of the walls to the different stories. Along the sides of the fresh-air channels hot water pipes are laid, which warm the air in winter, every flue being thus supplied with air warmed by contact with heating surfaces placed wholly in the basement. Corresponding flues conduct the vitiated air from each floor to a main vitiated air-trunk in the roof, terminating in the lofty ventilating tower at the rear of the central hall, the air of which is rarified by the waste heat from the furnaces of the hot water and steam-boilers.

The system of constant ventilation thus established, is perfectly independent of the obvious means of ventilating the wards, when the weather permits of the windows being opened. In the construction of the wards, express reference has been had to obtaining all the advantages derivable from what is called *natural* ventilation. The divisional wards are placed in pairs, side by side, so that a wall running down the centre of the building separates the divisions. Each division has windows on one side only, but there are large arched openings in the central wall, by which a thorough current of air can pass across both divisions, when the windows are set open, just as if each division had windows on both of its sides. The windows are hung to open as ordinary sashes, and the opening of them does not prejudice or derange the system of constant ventilation.

The constant summer ventilation of the building is calculated to afford a supply of 70 cubic feet and upwards, of fresh air for every patient. In winter the supply of fresh air is regulated so as to combine the preservation of an efficient rate of ventilation with an economical management of the warming apparatus. During the severe weather which prevailed in February and March, a series of experiments were undertaken with the view of ascertaining the actual amount of ventilation, and the expenditure of fuel requisite to warm the air. In order to determine the first of these points, the quantity of air entering by the fresh air shaft was frequently measured by an anemometer. The aperture by which the air passes from the fresh air shaft into the cold air channels is provided with a sliding door, by which the area of the aperture may be enlarged or contracted at will. At every observation the amount of opening was measured. During the earlier part of the period over which the observations extended, the supply of fresh air was entirely cut off during the night, the fire of the warming apparatus being also let out. This system had been in use at the hospital during the last two winters, and seems to have originated in that tendency to give greater weight to economical than sanitary considerations which is often found to prevail where it might be least expected. As might have been anticipated, the nightly suspension of the ventilation created an offensive atmosphere in the wards, which was particularly perceptible in the morning. This system having been discontinued, fresh air was afforded during the night, the quantity admitted being proportioned to the residual power of the warming apparatus, the fires of which were not mended during the night, but simply banked up. That the night ventilation under this plan was never too small, may be gathered from the fact that the quantity of fresh air admitted was only on one occasion so little as 25 feet per patient per minute, and was often double this.

The day ventilation of the wards amounted, on an average, to 67 cubic feet per patient, and on one occasion only was as low as 37 feet per patient.

The apartments on the ground-floor are not constantly occupied, but in the receiving-rooms a very large number of persons are collected together for a short time. For about two hours the receiving-rooms contain sometimes as many as three hundred persons, and the ventilation is at the rate of about 3,300 cubic feet per minute, or 11 feet per minute for each individual. With even this rate of ventilation, the atmosphere becomes tainted by the exhalations from the clothes, &c. of the large number of persons belonging chiefly to the poorer class, that are gathered together; and this effect is especially perceptible in wet weather. The continuous ventilation, however, soon removes all traces of vitiation when the patients have departed.

No offensive effluvia proceed from the water closets. Those connected with the wards are, as has been observed, external to the main block of the building, and these, as well as others in different situations, are all separately ventilated by means of an extraction flue.

The temperature of the wards in winter is maintained at between 60 degrees and 62 degrees: during the severe weather which prevailed for part of February and March last, the temperature of the wards averaged 61 degrees, and was at no time lower than 57 degrees; the average temperature of the external air, by day and night for the same period, being 34 degrees.

The temperature of the receiving-rooms, and other apartments on the ground-floor, can be regulated according to the varying nature of the service to be performed.

There is one open fire-place in each division of the wards, and a small close range in the day-rooms. There are no fire-places on the ground-floor, except in the private rooms of the medical officers, to which warm air is not supplied.

The warming apparatus presents an effective surface of 3,400 feet of iron pipe heated by the circulation of hot water; the direct distance to which the water flows before returning to the boiler, being 200 feet.

The quantity of air passing through the wards and receiving-rooms in the day-time, amounted on the average of several observations to 13,400 cubic feet per minute. The mean external temperature at the time was 33 degrees, and that of the warmed air at its admission into the wards, 66 degrees. We thus have

$$\frac{13{,}400 \times 33}{3{,}400} = 130$$

cubic feet of air raised 1 degree per minute by 1 foot superficial of heating surface.

The above result does not exhibit the full effect, much of the heat being necessarily absorbed by the walls of the flues, and transmitted through their substance. If we add 20 per cent. for this, the heating power of the apparatus will be expressed by 156 cubic feet of air raised 1 degree by 1 foot of pipe surface, at a mean excess of temperature above the external air of 110 degrees.

Taking the actual day and night ventilation for seventy-two hours, and the weight of fuel consumed during the same period, the economical value of this system of warming is represented by 1 cubic foot of air raised 1 degree Fahrenheit by 0·000003 lb. of coal, ornearly three-fourths of the ultimate value of the fuel. This result, economical as it appears, compared with other common modes of warming, does not, for the reason above given, show all the effect produced.

Those portions of the building warmed by the apparatus described, have a superficial extent of cooling surface in external walls, &c. of 26,000 feet, and about 3,500 feet of glass. The thickness of the external walls is 2 feet. The walls are brick, rendered inside and finished with Parian cement.

The average temperature at which the air enters the wards is 66 degrees; and that of the extraction channels, 58 degrees. It appears, then, that the foregoing extent of cooling surface, united, cooled 13,400 cubic feet per minute, 8 degrees Fahrenheit; and the mean excess of the internal over the external temperature, for the period over which the observations extended, on which the above results are founded, being 28 degrees, we have 3,828 cubic feet of air per minute, cooled as many degrees as the temperature of the interior exceeded that of the external air. If, then, we assume that each square of wall surface cooled 10 cubic feet of air 28 degrees per minute—see "*Nouveaux Documents relatifs au Chauffage et à la Ventilation*", there will remain 1,828 cubic feet of air as cooled 28 degrees by 3,500 feet of glass surface, or rather more than half a cubic feet of air to 1 foot of glass.

It is worthy of remark, that in a constant system of warming, such as that in use at Guy's Hospital, the absorbing power of the materials of the building, and those forming the linings of the flues, have a powerful influence in preserving uniformity of temperature. Observations on the temperature of the air entering the wards showed a decrease of only 8 degrees in the temperature of the air thirty hours after the pipes had cooled, in consequence of the apparatus for fire having been extinguished; the direct excess of the air at its entrance into the wards being still 25 degrees above the external temperature. This heat could only be derived from the brick walls joining the sides of the pipe channels, and from the surfaces of the flues through which the air passed. So certain and constant is the amount of heat thus repayed as it were by the walls, that it has been the custom to let the apparatus fire out from Saturday evening until Monday morning, relying entirely for the warming of the wards on Sunday upon the heat which the fresh air abstracts from the brickwork, in its passage through the pipe channels and fresh air flues.

S. Egan Rossea.

VENTILATION OF SEWERS.

An important and a difficult point in reference to the general question of Metropolitan Drainage, is the proper ventilation of the sewers. An elaborate report has been made to the City Sewers Commission by their engineer and surveyor, Mr. Haywood, on this subject, and has been printed by order of the Commission, and distributed amongst its members.

The contents of this report are chiefly as follows:—Ventilation of sewers; origin of existing mode in use in the metropolis; necessity for; accidents caused by want of; injury to health of inhabitants of towns by want of. Of the gases generated in sewers and carried off by ventilation. The remedies proposed to obviate necessity for improved ventilation; by improvement in mode of constructing sewers and drains; by keeping the drainage channels in a high condition of cleanliness; by deodorisation of fæcal and other matters before passing them into the sewers; by deodorising with chemical agents applied in the sewers; by neutralising the emanations by the application of chlorine or other gases in the sewers; by a copious dilution with water Length of drainage channel in the city. Of ventilation by the existing method; by the rain-water pipes of houses; by pipes or tubes carried up the fronts of the houses to the tops of the chimney shafts; by shafts or chimneys erected at suitable spots; by the lamp columns and jets of gas; by furnaces and shafts specially erected for the purpose; by the furnaces and shafts of factories, and others belonging to private owners. Of plenum ventilation by pumps, fans, or mechanical contrivances. Of vacuum ventilation by ditto. Of ventilation by the steam jet.

At the conclusion of his report, Mr. Haywood says:—

"A review of the various points touched upon, and the conclusions separately arrived at with regard to them, it must be confessed, is not very encouraging; indeed, the report seems to be but a recital of difficulties, which combat every suggested improvement, all seemingly insignificant, if not actually contemptible at first sight; but upon investigation found to be, from their peculiarity, formidable, if not practically invincible, and from which the only deduction must be, that there is but little hope of obtaining a thoroughly good uniform system of sewer ventilation at all, and, certainly not without great difficulty, and a large cost.

It has been assumed by me throughout, that it is absolutely essential to a town existence, that all sewer emanations should be either destroyed or withdrawn from the stratum of air usually respired by the inhabitants. The conditions of this complete system of ventilation are given at page 56. My considerations and conclusions are all based upon this dogma, and the unceasing uniform extraction of air from a vast system of subterranean channels, which alone will satisfy the strict necessities of that dogma, can only be accomplished by furnace ventilation, specially formed, adapted, and controlled by those charged with the care of the sewers.

Of the expense and extent of this system if applied, no one can give more than a mere approximation, for the information as to the ventilation of mines will assist but little; and as to the effects of the leakage (which will be one of the main difficulties), nothing but experiment of some magnitude can determine.

If any system less perfect than this can be admitted, if it may be made a matter of degree, then it only remains to decide to what extent, from the standard of perfect ventilation, retrogression may be allowed.

If the exigencies of public health will permit, if we may be content with transferring the stink from the street to the house tops, the furnace ventilation may be abandoned; for the uniform connection of the rain-water pipes of a district, and the erection of others where necessary, owing to structural arrangements in the sewers, and a few other auxiliary measures, will sufficiently ventilate them, and most of the street air-gratings may be closed, or partially so, and during ordinary atmospheric conditions, the streets may be left almost without nuisance from this source: it is for others to decide whether this so called necessity may be thus compromised, and which of this choice of evils is the least.

But if there is no doubt as to the injury resulting from the present system, if the proof is so ample of the danger of respiring air into which these emanations have been diffused; even to the extent that trace of them cannot be discovered by the sense of smell; if the demand for complete removal is imperative, and if it can be proved that draught will do this, then by furnace ventilation alone can it be obtained

Experiments to determine the expense and best mode of arranging for the 150 square miles of London through which the sewers (channels of good, but not unmixed with evil now run, must then be undertaken, and data for estimate of cost and laying out the system be obtained before the work may be commenced."

An outlay of between one and two thousand pounds, and a year's time, the reporter considers, would suffice to obtain practical results; and it remains to be decided whether the City Commission or the Metropolitan Board should carry out such an experiment.

HYDRAULIC MORTAR.

INSTITUTION OF CIVIL ENGINEERS.

On April 13, the paper read was an "Investigation into the Theory and Practice of Hydraulic Mortar, as made on the New Works of the London Dock Company, 1855-57." By Mr. G. Robertson.

The theoretical points treated of in the paper were those connected with the calcination and slaking of blue lias lime, the action of silica in protecting it from solubility, the setting of mortar, and its subsequent absorption of carbonic acid.

The second, or practical part, gave a detailed account of the method and cost of manufacturing mortar at the London Docks, as well as the effect of grinding on its strength and density.

It was observed, that many of the contradictory statements of writers on this subject appeared to have arisen from a misconception of the word "hydraulic," which ought not to be applied to limes merely because they set under water (as many soluble substances would do the same), but should be reserved for those which increased in hardness from the action of the water itself.

The chemical effect of calcination on blue lias was examined, and an account given of an experiment made on a large scale, to check the value of an analysis in predicting the yield of any limestone. According to calculation, 38·35 per cent. of water and carbonic acid should have been driven off in the kiln; but, on burning 145 tons of stone, and weighing the lime produced, it was found that as much as 40·63 per cent. had been driven off, a difference, however, of only 2·28 per cent., due to a larger quantity of moisture in the mass than in the small specimen. The chemistry of slaking, or the formation of hydrate of lime, and the necessity for it, were next examined; and it was shown that when lias lime was slaked in such a manner as to form the best and strongest mortar, it increased 31 per cent. in weight, or 8 per cent. more than the water required to form a hydrate with the oxide of calcium found by analysis in the stone.

As lime was soluble in water, it must be protected, either naturally or artificially, before it could be used in hydraulic works. The nature of this protection has been the subject of many theories: its degree distinguished a lime from a cement, and gave rise to the phenomena peculiar to each. Clay, or silicate of alumina, being found in all hydraulic limes, silica and alumina were examined at length, and the peculiar value of each was pointed out; one as an active, the other as a passive agent in indurating limes under water. The author was of opinion that the action of silica did not commence, to any extent, until the completion of the hydration of the lime. This

theory was closely examined, and it was also shown that a certain quantity of free water was necessary to promote the action of silica in forming double silicates of lime and alumina. In nature this combination took place in the minerals of the zeolite family, of which hydraulic mortar was but an imperfect member. The phenomena exhibited both by limes and by cements were examined by these theories, and appeared to confirm them in a remarkable manner. The true time, both theoretically and practically, for mixing hydraulic lime as mortar was, therefore, at the point when hydration was perfectly over, and before the formation of silicates, "blowing" being avoided on the one hand and friability on the other.

The different methods of slaking lime were then examined, and that of spontaneous extinction shown to be almost impracticable on large works, even were it desirable, which it was not. When slaked with the quantity of water practically found to make the strongest mortar, no difference was found to exist, on the large scale, between slaking in the ordinary way and by immersion. After trying about 100 tons, the latter system, proving about 50 per cent. dearer, was abandoned.

The next point treated of was the first hardening, or "set," which took place when mortar was permitted to stand undisturbed. This was proved to be due, not to desiccation, but to a mechanical absorption of the water of mixture, by the capillary attraction of the pores of the lime, hastened, or permitted, as the case might be, by evaporation, or by chemical agency. With immersed mortar this set was delayed until the imprisoning cells became a partial silicate of lime. Four modifications of setting were named; first, in slaked rich lime, where the action could not be chemical, but must be mechanical. second, in quick rich lime, where setting was hastened, by a portion of the water of mixture being taken up, chemically, in forming hydrate of lime, third, in slaked hydraulic lime, where the formation of insoluble silicates rendered setting possible under water; fourth, in cements, or hydraulic limes used quick, where the set under water was not only rendered possible, by the formation of the same silicates, but also hastened by the formation of hydrate of lime. The third case was examined at length, as the most applicable to the subject of the paper. The danger of "blowing," which re-sulted, more or less, when quick lime was used, was particularly pointed out, and instances given of the gradual decline of that system.

After alluding to the use of pozzuolana, the paper proceeded to treat of the ultimate hardness caused by the absorption, from air or water, of carbonic acid, and gave the distances it was found, from practice, to have penetrated into various limes and cements, with its rate of travel. It was ascertained by experiment, that the penetration varied inversely with the strength of the silicate in the mortar; and also, that limestones gave off carbonic acid to mortar in contact with them.

Allusion was then made to various substances which had at different times been deemed hydraulic. Alumina was valuable only as a cheap and convenient carrier of silica, to present it in a useful form to the hydrate of lime, and to assist in the formation of double silicates. The hydraulic value of the roasted ores of manganese, or of iron, of slags of all kinds, of magnesia and of ashes, was traced entirely to the quantity of silica present in them, in a useful form. Considerable attention had been paid to the hydraulic pretensions of iron, whether as a metal or an oxide, instances of both being given; and the conclusion arrived at, that it was of doubtful advantage in any form, and in some it was positively injurious.

In the second portion of the paper a minute account was given of the manufacture of the mortar for the London Dock Extension. Except for top work, blue lias from Lyme Regis was almost entirely used. It was burnt in two kilns erected by the company, each capable of holding 100 tons, the pair being able to keep up a daily supply of above 20 tons of quick lime. 100 tons of stone yielded 59·37 tons of lime, sufficient for 1,583 bushels of ground lime, 3,663 bushels of slaked lime, 231¼ cubic yards of first-class mortar, and 252¾ cubic yards of second-class mortar. Details of the price of burning, slaking, grinding, and other stages in the manufacture of mortar and lime, for contracts, were given, both in the paper, and more elaborately in the Appendix.

In slaking, the quick lime was spread out in a layer 6 inches thick: 74 gallons of water to the ton were then thrown over it, as evenly as possible, and the decrepitating lime was shovelled into heaps, and covered with sand till required.

The proportions of the mortar used at different heights in the work were given, with the contraction from the dry materials, after different periods of grinding. Two tables were exhibited, showing the effect of grinding, by which it appeared that the adhesion of the mortar was increased up to about 600 revolutions of the pans; after which it was injured by the gradual formation of silicates, with their accompanying result, friability. Up to the same point, the density of mortar was also increased; but, if the grinding was long continued, the mortar began to swell, with a puffy look and feel, caused by the water beaten up with it.

In conclusion, the paramount importance of good hydraulic mortar was urged, and it was hoped the paper would lead to a closer investigation of the subject.

THE AUTHORSHIP OF THE BRITISH MUSEUM READING-ROOM.

SIR,—Mr. Panizzi seems, at length, to have discovered that there is such a publication as the *Builder*, and that there is such an obscure individual as myself.

By a miracle, one single sheet, printed on one side only, from the types of the *Builder* of a particular date, germinated, grew, budded, bloomed, and bore fruit—a full and complete number of your paper of that particular date; and Mr. Fielder told Mr. Panizzi, in Mr. Jones's presence, who I was!

Even in this simple incident there is, indeed, something miraculous. There were many names besides mine in the *Builder* of that date, 22nd of June, 1850, and Mr. Panizzi informed Lord John Russell that "The article in the *Builder* was sent to him anonymously." What, then, could have brought my name especially up among this trio?

A more candid reference to what I have said in my recently-published "Observations," would have left Mr. Panizzi less to attribute to invention and dreaming on my part. But while carping at my statements of what he would have to be considered the main points in the case, Mr. Panizzi passes, without denial, the really important questions raised by me. Mr. Panizzi does not allege that I dreamt the tale I have told as to the assumed probable cost, and the computed capacity, of his plan of 1852, and of the real capacity and ascertained cost of the same plan (Mr. Panizzi still assures us that it is so), as now built; that Mr. Panizzi promised in 1852 to accommodate, upon the plan then produced, from 450 to 560 readers, and to do a great deal more besides, at a cost not greatly, if at all, exceeding 50,000*l.*; and that upon the same plan, influenced, it now appears, by "suggestions freely made" by himself in unreserved consultation, Mr. Panizzi has carried out, or, in his own phrase, "has seen built," an erection which will accommodate only 302 readers, though at the magnificent outlay of 150,000*l.*

Nor does Mr. Panizzi allege that I have invented the fact of the existence of an all but unused room in the Museum, —conveniently situated in it, of sufficient capacity, and fully available for a reading-room, whether built specially for a reading-room or not.

It is no longer a question whether I have been ill-treated or not, —that has been determined in the affirmative; —but the proper question now is, whether the public interests have not suffered from the course adopted at the British Museum; and whether a reference to what I have proposed may not help to throw light upon the subject, and be a guide for the future. It has been suggested to me, that I ought to state the whole matter in a petition to the House of Commons; but I have despaired of obtaining any attention to a case that is so likely to be treated as one of merely personal interest. Mr. Panizzi's appearance as a complainant puts a new and more hopeful face on the matter, however, and I have now determined to do my part by petitioning, to obtain for Mr. Panizzi an opportunity of justifying himself and the trustees, and of exposing my ignorance and arrogance before a committee of the House of Commons. That curious influence which has done so much in and at the British Museum of late, in shelving books, *and something more than books*, —and in newly installing *something more than readers*, must, if exercised, readily obtain the appointment of a committee, and save your columns and the patience of your readers from further intrusion, until you shall be able to report progress.

Athenæum. WILLIAM HOSKING.

COMPETITIONS.

Sutton Coldfield.—The plans of Messrs. Bidlake and Lovatt, of Wolverhampton, have been selected for the Townhall. Messrs. Briggs and Everall, of Birmingham, have been awarded the second premium. There were seventy-three competitors.

Yeovil Cemetery.—The Burial Board have awarded the first premium of 20*l.* to Messrs. Norton and Wood; and the second premium to Mr. Robert Wheeler. There were forty designs sent in.

Box.—In the recent competition for the mortuary chapel, &c. at Box, the design of Messrs. Poulton and Woodman has been accepted, and tenders are to be procured forthwith. The design is Decorated, with a lofty bell-turret at the south-west angle. The walls inside are to be cased with stone, and the roof open-framed.

ST. JAMES'S HALL.

REMEMBERING the fact that the decorators were at work painting and gilding the upper part of the domed recess for the orchestra, while the plasterers were finishing the lower part, it may be useful to record that the material used throughout the hall was Martin's cement as manufactured by Stevens, in order that, noting hereafter how the colour stands, the occurrence may be accepted as an experience. We understand that the time occupied in executing the ceiling of the hall, irrespective of the ornament, was a few days under a month. The gold on the rib-mouldings stands well beyond what could have been anticipated: if we take into consideration the circumstance that the building was roofless during the greater part of January, it is a remarkable performance, and reflects the highest credit on Messrs. Lucas's exertion.

On Wednesday evening last, the hall was filled with flowers and fruit by the Horticultural Society,—azaleas and roses, strawberries and grapes—and the effect of the whole was charming in the extreme. The decoration of the ceiling is effective and beautiful, and withal not expensive, which should always be considered in settling the amount of praise to be given to an architect. Of course we have objections: we hinted at some in our recent notice of the building. The misfortune is, that if a critic, in the interest of art, mention an objection, all his admiration of other parts goes for nothing, and he is simply regarded as an objector: "he must either be with us or against us;" the tendency of which is to produce in the press a monotonous sing-song of praises (strikingly seen, for example, in the dramatic criticisms of the day), or tirades of pure abuse. The weak points in the decoration of the hall are Monti's figures over the windows: these are coarsely modelled, and being coloured to imitate life, mar the otherwise harmonious effect of this fine apartment. A conventional style of colouring instead of the naturalistic would lessen the objection.

Some of the forms in the ceiling are particularly good: the gilded foliage, for example, over the point of each window, is beautiful; the lighting too is admirable, and Mr. Owen Jones is justly entitled to the thanks of not merely the company for whom he has worked, but of the public.

SCENERY.

Princess's Theatre.—The great and deserved success which Mr. Charles Kean has achieved in Shakspeare's wonderful tragedy of "King Lear," will not be attributed, even by opponents, to the scenery and getting-up of the piece; for although a chronological consistency is preserved, and some effective scenes and groupings are introduced, these are scarcely up to his own standard, and would not suffice to carry off indifferent acting for any length of time. Abandoning the assumed early date of the play, Mr. Kean has selected the Anglo-Saxon era of the eighth century for the regulation of the scenery and dresses, and has realized a very interesting and instructive picture of early English history. The Room of State in Lear's palace, in the first act, is a rude chamber of partly wooden construction, hung with skins, and decorated with the heads of animals. In the scene on the heath a hurricane of clouds, and thunder and lightning approach reality almost too closely; and for the last scene there is an extensive view near Dover, overlooking the cliffs and sea, with the camp of the British forces, of considerable excellence and beauty. It is, however, in the acting of the principal part that the great attraction will be found, and on which, if it were our province, and it ought perhaps to be so more than it is, we could dilate with satisfaction. With a very complete knowledge of all that Mr. Charles Kean has done, and a conviction that his *Hamlet* stands alone, and is not approached by that of any other actor, we are yet disposed to consider his present assumption his greatest triumph in a histrionic point of view.

The "Plains of Enna" at the Haymarket.—No matter what is said in the *Builder*, there is always some one who "wants to know, you know," a little more about it. Thus, what we said of Mr. Calcott's clever scenery for Mr. Buckstone's new extravaganza leads one of this class to ask for some information about the Plains of Enna. Enna, or, more properly, Henna, is a city in Sicily, and was the principal site of the worship of Ceres. It is celebrated in mythological story as the place whence Proserpine was carried off by Pluto. Milton alludes to the fable very often, both in prose and verse. Thus, in the 4th book of "Paradise Lost," he says,—

> "Not that fair field
> Of Enna, where Proserpine gathering flowers,
> Herself a fairer flower, by gloomy Dis
> Was gather'd, which cost Ceres all that pain
> To seek her through the world."

And this is all we have time to tell our curious correspondent about Enna.

Books Received.

School Days of Eminent Men. By JOHN TIMBS, F.S.A. London: Kent and Co. late Bogue, Fleet-street. 1858.

THIS new work by Mr Timbs is one of special interest. It is more than it professes to be. The first division of the volume treats of the progress of education in England from the reign of King Alfred to that of Queen Victoria. The second relates to the early lives of celebrated British authors, philosophers, and poets, inventors and discoverers, divines, heroes, statesmen, and legis-

lators. The volume is illustrated with sketches of schools, &c. We trust that a second volume is contemplated, in which artists of all kinds, architects, sculptors, and painters, inclusive, will hold a prominent place.

As a specimen of the agreeable style of the work, we may quote what is said of Edmund Stone, the mathematician :—

Stone was born about the year 1700. His father was gardener to the Duke of Argyle, who, walking one day in his garden, observed a Latin copy of Newton's "Principia" lying on the grass, and thinking it had been brought from his own library, called some one to carry it back to its place. Upon this, Stone, who was then in his eighteenth year, claimed the book as his own. "Yours!" replied the duke; "do you understand geometry, Latin, and Newton?" "I know a little of them," replied the young man. The duke was surprised; and, having a taste for the sciences, conversed with the young mathematician, and was astonished at the force, the accuracy, and the candour of his answers. "But how," said the duke, "came you by the knowledge of all these things?" Stone replied: "A servant taught me ten years since to read. Does one need to know anything more than the twenty-four letters in order to learn everything else that one wishes?" The duke's curiosity redoubled: he sat down on a bank, and requested a detail of the whole process by which he had become so learned.

"I first learned to read," said Stone. "The masons were then at work upon your house. I approached them one day, and observed that the architect used a rule and compasses, and that he made calculations. I inquired what might be the meaning and the use of these things, and I was informed that there was a science called arithmetic. I purchased a book of arithmetic, and I learned it. I was told there was another science called geometry: I bought the necessary books, and I learned geometry. By reading, I found that there were good books of these two sciences in Latin: I bought a dictionary, and I learned Latin. I understood also that there were good books of the same kind in French: I bought a dictionary, and I learned French. And this, my lord, is what I have done: it seems to me that we may learn everything when we know the twenty-four letters of the alphabet."

Under the patronage of the Duke of Argyle, Stone, some years afterwards, published in London a Treatise on Mathematical Instruments, and a Mathemetical Dictionary, was chosen a Fellow of the Royal Society, and became a distinguished man of science.

VARIORUM.

A second edition of Mr. William Howitt's "Land, Labour, and Gold; or, Two Years in Victoria, with Visits to Sydney and Van Diemen's Land," has been issued by Messrs. Longman and Co. It embodies the most recent information regarding this interesting and important colony, and contains a graphic picture of life in the bush and at the gold diggings.

Miscellanea.

Netley Hospital.—On the 16th, in the House of Commons, Mr. Wegueiin asked the Secretary for War whether the Government had appointed a committee to investigate the report made by the Barrack and Hospital Commissioners upon Netley Hospital; and, if so, whether they were prepared to present to the House the report of that committee at the same time as they laid the report of the Barrack Commissioners upon the table of the House?—Mr. Tite inquired whether the works had been suspended, and if there was any objection to place in the library of the House the plan on which the hospital was now to be proceeded with?—General Peel was understood to say, that such contradictory reports had been made on this subject that he had deemed it advisable to send down a board of medical officers, who had hitherto given no opinion on the matter, to report upon the site and construction of Netley Hospital and other matters connected with the establishment; that he had submitted the names of several medical gentlemen to a right hon. friend of his (Mr. S. Herbert), who had devoted much attention to the subject, requesting him to offer any suggestions he might think fit; and that when he received his right hon. friend's reply he would immediately send down the board. In answer to the hon. member for Bath (Mr. Tite), he begged to say that he would at once have suspended the works had it not been impossible to do so, as they were undertaken on contract, but he had no objection to lay the plans before the House.

Royal Engineers and Clerks of Works.—We are truly thankful for the kind manner in which you have been pleased to defend our cause (the Royal Engineer department) in your publication. There is an evil you do not appear to be aware of, and that is that the military officers have periodically to report on the capabilities of the civil officers confidentially: the consequence is, that if the two branches of the department are not on friendly terms, the one has the power to seriously injure the other at head quarters, without the injured party being able to defend themselves, or knowing anything about it, which cannot be considered a good system.—Sufferers.

Sanitary Progress at the General Post-office.—The fourth report of the Postmaster-General on the Post-office, printed by authority, embodies a report by the medical officer, Dr. Lewis, on sanitary matters. From this report it appears that the annual holiday and the Saturday half-holiday are giving highly satisfactory results, in decreased absence from illness and cheerful performance of extra and other duties. The general health of the officers is said to be good; but an inquiry made as to the homes of the letter carriers, sorters, messengers, &c. shows that much of the sickness which has hitherto existed is attributable to the small, close, and ill ventilated houses or rooms in which they reside; and the Postmaster-General states that he was in hope that by this time some company would, as a commercial undertaking, have provided suitable abodes for them, the rents they pay being sufficient to repay such a company, especially as the department has expressed its readiness to give a guarantee against loss from arrears of rent. It appears that the officers alluded to pay a very large proportion (from 12 to 20 per cent.) of their small salaries for rent alone. The medical officer states that he has approved of a plan for ventilating the chief office, suggested by Mr. Cowper, C.E. which he hopes will supply all the offices with a sufficiency of fresh air without causing draughts,—a "very difficult object," as he rightly observes. Measures had also been taken otherwise to exclude draughts from the hall and passages, and to warm the air passing through them.

Completion of the Nelson Monument, Trafalgar-square.—There is at length a prospect of the completion of this monument. Admiral Walcott, in the Commons last week, called upon the Government, and the Parliament itself, to cancel the stigma of ingratitude under which the nation lay, on account of the long unfinished state of this monument; and Mr. Disraeli, interpreting the feeling of the House, at once promised to see to its completion, remarking at same time that such monuments ought not to be erected by individuals, but by Parliament.

Completion of the Duke of Wellington's Tomb in St. Paul's Cathedral.—On Thursday in last week, the final slab was placed over the remains of the late Duke of Wellington, in the crypt at St. Paul's Cathedral. The sarcophagus was then hermetically sealed. The tomb is constructed of porphyry, and has been highly polished by Messrs. Malcott and Co. the well-known marble merchants, and manufacturers of mural monuments. It lies immediately beneath the centre of the dome of the cathedral.

Sanitary Progress in Ryde.—We glean the following from a printed "Report of the Proceedings of the Commissioners" of Ryde, by the chairman of the Board, Mr. Benjamin Barrow. On waterworks there has been expended the sum of 21,660*l.*; on sewerage, 4,349*l.*; esplanade, 4,597*l.*; and on roads, pavements, gutters, gully-pits, &c. other considerable sums, all under the Local Improvement Act of 1854. The number of houses in Ryde before the passing of that Act, was 1,343: in January, 1858, the number was 1,656. In 1854, the population was 7,147; and now it is about 9,100. The sanitary results of the works already carried out, are decided and notable, in the improved health of this increased community. The parish medical register shows a diminution of cases, of fever and diarrhœa, to the extent of 100 per cent.; while the severity of those cases which do occur has been diminished to an equal extent. It is proposed to drain the Monkton marshes, and convert them into public gardens for healthful exercise, and to provide an annual sum to sustain a public library and museum for behoof of the townspeople. Mr. Barrow has evidently entered upon the work *con amore*, and will do much good.

Museum of the Science and Art Department.—New rooms, containing the most valuable of the collections made by the Department since its origin, were opened by the Queen on Wednesday, the 14th, and are now free for public use and inspection. The collection in some divisions will bear a comparison with that of the Hôtel de Cluny. We shall give some particulars before long.

Public Bequests.—Mr. Samuel Oldham, of Oak View, Audenshaw, near Ashton-under-Lyne, a benevolent cotton manufacturer, lately deceased, has, by his will, left 10,000*l.* towards an infirmary for the indigent poor of Ashton-under-Lyne and neighbourhood, provided a suitable building is erected for the purpose by local subscription within three years after his decease. He also leaves the interest of 7,000*l.* towards the maintenance of a public park for the inhabitants of Ashton-under-Lyne.

Inauguration of Bristol Fine Art Academy Building.—The annual meeting of the members of this academy was held on Monday in last week for the first time at the new building, when an inaugural address was delivered by the president of the academy, Mr. J. S. Harford, who occupied the chair. After reviewing the history and progress of the institution, the president remarked that,—although artistic power, or a genius for art, may deserve to be regarded, like poetry, as a natural gift; it requires, in order to its due development and perfection, the discipline of appropriate culture,—the practice, for instance, of drawing from the human figure, together with the study of the finest models. Hence the use and benefit of academies of art, in which these and congenial studies are carefully prosecuted, and suitable models are, as far as possible, provided. If to these indispensable studies the artist unites an intimate acquaintance with the finest productions of poetry and elegant literature, the means of which are, in the present day, so generally diffused, he will greatly enlarge the sphere of his imagination, and strengthen his intellectual powers. Some acquaintance, also, with the progress and discoveries of science will prove scarcely less beneficial. The value of such union between the fine and the liberal arts and sciences, is poetically portrayed by the Greeks, who surrounded their Apollo with nine muses, the representatives not only of painting and sculpture, of poetry and music, but also of the sciences; while their harmonious conjunction is beautifully indicated by their making them dance together in a chorus. We live in an age in which, under these and kindred influences, Englishmen may well be proud of the high degrees of perfection which the fine arts have attained in their native country. "I was most forcibly struck with this conviction," he added, "while visiting the Manchester Art Exhibition last summer. Never before did I receive so strong an impression of the eminence of our English school as compared with those of the Continent, or even with the works of the old masters." The opening of the new building was also celebrated on the Tuesday evening by a *conversazione*, the first of a series, when the entire suite of rooms was thrown open to crowds of visitors, numbering altogether not less than 500.

Institution of Engineers in Scotland.—On Wednesday evening, the 14th instant, this body met for the election of office-bearers for the second session, 1858-9, when the following gentlemen were duly elected:—Prof. Macquorn Rankine, president; Messrs. W. Neilson, J. R. Napier, and W. Tait, vice-presidents; Messrs. J. Elder, W. S. Dixon, N. Robson, D. Rowan, P. Stirling, A. M'Onie, W. Johnstone, R. B. Bell, B. Connor, and A. Allan, councillors; Mr. D. More, treasurer; and Mr. E. Hunt, secretary. A very successful session was wound up by the reading of a paper "On American Locomotive Engines," by Mr. W. Neilson, and of one "On the Stability of Locomotives," by Mr. J. G. Laurie,—animated discussions following both papers.

Round Towers of Ireland.—These buildings have long been provocative of controversy, and the paper we printed a short time ago has of course brought us many communications. As, however, they simply go over the old ground, we cannot afford room for them. Mr. W. White has favoured us with a sketch of a crucifix sculptured over the door of the round tower at Donoughmore, as affording evidence of the Christian character at least of that example. This sculptured representation is well known. An engraving of it will be found in Wakeman's "Handbook of Irish Antiquities." For a communication from Mr. Hills, in reply to a correspondent whose letter we printed, we will endeavour to find space next week.

Discovery in Electricity.—Dr. C. G. Page, of Washington, it is reported, has discovered that positive electricity will extinguish the flame of a lamp, and negative electricity increase it,—that when a flame of about two inches height is charged positively from a powerful machine, it is rapidly shortened to total extinction; and that when the flame is charged negatively, it is immediately enlarged, a portion of it being impelled down around the wick tube for the distance of an inch, and a portion also elongated above. These reported experiments appear strongly to corroborate a theory which has been occasionally broached in the *Builder*, and according to which it has always been maintained that positive electricity bears a stronger analogy to the force of cold than to that of heat, while negative electricity has an equally strong analogy to heat. The probable close relationship of actinism to negative electricity was also indicated.

ART-UNION OF LONDON.—To aid in preventing disappointment on the part of subscribers and others interested in matters of art, who desire to be present at the annual meeting of the Art-Union of London, we would direct attention to the advertisement, which shows that the meeting is to be held on Tuesday next, in the Haymarket theatre, at half-past eleven o'clock. Lord Monteagle will preside. We shall give a full report of the proceedings.

ST. MARY'S, TAUNTON. — A "Member of the Somerset Archæological Society," is protesting against the proposal to rebuild it of Ham-hill stone. He says, "The churchwardens assure us that the new tower 'is to be built of Ham-hill stone, the most ornamental and durable that can be procured: in short, it is intended to be a perfect *fac simile* of what the tower was before it was deprived of its ornamental and architectural beauties.' Now, the tower is not built of Ham-hill stone, but of Keüpen stone, a grey stone, and owes much of its beauty to relief of colour; the cold tone of the Keüpen stone being agreeably contrasted with the warm tint of the Ham-hill, which is only used for the carved ornamental work. So that were the tower replaced by one of Ham-hill stone, it would be no *fac simile*, but a very imperfect substitute. Can any reason be given for rebuilding the tower with Ham-hill stone? I can only suppose it originated in a mistaken notion that the tower is built of that stone, through the quantity of carving with which the building is enriched being executed in that material. Be this as it may, I am persuaded that a tower of Ham-hill stone would be a monstrous production in this age—eminently the age of contrast as regards the colour of the materials used in architectural decorations." "This practice was adopted in building St. Mary's; the grey stone, I am informed, having been furnished from a quarry a few miles from the town; but so convinced was the architect of the importance of contrast, that he sent to Ham-hill for the warm-coloured stone, in order to accomplish this in his building; and the whole of the carved ornaments were designed to this end, being with the exception of the windows flat and small, and which, in stone of uniform colour, would be meaningless and ineffective. Where no contrast was required the Ham-hill was no longer used. I say, then, the whole effect of the building is destroyed if the original colour is not adhered to."

TESTIMONIAL TO MR. GEORGE WALLIS. This gentleman having resigned his appointment as head master of the Birmingham School of Art, a committee has been formed to present to him a suitable testimonial, which it is intended shall consist of a valuable specimen of local art manufacture.

GAS.—A new gasholder has been completed at Bury, after a struggle with difficulties, in consequence of the nature of the soil and springs. The engineer first employed (Mr. Jabez Church, of Chelmsford), was aided by the further advice of Mr. Barnell, of London, and the difficulties were surmounted, though not without an enormous amount of clay puddling, as well as of cement and asphalte, adding greatly to the original estimate of the cost. The gasholder now finished is 50 feet in diameter, and when filled will be 36 feet high, containing between 80,000 and 90,000 cubic feet of gas.

FALL OF THREE HOUSES IN LIVERPOOL.—Three old houses in New Bird-street, off St. James's-street, which had been condemned, and were untenanted, fell last week; and five others, which were also condemned but still inhabited, were afterwards pulled down to prevent further accident.

EDINBURGH CASTLE.—A memorial has been forwarded to General Peel, calling attention to the works at present carried on in the castle by Colonel Moodie, the officer of engineers who is stationed there. The memorialists say,—"The castle is the object of our greatest pride, and through old associations, together with its own features of commanding beauty, has become so endeared to the inhabitants of this city that they would regard any alteration of it, even in the way of improvement, with extreme jealousy. It may, therefore, be imagined with what feelings we have witnessed, and are daily witnessing, the destruction of this noble fortress. Many of the buildings have been demolished, others have been converted into ridiculous travesties of defensive works, and enormous masses of masonry are in progress, with the most 'breathing aspect of deformity.' The designs should at any rate be made public, and subjected to the examination of professional authorities. The castle is too precious to Edinburgh to be sacrificed.

GLASGOW ARCHITECTURAL SOCIETY. — On Thursday night, the 15th, the members of this society held a *conversazione* in the Scottish Exhibition Rooms. Mr. James Salmon, in the absence of Mr. Baird, presided, and was supported by Sheriff Steele, Councillor Graham, Rev. Dr. Jeffrey, &c. The chairman, after making a few introductory remarks, called upon Sheriff Steele, who read a paper "On the Utility and Pleasure of Architectural Studies," urging that architecture, considered in its true relation to human nature, and in its broadest and best developments, as a cultivated science, is not only the handmaid of utility, but the pioneer, the attendant, and the aspirant of the loftiest and most graceful sentiments. Mr. Gildard, in a subsequent address, referred to Glasgow's high position in architecture, and dwelt chiefly upon the refining influence of the science in elevating the moral and intellectual tastes of the community. The chairman afterwards announced that this was the last meeting of the present session, and that the new session would be opened in October next, when he hoped the child would have become a full-grown man.

HOW TO BECOME A SURVEYOR.—Sir: As I perceive from the request of "Silvio," in your last number, of the 17th instant, that you are the medium through which a man may learn a profession, without serving a time or studying, I beg to ask if any of your readers can tell me how I should begin with the trigonometrical survey of a large town? how the angles are taken and how calculated? also how you would measure the base? I would also like to know if the datum line for levels is taken from the highest or the lowest part of a town? which is the best way to lay down the work? whose instruments are the best? who gives the longest credit for paper? and where are surveyors to be obtained for from 3s. to 4s. a-day? As I see that "Silvio" appears to gain information of a professional nature in this easy way, perhaps you will pardon me for doing the same, because I was not aware till now that this was the way surveyors obtained their knowledge.

SYLVIAN.

[ADVERTISEMENT.]

THE STORY OF THE SULTAN MOURAD AND HIS WELCOME GUEST.

THE Sultan Mourad was dying of *ennui*; he was wearied out of his life. The Sultan Mourad had seen everything, done everything, tried everything, eaten everything, drunk everything, succeeded in everything, and he was weary of everything. He was sick of his wealth and his wives, his dominions and his doctors, his vizier, his jester, and himself. The learned pundits of his empire came and read to him poems in praise of himself; but he never heeded the learned pundits. The artists came and showed him beautiful pictures, but he shut his eyes, and would not look at their productions. The singers sang, the dancers capered, the acrobats threw summersaults, spun basons, and swallowed scymtars; the magicians wove spells—but the Sultan Mourad only yawned. The physicians said he was dying, and shook their heads; the people said he was dying, and tore their beards. They would have torn their garments too, only there were no Jews in the empire of Mofussilistan, and old clothes were at a discount.

The worst of the matter was, that yawning being the fashion at Court, the entire population took to yawning, too; and throughout Mofussilistan there was but one universal stretching of the arms and dislocation of the jaws. The Sultan Mourad exerted himself to rouse his subjects from their lethargy, and for some time found a pleasurable excitement in beheading, impaling, bow-stringing, skinning, bastinadoing, and boiling alive those obstinate people who wouldn't be amused. But it was no use. The Mofussilites didn't care a bit for impalement, and yawned while the bastinado was being applied to the soles of their feet.

As a last resource, and by the advice of Seedy Pasha, his Grand Vizier, a sage of immense learning, who had a beard as long as a lawyer's bill, the Sultan caused it to be proclaimed throughout his dominions, that upon whomsoever could afford him rational amusement for the space of one hour, he would bestow the sum of one million tomauns in gold, and the hand of his thousand and first daughter, the beauteous Princess Singsong Pollywoutymeorazade, surnamed the "Pearl beyond Price." The penalty for failure was of course the inconsiderable trifle—death. There were thousands of applicants for the tomauns and the princess; but the Sultan indignantly declared that he had never met with such a set of bores in his life; and you might have played at skittles with the heads of the unsuccessful candidates, which were daily swept off by Kalkraft Khan, the chief executioner.

One day a Dervish, with a torn turban, presented himself at the palace gate, and announced his intention of competing for the prize. The hall porter shook his head as he admitted him, and told him, by way of friendly warning, that he knew a young man very like him who died of sore throat only the day before; but, nothing daunted, the Dervish strode onward through lines of guards, and slaves, and eunuchs to the Great Hall of Audience, where the Sultan Mourad was sitting cross-legged, yawning, while he caught flies, and Kalkraft Khan was sharpening a new scymitar, yawning as he applied the whetstone, and the Grand Vizier Seedy Pasha was screening his mouth with his hand, for fear the Sultan should order his head off for yawning too.

It is a fact that, within the stipulated hour, the ragged Dervish, kept not only the Sultan Mourad, but his whole Court, and the terrible executioner Kalkraft Khan, to boot, in one continuous state of pleasurable excitement. First they laughed, then they wept, then they were puzzled, then they listened with breathless attention but they were always interested. The Dervish sang songs, told stories, cracked jokes, related anecdotes, showed them pictures more interesting than they had ever seen before, and delighted them all so much, that when the hour was up, the Sultan begged and prayed that he would stop yet an hour longer.

But the Dervish shook his head, and said that he had to be off by express train to amuse a Sultana who was also being bored to death some thousands of miles away.

"Wonderful man," cried the Sultan, "take at least thy reward. Ho, there! chief of the guards of the harem, tell the Princess Singsong Pollywon'tyoutrymeorazade to put on her wedding-dress."

"Don't do anything of the sort," interposed the Dervish. "My intentions are not matrimonial. The Princess may go to Hong-Kong for me."

"Incorrigible bachelor," remarked the Sultan. "Ho! there" he continued, "Ben-Disach Pacha, pay this wondrous mortal a million of tomauns in gold, on the instant."

"Keep your money," the Dervish again interposed. "I never take more than a penny."

"Ho, there, Chief Executioner," the Sultan, who was beginning to lose his temper at these pertinacious refusals, began.

"Don't trouble yourself, Light of the Universe, First Cousin to the Sun, Moon, and Stars," the undaunted Dervish returned. "You want amusement, don't you?"

"Allah knows that I do," replied the Sultan, with an incipient yawn.

"Then," continued the Dervish, "I will undertake to amuse you, your whole court, and your whole people, for a penny a week. Once a week will I visit these halls of dazzling light, when you shall hear my tales and stories, my songs and anecdotes, my narratives of travel and adventure, my jokes and odd sayings; shall see the pictures from my magic portfolio, and for the remaining six days yawning shall be impossible, and boredom out of the question. Your interest shall be excited, your curiosity awakened, your sympathies evoked, and all for the small sum of one penny."

"Agreed, agreed," shouted the delighted Sultan. "But by what name shall we call thee, marvellous benefactor of a yawning generation?"

"You shall call me," replied the Dervish, in a cheerful tone of voice,

"'THE WELCOME GUEST,'

For I mean to be a guest, and a welcome one too, in thousands of your subjects' homes. And now farewell for the present. Give me my penny, and let me be off: and on the 1st of May you shall have another visit from your 'Welcome Guest.'"

"The Welcome Guest," illustrated with first-rate engravings, and beautifully printed, may be obtained of all booksellers and newsvendors on and after the 1st of May, price One Penny.

Office: 148, Fleet-street, London.

[ADVERTISEMENT.]

86, Regent-street,
Messrs. CLARK and CO. June 2nd, 1857.
15, Gate-street, Lincoln's-Inn-Fields.

GENTLEMEN,—In reply to your inquiry as to my opinion of your Shutters and other Work, I beg to say that the Brass Front and Stall-board Plates you made for me I think equal in finish, and, indeed, altogether such as are not to be excelled by any other in London: it wears well, and I think the colour of the Brass is excellent. As to the Shutters, it is now Eight years since they commenced work, and I believe Twenty Shillings will cover all charges for repairs during that time; they do, and have worked well during all that period, and I believe them to be as sound now as on the day they were fixed.

Yours obediently,
JAMES MEDWIN.

TENDERS.

For Islington Vestry-hall. Mr. Allom, architect. Quantities by Messrs. Charles Sewell and S. B. Wilson and Son:—

J. and W. Todd	£6,599	0	0
J. Phillips	6,392	0	0
Wood and Son	6,160	0	0
G. S. Williams	6,040	0	0
Wm. Hill	5,941	0	0
J. D. Cowland	5,939	0	0
H. Patman	5,900	0	0
S. B. Hocken	5,900	0	0
W. Higgs	5,885	0	0
G. Carter	5,869	0	0
Patrick and Son	5,865	0	0
Thos. Rudkin	5,800	0	0
J. Thompson	5,770	0	0
J. Ashton	5,600	0	0
Adamson and Son	5,5[illegible]6	0	0
M'Lennan and Bird	5,444	0	0
W. T. Purkiss	5,407	0	0
W. Downs	5,396	0	0
W. H. Rowe	5,[illegible]63	0	0
G. Wheen	5,117	0	0
W. Dove (accepted)	4,987	0	0

For the Congregational Chapel, Angel-street, Worcester. Messrs. Poulton and Woodman, architects:—

Priddey and Son, Worcester	£5,000	0	0
Wheeler, Reading	4,400	0	0
Chambers and Hylton, Birmingham	4,044	0	0
Hemming and Son, Worcester	3,885	0	0
Walker, Evesham	3,740	0	0
Holland	3,476	9	0
Wood and Son, Worcester (accepted)	3,127	0	0

The above tenders are in addition to the old materials.

For alterations to the residence of Colonel Macbean, Richmond, Surrey:—

Jacklin	£785	0	0
Penfold	726	11	0
Long	719	0	0
Sweet	627	0	0

or the erection of two villa residences at Leytonstone, x, for Mr. Charles Sansom. Messrs. Driver, archi-, Quantities supplied :—

Tully	£3,100	0	0
Lawrence	2,855	0	0
Rivett	2,793	0	0
Williams	2,798	0	0
Evans	2,700	0	0
Cushing	2,515	0	0
Stevenson	2,500	0	0
Fisher	2,498	0	0
Hedges	2,462	0	0
Patman	2,450	0	0
Smith	2,430	0	0
Pritchard	2,400	0	0
Bottomley	2,398	0	0
Ring and Stauger	2,390	0	0
Thompson	2,383	0	0
Morter	2,373	0	0
Arver	2,300	0	0
Hocken	2,300	0	0
Geen	2,277	0	0
Blanchard	2,259	0	0
Single	2,218	0	0
Dove (accepted)	2,138	0	0
Barker	1,989	0	0
Walker	1,840	0	0

r new printing-house in Wine-office court, Fleet-, for Mr. Henry Vizetelly. Mr. Horace Jones, archi-. Quantities supplied by Mr. Wm. Reddall :—

Ashby and Sons	£3,235	0	0
Mansfield and Son	3,220	0	0
Wm. Piper	2,970	0	0
Gammon	2,959	0	0
Scott	2,947	0	0
Pritchard and Co.	2,900	0	0
Lawrence and Sons	2,882	0	0

r the new Congregational Chapel, Baddow-road, rs. Poulton and Woodman, architects :—

Gibbons	£1,698	0	0
Pullen and Son	1,575	10	0
Carter	1,555	0	0
Moss and Choat	1,540	0	0
French	1,465	0	0
Sorrell	1,445	0	0
Baldiston	1,408	0	0
Brown	1,300	0	0

above tenders are in addition to the old materials.

r building farm-house and farm-buildings at Burcott, . Mr. Henry Jarvis, architect. Quantities sup-

Buckley	£1,610	0	0
Crawley	1,585	0	0
Carter	1,447	0	0
Nash	1,427	10	0
Willson	1,153	0	0

r Chapel, lodge, receptacle, fence walls, and iron g at Egham cemetery. Mr. S. C. Capes, architect :—

Marshall	£1,669	0	0
Speakman and Haines	1,618	0	0
Barker	1,430	0	0
Mills	1,305	0	0
Oades (accepted)	1,130	0	0

r new bridge at Richmond, Surrey, for the London louth-Western Railway Company :—

Nicholson, Wandsworth	£1,141	0	0
Gammon, London	1,125	0	0
James Long, Richmond	1,049	0	0

r alterations and additions to No. 10, Tottenham-o-road. Mr. Henry Jarvis, architect. Quantities ied :—

Marsland	£950	0	0
Wall-on	918	0	0
Buckley	899	0	0
Gammon	799	0	0
Thompson	790	0	0
Humphreys	768	0	0
Pennington	750	0	0
Joseph Carter (accepted)	749	10	0

r alterations at Messrs. Ford, Hall, and Co.'s, Water-Tower-street. Mr. Henry Jarvis, architect :—

Crawley	£240	0	0
Buckley	236	0	0
Tarrant	233	0	0
Carter	198	0	0
Furnivall	146	0	0

r rebuilding premises No. 1, Field-lane, for Mr. John arman, under the superintendence of Mr. H. W Sass, itect. Quantities supplied :—

S. Yardley, Clerkenwell	£423	0	0
J. M. Macey, Milford Wharf	417	0	0
R. Butterbury, Camden-town	406	0	0
J. Haskey, Paddington	398	0	0
J. C. Bowles, Holloway	395	0	0
H. Burton, Aldersgate-street	387	0	0
Pritchard and Co. Warwick lane	378	0	0
L. Malcott, Smithfield (accepted)	369	0	0
A. Bryett, Islington	345	0	0

TO CORRESPONDENTS.

"The Vestel Testimonial."—A subscriber wishes to know whether committee of the Vestel testimonial, Queen's County, Ireland, as at selected a design for the fountain?

L. H.—P. P.—T. Light.—R. M.—P. and W.—G. G. Canterbury.—the floors may be "illetted" without difficulty.—F. B.—S. C. C.—R. M.—E. H.—R. K.—P. S. A.—J. W. A.—H. W. S.—Great works: Messrs. B. I. T.—R. and L.—W. R.—W. C. B.—: not desired).—M. B. M.—C. E.—R. W.—R. M.—"British n type) Mr. A

ection Page 260, centre column, line 21 upwards, for "large ns" read "large towns."

ONS AND ADDRESSES."—We are forced to decline pointing out ss finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

"THE BUILDER."—Wanted, the Numbers or Part for JANUARY, 1857.—Apply at the Office of "The Builder."

A CLERK WANTED, to KEEP the BOOKS of a PAINTER, PLUMBER, &c. As a few hours daily might suffice, an arrangement could be made either for partial or entire employment. One is intended if the trade would be preferred. Address, by letter only, G. M. at Mr. Bloyd's, 11, Duke-street, London-bridge.

TO GAS-FITTERS and OTHERS.—The Board of Guardians of Bethnal-green will meet at their Establishment near Victoria-park, on MONDAY, the 3rd of MAY next, at 10 o'clock in the forenoon precisely, to receive personal applications, with satisfactory written testimonials, from each individual (being a single man) to SUPERINTEND the STEAM-COOKING APPARATUS, GAS-FITTINGS, and PLUMBING throughout the House; also carrying the whole time and attention to the duties appertaining to such Department, and making himself otherwise generally useful, under the immediate direction of the master. Salary, 25s. per week, with Lodging, Board in the House Ordinary hours from five, in the morning, to seven, evening.—By order,

LORETT BELTON, Clerk to the Board.

Bethnal-green, London, 22nd April, 1858.

TO SURVEYORS, VALUERS, and OTHERS.—County of BUCKINGHAM.—NEW ASSESSMENT to the COUNTY RATE. The Magistrates of this county propose to make a new ASSESSMENT to the COUNTY RATE, under the provisions of the local Act of Parliament, 56th George III. cap. 95, intituled "An Act for making a fair and equal County Rate for the County of Buckingham," copies of which Act can be obtained at the Office of the Queen's Printers. In furtherance of this object the Magistrates invite offers from competent persons willing to undertake the duty of SURVEYOR OF VALUER to them in the preparation of the intended new assessment. Each person making an offer must state in detail the principle upon which he would advise the Magistrates that the criterion of assessment should be made, and the mode which he would propose to adopt in order to arrive at a correct estimate of the gross and net annual value of all hereditaments within each parish of the county. Offers in writing, duly setting forth the above-mentioned particulars, and stating also a gross sum by way of remuneration for services which such person making any offer would be willing to perform the duty required, must be sent to me on or before TEN o'clock of the morning of the 21st of MAY, 1858, and each such person must also in his offer give reference to at least three parties by whom he may have been employed, to the correctness of the capacity of whom will be entertained from any person either resident in, or generally practising as a surveyor or valuer in the county, or in any manner employed therein or connected therewith, as a land agent, it being the desire of the Magistrates that a fair and equal assessment should be secured, with the utmost regard to impartiality. The Magistrates do not bind themselves to accept the lowest offer; but such as, under all circumstances, they may deem most eligible, and they reserve to themselves the right, if they should see fit, to reject all or any of the offers.

ACTON TINDAL, Clerk of the Peace for Bucks.

County-hall, Aylesbury, April 19th, 1858.

WANTED, by a Manufacturing Firm in the country, a PERSON qualified to SUPERINTEND a BUSINESS connected with the Building trade. A thorough knowledge of business, and taste in decorative designing, indispensable. Address, M. G. Post-office, Bromsgrove, Salop.

TO PLUMBERS, GLAZIERS, AND PAINTERS.

WANTED, a good THREE-BRANCH HAND for a permanent SITUATION. State age, salary, and where last employed.—Address, M. N. Office of "The Builder."

WANTED, by an Architect and Surveyor, an ASSISTANT in all the branches of the profession, but chiefly as a draughtsman. Apply, by letter, stating terms, qualifications, and reference, to Messrs. WOOD and SON, Architects, Nottingham.

GRANITE AND SLATE AGENCY.

WANTED, an AGENT in London and other large towns in the country, to undertake the Sale of WELSH SLATE and GRANITE of superior quality. None but persons of respectability and some capital need apply. Good references required.—Address, A Y Z care of Messrs. M'CORQUODALE and CO. Wholesale Stationers, Castle-street, Liverpool.

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A YOUTH, aged 17, who has had an insight at the trade, wishes to ARTICLE himself for three or four years. Address, C. F. Mr Lusk, Boyle street, Chelsea.

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A GOOD MEASURER and DRAUGHTSMAN is desirous of an immediate ENGAGEMENT in a Railway Contractor's or Builder's Office. References unexceptionable. Address, A. B. Mr Johnson, 23, Deverell-street, New Kent road, S.E

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A YOUNG MAN, aged 19, who has had five years' experience in the building business, part in the carving house and part in the shop, is desirous of an ENGAGEMENT as JUNIOR CLERK. Good references.—Address, NERO, Mr. Thompson's, 31, Brunswick-street, Dover-road.

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TO BE SOLD, or LET on LEASE, these extensive FREEHOLD MANUFACTURING PREMISES, which have been erected but a few years, comprising two ranges of brick-built ground floor factories, with iron roofs, tiled, lighted with skylights, each building measuring 80 feet by 54 feet; a brick-built factory communicating, consisting of one lofty ground story 80 feet by by 25 feet wide; lofty square built chimney-shaft, yard, with five-ton crane, and two cottages, with large garden, and cottage-garden, detached cottage, and large yard. Total area about 30,000 feet. There is an abundant supply of water from a fine deep well sunk on the premises. For further particulars apply to Messrs FULLER and HOBSHY, Bell-lane, Fenchurch-street, E C. The plant, or any portion of it, may be taken at a valuation; or the whole will be removed at the option of the in-coming tenant or purchaser

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TO BE LET, on Lease, an excellent DWELLING-HOUSE, with Stables, Out-buildings, Garden, and an enclosure of rich Pasture land, situate at the north entrance to the town of Hadleigh, Norfolk, immediately adjoining the railway station. The above is in good repair, and admirably adapted for a merchant.—Apply to B J CRISP, Esq. the Proprietor

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Sewers' Office, Guildhall, JOSEPH DAW, Principal Clerk
31st March, 1858.

FREEHOLD BUILDING LAND, situate in the Queen's-road, Richmond-hill (land tax redeemed), having to the Vestrymen of the parish of Richmond, TO BE LET, in plots for a term of ninety-nine years, at low ground-rents, for three or four detached villas. The roads and sewers are made Particulars and plan of the ground may be obtained on application to Mr. R BREWER, Surveyor, 8, Hill-street, Richmond, S.W. where a draft of the proposed leases may be seen.

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CARPENTERS' COMPANY.—A large FREEHOLD ESTATE, becoming to this Company situate at STRATFORD, near the railway station, and suitable for manufactories and workshops, TO BE LET, for a long term, either in large or small plots. The property is exempted from land-tax, and free from tithe. For particulars apply to Mr E. B. JUPP, Clerk's Office, Carpenters' hall, London-wall.

EASTER HOLIDAYS

THE ROYAL POLYTECHNIC Patron—H.R.H. the Prince Consort.—"The Grand Phenomena of Nature:" an entirely new series of Dissolving Views, with beautiful coloring effects, painted by Messrs Hine, Child, Perring, and Davis, illustrating earthquakes, volcanoes, thunder storms, parhelia, aurora borealis, the spectre of the Brocken, mirage, avalanches, waterspouts, geysers, cataracts, wonderful caves, &c. with new descriptive Lecture, by J. D. Malcolm, Esq. daily, at a Quarter-past Four and Quarter-past Nine. The highly effective Dissolving Scenery, illustrating the Rebellion in India, daily at Two Curious live Insects in the oxy-hydrogen microscope, daily, at One and Half-past seven First of a new course of popular Lectures plentifully illustrated with Experiments), "On the Great Forces of Attraction," by J. H. Pepper, F.C.S. A. Inst. C.E. &c.—A new course of Lectures, by Thomas Griffiths, Esq. late Professor of Chemistry, St. Bartholomew's Medical College, and author of many popular works on chemistry, "On the Chemistry of Air, Earth, Fire, and Water." A new Musical Entertainment, on Tuesday, Thursday, and Saturday evenings, at Eight, by G. Cooper, Esq., assisted by Mrs. G. A. Cooper, entitled "The Excursion Train," being a Romance of the Rail, with new Buffo Songs.—For further particulars, see programme of the week, which is sent anywhere for two postage stamps.—Admission to the whole, is. Children under Ten and schools, half-price.

THE BRITISH AND FOREIGN MARBLE GALLERIES,

17, NEWMAN-STREET, OXFORD-STREET.

EDWARDES, EDWARDS, and CO. PROPRIETORS,

ie LARGEST and MOST SUPERIOR STOCK of CHIMNEYPIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

WATERLOW, DRAPER, AND WEBB,

TREDEGAR MOULDING MILLS, BOW, E.

EG TO CALL THE ATTENTION OF BUILDERS AND CARPENTERS TO THEIR SUPERIOR

STEAM-STRUCK MOULDINGS,

ch are fit for the immediate use of the Joiner. A large Stock always on hand, at the Warehouse for House and Cottage Joinery, 121, Bunhill-row, Finsbury.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

o inform their Friends and the Trade generally, that they have erected New Premises and d Machinery, for the manufacture of MOULDINGS as above. They continue to make the tterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

PATENT REVOLVING IRON AND WOOD SHUTTERS,

FACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

olders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

GLASS.

JAMES PHILLIPS AND CO.

Beg to intimate that they have Removed their Business from

116 TO 180, BISHOPSGATE-STREET WITHOUT,

have an extensive Stock of CROWN, SHEET, PATENT PLATE, PICTURE PLATE, and HORTICULTURAL They would also further add, that they keep in Stock and Supply the TRADE with HARTLEY'S ROUGH PLATE, FLUTED, DIAMOND, and PERFORATED GLASS, of various Substances. They have fitted up a large Warehouse for COLOURED and STAINED GLASS, in which they have a carefully-selected Stock of all the NEUTRAL TINTS, TIQUE and MODERN COLOURS, thus offering to Artists advantages they have not hitherto possessed, namely, an oppor ecting their own Colours in any quantity.

180, BISHOPSGATE-STREET WITHOUT.

RIOR BRITISH PLATE-GLASS, at LOW RATES. The Union Plate-glass Company, having pleted considerable improvements and additions to their tefully inform their friends that they are now able to s without delay, and invite the attention of the trade to ; at which their now much esteemed manufacture is id— s may be obtained on application at the Works, Pocket efields, Lancashire; the Warehouse, 26, Hatton-garden, 45, Piccadilly, Manchester: Messrs. C. and J. MALLOCH, ourt, Glasgow: Messrs. JOHN DIX and CO. Bath-street, ngs. H. SHEPHORPE and SON, Cork-hill, Dublin; Messrs. and BROMLEY, 33 and 35, Lime-street, Liverpool; Mr ENRY HOLMES, Westgate-street, Newcastle-on-Tyne glass from ¼ in. to ¾ in. thick for windows, roofs, mashe- market halls, railway stations, &c. Beautiful and highly- ished plate-glass for shop-fronts, and all other glazing pur- r silvering. Superior silvered plate-glass mirrors of all

OMSBURY STAINED GLASS

KS, 38, Bedford-square, London, W C.—ALEXANDER OMPANY, Practical Artists in Stained Glass, and Eccle- stators, invite the attention of the nobility, clergy, archi- the facilities afforded by their long practical experience in connected with the above art, and respectfully solicit of a personal visit to their show rooms, to inspect their ged collection of Cartoons and Water-colour Designs for Domestic Windows. Designs and Estimates forwarded, on, to all parts of the kingdom.

WINDOW-GLASS.

IAS MILLINGTON'S REDUCED PRICES.

OF GLASS, fourths, in 200 feet cases, at 25s. per case
" " thirds, " 45s. "
" " seconds, " 65s. "
" " best, " 80s. "
100 feet each, at 10s. 12s. 14s. or 16s. according to size.
Oz. 26oz. 32oz. and 42oz. in various qualities.
Also, CRYSTAL SHEET GLASS.

for Ground, Matted Glass of various Patterns, and Coloured h Plate Glass, Patent Plate, Cast and Rolled Rough Plate, nch thick

COLOURS, VARNISHES, &c.

White Lead, 32s. 6d.; seconds ditto, 30s. 6d. per cwt. Lin- 4d.; Boiled ditto, 2s. 10d.; Turpentine, 3s. 5d. per gallon. rnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per s and Ground Colours, Brushes, &c. ove prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.

UMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER CLOSETS Cocks and Valves of every description. Lead and Pipe of all sizes. Old Lead bought or taken in Exchange.

MINGTON, 87, Bishopsgate-street Without, Lond n. Established upwards of One Hundred Years.

IFAL WHITE SHEET GLASS, First, nd, and Third Quality, in Cases of 100, 200, and 300 feet, Pictures and superior glazing, from 3d. to 6d. per foot; 1 of 100 and 200 feet, assorted sizes. Belgium Sheet Glass, feet each; 3rds, 36s. and 39s.; 4ths, 27s. 6d. Squares, in feet each, 6 by 4, to 10 by 8, 1½d. per foot. Larger sizes, 14, 2d. per foot. Ground Glass in Cases, 3½d. per foot. Sheet, British and Patent Plate, HARTLEY'S Patent te Plate, English and Foreign Fluted Stained Glass, Glass Priced lists and estimates forwarded on application to TTHAM, 30, Princes-street, Leicester-square.

GLASS PAINTING and MURAL DECORATION.—N. W LAVERS, No. 20, Southampton-street, Strand, begs to inform the clergy, architects, and others, that having entered into engagements with artists of repute, he will be happy to submit designs for such windows as may be entrusted to him, as also for ecclesiastical decoration. He begs still to call attention to his grisaille and quarry glass, of an inexpensive but very effective character.—Prices, &c. forwarded on application.

THE CHEAPEST HOUSE in LONDON for EMBOSSED GLASS is CHARLES LONG'S, 17, Queen's-road, Bayswater, W All other kinds of ornamental window glass equally cheap

PATENT and BRITISH PLATE GLASS. JAMES HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured — Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS BENDING, STAINING, and EMBOSSING WORKS

W. HICKS (late Hicks and Dickson),

80, Ratcliff highway.

ESTIMATES FORWARDED ON APPLICATION.

E. and W. H. JACKSON supply PATENT PLATE, BRITISH PLATE, ROLLED PLATE, CROWN, SHEET, COLOURED, and ORNAMENTAL GLASS, in every variety of the best manufacture, at the lowest terms. WHITE SHEET and WHITE PATENT PLATE, English manufactured, the best articles ever produced for drawing, prints, and all purposes where perfect absence of colour is a requisite. All applications for estimates and lists of prices to be made at their Warehouse, 315, Oxford-street, W.

SOHO PLATE-GLASS WAREHOUSE,

No. 26, SOHO-SQUARE, LONDON, W.

PLATE-GLASS,

Of a superior Quality and Colour,

SUPPLIED AT THE LOWEST CURRENT RATES.

Contracts given upon application.

PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, No. 14, Stafford-row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public, are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN-STREET, Lincoln's-inn fields. Estimates given for the inlaying of Pulpits, Reredos, Fonts, &c. &c. Tesselated Pavements, with Patent Tesseræ. The New Transparent Glass Mosaic. Descriptive Catalogues on application.

N.B. 56, GREAT QUEEN-STREET, LINCOLN'S-INN.

TO PAINTERS, BUILDERS, AND CONTRACTORS.

THE BEST MARKET on the south side of the River, for

GENUINE OLD GROUND WHITE LEAD,

LINSEED-OIL, TURPS, VARNISH, and COLOURS of every description, is

SIMPSON and CO.'S,

53 and 54, London-road, Southwark.

A price list sent on application.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s 6d.; Turpentine, 3s. 2d.; Boiled Oil, 2s. 9d.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Copal, 14s. per gallon. Dry and Ground Colours, Brushes, &c. &c. for Cash

F. LANGTON'S, 143 and 144, Whitecross street, St. Luke's, E.C. and 125, Tottenham-court-road, W.

TO BUILDERS, PAINTERS, &c.—OAK-GRAINING in OIL, at FOURPENCE per YARD, in quantities not less than 60 yards. Church-writing done in the Elizabethan style References given Specimens can be had by paying 1s. each, to be allowed out of the above quantities. - Apply, to CHS. PETTET, No. 12, Maida-hill, Paddington.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 7d. per gallon; Boiled Oil, 2s. 10d. per gallon; Turpentine, 3s 2d. per gallon;

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill-street, Pimlico.

Every article for the Trade at the lowest price.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

S. A. JEFFS,

48 and 49, Cornwall road, Stamford-street, Lambeth, S.

N.B. Price list on application.

JOINERY of EVERY DESCRIPTION. STAIRCASES,

SHOP-FRONTS, SASHES AND FRAMES, DOORS, &c.

Of well seasoned materials and superior workmanship, supplied at the lowest possible prices, by

J. MILLS,

110, Broadwall, and 7, Princes-street, Stamford-street, Lambeth; Late Shop-foreman to Messrs. Lawrence and Sons.

By enclosing a postage-stamp, a full list of prices will be returned

TO BUILDERS and CONTRACTORS.—FOR SALE, a quantity of capital well-seasoned 11-inch and 2-inch FOUR PANELLED DOORS, plain or moulded Boards and Scantlings for Building and other purposes. - Prices and particulars may be had on application to TREDWELL and CO. Railway Timber and Iron Works, Gloucester

WHITE and MITCHELL, JOINERS and SASH-MAKERS to the Trade, 11, Commercial-road, Lambeth. Staircases, Shop-fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp.—Workshops, 2, Commercial-road, Lambeth.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Sold by ironmongers referred to in every public street in London

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up

Sold by all ironmongers, and by the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depot, Holland-street, Blackfriars-road.

SPECIAL NOTICE.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY,

13, ST. JAMES'S-SQUARE, LONDON, S.W.

Established 1824.

All Persons who effect Policies on the Participating Scale BEFORE JUNE 30th, 1858, will be entitled at the NEXT BONUS to one year's share of Profits beyond later Assurers.

Proposals should be forwarded to the Office before June 20th

The last Annual Report, as also a statement of the Sixth Bonus declared in January, 1857, setting forth in detail the whole state and affairs of the Office, and especially the benefits which will hereafter accrue to persons now assuring, can be obtained of any of the Society's Agents, or from the Office.

GEORGE H. PINCKARD, Actuary,

GEORGE CUTCLIFFE, Assistant Actuary.

13, St. James's-square, London, S.W.

ACCIDENTS of EVERY DESCRIPTION.

£1,000 IN CASE OF DEATH; OR

A FIXED ALLOWANCE OF 6l. PER WEEK

IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents £7,086.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.

NO CHARGE FOR STAMP DUTY

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,

Offices, 3, Old Broad-street, London, E.C.

PATENT

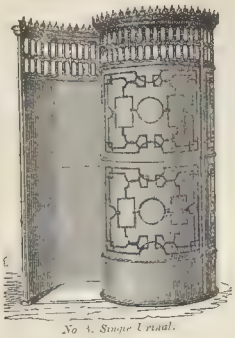
SOLID PARQUETERIE,

for floors, walls, and furniture tiles, thick from 1s. per foot, as used by the eminent architects, Sir Charles Barry, Messrs. Barry, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Times, May 29.

ARROWSMITH,

No. 80, New Bond-street.



No. 1. Smoke Urinal.

WALTER MACFARLANE & Co

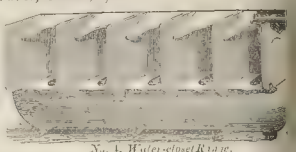
IRON FOUNDERS AND SANITARY ENGINEERS, SARACEN FOUNDRY, GLASGOW,

PATENTEES and MANUFACTURERS of PUBLIC SANITARY APPLIANCES,

For Dwellings, Schools, Asylums, Barracks, Streets, &c.

URINALS, Single, Double, and in Ranges.
WATER-CLOSETS, Single and in Ranges.
WASH-HAND BASINS, Single and in Ranges.
WASH-FOOT BASINS, Single and in Ranges.

Composed wholly of CAST IRON; now in use in every large Town in the Kingdom, as well as the Colonies, and on the Continent.



No. 1. Water-closet Range.

LONDON HOUSE,

MR. THOMAS BEGGS, 37, SOUTHAMPTON-STREET, STRAND, General Depôt for Sanitary Articles and Plumbers' Brasswork.

Agents for the Counties of Northumberland and Durham.
HENRY WALKER & CO. NEVILLE IRON WAREHOUSE, NEWCASTLE-ON-TYNE.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN IRON OR BRASS.

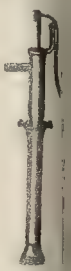
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c adapted for any depth

HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

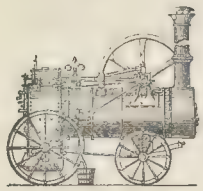
Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.



R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

"PUMPS." — FOWLER & CO.



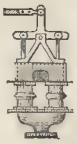
ENGINES,

SINGLE & DOUBLE PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.



YARD, FARM, AND HOUSE PUMPS.

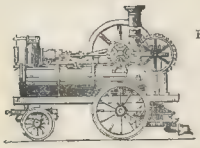
HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.

CONTRACTORS' PORTABLE PUMPS.

PUMPS FOR MANUFACTURERS,

FOR STEAM OR HAND POWER.

MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,

For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish

BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steamships and engine-room works

HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW WHITE ZINC.

DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments, gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is not disputable by Gas.

THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

DRAUGHTS round Doors and Windows EFFECTUALLY PREVENTED by GREENWOOD'S PATENT INDIA-RUBBER MOULDINGS, the neatest, most simple, and effectual in the list of making air-tight joints to joiners' or cabinet work, OLD or NEW. self-acting Spring Stops, for the bottoms of doors. The most imperfect door can be made air-tight without rehanging. The Trade supplied on liberal terms.

JOHN GREENWOOD, Patentee,
17 Arthur-street West, London-bridge.

TO DRAUGHTSMEN AND CIVIL ENGINEERS

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 148, Fleet-street, London

H H H H	F F light and shading.
H H H	F for general use.
H H	B black for shading.
H for sketching.	B B ditto ditto.
H B and B for drawing.	B B B ditto ditto.
	B B B B ditto ditto.

M medium.
Sold by all the principal Stationers in town or country.

MAHOGANY and DEALS at the LOWEST CASH PRICES. SAMUEL PUTNEY solicits the attention of buyers to his large and well-selected stocks of Mahogany and Deals of every description, commencing at the following prices, viz.:—

Honduras Mahogany, 4-inch and board, from 6d per foot.
Yellow Deals, from 9d each.
Spruce Ditto, from 2s 3d each.
Pine Planks, from 4s 6d each.
Yellow Battens, 11/10 per 120, 1" by 2½
3-inch Flooring, 11s. 6d.; 1-inch Ditto, 18s. per square.
An assortment of Italian and American Walnut Elm trees, Grey's-mahogany, and Borough-road, Southwark.

PREPARED FLOORING! PREPARED FLOORING!!—W. C. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring:—

	½	¾	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	"
Yellow	14s. 6d.	16s. 6d.	18s. 6d.	22s. 6d.	"

Delivered within three miles free of cartage.
STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

ANOTHER GREAT REDUCTION. Yellow Deals, from 3s. 3d; Spruce, 2s. 9d.; Pine Planks, 3s Mahogany and F. Walnut, 5dd.; 2½-inch White Battens, 3d. Yellow, 1¼ 10s.; 1-inch White Flooring, 15s 6d.; 3 do. 11s 1-inch Yellow, 18s. 6d.; 3 do. 13s. Bird's-eye Maple Veneers Cartage free to any part of town.—T. FORMAN, 1, Walnut-tree-Walcot place, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Builders Trade generally that they are enabled to allow a discount of 15 per cent. upon their large assortment of Mouldings. Architraves, Dry Flooring at low prices Southwark-bridge Wharf, Bank side, S.E.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING 4 inch thoroughly inches thick, seasoned and ready for use; also, Mahogany, Moulding, Wainscot, and Deal for Timber required for Building purposes. Address, R. SLADE, late E. Sloane, Flooring Manufactory, Wilton road, Pimlico

A CORN TIMBER WHARF SAW-MILLS,
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-street, Pimlico, respectfully invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES. Lists of the several Mouldings forwarded on application.

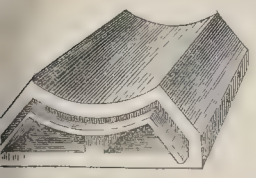
TO BUILDERS, CABINETMAKERS, AND OTHERS.—ALFRED CARTER submits the following reduced prices for really useful sorts:—

½-inch Prepared Flooring	£0 11 6 per square.
¾-inch Prepared Flooring	0 13 0 per square.
1-inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 2 6 each.
Yellow Battens	0 3 6 each.
	11 10 0 per 120.

Mahogany, in logs and planks, from 6d per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

NOTICE.—DRY RUBBISH, free from Vegetable matter, may be shot where directed, within the Arsenal. Wet brick—Application to be made at the Royal Engineer Office at that place.
Royal Engineer Office, Royal Arsenal, Woolwich,
30th March, 1858.

DOULTON'S PATENT INVERT BLOCKS.



MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS. The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.

This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage works.

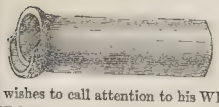
DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.

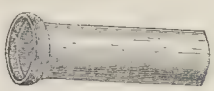
DOULTON'S GLAZED STONEWARE SOCKET, HALF-SOCKET, AND OPERCULAR PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.





G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle ELBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from ructions, and meets the demand for removing Pipes at any point.

s. each; itted with ATENT R-TIGHT ALVES, 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN's PATENT AIR-TIGHT VALVE on the Top of the Trap.

B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

NUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

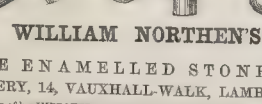
HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

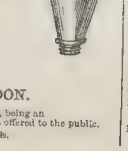
May be had also at the following Wharfs, viz:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City road Wharf, City Basin; Dockhead Wharf, Bermondsey;
Messrs COLES, SHADBOLT, and CO S. St. James's and Thornhill Wharfs, Caledonian road, Pentonville.
Mr. LAVERS'S, Dowgate Wharf, Canal road, Hoxton.
Messrs RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Messrs COLWILL (BROTHERS), 32, Brydges street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

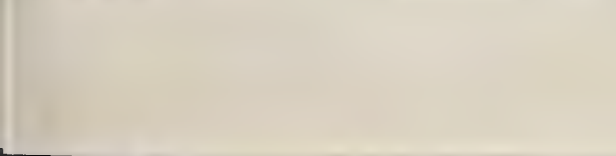
LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.





MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.



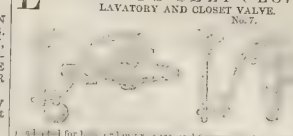
WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET PANS, being an new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.
SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.

No. 7.



[illegible] for [illegible] PRICE, [illegible] BASIN. Many [illegible] are found to be extremely simple, and are cheaper than common cocks. Manufactured only by the Patentee,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 12s. 6d. each.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MONTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
2d.	2½d.	3½d.	5½d.	9d.	1s 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

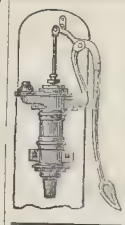
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closet and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to

JOHN WARNER & SONS'
PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slides and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of all sizes of any length. Richard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Double Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT, 8th and Testimonial.—"March 10th, 1858.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the Pumps to give one hundred per cent of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price lists, testimonials, and references, at the Offices of the Patentee, PERREAUX and CO. 39, Mark lane, City, E.C.

SMOKY CHIMNEYS.—The best cure is KITE'S PATENT VENTILATING and SMOKE-CURING ALBERT CHIMNEY CAPS, suited to any style of architecture. 200 on BUCKINGHAM PALACE, 150 on St. James's Palace, 50 on Clarence Palace, 50 on Windsor Castle, 200 on the Western Heights Barracks, Dover; in use also on the halls and mansions of the royal, Government offices, Club-houses, &c; also extensively adopted by the public in general. Price 25s. 30s. and 35s. each.

Drawings and testimonials forwarded on receipt of two postage-stamps to JAMES BARTON, Ironworks and Manufactory for the PATENT SPARABLE FITTINGS and ENAMELLED MANGERS, 370, Oxford-street, London, W.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

H. PIGGOTT,

115, Fore-street, City. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

SALES BY AUCTION.

LONGTON GROVE, SYDENHAM.—Eligible Building Land, occupying one of the choicest sites in the neighbourhood of London, where villa residences are in great demand, and readily let immediately they approach completion.

PULLEN and SON are directed to SELL by AUCTION, at the MART, on TUESDAY, APRIL 27, at TWELVE o'clock, FIFTEEN PLOTS of most eligible and attractive BUILDING LAND, in one of the choicest and most favourable situations in the neighbourhood of the metropolis, Sydenham, on the north and south sides of Longton grove, where building operations have been successfully carried on, and immediately adjoining the elegant villa residences already erected, and occupied by tenants of the highest respectability; close to the church, within five minutes' walk of the Sydenham station, and very little further from the Crystal Palace. The plots have frontages of 40 and 50 feet each, with a commensurate depth, and are held for a term of upwards of ninety years, at a merely nominal ground rent.—May be viewed and particulars had of Messrs. NEWBON, EVANS, and NEWBON, Wardrobe place, Doctors'-commons; at the Mart; and of PULLEN and SON, 80, Fore street, Cripplegate.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 26th of APRIL, 1858, and following days, at ELEVEN o'clock each day, in consequence of a dissolution of partnership, the extensive PLANT and STOCK of Messrs. LEE and LAVERS, Contractors, Sutton street, Belvedere road, Lambeth, in Lots, including a portable 6-horse power contractor's steam engine, on wheels, by M'Dowall and Hall, ... horse power portable table steam engine and boiler, with mortar mill and iron circular saw bench attached, with gearing to work the same; Gwynne's centrifugal pump and pipes, 1,000 scaffold poles and boards, 500 putlogs, scaffold cords, four pile-engines with monkeys, 14 massive cast iron fluted columns, each 16 feet high, 700 yellow deals and battens, several thousand feet of dry seasoned pine and other boards, double and single purchase crabs, timber carriages, stone truck, 15 tumbril carts, six useful draught horses, sets of harness, trucks, stable implements, turn table, large quantity of earthen sewage pipes, wrought-iron pumps, 10 screw and lifting jacks, blocks and falls, mortising machine by Colson, smiths' tools, vices, anvils, 20 carpenters' benches, cramps, 100 crow bars, pickaxes, chainslings, two tons of lead pipe, rails and columns, iron mongery, rod and bar iron, 50 bags of wrought and cut nails, leather bands, portable sewage pumps with leather hose, 50 pair of water boots, weighing machine, scales and weights, three portable offices, sewer gratings and frames, sink traps, and numerous other effects. To be viewed on Friday and Saturday previous to the Sale, when Catalogues may be had, on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO WAX BLEACHERS, MANUFACTURERS, SPERMACETI REFINERS, and OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on THURSDAY, APRIL 29, 1858, at ELEVEN o'clock, on the PREMISES, Stockwell Green, Surrey, in Lots, without reserve, the PLANT of a SPERMACETI REFINERY and WAX BLEACHING WORKS, including 10 cwt. melting coppers, and large brass cocks, 7 enamelled iron pans, 2 pewter jacket steam pans, large cast iron melting pans with furnaces, upright and 2 horizontal hydraulic presses with pumps, 2 6-in. iron screw presses, 2 copper underground receivers, large lead and copper lined cisterns, bagging frames and bags, 2 wrought iron steam boilers, 2 small upper steam-boilers, steam pipes and cocks, double purchase crane, press plates, counters, bleaching racks, 50 cannon posts, 100 wrought iron hurdles, an excellent turret clock, and other effects. To be viewed on Tuesday and Wednesday previous to the sale, when catalogues may be had on the Premises; of R. PARRIS, Esq. Walingham-place, Lambeth; and of Messrs. FULLER and HORSEY, Billiter-street, City.

London Marble and Stone Working Company's Works, Esher-street, Millbank, Westminster.

MESSRS. FULLER and HORSEY are instructed to SELL BY AUCTION, at the MART, on FRIDAY, APRIL 30th, at TWELVE o'clock, in one lot, in consequence of the termination of the partnership (unless an acceptable offer is previously made by private contract), the LONDON MARBLE and STONE WORKS, together with all the valuable plant and machinery; including four iron sawing frames for marble, working horizontally from 11 feet by 1 foot 10 to 10 feet by 3 feet 4, two iron circular saw frames for marble; two polishing machines to work by power, a rod-cutting machine, sanding-table bin, moulding bed, four engine turning-lathes, 8 inches to 13 inches centres, single saw stone-cutting frame, a ten-horse power condensing steam engine, by Dryden, with tubular boiler, all the requisite shafting, drums, riggers, and driving gear, two very powerful overhead travelling cranes, and every other requisite for carrying on the business on an extensive scale. The premises are leasehold for a term of fifty-two years, at a ground rent of 73*l.* per annum, and comprise a spacious and substantially erected manufactory of two floors, handsome and lofty show-room, with workshops under, offices, large yard, and manager's dwelling. To be viewed till the sale by cards only, which may be obtained at the Offices of the Auctioneers. These works were established in 1821, and the proprietors have carried on a very extensive ready-money business, with adequate profits, up to the time of the termination of partnership in 1855, as can be satisfactorily shown. The connection already attached to the concern, and the increasing demand for marble work, render this opportunity well deserving the attention of those seeking for an old established business.—Printed particulars will be ready fourteen days prior to the sale, and may be had on the Premises; of Messrs. WARRY, ROBINS, and BURGES, 70, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO CONTRACTORS AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs. Brown and Morris to SELL by AUCTION, on SATURDAY, the 1st of MAY, 1858, at ONE for TWO o'clock precisely, on the RAILWAY WORKS, Gillingham, Kent, near the intended station on the East-Kent Railway, in lots, without reserve, the CONTRACTOR'S PLANT used in the construction of the section lately completed, including fifty wrought iron ballast waggons, in good working order, end tip, sixty tons contractors' rails, 3,000 sleepers, wheeling planks, timber-whim, four-wheel timber-carriage, two waggons, two sticks of timber, two tons old iron, various implements and effects.—To be viewed on the morning of sale. Catalogues may be had at the Works; of E. EDWARDS, Esq. Official Assignee, Basinghall street, E.C.; of Mr. ROSE, Solicitor, Salisbury-street, Strand; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

IMPORTANT FREEHOLD Sufferance Wharf, with the newly-erected Saw and Planing Mills, Engine-house, and Offices, a Dwelling-house, and Two Freehold Public-houses,—Rotherhithe, Surrey.

MESSRS. FULLER and HORSEY are instructed by Messrs. Grissell, Brothers, to SELL by AUCTION, at the MART, on THURSDAY, the 20th of MAY (unless an acceptable offer is previously made by Private Contract, of which due notice will be given), a highly important FREEHOLD PROPERTY and SUFFERANCE WHARF, known as Canada Wharf, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 2a. 3r. The premises have been arranged by Messrs. Grissell as a timber yard, wharf, and saw mills. The buildings, newly erected in the most substantial manner, comprise the saw mill, about 70 feet by 64 feet; engine and boiler-house, planing shed, offices for clerks and principals, stabling, and carriage-house; also, a dwelling house, with private entrance, suitable for a manager. The Horns old established and well-accustomed public house, adjoining the watermen's stairs, and the Blacksmiths' Arms public-house in Rotherhithe-street. The distance of this property by carriage road from London bridge is about three miles, but, by the Blackwall Railway to Lime-house and the ferry-boat across, it may be reached from the city in about twenty minutes. A large outlay has been made in fitting machinery of the most modern and approved description for sawing and planing, worked by a highly finished double cylinder steam engine of 40-horse power, by Hall, of Dartford. The sawing and planing machinery may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the mills. The arrangement of the buildings and situation of the property for the purposes intended by the present occupiers are most desirable in every respect, or the site is equally available for the establishment or erection of any large manufactory requiring water-side premises. The property may be viewed by cards only, which may be had at the Offices of the Auctioneers. Printed particulars and plans are in course of preparation, and may be had shortly of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, No. 11, Birchin lane (late 11, London-street), E.C.; of B. F. WATSON, Esq. Solicitor, 36, Lincoln's-inn-fields, W.C.; at the Mart, and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

SALES BY AUCTION.

TO SHIP CHANDLERS, BOAT AND BARGE BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, MAY 3, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, No. 297, Rotherhithe street, in lots, without reserve the extensive and well-assorted STOCK of the late firm of CRISTALL and CO. including thirty loads English oak, twenty loads elm, three loads teak, 600 feet teak plank, 900 oak posts, 700 feet oak battens, 1,500 feet oak quartering, 1,000 feet old ship timber, 1,000 feet fir quartering, thirty barge floors, 100 barge and timber heads, twenty fathoms oak slabs, ten fathoms teak slabs, fifty fathoms firewood, 600 feet American oak and elm plank, 1,500 feet English oak plank, 1,000 feet elm boards, 20 square flooring boards, 2,000 feet bulwark boards, 1,000 feet boat boards, 1,000 feet feather edge boards, 10,000 oak treenails, fifty stage deals, 100 hand fir oars, thirty bundles teak laths, ten barrels Stockholm tar and pitch, ships and barge pumps, 150 fathoms chain cable, five tons chain, various double and single crabs, fifteen lifting and screw-jacks, two steelyards, cramps, scale beams, several tons iron weights, 10-horse power steam engine, flour mills, edge runners, thirty grindstones, spars and scaffold poles, tarpaulins, anchors and kedges, ten tons bar and rod iron and steel, five new sets Marriott's signals, seventeen dozen new flags, second hand signals and flags, 100 pieces new bunting, seventy bolts sail-cloth, six tons new rope, five tons old rope, two hawsers, one ton old canvas, 500 sheave blocks, 30 cwt. old lead, 2 cwt. copper sheathing, copper oil cisterns and powder magazines, 30 cwt. hoop and plate iron, 15 tons wrought and cut nails, 1 cwt. copper nails, 1,500 gross brass and iron screws, large assortment of brass cabin furniture, a large and general stock of ironmongery, black hollow ware, tin ware, sand and nuts, turnery, two punts, 20 and 30 tons, three lug boats, skiff, timber carriage, timber whim, two trucks, two pile engines, three powerful wharf cranes, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, and catalogues had (at 6d. each) of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, Esq. to SELL by AUCTION, on MONDAY, MAY 17, 1858, at TWELVE, at the WORKS, adjoining the new bridge from Battersea, Pimlico side, the PLANT lately used in the construction of the piers and earthworks, including 200 scaffold poles, 200 wheeling planks, 150 navvy barrows, six dobbin-carts, eight lime and sand screens, framed centres, portable crane and trolly, two framed shear legs, with crab, thirty pair water boots, five well pumps and stones, carpenters' benches, cross-cut saws, augers, 10,000 superior stock bricks, 500 plain tiles, brick erection of offices, with slated roofs, erection of carpenters' and smiths' shops, with slated roofs; foreman's office, two watchmen's boxes, piles, pile-shoes, screwed bolts, iron dogs and crowbars, and other effects.—To be viewed on Saturday previous to the Sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

PADDINGTON.—To ARCHITECTS, BUILDERS, and OTHERS.

MESSRS. EVERSFIELD and HORNE are instructed by the Proprietor, Mr. James Simmons, TO SELL by AUCTION, at the MARBLE FACTORY and MOULDING MILLS, Bridge terrace, Harrow road, on WEDNESDAY, APRIL 28, at TWELVE for ONE, ONE HUNDRED MARBLE CHIMNEY-PIECES, got up expressly for moderate-sized houses, and being polished by steam machinery, the brilliancy of their surface is little inferior to plate glass. The stock consists principally of neat moulded, truss, and other useful chimney pieces, in vein and statuary marble; but there is also an assortment of handsomely carved statuary, as well as a variety in Bardiglio, St. Anns, black, Albano, and other coloured marbles. Also 20,000 feet of Simmons's improved Wood Moulding. Approved bills at three months from buyers above 30*l.*—May be viewed two days previous; and catalogues had on the Premises, or will be sent, post free, on application to the Auctioneers, 40, Parliament street, Westminster, and Coal Exchange.

Sailing Barges employed in the Brick Trade.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES of the late James C. Peache, Esq. Belvedere road, Lambeth, on TUESDAY, 4th of MAY, at TWELVE for ONE, the "JAMES" DECKED SAILING BARGE, let to Messrs. Rutters at 60*l.* a year, and sold subject to such engagement, also, FOUR other SAILING BARGES, in the same employ, but without distinct engagement; a CANAL BARGE (nearly new), and several other open craft. The sailing barges may be viewed at their work, at Crayford or elsewhere, and the remainder are lying at the Place of Sale, where catalogues may be had; and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

TO CABINET-MAKERS, BUILDERS, BLOCK-MAKERS, TURNERS, WHEELWRIGHTS, UNDERTAKERS, AND OTHERS.

THOS. EDWARDS and SON have received instructions from the Proprietor, who is relinquishing the retail business, to SELL by AUCTION, on the PREMISES, No. 129, Old street, St. Luke's, on MONDAY, MAY 10, 1858, and following days, at ELEVEN o'clock precisely, the entire STOCK and IMPLEMENTS of TRADE, consisting of large quantities of well-seasoned St. Domingo, Honduras, Cuba, and African mahogany, in planks and boards, Havannah and pencil cedar; rosewood, maple, and satinwood planks, Italian walnut, English ash, elm, oak, yew tree, holly, pear-tree, and sycamore, in planks and boards, American birch, wainscot, amboyna wood, ebony, cocus, boxwood, lignum vitæ, purple wood, fustic, camphor wood, partridge wood, violet wood, and other fancy woods; also, dry Memel pipe staves, dry yellow pine, white, yellow, and spruce planks; deals and battens, both whole and cut; an assortment of mahogany, maple, walnut, oak, and other veneers.—To be viewed two days previous to and on the mornings of Sale. Catalogues may be had on the Premises, and of THOS. EDWARDS and SON, Mahogany Brokers, 15, Pinner's-hall, Old Broad street, E.C.

LEYTONSTONE, ESSEX.—Freehold Building Land, containing nearly Eight Acres.

MESSRS. DRIVER are directed to SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE, in fifteen Lots, several very eligible and desirable Plots of FREEHOLD BUILDING LAND, having capital frontages to proposed new road, and a portion abutting on the high road from London to Leytonstone, the whole exceedingly well adapted for the erection of villa or other residences, being most conveniently situate at Harrow-green, Leytonstone, near Epping Forest, in the parish of St. Mary, Leyton, in the county of Essex, and known as Holloway Down Field, only about five miles from London, and within a mile of the Leytonstone station, and only half a mile of the Low Leyton station on the Woodford and Loughton Railway, thereby bringing this land within twenty minutes' ride of London.—Printed particulars are in preparation; in the mean time, further information may be had of Messrs. ANDERSON and SHOUBRIDGE, Solicitors, 1, Lincoln's-inn Fields; and of Messrs. DRIVER, Surveyors and Land Agents, and Auctioneers, 5, Whitehall.

DOWNING-STREET PUBLIC OFFICES EXTENSION.—FIRST SALE.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 11, at TWELVE for ONE, the BUILDING MATERIALS of Nine Houses, with counting house, workshops, stabling, &c. being Nos. 57, 14, 15, 16, 17, and 18, Upper Crown-street, No. 2, Say's-alley, and Nos. 1 and 2, Crown-yard, King street, Westminster, comprising about 300,000 bricks, several tons of lead, useful timber, sashes and frames, doors, gates, boarding, slating, pan and plain tiles, York and pebble paving, fixtures, and fittings.—May be viewed the day prior and morning of sale. Catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross.

Freehold Building Land and Houses, Plaistow, Essex; and Plots of Freehold Building Land, at Bow, Middlesex.

MR. ELLIS will SELL by AUCTION, at GARRAWAY'S, Cornhill, on WEDNESDAY, APRIL 28, at TWELVE, in Three Lots, unless acceptable offers be previously made, a FREEHOLD PLOT of BUILDING LAND, of a frontage of 30 feet, and a depth of 63 feet, in the Kelland road, near the Abbey Arms, Plaistow; also, TWO FREEHOLD HOUSES, with gardens, in the Warrington road, near the above, of the annual value of 31*l.*; also, TWO PLOTS of FREEHOLD BUILDING LAND, in the Eglinton-road, near the new church, Tredegar road, Bow, having a frontage of 32 feet, with a depth of 80 feet.—May be viewed, and particulars obtained of THOMAS ROGERS, Esq. Solicitor, 70, Fenchurch street; at the Abbey-arms Inn and Victoria Tavern, Plaistow; at Garraway's; and of Mr. ELLIS, Mark-lane Chambers.

SALES BY AUCTION.

PENZANCE, CORNWALL.—Important and Extensive Manufacturing Premises, held at a ground-rent, bounded by the sea-wall, in the occupation of the London and Penzance Serpentine Company, with the option of taking the valuable plant and machinery, and the leases of six quarries.

MR. BOYES has been instructed by the Official Liquidator (appointed by the Court of Chancery to wind up the above Company), to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, London, on MONDAY, MAY 17th, at TWELVE o'clock, the above valuable PROPERTY. The Premises are extensive, have been built with stone during the last four years in the most complete and substantial manner, at a cost of several thousand pounds, and contain a noble show-room, factory, masons' and turners' shops, polishing, engine, and store rooms, smithy, boiler-house, large shed, yard, &c.; also, a desirable plot of Building Land, having a frontage of about 400 feet. The machinery is of the best description, and in excellent working condition. To any party desirous of embarking in this business a most desirable opportunity is hereby offered; but the premises, from their extent and eligible situation, and from their possessing every modern improvement, offer unusual advantages for many other manufacturing purposes. A plan and elevation may be seen at the Auctioneer's Offices. The premises may be viewed, and particulars may be had thereon of Messrs. CLUTTON and ADE, Solicitors, 48, High-street, Southwark; of H. CROYSDILL, Esq. Official Liquidator, 84, Basinghall-street; at the principal Hotels at Plymouth and Truro; at Garraway's; and at the Auctioneer's Offices, 33, Abchurch-lane, London.

TO NOBLEMEN, GENTLEMEN, ARCHITECTS, BUILDERS, AND OTHERS.

MR. BOYES, of London, respectfully announces that he will SELL by AUCTION, in London, during MAY, the Extensive and Valuable STOCK IN TRADE (removed from Penzance), of the LONDON and PENZANCE SERPENTINE COMPANY: consisting of a large assortment of Chimney-pieces, of elegant design; beautiful Tables, expensive Fonts and Columns, and a great variety of ornamental items.—The days of Sale and further particulars will be advertised in a few days.

Abchurch lane, London, April, 1858.

ENFIELD.—500,000 Bricks, Brickmaking Implements, &c.

MR. A. RICHARDS will SELL by AUCTION, in the BRICKFIELD, Baker street, Enfield, on WEDNESDAY, APRIL 28, at TWO o'clock, by direction of the proprietor, 500,000 STOCK and PLACE BRICKS, Brick Cart, Wash Mill, Two Pug Mills, Crowding and Off-bearing Barrows, Wheeling Plates, and various implements. May be viewed the day prior and morning of Sale. Catalogues obtained on the Premises; and of the Auctioneer, Tottenham.

Near to Winchmore-hill and Southgate, Middlesex, and at Shenley, Herts.—Detached Freehold and Copyhold Farm, Building Land, Cottages, &c.

MESSRS. WINSTANLEY are instructed to SELL by AUCTION, at the MART, on THURSDAY, MAY 6, pursuant to a decree made in a cause "Blake *v.* Hoggart and others," in four lots, a small PLEASURE FARM: comprising about 59 acres, situate between Winchmore hill and Enfield, in the occupation of Mr. John Newman, as yearly tenant, at the low rent of 55*l.* per annum; about three acres of freehold land, suitable for building, situate fronting the high road between Southgate and Winchmore-hill, and about five acres of arable land, in the rear thereof; also, a piece of copyhold meadow land, situate at Shenley, near Barnet, in the county of Herts, containing about four acres, together with two double cottages, gardens, &c. let to Mr. W. J. Grainge.—Printed particulars may be obtained of Mr. CHARLES BLAKE, Solicitor, No. 3, Serjeant's inn, Temple, E.C.; of Messrs. CLAYTON, COOKSON, and WAINEWRIGHT, Solicitors, No. 6, New-square, Lincoln's inn, W.C. and at the Place of Sale; also at the King's Head, Winchmore-hill; Cherry-tree, Southgate; Red Lion, Barnet; White Horse, Shenley; of Mr. NEWMAN, Chase Tavern, Chase-side; and of Messrs. WINSTANLEY, Paternoster row, E.C.

GREENWICH.—Valuable Freehold Building Ground, situate a short distance from the Hospital, fronting the River, and extending to the Woolwich Old-road.

MESSRS. WINSTANLEY have received instructions from the Family of the late CROWLEY MILLINGTON, Esq. to SELL by AUCTION, at the Mart, on THURSDAY, MAY 27, in one Lot, the Valuable FREEHOLD PLOT of GROUND, upon which the ancient mansion called Crowley House and the adjoining warehouses, formerly stood, including the garden in the rear, comprising altogether rather more than two acres, exclusive of the site of that part of the front of the late warehouses which overhangs the wharf. The property possesses considerable frontage to the River Thames, and also to the Woolwich Old road, is particularly eligible for the erection of a first-class hotel and tavern, factories, or moderate sized houses, much required in this locality, in consequence of the advantages afforded by the railway and steam communication with the metropolis. To be viewed by application to the Gatekeeper at the Lodge, in the Woolwich Old-road, of whom particulars may be obtained in due time. Particulars also of Messrs. REYROUX and BROMEHEAD, Solicitors, 35, Old Broad-street, E.C.; at the Mart; at the Greyhound and Yacht Taverns, Greenwich; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

TO TIMBER MERCHANTS, CABINET-MAKERS, PIANOFORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS.

MESSRS. C. LEARY and CO. beg to announce that, in consequence of the expiration of the lease of the premises, No. 35, Sun-street, Bishopsgate street, they have been favoured with instructions from Mr. Henry Bateman, to offer by PUBLIC AUCTION, on the said PREMISES, on MONDAY, TUESDAY, and WEDNESDAY, the 3rd, 4th, and 5th MAY next, a first portion of his unequalled and most valuable STOCK of WOOD: comprising prime dry wainscot, in every thickness; Spanish and Honduras mahogany, in logs, planks, boards, and veneers; rosewood and walnut wood, in planks and veneers; dry pine, plank, &c.—To be viewed two days previous to and on the mornings of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, 26, Old Broad street, City, E.C.

KENTISH TOWN. FREEHOLD BUILDING GROUND, in the main road, TO BE LET, for one or more houses, at low ground-rents.—For particulars apply to Mr. TAYLOR, Plumber, 1 and 2, Albany-row, Kentish-town-road.

TO BUILDERS, &c.—WATERSIDE PREMISES, TO BE SOLD or LET. Capital BUILDERS' PREMISES, situate in Palace New-road, Lambeth, near Westminster-bridge, consisting of a spacious yard, large workshops, and good dwelling house. Inquire of Mr. HAWARD, on the Premises, or 22, Leicester square.

TO BE LET, in the CLARENDON ROAD, Kensington-park, a very eligible piece of FREEHOLD LAND, for ninety-nine years, on low terms, the road, sewer, and pavement being all completed, and for which no charge will be made. For particulars, apply to Mr. KING, at the Office, St. Stephen's crescent, Westbourne-park, Paddington.

WESTMINSTER. — To BUILDERS and OTHERS.—TO BE LET on lease, at a nominal rent, a HOUSE which requires a considerable expenditure for refitting and renovations, and would command good rents for offices.—Particulars of Messrs. TROLLOPE, 15, Parliament-street.

TO CARPENTERS AND OTHERS.

TO BE SOLD, partly finished, a SEVEN-ROOMED HOUSE and WASH-HOUSE, 20 feet frontage, garden back and front, large workshop and yard, with 20 feet side entrance. Lease, sixty three years direct from the freeholder. Ground rent on the whole, 3*l.* 10*s.* Price, with back premises, 180*l.*—Apply on the Premises, No. 20, Trigon road, Clapham-road, nearly opposite Kennington Church and Park.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, April 24, 1858.

The Builder.

Architect, Engineer, Operative & Artist.

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...et of Subscribers and Annual Report may be obtained of the ...mpany. Subscriptions will be received by WILLIAM TITE, ...Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, ...s Ormond street, W.C.

J. TURNER, Hon. Secretary, 13, Wilt...shire-st.

PROVIDENT INSTITUTION of BUILDERS' FOREMEN and CLERKS of WORKS.—The ...L DINNER of this Institution will take place on TUESDAY, ...t the London Tavern, C. R. COCKERELL, Esq. R.A. in the ...pporic by the following gentlemen:—

...S. Esq. F.S.A.	Knowles, J. T. esq. A.S.A.
...d and Son, esqrs.	Lawrence, Wm. esq. Alderman.
...G. J. Bo...q.	Lee, H. esq.
...W. W. esq.	Lee, W. esq.
...rt, Jno. esq.	Lee, J. esq.
...E. M. esq. A.S.A.	Lewis, T. H. esq.
...Wm. esq. F.S.A.	Lucas Bros. esqrs.
...n, V. esq.	Mansfield, Geo. esq.
...L. L. esq.	Meakin, W. F. esq.
...d. esq.	Moseley, W. esq.
...T. esq.	Myers, Geo. esq.
...ock and Alexander, esqrs.	Norris, W. esq.
...d. esq.	Nye, Thos. esq.
...J. esq. F.S.A.	Oastler, J. esq.
...E. N. esq.	Page, Thos. esq.
...and Stanley esqrs.	Pennethorne, Jas. esq. F.S.A.
...ell. esq.	Penrose, F. C. esq. F.S.A.
...ish and Co. esqrs.	Peto, Sir S. M. bart.
...ge, Wm. esq.	Piper, Wm. esq.
...ood, J. and W. esqrs.	Piper and Son, esqrs.
...J. H. esq.	Plucknett, Geo. esq.
...S. Alfred, esq.	Purkiss, Wm. jun. esq.
...n, W. esq.	Richardson, C. esq.
...n, J. esq.	Scott, G. G. esq. R.A.
...n, E. B. esq.	Scott, J. S. esq.
...H. B. esq. A.S.A.	Smirke, S. esq. A.R.A.
...s Bros. esqrs.	Smith, Geo. esq.
...G. esq. F.R.S.	Stedall, R. esq.
...J. esq.	Stevens, J. E. esq.
...Thos. esq.	Stirling, Thos. esq.
...k, P. esq. R.A.	Taylor, J. esq.
...k, P. C. esq. F.S.A.	Tillotson, esq.
...C. esq.	Trickett, John, esq.
...Jas. esq.	Treggon, Wm. Thos. esq.
...gs, G. H. esq.	Trickett, S. esq.
...C. esq.	Vulliamy, L. esq.
...H. C. esq.	Wallis, G. and T. esqrs.
...Thos. esq.	Webb, W. esq.
...Wm. esq.	White, J. B. and Brothers, esqrs.
...cer.	Wilson, J. esq.
...G. esq.	Woolthorpe, E. esq. F.S.A.
...ven, esq. F.S.A.	Young, Jno. esq.
...R. W. esq.	Young, Jno. jun. esq.

...ion desirous of supporting the chairman on the occasion ...d by forwarding their names to—

WILLIAM ALLEN, Secy. to ...
...n Tavern St. Swithin's lane.

THE NEW SOCIETY of PAINTERS in WATER COLOURS. The Twenty fourth ANNUAL EXHIBITION of this Society is NOW OPEN at their Gallery, Pall-mall, near St. James's Palace, from Nine till Dusk daily. Admission, 1s. Season Tickets, 5s.

JAMES FAHEY, Secretary

THE NATIONAL INSTITUTION of FINE ARTS, Portland Gallery, 316, Regent-street, opposite the Polytechnic. The Second Exhibition of MODERN PICTURES, OPEN from Nine till Dusk.—Admission, One Shilling.

BELL SMITH, Secretary

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W. OPEN DAILY from TEN till FOUR, FIVE, or SIX, according to the season; and on Monday, Tuesday, and Wednesday evenings, from SEVEN till TEN. Annual admission (including the whole of the collections in the South Kensington Museum), Members (with orders for introducing visitors), £1. 1s.; Students, 10s.; Art-Workmen, 5s. Prospectuses, &c. may be obtained of the Attendant in the Gallery of the Museum. Subscriptions received by the Treasurer, 20, Spring-gardens, S.W.; and the Honorary Secretary, 19, Stratford place, W.

GEO. GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

COMPETITIONS.

TO ARCHITECTS.—The Town Council of the Borough of Hertford give Notice that they are desirous of receiving, on or before the 1st of JUNE next, PLANS and ESTIMATES for the IMPROVEMENT and RE-CONSTRUCTION of the HERTFORD CORN EXCHANGE, which is also to be adapted for the purposes of a Public Library. The plan is to include a new front elevation and an alteration of the most improved construction, considerably higher than the present one, with a glass ceiling, and provision for perfect ventilation, and an ample sufficiency of light for all the purposes of a corn-exchange, and, in addition, a light gallery at one end, which may be used for other public purposes. The plans are to comprise a ground-plan, elevation, and sections (not in perspective). The total cost, exclusive of the old materials, is to be about 800*l*. A premium of 50*l* will be given for the plans, &c. most approved of.—Further particulars may be had at the Town Clerk's Office, or from him by post.

PHILIP LONGMORE, Town Clerk.

Hertford, April 16, 1858.

TO ARCHITECTS. — Notice is hereby given, that the Magistrates of the County of Cambridge are desirous of receiving a PLAN for POLICE-STATIONS and LOCK-UPS, with Room for petty sessional meetings, to be erected in each of the Divisions of the County as are not already provided with them, at a cost not exceeding 800*l*. for each Station. A premium of 10*l*. will be given for the Plan selected, if approved by the Secretary of state, as required by 3 and 4 Vict. cap. 88, sec. 12). Any information as to the accommodation required in the buildings, may be obtained on application to the Chief Constable, CAPTAIN DAVIES, R.N. Wentworth House, Cambridge. The Magistrates reserve to themselves the option of purchasing the Plan which may be selected, at the sum of 10*l*. in full discharge of all claims against them on the part of the Architect, or employing the Architect of the selected Plan to carry out the work, at the usual amount of remuneration. The Plan, with full specification and estimate, are to be lodged at my Office, in Cambridge, on or before the 5th day of MAY next.

H. R. EVANS, Clerk of the Peace.

8, Free School lane, Cambridge, April 15, 1858.

CONTRACTS.

TO CONTRACTORS and BUILDERS. TENDERS are required for the ERECTION of the STATION and other BUILDINGS, at Tickhill, Isfield, and Barnsdale, on the Lewes and Uckfield Railway. Drawings, Specifications, and Forms of Tender may be seen at the Office of the Resident Engineer, Lewes Station, on and after THURSDAY, the 6th MAY; and Tenders properly endorsed, must be sent to the Secretary of the Company, at their office, High-street, Lewes, not later than WEDNESDAY, the 19th MAY next. N.B. The Directors will not pledge themselves to accept the lowest or any Tender unless they shall think fit to do so.—By order,

24th April, 1858. FREDERICK SLIGHT

CONTRACT for SEWERS.—The Board of Works for the Hackney District will meet at the Town hall, Church-street, Hackney, on THURSDAY, the 6th of MAY next, at TEN o'clock in the forenoon precisely, to CONTRACT for about 13,540 feet of BRICK and PIPE SEWERS, to be constructed chiefly in Kingsland, Dunston, and Rook's Fields. No. 2 Contract will comprise about 8,350 feet in length of Sewer; No. 3 Contract will comprise about 5,45 feet in length, and No. 4 Contract will comprise about 2,1[illegible] feet in length. Plans, sections, specifications, and conditions, and the Form of Tender of the Works, may be seen daily, between the hours of NINE and FOUR, at the Offices of Mr. JAMES LOVEGROVE, Surveyor to the Board, at the Town-hall, Church-street, Hackney. Sealed Tenders to be delivered at the Clerk to the Board, at his Office, Town-hall, Hackney, on MONDAY, the 3rd of MAY. The contractor, or some authorized agent will be required to attend the Board on the 6th day of MAY, at TWELVE o'clock aforesaid. The Board do not bind themselves to accept the lowest or any Tender.

By order of the Board,
RICHARD ELLIS, Clerk.

Dated April 29, 1858.

TENDERS are required for the ERECTION of a PARSONAGE-HOUSE.—Plans and specification may be seen on application at Mr. COLE at the Estate Office, Spring grove, Hounslow, to whom sealed Tenders are to be sent on or before TWELVE o'clock (noon) on SATURDAY, the 8th MAY. The lowest Tender will not necessarily be accepted.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a CHURCH of ENGLAND SCHOOL and RESIDENCE, at Barrow upon Soar, may inspect the drawings and specification at my Office, Market-street, Nottingham, on and after MONDAY, MAY 10th.

Nottingham, April 26th, 1858. JNO. S. NORRIS, Architect.

CARDIFF CATTLE-MARKET EXTENSION.—To CONTRACTORS, BUILDERS, MASONS, and SMITHS. The Town Council of the Borough of Cardiff are prepared to receive TENDERS for the CONSTRUCTION of EMBANKMENTS, WALLS, SHEDS, OFFICES, PENS, IRON RAILING, ROADWAYS, PARK, LEVELS, Mary street. Drawings and specifications may be seen on and after MONDAY, the 19th of APRIL, at the Office of the Surveyor to the Local Board of Health, in St Mary street, of which quantities will be ready for delivery on and after the 23rd of APRIL. Tenders to be delivered at my Office, endorsed, "Tenders for Cattle-market," on or before MONDAY, the 3rd of MAY next.—By order,

BENJAMIN MATTHEWS, Town clerk

Cardiff, April 15, 1858

TO BUILDERS.—Persons desirous of offering TENDERS for the ERECTION of a SCHOOL HOUSE and RESIDENCE at Nettleham, near the City of Lincoln, can inspect the plans and specification, upon application at the Offices of Mr. PADLEY, County Surveyor, Lincoln, and after the 1st of MAY. The Tenders will be received on the 10th day of MAY, at THREE o'clock, at the Old School-house, in the Village of Nettleham, in the Vicarage of Nettleham, under cover to the Architect, at whose Office the plans can also be seen. The Committee do not engage to accept the lowest Tender.

JOHN HENRY HAKEWILL, Architect,
30, Maddox street, Bond street, London.

April 28, 1858.

TO BUILDERS.—Persons desirous of offering TENDERS for the ERECTION of a FARM-HOUSE, in the Parish of Nettleham, about two and a half miles from the City of Lincoln, can inspect the plans and specifications upon application at the Offices of Mr. PADLEY, County Surveyor, Lincoln, on and after the 1st day of MAY. The Tenders will be received on the 10th day of MAY, at TWO o'clock, at the Old School-house, in the Village of Nettleham, under cover to the Architect, at whose Office the plans can also be seen. The lowest Tender will not necessarily be accepted.

JOHN HENRY HAKEWILL, Architect,
30, Maddox street, Bond street, London

April 28, 1858.

TO BUILDERS and CONTRACTORS.—WHITTLESEY BURIAL BOARD.—Persons desirous of TENDERING for the ERECTION of TWO CHAPELS, LODGE, and FRONT WALL, in the New Cemetery at Whittlesey, in the Isle of Ely, in the county of Cambridge, may see the drawings, plans, and specifications, at the Office of Mr. ROBERT HUTCHINSON, Architect, Huntingdon, on and after TUESDAY, the 27th day of APRIL, instant, between the hours of NINE a.m. and SIX p.m. Tenders (under seal) must be sent to my Office, on or before TUESDAY, the 11th day of MAY next, endorsed "Tenders for Cemetery Buildings," such Tenders to contain the names and addresses of two sufficient sureties for due completion of the works; but the Burial Board are not pledged to accept the lowest or any Tender. The Contract is to be in writing, and prepared by the undersigned at the expense of the contractor.

By order,
JOHN W. WILLIAMS, Clerk.

Whittlesey, April 21, 1858

BRIDGEWATER ESTATE, near Great Berkhampstead.—To BUILDERS. Persons desirous of CONTRACTING for DOUBLE COTTAGES in the parishes of Little Gaddesden, Shipton, Pitstone, and Northall, also new ESTATE OFFICES and RESIDENCE HOUSE at Little Gaddesden, a new FARM-HOUSE and TWO FARMSTEADS, and other repairs, may see the plans and specifications by applying to WILLIAM PAXTON, Esq. Little Gaddesden, on and after the 22nd day of APRIL. Sealed Tenders, according to the Form supplied, to be sent in by ELEVEN o'clock on the 5th of MAY. No pledge is given to accept the lowest or any Tender for the works. Further particulars may be had by applying to Mr. BROWNING, Stanford, the Architect.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the 11th MAY next, at TWELVE o'clock (as is precisely), to SELL by TENDER the following FREEHOLD GROUND RENTS:—1. The Rental of 14*l* a-year for eighty years, from Lady-day, 1856, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Fluxery-lane, with the reversion to the same. 2. The Rental of 13*l*. a year for eighty years, from Lady-day, 1855, secured on the premises known as the Mitre Tavern, Chancery lane, with the reversion to the same. 3. The Rental of 80*l*. a-year for eighty years from Michaelmas, 1856, secured on the substantial business premises in Fetter lane, on the east side, at the corner of Philpot-lane, in the occupation of Mr. Curtis, with the reversion to the same. 4. The Rental of 50*l*. a year for seventy-nine years from Midsummer, 1858, secured on substantial business premises on the east side of Philpot-lane, in the occupation of Mr. Curtis, with the reversion to the same. Tenders for the same must be sealed, and addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next. Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground rents to be sold are for the remainder of the terms as above described in each case, from and after Midsummer day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858

TO WATER-CART BUILDERS and OTHERS.—Persons desirous of CONTRACTING with the Wisbech Local Board of Health for TWO WATER CARTS are requested to send in their sealed Tenders on or before the 6th of MAY next, with a description of the same. The carts are intended for watering the streets, and when not required for that purpose, then for supplying the inhabitants with water; and, therefore, it will be necessary that each cart should be provided with a large brass tap, in addition to the discharge pipe.—Any further information may be obtained on application at my office.

WILLIAM ADAMS, Surveyor.

Wisbech, 19th April, 1858.

CONTRACT for SEWERS.—HACKNEY DISTRICT. For Pieces of Stream Ware &c. for the above work, apply to MESSRS. MEWTON, at their well glazed Pipe Depot, No. 4, Pentonville Great Northern Goods Station, Kings Cross.

[For remainder of Contracts see next page.

CONTRACTS.

BRECON CEMETERY.—To BUILDERS. TENDERS are required, free of expense, for the ERECTION of CHAPELS, LODGE, ENTRANCE GATES, and BOUNDARY WALLS. The drawings, specification and conditions may be seen at the office of the Burial Board, on or after MONDAY, the 19th inst., at which time a Plan of the Ground set apart for the Cemetery will be delivered to the Builders. TENDERS, addressed to the Clerk at the Guildhall, Brecon, to be delivered on or before MONDAY the 26th day of MAY, at 12 o'clock at noon, endorsed "Tender for Cemetery Buildings," will be received by the Board. The lowest or any Tender not necessarily accepted. Security required for the due performance of the contract.

H. T. PAUL, Architect, 4 Scott Mary street, Cardiff.

Dated 27th April, 1858.

BUILDERS and OTHERS, willing to contract for the [illegible] at TADWORTH, Surrey, are requested to send in their TENDERS on or before MAY [illegible] ELEVEN o'clock, addressed to Mr. [illegible] Tadworth, Epsom, Surrey.

WILLIAM MUGFORD, Architect, 21 Lr. Regent-street, S.W.

April 28th, 1858.

TO BUILDERS.—Persons desirous of TENDERING for [illegible] and REBUILDING PARSONAGE HOUSE, at [illegible] are requested to [illegible] MAY, 1858, [illegible] Mr. JOHN HICKS, [illegible] Tavistock-street, Bedford-square, the Tenders [illegible] TUESDAY, the 18th MAY, [illegible] The Committee [illegible] Tender.

December, 1857.

TO BUILDERS.—KENTCHURCH, HEREFORDSHIRE. [illegible] Presbytery Station.—Plans and specification [illegible] MAY, 1858, [illegible] Loan, [illegible]

PRIDHAM and SLADDEN, Diocesan Architects for Ireland.

April 18, 1858.

CONTRACT for REMOVING DUST, &c. The Vestry [illegible] and John Hargreaves, having [illegible] the Vestry, hereby give notice that TENDERS [illegible] will, upon receiving [illegible] and Contract [illegible] Dust, Ashes, Cinders, Soil, Rubbish, and Refuse [illegible] Dustmen, Contractors, or others, [illegible] of LIME, &c., [illegible] Tenders [illegible] Saturday, the 8th day of MAY next, [illegible] Tenders [illegible] Wednesday, the 12th day of MAY [illegible] Contract [illegible] Dustmen [illegible] Tenders [illegible] Saturday, the 15th day of MAY [illegible] Tenders [illegible] Monday, the 17th day of MAY [illegible] Tenders [illegible] Tuesday, the 18th day of MAY [illegible] Tenders [illegible] Wednesday, the 19th day of MAY [illegible] Tenders [illegible] Thursday, the 20th day of MAY [illegible] Tenders [illegible] Friday, the 21st day of MAY [illegible] Tenders [illegible] Saturday, the 22nd day of MAY [illegible] Tenders [illegible] Monday, the 24th day of MAY [illegible] Tenders [illegible] Tuesday, 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WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH,

CAST-IRON GIRDERS FOR BRIDGES,

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

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Call attention to their **IMPROVED ENDLESS BAND-SAWS**, for Steam and Hand Power; **CIRCULAR-SAW BENCHES**, for Steam and Hand Power; **IMPROVED STEAM POWER PLANING, TONGUEING, and GROOVING MACHINE**, doing **SEVENTY FEET** per minute, and **GOOD WORK**. Also their **PATENT MORTISING, TENONING, and BORING MACHINE**, which is self feeding, and doing the three kinds of work by One Machine, and of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone.

DRAWINGS AND PRICES TO BE HAD ON APPLICATION.

P. J. and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.

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IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,

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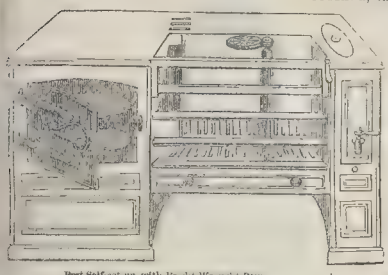
A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Register Stoves, with Solid Bars, per inch, 5d

Improved New Pattern Cheveller Check Register, with strong Bars and Trivets, 6s. per inch

Best Set bar ditto, with Fire brick Back, per inch, 1s.

Bright Stoves, with Two Flues, 40 to 70 lbs. each

Best Cut Clasp and Rose Nails.

1½-inch.	14 inch	2-in	2½ inch.	3-in
10s	15s. 6d.	18s	24s.	33s per cwt.

Best Sheet Cut Floor Brads, 12s 6d per cwt.

Best Cut Lath Nails, 15s. per cwt

	2 in.	2½-in.	3-in.
Cast Iron water Pipe	18s.	14s	13s. per yard

Cast Gutters, 4 in 8d per yard.

	4 in	6 in
OG Gutters,—	3s	3s 2½ per yard.

Patent Lamps—6 in 1s 3d; 8 in 1s 6d; 10 in 1s 9d; 12 in 2s each

Cast Iron Ward Mortice Locks with best Fast Joint and Cross Spindles, 2s 3d each Light Ebonized Register Metal 1s. per lb.

Dr. Arnott's Ventilators, 4s. each.

Brick Moulds kept in stock Any size made to order

BLACK ANNEALED FENCING WIRE, 12s PER CWT.

IMPROVED PATENT CAST-IRON GRATES, Stoves, Slow Combustion, &c.

Best Self-acting, with Bright Wrought Bars

34-inch high	24s
36 "	30s
38 "	33s.
40 "	36s.

Self-acting Cottage, with Oven and Back Boiler

20 inches	29s
22 "	28s
24 "	30s.
26 "	32s.

Best Japanned Registers, 40s.; Berlin Black, with Bright Mouldings, 60s.; Bright Fronts with Ormolu Ornaments, and Two Sets of Bars, 90s.; Improved Cast Mangers, with Wrought Hay-rack and Water-trough, fitted, 14s.

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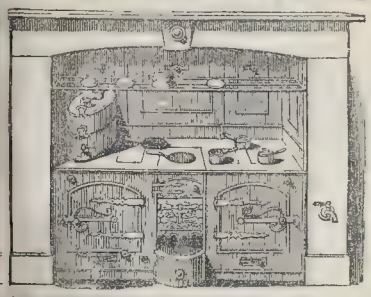

INVITE ATTENTION TO THEIR EXTENSIVE SUITE OF SHOW-ROOMS.

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THE LARGEST AND BEST SELECTION IN LONDON.

KITCHEN RANGES and COOKING APPARATUS, BATHS, &c. for Large or Small Establishments.

CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.

HOT WATER APPARATUS, GAS-FITTING, &c.

BENHAM'S IMPROVED KITCHENER.

The Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c.

It is an effectual cure for Smoky Chimneys.

BENHAM and SONS, 19, Wigmore-street, Cavendish-square, London;

ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

W. HARMER AND SON,

IRONMONGERS, SMITHS, BELL-HANGERS, AND GAS FITTERS,

MANUFACTURERS OF CLOSE AND OPEN FIRE KITCHEN RANGES, including the BEST LEAMINGTON KITCHENER.

REGISTER STOVES, 6d. per inch and upwards; ELLIPTIC STOVES, from 22d. per inch; SELF ACTING COTTAGE RANGES, 20s. each; BEST SELF-ACTING OVEN and BOILER RANGES, with Wrought Bars and Bright Fronts, from £3 10s.

CAST RAIN PIPES—3-in. 10d.; 2½ in. 12d.; 3-in. 1s. 2½d., 3½-in. 1s. 6d.; 4 in. 1s. 10d.; 5 in. 2s. 3d. per yard.

Ditto HALF-ROUND GUTTERS—3-in. 7½d., 3½-in. 8½; 4 in. 8½d.; 5 in. 10½d. per yard.

BEST CUT CLASP 2-in. 11s.; 2½ in. 12s. 6d.; 3 in. 13s.; BEST CUT LATH, 15s.; BEST FLUET FLOOR BRADS, 12s. 6d. per cwt.

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ESTABLISHED 1817.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c. The Trade supplied on the usual terms with Hotte Bells, Zinc Tube, and Copper Wire, Gas Pendants, Brackets, and Joints; all descriptions for Gas-fitting, in Brass and Iron, Tin Coppered Iron, and Brass Tubing, Cornice poles, Rings, Ornamental Cases-in-order Picture-rods, Desk-rails, &c. &c.

Superior Rolled Brass for Engravers, Cast Brass in Fine and Common Brass, Gun Metal, &c. at

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IRON FOUNDRY, Harrow-street, Lant-street, Southwark, S.E.—W. R. BARTLETT, Manufacturer of Girders, Columns, Cantilevers, Railing, Baluster and Newel Bars, Iron Coping, Panels, Tomb Enclosures, Area Gratings, &c. Also Fly and other Wheels, Rogers, Engine and Machinery Castings, Forge Backs, Furnace Bars, Rains, Tank, Pipes, Tank Plates, Soap Frames, and other Castings, to patterns or drawings.

THOMAS PUGH and CO. WHOLESALE BUILDERS' IRONMONGERS,
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Also to their extensive Stock of the best manufactured Builder's Ironmongery.

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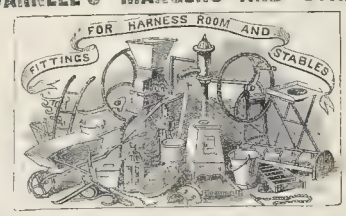
PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

ADDRESS: THE MANAGERS, ST. PANCRAS IRON-WORKS,
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.
PROFESSOR VARNELL'S MANGERS AND STABLE FITTINGS.
ENAMELLED, PLAIN, AND GALVANIZED.



ALL KINDS OF STABLE FURNITURE.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY
THE ROYAL VETERINARY COLLEGE.
"This Invention, I am of opinion, has only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.
(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."
Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.
ADOPTED BY THE GOVERNMENT.
EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.
THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

STEVENS AND SON,
ENGINEERS,
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CONTRACTORS
FOR THE
ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,
With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;
WATERWORKS FOR THE SUPPLY OF TOWNS,
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.

Gas-stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
Gas Cooking Stoves and Ranges on the most improved principles.
GAS-FITTING IN ALL ITS BRANCHES.
GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
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IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.
These Turnstiles were selected for the Entrances of the Great Exhibition, New York.
PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.
Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.
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Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Goods, and
STEWART'S PATENT CAST IRON GAS and WATER PIPES.
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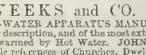
HEATING BY  HOT WATER.

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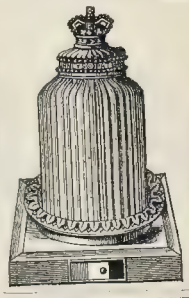

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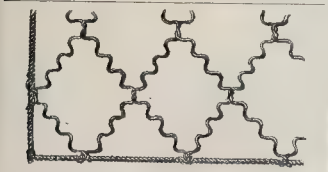

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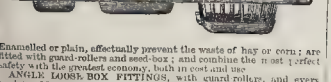

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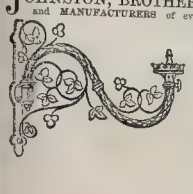

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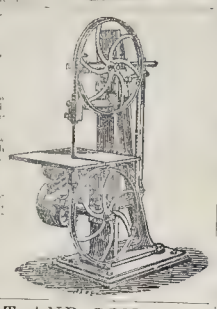

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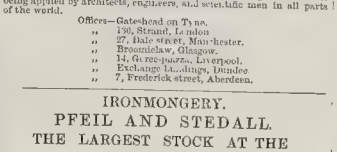

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VOL. XVI.—No. 795.

The Art Union of London.

ON Tuesday last, the annual general meeting of the subscribers to this Institution was held in the Theatre Royal, Haymarket, when there was a crowded attendance, both in the body of the house and on the stage. The Right Honble. Lord Monteagle, president of the Society, having taken the chair,

Mr. Godwin, hon. secretary, read the following

REPORT.

IN accordance with the practice which has been followed from the first establishment of the Art-Union of London, the Council proceed to lay before the subscribers, in this the twenty-second year of its existence, an account of its position and proceedings, and such observations in connection therewith as may grow out of the statement. The depression which has been suffered in the commercial world, and which, it is to be feared, still prevails, has tended to lessen the receipts for the current year. The subscription, nevertheless, amounts to £ 11,658*l*. 3*s*. which would be considered a very large sum to be raised annually in single guineas, but for comparison with the amount subscribed in some previous years. The pressure has been greatly felt by other associations in connection with the arts. For example, the sales at the British Institution, the Society of British Artists, and the National Institution amounted at this date last year, as mentioned then in the Report, to 9,103*l*.; whereas the sales at these galleries on the present occasion do not exceed the sum of 4,850*l*.

The engraving by Mr. Willmore, after Turner, of "Bellini's Pictures conveyed to the Church of the Redentore, in Venice," is in the hands of all the subscribers, and may be viewed, apart from its merit as a work of art, as a suggestive record of a time when a true artist was duly honoured. Giovanni Bellini may be termed the head of the Venetian school of painting, and had amongst his scholars Giorgione and Titian. "He was gifted," says Kugler, "with a noble and profound mind, the expression of which captivates the spectator and gains his sympathy at once." The pictures still in the Church del Redentore are amongst his best works. And how was his genius early brought forward? He was commissioned, in conjunction with his brother, to paint a series of pictures on the walls of the Hall of Council in the palace of the Doge, suggesting a repetition of the observation made in previous Reports, that if a country would have great artists, it must take care to afford opportunity for their development.

Another picture of Turner is in the hands of the engraver for a future year.

Let us express a hope in connection with this great painter's name that his noble bequest to the nation may before long be properly displayed for study and admiration. A more marvellous exhibition of the genius of one man is scarcely to be found than that afforded by the works of Turner. All the qualities of all the landscape-painters are here displayed,—the delicacy and feeling of Claude with the wild poetic power of Salvator Rosa. Whether it be amongst the mountains, where—

> "The splinter'd summits stand
> In stony silence in the sunny noon,
> Crush'd by the tread of earthquake, split by fire,
> Horrid with grisly clefts, in which the spring
> Dare never laugh in green;"—

Or in a smiling landscape, where we see,—

> "The tawny valley; here and there
> Sheaf-dotted fields; a silent string of carts
> Creeping along the whiten'd country road;"

whether in portraying the war of the elements, the grandeur of the sea, or the sentiment of decay, his power was alike supreme.

The engraving of "Life at the Sea-side," by Mr. Sharp, after W. P. Frith, R.A. is completed, and now at press. This remarkable picture, it will be remembered, attracted great attention when it was exhibited at the Royal Academy, and was early purchased by her Majesty. Depicting such a scene as is often presented on the sands at Ramsgate, a large amount of character is truthfully and forcibly shown in it, and we at once recognise the groups oftenest found at such resorts, and the itinerants who congregate about them. The engraving is of large size, 42 inches by 21 inches, and has been ably executed by Mr. Sharp. Each subscriber of a guinea for the ensuing year will be entitled to an impression, which, produced under the ordinary circumstances of commerce, would certainly cost more than double the amount of the subscription.

The wood-engravings to form a volume illustrative of the works of deceased British painters, are finished. The period of their appropriation will be announced hereafter.

The group after Gibson, "Venus and Cupid," has been completed by Mr. Thos. Battam, entirely to the artist's satisfaction examples in Parian statuary will form part of the present distribution.

The series of medals struck in honour of British artists by the Association, has been increased by the completion of one by Mr. Leonard Wyon, commemorative of Banks, the sculptor, and one by Mr. Ortner, of Gainsborough. The endeavours of the Art-Union of London in furtherance of the art of medal die-engraving stand nearly alone. When the Government Department of Art, desiring a national medal, is found lamenting the want of competent native medallists, and resorting in consequence to a foreign artist to produce what they require by another process, the result of the absence of proper encouragement in this branch is made disgracefully evident. The Art-Union series now comprises medals of Reynolds, Chantrey, Wren, Hogarth, Flaxman, Chambers, Inigo Jones, Vanbrugh, Wyon, Banks, and Gainsborough.

In respect of bronzes, the Council confine themselves on the present occasion to the distribution of works produced in previous years. It is satisfactory to find that the impetus given in this branch of art by the endeavours of the Association, has manifested itself extensively. Several large works in bronze have been produced during the year, and other similar works are contemplated. The importance of uniting the design to the nature of this material when employed, has not always been fully considered. It is to be hoped this necessity will not be lost sight of in monuments about to be erected.

Seeking to avail themselves of every fresh means afforded by modern discoveries of spreading abroad fine forms, the Council appealed to photographers to produce for the Association a certain number of volumes of photographs from works of art; namely, paintings, frescoes, drawings, sculpture, and architecture; and these having been obtained will form part of the distribution to-day. Each volume will contain twelve photographs, namely —

Princess Royal,—Mrs. Thorneycroft	
Homer, Antinous } British Museum	P. Fenton.
Sketch,—Fra Bartolomeo	
Virgin and Children, Raffaelle	
St. Joseph's Chapel, Glastonbury	Cundall and Howlett.
A Dream of the Future,—W. P. Frith	
Statue of Spain	
Fragments of Sculpture	
Temple at Wady Kardassy, Nubia	Frith.
Museum at Toulouse	Thurston Thompson.
Landscape,—by Muller	Caldesi and Montecchi.

Vacancies have been caused in the council by the retirement of Mr. Taunton and Captain Vernon, and the death, much to be regretted, of Mr. Francis John Field, long an active and esteemed member of the Association, and Mr. Herbert Minton. The latter laboured hard and successfully to bring art to the aid of manufacture. He was not contented with mere reproduction, but sought to induce the creation of original works of beauty. He revived the manufacture of encaustic tiles and of Lucca della Robbia ware, and showed, both at the London and Paris Exhibitions, that English enterprise was more than a match for state subsidies.

To fill these vacancies, Mr. Henry Baker, Mr. Joseph Earle, Mr. Matthew Uzielli, and the Rev. Dr. Mortimer have been elected.

Our local honorary secretaries throughout the world continue to deserve well of the Association by their efforts to increase its numbers and extend the sphere of its usefulness. Such efforts abroad effect a wider good than the simple provision of funds for an ordinary society. By private interests and political questions men are divided and made antagonistic; but by a taste for the beautiful in art, a taste at once engrossing and unselfish, they are attracted and bound together From Hobart Town, through the exertions of Mr. Walch, the local secretary, we have received 195 subscriptions; from Adelaide Mr. Hawkes, secretary, 112; the total from Australia being 611

At a recent artistical dinner, the Art-Union of London was described by an eminent mechanician as an enormous steam-engine for the manufacture of a love of arts; and looking carefully at the operations of the Association,—continuous, methodical, and widely extended—sending off productions with that end in view east, west, north, and south—the simile is scarcely a wild one. That it has aided materially in spreading abroad a love of art, and increasing the number of those who find delight in the study of it, thereby affording the best encouragement to artists, would seem to be undeniable.

The reserved fund now amounts to the sum of 8,967*l*. 17*s*.

The following is a condensed statement of receipts and expenditure. Fuller particulars will be appended to this report when printed.

Total amount of subscription	£11,658 3 0
Expended for printing report and almanac, commission, salaries, and other charges, including 2½ per cent. reserved as required by the charter	£3,360 5 7
Cost of the print of the year	2,998 17 5
Amount allotted for prizes	5,309 0 0
	£11,658 3 0

The accounts have been audited as usual by two members of the general body of subscribers, Mr. Robert Humphrey and Mr. Benjamin Adams, to whom thanks are offered, and three members of the finance committee.

The sum set apart for prizes, to be selected by the prizeholders themselves, will be thus allotted, viz.

25	works at	£10 each.
20	,, ...	15 ,,
18	,, ...	20 ,,
14	,, ...	25 ,,
10	,, ...	30 ,,
6	,, ...	35 ,,
6	,, ...	50 ,,
4	,, ...	60 ,,
4	,, ...	75 ,,
1	,, ...	100 ,,
1	,, ...	150 ,,
1	,, ...	200 ,,

To these are added

5 Bronzes of "Her Majesty on Horseback."
1 Bronze of "Mercy on the Battle Field."
40 Porcelain Groups of "Venus and Cupid."
30 Porcelain Statuettes, "The Stepping-Stones."
10 Vases in iron.
50 Tazzas in iron.
32 Silver Medals of Banks the Sculptor.
230 Volumes of Etchings.
72 Proofs of the Mezzotint of "Tyndale translating the Bible."
100 Proofs of the "Crucifixion," after Hilton; and
300 Vols. of Photographs.
Making in all 980 prizes.

The bronzes, porcelain statuettes, and vases will be allotted to the first 86 names drawn consecutively at the close of the general distribution. The medals, tazzas, etchings, proofs, and photographs will be allotted to the names standing one-hundredth and two-hundredth in the list preceding and succeeding that of each of the prizeholders, determined as above stated, with a proviso that a prize has not fallen to that number to-day: in that case the prize will pass to the next succeeding number. Notice will be sent to those entitled to the casts, statuettes, medals, and prints in the course of two or three days. The other prizeholders will be informed of the result by to-night's post.

The prizeholders of last year purchased from the various exhibitions of the season 152 works of art, to the following amounts, viz.:—

From the Royal Academy	£1,293 5 0
The National Institution of Fine Arts ..	839 7 0
Society of British Artists'	1,335 15 0
British Institution	494 13 0
Royal Scottish Academy	300 0 0
Water-Colour Society	166 15 0
New Water-Colour Society	406 18 0
Royal Hibernian Academy	20 0 0

The prizes, with various works issued by the Association, were exhibited, with the permission of the Society of British Artists, in the Galleries at Suffolk-street; at first to the subscribers and their friends, by tickets, and afterwards to the public, without limitation or charge.

The collection was visited by a large number of persons as usual, without the slightest misadventure.

The Society of Female Artists, on the application of its committee, has been added to the list of Exhibitions from which prizeholders are at liberty to select works. The adition of the Royal Scottish Academy's Exhibition, and that of the Hibernian Academy, to the list, has been already stated, but may be usefully mentioned again.

Looking to events which have recently occurred, affecting the fine arts in this country, it may be stated, that the Government competition for a design for a Monument to the Duke of Wellington, and that for designs for Public Offices, referred to in the last report, have not yet terminated in a manner satisfactory to artists. It is universally felt, that the real inducement to competitors is the honour as well as profit of carrying their designs into execution; and that the successful competitors in struggles of this nature, if found to be competent, should be the parties employed, even though it might be inconvenient or undesirable to execute exactly the design selected.

For the proposed Memorial of 1851 several of our leading sculptors and some foreign artists competed. A design by Mr. Joseph Durham was selected, and application has been made to the authorities for permission to erect it on the site of the building in Hyde-park.

The anticipations expressed in the last report in respect of the Exhibition of Art-Treasures at Manchester, were fully realized. It was then that we have in this country an amount of art wealth which is scarcely to be paralleled in any other, and the readiness with which the owners of priceless works submitted to be deprived of them during the continuance of the Exhibition, for the benefit of the public, was an evidence of the liberality and right feeling which augurs well for the future. The British school of art was worthily represented on that occasion, and the high position it has taken was made manifest. Twenty years ago a feeling of contempt for British art and British taste was universally expressed in foreign countries; but this is now greatly changed, and in the face of such exhibitions as that alluded to, must speedily disappear altogether. Our Royal Academy of Arts is but ninety years old. The National Gallery was not founded till 1824, and so late as 1847 contained but forty one pictures of the British school. In England the State is but beginning to move in the right direction; while in France, some sort of public instruction to her citizens may be traced back 200 years.

It has been urged that the institution of decennial exhibitions in London for the purpose of showing the progress made in industry and art during each period of ten years, and to which foreigners would be invited to contribute, would be advantageous, and 1861 is spoken of for the first of these. Such expositions could scarcely fail to be of benefit to the arts of this country, as well by the ferment of mind they would cause, and the direction given to it, as by the inducement to exertion, the means of comparison, the arena for display, and the opportunity for study they would afford.

Since the date of the last Report the museum of the Government Department of Art at Bromyton has been opened, and will serve as a most important agent in the art-education of the people. The admirable collections there will silently teach, and will tend to elevate the taste and increase the knowledge of the rising generation. Good is the old advice,—"Diligently contemplate excellent things."

The Sheepshanks' collection of pictures, which is there advantageously exhibited, is a nucleus for a national gallery of British art, which, it may be hoped, will speedily draw round it other collections. If the Government were to vote even a small sum every year to be spent under proper advice, in obtaining additions to it from the artists who had shown themselves most worthy in the current exhibitions of the season, the collection would soon become of creditable extent, and at the same time an inducement to strive for improvement would be held out to our rising artists.

There seems to be no reason why the national pictures, as they accumulate, should be retained as one overlarge and wearying exhibition Your council have often urged that proper permanent buildings for the free exhibition of works of art in the provincial towns should be provided; and it has been suggested if this were done, that retaining certain collections for the metropolis, not in one spot, but in several, so as to afford the whole of its immense population without effort the enjoyments they offer, the surplus works should be circulated from provincial gallery to provincial gallery. The country, with hearty co-operation, would then but do with its own pictures for its own good that which the wealthy have long done with their own pictures with safety at the British Institution.

In the selection of works of art it is needful that willingness be shown to pay for that devotion of time and thought without which excellence is not to be achieved. For the best the amplest payment should not be grudged. Cheap mediocrity is not so good an investment in any point of view. The artist, like the cultivator of other faculties, finds that it is patient labour—at one time, at any rate, in his career—which will alone enable him to obtain that power which the multitude may attribute to inspiration; and this required effort he should be encouraged to

make by the knowledge that, if he reach the goal, he will with certainty gain the prize. We must be willing to pay, not simply for the weeks during which the picture was painted, the statue sculptured, or the building designed, but for the years which were spent in acquiring the power to effect that result. Ignorance on the part of the multitude of the effort necessary to produce a work of art, the supposition that men of a peculiar bent can, at any time, without difficulty, mete out a foot or two of poetry, or "cut off" a yard of painting, is an obstacle in the way of a right appreciation and the proper reward of those who confer noble works on their country, and may tend to make the number fewer than would otherwise be the case. The delights of a true artist are perhaps scarcely dependent on external success; but, to induce lengthened culture and continuous effort in the right direction, there must be a prospect in sight of a due return for a due endeavour.

So long ago as the time of Horace, a picture was described to be "a poem without words;" of great poems so conveyed, we may not expect large numbers. Let us prize them when they do come. It has been said with truth that the character of a nation is of greater consequence than the faculty of a nation. In the formation of this character, how great a share must the artist have! A man is happier for life, and perhaps better, from having studied a noble picture, where, the painter hand has been guided by the poet-soul: he has laid up a stock of images and illustrations which will recur to him, ever and anon, and give him fresh delight. Association recalls the idea, and enforces its teaching when least expected, and makes it as clear and as effective at a distant period, as when it was first stamped upon the memory.

It is not all, however, who see with their mind to increase the number of these is an important aim. The effect of a gallery of works of art on one who does and one who does not so see, is widely different. While the latter is simply gazing at what pleases his eye, and caring only for the *amusement* he may find, the other is impressed with the greatness of the action represented, the grandeur, grace, or beauty of the thought set forth; or is full of a quickening and melting admiration of the skill which has produced some admirable work. A noble artist imbues others with his ideas,—puts his spirit into other souls, and should receive back from them in return, sympathy and encouragement.

The noble chairman then said it was his duty to ask them to adopt the Report, which was in every respect so unquestionably satisfactory and encouraging. When he asserted that it was satisfactory and encouraging, he by no means meant to suggest that their Institution, like Gideon's fleece, could keep itself free from moisture, while all the earth around was covered with dew. It was, he had almost said, not only a law, but a privilege of society, that the interests of all classes were so intimately bound up together, that it was impossible for any to suffer privation or calamity without its being extended to all. For literally and truly we

> "Feel at each thread, and live along the line."

The calamities that fell upon the distant land of our brethren across the Atlantic made themselves known and felt, not only in the countinghouses and warehouses of their commercial firms and correspondents in London, Liverpool, and Glasgow, but even amongst the citizens who composed the peaceable community of the Art-Union. And it was alike good and glorious that, even in reference to the physical and sensible interests of mankind, no class should be exempt from this absolutely cosmopolitan proof that we are all members of one great human family, and that in the happiness and prosperity of each is involved the prosperity and happiness of all. The ancient poet spoke of there being a certain degree of imaginative joy and delight in witnessing from some spot of safety on shore the devastating march of the storm and the terrors of the shipwreck; but he differed from the view that led Lucretius to indulge in this disposition; for the higher poetry and the nobler morality of modern times, and the higher principles that belonged to a Christian land, told us this was not a true foundation for rejoicing. Plainly speaking, however, and dealing with his old trade of figures and money, he would congratulate the assembly on the circumstance of their being so exceedingly well off, and that so small a deduction from their annual income had taken place. He thought that no one *à priori* could have anticipated that the storm and tempest that had passed would have visited them so gently, as shown in the result that had been communicated by their hon. secretary; but he derived even consolation from the passing away of a transitory cloud. They must remember, after all, that they were connected with art, and that art itself was rather represented by the flowers upon the plants than by those stronger and stouter stems that defy the tempest and endure the storm. It was the elegancies and refinements of life, and those of the fine arts, that suffered most in times of privation; but the cause of art, like that of civil and religious liberty, as it was formerly said, belonged to the whole world; and it was this community, and universality, and elasticity, of high art that had caused the exchequer of the Art-Union to rise to between 11,000*l.* and 12,000*l.* a year, and which compared most auspiciously with the amount of former anniversaries. These results, moreover, compared most favourably with the efforts made by the State itself for the advancement of art, showing what a proud position the Art-Union was enabled to assume, owing to its efforts in the promotion and encouragement of art. The report alluded in very gratifying terms to the progress of national art, and gave many interesting instances of the fact; but there were one or two important occurrences that had taken place since the last meeting, to which it behoved him to draw attention. The first was, the magnificent addition that had been made to the National Gallery. It was, indeed, a great triumph and glorification for art, to find that recently one of the great pictures of the world, avowedly and undeniably such, a picture on which showers of eulogy, and a plethora of approving criticism had been poured, from the earliest to the present time,—had been brought over to England, lodged in our pictorial collection, and now constituted a splendid feature in our artistic capital stock. He alluded to the great picture, by Paul Veronese, of the family of Darius at the feet of Alexander, and which now the humblest and the youngest in the metropolis might have the privilege and pleasure of beholding, as one of the great *chefs-d'œuvre* and miracles of art. Those who loved art in its progressive stages, and in its early history, whether in the form of the productions of the Florentine school, or in the paintings of Northern Italy, would, in consequence of this and one or two other noble additions to our National Gallery, have the advantage of seeing the most exquisite and beautiful proofs of the progress of that immortal art; while those who wished to trace its progress from earlier origins had the opportunity of visiting the British Museum, where, under the new system of inspection, which was perfect and facile, they would be able to study the beautifully illuminated MSS. that had recently been deposited there, under coverings of glass. They could there see the early origin of that species of painting, and they could also witness in the National Gallery its application, both on a small scale to fresco, and on a larger and more finished scale, to specimens of oil painting, and all without that time, cost, or labour that was hitherto involved in a tour over half the Continent. He (the noble lord) thought, considering the high position the Art-Union had occupied for so many years, this addition to the fine arts of this country could not be other than highly gratifying, it being one of their great objects to utilize all these things to the advantage of the Society itself, and to derive from all these things a real practical impetus to the progress and promotion of British art. Another occurrence he wished to allude to, was the recent acquisition of some peculiarly English additions to our treasuries of art in this country, derived from the gifts of our own fellow-citizens; namely, the richly coloured pictures of Turner, and of his great fellow-labourer and generous competitor in art—Mr. Sheepshanks. Above all, the last; for the generosity of that man might be said to be unequalled, who sacrificed his own pictures for the benefit of the people, and devoted them unselfishly to the public, not after his death, but during his own life. This was a peculiar feature in the art-history of our country. Abroad great progress was made by the effort of the State itself; but in this country everything might be said to start from the inner circle of the individual effort; and in this way it was that this individual effort, in the aggregate, had done more for the Arts than the State had ever done, or would probably ever have the means of doing. It presents an illustration, not only of what you have been enabled to accomplish, but of what you have in progress of accomplishment. Let the people of London, who were deeply interested in the fine arts, and who gave every recognition and support to the principles and progress of the Art-Union, remember what the Report had told them that day,—namely, that they had already accumulated a sum of 8,196*l.* out of their own funds, which they hoped some day or other to see applied in a just and proper manner, to provide a temple for the arts connected with their own name and their own Institute. It was a realization devoutly to be wished for, and in which all the people of London and England were interested. He (the noble lord) had to regret the loss of a useful and honourable member of their society, whose art-services and whose memory had been admirably referred to in the report: he alluded to the late excellent and lamented Herbert Minton, whose career marked and illustrated so happily the peculiar privileges and duties connected with art-progress in this country. Mr. Minton had become, not the reviver, but the absolute founder, among us, of the highest application of art, as regarded beauty of colour and beauty of form, to that peculiar branch of manufacture, porcelain work, with which he was connected; and had proved himself equal, if not superior, to the competition with those foreign countries that had long been considered to hold the pre-eminence in the peculiar arts of pottery and porcelain. Those who remembered the Great Exhibition of 1851 would also remember that there was a gift from her Majesty sent to the emperor of Austria, which was alike worthy of the royal sender and of the royal receiver, and which was alike worthy of this great commercial country and of Herbert Minton, who made it. Finally, he (the noble lord) would observe, that, whether it was in that theatre, or through the subscribers to the Art-Union in the provinces, let every effort be made that could be made, through the instrumentality of their noble Institute, to guide the people in the pursuit of a practical knowledge of art, and in the execution and love of that which was beautiful, and which alone could contribute to the establishment of a high standard of taste, and to the wealth, power, and splendour of our country. Believing that it was the mission of the Art-Union to contribute to this great work, and that its members would long continue to appreciate and promote that high object, he would conclude, now that the Society had arrived at its twenty-second year, or rather its years of discretion, by cordially moving the adoption of its Twenty-second Annual Report.

The noble lord resumed his seat amid loud and general applause.

Professor Donaldson thought it was highly gratifying to find that the receipts were so large as they were, and that their reserve ranked in proportion; and when they recollected that the Chancellor of the Exchequer, in another place, had been compelled to sacrifice his reserves and receipts in order to bring his income to its right amount, it was satisfactory to find that they had no occasion to trench on their reserve, but had still their 2½ per cent. in addition to their reserve fund. It showed the courage and successful efforts, at all events, which the council had displayed in carrying out the great objects for which they were assembled and united. He, the professor, in seconding the adoption of the Report that had been read, would briefly call attention to the varied objects that had occupied the attention of the council in connection with the interests of the Institute, one of the main objects of which was that of getting together as large a quantity of money as they could, in order to disseminate among the people the productions of the best artists. They promoted the interests of the painter by purchasing his works; they promoted the interests of the sculptor by giving him commissions; and they promoted the engraver by distributing annually the best productions of his handiwork; while the subscribers received not merely twice, but three or four times, the amount of the value of the subscriptions they paid, in the artistic works that were distributed. And these were not the only advantages conferred by the Art-Union; for they not only produced the beautiful engravings before them, but they also produced and promoted other objects in other branches of art and manufacture. They promoted also

the striking of medals, desiring, as their secretary had stated, to aid that branch of art, which had been very much neglected in this country. They promoted also the casting of bronzes, and wished to promote to a still larger extent the works produced in porcelain, following out the example of the late lamented Herbert Minton. Here was a large scope of objects, an extensive field for fine-art enterprise; and when for these noble objects they regretted that they had not quite so much money as they really ought to possess, it was not that they cared so much for the mere dross that they received—the dross—the gold that came from Australia,—as the returning to that land noble works of art, to refine the mind, exalt the imagination, and render better men and citizens the inhabitants of that magnificent colony. Did they not in this way, and without any affectation of figure, but in truth, return them far more than they sent? The desire of the Art-Union from the first had been to diffuse a larger love of art amongst all classes,—a love of art that should refine the intelligence, elevate the enjoyment, and cast a radiance round the homes of the people. They wished also to do honour to all the masters of art, whether painters, architects, or sculptors. He (the professor) was yesterday in the crypt of St. Paul's, and there saw the temple-tombs of our great naval and military heroes, Wellington, Nelson, Collingwood, and others; and at a short distance from them, the graves of Wren, Reynolds, West, and Turner,—reminding him how, in this our country, greatness in war and greatness in art were, with equal honour and glory, put side by side in their last resting-place. The advantages conferred by the Art-Union had been diffused widely throughout the country. Their friend the secretary had alluded to the decennial exhibition proposed to take place in 1861, and to the influence it would have on the arts generally, as calculated to produce a great stimulative effect on painters, sculptors, architects, engravers, and other men of art, and be productive of works in high art, far greater than were ever yet produced; and he (the professor) believed that not only would this result be achieved by that proposed exhibition, but that it would have an immensely productive and inspiriting effect on all branches of arts and manufactures, and on those displays of industry that depended on taste, imagination, and skill. Much of the successful progress of the Art-Union depended on the selection made by those who had prizes. There could not be a greater ill done to the Art-Union than for any individual who had a prize to make a bad selection. The influence of it was bad, and it worked injuriously to the Institute itself. It was therefore highly important that those who had artistic taste should make the best selection, and that those who had not should consult those who had in making their selection. He had great pleasure in seconding the adoption of the Report, so ably and eloquently proposed by the noble lord in the chair.

The Report was then put and carried amid much cheering.

Mr. Bell Smith then proposed a vote of thanks to the Council and the Honorary Secretaries. He said he had great pleasure in proposing it, knowing, as they all did, the indefatigable services of the Council and officers in promoting the best interests of the Institute and of art generally during so many years of progress, and seeing that they were just as energetic and just as fresh as ever.

Colonel Grissell seconded the motion, and it was carried unanimously.

Mr. Godwin, on the part of the council, said he had to thank the meeting sincerely for the reception of the resolution, and for himself most heartily, for the kindness he had always experienced at their hands. There was a time when he and his colleague, Mr. Pocock, did really work for the Association. That was at a time when its usefulness, and even its legality, were questioned. It was their duty and their privilege to fight the question, hand to hand, with two Prime Ministers, the late Sir Robert Peel and Lord John Russell, one Chancellor of the Exchequer, and a President of the Privy Council. If they were not convinced, the impediments to the establishment and progress of the Art-Union were successfully removed, and an Act of Parliament and a Royal Charter were at length obtained, making it one of the permanent Institutions of the country. They would all of them recollect what a different feeling prevailed in this country with respect to art prior to the establishment of the Art-Union: still he thought they would dissent with him from an opinion expressed by an eminent member of Parliament, in the chair at a public meeting not long ago, who expressed his regret that art was too much thought of in this country. And his argument in proof of it was that, if Christie, the art-auctioneer, put up an old tea-pot, though without a spout, and minus a handle, it was bought at a fabulous sum. He (Mr. Godwin) hoped sincerely that this notion did not prevail with the Government of this country, or that it influenced the hon. gentleman in his votes in the House, because he was afraid that a knowledge of art was the exception even now. There was a widely-spreading love of it and desire among the people to know something about it, but there was as yet—they would bear him out in thinking—a very great deal to be done. He hoped himself to see the time when art would take the place of fashion (and then, perhaps, our ladies would not occupy quite so much room as they did now). He hoped to see the day when it would permeate the mass of the people, and rule our social life. Then, and not till then, need we begin to contemplate the desirableness of not making any further efforts in the promotion of art. Allusion was made in the Report to the efforts that had been made by the Government Department of Science and Art, and it seemed to him that what that influential department were doing was calculated to have a most material influence in spreading abroad a love of art among the people. The experiment tried at the South Kensington Museum, at Brompton, in opening the well-lit galleries of art and science at night, had proved to be most successful; and it had been found as a consequence, taking time for time, that five times as many persons visited the Sheepshanks Gallery, and the collections of decorative art, in the evening as did during the day. He hoped that the art-workmen of this metropolis might thus be enabled to avail themselves, more and more, of the great opportunities thus afforded them, of elevating and recreating their minds. The efforts that had been recently made by the department to teach drawing, concurrently with writing, and to make drawing a national and every-day branch of learning, were highly satisfactory. He remembered a few years ago, at a public meeting, being laughed at for indulging in such an expectation and aspiration, when he had ventured to assert, that it was not more difficult to acquire a knowledge of drawing than writing, and when he held that every man ought to be able to express a form as easily as he could communicate his thoughts by means of writing; and he thought that at no distant day this would be the case. He would not detain them, but had, in conclusion, to acknowledge, and he was sure the meeting would also, the valuable services of Mr. Watson, the assistant secretary, who rendered the labours of himself and his colleagues light; and he was quite sure they would accord a most hearty vote of thanks to Mr. Buckstone, for kindly allowing them the use of the theatre, which he always did so generously and promptly, so that his own play-bills for that and the previous day would tell the whole story. Their application was, a "Love Chase," and his answer to all their requests was exactly "As you Like it."

Mr. Lewis Pocock energetically seconded the vote to Mr. Buckstone, and acknowledged the compliment paid to himself. Miss Ally Simpson and Miss Morris having consented to draw the prizes, and Mr. Arnold and Mr. Bell Smith, to act as scrutineers, the distribution took place. Lord Monteagle being forced to retire before the end, Colonel Grissell took the chair.

The following is a list of the principal prizeholders:—

200*l.*—Warner, T. Cirencester.

150*l.*—Johnston, Jas. Paisley.

100*l.*—Nichol, Rev. E. E. B. Halifax, N.S.

75*l.*—Jolly, T. Bath; Macnamara, A. Finsbury; Parke, W. Wolverhampton; Sharland, P. Camden-town.

60*l.*—Barnett, Mrs. 2, Leinster-gardens; Campbell, E. D. Sunderland; Maxse, Capt. R.N. Upper Grosvenor-street; Webb, H. Clement's inn.

50*l.*—Burnett, W. G. Old Brompton; Dane, Dr. Sir John Kirkland's; Decastro, Chev. E. P. Coruna; Johnson, W. Hercules-passage, Lapworth; A. Ott Bond-street, Rothwell, W. Halifax.

40*l.*—Butler, John, Tipperary; Butterfield, J. Tyers-al, Dawson, H. W. Gravesend; Edwards, C. per C. A. Emmett; Strickland, C. Loughglyn; Ware, J. Hackney-road.

30*l.*—Arnold, F. Fareham; Carpenter, A. Croydon; Curwen, Mrs. Great Cumberland-street; Gregson, H. Lancaster; Heir, H. Clifton; Harrison, John, Wandsworth; Laxdale, J. Albrighton; Newton, W. Retford; Richardson, H. Leeds; Scott, J. Eccleston-street.

25*l.*—Austin, C. F. Boston, U.S.; Bank of England Library; Birkett, W. Vere-street; Eccles, J. Southport; Hunt, G. Birmingham; Hoile, H. Weedon; Johnson, W. R. Nantwich; Macpherson, W. Portland, Australia; Morland, J. Abingdon; Morris, A. Lombard-street; Robertson, W. Hackney; Ryder, T. J. Greenwich; Surrey, W. J. Adelphi; West, W. C. Great Malvern.

20*l.*—Alexander, T. Chippenham; Baldy, R. Royal Hill; Bullock, E. Highgate; Corderoy, J. Kennington-green; Fowler, J. W. Birmingham; Greenwood, J. R. Morton, Yorkshire; Houghton, J. Richmond; Iles, Jno. Market Rasen; Jennings, J. G. Launceston, Van Diemen's Land; Kedslie, A. F. Leith; Langham Sketching Club, No. 9; Lawton, A. Micklehurst; Lund, W. Cheshunt; Purvis, Dr. P. Blackheath; Thompson, T. P. Panton-street; Wintle, Col. Pembridge-place; White, Rev. A. K. Newfoundland; Woodward, J. New Zealand.

15*l.*—Baynes, J. 176, Oxford-street; Ballard, W. Chichester; Barratt, H. Hobart Town; Bennett, J. Philadelphia; Clegram, W. B. Gloucester; Chadwick, C. Leeds; Delamare, J. jun. Homerton; Downam, R. Manchester; Firth, F. Leadenhall-street; Gottreux, Jno. Belfast, Australia; Hole, C. Castlenau Villas; Knapp, T. Faringdon; Kreighoff, J. Quebec; Leishman, J. Tillicoultry; Oxford, J. Yoxford; Roberts, J. Hampstead-road; Royds, J. Weymouth; Storer, Major, Purley Park; Williamson, W. Stockport; Yate, F. Godalming.

10*l.*—Barton, W. 118, Wood-street; Beaumont, W. G. Hobart Town; Chalk, P. Clerkenwell; Dalton, W. A. Cleobury; Davison, W. W. Gravesend; French, W. Whitechapel; Garratt, A. Hobart Town; Graves, H. Pall-mall; Herbert, H. Scarborough; Holt, W. D. Liverpool; Jackson, C. Bishops Walton; Mooney, J. Hong Kong; Moulton, J. Frome; Officers Royal Marines, Chatham; Patrick, W. E. Highgate; Patrick, Jos. Whitechapel; Peirce, W. J. Salem, Massachusetts, Pine, Miss, Manchester-street; Richards, P. F. per W. G. Hunter; Ridgway, W. W. Market Drayton; Sewell, G. E. Sydenham; Snelson, J. H. Ashby-de-la-Zouch; Swaine, J. M. Clauson; Watlington, J. W. P. Harlow; Webb, J. R. Philadelphia; Wills, H. O. jun. Clifton.

A Bronze of "Mercy."—Wright, Mrs. C. Ayr.

A Bronze of Her Majesty on Horseback.—Atkinson, T. K. Carlisle; Marks, M. Cardiff; McClaghan, Dr. Edinburgh; Newcomb, W. Halifax, N.S.; Pritchard, E. Warwick lane.

A Porcelain Group of "Venus and Cupid."—Acton, S. P. Bromley; Ainslie, D. Edinburgh; Bispham, S. A. Philadelphia; Blundell, J. Chertsey; Bowley, S. Middlesboro'; Cahill, W. Hobart Town; Child, Rev. V. K. Little Easton; Coe, W. M. Dawson-place; Dawson, J. Derby; Dettmar, George, Albert-street; Drewe, A. J. Bath; Du Croz, F. A. Gresham-street; Evans, B. Newcastle Evelyn; Ferguson, John, Edgbaroch; Galsworthy, J. Clubchambers; Heath, J. Malmsbury; Hersee, H. Peckham Rye; Hicks, R. Ramsay, Isle of Man; Jones, S. Birkenhead; Joss, T. J. Halifax, N.S.; Killerby, R. F. Scarborough; Merriden, J. H. Birmingham; Moorhead, W. A.; Morrell, Mrs. Woodham Mort; Patterson, Jos. Belfast; Paul, E. Sizelane; Penny, J. W. Birchin-lane; Phillips, J. Islop; Poulden, C. J. St. John's-wood; Powell, P. Hoply; Reed, T. A. Southampton-buildings; Sachs, J. Red Lion-square; Schmidt, J. Coblenz; Scholefield, W. Devonport; Stiebel, C. Sussex square; Stringer, Mrs. Ann, Wakefield; Sturt, E. Wood road; Thomson, Mrs. Pembridge Villas, Vernon, Rev. W. H. Sutton; Wilson, J. W. Hinton.

A Vase modelled from an Antique Design.—Busey, Dr. S. Washington, U.S.; Dobson, W. Preston; Glover, S. Harrington-square; Harris, C. Brick lane; Ormandy, F. Liverpool; Stevenson, J. E. B. Clapham-park; Thompson, J. H. Philadelphia; Torre, N. L. Leamington; Vivian, C. E. E. Temple; Wright, R. W. Manchester.

A Porcelain Statuette, "The Stepping-Stones."—Brooker, T. Margaret-street; Butcher, J. Tring; Christie, W. Edinburgh; Clowes, E. Cavendish-square; Crane, Jos. Melbourne; Goodycar, G. Leeds; Hides, W. Wisbech; Ibbetson, Jas. Somers-town; Jaffry, J. R. East Sheen; Kendall, T. L. Battersea; Lefroy, A. O. G. Messrs. Powles; Levett, W. Clapham; Lloyd, H. St. Leonards; Luscombe, W. Plymouth; Middlemore, Major, Sligo; Monk, Miss M. Eaton-square; Oliver, Mrs. Twickenham, Overbeck, J. C. Cape Town; Patterson, W. Hobart Town; Pountney, T. Burton-on-Trent; Pratt, Col. T. S. Bath; Robertson, J. Worcester; Sabin, Mrs. Harbury; Smith, G. Wellington, Somerset; Street, Rev. J. C. Plymouth; Unwin, G. Bucklersbury; Wilkinson, Mrs. Lambeth; Willoughby, W. A. Lancaster-place; Withey, F. Strood; Yates, J. A. Bryanstone-square.

WAYSIDE MEMORANDA OF AN ARCHITECT,

DURING A TOUR IN IRELAND; MORE ESPECIALLY WITH REFERENCE TO SOME OF ITS ANCIENT REMAINS.*

I WAS commissioned by the Government, in the autumn of 1857, to proceed to Ireland in order to examine into certain allegations respecting the lunatic asylums then recently built in that country, and to report thereon. My colleague was John Wilkes, esq. at that time the eminent medical superintendent of the Stafford Asylum, and since appointed one of H.M.'s Commissioners in Lunacy for England. We were associated with

* Read at the Institute of British Architects on the 26th of April. Our report of the proceedings and the discussion which ensued we shall give next week.

Spencer Shelley, esq. of the Treasury, whose love of nature and art objects, general intelligence, and enlarged information, particularly with regard to geology, added materially to the pleasure and instruction of our tour of inspection. During the intervals of incessant application to more serious and responsible duties, it was impossible for me, as an architect, to pass by numerous curious remains of antiquity, in a country so little known to us upon that point. I could not avoid observing many peculiarities of taste and execution, which seemed to me worthy of more minute attention than I was enabled to give, for I could only bestow an occasional spare hour or two, where days could have been well spent.

My remarks, therefore, will be necessarily of a general nature, which will be of less importance, as the paper by Mr. Blake, on Kilconnel Abbey, and that by Mr. Gordon Hill, on the Round Towers, recently read, have anticipated some remarks on these subjects that I might have made, but which their more complete researches have rendered unnecessary.

The first important city to the north of Dublin is Drogheda, and many associations, historical as well as natural, give great interest to the name, as that of one of the leading seaports on the eastern coast of Ireland. It occupies both sides of the rising banks of the Boyne, here spanned by the superb railway viaduct, which rises 90 feet above high water level. The centre opening has 250 feet clear water way, and there are two of 125 feet span, and two of 61 feet span, leaving a clear opening of 1,450 feet, independently of the piers. The view from the south end, as the traveller stands at so elevated a point above the water level, embraces the whole course of the Boyne, down to the sea, bounded on each side by woody banks, while to the west the eye turns upon a fine expanse of country, reaching to the scene of King William's defeat of King James II.

There are several Mediæval remains in the town, the most perfect of which, St. Lawrence's Gate, to the north, is a majestic mass, consisting of two fine circular towers, with a square space between the two, about two-thirds as wide as one of the towers, and in which is the gateway. There is not a single horizontal moulding from bottom to top; they rise straight from the ground to the summit, where there are embrasures divided by stepped parapets. There are several slit openings for light and air, and four or five larger apertures, possibly of later times. The face towards the country presents only the towers and the simple square space between; but towards the town the central part is recessed with an arch over, and I think there must have been open galleries of communication between each floor of the two towers. The lower part of the gateway inside is further protected by a projecting enclosure.

Another ruin called Saunder's Gate, evidently the central tower of the old church, rises up with peculiar majesty. It is held in great veneration, so that the enclosure in which it stands is much used as a burial-place by the Roman Catholics. This ruin presents a feature, one of a class prevalent in Ireland, and to which I shall have hereafter to refer, of a tower rising over the crux of the church. A noble arch spans the central opening, which is flanked by solid masses of rough rubble construction. The square tower rests with majestic dignity on these piers, and rises two stories high with a projecting staircase at one of the angles. The windows of the two stories still retain their mullions and traceried heads, but the upper parts of the parapets and embrasures are destroyed. It evinces a great knowledge of constructive skill to see this tower stand firm on the dilapidated piers without any buttresses at the angles or to the masses beneath to contribute to its stability. It is a striking fragment of bygone times, and speaks of a noble church that once covered the area, with, perhaps, monastic buildings attached, and the residence of a religious fraternity. It is now surrounded by wretched hovels, and the very grave yard, with all its holy associations, betokens desecration, neglect, and decay.

There are several other monastic remains in Drogheda, mixed up with the commercial warehouses and used for ordinary purposes, which would doubtless yield much fruit to careful investigation. But my three or four hours, involving a visit to King William's famous passage of the Boyne, and a peep at the pillar erected to commemorate his victory, did not allow me to take other sketches in this town.

Between Drogheda and the Giant's Causeway the tourist passes through Belfast, which has now many fine commercial buildings rising up, mostly due to the skill and taste of Mr. Lanyon, and who, as county surveyor, has formed hundreds of miles of the finest roads possessed by any country. The rocks of the district afford a very fine material for the purpose; but whether traversing bogs, passing along mountainous ridges, or skirting the shores of the Irish Sea, the roads are broad, solid, well protected, and present scenes of beauty and ever-varying interest.

A solitary round tower at Athlone is the only object of antiquity that crossed our path northwards; but, in the absence of monuments of art, the majestic columnar groupings and rocky precipices of the Giant's Causeway make one feel that one stands in the centre of one of the most glorious temples of the Almighty's own creation. In fact, in the north of Ireland, where Scotland has sent her sons as settlers, so that their descendants outnumber the original inhabitants, the Presbyterian and utilitarian element has produced nothing of a monumental or architectural class. Simple, unpretending, thrifty, and devoted to utilitarian objects, the art element has found no response in this part of Ireland. Even in Londonderry itself I did not find a single object worthy the pencil, and it was not till we got to Enniskillin that Irish antiquity and mediæval art began to vindicate themselves. Devenish Island on Loch Erne is famous for its lofty round tower, which stands alone on a commanding height, and is seen from a great distance. Mr. Hill has already described this, and alluded, as well, to ruins of religious buildings in its immediate vicinity.

As you pass down the stream from Enniskillin, which communicates between the upper and lower Loch Erne, you find on the left bank, at the opening of the latter, Portorra Castle, a regular fortified post of the middle ages. It consists of a square inclosure, about 74 feet by 66 feet from out to out, with a circular tower, about 15 feet 6 inches outside diameter, at each of the four angles. The chieftain's dwelling, which is of modest pretension, and was two stories in height, occupies one end between two of the towers, and has a depth from outside to outside of walls of some 22 feet. A curtain wall, about 3 feet thick, surrounds the three other sides of the court, with the entrance to the fort in the middle of the side facing the chieftain's quarters. The towers have an inner free space of 10 feet 3 inches diameter, and consisted of two or more floors, thus affording sufficient accommodation for a small garrison; but, in cases of emergency, requiring a more numerous armed force, barracks and sheds could be run up inside the court backing against the curtain walls.

I shall venture to break in upon the regular course of my route by at once, for the sake of comparison, describing Mallow castle, which is on the main line of railroad to Cork. It is situated in a beautiful domain, and is placed on the summit of a rapidly rising bank, on which the finest trees and shrubs grow with wild profusion. Above all this verdure rises the majestic mass of Mallow castle, with its quaintly placed angular turrets and its peculiarly planned entrance-tower. The body of the castle occupies a parallelogram, exclusive of the projecting tower, of about 91 feet by 37 feet outside dimensions, the walls being from 4 feet 6 inches to 5 feet thick. The porch occupies the centre of the elevation, its face being bevelled with its edge in the middle, and the doorway is on the return, leading into a small porch. There is a small inner lobby, with a fine room to the right and left, about 31 feet by 27 feet, and a long room in front, carried out so as to extend 21 feet beyond the back front with a square projection, and again a bevelled face like the entrance porch, only more acute on plan. At each angle of the principal front is a hexagonal tower, placed diagonally, apparently for the purpose of more complete defence and command of the front, and in one of them is the staircase to the upper floors. The whole is now a ruin, covered with ivy and other parasitic plants: the floors are gone, but there are traces of a basement story.

There are considerable traces of other additions, as also of outer fortified works, as though the castle had been in the centre of a court, and surrounded by an inclosure of fortifications. The date of the castle seems to correspond with our Edwardian period.

The village of Mallow has a fine mineral spring, and is consequently one of the inland watering-places of the south. A fine bridge has recently been completed over the river Blackwater, which is a stream of some reputation.

I will now also allude to Dunluce Castle, which is about five or six miles west of the Giant's Causeway. It stands, crowning a lofty, rocky projection, which stretches out into the sea; and it communicates with the main land by a one-arched bridgeway, which is now only 2 or 3 feet wide, forming a hazardous approach to any traveller who has not a very steady head.

Our wanderings in Ireland bring us acquainted with a class of miserable hovels, even in important towns, which may occasionally be met with in out-of-the-way spots in England or Scotland, and as an exception; but which painfully obtrude themselves upon the notice in large groups, particularly in the middle and southern parts of Ireland. I allude to the cabins of the peasantry and lower orders. They are one story high. The walling sometimes consists of some large blocks of stone at the quoins and doorway, and the rest is built of smaller rough pieces. The roof is of thatch, enriched by a profuse vegetation of all sorts of weeds and plants. In most, a chimney rises through the roof; but, frequently, a mere aperture is left in the thatch, lined by small pieces of board, and through that the smoke pours from the peat fire within. The whole is most rudely put together, the only care being to keep out the cold; — the smallest window, with the greater portion of that blocked up, and only admitting light through a square or two of glass; the mere earth as a floor, and with the slightest separation to divide one part from the other, a dung heap in one part, and a reeking pool at the door. The ass, the pigs, father, mother, and children, lead a happy life in common, mixed up with dirt and smells anything but fragrant to the casual visitor. And ah! how often did we find rows of such wretched hovels, unroofed and dismantled, perhaps a lonely one remaining, inhabited by some sturdy obstinate occupant, all around desolation and ruin, but still his own, a desirable home, if it kept out the wind and rain. How strange did it seem to find, associated with such misery and privation, the gay, good-humoured, and witty peasant, ever ready with his joke and for a piece of frolic and fun.

Kilmallock is about 16 miles from the busy and popular commercial town of Limerick, and was formerly a town of still greater note; so much so, that letters directed to its rival, were formerly directed Limerick, *near* Kilmallock. Here are the ruins of city walls, mansions, towers, churches, and conventual establishments. It was walled in, and the walls of considerable thickness, rising 5 feet or 6 feet above the ground, can be traced for a great length. One of the entrances, called the Blossoms-street Gate, still remains well preserved. The High-street contains numerous important mansions of wrought stone, rising up majestically with lofty fronts: the tracery remaining in some of the window openings, their gable ends towering above the adjoining modern erections, and their noble fire-places, of bold and striking proportions, peculiarly designed, and of a character prevalent in Irish architecture, of about the Elizabethan period, or a little earlier, remain undisturbed in their original positions.

The joints of the strings, along the front, are protected by a curious and ingenious hood moulding.

Kilmallock has a greater share of magnificence, even in this miserable state, than any town in Ireland; and a learned and ingenious writer particularly calls it the Baalbec of Ireland. The inquisition of the Chief Rembrancer, 11th Aug. 29 Eliz. (Archdall, p. 810) finds, "That there had been an abbey, or religious house, in Kilmallock, known by the name of Flacispaghe, on which a stone house was erected, and which house, with an orchard or garden belonging thereto, was found of the annual value of six shillings and eightpence sterling."

We may suppose this to be the church and monastic building. It corresponds in arrangement and the general disposition with Kilconnel Abbey, described on a previous evening by Mr. James Blake. The church consists of a nave, tower, chapel, and choir; the tower, in its usual place, crowning the intersection between these principal features, upheld, like that of Drogheda, between two stone piers, and rising several stories above the roof; and thus forming, from without, a prominent and lofty object. Immediately adjoining, and on the north side, are the cloisters and dwellings of the monks. There is the kitchen building, with its recesses and other dependencies, and the refectory immediately adjoining, with its vaulted ceiling, above which is a large hall or dormitory. Attached to the choir is probably a vestiary. The effect of the choir, with its numerous windows with lancet heads, must have been very fine. There are numerous recesses in the walls, as for tombs, and the whole displays a considerable degree of past magnificence; and some of the windows are very gracefully composed.

Killmallock Church is still partly used for a place of Protestant worship. At the north-west angle is

a circular bell tower, by many, and by Mr. Gordon Hills amongst them, supposed to be one of the ancient round towers. But to me it conveyed a different impression. The circular strings of mouldings, and the rapidity of the diminution, make it in my mind belong to the common class of circular belfry towers, like that of Hadiscoe Church, Essex, shown in Cotman's engraving. It evidently had had no roof, for the embrasures still exist. But perhaps the most valuable portion of this church for our purpose is the parapet and roof of the south side aisle, which explain the peculiar mode in which the ancient Irish architects carried off the waters from the roof. The parapet was crenellated. Immediately abutting against the parapet were hollowed slabs of stones, the sides of which rose up like the tiles of the Greek temples. These tile slabs were 1 foot 10 inches wide, and 6 inches apart. This space between the two was covered by a hood tile, the sides of which fitted with the sides of the tiles, and thus threw the water into the centre of the latter, as in the Greek temples. Thus the waters were discharged directly outside, through square holes cut through the parapet. The rest of the roof is formed with the usual slating slabs in the ordinary way. The coincidence between this arrangement and that of the Greeks is remarkable.

Another illustration of arrangements peculiar to the Irish exists in a square church tower. The parapets are crenellated and stepped, as usual with them. Inside the parapet the roof rises with a pitch; but, instead of abutting against the parapet, there is a flight of steps up one side of the roof and down the other at the ends, affording easy communication, and the opportunity of using the embrasures with effect and safety.

From Killmallock I proceeded, after a few hours' stay, to Gould's Cross; and, although Holy Cross, with its rare and curious remains, was so near, I was obliged to forbear visiting it, as the daylight was receding, and I had a six miles' drive ere I could reach my home for the night, at Cashel, in Tipperary, which gives the name to the bishoprick. And never shall I forget the agreeable drive that I had in one of Bianconi's cars, through a most pleasant country, with the cheerful companionship of a driver, pushing on as rapidly as we could, to reach this venerable place in the twilight, at least ere the sun had completely set behind the hills. For a half-dozen miles off one can see a conical hill rise out of the general surface, crowned by buildings, with gable-ended walls and a round tower, recalling in many of its features Mount Cassel, near St. Omer, in France. As we approached the evening grew darker and darker, and the sacred mount, as a black mass, displayed its features distinctly in outline, with a glowing setting sun as a background.

The next morning I rose with the sun, and from the town directed my steps to the summit of the hill on which stands the cathedral dedicated to St. Patrick, with a castle attached to it at the west end, a round tower near the north-east angle of the north transept, and on the south side the Norman chapel, called that of Cormac, who was killed in battle in 908. It is possible that there may have been here an earlier chapel than the present one, founded by Cormac, or in honour of him, subsequently replaced by this more elaborately enriched Norman building; for the date is too early for the existing one. The whole of these buildings were enclosed by fortified walls, with towers all round, which have now disappeared; but there still remains, near the entrance to the sacred precinct, the Vicars' Choral Hall. The greater portion of the cathedral seems to be of the thirteenth and fourteenth centuries; but some parts are later, as also the castle, which contains two remarkable chimney-pieces. The mantel of both consists of a flat arch, the stones keyed into each other. One has a hood, which causes a projection to the flat arched mantel, one end of which abuts against a wall; but in order to resist the thrust at the other end, which projects, there is a horizontal buttress, acting as an abutment. Some idea may be formed of the importance of this sacred foundation, when from this elevated position one can see five ecclesiastical establishments, once connected with it as so many dependencies, within a short distance, occupying favoured spots all around, and giving dignity and power to the rock-built cathedral towering above, St. John the Baptist's parish church, Hoare Abbey, the Dominican Abbey, the Roman Catholic chapel on the site of the Franciscan Abbey, St. Nicholas Abbey, and St. Mary's Abbey, which would doubtless afford a rich harvest of discovery to any one who had the time and necessary intelligence to do justice to such important subjects of study.

Kilkenny is a town of great importance, on account of its striking antiquities, and even of its modern buildings. The castle, the majestic seat of the Ormond family; the cathedral of St. Canice, with its round tower; Black Abbey; the modern Roman Catholic cathedral, which rises with overpowering grandeur above the general lines of buildings; and the lunatic asylum, are only a few of the many remarkable edifices, ancient and modern, that deserve the attention of the traveller and the artist. The tower of Black Abbey crowns the intersection of the nave and transepts, and is a fine illustration of the fortified arrangements of even the sacred buildings of early Irish history. The four angular turrets are square, and have their parapets crenellated with square pinnacles at the angle, rising above the general level, the whole group forming a turreted turret at each angle of the main tower. The main parapet of the centre has an embrasure in the middle, and on each side the parapet is stepped, and the whole has a slight projection from the general surface of the tower, as low down as what may be presumed the flat of the tower. In like manner the parapets of the clerestory walls of the nave are crenellated and stepped, forming an overhanging parapet, supported on corbels, and perforated at small intervals, so as to allow the immediate discharge of the waters from the roof, without any gutter parallel with the parapet, as at Killmallock. The inside of the church has many antique memorials, and on the outside, near the entrance porch, are some fine simple stone coffin-heads, carved in relief, or with sunk lines of crosiers, shields, &c. and one with the mere head of the deceased in high relief. They are of the black marble of the country.

The round tower stands within 6 feet of the south end of the south transept, rising to a height of 95 feet 8 inches from the ground to the moulding of the first course of the conical roof, which still remains, and gives the inclination or pitch. The lower diameter, from out to out, equals 14 feet 9 inches, the walls being 3 feet 3 inches thick. The upper diameter, from out to out, is 11 feet 7 inches, with walls 2 feet 8 inches thick, and six square window openings, 1 foot 5 inches wide and 3 feet high. The diminution in the thickness of the wall is gained by offsets inside, apparently arranged to suit floors at certain heights. The door is at the height of 9 feet 4 inches from the ground, 2 feet wide, and 4 feet 9 inches high, with a circular head. In the height of the tower there are four small apertures for windows. There is a very convenient access up to the top, with steps and landings; and thus the traveller can with rare facility ascertain the full particulars of this fine erection of remote antiquity.

The last antiquities I visited in Ireland were those of Glendalough, in the county of Wicklow, commonly called the Seven Churches. This is a term given also to other sites in Ireland, as to Clonmacnois, on the Shannon, which has two round towers. Glendalough is one of the wildest possible spots, near a lake above two miles long, surrounded by granite and limestone ranges of mountains, and apparently shut out from the rest of the world. The cluster of churches would more appropriately be called seven chapels, for they vary from 30 to 40 or fifty feet long, and are altogether humble in their pretensions, yet still possessing much interest. St. Kevin is the peculiar saint of the spot, and his cathedral, as it is called, and the other edifices, are constructed of rude masses of stone, roughly squared for the quoins and openings, and interspersed with a species of lighter rubble construction. The doorways have a flat lintel, surmounted by a rough discharging arch. Near the cathedral is a lofty round tower, without a roof. The masonry consists generally of average courses, 6 inches high, with some larger blocks, irregular in form. At the bottom of the tower is a higher projecting course, answering for a plinth. The doorway is open 10 or 11 feet above the surface of the ground, about 2 feet wide, formed with large blocks of stone, with one of considerable dimensions over the opening, hollowed out, so as to give a circular head to the aperture. The upper windows have a square head.

The most perfect and best preserved building of the group is the chapel or church popularly called "St. Kevin's Kitchen," on account of the small circular bell turret which crowns the apex of the western gable, and is taken by the peasantry for a chimney. This turret has a conical roof, and four square window-openings immediately beneath. The roof is covered with slate-stone, and is of a high pitch, having beneath it a vaulted ceiling, there being a chamber or hollow space between the two, reputed to be the sleeping-place of the monks or priests. The construction is like that already described, but the lintel has a rude projecting slip on the face, as though it had been moulded. The joints of the string above it are rebated, evincing some care in the putting together of the rude construction.

Ere I close these imperfect notices, permit me to mention one of the richest specimens of domestic Gothic that I met with in my rambles. It is a door and window of an old house in Galway, one of several rich memorials of by-gone times, when Spain had considerable commercial relations with this port. Even the dress now worn by women of the lower class is peculiar, and consists of a black cloak and red petticoat, supposed to be from the Spanish period. The style of the sketch before you, with its three-centred arch, heavy hood mouldings, with the flowers, bespeak the style of the rich Spanish or Flemish art. But there is a peculiarity in the return of the hood moulding at the knee, above which rises a pyramidal weathering found in other parts of Ireland, and in the doorway at Killmallock, which is also very peculiar.

In Ireland there are no edifices of the Mediæval period that can compare in extent with the first-class edifices that we have in England; none that profess such a high standard of art, or such a variety, richness, and fulness of pure details. Some have been sadly treated in recent times, particularly St. Patrick's Cathedral, Dublin, which has been restored in a style disgraceful to its promoters. The late Mr. Cottingham has very successfully and ably carried out the restoration of Armagh Cathedral, and fitted up the interior in a manner conformable to English precedent, in a very able manner. There are many Roman Catholic cathedrals of very large size, being now erected and on point of completion, important as to extent and general disposition, but the details and style of which leave much to desire. The most successful modern edifice in Dublin, without doubt, is the addition made to Trinity College of the New Museum, by Sir Thomas Deane, Woodward, and Deane.

And now a few words on the scenery near Dublin. None on earth are more favoured by nature than the inhabitants of Dublin. After the business cares of the day, they may find, within an hour or at most two hours' ride or drive, their seaside home at Kingstown, Bray, or along the coast to Wicklow, on rock or sandy shore. They may have their cottage or villa on the banks of the Doyle, or amid the sylvan solitudes of Powerscourt or Avondale—

"That vale in whose bosom the bright waters meet;"

and possess the richest scenery and most lovely views of hill and dale and fertile meads; or, if lovers of savage scenes, they may plunge into the rocky defiles of the Scalp, amid the chaotic mountain masses scattered in wild confusion; or may wander among the mountains which encircle Glendalough, and in its wildest passes, with countless legends of past centuries, and in the presence of its ruined structures, once held in deepest veneration, they may enjoy a romance, an abstraction, and a delight, which it would be difficult, if not impossible, to find near any other capital in the world.

Such are a few of the results of the spare hours of a three weeks' hurried tour in the sister isle, devoted mainly to more important and absorbing duties, but which proved a relief, and, in fact, gave tone to the mind by an occasional study of the beauties of nature, and the romance, and history, and antiquities, of dear old Ireland.

THOS. LEVERTON DONALDSON.

THE NEW READING-ROOM AT THE BRITISH MUSEUM.

WARMING AND VENTILATION.

It is not an easy task in this changeable climate to provide an atmosphere suitable to a variable number of persons. The numerous failures in the ventilation of our courts of justice, hospitals, prisons, barracks, and other places where many persons require accommodation in a limited space, show the difficulty.

In winter we require, in both public and private apartments, enough heat to render them comfortable; but at the same time we must not exclude that wholesome air which is so necessary for health and the proper duration of life. In summer time equal care is required lest fever and consumption are allowed to ride triumphant, by allowing either polluted airs to poison or strong currents to pass in improper directions.

In places set apart for the purposes of study it is particularly requisite that the atmosphere should be kept in good order, for those who assemble there are unable to take exercise, and by the sedentary nature of their employment are not so

able to bear cold and draughts as some other classes. The means adopted to warm and ventilate the new reading-room at the British Museum become of importance: considering the immense area of the central room and the libraries which surround it, it was thought that powerful means would be required to render this place habitable during the cold and frosty winter season, and also to send healthful breezes into the large area during the summer months. Without proper contrivance the sun upon the dome would make readers uncomfortable.

Let us descend into the subterranean depths of the building, and examine the means which have been resorted to. But first wander into the Gallery of Antiquities, and notice the recent arrangement of the Roman busts and other fragments. These are now all carefully lettered in gilt characters, which are sufficiently distinct, and at the same time do not offend the eye. Some changes have also been made in the gallery of Egyptian sculptures, which have much improved the general effect. Early in the morning, before the multitude are admitted, it is curious to loiter in those long galleries so richly stored with relics of the past,—to listen to the sounds which echo through the place: the noise of closing doors far off, and the hum of distant conversation, seem to linger in the place amongst the old gods of Egypt and Greece in a magical way. The sounds emitted by one of the men engaged in dusting or fire-lighting, in humming or whistling a tune of modern London street celebrity, are so magnified and mellowed by the echoes, that the notes swell up in a similar manner to those of church organs, and these voices of our great national museum are blended with that of little trams passing from place to place, making a sound like rolling thunder. It is necessary, however, that we should for the present leave the examples of old art, and the sounds amidst which they stand, and descend to those underground regions in which are placed the means of providing for the comfort of the large number of studious men who avail themselves of our great library.

Many visitors to the British Museum are not aware that below the Gallery of Antiquities, the King's Library, Manuscript Room, &c. &c. is an equal extent of arched vaults, which are used for various purposes. We are told that it would be well worth the while of a London antiquary to beg permission to make a visit to the part which contains matters of former days that have been dug up in the metropolis, and have not yet been placed. Here are also rooms—some of no very pleasant odour—in which skilled men are engaged in preserving the animals required in the natural history department. A numerous band of bookbinders, modellers, &c. are to be seen here busily at work.

Under guidance, we pass along mysterious-looking passages of such solid brickwork that they will no doubt excite the admiration of the antiquary of the future, who, it has been more than hinted, may visit the ruins of this city; and we enter a portion of the building last erected for the purpose of increasing the space required for the library: here is a small workshop, in which, amongst other matters, is an apparatus for showing the heat of the boilers which are used for warming the readers in the winter season. At the end of this place is a window which looks towards darkness, and which opens in the same manner as the ordinary sash windows. Our guide, having given certain instructions to provide lights below, and after supplying a lantern, invites us to descend by a ladder through the window just mentioned. It is not very convenient for one unpractised to proceed with much expedition; but, after experiencing something of the same difficulties as those which are to be met with in the iron mines of the Dean Forest, we at length reach a chamber which contains three boilers of about 15 feet in length and of considerable height and breadth. The fire-places used for heating this large body of water are so constructed that the smoke does not annoy the neighbourhood. All this space is as dark as a coal-pit, but by the lantern-light a curious picture of large pipes connected with the boilers may be seen, reminding one of the leading arteries which might convey the blood through the body of some enormous giant. These main pipes lead the hot-water to smaller pipes, which pass to the various parts of the building. In cold weather all the boilers are kept at a considerable heat, but at the time of our visit, the weather having become mild, only a part of the fire which could be used was required. After the hot-water has passed through all parts of the building, it returns by other pipes to the boilers, when it again becomes of the proper heat, and then circulates over the appointed space; and having said this much in connection with the method of warming, we explore some other passages, which lead to an air shaft, that reaches to the full height of the building. In this numerous sparrows were chirping on the windows: these can be opened to different degrees, for the purpose of admitting the best air that can be had in the neighbourhood of Bloomsbury-square. Near the bottom of this shaft is a fan, worked by manual labour, and so constructed that the fresh air is passed into an arched brick passage through valves, which close until another current is forced through. Close to the fan is a screen of hair-cloth, through which all the air is filtered and cleansed from the London soot. When the weather gets warm, other means are used to prepare this air for the readers. Near the filtering hair-cloth, a jet is fixed which, by high pressure, fills the passage with a shower of water almost as fine as a Scotch mist. Damped cloths are also hung in the channel, and then instead of heat, the cool air is sent up above. It will be understood, from what has been already mentioned, that it requires a considerable amount of labour and care to provide a suitable atmosphere for this part of the Museum building.

In the spring time, or when the weather is changeable, it may be necessary to lower the temperature of the rooms by currents of cool air; and doors, which act in the same manner as the traps in coal-pits, are fixed for the purpose of regulating this supply.

Passing not unwillingly from the dark regions, after experiencing the strong fanning blasts and great heat, we enter the Reading-room building, and notice that four self-closing glazed doors exclude to a considerable extent any of the outer atmosphere from passing in this direction, and find that the whole of the interior depends on the air which is admitted through the tall shaft already mentioned. Our readers know that the principal room is fitted with a number of long tables, which radiate from a centre, with shorter tables alternately. Along the bottom of each of the longer tables run three 3-inch pipes, and above the floor a 2½-inch pipe. Under each of the shorter tables run four 3-inch pipes: these communicate with the larger pipes above-mentioned. Thermometers are fixed in various parts, and at each table the heat may be regulated by turning off the hot air and supplying cold. In addition to the machinery already mentioned, there are extensive means of ventilation provided in the windows of the dome. The air-chambers of the tables are covered with fine wire-work to disperse the air.

We are not very warm partisans of such elaborate systems of artificial ventilation as this, but we can at any rate testify to the pains taken and skill exhibited with a view to produce a satisfactory result.

KNIGHTSBRIDGE AND OTHER BARRACKS.

THE interest excited, by recent disclosures, on the shortcomings of military architecture, leads me to examine the position and structure of those barracks which are the most prominent as quarters for household troops. That now under review occupies a most valuable site.* From its altitude of location and exposure to the park it ought to be the healthiest of the whole metropolis; and yet it is notorious that during the period of cholera it was most afflicted with that malady. It occupies a long, narrow strip of land, about two acres, being in length 1,170 feet, wedge-shaped, and varying in depth from 111 feet at the east end, to 84 feet at the west. The north front ranges along and bounds the park road: the south, with an interval of only a few feet, skirts the great leading thoroughfare of Knightsbridge. The soldiers' quarters and the stables for their horses form a hollow square, which encloses a court-yard, 69 feet wide by 324 feet long, the stalls being ranged throughout the whole extent of the basement, over which there are two stories of sleeping and dwelling rooms for the troops. In this arrangement the horses are much better off than the men; for, although their stalls are but 5 feet 6 inches wide, still the stables are 10 feet in height, and well ventilated, whilst the barrack-rooms and dormitories of the men are barely 8 feet! These apartments seem to have been constructed in a manner to assure to the army surgeons and physicians the greatest amount of work, for they measure just 33 feet by 30 feet, and are contrived to contain beds for twenty-five men, who are forced turbulently to herd together during their hours of supposed sleep or repose, that is, from 9 p.m. to 6 a.m. It is true that there are slides in the centres of the low extended ceilings, but the inmates state that when opened the draught is too strong, and so productive of cold to those beds placed near the vent, that as soon as the orderly has passed, some backslider, by common consent, shuts them up. On entering these apartments by day, the air is heavy enough, but after a night's enclosure it is almost intolerable. In the summer it may be agreeable, as the windows admit a fresh current, and on the north side afford a pleasing view of the park; whilst the south offers a full view of the grand Piccadilly line, together with the *nine* public houses that derive their support from the troops. Included in the limits of these barracks there are also officers' mess-room and quarters, besides horse infirmary stables, which occupy together one full third part of the space.

That a narrow line between two most important public thoroughfares should have been selected for the quarters of any troops, seems to be in keeping with that ingenuity of design which formed rooms of only 8 feet in height for men who all exceed 6 feet, and which are so arranged that each occupant should have just 317 cubic feet of atmospheric air; but even this amount would have been more bearable in a room of greater altitude, in which the vitiated air might pass off through ventilators further removed from the sleeping sufferers.

For the purposes of muster, of drill, and of exercise, there ought to be a space much larger reserved, if not within, at least without barracks, intended to accommodate 500 living souls, together with the numerous attendants and camp followers. It cannot be desirable for the comfort of the men that their windows should give out upon public (the most public) causeways: they must, as a solace, frequent their windows: they must smoke, and they cannot always be in full dress. But, with regard to sleeping quarters, the chambers should in no case be under 10 feet in height, if made to accommodate only six men; nor under 12 feet, if intended to lodge twelve men. As to packing any more in one chamber, it is ridiculous; for, amongst so many, one man disorderly, or unwell, incommodes all his comrades, and very probably causes a night of restlessness to the whole troop!

In a room of 8 feet only, the vitiated atmosphere, rising but little above the beds, and becoming cooled, descends again in noxious vapours; whereas, with a proper altitude, there is space for a freer stratification of the air columns, and for the escape of the exhausted and lighter vapours through properly placed apertures, without distressing the occupants by a too proximate cold current.

The soldier should be placed *hors de combat* of the passing crowd: he ought to have decent quarters and proper grounds for exercise; and, above all, he should be so housed with respect to sanitary regulations as to secure for the country he serves the longest tenure of his duty; and for himself those rational conveniences which every Briton, to a man, now acknowledges he has fairly won from his country.

There are barracks worse, much worse, than these. Kensington guard-house is a disgrace to the military authorities. That, too, is in a most valuable and aristocratic position, and it is a nuisance to the neighbourhood, as it is a penalty to the gallant troop of Light Dragoons quartered in so foul a keep.

As to Knightsbridge, the horses here occupy the basement range; the riders the story above: between them an old lath and plaster ceiling intervenes, freely admitting the stable vapours to the dormitories and living-rooms of the men! The consequence is, that in addition to the pulmonary complaints which affect the stoutest and most stalwart of England's sons at Knightsbridge, here *sore eyes* afflict the troops consigned to the Kensington guard, and the troop now in occupation has been located in this quarter for upwards of a year.

It is many years since the writer in the *Builder* exposed the faulty and most reprehensible arrangements of our intra-urban barracks—Portman-street, and its sunken mews, overtopped and gazed upon by high houses of trade; Charing-cross, and its invaluable space so profligately and needlessly perverted; and others that may now be omitted: nevertheless, there are good models of barracks within the United Kingdom. In Ireland, on the military road of the County Wicklow, Glencree barrack, now nearly *fifty years deserted*; Richmond barracks, near Dublin,—these are solid, serviceable, and utilitarian buildings, erected, too, at no great comparative expense, and might have served as examples to the military edificators at head quarters, in the great City of

* See p. 201 also.

London; but in Ireland, everywhere the barracks are noble buildings.

It is not necessary to expend 150*l.* a head per man for the creation of quarters appropriate to the uses and actual accommodation of the soldier of our advanced times. My Lord Cardigan, amongst the Lords, volunteered that estimate, as a non-professional builder. Allow me to assert that 50*l.* a head per man would amply suffice to complete most useful, healthy, and even ornate buildings for any number, from a troop to a regiment: the more extensive the range, the more economical might be the cost.

Then, as to position, most certainly those central to populous neighbourhoods are neither so economical, nor so eligible for troops, as positions chosen a little farther afield. The present building is as unsightly and unwelcome to the public as it is unfit for its objects. Hyde-park, which is now more valuable since its improvement, is narred and perverted by the obtrusion of marginal barracks, and internal magazines and guard-houses. A change is imperative, too, for the army, since it is distressing to search out and to discover the condition of fine young men incarcerated in these slow pest-houses, where, contrary to reason, experience, and public opinion, the defenders of our country have been so long compelled to batten. QUONDAM.

SOCIETY OF PAINTERS IN WATER-COLOURS.

I ADMIT that there are no new combinations, no pictures of striking human interest, nevertheless the present exhibition of the "Old Society," its fifty-fourth, and consisting of 329 drawings, is a good one. The most remarkable work, as it seemed to us, is by one less known than the majority of the exhibitors (197), "Declining Day; View of Argyllshire," by A. P. Newton, wherein the distant mountains, with a minuteness of detail almost photographic, have great breadth and beauty. Mr. Carl Haag is strong this year; in (191) "Tyrolese Huntsman and Mountain Girl" there are life and movement in addition to the minuteness of finish which distinguishes some of his other drawings. (169) "Una and the Red Cross Knight in the Cavern of Despair," by Margaret Gillies, has a higher aim than most of the other pictures, and exhibits much power. Mr. S. Read has a very clever architectural drawing, "St. Lorenzo, Genoa" (211), and Mr. S. Palmer, in (238) "The Widow's Daughter," and (312) "The Rising Moon," agreeably recalls the works of Varley. We have mentioned exceptional works rather than those which are exactly what would be expected. Branwhite has some very effective landscapes, *e.g.* (78) "Scene on the Conway," and Frederick Tayler a very good specimen of his usual work (132), "Otter Hunting in the Highlands." (3) "Keoch-na-Bain, Isle of Arran," G. Rosenberg; (57), "Wastwater Lake," W. Evans; (82), "South Transept of Canterbury Cathedral," J. Nash; (100), "Sunrise on Maggiore," (133), "Roman Peasants resting, near Naples," J. M. Richardson; (275), "Interior," G. Dodgson, are all charming specimens. Hunt's (244), "Fungi" is a piece of devotion resulting in a marvellous piece of colour. The contributions of Mr. David Cox show a failing hand, but have nevertheless a largeness and a sentiment to be found in few of the other works.

COMPETITIONS.

Halifax.—The premium in the competition for public baths, at Halifax, has been awarded to Mr. Edward C. Pressland, of London.

Proposed Corn-Exchange and Assembly-room, Dundalk, Ireland.—The designs offered in a limited competition, by Messrs. Bellamy and Hardy, architects, Lincoln, have been selected, and the works are to be proceeded with at once under their superintendence.

Yeovil Cemetery.—We are asked by the successful competitors to say that the names of the architects, to whom the first premium was awarded, are Fosters and Wood, not as printed last week. The names we gave came to us from the Board.

PULPITS AND STEEPLECHASES.—One would hardly expect to find anything architectural in *Bell's Life*, and yet on casting my eyes in the most casual way upon it, I read,—"Howden Steeplechase, April 19. . . . As a curious change of the times, the pulpit, which has done duty in Howden Church for the last 350 years, was used on this occasion as the judges' box." Can this be true?—C. F. H.

METROPOLITAN DISTRICT SURVEYORS' RETURNS.

THE superintending architect, Mr. Marrable, has made a report to the Metropolitan Board of Works on the examination of the returns of district surveyors. He finds "there are twelve districts in which the fees received vary from 33*l.* to 177*l.* each, five being under 100*l.* each, and which become much less by deduction of the expenses of office. In twelve districts the fees vary from 203*l.* to 292*l.* each. In a like number they vary from 301*l.* to 388*l.* In seven other districts the fees are under 500*l.*; and in thirteen the amounts rise from 561*l.* to 1,216*l.*

The expenses of office amount to 4,761*l.* for the whole fifty-six districts. In most cases these expenses are the same as those returned last year.

The amount remaining due at the end of 1857 (11,088*l.*) exceeds by several thousands the sum returned for 1856. The fees lost or abated amount to (1,702*l.*) nearly the same as last year."

The following is a—

List of the Gross Total of Fees received by the Surveyors of the several Districts under the Metropolitan Buildings Act, arranged according to Value.

District.	Gross Fees Received.	Office Expenses.	Net Revenue.
	£. s. d.	£. s. d.	£. s. d.
Streatham	33 [illegible] 6	17 10 0	15 18 6
Tower Liberty	47 13 9	22 1 [illegible]	25 12 9
Penge	74 7 6	17 0 0	57 7 6
Stoke Newington	87 19 [illegible]	19 7 0	68 11 0
Putney and Roehampton	93 19 3	15 0 0	78 19 3
Rotherhithe and Hatcham	100 3 0	46 0 0	54 3 [illegible]
St. Paul, Covent Garden, &c.	108 15 6	40 0 [illegible]	68 15 6
Saffron-hill, &c.	119 12 0	32 10 0	87 [illegible] 0
St. George-in-the-East	120 15 0	20 12 0 Flower 12 0 0 Billing 3 mos.	88 13 0
Limehouse, &c.	122 9 9	21 1 [illegible]	101 8 9
Fulham	166 13 6	17 10 0	149 3 6
Holborn, &c.	177 12 3	45 0 0	132 12 3
North St. Marylebone	203 6 9	114 12 0	88 14 9
Southern Division of City	213 0 3	No return.	213 0 3
Charlton, Lee, and Kidbrook	218 17 3	37 0 0	181 17 3
St. Giles and St. George, Bloomsbury	222 5 6	27 0 0	195 5 6
Hampstead	229 1 9	85 0 0	144 1 9
Woolwich	241 6 9	103 8 5	137 18 4
Whitechapel	263 0 6	33 12 0	229 [illegible] 6
Bromley	271 15 6	94 0 0	177 15 6
St. James, Westminster	285 4 0	64 [illegible] 0	221 4 0
Chelsea	285 11 6	90 0 0	195 11 6
Greenwich	288 13 6	133 [illegible] 0	155 13 6
St. Margaret and St. John, Westminster	292 2 0	50 0 0	242 2 0
Hammersmith	301 15 6	142 10 6	159 5 0
St. Martin-in-the-Fields and Soho	303 7 [illegible]	None.	303 7 8
Mile-end Old Town	325 14 0	90 0 0	235 14 0
St. Luke, Old-street, &c.	335 10 3	60 0 0	275 10 3
Clapham and Battersea	339 1 9	45 0 0	293 1 9
Bethnal-green	338 17 6	80 10 0	258 7 6
Clerkenwell	346 4 6	48 0 0	298 4 6
Deptford	351 6 6	100 15 0	250 11 6
Wandsworth and Tooting	364 11 0	64 2 2	300 8 10
Western Division of City	370 17 9 (£226 16 6; 144 1 3)	120 0 0 Parkinson	250 17 9
South Kensington	387 7 9	113 8 10	273 18 11
Lambeth (South Division), &c.	388 18 9	113 0 0	275 18 9
Eastern Division of City	411 0 1	116 0 0	295 0 1
Bermondsey, &c.	411 5 6	96 0 [illegible]	315 5 6
Spitalfields	412 16 7	39 0 0	373 16 7
Plumstead and Eltham	426 16 6	84 0 0	342 16 6
Southwark, &c.	446 12 6	55 0 0	391 12 6
South St. Marylebone	484 6 [illegible]	140 0 0	344 6 0
Hackney	487 2 0	277 14 2	209 7 10
North Kensington	536 2 8	164 8 [illegible]	371 13 10
West Islington	561 14 7	70 0 0	491 14 7
East Islington	570 6 3	142 0 0	428 6 3
Camberwell	593 8 9	169 10 [illegible]	423 18 9
Lewisham	611 10 6	165 0 0	446 10 6
St. George, Hanover-square	627 19 6	250 0 0	377 19 6
Northern Division of City	641 14 2	115 0 0	526 14 2
Bow and Poplar	722 2 9	108 3 0	613 19 9
Newington, Central Lambeth and North Battersea	721 14 8 (£702 5 2; 19 9 6)	78 5 9	643 7 11
South Islington	804 13 3	225 0 0	579 13 3
Paddington	864 14 0	160 0 0	704 14 9
Shoreditch and Folgate	996 9 7	172 10 0	823 19 7
St. Pancras	1,216 15 0	No return.	1,216 15 0
	£20,969 11 4	£4,761 10 3	£16,208 1 1

Summary of Abstract.

	Building Operations.	Fees.
		£. s. d.
New buildings in 1857, in respect of which fees have been received	3,902	6,729 10 7
Additions, alterations, and other works, in respect of which fees have been received	6,359	6,580 7 6
Total in 1857	10,261	13,309 18 1
Arrears under Building Act of 1844, and in 1856, received	5,069	7,659 13 3
Total of works and fees received during the year ending 31st December, 1857	15,330	20,969 11 4

THE AUTHORSHIP OF THE DESIGN FOR THE BOYNE VIADUCT, IRELAND.

A LENGTHENED discussion has taken place in the Dublin papers between Sir John McNeill, C.E. and Mr. Barton, C.E. relative to the authorship of the designs for the Boyne viaduct. The case advanced by each is briefly this. Sir John McNeill, in reply to the Rev. Mr. Galbraith, F.T.C.D. (who, last year, before a select committee of the House of Commons, stated that "One of the most important engineering works in Ireland—the Boyne viaduct—was constructed by Mr. Barton, who received his education at our school") says, that "The whole design and arrangement of the structure was mine, and none other had act or part in it."

Mr. Barton admits that Sir John should have credit for the original design of *a* lattice bridge to cross the required span, 250 feet; but that the lattice-work so designed is not at all similar in principle or detail to the bridge as built. In September, 1850, Mr. B. was referred to, professionally, by the company, to report on a plan and specification sent in by Sir John, and which, Mr. B. regrets to say, "was such that a contractor had no means of ascertaining the amount of work he was to do." "No complete elevation, no section of the line, no specification, and no details were given. Mr. B. was instructed to prepare specifications from Sir John's design, throwing the responsibility of the *safety* of the design on the contractor, under penalty of 3,000*l.* Mr. B. made an elaborate investigation of the strength of the design, and reported to the Board; and says, that his conviction as to the lattice design then about to be tendered upon, was not satisfactory. The effective sectional area of the bottom of each main beam of Sir John's design, at the centre of large span, was only 38½ inches, whereas the correct area, as required and constructed, is 98 inches: the area at top was 99 inches, whereas that required and constructed

113 inches: over piers, connecting centre with side span, the top chord was designed to diminish 81 inches, where the requisite and constructed area is 102 inches." Mr. B. says, "The chief objections were the inadequacy of Sir John's dimensions, and the *new* design was now prepared by me, accurately proportioned to the strain liable, and differed largely from *any* lattice design before made. The two designs are not based upon same principles of calculation, and are wholly distinct."

The *Newry Examiner* strongly condemns the course pursued by Mr. Barton, and considers "his claim to be any way the designer of the Boyne viaduct to be utterly without foundation morally, or in fact." We must confess, ourselves, touching only a general principle, that we have no great consideration for those who, paid to act as assistants at the time a work is going on, paid for what they do just as much as they expected to be paid, and *leaving all responsibility* on their chief, should the matter ever turn out ill, afterwards put forward claims for credit for doing what they were not employed to perform. There is, at any rate, dissimulation involved, if not treachery.

THE CASTLE AT EDINBURGH.

Seeing a short paragraph in the *Builder* of to-day respecting the alterations now going on in Edinburgh Castle, may I be permitted to say that these alterations have been approved of by Her Majesty and the Prince Consort, that they touch merely those parts which are disfigurements to a noble object, and that most careful restorations, not so-called improvements, are going on in several parts which needed them? From my intimate acquaintance with Lieutenant-Colonel Moody, I know him to be a lover of open dealing, and that he would regret deeply its being supposed that his designs were secret. He has made a deep study of Scottish architecture, and is conversant with its beauties and eccentricities.

May I hope that this letter, written without Colonel Moody's authority, will receive the same publicity as the paragraph—the cause of its being written? E. G. Culling Eardley.

MILITARY ARCHITECTS.

EDINBURGH CASTLE.

I am very glad that you have made some observations upon the subject of the works now being carried on at Edinburgh Castle, under the direction of a military engineer. This is but another instance where alterations have been made in ancient buildings without proper professional control, and it is high time that some energetic step should be taken to get the system altered. As the Institute of British Architects have lately stirred with some effect in supporting the just claims of the profession, I hope they will consider the propriety of memorializing the Government to put an end to the absurd practice which now places purely architectural works under the superintendence of military men. Surely barracks, castles, military chapels, and buildings of like importance, require the professional skill of well-educated architects; and yet the custom of the War and Ordnance Departments is to design and carry out such buildings by their own officers, without the aid of architects: thus we have such unsatisfactory buildings as the officers' residences at Dover Castle and the military chapel to the Canterbury barracks, built at great expense, and yet showing manifest want of knowledge in all the characteristics of Mediæval design. Now this arises from the inflexible law of routine and a false notion of economy; but perhaps the word inflexible is a little too strong, as I hear that lately an architect was requested to design a chapel for the Small Arms Factory at Enfield Lock, with the intimation that he should be paid 2½ per cent. for the drawings and specification, he would also be required to superintend the execution of his design; so, for the paltry saving of 2½ per cent. the most important part of an architect's duties were to be dispensed with. I remember also a case which occurred a few years since, when the late Lord Frederick Fitzclarence, on hearing the miserable condition of the garrison chapel at Portsmouth, invited an architect to report and make drawings for the restoration of the ancient wood work, which had been cut away to make room for sash frames, and in other points to restore the building; but not even then could the influence of his Lordship's position (as governor of Portsmouth) induce the authorities of the Ordnance to depart from their accustomed rule, and the decayed sashes were renewed under the superintendence of the officers of the Board.

The alterations now making at Edinburgh castle are designed and carried into effect under Colonel Moodie, of the engineers, who employs an architectural draughtsman at a small salary to sketch details for other buildings, and apply them under his direction where he thinks best. the highest and most important part of the design resting with him, who, however able as a soldier, cannot be qualified to judge of correct architectural composition like a professional architect.

In dealing with such a structure as Edinburgh castle, the most scrupulous care should be taken to preserve its simple grandeur from being impaired by anything approaching to mimic bastions, &c.; and the best security against this would be the employment of a competent professional architect instead of a draughtsman on the condition that he have nothing to do with the question of design, but merely to act as a clerk under a military chief. I believe the Board of Works, alive to the importance of the principle I have asserted, always appoints a professional man to superintend the execution of public works, even of small character, where care and archæological knowledge are required; but the War and Ordnance Department adhere to their old system, and will not alter their course until public opinion is sufficiently strongly expressed to render the change compulsory. B. F.

IRON VIADUCTS, MORECAMBE BAY.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting on April 20th, Mr. Joseph Locke, president in the chair, the paper read was "Description of the Iron Viaducts erected across the Tidal Estuaries of the Rivers Kent and Leven, in Morecambe Bay, for the Ulverston and Lancaster Railway," by Mr. James Brunlees.

This paper formed a sequel to one read in the session 1854-55, on the construction of the sea embankments across the same estuaries, which were each about 1¼ mile in width, the viaducts being the necessary openings for the tidal channels. The superficial stratum of these estuaries was ascertained, by borings, to be sea sand for a depth of 70 feet. A series of careful experiments was instituted, to determine the bearing power of the sand, various forms of piles and discs being sunk and weighted, and their subsidence observed. Simultaneously with the weighting, a constant vibratory motion was communicated to the piles, thereby rendering the conditions of the test as analogous as possible to the work the piles would ultimately have to perform. The average result proved the sustaining power of the sand to be about 5 tons per square foot. As it was considered desirable that each bearing-pile should carry at least 20 tons, the discs were made 2 feet 6 inches in diameter, giving an area of 4·86 square feet, or 24·30 tons sustaining power. The discs of the raking piles, however, were only 18 inches in diameter. In the four-pile piers there was an area in the discs of 16·30 square feet; and as all the piles were intimately bound together by strong walings and transverse ties, the sustaining power of each pier exceeded 80 tons, without taking into account the firm bearing the walings had upon the rubble stone weirs introduced to prevent the scour of the channels. Experiments were tried upon various forms of piles, including the bell-mouth, to be filled with concrete, but the form adopted, as most satisfactory in every respect, was a plain disc, cast on the hollow column, with an orifice 3 inches in diameter in the centre.

With the exception of those of a few piers at each end, the whole of the piles were sunk to a depth of 20 feet, by hydraulic power, applied in the following manner:—The hole in the centre of the disc received the lower end of a pipe 2 inches diameter, which, extending up the hollow pile, was connected, by a flexible hose, with a donkey engine and pumps placed on a pontoon moored by the side of the piles. The water was forced by these pumps down the pipe, and an alternating rotatory motion being communicated to the pile, the sand beneath was loosened by rills or cutters cast on the lower surface of the disc, and was readily washed, or blown away by the water,—thus causing the pile to sink rapidly. The piles were kept in position by means of the slide-block apparatus of a piling machine, and the sinking was much facilitated by keeping a considerable part of the weight hanging on the piling engine, thus preventing any irregularity of sinking, or undue strain on the pumps. In this manner two piles were generally put down from each pontoon during ebb tide. Each pile was finally driven down 2 inches with a heavy "tup," to consolidate the loosened sand. The timber guide piles in the approaches to the draw-bridge, consisting of balks 14 inches square, were fitted with cast-iron sockets and discs, and sunk by the same process, and with as much facility as the hollow iron cylinders. There can be no doubt that this mode of sinking hollow piles would be equally efficacious in the case of much larger cylinders than those here described, the interior being subsequently filled with concrete or masonry, in the usual manner.

The length of the Leven viaduct was 1,563 feet. In its construction 395 tons of wrought and 138 tons of cast iron were used. The total cost, including abutments, drawbridge, and weirs, was 18,601*l.* for a single line, and the whole structure was completed in thirteen months. The Kent viaduct was 1,566 feet in length. In its construction 1061 tons of wrought and 368 tons of cast iron were used. The total cost for a single line was 15,056*l.*; and the whole structure was completed in eight months. The cost of the Leven viaduct, when completed for a double line of way, would be 21,361*l.* or 36*l.* 15*s.* per lineal yard. The Kent viaduct, when completed, would cost 20,813*l.* or 39*l.* 17*s.* per lineal yard.

PROVINCIAL NEWS.

Halsted.—A new banking house for Messrs. Sparrow and Co. from plans by Mr. Chancellor, is about to be built by Mr. Sudbury, on the site of premises lately occupied by Mr. J. Jesup.

Bedford.—The Britannia iron works, in course of erection on the Cauldwell Priory Estate, are making progress. The area of ground covered by the extensive works at present in hand is 7,731 square yards; but this forms only a portion of the ultimate erections. The new building is divided into six bays or roofs, which comprise the following, namely; that on the north, the first bay, will include brass foundry, bending furnace, boiler-house, coal stores, sand shed, men's closets, &c. Comprised in the second bay will be the foundry, 180 feet long by 50 feet wide, pattern stores, 50 feet by 30 feet, and fitting shop of similar dimensions. In the third bay is the engine-room and the lathe and machine shop, the latter of which is 180 feet by 50 feet, together with the pattern-maker's room and stores for castings. The south comprises the fourth, fifth, and sixth bays, within which will be arranged the smithery, 180 feet by 150 feet, the roofs of which are supported on cast-iron columns. The buildings are in course of erection by Messrs. Lawson and Freshwater, of Bedford, from designs by Mr. R. Palgrave, of London, architect. The estimate of the contractors for those portions of the works now nearly completed was 10,000*l.*

Aston and Coate (Oxon.).—Various improvements have taken place in these parishes since their inclosure. We now see large tracts of well-cultivated, fertile arable land, which were undrained marshes. Roads have been made, new farms laid out, and homesteads erected. Improvements have taken place at the Manor-house and farm at Coate. The house has been renovated, and a new set of farm buildings erected. The plans were prepared by Mr. Wilkinson, of Oxford, architect, who has also carried out another set of buildings and a farm house at Aston, for the same proprietor, and other agricultural buildings in the neighbourhood. The inclosure of the land (3,000 acres) was undertaken by Mr. W. B. Wood, of Chippenham, Wilts, land surveyor.

Dover.—The restoration of the Maison Dieu Hall has been commenced by Mr. Moxon, the contractor. At present, with the funds in hand, derived from voluntary contribution, it is intended to construct a new entrance to the hall, and insert a new western window of stained glass, containing figures of Hubert de Burgh, the founder of the hall, and some of the early English kings, who were benefactors or visitors to the place. This window will cost 120*l.* and is the gift of Mr. J. Bell. The new entrance to the hall will open into a new lobby, formed by a low screen of carved oak.

Chippenham.—The new schools in the parish of St. Paul, close to the railway station, are now completed, and opened for use. The building, from the design and under the superintendence of Mr. Weaver, of Devizes, architect, is of the Early English character: the walls being of local stone, and the whole of the interior faced with freestone. The plan of the school-rooms is a half H, presenting a front elevation of 85 feet, with gables at either extreme, and pierced with three light lancet windows. At the junction of the gables and transverse walls are two porches of 10 feet projection, forming lobbies to the boys' and girls' schools, which are arranged for about one hundred children to each school, and are divided by a partition, partly sliding, so that a lecturer may stand

lat the open partition and command a view of both schools. Annexed to each school-room is a class-room capable of containing twenty-seven children. The roofs are of high pitch: the height from floor to ceiling is 19 feet. In the centre of the transverse roof is an octagonal bell turret. Attached to the school is a master's residence. The whole of the roofs are covered with Sealey's patent Bridgwater tiles; and the windows are glazed with Heatley's patent plate quarry glass, without lead or other frame work. The total cost of the building is 1,567*l.* Mr. Downing was the contractor.

Cardiff.—The two new wings to the county jail, designed by Mr. Martin, of London, architect, have been erected by Messrs. Webb and Sons, of Birmingham, who have also made other alterations and additions, and a new contract has been entered into with them for further works, to the extent of 1,000*l.* in the old sections of the jail. The male ward will now accommodate 108 prisoners, and the female ward 48. The whole of the extended area of the jail is bounded by a wall of masonry 30 feet in height, partly contracted for by Messrs. Dennie and Logan, the main or central part having been completed by the contractors for the wings.

Rugby. The opening of the new town-hall and corn-exchange, at Rugby, has been celebrated by a public dinner in the assembly-room at the town-hall. The building stands upon the site on which stood the schools and almshouses, built and endowed by Richard Elboro. The front, which is ornamental, is in the High-street, and the block stands in the centre of the town. The approach to the covered market is in Sheep-street. The entrance-hall is laid with tesselated pavement. On the left hand side of the chief entrance is a room where the magisterial and county court business is to be held. On the right-hand side are two rooms, which are about to be let, one as the mechanics' institute, and the other as a public newsroom. There are also anterooms on the ground-floor, with vaults under the entrance-hall. The covered market, or corn-exchange, will afford accommodation to the farmers, the butchers, the poulterers, and others, who have been wont to stand in the market exposed to the inclemency of the weather. The principal staircase leads to the assembly-room, which is 76 feet long, 32 feet wide, and 26 feet high. The room is lighted by two sun-lights of sixty-three lights each, forming seven sunflowers, the light from which completely fills every part of the room, besides producing a pleasing effect. There are also retiring-rooms, leading from the large room. There have been 6,000*l.* expended in the purchasing of the site and the erection of the building.

Macclesfield.—At the Cheshire quarter sessions, held at Knutsford, a vote of 11,500*l.* has been carried for the erection of new militia barracks at Macclesfield, the money to be borrowed in the usual way on the county rate.

Bolton. The plans for the new union workhouse at Bolton, prepared by Messrs. Woodhouse and Hall, have been adopted by the building committee. The estimated cost is 21,000*l.*

Carlisle.—In the Lunacy Report, read at the Cumberland Easter sessions, as published in the *Carlisle Journal*, is the following passage:—"Your Committee, immediately on the quantities and the working plans of the Asylum being ascertained, proceeded to advertise for contracts in the *Times*, *Builder*, *Manchester Guardian*, *Newcastle Journal*, *Great Northern Advertiser*, and the different local papers circulating in the two counties, and thirty four tenders were received in reply thereto from parties resident in all parts of England. After carefully examining the different tenders, your Committee selected that of Messrs. Charles and John Armstrong, of Carlisle, builders; George Black, of the same place, joiner; and David Thomson, of the same place, plumber and glazier, for the whole work, at the price of 18,765*l.* subject to the approval of the Courts of the Quarter Sessions for the two counties. The agreement has been prepared and duly executed by the contractors, and it is now submitted to the Court for their approbation." The report was confirmed and the contract signed.

Edinburgh.—A new palm-house has been erected by Government in the Botanic Gardens, at a cost of about 6,400*l.* It adjoins the old one, and is of an oblong form, 100 feet by about 70, and 72 in height. The building is of stone to a height of 65 feet, a dome of glass and iron resting on the walls, with iron galleries inside and out. —The town council have resolved to secure six acres of meadow at Stockbridge, to be used along with two acres adjacent, already rented as a public park and bleaching-green.

Glasgow.—Among the army estimates for 1858-59 we find the following item:—"Purchase of land as site for new barracks at Glasgow, 28,000*l.*"

Elgin.—Additions, &c. to the Elgin Gas Works have been contracted for. Mr. Alexander Allan, mason, for building and excavations, 516*l.*; Mr. John Mackenzie, wright, for carpenter, slater, and plumber work, 149*l.* 10s.; Tank (metal) and gasometer, &c. Balfour and Co. Kirkcaldy, 863*l.* There were a number of other estimates, but these being the lowest were accepted.

SCHOOLS.

St. John's, Blackheath, Kent. The National Schools belonging to this district, of which the Rev. R. G. Lewis is the incumbent, having been found incapable of affording sufficient accommodation, it was recently determined to erect an additional boys' school and master's residence adjacent to and in connection with the old buildings. The new buildings, which are Gothic, of plain character, consist of a boys' school, 18 feet wide by 28 feet long, and residence for a master. The buildings are of red brick, with dressings, quoins, &c. of white Suffolk brick. The roofs are all of high pitch, that to the school being open to the ridge. Mr. Bland, of Blackheath, was the builder, and the architect was Mr. George Low.

Horham, Suffolk. The National School recently erected in this parish was opened on the 14th ultimo. It consists of a school-room, 33 feet by 16 feet, and a class-room, 16 feet by 9 feet, both of which are lofty, well lighted and ventilated. It is calculated to accommodate seventy-five children. The cost has been about 170*l.* the greater part of which was raised by public aid, by grants from the Privy Council and the National Society. The architect was Mr. Augustus Freeman, under whose superintendence the works were executed by Mr. R. Smith, of Dickleburgh, Norfolk.

NORTH MARYLEBONE DISTRICT SURVEYORSHIP.

At a meeting of the Metropolitan Board of Works, held on Friday, 23rd ult. Mr. John Barnet was elected district surveyor for the northern division of St. Marylebone. We have heard it stated that the gentleman who held the appointment, resigned from the harassment of feeling occasioned by the impossibility of getting the requirements of the Act attended to.

PROFESSIONAL ETIQUETTE.

BIRMINGHAM BATHS.

SIR,—Knowing your readiness in exposing all manner of trickery and fraud in matters of competition, not only on the part of committees, but also of unworthy members of the profession, I wish to call your attention to a proceeding of one of the competitors for the "baths" proposed to be erected in Woodcock-street, Birmingham. The course adopted in this case by the competitor in question (who is a son-in-law of one of the members of the council), is the printing of a circular, with an array of testimonials, and forwarding a copy to each member of the council, and the delivery of them the day previous to the meeting of the baths committee. Of course this could not be done without its being noticed abroad. A meeting of the competitors, resident in Birmingham, was the result, when the following resolutions were passed:—

"At a meeting of architects competing for the proposed new baths, Woodcock-street, held this day, the attention of the meeting was called to a printed circular, signed by ——, with testimonials attached thereto, the object of such circular being to create a bias in favour of the plans submitted by him, to the prejudice of the other competitors, and a copy of which it was stated had been sent to each member of the council.

Whereupon it was unanimously resolved, that the adoption of such a course is a breach of professional etiquette, and derogatory to its members, as having a tendency to lower the character of the profession.

It was also resolved, that a copy of the above be forwarded to each member of the council, and to Mr. ——. 28th April, 1858." F. EMPSON, Chairman.

Comment is unnecessary. By making the affair public, you will be conferring a great favour on the profession. A COMPETITOR.

FATAL ACCIDENTS AT COVENT GARDEN THEATRE.—On Thursday in last week two accidents unfortunately happened, at different times of the day; a stonemason in the first case having fallen from a height while erecting the pillars in front, and an old lady, the mother of the clerk of the works, in the after-part of the same day, having also fallen from a height. In both instances the unfortunate persons were killed on the spot.

LUNATIC ASYLUMS; AND TREATMENT OF THE INSANE.

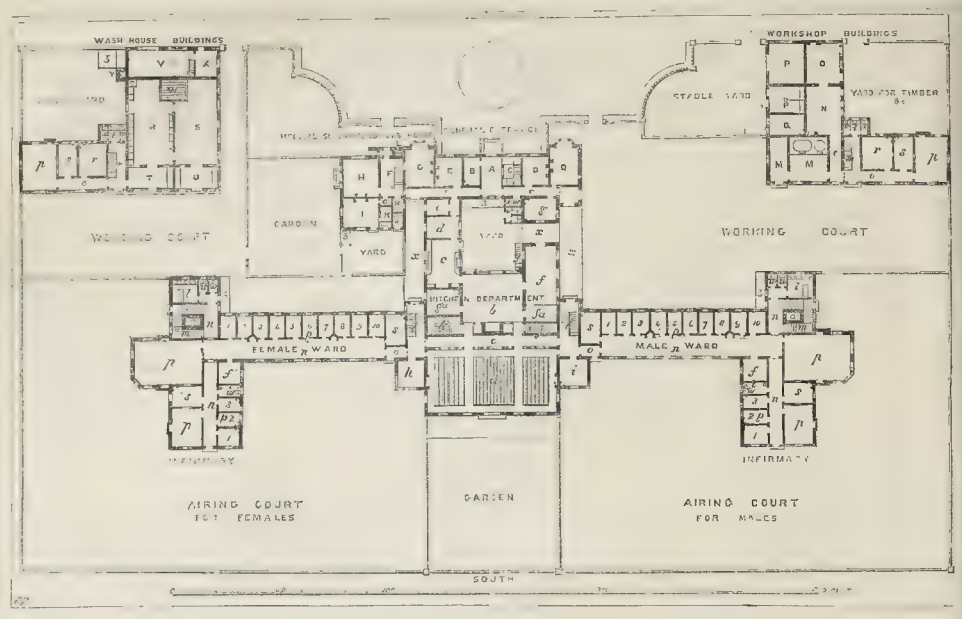
IMPORTANT as the change has been of late years in the treatment of the insane, the actual appliances—even after the erection of many asylums, some of them of great dimensions—are still, as to number, much below the standard required by the serious prevalence of insanity, and as to particular suitableness, are for one portion of the public and private institutions, open to serious imputations; and, for another portion, to further improvement from architectural skill. The urgent necessity which, in March, 1856, was seen to exist for making "further provision for the care and treatment of increased and increasing numbers of the insane poor," induced the Commissioners in Lunacy to consider very attentively the means to be adopted to meet the demand; and in their last report printed, dated 31st March, 1857, the facts to which we have alluded are again dwelt upon. They are such as should claim the special attention of our readers, and in a future article we propose to offer some particulars which may aid to the formation of a more accurate impression of those facts than may now exist, and of the position and duties of architects in relation to them. At present, we shall merely notice the changes which the Commissioners made in 1856 in their "Suggestions and Instructions," and the grounds for those, and supply illustrations and particulars of a building which claims to have been the first designed on the new basis.

The enormous costliness of fresh buildings, or of the enlargement of existing ones, had been no doubt calculated to retard the further provision, referred to as greatly wanted. At the same time, dimensions to afford accommodation considered within that supplied at the Middlesex county asylums, have been encouraged rather than the enlargement of such vast structures. The Commissioners, in their last report, have thought it right to place on record their reasons for having given "only a modified sanction" to the enlargement of Colney Hatch, so as to obtain of 713 additional patients, and of Hanwell, to provide for an increase of 600,—to which they would have preferred the erection of a third asylum. They say:

"It has always been the opinion of this board that asylums beyond a certain size are objectionable. They forfeit the advantage which in many can replace, whether in general management, or the treatment of disease, of individual and responsible supervision. To the cure or alleviation of insanity, inward aids are so important as those which may be derived from vigilant observation of individual peculiarities; but where the patients assembled are so numerous that no medical officer can bring them within the range of his personal examination and judgment, such opportunities are altogether lost, and amid the workings of a great machine, the physician, as well as the patient, loses in individuality."

They add that experience has proved that absence of single and undivided responsibility is injurious to the general management; and they offer evidence to show that in the larger buildings, the rate of maintenance for patients has a tendency to run higher than in buildings of smaller size. They also draw a distinction between permanent places of refuge, and hospitals for treatment and relief. The latter obviously require to be designed with comparative disregard to cost; the former, they believe, might be of an inexpensive character. To some such system of separation, in their previous report they had looked, for the means of increased accommodation likely to be required then, at a very early date, in every county; though, after all such economizing, they were obliged still to contemplate the need of large additional accommodation. With a view to the best means for this, and greatest economy, they reconsidered their documents already referred to; and eventually, in 1856, they issued new Suggestions and Instructions, referring to "Sites," "Construction and Arrangement of Buildings," and "Plans," through which they hoped, by improved arrangements, to secure the objects, at much less cost than had been incurred previously, and yet without abridging the advantages to the inmates of the buildings.

Having arrived at the conclusion that a large proportion of the orderly, chronic, and convalescing patients do not require the expensive accommodation usually found in county asylums, the commissioners proceeded to recommend generally in cases where the asylums required enlargement, that this should be effected not by additions to the main structure, but by the erection of detached day-rooms and associated dormitories—on the women's side near the wash-houses, and on the men's side near the workshops and farm-buildings. Saving of time in conducting patients to and from their places of employment, not only, would thus be effected; but there is reason to believe that direct benefit to the patients themselves would



CUMBERLAND AND WESTMORELAND LUNATIC ASYLUM.

accrue from the feeling of comparative freedom, and the consciousness of being useful and thought worthy of confidence, and from the probation which convalescents would thus undergo, prior to meeting the trials of the world without, the effect of which on individuals sent direct from a large asylum has contributed to many relapses. This species of accommodation was recommended for the asylums of Leicestershire, Somersetshire, and the West Riding of Yorkshire; for the Northampton Hospital, and to a certain extent at the two asylums for Middlesex. At the Northampton Hospital, however, the "wide galleries," especially objected to "as extremely expensive and comparatively useless," have been retained "on the ground, that 'there is not sufficient gallery accommodation in the existing hospital.'"

Considering the application of the principle just referred to, to new asylums, they proceeded to other recommendations. Amongst those embodied in their suggestions to architects, were,—

1. "The erection of a third story for sleeping accommodation.
2. The substitution on the upper floors, of passages of communication of moderate width, instead of the wide, useless, and expensive corridors, hitherto generally in use.
3. The introduction of open fires, or open fire stoves (or a combination of these with hot-water pipes), in substitution for the artificial, complicated, and expensive system of warming and ventilation now in use, which entail much annual expense besides the original outlay, without any corresponding benefit.
4. That the airing grounds be few in number and ample in extent."

These recommendations, they hoped, would be found to allow of the erection of a suitable building for the Sussex Asylum, at greatly reduced cost.

As to the question of dimensions, in their last report, they consider that the limit both at Colney Hatch and Hanwell, had been exceeded, prior to the proposal to raise the accommodation of the former buildings, to nearly 2,000 inmates, and of the latter to 1,620 inmates; and that the increase would be "most prejudicial, and that no such proposal ought to be sanctioned." The land they considered to be insufficient even for the existing buildings at Colney Hatch and Hanwell. The arguments in favour of a third asylum for the classes of cases not needing expensive arrangements, however, did not prevail, and the commissioners eventually gave way. On the other hand, we may allude to maintenance of opinions which are opposed to any separate institutions for "incurable" patients, on the ground that association of the different classes may be beneficial, and that hope of recovery should not be withdrawn.

The asylum about being erected for the joint counties of Cumberland and Westmoreland, on the site known as Garlands, near Carlisle, is on a smaller scale than the chief of the buildings which have been illustrated in our previous volumes. The original design by Mr. Thomas Worthington, of Manchester, of which we give a plan and elevations, was approved of in the early part of 1857, by the Commissioners and the Secretary of State; but the magistrates have thought fit to instruct the county surveyor for Cumberland, Mr. John A. Cory, to procure contracts, and superintend the erection of the building. It will be seen that the plan provides, as amongst its leading features, for the separation of the convalescent or working patients from the others, for the warming by open fireplaces throughout, and for a reduced proportion of single bed-rooms to the whole number of patients; and that an upper story for dormitories is added.

The accommodation is for the following:—

NUMBER OF INMATES.

MALE PATIENTS.

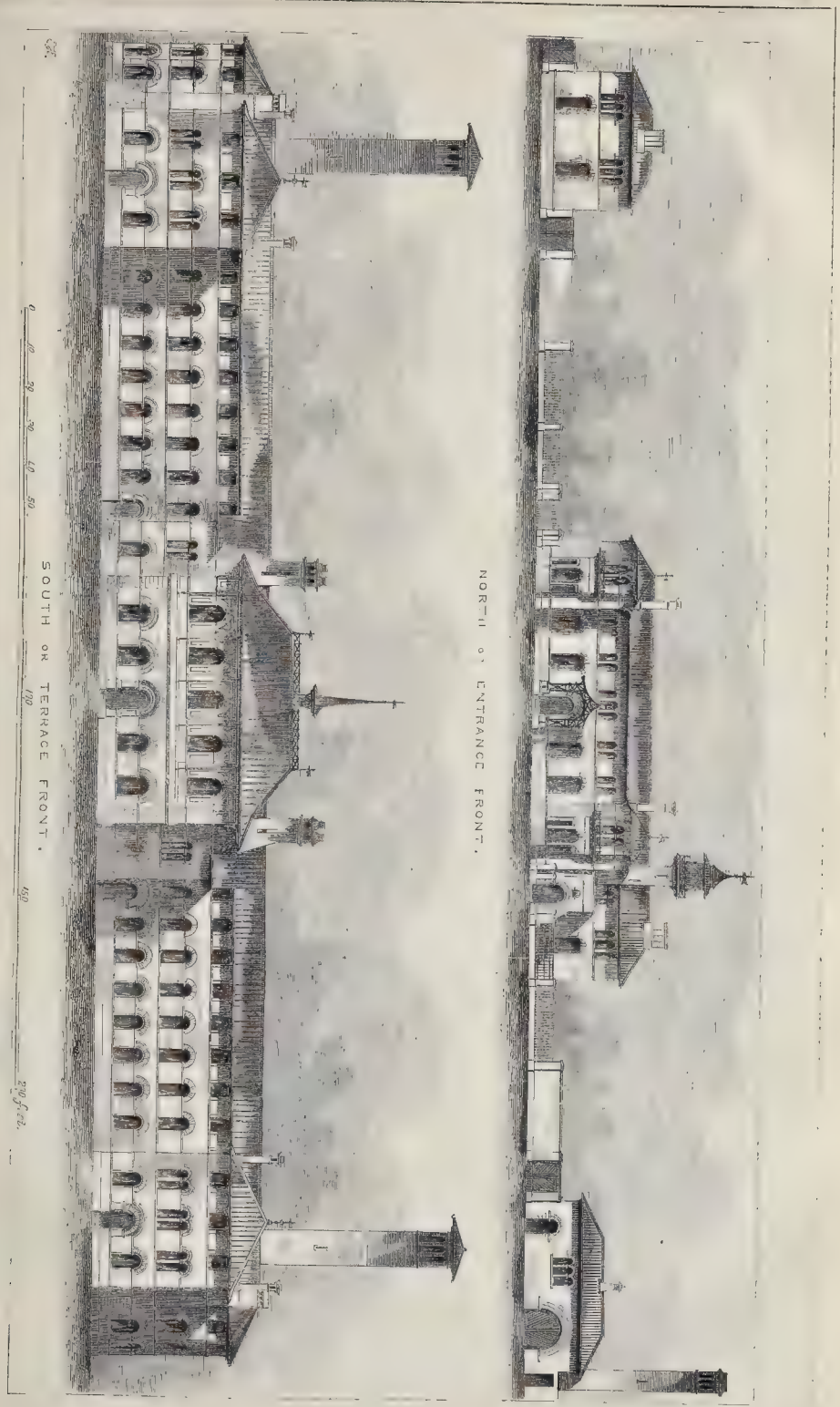
Main Building:—		
Ground floor, single beds	10	10
First floor, ditto	10	10
Second floor, in dormitories	54	
Infirmary		
Ground floor, single beds	3	3
First floor, ditto	3	3
Do. in dormitory	4	
Working Department:—		
Ground floor, dormitory	4	
First floor, ditto	12	
Male Patients	100	26
Female Patients	100	
Total	200	

The main building, in three stories, has similar arrangement of the ground and first floors, or what is shown in the plan; whilst the upper-floor is devoted exclusively to dormitories. Over the lining-hall is the chapel; and over the servants' hall and stores are the matron's rooms, and servants' apartments. The general entrance is on the north side, in the centre of the building, and around it are arranged the offices for the reception of patients, visitors, &c.; adjoining to which is the consulting-room, and residence of the medical superintendent. The board-room and offices are on the first floor. On each floor, and to each ward, spacious bath-rooms and lavatories, slop-rooms, and water-closets are provided, with an abundance of light and ventilation; and those to the main wings are detached from the wards. All the rooms and corridors are warmed by the open fire-places, and the ventilation on each floor will be managed by means of a large horizontal trunk leading into the main shaft at each angle of the building. The effective operation of which, will be assisted by placing the boiler and furnace for supplying the hot water in the basement story, the smoke being conveyed by an iron tube through the shaft. The attendants' rooms are placed, so as to provide a ready means of inspection to the majority of the patients Detached from the main building on each side, is the residence for the convalescent or working patients, or for those about to be discharged from the asylum, who will here pass the probationary term before actual dismissal. Each residence will accommodate sixteen patients; there being a large dormitory over the day-room, with all requisite conveniences. The workshops are in two stories, with rooms for carpenter and joiner, tailor, and shoemaker; and a coachhouse and stable in addition, for the use of the magistrates, visitors, and others.

The elevation of the north, or entrance front, properly, should show the rear-front of the range of buildings in which the wards are situated. We subjoin the following:—

Reference to Ground Plan.

A. General entrance.
B. Porters' room.
C. Stairs to board-room, &c.
D. Reception-rooms.
E. Consulting-room.
F. Superintendent's entrance.
G. Dining-room.
H. Drawing-room.
I. Kitchen.
K. Scullery.
L. Clock-tower. (Cellars under house.)
M. Bake house and flour-store.
N. Joiners' shop.
O. Cabinet-maker.
P. Coach-house and stable.
Q. Dead house and post-mortem-room.
R. Wash-house.
S. Laundry.
T. Reception-room.
U. Distribution-room.
V. Boiler-house and engine.
W. Drying-closet.
X. Smiths' shop.
Y. Chimney-shaft.
a. Dining-hall.
b. Kitchen.
c. Scullery.
d. Larder.
e. Pantry.
f. Store-room.
fa. Bread-room.
g. Steward's office.
ga. Servants' hall.
h. Dispensary.
i. Assistant-surgeon's room.
j. Stairs to servants' bedrooms.
k. Matron's staircase.
l. Stairs to chapel and dormitories.
m. Principal staircases.
n. Corridors.
o. Passages.
p. Day-rooms.
q. Single bed-rooms.
r. Dormitories.
s. Attendant's room.
t. Bath-rooms and lavatories.
u. Slop-rooms.
v. Ventilating-shaft.
w. Water-closets.
x. Covered way.
y. Steps to cellars.
z. Sheds for coal and fuel.



CUMBERLAND AND WESTMORELAND LUNATIC ASYLUM. DESIGNED BY MR. THOMAS WORTHINGTON.

CHURCH-BUILDING NEWS.

Norwich.—Besides the restoration of the north side of the cathedral, which is about to be carried out by the dean and chapter, the ancient palace of the bishop, which has long stood in need of extensive repairs, is undergoing alterations involving an outlay of about 5,000*l.*; the money borrowed of Queen Anne's Bounty, by mortgage on the episcopal income.

Yarmouth. The church of St. John, erected for the use of beachmen, fishermen, mariners, &c. has been consecrated. The edifice is built in the Early English style, the ornamentation exceedingly simple. There are several windows of stained glass: one over the altar depicts the crucifixion, and another on the north side represents the miraculous draught of fishes. The church, the estimated cost of which is about 1,700*l.* is capable of accommodating between 300 and 400 persons. The whole of the sittings are free.

Ebony.—The chapel constituting the parish church here is to be removed, and a new one erected on a more convenient site, near Tenterden, according to the *Surrey Standard*.

Hagley.—The church here has been restored by way of testimonial to Lord Lyttelton, and as suggested by his lordship. In the renovated structure 10 feet more have been taken in westward for the north and south aisles. As it is hoped that a tower may be built ere long, the east end has been temporarily bricked up. The church is restored in the Early Decorated style, and is of stone from the Bromsgrove quarries. There is a bell turret surmounted with an iron cross, gilt. The chancel fittings are all of oak, carved by Mr. Chapman, of Oxford, and the floor is laid with Minton's encaustic tiles. There are no pews, the nave and aisles being now filled with open seats. The roof is open and lofty. The whole of the new stone carvings about the church have been executed by Mr. Earp, of London. The east window is filled with stained glass by Mr. Wailes, of Newcastle, from a design by the architect, in memory of the late Lady Lyttelton, and the gift of the family. Another memorial window will in a short time be placed at the west end of the south aisle. It will be filled with stained glass by Mr. Hardman. The east window of the south aisle is also filled with stained glass by Mr. Hardman. The west window of the north aisle, which is of stained glass, by Mr. Wailes, was the east window in the same aisle of the former building. The roof is more lofty than before, and ventilation is procured by means of upper heads at the eaves. The addition made to the building allows room for an extra bay, and more than compensates for the gallery. The number of sittings now is 420, being twenty more than before. The church is heated by steam and hot water, the apparatus being fixed by Mr. Cooper, of Hagley. The amount of the contracts for the whole of the restorations is 2,300*l.* but this includes the porch, erected by Mr. Talbot, and the windows, given by the Lyttelton family and the parishioners.

Wimborne. Another window (the sixth by the same artist, Mr. Lavers) is being placed in Wimborne Minster, recently restored by Mr. T. H. Wyatt. The new window is presented by the Earl of Malmesbury, the Foreign Secretary, in remembrance of his education there under a late vicar, the dedication being inscribed at bottom of window to that effect. The subjects chosen are—Christ blessing little children, and Timothy with Lois and Eunice. The quatrefoil in the head of the window represents an angel bearing a scroll, with text.

Deepcut. The new Roman Catholic Church of St. Mary and Boniface, which has been in course of erection for the last two years, has been opened for public worship. The plan is cruciform, the transept being not much from the centre of the length of the church. Westward of the transept are a nave and north and south aisles, and eastward the choir and its aisles, besides a chapel opening eastward out of each extremity of the transept. Three bays or aisles are given to the length of the choir, and at the rear of this is the Lady Chapel, occupying the remainder of the choir nave, with an octagonal apse: the ends of the choir aisles are also occupied by chapels. The style of the building is Early English of the simplest character. Long triple-lancet windows appear in the ends of the nave and transepts, surmounted by circular windows with trefoil fillings in each gable. The apse has long single lancets in each side. The aisles and chapels generally have coupled lancets, and corresponding ones in the clerestory. The church is built of unhewn limestone in random courses, with occasional bands of squared and hewn stone, hewn limestone quoins, and Bath stone jambs, dressing-strings, plinth-courses, &c. Octagonal granite piers support the five nave arches in the interior on each side,—the arches themselves being somewhat acutely pointed, and the transept piers are of Bath stone cluster-shafts, rising to the height of the clerestory, from which spring the main transept arches. The choir has polished circular limestone piers, and arches similar to those of the nave. The roof is open, with ceiling to the spans. All the timbers are dressed and stained. The floor is of cement. The windows are glazed with cathedral glass in quarries, except the south-east chapel of the transept, which has received a donation of stained glass: the figures of St. Henry and another saint occupy the lights of this chapel: they have been executed by Mr. Ball, of Bristol, from the cartoons of Mr. G. B. Maycock, of Clifton. The dimensions of the church are:—Total length within, 155 feet; breadth across transepts, 80 feet; breadth across nave and aisles, 50 feet. A tower forms part of the design: at present it only forms a bell-chamber. When completed, it will consist of four stories or stages to the setting on of the spire, and the height of the spire itself will reach something like 200 feet. The building has been erected by Mr. Roberts, of Stonehouse, from designs by Messrs. J. and C. Hansom, of Clifton.

Worcester.—The following tenders were sent in for the rebuilding of Angel-street Chapel, with the schools and chapelwarden's house attached, according to the design of Messrs. Poulton and Woodman, of Reading, architects:—

	£	s.	d.	If without the upper gallery, less £	s.	d.
Preedy and Son, Worcester	1,760	12	6 ..	10	1	6
Wheeler and Son, Reading	4,400	0	0 .	180	0	0
Chamber and Hilton, Birmingham	4,044	0	0 ..	160	0	0
Heming and Sons, Worcester	3,884	0	0 ..	162	7	0
Walker, Evesham	3,740	0	0 ..	147	19	1
G. H. and C. Holland, Worcester	3,476	9	0 ..	141	7	0
J. Wood and Son, Worcester	3,127	0	0 ..	113	0	0

The committee unanimously agreed to accept the tender of Messrs. J. Wood and Son for the execution of the works, under the superintendence of the architects.

Tunstall.—The corner-stone of a new church, at Tunstall, to be dedicated to St. Mary, has been laid by Mrs. Wood, of Brownhills. The church will stand nearly east and west, having the east end towards the west end of Lime-street. It will consist of chancel, nave, aisles, and vestry, and tower and spire at the east end of the north aisle. The chancel will be 25 feet long by 21 feet wide, the nave 81 feet long, the width of the edifice across the aisles 53 feet, and the spire will be 120 feet high. Arcades of moulded brickwork in two colours, resting on stone pillars, will separate the nave from the aisles, and except the steps these pillars are the only portions to be executed in stone. The spire and the entire body of the church will be done in brickwork, faced on the outside with selected red bricks, divided by bands of bricks of a dark blue colour. The roofs will be laid with blue tiles separated by bands of ornamental tiles of the same colour, and finished with crest ridge tiles. The roofs are all open to ridge. Accommodation will be provided for 700 persons, exclusive of children. The church has been contracted for at 3,185*l.* including the steeple and some details of the internal finishing. The style is of a late period of the Early English, or rather of a transition date between that and the Decorated. The architects are Messrs. Hay, of Liverpool; and the contractors, Messrs. Nelson and Hughes, of Liverpool, and Mr. Henshaw, of Tunstall.

Lapley.—The restoration of the old tower of the church here is to be commenced forthwith, the contract having been taken by Mr. Godfrey, of Birmingham, builder, for 550*l.* and when the tower is rendered secure, the restoration of the nave will be proceeded with. The works are under the superintendence of Messrs. Bidlake and Lovatt, of Wolverhampton.

Stourbridge.—By the liberality of Mr. W. O. Forster, M.P. a new church, with 600 sittings, and schools and residence for the accommodation of 150 boys, 150 girls, and 100 infants, will shortly be commenced at Woolaston suburb. The plans have been prepared by Messrs. Bidlake and Lovatt.

Ratcliffe-on-Trent.—The parish church of Ratcliffe has been re-opened. In pursuance of a contract made with Messrs. C. C. and A. Dennett, of Nottingham, to execute the alterations for 656*l.* according to the instructions of the architect, Mr. C. Bailey, of Newark, the work was commenced in August last. There was, originally, a chancel to the church, but it was in a very dilapidated condition, and the improvement consists principally in a new south chancel aisle. Two arches have been opened from the western wall of the church—one for the south aisle, and the other for the organ-chapel. At the east end there is a triplet in stained glass (by Mr. Wardman, of Birmingham), with Scriptural devices; and the whole of the remaining (principal) windows have been filled with embossed coloured glass. There is an open-timbered roof. All the seats are of polished pitch pine wood.

Brinkhill.—The church of the retired little village of Brinkhill has been re-opened for divine service, after being almost entirely rebuilt. The plans were supplied by Messrs. Maughan and Fowler, of Louth, architects, and the building was erected at a cost of 450*l.*

MONUMENTS.

At Carmarthen, to 23rd Fusiliers. The erection of a monument in memory of the 23rd Welsh Fusiliers who fell during the late Russian war is proceeding at Carmarthen. The site is in the Guildhall-square, and the monument is to be 30 feet in height, with a base 12 feet square, the whole being formed of Portland stone, and on the shaft and pedestal will be inscribed the names of every officer, non-commissioned officer, and private who fell during the war, whether on the field or by disease. The monument is to be surrounded by an iron railing representing rows of muskets with fixed bayonets.

At Chester, to late Chancellor Raikes.—The structure is a roofed tomb, of early Decorated character, protecting a recumbent monumental effigy of a divine. In the panels of the centre gablets are two groups, representing the Crucifixion on the first and the Ascension on the opposite front. On either side of the centre gables are four smaller gablets with panels, representing the four Evangelists, with the emblems. The work has been executed by Mr. Hughes, of Aldford. The figure, groups, and effigy, were chiselled by Mr. Thomas Earp.

At Bristol, the Etheridge Memorial.—The committee have terminated their labours, the monument having been completed. It may be remembered that the design was selected in competition, some twelve months since. It is founded on Queen Eleanor's crosses, and has been erected on a central spot in the cemetery. The base, or lower step is 13 feet square, and the total height 30 feet. It has been executed in Mansfield stone, by Mr. Horsman, from the drawings of Messrs. Bidlake and Lovatt, of Wolverampton, at a cost of 210*l.*

At Dryburgh Abbey, to late Mr. J. G. Lockhart.—A monument to the late Mr. John Gibson Lockhart, has been placed in Dryburgh Abbey, where he is interred close to the remains of his illustrious father-in-law, Sir Walter Scott. The work was executed by Mr. John Steell. The monument, which is placed in a horizontal position, consists of an oblong block of Peterhead granite, polished, and from 18 to 20 inches thick, upwards of 8 feet in length, and about 3 feet in breadth. Its upper surface bears a bronze medallion, presenting a profile of the deceased, and an inscription.

At Glenorchy, to D. B. Macintyre.—At a meeting of the committee of subscribers for the erection of a monument to the memory of Duncan Ban Macintyre, the Glenorchy Celtic bard, held in the George Hotel, Glasgow, it was unanimously resolved to adopt the offer of Mr. Sim, of Furness, to build the monument from the design of Mr. Rochead, of Glasgow. The contractor, Mr. Sim, engages to complete the monument for the sum of 600*l.* -500*l.* of which are already subscribed. The design of Mr. Rochead is in the form of a massive Druid temple, to be composed of granite, and to be built on a commanding conical hill overlooking the valley of Glenorchy and the picturesque scenery of Loch Awe.

HARROW NEW TOWN.

AMONGST the numerous country stations which are being converted into ornamental villages, by the increasing longings of metropolitan men for home in the fresh air and the green fields, it is only to be expected that the long-esteemed locality of Harrow-on-the-Hill, eleven miles and a half from London, should take a prominent place. The privileges accorded to residents in respect of Harrow School are of themselves sufficient to give the locality a preference with that numerous class of London men, in easy circumstances, whose most cherished possessions, after all, are their children; and apart from all considerations of the salubrity of the place, would be sufficient

ount for what we are told as the fact, that the
plications for residences of from 50*l.* to 120*l.* a
r of rental are so numerous as to make it no
gnificant part of the duty of the obliging
ion-master of the railway to explain that
re are none to be had. The old town of Har-
being a mile and a half from the railway
ion, the new town is springing up around the
ion itself. Large estates of building land
e been brought into application, and consider-
sums of money laid out in roads and drain
Several villas have already been built, and
mber of smaller houses. Water has been
on by the public company of the neighbour-
l, and gas is offered by the Harrow Gas
ks, as well as by the Railway Company.
erage also has been begun. In the largest
he building estates, the Headstone Farm, of
acres, under the control of Mr. Edwin Fox,
idge has been built under the railway; and
fine avenues, planted on each side with
, have been formed, of the length of a mile
ne instance (Harrow View), and three-quar-
of a mile in another (Pinner Drive): the old
road of the estate, over a mile in length,
so to be widened, to correspond with the
rs, and various other lines of road are laid
These roads have been so formed, as to
s, that the drainage shall be a simple matter,
h is not always the case. These and the
ge are by Mr. Kerr, of London, architect.
ral smaller estates have been laid out.
e London and North-Western Railway Com-
offers, as an encouragement to building, a
first class ticket, for eleven years, to every
pier of a new house above 50*l.* a year in
e,—a wise liberality.

BUILDERS' ACTIONS.

BROMPTON COUNTY COURT.

Jones v. *Goodge and Another. Before Mr. J. Adolphus, Judge. The Consequence of Laches.*

R. KEENE appeared for the plaintiff, and Mr. Mare for the defendants. This action was ught by a working painter against Messrs me and Co. auctioneers and surveyors, carry- on business at Hammersmith. It appeared the evidence adduced that the defendants carrying on some building operations at mm green and Clapham, and they engaged the ntiff as an overlooker of the painters, at 5*s.* 6*d.* ay. The plaintiff's duty was to pay the men, present his account, from time to time, of ayments he made, and in those accounts in- his own wages. This process stretched a period of several months in the latter part st year, and in October there was due to the ntiff 16*l.* 7*s.* 7½*d.* The plaintiff applied for sum, to which the defendants objected, on the nd that the work was not only inefficiently but that it had occupied too long a period. peared, however, that no objection was taken e defendants until all the work had been leted, the account rendered, and proceedings tened. Several witnesses were called to this defence, but the judge said the de- nts were bound by their own *laches*. They allowed the works to proceed, and had not a complaint until the very last thing. He d find for the plaintiff for the full amount. ict accordingly.

STOP—STOP THE EXECUTION!

,—Unless some authority in the City, em- wered to interfere in cases of public spoliation, w, and at once, interfere to prevent it, an ediable barrier will be raised between us re and you citizens.

w and justice have been of late gradually ding their hitherto straitened ways, light een poured upon many of the fastnesses called of court; and we did hope, when the stack of ngs was abated at the corner of Carey street hancery-lane, that another improvement was ated in the causeway leading to the principal bering of benchers; but, sir, it is not so, for ented notice exhibited over the hoarding nces that "*this valuable freehold plot is to on building lease, or sold.*"

where no conservator of public buildings and blic interests in London? If this plot be occupied, then are we for ever shut in on that We had hoped that the open route which heme time back had recommended to be formed ntinuation of Carey-street,—on one end, gh Clare-market; on the other, by the New ld-Office, and across Farringdon-street,— l place us intermediate between town and city, and at the same time open a much-needed easement to both, whilst it might tend to humanise lawyers, and connect them with the family of mankind, from which they have hitherto stood too much aloof.

The *Builder* is the only conservator known to the community; and since you, Sir, have attacked and exposed (as in the case of the plot at St. Paul's Chain) many such meditated Gothisms, I would beseech of you to avert the threatened construction of seven-storied houses, and the fixed obstruction of a barrier on what ought to be one of the principal highways of Queen, Lords, and Commons, the public in general, and lawyers in particular.

There is also a useless obstruction on the other side of our New-square, to which I would claim your attention. It is a dull brick wall dividing Lincoln's-inn-fields from the benchers' grounds; cutting off the view, and obstructing the free currents from the fine range of Stone-buildings. How much lighter, healthier, and more cheerful it would be, if an iron railing were substituted for the wall along the whole pavement of Lincoln's-inn fields, east side. The new dining-hall and library would then make a better figure, leaving space for a margin of shrubbery. This hall occupies nearly half of the east side: the other half would discover an extension of verdure and arborage on either hand, improving the square, enhancing the value of all the property around, and also conferring a benefit on the passenger who frequents this, the largest, though least prized, of all London squares. "PRO LEGE ET GREGE."

BRITISH ART.

SCENE *Trafalgar square. The King's Statue speaks.*

"Ye gods, he nods!"—*Don Giovanni.*"

JOHN BULL beware—repent too long
You've done me foul, disloyal wrong:
Too long you've left your monarch here,
The butt of scurvy jest and jeer:
Because, that pedestal to fill,
Would touch, vile shopkeeper! your till.
Here critics, connoisseurs, and artists
Revile me like king-hating Chartists.
Some ask if solus here you've put me
Because all decent monarchs cut me.
Some swear, to illustrate my life,
That pedestal should show my wife
But hold! this joke dishonour'd place
No monarch of my house shall grace:
Your Sailor King, on horseback seen,
Would straight be dubb'd "The Horse-Marine."
Your Queen—my niece—oh! send me rather
That image—past a joke—my father.*
The Queen—by heaven! 'twould break her heart
To find herself the toy of art,
Or slave, condemn'd to act with me
Outvier to th' Academy.
This glorious sight—this boasted square—
Is this a place for kings? Look there:
See Nelson holds his lofty berth,
High o'er us subjects, kings on earth,
As towers in port o'er cock-boats small
"The mast of some great ammirall."
A grand Nelsonium, if you will,
Let Nelson's world-famed heroes fill;
But no Walhalla this—alone
Her Nelson reigns the square h s own.
High art you vaunt with tongue and pen
Is Nelson there a specimen?
His image quaint cock'd hat and all—
On that Corinthian capital.
Is't not grotesque?—a thing for sport,
A Greenwich pensioner at court?
'Tis strange R.A.s can be er agree
On dress for statues. Look at me,
The happy mean I'm thought to show
Between th' Antique and Rococo,
Between th' Achilles prudes bewail,
And George, my sire's, cock'd hat and tail;
No modern dress no nude antique,
A cross of Englishman and Greek.
Had I alive appear'd thus clad,
The world had thought me drunk or mad
Coat, trowsers, bridle,—what of that?
Where are my stirrups? where's my hat?
Burn ye! I'm quizz'd by men and maids,
And worse by Brummell in the Shades.
Here great R.A.s in council sit:
Has art not made, at least, one hit?
Behold that chief whom baskets camber,
What war's alarm disturb'd his slumber?
Is that your Napier?—England's hope—
"The Old Soldier" of the shirt and soap?
Hard, tough, and light—all wire and leather—
Fit mould to defy time, war, and weather?
Ha! ancient art not taught in vain,
In bronze steel man ha I lived again.
But mark that form—soft, lumpish, gouty—
Egad! 'tis Napier—gone to pot!
Nor long shall Napier stand alone,
Your beef-fed art, still blundering on,
Will Havelock's libell'd form display,
And cast in bronze a mass of clay.
Not such the chief who, day and night,
Could fight and bivouack and fight,
Though such your Queen has thrust upon her,
Such, praises on despite to honour.
John Bull, no more these wrongs I'll bear,
Nor shall my griefs a monarch share:
Your Sovereign's image hence remove
To where no subject towers above,
Nor vacant pedestal stands nigh,
That should wit call recruit
Bear me to—not Belgravia square,
They've other image-worship there

* In Cockspur-street.

If Christian squares the boon refuse,
Look sharp—you'll sell me to the Jews.
The "peoples" now are bidding high,
And, mad to prove their loyalty,
May think in Parliament 'twould tell
To have a king in Israel:
Though, truly, should that loyal race
Exalt a monarch in Duke's place,
Their King should be more fitly dress'd,
And crown'd with one old hat, at last.
John Bull, repent; or soon I'll show—
Thanks to my great ally below—
I'll show your old R.A.s and you
What kings, incensed, though dead, can do.
These pedestals—your art to taunt—
Two mocking spectral forms shall haunt:
Here, from this spot, shall Noodle mod
To Doodle there: he shall, by G—d!
Your art shall blush, yourself be shamed
Repent,—remove me,—or be—blamed.

ARCHITECTURAL COMPETITION IN ABERDEEN.

NEW MUSIC-HALL.

THE "Aberdeen Music Hall Company" having resolved to erect a music-hall in connection with the present assembly-rooms, issued, in February last, an advertisement to architects for competitive designs, *in accordance with conditions which were to be had on application* to the secretaries. No premiums were offered, and the award to the successful competitor was to consist in his having the usual five per cent. commission on the cost of the building, which was stipulated not to exceed 4,000*l.*

Nine gentlemen were found willing to compete on these terms; and, from the fact that several of them were shareholders in the company, it may be concluded that they were induced to enter the lists quite as much with a view to promote the objects contemplated as for the sake of the commission. Be that as it may, the Lord Provost was chairman of the company, and the directory consisted for the most part of practical men, in whose judgment and fairness the competitors placed their reliance when they undertook the trouble and incurred the expense of preparing designs.

In accordance with the conditions, the competitors gave in estimates of the cost of their several designs, and it is to be observed that two of these estimates, as furnished by the competitors themselves, exceeded the stipulated sum of 4,000*l.*; one of them, viz. No. 7, by upwards of 800*l.* and the other, No. 3, by 200*l.*

In such a case as this there was obviously but one course for the directors to pursue, if they wished to act with fairness towards the competitors generally; and that was, to reject the designs Nos. 7 and 3, and make a selection from among those which were in accordance with the conditions. Instead of this, however, after having exhibited the drawings for some time, they called a general meeting of the shareholders, scarcely one of whom knew anything about the conditions, and still less about plans; and, without note or comment, submitted the whole of the nine designs to be voted for as the "*profanum vulgus*" might think proper. The designs were distinguished by mottoes, as is usual, but the author of each was perfectly well known, as is *also* usual; and canvassing, even to the obtaining of proxies, was resorted to, from the time that the designs were first exhibited. The result was as unsatisfactory as might be expected under such circumstances; design No. 7, the one least in accordance with the conditions, obtaining the majority of votes. It cannot, however, be said that a decision thus arrived at afforded any criterion that the design selected was the best, as it is obvious that a promiscuous assemblage is wholly incompetent to judge of the merits of architectural plans.

It remains to be mentioned that the company, which is on the limited liability principle, is short of funds to a considerable amount, to enable all the works contemplated to be completed. Hence, as economy was necessary, it became a question how the design selected could be carried out; and it was resolved to make ends meet by allowing the architect an additional 200*l.* and requiring him to cut down his estimate by upwards of 600*l.* and become answerable for the completion of the work at that reduced sum. The architect got over this difficulty by obtaining estimates for the several works from contractors, without the aid of working drawings or specifications, and agreed to execute his design, modified to suit the circumstances, for 4,200*l.* without any extras whatever. The directors being satisfied with this arrangement, the works were immediately commenced.

The above is a faithful record of the sort of architectural competition practised in the northern part of Britain, and I refer it to you whether the whole transaction is not discreditable to all concerned in it, and in the highest degree unfair towards those architects who complied with the con-

ditions issued by the directors? These conditions state that the authors of the designs which are not preferred shall have no claim on the company; but surely the seven architects who adhered to the conditions have a just claim to receive at least fair play at the hands of the company: the respectability of the chairman and directors certainly entitled them to expect *that* much consideration.

Joint-stock companies are not always remarkable for good management, and here we have an instance in which architecture and the building art are both brought into discredit by the most irregular and unfair dealing being resorted to. We have, in fact, a building required to accommodate 1,600 persons seated comfortably in the area, 700 in the galleries, and 300 performers in the orchestra, *contracted for* and the works commenced without either specifications or working plans. What guarantee is there that the shareholders will have justice done to them, if the architect is himself under an engagement to complete the work in accordance with estimates thus obtained? What guarantee is there that the superintendence will be efficient, and that the materials and workmanship will be of the proper description?

Nous verrons; and in the meantime I would warn the shareholders to look well to their own interests in the matter. A SUBSCRIBER.

P.S.—Perhaps the architect has concluded that, after all, specifications are not necessary in the case of a company which has made no scruple in breaking its own conditions. The directors could hardly expect them to be binding.

ARCHITECTURAL PRACTICE.

LIVERPOOL ARCHITECTURAL SOCIETY.

AT the ordinary meeting of this society, held on the 21st ult. (the last but one of the session), Mr. Huggins in the chair, Mr. C. Verelst read a paper "On some Matters of Professional Practice." It related to the question of professional charges. The paper embraced a review of the labours of some of the leading architects and their professional charges for the works on which they were engaged. It showed that 5 per cent. was an established charge at an early period; but in some recent Government works only 3 per cent. had been paid. Admitting that there were objections on both sides to the 5 per cent. Mr. Verelst considered that on the whole it was open to fewer objections than any other system, and submitted a scale founded upon the 5 per cent. standard, which he considered would be fair between man and man. In the course of his observations he called attention to the numerous claims made upon architects for gratuitous services.

Mr. Picton thought that perhaps Mr. Verelst was not aware that in these bad times, when some architects had difficulty in getting 2½ or 3 per cent. some of their fortunate brethren realised 10 per cent. He explained how this was done. An architect, after supplying the designs, drawings, estimates, &c. for a building, says it will cost a certain sum if the matter be left in his hands; but if put up to competition, he could not say what the cost would be. The work is thus put into his hands. The architect then goes to certain builders and offers to give them the work if they pay him 5 per cent. This is accepted, and with the 5 per cent. from the builder, and 5 per cent. on the works, he obtains 10 per cent. That had been done in cases which came under his own knowledge, and which he was prepared to show. He considered 5 per cent. a rough approximation to the truth, and that which would afford a fair remuneration. In any other mode he thought it was the architect that would go to the wall.

Mr. John Hay coincided generally in the remarks made by Mr. Picton, and mentioned several instances in his own experience of the usual mode of making professional charges. He considered the paper read by Mr. Verelst a very valuable one to the profession in every respect. As to their charges, he thought that while merchants and brokers on 'Change got their 5, 2, and other per centages, the architect should have no difficulty in obtaining fair charges.

Mr. H. P. Horner thought a great deal might be said on both sides, and the subject of 5 per cent. was only part of the question. Though per cent. was the best general mode of charge, it would not be applicable to small works entailing a large amount of extra trouble.

Mr. Verelst replied, and in reference to the gratuitous services required from architects, said that committees of clergymen were of all others the most unreasonable in their demands. The difficulties which clergymen caused with contractors were endless. He explained some points which had been advanced in his paper and came under discussion during the evening, and contended that the standard of charges he had suggested would, he thought, be the most reasonable, taking all circumstances into consideration.

NEWS FROM WISCONSIN AND MINNESOTA.

THE lakeward section of the harbour at Milwaukee is all completed, save the driving of some piles about the pier-heads, and has cost a much larger sum than that estimated by Mr. Trowbridge, the city engineer. It is roughly calculated at 58,000 dollars.

Destructive fires occurred at Rome, Ga. and at Watertown, Mass. by which, in the former place, a whole square of buildings, involving a loss of 100,000 dollars, was destroyed; and in the latter, the high school building, an important structure, was nearly consumed, but, happily, without loss of life in either case.

Government is about purchasing, at a valuation, the Salt Lake City improvements.

The measured length of the Minnesota and Pacific Railroad—according to the statements of the surveying parties send out in June last—from Stillwater to the Bois de Sioux River, is about total, 222 miles, and the branch to Crow Wing, 118: 340 miles. The land grant is the chief source of revenue of this road, and is valuable, being estimated at 8 dollars per acre, and amounting to 19,660,800 dollars, supposed to be sufficient to cover every expense incident to the construction and equipment of the road.

A portion of the St. Croix and Superior Railroad has been put under contract, and arrangements are made for its speedy commencement.

In the House of Representatives, the Hon. Charles Billinghurst, of Wisconsin, made a lengthened speech on the subject of the Great Northern route, the Pacific Railroad, in which he said "there never can be but one New York upon the American shore of the Atlantic; she must be the commercial metropolis of America, until rivalled by that queen city of the world yet to be born, whose seat is to be at Puget Sound, on the eastern shore of the majestic Pacific. Nature has marked it out as the centre of the eastern and western hemisphere, with the St. Lawrence and its great lakes, the Columbia and the Missouri rivers completing the connection. The old rocky mountain itself in aid of this great thoroughfare lowers its crest and furnishes facile transit. Set the iron horse at work from Fond du Lac Superior to the great bend of the Missouri, a short day's journey of 700 miles; and again from the navigable waters of the Missouri to the head of navigation on the Columbia, a half-day's journey of 450 miles, and, *presto*, the commerce of the world wheels into line, and America becomes the mistress of the sea and ruler among nations."

The Fuller-House at St. Paul cost 110,000 dollars, and its furniture 50,000 dollars. It is warmed by steam, and soon will be lighted by gas. The main building is a quadrangle, with an area in the centre, which is partially occupied by the billiard saloon, the latter being a separate building, placed somewhat after the fashion of the Crystal Palace Saloon attached to the Astor-House, New York.

The citizens of Greenwood Prairie and Orinoco are building a bridge across the Zumbro River, at a point known as Webster's Ford.

During and since 1850 grants of land have been made to ten States and one territory, to aid in the construction of fifty railroads of an extent of 8,617 miles, and amounting to 24,247,335 acres. The quantity of newly-surveyed lands during the five quarters ending September, 1857, exceeds by many millions of acres those of any former period. The whole surface of domain is 1,450,000,000 acres, of which 57,112,870 acres were never offered for sale.

A large hotel has just been completed at South Bend, and is stated to be one of the finest buildings in the Minnesota Valley.

At Cannon City, Messrs. Starks and Sears have expended 14,000 dollars on a new mill. The new school-house cost 1,400 dollars, and is appropriate.

Two new hotels, "the City," and Shearman-House, have been built.

There is immense demand for surveyors in the States of Michigan, Illinois, Arkansas, Missouri, Louisiana, Florida, Kansas, and Nebraska. Upwards of 80,000 miles have been surveyed in California, at an expense of a million of dollars. The New Mexico surveys are in progress, and the Government surveyors have entered Utah.

ARCHITECTS' ACTIONS.

KERBY V. MEE.

IN this case, tried at the Retford County Court some time ago, Mr. Kerby is an architect and surveyor, carrying on business at East Retford. The Rev. W. C. Mee is the Vicar of Hayton, Notts. Having heard that Hayton church was about to be restored, Mr. Kerby called upon the vicar, when Mr. Mee stated he did not know at present what would be done, but thought the Hayton parishioners could not afford to employ an architect, but he would bear Mr. Kerby in mind if the services of an architect should be required.

Upon the 13th of February, 1857, Mr. and Mrs. Mee called on Mr. Kerby at his office, and informed him that the parishioners had thought it necessary to employ an architect, and wished to know his terms for plans, estimates, &c. should he be engaged to carry out the restoration. Mr. Kerby proposed to prepare the plans, and make no charge if the church, after all, was not restored; but, if the church should be restored, he was to act as the architect, and receive the usual commission of five per cent. upon the outlay to be expended in the restoration. This offer, it was stated, Mr. Mee closed with, and appointed that Mr. Kerby should go over to Hayton, and survey the church. Mr. Kerby accordingly, on the 17th February, went over to Hayton and met Mr. Mee and the churchwarden, when he examined the church, took a ground plan, &c. and received instructions from Mr. Mee to prepare and submit to him the necessary drawings, &c. Accordingly, on 9th March, 1857, Mr. Kerby attended Mr. Mee at Hayton with drawings, specifications, and estimates, and explained the same to him, and left the drawings with Mr. Mee at his request, upon his promising to communicate with Mr. K. when anything was decided upon.

Mr. Kerby heard nothing further until 22nd August, when he learnt that the church was being restored by Mr. Lee, a builder; and, having received no intimation to that effect from Mr. Mee, according to promise, Mr. Kerby wrote a letter to Mr. Mee, expressing his surprise, reminding him of the arrangement that he was to superintend the works whenever the restoration was commenced, and ending,—"I will, therefore, thank you to inform me whether or no I am to do so, and, if not, must request that my drawings and specification be returned to me." The vicar said it had been considered unnecessary to incur the expense of having an architect; that, if one had been employed, Mr. Kerby "of course would have been the person;" and he returned the drawings and specification as requested.

Mr. Hadfield, of the firm of Weightman, Hadfield, and Goldie, of Sheffield, architects, said that the firm to which he belonged would charge twenty guineas for the plans which had been drawn up by Mr. Kerby for the church.

The Judge was of opinion that the action could not be sustained, inasmuch as the plaintiff had withdrawn his plans, and therefore Mr. Mee could not have submitted them to the Church Building Society had he wished to have done so; and, supposing Mr. Mee had submitted them to the Society, as it exercised a discretion whether to reject the plans sent for its inspection or approve of only a portion of them, plaintiff's plans might have been totally rejected. He, therefore, nonsuited the plaintiff.

Mr. Mee's solicitor, it should be mentioned, had offered Mr. Kerby 10*l.* in discharge of his claim, without prejudice.

The Judge, as it seems to us, took a wrong view of the request that the drawings should be returned. An architect's drawings are his tools, and the request by an architect to have his drawings returned if he is no longer to be employed, is not to be understood as offering an alternative for payment of the work in preparing them. Plans for such a purpose are not like manufactured goods or pictures, complete in themselves and valuable to others. The architect when he has regained his plans is no better off as respects return for the labour he has already bestowed than he was before.

The real question, as it seems to us, was this: did the Rev. Mr. Mee agree, as asserted, that, if Mr. Kerby made the drawings and specification, he should be employed as architect if the church were restored? If he did, then the architect has not received justice at the hands of the vicar of Hayton.

IMPORTANT CONTRACTOR'S CASE AT DUBLIN.

FOR nineteen days the case of Killen *v.* Byrne (as treasurer of the Wicklow Harbour Commissioners) has been under hearing before the Lord Chief Baron and a special jury. The particulars are briefly these:—The plaintiff sought damages of 1,200*l.* against the defendants for not allowing him to complete the building of a pier and breakwater, having first brought an action against the engineer, Mr. Barton, for not giving certificates for work performed. By consent, the two actions were consolidated, and it appeared that in September, 1855, the plaintiff contracted to build the pier and breakwater for 8,500*l.* according to plans, &c. and to be completed on the 1st of May, 1857. Mr. Brett was engineer when the works commenced, which were to be carried on to his satisfaction, and to be paid for on his certificates by 500*l.* instalments, 12 per cent. to be retained by the commissioners as a reserve fund. No dispute arose till June, 1857, and fifteen certificates were granted and paid in the interim, the cautionary money being retained. Mr. Brett was succeeded by Mr. Barton, and disputes immediately arose between him and the contractors with reference to the details, and no further certificates were granted. The contract work included the building of a pier 450 feet long, the dredging of the river, and repairs of the quay walls. The contract was *not completed* against the 1st of May, 1857, and the commissioners took them up. The plaintiff and defendants seemed to be at issue on all the points of the contract and the work actually done, the former insisting that he fulfilled the contract terms as to quantity and quality, slight variations being made by consent, that extra works were performed; and that the commissioners through their officers, offered obstructions to the work being completed within the specified time. The commissioners alleged that the pier, as constructed, was 50 feet short of the length agreed on, the masonry imperfect, and materials inferior.

Lengthened evidence was adduced as to sections, details, measurements, &c. The professional gentlemen engaged for the plaintiff were Sir John M'Neill, Messrs. Gravatt, John Neville (Dundalk), Brett, Thornton, Denvir, and James Byrne; and for the defendant, Messrs. Barr, Gibbons, Lefarne, Barton, Price, Lanyon (Belfast), and Jacob Owen. The Chief Baron occupied seven hours in charging the jury, who, after some delay, stated they had

to a verdict on the main issues, but required time nge details of the findings. At half-past eight p.m. a verdict was handed down for plaintiff, g damages at 2,860*l.* 6*s.* and costs. ord Chief Baron complimented the jury on their deliberations and accurate findings; and the fore- reply, stated his lordship's charge placed all matters doubt.

al law points are raised by defendant's counsel, ew trial or appeal is not unlikely.

rs. Fitzgibbon, Q.C., M'Donagh, Q.C., and Fer- appeared for plaintiff; and the Solicitor-General, nne, Q.C., Lynch, Q.C., and Owens, for the nt.

SCENERY AND MUSIC.

Majesty's Theatre.—Very great care has aken in getting up, as *Gli Ugonotti*, eer's wonderful opera, at her Majesty's e. Mr. Charles Marshall has painted some teresting scenery for it, and the costumes in chronologically the illusion of the scene. tion taking place during the year 1572, ist has adopted the style of the Renais- o a considerable extent. For the first have a good Italian interior, with panelled coloured blue and buff. The second scene presentation of the park and château of ceaux, in Touraine, one of the most charm- ces in France. Many of our readers will t that the château here is built upon a

In the second act, there is the *Pré aux* with a view of Paris, including the old and Notre Dame and St. Jacques in the e. As, however, to praise alone is not our , we must point out to Mr. Marshall that chapel as that on the left in the fore- was never seen, including, as it does, a n or Byzantine doorway, a pediment, and ith century pinnacles. Indeed, in the g scene, too, an interior in the Castle of rers, a little more attention to facts of build have prevented any qualification to aise in an artistic point of view. The ger, Madlle. Titiens, is a great acquisi- the lyric stage. She possesses a fine which has been well cultivated and acts reat energy and feeling. In conjunction g. Giuglini, there was little left to desire principal scenes of the opera,—an opera bsorbs and fills the mind of the spectator ompletely, perhaps, when properly ren- than any other opera that was ever

RECENT BUILDING PATENTS.*

NLIS.—*Improvements in the Manufacture Artificial Stone.* Dated May 16, 1857.—The e claims the manufacture of artificial e1st. By mixing powdered marble shells, e bones, granite, porphyry, malachite free- e. with lime and a solution of silicate of or silicate of soda, or both, so as to form a which is afterwards shaped in moulds. mixing together lime and carbonate of dne powder or flour, with or without the of other stone, or burnt clay, &c. and damping the mixture, and submitting it ure in moulds.

KARROCKS.—*Improvements in Machinery paratus for Pressing Bricks, Tiles, and astic Substances.* Dated May 14, 1857. patentee causes a surface plate to revolve ulleys placed upon studs attached to the aming of the machine. In the surface fixes moulds, within each of which, and the bottom, is a presser plate, which, with rr, may have any device thereon, and after astic substance has been pressed in the ld is, by an arrangement of cams, tappets, ed therefrom, and the operation repeated.

T. KING.—*Improvements in Kilns and* . Dated May 15, 1857.—The kilns are ircular, and with an interior wall rising th the top. The fire and heated air rise fire-places at the bottom between the rs, and entering the kiln at the top, pass ers same, out at a central opening at the bot- ing an underground flue into a flue near l of the ground, extending along the nd thence into the stoves by adjustible Fire-places may be situated at intervals ast-named flue, to increase the heat of the

LCH.—*Improvements in Fire-places and ual Apparatus connected therewith.* Dated 1857.—This relates, first, to a kitchen at combines a cooking range and a stove aining cold air for the use of adjoining ts; second, to a register stove, having radiating power, and forming also a

ted from the condensed lists published in the *Magazine.*

stove for warming cold air for the use of the room in which it is placed, and for adjoining or upper apartments; third, to a new cottage fire-place or grate and portable ovens. It also relates to improvements in circular flues and chimney-pots.

E. ELEY.—*Improvements in the Manufacture and Application of Pipes for Heating Purposes.* Dated May 13, 1857.—This consists in the manufacture and fixing of pipes of certain fluted forms, whereby greater heating surface is obtained. Also in giving such ornamental shape to the pipes that they shall harmonize with the style of architecture of the place where they are fixed.

F. WATKINS.—*Improvements in Machinery for making Rivets, Bolts, and Spikes.* (A communication.) Dated May 9, 1857.—Two wheels are used, the peripheries of which are formed into segments with flat surfaces. In these segments the arms of the dies are so formed that when a flat segment of one wheel is opposite a flat segment of the other wheel, and the two are pressed together, they form a die suitable for making a rivet, bolt, or spike. These wheels are geared together by toothed wheels, the teeth of which admit of the peripheries of the die-wheels coming up to, and departing from, each other. The die-wheels are made to rotate at intervals by a ratchet-wheel and driver. The die-wheels are pressed towards each other at the proper intervals by cam surfaces, and a gauge plate-cutter and head are similarly actuated.

W. CARRON.—*A new or improved Nail, Spike, or Bolt, and Machinery for manufacturing the same.* Dated May 23, 1857.—This consists in making nails, spikes, &c. of a form which in transverse section resembles a triangle. The sides of the nails may be flat, convex, or concave. The machinery consists of three mitred rolls, the peripheries of which are so sunk that, when they are brought together and heated, triangular or other iron rods are rolled between them. The rolls are mounted each on an axis, and are geared together by bevelled toothed wheels.

E. COTTERILL.—*A new or improved Method of preventing the picking of ordinary Locks and other Fastenings.* Dated May 12, 1857.—This consists in placing in the key-hole of the lock a small folding instrument to prevent the lock from being picked, and which is itself fastened by a small lock.—*Not proceeded with.*

J. CROSSLEY.—*Improvements in Machinery for Grinding and Smoothing Glass, Marble, and other Substances.* Dated May 25, 1857.—A bench is used for supporting the glass, &c. to be ground. At one end of the bench is a vertical revolving shaft, carrying a crank at its upper end. To this crank is attached a connecting-rod, extending over the length of the bench. To this connecting-rod are attached runners or rubbers, and at its centre is a stud connecting it to a radius bar, which rests at one end on a stand placed at one side of the bench, and which serves as a centre for it to work upon. When the crank revolves, that point of the connecting-rod which is attached to the radius bar describes a segment of a circle; but any point on either side describes a curve similar to an irregular ellipse, and if one runner large enough to grind the bottom, glass, &c. be used, it will have a motion similar to that which women give to glass runners in smoothing glass.

A. V. NEWTON.—*Certain Improved Apparatus to be used in the Manufacture of Iron.* (A communication.) Dated May 27, 1857.—This relates to puddling by means of an instrument which passes through the roof of the furnace, and is actuated by steam-power. The operation is regulated by mechanism outside the furnace, and the instrument is protected against the heat by a current of air or water circulating through it.

Books Received.

The Struggles of a Young Artist; being a Memoir of David C. Gibson. By a Brother Artist. Nesbitt and Co. 21, Berner's-street. 1858.

THIS is a sad but interesting tale of genius, consumption, and early death. The subject of the memoir was born at Edinburgh, in 1827, and died in London, in 1856, just as his talent for painting was beginning to be known and appreciated, by men of eminence as artists and of influence as patrons, in the metropolis. The poor youth appears to have come of a consumptive, or, at least, an early-dying family; first his father, next his mother, and lastly, the only other member of his family, a sister, having been successively cut off; leaving him alone in the world, ere he himself had time to reach maturity. His father was a portrait painter in Edinburgh; and in the outset the son followed the same branch of the profession; but works of merit which obtained a prominent place in the Royal Academy, and the approval of such judges and authorities as Landseer, and Creswick (who purchased one of his pictures), soon opened up a new prospect for the young artist. The excitement, however, of success seems to have been more than his delicate constitution could withstand. After a brief sojourn in Spain, he returned home to do little more than to die; for shortly afterwards he burst a blood-vessel in his wasting lungs, and soon thereafter expired. His brother artist has prepared a very feeling and well-written memoir of his friend; but it is to be regretted that he should have thought it advisable to expose to the public eye so broadly the boyish sceptical and social speculations which formed a brief and passing, — we had almost said even a wholesome,—feature in the youth's mental development; even though here plainly exhibited mainly as a foil to that "odour of sanctity" in the midst of which his bright and promising sun for ever set. Besides, so far as the author enables one to judge by quotations from what the subject of the memoir himself said on these questions, it does not appear that his socialistic and sceptical ideas were of a very confirmed or obnoxious description. In speaking of a lecture on Socialism by Louis Blanc, for example, to which he had listened, Gibson says,—"Felt rather favourably impressed with the man, but not with the opinions." There are persons, we know, who could not conscientiously feel otherwise than horrified at the idea of a friend of theirs weighing candidly the arguments of a sceptic, attending a lecture on Socialism, or spending an evening at "Drury-lane and the Haymarket," of the "filth" of whose "purlieus" this writer appears to have so salutary a horror; but it is painful to feel how egregiously such sentiments, reflected so glaringly from the pages of a memoir of the dead, may exaggerate the faults, and even slander the good name, of one who can no longer defend himself from such *friends*. Moreover, even as merely a foil, such exposures may fail of their purpose; for, according to his biographer, it was not till warned of the wasting of his lungs and the consequent probability of an early grave, that the religious and proper feeling of his latter days sprang up. That the exposure deprecated is nothing more than error in judgment, however, is very obvious, since Mr. Gibson's brother artist is evidently one who loved and admired him, and has here paid an affectionate tribute to his memory

VARIORUM.

A NEW volume (for 1858) of that really excellent American "Annual of Scientific Discovery; or, Year-Book of Facts in Science and Art," edited by Mr. D. A. Wells, M.A. of which we have had repeated occasion to speak, has been published at Boston (U.S.), by Gould and Lincoln, of that city. It is prefaced by some valuable notes by the editor on the progress of science in 1857, and illustrated by a portrait of Professor D. Rogers, of Glasgow, Geologist to the State of Pennsylvania. ——A pamphlet, "On the Advantages of Free Public News-Rooms and Lending Libraries, with Remarks on the Public Libraries' Act," by Mr. M. H. Feilde (Skeet, Charing-cross, publisher), ably advocates the extension of free libraries and news-rooms, in the form of an address to the ratepayers of Camberwell. We think it a pity, however, that the author should deem it requisite to hit right and left at all who differ with him in opinion, not only on this, but on other subjects, and amongst whom such names as those of Dickens, Thackeray, Albert Smith, Leigh Hunt, and others are dragged in, accompanied by hard words of unkindly meaning. However correct the author may be in what he does say, as regards the object in view, this is unfortunately not the best way to advance that object; and it is because we also have its success at heart that we protest against such a mode of dealing with it.——We may here notice the appearance of two other pamphlets or tracts. The subject of these is submarine telegraphs. One (by Capt Nolloth, R.N.) treats of "The Submergence of the Atlantic Telegraph Cable." The other contains the "Specification of the Patent granted to George Edward Dering, Esq. for Improvements in laying down Electric Telegraph Cables; in obtaining Soundings; and in ascertaining the Position of, and raising Submerged Electric Telegraph Cables and other Bodies." It is earnestly to be hoped that no really valuable suggestion has been neglected by the Atlantic Telegraph Company, who have a task of immense and world-wide importance before them. The fact that the lost portion of last year could not be lifted in deep water without breaking from its own weight, increases one's anxiety as to the

result of a second submergence of the same sort of cable into deep water.——Under the head of "Public Competitions for Public Works" (J. E. Taylor, Little Queen-street), "A Bystander" repeats the arguments which have been used in our pages and elsewhere to induce Government to act fairly to the competitors in the cases of the Public Offices, the Barracks, and the Monument to the Duke of Wellington. The subject is urged, it will be seen, in the Report of the Art-Union of London, which we print on another page.

Miscellanea.

Unpublished Work on Architecture, by the Author of "Blackstone's Commentaries."—An elementary treatise on architecture, from the pen of the well-known commentator on law, Judge Blackstone, and which is alluded to in his life as remaining in manuscript, is now proposed to be printed by subscription, with a dedication to the Lord Chancellor, by his grandson, Mr. Blackstone, late M.P. for Wallingford. The work above alluded to, and which, we are told, is enriched with numerous illustrative drawings by Blackstone himself, was written before he was twenty years of age. It is in its nature a skilful compilation and adaptation from several authors on architecture; and it has been thought, by those who have seen the manuscript and are capable of judging of its merits, to justify in every way the assertion of the learned commentator's biographer, who says, "it is esteemed by those who have perused it as in no respect unworthy of his matured judgment and more practised pen." The impression will be limited to 500 copies, and will be issued by Messrs. Butterworth, of Fleet-street.

"Improvements in the City."—Sir,—Observing in your publication, p. 252, under the above head, that you have quoted from the *City Press* a statement that Sussex-hall, Leadenhall-street, was about to change hands, and be converted into music and supper rooms, on the same scale as Weston's Music-hall, Holborn, I presume the journal in question must have been misinformed on the subject. As I am the owner of the premises, the same cannot be done without my consent, and I have not been applied to on the subject. I shall feel obliged by your inserting this letter in your next publication.—Jonas Debries.

Extra Works under a Contract: Orders in Writing.—In the Court of Common Pleas, the case of Friend v. Dennett was recently heard. The defendant was clerk to the Worthing Board of Health, and the action was brought by the contractors upon certain contracts to do works, consisting of a water-tower, and other works specified. The question was as to extra works, and turned upon the construction of a clause in the contracts as to orders in writing to be given by the engineer before the extra charges were incurred. The case was tried before Mr. Justice Willes at Guildhall, when a verdict was found for the plaintiff, subject to points reserved,—firstly, as to the absence of orders in writing; and secondly, as to the want of a contract under seal, under the statute 11 and 12 Victoria, cap. 13, sec. 85 (the Public Health Act), the original contract having been with a person who had afterwards become bankrupt, the contract having been thereupon undertaken by the plaintiffs. Mr. Hawkins moved for a rule upon these points, and the Court granted a rule.

Timber in Flues.—In this age of improvement any useful hint may be of great benefit, as well in the building of chimneys as anything else. I was sent for a few evenings since to ascertain, if possible, where a quantity of smoke was issuing from between the floor-boards. Upon entering the bed-room, and taking down the skirting, I found the ends of two joists in the flue, and also a cavity as large as a brick: my only wonder is the house was not on fire. It appears to me in putting in the floor joists the brick-work was cut nearly through, and the remaining portion left, not being more than an inch in thickness, had naturally fallen out. From this case, brick-work ought at least to be against any timbers, and in filling in between the trimmer joists it is usual, I am aware, to cut away the work, which I consider a very dangerous practice. I would, therefore, suggest a piece of Yorkshire paving should be built in the work to project four inches: this would save the trouble of cutting away any work: the joists would rest upon it, and be perfectly safe from fire.—G. G.

Kent Archæological Society.—The inaugural meeting of this society took place at Chillington-house, Maidstone. The whole of this antique building was thrown open to the visitors. Amongst those present were the Marquis Camden (in the chair), Viscount Sydney (lord lieutenant of the county), Earl Amherst, Viscount Falmouth, the Countess Abergavenny, and Viscountess Nevill; Sir Francis and Lady Stapleton; Mr. Beresford-Hope, M.P.; Sir Brook Bridges, Bart. M.P.; Sir Walter James, Bart.; Sir Walter Stirling, Bart.; J. Whatman, Esq. M.P.; and many other influential persons. The chairman, in opening the proceedings, congratulated the members on the numerous attendance, and on the success of the society, the members already numbering about five hundred. It was also a matter of congratulation that there should be so many ladies present, and that such a large number should be among the members of the society, because he was sure that they would be very instrumental in promoting its welfare. The meeting was addressed at some length by Mr. Beresford-Hope, and also by Viscount Sydney, Sir Brook Bridges, Earl Amherst, Sir Walter James, and various other gentlemen; and several appropriate resolutions were unanimously passed, and the committee's report adopted.

Self-supporting Dispensaries.—A meeting was lately held at the Grosvenor-place School of Medicine, to discuss the question of "Self-Supporting Dispensaries." The Earl of Ducie presided. In opening the proceedings, he said he believed that the scheme they had to consider was a good one, as by its means the poor might be taught the useful lesson of depending in times of sickness upon their own provision and foresight, instead of having recourse to charity for medical aid. Still there were, it could not be denied, many difficulties and obstructions in the way of it. An obstruction to the establishing of self-supporting medical institutions in London was, that there was no room for them, the ground being preoccupied by 110 hospitals and dispensaries, where the poor could get, free of cost, that medical aid for which they would have to pay at the proposed self-supporting dispensaries. Mr. H. L. Smith, of Southam, then explained his views as to the self-supporting institutions and their advantages. The plan had the most useful influences on the poor: it taught them self-confidence and self-respect. It enabled the upper and middle classes more effectually to co-operate with the lower classes in the cause of improvement and progress. Mr. Smith detailed the results of experiments on his scheme at Northampton, Coventry, and other places, and stated that with 10,000*l.* he could set on foot in London twenty self-supporting dispensaries, each having twenty medical officers, and each medical officer receiving 300*l.* per annum from the contributions of the poor. An animated debate took place, and a resolution in favour of self-supporting dispensaries was unanimously passed.

Kilconnel Abbey.—In our report of Mr. Blake's paper on Kilconnel Abbey, p. 277, the word "Desmona," should be *Desmond*; "Tonhill Donelan," *Toahill Doneland*; and for "Castle Galway and Abbey Knocking," read *Clare* Galway and Abbey *Knockmoy*. Mr. Blake says, "I have written in reference to the south window of the aisle that I knew no window in England, with the same mode of treatment, but the west window of York Minster, and a window in Kirton church, Lincolnshire. Since writing and submitting these remarks, however, I find that the south of the chancel of Bishopstone church, Wiltshire, possesses a window as nearly identical with it as possible, in both the tracery and cusping."

The Iron Trade.—Orders are few, and the condition of the trade has not improved since the quarterly meetings were held. North Staffordshire bars are said to be selling in Manchester at 30*s.* below what they could be delivered there from South Staffordshire on the basis of trade prices, which is a wider margin than usually prevails between the iron produced in the two parts of the county. Welsh bars have been quoted 6*l.* free on board in Wales, and 6*l.* 10*s.* in London.

Elastic Composition for Coating.—Mr. B. Parker, of Hammersmith, proposes, for making 1 cwt. of elastic composition, the use of India-rubber about 10 lbs. which is mixed with, say 40 lbs. of tar, when the following materials are added:—pulverized chalk, 48 lbs.; sulphur ½ lb. With these materials are incorporated flax, cotton waste, or other suitable material, to give a tenacious character to the whole, about 20 lbs.; making together 118 lbs.: allow for waste 6 lbs. and the 1 cwt. remains. The mass is brought into a homogeneous state, and rolled into sheets, or pressed into moulds.

Caution to Workmen.—Sir,—In October an advertisement appeared in your journal, as for a few good plasterers to go out to Edh Pasha's new palace, Constantinople, applica to be made to certain builders in England. Se this, my brother, who was then in London, m application accordingly, and was induced, thro the representation given, to pay his passage go out to Constantinople. On his arrival th he made inquiry for the relative of the Eng builders, whom they had represented as a per who could find him employment for from on several years; but when he found him, not a ti of work had he to do, and, in personal circ stances, was literally a beggar. My brother finding he had been grossly deceived, took ceedings in the Consular Court against the m and obtained damages 34*l.*; but not a stick the fellow to pay with; and after great privat suffering, and inhuman treatment, through exhaustion of his own resources, by the kind of the British Consul he at last obtained a pas to England in a vessel that had no hammock him. On reaching London he came ashore, then went into the country to the men who in the first instance induced him to go; who told him, what he had found to be too true, their brother had imposed upon them, and could not depend upon him, and they made a fine promises, which they did not attempt to ful and so my brother is left without redress. think it is only right that publicity should given to this shameful occurrence, in order prevent others from being served in the s way.—Wm. Russell.

Leeds Town-hall.—This structure is now advancing towards completion, and we are as to mention as evidencing the good feeling exists between the employers and the emplo on this building, that the men and masters gaged in it have agreed to present a watch gold chain to each of the foremen employe different branches. On the 25th the presenta was to be made to Mr. William Jennings, man of plasterers.

The Saturday Half-Holiday. Dear Si Will you please say that Mr. S. Wood, architect without solicitation granted to his assistants pupils the great boon of a half-holiday on Satur and we trust that the example will be imitate others. I take the liberty of forwarding you trusting you will insert it, knowing that always feel an interest in benefiting the ju branches of the profession.—An Architect's Pupil.

Prize for Drawings, Architectural Museum. Acting on the representation of som the schools of art throughout the country, committee have resolved upon receiving draw from repetitions of casts in the Architect Museum (in the collections in the keeping of committee) provided the drawings be accompa by the certificate of the master of the scho art that they are made from such repetitions.

Falling in of a Quarry.—A great por of one side of Coppy Quarry, Bradford, has fa in with a shock to the neighbourhood like tha an earthquake. The corner of the quarry w fell adjoined Brunswick-place, near to Westg It was 36 yards in depth, and the surface precipitated 50 yards in length by 20 yards breadth. Many thousands of tons of valu stone were rendered perfectly useless, and m valuable recovered stone on the surface also down in the slip. The surface of the stree Brunswick place was cracked and rent. loss of property is estimated at 1,000*l.*

Gas.—A deputation from the various metro litan vestries and district boards waited on Home Secretary, on the 20th ult. to presen memorial as to the monopolizing scheme of metropolitan gas companies, and the gas ques generally, as it affects the metropolis, and pray for a committee of the House of Common inquire into the existing arrangements as to similar to that respecting the water supply. Walpole, after listening attentively to the dep tion, said he felt that a very strong *prima fa* case had been made out, both by the mem and the statements made, and that if the dep tion and the metropolitan members would s as to the grounds and details of the wished inquiry, he would bring the whole question be Lord Derby.——Some excitement has been d duced at Mansfield by a notice of their gas c pany that they mean to raise the price of gas s sixpence a thousand cubic feet. A previous tempt of a like kind was unsuccessful.——A tank lately burst on the Taunton Gas Compa premises, and killed a man. How the fractur the tank occurred does not appear.

* Our correspondent writes from Canterbury. Under the Metropolitan Building Act, such a proceeding is not permitted, though we doubt not, often adopted.

NTIFIC INQUIRIES AS TO GUTTA PERCHA.—ncil of the Society of Arts have appointed ittee to direct the institution of a series of ents on gutta percha, and the causes of its its different qualities, adulterations, and oints of interest or importance in regard most useful substance. To these ends, a f queries are to be issued by the committee ulation amongst those most likely to be afford the desired information. We would that one of the series of experiments pro-ught to have for its object the *artificial* ion of gutta percha, by chemical conversion plentiful substances as bitumen or asphalte, pitch, and albuminous substances, &c. s, as we have more than once pointed out, ell that in certain experiments with bitu- substance has been produced bearing a nalogy to India-rubber; and, when it is ed that now the very perfumes of the owers can be perfectly simulated, or, in ificially and actually produced, out of such us smells" as that of coal-tar, and even ething worse, one cannot see why both rcha and India-rubber may not be arti-roduced from cheaper and more abundant s, by the protean transformations of chemistry. Let us not be misunderstood: not mean merely that some inferior or ubstitute may be found or manufactured nixture of other materials, but that to all and purposes the very substances them-ay be artificially produced, by chemical mation of other organic materials, and imen, for example, is essentially organic, pitch is known to be, there cannot be a le doubt; but whether it be so or not, it promising material for such a purpose as gested.

TES BETWEEN MASTERS AND WORKMEN.—ation from the executive committee of the Association of United Trades waited pon the Right Hon. Mr. Henley, the t of the Board of Trade, with reference which it was proposed to introduce into se of Commons for establishing courts of ion or arbitration between workmen and ployers. Mr. Henley admitted that the was of great importance, but observed m the failure of past legislation it was y also one of great difficulty. He would, , when the measure was introduced, give lful consideration; and, if he thought its s likely at all to effect the object in view, ll have no objection on the part of the ment to its introduction.

ING OF STOCK LOCKSMITHS AT WOLVER-S.—A meeting of the Wolverhampton cksmiths was held last week for the pur-p opposing the probability of a general n in their wages. There were upwards workmen in this particular branch of the esent. It was stated that several manu- in Wolverhampton had made a reduction r dozen locks, which reduction would to 4s. each workman on the weekly The 5s. locks per dozen were to be re- 4s.; and those at 4s. were to be made at deputation was appointed to endeavour to an understanding with the masters.

PROVIDENT INSTITUTION OF BUILDERS' N AND CLERKS OF WORKS.—We are o call special attention to the anniversary f this Institution, which is to be held at nion Tavern, on Tuesday next, the 4th of ofessor Cockerell in the chair. The list ds will show the esteem in which the n is held; and we hope the anniversary ill not escape the notice of any one will-ssist it.

RATE MR. HENDERSON.—Many of our ave heard with regret that Mr. Hender-fe and daughter are left totally unpro-d. Under these circumstances a committee formed with the view of raising a fund ssistance of the widow and orphan, and n on their behalf is now being made to e. His connection with the Great Ex- building and other works has made his ely known.

ERY OF CINERARY URNS AT WINCHESTER. avating the earthwork on the Conserva-ial Society's Estate at Winchester, allotted 9th inst. the workmen discovered in the w-road, about 2 feet beneath the surface, erary urns embedded in the gravel. The re made of clay, and were about 1 foot in e the shape rather elongated—small at the and increasing in size to the mouth, as ornamented by some rude attempts at

THE NATIONAL SCHOOL CHORAL FESTIVAL.—At this festival, to be held at the Crystal Palace on the 8th inst., the orchestra will consist of at least 5,000 of the children, pupil-teachers, and teachers of the National and Endowed Schools of the Metropolis and its immediate vicinity. The full band of the Royal Military Asylum (Duke of York's School) will also perform. The object of the festival is to increase the funds of the Church Schoolmasters' and Mistresses' Benevolent Institution; an institution which aims to relieve decayed and necessitous teachers, assist their widows, and make some provision for their orphans. The festival, too, will we hope give a right impetus to the due study and practice of music in our National Schools.

CAMBRIDGE ARCHITECTURAL SOCIETY.—The first meeting of this Society for the Easter Term was held on the 22nd ult., the Rev. the President in the chair, when, after some official proceedings, Mr. R. J. Donne read a paper by Mr. W. T. T. Drake "On the Church of Stratford upon-Avon," and also a paper by Mr. J. W. Clark, "On the Church of Urnes in Norway," an edifice about 800 years old, and built of wood; the peculiarity which distinguishes it from other wooden churches in Norway being that it has all the symmetry and beauty of a stone building.

COVENT-GARDEN THEATRE.—It is but fair to state, and we would have done so last week if we had known it, that although Mr. Miller is now the clerk of works, as we then said, Mr. Josiah Allen was clerk of the works there till the completion of the carcase, and left with a strong testimonial from Mr. Barry.

PICTURE OF THE GREAT FALL, NIAGARA.—At the German Gallery, in New Bond-street, a picture of this sublime accident in nature, by Mr. Church, an American artist, is now being exhibited. It is taken on the Canadian side, a little above Table Rock, and does not give such an idea of the extent of water as some other pictures give. It is, nevertheless, a work of very superior merit; the movement in the water and the spray bow (to coin a word) in the sky are admirably rendered. Messrs. Day are to reproduce it in chromolithography.

ELECTRO-TELEGRAPHIC PROGRESS: THE TELEGRAPH IN WAR.—Never since its discovery, says the *Times'* correspondent at the seat of war in India, has the electric telegraph played so important and daring a *rôle* as it now does in India. Without it, the Commander-in-Chief would lose the effect of half his force. It has served him better than his right arm. In this war, for the first time, a telegraphic wire has been carried along under fire and through the midst of a hostile country. *Pari passu*, from post to post it has moved on with our artillery, and scarcely has the Commander-in-Chief established his head quarters at any spot where he intended to stay for a few days, when the post and the wire were established also. It is mainly to the zeal, energy, and ability of a young officer of the Bengal Engineers, Lieut. Patrick Stewart, that these advantages are due. He is assisted, it is true, by a few men, but he it is who devises and superintends the execution and the extension of the line from place to place. At one time his men are chased for miles by the enemy's cavalry: at another time they are attacked by the Sowars, and they and the wires are cut to pieces: again, their electric batteries are smashed by the fire of a gun, or their cart knocked to pieces by a round shot; but still they work on—creep over arid plains, across watercourses, span rivers, and pierce jungles, till, one after another, the rude poles raise aloft their slender burden, and the quick needle vibrates with its silent tongue amid the thunder of the artillery. The wire is thick, and is not protected by non-conducting coatings of any kind: it is twisted round the top of a rude pole, fifteen or sixteen feet high, and, under ordinary states of the atmosphere, it is found to answer perfectly.

LIFE OF RUBENS.—A number of original papers illustrative of the life of Sir Peter Paul Rubens, both as an artist and a diplomatist, preserved in her Majesty's State Paper Office, are about to be published by W. Noel Sainsbury (of the State Paper Office). We understand that a laborious search through about 300 volumes has brought to light a great variety of papers hitherto unknown, many of them of great interest. Particulars were found respecting many of his most magnificent works, and especially of some which are of most interest to Englishmen, as those on the ceiling at Whitehall; and much information was obtained, of great interest and value, relating to his negotiations as a diplomatist in Flanders, Holland, Spain, and to his celebrated mission to England.

THE MARBLE ARCH CLOCK.—A paper dial having been affixed to the Marble Arch, showing an intention on the part of Government to erect a clock on the arch, Sir J. Shelley addressed Lord John Manners on the subject in the House of Commons last week, and received a reply to the effect that the paper dial was to be removed and no clock erected.

SPIRITUAL PAYMENT FOR CONTRACTORS' WORK. An action has been tried at the Hartlepool County Court, in which Mr. James Gulley, a builder, sued the Rev. William Knight for 21*l.*, the cost of erecting a confessional in the defendant's church. Mr. Knight demurred to the price, and valued the confessional at 13*l.*, desiring the plaintiff to let the balance "go to the churchf or the honour and glory of God and in penance for his sins." The builder, preferring payment in material rather than spiritual coin, brought the action, and a verdict for 16*l.* was given.

TENDERS.

For erecting an hotel in Leadenhall-street, City. Mr. H. J. Brown, architect. Quantities by Messrs. Curtis and Carter.

Chapman and Parsons	£8,019	0	0
Raby	7,669	0	0
Rivett	7,565	0	0
Ring and Stanger	7,558	0	0
Harvey	7,500	0	0
Glenn	7,481	0	0
Hill	6,973	0	0
Ennor	6,689	0	0
Arnold and Co.	6,678	0	0
Wilson	6,495	0	0
Adamson and Son	6,413	0	0
Colls and Co.	6,390	0	0

Received too late —

M'Lennan and Bird	£6,347	0	0
Myers	6,549	0	0
Trollope and Sons	6,500	0	0

For alterations and additions to St. Michael's Church, Cornhill. Messrs. G. G. Scott and Herbert Williams, architects. Quantities supplied by Messrs. Wright and Gould:—

Trollope	£8,230	0	0
Hill	7,996	0	0
Brown and Robinson	7,770	0	0
Lucas, Brothers	7,750	0	0
Piper and Son	7,680	0	0
Ashby and Horner	7,675	0	0
Ashby and Sons	7,616	0	0
Wilson (accepted)	7,287	0	0

For Grantham National Schools and Residences. Mr. Edward Browning, architect

Cave, Oakham	£4,757	0	0
Lindley and Fern, Leicester	4,034	0	0
Rudd and Co. Grantham	3,996	0	0
Bradshaw	3,611	0	0
Broadbent, Leicester	3,599	0	0
Hall, Nottingham	3,590	0	0
Young, Nottingham	3,560	0	0
Foster, London	3,364	0	0
Wilson, Grantham	2,980	0	0

For building five houses and offices, Sloane-square. Mr. Geo. C. Handford, architect. Quantities supplied by Mr. Gritten:—

King and Son	£3,043	0	0
J. Perry	2,994	0	0
Matthews	2,979	0	0
G. Todd, jun.	2,973	0	0
Smith	2,475	0	0
J. and C. W. Todd (accepted)	2,249	0	0

For building four houses in Grove-road, Victoria-park. Messrs. Hammack and Lambert, architects:—

Hall and Son	£2,995	0	0
Perry	2,795	0	0
Keyes and Head	2,770	0	0
Downs	2,563	0	0

For warehouse and chambers at the corner of Noble-street, Gresham-street, for Messrs. De Jersey and Micklem. Mr. J. Blyth, architect. Quantities supplied —

Richardson	£2,545	0	0
Macey	2,493	0	0
Jay	2,467	0	0
Lucas, Brothers	2,344	0	0
Hill	2,307	0	0
Ashby and Sons	2,283	0	0
Patman and Co.	2,275	0	0
Lawrence and Sons	2,273	0	0
Brass and Son (accepted)	2,186	0	0

For additions to a farm-house at Theyden-green, Essex. Mr. S. Dyball, architect:—

Ring and Stanger	£920	0	0
R. Smith	871	0	0
Elliott	680	0	0
G. Todd, jun.	643	0	0
Chapman and Parsons	597	10	0
Dunkley and Millar	567	0	0
Whittington	448	0	0
Beadle	421	0	0

For finishing Nos. 1 and 2, Gothic-villas, Anerley-grove, Norwood. Mr. H. T. Brown, architect. Quantities taken out by Mr. Lemon:—

Lewis and Thorn	£833	0	0
Denison	775	0	0
Mark Deacon	760	0	0
Gomme and Bryon	739	0	0
Fisher, Stratford	719	0	0

For finishing Nos. 1 and 2, Belmont villas, Anerley-grove. Same architect. Quantities also by Mr. Lemon.—

Lewis and Thorn	£813	0	0
Fisher	746	0	0
Mark Deacon	735	0	0
Dennison	715	0	0
Gomme and Bryon	689	0	0

For finishing a house for Mr. H. W. Swayne, Erith, Kent. Mr. Herbert Ford, architect. Quantities supplied:—

Carter	£747	0	0
Elston	694	0	0
Gumbrell	669	0	0
Waller, Ward, and Waller	667	10	6
Axford (accepted)	630	0	0

For additions to house on the Trafford Estate, at Norwich.:—

Pestall	£595	0	0
Wordingham	535	0	0
Minns and Foyson	525	8	0
Ford	524	7	0
Read	470	0	0
Blyth	463	0	0
Meachen	446	0	0
Brown and Bailey	425	1	0
W. Lacey	413	0	0
J. Lacey	403	0	0

TO CORRESPONDENTS.

Mr. F.—G. T. [illegible]—E. K. J.—G. T.—L. and L.—C. G.—G. L.—J. W. B.—N. W. L.—Rev. E. H. F.—C. B. A.—P. B.—Mr. B.—F. and W.—P. W.—M. J. L.—F. E.—H. J.—C. A. L.—T. D. (declined, with thanks).—Mrs. G. R.—G. C. H.—C. F.—[illegible]—C. C. N.—"Art and the Church" (in type).—A. T. A. (ditto).—Round Towers (ditto).—Congress at [illegible]—R. B. E.

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

"THE BUILDER."—Wanted, the Numbers for January 17, 24, and 31, 1857.—Apply at the Office of "The Builder."

BARNES COMMON, SURREY.—Excellent Residence, Cottages, and Building Land, with immediate possession.

MR. W. H. HEWITT has received instructions to SELL by AUCTION, at the MART, on TUESDAY, MAY 11, in lots, an eligible COPYHOLD ESTATE, consisting of Four capital Residences, Cottage Tenements, and Building Land, lying in a ring fence, most delightfully situate on Barnes common, commanding beautiful views over the surrounding country, and within five minutes' walk of the Barnes Railway Station. The property, except the cottage tenements, is in hand. [illegible] May be viewed, and particulars [illegible] with plans of the property and conditions of sale, may be had [illegible] at the Mart; at the principal Inns at Barnes, Mortlake, and Putney; of W. D. VAWDREY, Esq. Solicitor, 2, Bedford-row; of Messrs. ROY and CARTWRIGHT, Solicitors, 4, Lothbury; and at Mr. W. H. HEWITT'S Auction and Land Agency Offices, 23, Hart-street, Bloomsbury-square.

AN ARTICLED PUPIL WANTED, by an Architect in the country. A respectable, well educated, and intelligent Youth, having a taste for drawing, will be preferred. Premium, 150l.—Address, A. R. C. H. [illegible], Post-office, [illegible]

BUILDER'S CLERK WANTED, by an Architect and Builder, a Young Man as CLERK. He will be required to keep the same hours as the men, punctuality indispensable, have a thorough knowledge of drawings, be a good accountant, capable of measuring work and taking out quantities expeditiously.—Address, J. "Journal" Office, Leicester, stating age, qualifications, and amount of salary required.

CLERK of WORKS WANTED.—The Committee of the Bicester National Schools, [illegible] receive APPLICATIONS from persons [illegible] SITUATION. The duties will commence towards the middle or end of May. Applications, with testimonials [illegible], to be forwarded to the undersigned by the 4th proximo.

CHARLES FOWLER, Hon. Sec.

Whitelands, Bicester, 27th April, 1858.

CLERK of WORKS WANTED, to superintend for three or four months works in the City, in the erection of a warehouse.—Apply by letter, in the first instance, to WALES and SPARKS, Surveyors, 8, Great St. Helen's, E.C.

THE COMMITTEE for the RESTORATION of BOWDON PARISH CHURCH are in want of a CLERK of the WORKS. Written applications, stating terms, together with testimonials, to be sent, on or before MAY 8th, addressed to the Rev. C. BRITTAN, Bowdon, Cheshire.

TO CARPENTERS AND JOINERS.

WANTED, a good practical JOINER as WORKING FOREMAN in a London shop—one that thoroughly [illegible] the [illegible]. Also a young man about 18 as CLERK.—Apply, by letter only, to A. B. [illegible], Cowell, [illegible], Chiswell-street, Finsbury, E.C.

WANTED, in the country, a good PLUMBER, one who would have no objection to fill up his time in glazing and painting. Apply, stating wages and where last employed, to A. B. Post-office, Henley-in-Arden, Warwickshire.

WANTED, a BOOK-KEEPER, in an old-established Plumber, Painter, and Glazier's, in London. One who has been used to estimating for general repairs. State particulars and salary required.—Address by letter, to A. B. C. Office of "The Builder."

WANTED, a FOREMAN for a Joiner's Shop. Must be well acquainted with the prices of piece work, and have filled a similar situation.—Apply by letter only, stating where last employed and salary required, to J. and C. W. TODD, Builders, Milner street, Brompton, S.W.

TO MARBLE POLISHERS.

WANTED, for a constancy, in a large manufacturing town in a midland county, TWO good POLISHERS, accustomed to truss and moulded work.—Apply to H. P. Office of "The Builder."

WANTED, a quiet, respectable YOUTH, not under 16, as a thorough WRITING CLERK, and to make himself generally useful in an Architect's Office. Address, stating amount expected, B. W. at Mr. Scripps's, News Agents, South-[illegible] street, W.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a thoroughly good PLUMBER, aged 30, a CONSTANT SITUATION. No objection to fill up his time in painting, glazing, &c. Good references as to character, &c. Address, B. Z. G. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

WANTED, by a respectable Young Man, an ENGAGEMENT in an Office. Has been used to practical work; understands drawing in perspective, &c.—Address, OCEOLA, Post-office, 1[illegible], Goswell street, Clerkenwell.

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT, as Out-door, Shop, or General FOREMAN, by an experienced, steady, active, respectable Carpenter, who has been for the last six years constantly employed [illegible]. Satisfactory references can be produced.—Address, B. H. H. 47, Liverpool-street, King's-cross, W.C.

WANTED, by a Young Man, a CONSTANCY as PAPERHANGER, Distemperer, Painter, or Grainer. Can turn his hand to plumbing, and the trade generally. Wages [illegible].—Address, H. D. No. 31, Flask walk, Hampstead.

TO PLUMBERS, &c.

WANTED, by a Young Man, age 22, who is a good house-painter and glazier, an ENGAGEMENT, for six or twelve months, to improve himself in the plumbing, where an opportunity offers. Address to H. S. B. 26, Old Compton-street, Soho, London.

TO BUILDERS AND OTHERS.

WANTED, by the Advertiser, a respectable Young MAN, of considerable practical experience, just completing extensive works, a RE-ENGAGEMENT, as FOREMAN, or CLERK of WORKS, in town or country. Is a neat draughtsman, competent to measure all kinds of builders' works, take out quantities, prepare estimates, &c. Can give unexceptionable references and testimonials as to character and ability, both from previous and present employers.—Address, P. Q. Post office, Wandsworth, Surrey.

WANTED, by the Advertiser, a SITUATION, in an Architect and Surveyor's Office, in the City, or at the West-end. Is a quick draughtsman and arithmetician, understands estimating and billing of quantities. Salary 80l. per annum. Satisfactory references. Address, X. L. 1, Petersburg-terrace, Bayswater, W.

TO CARPENTERS AND BUILDERS.

WANTED, by the Advertiser, a SITUATION in a BUILDER'S OFFICE; in which capacity he has been engaged several years, and perfectly understands the routine of the business in all its branches.—Address, A. B. Mr. Andrews's, No. 1, Providence-row, Finsbury, E.C.

TO BUILDERS AND MASTER PLUMBERS.

WANTED, by a handy Young Man, a SITUATION, as PLUMBER'S ASSISTANT, or in any capacity where he could be of service to his employer. Address, H. B. Mr. Snell, 21, St. Leonard's street, Vauxhall-road, Pimlico.

TO SURVEYORS AND BUILDERS.

WANTED, in the Country, by a Young Man, aged 32, a SITUATION in the OFFICE, or as CLERK of WORKS. Has a good practical knowledge of making estimates, can measure land, take levels, and is a fair draughtsman; also understands the improved style of farm buildings, and drainage, &c.—Address, ALPHA, Mr. Hortops, Builder, Mary-street, Taunton, Somerset.

TO MASTER PAINTERS, DECORATORS, &c.

WANTED, by the Advertiser, a SITUATION as WORKING FOREMAN, in the Painting and Decorating Department. Has had great practical experience [illegible], and has just completed one of the best jobs in London. Can have undeniable references as to character and ability from present employer and others. No objection to any part of the world. Address, C. F. W. 77, Lamb's Conduit-street, Foundling.

TO BUILDERS AND SEWER CONTRACTORS.

WANTED, by a Young Man, who has for the last eight years been employed in the construction of sewers and house drainage, and who is a practical bricklayer, a SITUATION as FOREMAN or TIMEKEEPER. He is willing to take work by the piece. Good testimonials. Address, Z. A. Office of "The Builder."

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WANTED, by a Young Man, a SITUATION as ENAMELLER and GRAINER in a Slate Works. Thoroughly understands the dipped hand work. Good testimonials.—Address, H. A. Mr. Hadley, Stationer, 17, Giltspur street, West Smithfield.

WANTED, a SITUATION by an OIL GRAINER, MARBLER, &c. Wages, 30s. per week. Specimens can be seen.—Address by letter, T. C. who does oak from 5d. per square yard; over 60 yards, 4d.; front doors, from 1s. 6d. per door. T. C. 51, High-street, Camden-town.

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WANTED, a SITUATION as CLERK of WORKS, or GENERAL FOREMAN, or to undertake the management of a Business, by a competent Person, of good practical experience, who has had the management of very extensive public and private works, and is well acquainted with the working and management of steam engines, sawing, and other machinery.—Address, M. T. C. Post-office, Hertford.

WANTED, a SITUATION, by a first-rate GRAINER and MARBLER, who has worked in a West end shop for many years. Patterns can be seen, and good reference given.—Address, A. Q. M. Office of "The Builder."

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WANTED, a SITUATION as CLERK or FOREMAN, or to take charge of a small BUSINESS, by a thoroughly Practical Man, aged 35; can take out quantities, estimate, measure up and value works, and prepare specifications and working drawings. Unexceptional references from late employer, who is retiring from business.—Address, by letter, to T. Y. at Mr. Roxburgh's, Stationer, Aldgate, E.C.

TEMPORARY ASSISTANCE.—A Young ARCHITECT, having spare time on his hands, OFFERS his SERVICES to Architects in preparing perspective and other drawings, either at their office or at his own chambers. Good references. Address, ARCHITECT, 14, Clement's-inn, Strand.

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THE Advertiser, who has been educa[ted to] the profession, is anxious to obtain an ENGAGEMEN[T in the] office of an architect. Qualifications—general and detail [drawing], designing, preparing specifications, taking dilapidations, and [superin]tending the direction of buildings. Salary moderate.—Addre[ss], 25, Margaretta-terrace, Oakley street, Chelsea.

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CLERK of WORKS.—A thoroughly pra[ctical] and experienced CLERK of WORKS, is now OP[EN to a] RE-ENGAGEMENT.—Address, A. Z. Clarence-cottage, [illegible] Middlesex, W.

FOREMAN of SMITHS. WANTE[D, a] SITUATION as FOREMAN of SMITHS and GASFIT[TERS], to manage a business; a steady middle-aged man; can keep [books] if required.—Address, post paid, O. R. P. Office of "The Buil[der]."

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AN ARCHITECT, accustomed to p[repare] perspectives, finished, working, and detail drawings, [specifica]tions, take out quantities, survey dilapidations, measure [and value] work, &c. is desirous of OBTAINING WORK to do at [his] OFFICE. Address, R. B. 43, Southampton-row, Russell-squ[are].

A CLERK of WORKS, who has jus[t ter]minated an engagement at a large Ecclesiastical [building], requires a similar SITUATION. Is well acquainted wit[h] drawing, making working drawings, taking out quantities, &[c.] [illegible] to architects and other gent[lemen of] high standing, will be given.—Address, C. W. F. 15, Wilt[on-place], Belgrave-square, London.

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A RESPECTABLE, steady, sober [Young] Man would be happy to hear of a SITUATION as FOREMAN (take charge of jobs, &c.). Has a general knowled[ge of the] above business, and can be well recommended. At present [in a con]stant situation in one of the West-end firms. Address, A. B. [Office] of "The Builder."

A YOUTH, aged 17, wishes to ART[ICLE] himself to a CARPENTER and JOINER. Has bee[n two] years at the bench.—Address, W. S. 2, Chapel-street, Bedford-[row].

AN ARCHITECTURAL DRAUG[HTS]MAN of quick and energetic abilities, and from an [illegible] office, is open to an immediate ENGAGEMENT. He is vers[ed in the] Pointed Styles, working drawings and finished, details, and [perspec]tive; ready at the pen, and can survey.—Address, A. O. Office [of "The] Builder."

A RESPECTABLE YOUTH, aged 1[illegible], has been between two and three years at the trade, w[ishes for] an ENGAGEMENT with a CARPENTER and JOINER for a[bout] two or three years.—Address, G. B. 51, Harrison-street, Gr[ay's-inn]-road, W.C.

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A RESPECTABLE PERSON, 33 [years] of age, of good address, a good painter, paperhang[er, and] gilder, understands the measuring and valuing of work, &c. [illegible] the command of men and jobs. Wages not so much a[n object as a] permanent and respectable SITUATION. Can receive [a recom]mendation from his present employer.—Address, W. G. 31, [illegible] street, Portsea, Hants.

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A FULLY-QUALIFIED ESTIMA[TOR] and DRAUGHTSMAN is desirous of an ENGAGEM[ENT]. Address, F. B. Post-office, Leigh-street, Burton-crescent.

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A SURVEYOR, aged 30, a thor[ough] measurer and accountant, wishes for an ENGAGEM[ENT]. Address, B. B. Mr. Elliott, 59, Lamb's-conduit-street.

TO ARCHITECTS.

A YOUNG GENTLEMAN, who has [had] seven years' experience (including apprenticeship) in a[n office] in Scotland, is desirous of an ENGAGEMENT. Address, A. B. [care of] Robertson and Scott, Advertising Agents, No. 36, George[-street], Edinburgh.

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A YOUNG MAN is open to an ENGA[GE]MENT as DRAUGHTSMAN and MAPPER, [illegible] above. Is a good ornamental writer, and conversant with the [office] duties. Address, F. F. 29, Clifton street, Finsbury, London.

TO ARCHITECTS.

A PRACTICAL CLERK of WO[RKS], having just completed some very extensive works, is [desirous] of a RE-ENGAGEMENT.—Address, H. Office of "The Builder."

A GENTLEMAN, who has had cons[ider]able experience in First-class Surveys, is open to an EN[GAGE]MENT. He is a neat and expeditious draughtsman. Terms ta[illegible]. Excellent references. Address, C. Z. Post office, Derby.

A GOOD ARCHITECTU[RAL] DRAUGHTSMAN, accustomed to geometrical, free ha[nd, and] perspective drawing, but not good at working details, is desir[ous of an] ENGAGEMENT. Terms moderate. Address, IOTA, Office o[f "The] Builder."

TO ARCHITECTS

RST-RATE DRAUGHTSMAN, ...tent to prepare working and per... drawings in the ...dan styles, as desirous of a RE ENGAGEMENT. ... ...rms. Salary moderate.—Address, C M Office of "The ...

TO HOUSE AGENTS, &c

RCHITECTURAL DRAUGHTS... of experience, is anxious to meet with an ENGAGE... Offices of a House or Estate Agent, where his ... and useful. Terms moderate; permanent employment ...ncipal object desired.—Address, R. P. 16, River-street, ...C.

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RK of WORKS.—A thoroughly prac... an, accustomed to prepare plans, elevations, and detail... ...vings, in connection with GOOD detail, to act as ... CLERK of WORKS, or General Assistant. Private ..., 19, East road, City road, if ...d. N.B Unexceptionable testimonials.

IMPORTANT TO POTTERS.

ACTICAL MAN wishes an ...EMENT, as either FOREMAN or MANAGER in ... He is in the daily practice of using a beautiful white ...ar-closet pans, of which he has the recipe; a superior ...d others, for stoneware. Can give good references and ...d general ability. Would not object to go abroad.—... care of Mr. Bevan, 35, New road, Seamer square, ...

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ERSHIP WANTED, in an estab... SINESS of CIVIL ENGINEERING and SURVEYING. ...l gentleman of sound practical experience, especially ...h hydraulic engineering.—Address, N. C. E. Messrs ...rning-cross.

LBERT SMITH'S MONT ... C, NAPLES, POMPEII, and VESUVIUS, EVERY ...s Saturday) at Eight, and Tuesday, Thursday, and ...oons at Three. Places can be secured at the Box... ...hall, daily, between Eleven and Four, without an...

EASTER HOLIDAYS.

ROYAL POLYTECHNIC ...S.H.R.H the Prince Consort. "The Grand Pleasure-... ...entirely new series of Dissolving Views, with beautiful ...s, painted by Messrs. Hine, Clare, Perring, and Davies, ...thquakes, volcanoes, thunder-storms, parhelia, the ...the spectre of the Brocken, mirage, avalanches, water... ...cataracts, wonderful caves, &c. with new descriptive ...s. Malcolm, Esq. daily, at a Quarter-past Four and a ...n. The highly effective Dissolving Scenery, illustrating ...e India, daily at Two. Curious live insects in the ox... ...scope, daily, at One and Half past Seven. First of a ...opular Lectures (plentifully illustrated with Experi... ...e Great Forces of Attraction," by J. H. Pepper, Esq. ...C.E. &c.—A new course of Lectures, by Thomas ...yte Professor of Chemistry, St Bartholomew's Medical ...thor of many popular works on chemistry, "On the ...r, Earth, Fire, and Water."—For further particulars ...of the week, which is sent anywhere for two postage ...sion to the whole. Is. Children under Ten and schools, ...

TO ARCHITECTS, DRAUGHTSMEN, &c.

RCHITECT, retiring from a Small ... wishes to DISPOSE of it, with a Two-roomed Office ...and its New Fittings, &c. complete—Address, W Y ...las, Walham-green, S.W.

RICK DENT, Chronometer, Watch, ... Maker to the Queen and Prince Consort, and maker ...K for the Houses of Parliament, 61, Strand, and 34, ...N No connection with 33, Cockspur-street.

RENDING MACHINE. —A ...an, who is the proprietor of a valuable patented ... purpose, is willing to entertain, on liberal terms, an ...rking of it under license from him.—Apply, by letter, ...E and POLLOCK, Solicitors, 63, Lincoln's-inn-fields.

IF DEPOSIT (established A.D. 1844). ...MALL EAST, London. Parties desirous of investing ...ested to examine the plan of the Bank of Deposit, by ...ils of interest may be obtained with ample security. ...ayable in January and July. PETER MORRISON, Managing Director. ...or opening accounts sent free on application.

ADVANCED to BUILDERS and ... S.—LAND TO BE LET, very eligibly situated, ...the Crystal Palace Railway Station, Anerley road, ...within three minutes' walk of the trains. Road and ...lease 125 years, at low ground-rents. A spacious hotel, ...of other houses, are now erected on the land. Cheap ...er every few minutes to the City and West end, also to ...London, Brighton, and South Coast Railways. Apply ...M. HBY, Architect and Surveyor, 67, Newington-... ...or to Messrs. BRIANT and JEFFERY, Auctioneers ...nts, No. 21, Metcombe-street, Belgrave-square, S.W. ...a ton-row, Kennington-park, S.

and INVESTMENT AGENCY ...TION.—CHIEF OFFICE, 9, ADAM-STREET, ... Loans of any amount, from 20l. on real and other ...000l. trust funds ready to be invested. R. T. JOPLING, Actuary.

PATENT

D PARQUETERIE,

for floors, walls, and furniture (inch thick from 1s. per foot), as used by the eminent architects, Sir Charles Barry, Messrs. Burn, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Times, May 29.

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ITECTS and BUILDERS.— ...T, TRELOAR, 42, LUDGATE-HILL, Manufacturer, ...OCOA NUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c. ...t quality on the most reasonable terms ... Warehouse, 42, Ludgate-hill, E.C

OLD MATERIALS.—TATUM and CO. CONTRACTORS for BUILDING MATERIALS, No. 91, St. George's-road, Southwark. - Mansions, Warehouses, Fire Jobs, Builders' Surplus Stock, Old and Dilapidated Houses and Buildings ...ased by Sir Benjamin Hall's Act, Purchased and Cleared with the utmost care and despatch. New Bricks, Sand, Ground Work, and Rubbish Carting done. One Million of Old Bricks always on Sale.

IMPORTANT TO BUILDERS

REGISTERED CAST-IRON CHIMNEY. HOPPER and CHIMNEY-BAR COMBINED, ensuring a perfect ...mation of the flue, and rendering sticky chimneys impossible. One trial will cause their adoption in every building.

Price from 8s. 6d. each, according to size.

IRON GIRDERS and COLUMNS to MODEL or DRAWING

IRON PIPES and connections for gas, water, and liquid manure

RAIN-WATER PIPE and EAVE GUTTERS, at wholesale prices

Also, O G Gutters, Sash-weights, STABLE FITTINGS, pumps, ...ough rails, cattle and pig troughs, and COLUMNS, with caps and ...ases, and every kind of Builders' Castings, in stock, at LYNCH WHITE'S Iron Wharf, Upper Ground street, London, near Blackfriars Bridge.

PAPERHANGINGS.—LARGEST STOCK ... in the WORLD (200,000 pieces), of London, French, and own manufacture. Paperhangings, Decorations, Screens, Borders, &c wholesale, retail, and for exportation.—W. SHIERS and CO. Paperhanging Manufacturers, 3 and 5, Deansgate, Manchester. Patterns by post for six stamps

PAPERHANGINGS, at 332, Marylebone-road, one door from the Edgware-road.—THOMAS PARKER and SON, late Townsend, Parker, and Co. Paper Stainers, Goswell street, respectfully invite an inspection of their large and first rate STOCK of PAPERHANGINGS, all new designs. Architects, builders, and the public generally, will find this establishment unsurpassed by any house in London for elegance of style, excellence in quality, and cheapness in price. Bed-room papers from one half penny, and satin papers from two pence per yard. Paperhangers sent to all parts of the country.

N.B The new Designs for Paperhangings, by Owen Jones, esq we shall publish shortly.

PAPER-HANGINGS. — The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSS'S WHOLESALE WAREHOUSE, 24, GREAT PORTLAND STREET, Oxford street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

SPECIAL NOTICE.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY, 13, ST. JAMES'S-SQUARE, LONDON, S.W. Established 1824

All Persons who effect Policies on the Participating Scale BEFORE JUNE 30th 1858, will be entitled at the NEXT BONUS to one year's share of Profits beyond later Assurers.

Proposals should be forwarded to the Office before June 30th

The last Annual Report, as also a statement of the Sixth Bonus declared in January, 1857, setting forth in detail the whole state and affairs of the Office, and especially the benefits which will hereafter accrue to persons now assuring, can be obtained of any of the Society's Agents, or from the Office.

GEORGE H PINCKARD, Actuary. GEORGE CUTCLIFFE, Assistant Actuary.

13, St. James's-square, London, S.W.

ACCIDENTS of EVERY DESCRIPTION. £1,000 IN CASE OF DEATH; OR A FIXED ALLOWANCE OF 6l. PER WEEK IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 27,986l.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company, Offices, 3, Old Broad-street, London, E.C.

PELICAN LIFE INSURANCE COMPANY, established in 1797 70, Lombard street, City, and 57, Charing-cross, Westminster.

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Robert Gurney Barclay, esq.	Henry Grace, esq.
William Cotton, D.C.L. F.R.S.	Kirkman D. Hodgson, esq. M.P.
Octavius Edward Coope, esq.	Henry Lancelot Holland, esq
John Davis, esq.	Benjamin Shaw, esq.
William Walker Fuller, esq	Matthew Whiting, esq
Jas. A. Gordon, M.D. F.R.S.	M. Wyvill, jun. esq. M.P.

This Company offers

COMPLETE SECURITY.—Moderate Rates of Premium, with participation in four-fifths or eighty per cent. of the profits. Low Rates without participation in profits.

LOANS in connection with Life Assurance, on approved security, in sums of not less than 500l.

ANNUAL PREMIUM required for the Assurance of 100l. for the whole term of life

Age.	Without Profits.	With Profits.	Age.	Without Profits.	With Profits.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
15	1 11 0	1 15 0	40	2 18 10	3 6 6
20	1 13 10	1 19 3	50	4 0 9	4 10 7
30	2 4 9	2 10 4	60	6 1 9	6 7 4

ROBERT TUCKER, Secretary.

THE BYCHTON COAL, CANNEL, and IRON COMPANY, MOSTYN (LIMITED).

Capital, 30,000l. in 6,000 Shares of 5l. each. Deposit, 1l. per Share.

Incorporated, February 2, 1858.

No application for Shares will be received after TUESDAY, the 4th of MAY next. Prospectuses and Forms of Application for Shares may be obtained of Messrs. TOWNSEND, RIDLEY, and JACKSON, Solicitors, Liverpool; Messrs. DRINKWATER and LOWE, Sharebrokers, Liverpool; or at the Registered Office of the Company, 24, Derby-buildings, Fenwick-street, Liverpool, where samples may be seen and every information obtained.

MAHOGANY and DEALS at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of ...ers to his large and well selected Stocks of Mahogany (including ...ister-top and dining-table boards) and Deals of every description, ...mencing at the following prices, viz

Hduras Mahogany, plank and board, from 6d. per foot
Yellow Deals, from 2s. 3d. each.
Spruce Ditto, from 2s. 9d. each.
Fine Planks, from 2s. 6d. each.
Yellow Battens, 11l. 10s. per 120, 12 by 24.
3-inch Flooring, 11s. 6d.; 1-inch Ditto, 12s. per square.

An Assortment of Italian and American Walnut.—Elm street, Grays-inn-lane; and Borough-road, Southwark.

ANOTHER GREAT REDUCTION. — Yellow Deals, from 2s. 3d.; Spruce, 2s. 9d.; Pine Planks, 3s. 6d.; Mahogany and F. Walnut, 5d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 12s. 6d.; ¾ do. 11s. 6d.; 1-inch Yellow, 10s. 6d.; ¾ do. 9s. Bird's-eye Maple Veneer, 2d. Cartage free to any part of town.—T. FORMAN, 1, Walnut-tree-walk, Walnut-place, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list-prices for Mouldings. A large stock of dry flooring at low prices.—Southwark-bridge Wharf, Bankside, S.E.

PREPARED FLOORING! PREPARED FLOORING!!—W. G. WARDLE calls the attention of Builders and the trade to the following prices for Prepared Flooring.—

	½	¾	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s 6d.	15s. 9d.	18s.	"
Yellow	12s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within three miles free of cartage.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

KENNINGTON-CROSS TIMBER and DEAL YARD. ARTER and CO. solicit the attention of Builders, Carpenters, and others, to their thoroughly dry and well-selected Stock of Yellow, White, and Spruce Deals, Planks, Boards, Prepared Floor Boards, &c at the lowest prices.—ARTER and CO Lumber Merchants, Kennington cross, S

ACORN TIMBER WHARF and SAW MILLS, CANAL BRIDGE, OLD KENT-ROAD, LONDON. A Monthly Price Current forwarded on application. RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-Street, Old St. Pancras-road, invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c at the LOWEST Remunerative PRICES. Books of designs of mouldings forwarded on application.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾ inch Prepared Flooring	£0 11 6 per square.
1-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 3 0 each.
Fine Planks	0 3 6 each.
Yellow Battens	11 10 0 per 120.
Mahogany, in logs and planks, from 6d per foot.	

All these goods delivered within three miles free of cartage.

ALFRED CARTER, Old Bethnal-green-road, N.E.

TO ENGINEERS MILLOWNERS, AND OTHERS.

S.W. SILVER & CO. 67 CORNHILL & 3 & 4 BISHOPSGATE ST. WITHOUT LONDON MANUFACTORIES SILVERTOWN N.E. NORTH

MANUFACTURERS OF

VULCANISED AND UNVULCANISED INDIA-RUBBER,

IN EVERY FORM,

Buffer, Bearing, and Carriage Springs; Valves for Marine and Land Engines.

Telegraphic and other Appliances for Scientific Purposes.

ELASTIC CANVAS AND INDIA-RUBBER STEAM PACKING,

Which wears six times longer, economises Labour and Tallow, is always ready for use, and causes less Friction than any other Packing.

IMPORTERS OF AMERICAN BELTING, BREWERS' HOSE, &c.

S. W. SILVER and CO.

Nos. 3 and 4, BISHOPSGATE-STREET, opposite the London Tavern.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply Pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT. Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER VALVES, for Feed Pumps of Steam Boilers, enable the Pumps to give one hundred per cent of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, price-lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 89, Mark-lane, City, E.C.

SCOTT'S PATENT CEMENT,
Manufactured only by
WILLIAM LEE, SON, and SMITH,
EARL STREET, BLACKFRIARS.
The Cement is highly recommended for Internal or External Plastering, Brickwork, &c

COLES, SHADBOLT, and CO.
CEMENT and PLASTER MANUFACTURERS,
LIME BURNERS,
Brick, Tile Drain-pipe, Hair, Lath, and Fire Goods Merchants,
ST. JAMES'S and HIGHGATE WHARFS,
Caledonian-road, London.
ROMAN CEMENT of the finest quality, and which may be had fresh from the kilns daily, on application to our Agents at Boulogne and Calais, and delivered in any part of France.
PORTLAND CEMENT, of the best quality obtained, and which is manufactured at Kent, the closest well burnt stone used for making this Cement, as proved which at our Works it is the only Portland Cement to be obtained in the market as sold as Portland.
PLASTER of PARIS, direct from the quarries, all coarse and fine, Whitening and Lime.
LIME, Grey stone, Chalk, and Blue Lias Lime, fresh burned, burnt, and ground, of regular supply, which may be had by the basket or barge.
A large assortment of Glazed stanchwarks in the pipes of the best Lambeth make; Yorkshire Plain, Pan, and Paving Tiles; Welsh Fire Bricks, Lumps, and Tiles; Hair and Laths always kept in stock.
These goods are of the best quality, and sold at the lowest possible Prices.
N.B. Shipping orders promptly executed.

ST. JAMES'S MUSIC-HALL. The whole interior of this noble Hall has been plastered with MARTIN'S PATENT CEMENT. The elaborate Ceiling, including the rich Gilding and Colouring of the principal and intermediate Ribs, Mouldings, Recessed Coffers, &c. as also the Ground-work, were all completed in less than a month, as the SAME MATERIAL. Manufactured by STEVENS and SON, Drury-lane, and Derwent Mills, Derby.

JOHNS & CO.'S PATENT PERMANENT STUCCO WHITE perfectly non-hygienic, STUCCO, CEMENT, STUCCO PAINT and CLARK and BENSOUGH'S Manufactures, Grand Surrey Canal Bridge, and Kent-road.—Office, 4, George-yard, Lombard-street.

THE PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.—Messrs. ROBINS and CO. to WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to supply any quantity of the above well known PORTLAND CEMENT, manufactured by them for all the purposes to which it is applicable. Orders received at Gravesend, Kent, and at the Works.

MESSRS. ROSHER and CO.
LIME, CEMENT, and BRICK MERCHANTS,
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
NORTHFLEET, KENT
LONDON WHARVES
ALBION WHARF, HOLLAND-STREET, BLACKFRIARS, S.E.
MILLBANK STREET, WESTMINSTER, S.W.
KINGSLAND LOCK, NEW-NORTH-ROAD, N.E.
LIMEKILN-HILL, LIMEHOUSE, E.
Where cash is obtained at the lowest market price
GREY STONE, CHALK, and FLAT LIME.
ROMAN PORTLAND, KLENE'S, ATKINSON'S, MARTIN'S, and PARIAN CEMENTS.
COWLEY and KENT BRICKS.
WHITE and RED SUFFOLK FACING BRICKS.
YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS, and STOCKS.
STAFFORDSHIRE ORNAMENTAL PAVEMENTS, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS.
PLAIN and ORNAMENTAL ROOFING and RIDGE TILES.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES of every description and size.
RED and GLAZED STONEWARE DRAIN PIPES, &c.
TERRA COTTA CEMENT, and RED MYNEY POTS.
HAIR, PLASTER, LATHS, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, Bath and Roman Cements, Blue and White Lias Lime, lump and ground.—KIALLMARK and CO. Dunball, Bridgwater, and 9, North Wharf-road, Paddington.

PARIAN CEMENT.—This article is valuable for internal stucco instead of common plastering, and is especially adapted to skirtings, flooring on brick arches, &c. &c. It takes paint in a few hours after its application on walls or laths, is without efflorescence, and may be painted or papered forthwith. A finer quality forms a beautiful scagliola, and polishes with any admixture of colours. Manufactured by the Patentees, FRANCIS, BROTHERS, and POTT, Cement Works, Nine-elms, London.

O. McCARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity, along side the Thames.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 6, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.
N.B. These Cements supplied for shipment, on advantageous terms.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in any situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements, read at the Institute of Civil Engineers, to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

ATKINSON'S CEMENT, so long known and esteemed for its fine for plastering purposes, is a quick setting Cement that is free from grain, sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster, and Seel street, Liverpool.

GEO. and THOMAS EARLE, CEMENT MANUFACTURERS, HULL. Light Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates, and Slate Slabs, Fire-bricks, Grindstones, Cement Chimney tops, ditto Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Foreign.

KEENE'S and PARIAN CEMENTS for the internal coat. These well-known hard setting cements dry quickly, and can be finished upon with in a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster.

BLUE LIAS LIME. Messrs. GREAVES and KIRKSHAW LANE, have erected their Works on the Burming ham and Oxford Line of the Great Western Railway at Harbury, are now prepared to supply LUMP and GROUND LIME of the best quality, direct from the kilns, to all the Stations on the Great Western Railway. Greaves's Blue Lias Lime. Portland, Bath, and Lias Cement.
Works at Harbury, Stockton, and Willmcote.—Office at Warwick

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, and STURGE,
Manufacturers only of the PORTLAND CEMENT, for the home and foreign trade.
Portland Cement is manufactured at these Works with especial reference to its being thus a weather-resisting, brickwork blocks for breakwaters, and all works in the sea.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

CHARLES RICHARDSON,
BRUNSWICK WHARF, VAUXHALL.
At 16, SOUTH WHARF, PADDINGTON BASIN
COWLEY and KENT BRICKS, per barge, alongside and delivered in any part of the Wharf.
SUPERIOR WHITE SUFFOLK FACINGS, Splays, Bullnose, Cants, Bricks, and Chalkers, &c.
DARK RED FACINGS, Rubbers, Splays, Bullnose, &c.
BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Moulded Pier Mouldings, Perforated Panels.
BLACK HEADERS, Glazed and Unglazed.
BEARTS PERFORATED BRICKS.
STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terra-Metallic Paving Tiles. Capped, Moulded, Plain, and Ornamental Ground Ridging, &c. Bevelled Tiles.
WHITE GLAZED BRICKS.
FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any Pattern. Brick, &c. in the Rough.
TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c.
SLATES, best quality from the Bangor Quarries.
YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Copings, &c. Seam Slabs for Hearths, Jambs, &c.
TILES. Pan, Plain, Ornamental Roofing, Paving, Oven, Malthouse, &c. A great variety of Red and White Goods always kept in Stock.
GLAZED VITRIFIED SEWAGE PIPES, Curved Pipes, Syphons, Stench Traps, &c.
GREY STONE and CHALK LIME.
BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.
CEMENTS. Roman, Portland, Parian, Lias, Bath, Keene's, &c.
PLASTER of PARIS, fine and coarse, of best quality delivered to any part of London.
HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials supplied.
ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Hollow Ragstone, broken and unbroken.
Telegraphic Address, "Richardson, Vauxhall."
N.B. Lower Wharf on Brown's Dock, Vauxhall.

MESSRS. JOHN and WM. EASTWOOD are now prepared to make engagements for the SALE BRICKS from the NEW CLAMPS for the coming season. The delivery of the same to take place at the different periods of the month Belvidere-road, Lambeth, 1st May, 1858.

MESSRS. R. A. ALLEN and CO.'S WHITE and RED SUFFOLK FACING BRICKS
MESSRS. CALEB HITCH and CO.'S YELLOW & PALE MALM PAVING BRICKS.
The EWELL deep BLACK RUBBING and BUILDING BRICKS.
And the EWELL and CHALFONT dark and bright RED RUBBERS.
JOHN and WM. EASTWOOD, WELLINGTON-WHARF, Belvidere-road, Lambeth, and Kentish Road Bridge. } Sole Consignees.
The usual terms and allowance to merchants of the trade from the monthly price-lists.
COWLEY, KENT, and ESSEX BRICKS, By barge alongside, in any quantities.
N.B.—EVERY DESCRIPTION of the BUILDING GOODS of the trade always in stock

STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
J. and W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW and CO.'S Patent Oak, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Manchester-street North, Cityroad Basin N. Orally, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and orally, that the "Reports of the Judges, page 881, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufacturer as known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

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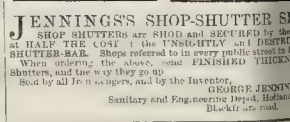

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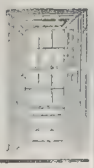

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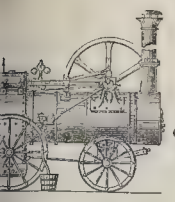

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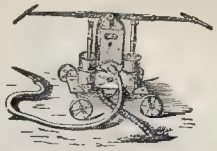
HIRE OR SALE.

YARD, FARM, AND HOUSE PUMPS.



HOLMAN'S PATENT CESSPOOL AND FORCING PUMPS.

CONTRACTORS' PORTABLE PUMPS.

PUMPS FOR MANUFACTURERS, FOR STEAM OR HAND POWER.

MANUFACTORY: WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE

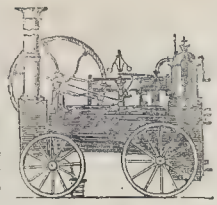
STEAM

ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

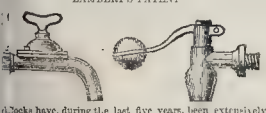
R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

OFING SLATE, LARGE SLABS, FLOORING, &c. The CAMEL SLATE COMPANY, near ...dge, Cornwall, execute extensive orders in roofing slates, floor ...are tanks, water cisterns, chimney pieces, and all other descri... late goods
Vessels of large tonnage can approach the quarry, and lie in safety.

PHALTE — TRINIDAD — Rendered of uniform consistency by steam power.
PARED { for every description of Building, Railway and Agricultural Work
PERED { for every purpose, situation, and exposure in every climate.
Grade supplied on advantageous terms, and estimates given for works of any magnitude; also for LAYING FAR PAVEMENT.
THOMAS HARRISON,
ASPHALTE, WHITING, AND PAINT WORKS:—
Cambridge-Heath Wharf, Hackney;
Sunderland Wharf, Rotherhithe;
City Offices, 19, London-street, E.C. opposite the Blackwall Railway.

PHALTE, FOREIGN and BRITISH, for FLAT ROOFING and every description of PAVING, ...r in damp situations.
FROM 2s. 5d. PER SQUARE YARD.
Country Builders supplied with Asphalte for Footings and Barn Floors, with instructions for using it.
Also JOHN PILKINGTON, Polperro and Limmer Asphalte Office, Monument-chambers, 14, Fish-street-hill, London.
Importer of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover.

PRIZE MEDAL, CLASS 2.
GH-PRESSURE VALVE COCKS.—
LAMBERT'S PATENT



...Docks have, during the last five years, been extensively and successfully used in many towns under continuous high pressure, ...rom 100 to 300 feet; their efficiency and durability as by experience established.
...uilibrium Ball-valve is simple and certain in its action, and ...r than the common Cocks now in use.
...led Iron, Self-acting, and other Closets, upon economic principles, suitable for public buildings, cottages, asylums, &c.
THOMAS LAMBERT and SON,
...ass and Iron Founders, Short-street, New cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS
...GH-PRESSURE COCKS & CLOSETS.

...uth of Towns Commissioners having recommended the adoption of High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and ...e for all purposes and situations. Patent Closets and Basins. ...dy-valve for attaching direct to main pipes without a cistern, ...wire.
LEAD, IRON, and TIN PIPE.
...N WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

...TESTER of PARIS, unequalled in quality ...d price, manufactured by W. JACOBS, Trent Works, ...Notts.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very quick dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.
BODY PAINT, a combination of Metals, forming a bright stone colour Paint. Being indestructible by heat, is well adapted for iron steamships and engineering works
HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW WHITE ZINC
DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.
THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
By the use of which Drains may be examined without the necessity of breaking a Pipe.
SALT GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.
List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. M'WILLIAM, at the Depôt, 8, Belmont-place, Nine-Elms.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.

WORKS: KINSON, near POOLE, DORSET.

PATENT FIRE-BRICK MANUFACTURERS.

Sanitary Glazed Sewage pipes, Closet-pans, Furnace Blocks, Bars, Quarries, and all goods used for fire purposes Fire-clay of the finest description Glass-house Pots, Furnace-bricks, and Pot-clay The fire bricks are manufactured by Bissell's new patent machine, from dry pulverised clay, are unrivalled for beauty of finish and fire-resisting properties, have been severely tested, and pronounced quite equal, if not superior, to any other fire-brick known. Salt-glazed Stoneware Pipes, Bends, Junctions, Closet-pans and Traps, Invert Blocks, and every article of the first quality required for sanitary drainage purposes. There is an inexhaustible quantity of all descriptions of Dorsetshire Clay used for pottery purposes on their estate, which can be supplied on the most favourable terms.
Lists of prices, and all other information, will be furnished upon application to
Mr. GILBERT E. MITCHELL, Manager, at the Works: or to Mr. JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth.

FLOORING AND MATCHED BOARDING.

R. SLADE

Begs to inform Builders and the Trade that he has now on hand a WELL-SEASONED STOCK of the above, in Yellow or White Deals and Battens, at considerably reduced Prices. Also,

MAHOGANY, MOULDINGS, WAINSCOT,

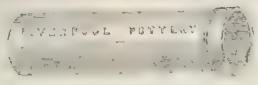
AND ALL KINDS OF TIMBER REQUIRED FOR BUILDING PURPOSES.
ADDRESS—R. SLADE (LATE EDWARD SIMMS), WILTON-ROAD, PIMLICO BASIN.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required. 4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

PAN, [illegible]
PAN, 4s. 6d.
TRAP, 3s.
TRAP, 2s.

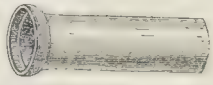
HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster bridge road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL BROTHERS, 12, Bryanston-street, Marble-arch.
Mr. HENRY TURNER, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

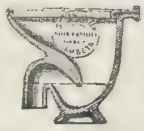
GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

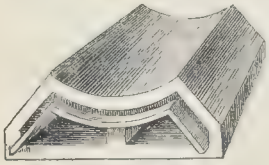
7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

DOULTON'S PATENT INVERT BLOCKS.



MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS. The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS, which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.

This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage-works.

DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.

DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE.

MANUFACTURED BY

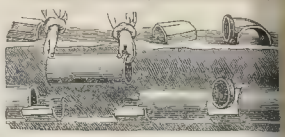
DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

Price 6s. 6d. each.

TO the ARCHITECTS and ENGINE[ERS] of the NORTH of ENGLAND.

JENNINGS'S PATENT SYSTEM of LA[ND] DRAIN PIPES

is the most Perfect and natural [system] ever [illegible] and is generally acknowledged as the most IMPROVED [system] for the [illegible] Socket or Half-Socket Pipe



JOSEPH CLIFF, WORTLEY, near LEEDS, being [illegible] Agent for the extensive Stoneware Manufactory of the above [illegible] has made arrangements to [illegible] the increasing demand [illegible] over their [illegible] of the NORTHERN, MID[LAND] and EASTERN COUNTIES, at the ordinary List Price, as below

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.	18-in.
2d.	3d.	6d.	8d.	1s. 3d.	1s. 9d.	2s. 6d.

Less 20 per cent. Discount for Cash.

CLIFF'S SALT-GLAZED DRAIN-PI[PES] are the strongest in the London Market.

CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN, [for] and a good article supplied. The largest Pipes in the Kingd[om] made by JOSEPH CLIFF, at the Manufactory, Worthy Pier Works, near Leeds. Net price per foot, socketed:—

9-inch.	3 ft. by 2 feet (oval).	20-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	[illegible]
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s. 9d.	3s.	2s. per

The thickness of each Pipe is commensurate with the diameter. Construction: made with the sewer at any time. All the Pipes guaranteed to stand better than any Bricks.

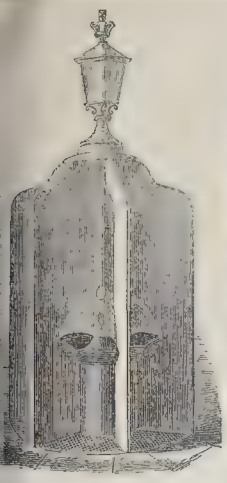
These GLAZED STONEWARE WAT[ER] CISTERNS, made of any size from 10 inches diameter by [illegible] inches deep, from 50 to 100 gallons. As a cottage [illegible] Cistern they are the CHEAPEST, the PUREST, and most DUR[ABLE] Vide "The Builder, March 2nd, 1858

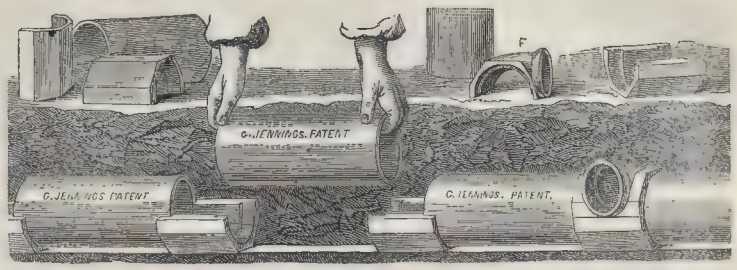
By use of CLIFF'S IMPROVED INVE[RT] The uniform level of sewer is easier of attainment. Greater rigidity is ensured by the ring-joint inserted at B. The work is executed with more speed. The notched sides ensure better support for the bricks, and the [illegible] more perfectly drained through the [illegible] connection with the down thoroughfares B B.

In the Manufacture of FIRE-CLAY TOPS for Grow'ks, JOSEPH CLIFF has brought to bear the [illegible] and now more than thirty seasons, and he with confidence [illegible] the attention of all Gas Engineers to their superiority of finish [illegible] and FREEDOM FROM SURFACE CRACK[S]. stock is always kept in hand; also Fire Bricks, Lumps, Guards, [illegible]

WHARF No. 4,
[illegible] NORTHERN GOODS STATION, KING'S CR[OSS] LONDON

JENNINGS'S SANITARY APPLIANCES.





THE DISCUSSION ON DRAIN-PIPES AT THE INSTITUTE OF ENGINEERS AND ARCHITECTS, must be fresh in the recollection of all professional men.

During the "discussion," ROBERT STEPHENSON, Esq stated that "he looked upon a town drained with pipes as one huge machine, that was capable of neither EXAMINATION nor REPAIR."

This observation led to the introduction of JENNINGS'S PATENT DRAIN-PIPES, which enables the Workman, and Clerk of Works, to see, before the saddle-covers are fixed, that every pipe is properly laid and jointed; and should a stoppage occur, the removal of one or more of the saddle-covers permits the "examination" considered necessary.

Then as regards the introduction of Junctions to finished lines of pipes (consequent on additions to Buildings or Alterations), the removal of a Plain Saddle, and the substitution of a Patent Junction Saddle, as shown at D and F, effects the object without trouble, or the slightest disturbance to the general Drain.

In the face of the most powerful opposition ever offered to the introduction of any Invention, the demand for these Pipes is daily increasing; and nitects and Engineers are respectfully informed, that Mr. JOSEPH CLIFF, of Wortley, near Leeds, has taken a License for the Manufacture and of these Pipes, in the Northern, Midland, and Eastern Counties. Every attention will be paid to their manufacture, and the prices charged will be same as for ordinary Socket-Pipes.

All JENNINGS'S PATENT DRAIN-PIPES, his patent AIR-CHAMBER SMOKE FLUES, his recently patented INVERT, SEWER, and NCTION BLOCKS, are all manufactured at his own works,

THE SOUTH-WESTERN POTTERY, POOLE, DORSET,

ri clays equal to any in that famed district; and no goods are allowed to leave the Works but those of the most PERFECT MANUFACTURE.

Architects and Engineers describing JENNINGS'S Clay Productions, his Valve, or Self-acting Water-Closets, Pumps, Lavatories, Sluice Valves, and other Cocks, may depend on their efficiency and durability.

A PUBLIC URINAL, as above Illustrated, has recently been fixed in the Seven Dials for the District Board of Works. The Board, as also their veyor, have expressed their entire approval of the arrangement; and on examination it will be found MORE COMPACT, MORE PRIVATE, and SS OFFENSIVE than any other arrangement in London. They have also been fixed on the Great Northern and other Railways; at the Philological other Schools, with the same satisfactory result. They are arranged for TWO, FOUR, or SIX persons.

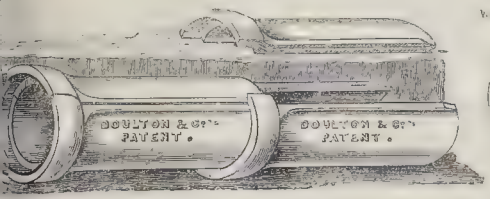
Prices and further particulars, can be had at

JENNINGS'S ENGINEERING AND SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS.

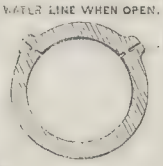
OULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

mitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain, or Lessening its Capacity.

SOCKET JOINTS.



WATER LINE WHEN OPEN.



ADVANTAGES.

The Pipes may be laid whole as ordinary Socket Pipes, and the covers need only be removed should necessity arise.
On the removal of the lids the drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
The advantages of inspection are obtainable without any imperfect joints or other complication, which would allow either the escape of the liquid contents of the Drain, or the entry of the surrounding soil.
The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
The introduction of junctions is facilitated.
The upper part or cover being fixed in one piece with the Pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
Perfect truth of form is secured, and increased strength obtained.
Simplicity of construction, and consequent Economy.
They may be used alternately or at any afterwards, with ordinary Socket Pipe

Manufactured by HENRY DOULTON and CO.

—HIGH STREET, LAMBETH, LONDON Manufactories HIGH STREET LAMBETH, ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM

REAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

s to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his

GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispense with Cisterns, service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works They are very cheap, their efficiency is guaranteed [illegible] of them have been sold, and no instance of failure has occurred

These Stool valves are cheaper, stronger and more ornamental, than any other Many thousands are in use, and greatly approved of

Manufactured by CHARLES BOTTEN and SON, Brass Founders, Crawford-passage, Clerkenwell, London.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex

Stoneware Pipes, Cement, &c. as usual Purchasers of Drain Pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

WARNER'S PATENT VIBRATING STANDARD PUMPS PATENT CAST-IRON PUMPS fitted with J. W and Sons' Patent Buckets and Stickers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ ,, long	3	gutta percha	1 15 0
3 ,, ditto	3 6	or cast iron	2 8 0
3½ ,, ditto	3 6	flanges (pipe,)	2 12 0
4 ,, ditto	3 6	as required.	3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

NOTICE. — DRY RUBBISH, free from vegetable matter, may be shot (where directed) within the Royal Arsenal Woolwich.—Application to be made at the Royal Engineer Office at that place.

Royal Engineer Office, Royal Arsenal, Woolwich,
30th March, 1858.

SALES BY AUCTION.

TO CONTRACTORS AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Assignees of Messrs. Brown and M[illegible] to SELL by AUCTION, on SATURDAY, the 1st of MAY, 1858, at ONE for TWO o'clock precisely, on the RAILWAY WORKS [illegible], Kent, near the intended station on the East Kent Railway, [illegible], without reserve, the CONTRACTOR'S PLANT used in the [illegible] of the section lately completed, including fifty wrought-iron [illegible] waggons in good working order, end tip, sixty tons contractors' rails, 1,000 sleepers, wheeling planks, timber whim, four-wheel timber carriage, two waggons, two sticks of timber, two [illegible] implements and effects.—To be viewed on the [illegible] of sale. [illegible] may be had at the Works; of E. EDWARDS, Esq. Official Assignee, Basinghall-street, E.C.; of Mr. ROSE, Solicitor, Salisbury-street, Strand; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

IMPORTANT FREEHOLD.—Substantial Wharf, with [illegible] newly erected Saw and Planing Mills, Engine [illegible], Dwelling-house, and Two Freehold Public-houses, [illegible], Surrey.

MESSRS. FULLER and HORSEY are instructed by Messrs. Grissell, Brothers, to SELL by AUCTION, at the MART, on THURSDAY, the [illegible] MAY (unless an acceptable offer is previously made by Private Contract, of which due notice will be given), a highly important FREEHOLD PROPERTY and SUFFERANCE WHARF, known as [illegible] Wharf, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 2a. 3r. The premises have been arranged by Messrs. Grissell as a timber-yard, wharf, and saw mills. The buildings, newly erected in the most substantial manner, comprise the saw-mill, [illegible] feet by [illegible] feet, engine and boiler house, planing shed, offices for clerks and principals, stabling and carriage-house, and a dwelling-house, with private entrance, suitable for a manager. The [illegible] old-established and well-accustomed public-house, adjoining the watermen's stairs, and the Blacksmiths' Arms public-house, in Rotherhithe-street. The distance of this property by carriage-road from London-bridge is about three miles, but by the Blackwall Railway to Limehouse and the ferry-boat across, it may be reached in about twenty minutes. A large outlay has been made in fitting up machinery of the most modern and approved description for sawing and planing, worked by a highly-finished double-cylinder steam-engine of 40-horse power, by Hall, of Dartford. The sawing and planing machinery may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the [illegible]. The arrangement of the buildings and situation of the property for the purposes intended by the present occupiers are most desirable in every respect, or the site is equally available for the establishment or erection of any large manufactory requiring waterside premises. The property may be viewed by cards only, which may be had at the Offices of the Auctioneers. Printed particulars and plans are in course of preparation, and may be had shortly of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, No. 1, [illegible], London-street, E.C.; of B. F. WATSON, Esq. Solicitor, 30, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

TO SHIP CHANDLERS, BOAT AND BARGE BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, MAY 3, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, No. 297, Rotherhithe-street, in lots, without reserve, the extensive and well-assorted STOCK of the late firm of CRISTALL and CO. including thirty loads English oak, twenty loads elm, three loads teak, 600 feet teak plank, 200 oak posts, 700 feet oak battens, 1,500 feet oak quartering, 1,[illegible] feet old ship timber, 1,000 feet fir quartering, thirty barge floors, 100 barge and timber heads, twenty fathoms oak slabs, ten fathoms teak slabs, fifty fathoms firewood, 600 feet American oak and elm plank, 1,500 feet English oak plank, 1,000 feet elm boards, [illegible] squares flooring boards, 2,000 feet bulwark boards, 1,000 feet boat boards, 1,[illegible] feet feather-edge boards, 10,000 oak trenails, fifty stage deals, [illegible] oars, thirty bundles teak laths, [illegible] Stockholm tar and pitch, ships and barge pumps, 150 fathoms chain cable, five tons chain variations, double and single crabs, fifteen lifting and screw jacks, two steelyards, ramps, scale beams, several tons iron weights, 10-horse power steam engine, colour mills, edge runners, thirty grind stones, spars and scaffold poles, tarpaulins, anchors and kedges, ten tons bar and rod iron and steel, five new sets Marryatt's signals, seventeen [illegible] new flags, second-hand signals and flags, 100 pieces new bunting, seventy bolts sail cloth, six tons new rope, five tons old rope, two hawsers, one ton old canvas, 500 sheave blocks, [illegible] cwt. [illegible], 2 cwt. copper sheathing, copper oil cisterns and powder magazines, 50 cwt. hoop and plate iron, 15 tons wrought and cast iron, 1 cwt. copper nails, 1,500 gross brass and iron screws, large assortment of brass cabin furniture, a large and general stock of ironmongery, black and new ware, tin ware, oils and colours, turnery, two punts, [illegible] and [illegible], three long boats, skiff, timber carriage, timber whim, two trucks, two pile engines, three powerful wharf cranes, and numerous other effects. To be viewed on Friday and Saturday previous to the sale, and catalogues had (at 6d. each) of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, Esq. to SELL by AUCTION, MONDAY, MAY 17, 1858, at TWELVE, at the WORKS, [illegible], the new bridge from Battersea, Pimlico side, the PLANT lately used in the construction of the piers and earthworks, including [illegible] scaffold poles, 200 wheeling planks, 150 [illegible], [illegible] carts, eight lime and sand screens, framed centres, portable rails and trollies, two framed shear legs, with [illegible], thirty [illegible], five well pumps and suctions, carpenters' benches, [illegible], 10,000 super. feet stack [illegible], 500 plain tiles, [illegible] erection of [illegible] with slated roofs, erection of carpenters' [illegible] shops, with slated roofs, foreman's office, two watchmen's boxes, piles, pile shoes, screwed bolts, iron dogs and crowbars, and other effects. To be viewed on Saturday previous to the sale, when catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO CABINET MAKERS, BUILDERS, BLOCK MAKERS, TURNERS, WHEELWRIGHTS, UNDERTAKERS, AND OTHERS.

THOS. EDWARDS and SON have received instructions from the Proprietor, who is relinquishing the [illegible] business, to SELL by AUCTION, on the PREMISES, No. 1[illegible], Old-street, St. Luke's, on MONDAY, MAY [illegible], 1858, and following days, at ELEVEN o'clock precisely, the [illegible] STOCK and IMPLEMENTS of TRADE, consisting of [illegible] wood [illegible] St. Domingo, Honduras, Cuba, and African mahogany, [illegible] boards, Havannah and pencil cedar, rosewood [illegible], sawn [illegible] planks, Italian walnut, English walnut, elm, ash, yew tree, [illegible], pear tree, and sycamore, in planks and boards; American [illegible], walnut, mahogany wood, ebony [illegible], boxwood, [illegible], purple wood, fustic, camphor wood, partridge wood, [illegible] wood, and other fancy woods, also, dry Memel pipe staves, dry yellow pine, white, yellow, and spruce planks, deals and battens, both whole and cut; an assortment of mahogany, maple, walnut, oak, and other veneers. To be viewed two days previous to and on the mornings of sale. Catalogues to be had on the Premises, and of THOS. EDWARDS and SON, Mahogany Brokers, 15, Tanner's-hall, Old Broad-street, E.C.

PENZANCE, CORNWALL.—Important and Extensive Manufacturing Premises, held at a ground rent, bounded by the sea wall, in the occupation of the London and Penzance Serpentine Company, with the option of taking the valuable plant and machinery, and the leases of [illegible] quarries.

MR. BOYES has been instructed by the Official Liquidator appointed by the Court of Chancery to wind up the above Company, to SELL by AUCTION, at GARRAWAY'S COFFEE-HOUSE, London, on MONDAY, MAY 17th, at TWELVE o'clock, the above valuable PROPERTY. The Premises are extensive, have been built within the last four years, [illegible] complete and substantial manner, at a cost of several thousand pounds, and [illegible] the best [illegible] turners' shops, polishing [illegible] boiler house, large [illegible] yard, [illegible] desirable plot of ground [illegible] frontage of about 400 feet. The machinery [illegible] of the best description and in excellent working condition. To any party desirous of embarking in this business a most desirable opportunity is hereby offered, but the premises, from their extent and [illegible] situation, and from their possessing every modern improvement, offer unusual advantages for [illegible] other manufacturing purposes. A plan and elevation may be seen at the Auctioneer's Offices. The premises may be viewed, and particulars may be had [illegible] of Messrs. CLUTTON and [illegible], Surveyors, 18, High-street, Southwark; of H. CROYSDILL, Esq. Official Liquidator, 64, Basinghall-street; at the principal Hotels at Plymouth and Truro; at Garraway's; and at the Auctioneer's Offices, 34, Abchurch-lane, London.

SALES BY AUCTION.

Dawley Brickfields in full working order, near West Drayton.

MESSRS. EVERSFIELD and HORNE respectfully announce that this property was NOT SOLD at the Mart, and offers may be made for the same, including the Plant and Materials [illegible] and prepared Earth for the making of bricks, [illegible] have been expended. 40, Parliament-street.

Sailing Barges employed in the Brick Trade.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES of the late James C[illegible], Esq. Belvedere-road, Lambeth, on TUESDAY, 4th of MAY, at TWELVE for ONE, the "JAMES" DECKED SAILING BARGE, let to Messrs. Rutter, at [illegible] a year, and sold subject to such engagement; also FOUR other SAILING BARGES, in the same [illegible], but without the present engagement, a CANAL BARGE, nearly new, and several other small craft. The sailing barges may be viewed at their work, [illegible] wharf, and the remainder [illegible] at the [illegible], where catalogues may be had; and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

LAMBETH.—Barges, Trade Implements, Oak Timber, &c.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES of the late Mr. P[illegible], Belvedere-road, Lambeth, on TUESDAY, MAY 4th, at TWELVE for ONE, by order of the Executors, six DUMB BARGES, a decked SAILING BARGE of sixty tons, let to Messrs. Rutter, brick makers, at [illegible] a year, and other craft; also the TRADE IMPLEMENTS, comprising powerful single and double purchase crab engines and hoisting jacks, a jack in the box, iron Samson, 10 feet long, with right and left handed screw, iron jib cranes, four sets of iron blocks, blacksmiths' tools, anvil, vice, and other useful tools and [illegible]. Also a quantity of old OAK TIMBER and FIREWOOD. May be viewed the day previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

Near to Winchmore-hill and Southgate, Middlesex, and at Shenley, Herts.—Detached Freehold and Copyhold Farm, Building Land, Cottages, &c.

MESSRS. WINSTANLEY are instructed to SELL by AUCTION, at the MART, on THURSDAY, MAY 6, pursuant to a decree made in a cause "Baker v. H[illegible]" and others, in [illegible] lots, a small PLEASURE FARM, comprising about 52 acres, situate between Winchmore-hill and Enfield, in the occupation of Mr. John Newman, as yearly tenant, at the low rent of 53l. per annum; about three acres of freehold land, suitable for building, situate fronting the high road between Southgate and Winchmore-hill, and about five acres of arable land, in the rear thereof; also a piece of copyhold meadow land, situate at Shenley, near Barnet, in the county of Herts, containing about four acres, together with two double cottages, gardens, &c. let to Mr. W. J. Grainger. Printed particulars may be obtained of Mr. CHARLES BLAKE, Solicitor, No. 4, Serjeants'-inn, Temple, E.C.; of Messrs. CLAYTON, COOKSON, and WAINEWRIGHT, Solicitors, No. 6, New-square, Lincoln's-inn, W.C.; about the Place of Sale; also at the King's Head, Winchmore-hill; Cherry-tree, Southgate; Red Lion, Barnet; White Horse, Shenley; of Mr. NEWMAN, Chase Tavern, Chase-side; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

GREENWICH.—Valuable Freehold Building Ground, situate a short distance from the Hospital, fronting the River, and extending to the Woolwich Old-road.

MESSRS. WINSTANLEY have received instructions from the Family of the late CROWLEY MILLINGTON, Esq. to SELL by AUCTION, at the Mart, on THURSDAY, MAY 27, in one Lot, the Valuable FREEHOLD PLOT of GROUND, upon which the ancient mansion called Crowley House, and the adjoining warehouses, formerly stood, including the gardens in the rear, comprising together rather more than two acres, exclusive of the site of that part of the front of the late warehouses which overhangs the wharf. The property possesses considerable frontage to the River Thames, and also to the Woolwich Old road, is particularly eligible for the erection of a first-class hotel and tavern, factories, or moderate-sized houses, much required in this locality, in consequence of the advantages afforded by the railway and steam communication with the metropolis. To be viewed by application to the Gatekeeper, at the Lodge in the Woolwich Old road, of whom particulars may be obtained in due time. Particulars also of Messrs. REYROUX and BROMEHEAD, Solicitors, 45, Old Broad-street, E.C.; at the Mart; at the Greyhound and Yacht Taverns, Greenwich; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

TO TIMBER MERCHANTS, CABINET-MAKERS, PIANOFORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS.

MESSRS. C. LEARY and CO. beg to announce that, in consequence of the expiration of the lease of the premises, No. 35, Sun-street, Bishopsgate-street, they have been favoured with instructions from Mr. Henry Bateman to offer by PUBLIC AUCTION, on the said PREMISES, on MONDAY, TUESDAY, and WEDNESDAY, the 3rd, 4th, and 5th MAY next, a first portion of his unequalled and most valuable STOCK of WOOD, comprising prime dry wainscot, in every thickness; Spanish and Honduras mahogany, in logs, planks, boards, and veneers; rosewood and walnut wood, in planks and veneers; dry pine, plank, &c.—To be viewed two days previous to and on the mornings of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, 2[illegible], Old Broad-street, City, E.C.

WESTERN SUBURBS of LONDON.—Important Building Estate, near Shepherd's-bush, and immediately adjoining Shepherd's-bush-lane, [illegible] the Uxbridge-road with Hammersmith, and [illegible] to Notting-hill. [illegible] freehold and land tax redeemed.

MESSRS. DANIEL SMITH, SON, and OAKLEY have received instructions to OFFER for SALE, at the MART, near the Bank of England, on TUESDAY, the 18th of MAY, the most important and valuable PROPERTY, containing [illegible] the whole [illegible] acres, which, if not then sold in one lot, will be offered [illegible] in four lots. This property demands particular attention from its peculiarly valuable position, [illegible] immediately adjoining the Uxbridge-road on the one side, and [illegible] on the other, and thus is in direct and easy communication with every part of the metropolis, and near to Hyde-park, Kensington Gardens, and Holland-park. It is freehold and land tax redeemed. [illegible] have been made with adjoining owners as to [illegible] and [illegible] road, so that the progress of building will not be [illegible] from these causes. Particulars and plans are in course of preparation, and may shortly be had of D. HUGHES, Esq. 13, Gresham-street, City; and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

KENT, RAINHAM, UPCHURCH, AND LOWER HALSTOW.
For SALE by AUCTION, by

MESSRS. COBB, at the CROWN INN, Rochester, on TUESDAY, the 25th day of MAY, 1858, at TWELVE o'clock, in Nineteen Lots, by order of the Executors of the late Mr. Thomas Wakeley, the very valuable FREEHOLD QUAY PROPERTY, known as Otterham Quay, in the Parish of Upchurch, consisting of an extensive length of wharf, with good depth of water, spacious warehouse, granaries, coal sheds, barn, stables, &c. with a Public-house, known as the Anchor and Hope; also a Cottage, in three tenements, the whole standing on ten acres of land, and well situated for carrying on an extensive and lucrative trade, or for the erection of [illegible] 2r. 10p. of Freehold Orchard, Arable and Pasture Land, in the parish of Rainham, called The Vineyard, adjoining Otterham Quay [illegible], containing a deep stratum of brick earth of the finest quality, and near to water carriage at Otterham Quay, together with [illegible] of orchard [illegible], building land and cottages, &c. The above properties are situate within a short distance of the Rainham station of the East Kent Railway. Possession of the whole of the lots may be had at Michaelmas, 1858.—Particulars, with plans, may be had fourteen days before the day of sale, at the Crown Inn, Rochester; the Sun, Chatham; and Bull, Sittingbourne; of THOS. CHEESMAN, Esq. Solicitor, Gravesend; and of Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's-inn-fields, and Rochester, Kent.

TO BUILDERS, CONTRACTORS, AND OTHERS.—EARLY SALE OF ABOUT 100,000 FIRST-CLASS SLATES.

MESSRS. PETER BROAD and PRITCHARD will SELL by AUCTION, at the Bridge-wharf, adjoining Waterloo-bridge, Surrey Side, on MONDAY next, MAY 3rd, at TWELVE for ONE o'clock precisely, about 100,000 Best First, Second, and Third SLATES, varying from 16 by 8, to 24 by 12 and [illegible], and arranged in Lots to suit all classes of buyers. May be viewed at the Wharf, on SATURDAY, and on Morning of Sale. Catalogues to be had of the Auctioneers, 28, Poultry, E.C.

SALES BY AUCTION.

EAST-HILL, Wandsworth, Surrey.—Eligible Investments.

MESSRS. NICHOLSON and SONS are honoured with instructions to SELL by AUCTION, at the AUCTION MART, London, on THURSDAY, 13th MAY, 1858, at ONE o'clock punctually, a valuable FREEHOLD ESTATE, consisting of detached residence, in complete repair, fit for the immediate reception of a large family, replete with every convenience, and situate in most commanding position on East-hill, Wandsworth, having an important frontage of 300 feet on the main road to London, with average depth of 250 feet. Also attached, a capital Meadow, containing [illegible] 32p. situate in St. Ann's-hill, Wandsworth, measuring 426 feet by about [illegible] feet, possessing two frontages, offering a most favourable opportunity for the erection of first-class villas, the neighbourhood being quite select and retired. Situation peculiarly healthy, and every accommodation afforded for reaching London, either by railway, omnibus, or water. The estate altogether contains 7a. 2r. 32p. which will be submitted in one lot, when, should there be no bidding beyond an amount that will then be named, Messrs. NICHOLSON and SONS have instructions to submit the property and offer it in three lots. Particulars and conditions of sale, with plans showing divisions of estate into three lots, to be had on application to Messrs. WILSON and BRISTOW, Solicitors, 1, Copthall-buildings, London, E.C.; the Auction Mart, London; and of Messrs. NICHOLSON and SONS, High-street, Wandsworth, S.W. from whom alone cards to view can be obtained.

SOUTH STREET, WANDSWORTH, SURREY.

MESSRS. NICHOLSON and SONS are instructed to OFFER to PUBLIC COMPETITION, at the AUCTION MART, London, on THURSDAY, the 13th day of MAY, 1858, at ONE o'clock precisely, an eligible PLOT of FREEHOLD BUILDING LAND, well adapted for the erection of good cottages, which will speedily let, being contiguous to the High-street, and measuring a frontage of 1[illegible] feet, by a depth of 9[illegible] feet. Particulars and conditions of sale may be obtained on application to Messrs. WILSON and BRISTOW, Solicitors, 1, Copthall-buildings, Copthall-court, City; at the Auction Mart, opposite the Bank of England; and of the Auctioneers, High-street, Wandsworth, S.W.

Important to Land Societies and Builders.—Weybridge Park, Surrey.—A Freehold Estate, highly eligible for Building Purposes, having frontages extending from the bridge on the Chertsey road to the centre of the village, and consisting of about 80 acres; contiguous also to Oatlands-park, and a short walk from the South Western Railway Station.

JOHN DAWSON and SON are instructed to SELL by AUCTION, at the MART, near the Bank of England, on WEDNESDAY, MAY 12, at TWELVE, in one lot, as an inducement to builders and Land Societies, who will find it a very tempting opportunity for a secure and profitable use of capital, a FREEHOLD ESTATE. Should an adequate sum be offered then, or by private contract previously, portions of the estate will be immediately offered in lots adapted for the erection of a respectable class of houses. Particulars, with plans and conditions of sale, may shortly be had of Messrs. YOUNG and JACKSON, 12, Essex-street, Strand, Solicitors; at the Auction Mart; and at Messrs. JOHN DAWSON and SONS, Auction and Land Offices, Marlborough-chambers, 49, Pall-mall.

Important and Extensive Sale of Valuable Building Materials of several large Blocks of Warehouses, Dwelling-houses, and Outbuildings, removed from Mi[illegible]-street and Mincing-lane, for extension of City Im[illegible], removed to the Ground of the Great Central Horse Repository, near the Elephant and Castle, for convenience of sale, and will BE SOLD, without the least reserve, by

MESSRS. GREEN and SON, on WEDNESDAY, the [illegible]th of MAY, 1858, at ELEVEN for TWELVE o'clock precisely, by order of the Contractors. The above comprises about 300 loads of sound DEMEL TIMBER, in long lengths, of joists, plates, rafters, girders, bressummers, posts, purlins, &c.; about 800 squares of yellow floor boards, skirting, and other boarding; 100,000 feet of panelled and glazed partition, wainscoting, dadoing, &c.; 200 splendid plate-glass doors; two, four, and six panelled folding, tea, cupboard, and cellar doors; 100 pairs modern sashes and frames; counting-house fittings, [illegible] chimney-pieces, York paving, sills, copings, steps, pan, plain, and ridge tiles, slates, twenty leaden cisterns, force pumps, sinks, stone [illegible] caps, and bases, register stoves, ranges, coppers, old iron, [illegible], stacks of firewood, and a vast accumulation of valuable building materials, in all about 400 large lots. On view two days prior and morning of sale. Catalogues had on the Premises; at the various Inns in the neighbourhood; and of the Auctioneers, St. Michael's House, St. Michael's-alley, Cornhill.

WALKINSHAW FOUNDRY and ENGINE WORKS, at JOHNSTONE, FOR SALE.—There will be exposed for SALE by PUBLIC ROUP, within the FACULTY HALL, Glasgow, upon WEDNESDAY, the 2nd day of JUNE next, at TWO o'clock afternoon, the long established and celebrated ENGINEERING and MACHINE MAKING WORKS, carried on by Messrs. John M'Dowall and Sons, Johnstone, and belonging to the Trust Estate of the late Mr. John M'Dowall, with the Haill Pertinents thereto belonging, and Goodwill of the Business, Patent rights, &c. Mr. M'Dowall's eminence as an engine maker and inventor and patentee of vertical sawing frames, wood planing, moulding, and mortising machines, &c. &c. secured for him a large and lucrative business, which can be readily shown to intending purchasers. The works have an abundant supply of water, are conveniently situated about ten miles from Glasgow, and command transit at moderate rates by canal and railway. It is well known the late proprietor spared no expense in [illegible] the premises in the most complete and superior style. They are [illegible], well arranged, complete in every respect, and in active operation, and comprise large turning shops, smiths' shop, fitting up shop, [illegible] sheds connected therewith, counting-house and business chambers, drawing room, and other conveniences requisite for the [illegible], patent steam hammer in smiths' shop, steam engine, large [illegible] yard, &c. The plant of tools is in perfect working order, including [illegible] machines, boring mills, turning lathes, &c. &c. of the best description, and with the latest improvements. On application to the Manager, the Works can be seen at any time, and further particulars will be given by ALEXANDER M'KENZIE, Esq. 89, Buchanan-street, Glasgow; or JOHN HOLMES, Esq. Writer, Union Bank of Scotland, Johnstone.

Johnstone, Renfrewshire, April, 1858.

DOWNING STREET PUBLIC OFFICES EXTENSION.—FIRST SALE.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 11, at TWELVE for ONE, the BUILDING MATERIALS of Nine Houses, with counting-house, workshops, stabling, &c. being Nos. 57, 14, 15, 16, 17, and 18, Upper Crown-street, No. 2, Say's-alley, and Nos. 1 and 2, Crown-yard, King-street, Westminster; comprising about 300,000 bricks, several tons of lead, useful timber, sashes and frames, doors, gates, boarding, slating, pan and plain tiles, York and pebble paving, fixtures, and fittings. May be viewed the day prior and morning of sale. Catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross.

LEYTONSTONE, ESSEX.—Freehold Building Land, containing nearly Eight Acres.

MESSRS. DRIVER are directed to SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE, in fifteen Lots, several very eligible and desirable Plots of FREEHOLD BUILDING LAND, having capital frontages to proposed new road, and a portion abutting on the high road from London to Leytonstone, the whole exceedingly well adapted for the erection of villas or other residences, being most conveniently situate at Harrow-green, Leytonstone, near Epping Forest, in the parish of St. Mary, Leyton, in the county of Essex, and known as Holloway Down Field, only about five miles from London, and within a mile of the Leytonstone station, and only half a mile of the Low Leyton station on the Woodford and Loughton Railway, thereby bringing this land within twenty minutes' ride of London.—Printed particulars are in preparation; in the mean time, further information may be had of Messrs. ANDERSON and SHOUBRIDGE, Solicitors, 1, Lincoln's-inn Fields; and of Messrs. DRIVER, Surveyors and Land Agents, and Auctioneers, 5, Whitehall.

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The Builder,

Architect, Engineer, Operative & Artist.

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LAL ITALIAN OPERA, COVENT-

DEN—Mr. GYE has the honour to announce that the THEATRE will OPEN on SATURDAY, MAY 15, on which ...e be performed MEYERBEER'S GRAND OPERA, "LES HUGUENOTS"

L ACADEMY of ARTS, Trafalgar-

...The Exhibition of the Royal Academy is now OPEN, from Eight till Seven o'clock.—Catalogues, ...

JOHN PRESCOTT KNIGHT, R.A. Secretary.

ITY of PAINTERS in WATER-

...URS.—THE FIFTY FOURTH ANNUAL EXHIBITION ...t at their Gallery, 5, Pall mall East (close to Trafalgar ... Nine till Dusk. Admittance, 1s. Catalogue, 6d.

JOSEPH J. JENKINS, Secretary.

HITECTURAL UNION COMPANY,

...ed, Sir CHAS BARRY, R.A. Chairman.—WILLIAM ... M.P., Deputy-Chairman. An EXTRAORDINARY ...ETING of the Shareholders will be held at TWO ... on WEDNESDAY, the 26th day of MAY, at No. 16, ...ct.

JAMES EDMESTON, Jun. Hon. Sec.

LATE H. MINTON, Esq.—Many

...e have thought that, whilst the professional talent, ...stry, and public spirit of the late Mr. Minton, to per... manufactures, and adding largely to the commerce of this ...entitled him to whatever honour could be paid to ...stinct donations to the public editions of this town, ...latterly made his residence, are special claims upon the ...ection of its inhabitants.

...Before his decease, Mr Minton expressed an anxiety ...e might see the new parochial church of St. Mark's, ...he embellishment of which he had largely contributed,— ...he erection of its steeple, and it has occurred therefore ...us friends elsewhere, that if such an object could be ...by public subscription, it would form an appropriate ...this undertaking, as eminently testifying the esteem ...any subscriptions may either be transmitted to the ...OGE, Treasurer of Trowell; or to Messrs. ...KITSONS; or to the Dean and Canon of Banks, ...

April 23rd, 1858.

O CEREMONY and FESTIVAL,

...the 18th of JUNE next, at the OPENING of the SOL-...HERS' HOME, Hampstead, by His Royal Highness ...ONSORT, who, with his Royal Highness the PRINCE ...e been graciously pleased to purchase presentations to ...veral Military Bands will play in the Verandah Grounds ...Admission by purchased Tickets, to be had only at the ...House, No 7, Whitehall (exactly opposite the Horse ...gle Ticket for the Ceremony and Ground, No. 1, ...r 1s.; a Reserved Seat for the Ceremony and ...on. An omnibus starts from the Tottenham court road ...gstreet, every twelve minutes, reaching Hampstead, ...n in forty minutes.

H. L. POWYS, Major, Chairman.

COMPETITIONS.

TO ARCHITECTS. — A PREMIUM of FIFTY POUNDS is offered for approved DESIGNS, for a WESLEYAN CHAPEL, to be built at Melksham, in the County of Somerset. The chapel, with its gallery, is to be capable of seating eight hundred persons, one third of that number to be free sittings, including an ornamental front, and a school room also will be required. The design to consist of plans, sections, elevations, and working drawings, accompanied by a detailed specification, with numbered references. The party whose designs are approved, will be required to superintend them, being carried out. The cost not to exceed two thousand pounds, and the premium to be paid on laying the same mark of approval on the designs. The designs not approved, will be returned within one month from the above date.

N.B. Dimensions of land, 72 feet by 72 feet

THE BANBURY BURIAL BOARD are prepared to receive DESIGNS for the ERECTION of TWO semi-detached CHAPELS, with a detached LODGE, on the fresh ground or cemetery, containing about 24 acres. The Board do not bind themselves to accept any Design sent in them, but should one be selected, the person supplying it will be required to furnish detail plans, specification, and estimates, for which, and the Design, the Board will pay a premium of £5. The whole are to be erected under Further information may be obtained of the Clerk, at the Office of the Board, Bridge-street, Banbury, by whom the Designs are to be sent, on or before the 1st day of June next.

CONTRACTS.

BRIDGEWATER ESTATE, near Great Berkhampstead.—T. BUILDERS. Persons desirous of CONTRACTING for DOUBLE COTTAGES in the parishes of Little Gaddesden, Slapton, Pitstone, and Northall, also new ESTATE OFFICES and RESIDENCE HOUSE at Little Gaddesden, together with FARM-HOUSE and TWO FARMSTEADS, at the latter repairs, &c., as the plans and specifications, as by applying to WILLIAM PAXTON, Esq., Little Gaddesden, on and after the 22nd day of APRIL. Sealed tenders, according to the form supplied, to be sent to ELEAZER DEGRAVE, on or before the 18th of MAY. No pledge is given to accept the lowest or any Tender for the works. Further particulars may be had by applying to Mr BROWNING, Stainford, the Architect.

CITY of LONDON.—FREEHOLD GROUND RENTS.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City on TUESDAY, the 11th MAY next, at TWELVE o'clock in the forenoon, to SELL by TENDER the following FREEHOLD GROUND-RENTS:—1. The Rental of £12, to arise for eighty years, from Lady-day, 1858, secured on the splendid premises erected by the Law Union Fire and Life Insurance Company, situate No. 126, Chancery lane, with the reversion to the same. 2. The Rental of £40 a year for eighty years from Lady-day, 1858, secured on the premises known as the Mitre Tavern, Chancery lane, with the reversion to the same. 3. The Rental of £60 a year for eighty years from Michaelmas, 1856, secured on the substantial business premises in Fetter-lane, on the east side, in the occupation of Messrs. Shaw and Read, with reversion to the same. 4. The Rental of £60 a year for seventy-nine years from Midsummer, 1851, secured on substantial business premises on the east side of Philpot-lane, in the occupation of Mr. Curtis, with the reversion to the same. Tenders for the same must be sent in, sealed, addressed to the undersigned, on or before TWELVE o'clock on the 11th day of MAY next. Particulars and plans may be obtained on application at the Sewers Office, Guildhall. The ground-rents to be sold are for the remainder of the terms, as above described in each case, from and after Midsummer day next. The Commissioners do not bind themselves to accept any Tender delivered unless the same be delivered to the

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, March 2nd, 1858.

TO ENGINEERS and OTHERS.—Trinity-house, London, 1st May, 1858.—The Corporation, being desirous of obtaining TENDERS for the CONSTRUCTION of a LANTERN for the LIGHT HOUSE, now building on the Island of Godrevy, in St. Ives Bay, in the county of Cornwall, hereby give notice thereof to engineers and others, who may be desirous of executing the work. The plans, specifications, form of Tender, and conditions of Contract, are deposited at the House, and may be inspected any day before the 18th inst. between the hours of TEN o'clock a.m. and FOUR o'clock p.m. The Tenders must be delivered at the House, as per advertisement, required, on or before TEN o'clock a.m. of TUESDAY, the 18th inst.—By order,

P. H. BERTHON, Secretary.

BOROUGH of READING.—LOCAL BOARD of HEALTH.—The Local Board of Health for the District of the Borough of Reading are desirous of receiving TENDERS for the ERECTION of a BLOCK of BUILDINGS, on land adjoining the Cherry-orchard, Reading, to be used as ABATTOIRS or SLAUGHTERHOUSES. Builders who are connected therewith. Persons desirous of Tendering for the works can see the plans and specification at the Office of Mr. J. B. MARSHALL, the Surveyor to the Board, 73, Oxford-street, Reading, after MONDAY, the 3rd day of MAY next, between the hours of TEN and FOUR o'clock. Sealed Tenders, endorsed, "Tender for Erection of Abattoirs," must be sent to me on or before TUESDAY, the 18th MAY next. The lowest Tender will not necessarily be accepted. By order of the Board,

THOMAS ROGERS, Clerk.

10, Friar-street, Reading, April 20, 1858.

TO BUILDERS.—The Lynn Savings Bank Building Committee are desirous of receiving TENDERS for the ERECTION of a NEW SAVINGS BANK on a Plot of Land in St. James's-street, Lynn. The plans and specifications may be seen at the Athenæum, Lynn, on and after the 12th of MAY next ensuing, and Tenders must be delivered, post paid, sealed and endorsed "Tender for "Erection of Savings Bank," addressed to Mr. JOHN POLE, High street, Lynn, on or before MAY the 24th next. Further particulars and bills of quantities may be obtained on application to the Architects, Messrs. MEDLAND and MAHERLY, Clarence street, Gloucester. The Committee do not bind themselves to accept the lowest Tender.

JOHN POLE, Chairman.

CONTRACTS.

GOVERNMENT CONTRACT.—The Director of Contracts, War Office, Pall-mall, London, will receive TENDERS (open) at NOON on WEDNESDAY, the 19th of MAY, 1858, for the supply of the undermentioned quantities of MATERIALS for the repair of the roads in the New Practice-range, Plumstead-marshes, viz.:—

1,400	cubic yards of Broken Kentish Rag	
400	"	of Screened Dartford Gravel
200	"	of Unscreened ditto
300	"	of Brick Rubbish.

Each Tender is to comprise the supply of the whole of the materials. Persons desirous of tendering for the same, may obtain the requisite information and blank forms of specification and Tender, upon application at the Royal Engineer office, Grand Depot, Woolwich, between the hours of TEN and FOUR o'clock, on the 10th of MAY, 1858. The War Department reserve the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depot, Woolwich, May 4, 1858.

SOUTH STAFFORDSHIRE WATER-WORKS COMPANY.—To CONTRACTORS and IRONFOUNDERS.—The Directors are prepared to receive TENDERS for the following additional WORKS:—

CONTRACT No. 5.—For a Covered Reservoir at Walsall.

CONTRACT No. 6.—For providing, laying down, and fixing about 1,400 tons of Cast-iron Main and Distribution Pipes, with all requisite Cocks, &c. fixed, complete, in the towns of Walsall, Bloxwich, Darlaston, Wednesbury, West Bromwich, Oldbury, and Tipton.

CONTRACT No. 7.—For Service Pipes, &c. where required in the above towns.

Plans, specifications, and forms of Tender may be seen at the Offices of the Engineers, Messrs. M'CLEAN and STILEMAN, No. 17, Great George-street, Westminster, or Bridgeman-place, Walsall, Staffordshire, on and after MONDAY next, the 3rd day of MAY. Tenders to be sent in on or before THURSDAY, the 13th day of MAY next, addressed to the Secretary, Castle-land, Pelsall-street, Bernard-street, Russell-square, London.

E. C. WALKER, Chairman.

JOSIAH CHURCHILL, Secretary.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of FARM BUILDINGS, on the Fiskerton Hall Estate, belonging to the Executors of Colonel Chaworth, may see the plans and specifications at my Offices, on and after MONDAY, MAY 10. Sealed Tenders to be delivered to me by NOON on WEDNESDAY, MAY 19. The lowest or any Tender not necessarily accepted.

MICHAEL DRURY, Architect and Surveyor.

1, Bank-street, Lincoln, May 1, 1858.

NOTICE to CONTRACTORS.—DRY DOCK.—The Commissioners for the Harbour and Docks of Leith are prepared to receive TENDERS for the CONSTRUCTION of a DRY DOCK and relative WORKS at Leith. As certain by with drawings, specification, and conditions to be seen in the Office of Messrs M'Kay & RENDEL, C.E. No. 8, Great George street, Westminster, and also with the office of the said Engineer of the Harbour and Docks at Leith. Copies of the specification, conditions, and form of Tender, and a full set of quantities prepared for the contract, may be obtained on application to Messrs. RENDEL, or the said Resident Engineer at Leith. Sealed Tenders, made on the New Dock at Leith," must be lodged with JOHN PRIN, Clerk to the Commissioners, 19, Heriot-row, Edinburgh, on or before April 30th, 1858.

PARISH CHURCH of WHITFIELD.—T. BUILDERS. Persons desirous of CONTRACTING for the whole of the WORKS required in the ERECTION of the new PARISH CHURCH at Whitfield, in the county of Northumberland, may see the plans and specifications at the house of Mr THOMAS THOMPSON, the "Whitfield Inn," and at the office of Mr. ALFRED BURDAKIN BIGHAM, Higham-place, Newcastle-on-Tyne, from the 17th to the 29th of MAY, between the hours of TEN and SEVEN. Sealed Tenders, endorsed "Tender for Whitfield Church," to be sent to the Architect on or before the 28th day of MAY next. The Rev. the Rector does not bind himself to accept the lowest or any Tender.

Newcastle-on-Tyne, May 1st, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a RESIDENCE HOUSE, PORTER'S LODGE, STABLING, &c. proposed to be built at Peterborough, may see the plans at the Eastern Counties Railway Station, and see the plans at the Architect's Office, on and after MAY 10. Sealed Tenders to be delivered to the Architect, on MAY 18, by TWELVE o'clock.

May 5, 1858 EDWARD BROWNING, Architect, Stamford.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of MERCHANTS' OFFICES, proposed to be built at Peterborough, near the Eastern Counties Railway Station, may see the plans at the Architect's Office, on and after MAY 10. Sealed Tenders to be delivered to the Architect, on MAY 18, by TWELVE o'clock.

May 5, 1858 EDWARD BROWNING, Architect, Stamford.

TO BUILDERS.—SITTINGBOURNE CORN-EXCHANGE COMPANY, LIMITED. The Directors of this Company will be ready, on the 20th day of MAY next, to receive TENDERS from parties who may be willing to contract for the ERECTION of a CORN-EXCHANGE, with Committee rooms, &c. in the town of Sittingbourne, Kent. The specifications and terms of contract may be obtained on payment of 5s.; and the drawings and plans seen, on and after the 6th of MAY, on application at the Secretary. The Directors do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two sureties for the due performance of the works. The Tenders to be sent in by TWELVE o'clock on the 26th of MAY.

Sittingbourne, 3rd May, 1858. W. J. HARMAN, Secretary.

[For remainder of Contracts see next page.

CONTRACTS.

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London will meet at the Guildhall of the said City on TUESDAY the 18th of MAY, 1858, at TWELVE o'clock at noon precisely, to receive TENDERS for CLEANSING the STREETS and REMOVING DUST, &c. from the houses [illegible] and WATERING [illegible] the STREETS [illegible] the year from [illegible] City [illegible] Tender to signify their consent thereto. The Commissioners [illegible] pledge themselves to accept the lowest Tender, or any, unless deemed satisfactory. No Tender will be received after TWELVE o'clock on the day of treaty, nor will any Tender be received unless it contains [illegible] each division [illegible] accepted, but [illegible] and bonds are duly signed by the parties.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, April [illegible], 1858.

TO BUILDERS.—Persons desirous of TENDERING for REPAIRS and RESTORATIONS of the ROOFS and RE-SEATING the PARISH CHURCH of Plympton St. Mary, Devon, may inspect the drawings [illegible] street, Plymouth [illegible] Mr. R. ELLIOTT, Architect [illegible] SATURDAY, the [illegible] Tenders to be delivered to the Architect [illegible] 15th day of MAY, 1858. The Committee do not engage to accept the lowest or any Tender.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a Ninety-quarter MALT KILN and OFFICES proposed to be erected at Newark [illegible] plans and specification [illegible] Messrs. HINE and EVANS, Regent-street, Nottingham, from MONDAY, MAY 10th, to THURSDAY, 13th [illegible]

N.B. The lowest Tender not necessarily accepted.

HINE and EVANS, Architects.

Nottingham, April [illegible], 1858.

TO BUILDERS.—Persons desirous of Contracting for the ERECTION of a NEW CHURCH at Southery, near Downham Market, Norfolk, may [illegible] drawings and specifications prepared by Mr. WALTER ROBINSON, Architect [illegible] Albert street, Mornington-crescent, London, at the residence of Mr. JOHN SAYLE, [illegible] after the 17th MAY, to whom Tenders are to be addressed on [illegible] MAY. Quantities supplied. The Architect does not bind himself to accept the lowest Tender.

TO BUILDERS.—TENDERS are required for the ERECTION of NINE HOUSES on the ASHBURNHAM ESTATE, Greenwich. Plans and specification may be inspected at the Ashburnham Arms, Ashburnham-grove, near the railway station, Greenwich. Tenders are to be delivered by ELEVEN o'clock, a.m. on THURSDAY, the [illegible] inst., to Mr. C. H. HOWELL, Architect, Norwich Union Insurance Office, New Bridge-street, Blackfriars (entrance to the Architect's Office, No. 1A, Union-street). The lowest Tender will not necessarily be accepted.

TO BUILDERS.—Persons desirous of TENDERING for the WORK proposed to be done in ENLARGING and REPAIRING the PARISH CHURCH of BRIDPORT, in the county of Dorset, can see the plans and specifications on and after MAY the 3rd, at the office of Mr. JOHN HICKS, the Architect, South-street, Dorchester, where the Tenders are to be delivered on or before TUESDAY the [illegible] of MAY, addressed "Tenders for Bridport Church." The Committee do not bind themselves to accept the lowest or any Tender.

Dorchester, April [illegible], 1858.

BRADFORD CORPORATION WATER WORKS.—CONTRACT for BARDEN RESERVOIR.—CONTRACT D.—To EXCAVATORS, MASONS, and GENERAL CONTRACTORS.—The Waterworks Committee of the Bradford Town Council will meet at their Offices in [illegible], Bradford, on WEDNESDAY, the 26th day of MAY, and at ELEVEN o'clock in the morning, to receive TENDERS or PROPOSALS for the EXCAVATING, FORMING, and COMPLETING a large STORE RESERVOIR, in Barden Moor [illegible] Plans, sections, and specifications may be seen, and further information may be had, from and after MONDAY, the [illegible] instant [illegible] at the office of Mr. JOHN W. LEATHER, Civil Engineer, Leeds.

By order, W. H. HUDSON, Town Clerk.

Bradford, Yorkshire, May 5, 1858.

TO BUILDERS.—KENTCHURCH, HEREFORDSHIRE, near Pontrilas Station.—Plans and specifications for the RESTORATION of the CHURCH may now be seen at the Rectory. The TENDERS are to be sent [illegible] the 22nd day of MAY, 1858, to either of our Offices, at Llandaff or [illegible] Whitehall, London. The lowest or any Tender not necessarily accepted.

PRICHARD and SEDDON, Diocesan Architects for Llandaff.

April 18, 1858.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for SEWERS.—Notice is hereby given, that the Sewers Committee will meet on TUESDAY, the [illegible] day of MAY, 1858, to receive TENDERS from persons willing to contract for the construction of certain intended BRICK SEWERS in [illegible] street, Henry-street, Catherine-street, [illegible] street, North-street, [illegible] Richard-street, Limehouse-fields, in the parish of St. Anne, Limehouse, with other works in connection therewith, also for the maintenance of such works in complete repair for twelve calendar months. Plans, sections, and specification of the works, together with form of Tender, may be inspected, and other particulars obtained, at the Office of the Board of Works, Horse-street, Commercial-road East, between the hours of TEN and FOUR. Tenders, sealed up, and endorsed "Tender for Works in Limehouse-fields," must be delivered at the said Office not later than THREE o'clock on the said 11th day of MAY, 1858, and no Tender will be received unless accompanied by a Bank of England note, as an evidence that the same is bona fide. The Board do not bind themselves to accept the lowest or any Tender. The security of two responsible persons will be required. The Contractor will have to pay the costs of the Contract. No Tender will be received after the time specified, nor unless strictly in accordance with the printed instructions.—By order,

THOS. W. RATCLIFF, Clerk of the Board.

April 28th, 1858.

LLANDAFF CATHEDRAL.—Builders desirous of TENDERING for a PORTION of a TIMBER ROOF, [illegible] the plans and specification at either of our offices on and after MAY [illegible]. Tenders (the lowest or any of which not necessarily accepted) are to be sent to us at Llandaff on or before [illegible] MAY, 1858.

PRICHARD and SEDDON, Diocesan Architects,

May 5, 1858. Llandaff; and No. 6, Whitehall, London.

TO BUILDERS.—ENLARGEMENT of the CITY of BRISTOL WORKHOUSE at STAPLETON.—The Guardians of the Poor of the City of Bristol give Notice, that all persons who are willing to CONTRACT for ENLARGING the above WORKHOUSE, are required to send by post to the [illegible] on or before THURSDAY, the 10th of JUNE, 1858, sealed TENDERS in writing, endorsed "Tender for enlarging Stapleton Workhouse," together with the names and descriptions of two responsible persons who will become sureties for the proper performance of the contract [illegible] sum equal to one-fourth of the total amount of such Tender. Tenders will be opened at the meeting of the Guardians, on the 11th of JUNE, 1858. The Guardians are undetermined whether they will contract with one party for the whole work, or enter into separate contracts for each different kind of work. Tenders may therefore be sent either for the whole or for a portion only of the work. Plans [illegible] and conditions of the contract may be seen on and after the 18th of MAY next, at St. Peter's Hospital, Bristol. The Guardians do not pledge themselves to accept the lowest or any Tender.—By order of the Board of Guardians,

W. B. WILMOT, Clerk.

30th April, 1858.

CONTRACTS.

TO BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the ERECTION of certain extensive BUILDINGS at Staunton-on-the-Wye, Herefordshire, consisting of BOARDING and other SCHOOLS, teachers' apartments, and medical officer's house, and two sets of ALMSHOUSES for aged persons, may see the plans and specifications at the Offices of Messrs. FULLJAMES and WALLER, Architects, Gloucester, from the [illegible] of MAY to the 22nd of MAY, inclusive. Sealed Tenders to be delivered to the Architects on or before the 24th of MAY, endorsed "Tender for the Works at Staunton-on-the-Wye." The Trustees do not pledge themselves to accept the lowest or any Tender.—Further particulars may be obtained of the Architects.

Gloucester, May, 1858.

TO CONTRACTORS and BUILDERS.—TENDERS are required for the ERECTION of STATION and other BUILDINGS at Uckfield, [illegible], and Barcombe, on the Lewes and Uckfield Railway. Drawings and Specifications may be seen at the Offices of the [illegible] Lewes Station, on and after THURSDAY, the [illegible] MAY, and Tenders, properly endorsed, must be sent to the Secretary of the Company, at their Office, High-street, Lewes, not later than WEDNESDAY, the 19th MAY. N.B. The Directors will not pledge themselves to accept the lowest or any Tender unless they shall think fit to do so.—By order,

FREDERICK SLIGHT.

29th April, 1858.

TO CONTRACTORS and OTHERS.—The Conservators of the River Thames having several thousands of cubic yards of MATERIAL to DISPOSE OF, taken from their [illegible] operations in the Lower Pool, suitable for the purpose of filling in or of raising low ground, are prepared to receive PROPOSALS from parties requiring the same; and further information desired, will be given on application at their Office, at 41, Trinity-square, Tower-hill.

E. BURSTAL, Secretary.

April 20th, 1858.

CARPENTERS' COMPANY.—A large FREEHOLD ESTATE, belonging to this Company, situate at STRATFORD, near the railway station, and suitable for manufactories and workshops, TO BE LET, for a long term, either in large or small plots. The property is exonerated from land-tax and tithe.—For particulars apply to Mr. E. B. JUPP, Clerk's Office, Carpenters' hall, London-wall.

WEYMOUTH, DORSET.—To BUILDING SOCIETIES, CAPITALISTS, and OTHERS.—The opening of the broad and narrow-gauge Railways to the fashionable and now commercial Port of Weymouth, combined with the circumstance that [illegible] Naval and Military Station [illegible] Government Works being now carried on there, causing a great demand for house accommodation, has induced the owner of the Belfield Park Estate immediately adjoining the town, to devote it for Building purposes. It may, with confidence be asserted, that few properties in England present so many and various advantages. The Estate comprises a Mansion House of an imposing character, very extensive Stabling, beautiful Pleasure Gardens, and a finely Timbered Park and Grounds of more than one hundred statute acres, so charmingly situated that an estate of upwards of villa residences may be erected thereon, the rates of which would be 150 per cent. less than in Weymouth. The property, which is about 100 feet above the level of the sea, is most fully timbered, and is admirably calculated for drainage. The aspect is due South, and commands views of the stupendous Breakwater at Portland, and Coast Scenery of an ever varying and interesting character. The soil is dry and healthy, and singularly productive. Water of the purest quality, and never failing. As an instance of the salubrity of the locality, it may be mentioned that the ages of the two last occupiers averaged 92 years. Turnpike and other roads which intersect the property offer a frontage of more than two miles in extent. Part of the Estate abuts on the Smallmouth Sands (more than a mile in length), which, for solidity are almost unrivalled. The Tenure is Freehold. Without a personal inspection it is impossible to form an adequate idea of the many advantages for Building purposes of this magnificent Property, for which it has been laid out by artists of great merit, whose plans may be viewed by cards only, and conditions known, on application to Mr. ROBERT DAMON, House Agent, Augusta-place, Weymouth, Dorset.

FREEHOLD.—TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is peculiarly eligible for the erection of villas or terraces of houses. The soil is gravelly, and the sewers and roads have lately been made up to the boundary of the estate. The adjoining land is all let for building purposes, and is now partly covered. The houses hitherto built have commanded an immediate tenancy.—For further particulars and to inspect the plans, apply to Messrs. GREGORYS and CO. No. 1, Bedford-row, W.C.

BUILDERS and OTHERS willing to CONTRACT for the ERECTION of a VILLA RESIDENCE and STABLES, at Teddington, may inspect the plans, specification, and particulars, at my Office, on and after the 5th day of MAY, between the hours of ELEVEN and FOUR. The Architect does not bind himself to accept the lowest or any Tender.

WILLIAM MUMFORD, Architect, 21, Lincoln's-inn Fields.

HOUSES WANTED to PURCHASE.—A Gentleman wishes to PURCHASE HOUSE PROPERTY, Freehold or Leasehold. Small houses not objected to, or advances would be made on the same for short periods, without the expenses of mortgage deeds.—Apply to Messrs. SEYMOUR and CO. 24, Martin's-lane, Cannon-street, City.

TO BE SOLD, by Private Contract, a most desirable FREEHOLD ESTATE well adapted for building purposes, situate on Clapham common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq. No. 17, Serjeant's-inn, Fleet-street, E.C.

TO BUILDERS of SMALL VILLAS and OTHERS.—SMALL PLOTS of GROUND TO BE SOLD, or LET on LEASE at a low ground-rent, in a nearly-finished street, for [illegible] near the Wandsworth Station and Steam-boat Pier, houses of this description being in great demand in the locality.—Apply to Mr. GRIFFIN, The Square, Battersea.

KENTISH-TOWN.—FREEHOLD BUILDING GROUND, in the main road, TO BE LET, for one or more houses, at low ground rents.—For particulars apply to Mr. S. TAYLOR, Plumber, 1 and 2, Albany-row, Kentish-town road.

TO PLUMBERS, PAINTERS, and GLAZIERS.—TO BE LET, or the LEASE TO BE SOLD, a HOUSE and convenient PREMISES, which have been occupied by a person [illegible] who has carried on the above business for the last thirty years. Stock, fixtures, &c. at a valuation.—For further particulars apply to Messrs. CHATER and SONS, St. Dunstan's hill.

BUILDING GROUND, at Camden-town, TO BE LET, for the term of fifty years, 32 feet frontage, and depth in proportion, situate in Grove-street, near Park-street, suitable for two private dwellings or shops, and would readily let at 40*l.* per annum.—Apply to Mr. S. H. LINDLEY, Agent, 19, Catherine-street, Strand.

FREEHOLD GROUND, MAIDENHEAD COURT.—The Commissioners of Sewers of the City of London hereby give Notice, that they will meet in the GUILDHALL of the said City on TUESDAY, the 11th day of MAY next, to receive PROPOSALS for taking on Building Leases, for eighty years from 24th June next, at a ground rent, certain PLOTS of GROUND, situate in Maidenhead-court, Aldersgate-street.—Further particulars may be had and plans seen on application to Mr. HAYWOOD, Engineer to the Commissioners, at these offices, where forms of proposal may also be obtained. The Commissioners will require plans and elevations of the premises proposed to be built to be submitted to them for approval, and do not bind themselves to accept any proposal, unless deemed advantageous. Persons tendering must attend on the above day, and the party whose offer is accepted will be required to execute an agreement at the time.

Sewers' Office, Guildhall, JOSEPH DAW, Principal Clerk.

31st March, 1858.

WELBECK STREET and MARYLEBONE-LANE, OXFORD STREET.—VALUABLE PREMISES, with Extensive Frontages to Welbeck-street, TO BE LET, on Building Leases, which may be taken up from the Duke of Portland, the ground landlord. None but responsible parties need apply, [illegible] money will be advanced if required.—For plans and particulars, apply to Messrs. UNDERWOOD and COLMAN, Solicitors, 15, Holles-street, Cavendish-square.

HACKNEY WICK, near LONDON.—To MANUFACTURING CHEMISTS and OTHERS.—TO BE LET, on Building Leases, LAND and WHARFS, with extensive frontage on the river Lee, containing lay-byes for barges, well adapted for all kinds of manufactories, with good road, and, if required, [illegible] the London and North Western (North London) Railway [illegible] line from Stratford to the Hackney-wick station [illegible]—For particulars apply to W. HOBBS, Esq. Solicitor, Reading, or to Mr. C. DYSON, Surveyor, The Grove, Stratford, Essex.

TO BUILDERS and OTHERS.—Hargrave Park Estate, Upper Holloway.—The Trustees of this highly desirable FREEHOLD PROPERTY are prepared to entertain offers for the SALE or LEASE of BUILDING PLOTS on liberal terms. Houses built on adjacent property command both ready tenants and purchasers.—For particulars apply to R. L. ROUMIEU, Esq. 10, Lancaster-place, Strand, or to P. A. HANROTT, Esq. 38, Southampton-row, Russell-square.

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These pencils are prepared in various degrees of hardness and shades.

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STEAM POWER.—TO BE LET, at NEWINGTON BUTTS, a MANUFACTORY, with DWELLING HOUSE attached; four-horse high-pressure engine, and eight-horse boiler. Also, close thereto, a large Warehouse, with Dwelling house, large yard, and stabling, suitable for a builder or extensive [illegible] Apply to Mr. BROWN, 4, Adam's court, Old Broad-street, or 2, High-street, Newington Butts.

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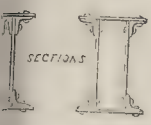

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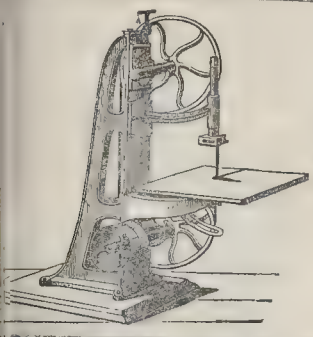

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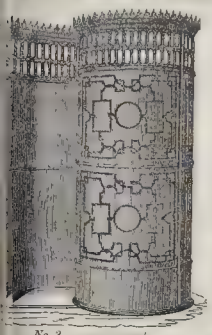

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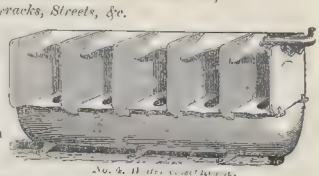

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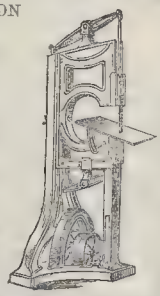

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Price of Band Saw Machine, with Spindle for Boring, &c. £50

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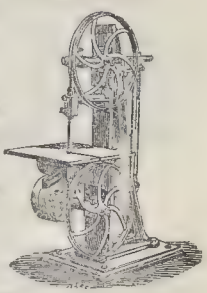

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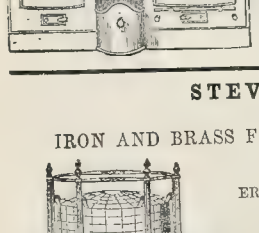

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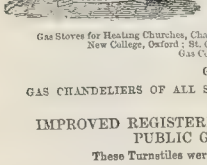

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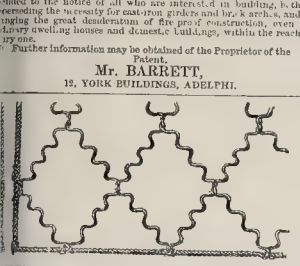

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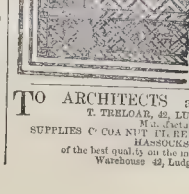

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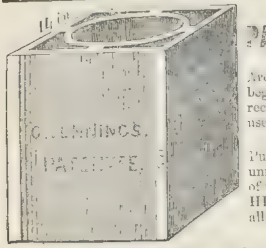

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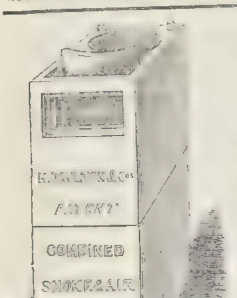

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The Builder.

VOL. XVI.—No. 796.

The Exhibition of the Royal Academy.

RARELY has a more interesting and satisfactory exhibition of works of certain classes of art been seen within the walls of the Academy than is to be found there now. Of pictures of the *highest character*, pictures of historical interest, there are but few; and these, perhaps, are not the most successful; but there is a larger number of able pictures of *genre*, well studied, thoughtful, and conscientiously painted, than we remember to have seen. Sir Edwin Landseer is in force, exhibiting a large painting (180), "The Maid and the Magpie," presenting some of his best qualities, and a life-size crayon drawing (800), called "Deer-stalking." Mr. Leslie's picture, from the ninth chapter of St. Mark (152), is not successful, wanting dignity, character, expression. Mr. David Roberts has three ures of great beauty, of which we prefer (159) e Basilica of San Lorenzo." In parts we only "indication," but, still, a very effective Mr. John F. Lewis shows some marvels kill, especially (101), "A Kibab Shop, ari." Mr. Frith's long-talked of picture, e Derby Day" (218), has not disappointed tation, and enforces the attendance of policemen to enable visitors to have a ise at it. There should be a rail round it. ng, as it necessarily must, with the looser s of society's crust, the gent, the sharper, he lorette, many are prepared to express for the devotion of time and thought to a subject. Nevertheless, we have no ation in saying that it is the most remark- icture in the exhibition, and immeasurably ior to anything the artist had previously ced. It is not a page of life, but a whole e,—is not to be understood fully at once twice,—and, while it interests as a record y the beauty of its execution, will preach t homily for many, many years to come. opeless despair of the cleaned-out shop- n the left, and the exhausted imbecility e fast man on the right, are two good s in the picture; but the finest touch s in the centre, where the poor, half- od child, in his tights and spangles, called p perform, by his master acrobat, is med and held in awe by the sight of a eon which a "tiger" unpacks. Mr. E. M. has three important contributions (35), Emperor of the French receiving the of the Garter at Windsor;" (254) "The of the Queen to the Tomb of Napoleon I. Hôtel des Invalides, Paris;" and (488) bealment of the Fugitives, by Alice Lisle. he Battle of Sedgemoor;" but they touch ls than some previous works of this ad- ple painter, of whom our school has reason proud. The visit to the tomb is the successful, and indeed must be regarded ork of high order. The face of Alice is admirable, but the figure appears d. Stanfield's "Fortress of Savona" (141) is a charming specimen of his work, the water full of motion, the sky full of storm. Mr. J. Phillip has several pictures of great merit. The largest and most important is (406) "Spanish Contrabandistas"—a very fine piece of solid colour, and, moreover, full of interest. The reflection on the face of the wounded smuggler from the glass held to his lips to ascertain if he still live, was cleverly thought of. (487.) "Youth in Seville," by the same artist, is a charming work. Mr. Noel Paton's "In Memoriam" (471), is an agonizing picture of extraordinary power and merit. The faces of the women who wait the approach of the murderous sepoys, seen entering above, are not easily forgotten. His other picture (29), "The Bluidy Tryste," must also be placed amongst the best pictures in the Exhibition. Connected with these, both by the harrowing interest of the incidents and the high merit of the work, we may name Mr. Egg's nameless triptych (372), which seizes on all beholders, though not one in ten gets exactly at the story the painter would tell. It is a picture of great power. Near it is one of the best pictures Mr. O'Neill has yet painted, "Eastward ho! August 1857," and which we are disposed to place amongst the best pictures in the room, though that includes "Weary Life," by R. Carrick (300); Hook's "Pastoral" (326); Horsley's "Flower Girls" (350); "The Gaoler's Daughter" (442), by P. H. Calderon;* "Nearing Home," by J. D. Luard (444); and Solomon's "Madlle. Blaiz,"—all very clever, and some of them, indeed, singularly good pictures.

Besides those already briefly mentioned, in the large room, (50) "Upward Gazing," by C. W. Cope; (54) "The Sorrowful Days of Evangeline," by W. Gale; Creswick's "Ford across an English River" (67); "The Doctor's Visit" (89), an admirable picture, by J. Clark; "The Sunbeams" (102), by T. Faed; Webster's "Sunday Evening" (119); "The Growth of Love," by R. Redgrave (202); and "The Approach of a Stranger," by McInnes (231), call for special examination. (204) "The Missing Boat," by F. Stone, is an earnest and touching picture, a little pale in colour, and marred by the theatrical corsets of some of the women. The fortunate young wife on the right walking away, with her hand on her husband's shoulder, but turning back with such sympathy for her friends as makes her but half appreciate her own happier fate, is a good feature.

In the west room we have, further, to point to J. Linnell's "Wheat-field" (458); "Early Struggles," by T. Brooks (475); "The Shrine of Santa Fina" (527), by R. McInnes; "The Presentation of Medals for Service in the Crimea," by G. H. Thomas; "Boccaccio in Naples" (600), by W. Cave Thomas (a work of great refinement), and several others. We cannot here do more, however, than glance at the general exhibition, and must pass at once to

The Architectural Drawings.

Experience which our readers have accumulated from observations in recent years, at Trafalgar-square, would render any announcement as to the position of architecture in the present exhibition at the Royal Academy, impertinent on our part and unnecessary. We may have called to mind that "when things are at the worst, they are about to mend:" we have hoped, and been disappointed. Indeed, there is no better evidence, this year than heretofore, that the importance of the art itself, and of the use of every opportunity of instructing the public in reference to it, are duly regarded by the Academy. Oil-paintings cover the whole of one wall, and the greater portion of the remaining space—as last year, and previously; and—though "architecture" in bronze capitals, lingers over the portal—"North Room," in place of the old heading, has become stereotyped in the catalogue. Of course, not more than usual can be gathered from the collection, as to the real state of our art. There are some highly meritorious works; but chiefly, they are designs—such as, alas! now, are never to be realized—or, they exemplify the erudite and antiquarian phases of architectural study, rather than living art and current practice. The Academician architects, if not unrepresented by drawings, do not, themselves at least, tell us anything of their works lately executed, or to be executed. Like to this, year by year, has been the burthen of our tale.

Let us, however, note down what of interest and value we have discovered; and, after naming the "First Prize Design for the new Foreign Office" (1029), which bears the name, now singly, of Mr. H. E. Coe, and Mr. Garling's rewarded design for the War Office (1035), as well as Messrs. Banks and Barry's design (1015), for the Foreign Office, which obtained the second premium, we may give the prominent place to the "Design for combining the whole of the public offices in one mass of building, in conjunction with the existing Board of Trade and Treasury Buildings" (974), by Sir Charles Barry. The design is not the same as that exhibited in Westminster Hall (Δελτα 27), and lately at the Architectural Exhibition,—under the name of Mr. E. M. Barry; though such may be the first impression. The small plan which is shown, of proposed *general street improvements*, indeed, is nearly a counterpart of the plan at the Hall, which may thus be credited to Sir Charles Barry, as we inferred in our notice, where it was described at some length.* It still deserves attention, as embodying one of the best schemes for the improvement of the western part of London that has yet appeared, and as not requiring extravagant outlay. The original mistake in the preliminaries of the competition, which rendered the selection of the French plan for the general and street arrangement possible, or perhaps necessary, has done much to induce the present posture of affairs, which, whatever the merit of Mr. Pennethorne's design for one of the offices, must be considered as eminently unsatisfactory. Sir Charles Barry has now taken up the real question, as we showed it should from the first, have been left to the consideration of competitors,—that is to say, without any positive restriction of a boundary line, or any unnecessary obligation as to site for particular offices. The present design would place the War Office in its appropriate position, namely, bounding the parade on its south side,—and therefore far to the north, or north-west, of the site prescribed—the portion of the ground next the present Parliament-street and Charles-street; the Foreign Office still being kept to the park side. Like the design which was at Westminster Hall, the present one places the whole of the offices in one building, the decorative character of which takes that of the present Board of Trade as the basis. For the central pavilion roof, or quadrangular dome of the design of 1857, however, a more effective termination is substituted, in a circular dome, which is placed on a tambour with salient columns, and surmounted by an open lantern with a lofty coronetted spirelet. The covering of the dome, like that of the Mansard roofs to the main portions of the building, would be of copper, with gilded enrichments; and the ribs, raised panels, lucarne openings, and other features of the dome, give an elegance of character, slightly suggestive of the simple but beautiful example at the Invalides. The rounded angles, on the park side, are crowned by smaller domes, of peculiar merit. Some other decorative features, including the dormers, of the roof, appear to be new: also in regard to the entrance-court and corridors with opposite staircases, for ascent and descent, the plan seems to have been remodelled. The plan offers what would probably be an advantage for convenience as well as architectural character and dignity of effect, namely a grand entrance for use as well on state occasions, as at all other times, for the business of the offices generally. As part of the arrangement, communication between the several

* This picture by Mr. Calderon has been purchased by a prizeholder in the Art Union of London.

* Vide vol. xv. p. 316.

official departments on the first floor is maintained—and as being essential to the object—though not provided in the system of detached blocks of buildings,—to which principle, almost of necessity, the competitors were restricted. Economy throughout, and general effect externally, the author believes, would be attendant upon the adoption of one comprehensive building. Assuming the accommodation in detail provided, as we cannot doubt it would be, and whatever opinion we may have expressed as to the choice of the present excellent front of the Board of Trade as the key-note for a larger building, we cannot but regret that features and a principle so obviously worthy of attention, as are those of this plan by Sir Charles Barry, should not have had the opportunity of due consideration. By a proposed slight extension of the Horse Guards, and an appropriation of the Treasury buildings now existing on the south side of the parade, the Horse Guards and the War Office would be in direct communication; and this affords an illustration of what the plan would generally provide,—that which was understood to be the thing wanted,—but what the absurdly forged fetters of the "instructions" would not allow to be even suggested. In the general plan some slight alteration we rather think has been made, so as to contemplate the retention of Hungerford-bridge, *as well as* the construction of a new bridge approached from Charing-cross,—according with the arrangement which we argued was economical and necessary.

Mr. E. M. Barry exhibits a view of the "Royal Italian Opera-house, Covent-garden, as seen from Bow-street" (1037), modified in some details, from the design as it was at the date of the published illustration in our journal, and with the addition of scroll work to the tympanum of the pediment, which is hardly so satisfactory as decoration of another character might be, were there more time at command. Mr. Barry has also a drawing of the "New Grammar School, in course of erection," at Woodhouse Moor, near Leeds (1018). The building is of stone construction, and of the "Decorated" Gothic style; and it has projecting wings gabled, an arcade of one story, an entrance tower attached to one wing with an octagonal belfry stage and pyramidal roof covering, traceried windows, balconies, buttresses carried by arches over the arcaded loggia, black and red tiles, and elaborately enriched spirelets at the intersections of the roof.—Mr. Page exhibits a view of Westminster-bridge (1017), from the Houses of Parliament. The stone piers seem plain in character as compared with the effect conveyed by illustrations published with the report of July, 1856. —Mr. H. Clutton exhibits a view (986), of "Minley Manor, near Farnborough, now erecting," a red brick and stone building, designed in a continental version of the Gothic style, with high-pitched roofs and dormers. In some cases, the roof-covering is shown carried up to what appears an exaggerated elevation, whilst the adjacent chimneys rising from the external walls, almost reach the limit of safe construction. These portions of the plan are greatly varied, and are in some cases finished with louvres, or they are terminated by finials of metal work, which must be 12 or 15 feet in height. With all the variety which there is in this design, it belongs to the class where the effort to construct the picturesque, has produced the gigantic, the whimsical, or the novel, rather than the beautiful and permanently pleasing in features of buildings: the mistake is one that has been made often in the course of architectural history, and notably in the later Gothic of the Continent, with all its suggestive peculiarities; and it is one that it is necessary to notice whenever it occurs, since it has an injurious tendency as regards the perception of the true qualities of good architectural art.

Of "Orchardleigh-park, Somersetshire," erected for Mr. William Duckworth, Mr. T. H. Wyatt exhibits two views (1,000 and 1,041). The Elizabethan style is here used in a building of stone construction, and with success. The entrance front pleases us the best. The mullioned and transomed windows, gables, circular and oblong parts of the plan—with lofty, hipped, or conical, roof cappings—bow windows, decorative enrichments of the orders, and balustraded garden enclosure, are combined with a skilful hand, and due recognition of art—in the grouping at least. The same architect has in the exhibition, a "View of Alterations and Additions," which he is "making at Downing, Flintshire, for the Viscount Fielding" (1062), and which appear to be in the same character of style; and he also has "Three Views (1076) in Wimborne Minster, Dorsetshire, recently restored" under his direction.—"The Garden and Waterworks" (999), and "The Pavilion; steps to esplanade; and waterworks to basins" (1047), illustrate one composition—a work "in course of completion at Cowley Manor, Gloucestershire," for Mr. J. Hutchinson, which we should ascribe to Mr. G. S. Clarke. The drawing last-named appears under the name of Mr G. R. Clarke. It is satisfactory to see that works of this class—which were carried into practical execution, commonly, in this country, during the former prevalence of the Elizabethan and Italian schools of taste—are still undertaken; for, they especially serve to show the value of architecture, as a separate art, and a tributary to the effect realized from objects in nature. Not without importance in the philosophical view, which, placing architecture in its proper position, holds up to the painter and the sculptor that office and those aims which are the real business of art, and the proper vocation of the artist, is the quotation from Schiller, which appears on the catalogue, and has been thus neatly done into English by the writer in the *Times*,—

> "In diligence the bee's thy model,
> In skill a worm thy master own,
> Knowledge thou shar'st with higher spirits,
> But art, O man, is thine alone."

This "art," or this view, it is which the architect-critic should ever seek to inculcate; though it may alike condemn the aim of much of the painters' work of the present exhibition, and that of some portion of the architecture of the day, and for analogous reasons.

Mr. J. Gibson exhibits an elevation (1024) of the "National Bank of Scotland, Glasgow, erected 1811, in conjunction with G. Macdougall," from his design. The drawing shows an Italian front with columns and pilasters in two stories, rusticated wall surface, window dressing,s and balustraded area enclosure,—a description this, which though it may be the best that a short sentence will admit of, is such as we always feel allows of extreme latitude of design and character, or only affords evidence,—

> "* * * how feebly words essay
> To fix one spark * * *"

of the expression, which is really that of the work of art; and in which—the description—the nicest distinctions, and yet chief operative means of the expression, may be passed by, or kept out of sight,—an expression which may be produced by the use of no very novel forms of detail,—which may be all the better for their absence,—but which by that circumstance or another, may belong to good and indeed very superior art. The same architect also has a view (1042) of "Bodelwyddan Church, at St. Asaph, now erecting for the Right Hon. the Dowager Lady Willoughby de Broke,"—a Gothic design with crocketed spire.

In regard to church architecture, there is very little that would call for notice. Mr. W. Slater has a drawing of "Kilmore Cathedral" (963); but does not say what may have been his particular duties in relation to the building, which is a cross church of no great pretension; and we find in the catalogue the titles of some designs "competitive," or otherwise, that we have made no note of.—In an "Interior View, looking east, of the Church of St. John the Evangelist, just completed" (987), by Mr. J. Norton—the catalogue says not where—the design is chiefly remarkable for the use, advantageously, of coupled shafts of red granite in place of piers of the general Mediæval character. These shafts are raised on lofty plinths, or pedestal bases, with chamfered angles, ranging with the pews, or benches, and according with the Anglo-Italian system of the eighteenth century churches, which we have always felt had some reasons in favour of it, at least as compared with that entire concealment of the bases of the columns which is the actual result, or generally so, in the parish churches of the Mediæval class when adapted for a large number of sittings. The effect, by ornament, in this design, is produced by the decoration of the soffits of the arches by a scroll painted on them.—Mr. G. E. Street's "Prospect from the South-east, of a design made at the request of the vestry of the parish of St. Dionis, Backchurch, Fenchurch-street, for re-building the church and re-modelling the steeple" (1004), shows a building, apparently of brick and stone, in the "Decorated" Gothic style, with a square tower at one side of the plan, terminated by a machicolated cornice and a pyramidal roof and lantern. The chancel is intended to be groined in stone: consequently, to this part of the building there are flying buttresses and very massive wall-buttresses. The enclosure to the churchyard is an effective feature in the "prospect:" it consists of a series of piers and openings, on a dwarf wall,—the piers formed with engaged shafts and buttresses, carrying a continuous cornice, or mouldings and weathering, and the openings partly filled with iron-work.—A character of the same school, which it is needless to say, is marked generally by invention, and often by attendant beauty in the details, is exhibited in the "Design for the Interior of a Town Church,—width of the nave, 37 feet" (1053), by Mr. P. Webb. The drawing shows a building without aisles, excepting that there is a narrow one to the chancel, opening into the nave by an arch, and an organ-chamber with an opening at a higher level in a corresponding position with reference to the chancel arch. The chief part of the effect, however, results from the stone principal arches, with brick and stone spandrils, above which, or above the usual position of a collar, timber framing, of posts and curved braces, appears. The arches rise from shafts, and the ceiling between them appears to be panelled and decorated.—The "Church at Highbury, proposed to be erected" under the superintendence of Mr. C. Hambridge, of which there are views (1060 and 1080), displays a great quantity of coloured decoration internally.

The effect of excessive decoration in some measure is conveyed by the elaborately-enriched polygonal apse, and parts of the tower of "The Church of the Holy Trinity, Hastings" (1050); "the nave and aisle of which are now in progress of erection" by Mr. S. S. Teulon, who also exhibits (1034) "The Clock-tower and adjuncts, being part of a series of additions to Shadwell Court, Norfolk, for Sir R. Jacob Buxton, Bart." Of the design for the west front of St. Peter's Church, Colchester, about to be restored" (1081) by Mr. C. F. Hayward, we can make out little in the location of the drawing on the walls; and of its companion (1082) design for restoration of the upper stage of the tower, "St. Mary-at-the-Walls," in the same city, by the same architect, not more; but have noted an apparent crowning feature in one of these cases, above an open lantern, of a kind of skeleton of crocketed ribs in the form of a pyramidal capping, within which the bell is hung.—No. 1058 is a view of the "Interior of the Choir of St. John's (R. C.) Cathedral, Salford, Manchester, Messrs. Hadfield and Whitman, architects, showing the high altar and fittings lately carried out from the designs of G. Goldie, architect," but is not from either of their hands; and their work is not done justice to. We must return to the drawings next week.

CONGRESS OF DELEGATES OF LEARNED SOCIETIES, UNDER THE DIRECTION OF THE INSTITUTE OF THE PROVINCES OF FRANCE.*

An interesting discussion arose on the following question, adjourned from a former meeting, and brought forward by M. de Caumont: "The Study of the Plans of Episcopal Cities after their condensation within Inner Mural Enclosures about the Fourth Century, with the relative Situation of Public Buildings, both civil and religious, as well at the Close of the Gallo-Roman as at the Merovingian Epoch."

The Honble. President said he was satisfied that of the Gallo-Roman cities, the episcopal cities alone were surrounded by walls in the fourth century, such walls having been hastily erected under dread of barbarian incursions. He instanced Rouen, Evreux, Bayeux, Avranches, and others, which the course of the walls may easily be traced. He observed that on this account the old episcopal residences throughout France are interesting to the architectural antiquary in search of remains of old walls. The cities which had not these walls had almost entirely disappeared. He thought it important to study the plan generally adopted in the construction of these *enceintes murales*; the disposition of the streets in the cities thus hastily surrounded with walls, under apprehension of a sudden attack when it was only possible to include within the new fortifications a small part of the city; how some particular remains are generally found within, and others without these walls; how edifices for purposes of Christian worship became substituted for heathen buildings; and how it happens that the public buildings in these walled cities are generally disposed on a uniform plan.

M. Raymond Bordeaux was of opinion that the subject of Gallo-Roman cities opened a wide field for antiquarian research. Examinations of their remains had within the last few years brought to light general points of resemblance, which had hitherto escaped the observation of the antiquary. Thus it was now ascertained that these walls, which are still to be seen at Evreux, Sens, Dax, Mans, Tours, and elsewhere, are always planned

* Continued from page 277, *ante*.

ith greater or less regularity, in the form of a rallelogram: a further comparison shows other markable points of similarity. The plan of the reets is often nearly identical in cities distant m one another,—a fact which renders it easy to ace the general outline of cities where the walls longer exist; so that we should probably have difficulty in ascertaining the extent of the cient towns of Lisieux, Séez, and Rouen, from single indication afforded by the situation of ir cathedrals, or certain other public buildings. r example, the cathedral churches of Paris, reux, Bayeux, Avranches, Chartres, and Mans stand at one extremity of the old city. This f outline M. Bordeaux thought sufficient t plain his new hypothesis, of which he hoped the th would be tested by further investigations. suggested that plans should be drawn of all the lo-Roman cities, upon one scale, and he be- ed a general system would be found to have vailed in the laying out of all the episcopal es. Some of these appear to have been *double es:* in other words, without the walled city re was an open city,—as it were a town devoted ecreation (*cité de plaisance*), in which there e baths, theatres, &c. Thus the ancient eux is two leagues from the modern Evreux, hich modern town exists the old Roman wall. ancient Lisieux is at some distance from the dern Lisieux, which abounds in ancient re- ns; the ruins of Alonnes, at some distance n Le Mans; and the Baths of Julian, a short from Paris. To bring the matter home to ern apprehension, these open towns seem to been what the Versailles of Louis XIV. was aris. When Christianity was introduced from ne by the first bishops, the cities underwent portant changes. The cathedral replaced the ple or basilica; and near to this sacred edifice ishop took up his abode. The Church, as it , inherited the possessions of expiring hea- ism. At Paris, Evreux, &c. the castle of the t was built at the end of the city, opposite to at which stood the cathedral. These square *ntes* were built in the fifth century, as a pro- on against the barbarian invaders. Their dations abound in fragments of sculpture n from the temples and amphitheatres. By n were they erected? M. Bordeaux does not ate to attribute them to the first bishops, in the fifth century had already attained derable power, and were considered the chief ctors of their respective cities. In fact, it is ely possible to indicate any other persons could have built them. Moreover, such nt cities as Vieux, Lillebourne, Valognes, h were *not* episcopal cities, had no walls. respect to the question of the distribution ne churches, a uniform system appears to prevailed, and one well worthy of observation. iedral churches, when substituted for temples lathen goddesses, were dedicated to the Virgin ; when for those of Jupiter or Apollo, to ieter, or some other saint. Baptisteries took epithet of *round, e.g.* St. Jean-le-rond at l, Poitiers, and elsewhere; Notre-Dame-de- lade at Evreux, Rouen, and Cologne. At a period parishes were formed outside of the , which were placed under the tutelage of the sles, or of the early bishops of the place. The os of remarkable saints often became the sites beys. There are two saints who were chiefly ured at the approach to cities -St. Martin St. Germain. Thus we find a St. Martin-de- tue (league of distance) on approaching Lisieux; a Martin-de-la-lieue not far from Bayeux; others ne neighbourhood of Paris, Evreux, Rouen, &c. rmain was often the tutelary saint of a ch in some valley *near* (*près*) the course of a . Thus, St. Germain-des-Près, at Paris; St. main-des-Près, at Lisieux. St. Paul was chiefly ated *without* the town, as, St. Paul, at n; St. Paul-without-the-Walls, at Rome. ndré was especially honoured near the gates: tance, at Rouen there are two churches ated to him, St. André-de-la-porte-Cau- e, and St. André-de-la-porte-aux Febvres. ichael was usually placed on some elevation, l hill, or hillock; and where there was no al elevation, we find his statue placed aloft ne cathedral or church. St. Denis was the ector of prisoners, and was invoked near the e prison; thus we find a St. Denis-de-la- bre in many towns. The hon. delegate con- ded by expressing his belief that further inquiry the subject would show the prevalence of a al law with regard to all the leading saints the Catholic Church. The termination of his interesting address, which had been through- listened to with extreme attention, was ed by loud applause.

M. Garinet believed "Cæsar's Commentaries" would bear him out in asserting that the Romano-Gallic cities were not fortified for the first time on the occasion of the Barbarian invasions. He remarked that Attila was stopped with his army before the cities of Metz and Rheims, defended by the urban militia under their bishops, then the chief magistrates of their cities.

M. Albert du Boys supported the theory of M. Raymond Bordeaux, observing that in the town of Vienne the ruins of heathen buildings had been used in the construction both of the walls and the churches. The episcopal churches were formerly called *parrochiæ*. The ancient churches were not all dedicated to the Virgin Mary. Many were dedicated to the apostles and to local martyrs. The first church at Lyons was built over the tomb of St. Ireneus, and dedicated to him. At a later period the episcopal church was dedicated to St. John. It is well known that St. Polycarp was the disciple of St. John, and St. Ireneus of St. Polycarp. One of the oldest bishopries in Lower Dauphiny was dedicated to St. Paul, and placed under the protection of three strong castles (St. Paul Trois Châteaux). At Vienne, to which place Christianity was brought by St. Crescentius, disciple of St. Paul, the episcopal church was dedicated to St. Maurice. At Grenoble, St. Laurent is considered the patron of the poor. A somewhat doubtful tradition relates that the first church built there arose upon the ruins of a temple of Esculapius, the God invoked by the sick poor of heathenism. Should this be correct, the substitution of St. Laurent for Esculapius is worthy of remark. Be that as it may, it was in the tenth or eleventh centuries that an episcopal church was erected there to the honour of the Holy Virgin,—precisely the epoch at which her worship began to be greatly extended throughout Christendom. Although, therefore, there may exist some points of difference in the mode in which Roman Catholic worship was instituted, and Catholic churches were built, between the north and the south of France, the points of resemblance outnumber those of difference, and the former tend to support in great measure the ingenious theory of M. Raymond Bordeaux.

Mr. Parker (of Oxford) stated that in many cities and towns in England is to be found the same disposition of churches as was mentioned by M. Raymond Bordeaux. He instanced Lincoln, which had a double *enceinte*, and Oxford, where there are St. Michael of the northern gate, and St. Michael of the southern gate; St. Peter of the eastern, and St. Peter of the western gate.

Monsieur Raymond Bordeaux read a report by M. Des Moulins on the public buildings executed, within the last three years, in the city of Bordeaux, at a cost of 5,000,000 francs. The report condemns the mode in which a portion of the money has been applied. The following instances are worthy of observation.

The church of the new Carmelites of Bordeaux, built by Father Philibert, Carmelite. Although the basis of the architecture is Roman, M. Des Moulins comments severely on the hybrid character of the style.

The entire isolation of the tower of St. Michael de Bordeaux is condemned.

The character of "monumental" is given to the buildings upon the Quai Horizontal.

Speaking of the recently-constructed fountains, two, in themselves unobjectionable, are stated to have been placed in situations different from those contemplated by their sculptor and architect, whereby their effect is greatly marred. Another fountain, described as of an entirely heathen character, is stated to have been placed between the cathedral and the archbishop's palace, instead of one of a religious character, for which designs had been made.

A severe protest is entered against the barbarous scraping of all the noble houses of the time of Louis XV. on the Quai de Bordeaux.

Allusion is made to two statues of Montaigne and Montesquieu (two great men of whom, as fellow-citizens, the Bordelais are justly proud), so placed, that the heads are lost amid the over-hanging trees.

The recently-erected Presbytère is termed "pitoyable," and described as a modern building stuck over with Gothic decorations, the *imagined* result being a specimen of the Renaissance.

The former Public Garden has been transformed into a Botanical Garden; and while on the one hand the green and hot houses are admitted to surpass in magnitude those even in the Jardin des Plantes, at Paris, the arrangement is condemned by which too little space is devoted to botanical instruction.

The conversation turning upon the pecuniary value of works of art under different contingencies, M. Drolle observed jocosely that some Indian deities manufactured at Birmingham had lately fetched exorbitant prices, owing to their having made the voyage to Calcutta and back, as certain wines are considered to acquire additional value from a visit to a warm climate.

The publication of an important architectural work was announced in the course of the meeting, the "Album de Villard de Honnicourt," an architect of the thirteenth century. It is edited by the late M. Lassus, the architect under whose superintendence the restorations of Notre Dame and the Sainte Chapelle were executed. Also another, scarcely less interesting, under the title of a "Monographie sur tous les Trésors des Cathédrales de France," by M Pernot, under the patronage of the Minister of Public Worship.

COMBINATION FOR GOOD.

IN looking over the large establishments of London, in many of which several thousands of persons are busily engaged, it has often been a matter of regret that so little has been done by the combination of means for mutual benefit. Inquiry has forced upon me the fact, that at any rate the middle class and bulk of the industrious classes of our large towns are not a "clubable people;" and when looking over the immense workshops of England, it surprises one, in many instances, to find that although arrangements might be easily made to provide—by the payment of a very small weekly sum—enough to secure efficient medical treatment for both single men and those with families, but little pains are taken.

At Mr. R. Stephenson's manufactory, at Newcastle-upon-Tyne, a small sum, which is but the merest fraction of the incomes of men and boys, is deducted from the wages. Some grumble at this, and with a peculiar kind of English energy, declare that (although the thing, which is really a benefit, costs but 2d. or 3d. a week), it should not be forced upon them. In your paper you have striven earnestly for the general good of the working classes, that great staff and support of this country: you have advocated all improvements of dwellings, the necessity for drainage, the spread of good education, and advancement in the general knowledge and taste for art; and I would beg you to let me ask earnestly why is it that those who are really such an important body do not to a greater extent help themselves?

At the Bank of England, the directors having provided a spacious apartment for the purpose, Mr. Coe and some other leading men of that great establishment have in a most praiseworthy manner exerted themselves, and provided a valuable library, from which the numerous persons connected with the bank can, for a trifling sum, have books to read either in the place or at home. In other instances libraries have been established with the best results.

At the station of the Great Northern Railway, at King's-cross, where about 300 persons are employed, in comparatively a short time, nearly 1,000 volumes of books have been collected. The chief newspapers and other periodical publications are also regularly supplied. The charge per annum (not compulsory), for the use of the library, is—

	In London.		In Country.
	s. d.		s. d.
Guards, police, porters, and mechanics	1 6	..	1 0
Lad clerks	1 6	..	1 0
Junior clerks	2 0	..	1 6
All other officers and clerks	2 6	..	2 0

The reading-room which is for the clerks, and that for the guards, &c. are furnished equally with daily papers, &c. and country members can have their books sent free to or from country stations by being securely packed in brown paper parcels, and addressed "Library parcel, —— station, ——." In the larger reading-room, which is well adapted for the purpose, several useful lectures have been delivered, and it is to be hoped that before long this useful means of instruction will be resumed. It will thus be seen that by the payment of a little more than a penny a week, the mechanics connected with this railway may obtain a plentiful supply of excellent reading. It should be mentioned that, in addition to the ordinary members, honorary members can be elected, who, being connected with the establishment, pay a certain sum, or give books or papers of that value.

In connection with the Great Northern Railway, I must not pass over without notice the Sick and Funeral Allowance Fund, which was established in 1853, under the following circumstances. After several interviews with a deputation of seven, representing the several classes of guards, police, porters, &c. with the secretary and

general manager, a meeting was appointed to be held, at King's-cross, in June of the above year, of the directors and officers and servants of the company, when it was determined to establish a sick and funeral allowance club, to be ruled as follows:—

The classes required to contribute to this fund are—station inspectors, guards, police, and porters. Any other officer or servant of the company may do so, on his application to that effect being complied with.

The contributions are divided into three classes.

The fourth rule states that, "Under all circumstances, so long as a man continues in the service of the company, there shall be deducted from his wages the sum per week, according to his class, as follows: Class A, 11d. per week; Class B, 9d. per week; Class C, 7d. per week." These sums at a glance seem high, but the advantages are considerable.

The last rule states that this fund shall be administered under the authority of the board of directors, whose decision shall be binding on the parties in every case. No doubt this compulsory payment is in many instances a great benefit, but it seems to me, in cases such as this, that the workmen should have a voice in the management of money which is taken from their own earnings. Why not, in connection with this and similar establishments, manufactories, &c. let the management rest in the hands of, say seven, of the representatives of the workmen, and two or more of the heads of the concern. I believe that good would result from such periodical mixing together of various classes.

A WORKER.

CHÂTEAU OF LOCHES.

WITH the exception of Blois, Touraine probably boasts of no more picturesque town than that of Loches. Important in former times only as a stronghold, it never possessed any importance as a commercial town, and now only claims the attention of the tourist by its romantic situation and the interest of its architectural remains. It is a small town, situated on the river Indre, its houses being clustered together as if for protection at the foot of the rock upon which the château stands. After the Revolution a great part of the ground inclosed within the fortifications of the château was parcelled out to the people, and is now covered with dwelling houses. The château is at present the residence of the sous-préfet, and the citadel, which was once the far-famed and dreaded state prison of France, is now the county gaol. The château and the citadel occupy the two extreme ends of the rock, while between them is the collegiate church of St. Ours. This last stands much as Byron describes the Rialto in Venice,—

"A palace and a prison on each hand."

These three buildings were originally inclosed by a double line of fortifications, one of which only remains at this day. The moat is filled up, the drawbridge gone, and the ponderous portcullis has long since been removed, although the slip in the arched gateway which contained it may still be seen. In addition to the proper defences of the château the town itself was fortified, and two of its old gates are still standing.

The citadel, which consists of a donjon or keep, and two round towers, was defended on the south and east sides by a pentagonal line of fortifications, beyond which lay a moat 60 feet broad. On the two other sides it was inaccessible, owing to the precipitous character of the rock. The donjon bears signs of great antiquity, and is generally supposed to have been built in the eleventh century by Foulques Nerra, Count of Anjou. It consists of a large oblong building, with a square tower (which served as a vestibule) at its north-east corner. The elegant semi-circular pillars on the buttresses, which run the whole height of the building (upwards of 100 feet) would half lead one to ascribe its construction to the twelfth rather than the eleventh century. Access to the great hall on the second story could only be gained from the vestibule by ladder—a precaution almost unnecessary, one might imagine, considering the formidable character of the outer fortifications. Clothed in mail, Foulques Nerra sat in this hall "like a spider in its web," to borrow the words of a French author, "ready to pounce upon the first unfortunate wretch who might get entangled in its meshes, or planning in his thoughts a sudden raid on the unprotected property of some widow or orphan." The square tower was originally of the same height as the main building, but its upper story was dismantled during the wars of Napoleon Buonaparte, for the sake of the nitrate of potash which the stone contained in large quantity. Resort was had to this expedient, in order to obtain a supply of that necessary ingredient of gunpowder, all communication with Sicily having been cut off by the English. Nothing now remains of this donjon but the bare walls, which are 8 or 9 feet thick, and seem calculated to resist the ravages of time. At the north-west angle of the castle-rock is the round tower, which is known as Louis XI.'s. It is now used as the county gaol. It rises nearly from the base of the rock, and has a flat battlemented roof paved with stone, access to which is gained by a small staircase tower. The roof is surrounded by an open bartisan, which is supported by corbels. This is unusual, French towers of that period being generally covered by conical roofs, which rise from a machicolated parapet, which projects very boldly. In one of the chambers of this tower, the Cardinal la Balue was confined by Louis XI. as a punishment for having betrayed that monarch's secrets to Charles of Burgundy. He was confined in a wooden not an iron cage, as has been erroneously stated by Sir Walter Scott. The apartment, which is on the basement story, is circular in form, and has a vaulted roof. In this strange prison, which by the way is said to have been his own invention, the Cardinal remained for a period of three years, when he was removed to the Château of Montbazon. The Duke of Alençon, having been convicted of high treason, passed three months in the same cage; and in another of similar construction in the same tower, Louis XI.'s historian, Philippe de Commines, was imprisoned by Charles VIII. In the torture chamber there still exists a massive iron bar, supported about a foot from the ground by large blocks of stone. Along this bar slide two iron fetters or hoops, through which the feet of the unfortunate wretch who was to be subjected to torture were passed, so as to render him utterly powerless and incapable of resistance. Fixed to the wall of this den of horrors, about a foot and a half above the floor, hangs a heavy iron chain and collar. The very idea that they were intended for chaining a human being, is sufficient to make one's blood run cold. Below the other tower, which is very similar externally, are the subterranean chambers known as the Cachots of Louis XII.; but it seems doubtful whether they do not owe their origin to some earlier monarch than "The Father of his people." They are four in number, placed one below the other, and are reached by a narrow staircase, which originally was defended by strong doors on each succeeding story. In one of these dungeons Ludovic Sforce, Duke of Milan, having been betrayed into the power of Louis XII. by the treachery of his Swiss guards, was confined for nine years. That monarch afterwards abated his severity, and transferred his prisonor to a more habitable chamber in Louis XI.'s tower. While detained in the *cachot*, the unfortunate duke seems to have endeavoured to while away the dreary hours of his captivity by covering its walls with inscriptions and rude drawings. One inscription above the chimney-place bears witness to the severity with which he was treated. It runs thus:—

IE . PORTE . EN . PRISON
POVR . MA . DEVISE . QVE . IE . M'AR
ME . DE . PACIENCE . PAR . QEAN
DE . PENES . QVE . LON . ME
FAIT.

There are many curious and highly interesting inscriptions to be seen on the walls of the other dungeons, but I shall mention only one other, which I observed in the second *cachot*. It is the simple word "*requiescat;*" but how eloquent is that one word!

Into the lowest of these *cachots* open the mouths of three *oubliettes*, and the guide who accompanies the visitor points out, engrained on their sides, what he says are the stains of human blood. In this dungeon there is also a cell or recess cut in the rock, the dimensions of which are such that the unfortunate prisoner, who might have been confined in it, had not the power of either lying down or of standing erect. It is with a feeling of relief that the visitor emerges from these horrible dungeons into the pure air of heaven.

Let us now bend our steps to the church of St. Ours. This building, the style of which is Early Romanesque, is ascribed to Foulques Nerra, and is well worthy of attention. It is oblong, with a square tower terminating in a pyramidal steeple at either end, and two central octagonal cupolas, which form the roof of the nave. The western tower is flanked by a low rectangular porch, which exhibits an endless variety of carving of the most grotesque and fanciful description. The two pyramidal steeples are of the same height, but the one rises from a square, the other from an octagonal base. The former has four beautiful octagonal pinnacles at the base of the pyramid, while the octagonal base of the latter exhibits a spire-light in each face of the octagon. It is remarkable that no wood has been employed in the construction of the building, the same shell of stone, which forms the outer, forming also the inner roof. The corbelling of the latter is very fine. The north aisle is of a much later date, its character being Flamboyant.

On passing through the western porch, there stands a curious Roman altar, which is now used as a *bénitier*, or font, for containing holy water. Carved out of a solid mass of stone, it is cylindrical in form, and divided externally into panels, which are filled with sculptured vases and other ornaments. It rests upon a large flat slab of stone.

The last visit I made to Saint Ours, I witnessed a curious example of Roman Catholic superstition. In one of the little chapels opening off the nave there is a small statue of a certain saint whose name has escaped my memory. Beneath the statue there was a kind of board or plastron, to which were attached models in wax of every conceivable species of human deformity: club-feet, knock-knee'd and bandy-legs, with all the various unsightly results of rickets, were rudely imitated. It appears that in the popular belief this saint possesses the power of curing all such diseases; and mothers, who give birth to a child mis-shapen in any way, have a model made in wax of the deformed limb, and hang it upon this plastron, in the hope of securing the kindly offices of this saint.

The château proper, which, as I have mentioned, is the residence of the sous-préfet, is a building of a much later date than the citadel or the church of Saint Ours. It dates from the fourteenth century, but considerable alterations and additions, which are in the best style of the Renaissance, have been made on the east front. The dormer windows of this part of the building are similar to those at Chambord and Blois; and here I may perhaps stop to say a word or two with regard to the general character of the dormer windows of the Rénaissance. Although they vary very much, they are all Italian in their character, having an architrave, ornamented frieze, and cornice above the lintel. They are generally flanked by pilasters of the Ionic order, at the sides of which we occasionally find pinnacled buttresses. Above the cornice there is a high tympanum, generally with graceful hollow sides, but occasionally formed by an ogee line. The tympanum is ornamented ordinarily with sculpture or tracery. In one of the windows which I observed at Chambord, it had a sunk panel filled by Francis I.'s F, the panel terminating with a crown. Sometimes the place of the tympanum is occupied by a small window. The tympanum is surmounted again by an architrave, moulding frieze, and cornice. Above all this there is a pediment, which is occasionally crocketed. The pediment assumes a variety of forms, being found sometimes angular and at others semicircular. The pediment, when round, generally contains a clam shell (this is the case with the windows at Loches); but we find great varieties in the ornament:—now it is a cherub's head, and again it is the initials or device of the founder. The pediment, which is gabled, is ordinarily surmounted by high pinnacles or *girouettes*, which are ornamented with leaf crockets, and are often very beautiful. They are generally gilded, but they are occasionally painted blue, green, and other colours. The ridge of the roof, which connects the window with the main building is surmounted in most cases by a cresting of gilded metalwork. At either side of the tympanum, immediately above the entablature of the pilaster, a pedestal, surmounted by a high pinnacle, is carried up. This pedestal forms the abutment for the springing of a flying buttress (if it may be so termed) which terminates in the hollow side of the tympanum.

The mouldings are all very large, the ovolo and semirecta prevailing.

The windows generally have mullions, which closely resemble those used in Elizabethan buildings. Some of the dormer windows in the château present the following peculiarity: the Ionic pilasters have subordinate pilasters of the Corinthian order at their outer side. From the top of the cornice of the Corinthian pilaster (which is the whole height of the entablature lower than the central part), there springs a piece of scrollwork or flying buttress, which appears to support the central part of the composition, and strikes in immediately below the cornice of the Ionic pilaster. Some of your professional readers will

rery probably say that such a composition is out of all rule. Whether it is or is not, I can only say hat the effect is singularly striking and beautiful.

In a subsequent letter, I shall have occasion, in peaking of the Château of Amboise, to take otice of another variety of dormer window, which iffers considerably from any of those I have poken of, and which, although it is inferior to iem in the beauty of the design, is yet well orthy of the attention of the architectural udent.

The high-pitched roof which almost always icks the dormer windows of the Rénaissance, is admirable keeping with them, and tends to remove the idea of top-heaviness, which invariably ggests itself, if their form is allowed to stand t clearly against the sky.

The principal interest attached to the Château Loches, consists in its having been the favourite sidence of Agnes Sorrel, Charles VII.'s mistress, less celebrated for her kind and charitable disposition than for her beauty and accomplishments. er tomb, which formerly stood in the neighbourg church of Beaulieu, is now placed in a small amber of the château. It is of white limestone, d represents her lying with her hands folded on r bosom. At her head are two cherubim as if watch over her, while at her feet two lambs lie nched.

Above the door of the *salle des gardes*, there is maint piece of sculpture, representing Pepin le f in combat with a lion. From this guard-om, access is gained to a bartisan, with pepper-t turrets. In fancy the visitor may picture to nself some archer of the Scottish guard, pacing and down this bartisan, and whiling away the urs of his watch, by—

"Crooning o'er some auld Scots sang."

The suite of rooms occupied by Anne of Bretagne, o was the wife first of Charles VIII. and afterds of Louis XII. is worthy of notice. Round fireplace, in her oratory, is cut in stone the l or cordelière, which was the device of the ily of Bretagne. J. M.

THE ROUND TOWERS OF IRELAND.

A CORRESPONDENT, whose letter was given in *Builder*, of the 13th of March, controverted opinion which Dr. Petrie has set forth as to origin of these structures. He says that the ened author referred to depends for the foun-ion of his opinion solely on the word "cloic-hach," which occurring in the ancient "Annals," fers to relate to the round towers. There are bably but few who could read Dr. Petrie's k, and see in it *only* this foundation for his clusions. If this were the sole foundation, it is the object of his extensive illustrations of h architecture? Is it not the fact, that he ds his theory on the analogy of the architecof the towers to that of the other buildings ncient date, and takes such references as he in the "Annals," &c. as an additional support? can be shown beyond a doubt, that the word dictheach," occurring in fourteen passages of "Annals of the Four Masters" does not refer to buildings, it is so much important evidence to Dr. Petrie's theory, but there is still left a considerable amount of architectural and *de* evidence untouched.

ntroversy on this subject has so frequently led rather to involve than to unravel its mysies, that we should learn from the past to con-our contributions as much as possible to conareasons, accompanied by facts in the simplest s, a point which the correspondent referred to ncarcely achieved. For instance, in assigning is word "cloictheach," a fresh meaning "stone e," he cites "O'Reilly's Irish Dictionary," to that the first part of the word is derived from ch," a stone, and gives certain derivatives and pounds of the word, as if they were so given he dictionary, the fact being that they are e found in alphabetical order; the arrangeic given by this correspondent would lead to incorrect idea that we have O'Reilly's authority he derivation. The method he adopted was vantageous to himself, because the question really occurs if "cloictheach" is a compound is word "cloch," why is it not given by illy with the other compounds of the same P In three columns of the dictionary there some fifty or sixty words evidently comds of this monosyllable, and, interspersed g them by the alphabetical rule, is "*cloj*," l, with its compounds, among which are, as, a bellfrey," "cloigtheach, a steeple or y." O'Reilly gives no authority on the of derivation, and that he should thus late *cloigtheach* is evidence against the meaning now sought to be attached to it, namely, "stone house." Neither is it any argument against the translation which would make it *bellfry*, or *steeple*, and hence a round tower, that the original word is not descriptive of a lofty or rotund building. The English word *bellfry* is not more descriptive of the church towers which by custom here are square, and of an altitude suited to their purpose, but such a building the word is at once understood to describe.

Again, when he wished to give instances from the "Annals" to support his position that the various mentions of the cloictheachs in them did not in their particulars apply to such structures as the round towers are described to be, the writer who has afforded a text for these remarks would have done better to have given the passages complete as they are quoted hereafter, A.D. 948 and 1020, which show that both the *cloictheachs* referred to by him contained a bell or bells of some kind, and the last one proves that the structure was as capable of injury by fire as the three *daimhliags*, or stone churches, therein recorded to have suffered by the like calamity as the cloictheach, stone built as the round towers are, and as the cloictheach is admitted by this writer to have been. Does it not appear from the citations from the "Annals" given below that the cloictheachs, like the daimhliags, or stone churches, contained within them some combustible fittings, and is it not in all writings common to speak of buildings as *burned* of which in fact a large part is incombustible?

The round towers were furnished with several floors. Of forty-seven towers, three retain in each a single stone floor, and a fourth has evidence that it had one. In thirty-seven towers, ledges are formed round the inside by reducing the thickness of the wall, or by projecting sailing courses of stone. Most of this number have both these methods in the same tower. These ledges might have carried stone or wood floors. The three stone floors are on those of the first kind. Two towers only have joist holes, and four only are without any positive evidence of floors; but, as they are furnished with windows in the shaft, like other towers, there is a presumption that they contained a floor near each window, as usual.

The gentleman whose contribution has led to these remarks is, I believe, of the same profession as myself, and the majority of the readers of the *Builder*. I have seen his name elsewhere in a manner calculated to give weight to his evidence on an architectural fact. It is, therefore, with all respect, that I have to say that he is not correct in the description now given by him of the triple bellcot at Donoughmore. There is no such correspondence as he points out between the openings in it and those of the adjacent round tower. The openings in the bellcot have most distinctly pointed arches, and not triangular heads. Beneath them, connecting the two buttresses, which carry the bellcot, is a semi-circular blank arch against the west wall of the church. The masonry of the church and bellcot bears no resemblance to that of the round tower. At Roscrea also the church and bellcot is very clearly of a date different from that of the round tower close by.

It may be useful to the public to have in one view all the fourteen references to the cloictheachs, which are found down to A.D. 1238, in the "Annals of the Four Masters," a work compiled in Irish, between 1632 and 1636, from ancient records, some of which remain to this day, of extraordinary antiquity, to testify to the care and accuracy of the later compilers. The references are taken from Dr. O'Donovan's translation, in which he leaves the disputed word untranslated; but as in the Irish the orthography is not in each case the same as his rendering, "cloictheach," the variations in the Irish orthography are here given, as well as of some other words descriptive of buildings.

"A.D. 948. The cloicthech of Slaine was burned by the foreigners, with its full of relics and distinguished persons, together with Caeneachair, lector of Slaine, and the crozier of the patron saint, and a bell [which was] the best of bells.

A.D. 995. Ard-Macha was burned by lightning, —both houses, domuliace [stone churches], and cloictheacha, and its sacred wood, with all destruction. There came not in Ireland since it was discovered, and there never will come, a vengeance like it.

A.D. 1020. Ard-Macha was burned with all the fort, without the saving of any house within it, except the library only, and many houses were burned in the Trians; and the Daimhling-mor was burned; and the Cloictheach, with its bells; and the Daimhliag-na-Toe and the Daimhliag an-tsabhail; and the old preaching-chair, and the chariot of the abbots and their books, in the houses of the students, with much gold, silver, and other precious things.

A.D. 1039. The cloictheach of Cluain-Iraird fell.

A.D. 1050. Doire-Caellainne and the Cloictheach of Ros-Coinain were burned by the men of Breifne.

A.D. 1076. Murchadh, son of Flann O'Macleachlainn, at the expiration of three days and three nights, after his having obtained the supremacy of Tara, was treacherously killed in the Cloictheach of Ceannanus by the Lord of Gaileange, *i. e.* Umlaff, the grandson of Maelan.

A.D. 1097. The cloictheach of Mainistir, *i. e.* of Mainistir Buithe, with its books and many treasures, were burned.

A.D. 1121. Two streets of Trian-Masain, from the door of the fort to Cros-Brighde, were burned in Ard-Macha.

A great windstorm happened in December of this year, which knocked off the conical cap of the cloictheach of Ard-Macha, and caused great destruction of the woods throughout Ireland.

The cloictheach of Telach-n-Inmainne, in Ossory, was split by a thunderbolt, and a stone flew from the ecloictheach, which killed a student in the church.

A.D. 1124. The finishing of the cloictige, of Cluain-mic-nois, by Ua-maeldeoin, successor of Ciaran.

A.D. 1135. Lightning struck off the head of the cloictheach of Cluain-mic-nois, and pierced the cloictigh of Ros-cre.

A.D. 1147. A thunderbolt fell this year upon the chloictheach of Daimhliag-Chianain, and knocked off its roof (or conical cap).

A.D. 1156. Eochaidh Ua-Cuinn, the chief master, was burned in the ecloicthech of Ferta.

A.D. 1171. The cloictheach of Telach-aird was burned by Tighearnan Ua Ruairc, with its full of people in it.

A.D. 1238. The cloictheach of Annadown was erected."

The modern names of the places herein referred to, are Slane, in the county of Meath; Armagh, Clonard, Roscommon, Kells (Ceannanus), Monasterboice (Mainistir Buithe), Tullamain, near Kilkenny; Clonmacnois, in King's County; Roscrea, in Tipperary; Duleek (Daimhliag Chianain), in the county of Meath; Fertagh, county Kilkenny; Tullyard, Meath; and Annadown, Galway. Round towers now exist at Kells, Monasterboice, at Clonmacnois (two), at Roscrea, Fertagh.

The "domuliace" and Daimhliag are to be translated stone church in the plural and singular. The Cros-Brighde at Armagh is the cross of St. Bridget. GORDON M. HILLS.

LONDON DOCKS.

THE extensive works lately carried on by the London Dock Company, to meet the requirements of the trade of the port of London, and the large class of vessels now constructed, have arrived at completion.

These works comprise an entrance-lock from the river Thames, a basin which, combined with the old Shadwell basin, will give a water area of above six acres, and a lock communicating with the company's present eastern dock.

The locks are each 350 feet long between the outer and inner gates, divided by a centre pair of gates into two locks, 200 and 150 feet long respectively. They are 60 feet wide, and will have 28 feet of water on the cills at Trinity high water datum. The locks are built of brick, the facing being in blue bricks, from the neighbourhood of Wolverhampton. The hollow quoin stones are either whinstone or Plymouth limestone. The stones for the gate sectors and foundations of swing bridges are granite: all the remainder of the stone is from the sandstone quarries in the neighbourhood of Leeds. The gates in the locks weigh nearly seventy tons each leaf, and are partly framed with English oak or greenheart, all the ribs being of well-creosoted American yellow pine. The lower bar or sill-beam is omitted in these gates, and a wrought-iron trough-bar substituted. By this means the rollers can be got under the centre of the gate, and large double sluices formed in this bar, without weakening the gate, as is the case where all timber is used. This bar also ties the heel and mitre-posts together in a strong manner. The locks are filled by culverts running under the side walls discharging into the platforms, preventing any mud lodging there, and also at the springing of the lock invert. This system of sluices is carried under the river walls their whole length, and will greatly assist in keeping the entrance clear of deposit. There are two of these culverts, each having an area of 35 feet.

The sills are of greenheart, lewis bolted to a massive stone invert. Stone inverts are also built at each end of the locks, for receiving a caisson. The whole of the side walls stand on rough rag landings, of large size and from 5 to 7 inches thick, these being bedded, at the river lock, on concrete, reaching to the London clay, and in the upper lock on the natural gravel, which is of great depth at this point. To prevent any shifting of this gravel stratum, piling was carried round the side walls, and several rows of sheeting piles closely driven across the lock.

The basin is excavated to a depth of 30 feet below Trinity datum. The top of the coping is 6 feet above that, making the total height of the walls 36 feet above the bottom of the dock. The foundations are on an average of 5 feet below the bottom of the dock, giving a total height of 41 feet for the walls. The south-west and east walls are carried up to within 23 feet of the coping with concrete, composed of blue lias lime and the gravel obtained from the excavations, to protect the outside from wear and tear. It is faced with random-coursed Kentish rag-stone, averaging 2 feet in thickness; but binders where used run into the concrete nearly 3 feet: above this the walls partake of the character of an ordinary brick wall, the facing being blue bricks. The walls are coped with a heavy sandstone coping, each alternate stone being 9 inches thicker, and built into the brickwork.

The north wall is of a different character. In consequence of the strata lying at a considerable angle, it required the wall to be built and completed piecemeal: this was carried out by excavating pits, 30 feet apart, 20 feet wide, 10 feet deep. In this solid piers of concrete, faced with rag stone, were carried up. When within 18 feet of the coping, arches were turned to connect them both vertically at the back, and horizontally in the front, to carry the upper part of the wall, which is of the same character as the other walls. The excavation between the piers was taken out after the walls were completed, slopes of concrete being formed in each arch to assist in retaining the ground. The whole of the gates and sluices, as also the two large lattice bridges (crossing the lock in one span), are worked by hydraulic machinery, constructed by Messrs. W. G. Armstrong and Co. Newcastle-on-Tyne. The swing bridges were also constructed by this firm, as were the iron fittings for the gates. Engine and accumulator houses are now being erected near the river, for working the whole system of hydraulic power, which will be applied to the capstans, cranes, &c. to be hereafter erected.

Between the new basin and the present eastern dock, a large warehouse, also vaults and shed over, are being constructed. Owing to the great depth of made ground and peat found on the site of these works, the foundations for these buildings had to be carried down 29 feet below the ground level. Communicating passages are carried under the public road, to afford access for the company, from the new to the old vaults. The river walls are protected by large timber heads, which are also of great use in the docking and undocking of vessels: these heads extend about 80 feet into the river, and are carried on clusters of piles, about 27 feet apart, so as to prevent any obstacle to the flow of the tide.

Large masting shears, cranes, &c. will also be erected on the quays.

The works were commenced in 1851, by the construction of the river and dock dams, but it was not before the summer of 1855 that much progress was made, in consequence of the difficulty of purchasing and clearing the site of the new works, it being nearly all occupied by the lowest class of houses numerously inhabited.

There are three coffer-dams, one in the river, about 400 feet long, another in the present basin, about 660 feet long, and the smallest, but most important, in the present dock: it is 240 feet in length, and was constructed in 21 feet water. As it will be required to pump up water into the new basin, to supply the loss by leakage, &c. a large permanent engine house was erected: it contains a pair of 70-horse power engines, which have been employed during the progress of the works in draining them.

The company have also erected large kilns (all the hydraulic lime being burnt on the works), with grinding stones, and a most complete mortar-making establishment, the mortar being made by the dock company, and supplied to the contractor.

The works were designed, and the Act obtained, in 1853, by the late Mr. Rendel, who remained engineer-in-chief of the company until his death, when the whole of the works were placed under the charge of his sons, Messrs. M. and G. Rendel, who are the present engineers to the company. Mr. A. T. Andrews has been the resident engineer for the company, from the commencement of the work, the whole of the gates, coffer-dams, and pier-heads being executed direct by that gentleman. The contractors for the remaining part of the work, including all the masonry of the locks, basin, &c. are Messrs. Wm. Cubitt and Co. of Gray's-inn-road, who have carried on the work in the most energetic manner, under the charge of their superintendent, Mr. Anderson. The dimension of the basin, when completed, will be 780 feet long, with an average width of 150 feet.

It is expected that the basin will be ready for shipping by the end of the ensuing summer. A considerable quantity of dredging has yet to be executed in the river and old basin.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

COPYRIGHT.—IRISH ANTIQUITIES.

At a meeting held on Monday, the 26th inst. Mr. Asphitel in the chair, Dr. Petrie, of Dublin, was unanimously elected hon. member, and Mr. W. S. Simmonds associate.

Mr. Digby Wyatt, hon. secretary, announced that the council had had under consideration a communication from Professor Cockerell, on the subject of copyright in architectural designs, and had determined on presenting the following petition to the House of Lords, in connection with the Bill proposed by Lord Lyndhurst for the better protection of designs and inventions in the Fine Arts:—

"To the Right Hon. the Lords, spiritual and temporal, of the United Kingdom, in Parliament assembled

The petition of the President and humble petition of the Council of the Royal Institute of British Architects, showeth,—That architects are liable to considerable injury in the piracy of their designs and inventions, and that other parties can, and do, copy and appropriate to themselves such original ideas, without any benefit or remunerationto the authors.

That it is therefore desirable to afford protection to architects for the copyright of their works; that such copyright should extend to their executed works, as well as to their publications; that the copyright of an architect in any work executed, or of a work proposed to be executed, should not pass to the employer, except under special agreement, but remain with the architect; and that the designs, or the drawings and specifications, prepared for the purpose, shall still remain so far the property of the architect, that the execution of a building shall be equivalent to registration as a work of art and science; that no other person be justified in pirating or reproducing the same in such points as are peculiar to the author of the design, without the permission of the author.

That the copyright of architectural productions shall extend to the same period as that of the authors of literary productions.

Your petitioners therefore most humbly pray your Lordships that, in any Bill introduced into your Lordships' House for the better protection of designs and inventions in the Fine Arts, provision to the above effect be made for the protection of architects, in a manner similar to that for authors and inventors.

And your petitioners will ever pray," &c.

Professor Donaldson then read "Wayside Memoranda of an Architect during a Tour in Ireland, more especially with reference to some of its peculiar Ancient Remains," —printed in our last number,—accompanied by some beautiful illustrations, for some of which, the professor said, he was indebted to Mr. Gordon Hills.

A lengthy and interesting discussion ensued on the characteristics of these works. The chairman inquired of Mr. Hills if he had casts or drawings of any of the mouldings at Kilmallock and Killaloe.

Mr. Hills.—Not a large number, but a few.

The Chairman.—It would be very important for the purposes of study to have them, seeing that mouldings of this kind were what he might call the comparative anatomy of architecture; and just as Cuvier or Professor Owen might take up the unearthed bones of some antique animal and determine on its character and genus, so the architect might take the sections of the ancient mouldings and indicate pretty clearly what were the style and period of the original structure

Mr. Godwin hoped that a practical advantage would result from the attention that was being paid by the Institute to Irish antiquities, namely, that it would tend to the preservation of these remains. When he was in Ireland, a few years ago, he visited all the architectural relics with the greatest gratification, and especially the "Seven Churches" mentioned by Professor Donaldson and Mr. Hills, but he found them exceedingly ill treated. Scattered about, there were some early gravestones, in the preservation of which very little care appeared to be manifested. He hoped the mention, in the Irish journals, of the papers read at the Institute, would show that English architects were alive to the value of these buildings, and that the result would be that greater care would be bestowed on them. He rose to move a cordial vote of thanks to Professor Donaldson for his very interesting lucubration, and could not let slip the opportunity of referring to the energy shown by the Professor in furnishing informat on to the Institute on all occasions even while engaged officially in examining the condition of some of the lunatic asylums and other buildings of Ireland, he yet found time to obtain information for the advantage of the Institute.

Mr. Wyatt seconded the motion, and bore testimony in confirmation of what Mr. Godwin had said as to the untiring attention given by Professor Donaldson to the interests of the Institute. He thought it would be interesting if any further information could be given as to who were the actual designers and originators of these monuments. Many of these buildings, of 1200 and 1160, were evidently of an original class of design, and partook of the Celtic style, with some affinity for the Scandinavian, but clearly distinct from the Norman style, as in the case of Cormac's Chapel, and which latter was by no means in the style of the monument of Tmahloe, and other Irish structures. While there were evident marks of really original Irish design, it was desirable to know under what circumstances it was that the foreign elements and features so apparent in them were imported into these remarkable structures. It was clear, from the specimens that remained to us, that there were architects in Ireland quite capable of achieving in the way of architectural elaboration anything equal to what was contained in structures that bore the impress of a foreign design, as was evidenced in the metal-work remains, to be seen in the Royal Irish Academy, and similar to the peculiarities of Cormac's Chapel. Indeed, nothing could be more refined than the decorations introduced into the churches erected throughout the country after 1150, and the castellated remains and mouldings and general features appeared to be of almost English design. No doubt the spread of the monastic system into Ireland, as in other countries throughout Europe, would go far to account for these peculiarities, but that was the crux to be solved.

Professor Donaldson observed that there were a number of curious peculiarities in connection with the house architecture of Ireland, which bespoke, he was inclined to think, a foreign interest and an indication of foreign importation, and which were altogether of a different character to those of Mediæval architecture. They appeared to partake of either a Spanish or a Flemish origin. Many of the mouldings were unique, although not very finely sculptured, and would allow of greater affluence of ornament.

Mr. Wyatt reminded the meeting that many of the features of building arose mainly out of the necessities of the building, and that they were not necessarily indicative of style, but that architectural taste and nationality of structure would generally be found to conform to these necessities. The year 1150 was clearly a line of demarcation in the history of Irish architecture in connection with all that preceded and all that arose subsequent to that date. He was of opinion that Cormack's Chapel was decidedly of Norman origin, erected probably by some foreign ecclesiastic.

Mr. Kerr, theorising rather than arguing from facts before them, was understood to suggest that the ecclesiastical influence in Ireland had become lessened after the decay of the first style, and that in the twelfth century it was revived, and received a new stimulus by the importation of monasticism from England, which would account for the architectural diversities and foreign features that prevailed in these early specimens of Irish architecture. He believed that the essence of architectural styles was only to be found in the essence of history, and that history and archæology were the venerable porches by which we entered the great structure of the architecture of past times.

The chairman thought that much of the importation of this foreign element was traceable to the introduction into Ireland, Scotland, and other parts, of the eremites, the Cistercians, and Benedictines, and other orders of monasticism. This importation in architecture had been the case in all ages.

Professor Donaldson observed that we might recognise the style of the Druids largely disseminated throughout England and France, and particularly in Brittany; but it was afterwards succeeded by the importation of another style by the Norwegians and Danes, and he would term it simply the pre-Norman style. Indeed, there were many curious old churches in various parts of England that existed before the time of the Normans; though, when William the Conqueror came over with his priests and probably a clever architect, a different style, the Norman, with all its richness, was adopted and introduced. So in Ireland there might be works that were indigenously Irish; but as the tide of civilization rolled on, flowing from France, Norway, and Sweden, it swept over Ireland, and thereby had the effect of introducing other styles, which accounted for the disparities and peculiarities that had been referred to. Doubtless, moreover, there was as Freemasonry in these matters, as well as others, and when a clever architect in another country was heard of and wanted, he was doubtless invited over to this country or to Ireland, to give them the benefit of his professional skill, and which, in a great degree, would account for the introduction into Irish architecture of the foreign features that appeared to characterise many of its productions.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ANNUAL MEETING.

The annual general meeting of the Institute was held on Monday evening, the 3rd of May, to receive the report of the Council, and an account of the funds; to elect officers of the Institute, and examiners under the Metropolitan Building Act, for the ensuing year; and for the general despatch of business.

The report was a comprehensive and spirited document of considerable length, and showed that the Institute now consists of 146 fellows, 138 associates, 13 honorary fellows, 18 honorary members, 82 honorary and corresponding members, and 14 contributing visitors.

After rehearsing the proceedings of the Institute, with which our readers are fully acquainted, the report proceeded,—

"Her Majesty's Government has, within the last three years, invited artists, both English and foreign, to two distinct and most important architectural competitions, with results at present anything but satisfactory to the competitors or honourable to those from whom the invitation to compete proceeded. If the frequency of the complaints, with respect to the conduct of those who in various localities throughout the country are constantly following the bad example set by Her Majesty's Government, may be accepted as evidence of the general prevalence of a system calling aloud for reform, it must be manifest that some united, determined, and independent action on the part of the profession can alone correct those vicious tendencies which have been in too many instances fostered by the divisions, jealousies, and want of honourable zeal for the dignity of the profession, which have occasionally and unhappily existed amongst some of its members.

The whole subject of competitions is indeed one which the Institute must ere long be compelled to take into most serious consideration, from a sense of duty to the profession and to the public. Its Council would, however, take

is opportunity of observing that the measure of useful-ss which can be exercised by the Institute in moving in is or any other matter, must be absolutely determined its strength, in unity, numbers, and respectability. fortunately, hitherto its operations have been cramped limitations of space. It is to be hoped that when once principal bodies interested in the profession are ought together under one roof, one common animus ll bind them together, and that anything like divided uncils and action will be banished from amongst them. those who now stand aloof, careful as they may pos-ly fancy themselves to be of their own fortunes, and ifferent to those of their professional brethren, continue g apathetic, they will too late find that the period for ful combination has slipped away, and that their own t interests have been compromised by their want of npathy with that common cause which ought to be nistakeably represented by the Institute as a body.

committee appointed in the year 1838, as will be btless remembered, reported upon the details to be erved in carrying out competitions. The Council, wever, feel it to be a subject which demands a renewed estigation, both as to the desirableness or otherwise of system,—the mode, whether open or limited,—the nditions and pledges which should be offered to the petitors,—and the tribunal of selection.

he first of the recent cases was that of designs for antry and Cavalry Barracks, the advertised conditions which were founded upon a recommendation from a mmittee appointed by the Government, that the suc-ful competitors should be employed to carry out their igns. The Committee's recommendation was endorsed he insertion of a specific condition to that effect in the bial instructions.

ince the selection of approved designs new barracks e been erected, and considerable works executed,* nout the successful competitors having been employed, have the Government offered any assurance to them he loyal fulfilment of their engagements.

he second competition, which was rather three dis-ct competitions, was for public offices. From the cor-ondence recently published, the character of which, he part of the Treasury, your Council forbear to desig-e, it appears that her Majesty's Government, regardless e conditions implied in their instructions, which even ned the amount of remuneration to be paid to the itects employed, seek to fall back upon a design pre-ed some years ago by their official architect, instead of ng the successful competitor the opportunity of accom-dating his design for the Ministry of Foreign Affairs, ch it is contemplated first to erect.

matters not the least, so far as the public honour is erned, whether this competition and the published ditions had the full sanction and approval of the Trea-r, or whether they originated in the firm will of a high er in his official capacity with the reluctant consent nother Department: the national faith was pledged he unchallenged publication. In this case, as in that he Barrack competition, our whole professional body, all upright men, jealous of their country's honour, e and are aggrieved and wronged by the non-fulfil-t, in a frank and honourable manner, of the condi-s upon which artists were induced to enter upon com-tions involving the exercise of the highest talents, the loyment of much time, and a very large expenditure, to be deprived of that implied return which could e be an equivalent for such sacrifices. Your Council not think that high-minded men—the representatives national honour—can so far forget what is due to good h as to neglect to fulfil the conditions promulgated n public authority. Should this prove possible, it will for the profession, by an unanimous concurrence, to de never to respond to similar invitations.

ut there are other objectionable circumstances which is distinguished these competitions.

h the first place, all the designs, in the case of the crack competition, were required to become the pro-y of the Government, whether they had been pre-ilted or not. In the case of the Government Office petition, it was made a condition that the premiated igns should be retained. This was most arbitrary and lr. Those who had got nothing in the one case and in the other, were required to sacrifice their draw-, which to them represented a money value, and the gregate of the sums distributed in prizes did not cer y equal, in the case of the barracks, one-twentieth of amount which represented a fair estimate of the mary worth of the designs.

h the second place, the professional body was not ade-ely represented in the committee of selection. Ama-rs and professional men connected with the peculiar nical destination of any class of building, but not chitects, rarely possess a sufficient amount of knowl-dge to enable them to judge, even approximatively, of relative merits of designs.

experienced architects can so obviously bring to bear r professional knowledge of the matter which is abso-tely indispensable to a correct judgment, and they are much better qualified to estimate the ultimate appro-riateness of any design to the purpose for which it is ended, that their verdict is the only safe one for the cession, the Government, or the nation to rely upon, ether as to fitness of treatment, economy of execution, special merits of design.

lojection has been taken to the high artistic qualities the designs sent in for the Government Offices—a re-ch which the competitors should proudly endure ter than submit to disclaim. If our Government be so sonant of the character which should be maintained by lic buildings, as to think that size, and a certain ap-arance of importance and solidity, are all that are re-ired to satisfy the public taste, the English architect of nineteenth century cannot forget the glories of Greece Rome, the splendour of the Middle Ages and of more nt times, or fail to remember that in every great his-ic age the ruling powers have never heretofore repu-ted their duty to elevate and not depress the public ste—to fulfil and not to fall short of public expectation. ras to no mean and sordid views we owe Greenwich apital, Somerset House, and the Banqueting House, Whitehall. The most rigid economists should bear in mind that the merely decorative portions of a large building erected in the metropolis form but a small per centage on the general outlay.

The Emperor of the French, upon recently opening the Boulevard de Sebastopol, congratulated the municipality upon works which contributed to the embellishments of Paris. That city is confessedly the finest capital in Europe architecturally considered, and commands the admiration of foreigners; yet the actual residence of the sovereign has not been the subject of any but a very trifling outlay: the several ministries, public offices, barracks, public galleries, have received all the noblest embellishments of refined taste, and form the leading features that meet the stranger's eye. Blocks of houses are cut through, and wide open spaces left for effect, for health, or for more efficient communication from one part to the other.

This Institute has for years been struggling in vain with the authorities of the City of London to induce them to leave uncovered only a small space near St. Paul's Cathedral, in order to afford a more effective view of this masterpiece of modern art, and to facilitate the thoroughfare for public traffic. Their arguments with the municipality fall dead and weak while the State throws so cold a shadow over all that is generous, truthful, or worthy in art.

If a public work be well carried out, people never ask the cost; but no economy, however severe, will save from the reproach of extravagance a project ill-conceived and meanly executed. The people begrudge the hundreds of thousands laid out upon the National Gallery and Buckingham Palace, but never ask the cost of Windsor Castle or the British Museum, which have, at all events, an elevation of character and importance worthy of the nation.

It may also be assumed in regard to competition that the profession will never brook schemes put forth in order to get at small cost sets of designs for the mere purpose of ascertaining how many ideas may be presented upon any fixed subject, without the remotest intention of carrying out any one, however capable of modification to meet special views, or employing any one of the candidates, however competent for the occasion. Such proceedings are degrading fallacies, and the Institute cannot but bear testimony to the honourable and independent manner in which Sir Benjamin Hall, as Chief Commissioner of Palaces and Public Buildings, has vindicated the rights and just expectations of the profession against the mistaken views and narrow intentions of another department of the Government. It may, in fact, be assumed as a corollary to the preceding remarks, that the public interests can only be best served by treating professional men with perfect good faith, a generous liberality, and unreserved confidence.

Animated by such convictions, the council felt it their duty to prepare and present to her Majesty's Government a memorial on the subject of the course taken with respect to the competition for new barracks and public offices, strongly setting forth their views with respect to its impolicy and injustice. A deputation in support of the memorial waited on the First Commissioner of Works and on the Secretary for War, by whom they were received in a spirit of openness and candour, which induces hope that any further steps in the matter will not be taken without proper consideration of the conditions, implied or expressed, under which architects, placing reliance on the good faith of her Majesty's Government, were induced to incur the labour and expense attendant on competition of so extensive a character. While urging their representations in support of their memorial on the barrack competition, the deputation did not omit to enlarge on the anomaly now existing, of military officers endeavouring to perform duties strictly within the province of the civil architect, or taking to themselves the credit and reward for works executed by him when placed unjustly in a subordinate office and under their control. It may be permitted here to allude to an extensive public building now in course of erection for military purposes, which, it hitherto subject to the control above mentioned, affords a striking illustration of the unfortunate results; a medical commission being about to institute an inquiry whether the fundamental principles on which such a building as an hospital should be constructed have been recognised and attended to. That even a doubt should exist on the subject is in itself sufficiently significant; while the substantial benefit likely to result from the inquiry may be held more than doubtful when the absence of a competent architect as a member of the board is taken into consideration."

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"The fate of one grand scheme, which has now been agitated for many years, seems still enveloped in uncertainty.—The main drainage of this vast metropolis, after numerous projects, reports, and counter reports, though intrusted to a board peculiarly constituted to facilitate its progress, seems to have been advanced no further than the expression of a determination on the part of that board to prolong the covered outlets of the main sewers into the River Thames down to the level of low-water mark. Should, however, the proposed embankment of the river, in connection with this extension of the outfalls, be speedily carried into effect, something decided in the way of improvements will at last have been gained, of which the opening of the new suspension bridge at Chelsea, with its approaches, may be considered the first instalment."

* * * * *

"In concluding their report, the council cannot but express their earnest desire, that their next annual report may be laid before a meeting holden in the new apartments in Conduit-street; and they would further record their hope that, with increased means of usefulness, they may be supported by willing labourers in a good cause, through whose energy and activity the greatest possible practical value may be given to every step taken by the body, or its council, whether for the advancement of our beautiful art, the benefit of those who cultivate it, the establishment of harmony and good fellowship throughout the profession, between young and old, Greek and Goth, or the maintenance of that uniform and honourable practice by which we can alone sustain any lengthened struggle with those who would abuse an art which has never yet been brought into contempt."

A sharp discussion followed, but the report was ultimately adopted, and the following office-bearers were ultimately elected:—

President, Earl de Grey; Vice-presidents, Messrs. J. J. Scoles, Ashton, and Hussey; Honorary Secretaries, Messrs. C. C. Nelson, and M. D. Wyatt; Honorary Secretary for Foreign Correspondence, Professor Donaldson; Ordinary Members of Council, Messrs. J. Clarke, H. Currey, E. C. Hakewill, F. Marrable, J. Pennethorne, J. Davies, A. Moseley, J. P. St. Aubyn, S. S. Teulon, and G. B. Williams; Treasurer, Sir W. R. Farquhar, Bart.; Honorary Solicitor, Mr. W. L. Donaldson; Auditors, Fellow Mr. W. W. Wardell, and Associate Mr. A. Cates. Board of Examiners, under Metropolitan Buildings Act, 1855, first May, 1859,—The Vice-presidents, the Honorary Secretaries, and Messrs. Cole, Fowler, Gibson, Hesketh, Inman, Pennethorne, Penrose, Smirke, and Whichcord, Fellows.

* The Parliamentary Return (No. 214 of the present session), dated April 16th, 1858, made by General Peel on the motion of Mr. Ridley, shows the following amounts expended on barracks in the United Kingdom for the years 1854, 1855, 1856, purporting to "distinguish the amount expended on erection of new, enlargement, and repairs of barracks."

1854-5	New works and enlargements,	£118,276.	Repairs,	£144,600.
1855-6	" "	215,493.	"	160,087.
1856-7	" "	808,996.	"	222,745.

THE COUNCIL OF THE INSTITUTE.

SIR,—Upon the principle of striking the iron while it is hot, I have to beg the favour of a column or so in your number this week. The iron in this case is the Institute of British Architects. The heating of the iron took place at the annual general meeting of Monday night. Our annual general meetings, I am told, are usually serene and placid in the extreme. This is a pity: such little occasions may be defined as intellectual pools or puddles: when there is placidity on the surface, ten to one there is stagnation underneath. All human progress is of a breezy character. We never advance by unanimity,—always by the conflict of opinion. As iron sharpeneth iron so doth a man the face of his friend. I do not know what it may be in the millennium, but in the nineteenth century perfect peace is the torpor of hybernation and the sucking of one's paws; perfect satisfaction the prerogative of vegetables.

There was a short-hand writer present at the meeting I speak of; but I think I am pretty safe in presumng, not only that no report will reach the public profession, but that no record of the proceedings will even be sent to the members of the Institute themselves. Our new rooms in Conduit-street (so we are told) are to be ventilated by means of the good old contrivance of sash windows: very good; very judicious: when we hold our little pools and puddles there, we shut our windows, and not a breath shall disturb their surface. We will have none of your draughts. It is true we are a public corporation, chartered by the constitutional crown of a constitutional and widely ventilated land: no matter: in the mean time we are afflicted with aërophobia; we will have no draughts. We do not approve of reporters and newspapers: we made a dismal complaint at this meeting about our communications appearing in the journals without authority: we have conscientious scruples with regard to the press: we suffer from aerophobia, I say: ventilation is voted a bore: it may be the law of the land, but there is nothing about it in our collection of all the editions of Vitruvius.

Some people made a fuss about the Council having a little habit of memorializing the Government, presenting petitions to Parliament, announcing declarations generally, and even appropriating money without consulting the Institute at large. It was a harmless little habit enough, and no doubt the worthy member who alluded to it (Mr. Jennings) merely did so in order to have it looked upon as a little act of well meaning, which, although an impertinent upon the charter, would be scarcely unallowable to the attacks of the captious. I call upon you to pity me when I confess that I was astonished at the reply, —that I received it with Edmund Burke's "delightful horrour." I am an optimist: I delight as far as possible in everything. And nothing to my mind could be more delightful than the manly virtue with which Mr. Digby Wyatt and Mr. Donaldson stood their ground. Talk of compromise! Let us rejoice that if so mean a principle is authorized out of doors, it is not known in the Institute: our rule is courage,—unmitigated, undiluted courage; and if the profane say our courage is worthy of a better cause, our courage will even repudiate that poor compliment.

The Council, these gentlemen replied, is elected (they said *elected*, but surely this was a slip of the tongue) to administer the affairs of the Institute *in toto*; and it is *extremely inconvenient* to have the acts of the Council subjected to criticism: *no gentleman would submit to it*: the proceedings of that very meeting gave evidence of how impracticable it was to act by means of the discussion of a society at large: the: had pulled about the Council's report, and cut it up, and it was exceedingly improper on the part of the meeting to lend itself to such a course.

The meeting received this charming defence in a way which will perhaps render the Council somewhat cautious in future in respect of their public acts; but perhaps it may not have this effect we: shall see.

I, myself, although still an optimist, preferred a little complaint about the *modus operandi* of the act which has already been adverted to under the designation of "*electing*" the Council. I thought it a natural thing to expect that the Royal Institute of British Architects might be found at least competent to *nominate* its own officers: I know that it is a vulgar idea, but there is a barbarian virtue in objecting to dictation,—and, therefore, as the jury had acquitted Dr. Bernard, I felt mean enough to take a small leaf out of the Old Bailey book, and denounce, with all the affectation of patriotism I could command, that little bye-law by which the old Council sends us a nicely printed list of nominees for the new,—a "house-list" so called. I looked around, and saw every member clad in the *toga virilis*. I thought it a pity that this act of fatherly care should be found needful now. I called it close vestryism. But courage again! Mr. Scoles, from the chair, came sweeping to the charge with the same Vitruvian valour we had seen before. Nothing could be more satisfactory in the world: the practice of the house-list had been in force fifteen years, and had been actually proposed by a Member of Parliament. Precedent and authority squelched me: the house-list was voted in.

Proposition I. Despotic power may be dignified: but constitutional power is more so. Gentlemen would find their enjoyment of power in the honourable office of members of the Council of the Institute to be increased rather than diminished by their authority being kept strictly within constitutional limits.

II. The charter of the Institute is eminently constitutional throughout. The general meetings are always placed first, the Council second. "*The general meetings* and the Council shall have the direction of the affairs. The general meetings alone shall make bye-laws." "The Council shall (*subject to the general meetings*) manage the funds," and this is all that is said of the Council's powers: and by this standard I venture to assert that the policy of the Council as laid down on Monday is unconstitutional, and its practice illegal.

III. For the sake of our being no longer little boys in jackets, let the next election of Council be tried after the vulgar mode of the representative system of England, free nomination without house-lists, and without dictation of any sort.

IV. If the Institution is managed on a restrained and corrupted house-list, close-vestry system, this is quite enough to account for the *apathy* which, as it was deplored in the report itself, I may assume as a fact. If the Insti-

tute we first gather the profession together, and give it cohesion, union, strength, and law, try a liberal constitutional policy.

V. Don't be afraid of draughts: give us plenty of air, plenty of fresh air, plenty of open, manly, straightforwardness, and contempt of all holes and corners. Don't even be afraid of a breeze: it will do good. Don't make a desert, and call it peace. Robert Kerr.

ARCHITECTURAL ASSOCIATION CONVERSAZIONE.

On Friday, April 30, the second *conversazione* of the session was held at Lyon's-inn hall, Mr. Wigley in the chair, when Mr. Kerr delivered a discourse on "The Beautiful and the Fine Arts," observing that his principal object was not so much to sketch out for a miscellaneous audience the harmony of art-history, as to impress upon the art-student, upon his own peculiar ground, this great first principle of his philosophy, viz.: that his art was not so confined or so confinable as he may probably have been supposing. The fine arts were many, but fine art was one. Developments were many—essence was one. There were many streams—the source whence they came was one; the ocean where they meet again is one. There were many members—the spirit that animated the whole was one. One star may differ from another star, but the light by which they shine was one, and the joy of all their shining was one. No other idea could give the art-student that expansiveness of view, that grasp of his work, which this idea would be found to supply. The painter who was only a painter, the poet who is a poet and no more, even the musician who knows nothing but music, knew only half the mystery of his art; the other half was hidden among the other arts. The essence of all art was one essence. The principles of all art were the same. Their analogies were perfect, as a whole. Their influences were for ever mutual. They would explain each other when nothing else would. They supported each other, and were never at variance. They were each other's bosom friends. Their phalanx was invincible. The theory of any one of them was made up of the whole: the artist who discarded those of them which were not his own shut the door upon the best friends of that which he retained, the most suggestive of all attendants upon the one which he chose to cherish. We shall probably give the salient points of the address in full hereafter.

Professor Cockerell, after complimenting the lecturer, took the opportunity of impressing on the members and students of his profession present, the catholicity of the character of the architectural study. He saw no reason to suppose why, in these days, there should not be originated a new style of architecture; but at the same time he considered that all styles of architecture, from the remotest to the most recent time, were deserving of study as being founded upon some grand principle, and as tending to advantageous results. He must, however, in spite of entertaining these principles of architectural toleration, confess that he was a Greek, while he at the same time advocated this Catholicity, this universality, these anti-pitiastic opinions in art. While he gloried in the refinement and excellencies of the Greek school, he could not but give due weight and admiration to the noble and lofty conceptions of the Gothic style, and more particularly to the merits of the latter school, as developed in their stately ecclesiastical structures, which were to be found, not only in this country, but all over the continent of Europe. The styles of the Renaissance times were no less deserving of admiration and study. He was afraid the lecturer might be supposed, from what he had said, to cast an imputation on Palladio that he did not deserve, for Palladio was a truly great architect, and deserved all homage and respect. The professor then went on to argue the much-vexed and oft-mooted question as to whether our national churches ought to be constructed preferentially in the Gothic or the Italian styles, throwing out for consideration the suggestion as to whether the services of the Protestant ritual did not demand a structure altogether different from the type of the Mediæval times. What was wanted, he considered, was an ecclesiastical auditorium, as he ventured to say to the ecclesiologists many years ago, when he found himself extinguished. But, however, in his opinion, was the proper principle of a design for a Protestant church. With respect to the employment of new materials in building, and especially that new and marvellous agency, iron, the professor saw no reason why, when in these days they could construct a floor of 500 feet span, without any intermediate bearings, the arch should not be altogether dispensed with, and the principle of Gothic architecture relinquished along with it.

Mr. Beresford Hope, M.P., assured his esteemed friend, Professor Cockerell, that he agreed very much with what he had said upon the necessity of our forming a style of our own, suited to the wants of our own age. But the question was, where are we to make our starting-point? The civilization of the Egyptians had prevailed only over a limited area, and it had passed away: so had that of the Greeks. The civilization of the Romans, which seemed at one time destined to endure and to overspread the world, had also fallen in its turn before an antagonist. That antagonist was, confederation of the Teutonic Christian and free-governed nations, out of which the society of all modern Europe has sprung from England and Scandinavia, down even to Italy itself, which those modern nations had overspread and had remodelled. As a simple historical fact, which he mentioned without committing himself to an opinion, a system of architecture had grown up in the bosom of those Teutonic, Christian, and free-governed nations, formed by and expressing their wants. Well, then, in selecting our own starting-point, he contended that we should, in preference to adopting the civilization of the Egyptians or the Assyrians, the Greeks or the Romans, all of which had passed away select that of our own ancestors—men of the same race and religion with ourselves, the founders of the civil polity of present Europe. He would not do this in any narrow, bigoted spirit: he would select and adopt everything that was good and beautiful in every past age of art, for, in fact, beauty must be one. There exists an essential unity under diversities of outward form: one age excelled in one point, another in another, and in this more perfect style of the future all the various graces of every age must be united. But towards attaining that more perfect style, he repeated that we must fix our starting-point at the architecture of Teutonic, Christian, and free Europe.

Professor Cockerell, in a humorous reply to Mr. Hope, recapitulated and enforced his former arguments, and deprecated the building of churches with naves and aisles, contrasting the principles and features of Gothic with trabeated architecture. He also alluded to the fact of the father of his hon. friend Mr. Hope having himself been a leader in the Greek school; and concluded by warning those present, and the architectural world in general, against the numerous vagaries of fashion that were floating about them in the world at large in the present day, and which contrasted so curiously in their characteristics with the fine old school of things and fashions that prevailed in the good old days of our ancestors.

Mr. Beresford Hope requested a few words of reply. He could not admit the opposition which Professor Cockerell wished to set up between Gothic and trabeated architecture, as if the former were exclusively the architecture of arches, and did not, when they were wanted, employ floors. If the Gothic architects had been such fools that when they built warehouses, they made them like churches, he never would have espoused their cause. But the contrary was the fact. Gothic adopted itself to the object of its respective buildings. It built churches as churches, and its warehouses were warehouses. As to erecting churches of one span, that was a matter of detail. Aisles were not essential to Gothic, nor were they peculiar to it. Ely Cathedral and King's-college chapel had none, while St. Peter's and St Paul's, both Italian buildings, possessed them. He should rejoice to see Professor Cockerell's church of 500 feet span erected, but he believed that it would be best constructed if its style were to be the Gothic of the future, modified and developed by those resources which the mechanical improvements of the age had placed at our disposal. If his honoured father, who had been alluded to by Professor Cockerell, was an advocate and a lover of the Greek school, it was in his youth; but in his more mature age, he was the first to expound the principles through which the stamp of the Gothic mind had passed, from the time of the Romans through the Middle Ages, down to the latest period of the Gothic style, in its fullest and most magnificent developments.

The Chairman expressed his opinion in support of the superiority of the Gothic over all other styles.

Mr. Irvine supported the Chairman's views and those of Mr. Hope in regard to the superiority of the Gothic, expressing at the same time great regard for the opinions entertained by Professor Cockerell, but signified that, as he was a student in Mr. Scott's school, he was of course wedded to the Gothic. He remembered the time when Mr. Kerr, their respected lecturer, had advocated none of the styles; and, although that gentleman had done a great deal for architecture, he considered that he had now retrograded in his doctrines.

Votes of thanks were passed, and the meeting separated.

ART AND THE CHURCH.

As one who has felt the greatest interest in the perusal of Mr. Braithwaite's eloquent essay, entitled "Art and the Church," I beg of your kindness to give insertion to this as an acknowledgment of a gratitude which I am sure hundreds must have felt equally with myself.

I should be especially obliged to you if you would do me this favour, as there still remain some views of the matter which my own mind cannot grasp; and I would therefore beg of Mr. Braithwaite to continue his remarks a little further in elucidation of this interesting subject.

As far as I have been able to understand Mr. B.'s arguments, it appears to me that he has completely succeeded in logically establishing the claims of art, and the soul-stirring emotions which its noble creations can induce in the mind of man, to a place in the soul of the regenerate—in the soul that must, ere its religion can be real, renounce the world and all that it contains.

Your columns are not the place for theological discussions; and I will not, therefore, presume to trespass upon your valuable space by trying, clumsily, to use a weapon which I am unable worthily to wield. Discarding, then, any attempt at a purely Scriptural argument, I would observe, that I quite agree with Mr. Braithwaite's view as to the real practical requirements of true spirituality. For I believe, as he does, that the renunciation of the world which all are required to make is total and absolute *in the spirit*, but not *in the letter*. And I believe this distinction is not a mere illusion of a mind reluctant to give up the pleasures of sense, and still hankering after the flesh-pots of Egypt, but that it is a real, substantial, and tangible distinction. In viewing the pleasures which man can derive from a noble use of those faculties of intellectual enjoyment both in the world of nature and in the world of art, with which it has pleased the Creator to endow him, is there *no* difference between regarding them merely as *accessories*, and regarding them as *principals*?

Look at the flaunting glare of yon gas-jet, which shines only for the purpose of luring infatuated beings within the influence of the death-dealing influence—of the gin-palace. Its bright shining is due to the self-same principle of *light*, God's first creation, the indispensable adjunct of all beauty, which reveals to us the glories of the natural world. But, alas! to what base use do we see it there perverted! A little farther on we find the self-same gas by which that flame was fed, burning brightly near the altar, in God's house, where his faithful people are gratefully offering up their Sabbath evening tribute of prayer and praise. Surely the way in which thousands often have perverted, and many more often will pervert and misapply God's gifts, has not and will not so far pollute them, as that it should ever be on that account impossible for the really spiritually-minded to employ them aright. Because all admit the *abuse* to be sinful, it surely does not follow that the *right use* must also be essentially evil.

I suppose that few who have, in a candid spirit of inquiry, given the matter any serious thought, would be inclined to controvert this conclusion. Now, to what line of conduct ought this conclusion practically to lead us? Are we or are we not justified in decorating our churches in the highest style of art?

It seems to me that to admit such a conclusion as that just stated involves the permission, nay, further, lays us under the necessity—imposes upon us the duty—of employing the arts, in their utmost attainable perfection, to adorn and beautify those sacred edifices which we would dedicate to the service of Him who is the beneficent source of all beauty. By what perversion of argument can it be held lawful for men to employ upon *themselves*, in illustration of thoughts and feelings of a secular nature, those high poetic aspirations—those comparatively pure and noble intelligences, with which their Maker has endowed them, while they are yet to be debarred from exercising them in that field in which a truly religious mind would take most delight in employing them?

I know we all know that the first fruits of *all* we possess must be little enough in God's sight. But we should think of the widow's mite; and we should gather from the record of that incident that our Maker does not regard the value of the offering so much as the intensity of the

eeling,—the fervour of the zeal,—which prompts he gift. While humbly bringing to the altar of ratitude the first fruits of our intellect, as a hank-offering to our Maker, ought we to keep ack that which, in a secular point of view, must ertainly be regarded as its noblest development? f we employ architecture at all (using the word n its true sense, as denoting that harmonious nity of which the sister arts of painting and ulpture are component parts), we ought to be ntent with nothing short of *the best* we can rocure. To do otherwise would surely be as rong as it would be if the Hebrew worshipper in ering up the firstlings of his flock were to shear e victims and reserve the fleeces—their outward ornment—for his own use, in order that he ight dye them scarlet and purple, and weave em into forms of beauty to pamper his own rogant pride and selfish luxury.

All readily grant that in building a church we ist call in the aid of architecture to a certain tent, in deference to the absolute requirements propriety and common decency. Thoughtful inds are at variance only as to the limit which parates the right use from the abuse. Now, for y own part, I see no just cause for this hesita- m. The presence of noble artistic decoration in church is, to my mind, no more to be regarded a violation of good taste and propriety than it ould be in a palace. Wherever noble artists are be found able and willing to employ their art in d's service in the manner here proposed, let us t, in blind reliance upon the fancied superiority the supposed greater purity—of a harsher ase of spirituality, spurn their proffered aid.

As I said before, to admit that a Christian,—a lly religious man,—may, with consistency, ercise his artistic faculties at all, even on secular ojects, seems to me to settle the question at ge; and must, I conceive, of course involve not y the permission, but also, in the case of those o are endowed with art instincts, the necessity, paying far more attention to so-called religious than those who oppose the views above stated willing to allow.

But some with whom I have discussed the tter deny that to admit the *possibility* of a re and right use of art in its highest conceivable gree of perfection, as a means of beautifying the uctures which we desire to set apart to God's rvice, does, in any measure, practically affect the l question at issue.

Such persons have brought to bear against me other line of argument, which, although I nly believe it to be fallacious, I have yet herto been unable satisfactorily to meet. I am convinced by it, inasmuch as it does not pretend contradict, although it presumes to set aside, views here advocated. And it is in considering questions involved in these arguments, which ust be set at rest before any practical good can expected to proceed from such an admission as t recorded above, that I would seek Mr. aithwaite's further aid.

I cannot better explain what I want to know n by citing as nearly as I can the sub- ance of what was said to me the other day at conclusion of a conversation on this subject:—

"We admit your theory," said my opponents, ut we deny its practical application. It would n grand and noble scheme thus to employ man's culties; *but it will not work* We do not profess be able ourselves to sympathise entirely with ur enthusiastic feelings on matters of art; and we ow besides [say they], that, to a vast majority mankind, such thoughts and principles of action e not only unknown, but must, owing to the ticular constitution of their minds, ever remain erly incomprehensible. By us and by such as use, the presence of art in a place of worship *at* , beyond the *simplest* requirements of sober rorum, is always felt as a most unwelcome in- sion. We cannot worship at ease in a glorious thedral. When there for the purpose of devo- n, instead of feeling more devout, we do in ility feel depressed and wretched. Our minds so dazzled by the glitter of earthly splendour ound us, that we lose sight of the lustrous, yet e, because to the senses unmeasurably more ntant, glory of the Morning Star of Gospel ath; and we sigh and sigh again for the homely congenial simplicity of the village church. ay with these gay splendours, these flaunting ippings, which are but as a veil of misty ecurity, vexatiously interposed between us and r clearer view of the beauty of holiness! Oh, for arnearer and brighter view of that vision of lendour, lovely as a youthful bride in her virgin city, which, were it not for the distracting in- ence of your so-called *spiritual* art, might be ealed to the eye of faith!

"If," continued my opponents, "your theory could be completely carried out, it would, indeed, be a glorious consummation. But we can quote," say they, "the arguments of your own advocate, Mr. Braithwaite, as showing that you had better let art keep to her own sphere in the world, and be content to effect in secular matters what good she may. And you must on no account allow her to intrude her unwelcome presence into places of worship, where she is not wanted. For you yourself admit that in these places her presence is not absolutely *indispensable* to *any*, and we maintain that under such conditions art is positively distasteful to the majority of sincere Christians, and ought, therefore, to be avoided by *all*. The particular argument to which we alluded just now as one of those brought forward by Mr. Braithwaite, is this:—'It is generally wiser not to deal with things as they ought to be, but with things as they are.' To this sentiment we cordially agree; and it is on *this* ground that we demand that man's artistic faculties should not be incited to embellish, or, as we should rather say, to deface the temples which piety is yearly raising for the worship of God. Decorate your own houses and your public buildings as much as you think proper; but keep aloof from God's house, for the living God dwells in a temple not made with hands, and the characteristic feature of churches, as distinct from all other buildings, ought to be, and must be, a pure and dignified simplicity."

How to reply to this argument I know not. Yet I feel sure that there *is* a fallacy involved in it, if I could but trace it out and expose it; but, if I am asked *why* I believe this, I can only give a very weak reason,—one that some one has been so ungallant as to call "a woman's reason,"—"I think so, because I *do* think so."

Would Mr. Braithwaite be so obliging as to continue his essay, and give me, and those who, like myself, are much perplexed by this subject, the benefit of his thoughts on *this* view of the matter? R. M.

THE ROYAL ENGINEER DEPARTMENT, AND THE BARRACK QUESTION.

When the justice of an individual's or a people's claim is supported by the powerful advocacy of the press, and confirmed by an appeal to incontrovertible facts; when the evil effects of an existing system are shown forth, and the palpable blunders of an establishment made apparent, surely it becomes reasonable to think the time is not far distant when the wrongs that are suffered must be redressed, and the evils complained of must be abated. The press has expressed, in unmistakable terms, the dissatisfaction and astonishment excited in this nation by the Commissioners' Report on the Sanitary Condition of our Barracks, and pointed with indignation to the fearful position of the British soldier, compelled to live in an atmosphere pregnant with poisonous exhalations, and amid scenes tending to nurture immorality and destroy the finer feelings of the soul. This has been shown to exist, and acknowledged as a disgrace; and, consequently, our hope is enkindled that the soldier's home and soldier's well-being will speedily receive the attention they merit, so as to remove disease and pollution from the one, and seek more effectively to promote or establish the other. But the tendency of the controversy at present seems to divide itself into two opposite extremes. On the one side we are told, through the press, that the soldier is never thought of; that money can be lavished upon royal parks and royal farms; that field officers will spare no expense, or regard no trouble, in promoting the health of their horses and pigs and stall-fed cattle, without bestowing a thought upon the comforts or ordinary requirements of their soldiers, or the causes which operate so injuriously upon their health.

On the other hand, we are told by noble lords that improvements take place of which the public is ignorant, and that all that is required would be accomplished if the public coffers were open to their demands. In the former case prejudice overdraws facts by exaggerated statements: in the latter case, self-interest throws up "curious facts," behind which noble lords may entrench themselves and resist the attacks of their assailants. Both sides fail to touch the real cause of existing evils, which is *the injudicious expenditure of the public money*. It seems a novel idea in our day to be told by the ex-War Minister that the defective ventilation, drainage, and the other evils connected with our military establishments at present, exist only for want of funds to defray the expense of removing them. Are, we may ask, the evils of the past avoided in the projects of to-day? And the answer must be, emphatically, "No!" Has the Department ever devised a plan, the object of which was to remedy these defects, and asked this Parliament for aid to carry that plan into execution, without success? If not, then away with this unworthy charge. The glory of the Crimean campaign, the broken chains of slavery, the numerous benevolent institutions of the nation, testify that Britons are as generous as they are brave. We therefore disdainfully reject the above imputation, and boldly *assert*, as we can unquestionably *maintain*, that the liberality of the nation provides means *amply sufficient*, with the exercise of ordinary judgment and frugality, to accomplish what is required. Let the real state of our barracks be laid before Parliament, with an estimate of the expense necessary to remedy the evils, and anything that is required will not be withholden. But we would have Parliament look well not only to the proposed *remedy*, but to the proposed *means* by which it is to be effected, before any additional outlay be sanctioned: we would call for an inquiry into the organization and working of the Royal Engineer department which has the care of our barracks, and the expenditure of the public money in their repairs, alterations, and improvements, with a conviction, founded on experience, that such an inquiry would demonstrate the inefficiency and extravagance of the system. That it is inefficient, we need only point to the Commissioners' Report, and leave its revelations to answer. Its extravagance may be shown by the numerous expensive works undertaken without a justifiable object; the building of would-be forts for the mere display of rusty, useless guns; the maintenance, year after year, of time worn buildings, in which (according to Lord Panmure) "it was impossible to make those sanitary arrangements." Extravagance may also be shown by the amount paid for travelling expenses consequent upon the frequent removals from one station to another, and the numerous visits paid to out-stations by officials from head quarters, such expenses, on an average, being from twenty to fifty per cent. on the salaries of the civil branch, though the amount paid for salaries is from five to ten per cent. on the expenditure for works, not calculating the extra pay of the Engineer officers holding civil appointments. There is extravagance in the working of the triennial contract system. For instance, though many contracts are taken at prices varying from five to fifteen per cent. *below* the schedule; in reality, the same contractors are paid *above* the schedule prices: hence it is notorious, wherever the Engineer department is in operation, that the work executed under them cost far more than its real value. True it is, no work beyond mere incidental repairs can be executed at out-stations without the sanction of the district officer, where the plans, measurements, detailed quantities, abstracts, and estimates must be sent for examination, and a severe reprimand is administered if the estimate sanctioned is exceeded; but these very precautions defeat their own object, for with such an array of documents with each proposed work, it would be almost impossible to have them examined properly at head quarters: it is only the squaring up of the measurements and the moneying out of the items of the estimate that receive any attention, leaving the measurements of the actual work as they come to the office. Now, in making out every such estimate, every measurement, and often countermeasurement, with every possible allowance, is taken into account; then an addition of from eight to ten per cent. is added for contingencies, making in all a sum far beyond what the work could be executed for under other circumstances. But in this case the money allowed *must* be expended, and the contractor's bill *must* tally with the original estimate, to prevent a reprimand from the commanding Royal Engineer should any difference appear: hence one prolific source of extravagance.

In a communication like the present—necessarily limited—it would be difficult to enumerate the various disadvantages resulting to the public service from the working of the Royal Engineer department, as it is at present organized. Strong reasons might be urged against the connection existing between the military and civil branches: the migratory system should be condemned, and sundry other matters which clog the effective operation of the department should undergo a serious alteration, before the generosity of the nation is still further taxed to provide additional means for this branch of the public service to indulge in its accustomed unrestrained extravagance; or, at least, such a modification should be insisted on as will guarantee the judicious expenditure of the public money. The judgment displayed in its expenditure should equal the diligence bestowed on its collection. C. E.

MODERN FRENCH ARCHITECTURE: DOOR, RUE DE LA CHAUSSÉE D'ANTIN.

MODERN FRENCH ARCHITECTURE.

DOORWAY, PARIS.

Not long ago we gave a view and plans of a house in the Rue de la Chaussée d'Antin, Paris, built from the designs of M. R lland, architect.* The accompanying engraving represents more at large the entrance doorway, terminating with the balcony of the first-floor, supported by caryatides; and in a future number we shall add details of the windows and doors.

Barracks at Wigan.—Mr. W. H. Brown, builder, of Wigan, has obtained the contract for erecting militia barracks at Macclesfield, at a cost of 11,500*l*. One hundred tenders were put in.

* See p. 158, *ante*.

PICTURE BY HENRI LEYS AT THE BROMPTON MUSEUM.

The art-loving public of London are now offered one of those unfortunately too rare opportunities for the inspection of a *chef-d'œuvre* of contemporary foreign art; the Belgian historical painter Henri Leys, of Antwerp, having just completed an important picture for one of our British "merchant princes," which, by the liberality of the owner, has been deposited for temporary exhibition at the Museum of the Department of Art, at Brompton, in accordance with the excellent practice of receiving fine works of art on loan, first inaugurated at Marlborough House.

This picture has been the object of a veritable ovation in Belgium, where it has just been publicly exhibited at the request of the artist's friends. It represents Mary of Burgundy giving alms to the widows and orphans of the burgesses of Bruges, and is, probably, on the whole, the finest picture the modern Flemish school has yet produced. The Belgian press is unanimous in assuming that this noble work is destined to form an epoch, and not the less so in regretting that it should be lost to the country. The English connoisseur, on the other hand, will now be obliged to confess that our own *soi-disant* "pre-Raffaellite" school has not acquired the exclusive monopoly of certain great qualities; and, unless we are much mistaken, a most instructive lesson is in store for the professional members of that vigorous confraternity.

Leys' picture, though essentially a picture of tone, is as brilliant and forcible in colour as the most powerful "Millais," or "Mulready" even,—and reminiscences of the marvellous "technique" of the Van Eycks and Hemling will not fail to be remarked; indeed, a certain indebtedness to those grand old luminaries of Flemish art is avowed by the artist. The work withal is most original, and replete with quaint old-world sentiment; indeed, in presence of this most charming picture, one might almost fancy oneself breathing the very atmosphere of the fifteenth century.

The liberal possessor, Matthew Uzielli, Esq. of Hanover Lodge, Regent's-park, has likewise lent for temporary exhibition another remarkable work, Gibson's life-sized marble statue of Venus, now for the first time unpacked and placed on its pedestal. Both will be seen at the *conversazione* of the Society of Arts on, this, Saturday night.

THE FIRE IN BLOOMSBURY.

SPECIAL VERDICT.

In addition to their verdicts on the bodies, the jury state that the owner of the house, No. 20, Gilbert street (Mr. Taylor), was guilty of great and culpable neglect in not making a brick wall between that house and Mr. Calvert's show-room adjoining; and they urge that the following alterations should be made in the laws relating to the construction of buildings and the management of fire-engines, as explained in the report of Mr. M. Nelson, the architect appointed to inquire into the accident, viz.:—

"1. The amendment of the Building Act, to prevent the erection of houses such as was lately the house No. 20, Gilbert-street.

"2. The amendment of the Common Lodging-house Act and the Nuisances Removal Act, to prevent the overcrowding of rooms such as were occupied by the unfortunate families of the Smiths and Hedgers in the said house.

"3. The amendment of the Metropolitan Local Management Act, to prevent the streets being obstructed by horizontal shores, or struts such as delayed the approach of the fire-escape on its way to the late fire.

"4. The amendment of the unrepealed clauses of the old Building Act, 14th of George III. cap. 78, so as to create for the metropolis a fire brigade and fire-escape establishment, independent of private or parochial control—the funds being already provided for by the said Act.

"5. That the Act of the 10th of Victoria, cap. 17 (Water Supply Consolidation), be amended so as to provide for an ample supply of water in case of an outbreak of fire.

"6, and finally. That provision be made by law, in conformity with the suggestions of Mr. Nelson, to place in connection police stations, fire-engine stations, fire-escape ladders, and the supply of water in case of fire; the whole of such establishments throughout the metropolis and its suburbs being rendered instantly available for the public service in case of necessity by means of the electric telegraph."

PROPOSED NORMAL COLLEGE, BANGOR.

The accompanying engraving represents the proposed Normal College, Bangor, which we understand is to be erected on a site given by the Hon. E. G. D. Pennant, M.P., overlooking the Menai Straits, and is to be built of limestone of the country, from the designs of Mr. John Barnett, London. The Institution is for the accommodation of forty male students, together with a principal and vice-principal. The students are designed to take charge of British schools throughout the northern division of the principality.

Survey of Abingdon.—The contract for the survey of Abingdon now pending has received the seal of the Board. Mr. Paine was the successful candidate.

PROPOSED NORMAL COLLEGE, BANGOR. — Mr. J. Barnett, Architect.

THE POSITION AND PROSPECTS OF THE BUILDING OPERATIVES.

The check under which the metropolitan building trades have of late been suffering still continues; and much distress, we are grieved to say, prevails amongst the workmen heretofore employed in these trades. Great perplexity pervades the minds not only of the best friends of the working men, but evidently, from the schemes now started amongst them, of the workmen themselves, on the question of a remedy for the prevailing distress. Our population is so rapidly on the increase, and the limits of the land are so restricted, that emigration forces itself on one's notice as the most obvious remedy for want of employment in almost any class accustomed to manual labour, skilled or unskilled. But although one consequence to those who remain, as well as to those who depart, is almost assured and undecided benefit; and although thus the masters should be legitimately compelled to raise the rate of wages and the public to repay such unavoidable outlay on the part of the masters, emigration is not looked upon by the workmen generally with a favourable eye (and, indeed, we cannot blame that natural love for native land which actuates the poor and struggling even more, perhaps, than the rich, who have less urgent occasion to quit its shores). Consequently, workmen have ever preferred collecting money to be thrown away in useless, or worse than useless, strikes to keep up wages or to raise them, rather than aid their unemployed brethren, and improve their own prospects, by affording the unemployed the temporary means of emigrating; though a comparatively small sum, by reiterated loan and redemption, might be made in this way immensely useful. The Legislature, too, seems by no means ready to assist in the promotion of such emigration; but this is less to be wondered at than the apathy of the workmen themselves; for the strength of the mother country lies in its industrial community, and one can sympathise with a legislature which is reluctant to weaken such resources, when materially to benefit the industrial classes themselves; and but too certain it is, that were the Legislature officiously ready to promote such emigration, there are many agitators amongst the working classes who would be quite as ready to insinuate unworthy motives against the Legislature on this very account as they now are for precisely the contrary reason. Not till the unemployed and the employed combine to manifest an eager desire thus to better the condition of both will Parliament or the Government be induced to do anything in this way to remedy either temporary or permanent distress. The building-trades' workmen of the metropolis, however, both employed and unemployed, are far from even aiming at any such combination. In their actual, though probably, by no means recognized or imagined perplexity as to what should be done, the employed, under the leadership of a "Progressive Society," have started what we cannot but think a very doubtful scheme for bettering their own position while improving also that of the unemployed. Under circumstances which clearly prove that capitalists and employers cannot see their way at present to profitable results in building speculations, the "Progressive Society" proposes that the employed shall force the employers and the capitalists who employ these employers to raise the wages of the employed (virtually) by giving them present wages for diminished labour, with the view of thus opening a (rather round-about) way for the unemployed to fill up the curtailed time at additional cost to the capitalist or employer. In order, however, that we may not incur any risk of misrepresenting the objects of the society referred to, we shall quote what is said on the subject by a committee of this society in their address to "the carpenters and joiners of London," announcing the time and place of various meetings which have since been held for the purpose of forwarding their scheme.

"Fellow Workmen,—At a meeting of Societies' Delegates, held on the 25th of February, 1858, at the Progressive Society House, Ryder's-court, Leicester-square, to consider the propriety of reducing the hours of labour, after due deliberation, we have resolved to address you upon this important question, feeling assured that every thinking man must see the necessity of endeavouring to better the present state of the labour market. In the first place, we wish to call your attention to the great increase of machinery, during the last few years, in our branch of the building trade, which has supplanted manual labour to a great extent; and also to the depressed state of trade; consequently many of our fellow-men wander about for want of employment, and are thus deprived of the means of subsistence, which we all deeply deplore, in a country like this which abounds in such abundance of wealth. We therefore propose to reduce the hours of labour from ten to nine hours to constitute a day's work at the present rate of wages, which, if obtained, would be a great boon to all employed in the trade."

If obtained, no doubt this *would* be a very great boon to all employed in any trade; and, did it depend upon a mere "resolution" on the part of the employed to "alter the present state of the labour market" by "reducing the hours of labour from ten to nine hours, to constitute a day's work at the present rate of wages," we know not any trade that would not "unanimously adopt" such a resolution, and follow it up too by another, such as the employed and their leaders appear to contemplate in the present instance, reducing the hours of labour in the next place from nine hours to eight. But, seriously, can it really be believed by any one possessed of a little foresight that the "present state of the labour market" is thus to be altered and raised above its natural level either by resolutions or by consequent strikes and reductions of the hours of labour from ten hours to 0? No one would more sincerely rejoice to see the hours of labour reduced than we would, and we have long laboured to reduce them, and have considerably aided in their reduction already; but we have the welfare and the best interests of the working-classes far too much at heart, to meanly flatter them by an easy apparent assent to the feasibility of such a project as this. The truest friend is he who faces the displeasure of those he regards, by dissent from wild schemes to their imagined advantage; and we prefer this course to any other that might lead those now suffering from want of employment to suppose that we assented to so hopeless a scheme. And sure we are that those who know our principles, will do us the justice to believe we avoid advocating the scheme under consideration from no reason at all connected with the special interests of master builders, but simply and merely because we sincerely believe it to be impracticable and injudicious at this moment.

The scheme in question has been advocated at several meetings held in various parts of the metropolis, and approved of by those in attendance. We have reports of these meetings before us, but do not think it necessary to do more than simply state, as we have done, the general result.

On the subject of machinery, against which it is much to be regretted that an endeavour is being made to excite the ill-will of the unemployed, all we need say is that, notwithstanding the temporary occurrence of cases of individual hardship, the objectors can scarcely be right. If still more machinery than what now exists could be so applied to building operations that houses could be erected at a much cheaper rate, on the whole, than heretofore, and so yield a higher profit on the outlay, at lower rents to the public, there would thus be a double motive and cause for a revival of trade and a using up of the present surplus of manual labour in the trade; for were equivalent or superior dwellings at lower rents now offered to the metropolitan public, there would arise a demand for such dwellings, and a consequent erection of them where now no work for any one presents itself. At one of the meetings in question a speaker, who was all in favour of strikes and against knobsticks and machinery itself, admitted that where machinery prevails to a far greater extent in the building trades than it does in London—namely, in America—"its use did no harm."

The state of the building trades generally, throughout the country, is not, we regret to say, very satisfactory. One important question agitates the trade, both amongst employers and employed, in various places, namely,—a resolution of many master builders to pay their workmen only by the hour, and not by the day or week, as heretofore, opposed by a counter resolution on the part of many workmen to resist this resolution. The resolution was to be acted on from and after the first Monday in May, that is Monday in the present week. The operative masons of Newcastle and Gateshead, according to the *Gateshead Observer*, have already resolved to "resist any encroachment whatever on the present system of working." This is a resolution which would strike both right and left—both against the Progressive Society's resolution, and against that of the master builders. A strike at Newcastle and Gateshead, we may add, is thus also imminent. The masons at Weston-super-Mare are on strike for an advance of wages and a limit of labour *to* ten hours a day: the masters are almost all determined to withstand these and other terms demanded by their workmen, and there is little prospect, it seems, of an arrangement at present. While these and other operatives are on strike, or threatening to strike, it is curious, but sad, to hear of such events as the throwing of 1,000 artificers and labourers out of work at Woolwich arsenal, in consequence of the completion of coast defences, &c. and of the Sunderland shipwrights, who have been no less than six months on strike, being now thankful to accept of 4s. a day, on being told that such a moderated rate of wages will induce some capitalists to "give large orders for ships and repairs."

Meantime a hopeful measure for putting an end to all misunderstandings and differences between masters and men is making progress. In the House of Commons last week, Mr. Mackinnon obtained leave to bring in a Bill for the establishment of equitable tribunals for the amicable adjustment of such differences and misunderstandings. By this Bill masters and operatives would be enabled to form councils of conciliation and of arbitration, partly to consist of workmen and partly of masters, and to whom, by common consent, all trade questions between the parties could be referred.

ON THE TRABEATED OR COLUMNAR SYSTEM FOR ARCHITECTURE, AND PIERS OR COLUMNS IN CHURCHES.

Sir,—I was much struck by a report of the discussion which took place at the Architectural Association on Friday evening, the 30th of April, after the delivery of Mr. Kerr's paper. The questions raised by Mr. Cockerell and Mr. B. Hope do not, I think, involve the true gist of the question as to the appropriate style for our churches. Be it trabeated or arcuated, is, I venture to submit, of less consequence than whether it be in plan columnar or not. Not that I mean the *total* omission of columns or piers, but the propriety of their admission, so as to screen the officiating clergyman from the sight of a considerable portion of the congregation. Objection is very justly taken to high pews, and by many to any pews at all. In the former case it is suggested that high pews take away the congregational character; but I think a more serious evil is as to piers or columns intercepting the sight of the clergyman from a sixth, fifth, fourth, and even third of the congregation, as happens in many of our churches erected in the Roman Catholic periods. For that ritual the obstruction of view is less objectionable; but for ours, it is a virtual denial of the benefit of the service. The occupant of a high pew even, may see every gesture and expression of the preacher, and his attention will be kept alive by his very delivery. But placed behind a pier or series of piers and columns, which obstruct the view of the pulpit (and in such situations too often the children and poor are placed), the worshipper has not only the sight intercepted, but the hearing obstructed; so that to attend to the discourse becomes a painful and wearying effort, and the mind resolves itself into abstraction, and often into a comfortable nap, or the children amuse themselves, screened from the eye of the clergyman. An artistic taste, loving effect and the play of lines, and light and shade, desires the movement which arises from piers and columns; but it surely cannot be denied, that in our parish churches at least the Protestant service requires all the area to be free. If there must be galleries and other necessary supports, let these supports be slight as possible, as suggested by Mr. Shaw, in his able "Letter on Ecclesiastical Architecture" (1839). But if there be no galleries, a consummation devoutly to be wished, were it possible in all churches, then let columns or piers be arranged as decoration, against the walls inside, and let *the centre be free* and light, yet solemn and imposing, from the sobriety of its architectural embellishments, and the breadth of its masses. We see in the Roman Catholic countries, that the architect is not so bound down there by the bigotry and absolute stern will of the clergy as here; and we often find abroad single-naved churches, without piers or columns, to form side aisles, such as we see in our King's College Chapel, Cambridge, on the largest scale, at home. Why should not we adopt them here? Our Gothic-loving priesthood will not permit it, for there is an absolutism in their minds, and love of control. Some are seeking to revive the forms and ceremonial (if not the superstitions) of the Roman ritual. Some to create a special class, as that of a peculiarly holy nature for all that pertains to them. Others have college associations, which have wound themselves around all their feelings. All these, to effect and carry out their purposes, find it best to adopt, however antagonistic it may be to the real essence of England simplicity and common sense, the Mediæval practice in architecture, &c. Their motto is *backwards*, not onwards—let us *retrace* our steps, not press forward. How much more healthy and vigorous would be the state of mind to our clergy and our architects, if they would take the Protestant liberty of thought. If they must look back, let it be to the grandfathers (the apostles), not the fathers

of the Church. In all honest simplicity let them follow out the truth in doctrine and art, without reference to the darker ages of Mediævalism,—I had almost written it Medievilism. Then should we banish close pews, but not fixed seats, and avoid piers, columns, and all such obstructions to sight, in the area of our churches. And then would follow a fresh and vigorous creation of a new application of style, whether Classic or Gothic; fresh ideas would present themselves, and a new era open for the architect, and its principal leading feature might be either trabeated or arcuated with perfect propriety.

M. I. B. A.

PROVINCIAL NEWS.

Castle Hedingham.—A sunday school, with class-room attached, is being erected at Castle Hedingham, from the designs of Mr. Henry W. Hayward, of Colchester. The school-room is 45 feet by 22 feet; the style, Perpendicular; the materials red brick, with white brick and Caen dressings. The contractor is Mr. Jas. Jarman, of Castle Hedingham, and the amount of contract, 390*l.*

Upton-upon-Severn.—It is intended shortly to pull down the present national school-room at Upton, and erect a larger, more commodious, and better ventilated building. Mr. Davis, of Malvern, is the architect.

Tenbury.—The new Corn Exchange and public buildings have been formally opened. The new buildings are situate in Teme-street. They are of red and blue bricks, with facings of Bath stone. The Corn Exchange is approached by a wide arched corridor leading from an archway of Bath stone next the street. The pediment is ornamented with figures of Ceres and Saturn, and wreaths of rustic work, which, with all the ornamental work of both markets, was executed by Mr. W. Morgan, of Birmingham. The length of the hall is 62 feet, its breadth 23 feet, and height 28 feet: the roof is of open groined work, executed in stained deal. There is an ante-room; and a dwelling for policemen, with lock-up cells, are in course of erection. The poultry and butter market-house is 41 feet in length by about 34 feet in breadth: it is an oval-shaped building, with two entrances, and holds from 140 to 150 free standings for market baskets. The materials are red and blue bricks and cast-iron, with an open wood roof covered with Clee-hill tiles.

Sutton Coldfield.—The new Town-hall is to occupy the site of the old: the space is but limited, the area assuming an L shape, with a frontage on the longer sides of 50 feet, and 45 feet respectively, and a return in each case of 25 feet. The architects, Messrs. Bidlake and Lovatt, in their plan, have arranged on the ground-floor a magistrates' court, committee-room, and a public waiting-room. Two entrances are given, the principal one, or vestibule, under the tower. On the second-floor is the assembly-room, 18 feet by 22 feet, with apsidal end and retiring-room. In the basement are a kitchen, &c. The building will be in the Gothic style, and is to be erected with red brick, and white brick and stone dressings. The main feature of the design is a tower, rising to a considerable altitude.

CHURCH-BUILDING NEWS.

Lincoln.—One of the lancet windows in the north upper transept of Lincoln Cathedral has just been filled in with some stained glass, the workmanship of the Rev. Augustus Sutton and Mr. F. Sutton, the younger sons of the late Sir Richard Sutton, bart. The window is divided into four compartments, and the pictures are symbolical of the Resurrection. One represents Jonah cast out of the whale's mouth; another, the raising of Lazarus; the third, Joseph taken out of the well; and the fourth, the raising of the widow's son at Nain. The window is next to the small one recently filled by the same gentlemen.

Braintree.—Upwards of 1,400*l.* have been expended upon the restoration of the church here, but still much remains to be done. The north aisle has been restored and enlarged.

Oxford.—A new window of stained glass has just been inserted in the east window of the south aisle of Christ Church Cathedral. The glass is by Mr. Wailes, representing the Crucifixion in the centre, and the raising of the widow of Nain's son in the two side-lights. The stone-work of the window is also new, with tracery of the Geometrical Middle-pointed style. It is understood that Dr. Bull's benefaction of 500*l.* will be expended in supplying glass to the windows of the north aisles.

Maidstone.—The ground appropriated for the cemetery for Maidstone consists of about twenty acres. It is situated on an eminence nearly a mile from the town. The ground is divided into nearly equal sections; the Episcopalians' on the left, the Nonconformists' on the right of entrance. At present most of the works are in an unfinished state. The Church of England chapel is designed in the fourteenth century style, with a tower and broach spire. The west front has a geometrical four-light window, with triangular window in apex of gable. The north side consists of a gable, adjoining a tower of less elevation, forming the vestry. The roofs are covered with tiles of two colours, arranged in bands, and terminate with ornamental ridge crestings at the apex. The chapel appropriated for the Nonconformists is arranged on a similar plan, with somewhat varied detail in its several points, consisting chiefly of an octagonal tower and spire, with gablets rising from the base, and the windows of the several gables being arranged in clusters, in place of large openings, as designed for the Episcopalians' chapel. The buildings are faced with Kentish rag-stone, and Bath-stone dressings. The architects are Messrs. Peck and Stephens; the contractors, Messrs. Kirk and Parry, of Chatham

Catherston Leweston.—The church now being erected in this parish, at the sole expense of Mrs. Hildyard, will be shortly completed. The edifice was designed by Mr. Pearson, of London. The outside is of flint, with Bath-stone dressings, the inside of Bath and Caen stone. The contractor is Mr. H. Poole, of Westminster. A considerable part of the edifice is being carved by Mr. M. Barns, of Clifton, and Mr. S. Poole, of London. The church is built for a population numbering less than fifty, and comprises nave, chancel, organ, lobby, and vestry. The style is Early Decorated.

Coaley.—The new church lately erected at Coaley, near Dursley, in Gloucestershire, was consecrated on the 21st ult. Messrs. Jacques, of Gloucester, architects, prepared the designs. The church is dedicated to St. Bartholomew, and is in the Geometrical Decorated Style prevalent in the thirteenth century: it consists of a nave and chancel, and a north aisle, separated from the nave by five arches. The old tower remains, but the arch, which was bricked up, has been thrown open, and a diaper window placed in the tower, over the western entrance. There is a large stone porch on the north side opening into the aisle. The entire length of the building, inclusive of the chancel, is about 75 feet. All the seats (for 270 persons) are open, and of stained deal. The floor is laid with blue and red Staffordshire tiles. There is a window filled with stained glass representing the Transfiguration of the Saviour, at the east end of the aisle. This window was from the works of Mr. Wailes, of Newcastle. The east window of the chancel is at present filled with plain glass. The window over the west entrance is of stained glass. The nave and aisle were erected by Mr. Niblett, of Gloucester, and the chancel by Mr. Watkins, of Coaley. The font and ornamental parts of the building were carved by Mr. H. Frith, of Gloucester.

Okeover.—The church of Okeover, according to the *Shrewsbury Chronicle*, has been thoroughly restored and beautified at the sole expense of its owner, Mr. H. C. Okeover, and under the direction of Mr. Scott. The oak carving was executed at the workshop of Mr. Evans, of Ellastone. The restored and new stained glass windows were supplied from the manufactories of Messrs. Hardman, O'Connor, Warrington, and Wailes.

Caldecote.—The parish church of Caldecote has recently been re-opened, after undergoing extensive alterations, the responsibility of which was mainly undertaken by Mr. Kirby Fenton, of Caldecote Hall. The flat ceiling has been removed, and the roof thrown open, bringing into view an arch hitherto concealed. The flooring has been renewed with Minton tiles, a vestry has been erected, the church repewed, &c. A square brick tower has been removed, and a spire has been placed at the west end of the edifice.

Chester.—Mr. Hussey, of London, architect, has reported to the Marquis of Westminster as to the cost of restoring St. John's Church, and the amounts set down are 10,000*l.* for the body of the church, and 6,000*l.* for the tower.

Humberstone.—The parish church of St. Mary, Humberstone, having become very dilapidated and decayed, the fabric has been restored. The only feature of its early architecture which remained was the west window of the south aisle: this window has been retained and restored, and the new windows have been designed to harmonize with it. The whole of the nave, arcades, and clerestory, the chancel arch, south aisle, and porch have been rebuilt, the exterior of the walls being of white Horsley Castle stone. The tower arch, formerly blocked up, has been thrown open to the body of the church. The west door is by this means brought into view from the church, together with a quatre-foil window over it, which has been filled with stained glass by Mr. Lavers, of London. The east window of the south aisle has been filled with stained glass by Messrs. Powell, of London. The whole of the works have been carried out by Messrs. Broadbent and Son, of Leicester, from the designs and under the superintendence of the architect, Mr. Raphael Brandon, of London.

Leicester.—The London-road chapel has been opened. The extreme internal length of the building is 84 feet 6 inches, and the width 54 feet 6 inches. Behind the chapel, in addition to vestries, is a school-room, 48 feet long by 27 feet 4 inches wide, for 350 children. The building is lighted by double rows of six windows each at the sides. The lower panes of those on the ground-floor are filled with enamelled glass, and all are bordered with a rim 6 inches in breadth of stained glass, each window being alternately green and violet. In the front, next the road, are seven windows in all, four of which serve to light the entrance, porch, and gallery stairs. The three central ones are filled with stained and enamelled glass. The organ was built by Messrs. Forster and Andrews, of Hull. The seats, all open, are of deal, stained in oak. They accommodate 1,256 persons, allowing 19 inches to every adult. The total cost of the erection, including freehold site, has been about 3,300*l.* of which about 1,700*l.* was raised prior to the opening. The whole of the works have been completed under the superintendence of Mr. Millican.

Derby.—St. Michael's church, Derby, has been completed and opened. The new church consists of nave, north and south aisles, chancel, vestry, and tower. The tower has been erected at the south-west angle, on the south side of which a door way forms the principal entrance to the church. The stone used for the walls was from Duffield; Sydnope, for the piers and arches; and for the windows, tracery, and carving, stone from Ancaster, Lincolnshire. The seats and timbers of roofs are of red deal, stained and varnished. The inner surface of the roofs is lined with boarding, and to insure greater warmth Croggan's asphalte felt is laid underneath the slating. The style of the building is Gothic, of the Geometrical period prevalent during the fourteenth century. An attempt has been made to retain the same character in the new structure as the old one possessed. The tower is 60 feet high, little more than the height of the old one. The church will accomodate about 450 persons,—double the number provided for in the old one. The design was furnished by Mr. H. I. Stevens. The contractor was Mr. C. Moody, of Derby. The cost of the building is 2,100*l.* The east window, of five compartments, is by Mr. N. W. Lavers, of London, The centre light contains the picture of the guardian angel guiding a child along a precipice. With this idea there has been blended the notion of St. Michael triumphing over the dragon. The other four lights represent Simon and Andrew, James and John. In the chancel there is also a small window of grisaille glass. There are two smaller windows, also filled with stained glass, at the ends of the aisles: the one has the figure of faith, hope, and charity: the other is a subject window, and contains small medallions of Hagar and Ishmael, Ruth and Naomi, Timothy, and Lois and Eunice. They were painted by Messrs. Gibbs and Co. of London.

Farnborough (Warwickshire).—The chancel of the church here, which has been undergoing a complete restoration, under the direction of Mr. Scott, architect, and at the sole expense of the vicar, the Rev. C. W. Holbeck, was reopened for divine service on Wednesday, the 21st ult. The roof, which had been depressed from its original pitch, has been raised again to its full height: the east window, which had been lowered in the gable to accommodate a flat ceiling, has been also elevated to its original position, and filled with stained glass, by Wailes. The roof in the interior approaches now the waggon form, and is in handsome oak panels, being covered externally with Stonesfield slate, to carry which the walls have been repaired and strengthened by buttresses. Carved stone crosses surmount both the east and west gables. The chancel, thus restored, has been fitted up with stalls, choir-desks, screen, lectern, and altar-rails, all in oak, carved; Minton's encaustic tiles being laid within the altar-rails, while the rest of the floor is of the blue Hornton stone of the country, the yellower material from the same quarry supplying the rest of the stone work, window dressings, &c. The chancel arch has been

arely rebuilt. The whole has been well carried by Mr. Symm, of Oxford, builder, and under superintendence of Mr. H. Roome as clerk of works; the carving in stone having been lked by a carver from Mr. Philips's, of London.

Oldham.—The recently erected Methodist pel, in Greenacres-road, Oldham, denominated sley Chapel, has been opened. The chapel, ch is built of brick, with quoins, entrance, sters, and window-heads of stone, is 62 feet , 48 wide, and 43 feet high, partly surrounded a wall, which at the front is crowned with sades. There are 1,000 sittings, a large num- free. The chapel is lighted mainly by four lights. The building has cost 2,400*l.*

Doncaster.—The roof of the tower of St. rge's Church is progressing, and it will shortly overed with lead. Mr. Ruddle also intends to mence immediately to lay down the floor of north aisle. Messrs. Lister's tender for flagging aisles has been accepted by the building com- tee. The stone for the pavement is from the rries of Green Moor. The memorial windows he Elston and Saunders' families will be pro- ded with in the early part of May, as the glass n Mons. Capronniere has reached England. The s, from the foundry of Messrs. Warner and s, will be hung before the church is completed the opening services in October.

Huddersfield.—According to the *Leeds Intelligencer*, it has been resolved to erect a new rch, at Smithy-place, Honley. A site has n granted by one gentleman, and another has dertaken to pay the cost of erection.

Leeds.—The Methodist New Connection Chapel been opened. It is erected in Woodhouse- e, Leeds; is a brick structure; and has been lt from designs prepared by Mr. W. Hill, of eds, architect. The contractors for the various criptions of work required, were—masonry and ckwork, Mr. S. A. Musgrave; joiner and car- enters' work, Mr. W. Pawson; slaters', Mr. W. ocock; plasterers', Mr. W. H. Barker; painters', Fearnside; ironmongers', Messrs. J. and C. aps; plumbers', Mr. Thomas Storey, all of eds. The chapel is in the Italian style of archi- ture, and will accommodate about 1,000 per- s. Underneath are schools for 300 children. e building also comprises four large vestries, d a chapel-keeper's house. The cost of the ice is about 3,700*l.*

Sunderland.—The new cemetery was to be con- rated on Monday. The whole of the works are pleted, and have been carried out from designs d under the superintendence of Mr. Matthew ompson, of Sunderland, architect.——The new urch at Riding Mill has been consecrated. The hitect just named prepared the design, which of the Early Decorated period. The church will lt 150 persons. The chancel windows are filled h stained glass, by Mr. Wailes. The church s built by Mr. J. D. Thompson, of this town. ——The new rectory at Bishopwearmouth is in- aded to be built in a picturesque situation, near e seat of Mr. W. Nicholson, a short distance m the Stockton-road. It is to be built of brick, m a design by Mr. John Dobson, of Newcastle, hitect. The contract has been let to Mr. Jones, Sunderland. The antique staircase belonging the old rectory is to be placed in the new ilding.

South Shields.—The new United Presbyterian urch, Mile-end-road, South Shields, has been pleted and opened. The new buildings, com- ising church, schools, and vestry, are of stone. ae approach to the church is by a slightly pro- ting porch, with deeply recessed jambs and h, moulded and carved. The principal win- ws are of soffit-tracery work, and fitted with ained glass. The nave is separated from the des by cast-iron columns going up to the roof, d carrying the main principal of it. Messrs. iver and Laub, of South Shields, were the hitects.

Whitfield (*Northumberland*).—As the present urch of Whitfield (a structure in a semi-Italian yle) is very inconveniently situated, it is pro- osed to take down and rebuild it in a more ntral position. With this view a site, sur- unded with trees and adjoining a rivulet, has en chosen; and, here, at the cost of the patron, le Rev. J. A. Blackett Ord, of Whitfield-hall, ne new building will be erected. The church ill consist of nave, south porch, and north aisle; rth and south transepts, chancel and vestry, ad central tower and spire, 140 feet high. The uilding is a memorial of the late Mr. Ord, M.P. he style is early English. Mr. A. B. Higham, of ewcastle-on-Tyne, is the architect.

Dundee.—The foundation-stone of St. Mary's iscopal Church, Broughty-ferry, has been laid. The church consists of a nave 60 feet long, 24 feet wide, and chancel 25 feet long. The total internal length will be 88 feet, and the height of nave from floor to ridge 38 feet. The entrance-porch is at the north-west corner of the nave, and the vestry is placed on the north side of the chancel. From the steep nature of the site it was found necessary to introduce a basement story, which elevates the church and provides a large place beneath for a school-room. The west gable contains two tall windows with cusped heads, a circular window over, the whole being surmounted by a belfry, the apex of which will be 62 feet from the ground. The east end contains a triple window, and small circular window over, and the nave is lighted by coupled windows, with cusped heads. The church is built of native whinstone rubble, and the dressings and mouldings are of Fifeshire freestone. The style of the church is Gothic, of the Early English period, from a design by Mr. Scott, carried out by Mr. Maclaren, of Dundee, architect. Mr. William Gibson, of Carnoustie, is the contractor for the mason work, and Messrs. Clark and Cable, of Dundee, for the joiner work, &c.

Elgin.—The Moss-street United Presbyterian Church, at Elgin, is now nearly completed, and has been opened for public worship. The edifice is seated for 720, and is in the Gothic style of the Decorated period, having buttresses at each side, a tower 95 feet high to the top of the pinnacles on the west end, with vestry and large meeting-room. The galleries are supported by light cast-iron pillars, the fronts being formed with quatre-foil panels. The ceiling is panelled, the beams springing from brackets at the wall, and having bosses at the intersection of the beams. The whole church is lighted by two-light windows, with traceried heads, four on each side, and two in each end. All the designs and plans were furnished by Messrs. A. and W. Reid, architects. The contractors were -builder, the late Mr. J. Lamb; carpenter and glazier, Mr. A. Forsyth; plasterer, Mr. J. Stewart, Elgin; slater, Mr. Finlay, Keith; plumber and gasfitter, Mr. J. Gordon, Elgin.

HALIFAX.

Although the commercial depression at Halifax has put a temporary check upon the rapid improvement of this town, which has been going on for the past few years; Messrs. Crossley are still proceeding with part of their plans for new streets in the centre of the borough; and the White Swan Hotel, an old building, with overhanging upper stories, has been sold, with a view to its immediate removal, in order to open up a new street to the new building to which the old hostelry has given place. The new street, running through the site of this old structure, will be a great convenience to the traffic of the town, besides affording ready access to the Mechanics' Institution, the joint-stock bank, and the New Swan,—all erected within the past three years.

The new Joint-stock Bank building occupies the angle of one of the new streets in the immediate neighbourhood of the recently erected Swan Hotel and the Mechanics' Institute, and is another step towards rendering this locality the heart of Halifax. The bank is designed to harmonize with the surrounding architecture, and presents an example of the Italian style, as practised in the Florentine republic. The ground story and the angles of the bank are boldly rusticated, and the arched windows are similarly treated. The keystones of the latter, bearing the heads of Plutus and Crœsus, were executed by Mr. Throp. A carved string-course crowns the lower story, broken at intervals by trusses supporting the balconies of the upper windows. The panels of the balconies are filled with foliage, contributing to the effect of the windows themselves, which are made important features in the design by Corinthian columns, surmounted by bold semicircular pediments. The upper part of the design comprises an attic with a massive cornice, crowned by a balustrade. The angle of the building forming the corner of the street is brought out conspicuously by arches in the balustrade. The bank has three entrances. The first, from Princess-street, conducts to the large banking-room; the second, from Crossley-street to the manager's residence; and the third, approached by a court in Northgate, affords ingress and egress to the back part of the premises. The building is four stories high, that is, a basement, for cellars; the ground-floor, for the public banking-room, &c.; the first floor, devoted to the manager's residence; and the second floor, partitioned off in bed-chambers. The architects are Messrs. Lockwood and Mawson, of Bradford, and the principal contractor is Mr. Neill. The works were commenced in September, 1856, but were not vigorously prosecuted until 1857. The interior arrangements are not yet completed.

The New White Swan Hotel, already referred to, is a large block building, running parallel with a portion of the east side of the Mechanics' Institution. The New White Swan Hotel is designed to replace the old hotel in Crown-street. The exterior assumed a finished form some time since, but the work of the interior is still being prosecuted. The front is designed in the Roman school of Italian architecture. The ground floor is raised above the causeway, so as to admit ample light into the basement story, the windows of which are a prominent feature in the elevation. The entrance is flanked by columns and pedestals, surmounted by an enriched entablature of the Doric order, with spandrils filled in by carving, including swans and other decorations. The keystone is a representation of the youthful Bacchus, carved by Mr. Throp. The windows on the ground and upper floors are composed of pilasters, trusses, and cornices, with pediments filled in with carved work of various designs, while sculptured figures support a cornucopia on the pediment of the first-floor window. The whole façade is surmounted by a cornice with blocks, the attic windows forming a portion of the composition, and the spans between filled in with shields, supported on wreaths of palm and oak-leaves. The windows on the first floor are flanked with Corinthian columns, and covered with arched pediments surmounted by a bold attic and balustrade. The principal entrance is from Bank-street, the new thoroughfare intended to lead into Crown-street. The hotel has six stories, namely, the basement floor, on which is the kitchen; the ground floor, level with the entrance, and on which is the bar; the first floor, with the upper dining and sitting rooms; the second floor, divided into bed-rooms; the third floor, similarly planned; and lastly the attic, set apart for the servants. The total number of apartments, in addition to the space devoted to staircase, corridors, and areas, is sixty-nine. When the old Swan is removed, and when the buildings carrying Bank-street into Crown-street shall have been erected, there will be a spacious arcade at the south end of the building, under which cabs, &c. will find a stand. The architects are Messrs. Lockwood and Mawson, of Bradford. The contractors for the stone-work are Messrs. Miles, Moulson, and Co.; for the joiners' work, Mr Archibald Neill; for the plastering and decoration of the ceilings, Messrs. Joseph Bancroft and Son. Mr. George Walsh has executed the plumbers' work; while the painting is by Mr. James Farrar. The iron work, bell-hanging, &c. have been shared amongst Mr. Crook, Mr. J. Berry, and Mr. Watson.

BROMPTON MUSEUM.

THE PRESENTS FROM THE KING OF SIAM TO HER MAJESTY.

These specimens of the modern art manufacture of an interesting province of the East, which have been lately placed here by the thoughtful kindness of the Queen, are well worthy of a visit. The principal objects are a chair of state, and a bedstead with canopy and hangings: the former is of remarkable design, and covered with gilding and a sort of tinsel of different hues, which, at a distance, has the effect of clusters of diamonds and other gems. Around the sides and back of the seat are several grotesque figures thrown out in bright relief by minute ornamentation, which is also spread over the other parts. Above this, around the seat, but below the rails for resting the arms, are several sharply-pointed leaves. The back is of similar shape, and rises up to a considerable height. The front is plainly gilt, but the back is covered with a profusion of flowers and diapers. The cushions are of finely-woven cloth of gold. Most persons, on first viewing this piece of handiwork, will be struck with its peculiar richness. A closer inspection, however, conveys a feeling that both materials and workmanship are "rather of a gingerbread description." However, although this example of decorative skill is so meretricious and stage-like, it is well worthy of study for the purpose of noticing the, in some respect, splendid effect which has been produced with such materials.

The bedstead is of small size, and surmounted by a canopy, which rises in an acute angle, presenting two surfaces. At the corners are winged figures, and on the summit four horns, which, in flowing lines, rise in part of a circle from the top. The whole of this is a mass of rich ornament of gold and mixed hues, so cunningly inlaid and woven, that it reminds one of the rich fabrics of King Solomon's time.

The curtains are of great richness, and remarkable both for the design of the patterns and a peculiar bloom, which has been produced by the varieties of thread and contrast of textures: the inside of the hangings and bedstead is of dull crimson; the cushions of gold cloth, and delicately tinted silks. The whole design gives one an idea of some of the highly decorated works of the Anglo-Saxon period.

Besides the matters above mentioned, are robes and hangings. In the gold and silver embroidery a figure painter might get some useful hints by inspecting the harmonious and peculiar tints of colour here exhibited.

There are also a number of vessels minutely chased, and others inlaid with variously coloured enamels. Some of these are beautiful in form. The outlines of these objects have a marked peculiarity, which may be contrasted with the fine metal works of the old Greek and Roman times.

Amongst these interesting objects is the following tablet, printed in English and in the language of the kingdom of Siam:—

"Presented to her Most Gracious Majesty Victoria, Queen of the United Kingdom of Great Britain and Ireland, and several immense Colonies, &c., from her distinguished Friend and humble Royal Brother, Somdetch Phra Paremendi Maha Mongkut Major King of Siam and its Dependencies."

DAYS AND DATES.

Although this caption is somewhat extraneous to the subjects usually treated of and discussed in this journal, yet, as it is, doubtless, one in which readers of every vocation and profession have an equal interest, it is presumed that it may not be thought too irrelevant or too trivial to occupy a brief space within its pages.

A Mr. D. Barstow has lately published what he calls, "A secular Diary for ascertaining any Day of the Week or Month" within the limits of a given number of years; that is, in other words, for finding the precise day of the week for a given date of any month of a given year within the limits for which his diary is computed.

We propose to show that such results as these can be readily calculated, for any lapse or to any extent of time, by the following simple formulæ:

$$x = \frac{365\,N + l + 31\,n + m - c}{7} \quad (\alpha),$$

$$x = -\frac{365\,N + l + 31\,n + m - c}{7} \quad (\beta),$$

where x in (α) represents the number of weeks from a given date, the day of the week for the given date being known, to another given date, posterior to the first, for which the day of the week is unknown, and required to be found. It is obvious that, if correct values be assigned to the terms of the expression on the right-hand side of this equation, the day of the week for the given date will be determined by the numerical form of the quotient which gives the value of x. For instance, if we have Wednesday for the known day of the week of our initial date, this will be the first day of each of the weeks included in x; and if x be integral the time denoted by x will be concluded on the last day of the week, which, in this case, will be Tuesday; but if x be not a multiple of 7, we shall know the day of the week by the value of the remainder. For example, in the case just stated, if the remainder be 2, the day of the week required to be known will be Thursday; if 3, Friday; and so on.

We have now to examine and explain the terms employed in the formula (α).

$365\,N + l =$ the number of days in the integral years between the given dates, N denoting the number of years, and l, the additional days for the leap-years in the interval;

$31\,n =$ the number of days in the whole months supposed them each to contain 31 days by which the time exceeds the number of integral years, n representing the number of these months;

$m =$ the number of days remaining;

and $c =$ the correction required for the term $31\,n$, on account of the months of February, April, June, September, and November having less than 31 days; and it will have values differing according to the months comprehended in n.

Suppose, for instance, that the n months commence with January, we shall have, by this hypothesis,

$c = 0$ when $n = 1$; $c = 3$ when $n = 2$ or 3; $c = 4$ when $n = 4$ or 5; and so on for ordinary years; but these progressive values of c would be diminished by unity if the months assumed were supposed to be in leap-year.

In (β) x denotes the number of weeks which have elapsed from a given date, the day of the week being unknown, to a given date for which the day of the week is known.

The negative sign prefixed to the value of x signifies that the time which it is taken to represent is measured in a retrograde direction; thus, in the resolution of the equation, if we have $x = -p - \frac{3}{7}$, where p is an integer, we must reckon the days of the week backwards to arrive at the day of the week sought.

In going back from the new style to the old, the deficit of eleven days in the year 1752 must be remembered.

The signification of the terms in (β) may be understood from the meaning assigned to them in (α).

The two subjoined examples will serve to illustrate the formulæ.

(α). The 27th of March in the current year being Saturday, find hence on what day of the week Christmas-day, 1860, will fall.

Here $365\,N + l = 365 \times 2 + 1$, dating from the 27th day of March, 1858, to the 26th day of March, 1860, both inclusive;

$31\,n = 31 \times 8$, the days in the number of integral months, reckoning from the 27th of March, 1860, to the 26th of November in the same year, both inclusive;

$m = 29$, the number of days from the 27th of November to the 25th of December;

and $c = 3$, the correction required for the months of April, June, and September, which are here comprehended in 31 n.

Therefore, by substituting for N, l, n, m, and c, their numerical values, we have

$$x = \frac{365 \times 2 + 1 + 31 \times 8 + 29 - 3}{7} = 143\tfrac{4}{7},$$

that is, 143 weeks and 1 days. And, since the first day of each of these weeks is Saturday, the first of the four days will also be Saturday; the second, Sunday; and so on, in order; wherefore, the last of these four days, which stands for the 25th of December, 1860, will be Tuesday.

(β). The first stone of the new Houses of Parliament was laid on the 27th of April, 1840: find on what day of the week this was performed, the 27th day of March, 1858, being on Saturday.

$365\,N + l = 365 \times 17 + 4 = 6209$;

$31\,n = 31 \times 11 = 341$;

$m = 1$;

and $c = 7$.

Therefore,

$$x = -\frac{6205 + 4 + 341 + 1 - 7}{7} = -933\tfrac{1}{7}.$$

In retracing this period, Saturday is considered the first day of all the weeks included in x, and the fraction $\frac{1}{7}$ shows that the 27th of April, 1840, was on the sixth day, reckoned in inverse order, and was, therefore, Monday.

A. J. Tompkins.

PROGRESS AT MELBOURNE.

Amongst the principal building works of recent erection in the capital of Victoria is the English, Scottish, and Australian Chartered Bank, in Elizabeth-street. The *Illustrated Melbourne News*, in speaking of this building, of which it gives an engraved view, says,—"It contains solidity of aspect with simplicity of detail; harmony of proportion with structural elegance; and the general massiveness of effect with an absence of anything like bearings. Mr. Terry was the architect, and the same gentleman has shown, in other parts of the City, how a blue stone store may be made to present an appearance of architectural beauty without any elaborate ornamentation, and without any sacrifice of utility."

The new bank of New South Wales is in an advanced state of progress, the upper portion of the architectural decorations having been completed at the end of January last.

The Ballarat Hospital, opened towards the end of 1856, already requires to be enlarged, and plans have been prepared for the purpose by Messrs. Buckhouse and Reynolds, of Geelong, architects. The whole building will be raised one story, and a slate roof substituted for the shingle one. The building will at the same time be additionally decorated. To complete the structure according to the original plan by Mr. Robertson, the architect, a wing on each side would have to be added.

The Yan Yean water-works have been opened. These works form the greatest engineering work as yet accomplished in the colony. A *déjeûner* in honour of the opening was held at Hockin's new Assembly-room in Elizabeth-street, and most of the notabilities of the town attended. The quality of the water, however, is giving some anxiety, as it was very turbid, and diarrhœa was prevalent, it was thought in consequence of the use made of the Yan Yean water. Increased purity was anticipated after a little time had transpired, and if not, filtering would have to be resorted to. The engineer of the works was Mr. M. B. Jackson.

According to a census taken in 1857, the colony was still making rapid strides in population, having increased 73 per cent. in the three years then past. The population in all was 410,766, of whom 264,334 were males, and 146,432 females. The increase for the three years was 173,568. The disproportion in the sexes was rapidly decreasing, notwithstanding the influx of 24,273 Chinese, all males, and almost all on the Gold-fields. The aborigenes of the colony returned according to the census only amount to 1,768 persons.

SANITARY PRECAUTION.

Amongst the forty deaths from scarletina recorded by the registrar-general last week, no less than four of these occurred in one family, in a house at the top of Shooter's-hill. The registrar states that, to a casual observer, there is nothing in that elevated situation which would be noticed as the probable cause of so great a mortality, but it is understood that medical men attribute it to an open ditch in the neighbourhood. One child died on the 12th of April, one on the 14th, and two others on the following day.

We have before directed attention to the fatal causes of fever which often happens in elevated and healthy situations, owing to sanitary neglect; and would strongly urge those who are seeking summer-houses for their families, not to depend on the position alone, but to inquire carefully respecting the condition of the drainage, and avoid all places defiled in this respect, and escape, as they would if the house was on fire, all dwellings which are situated near open ditches and stagnant pools of water.

IRISH NEWS.

A new Roman Catholic Church is to be erected at Queenstown, Cork, and the Right Rev. Dr. Rane has subscribed 500*l.* towards the expenses.

A mortuary chapel (somewhat after the manner of those at Père la Chaise), has been built at Glasnevin cemetery, over the vault of the Martin family, the eminent timber merchants. It is of Caen stone, the lower plinth course being granite, and sufficiently large to admit an officiating clergyman and a few persons to attend at Mass. In style it is Gothic, with stone roof, and imitation tiles thereon; has traceried window, with label mouldings, panelled flanks and arched doorway, and presents two gabled ends, forming a conspicuous feature in the circle, where O'Connell's remains and temporary tomb occupy the centre. We believe Mr. Geoghegan is the architect. A few other tasteful monumental structures have been recently and are now being added to this beautiful cemetery.

The building of the new convent and schools at Macroom, progresses, and they will, it is expected, be completed in about twelve months. The site is on a hill, at the south side of the parish chapel, which the new structure adjoins.

A stained-glass window, by Casey, Brothers, of Dublin (also the manufacturers of the memento window, the figures of the Evangelists, in Skerries church, and the large window in Saggard chapel), has been recently added in the Church of Saint Paul, Arran Quay, Dublin. The subject is copied from one in Rome, and is in honour of the Immaculate Conception. The central figure occupies the entire space of the great window nearest the altar, at the epistle side of the sanctuary, and represents the Virgin life size, robed in garments of crimson and azure, standing upon a sphere, with the crescent moon at her feet; her head encircled by a halo, and crowned with a diadem of stars. The globe is supported by emblems of the four Evangelists resting on a pedestal. The figure is partially enveloped in a veil of white and rosy clouds, edged with borders of golden light. The surrounding margin has a continuous wreath of white lilies, alternately blooming and in the bud, interspersed with foliage wreaths, and thrown out in bold relief. This church is remarkable for

Parian marble altar and tabernacle, and was believe originally designed by Mr. Patrick rne, architect to the new churches at Rathnes. James-street, Enniskerry, and several iers through the country.

A Wesleyan Chapel, Manse, and Schools, are to built at Portadown, Mr. John Boyd, architect.

Newpass-bridge, over the Black river, in the unty Westmeath, is to be rebuilt, and tenders being received.

Two timber wharfs are to be constructed at rth Wall-quay, Dublin, by the Ballast Board, George Halpin, C.E.

A graving dock is to be built at Londonderry.

The church of Bally Willan, county Antrim, is be enlarged according to plans by the architect the Ecclesiastical Commissioners.

THE BRITISH MUSEUM QUESTION.

I HAVE read the "Observations on the recent dition of a Reading-room to the British Museum" h much interest. To architects, the name of . Hosking will be a sufficient recommendation it. The pamphlet, however, deserves a much der circulation, as being not less an appeal to n of letters of every class, and to all those who erish the maxim, *suum cuique*.

Nevertheless, there is one part of the subject on ich I wish to comment. The plan of converting court of a quadrangular edifice into a library f earlier date than the candidates for the nour of suggesting it appear to believe. Mr. sking, who proposed it in 1848; Mr. Fergusson, o proposed it in 1849; and Mr. Panizzi, who d Mr. Hosking so *fine a compliment* in 1852, st yield the palm to M. Etienne-Louis Boullée, Paris.

n his "Mémoire sur les moyens de procurer a Bibliothèque du Roi les avantages que ce nument exige," printed about the year 1790, re is a detail of circumstances of which we m to have heard the echo, with this difference to the result, that what was then rejected has w unfortunately been adopted.

As M. Boullée expresses himself clearly and cisely, he shall tell his own tale:—

Les défauts de la bibliothèque sont, 1, de n'avoir pas ndue nécessaire pour contenir les livres; 2, d'avoir le vantage des galeries successives et *parallèles*, comme il a été dit ci-dessus, rendent le service lent, surveillance inquiétante.

n va voir si le nouveau projet remédie à ces inconiens.

consiste à transformer la cour de la bibliothèque uelle, qui a trois cents pieds de long, sur quatre vingt de large, en une immense basilique, laquelle contdra non-seulement toutes nos richesses littéraires, encore celles que nous avons lieu d'attendre des ps à venir.

* * * * *

'auteur de ce projet, en se pénétrant de son sujet, n'a rché, ainsi qu'il le devait, qu'à remplir l'objet prod pour lequel ce monument est consacré.

a donc voulu que nos richesses littéraires fussent centrées sous le plus bel ensemble possible et pour , il a pensé que rien ne serait plus grand, plus noble, extraordinaire, et d'un plus magnifique aspect, qu'un de amphithéâtre de livres."

Having frequented the successive reading rooms the British Museum for more than twenty rs, and being in possession of almost all the ated documents relating to the establishment, ther published or otherwise, I venture to ress my opinion that there is no fitter subject parliamentary inquiry than the conduct of the stees with regard to the proceedings in the rtment of printed books, and the *buildings* d *fittings* therewith connected, since the apntment of Mr. Panizzi as keeper of that department in 1837.

On no other department of the Museum am I are of any cause for censure or inquiry; and as to the reading-room, the service is carried in a manner which deserves the warmest comndation.

Barnes. BOLTON CORNEY.

THE INFANCY OF GENIUS.

THERE are few things more interesting and nstructive than to trace the dawnings and progress of art, both amongst nations and ividuals; to look to the infancy of the arts d sciences amongst various peoples, and to be the childhood of those individuals who in ferent ways have risen to eminence. Benjamin West, the painter, when a mere child, and en he had probably never seen a picture of ny merit, set to work and manufactured his own gments and other materials, and by sly peeps at parents, succeeded in making striking portraits them. Sir Isaac Newton would leave his playmates, and make models of windmills and such-like matters. George Stephenson fashioned engines and tramways, of clay. Chatterton, at an age when most children are playing with marbles and cherry-stones, was writing verses, which have been the wonder of men of mature years. Sir Walter Scott could amuse and interest his companions, both old and young, at an early age, by his wondrous stories. Mozart's musical genius was so early developed, that it was evidently a divine gift. A page of names might be given of illustrious men, who have at an early age shown astonishing indications of the mental powers by which they were afterwards distinguished; and it is surprising how in many cases they battled through all kinds of opposition and difficulties. In frequent instances it has been remarked, that the mothers of our great men were noted for their intelligence—and, undoubtedly, on the wisdom of the mother, the future career of the children in a great measure depends, partly because of the assistance which women of superior minds are able to give at an early time towards the development of the intellectual faculties of their children. If the mother of Benjamin West had whipped instead of given encouragement to the youthful painter, we might not have had this president of the Royal Academy, who, notwithstanding all the imperfections of his works, was in this country *at the time in which he lived*, a painter of no mean order: his picture of "Death on the Pale Horse," is a masterly performance. We will not speculate on the nature of the pictures which West might have painted, if his infancy had been reared amongst the works of Raffaelle or Michelangelo, or the wonders of Greek art;—or what would have been the poetry of Robert Burns, if he had been reared in the classic halls of Oxford or Cambridge, instead of in the daisied fields and "braes" of his native land. Genius is very wilful, and Robert Burns might have thriven as ill as does the British daisy in the United States of America. There cannot, however, be any doubt of the advantage of cultivating the best gifts of children—not by forced learning, but by attention to and encouragement of such useful indications as are shown. An eminent naturalist, when he could barely speak, would tenderly catch the humming flies "to sing a song in mine ear:" it was well that he was early taught in kindness and in the observation of animal life. Nasmyth, the painter, who, in addition to his art, had considerable taste for mechanics, gave his boys a box containing a few simple and inexpensive tools, and encouraged them to make toys for themselves, and others: but for this we might not, at the present day, have had the steam-hammer, which works such wonders.

This is a subject which might be usefully enlarged upon: and it may be, that the subject just hinted at, will supply matter for fancies which each can fill up, and may lead some to consider the value of early indications, and wisely to encourage the peculiar minds of childhood by providing the proper materials for work.

A HINT ABOUT THEATRES.

THE foot-lights, as now arranged, spoil the view, they break up the straight accuracy of the picture (the scene) frame. They should be about half the present height, and the metal horizontal tube should be level with or below the floor of the stage; and if such an arrangement be found too much to diminish the light, the burners might be double in number, or increased by one-third. Sixty burners, with a flame of 4 inches, consuming all the gas evolved, will give more light than forty with a flame of 8 or 10 or 12 inches, discharging much unburned gas, smoke, bad smell, foul air, and poison, not only to the actors but to the whole audience. The foot-lights are an evil, though an unavoidable one, and the less vertical space they occupy the better. The real necessity for excessive light on the stage is now somewhat diminished by the plan sometimes adopted, of turning down the lights in the body of the theatre during the acts. Light is a luxury, but we may soon have too much of it, as well as of any other luxury; and when in excess, it diminishes the scenic effect very much, destroys the mellowness of shadows and of most colours. Excess of light is vulgar, just as excess of blazing jewels is vulgar; it is waste, and all waste is in itself vulgar. An over-lighted theatre or hall is vulgar, just as an over-loaded beast is vulgar, or an over-dressed woman. There is a good opportunity for improvement in respect of lighting, which should not be missed in the new Covent Garden Theatre.

Again, the orchestra is no part of the spectacle; its work is addressed to the ear alone,—neither the musicians nor the instruments of music are objects to be looked at. Secret music, that of the "unseen genius of the wood," is much more affecting than that which is sent forth from any army of musical instruments paraded before the eye. As soon as the music begins, the people at the Crystal Palace, and such other places, rush to *see it*. Provided there be a distinct hearing, it is better to sit quietly in "some still, removed place," and hear what is addressed to the ear alone, and in which the eye has no part whatever, the music and the musicians being withdrawn from sight. A child *must* handle a picture, but a man of taste only desires to see it; to rush to *see* a lot of fiddles and fiddlers is as childish and as vulgar, as to paw over with one's fingers a pretty picture of flowers. This is certainly true, though, to the multitude, it may be a long time before the truth will be practically admitted. A little thought and experiment will quickly convince intelligent persons, if they be not convinced already, and if, indeed, they do not practically observe this truth. Now, if such be the case, more room for the audience, especially for those who do not see and hear well, would be obtained by extending forward the area of the stalls or of the pit, and by placing the orchestra partially under the stage, the apartment being constructed with due regard to acoustics; and if the first two or three feet of the floor of the stage along the whole length of the foot-lights be made of glass, the orchestra would be well lighted. The corridor which formerly ran round the pit is now often cleared away, and is made part of the pit area; more people are admitted, but the comfort of the place is much reduced. All that belongs to the entrance, lobby, &c. of the theatre, is in a dirty miserable state: this neglect is without excuse, seeing how cheap and available are all the means of cleaning and of ornamenting such places. Above all, let the managers of the new theatre abolish, once and for ever, the vendors of bottled beer, oranges, and such hot and stale comestibles. The frequent intrusion of these wretched costermongers along the seats of a full theatre, is not to be endured: they annoy the whole audience, even of the dress-boxes; if not exactly by their presence, by their bawling and their squalor. A careful heed of small matters, makes in the aggregate a great increase of our elegant enjoyment, and has much to do with the æsthetic education of the people. E. H. ELLIOTT.

RECENT BUILDING PATENTS.

W. E. NEWTON.—*An Improved Method of applying Photography to the use of Engravers.* Dated May 27, 1857.—This relates to producing photographic pictures upon wooden blocks to be engraved, and consists in producing a surface upon the block by rubbing into it a volatile varnish, made so limpid as easily to soak into and fill the pores of the wood, and produce a smooth and polished surface. The varnish is made of asphaltum varnish, ether, and lamp black.

D. MORRISON and S. LILLEY. *An Improvement or Improvements in Locks.* Dated April 2, 1857.—This consists in inserting in the lock that portion of the key which acts upon the lock, and causing the acting portion of the key to be left in and close the keyhole on the withdrawal of the moveable key; which latter, on entering the lock, engages with the moveable portion, and liberates it from the keyhole before it can act upon the bolt of the lock, the moveable key also fixing the acting portion of the key in the keyhole before the moveable key can be withdrawn.

JAMES GASCOIGNE LYNDE, Great Queen-street, Westminster. *Detecting and preventing the Waste of Water in Cisterns.* Dated June 20, 1857.—The object of this invention is so to modify the apparatus which regulates the delivery of water to cisterns or receivers, that, if the ball-cock fails from any cause to act at the required period, other and more efficient means will come into operation and stop the supply, which cannot then be renewed until attention has been given to the readjustment of the apparatus. In order to attain this end, the patentee mounts loosely on the stem of the cock or valve of the water supply pipe a ...nd ball or float, which dips into a small su... ...y cistern, arranged to receive water ... ...is-tern, just before it reaches (ow... supply) the level of the waste ... water rises in this supply ... lift the float, which, by a ... the cock or valve stem ... cut off the supply.

W. CLARK.—*Improvements in the Manufacture of Sheet Glass.* February 19, 185... a continuous s... operation of ...

means of crucibles furnished with ducts or passages to allow the glass to flow away from the bottom, thus always ensuring the escape of the purest glass first. 2. Spinning or drawing sheet glass by the aid of supporting hooks, or refrigerators from a cell or chamber, having no communication with the supply of glass from the furnace at the opposite end, and surrounded with glass in a state of fusion from which it draws the necessary supply from below. 3. The use of a certain apparatus for removing the vertical sheet of glass, and for cutting and delivering the same.

W. Perks, Jun.—*A New or Improved Manufacture of Crown and Sheet Glass.* Dated April 1, 1857. This consists in polishing crown and sheet glass by pressing it upon a horizontal rotating disc, the upper surface of which is covered with a polishing mixture, the sheets of glass being held stationary by stops.

G. White.—*Improvements in Glass Furnaces.* (A communication.) Dated March 26, 1857. This consists in heating glass houses or furnaces for the manufacture of glass by the complete combustion of the gases derived from wood, coal, &c. the full combustion taking place by means of a blast of hot air, the injection being so regulated that the full combustion of the gases, and consequently the highest temperature, takes place in the central part of the furnace towards the melting-pots. By this process the degree of heat in the furnace may be regulated with precision.

J. A. Cumine and C. Hunter.—*Improvements in Electro-magnetic Engines and Batteries.* Dated March 9, 1857. Under one form the engine consists of a revolving ring of armatures and a stationary ring of magnets, one ring inside the other, and working just clear of contact. The shaft carries the make and break contact apparatus, and is so arranged that the battery power is cut off and let on between the successive magnets and armatures as each successive armature passes over the allotted distance of its action. Every magnet operates attractively upon several armatures at once, so as to exert a very powerful attractive force in causing the armature wheel to revolve, and thus give out or develope a useful motive power. The battery comprehends a peculiar arrangement or combination of steel plates, capable of application for general purposes. Provision is made for reversing the action of the wheel by reversing the current.

Books Received.

How to lay out a Garden; intended as a General Guide in choosing, forming, or improving an Estate, with reference to both Design and Execution. By Edward Kemp, Landscape Gardener, Birkenhead-park. Second Edition. London: Bradbury and Evans, 11, Bouverie-street. 1858.

This second edition of Mr. Kemp's successful little essay on "Gardening," greatly enlarged, as compared with the first, is well illustrated with numerous plans, sections, and sketches of gardens and garden objects. The treatise is by no means exclusively intended for those who are blessed with the possession of an "estate:" indeed, it was suggested by the very defective laying out and adornment of gardens and plots about the metropolitan suburbs, and was intended mainly for the advantage of the owners and occupiers of such villas and cottages as these, especially of such as enjoyed a quarter of an acre or more of ground. Estates of 100 acres, however, are not beyond its scope, and the work is full of original as well as varied suggestion and advice on the subject of landscape, architectural, and flower gardening. The illustrations were certainly very much needed, and add considerably to the value of the treatise. To those who do not desire or require to purchase much more costly works, but are anxious to lay out their grounds to the best advantage, this is a most suitable and available little volume,—all the more so that its suggestions are mainly derived from personal experience, and not a mere compilation.

VARIORUM.

The "Essays on History, Biography, Geography, Engineering, &c." contributed to the *Quarterly Review* by the late Earl of Ellesmere (Murray, of Albemarle-street, publisher), will be read, we are sure, with increased interest, as the acknowledged productions of so esteemed a lover and promoter of art and science as the late Earl of Ellesmere. It is a notable circumstance, that so many valuable essays will, which all readers of the Quarterlies were long since familiar, are being republished as the productions of well-known and eminent men, such as Macaulay, Brougham, Lockhart, Croker, and Ellesmere; but the periodical forms of the Quarterlies give even these an ephemeral renown, which is but little in accordance with the sterling and enduring interest of many of the essays contributed to them by celebrated men; and after a time it becomes, in fact, necessary to disinter these essays as it were, and set them on their own proper basis, in a separate form, and stamped with their own special authorship. Such is the case with the varied, interesting, and valuable essays of Lord Ellesmere,—on Japan, on Wallenstein, on Art and Artists in England, on Blucher, on the Hudson Bay Company, on Aqueducts and Canals, on Painting in the Fourteenth Century, on Marmont, Silvane, and Alison; on the Antarctic Regions, on Borneo and the Celebes, on the Skerryvore Lighthouse, on Russian and German Campaigns, on General Gordon, and on the Laps. In these essays we have the spirit and true extract of many Quarterlies.

Miscellanea.

Case of a Niece of the late George Dance, Architect. We perceive that Miss Sophy Gertrude Dance, aged fourteen, great niece of the architect of Newgate, whose reputation stands so high in the estimation of the profession, is a candidate for admission into the Royal Naval Female School, St. Margaret's, Isleworth. She is the youngest of eight children of the late Admiral W. T. Dance, whose widow is left utterly destitute of any pecuniary means beyond her Government pension. Miss Dance will be ineligible after the election in July, and we feel assured that we need not further urge the case on the kindly feelings of those who may have votes for this admirable institution, or who may be able to influence the masters and wardens of the Mercers', Drapers', Vintners', Grocers', and other City Companies, who have numerous votes to bestow.

The Duke of Wellington's Sarcophagus.—It is stated that the porphyry tomb which has been placed in St. Paul's Cathedral was wrought and polished by steam power in the parish of Luxulyan, in Cornwall, in the field in which the huge "boulder" stone of porphyry, weighing upwards of seventy tons, nearly the whole of it above the surface of the ground, had been standing for ages. The whole of the work was executed by workmen employed on the Treffry estate, whose representatives were entrusted with the matter throughout. The cost of this tomb was 1,100*l.*

Birmingham School of Art.—Considerable changes have recently taken place at this school. Mr. George Wallis, who, in 1851, had charge of its reorganization, and has since brought it to an efficient state, has recently retired. Mr. Wood, the deputy head master, has also resigned, and the school is about to be removed to other premises, forming the upper floor of the new Midland Institute. Mr. Rainsbach, formerly master of the Cork School of Art, has been appointed to the head mastership, and the appointment of a successor to Mr. Wood is under consideration. We have every hope that neither the change of staff nor the removal to another locality will have any unfavourable influence on the prosperity of this important institution.

Marochetti's Cœur de Lion.—We have frequent inquiries and suggestions as to this statue. In some cases it is proposed to despatch it to a town or city in the provinces; but this appears to be out of the question, since it has been all along destined for a metropolitan site. There may be good reasons for difference of opinion as to the eligibility of some of the metropolitan sites suggested, but there is one site we have to propose about which, we think, there ought to be but one opinion, namely, that it would be an exceedingly suitable and excellent one. Near the new Museum at Brompton, and a little farther westward, on the fine new road opened through the property of the Royal Commissioners for the Exhibition of 1851 (at which exhibition this statue was first brought under public notice), there is a long and narrow angle of unoccupied ground which divides the new road from the Old Brompton-road, the two roads here forming a wide and open space, with the angle jutting far into it eastward. In this conspicuous and appropriate position we have to propose that the statue of Cœur de Lion shall be erected.

Certificates of Competency for District Surveyorships.—At the last meeting of the Board of Examiners, appointed by the Institute, several candidates were examined, and the council were recommended to grant a certificate to Mr. Stephen Salter, junior.

Proposed New Baths, Woodcock-street, Birmingham.—The competitor referred to in the resolution passed by other competitors, and printed in our last number (p. 293), has forwarded to us a communication wherein he maintains that in forwarding his printed "particulars," he "has not been guilty of a greater breach of etiquette than has been practised by many of the highest standing in the profession," and that "the so-called testimonials" "were only offered as a guarantee of competency for carrying out the work."

The New Barracks at Gosport. The new barracks within the fortifications extending from the top of North-street to the north end of the lane leading to Priddy's Hard, and which have been in course of erection for about twelve months by the contractors, Messrs. Lucas, Brothers, are rapidly progressing, and, except the southernmost block, appear to be nearly completed, so far as external work is concerned. The commandant's house is slightly damaged, the north and south outside walls having opened, it is said, in consequence of there not being any tie rolls to brace the inner walls and centre arch together, and the arches having to sustain a weight of about 200 tons, or a ton to each square yard of earth, &c. The building is said to have been carried up in accordance with the plan, but the immense weight placed upon it to render it bomb-proof is greater than the external walls can bear.

New Schools in Marylebone.—The foundation stone of new schools for girls and infants in the rectory district of St. Marylebone was laid on Thursday in last week by Sir Benjamin Hall. The Duke of Portland has presented the parish with the freehold of about a quarter of an acre of land adjoining the churchyard, on which the intended schools are to be erected. The committee formed for this purpose have purchased the leasehold of the same premises for 2,500*l.*, and have accepted a tender for the erection of the schools at a cost of 3,848*l.* A deficiency of about 500*l.* or 600*l.* must be collected before the Commissioners of Council on Education will grant 2,500*l.* The schools will accommodate upwards of 500 children of the poor of the parish. Mr. Thomas Little, is the architect.

Honorary Architects.—Sir: I find the following paragraph in the *Cardiff Times*:—"Newport.—Mr. —— has very kindly offered to prepare plans and specifications and superintend the building of the new chapel for the Rev. ——, in —— street, gratuitously." I do not know the gentleman who so thoroughly understands the value of his own services as to perform gratuitously that for which a professional architect charges five per cent. commission, but I say that such an offer is degrading to an architect and very absurd in practice; since an architect's commission, after all, forms but a small portion of the ultimate cost of any building, and the plans of a properly qualified professional man must, to say the least of them, be *cheaper* by much more than five per cent. than those of any unfit volunteer. I say this not only in reference to this matter, but also to the principle involved in the "kind offer."—Surveyor.

"Memorial Fountain."—A memorial fountain, says the *Edinburgh Post*, is about to be erected on the roadside at Inchbonny Brae. It is 8 feet and a half high, 5 feet in breadth, surmounted by a memorial cross. Above the basin a slab is to bear an inscription that the fountain is erected to the memory of the women and children who suffered during the mutiny of the sepoys in 1857, and on the arm of the cross will be the words, "Memorial Fountain." The material of the structure is to be white freestone.

The Atlantic Telegraph Cable.—The new machinery for paying out the Atlantic cable has been inspected, it is said, and approved of by some of the first mechanical engineers. The Government, it is rumoured, have it in contemplation to allow a limited number of scientific persons, especially those whose attention has been directed to this subject, to go out in the *Agamemnon* to witness the submerging of the cable.

A Workman impaled.—A painter, while engaged in painting some second-floor windows in Pitts-place, fell off the scaffold and became impaled on the iron railings, several of the spikes entering his abdomen. He was taken to the hospital without hope of recovery.

The River Thames.—In the House of Commons last week, on the motion of Mr. Kendall, the following select committee was nominated, on the River Thames:—Mr. Kendall, Viscount Palmerston, Lord J. Russell, Lord J. Manners, Viscount Goderich, Mr. Bouverie, Mr. Percy, Sir B. Hall, Sir J. Y. Buller, Mr. Stephenson, Mr. J. Locke, Mr. Tite, Mr. Cayley, Mr. Akroyd, and Mr. Roupell.

ORDISH'S RIGID SUSPENSION-BRIDGE. — A pension-bridge, on principles regarded as suit- for railway traffic, has recently been patented Mr. R. M. Ordish, of Westminster, C.E. The lway of this bridge is supported by two longi- inal girders which form the parapets. These lers are suspended at points about 60 feet rt by straight chains, which run from each it to opposite piers, and are anchored to abut- nts in the usual manner. The straight chains suspended from a light curved chain, which ries their weight, and serves to retain them in ight lines. In bridges of several spans, straight ins cross each other in the middle of each span, are continued to the foot of the opposite pier; s providing against the contingency of one h being loaded and the others at the same e unloaded. It is admitted that the system of porting the roadway of a bridge by intersect- straight chains is theoretically perfect; but practical difficulty has hitherto been to retain ins of such great length and weight in straight s. This difficulty Mr. Ordish ingeniously pro- es to overcome by suspending them from a ved chain, thus producing a suspension-bridge oretically and practically rigid. The cheap- s of bridges on this principle is said to be narkable. The cost of their superstructure for gle spans is stated to be about 18 per cent. less n that of ordinary suspension-bridges, and only nt one-fourth that of girder or iron-arched dges.

CHAVING WOOD INTO VENEERS.—We hear of French invention, by means of which great nomy of material is said to be effected in the tting of veneers, and without any injury to the es in cutting, as one would suppose such a de of manufacturing veneers must be apt to nsion. The wood is first steamed and made as well as moist, and in this state is simply everted into veneers by means of a planing- chine, like that whereby American pine has for ny years been shaved into thin sheets for hat- es, &c. All sorts of fine woods, however hard, e said to be thus rendered into veneers without v vital injury to the fibres, and of course with- t that immense loss of material which veneering s unavoidably produce. By this invention, it uld thus appear, the objection to planed veneers, at one time manufactured in this country in a ilar way, but to the injury of the fibres, must e been overcome by the mode of preparing the od beforehand.

ORGAN FOR THE ORATORY AT BROMPTON.— ssrs. Bishop and Co. are building a large organ their factory in Marylebone-road for the Roman tholic Oratory at Brompton. The instrument ust be nearly finished, as a performance on it ok place a few days ago.

CONSECRATION OF ST. PHILIP'S CHURCH, KEN- NGTON.—On Saturday morning, the 1st inst. e bishop of London consecrated the new church St. Philip, which has been erected in Earl's- urt, Kensington. The church has been built d endowed by voluntary subscription. It is of ick, with stone dressings; Gothic, of course, but thout any great pretensions to beauty exter- lly.

FALL OF A RAILWAY BRIDGE, NEAR OXFORD. The foundation of a stone bridge erected over e Oxford, Banbury, and Buckinghamshire anch of the North-western railway, about two iles from Oxford, has given way, carrying with e nearly a half of the brick arch. Land springs nning through the bed of the clay on which the idge was built are blamed. The stone came om the quarry of Islip, and the bridge was built the late Mr. Hayter, of Coventry.

THE IRON TRADE.—Home orders are increas- g, and, it is thought, will maintain prices to the d of the quarter. Glasgow prices have declined. ere is an unwillingness to agree either to the duction of the nominal prices, or to the lowering wages consequent on such reduction.

CANINA.—The *Critic* says,—A posthumous ork of Canina, now advertised as on sale, shows ith what energy he prosecuted archæologic dies till the close of his long life. This, called The Topography of Rome and the Campagna," as intended as a part only of a much vaster un- rtaking, but is in two volumes of no mean mensions; the first treating of the city's locali- es in the ante-Roman, the royal, and consular ochs; the second, of the Campagna in the ante- man and royal epochs.

BATTERSEA PARK.—The whole outlay on Bat- ersea Park is stated by a Parliamentary paper, blished on Saturday, to have been 312,890*l.* of hich 246,517*l.* was paid for the purchase of land. the quantity of land set aside for the park is 185 res, and 101 acres remain unsold.

THE MONTGOMERY MEMORIAL WINDOW IN SHEFFIELD CHURCH.—A stained glass window has of late been erected over the communion-table of the parish church of Sheffield, the gift of one of the churchwardens, Mr. John Newton Mappin, of Birch- lands, Sheffield, and dedicated to the memory of the late poet, James Montgomery. In the summer of 1857, says the local *Independent*, Mr. Mappin, being anxious to secure first-rate talent, invited several artists in stained glass, six of whom sent in designs. Out of these, Mr. Mappin and some friends whom he consulted selected those sent in by Messrs. Thomas Baillie and Co. of London— the same firm who produced the stained glass window of "Shakspeare reading one of his plays before Queen Elizabeth and her Court, in the Great Exhibition in Hyde-park, in 1851, and now exhibited in the Crystal Palace, Sydenham. The style of the window is flamboyant. It is 23 feet high, by 12 feet wide, and is divided into four lower lights and seventeen tracery ones. The lower left centre light contains a figure of Moses: the right centre contains a figure of David. On the extreme left is the evangelist St. Matthew: on the extreme right is St. John. Leaving the lower lights, and proceeding upwards, the four principal lights in the tracery represent four of the events of our Lord's life, viz.—his Baptism by John, Transfiguration, Crucifixion, and Ascension. Over these, and amongst foliage, are two figures of angels, with scrolls; and at the top is the figure of a descending dove. The upper window contains two figures, viz. St. Paul and St. Peter; above which are emblazoned the coat of arms, crest, and motto of the donor.

BAYSWATER AND SOUTH KENSINGTON. — Mr. Mackinnon asked the First Commissioner of Works, in the Commons, a few days since, whether there was any intention to accommodate the public by opening a communication between Bayswater and South Kensington; and if so, in what manner? Lord J. Manners replied that he believed that in 1855 plans were prepared of such a communication, the estimate for which was 60,000*l.* but the subject had not come under his consideration since the change of Government, and he was not prepared to ask Parliament for so large a sum during the present session.

NEW LONDON CHURCHES.—A church is in progress in the new district of St. Luke's, Islington. It will be the first of the ten new churches proposed to be erected in that large parish. A new church will be commenced forthwith in Windmill-street, Haymarket, an ecclesiastical district having been assigned to it. A new church, dedicated to St. John, is in course of erection at Hammersmith. A new church for Barnsbury-park district will be commenced with as little delay as possible.

MEDITERRANEAN, &C. TELEGRAPHIC COMMUNICATIONS.—In the House of Commons on Tuesday last, Mr. Crawford called the attention of the House to the question of the extension of telegraphic communications in the Mediterranean, and with the East; and moved an address for copies of all proposals made to the Government, or to the East India Company, for the establishment of telegraphic communications in the Mediterranean, or with India by way of the Red Sea or Persian Gulf; and of all replies thereto, conventions entered into, or contracts made, &c. It was a matter of entire indifference to him whether the Red Sea route, the Tigris route, or the Euphrates route was selected; and, indeed, he should be glad if they were all adopted. The motion of Mr. Crawford was agreed to.

[ADVERTISEMENT.]

National Mercantile Life Assurance Society, Poultry, Mansion-House,
June 15, 1857.

The Six Iron Revolving Shutters supplied to this office by Messrs. CLARK and Co. have now been in use upwards of twelve years, and I have much pleasure in bearing testimony to their general excellence, their durability, security, ease in working, and their non-liability to get out of order.

Beyond an occasional oiling, nothing whatever has been done to them since they were first fitted, I can therefore highly recommend them.

CHARLES MARSH.

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15, Gate-street, Lincoln's-inn-fields.

TENDERS.

For new library, Middle Temple (Bath stone), Mr. H. R. Abrahams, architect:—

Lucas	£13,555	0	0
Piper	12,159	0	0
Holland	11,444	0	0
Cubitt	10,800	0	0
Jay	10,720	0	0
Myers	10,236	0	0

For rebuilding premises, No. 25, Mark-lane, for Messrs. Wood, Field, and Hanbury; Mr. E. Ellis, architect. The quantities by Messrs. Percy and Carter:—

Ashby and Son	£5,490	0	0
Colls and Co	5,359	0	0
Little	5,248	0	0
Piper	4,993	0	0
Mansfield	4,780	0	0

For new schools, Wandsworth; Mr. Peacock, architect:—

White	£2,656	0	0
Holland	2,568	0	0
Nicholson	2,390	0	0
Mears	2,300	0	0
Myers	2,278	0	0
Piper	2,261	0	0

For three houses and shops, at Norwood; Mr. Dyball, architect:—

Hanley	£2,667	13	0
Macey	2,548	0	0
Woodward	2,390	0	0
Mansfield and Son	2,384	0	0
Jenkins	2,382	10	0
Perry	2,270	0	0
Patrick and Son	2,254	0	0
Nottle	2,250	0	0
Buck	2,240	0	0
Foster	2,169	0	0
Hocken	2,050	0	0

For new chapel, for the Victoria-park Hospital for Diseases of the Chest; Mr. Lamb, architect:—

Roberts	£2,160	0	0
Patman	1,996	0	0
Myers	1,884	0	0

For two houses in York-street, Covent-garden; Mr. John Blyth, architect. Quantities supplied:—

Ashby and Son	£1,982	0	0
Brass	1,897	0	0
Macey	1,809	0	0
Hill	1,863	0	0
Canon	1,857	0	0
Patman	1,855	0	0
Fox	1,850	0	0
Crook and Son	1,781	0	0
Thompson	1,770	0	0
Ringer and Stanger (accepted)	1,760	0	0

For the erection of a new tower and other works at the parish church of High Ongar, Essex; Mr. E. Swansborough, architect:—

Noble	£885	0	0
Hammond	868	10	0
Barlow (accepted)	790	0	0
Jago	781	0	0

For enclosure to two acres new burial-ground, Pinner, with cast-iron rails and piers to entrance; Mr. H. Mawley, architect. The quantities not supplied:—

Chapman	£718	0	0
Harward	700	0	0
Clarence	680	0	0
Matthews	677	0	0
Hollands (accepted)	632	0	0

For new bar fittings, including pewterer's work, to the Manor-house Tavern, Green-lanes, Stoke Newington; Mr. F. G. Widdows, architect:—

Ashton	£315	0	0
Sargeant	305	0	0
Wheen	265	0	0
Squires	245	0	0
Terrey	232	0	0

For repairing and painting the exterior of St. Mary's Roman Catholic Chapel, Moorfields; Messrs. Young and Son, architects:—

Carter	£291	0	0
Kuckuck	174	0	0
Shaw	155	0	0
Young	98	0	0

For additional almshouses and other buildings at the Licensed Victuallers' Asylum, Asylum-road, Old Kent-road; Mr. Charles B. Arding, architect. Quantities supplied:—

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	£. s. d.	£. s. d.	£
Monhenick	3,550 0 0	100 0 0	17 0 0
Browne and Robinson	3,420 0 0	390 0 0	20 0 0
Axford and Co.	3,407 0 0	100 0 0	19 10 0
Lawrence	3,363 0 0	385 0 0	18 0 0
Ramsey	3,360 0 0	370 0 0	18 0 0
Hollins	3,316 0 0	381 0 0	21 0 0
Stevens	3,298 12 6	410 0 0	20 0 0
Searle	3,255 10 0	370 0 0	19 10 0
Gomme and Bryon	3,229 0 0	365 0 0	22 0 0
Cook	3,205 0 0	370 0 0	20 5 0
G. Smith	3,185 0 0	369 0 0	17 10 0
Wood and Son	3,177 0 0	388 0 0	25 0 0
Marsland	3,175 0 0	365 0 0	20 0 0
Piper and Son	3,167 0 0	355 0 0	19 0 0
Riley	3,142 0 0	315 0 0	22 0 0
Gammon	3,127 0 0	377 0 0	22 0 0
Colls and Co.	3,095 0 0	319 0 0	16 0 0
Stoner	3,067 10 0	369 0 0	20 0 0
Read and Son	3,049 0 0	360 0 0	20 0 0
Norris	2,997 0 0	370 0 0	15 0 0
Ennor	2,968 0 0	331 0 0	19 0 0
Morter (accepted)	2,943 0 0	335 0 0	19 10 0

For six houses, Midhurst-road, Bow, for the Second East London People's Building Society; Mr. H. A. Alexander, architect. Quantities supplied by the architect:—

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Hedges	1,795	0	0
Hall and Son	1,590	0	0
Cutman	1,573	10	0
Green	1,550	0	0

For a villa at Highgate-rise, for Mr. G. Luff. Mr. F. G. Widdows, architect:—

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Child and Co.	1,518	0	0
Sargeant	1,454	0	0
Roberts	1,400	0	0
Raby	1,297	0	0
Wheen	1,287	0	0

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A GOOD Practical Draughtsman is in want of a SITUATION in an ARCHITECT'S OFFICE. Is capable of taking detail and working drawings, &c. &c. He has been in his situation upwards of two years, and can be at most highly recommended. Terms required, moderate.—Address, Alpha, Post-office, Kentish-town.

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A SHORT DISTANCE from Town, the friends of a Youth, 14 years of age, wish to APPRENTICE him to the above business.—Address, by letter only, A. B. 16, New Church-street, Red Lion-square.

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A DRAUGHTSMAN wishes to meet with an ENGAGEMENT, in town or country. Understands perspective design, detail, and the general routine of the profession.—Address, ARCHITECT, 11, Swinton-street, Gray's-inn-road, W.C.

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H. WINFIELD CRAVE, Sec.

Offices, 5, Parliament-street, May 4, 1858.

NOTICE.—DRY RUBBISH, free from vegetable matter, may be shot (where directed) within the Royal Mews, Westminster, by the Cubic Yard or Load, at the Royal Entrance, Grosvenor-gate, Oxford-street, Westminster.

Royal Mews, Grosvenor-gate, Oxford-street, Westminster, 30 April, 1858.

MESSRS. JOHN and WM. EASTWOOD are now prepared to make engagements for the SALE of BRICKS for the NEW CLAMPS for the coming season The deliveries to commence towards the latter end of the month.
Belvidere road, Lambeth, 1st May, 1858

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The EWELL deep BLACK RUBBING and BUILDING BRICKS.
And the EWELL and CHALFONT dark and bright RED RUBBERS

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And 6, SOUTH WHARF, PADDINGTON BASIN
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SUPERIOR WHITE SUFFOLK FACINGS, Splays, Dog-Jambs, Coping Bricks, Stable Clinkers, &c.
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STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles Plain, Plunged, Rolled-top, and Ornamental Grooved Ridging, &c. Broseley Tiles
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WILLIAM LEE, SON, and SMITH,
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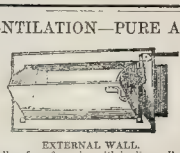

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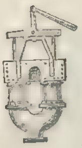

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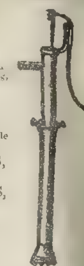

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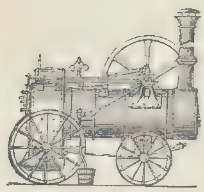

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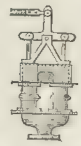

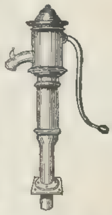

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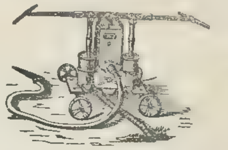

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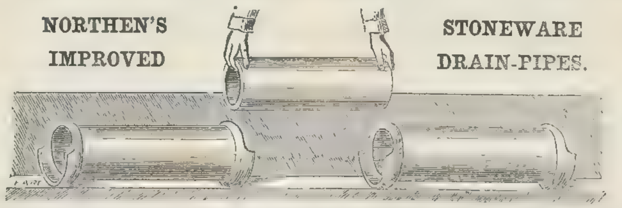

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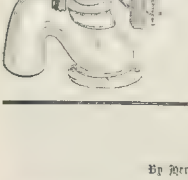

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Honourable East-India Company,
Honourable Board of Ordnance,
Her Majesty's Estate, Isle of Wight,
Royal Botanical Gardens, Regent's Park.

[illegible] members of the Royal Agricultural Society of England, Scotland, and Ireland, at whose great [illegible] OBTAINED THE PRIZE, [illegible] Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. [illegible] PENNY PER SQUARE FOOT. [illegible] ONE [illegible] of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c. is also manufactured [illegible] effected. The TRADE are [illegible] FACTORY, as the surest means of being supplied with the genuine article, [illegible] CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and CO.'S Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW. Roofs covered with the Felt to be seen at the Factories, also the new Vice-Chancellors' Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

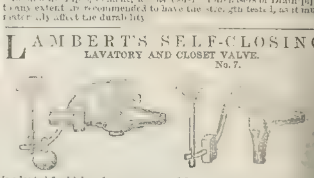
UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE. [illegible] MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.
No. 7.

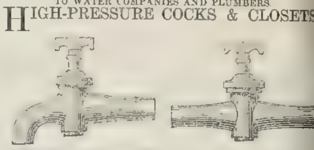


is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B. No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 1[illegible]s. 6d. each.

TO WATER COMPANIES AND PLUMBERS.
HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to
JOHN WARNER & SONS'
PATENT VIBRATING STANDARD PUMP,
which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price [illegible] less than [illegible] the old plan.

Beer and Water [illegible] for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

GAS SOIL put on BOARD BARGES, at GRAYS.—Apply to MEESON and CO. Grays, Essex, or 12, George-yard, Lombard-street, E.C.

DOULTON'S PATENT INVERT BLOCKS.

MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS. The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS, which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.

This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage-works.

DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.

DOULTON'S GLAZED STONEWARE SOCKET, HALF-SOCKET, AND OPERCULAR PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.

Manufactories—High street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; fitted with PATENT AIR-TIGHT VALVES, 8s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

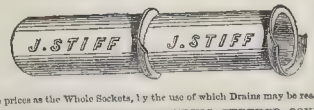
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

PAN, 4s. 6d.

PAN, 4s 6d.

TRAP, 2s.



TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Fedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.

Messrs. COLES, SHADBOLT, and CO'S. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.

Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.

Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.

Messrs. COLWILL (BROTHERS), 32, Brydges-street, Covent-garden.

Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

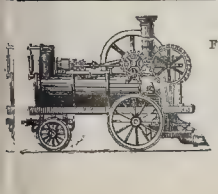
ST. HELEN'S,

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, always ready, TO LET ON HIRE, by the Week or Month,

For Pumping, Sawing, Pile-driving, Raising Materials, &c. &c.

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

TO the ARCHITECTS and ENGINEERS

of the NORTH of ENGLAND.

JENNINGS'S PATENT SYSTEM of LAYING DRAIN-PIPES

Is the most Perfect yet introduced.

It is now universally acknowledged as the only "IMPROVEMENT" yet effected on the ordinary Socket or Half-socket Pipe.

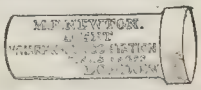
JOSEPH CLIFF, WORTLEY, near LEEDS, being empowered by Licence for the exclusive Sale and Manufacture of the above Pipes, has made extensive arrangements to meet the increasing demand, and is prepared to deliver them throughout the NORTHERN, MIDLAND, and EASTERN COUNTIES, at the ordinary List Price, as below:—

3 in.	4 in.	6 in.	9 in.	12-in.	15 in.	18-in.
5d.	6d.	8d.	1s 1d.	1 10d.	3s.	4s per foot.

Less 20 per cent. Discount for Cash.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



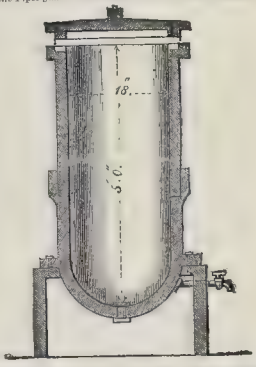
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

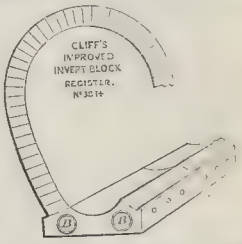
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	2 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
	9s 3d.	8s 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18 inch.	15-inch.
8s.	4s. 3d.	3s. 4	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.



These GLAZED STONEWARE WATER-CISTERNS are made of any size from 15 inches diameter to 3 feet, capable of containing from 50 to 300 gallons. As a Cottage Water-Cistern they are the CHEAPEST, the PUREST, and most DURABLE article made.—Vide "The Builder," March 20th, 1858.



By use of CLIFF'S IMPROVED INVERT,

The uniform level of sewer is easier of attainment.
Greater rigidity is ensured by the ring-joints inserted at B.
The work is executed with more speed.
The notched sides ensure better support for the bricks, and the sub-soil is more perfectly drained through the lateral apertures C C C C in connection with the down thoroughfares B B.

In the Manufacture of FIRE-CLAY RETORTS for Gasworks, JOSEPH CLIFF has brought to bear the experience of now more than thirty seasons, and he with confidence invites the attention of all Gas Engineers to their superiority of finish, correctness of form, and FREEDOM FROM SURFACE CRACKS. A stock is always kept in hand; also Fire Bricks, Lumps, Guards, Tiles, and Clay, at the

WHARF No. 4,

INSIDE GREAT NORTHERN GOODS' STATION, KING'S-CROSS, LONDON.

SALES BY AUCTION.

IMPORTANT FREEHOLD.—Sufferance Wharf, with the newly erected Saw and Planing Mills, Engine house, and Offices, a Dwelling-house, and Two Freehold Public houses,—Rotherhithe, Surrey.

MESSRS. FULLER and HORSEY are instructed by Messrs. Grissell, Brothers, to SELL by AUCTION, at the MART, on THURSDAY, the 20th of MAY (unless an acceptable offer is previously made by Private Contract, of which due notice will be given), a highly important FREEHOLD PROPERTY and SUFFERANCE WHARF, known as Canada Wharf, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 2½ acres. The premises have been arranged by Messrs. Grissell as a timber yard, wharf, and saw mills. The buildings, newly erected in the most substantial manner, comprise the saw mill, about 70 feet by 64 feet, engine and boiler house, planing shed, offices for clerks and [illegible], stabling, and carriage-house; also, a dwelling-house, with private entrance, suitable for a manager. The Horns old-established and well-accustomed public-house, adjoining the watermen's stairs and the Blacksmith's Arms public-house in Rotherhithe-street. The distance of this property by carriage from London bridge is about three miles, but, by the Blackwall Railway to Limehouse and the ferry boat across, it may be reached from the city in about twenty minutes. A large outlay has been made in fitting machinery of the most modern and approved description for sawing and planing, worked by a highly finished double-cylinder steam engine of [illegible]-horse power, by Hall, of Dartford. The sawing and planing machinery may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the mills. The arrangement of the buildings and situation of the property for the purposes intended by the present occupiers are most desirable in every respect, or the site is equally available for the establishment or erection of any large manufactory requiring waterside premises. The property may be viewed by cards only, which may be had at the Offices of the Auctioneers. Printed particulars and plans are in course of preparation, and may be had shortly of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, No. 11, Birchin-lane (late 11, London street), E.C.; of B. F. WATSON, Esq. Solicitor, 30, Lincoln's-inn fields, W.C.; at the Mart, and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, Esq. to SELL by AUCTION, on MONDAY, MAY 17, 1858, at TWELVE, at the WORKS, adjoining the new bridge from Battersea, Pimlico side, the PLANT lately used in the construction of the piers and earthworks, including 200 scaffold poles, 200 wheeling planks, 150 navvy barrows, six dobbin-carts, eight line and sand screens, framed centres, portable crane and trolly, two framed shear legs, with crab; thirty pair water-boots, five well pumps and suctions, carpenters' benches, cross-cut saws, augers, 16,000 superior stock bricks, 500 plain tiles, brick erection of offices, with slated roofs; erection of carpenters' and smiths' shops, with slated roofs; foreman's office, two watchmen's boxes, piles, pile-shoes, screwed bolts, iron dogs and crowbars, and other effects.—To be viewed on Saturday previous to the Sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO CABINET MAKERS, BUILDERS, BLOCK MAKERS, TURNERS, WHEELWRIGHTS, UNDERTAKERS, AND OTHERS.

THOS. EDWARDS and SON have received instructions from the Proprietor, who is relinquishing the retail business, to SELL by AUCTION, on the PREMISES, No. 129, Old-street, St. Luke's, on MONDAY, MAY 10, 1858, and following days, at ELEVEN o'clock precisely, the entire STOCK and IMPLEMENTS of TRADE, consisting of large quantities of well seasoned St. Domingo, Honduras, Cuba, and African mahogany, in planks and boards; Havana and pencil cedar, rosewood, maple, and satinwood planks; Italian walnut, English ash, elm, oak, yew tree, holly, pear-tree, and sycamore, in planks and boards; American birch wainscot, [illegible] wood, ebony, cocus, boxwood, lignum vitæ, purple wood, [illegible], camphor wood, partridge wood, violet wood, and other fancy woods; also, dry Memel pipe staves, dry yellow pine, white, yellow, and spruce planks, deals and battens, both whole and cut; an assortment of mahogany, maple, walnut, oak, and other veneers. To be viewed two days previous to and on the mornings of Sale. Catalogues may be had on the Premises; and of THOS. EDWARDS and SON, Mahogany Brokers, 15, Pinner's-hall, Old Broad-street, E.C.

PENZANCE, CORNWALL.—Important and Extensive Manufacturing Premises, held at a ground rent, bounded by the sea wall, in the occupation of the London and Penzance Serpentine Company, with the option of taking the valuable plant and machinery, and the leases of six quarries.

MR. BOYES has been instructed by the Official Liquidator (appointed by the Court of Chancery to wind up the above Company), to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, London, on MONDAY, MAY 17th, at TWELVE o'clock, the above valuable PROPERTY. The Premises are extensive, have been built with stone during the last four years in the most complete and substantial manner, at a cost of several thousand pounds, and contain a noble show room, factory, masons' and turners' shops, polishing, engine, and store rooms; smithy, boiler-house, large shed, yard, &c.; also, a desirable plot of Building Land, having a frontage of about 400 feet. The machinery is of the best description, and in excellent working condition. To any party desirous of embarking in this business a most desirable opportunity is hereby offered: but the premises, from their extent and eligible situation, and from their possessing every modern improvement, offer unusual advantages for many other manufacturing purposes. A plan and elevation may be seen at the Auctioneer's Offices. The premises may be viewed, and particulars may be had thereof of Messrs. CLUTTON and ADL, Solicitors, 43, High-street, Southwark; of H. CROYSDILL, Esq. Official Liquidator, 84, Basinghall street; at the principal Hotels at Plymouth and Truro; at Garraway's; and at the Auctioneer's Offices, 43, Abchurch-lane, London.

EAST HILL, Wandsworth, Surrey.—Eligible Investments.

MESSRS. NICHOLSON and SONS are honoured with instructions to SELL by AUCTION, at the AUCTION MART, London, on THURSDAY, 13th MAY, 1858, at ONE o'clock punctually, a valuable FREEHOLD ESTATE, consisting of a detached residence, in complete repair, fit for the immediate reception of a large family, replete with every convenience, and situate in a most commanding position on East hill, Wandsworth, having an important frontage of 190 feet on the main road to London, with an average depth of 250 feet. Also attached, a capital Meadow, containing [illegible] 2r. 32p., situate in St. Ann's hill, Wandsworth, measuring 225 feet by about 500 feet, possessing two frontages, offering a most favourable opportunity for the erection of first class villas, the neighbourhood being quite select and retired. Situation peculiarly healthy, and every accommodation afforded of reaching London, either by railway, omnibus, or water. The estate altogether contains 7 a. 2r. 32p. which will be submitted in one lot, when, should there be no bidding beyond an amount that will then be named, Messrs. NICHOLSON and SONS have instructions to subdivide the property and offer it in three lots. Particulars and conditions of sale, with plans showing division of estate into three lots, to be had on application to Messrs. WILSON and BRISTOW, Solicitors, 1, Copthall buildings, London, E.C.; at the Auction Mart, London; and of Messrs. NICHOLSON and SONS, High street, Wandsworth, S.W. from whom alone cards to view can be obtained.

SOUTH STREET, WANDSWORTH, SURREY.

MESSRS. NICHOLSON and SONS are instructed to OFFER to PUBLIC COMPETITION, at the AUCTION MART, London, on THURSDAY, the 13th day of MAY, 1858, at ONE o'clock precisely, a [illegible] PLOT of FREEHOLD BUILDING LAND, well adapted for the erection of [illegible] cottages, which will [illegible], having a frontage of 136 feet, by a depth of [illegible] feet.—Particulars and conditions of sale may be obtained on application to Messrs. WILSON and BRISTOW, Solicitors, 1, Copthall buildings, Copthall-court, City; at the Auction Mart, opposite the Bank of England; and of the Auctioneers, High street, Wandsworth, S.W.

NOTICE.—To MAHOGANY and TIMBER MERCHANTS, CABINET MAKERS, MACHINE MAKERS, and OTHERS.—The NEXT LIVERPOOL PERIODICAL AUCTION SALES, comprising cargoes of Honduras, Cuba, and St. Domingo MAHOGANY and other FURNITURE WOODS, &c. will take place on THURSDAY and FRIDAY, May [illegible], the 20th and 21st instant, beginning at ELEVEN o'clock precisely each morning, at the WOOD SALES SHEDS, Brunswick and Toxteth Docks, Liverpool.—For catalogues and further particulars, apply to EDWARD CHALONER, Wood [illegible] [illegible].

WALKINSHAW FOUNDRY and ENGINE WORKS, at JOHNSTONE, FOR SALE.—There will be exposed for SALE, by PUBLIC ROUP, within the FACULTY HALL, Glasgow, upon WEDNESDAY, the 2nd day of JUNE next, at TWO o'clock afternoon, the long established and celebrated ENGINEERING and MACHINE MAKING WORKS, carried on by Messrs. John M'Dowall and Sons, Johnstone, and belonging to the Trust Estate of the late Mr. John M'Dowall, with the Haill Pertinents thereto belonging, and Goodwill of the Business, Patent rights, &c. Mr. M'Dowall's eminence as an engine maker and inventor and patentee of vertical sawing-frames, wood-planing, moulding, and [illegible] machines, &c. &c. secured for him a large and lucrative business, which can be readily shown to intending purchasers. The works have an abundant supply of water, are conveniently situated about [illegible] miles from Glasgow, and command transit at moderate rates by canal and railway. It is well known the late proprietor spared no expense in fitting up the premises in the most complete and superior style. They are compact, well arranged, complete in every respect, and in active operation, and comprise [illegible] turning shops, smithy shop, fitting up shops, and stores connected therewith, [illegible] and business chambers, drawing rooms, and other conveniences requisite for the business; patent steam hammer in smiths' shop, steam engine, large court yard, &c. The plant of tools is [illegible] working order, and embraces planing machines, boring mills, turning lathes, &c. &c. of the best description, and with the latest improvements.—On application to the Manager, the Works can be seen at any time, and further particulars will be given by ALEXANDER M'KENZIE, Esq., 89, Buchanan street, Glasgow; or JOHN HOLMES, Esq., Writer, Union Bank of Scotland, Johnstone.

Johnstone, Renfrewshire, April, 1858.

DOWNING STREET PUBLIC OFFICES EXTENSION. FIRST SALE.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 11, at TWELVE for ONE, the BUILDING MATERIALS of Nine Houses, with counting-house, workshops, stabling, &c. being Nos. 57, 14, 15, 16, 17, and 18, Upper Crown-street, No. 2, Say's alley, and Nos. 1 and 2, Crown yard, King street, Westminster: comprising about 300,000 bricks, several tons of lead, useful timber, sashes and frames, doors, gutters, binding, slating, pan and plain tiles, York and pebble paving, fixtures, and fittings. May be viewed the day prior and morning of sale. Catalogues had at the Office of Works, 12, Whitehall place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing cross.

TO BUILDERS, COACHMAKERS, AND OTHERS.—Capital Oak Timber, Kibberdy Wood, Radwinter, near Saffron Walden, Essex.

MR. WILLIAM RAND is favoured with instructions from the Proprietor to SELL by AUCTION, upon the PREMISES, at ELEVEN o'clock, on TUESDAY, the 11th of MAY, 1858, 380 OAK TREES, 20 ash ditto, [illegible] oak saplings, 70 ash and poplar spears, and 20 spruce firs, the fall of 1857, now lying by the side of the road leading from Saffron Walden to Radwinter. The trees are of good quality, long lengths, and worthy the attention of builders, wheelwrights, and others. Six months' credit will be given upon approved security, on purchases above 5l. subject to conditions which will be read at the time of sale. May be viewed by applying to the Bailiffs at the Wall's [illegible] and New House Farms, Radwinter, of whom catalogues may be had; also at the Office of Messrs. NOCKOLDS and KING, Land Agents; and of the Auctioneer, Saffron Walden, Essex.

HARGRAVE-PARK, UPPER HOLLOWAY.—The Second Portion of the valuable Freehold Building Land, in several lots.

MESSRS. PRICE and CLARK are instructed to SELL by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on TUESDAY, MAY 25, at TWELVE for ONE, in lots, the very desirable BUILDING LAND, delightfully situate on the Hargrave park estate, and lying between Magdala lane and the Junction road, leading from Kentish town to Highgate, and near to the Archway Tavern. The land will be allotted partly in large plots, to suit large capitalists, and partly in building frontages upon the Junction-road and to the New road, leading into Magdala lane, with roads and sewers already made. The elegant villa residences, recently built, adjoining this spot, and already occupied by tenants of the highest respectability, afford an ample proof of the value of the land, the charming locality, the beauty of its elevation, the command of extensive views, the proximity to the metropolis, the rapid succession of omnibus accommodation, and other manifest advantages, all combine to render this land superior to anything now to be obtained in the vicinity of London. The property is rapidly rising in public estimation, and capitalists desirous of creating freehold ground-rents will do well to secure a few of these valuable plots.—The property may be viewed until the sale, and particulars, with plans, had ten days preceding the sale, of R. L. ROUMIEU, Esq. Architect, [illegible] place, Strand; of P. A. HANROTT, Esq. Solicitor, 36, Southampton row, Russell square; and at PRICE and CLARK'S Offices, No. 48, Chancery lane.

TOWER.—SALE of STORES.—By order of the Secretary of State for War, TO BE SOLD by PUBLIC AUCTION, in the TOWER, on MONDAY, the 10th of MAY, 1858, at ELEVEN o'clock in the forenoon precisely, the following STORES:—Gregos; Coats, Flushing, &c.; Coats, &c. Sheepskin; Caps, Fur, &c.; Clothing, various; Worsted Socks; Bedding, various; Blankets, Horse; Accoutrements; Saddlery; Tools, various; Oakum; Old Iron and Steel, and Miscellaneous Articles. May be viewed at the Tower, from TEN to FOUR o'clock, on three days previous to the Sale, and catalogues had at the War-office, Pall-mall; the Tower; and Royal Arsenal, Woolwich.

MOORGATE STREET, CITY.—VALUABLE BUILDING LAND.—By

MR. MASON, at the AUCTION MART, early in JUNE (unless previously disposed of by private contract), a valuable PLOT of FREEHOLD BUILDING GROUND, nearly square, occupying an area of [illegible] feet, adjoining Coleman street buildings, within 100 yards of the Bank of England.—Apply to Mr. MASON, 15, Finsbury place South, who is instructed to receive proposals for the same.

TUESDAY NEXT, by order of the Trustees *Re* E. Simms.—To BUILDERS, PACKING CASE MAKERS, CARPENTERS, CARMEN, and OTHERS.

MR. T. S. SMITH (of Lombard-street) has received instructions to SELL by AUCTION, on the PREMISES, Mr. Simms's Saw mills, King's road, Chelsea, on TUESDAY next, MAY 11, at TWELVE for ONE precisely, without reserve, the WELL SEASONED STOCK, consisting of about 20,000 feet of mouldings, 100 squares prepared floor boards, a few yellow deals and planks, wainscot, elm, and ash planks; 500 feet of quartering; cut stuff, various; twenty one 2-inch panel doors, two cart-horses, a cob and a pony, light [illegible] phaeton, two carts, timber carriage, truck, harness, [illegible] cutting machine and [illegible] utensils, and effects. May be viewed the day prior to Sale. Catalogues obtained on the Premises; of Messrs. SHEFFIELD, [illegible], 68, Old Broad-street; the Estate Exchange; and of Mr. T. S. SMITH, 12 (late of 44), Lombard-street, and Upton, Essex.

ROCHESTER.—TO BARGE OWNERS AND OTHERS.

MR. R. KIDWELL has received instructions to SELL by AUCTION, on TUESDAY, MAY 11th, 1858, at FIVE for SIX o'clock in the Evening, at the CROWN INN, Rochester, the following well-known SAILING BARGES, in Three Lots:—

Lot 1. All that well-known Sailing Barge, "The Georgiana," of Faversham, registered 41 [illegible] Tons, new measurement, sprit-sail rigged, with a topping-up bowsprit, with all her standing and running rigging, materials, and findings.

Lot 2. All that well-known Sailing Barge, "The Rose," of Faversham, registered [illegible] Tons, new measurement, sprit-sail rigged, with a running bowsprit, with all her standing and running rigging, materials and findings.

Lot 3. All that well-known Sailing Barge, "The William," of Faversham, registered 42 [illegible] Tons, new measurement, sprit-sail rigged, with a topping bowsprit, with all her standing and running rigging, materials, and findings.

The above Craft will lie for inspection seven days previous to the Sale near the Baths, Rochester, where particulars and conditions of sale may be had at the New Inn, Maidstone; Bull Inn, Sittingbourne; Prince of Orange, Gravesend; at the Place of Sale; and of the Auctioneer, at his Offices, 31, High street, Rochester.

VARIOUS BUILDERS' EFFECTS.—Absolute Sale to repay advances [illegible].

MR. W. HOLLINGSWORTH will SELL, on TUESDAY next, at TWELVE, at his SALE ROOMS, 15, High Holborn, a valuable SAWING MACHINE for circular work, a [illegible] spiral iron staircase, 500 pieces of most expensive flock and gold French papers, fifty-five handsome [illegible] chimney pieces, suitable for first and second class houses, seven large [illegible], register and other stoves, kitchen ranges, a stock of builder's ironmongery, 500 yards of brass chandelier chain, five casks railway grease, 160 bushels charcoal, two patent washing and mangling machines, and various effects. On view on Monday.—Auction Mart, 15, High Holborn.

WESTERN SUBURBS OF LONDON.—Important Building Estate, near Shepherd's bush green, and immediately adjoining Shepherd's bush lane, connecting the Uxbridge road with Hammersmith, and near to Notting hill; freehold, tithe free, and land tax redeemed.

MESSRS. DANIEL SMITH, SON, and OAKLEY have received instructions to OFFER for SALE, at the AUCTION MART, on TUESDAY, the 18th of MAY, this most important and valuable PROPERTY, containing in the whole about 12 acres, which, if not then sold in one lot, will be offered immediately afterwards in four lots. This property demands particular and special attention, from its peculiarly valuable position almost immediately adjoining the Uxbridge road on the one side and Hammersmith on the other, and thus is an direct and easy communication with every part of the metropolis, and near to Hyde-park, Kensington-gardens, and Holland-park. It is freehold and land-tax redeemed, and arrangements have been made with adjoining owners as to drainage and main road, so that the progress of building will not be retarded from these causes.—Particulars and plans may be had of D. HUGHES, Esq. 13, Gresham street, City; and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall mall, S.W.

TO CONTRACTORS AND OTHERS.—River and Canal Barges.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the REGENT'S CANAL BASIN, Limehouse, near the Stepney Station, on TUESDAY, MAY 18, at TWELVE for ONE, the following superior BARGES, viz.:—"Alice," river barge new, 70 tons; "Struggler," river barge (new), 80 tons; "Star of Hope," river barge (new), 80 tons; "Progress," river barge (new), 40 tons; "Stepney," river barge, 70 tons; "John," river barge, 60 tons; "Hope," canal barge, 80 tons; "Nancy," canal barge, 80 tons; "Onward," canal barge, 70 tons; "George," canal barge, 70 tons; and "Caledonia," canal barge, 65 tons. The barge, "Alice," was built by Mr. Fox, of Limehouse-hole; and the "Struggler," "Star of Hope," and "Progress," by Messrs. Talbot, in the very best manner; the others are in excellent condition and thorough repair. May be viewed three days previous; and catalogues had on the Premises; and of the Auctioneers, Coal Exchange, and 40, Parliament street, Westminster.

By order of the Assignees of G. B. Pelham, Builder, a Bankrupt.

MR. LEREW will SELL by AUCTION, on the PREMISES, Devonshire Wharf, Albert street, Camden-road, on the banks of the canal, on TUESDAY, MAY 18th, at TWELVE, the valuable STOCK in TRADE, comprising half a ton of white lead, 20 cwt. of lead in sheet and piping, 15 cwt. of whiting, 70 gallons of oil, turps, and varnish; putty, plate, crown and sheet glass, [illegible] 1,000 pieces of paperhangings, 100 planks, deals, and battens; dry cut stuff, 17 four-panel and sash doors, scaffolding, ladders, nine benches, 15 cwt. of nails, ironmongery, two carts, truck, barrows, circular saw bench, stone, iron works, old materials, office fittings, and other useful items too numerous to mention.—May be viewed the day before the Sale, when catalogues can be had on the Premises; of H. H. CANNAN, Esq. Official Assignee, 18, Aldermanbury, City; and of the Auctioneer, Cardington-street, Hampstead road, near the Euston Station.

BUILDING MATERIALS.—OLD BROAD STREET.

PULLEN and SON will SELL by AUCTION, on the PREMISES, on MONDAY, MAY 10, at TWELVE, [illegible] the Valuable BUILDING MATERIALS and FITTINGS UP of a DWELLING HOUSE and SHOP, No. 40, Old Broad street, comprising [illegible] sound brick work, oak and fir timber in roofs and floors, plain tiles, sashes and frames, doors, partitions, chimney pieces, sound flooring boards, shop front, lead gutters, cisterns and pipes, stone paving, coping, mouldings, range, stoves, and various useful fixtures and fittings. May be viewed on SATURDAY and morning of Sale, and catalogues had of EDWARD LANSDO, Esq. 9, Laurence Pountney-lane; and of PULLEN and SON, No. 80, Fore-street, Cripplegate.

TO BRICKMAKERS, BUILDERS, and OTHERS.—TO BE SOLD the LEASE, with the PLANT and MACHINERY, of a BRICKFIELD, situate at Bishop Auckland, Durham, adjoining the Stockton, Darlington, and North eastern railways. The field occupies [illegible] of two acres, with great depth of the finest brick earth, and sand; there is also an excellent supply of water. The machinery, which is new within two years, consists of a Chamberlain's machine, capable of making 10,000 bricks per day; pug-mill, sufficient for two machines; drain pipe machine, and hoisting machine, worked by a 14 inch cylinder high-pressure steam-engine, and two boilers. There is also a circular saw-bench, for which profitable employment might be found in the preparation of pit-wood for the collieries. There are three kilns, each capable of 25,000 bricks. The premises are held for six years, subject to a minimum rent of 50l. per annum, or 1s. per 1,000 royalty on the brick trade, up to 500,000, and 6d. per 1,000 beyond.

For further particulars, apply to Messrs. FULLER and HORSEY, Billiter street, E.C.

TO BUILDERS, CAPITALISTS, &c. TO BE SOLD, in the best part of Brompton, THREE UNFINISHED HOUSES, and THREE CARCASES. These houses are of the first class, substantially built, have considerable architectural pretensions, portico entrances, and stone steps. Cheerful aspect, [illegible] open [illegible] front, and will let as soon as finished. Held on long leases at moderate ground rents. They are built in a line with the New Albert road, about to be opened, which will be the grand carriage drive between Kensington and Brompton.—Apply to WALKER and CO. [illegible], West Brompton.

SURBITON-HILL, near the Kingston Railway Station.—JOHN DAWSON and SON are instructed to LET, for the erection of a gentleman's house, a beautifully situated MEADOW, containing something more than one acre. Extensive view; station and church within a few minutes' walk.—Auction and Land Offices, Kingston-on-Thames, and Marlborough-chambers, 49, Pall-mall.

TO BUILDERS and CAPITALISTS.—TO BE LET, on [illegible] Leases, Several HOUSES, some Shops, in a safe-letting situation near Middlesex Hospital, and some on Repairing Leases.—Apply any evening between SIX and SEVEN o'clock, to Mr. WILLIAMS, 57, Mortimer street.

BUILDING LAND, FREEHOLD, TO BE LET for 99 years. Good situation and good houses, sure to let. For particulars apply to Mr. FLATMAN, House Agent, Lower Norwood, Surrey.

GUILDHALL, 1st May, 1858.—The Committee for Letting the City's Lands will meet at GUILDHALL, on WEDNESDAY, the 12th MAY inst. at ONE o'clock precisely, to receive PROPOSALS for LEASES of the following HOUSES and PREMISES, viz.:—A House, No. 9, Wood-street, Finsbury; several Houses, Nos. 1, 2, 3, 4, 4A, and 4B, Phipps street, and a Yard and Buildings behind the same; Nos. 1 and 2, Phipps place, and a Warehouse in New North place, Finsbury. Plans of the property may be seen, and forms of Tender obtained, on application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

LONDON.—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, May 8, 1858.

The Builder,

Architect, Engineer, Operative & Artist.

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ROYAL ACADEMY of ARTS, Trafalgar-square. The Exhibition of the Royal Academy is now OPEN to the Public (from Eight till Seven o'clock), One Shilling. Catalogues, Sixpence.

JOHN PRESCOTT KNIGHT, R.A. Secretary.

ARCHITECTURAL UNION COMPANY, Limited, Sir CHAS. BARRY, R.A. Chairman; WILLIAM TITE, Esq., M.P., Deputy-Chairman. An EXTRAORDINARY GENERAL MEETING of the Shareholders will be held TWO o'clock p.m. on WEDNESDAY, the 19th day of MAY, at No. 16, Regent-street.

JAMES EDMESTON, Jun. Hon. Sec.

GRAND CEREMONY and FESTIVAL, on the 18th of JUNE next, at the OPENING of the SOLDIERS' DAUGHTERS' HOME, Hampstead, by his Royal Highness PRINCE CONSORT, who, with his Royal Highness, the PRINCE OF WALES, have been graciously pleased to purchase presentations to the same. Several Military Bands will play in the beautiful Grounds kindly lent for the occasion. Admission by purchased Tickets, to be had only at the Office of the Home, No. 7, Whitehall (exactly opposite the Horse Guards). A Single Ticket for the Ceremony and Ground, 10s.; a Double Ticket for two, 15s.; a Reserved Seat for the Ceremony and Breakfast, 20s. An omnibus starts from the Tottenham-court-road to Oxford-street, every twelve minutes, reaching Hampstead, by changing, in forty minutes.

H. L. POWYS, Major, Chairman.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W. OPEN DAILY from FOUR, FIVE, or SIX, according to the season; and on Monday, Wednesday, and Wednesday evenings, from SEVEN till TEN. Admission (including the whole of the collections in the South Kensington Museum), Members (with orders for introducing visitors), Students, 10s.; Art-Workmen, 5s. Prospectuses, &c. may be had of the Attendant in the Gallery of the Museum. Subscriptions received by the Treasury, 30, Spring-gardens, S.W.; and the Honorary Secretary, 13, Stratford-place, W.

GEO. GILBERT SCOTT, R.A.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

COMPETITIONS.

BERKSHIRE AGRICULTURAL SOCIETY.—NOTICE to ARCHITECTS.—The following special premium (given by E. J. Bentley, Esq.) are offered by the Above Society:

One best Design for Labourers' Cottages, with complete specifications £20
Second best ditto ditto 5
The conditions of competition may be had on application to me—

JOHN HANNAM, Secretary.

Brighton, Wetherby.

TO ARCHITECTS and OTHERS.—SUNDERLAND ORPHAN ASYLUM.—The Principals and Governors of the Sunderland Orphan Asylum are desirous of receiving PLANS, ELEVATIONS, and general SPECIFICATIONS from Architects for the ERECTION of an ASYLUM for Boys. The cost of the same not to exceed 3,000*l.*, and so designed that it may be increased by wings or otherwise. To be drawn to a scale of 8 feet to an inch, and delivered, carriage paid, for the Committee's use, on or before the 31st day of JULY next, when the Second best design, both of which designs are to become the property of the Principals and Governors, who will not consider themselves bound to employ the Architect of either the first or second Premium, or to adopt the whole of any one of the competing and lithographed plan and sections of the site, may be had on application to Mr. THOMAS MOORE, Architect, Sunderland. The plans are to be sent, under seal, without name and with a private mark or motto thereon, accompanied by a letter under cover, addressed containing a corresponding mark or motto, and the Architect's name and address, on or before the 31st day of JULY next, addressed to Mr. E. J. H. W. CLARKE, Secretary.

19th May, 1858. 19, Fawcett-street, Sunderland.

Lithographed Plans and printed Conditions will be ready for Applicants on and after the 19th inst. at.

CONTRACTS.

BOROUGH of READING, LOCAL BOARD of HEALTH.—The Local Board of Health for the District of the Borough of Reading are desirous of receiving TENDERS for the ERECTION of a BLOCK of BUILDINGS, or Hall adjoining the Cattle-market, Reading, to be used as ABATTOIRS or SLAUGHTER-HOUSES, and therewith attached Offices, with Persons' Dwellings for the Officers, &c. The Plans and Specification may be seen at the Office of Mr. J. G. B. MARSHALL, the Surveyor to the Board, 7A, Duke-street, Reading, after MONDAY, the 2nd day of MAY next, between the hours of TEN and FOUR o'clock. Sealed Tenders, endorsed, "Tender for Erection of Abattoirs," must be sent to me on or before TUESDAY, the 18th MAY next. The lowest Tender will not necessarily be accepted.—By order of the Board,

THOMAS ROGERS, Clerk.

10, Friar-street, Reading, April 29, 1858

GOVERNMENT CONTRACT.—The Director of Contracts, Wardrobe, Pall Mall, London, will receive TENDERS, on Oath, on WEDNESDAY, the 19th day of MAY, 1858, at Noon, for the supply of the undermentioned quantities of MATERIALS for the repair of the roads in the New Practice-range, Plumstead-marshes, viz.:—

1,000 cubic yards of Broken Kentish Rag.
500 " of Screened Dartford Gravel.
500 " of Clean-ground Lime.
300 " of Brick Rubbish.

Each Tender is to comprise the supply of the whole of the undermentioned materials. Persons tendering for the same, may obtain the requisite information, and receive forms of Tender and Bond, on application at the Board-room at the Royal Engineer Office, Great Depot, Woolwich, between the hours of TEN and FOUR daily, up to the 17th day of MAY, 1858. The War Department reserve the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depot, Woolwich, May 4, 1858.

PARISH CHURCH of WHITFIELD.—To BUILDERS.—Persons desirous of CONTRACTING for the whole of the WORKS required in the ERECTION of the proposed new PARISH CHURCH of Whitfield, in the county of Northumberland, may see the plans and specifications at the house of Mr. THOMAS THOMPSON, the "Whitfield Inn," and at the Office of the Architect, Mr. ALFRED BURDAKIN HIGHAM, Higham-place, Newcastle-on-Tyne, from the 17th to the 26th of MAY, between the hours of TEN and SEVEN. Sealed Tenders, endorsed "Tender for Whitfield Church," to be sent to the Architect on or before the 28th day of MAY next. The Patron does not bind himself to accept the lowest or any Tender.

Newcastle-on-Tyne, May 1st, 1858.

TO BUILDERS. — Persons desirous of TENDERING for the ERECTION of a RESIDENCE-HOUSE, PORTER'S LODGE, STABLING, &c. proposed to be built at Peterborough, may see the plan and specification, at the Architect's Office, on and after MAY 20, and to whom sealed Tenders are to be delivered on JUNE 10, by TWELVE o'clock.

May 5, 1858 EDWARD BROWNING, Architect, Stamford

TO SCAVENGERS, CONTRACTORS, and OTHERS.—The Commissioners of Sewers of the City of London, will meet at the Guildhall of the said City, on TUESDAY, the 18th of MAY, 1858, at TWELVE o'clock at noon precisely, to receive TENDERS for CLEANSING the STREETS and REMOVING DUST, &c. from the houses of the inhabitants within the said City, and for WATERING certain of the STREETS of the said City, for the term of one year from Midsummer-day next, agreeably to specifications, copies of which may be had on application at this Office. The City is divided for the purposes of these contracts into six districts. Each contractor will be required to enter into bond, with two approved sureties, in the sum of £500 for each division for cleansing, and £100, for watering, for the due performance of his contract: and a letter, under the hand of the sureties named, is required to be inclosed in the Tender to signify their consent thereto. The Commissioners do not pledge themselves to accept the lowest Tender, or any, unless declared satisfactory. Tender will be received after TWELVE o'clock on the day of treaty; nor will any Tender be received unless it contains (inclosed) a twenty pound Bank of England note, for each division tendered for; such evidence that the same is made *bond fide*, which will be immediately returned to each person whose Tender is not accepted, but will be retained in the other cases until the contracts and bonds are duly signed by the principal.

JOSEPH DAW, Principal Clerk.

Sewers' Office, Guildhall, April 27, 1858.

TO BUILDERS.—Persons desirous of Contracting for the ERECTION of a NEW CHURCH at Southery, near Downham Market, Norfolk, may see the drawings and specifications prepared by Mr. WALTER ROBINSON, Architect, 9, Albert-street, Mornington-crescent, London, at the residence of Mr. JOHN SAYLE, Solicitor, Southery, on and after the 17th MAY, to whom Tenders are to be addressed on the 25th MAY. Quantities supplied. The architect does not bind himself to accept the lowest Tender.

TO BUILDERS. TENDERS are required for the ERECTION of NINE HOUSES on the ASHBURNHAM ESTATE, Greenwich. Plans and specifications may be inspected at the Ashburnham Arms, Ashburnham grove, near the railway station, Greenwich. Tenders are to be delivered by ELEVEN o'clock a.m. on THURSDAY, the 27th inst. to Mr. C. H. HOWELL, Architect, Norwich Union Insurance Office, New Bridge-street, Blackfriars (entrance to the Architect's Office, No. 1A, Union-street). The lowest Tender will not necessarily be accepted.

TO BUILDERS. — The Nottingham Gas Company are desirous to receive TENDERS for NEW OFFICES, to be erected in George-street, Nottingham. — Plans and specifications may be seen at the Company's Offices, in Wark-day-gross, Nottingham, on and after MONDAY, the 17th day of MAY instant, where bills of quantities (price 5*s.* each) may be obtained. Sealed Tenders are to be delivered to me on or before MONDAY, the 24th day of MAY instant. The company do not bind themselves to accept the lowest or other Tender.

JOSH. B. LOMAS, Accountant to the Company.

Gas Office, Nottingham, May 12, 1858.

CONTRACTS.

TO BUILDERS.—TENDERS are required for BUILDING a PARSONAGE HOUSE, at Thames Ditton, Surrey.—Plans, drawings, and specifications may be seen on application to Mr. MEIKLE, Parish Clerk, Thames Ditton, on and after the 17th of MAY, and from whom further particulars may be obtained.—All Tenders are to be delivered in addressed to the Incumbent, the Rev. W. TALMAN, on or before the 31st of MAY.—The lowest offer will not necessarily be accepted

STAMFORD CORN MARKET.—EXTENSION of TIME.—To BUILDERS.—The Directors of the Stamford Corn Market Company, Limited, have extended the time for sending in the Tenders from MAY 19th to MAY 26th; see former advertisement. The plans and specifications will, in the mean time, remain at the Office of EDWARD BROWNING, Esq. Broad-street, Stamford, the Architect.

May 11, 1858.

TO BUILDERS. TENDERS are required for the ERECTION of an INFANTS' SCHOOL-ROOM at the Parochial School, Liverpool-road, Islington, opposite the Chapel of Ease. Plans, specifications, and quantities, may be inspected at the Committee Room of the schools, between the hours of TEN and FOUR o'clock, from MONDAY, the 17th instant, till THURSDAY, the 20th, inclusive. Sealed Tenders to be addressed to the Committee, at the School House, on or before SIX o'clock, p.m. on SATURDAY, the 22nd instant. The lowest or any Tender will not necessarily be accepted.

Islington Parochial School, Liverpool-road, May 15, 1858.

TO PAINTERS and OTHERS. — The Guardians of the St. Olave's Union are desirous of receiving TENDERS for PAINTING the Wood of the External Portion of the BUILDINGS of the WORKHOUSE SE. belonging to the above Union, situate in Parish-street, Horsleydown. Specifications of the said Works may be seen at the Board-room of the above Workhouse, where Tenders, clearly and legibly written, directed to the Guardians or Clerk, and endorsed, "Tender for Painting," are to be delivered, by THURSDAY, the 20th day of MAY instant, by TWO o'clock in the Afternoon at the latest. Any further information may be obtained from the Architects, Messrs. HELEY, SCOOKE, and STOCK, Duke-street, Southwark. The Guardians do not bind themselves to accept the lowest or any Tender. By order of the Board,

GEO. R. CORNER, Clerk to the Guardians.

May 7, 1858.

TO BUILDERS.—NEW WORKHOUSE. The Guardians of the Hamlet of Mile-end Old Town, are desirous of receiving TENDERS for the ERECTION of a WORKHOUSE, SCHOOLS, and other Buildings, in the said Hamlet. The plans, specifications, and conditions may be seen at the Town Hall, between TEN and FOUR. Tenders addressed, "Tenders for Workhouse," must be sent to me before TWELVE o'clock, on the 20th day of JUNE next. The Guardians do not pledge themselves to accept the lowest or any Tender.—By order,

C. J. SOUTHWELL, Clerk.

Town House, Mile-end-road, Stepney, E. May 6, 1858.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a SIXTY-QUARTER MALT-KILN, OFFICES, and SEED WAREHOUSE, proposed to be erected at Newark, may inspect the plans and specifications, and obtain further particulars, at the Offices of Messrs. HINS and EVANS, Regent-street, Nottingham, from MONDAY, MAY 24th, to THURSDAY, 27th, inclusive.

N.B.—The lowest Tender not necessarily accepted

HINS and EVANS, Architects.

Nottingham, May 6th, 1858.

GLASGOW CORPORATION WATER-WORKS, Loch Venachar. To CONTRACTORS and MASONS.—The Magistrates and Council of Glasgow, as Commissioners acting under the Glasgow Corporation Water-works Act, have postponed the Letting of the Works for Regulating the Storing and Discharging of Water in Loch Venachar, and make further TENDERS for the same. The Works consist of about 50,000 cubic yards of earth work, about 60,000 cubic feet of ashlar work, a large quantity of other masonry work, sundry culvert work, and the formation of new roads to the length of about 2½ miles. The outlet of the Loch, at which the principal Works are situated, is about two miles from the town of Callander, to which place a railway is to be opened next month. Plans, drawings, and specifications will be exhibited for the inspection of Contractors, at the Broadnaught Hotel, in Callander, and explanations will be given, by Mr. GEORGE H. HILL, Resident Engineer, Loch Ard, Aberfoyle; or by Mr. BATEMAN, the Principal Engineer, Little George-street, Westminster. Tenders must be sent in, addressed to the Subscriber, at the Office of the Commissioners, 29, Miller-street, Glasgow, on or before TUESDAY, the 1st day of JUNE next.—By order,

JOHN BURNETT, Secretary.

SOUTH STAFFORDSHIRE WATER-WORKS COMPANY.—To CONTRACTORS and IRONFOUNDERS.—The Directors are prepared to receive TENDERS for the following additional WORKS:—

CONTRACT No. 5.—For a Covered Reservoir at Wednesbury.

CONTRACT No. 6. For providing, laying down, and fixing about 1,500 tons of Cast-iron Main and Distribution Pipes, with all requisite Cocks, &c. fixed, complete, in the towns of Walsall, Bloxwich, Darlaston, Wednesbury, West Bromwich, Oldbury, and Tipton.

CONTRACT No. 7.—For Service Pipes, &c. where required in the above towns.

Plans, specifications, and forms of Tender may be seen at the Offices of the Engineers, Messrs. M'CLEAN and STILEMAN, No. 17, Great George-street, Westminster, or Bridgeman place, Walsall, Stafford shire. Tenders to be sent in on or before THURSDAY, the 20th day of MAY next, addressed to the Secretary, Castle-chambers, High-street, Birmingham.

R. C. CHAWNER, Chairman.
JOSIAH CHURCHILL, Secretary.

For remainder of Contracts see next page.

CONTRACTS.

BRADFORD CORPORATION WATER WORKS.—CONTRACT for BARDEN RESERVOIR.—CONTRACT [illegible] EXCAVATORS, MASONS, and GENERAL CONTRACTORS.—The Waterworks Committee of the Bradford Town Council [illegible] MAY next [illegible] TENDERS, PROPOSALS, for the EXCAVATING, FORMING, and COMPLETING [illegible] STONE RESERVOIR [illegible] W. H. HUDSON, Town Clerk.

Bradford, Yorkshire, May [illegible]

TO BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the ERECTION of [illegible] the Wye, Herefordshire [illegible] officer's house, and two sets of ALMSHOUSES [illegible] at the Offices of Messrs. FULL[illegible] MAY [illegible]

TO BUILDERS.—LLANGWM UCHA. [illegible] 5th day of [illegible]

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION [illegible] VILLA, at Hyde Vale, Greenwich [illegible] MARK LINDSEY [illegible] WEDNESDAY [illegible] to be delivered at [illegible]

PERSONS desirous of CONTRACTING [illegible] FARM BUILDINGS [illegible]

TO BUILDERS.—County Police Station and [illegible] TUESDAY [illegible] MONDAY [illegible] MAY [illegible]
J. MEDLAND, County Surveyor.
[illegible], Gloucester.

PEWSEY UNION. To BUILDERS and OTHERS.—The Guardians of the Pewsey Union are desirous of receiving TENDERS for the ERECTION of a NEW BOARD-ROOM [illegible] Tenders to be [illegible]
STEPHEN B. DIXON, Clerk to the Guardians.
Pewsey, [illegible] May [illegible]

TO BUILDERS.—Parties desirous of TENDERING for [illegible] BAPTIST CHAPEL [illegible] the Cemetery-road, Sheffield [illegible]

GENERAL LAND DRAINAGE and [illegible] COMPANY [illegible] SEA WALL [illegible] Mr. PELL, the tenant [illegible] at the Offices of [illegible] LAING [illegible]

LANDAFF CATHEDRAL.—Builders [illegible] MAY [illegible]
May 5, 1858.

TO BUILDERS.—The Justices of Cheshire [illegible] desirous of receiving TENDERS for the ERECTION of a [illegible] Clerk of the Peace for the said county, at his Office, in Chester, [illegible]
CHARLES WILLIAM POTTS, Deputy Clerk of the Peace.
Chester, May [illegible]

LLYNVI VALLEY RAILWAY.—[illegible] WORKS.—The Directors of the above Railway [illegible] to receive TENDERS for the CONSTRUCTION [illegible] tention to Foce, being a total distance of about 11 miles 30 chains of formation obtained at the Office of the Engineer I. K. BRUNEL, Esq., 18, Duke-street, Westminster, S.W. on and after MONDAY, the 24th [illegible] WEDNESDAY [illegible] The Directors do not bind themselves to accept the lowest Tender.
May, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of the MINTON TESTIMONIAL [illegible]

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.

THIS PATENT FURNITURE [illegible] Locks and latches [illegible] without any screw at the [illegible] Locks and furniture [illegible] & &c.

[illegible] Locks.

[illegible] ILLUSTRATIONS AND PARTICULARS SENT ON APPLICATION.

CONTRACTS.

TO ROAD CONTRACTORS.—Persons [illegible] TENDERING for the FORMATION of [illegible] ROAD [illegible] Mr. ALFRED [illegible] TEN [illegible] FOUR.

DESIRABLE SITES for MARINE VILLA RESIDENCES.—To BUILDERS and OTHERS.—TO BE LET [illegible] PLOTS of LAND, fr[illegible] four hours' ride of the metropolis.—For particulars and plans, apply to Mr. JOHN MURRAY, 7, Whitehall-place, London, S.W.

CARPENTERS' COMPANY.—A large [illegible] ESTATE [illegible] STRATFORD [illegible] TO BE LET [illegible] B. JUPP, Clerk's Office, Carpenters' Hall, London Wall.

TO CONTRACTORS and OTHERS.—The [illegible] PROPOSALS [illegible] Town Hall [illegible]
E. BURSTAL, Secretary.
[illegible] 28th, 1858.

WEYMOUTH, DORSET. To BUILDING SOCIETIES, CAPITALISTS, and OTHERS.—The [illegible] of Weymouth [illegible] Naval and Military station [illegible] Government Works [illegible] Park Estate [illegible] The property [illegible] Estate comprises a Mansion House [illegible] character, very extensive stabling, [illegible] Pleasure Gardens and a finely Timbered Park and Grounds of more than [illegible] acres [illegible] which would be 150 per cent. less than in Weymouth. The property, which is about 100 feet above the level of the sea, has beautifully undulating, and is admirably calculated for [illegible] and commands views of the stupendous Breakwater at Portland, and Coast Scenery of an ever-varying and interesting character. The soil is dry and healthy, and singularly [illegible] the two last occupiers averaged 82 years [illegible] which intersect the property offer a frontage of more than two [illegible] Part of the Estate abuts on the Smallmouth Sands [illegible] Mr. ROBERT DAMON, [illegible] Weymouth, Dorset.

FREEHOLD. TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE ACRES of [illegible] FREEHOLD BUILDING LAND [illegible] The property is peculiarly eligible for [illegible] The adjoining land is all let for building purposes, and is now [illegible] tenancy.—For further particulars, and to inspect the plans, apply to Messrs. GREGORYS and CO. No. 1, Bedford-row, W.C.

HOUSES WANTED to PURCHASE.—A [illegible] to PURCHASE HOUSE PROPERTY [illegible] SEYMOUR [illegible] Mincing-lane, City.

HACKNEY-WICK, near LONDON.—[illegible] MANUFACTURING CHEMISTS and OTHERS. To BE LET [illegible] LAND and WHARFS [illegible] for all kinds of manufactories, with good road, and, if required, a siding on to the London and North Western (North London) Railway branch line from Stratford to the Hackney-wick station can be obtained [illegible] W. HOLLIS, [illegible] Reading; or to Mr. [illegible] Stratford, Essex.

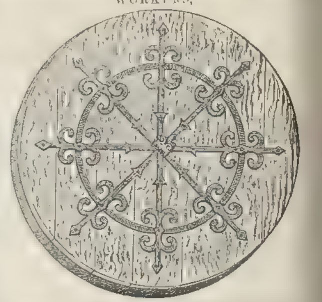
TO BUILDERS and OTHERS.—Hargrave [illegible] FREEHOLD PROPERTY [illegible] LEASE [illegible]

LEYTONSTONE, adjoining Epping Forest.—LAND TO BE LET, for building purposes, at a very moderate [illegible] freeholder. Two minutes walk from Leytonstone Station, on the [illegible] dry, has a gravelly [illegible] 5, Whitehall, S.W.

ELTHAM, KENT.—FREEHOLD BUILDING LAND [illegible] TO BE SOLD [illegible] Eltham, Kent.

TO BUILDERS and OTHERS.—FOR SALE by TENDER, a MANSION at ERITH, to be [illegible] Mr. J. PARISH, Erith, Kent; or JOHN APPLETON, Esq. Solicitor [illegible] London.

HART AND SON,
IRONMONGERS AND MANUFACTURERS,
ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,



MALLEABLE IRON AND BRASS FOUNDERS,
53 to 58, WYCH-STREET, Strand, London, W.C.
Illustrated catalogues free on application.

LEAMINGTON KITCHEN RANGES. Improved in quality and construction, and reduced in price. Manufactured by MAPPLEBECK and LOWE, BIRMINGHAM. The largest assortment of STOVE GRATES, RANGES, FENDERS, FIRE-IRONS, &c. in the kingdom.
BUILDERS' IRONMONGERY AT WHOLESALE PRICES.

IRONFOUNDRY. TO BE LET, within three miles of London, in a first rate situation, alongside a branch communicating with the Great Western, North Western, Great Northern, and Eastern Counties' railways, and within a mile of a free dock on the Thames. In full operation. Rent moderate, and will be taken out in castings.—Apply to PRICE and EDMONDS, 2, Chapel-court, Regent-street.

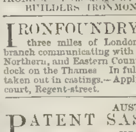
AUSTIN'S IMPERIAL
PATENT SASH and BLIND LINE
can be obtained of all
ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY.
Established 1774.

SMOKY CHIMNEYS. PILBEAM'S PATENT DOUBLE-CHAMBERED SMOKE-PREVENTING CHIMNEY-POT.—Price 27s.; Kitchen, 30s. Also the Double-chambered [illegible], as applied to existing chimney-pots. Price 15s. [illegible] at the Office of Mr. A. PILBEAM, Architect, 18, Adam-street, Adelphi.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure cocks, &c. Manufacturers of Dr. Arnott's [illegible] Ventilators.
HULETT and CO. [illegible] Holborn.

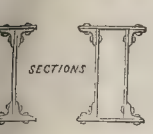
IRON WORKS for SALE.—TO BE SOLD, by Private Contract, the BEDLINGTON IRON WORKS, situated at Bedlington, on the river Blyth and adjoining the Blyth and Tyne Railway [illegible] Tyne, Blyth [illegible] very small cost. There is attached to the works a [illegible] house, a manager's house, offices, and several cottages; also [illegible] and a large reservoir of water, capable of driving a water wheel of [illegible] horse power. For further particulars apply to Mr. GIBB, at the works; to Mr. JOSEPH THORNMAN, Newcastle-on-Tyne; or to Messrs. LAMB, MARSHALL, and GILL [illegible] Liverpool.

TO BUILDERS and OTHERS. TO BE SOLD [illegible] IRON PRIDGE [illegible] Messrs. [illegible]



JOHN PARKIN (late [illegible] and Parkin),
[illegible] WORKS, HARVEST LANE, SHEFFIELD,
[illegible] without [illegible] Grooving, Moulding, and Mortising Irons, Saw Files, &c.
[illegible] Mr. CHAS. BADGER, [illegible] Westminster-road.

GLOVER, BROTHERS,
FOUNDERS, ENGINEERS, and SMITHS,
168, DRURY LANE,
And Works at
SPA ROAD, BERMONDSEY.
Castings and wrought iron work of every description.
A large stock of patterns for building and other purposes, for the use of which no extra charge is made.
Estimates on application.
168, Drury-lane, and Spa-road, Bermondsey.

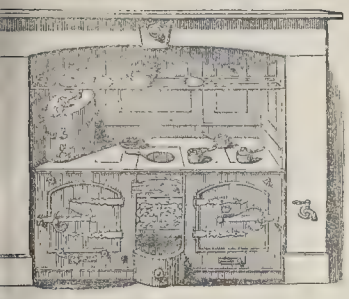


WROUGHT-IRON GIRDERS
For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.
MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

BENHAM AND SONS, WIGMORE-STREET, LONDON,



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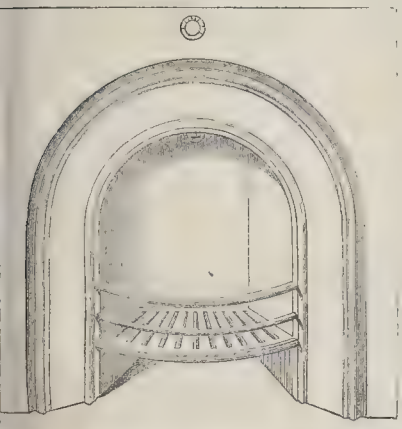
STOVES, FENDERS, & FIRE-IRONS
THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, BATHS, &c. for Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.
HOT WATER APPARATUS, GAS-FITTING, &c.
BENHAM'S IMPROVED KITCHENER.
The Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c.
It is an effectual cure for Smoky Chimneys.
BENHAM and SONS, 19, Wigmore-street, Cavendish-square, London;
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.



THE BEST GRATES ONLY.
IMPROVED SHAM REGISTERS WITH STOURBRIDGE FIRE BRICK BACKS, REGULATING DAMPERS; MOULDINGS PLAIN OR ORNAMENTAL.
PRICES AND SIZES.

WIDTH OF STOVE.	WIDTH OF FIRE-BARS.	PRICES. £	s.	d.
18 in.	9 in.	1	4	0
20 in.	9 in.	1	5	0
22 in.	9 in.	1	6	0
24 in.	12 in.	1	7	0
26 in.	12 in.	1	8	0
28 in.	12 or 15 in.	1	9	0
30 in.	12 or 15 in.	1	10	0
32 in.	15 in.	1	11	0
34 in.	15 in.	1	12	0
36 in.	15 or 18 in.	1	13	0
38 in.	15 or 18 in.	1	14	0
40 in.	15 or 18 in.	1	15	0
42 in.	15 or 18 in.	1	16	0

F. EDWARDS, SON, & CO.,
GENERAL STOVE AND KITCHEN RANGE MANUFACTURERS,
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MANUFACTURERS OF EDWARDS' SMOKE CONSUMING KITCHEN RANGE; DR. ARNOTT'S SMOKE-CONSUMING GRATE; EDWARDS' IMPROVED GRATES WITH PORCELAIN SIDES, &c. ILLUSTRATED PROSPECTUSES FORWARDED.

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Also, PATENTEES and MANUFACTURERS of all kinds of MACHINERY for WORKING in WOOD,
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POWIS, JAMES, and CO beg to call the attention of BUILDERS, CONTRACTORS, and PROPRIETORS OF SAW-MILLS to their much improved IDLESS BAND SAWING-MACHINES, which are well adapted for every variety of work—CIRCULAR, TRIANGULAR, ANGULAR, and RAIGHT—of any thickness, with Swinging Tables to CUT TO ANY ANGLE, for HAND or STEAM POWER.
Also, their improved HAND or STEAM-POWER RISING TABLE Circular Saw Bench, with Sliding Fence to cut to any Angle, and extra loose Guide, e expressly for TENON CUTTING. This BENCH only requires to be SEEN to be APPRECIATED.
Also, their PATENT MORTISING, TENONING, and BORING MACHINE, of which upwards of a THOUSAND have been sold in ENGLAND re, and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE KINDS OF WORK in ONE MACHINE.
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POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.
ADOPTED BY THE GOVERNMENT.
EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.
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TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. The Trade supplied at the lowest prices with Hand Bells, Pull Tubes, and Copper Wire Gas Escutcheons, Levers, &c. Manufacturers for Gas-cutting, in Brass and Iron; Tin, Composition, Iron, and Brass Tubing, Cornice-poles, Rings, and Lacquered Case-tube for Picture-rods, Desk-rails, &c. &c.
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RICHARD EVELEIGH'S Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charles-street, Long-acre, London.

COTTAM AND COTTAM, ST. PANCRAS IRON-WORKS,

Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

COTTAM'S PATENT MANGERS AND STABLE FITTINGS.

VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY
THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

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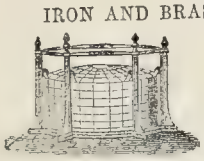
FOR THE
ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,
With Buildings, Mains, Meters, Service-Pipe, Lamp-Posts, Lamps, and Gas-Fittings;
WATERWORKS FOR THE SUPPLY OF TOWNS,
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



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Gas Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

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IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.
These Turnstiles were selected for the Entrances of the Great Exhibition, New York.
PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.
Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.
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MANUFACTURERS OF
EVERY DESCRIPTION OF MEDIÆVAL METAL WORK,
In SILVER, BRASS, and WROUGHT IRON.
MONUMENTAL BRASSES AND STAINED GLASS WINDOWS.
Designs and Estimates FREE, on application to the
LONDON OFFICES AND SHOW-ROOMS,
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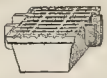
IRONMONGERS, SMITHS, BELL-HANGERS, AND GAS FITTERS,
MANUFACTURERS OF CLOSE AND OPEN FIRE KITCHEN RANGES, including the BEST LEAMINGTON KITCHENER.

REGISTER STOVES, 5d. per inch and upwards; ELLIPTIC STOVES, from 2½d. per inch; SELF-ACTING COTTAGE RANGES, from 24s. each; BEST SELF-ACTING OVEN and BOILER RANGES, with Wrought Bars and Bright Fittings, from 54s. each.
CAST RAIN-PIPES—2-in. 10d.; 2½-in. 12½d.; 3-in. 1s. 2½d.; 3½-in. 1s. 6d.; 4-in. 1s. 10d.; 5 in. 2s. 3d per yard.
Ditto HALF-ROUND GUTTERS—3-in. 7½d.; 3½-in. 8d.; 4-in. 8½d.; O. G. GUTTERS—3½-in. 11d.; 4-in. 1s.; 4½ in 1s. 1d.; 5 in. 1s. 4d. per yard.
BEST CUT CLASP—2-in. 14s.; 2½-in. 13s. 6d.; 3 to 6 inch, 13s.; BEST CUT LATH, 12s.; BEST SHEET FLOOR BRADS, 12s. 6d. per cwt.
19, HORSEFERRY-ROAD, and1, NEW PETER-STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

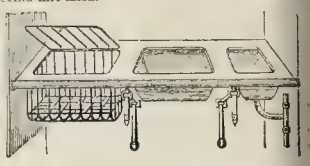
HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed box; and combine the most perfect safety with the greatest economy, both in cost and use.
ANGLE LOOSE-BOX FITTINGS, with guard-rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.



HOOD and SONS' STABLE GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of loose top plates; are easily cleaned; and with their CHEQUERED DOUBLE TRAPS, form the safest and most complete surface drain for stables in use. West London Iron Works, Notting-hill; and Castings Warehouse, 68, Upper Thames-street, London.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF ACTING HAY-RACK.



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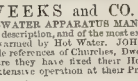
HEATING BY  HOT WATER.

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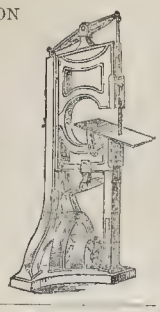

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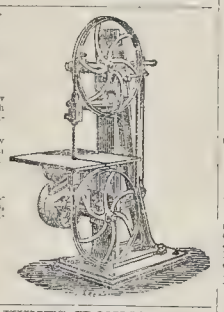

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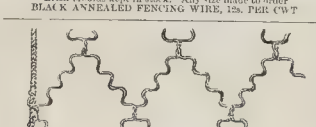

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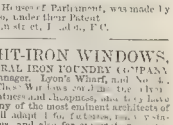

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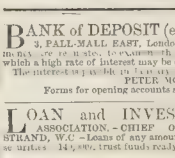

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The Builder.

Vol. XVI.—No. 797.

Southwark and its Ancient Inns.

THE borough of Southwark has long been famous for its inns, as mentioned by Stow, who gives the names of several existing in his time, some of which still remain. "The Borough" being the high-road to the Continent, and the road of the yearly thousands of pilgrims to the shrine of St. Thomas à ket, at Canterbury, accounts for the extent ccommodation for travellers. At a meeting ie Surrey Archæological Society, held in Olave's Grammar School, in Southwark, on t 12th instant, Mr. G. R. Corner gave some iculars of these inns, of which we proceed ake use.*

Chaucer's inn, hight the *Tabard*, so much been written, that it is difficult to find hing new to say about it. Mr. Corner, introducing the subject by some quota- from Chaucer's "Canterbury Pilgrims," a review of what has been written by ht, Urry, Wright, and by Mr. Saunders, admirable essay on the "Tabard" in ht's "London," to which the reader added extracts from the Register of Hyde Abbey, the Escheat Rolls of King Edward I., ing the acquisition by the Abbey of Hyde "Tabard" and the "Abbot's House," in awark, by purchase from William de Late- hall, in 1304.

rry Bailly, Chaucer's host of the "Tabard," ntified as one of the representatives of the gh of Southwark in Parliament, in the f of Edward III. and 2nd of Richard II.; n the 4th of Richard II. "Henry Bayliff, , and Christian his wife, were assessed subsidy (in Southwark) at 2s." The host es to his wife in lines 10,301 to 10,314 in ry flattering terms.

er the dissolution of the monasteries, the ard" and the "Abbot's House" were sold ing Henry VIII. to John Master and as Master, and the particulars for the in the Augmentation Office afford de- ions of the hostelry called the "Tabard," t of the possessions of the monastery of and the Abbot's Place, with the stable arden belonging thereto. The "Tabard" tioned to have been late in the occupa- of one Robert Patty, but the Abbot's with the garden and stable, were re- l to the late Bishop Commendator, John te, *alias* Capon, who had been last abbot rde, and who surrendered it to King VIII.; and after being made bishop of x, *in commendam* with the abbey of Hyde, he surrender of the abbey he was pre- to the see of Salisbury, in 1539, which ained till his death in 1557.

"Tabard" was burnt in the great fire of rwark, in 1776, and Mr. Corner thinks that no part of the original building is now remaining, although Mr. Saunders and other writers have surmised that the pilgrims' hall is still in existence, having been converted into chambers; but Mr. Corner has not been able to discover any part of the building that he considers of earlier date than the fire of 1676. The account of the "Tabard" was illustrated by several drawings of the inn at different periods.

The *George Inn*, which is one of the old-fashioned hostels, with open wooden galleries leading to the chambers, is mentioned in the records relating to the "Tabard," to which it adjoins, in the reign of King Henry VIII. as the "St. George Inn." Two tokens of the seventeenth century, in the Beaufoy collection, at Guildhall Library, admirably catalogued and annotated by Mr. Burn, give the names of two landlords of the "George" at that period, viz. Anthony Blake, tapster, and James Gunter.

The "George" was partly burnt and demolished by a fire in 1670, and in 1676, it was totally consumed in the great fire of Southwark, which destroyed five or six hundred houses in the Borough, and the Town hall, extending from St. Margaret's-hill to London bridge, on the west side: but the fire was stopped at St. Thomas's Hospital, on the east side. After the fire, an Act of Parliament was passed to establish a court of judicature, for determining differences between landlords and tenants, and owners of adjoining houses, as had been done after the fire of London; and the records of the proceedings of these courts, preserved at Guildhall, contain very valuable information as to the ownership of property in London and Southwark at that period (which is a thing not generally known).

At the time of the fire, the owner of the "George" was John Sayer, and the host Mark Weyland, who was succeeded by his widow, Mary Weyland, and she by William Golding, who was followed by Thomas Green, whose niece, Mrs. Frances Scholefield, and her then husband, became landlord and landlady in 1809; and Mrs. Scholefield, now in her eighty-fourth year, still keeps the house.

The property has been purchased recently by Guy's Hospital.

The *White Hart*, another of the old galleried inns, of which our readers will find a most accurate and amusing description in the "Pickwick Papers," and where the famous Samuel Weller is first introduced in that entertaining history—was the head-quarters of Jack Cade, during his brief possession of the City and Southwark. Mr. Corner brought together some curious notices of this inn from the chronicles and the Paston Letters. This house was destroyed in the great fire of 1676; John Collett, esq. then being the owner, and Robert Taynton, tenant. The account of the "White Hart" was illustrated by a drawing of the inn in its present state, by Mr. Fairholt.

The *White Lion*, formerly a prison for the county of Surrey, as well as an inn, is mentioned in records in the reign of King Henry VIII. having belonged to the priory of St. Mary Overey. It is also mentioned by Stow, and it continued to be the county prison till 1695.

It has been supposed that the "White Lion" was the same house that in recent times, i.e. before the building of New London-bridge, was called "Baxter's Chophouse," No. 19, High-street; and, in old deeds, "The Crown," or "The Crown and Chequers;" an old plaster-fronted house (of which there is an engraving in Taylor's "History of St. Saviour's"). This house is also mentioned in the "Epicure's Almanac," 1815, and is there said to have been a palace or house of King Henry VIII.; but Mr. Corner thinks that this house, with the house which stood in the court beside it, and was formerly called "The Three Brushes," or "Holy Water Sprinklers," was of the time of Elizabeth; and he produced some drawings of the interior of a panelled room, with an ornamented plaster ceiling, having in the centre the arms of Queen Elizabeth, with E. R., in support of his opinion. This room he supposes to have been the court or justice-room in which her majesty's justices sat and held their sessions. The house was pulled down about 1832, for making the new street to London-bridge: the site was sold to St Thomas's Hospital, and is now within the hospital gates.

The borough of Southwark had its *Boar's Head*, as well as the city of London its *Boar's Head* in East Cheap, immortalized by Shakspeare; and while the one is celebrated as the resort of Jack Falstaff, the other was the property of another of Shakspeare's characters, who has often been erroneously confounded with lean Jack. Sir John Fastolf, of Caistor, Norfolk, and of Southwark, where (in Stoney-lane) he had his town house, was a man of military renown, having been in the French wars of Henry VI., and was governor of Normandy: he was also a man of letters and learning, and the "Boar's Head" formed part of the endowment of Magdalen College, Oxford, founded by his friend, William Wayneflete, Bishop of Winchester, at whose instance Sir John Fastolf gave large possessions in Southwark and elsewhere towards the foundation. The "Boar's Head" remained the property of the college (although it had ceased to be an inn for many years) until it was destroyed for making Wellington-street, after the building of New London-bridge. Its site was marked by Board's-head-court, High-street, not far south from the corner of Tooley-street; and the lease of the property was formerly held of the college by the father of Mr. John Timbs, F.S.A., author of the "Curiosities of London."

The *Bear at the Bridgefoot* was once celebrated as the resort of persons of the higher classes, and concerning it Mr. Peter Cunningham has collected many curious notices in his "Handbook of London." Mr. Corner commenced his account of it from a deed dated 1554, but he referred to an earlier mention of it, in 1463, in the steward's account of Sir John Howard. "Item, payd for red wyn at the Bere in Southwerke," and, "Payd at dyner at the Bere in Sowthwerke, in costys, 3s. 4d."

There are two tokens extant of the "Bear," one of Abraham Browne, and the other of Cornelius Cooke:—the latter had been an inhabitant of St. Olave's, Southwark in the early part of the seventeenth century: he afterwards became a soldier, and captain of the trained bands. He rose to the rank of Colonel in Cromwell's army, and was appointed one of the commissioners for sale of the king's lands. After the restoration he settled down among his old friends in Southwark, as landlord of the "Bear." This house, which stood on the west side of the High-street, between Pepper-alley and the bridge-foot, was pulled down in 1761, when the houses on the bridge were removed, and the bridge widened.

And so much for the ancient inns of the "Borough," which serve to bring before us a part of the metropolis in the olden time.

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*another page will be found a paper by Mr. W. P. on St. Saviour's Church, read at the same .

THE ROYAL ITALIAN OPERA-HOUSE.

THE STAGE.

THE internal arrangements are so far complete that the New Opera-house might have been opened for performances on Thursday night instead of this Saturday, if it had been desired, and there is so little plastering in the body of the theatre,—iron, woodwork, "fibrous slab," and composition, taking its place,—that no fear of dampness need be entertained. It is a wonderful example of rapid work,—because it is at the same time an instance of sound work. Everything is strong and substantial in the highest degree: indeed, in some cases, one

might almost say there is an excess of strength. We shall, next week, complete our previous notices, with descriptions of the decorations: our present purpose is to speak of the stage, which, with its accessories, is a noteworthy piece of joinery. When we say that the width of the stage, exclusive of the docks for scenery, is 90 feet, and that the depth from the "float light" (as it is still called, though now erroneously) to the back wall is 98 feet, it will be seen that the expanse is considerable. From the orchestra it rises half an inch to the foot to the extent of 62 feet (2 feet 7 inches, therefore, in the whole), and the remainder is level. The docks on each side (one of these on the O. P. side is for the organ) are 13 feet 6 inches deep, so that the total width behind the proscenium is 117 feet. The floor is formed of 1¼ battens 3¼ wide, in very short pieces running from front to back (in between oak slips which run from side to side) and framed so as to slide under the floor at the sides which is fixed; the joists, some of them, are 100 feet long, being grooved on both sides for the purpose. There are thus formed twenty-seven small slides for scenery through which it can descend bodily, and five wide slides for larger matters. The stage is at a considerable distance from the ground beneath and is carried on a forest of fir uprights 24 feet long. It contains five traps; the "grave trap," and four smaller ones, and has swallowed up, as we are told, about two hundred gross of screws. Against each side wall is an upper and a lower "fly," from which the scenery is worked, 51 feet long, suspended from the iron girders above. The lower fly or gangway, 9 feet wide, rakes with the stage and is 28 feet from it; the upper fly is level and about 24 feet from the lower one, at the proscenium end. These flies are all framed of wrought fir, and with their windlasses, wheels, and ladders to the bridges which cross the stage to connect the flies, are an excellent piece of work. Of bridges there are six, besides two at the back, hung up. It is about 60 feet in height from the front part of the stage to the point of suspension of the scenery, an extraordinary height. The gas battens to light the upper part of the scenes, six in number, are 71 feet long, supplied by flexible pipes, so that they can be raised or lowered according to circumstances. These have metal guards to receive gauze covering, so as to produce blue or red light.

The small cylinders on which each scene is hung require care in construction, the length being very considerable. The cylinder is 8 inches in diameter, and consists of a centre piece about 2 inches square, on which are secured circular pieces of elm, 16 inches apart. Round these *frusta* are secured seven other slips, longitudinally, to form the outer face of the cylinder: and, within, there are diagonal braces to keep the circular pieces steady. The proscenium wings are made to slide on rollers, and the wing lights will travel across the stage, held at the bottom only. The "wing ladders," or framework of support to the side scenes, will pass through the slides above mentioned, the wheels running on a rail fixed to the uprights below the level of the stage, instead of on the stage. By this arrangement, avoiding the necessity for support at the top, great convenience in placing representations of such objects as trees, will be found.

The painting-room is formed over the back part of the stage, at a height of 28 feet above it, and is 30 feet deep by 90 feet wide, very light and lofty. Against the back wall in the painting-room hangs the frame on which to paint, raised and lowered by a windlass. This frame, 47 feet high and 71 feet wide, consists of uprights, horizontal pieces, and diagonal braces. There is a flap in the floor of the painting-room, in addition to the openings against the front and back enclosure, through which to let down scenery on to the stage. The stairs to the painting-room are on the Hart-street side.

The cost of the stage, we are told, has been about 1,500*l.*; and the machinery and appurtenances, when all is complete, will swallow up another 1,000*l.* It has been arranged, and for the most part executed, as we have already mentioned, by Mr. H. Sloman, machinist.

Externally there is still something to do. The portico grows steadily, but not with great rapidity. Flaxman's figures and bas-reliefs, which, we may mention, have been insured by the Duke of Bedford since the fire for 1,000*l.* are seen, with a back-ground of blue, to greater advantage than they ever were previously.

Before the appearance of our next issue, Grisi and Mario will have enabled the public to judge of the acoustical properties of the New House. We hope to have to record a successful issue.

ARCHITECTURE AT THE ROYAL ACADEMY.*

THE PARTHENON.

Of the class of public buildings, metropolitan, there are few illustrations. We have not yet named Mr. M. D. Wyatt's "Sculpture-hall of the new Museum," at the India-House, Leadenhall-street (1023), described by us some time ago, which is designed in Mahomedan Indian character of architecture, and has pointed horse-shoe arches, cusped, springing from slender shafts and piers, and a glazed light to the central space in the plan defined by the piers and arches. The general effect is excellent: the ornamental details are, perhaps, less commendable,—through operation of the *motive* in the design—analogy to models which, useful and suggestive though they may be, must be regarded either as inferior to European works, or difficult of use or adaptation by the hand habituated to forms more generally observed in northern and western architecture. It would not be unsafe to conclude that the course which the architect to the East India Company has lately had to take in several of his designs, should not generally be imitated, and that such a course, even where it may be otherwise successful, cannot be expected to receive commensurate appreciation: the questions, however, of appropriate character, whether for buildings for India, or for Indian museums, are peculiarly abstruse and difficult ones. But it is worthy of note that the principal works, erected by the native princes, are described in recent letters, as appearing as though they were the designs of Italian architects working under a strong Oriental influence: similar character is that of recent Turkish architecture, as may be gathered from the illustration of the palace of the Sultan, which some time since was given in our pages; and the question is whether more than this sort of Orientalism,—the Oriental impress and character rather than the details and the style,—is required; and whether by attempting only that, we should not produce better art for modern India, and better effects upon ourselves—on our capacities and capabilities.

Of other London subjects we may name "Intended Alterations at the Argyle Chambers" (978), by Mr. H. R. Newton, and "The Westminster Palace Hotel," Victoria-street (1055), by Messrs. W. and A. Moseley. Particulars and illustrations of the latter work were given by us very recently.——There is also a "Front Elevation of the proposed Royal Albert Hotel to be built in Westminster" (1019), and a view of the "Principal Staircase" (1049) to the same building. The elevation has three stories and superimposed orders of pilasters, with grouped central features of columns and pediments—or the Palladian manner—with features of French impress in the roofs, and some novelty of character in the lower range of windows; whilst the staircase is a very effective composition, with central columns and good enrichments.—— Mr. H. Jones's "Three Sketches of Edifices" (981), erected from his designs, and more or less known to our readers, should be noticed: the design of the house at "Caversham Park," particularly, is commendable.

Several works by Mr. R. M. Phipson are shown in No. 965, comprising Entrance Gates to the Chauntry, Suffolk, the seat of Sir Fitzroy Kelly; a boat-house, with banqueting-room above, in Tendring Park, Suffolk; a design for Sutton Vicarage, and others. The last-named follows too closely the manner of an inferior Jacobean or Dutch type. The use of a pediment to each face of a bay window, is surely not justifiable. The collection, however, includes work of merit. The same architect exhibits "The West Suffolk Militia Depôt, now building at Bury St. Edmunds" (1022), a collection of two-storied buildings, of red and black brickwork in chequers.——A view (1057) of "The New Museum at Pippbrook House, Dorking," erected from the designs of Mr. G. G. Scott, is exhibited by Mr. J. D. Wyatt. It is a building in the Gothic style, with two stories, and windows with central shafts, and has much of the Early English character.——In the "Limekilns, in Carmarthenshire," recently built by Mr. R. K. Penson (1072), opportunity has been taken, and well used, in imparting architectural character to a range of kilns, by a plain buttressed and battering wall over openings, and by a bold cornice at the top, slightly enriched by coloured materials in patterns.

But the class of drawings which may be regarded with most interest by the public, are the ideal compositions, and the restorations of buildings of historic interest and classical style. The chief place is occupied by Mr. C. R. Cockerell's "Study (1026) of the Mausoleum at Halicarnassus, from the texts of Pliny, Vitruvius, and Martial; from the measurements of the fragments recently excavated by the British Government, and now in the British Museum, and, according to the idea published in the *Classical Journal*, 1847, by Mr. C. R. Newton and the author." The "thirty-six columns" of the description are arranged with five columns in the flanks, and four at the ends, between the square columns, or antæ, of the angles, which are counted in. The columns, of the Ionic order, surround a cella, which is the central support to the lofty pyramid formed in steps, and the chariot at the summit. There is an attic, with pedestals bearing the figures of lions seated, and more prominent works of sculpture at the angles; and in the inter-columns on the lofty podium on which the cella and peristyle are raised, are other works of sculpture.*——Mr. J. P. Cockerell exhibits two ideal representations (1025 and 1027) of Roman interiors, with elaborate Pompeian decorations, and figures representing episodes of domestic life. They are veritable pictures of the happier and brighter side of Roman existence; and of the more meritorious features of the Roman architecture. More beautiful and interesting drawings can hardly have been produced. Mr. J. P. Cockerell also exhibits (976) drawings of the "Metopes of one of the Eastern Temples at Selinus, now in the Museum, Palermo," which also deserve commendation for their careful execution, and their unquestionable truth.——Mr. A. Ashpitel's "Ancient Rome, from the Terrace of the Palace of the Cæsars, on the Summit of the Palatine Mount" (1008), is a view restoring "the Capitol and the Tarpeian Rock, the ancient Forum; the Fora of the Emperors," &c. from "study of existing remains, or of the Lapides Capitolini, bas-reliefs, medals, and other sources." The drawing lacks a key. Some of the details are of very late, or what is ordinarily called "Italian," character; an observation (interrogatory) which may be hazarded, paying due regard to the fact, that the precedent for much more of the "Italian" details than is usually supposed, was found in the true Roman architecture.

Mr. E. Falkener's "Interior of the Parthenon, at Athens, with the colossal Statue of Minerva, by Phidias, of gold and ivory: being an attempt to exhibit the chryselephantine sculpture of the ancients" (1036), will set the learned architectural world in commotion, if there be any present taste for disputation on the subjects which it touches. Fancy the *naos* of a *Greek* temple covered by the form of a hemicylindrical vault. On listening, however, to the real evidence, which is presented only in small part by the representations of coins or medals, and the small section on the margin of the drawing,—that is found to be, if not conclusive, plausible, important, and such as may claim a cogent negative. In the Roman temple, of course the vaulted roof remaining, disposes of any material difficulty as to the covering and the height required for colossal sculpture. But in the Greek temple, and especially in the Parthenon, the true arrangement of the hypæthral lighting, and of the ceiling with reference to the height of the statue, has never been settled. The objection to the hypothesis of a flat ceiling, or an arrangement of beams and coffers, or to that of a roof of open timbers, as in the basilicas, is that the statue of 39 feet, on a pedestal the lowest that could be designed for the sculpture which there was on this latter, would reach to a greater height from the pavement than the height of the ceiling or tie-beam; whilst in the case of a flat ceiling, the hypæthron would become a well-hole, both unsightly, and ill-adapted to the effectual lighting. Mr. Cockerell's restoration sought to meet this difficulty by forming the ceiling to correspond with the raking lines of the roof covering, and by carrying up the second order of columns as support. This, however, would seem to require for the upper order, a height much greater than is warranted by the analogy of the upper order at Pæstum, which is both of the same order (Doric) as the order on which it rests, and of comparatively small dimensions; or the use of a third order; or some expedient hitherto undetected. Everything relating to the lower order, since the publication of Mr. Penrose's book, is pretty nearly settled. In that work there is a copy of a plan taken by Mr. Knowles, which allows everything except height to be determined. The greatest height that could be given to a Doric column for an interior being allowed to the

* See page 305, *ante*.

* A Parliamentary paper on the Marbles of Budrum has been lately published; and is a very interesting document, referring to this rich collection.

ower order, the problem then is to complete he structural support, and form the ceiling with the hypæthral opening, with due regard o effect internally and externally. The ques-ion as to the external effect, hitherto has ot been overcome. The designs for restoration, enerally, have shown an awkward notch out of he line of roof, and one of our difficulties as to fr. Falkener's design is, that, even treating the reak in the ridge, and the quasi-pedimental aces within the opening, decoratively, with an-fixæ and other features, the eyesore would still xist. But, as to the arrangement as affecting ie interior: — we are, indeed, not sure that e can take up all the links of the reason-g on which Mr. Falkener has decided in fa-our of that diminished height of the upper der, which gave him a further dimension to be ecounted for; and in particular we cannot say hat importance he gave to the remains or indi-ations of certain small columns spoken of by Mr. enrose, as apparently the same as Stuart had iven in his plan," and as "borrowed from some her temple" after the explosion of 1687, when he original Doric columns which remained nen Wheeler and Spon visited Athens, were ubtless thrown down." We presume that these lumns he thinks really belonged to the upper der. But, however that may be,—with the ana-gy of the Pæstum example, and the indication of e form of a base discovered by Mr. Cockerell, at gesta, as well from the feeling of the better ect of wider intercolumniation in the particu-r case of the upper order, he has adopted that angement which obliges him to account for e remainder of the height. This, therefore, as ll as the comfortable housing of the statue, effects by the hemicylindrical vault, divided o coffers, and as formed in wood, so far tinguished from the Roman vaulting. The wing shows how the details might be treated; l both in regard to the ceiling, and all er parts of the interior, the design manifests tility of ideas, learning, and artistic skill. e opening of the hypæthral light, how-r, remains an awkward feature: it appears be "notched out" of a vault, just as in the e, externally, of the roof-covering, and thus ds to invalidate the accuracy of the conclusion ved at. This, all the skill and merit of the sign and drawing do not remove. Great in-st, however, will be attached to the present rt to solve one of the most puzzling questions nected with classical architecture. Mr. Fer-son supplied some useful ideas as to the ethral lighting, though not exhaustive ones. should be added that the medal, or coin, ch professes to show the temple of Juno at nos, known to be a Greek building, indicates r clearly an arch over the statue. But as this l is Roman, and, like other works of the kind, conventional rendering,—for, it translates the e of the temple into the Roman Corinthian,— questionable how far such an authority can be n in evidence of the use of a vaulted or imi-e vaulted ceiling by the Greeks.

g works in the department of interior decora-, applied to modern buildings, we may name) "The Board-room of the Directors of the nual Life Assurance Society," by Mr. J. M. K. n,—the drawing showing an Italian panelled ng and pilastered walls; and (1002) "A De-n for the Painted Ceiling of a Drawing-room rkshire; to be carried out in encaustic, by srs. Trollope and Sons," by Mr. R. Beavis, h, though not free from painted imitation of lded work, has considerable merit in the treat-t of the form and colour.

ere are some drawings of old buildings which at deserve notice, either from the interest of subjects or their execution. We may men-n Mr. T. R. Macquoid's "Portion of the West nt of the Cathedral at Lucca" (979); and two e drawings, by Mr. S. Rayner, one (1059) of en Cathedral, and the other (1073) of the champ Chapel, Warwick. The merit of the er, however, does not consist in the precision minuteness of representation in details, which tectural subjects demand. In the depart-medallic art, which includes works of rather n than ordinary excellence, will be found "The t Medal of the Institution of Civil En-ers" (1112), by Mr. J. S. Wyon; and the l dal (1118), of Sir William Chambers, archi-" executed for the Art-Union of London, by B. Wyon.*

* We have received letters from several architects ose drawings were rejected complaining of the treat-nt; but we cannot arraign the conduct of the Council *ex parte* evidence.

ITALIAN ARCHITECTURE BEFORE THE REVIVAL.

THE obscure information obtained from history respecting the preceding ages, throws the first buildings of any magnitude, on record in Italy, much into light. It must not be supposed, in consequence, that the talents of Pisano and his disciples were quickened with such superior intuition as to arrive at immediate excellence. It is more probable that art preceded them, who were the pupils of masters forgotten to fame. Moreover, the land in which it was cradled never lost its hereditary predilection; and it would not be surprising if a traditionary education were the principal one for some centuries. As manuscripts were the only books to be had on the subject, practical had to precede theoretical knowledge; and this is perhaps the reason why many architects of those times were sculptors, or knew some handicraft.

Viewed as edifices, without reference to chronicles, the oldest of the modern class, which had known architects, do not appear the efforts of a school newly established. Patronage the most extensive and application the most intense could not combine sufficient instructed intelligence to enable an artist of its first age to produce such buildings. They are mature productions of a high order, and their aspects denote ample experience and the judicious application of rules, long practised and well studied. A few constructions may have been slowly finished, and thus passed under the superintendence of more advanced judgment; yet the oldest portions show no inferiority of architectural taste, insomuch that the entire group, if they may be thus termed, seem only the progression of an adopted style, worked out harmoniously.

Neither would the rapid extension of beautiful buildings, subsequently, warrant a conclusion that the new school was self-constituted, and not dependent on a hereditary descent of gradual improvement for its development. Peculiar circumstances alone influence extraordinary erections in every country, and it is found to take place periodically, as if the flourishing periods represented eras. Very few civilized states are without their golden eras of architecture, though more brilliant ones may yet succeed; and restorations must be made in some, under restriction that can prevent retrogression. There was also a degree of mastery about the earliest details, which had to be copied, in several particulars; and they are quite distinguishable, notwithstanding the improvements otherwise introduced, and the immense decorations sometimes surrounding them. As to its maternity, similar to poetry and music, it is only mentioned where authentic history ceases, and mythology or oblivion begins. The period referred to herein being the termination of the Dark Ages, it is only natural that persons, fatigued from disappointed research, and determined on a demonstration of their theories, should come to some conclusion, and the result is a reckless dating of European improvements from those gloomy times—no more dark or barren of interest than the present, if proper means were taken to investigate records, where men have ample opportunity.

Some presume that churches were erected before the reign of Constantine, on the form and design of which there is no information; but it is true that Bishop Paulinus built a cathedral at Tyre, between the years 313 and 322, of the basilica form, as it is panegyrized by Eusebius. (Eccles. Hist. b. 10, c. 14.) Further, Gibbon says, that Constantine was resolved the new capital of the empire should eclipse the ancient one in magnificence. Thus the encouragement given to artistic and scientific men, added to the ostentation peculiar to Oriental manners, soon made it the centre of architectural improvement. His successors were equally zealous in the cause of metropolitan eminence, and spared no expense on the magnitude and sumptuousness of the public works. When Byzantium became a great archiepiscopal see, and almost disputed the superiority of the Roman prelate, its churches increased in number, and its colleges supplied many parts of Europe with priests and monks the latter often only artisans, and working in humble capacities. Where they required edifices, either mundane or ecclesiastical, in their missionary stations—perhaps accompanying hordes, in their migratory search for kingdoms and duchies it is probable that the monastery, church, or college, would be raised somewhat like those in which they were educated, unless that for want of materials and skill, they having to labour themselves, inferior buildings would be substituted.

The mosque of St. Sophia, at Constantinople, was the first metropolitan church, built expressly to receive a large congregation; and its successful reconstruction made the Emperor Justinian exclaim, according to one of Gibbon's authorities—"I have vanquished thee, O Solomon!" It was erected about the year 534, by Anthemius, and considered as a model for other ecclesiastical buildings; and in succeeding centuries, several Christian sanctuaries were made to resemble it in architecture, as far as practicable, by founders zealous of imitating Justinian. This theory is partly borne out by reference to Muratori's "Antiq. Italiæ;" where, amongst the articles in the first volume, appear the chronicles of the Beneventine Monastery, and the leading item runs thus:—"In the month of August, vii. kalend. September, Arechis, prince and general of the Samnites, and founder of [a] Saint Sophia." Then follows a note—"About the year 774, Arechis seems to have built the monastery and church called St. Sophia, like the other raised by Justinian, at Constantinople,"—referring for proof to another chronology.

Other churches and monasteries are mentioned in the same work, proving that there was no lack of foundations during the Dark Ages; but an architect is never introduced, and the only names that appear on record are those of the princely or ducal founders and the prelates. One particular instance of this sort is found in the short chronicle of the Lombard kings (vol. iv. p. 944). There are also edifices still standing pretty well preserved in some Italian cities, erected during the eighth and ninth centuries, which showed that progressive architecture was not confined to one place, but somewhat general. Similar features are visible in all, and they evidence an expansion of the same genius that inspired those who still had the buildings of Rome before their eyes; and the narrow, circular-headed windows, long or short, according to position, with or without square imposts, and the low doors similarly crowned, maintained their uniformity, during some hundred years, and extended through Europe—called in England lately, to distinguish it historically, the Saxon style.

The Longobardi were a horde that migrated from the forests of Germany, entered Italy, and founded Lombardy about the year 567. It was a singular thing that these people, instead of being destructive warriors and barbarians, introduced a species of architecture, to which Simonds and others apply the term "Lombard style." Pavia was chosen for their capital, it being of higher antiquity than Milan, according to Pliny. Amongst the ecclesiastical edifices of this place, the cathedral fully displays the state of art at its revival; and St. Peter's is the most remarkable of the other eighteen churches, both for its age and peculiar arrangement; so old, that the ashes of St. Augustine are said to be deposited in its vaults. An ancient civil edifice, called the university, is supposed to have been erected during the reign of Charlemagne. Pavia ("Malte Brun," vol. vii.) has all the appearance, in these localities that have undergone no improvement, of a town representing the true state of Italian architecture, both civil and religious, previous to its regeneration.

The two monarchs and the people who fostered the elements of architecture, during the earlier centuries, being now before the reader, it remains to discover what information can be derived, connected with them, calculated to fill up the void in this obscure chronology. It is not probable that the first researches can be satisfactory, in point of completion; but it may furnish matter enough, to link the principles of Pisano with those of Constantinople and the shores of the Adriatic; as well as explain the practice of pagan and provincial Italy. Constantine had nothing before him in Byzantium, and, so every building of magnitude had to be erected expressly for its purport: thus the Byzantine style was originated as to its plan and elevation, through the architects not being limited in their ideas by ancient edifices. Constantine's church of the Apostles was a Greek cross—the leading symbolical feature—changed to a Latin one, when rebuilt as St. Sophia by Justinian. It afforded a model for builders to extend the style, subsequently—the cupola, with semi-windows around it underneath, was also an important feature. This cupola, the first link, of which St Peter's was the climax, is illustrated by Count d'Agincourt in his "Hist. de l'Art," plate 67.

Justinian, having reconquered Ravenna in 553, rendered the victory memorable by founding and erecting the church of St. Vitale in that city. This was the first Byzantine construction in Italy; the nave was octagonal, a cupola surmounted it very tastefully, the capitals of the columns were basket-work tracery, and it appears to have been decorated with mosaics and symbolic-

cal carving. Indeed, it was in the latter kind of design, that the Byzantine artists excelled during the early ages; and symbolism was carried to such an extreme, under an impression of its denoting superiority or excellence, that it was severely censured by the council of Constantinople in 692. When Charlemagne beheld the church of Ravenna, he was so highly pleased that he passed a great eulogy on it, and adopted it for the church of Aix-la-Chapelle; and thus the cupola of St. Vitale received European fame, as a model for several centuries.

Very few of these churches are to be found in Italy retaining their original type, the others having undergone changes and restorations. The Duomo of Ancona, which was dedicated to St. Syriaco, is an edifice of the tenth century; it has what is termed a Lombard porch, itself adorning white marble, supported by very light columns with reposing lions for bases. The design is a Greek cross, in every way, strictly Byzantine, and the transepts are raised several steps, as was usual in the East. The small sanctuary of St. Fosca, at Torcella, is another, well proportioned, on a diminutive scale. It is of the same date as the former, and is constructed from the fragments of older buildings; preserving the Greek cross and cupola, it has an open portico on three sides externally. The columns, which are round, square, polygonal — of every size and shape imaginable — support a wooden roof, that leans against the main building; and they have a variety of capitals, Corinthian, plain square, and basket-work tracery. Only five others of a similar style are mentioned; S. Maria of Toscanello, near Viterbo, sixth; S. Frediano, seventh, and S. Michele, eighth—both at Lucca, the latter faced in the Lombard style; S. Ambrogio, at Milan, and the Duomo of Verona of the ninth century. Venice, Ancona, and Ravenna having been intimately connected with Constantinople (Hope's Hist. Essay), the style of that metropolis in all its purity adorned these cities, as well as the other towns of the Adriatic. But St. Mark's is popularly called the "glory of Byzantine architecture." Commenced in the eleventh century, shortly after the date of Torcello church, to which it bears the proportion of a giant to a dwarf, it extended over the twelfth century before its completion. However, it was so far completed before the revival set in, as to be absolutely free from all Italian intermixture. It is true that the first Italian revival, alluded to in the twelfth century, commenced in the year 1081, and lasted until 1180; but it had scarcely any influence on the regeneration of art; and only one instance is recorded, in Rome, where the mosaics were revived at S. Clemente, in the year 1112. Nor was it the consequence of any great influx of artists at Venice, in competition for improvement, as supposed; because it is recorded that very few Greek artists settled in Italy until after the Venetian capture of Constantinople in 1204. More evidently it seemed the general restoration of national spirit and confidence, during the reigns of the three Comneni, Alexius I. Calo-Johannes, and Manuel I. and Gibbon alluding to the government under the Emperor Manuel, says, in chap. 45 :—"The Byzantine monarchy became an object of respect or terror to the powers of Asia and Europe."

St. Mark's is an exception to everything in existence; there is not another church or edifice in the world which bears the least similarity thereto. A low front first appears, containing five semicircular entrance-arches under the arches of a bridge, which are filled up with five bronze gates, magnificently sculptured. Above this arcade runs a balcony or gallery, fenced by a marble balustrade, across the whole front. In the gallery stand the four bronze horses, famous travellers—first from the foundry of Corinth to Athens, and subsequently adorning the arches of Nero and Trajan at Rome, until removed to Byzantium by Constantine, whence they were brought to Venice in the thirteenth century. The upper part of the great church is covered with pyramids, spires, crosses, and statues. A heavy gloom pervades the whole interior, which is richly studded with columns, giblings, and figures of the saints. The great altar of St. Sophia adorns the sanctuary, brought from Constantinople, at the same time with the horses and the two Egyptian granite columns, bearing the winged Lion and the statue of St. Theodore.

However independent the progress of architecture might have been elsewhere, at Rome its advancement was quite different, in which city the pagan temples began to fall in ruins. Many persons have expressed surprise that, when the Christians were federated as a body, they did not take the catacombs and celebrate their ceremonies above ground, they did not take advantage of those edifices and convert them to their services. There might have been both danger and difficulty attending such a proceeding, even were it advantageous, at so premature a period. Firstly, it must be remembered, that the majority of the inhabitants of Rome were idolaters or sceptics for some centuries after the proclamation of Christianity; and, secondly, that even the largest of those buildings would have been insignificant places of accommodation for their immense congregations, admitting that, at great cost and labour, they could be cleared of all obstacles within a temple to throw them open for public worship. There is no instance of any Roman temples been converted into churches except one.

S. Urbano alla Caffarella in the suburbs, unless the Pantheon (supposed to be a bath), consecrated by Pope Boniface in 610, be considered one. Many instances of attempts made to turn the remains of idolatrous fabrics in the East to such purposes are mentioned, and, about the beginning of the last century, travellers have found in the Temple of the Sun at Baalbec, and also in that of Medinout Abou at Thebes, certain indications of roofing and other incidences, proving that they had been covered and inclosed for Christian congregations.

Rome, however, contained a number of buildings, which put aside the necessity of much architectural labour on the part of its primitive Christians. These were the basilicæ, of which there existed eighteen in Pliny's time. Of Oriental origin, where they were first used as assembly-rooms or halls, they were introduced into Rome about the period when the republic began to decline, and were constructed to serve as exchanges and courts of justice. The earliest examples of them may be found amongst the ruins of Thebes, so that evidently the Egyptians perceived in their form an economical plan for particular assemblages. Constantine saw at once their value to his new principles, and converted two, Laterana and Vaticana, into churches, which bear the same name to the present day. Though they possessed all the requisite compartments for the primitive sanctuary, and seemed to be sufficiently large for their respective congregations, still St. Paulinus attached four side chapels to the basilica at Nola, at the close of the fourth century. Theory presuming an ancient church to have a distinct place for baptism, and to be built over a catacomb, these chapels might have been annexed for such offices; the public baths, where convenient, being precisely suitable for spacious baptisteries.

So perfect was the basilica at first for Christian church services, that at the present day there would be no objection to the use of one, which might be easily altered to suit the most fastidious ecclesiologist. Its subdivisions (Knight's Eccles. Arch.) were an atrium or court of entrance, supported by a columnar portico—a porch in the front of the building the narthex or scourge, where penitents not absolved and the unbaptised had to stand, until they were qualified to enter the church; a central nave and two lateral aisles, having two rows of columns — in the larger double ones, in the smaller basilicæ single ones. When the columns were doubled, the rows next the nave supported round arches, instead of continuous or unbroken architraves; upon them rose the main walls of the building, or clerestory, pierced with windows, decorated sometimes underneath with mosaic lines; galleries were provided in the aisles for females, similar to triforia, and both nave and aisles were covered with wooden roofs; a chancel raised two steps and railed off, where the men stood on the right and the women on the left, as in heathen times; a triumphal arch between the nave and sanctuary; a transept, sanctuary, or presbytery, elevated by steps, in the centre of which stood the altar; an apsis or tribune, where the bishop's throne was so elevated that he could superintend the entire congregation. Even the crypt beneath the transept, formerly for prisoners awaiting or during trial, answered the purpose of a catacomb, to contain the relics of the patron saint.

Religious schisms have had more to do, from the earliest ages, with changes of architectural taste, than many persons are aware of. When a particular style had improved from simplicity to a decorated or even florid state, and might have been considered established nationally, some church reform has set aside the whole, for a period, and substituted buildings more in accordance with its new tenets. The Iconoclast rupture, at the commencement of the eighth century, influenced Italian art in a remarkable manner; and the first improvement in the Lombard edifices may be dated from this time, though they followed the Byzantine during the seventh century, and also used the basilical plan. S. Michele at Padua is the earliest monument of theirs, built about the year 661, and it is supposed to be a good specimen of an attempt to originate a new system. This may be called the Early Lombard, the church of S. Julia, at Brescia, in the eighth, and S. Maria, at Arezzo, in the tenth century, being the late or Decorated, when they began to unite the Byzantine with the Italian—the cross and cupola with the basilical contour—and to combine all the valuable details of Eastern with Western design. That this was executed in a masterly manner, by successive attempts, is confirmed by authentic records.

The Lombard cathedral gradually advanced from a plain to a magnificent construction, in about three centuries, similar to the Pointed style of England, one of its peculiar features being the semicircular-arch, commonly called the Norman. Founded to look east and west, it was cruciform, and had an octagonal cupola, in imitation of Oriental taste, and retained the crypt and apsis of the Roman basilica. The apsis was pierced with windows, the capitals of its columns were rude carvings in imitation of Corinthian, and the roof was formed of light stone, and vaulted, also the narthex or scourge (Maury's *Essays*) in front, common to Greek and Roman, and built the whole length of the entrance, was discontinued in the Lombard early churches; and when resumed, early in the eleventh century, was simply introduced as a porch or vestibule. Three doors at the western front admitted the congregation; and these were sometimes sculptured, or had small columns always based on carved grotesques. Above the central door, in the course of time, was introduced that singular feature, the catherine-wheel window. In the pure Lombard style, hundreds of minute columns, of every shape, device, and form, run along in continuous cornices, representing galleries, beneath the eaves, are carried up the pediment in front, and round all the laterals walls, and lastly encircle the tholobate of the cupola. All are connected with circular arches on trefoils, and two adjacent pillars are generally interlaced in the true-lover's knot. Frequently the western façade is covered, rising tier above tier, with this galleried ornamentation.

Several circumstances warrant the presumption that architecture, both professional and practical, was highly respectable in the northern states of Italy during the Dark Ages; it being bound under certain restrictions, and somewhat mystified, to render it reverential. The popes, after the Iconoclast rupture, began to interfere in ecclesiastical constructions, and as their power was then ascending in the West, for certain reasons they granted to the masons of Como the privilege of building all religious edifices. This monopoly was protected by the title of "Magistri Comanici," known in England as "free and accepted masons," and was presided over by a cardinal, some other prelates, and several noble and rich patrons. Memory, is the authority for the last assertion, but it is a truth. However, when they proceeded to Rome, in pursuit of masonic and artistic work, these *protégés* of the popes found little employment there, during many years, it was so overstocked with catacombs, baths, and basilicæ.

Miraculously passed the millennium, without destroying the world, whilst it produced a magical effect upon everything, particularly architecture. Still, such extraordinary circumstances are required to produce important secular changes. Pisa happened to be the fortunate city which took the lead on this occasion; and the event is recorded in "Cronica Pisana" (Muratori, vol. ix.), where it is described as a celebrated exploit. The Pisans were victorious at sea, and captured several rich vessels, at which they were so overjoyed that they resolved to build a most magnificent cathedral with their acquired wealth. The proposal was no sooner made than it was adopted and carried out; for Buschetto was on the spot the very man—the architect indoctrinated in all the principles of the Eastern and Western styles. Such was his confidence in the undertaking, and his success in the execution, that it was commenced in the year 1063, and finished before the expiration of the century.

And this occurred fully 150 years before any mention is made of Pisano's name in biography. After thus considering the remote of foundations laid in Italy, for different purposes, previously to the dawn of art in the eleventh century, there is proof enough to convince a person that all these rudiments were recorded in a state of solidity, and sufficient elements existed to enable architects to advance under influential patronage, without any extraordinary outpouring of talent. One of the incitements to greatness in any pursuit is to know truly how a country once eminent for the same arrived at perfection. Italy, no more than England,

ose out of its chaos in a day; and it is absurd to raw high-coloured pictures of any period, ren- ered however so Augustan in appearance by time, or the mere sake of national vanity.

FRANCIS SULLIVAN.*

HE COMMISSIONERS' REPORT ON THE BEST MODE OF DISTRIBUTING THE SEWAGE OF TOWNS.

THE preliminary report of the commission pointed to inquire into the best mode of distri- ting the sewage of towns, and applying it to neficial and profitable uses, is a brief document enty-nine pages), signed, "Essex, Henry Ker ymer, Robt. Rawlinson, J. T. Way, J. B. Lawes, Southwood Smith, John Simon, H. Austin." it are appended an "outline of a plan for dealing h the sewage of the metropolis;" the report of eputation who visited the city of Milan; some dence showing the state of opinion and feeling Milan, on some points of the inquiry; and a ographed plan of the Thames, to illustrate the mmissioners' proposition as to the metropolis. On the general question, they arrive at the fol- ing conclusions:—

1st. That the increasing pollution of the rivers streams of the country is an evil of national portance, which urgently demands the applica- of remedial measures; that the discharge of age and of the noxious refuse of factories into n is a source of nuisance and danger to health; t it acts injuriously not only on the locality re it occurs, but also on the population of the erics through which the polluted rivers flow; it poisons the water, which in many cases is the sole supply of the population for all pur- s, including drinking; that it destroys the and generally that it impairs the value and natural advantages derived from rivers and um- of water.

2d. That this evil has largely increased with growing cleanliness and internal improvements owns as regards water supply and drainage; its increase will continue to be in direct pro- rtion to such improvements; and that as these rovements are yet very partial, the nuisance ewage, already very sensibly felt, is extremely t as compared to what it will become when ge and drainage works have been carried into effect.

3d. That in many towns measures for im- ed water-supply and drainage are retarded, the difficulties of disposing of the increased ge which results from them; that the law h regulates the rights of outfall is in an ubious and undefined condition; that judicial nions of a conflicting character, have been ded at in different instances, and that, con- ently, the authorities of towns have con- ly before them the fear of harassing litiga-

4. That the methods which have been adopted the view of dealing with sewage are of two s: the one being the application of the whole ge to land, and the other, that of treating it emical processes, to separate its most offen- portions; that the direct application of sewage ld favourably situated, if judiciously carried and confined to a suitable area exclusively s, is profitable to persons so employing it; l where the conditions are unfavourable, a payment on the part of the local authorities restore the balance.

5. That this method of sewage application, acted with moderate care, is not productive nuisance or injury to health.

6. That when circumstances prevent the dis- of sewage by direct application to land, the sses of precipitation will greatly ameliorate, practically obviate the evils of sewage out- especially where there are large rivers for discharge of the liquid; that such methods of ing sewage do not retain more than a com- tively small portion of the fertilizing matter; that although in some cases the sale of the re may repay the cost of production, they ot likely to be successful as private specu- s.

7. That, considered merely as the means of ating a nuisance, these precipitating processes tisfactory; that the cost of them in any case ch as town populations may reasonably be upon to meet; that the necessary works , not, if properly conducted, be a source of ance; and that, by modifications of the exist- methods, even the slightest risk of nuisance e entirely obviated.

8th. That the employment of the one or other method of disposing of sewage, or of both conjoined, must depend upon locality, levels, markets, and a variety of other circumstances, and that the case of each town must be considered upon its own peculiarities.

9th. That there is good ground for believing that the methods yet proposed for dealing with sewage are not the best that can be devised, and that further investigation will probably result in the discovery of processes more thoroughly equal to the suppression of the nuisance, and at the same time calculated to give more valuable products.

10th. That the magnitude of a town presents no real difficulty to the effectual treatment of its sewage, provided it be considered as a collection of smaller towns.

As, however, the conditions under which the evil may be best removed will differ greatly in different localities, we think it would be desirable, before any legislation takes place on this subject, that investigation should be made into the state of the outfalls of different classes of towns, and of the condition of rivers in populous districts, with the view to advise as to the general legislative measures that might safely be adopted."

In respect of the metropolis specially, the commissioners declare against the proposed intercepting sewers with distant outfalls, and propose embankments in the Thames in the form of advanced terraces continuous on the surface, but affording at convenient distances entrances to inner basins, while "in the interior of these lengths of embankment a series of separate reservoirs would be formed, into which the whole of the sewers of the metropolis now discharging directly into the Thames would have their outfall. The solid matters would there be separated and precipitated, and the liquid treated with some deodorizing agent before discharge. But receiving sewers would cut off the whole of the high level drainage of the metropolis, now such a source of mischief to the low districts, and conduct it by gravitation to the reservoirs. Steam-engines on land would raise the sewage of the low levels to the same height. The solid matters precipitated in the reservoirs would be pumped away in the form of sludge through pipes in connection with the whole of the reservoirs, and carried out to sea, if no opportunity should arise for the beneficial employment of this material."

The Commissioners maintain that these reservoirs would be nothing more than detached lengths of large sewers, in which deposit would take place as in the tidal sewers now of Southwark and Westminster, but would differ from the latter in being deodorized, and having no openings in the shape of gullies for the emission of foul air.

AN ARCHITECTURAL NOTICE OF THE NAVE OF ST. SAVIOUR'S CHURCH, SOUTHWARK, MADE DURING ITS DEMOLITION *

THE Church of St. Saviour, Southwark, is one of the few ancient Gothic churches remaining in the metropolis. It is situated on the south bank or Surrey side of the Thames, at a short distance westward from the foot of London Bridge. The living is a rectory, not in charge, in the archdeaconry of Surrey and diocese of Winchester, and in the patronage of the parishioners.

This church formerly belonged to a priory of Augustine Canons, and was dedicated to the Blessed Virgin: it was then known by the distinctive appellation of St. Mary Overy. A tenement called the Lovekyn Chapel marks the foundation of the priory, in 1106. Its founders were two Norman knights, by name Sir William Pont de Larch, and Sir William Dauncy; and the coeval erection of the church, to William Giffard, Bishop of Winchester. A few remains of the choir, built by this Bishop, which was in the Norman style of architecture, have been traced in the nave (the subject of the present paper); such as capitals, and a semicircular arched doorway discovered in the north aisle, hidden by 14-inch brickwork, with which it had been enclosed. And in 1830, when taking down some portions of the transept, several fragments of Norman workmanship were taken out of the walls, in which they had been used as rubble.

After the discovery of the Norman doorway before mentioned, it was enclosed until the last week in May 1839, when the boarding was removed. This doorway, at the time of its destruction, was in a very dilapidated state: the remains of it, however, were sufficient to indicate its having been an interesting example of the period. The interior jamb and arch were composed first of the chevron or zigzag; then on each side were three slender cylindrical attached columns (banded), with foliated capitals, from which emanated three bold archivolt mouldings, comprising a modification of the Greek honeysuckle, the chevron, and projecting and deeply undercut leaves forming the label moulding. The honeysuckle and chevron in the arch, and the capitals of the side columns, were of a reddish cast, and appeared to be composed of terra-cotta. This, however, was not the case, they being of stone as well as the remainder of the arch: their red appearance was owing to a fire which took place near the building; and to this circumstance may be attributed the greater part of the disfigurement of the doorway.

The church is in the Gothic style of architecture, and consists of a Lady chapel, choir, transepts, and nave, with a lofty embattled tower, said to "contain one of the heaviest and finest peals of bells in the kingdom," rising from the central intersection. All of these, excepting the nave, have been restored. The restoration of the Lady chapel, &c. by the late Mr. George Gwilt, being so well known and appreciated, renders further a description unnecessary, especially as the present paper is limited to the ancient nave. Until the repairs there also stood two extraneous chapels, one dedicated to Mary Magdalene, and the other known as the Bishop's chapel. Rickman, in his "Gothic Architecture," says, "a large portion of this church is early English, of a character curious and valuable, with some parts and some insertions of Late date. The details of many parts of this church are very good, and in fine preservation, and the whole church is worthy of attentive examination."

Notwithstanding the repeated entreaties on the part of antiquaries and a portion of the public for the preservation of the nave (which has been stated to have been the oldest part of the structure), it was, in 1839, at last doomed to be taken down within 7 feet of the ground, and was sold by private contract to Messrs. Hall and Arkins, for the sum of only one hundred and fifty guineas! in the month of February, to make room for a new building to accommodate 2,000 persons, from the designs of Mr. Henry Rose, Architect, at the cost of 9,000*l.* In the year 1836, a deputation waited upon Lord Melbourne, for the purpose of soliciting a grant of money towards repairing the nave, the expense of which was estimated at 2,000*l.*; but I believe, on account of the repeated demands upon the Government for money, Lord Melbourne was obliged to decline rendering any assistance. At different times subscriptions have been solicited and various means suggested towards promoting its reparation, but without success. From its dilapidated appearance, it would have required great ingenuity and care to have restored it to its original grandeur. The parts of St. Saviour's Church devoted to Divine Service at the time of destroying the nave were the choir and transepts. These are now given up wholly for the reception of monuments, and the congregation occupy the new building.

The interior of the nave, in the midst of its ruins, presented an appearance very far from being unpicturesque: in fact, had it existed as many years in the country as it had in the borough of Southwark, it might have vied with many of our ancient ruins in romantic beauty. It was separated from its north and south aisles by seven pointed arches on each side, supported by massive cylindrical and polygonal piers, having one, two, and sometimes three attached columns, with plainly moulded capitals and bases. From the abacus of each of the clustered piers rose a single shaft on the face of the triforium and clerestory, to the top of the building. On the south side of the nave were six clerestory windows, 4 feet 7 inches wide, deeply recessed: they were pointed and filled with common ugly glass lights. The windows were also of later modern innovations. Between the last modern clerestory window and the west wall of nave was one of the original clerestory windows (partly filled up), having three pointed arches supported by two slender columns: the two side arches were small and acutely pointed. In Bexley Manor-house one of the clerestory windows is very similar. The clerestory windows on the north side were six in number, and were not modernized: they were in two compartments, with cinque-foil heads, with a quatre-foil over. On each side of nave, between the clerestory windows and the nave arches, was a triforium or blind-story, which was a narrow passage, about 1 foot 6 inches wide, extending along the sides: this was fronted by trefoiled-headed arches, varying in number, and supported by small columns 3½ inches in diameter.

The centre arch in the sixth compartment was supported by a moulded corbel instead of a column, to allow room for a small Tudor doorway or opening. In front of the seventh compartment, which was the last one at the west end, the triforium arches darkened from the last described, by having detached columns supporting pointed arches. Beneath the latter was another small Tudor doorway.

These Tudor doorways or openings were additions made in the fifteenth century, to let down tapestry on high festivals over the walls.

The ceiling of the passage of the triforium was formed by stone slabs, 3 inches in thickness, with rubble above them.

The north aisle had in its north wall six windows. Three of them were pointed, 5 feet 3 inches wide, and in two compartments, with cinque-foil heads and a quatre-foil over. The fourth was 5 feet 6 inches wide, and also in two compartments, with a depressed pointed head; and the fifth one, eastward, 3 feet 2 inches wide, was narrow and pointed. Beneath this window was situated the Norman doorway, discovered to be bricked up, and which has been before mentioned. At the west end of both aisles was a pointed window in three compartments, with cinque-foiled heads. In the north wall of this side, close to the west end, was a niche with three pointed arches, similar to the one at the south clerestory. At the eastern end were the remains of a wooden gallery. The side wall of north aisle was 3 feet 9 inches wide: the exterior was faced with brickwork, 9 inches thick: the interior was lined with stone courses, 9 inches to 1 foot in width, the intervening space being filled with rubble.

The window over the Norman doorway was narrow and pointed, being an elegant specimen of the First Pointed style.

In the south wall of south aisle were five pointed windows and a doorway, divided by a central column into two openings. The eastern most window was in three compartments, with the mullions interlaced, and three quatre-foils in the spaces formed by the mullions. The other four windows were in two compartments, each having a cinque-foil head with a quatre-foil over. At the east end of the south aisle was a large pointed arch, connecting it with the south transept, and supported by an attached three quarter column on each side. The upper part of this arch was boarded, and the lower part filled in with a mahogany Roman Doric door-front. In this part of south aisle were the remains of a wooden gallery, supported by Roman Doric wooden columns. In the south-east corner of this aisle was a heap of wooden bosses: the latter were about 18 inches in diameter. Some had grotesque heads sculptured, others shields, dragons, flowers, fruit, &c. &c. These bosses probably belonged to the roof of the nave, and, from their appearance, we may conclude that the roof was constructed of wood. They were all of an octagonal form, having oblong narrow mortises, into which were inserted the same number

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record with regret the premature death of the thor of this article, which took place at Manchester on of January last.

* By Mr. W. Pettit Griffith, F.S.A. &c. Read at a meeting of the Surrey Archæological Society, held at St. Olave's Grammar School, Snuff-walk, on Wednesday, the 12th instant, as already mentioned.

of ribs: the roof of the nave being lofty, the bosses were very large, and boldly carved. They were all thickly coated with paint of a warm stone colour. The trusses of the roof had knees, which sprang from stone corbels carved into winged angels bearing shields, and painted in various colours, red, blue, and yellow being the most prominent. Similar figures may still be seen in the roofs of Westminster Hall, and in the chancel of Hitchin Church, and numerous other ancient religious edifices. The roof of each aisle was of stone, groined and ribbed, with bosses at the intersections. On the ribs of the groining of the roof, at the east end of north aisle, were carved small rosettes. The groining of the aisles was constructed of stones, about 9 inches thick, and above these was filled in rubble: in one part in particular, was a quantity of plain tiles, laid in courses. The roofs of the aisles were supported on the wall side by three attached clustered columns, with foliated capitals.

The vaults over the western compartments of the aisles were of an unusual form, and of an irregular plan, four-sided, but having each side of a different length: in fact, they were irregular trapeziums, and not rectangles. Diagonal ribs were slightly twisted upon the plan. Professor Willis has noticed this peculiarity, and has observed it in some other example, but was unable to decide whether it resulted from design, with a view to dispose the vaulting ribs to better advantage, or from bad workmanship, in not setting out the mason the solid block at the pier arches, and therefore making it necessary to warp their directions to enable them to meet at the crown.

The south wall of the south aisle was 3 feet 6 inches wide, and had a modern exterior stone facing, between 2 and 3 inches thick. The interior of the wall was lined with a course of stonework, 9 inches thick, the space between being filled with rubble and flints. The width of this aisle was 10 feet 8 inches.

That part of the tower, on the west side, against which the nave abutted, was boarded, and at the bottom were a pair of iron gates, through which, by means of a glass door leading into the choir, might be seen the altar-piece restored by R. Wallace in about the year 1830.

In the floors of the nave and aisles were to be seen many monumental stones; but, by the accumulation of dirt upon them, the greater number were rendered unintelligible. They were all modern, there being not any brasses, or anything interesting either to the antiquary or to the architect remaining. Upon entering the nave by its western entrance, and passing through the lobby, the first objects which engaged attention were two almost obliterated inscriptions in the frieze of the lobby, painted upon slate tables, with black grounds, and once in gilt letters, the only visible words being, on the first plate, "How dreadful is this place;" and upon the other, "Amend your ways and your doings." On the impulse of the moment, I thought they referred to the deplorable condition of the nave, and with an exhortation to amend it; but a closer inspection convinced me of my error, they being Scriptural quotations, from Genesis xxviii. 17, and Jeremiah vii. 3. This lobby was not so much acted upon by the weather as the interior walls of the nave. The lobby was in the Elizabethan style of architecture, having on each side an Ionic fluted pilaster, supporting an architrave, frieze, and cornice: the frieze contained the Scriptural inscriptions above alluded to, in panels.

In the south-east corner of south aisle, lying upon the floor, close by the bosses before mentioned, were the remains of a hatchment, three sides of its border gone, and with only the word "*Resurgam*" visible upon it, which prophecy has not been, in the present instance, realised; but if the sum of 4,000*l.* had been added to the sum of 8,000*l.* expended in the new building the nave, in 1836, might have been restored to its original grandeur, or at least saved from destruction.

The interior of the nave had been exposed to the ravages of the weather for about seven years prior to being removed; and, at the time of taking it down, the walls were considerably out of an upright, leaning outwards, with their stone faces peeling off; and, when viewed from the tower, appeared in great danger of falling. The triforium and clerestory suffered mostly the arches and clustered columns dividing the nave from the aisles were not so much defaced.

The roof of the nave was demolished by "order of vestry," in consequence of its timbers being in parts so rotten that, had it been permitted to remain, it would have fallen in. Upon removing the masonry, added in the fifteenth century, on the outside of the west front of the nave and aisles (when the west doorway and window were inserted), arcades of an early period, with pointed arches and attached columns, with sculptured capitals and bases, were discovered: these are indicated in a sketch, by John Buckler, of the interior of the west end of the nave and south aisle, engraved in the "Archæologia," vol. xxix. pl. 29.

The exterior of the nave will require only a short description, the repeated alterations and repairs having left very little of its original architecture. The west front consisted of the ends of the nave and aisles, with octagonal turrets, one at each angle, the lower parts of stone and the upper rebuilt with brick, with red ones in the quoins, &c. In the central division of this front was the western doorway, which has been engraved in Pugin's "Specimens of Gothic Architecture," vol. ii., and, in a description accompanying it, E. T. Wilson says, "The style of this entrance may be having been executed in the early part of the fifteenth century; and a more beautiful specimen cannot easily be found. It exhibits the superior elegance of the simple pointed arch when compared to the compound ones which prevailed in most works of this century. The bold projection of the arch, and the depth and precision of the many mouldings which fill it, deserve the study of those who attempt the execution of Gothic architecture." The ornaments of wood upon the doors were mutilated to a considerable extent, and those ornaments which were not destroyed were so completely filled with paint and dirt as to be discerned with difficulty: the stonework was also much decayed, particularly the bases of the columns and the mouldings near the ground. Above this door was a large four centred pointed window, in two heights and in six compartments: the lower division had cinque foiled heads, and the upper one was finished with pointed arches interlaced, formed by the continuation of the mullions. The end of each aisle of this front was divided from the nave by a buttress (3 feet 9 inches wide, and projecting 3 feet 7 inches), and had a pointed window in three compartments, with cinque-foil heads, and in the head of each window the mullions were carried up and the spaces between filled with trefoliated panels. The upper part of the aisles was carried up square with the nave, and filled in with layers of squared flints, which presented an imposing appearance. Where flints are in abundance, and stone is scarce, they are sometimes used in walls of considerable height, and also in the faces of the buttresses and walls of many of our old churches (as in Waltham Abbey Church), and add much to the picturesque effect of the Gothic style. Brayley, in his "Graphic Illustrator," says that the western door, and the large window over, were introduced at a later period, and gave to the elevation a different character to that which it originally possessed. The north side of the nave displayed a tasteless elevation,—the whole being cased with brickwork. Between the windows of the aisle on this side were sloping brick buttresses, 4 feet 10 inches wide, and projecting, at their base, 3 feet 9 inches. The windows have been already described: their external appearance presented nothing more than the internal frame, there not being any labels to them of any kind. In the centre of each of the modern brick arches enclosing the aisle and clerestory windows was a large key-stone. One of the most prominent features of the south side of the nave was the porch: this was an early example of the First Pointed style, and very interesting: it was deeply recessed, and divided into two doorways by a central triple-clustered column: there were six slender columns banded, on each side of the porch,

"Like bundles of lances which flowerets had bound,—"

three attached and three detached, with foliated capitals and moulded bases. The doorways had trefoiled heads. In the head of the porch was an arcaded niche, with six detached columns with foliated capitals and moulded bases: in the centre was formerly a statue of our Saviour. The capitals of the central clustered columns between the doorways contained human figures. At the time of the nave being removed, the doorway was approached by a descent of four steps, the result of an overfilled churchyard. In nearly all our old country churches are steps leading from the porches into the nave, rendering the churches damp and unwholesome. The lower parts of this entrance were much decayed, the capitals disfigured and hardly to be discerned, and some of the shafts of the columns had disappeared, as well as one of the steps. The trefoiled-headed panels over the doors were of Purbeck stone.

The windows in the south aisle, with the exception of one, were inserted in the fifteenth century: the window which differs from the rest was considered to be a very early and curious example of the adoption of mullions and tracery. This last mentioned window was the one in three compartments, at the east end of the nave, and was in a deplorable state of decay at the period of its demolition: the capitals of the columns, and the mouldings of the mullions and the tracery, were completely destroyed. Of the other windows the surrounding parts were modernized, and their original character much altered. These windows resembled the side windows in Westminster Hall,—the difference existing only in the details.

On the south side of nave were four buttresses, 3 feet 9 inches wide, and projecting 3 feet. The front of the south aisle was of stone, but considerably altered, the parapet immediately above the buttresses and windows being of brick, with square sunk panels, filled with flints, and crowned with ordinary stone coping. The front of the clerestory was brick, and between the centre windows was a stone tablet let into the wall, with "Repaired A.D. 17—" upon it. The two remaining figures were so defaced as not to be discerned with certainty: there is not much doubt, however, that the date was "1703:" in this year the building is stated by Hughson to have "under went a substantial reparation." The interior was finished with common coping, and the roofs of both aisles covered with plain tiles.

By comparing the view of the nave as it appeared before razed to the ground in 1839, with a view of it in 1660, given in "Brayley's Londiniana," vol. i. p. 181, it will be seen that the parapet walls of the nave, aisles, west front, and turrets were all demolished, and between the clerestory windows, as well as between the aisle windows, were buttresses. At the time of taking the roof off the south aisle, the lower part of these buttresses projecting about 9 inches could be distinctly seen, as well as the Tudor doorways in the triforium.

Originally the nave was entirely constructed of stone, and several kinds were employed: among others were distinguished Purbeck stone, Kentish rag, freestone, &c.

The Purbeck stone was used in the columns and ornamental parts of the triforium: the small columns, &c. in the niche in the southern doorway were also of this stone: these had suffered very slightly, the capitals and bases being only a little chipped. A variety of Purbeck stone, known as Purbeck marble, and procured from the Isle of Purbeck, in Dorsetshire, was formerly much used for columns and ornaments in our cathedrals and old churches, and afterwards used for paving, but now is not much employed.

The Kentish rag was employed in the walls, and freestone for facing them. The least affected, and acted upon, by the weather, was the Purbeck stone.

The demolition of the nave, which was commenced (as before stated in February, was steadily continued during that month, and also through the months of March, April, May, and June. This may appear a long time, but the destruction of such edifices as the present one is not an often occurrence, having walls varying from 3 to 5 feet in thickness: these take a longer time to remove than our modern 14-inch walls. The southern doorway was taken down on the 10th of May. The whole fabric was pulled down a little below 7 feet of the ground. On the north side of the nave the brick casing was entirely removed down to the foundations, and 14-inch brickwork upon a bed of concrete was built against the remains of the old walls, which were left as a foundation for the new building. The new buttresses were also built in the situation of the old ones: this could be observed when they were removed. Bricks were laid in the second week in June, commencing on the north side: the new brick casing and foundations of the new buttresses were in cement. For the safety of the tower, during the removal of the nave, the last arch on each side of the nave abutting against the tower, with a part of the clerestory, were left standing for some time after the demolition of the nave.

The clustered columns separating the nave and aisles were entirely cleared away, and square brick piers, in cement, built in their place up to the underside of the new floor, which is between 7 and 8 feet above the old floor; and the space beneath the former has been devoted to the purpose of vaults. The old recesses, with their pointed arches and little columns in the walls around the old nave, have been filled with brickwork, and everything that could be done to eradicate the remains of the once ancient nave of St. Saviour's Church was not omitted. The demolition of the nave serves to show and to prove the changeable nature of the "public." At one period they will spend thousands of pounds in restoring one half of the church, and at another time use their exertions to the utmost to destroy the remaining half, viz. the nave.

Sometimes these remarkable acts may be attributed to the parochial changes of men in office, the newly-installed often considering that the first duty imposed upon them is to undo all that their predecessors may have done. This must evidently have been the case; as, in the year 1836, 12,000*l.* would have restored the nave; while, in 1839, 8,000*l.* was expended in what was termed building a new chapel!

THE ANCIENT ARCHITECTURE OF IRELAND.

So much attention having been lately given to and so much interest taken in this subject by the profession, from which it is very likely more interesting researches and extended observations will proceed; and as I had not an opportunity of joining in the discussions, or replying in any way to the remarks made in these discussions, which I may have been to some slight extent instrumental in raising; I am induced to offer a few additional remarks to those already submitted. As I take it to be the object of such researches and data as those in question to elicit the truth for mutual benefit and information, I think everything which has a tendency to dispel the mystery which seems to overhang the remains of the architecture of Ireland, from times unrecorded to the world's great revolution, the Reformation, should be strictly inquired into and made known. I do not, however, mean to trespass too far upon your space, as much of what I might remark has already appeared in your columns from the learned papers of Mr. Gordon Hills, Mr. Rolt Brash, and Professor Donaldson. I had intended offering a few observations upon Mr. Hills' paper on the "Round Towers of Ireland;" but the peculiar circumstance of my own paper upon a kindred subject being then under the notice of the Institute of Architects necessarily prevented my doing so, and subsequent matter upon the subject has to a great extent elucidated my own opinions. I may now, however, remark, that as the type and use of the round towers will, in my opinion, be ever a matter of conjecture, every one who has to any extent studied the subject is entitled to issue an opinion consistent with the evidences we have upon these structures. For myself, I hold that there cannot be any very great doubt as to their Christian origin, but there may be considerable doubt as to their originally being intended for religious purposes. If they were not built in Christian times, then they must be very ancient indeed; and those who cannot prove them beyond a doubt not to have been Christian edifices, may, with a Christian spirit, allow their brethren at issue to think for themselves. Neither the theory of Dr. Petrie nor the confutations of his opponents (though they have materially paved the way) have, I imagine, established their decided Christian or decided pagan origin. That "*clochteach*" means a stone house, and not a belfry, no one who has mixed amongst Irish scholars, or indeed the Irish peasantry, can for a moment doubt; the signification is so commonly in use, as "cloch-a-galloch," moon stone; "balla-na-clocha," stones town, or town of the stones; and that "*clog*" means a clock or bell is also equally well known, as "shapael-clog," chapel bell; "cae-vaed-a-clog?" what o'clock? or, how many of the clock?—and, admitting that the principal authority, which is the "Annals of the Four Masters," recorded an edifice as "clochteach," or "clogteach," the term has not the slightest reference to its being a round, square, or triangular building, much less a round tower. If the building even was a round tower, and recorded as a "clogteach" or bell house, it would still be no proof of its being originally erected for that purpose; for, by breaking out a few rude holes in the top, which we call windows, the desired purpose was attained; and the intention of dedicating it to that use even in churches where the tower is attached is put very deeply in the shade in the presence of the instances at Roscrea and Clonmacnois, which have no windows in the top. The theory which I think is as well founded as any yet issued is, that they were erected by the early Christians as watch-towers and places of refuge from the fury of their rude invaders, and that as to their peculiar form, we may as well inquire for the type and origin of the round towers, lats and minars of Hindostan, or the pyramids of Egypt.

Just half a century (according to Owen Connelan's "Collected Annals") after Alpan Mac Eochaird, king of Dublin, and his subjects, were converted by St. Patrick, the Danes, or Ostmen, landed and took possession of the city, which they encompassed with walls. Now it is as well known, as it is recorded, that from this time until their defeat by Brian Boroimhe, 1014, and their extirpation by Dermod

e Murrough, Strongbow, and Miles de Cogan, he end of the twelfth century -thus bringing down to the English dynasty—the Danes apied Dublin as their stronghold, and from it y made frequent marauding excursions, plun- ng with impunity churches and private resi- es, devastating towns, and laying waste with and sword wherever they set foot upon. The ntry being thinly populated, left any portion easy prey to a band of armed and disciplined auders, such as the Danes were, without any ision being made by the natives for resisting a. Even in the early ages, before St. Patrick's l, the country was in a comparatively high state ilization, and we cannot be surprised that at nvasion of the Danes, and after, the necessity efence and organization would suggest to natives a mode of resisting their ruthless de- ers, and that the *liss*, or fort, and round tower ld be two of the principal mediums. The tions of the people in most parts of the dom from time immemorial point out, not the "lias," but also the round tower, as being by their early ancestors for refuge from the s; and I hold, with Mr. Rolt Brash, that if e to have this subject ever cleared up, in the ace of conclusive historical data, the customs, tions, language, and religion of the people e only channels through which any additional can be thrown upon this obscure subject. e early customs, characteristic, not only of primitive Christians and Danish periods, but e much earlier Druidical epoch, still remain rious parts of the country. One of these dical customs, bearing upon the present sub- is what is called "lighting the wisp." On 28th night of August, St. John's eve, the ntry light bonfires in the several villages, and g men get into high lands and places with d torches of straw tied to the ends of sticks, for some hours the whole face of the country nd wide is illuminated and spotted over with g lights, which produce a most singular effect. u question any of the "ould people" (aged ns), they will glibly answer that "it was gnal of the ancients for the massacre of their h torturers." Such traditions as this, then, ly retained by families or localities, but by whole nation, and that a nation which it is p possesses a religious respect for tradition, t be without some foundation; and it would o extraordinary stretch of imagination to ve that the round towers were instru- for a like purpose. Many such, and perhaps ointed, traditions exist, and which I remem- e ably illustrated in the works of Crofton r, Philip Dixon Hardy, and Stirling Coyn.

r round towers I have seen are placed in ourhoods where they are visible for very imiles: at Clonmacnois, Cashel, Clondalkin, a, and, in fact, most instances, this is appa- What, it may be asked, is more natural that, in some conspicuous locality, the inha- would erect strong towers, such as these deed, fortresses they would be for the mode fare in those days), as rallying points for g the common enemy? Intimation of the ch of the destroyer would be always carried a point; and then, by a beacon-light or signal, would the surrounding population be ned to assemble, and deposit their valuables, women, children, and often themselves, in ceptacle; having a door only capable of ging one at a time, therefore easily defended, is door being, at the very least, 10 feet the floor, the whole would constitute a able stronghold against the guerilla band, ows and spears, and more particularly as ildings were fire-proof. Or at least these would contain the women, children, &c. he assembled population held battle with pponents, who, before being able to gain nds, which were invariably plunder, would ssed to a speedy retirement. The win- bove the doors, as Mr. Hills observes, are st instances larger than the others; and turally too, for the convenience of throwing s on those who approached beneath; and er the doorway would be placed the cruci- as an emblem of protection of the Saviour a Pagan oppressor (a custom remaining to ly), is as conclusive as anything can well be. bt also of human bones being found in some m argues forcibly the probability of an nal slaughter of the innocent refugees. g can be more analagous than that the from its protective nature, would subse- ly become the nucleus of the religious esta- ent of those early days, and that, at a more ri period still, it would form an integral part chapel, as at Roscrea, Glendalough, and Clonmacnois. Until the practice of Gothic, after the invasion of Henry II., this would be a characteristic feature of an ecclesiastical establishment: thus, from being originally an edifice of a strictly defensive character, it became one of a religious cast, merely from proximity and association. Up to the time of the expulsion of the Danes, we read, they continued to practise the vilest atrocities. In 1118 Sitric, the son of Amlave, at the head of the Danes of Dublin, plundered Kells, carrying away rich spoils and captives, and *murdering many in the middle of the church*. Can we for a moment be surprised, under such circumstances as these,—circumstances, of course, of every-day occurrence,—that the round tower would still be preserved for its original purpose, and be left, as we find it, isolated from the churches and chapels in its immediate vicinity? If a residence at all, it must have been, as stated, of a temporary nature, or else very inconvenient; and no traces of fire-places remain, as they do in the round towers of Connisborough, in Yorkshire or Dolbadarn in Carnarvonshire; but then their much later date would account for this. If the tower was used as a belfry, it must have been at an advanced age, and even then, as in the last case, inconvenient of access for the frequency of its use. If built as a belfry originally, why not have the door on the same level as the church? But, as I presume, it was built for another purpose, and access only had by a ladder, which was drawn up like a castle drawbridge, and in all probability a huge stone rolled against the opening on the inside. However this may be, I see no proof whatever of the "clochteach" of the tenth or eleventh century, from being simply a stone house; or the "clogteach," from being a bell-house, constituting in any way a round tower. It might just as well have been chronicled "teach-more," large house, from its greater size than its neighbours, or "teach-naoph," holy house, or any other distinctive appellation. That the "clochteach" of the "Annals" means the church itself, as pointed out by Mr. Rolt Brash, and not a round tower, I think nothing can be more conclusive. Mr. Hills observes that, wherever the tower and church are coeval, or, as I understand, attached, "the tower door is arched, and the church door flat-headed." If I remember rightly, the attached chapel at Roscrea has a semicircular arched and elaborately carved doorway.

So much for the vexed question of the round towers, about which, I fear, I have said too much. The next class of buildings in antiquity to them is the stone-roofed and vaulted oratories, and the arrangement of buildings ordinarily known as the seven churches, though few of which remain, no doubt many existed. Of these I shall here say little. Their type and origin are very problematical, but I lean still to the opinion that foreign influence, particularly Spanish, pervades them. Even as an assertion my argument would stand good, as there are no known buildings in England of so early a date or character, that might help by any analogy to illustrate them. Many allegorical theories have been established, and some very plausible ones at least, as to the distribution of these groups of churches into seven. *Quere*,—Was not their first arrangement a matter of necessity, dependent upon the insecurity of property even in the church; and, consequently, many small chapels being built detached, so that if, by any casualty of war or otherwise, one or two got destroyed, the remaining chapels would be still fit for use? This presumption would not alter the fact of their being afterwards arranged by doctrinal symbolism.

I now come to the monastic establishments of the Mediæval or Gothic period, from the twelfth to the sixteenth century, and upon which I intended to have dwelt most; but I find I shall already have so encumbered your space by my remarks on the round towers, that it will preclude my lengthening my observations upon this head. I have to submit, that notwithstanding the intelligence which has been brought to bear already upon the matter, I see no reason for altering my expressed opinion of the foreign aspect and influence which prevails in these structures. I do not think it is fair to presume that it was the want of artistic genius or ability in the Irish,—a nation which had otherwise distinguished itself in those early days, as now, for hospitality, military prowess, learning, and bardic eloquence,—which was the cause of its not possessing such large and imposing structures of this class as we find in England. It is not likely that a people continually harassed with wars, invasions, and consequent internal feuds and strifes, as Ireland had been, could afford, or even dare attempt, to raise magnificent structures, at the risk of their being entirely destroyed by a ruthless enemy, at the very point, probably, of their completion. And there is no doubt that had she had an opportunity at such times to develop her power in art as in other things, she would have compatibly succeeded; but her artistic talent remained prostrated from the causes assigned, and like the poet's flower, was—

> "——— born to blush unseen,
> And waste its sweetness on the desert air."

Those who know the history of Dublin are aware that, like the Danish invaders, the English also made it their rallying point, and from it continually issued to make war, or were in their turn besieged and made war against by the natives: hence, therefore, arises the similarity between the ecclesiastical edifices of the city and "the pale," to that of England. Christ Church Cathedral, Dublin, built in 1190, by Archbishop Comyn (who also built up St. Patrick's), has a decided identity with the contemporary cathedrals in England; more particularly with portions of Lincoln (though not so elaborate), which was rebuilt by Hugh de Grenoble in 1186—1200. The arrangement of the nave of Christ Church is, clustered columns and foliated Early English capitals, with three-light lancet triforium and clerestory in one panel, and ribbed vaulted roof,—and the conventional foliage of the capitals of the pillars is perfectly identical with those found at Ely, Lichfield, Wells, and other buildings of the same period. And what is more natural, when we find that these Dublin buildings were erected by English prelates and nobles; when we read that Earl Pembroke founded a Cistercian priory—that Archbishop John de Londres built Dublin Castle, and so forth? Not so with the monastic institutions of the provinces at the same period: very widely different are the features of Athenry, Clare, Galway, Loughrea, and others in the west; or Kilkenny, Kildare, Youghall, many in the south, of the same date—from the contemporary structures in Dublin. It is reasonable to assume that whatever was English in such times would be rejected by the natives, and that, consequently, they would have to fly to other sources for the type and character of their art—and that for this type Spain, Italy, and the South of France would furnish the materials, being countries with which the Irish were in constant communication, and whose sympathies, in commercial, social, and ecclesiastical matters, they always possessed. The resemblance, however, by all accounts, favours the view. The limited extent of the edifices is, I think, accounted for, by the foregoing observations, by the local materials, and by not having the rich quarries of Normandy to draw upon *ad lib.* As for regarding the spire as Protestant, and, consequently, not to be met with in Ireland, the idea is simply absurd; for at the time even the latest of these buildings was erected, Protestantism in its recognized form was never dreamt of. Indeed, the principal spire in Ireland, and a very noble one it is, is that of St. Patrick's, Dublin, which was built about 1370 by Archbishop Minot, thus being about a century and a half anterior to the Reformation. The spire being English might have been an excuse, but being Protestant is out of the question—and the very fact of the above-named spire being erected at a period when the citizens of Dublin (being English) were at the greatest feud with the natives, would at once condemn it in their eyes: this, added to other aggravations, led them to adopt other features not only in the steeple, but in every other portion of the building; and it would take no extraordinary amount of keen perception to see how far they did so. The battlements on the towers and wherever else they occur were not built for any defensive or aggressive purpose; but merely for their very effective, and at the same time, very economical mode of finishing;—and there may probably be as much reason for their taking the form of crenellated parapets, as there is in bratishing and battlemented crests on the transoms of windows, and finishings of shrines and screens in England. I think it more conclusive that the spire, from being introduced by an enemy, from motives of economy, and the absence of it in the chosen type, was rejected by the Irish: be that as it may, it is no very great surprise that towers alone are peculiar to Ireland, any more than that they are peculiar to some counties in England, while the spire belongs to others. That there are features common to all nations who practised Pointed architecture is of course an established truth; but that features of this nature prevail to such an extent as to justify the supposition of a marked identity in the Gothic architecture of provincial Ireland with metropolitan Dublin or with England I am entirely unprepared to admit. I think I have shown that the edifices of Christ church and St.

Patrick, in Dublin, are decidedly of English design and spirit; whereas the coëval monastic structures are entirely of a different stamp; and every observing traveller in Southern Europe, whose works I have read, have expressed their surprise at the resemblance such buildings there have to those in Ireland. As to the incapacity of the Irish to execute good and finished work, they have shown when opportunity offered to what extent this is true—and the tomb of the Earl of Desmond in Holy Cross Abbey and other works testify to the same—not taking into account the elaborate crosses of Clonmacnois, which belong probably to the early part of the ninth or at most the tenth century, a period when many other nations were far behind.

I am afraid I have overtried your patience and the patience of your readers; but, as I take the subject in hand to be comparatively in its infancy, I have considered that any stimulus to future development, through my own humble efforts or otherwise, might have an interest, for those at least who have so far given their able testimony and learned opinions. JAMES BLAKE.

THE QUESTION OF STYLES.

LIVERPOOL ARCHITECTURAL SOCIETY.

At the closing meeting of the session, Mr S. Huggins, the retiring president, delivered the following address:—

It is usual for the president, in addressing you at the close of the session, to divide his remarks among a variety of the chief events and topics of the past year, and give you a sort of summing up of professional progress; and I should have done well, perhaps, had I followed so rational an example. But there is one architectural question of the day which wears such an air of importance that I have thought it best to devote what little time we have to spare exclusively to its consideration. I shall therefore beg your attention while, without further introduction, I make a few observations thereon.

The question I allude to is that between the Catholicity or spirit which sees something good in all styles of architecture, and a spirit of intolerance lately manifested by a body of sectarians in art, who would force upon the whole building world the one style, which in their view is alone entitled to consideration. Not satisfied with having gained for their favourite style the exclusive dominion of the church, they are now seeking to obtain its universal application to all purposes alike—to the entire range of secular, as well as ecclesiastical uses.

Before I enter into any examination of the tendency or probable results of this aim, it ought to be understood that the Gothic mania, as Mr. Wightwick has remarked in an able article in the *Builder*, originated with a religious movement, which operated on the minds of those first subject to it in a manner irrespective of all the laws which should govern the *intellectual* designer. It was not an opinion growing out of the progressive observation common to all minds architecturally interested, but a particular creed suddenly adopted by a class of men who desired to subdue all things thereto.

That success in such an aim cannot but be prejudicial to the cause of architecture, it would not, I think, be difficult to show. One of the most important things to secure in the present day in architecture is the due diversity of exterior character corresponding to the diversity of the practical uses to which it is applied; so that each edifice shall be as much distinguished from all others by its expression as by its purpose. Architecture is in its decorative and poetic arrangement of stone or other building material, the object of which is to impress on an edifice such a character as shall bespeak the purpose—moral, physical, or intellectual—of its erection, till its expression hold that relation to its purpose which music holds to the words to which it is set. It must therefore assume, Proteus-like, a variety of shapes analogous to our present complex civilization, and reflect the hues of different orders, professions, pursuits, and interests. But it cannot be denied that one style may be better fitted for expressing a given purpose than another; or that a plurality of styles must give us a wider scope and afford more copious material for extending and ramifying architecture to the diverse purposes of modern life. Any discordance that might be found among buildings so designed would prove, not that we have too many styles, but too little art. For Gothic elements and Italian elements, even their respective arches, brought into juxta-position by the near association of buildings in the different styles, are not necessarily incongruous; and I say we have no two styles but what might be so treated as to harmonise with each other in a street row, as some extant examples would prove. In no place, perhaps, are two opposite styles of architecture brought into closer neighbourhood or conjunction than in the University buildings of Oxford; yet there, so far from there being any discordance, you are struck with the harmony and beauty, and picturesque charms of the composition. Such monstrosities as the Egyptian-hall, in Piccadilly, are very deservedly laughed at, but that arises from their not being architecture at all. If you could remove the Egyptian-hall to the banks of the Nile, and send it back in time three or four thousand years, to the period of the Ptolemies or Pharaohs, it would not be Egyptian architecture, it would simply be nonsense. It is laughed at here because it is what would have been laughed at there. But let even Egyptian architecture, for some English purpose to which it may be best adapted,—a prison, for instance—let it be taken as the basis or radical of a design, to borrow a metaphor from chemistry, and let the architect duly impregnate it with the oxygen of his mind, and he may produce a building that nobody would laugh at, and that would be capable of entering into artistic union with every other true work around. Truly designed works *must* harmonise with each other, whatever their respective styles; for one electric chain unites all true styles wherever they have originated: their genuine examples will be found, not only in unison with each other, but with nature, to whose original beauty they are worthy to stand in the relation of supplement and sequel.

The great prototype of architecture, nature, has many styles of beauty, and employs them all. The horizontal, arcuated, and vertical, or pointed styles of architecture all find precedent in her domain; and though it could be proved that the Gothic was beyond all comparison superior to any other style in capability of the grander qualities, yet it would be opposed to all natural teaching to claim for it the exclusive and universal empire.

> Nature makes not all trees, nor all roses flowers.

Architectural design should not only not be confined to one style it should not be confined to any number; for beauty resides not in style, but in a vital principle that existed anterior to all styles, and to which all true styles owe their origin. A building might be so designed as to betray no trace of any style now existing, or that ever existed in the world, and yet be true architecture. It belongs to the very idea of a fine art, as distinguished from the mechanical ones, to yield a boundless scope to the inventive faculties throughout. There is an architectural beauty that will charm the sight and operate upon the mind like ceaseless music, that arises solely from the symmetry of proportion and form, and owes nothing to the trappings of decorative style. I have been charmed by an artistic beauty beaming from erections which are never included in the category of art-works: some of our great chimneys, for instance, from geometrical beauty of plan, elegance of contour, and a soaring height, often display higher qualities, reaching not unfrequently to sublimity, than the majority of church steeples, or other buttressed or columnar erections can lay claim to.

But the Greeks, the Romans, the Goths, and others, we are still told, had but one style It cannot be denied. But I do not see what we have to do with that, except to be thankful that it is not our case, and that we may have many: perhaps, too, they (the Greeks and the others) would have been glad to see our day of many styles. Perhaps in our plurality of style lies our best chance of going beyond them. A plurality of styles should certainly let us more into the central spirit of architecture than any one style could do. The best Gothic architect, and the best Classic architect, is the man who has studied both styles; who has examined the peculiarities, and communed with the genius of all styles. He will best understand the great central art of architecture, which is neither Greek nor Gothic exclusively, but both, and much more; and I feel sure that the universal adoption of any one style to the abandonment of all others would not be progression, but retrogression. It is to be hoped there is too much good sense in England to permit those to succeed who are endeavouring to bring it about.

Supposing it a fact that the truthful expression of our practical purposes and ideas could alone consist with a general uniformity of style; even then I should look with suspicion on the universal taking up of one style; for I would consider general truthfulness most likely to be gained by artists working towards it in their own way from different points, impregnating their work with thought, and being faithful to the suggestions of time, place, material, purpose, and every other circumstance.

I conceive that each artist *must* be left to follow that style for which he has most feeling; for there are those who, though they have the largeness of heart and comprehensiveness of mind to see the merit of all styles, and to sympathize with every phase of artistic beauty; yet, having concentrated their love upon one only, could no more at the bidding of the will conceive an equal affection for another, than they could transfer an attachment for some human object. Its shapes and images of beauty float through the heart and fancy, and will not readily give place to those of another style. Take a man whose peculiar bent of mind, natural predilection, or instinctive preference for certain forms and combinations, has led him to the pursuit of Classic architecture, and who has poured out the full tide of his intellectual and poetic being upon that style—take such a man and put him to the Gothic, and you stultify his genius and make him a drudge. It is taking him into a new and adverse element. It is like throwing up a fish into the air, or plunging a bird into the sea. And though every genuine artist must appreciate whatever is noble and excellent in all styles, yet I should estimate but lightly the artistic feeling of him in whom it was equally divided among the styles presented to his acceptance, and who had not a powerful bias towards one.

I should not feel myself at liberty to enter into an advocacy of any particular style of architecture from the chair of a society among whose members other styles found favour, were it not that the attempt to impose one style for all purposes is built on the assumed unfitness of that in general use; and that others besides its practitioners must admit that style to be an object of much prejudice and misapprehension.

It is absurd to urge against the Classic styles that they are not indigenous to these islands, for we have surely as much right to import our architecture as anything else. We encompass sea and land without rebuke for bodily aliment: why may we not for intellectual and spiritual? What were man's faculties of adaptation and assimilation given him for, if he is to rest satisfied with what springs spontaneously beneath his feet, and may not enrich himself with materials created by superior art-nations and times? The heart and imagination of man, of which architecture is the material exponent, have affinity with all things—with the extant products of ancient art, as well as with the spectacle of external nature; and, by acquaintance with the relics of other times and nations, have become enlarged, and elevated, and refined. What is more reasonable than to expect that a nineteenth-century intellect should have outgrown a native style of architecture, find the development of an ancient or foreign germ more congenial to its taste, and choose it as a medium more fitted to convey the acquired refinements and elegancies of the age, and give utterance to its loftiest poetry.

By its developments in the schools of Italy, it has already proved itself capable, in right hands, of meeting every requirement, civil and domestic, of modern life. In that country the three modes of applying the orders struck out by the great Roman, Venetian, and Florentine architects present us with artistic phases of Classic architecture applicable to every variety of horizontal and vertical section, and for every grade of building—from the warehouse to the mint, from the cottage of the peasant to the palace of the sovereign. They will apply to buildings which are one great undivided hall or interior from end to end, from top to bottom, and are equally applicable to one the most minutely divided,—facts which are not contradicted by any examples of Italian architecture in this country; and there is no instance of failure in true fitness or beauty but what may be traced to causes for which the style is not answerable. If a pilastered wall, or colonnade, or columnar window will apply to the purpose of a bank, a corn exchange, a music or guild hall, a revenue building, or offices for mercantile or commercial uses—if they will form and decorate with the utmost artistic beauty the features required by utility, and call for no sacrifice of convenience—what can be urged against the style? What more can be asked from it? What more could any style or element do for us?

But I am very sure the Classic style has not had in any country a tithe of its possible development, either as to general composition or to detail. With regard to the first, there is the marriage of columniation to arcuation, which has certainly not been fully consummated; and, as to detail, there are modifications of the classic types not yet dreamed

of in our philosophy. To such an extent is this the case, that I suppose a true artist would deem it no hardship to be confined to the practice of one order for the remainder of his life; for, even in the most untractable, he would go on, health and opportunity serving, weaving designs in the right sense of the word original—

> Now as if brought from other spheres,
> Yet welcome as if loved for years.

I lately saw a collection of unpublished sketches or modifications and varieties of the Classic orders by Mr. Leeds, which well bears out what I am here advancing, as well as his own teachings on this subject. Even on the Ionic, generally considered the most fixed of the orders, he has a multitude of variations, which, if published, would triumphantly refute the charge against Classicism of any deficiency in elasticity.

The assertion that it necessitates plagiarism needs no refutation. It is a libel not merely on that style, but on the genius of architecture itself. It is not true of any style; and the man who urges it can only succeed in proving that he himself is no artist. No man that was ever earnestly engaged in the pursuit of architecture could possibly believe that the exercise of any style necessarily produces "sham fronts," "constructed decoration," or "nonsense ornaments," as impertinently charged against Classicism in a lecture by Mr. P. Seddon, delivered some time ago at, I believe, the Architectural Museum, and reported in the architectural journals—a lecture which I should think his colleagues will not thank him, inasmuch as it must be as injurious to their cause as it is discreditable to himself. For to treat those who earnestly and conscientiously differ from him with insult and contumely, merely because their taste and feelings do not and cannot coincide with his own, is to trample on the very essence of that religion whose interests he affects to be serving by the controversy.

Of the dogmas, that it is debasing to a man's mind to live in a square block of a house, which, while it is not unsusceptible of beauty, is, as every architect knows, the most economical of possible forms; and that the Gothic style of building so pervades the minds of the population as to breathe purity and propriety of sentiment into every work of their hands, and leads the various classes of the community to honour and love God,—of these I have not patience to speak; and if I had, I should want words to express my disgust for their hypocrisy and cant—a feeling very much heightened by the recollection that the practice of those who hold them forth is diametrically opposed to their principles; for, while raving about the development of a new and vigorous style upon the foundation of the architecture of our own country, they did doing nothing but copying that of other countries. They are denouncing "the wretched facies and shameless shams" of the day, which they assert are by Gothic revivers utterly repudiated; yet they are building Protestant churches after plans which were generated in the service of Romanism, and perpetuating features which, whatever associations they may furnish to memory or imagination, derive their origin from usages which have passed away, and are as far unfit for the simple rites of Protestanism as are the poles under.

I have no wish that the Classic should supplant the Gothic in its sacred province, to which it is eminently fitted. It would be easy, however, to show that the applicability of Classicism is not confined to secular purposes. To meet the practical demands of Church of England worship, I hold that Classic and Gothic are equally well fitted, and that neither of them needs anything but common sense to mould it to the requirements of the Churchman or dissenter. In any style, Greek or Roman, Gothic or Byzantine, Arabian or Indian, might be built a cathedral, a parish church, a Methodist chapel, equally perfect as regards fitness for all practical exigencies; and if so, then the question of the style of our religious edifices is confined exclusively to expressional capability.

Now, whether this or that style of architecture is best for embodying ideas of religion depends on people's notions of religion. Those who take gloomy views of religion will require a different type for its rites to those who take more cheerful ones; and will be gratified by the expression of the fearful, the awful, the mysterious, as most in unison with their conceptions of the deity—expressions, by the way, which beam more vividly from the temples of Karnack and Luxor than from any mediæval pile. But it may be questioned whether, to those who entertain more extended views, an edifice broad and compact, noble, and majestic in its general proportions, and invested with a serene and solemn beauty, would not wear as devout an aspect as any congeries of Gothic aisles. Were I designing a great interior to be devoted to Him who filleth immensity and inhabiteth eternity, abstracted from all ideas of fitness to any particular form of worship, my aim would be to put the greatest qualities into it that could be breathed into stone; in search of which I think I should be led to something formed on the type of the church of St. Sophia at Constantinople, crowned by a simple hemispherical dome, a feature that must ever play a noble part in a grand and solemn architectural drama. My ideal of a Christian church is, an edifice formed and fashioned in all the combined beauty and sublimity of which architecture is capable; from which all symbolism of particular theological doctrines, and all traces of darkness and superstition, were banished; and thus suited to any form of Christianity, worthy of its Divine Founder and of humanity. The general form and composition of the tomb of Sultan Muhammed at Beejapore, and that of the imperial mosques of Cairo and Constantinople, bring these edifices nearer to my ideal of a great church than any building at present dedicated to Christian worship.

There is another class of buildings that will yield a hint on this subject: I mean the Greek temples. I am not advocating the perpetration of such absurdities as the church of St. Pancras, in London, where the object was not to embody religious ideas, but how most fully to convey the spirit of the triple temple of the Acropolis of Athens; but I think that in designing the more ambitious temples of the Christian faith there are qualities of the peripteral temple of the Greeks that should not be lost sight of. With the columnar disposition it would suggest, a decoration might be combined, as pure in sentiment and as significant of religious ideas as ever breathed from mediæval fane. I mean no disparagement to Gothic architecture, which will be found to meet every demand of public worship. There is no true style of architecture but what may be bent to every purpose and adapted to every new requirement and condition—but what has a vital power to lay all other styles under contribution, and absorb and assimilate elements from every source. There is no true style of architecture but what, in right hands, may be as boundless in scope as poetic invention itself.

What Emerson says of nature is true of it. It is not fixed, but fluid. Spirit alters, moulds, makes it. To pure spirit it is volatile, it is obedient. The art-spirit exercised upon it calls it into new life, and brings to it the bloom, the beauty, and the light that enchant it.

This is the condition on which a style of architecture will be found elastic and malleable—that it be not made the sole ingredient of design, but impregnated by the art-spirit; which, while it constitutes any work original, will at the same time make it English and contemporary also; for the true artist, drawing from native sources of inspiration as well as from Classic ones, will breathe into his work the genius and character of his own age and country, and thus change the nature and properties of his architectural materials, as does chemical composition the simple elementary bodies of nature. Beautiful form in itself belongs to all times and all countries. A Corinthian or Ionic column, for instance, is as graceful in England as it was in Greece or Italy, and can never cease to charm the unprejudiced and susceptible spectator. A colonnade must ever gratify the sense of beauty; while it must be useful, also, so long as the sun shines or rain falls. A noble arch or dome as fitly adorns St. Paul's, in London, as it did the Roman Pantheon or temple at Tivoli. The like cannot be said of the impersonations of the Greek allegories, in the sensuous form of Hellenic art, that occupied the ancient niches, which, however admired for their artistic beauty, have lost much of their significance and power, and will not blend with or satisfactorily decorate works, however Classic in their character, that have a proper infusion of the spirit of the day—a fact which nothing could more clearly attest than the gods and goddesses now temporarily placed in the niches of St. George's Hall. The Classical myths, such is their majestic significance, will never be void of interest and charm for the educated: they must ever please by their abstract beauty and by that lofty serenity which they breathe, while we shut out from our sight all that is around them, and forget the anomaly of their position among us. But we cannot fail to perceive and feel that they are wanderers from their true homes. We must wish them confined to museums and sculpture galleries as their proper asylums, and their place supplied by what alone can truly decorate our public buildings, namely, sculpture expressive of what is noble and excellent, elevating and refining, in our present life,—an embodiment of our history and poetry. It is the material resemblances of the demi-gods of English history—the Spencers, Bacons, Cromwells, Newtons—those who are creations or discoveries, valour or patriotism, have contributed to make Great Britain what she is among the nations—it is these, clad in the dress of the period when their originals moved among us, that can alone appropriately and effectively occupy the niches of our public halls. Such are the sculptural embellishments that will interest Englishmen, and with any style of architecture they may be brought into harmony.

It is considerations such as I have feebly endeavoured to lay before you, that are paramount to all others on the subject of architecture, and what critics and writers should most strenuously enforce. If Mr. Scott and his party, instead of teaching men to narrow their sympathies and shut their eyes to the beauties of all but one phase of art, would employ their talents in elucidating the great principles that are binding upon all styles, and inculcate the study of those great and enduring qualities that have given to the ancient monuments their lasting attractions, they would be conferring a greater favour on the profession and society than they are now doing. These are the subjects that should be brought before the professors in Royal Academy discussed in lectures at the Architectural Museum and Exhibition. It is not Gothic houses and Gothic shops and Gothic warehouses and Gothic offices we want, but common-sense and beautiful ones. It is not Gothic architecture that is called for, nor Greek architecture, nor Roman architecture, but good architecture. It is true and original design, which includes good planning, good construction, truthful expression, and truthful and significant decoration; and these may be had in any style, and are best secured by him who has studied the works of all ages and nations, searched into their hidden mysteries, and imbued his mind with beauty from every source. That our vernacular, as it is termed, is void of those graces which have a refining and ennobling influence upon the mind, I readily grant; but it is not to the absence of the Gothic or any other style from our streets, which, indeed—generally speaking, are as much Gothic as Classic—it is to be attributed: it is chiefly the result of the sordid, money-grudging spirit of the age, and the indifference of the public to the beautiful. Our vernacular is offensive to true taste, no. because it is not Gothic, but because it is not architecture.

In conclusion, let me warn the student of the danger of sectarian intolerance and bigotry in regard to style, which must ever have a tendency to divert the mind from more important considerations. Style will not render any production a work of art. I know nothing that I could now say to him touching the conduct of his studies half so important as this. Let him give his mind to the study of those principles that are necessary to the guidance and expansion of what artistic feeling and imagination he may have; remembering that, as there may be verse with all the melody of rhyme and metre without one ray of poetry, so there may be building combining all the great elements of architectural style—columns, architraves, modillions, buttresses, tracery, finials, and so forth—that has not one drop of the life-blood of architecture.

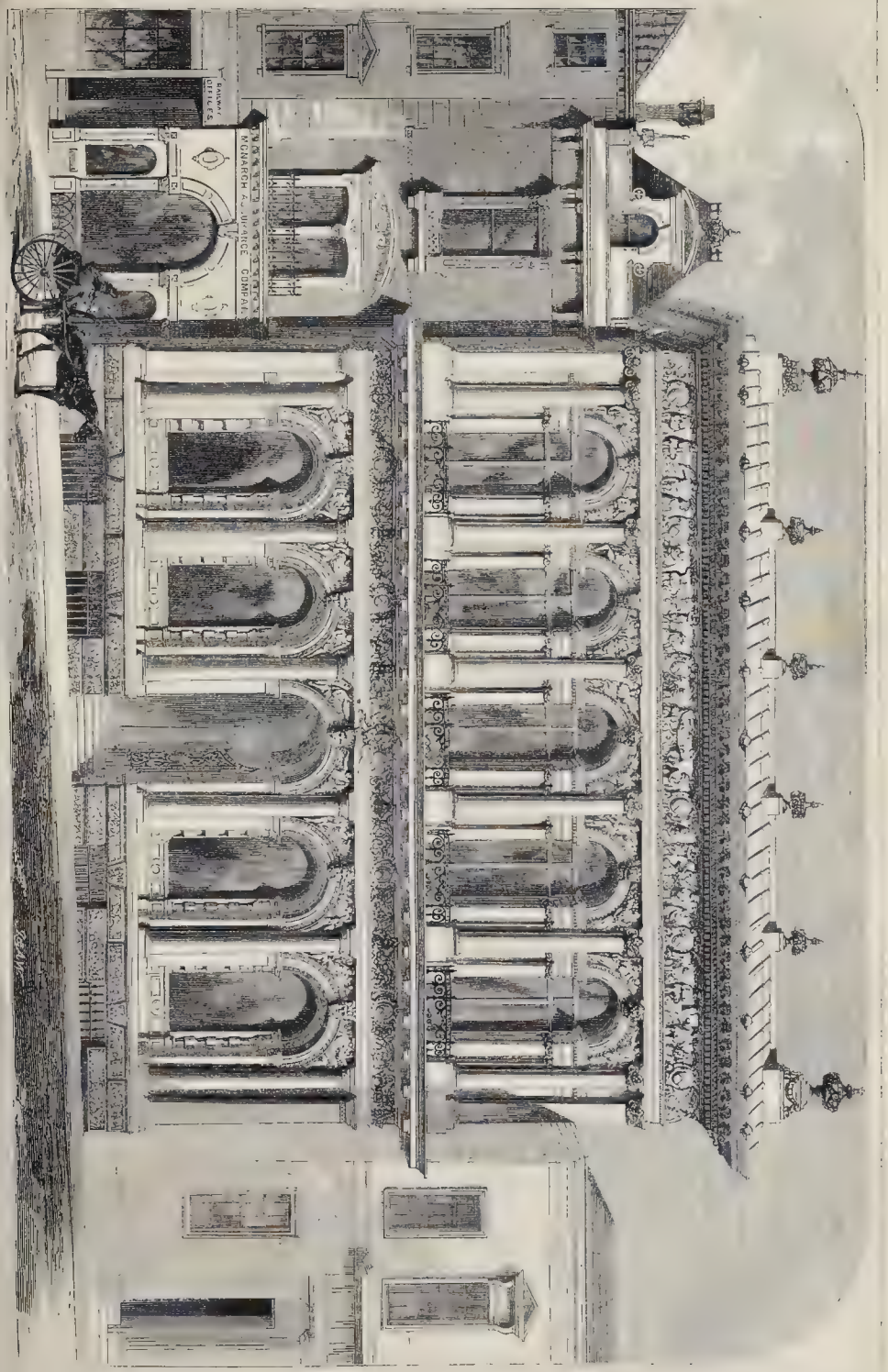
Let him remember, too, that the value of any work is in proportion to the depth of thought and other faculties employed upon it; that the way to produce a design which shall be valuable and truly his own work, is to put what is valuable and truly his own into it. That only profits which is profitable, and life alone can impart life. If a work contain the spiritual element, if there be a transmigration of the spirit of the artist into it, it will be a true work. A great building, like a great poem, must be the result of all the noblest faculties of the mind, devoted to its production without thought of reward beyond the ennobling consciousness of having given birth to what is excellent.

Gentlemen, let me assure you, before I retire, that I have felt the honour of occupying the presidential chair of this society, and the kindness I have experienced since my election to it. The legal term of the office having expired, I yield my place with, I may say, a melancholy pleasure, to my highly-respected successor, Mr. H. P. Horner; and, with the warmest wishes for the continued prosperity of the society, I beg to close the session.

UPTON-ON-SEVERN.—We are asked to say, that Mr. G. R. Clarke is the architect of the new Upton-on-Severn National Schools. Mr. Davis is the builder, not the architect.

WEST OF ENGLAND AND SOUTH WALES BANK, BRISTOL.

Details: Mr. John Thomas, Sculptor.



WEST OF ENGLAND AND SOUTH WALES BANK.—Messrs. Gingell and Lysaght, Architects.

EST OF ENGLAND AND SOUTH WALES BANK, BRISTOL.

The West of England and South Wales District nking Company was established in 1834, and upwards of twenty years occupied a portion of e Exchange in Bristol as their head office; but e premises being quite inadequate to the increas- business of the company, it was resolved to ct a new building.

The site whereon stood the once celebrated Bush Hotel" was then purchased, and designs re invited in public competition, the result of ich was that, by May 1st, 1854, upwards of y sets of plans were sent in, and, shortly after, e directors decided to carry out the design pre- red jointly by Mr. W. B. Gingell and Mr. T. R. saght, architects.

The foundations and basement story were at ce proceeded with: tenders for the whole of the rks above the ground-line were accepted in arch, 1855, and the new premises were opened business February 2nd, 1857.

The bank covers an area of 6,000 square feet, th a frontage of 64 feet, and stands in the very rtre of the city, opposite the Exchange and ad- ning the Council-house. The façade, of which give an engraving, is a composititon based on a study of the Library of St. Mark; and, ough the principal lines are similar, yet the pro- rtion, detail, and ornamentation are different. e ornate character of the work and its novel eatment will be best judged of by comparison th the adaptation of the library familiar to at the Carlton Club-house, of which a view ll be found at page 219, vol. v. of the *Builder*.

The inferior order is Doric, raised upon a bold, sticated and vermiculated plinth, and presents arcade of five arches, with engaged columns upon e piers, the neck of each column being enriched th a band of laurel leaves. Deeply recessed ndows are formed in four apertures of the ade, each having two detached rusticated co- nns of the Doric order, raised on pedestals, and rrying a denticulated entablature, forming the post from which springs an archivolt also rated th wreaths of oak and laurel leaves. The archi- lts to the arcade are enriched with a ribbon of ads upon the ovolo therein. The five key- nes are heads of sea or river gods. The ten andrils of the arcade are each sculptured with a ni-nude life-size male figure, emblematical of e chief products of the city, town, and country which the company have establishments. Thus se in the centre compartment represent the y and county of Bristol; the key-stone sym- izes the Bristol Channel; and on the pier above the city arms and supporters. Those in the xter compartment represent the city of Bath d the county of Somerset: the key-stone is the non, and the arms of the city are on the frieze. :r.

Those in the sinister compartment are the city Exeter and the county of Devon, the keystone the Exe, and the arms of the city are above. ese are the cities in which are the company's ree principal offices. The end compartments are propriated to the two chief Welsh branches. e dexter end is Newport with the County of nmouth, and the arms of the town over, and s keystone is the Usk. The sinister end is Car- ff and the county of Glamorgan: the keystone Taff, and the arms of the town on the frieze.

The superior order is Ionic, with an arcade of e arches, and engaged columns without pedes- s. The entire of each aperture is here devoted the window; the archivolt being supported by tached columns with pilasters, instead of piers, d carrying the entablature which forms the spost. A very bold effect is obtained by the p recession of these windows. The main umns have rich capitals with swags of fruits ed flowers from the volutes, and the columns and asters supporting the arcade are also enriched th swags of linen from the volutes.

The ten spandrils of the superior arcade are ch sculptured with a draped life-size female ure emblematical of the elements and sources e wealth. Those in the centre compartment re- sent Justice and Integrity—those on the xter side, Education and Charity—those on the ister side, Peace and Plenty—those at the ster end, Art and Science—and those at the ister end, Navigation and Commerce.

The five keystones are much enriched: three of em are in the form of the prow of a galley, th a lion's head thereon, and the other two are consoles with swags of fruits and flowers.

The crowning entablature is nearly 8 feet high, frieze being sculptured throughout, but di- ded into compartments by shields, supported by dolphins, with palm-leaves over each column, and carrying the arms of the cities or towns at which are the company's branches next in importance to those upon the inferior frieze:—thus Taunton, Wells, Bridgwater, and Barnstaple are upon the four central shields, and Merthyr and Swansea on those at the ends. Each compartment of the frieze contains a group of semi-nude life-size boys. Those in the centre, being engaged in receiving, paying, and storing money, represent banking: the dexter side represents die-sinking and coining; the sinister side, engraving and printing notes: the dexter end represents merchants trading with the natives of Europe and Asia; and the sinister end, merchants trading with the people of Africa and America.

The twenty spandrils, the superior frieze, and the lower central keystone, are all executed in Portland stone: the four other lower keys are in Anston stone; but all other parts of the front are of Bath stone, the plinth from Hampton Down, and the rest from Coombe Down and Box.

We illustrate some of the sculptured decorations at large.

The centre of the inferior arcade leads by four steps to the entrance-lobby, which has Doric columns and entablatures, and a semicircular vaulted ceiling deeply coffered and enriched: both walls and vault are finished in fine Corsham stone.

The lobby leads by four curved steps into a circular vestibule, also finished in Corsham stone, and running up two stories in height, finished with a large dome-light and coloured glass. The floor of the vestibule is an elaborate pavement by Minton, showing the city arms surrounded by the name of the company, and guilloche and other borders, &c. On the right of the vestibule is the entrance to the board room: on the left is the private entrance to the bank and resident clerks' houses; and in front is the public entrance to the banking-room.

The board-room is a large and lofty apartment, taking the form of an inverted ⊥, lighted by two windows in front, and one at the back, the walls finished with Diment's cement, and the ceiling coved, panelled, enriched, and decorated. A strong room for the minute and other books, and a lavatory, water-closets, &c. are provided in connection with this room.

The banking-room is 70 ft. by 40 ft. and 40 ft. extreme height, with detached coupled Corinthian columns, before proper pilasters, and raised on a stylobate, supporting an enriched entablature and moulded blocking course, the whole being executed and finished in the finest Corsham stone. From the blocking course springs a semi-circular vaulted ceiling, executed with specially made hollow bricks set in Portland cement, finished externally with cement, and then covered with lead. The room is lighted by twelve skylights, in iron kerbs built into the brick vault, each 6 ft. square, and by a large semi-dome over the apse at the north-end, and by seven large panel-lights over the screen before the apse. All the glass is blue, with white stars and brown interlacing borders. The ceiling on the vault is of elaborate plaster work, and is decorated in buff, grey, and gold. On the west side of the room there is a transept, open to the bank, but screened therefrom by four columns, and appropriated to the manager and sub-manager, the ceiling being coved and decorated as the vault.

The space for the public before the counter is laid with Minton's tiles.

The basement story contains large vaulted repositories, with numerous strong rooms for reserve cash, plate-boxes, books, &c.; and also stationery rooms, clerks' lunch-rooms, lavatories, &c.; apparatus rooms, and accommodation for the porter. The upper parts of the premises are two large dwelling-houses, one for the manager's town-house, and the other for the resident clerk.

The entire building is constructed fire-proof, upon Messrs. Fox and Barrett's system. It is warmed and ventilated by Messrs. Haden.

The whole of the carved and sculptured work was executed by Mr. John Thomas.

The contractors, all of Bristol, were—B. Farmer, mason; J. C. Harris, joiner; Osborne, plumber; Butcher, smith; and Diment, plasterer, painter, and decorator. The glass was supplied by the St. Helen's Company. The roofs were covered with Pilkington's asphalte. The iron doors and actions and the repository fittings were made by A. A. Harris. The gas chandeliers were by Messenger, the gas-work being done by Llewellyn and James. All the floors are of White's Portland cement, except those parts where encaustic tiles have been used.

Mr. R. Cairns was the clerk of works.

A WORD OF INTRODUCTION TO THE LOUVRE.

Among all the immense, costly, and superb palaces that have been erected for the residences of kings and the most renowned courts of Europe, there are none, perhaps, so distinguished as the Louvre and the Tuileries. Their architecture is without a parallel in its kind. It embraces in several hundreds of years some of the most glorious epochs in the annals of France. Except a few edifices, as St. Peter's and the Vatican, undertaken by a succession of popes, none have excited the ambition of so many crowned heads, or called forth the talents of so many eminent artists, or have so much contributed to the instruction of the public, as the Louvre.

The great indexes or saliant points in the history of the arts in France were the three *renaissances*, which she owes chiefly to her kings. The first illustrious race of kings who amassed a vast amount of riches to build nobly and ornament sumptuously, and with their worldly goods enriched the then existing abbeys—of whose munificence that of Saint Denis is a celebrated instance—rendered those homages due to religion which were imitated and became also encouragements to the arts in subsequent reigns; indeed, by these means the arts prospered, in proportion to the resources and intelligence of the age, and were protected, more or less, from the time of Charlemagne to the present day. The exercise and power of their royal influence, and the impulse it gave to the world, effected great changes and exhibited three different phases of art at three different epochs, namely, in the eighth, in the thirteenth, and sixteenth centuries; and whilst the courts of monarchs received their elevated rank and splendour from the arts, the arts likewise prospered under the protection of the court. The men whose sentiments and occupations could throw grace and charm around the dwelling and domain of those who wore the crown, easily pierced the crowd, and made a way to the great. Artists, whose creations and labours decorated the churches and palaces, whose inventive powers spread splendour, luxury, and magnificence within the walls, had their appointments fixed as honoured servants to the king by the state officers, received assistance, obtained privileges, and had often their *ateliers* in the royal or imperial household—a privilege which is well-known to be still accorded to distinguished personages in the courts of Europe. At some epochs the palace of the Louvre was the spectacle of all Europe for the wonders which it contained, for the spoils of nations which embellished it, and for the sovereign pomp and magnificence which seemed to eclipse the splendour of all foreign courts.

The precise epoch of the foundation of the ancient Louvre, if not unknown, is uncertain; but it resembled, in a print we have seen of it, most of the first-built castles—half palace, half tortress, flanked by round towers and *tourelles*, and surrounded with fosses. This was replaced by what was then called the *new* Louvre, and at that time and subsequently its history was sometimes very eventful, but always exceedingly interesting. The plans and designs for it were often changed, and its progress interrupted. François I. commenced one part, and pulled down another. Although the last was called justly the father of letters, the restorer of arts and sciences, yet those who held the sceptre before him, and especially some of the kings who succeeded him, and who contributed on their part to the work, deserved, perhaps, the name or a share of that title. The emulation they produced formed the taste and developed to a greater degree the sentiment of beauty. They acquired equal glory, and were as great benefactors in their reign; but all may be placed in the same category, and all have had the praises of posterity. St. Louis and Charles V. enlarged and repaired the Louvre. It changed with its kings. It is to Charles V., called *Le Sage*, we owe also the foundation of the academy of painting and sculpture, known under the name of the Academy of St. Luke. By them the Louvre was embellished, and it was the centre of action for French art and artists in all its great epochs. They mutually acted upon and assisted each other. In consulting Verniguet's plan of Paris, one may see that all the enlargements and extensions the city received from time to time were made during the reigns of these kings, who are identified with the glory and magnificence of the Louvre, and whose court was the nursery of so many improvements, the source of so many inventions. It seemed to have been generally the ambition among them to raise the kingdom, by these continual accessions and other means of aggrandisement, to a point of grandeur to which past ages had not been able to arrive. The

ambition spread, the example was followed; and the provinces, although at a great distance and only at a very slow pace, followed in the wake of the improvements made in the city. Amidst the havock and ruin which all-devouring Time and the furious rage of revolutions have made upon some of the ancient monuments of France, happily her most favourite, her most admired gems of architecture and masonic skill have been preserved—her beautiful chapels have been saved. The chapel of the ancient castle of Vincennes, and that which belonged to the ancient palace of St. Louis—Sainte Chapelle, which it is really a privilege to be permitted to see—present in the Gothic style nothing so perfect or so elegant—such precision in execution, such regard to the solemnities of religious worship, or such perfection in construction. Distinguished for these qualities, its beauty became a proverb, and associated with royalty in its history: it was the special object of Queen Victoria during her recent visit to the Emperor. The greatest of the kings of France, one who has had deserved homage rendered to him for his works, the most pious of Christians, of the race of the Capetiens, St. Louis, erected this beautiful monument about the year 1248. Pierre de Montereau, the architect, was in love with the style of this chapel after he had witnessed similar constructions during his voyage in the East, and in erecting it, seems to have had some influence upon the age in which he lived. This chapel alone, and the impression it produces, must be to the foreigner a most agreeable *souvenir* of at least this species of architecture of Paris. But there are others, and the pavilion known as that of *l'Horloge*, in the court of the Louvre, was a few years ago the chapel of that palace to-day prayer and oratory are celebrated in the chapel of the Tuileries. The pavilion, in the centre of the palace of Luxembourg, facing the garden, was formerly the chapel for the use of *Marie de Médicis*. Against these the barbarous force of destruction has not been levelled. A good and cheering architectural sign of the times is the careful restoration of several of these ancient chapels. As an instance of the great caution, pains, and improved taste and judgment, which conduct the works of restoration now in hand, and which applies to the chapels that are being restored, we will mention Notre Dame, which has been in course of renewing and repainting for the last thirteen years. During this period many parts have been almost entirely re-made; such as the apsis, the choir, the south side; but in executing these repairs they have caused the disappearance of some defects of style which had been committed by architects charged with the restorations of the cathedral in 1801. The restorers also are about to remove some of the glass paintings from the two rose-windows of the transepts of the eighteenth century, when painting on glass was in its decline, and replace them with others more in harmony with the developments the art has since received.

But to return to the Louvre: a great interest now attaches to it as a national monument, and as generating a school of art, as being a theatre of architecture, and a field for the exercise of talents which it did not possess in the twelfth century, when its history commenced. In the sixteenth century, the Louvre offered a noble struggle for the superiority of genius among contemporary artists: the *Renaissance* was conspicuous: it was an epoch when French architects, sculptors, and painters rivalled the great men in Italy of the cinque-cento period. The foundation of the palace of the Tuileries was laid. The wars of Italy opened a communication to the arts between the two nations; and Charles VIII. took with him into Italy the *élite* of the nation, and showed them the remains of antiquity. The French, imbued with the spirit that produced these *chefs-d'œuvre*, invested the court of France with the splendour and magnificence of the palace of the Roman emperors. Italian architecture had an influence, no doubt, on the French, and Italians living in Paris competed for the designs still wanting to the Louvre, and, perhaps, for the palace of *Catherine de Medicis*, but she employed French architects upon that: still the French architects were quite independent of the architecture of the Italians; and we are quite capable, by the examples of the styles of the two nations, to judge of the merits peculiar to each. The Louvre is the work exclusively of French architects, and their designs were much preferred to those of foreigners who competed for the building. Philip, king of Spain, invited De Foix, a French architect, to build the Escurial: the dukes of Bourgoyne and Valois encouraged native talent; and Jacques Delrosse, at a later period, erected for Marie de Medicis the palace of Luxembourg. In the sixteenth century the Louvre began to assume a far superior appearance than it ever had before: the forms and proportions were treated in a classical manner, and the effect of the whole much improved by placing judiciously incrustations of marbles of different colours, and sculptures and bas-reliefs in the spaces destined for them, and niches for the statues. The Gothic style had been some time abandoned, and the Greek orders absorbed all attention. Philibert Delorme was one of the first architects employed at this period on the king's works, and made improvements thereon: he had practical skill and invention, and in the *renaissance* designed for the tombs and mausoleums, which at this day are seen in the crypt of the cathedral St. Denis, that to the Valois and to François I., in which he showed great taste and great knowledge of elegant proportions. Delorme invented a centering for domes and vaults, which is used at the present day, and staircases are constructed after his plans. He recorded some useful facts, relating to building, in his notes to Vitruvius. He was employed with Bullant on the Tuileries. He embraced all the arts dependent on design, and knew how to put them in harmony and increase their splendour by good arrangement. In judging of the true merit of Delorme and other architects of the Louvre and Tuileries, we must not forget the state of things then existing, the customs and habits by which they were fettered, the disadvantages under which they laboured, and which it was difficult, if not impossible, to surmount. Bearing this in mind, it may easily be explained why the manner of Philibert Delorme, of Jean Bullant, and Ducerceau is not nearly so perfect as the style of those who succeeded them, such as the style of Lemercier, Mansart, Soufflet, Gabriel, and others. The perseverance, however, with which they pursued their studies, their unwearied zeal for and determination to resolve questions and problems in architecture, is a valuable lesson to the student. Bullant co-operated with Delorme in the first foundations of the Tuileries, and acquired fame for the Chateau d'Ecouen, preserved and restored by Lenoir. An altar, executed in the chapel of this castle, is distinguished for the elegance of the style and the finish of the details. This and other monuments of this century are seen at St. Denis, and described and illustrated by Biet and Normand in "*Souvenirs du Musée des Monumens Français*." He must have been a man of mark in his profession, for Chambray, in his "Parallel of Ancient and Modern Architecture," places him as an authority with the ten principal authors who have written on the Five Orders. Pierre Lescot and Jean Goujon—the former architect, and the latter sculptor—worked together, and their ideas conformed and aided each other on this great monument of their age: the architecture of the one well assorted and set off the sculpture of the other, and *vice versâ*, as we see most successfully in one of the sides of the court of the Louvre, identified by their initials, and the elegant design of the Fountain of the Innocents. Goujon was called the *French Phidias*. He carried some parts of sculpture to the highest degree of perfection. His works will be always admired; and the allegorical subjects and pleasing groups which so tastefully enrich and fill up the intervals between the columns of the different stages of the Louvre, the spandrils of arches, and the spaces in the pediments, form, as it were, a series of objects from a firm and pliant hand and strained eye, which are as much a museum of sculpture as that which is protected within the walls. However, attractions await us inside not to be resisted; and, amidst the wonderful collection in the *Salle des Gardes Suisses*, is another work, very much admired by this same Jean,—the Caryatides, 12 feet in height to the chimney, supporting an entablature enriched with beautifully carved ornaments. About this time, 1570, Ducerceau, who has left us a useful work, entitled "*Les plus excellents Batimens de France*," travelled for his improvement, *pour se perfectionner*, and was so charmed at seeing in the triumphal arch at Pola, in Dalmatia, the application of coupled columns, which, to him and his countrymen, was a new and singular feature, that he adopted this mode of treating the orders, and it became a common model for all his works: his designs were filled with coupled columns and pilasters. Philibert Delorme in imitation of Ducerceau, used them in that part of the gallery of the Louvre near Pont-Neuf which has been called the *Galerie Brosse*. Serlio filled his designs with them. Jean Goujon, in his Fountain; and the *Abbé de Clagny*, one of the early architects employed on the Louvre, Metezeau, de Brosse, and others of great reputation, did the same thing; and the custom was so general, that in the opinion of the workmen of Paris a building was without grace, if it had not coupled columns or pilasters. (Q. de Quincy.)

In 1661, Louis XIV. whose noble ambition aspired to all kinds of glory, wished to carry on or finish the Louvre upon a plan, and from designs, more magnificent than those of his predecessors. Skilful architects had already presented many projects. Colbert proposed to the king to send all the designs to Bernini, he being considered the most celebrated of his age, and the best judge that there was. To this the king assented. Bernini returned all the competition plans, after inspection, accompanying them with his opinions of their merits, and with two designs of his own, which were much approved of by the monarch and his minister. He presented Bernini with his portrait, set in a frame of diamonds of the value of 3,000 crowns, with a letter inviting him to come to France. The monarch wrote also to the Pope to grant the favour (it was truly one) of allowing the artist to leave Rome: the renown acquired by him had rendered him the inalienable property of the Eternal City. Bernini came. All the cities through which he passed saluted him, and rendered him extraordinary honours: he was entertained and *fêted* by the dukes of Italy and Savoy, and received by Colbert on his return. He described to the king his proposed additions to the Louvre, and his idea respecting the union of it with the Tuileries, by means of two parallel galleries connecting them. But his sudden return to Italy is well known: his ideas were not then acted upon; and though Paris lost Bernini, the traces of his genius and his character remained to the country. There was great ability and vast comprehension and grandeur in his designs for the Louvre and its accessories. The entrance façade in his design, was less happy and less rich than Claude Perrault's fine frontispiece and colonnade, with its coupled columns. A model of this was made, in which, on a small scale, there was exactly the same number of stones as those intended to be in the actual edifice. The model was adopted, and the execution of the monument finished in 1670. (Q. de Quincy, *La Vie et des Ouvrages des plus célebres Architectes—Bernini.*)

F. L.

PROVIDENT INSTITUTION OF BUILDERS FOREMEN AND CLERKS OF WORKS.

ON the evening of Tuesday, the 11th instant, the anniversary dinner of this excellent institution took place at the London Tavern, in Bishopsgate-street. About 140 persons sat down, under the always agreeable presidency of Professor Cockerell, R.A. Amongst those present were Messrs. Pennethorne, S. Angell, W. Lee, H. Lee, Pucknett, T. H. Lewis, Piper, Stansbury, Hobbs, Freake, J. Young, jun., Chubb, J. Blyth, Freeman, Woodthorpe, Garling, Thurst, Geo. Jennings, Nye, Magnus, Glover, T. Pugh, W. Jackson, Eastwood, and other equally well known names.

The first toast, "the health of Her Majesty the Queen," was given in a truly loyal speech by the chairman; and, having been received with all honour by the assembly, was followed by the "Prince Consort, the Prince of Wales, the Princess Royal, and the rest of the Royal Family." In introducing this toast, which was received with the most gratifying demonstrations of respect and attachment, the chairman adverted to the impulse which art in its most practical and useful forms had received from the influence of the Prince Consort. He reminded his hearers that the first of the great exhibitions, which had already done so much to advance the cause of art amongst us, and which promised to do still more, had attained its wonderful success under the fostering care of the Prince. His Royal Highness, the chairman remarked, had in a peculiar manner shown how deeply he was interested in the real well-being of those working classes of the community with whom the members and friends of their own institution must feel the warmest sympathy. After pointing out, as examples of his general system of action, various specific instances of the practical influence for good which had been exerted by the Prince Consort, the chairman concluded with expressing his confident hope that the Prince of Wales would follow the example of his illustrious parents, in seeking to be a blessing to the great country in which he had been placed by Providence in so exalted a position.

The "Army and Navy," with apposite remarks upon their gallantry and all-important services, was the toast next given, which was responded to with loud cheers.

Then followed the "toast of the evening," "the

vident Institution of Builders' Foremen and
ks of Works."
he Chairman said he had accepted with zeal
great pleasure the invitation to preside at the
ner of the foremen and clerks of works, be-
se he considered it the first approach to that
on of the working and the thinking labourers
ch he had earnestly advocated during nine
rs;—labours in which he was ably seconded by
e he saw there—Messrs. Lee, Piper, and others,
by Mr. Baker, who was unfortunately not there.
se gentlemen had filled and were actually
ng the position of trustees to this Society,
so gave evidence of guarantee to the funds
ady raised (1,400*l.*), as secure as if the Society
e chartered. The Society had existed sixteen
rs, and had fulfilled its promises. The annual
cription of direct members was 30s. per
nm. Aided by honorary subscribers, archi-
s, builders, and others, he looked upon this
ety and its friends with the greatest respect
hope; and, viewing the great amalgamation
he classes brought about so happily of late
rs in such a variety of ways, giving the fullest
ence of regard from high to low, and the
ving sympathy of their Society, he felt as-
d that the attempt made a few years back,
d as it was by the above building authorities,
press, and especially by the *Builder*, would bring
t this desired consummation at a future time.
chairman referred to the foremen and clerks
rorks, and to the workmen who were employed
r their directions. The trustful and confident
t evinced by the workmen towards their
ployers, he regarded as a fact abounding in the
valuable promises for the general advantage.
honourable manner in which the foremen and
ks of works also fulfilled their highly re-
sible duties was noticed in most feeling
guage, the chairman observing that the success
n of architects and contractors in no slight
ree depended upon those to whom the actual
ization of their designs and plans had been
trusted. The good faith and constancy of the
emen and clerks of works proved them to be
worthy of the confidence reposed in them.
conclusion, the chairman alluded to Mr. Sydney
cke, who felt a warm interest in this society,
lwho, having been prevented attending, had
oneen able to express his own feelings on the
ident highly interesting occasion.
ne toast was acknowledged in a very able, as
as strictly appropriate, address from the
rnor, Mr. Lee, who feelingly urged the claims
he institution for an enlarged measure of sup-
, and who also pledged himself to exert him-
to the utmost of his ability to prove himself
thy of the office which he held.
e next toast was "the Architects and Engi-
s," and with this the names of Mr. Angell,
Woodthorpe, and Mr. Coe were associated,
special reference was also made to the kind
ng always shown towards the institution by
Pennethorne, who was present, and sitting on
left of the chairman.
is toast, like those which preceded it, was
ived in the most cordial manner, and was re-
ded to by
r. Pennethorne, who expressed himself in
as calculated to make a deep impression on
audience. He bore his testimony to the
ty, zeal, and integrity of the builders' fore-
and clerks of works with whom he had been
fessionally connected, and of whom he had a
onal knowledge. He also declared the great
ortance of the services rendered by persons
faithfully discharged the duties of these
38. The Provident Institution Mr. Penne-
e considered at once to reflect high honour
its immediate supporters, and to possess the
ngest claims upon the sympathies of all con-
ed with architecture and building.
Mr. Thos. Piper then gave the health of the chairman.
ame was an advantage, he said, in public dinners, by
ch persons of different positions were brought toge-
, and, while not forgetting the paramount interest of
harity, yet had the opportunity afforded to talk over
mutual relations. The questions of the day were just
he the Saturday half-holiday, and the "nine hours'
vement," as it was called. By all means let the hours
bed be shortened: this would only be too welcome to
t but let "movements" of this kind be entered upon
ed, judgment and fairly looked at in all their bearings.
position of foremen and clerks of works gave them a
e age ground for the examination of such questions.
s was no question between masters and workmen; for,
no price of any article be raised, the difference must
timately be paid by the public. Machinery was intro-
bed, because it worked cheaper: if the price of labour
ld raised, more machinery would be introduced. It
d said, and truly, that there was a deficient demand for
ur. When an article is not in demand, was that the
time to raise its price? Moreover, capital sought
places where it could be profitably invested. If, then,
rice of any article be unduly raised, the quantity of
that that could be therein profitably invested was so
reecreased. This was not the time to discuss such
matters, but these hints were thrown out for their consideration as thoughtful men. We lived, the speaker continued, in times of progress. Human power was marvellously shown in railroads, where man, as it were, harnessed the elements (of fire and water) to his chariot, and bid them, in their strife, do his behests with a power equal to any emergency, and a speed swifter than the fleetest birds. When they were boys, they read with interest the experiments of the great American who brought the lightning from the clouds; but now they fixed it as their messenger, and not only so, but took it with them to war; and among the marvellous announcements of the times, nothing was more striking or significant than the fact that as the staff of the great warrior moved, the engineers set up the telegraph. Great movements arose from great men, and so all this fairly connected itself with their chairman, whose eminence was acknowledged by France, who, when our alliance was not so well cemented as it now is, sent him her greatest literary distinction: our own oldest university clad him with the robe of her doctor's degree: our highest circle of artists had enrolled him one of themselves.

Mr. Cockerell, in tendering his thanks to the meeting, said, the success which had attended his own humble efforts in his profession, and which was found generally to attend those who laboured with honest assiduity, would, he hoped, encourage those to perseverance who were at present young in their professional career. He assured them of his entire sympathy with their institution, and also with their individual efforts. Having referred to the important position filled by the great building contractors, the veteran chairman concluded an able address with proposing the health of the "Contractors," coupling with the toast the names of Messrs. Cubitt, Lee, and Piper.

This toast having been duly acknowledged by a gentleman of the firm of Messrs. Cubitt, the chairman proposed, amongst other toasts, "The Press," which he gave, he emphatically said, with the greatest satisfaction, and under the conviction that the Press was an engine of the greatest power, capable of producing, and which was actually productive of, the utmost good. The Press was the cordial friend of the poor, and more particularly did it labour to help those who sought to help themselves. The various charitable and beneficent institutions, that formed one of the bright glories of this country, owed much to the Press, which was always ready to advocate every good cause. The chairman coupled with this toast the health of his friend, the Rev. Charles Boutell.

Mr. Boutell, in replying ably to the toast, after a few general remarks upon the action of the Press in its most comprehensive capacity, observed that they then were more especially concerned with that portion of the press which was more particularly devoted to art, and to the art of architecture beyond all other forms and expressions of art. He pointed out the twofold benefits arising to themselves from the course now adopted by such periodicals in the matter of architecture and general art—benefits inseparable from the rendering art popular, from cultivating the public taste, and from bringing together into friendly contact not only the different classes engaged in real sing architecture, but all those classes and the general public. The advantages which result from the diffusion of information by means of a channel open to persons of all ranks, and which, consequently, while addressing itself to those in humbler positions, must be worthy of the notice of the highest in the social scale, were insisted upon.

Professor Simmonds also spoke to the same toast, and the chairman then rose.

We hear, with much pleasure, that the contributions to the funds of the institution, made on this occasion, amounted to about 290*l.*

THE QUOTATION ON THE ACADEMY CATALOGUE.

In your last number you say the quotation from Schiller, on the Catalogue of "The Exhibition," has been "neatly done into English" by a contemporary. It may be "neatly" done, but I do not think the result is quite so vigorous as the original; and, as I love Schiller, and would have him look his best, I am tempted to send you another version of his lines, for which you may, perhaps, be able to find room:

"In Industry the bee can thee excel,
In Skilfulness a worm thy teacher be:
Thy Knowledge sharest thou with heaven and hell,
But Art, O man, is given alone to thee."

H. P. S.

MANAGEMENT OF THE ROYAL INSTITUTE OF ARCHITECTS.

Sir,—The tone of the letter signed "Robert Kerr," in your impression of the 8th instant, is much to be regretted, and it is, indeed, but a continuation of the worst features of a controversy originated at the annual meeting of the Institute, on the 3rd of May. No one present at that meeting will, I think, have any doubt but that many repetitions of the manner in which two gentlemen then urged their views would have the full effect of rendering the proposed additional accommodation for Institute meetings totally unnecessary. For myself, I trust sincerely that the council will forbear to publish the record of the "sayings and doings" of these gentlemen on that occasion, for the sake of the gentlemen themselves, though Mr. Kerr, I see, hints that it is likely to do so from a less amicable motive.

As to the points raised by Mr. Kerr, the first, or question of the council memorializing or petitioning Government or public bodies, without reference to a general meeting, is one of mere convenience, and cannot be one of principle; for its right to do so is conceded and implied in its election, to represent the whole body of the Institute, without the condition of its referring its actions at every turn for the approval of its constituents; and, as to the fitness or convenience of such a course, on any special occasion, it must be, during its office, the best and only judge. As to the second point, viz. the house list of officers proposed by the council for election, its only demerit seems to me to be that it is the object of Mr. Kerr's displeasure. I confess I cannot understand why it should be so, or how it can be anything but an advantage to have the names of men who are known, first, to be willing, and secondly, to be eligible (under the bye-laws), to fill these offices, suggested to us, or, at least, to those of us who, like myself, from want of personal knowledge, would be very much puzzled to find fifteen or sixteen members who were in this double position. Moreover (and I think Mr. Kerr should not have omitted mentioning this), the members are not asked, or expected as a matter of course, to vote the house-list "*pure et simple*." The council merely suggests a number of names; and, if the members present know any that are better suited for the offices, every opportunity is given for their electing them; for they have but to substitute on the balloting papers the names of those they prefer for those that the council proposes. In one instance this was done on the 3rd instant; and when Mr. Kerr, in allusion to that occasion, says that the "house-list was voted in," he should have added, "with one exception," because, that one exception being made, shows clearly that the right of selection is perfectly understood and acted upon by the members.

W.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Earl de Grey, as President, will give his annual *conversazione* to the members and friends of the Institute on Friday evening, the 21st inst. He will previously receive the council and office bearers (including those who have just retired) at dinner on the same day.

The subject for next Monday evening will be "Public Competitions for Buildings," by Mr. Morgan, Fellow, one of the successful competitors in the Barrack Competition. The recent allusion to this competition in the House of Commons, on the discussion of the army estimates, and the steps previously taken by the Council of the Institute in the Public Offices Competition, and in the Barrack Competition, will probably occasion a full attendance of members in Grosvenor-street on this occasion.

THE ARCHITECTURAL MUSEUM.

A deputation from the trustees and committee of the Architectural Museum waited upon the vice-president of the committee of Council on Education on Monday last, at two o'clock, on matters connected with the welfare and increase of the collections.

The deputation was introduced by Mr. Beresford Hope, M.P., one of the trustees of the Architectural Museum, and consisted of the following gentlemen:—Sir Walter James, bart. Professor Donaldson, Mr. G. G. Scott, A.R.A. (Treasurer); Messrs. Austin, Charles Barry, Raphael Brandon, W. Burges, Joseph Clarke, F.S.A. (Hon. Sec.); E. W. Cooke, A.R.A. Ferrey, Gibson, Lomax (Assist. Sec.), C. C. Nelson, and J. L. Pearson, F.S.A. The result may be considered favourable, but other steps will have to be taken.

STREET PAVING.

Our attention has been called to some patent composite carriage-way paving, recently laid down in Little Queen-street, at the entrance from Holborn.

On inquiry we learn that this paving was originally laid down as a specimen in Southampton-street, in June, 1856, and that, in consequence of repaving the whole of the street with granite, it was taken up in June, 1857.

It is asserted that, during the twelve months, this paving not only sustained the local traffic, but, for some portion of the time, the traffic of Holborn, during the relaying of that district.

The blocks, which are 2 feet long, 1 foot 3 inches wide, and 8 inches deep, are a composition of creosoted wood and broken Guernsey granite, cemented together with mineral asphalte.

With respect to the wear of any kind of paving, much must depend on the breadth of the street and the extent and weight of the traffic passing over it; but, with regard to the wear of these particular blocks, we are told that, by the measurement, notwithstanding the heavy traffic to which they had been subjected, the wear did not exceed from one-eighth to one-fourth of an inch.

THE INTERIOR OF ST. PAUL'S, LONDON

We understand that a committee of earnest and influential persons have been appointed to assist the Dean and Chapter of St. Paul's in fitting up the cathedral for special services, and at the same time endeavouring to complete the decorations of the interior in accordance with the wishes of Sir Christopher Wren, so far as they can be ascertained. It is proposed that, in the arrangements for service, as little obstruction as possible is to be introduced, chairs and matting to be provided for a very large congregation under the dome, and contiguous parts of the nave and transepts;—the remaining space to be separated during service by curtains, drawn across wherever it shall be found most desirable, for the purpose of inclosing and thereby economising the voice of the preacher,

and for the exclusion of the interruptions to the service from without.

All permanent fittings, or any alterations to the existing choir, are to be reserved for future consideration; but, in the meantime, a matter of no small importance is proposed to be taken in hand, namely, the warming the church sufficiently.

As regards the decoration, as we know that the use of mosaic and marble and gilding entered largely into the views of Sir Cristopher Wren before he fell upon "evil times and evil tongues," and the works were put into other hands and prematurely closed, we may be satisfied that should the committee in this metropolitan and national work succeed in carrying the public with them, so that Sir Christopher's views could be satisfactorily carried out, the interior of St. Paul's would no longer be wanting in comparison with the great churches of the same nature on the Continent, and would become not unworthy of its unrivalled exterior.

MONUMENTS AND MEMORIALS.

Statue of Isaac Watts.—A statue of Dr. Isaac Watts is about to be placed in the public park just formed in the town of Southampton, where Watts was born. Mr. Guilleaume, the architect, who has laid out the park, has resolved upon paying for the statue by means of a penny subscription among the Sunday school children throughout the kingdom, to whom Watts's hymns for children are familiar. Mr. Lucas is the sculptor.

The Dewhurst Monument at Blackburn.—Mr. John Hacking, builder, has erected, in the Blackburn Cemetery, an obelisk, in memory of the late George Dewhurst, a member of the Council of the borough of Blackburn. The column is square, with a pointed apex: the height is 17 feet, and being placed upon the hill, it can be observed from the surrounding country for a considerable distance. This is the first monument to a public man that has been finished in this town. Sufficient funds are in hand to erect a drinking fountain in the market-place.

The Statue to Mr. Brotherton, at Selby.—It is intended forthwith to inaugurate the statue to Mr. Brotherton in Peel-park. The site chosen for it is not far from the entrance. The foundation for the statue has been commenced, and its pedestal will shortly be ready. The statue was cast under the superintendence of Mr. M. Noble, its modeller, at the works of Messrs. Robinson and Co. of Pimlico. The marble bust in the Manchester Town-hall is a reduced copy of this statue. The Brotherton monument will make the third statue by Mr. Noble, in Peel-park, in addition to several which he has produced for Manchester.

Memorial of Major Barnston, at Chester.—Some of the members of the committee think that a pointed window would be the best method of realising this object. Others consider that an almshouse, to be occupied by a veteran of the 90th regiment, in which the deceased served, would be the most desirable plan. The *Chester Chronicle* recommends a cenotaph in the form of a military trophy, statuesque, or otherwise, with a suitable inscription in the cathedral.

The Rutland Memorial, at Newmarket.—An eligible site for the All Saints Parsonage having been given by the present Duke of Rutland, the ground has been put into the hands of the contractor, and the work commenced. The design is by Mr. J. P. Clark, of Newmarket, architect. The whole cost, including the contract for the house, 1,030*l.*, the memorial decorations and tablets, enclosure of site, &c. will be 1,267*l.*, for which the subscriptions, including a second donation of 100 guineas from the Rev. E. Merrill, at present amount to about 1,000*l.*

Monument to Mungo Park, at Selkirk.—The committee for the erection of a monument to the distinguished African discoverer, Mungo Park, have selected the design of Mr. Andrew Currie, of Darnick, sculptor. There were various competitors, but the only two who sent in models, were Mr. Currie, and Mr. Ritchie of Edinburgh. Mr. Currie is related to the African traveller (who was born at Foulshields, near Selkirk). His wood-carvings are well known in the private cabinets and halls of gentlemen and gentlemen, but this is the first public monument with which he has been commissioned. The monument will consist of a figure of the traveller standing in an easy attitude, with a quadrant in his right hand, his shirt collar thrown open, dressed in a loose skirted coat confined at the waist by a broad belt. At his feet is the figure of the dusky, the meeting with which forms one of the most touching episodes of his travels. At the corners of the pedestal are sculptured four African forms, while the tablets are to be occupied with representations of different African tribes, and with incidents of Park's life. The monument, from the base of the pedestal to the top of the figure, will be upwards of 20 feet in height. The Park monument will take its place along with the statue of Sir Walter Scott, by Ritchie, in the market-place of Selkirk.

Monument to the Forfar Men who fell in the Crimea.—It has been resolved to erect a monument in Forfar in memory of townsmen who fell during the Russian war.

CONSTRUCTION AND PLAN OF RAILWAY STATIONS.

INSTITUTION OF CIVIL ENGINEERS.

At the meeting held on the 20th ult. the first part of the paper by Mr. R. Jacomb Hood, "On the Construction and Arrangement of Railway Stations," alluded to the want of special information on the subject. This was attributed to the limited demand, and the division of responsibility. The alleged superiority of the station arrangements on the Continent was discussed, and, assuming it to exist, it might be attributed to greater expenditure on the part of the companies; more extensive space devoted to the buildings and for working; to the comparative cheapness of land; and also to the architectural training of the engineers, and their connection with the working and management of the lines.

In the judicious selection of station sites, the main feature was ultimate efficiency, rather than present economy. A station on the surface was infinitely preferable to one either on a bank or in a cutting. There should be facility of access in every direction, a clear site along the railway, uninterrupted by curves or by bridges, and, if possible, on a level gradient, the terminus of not more than 1 in 300. Intermediate stations were best on a level, and next to such gradients falling towards them. Good water and drainage, with ample area of land, were, in all cases, indispensable. Building in the immediate vicinity of the stations should be discouraged.

The question of commencing stations before opening a line was discussed; and it was remarked that, in some cases, a railway was opened with temporary accommodation only, whilst in reality the stations were neglected. It was suggested that the best course to pursue was, to settle a complete plan, and only to carry out at first as much as was actually requisite, leaving room for subsequent extension. It was very desirable that railway managers, and officials generally, should be able to consult well-arranged plans, if the engineer had not a fair chance; and, on the other hand, engineers were equally bound to be thoroughly acquainted with the details of management and traffic. Engineers should rely upon their own judgment as to the relative value of different modes of accommodation.

The subject was divided into three branches:

1. Passenger stations.
2. Goods yards, wharfs, and depôts.
3. Locomotive and carriage factories.

Terminal station comprised a great variety of details, each of which must be considered separately. The approaches required width and space, and the longest possible setting down pavement, to be elevated above level, but not to be obstructed by columns. Numerous entrances should be provided to the offices, but they should all be on one line of frontage. The position of the main buildings, in relation to the platforms, was the distinguishing feature in all termini. In this respect they might be arranged under three classes,—those in which the offices were parallel to the departure platform; those in which they were at right angles to it; or the transverse system, and the best, when combined the objectionable features of both the others, without their merits. Various conveniences attached to the first, but it was not suited for a large, mixed, long and short traffic, and arrangements for meeting its defects were seldom satisfactory. The second, or transverse plan, was preferable in every way, as separating incidentally location and extension of platforms and easy supervision. The leading defect in this system was the passage of luggage along the platforms—to obviate which various suggestions were made. The general arrangements of the offices, waiting-rooms, &c. were given in detail, and it was urged, that space was the great point to be attended to, with careful organisation of the booking system, to avoid confusion and error.

The division of classes, both before and after booking, was a difficult problem. The continental plan of providing separate seats for each class, and not admitting the passengers to the platform until the departure of the train, was suggested as presenting some advantages. The different arrangements for sorting classes, by barriers or otherwise, were reviewed,—but it was thought that none had yet been devised which could be considered satisfactory.

In connection with this branch of the subject, the plan of booking and paying for all luggage, so as to curtail the quantity, and to insure greater punctuality, was advocated.

The platforms should be about 2 feet in height, and never less than 20 feet in width, 30 feet to 40 feet being preferable. The best covering was York stone slabs, laid hollow. slate was considered objectionable, as it was liable to laminate on the under side, out of sight, and to give way suddenly. Where rails crossed the platforms, inclines were thought to be superior to bridges, or other contrivances. With a view to prevent accidents from persons getting in or out of trains in motion, "portcullis" barriers, rising from below, were suggested.

Great attention was now paid to the roofing over stations. Large spans were deemed to be extravagant and unnecessary, if the platforms were wide enough to admit of columns being placed on them. The height and ventilation were the great points to be attended to; and the use of a large proportion of glass was to be deprecated. Wood sash bars were preferable to iron, and boarding for the sheeting had been found to be the best plan, if laid horizontally, and not diagonally, or vertically. The louvre ventilators should be constructed to open and close at pleasure, and they should be provided in abundance. Galvanized iron was not admissible in a large town, or where engines stood under it, as it perished very rapidly under the noxious sulphurous vapour it could, however, be advantageously used in the country.

The second part of the paper alluded to the best position for docks for loading and unloading carriages and horses, which was admitted to be a subject of some difficulty. The author did not consider that two sets were essential, and preferred placing them, when only one was adopted, at the extremity of a terminus instead of at the entrance. Facility in working them did not depend so much on the number as on the convenience, in the way of turntables and spare lines, for keeping up a regular succession of trains and boxes.

The correct arrangement of the lines of way was an essential ingredient in the convenience of the station. Though subject to be controlled by circumstances, there were some general rules which were found to apply. 1st. That every traffic line should have one, or more, spare lines communicating with it. 2nd. That all the lines should communicate with each other, both directly and transversely. 3rd. That sharp curves should be avoided.

The relative merits of different points and crossings were next discussed, and it was remarked, that the great variety of inventions daily brought under notice, rendered a selection somewhat embarrassing; but it was thought that the simplest form, made of the best metal, would be found to answer best. The use of turntables should be avoided as much as possible, owing to their noise, the cost of maintenance, interference with platforms, &c. and transverses should be employed in preference. Paving with stone, or hard bricks, between the rails, was necessary in all large stations, care being taken to provide for drainage, both longitudinally and transversely. Engine turntables were essential to a terminus, but an engine-shed was not absolutely necessary, though it was a great convenience. If constructed, it should be in immediate communication with the engine table, &c. and be large enough to contain as many engines as might be required to stand at night, or to be in reserve during the day. Various details were given as to the construction of the sheds, particularly as to ventilation, gas and day light, water supply, engine pits, &c. The different arrangements for supplying coke for the engines, with despatch and economy, were reviewed, and it was stated that separate lines for the trucks to stand on, so as to deliver direct into the tenders, were preferable to a store or depôt on the spot.

It was recommended, that the collection of tickets should always be made at the last stopping station, instead of at a ticket platform, with loop sidings, or other contrivances at the terminus, that convenient and ample standing room, well paved, roofed, and sheltered from the weather, should be provided for public and private carriages waiting the arrival of the trains; and that the exit and entrance gateways should be kept quite distinct, ample space being provided for reserve cabs, &c.

Great stress was laid on the policy of furnishing convenient and comfortable rooms for the use of the several classes of men engaged in a large station, handy to their work, and under the eye of their several foremen.

The various accessories to a station were next taken in detail; such as the lamp and store rooms, small workshops for mechanics required for trifling repairs, coach-houses and stables for post-horses, the urinals and closets, both for the public and for the employés, and the means of sweeping and cleansing the entire area of the terminus.

Attention was next directed to small terminal stations, and various diagrams to illustrate different principles were explained. The first, a provincial terminus, was designed to accommodate the joint traffic of two companies. The main feature in this plan was, that the buildings and platforms was all placed on one side of the line; the arrangements being such as to allow of the trains of both companies arriving and departing at the same time. The connection with the goods department and locomotive sheds were commented on, and remedies were proposed for some defects which had been occasionally noticed. The next design was for the terminus of a single line branch, involving but one platform. In this case it was necessary to combine the goods department more intimately with the passenger lines, and to provide for the quick despatch of return trains, immediately on arrival. In such cases it was often convenient and desirable to construct small gas and water works, to serve both the station and the town, or village; also to arrange all the lines and buildings so as to admit of extending the railway further; and to provide good residences for all the employés. The terminus, for a large, intermittent traffic, occurring during races or fêtes, required to be supplied with an abundance of sidings at both ends of the platform, so as to hold several trains, to be despatched, as filled, in rapid succession.

GLASGOW.

HILL-HEAD FREE CHURCH COMPETITION.

I BEG to hand you the details of a competition in which I was unfortunately induced to take part, under the delusion that fair play might be expected from a committee composed of gentlemen of the highest respectability.

It having been determined to erect a new church here, a deputation from the promoters of the scheme called upon me and other architects and invited me to submit designs in competition. No remuneration to the unsuccessful competitors was promised; the only inducement to compete being that the author of the best design would be employed as architect, *provided his design could be erected for 4,500l.* Subsequently another was added to the list of competitors, and we received intimation that the amount we had to work upon would be raised to 4,700*l.*; but we were particularly cautioned against overstepping that limit. The designs were lodged with the chairman of the committee on the 9th of April, and were for several weeks exhibited to the parties interested. The committee having fixed on what they considered the best design, proceeded, with the aid of a competent surveyor and *the architect himself*, to ascertain the cost of carrying it into execution, and were satisfied that it would cost upwards of 6,000*l.*—or a third more than the sum to which we were restricted. Well; of course they rejected this design and proceeded to ascertain the cost of the second best. Nothing of the kind. They proceeded to concoct the following minute, a copy of which they instructed their secretary to forward to each of the other competitors, *inter alia*.—

"The committee then proceeded to further consideration of the plans, and, after very mature deliberation and discussion, resolved to place the work in the hands of ——; *not with the view or in the hope* of the proposed church being erected in accordance with the plans submitted by that gentleman, at all events in their present form, as so doing would apparently demand a larger outlay of money than the committee contemplate; but because these plans give evidence of a general conception of the requirements of the site which more fully meets with the approval of the committee than the designs submitted by the other competitors."

An admirably candid confession on all events, it must be allowed. How strange it seems, however, that these very respectable gentlemen, during their very mature deliberation and discussion, never happened to think of the folly of expecting as good a plan for 4,700*l.*, as for 6,000*l.*! How strange that they should deem it quite unnecessary to respect their own conditions or to keep their agreement with gentlemen whom, in charity, they might imagine to have at least as much regard for truth and honour as themselves! COMPETITOR.

MASTERS AND MEN.

SANITARY ARRANGEMENTS.

I QUITE agree with your correspondent, "An Operative," on the advantage of a mutual understanding between masters and men. I also regret with him the absence of that recognition on the part of some masters of our services which the mere payment of our wages does not afford. Masters have no occasion to fear that affability which it is said begets contempt, for they could be affable, and that would beget respect. I have had the pleasure to work under an architect who was affable without being familiar, and who treated the men as men, as a thorough workman, and who would listen to any suggestion that their practical experience had taught them, for which they felt pleasure in giving out of respect to him. On the other hand, masters who have grudgingly conceded the four o'clock time on Saturday, and keep their men waiting about two or three hours for their wages, instead of paying them at once, if they only could hear the disrespectful remarks,—which such conduct justly deserves, I think they would find it would be to their interests to pay earlier, and, by a smile or nod of recognition on their parts, gain the respect and goodwill of the men, which would be a step towards a better understanding between masters and men. But I must not forget, in this regret at having to state such disagreeable facts, the efforts that are being made by employers and others to shorten the hours of labour and improve our dwellings, which in your columns one reads frequently of the successful results of the half-holiday movement, and the building of improved dwellings, with the accommodation of warm baths and improved ventilators, to cheat the inmates into better air and cleaner habits; and, although not progressing as fast as many wish, yet the progress that has been made I think, very encouraging. But my employment, which takes me to the mansion of the noble one day, and to the dwelling of the poorest of the poor the next, proves to me the necessity of agitating the question of sanitary reform more light, now we have got improved water supply water-closet accommodation in some of the courts alleys,—the want of which struck me very forcibly other day after I had been to work in the morning at house of a Member of Parliament, in which there was almost every accommodation the heart could wish for. I have very little doubt if I had gone through the first thing in the morning, and had the street door opened to me it, I should have felt that want of ventilation which I have felt under similar circumstances in even larger houses, but which the inmates do not observe,—but if they did try the experiment, they would be astonished at a close fetid atmosphere they had been sleeping in. I suppose the lungs require as much pure air at night as in the day. Leaving this home of wealth and grandeur, and calling to do some work at one of extreme poverty and gloom, comparison with which would be far more odorous, and on my remarking to the Pancks of the locality how close the house was, he said, "Lor, bless you, they never open the windows;" at which I was not much surprised, when I saw the small quantity of fire the poor woman had in the grate, and who, on my asking to have some leave my tools, said, "O yes, I am not going out, and expect the Tract ladies to call, and I hope they will do take the bag for a bag of coals because they sometimes give me a coal ticket." Then these words occurred me: "And God said, let there be light" But where was the light? Perhaps, shut out when the houses were built to evade that odious window tax, but now that has gone glass is so cheap, if those ladies would be so kind to act as Sanitary Missionaries also, they would, I think, add to their sphere of usefulness. And when I reflect how I have seen ladies gaze upon their beautiful ferns in their glass cases, and observed the gratification and admiration of their beautiful plants has called forth, and heard them plead for as little delay as possible in the repair of a fractured square of its crystal house, I would say to them think what would be the fate of their pets if they were transplanted to one of these houses of darkness in close, poor old soul had lived five and twenty years, but which the young children of other poor mothers cannot be, for at the end of the court a black coach was waiting to convey to a place of interment the bodies of two poor children of one family, and another was expected to die before they returned from the funeral of the others. And if any of the ladies by chance should read this, the next time they gaze on their beautiful plant, the maiden's hair, let them think of the poor mothers whose youthful maidens are pining and dying, for the want of that light and ace of that air which they are so anxious to exclude from their plants while their crystal homes are being repaired. A WORKMAN.

TERRA COTTA FOR DECORATIONS.

So much having been said about the tardiness adorning the many positions of London favourable for statuary, and the many unoccupied pedestals; and as expense seems the obstacle; why adopt terra cotta, as it can be modelled, and fired, without moulding, to answer every purpose? The smooth hard texture, its clean bright and stone colour, when well executed, should commend it, even more than the invisible green of the metal, as a correspondent observes, generally used, which seems to throw the small details into the shade. Of the great durability of terra cotta, I need hardly write, as that is fully proved by ancient examples: even the fragments of tablets in the British Museum from Koyinjick are as sharp as ever, and works in this country executed for a period of nearly a century, are perfectly sharp, while stone in the same buildings is fast giving way to decay; one especially, I may mention, the Nelson monument at Yarmouth, near the sea.

A correspondent, "L. Y. M." speaks highly of its use at Milan, and urges its use more in this country: what has been done there has been, and can be equally, and may be better, done in this country.

I consider the effect of the large black-looking surface of the panels of the Nelson monument, Trafalgar-square, to be inferior to what a material would have been, approximating to the colour of stone, leaving as it does now in distant effect such a narrow margin to the sides, something akin to the effect of a heavy stone front on small iron columns: then if terra cotta had been adopted for the lions, they might probably have been in their places years ago, and, by being smoothly and well executed, satisfactory. I say smoothly, as it can be, to keep the cleaner for towns, or it may be finished with a granulated surface like stone, if desired. It can be so varied in colour that with taste the architect may produce pleasing results at little cost.

For architectural and other decorations, there is no better or more economical material, but I don't recommend it for *long* lines of mouldings, where perfect straightness, parallel breadth, and thickness are necessary, because the uncertainty of quite equal shrinking in burning causes waste, so that the cheap though less durable kinds of stone supersede it in cost, the durability of which is seldom questioned. J. PELHAM.

CENTRAL BAZAAR FOR THE EXHIBITION AND SALE OF WORKS OF ART.

SIR,—Paris being the centre of the artistic world, the following idea occurred to me while there last autumn, which I communicated to my friend, M. Thénard, and I am happy to say it is about to be realised by him. I proposed, and again propose, for the plan would suit London for England, as well as Paris for the world:—

1st. The forming a company to erect in Paris an immense and splendid mart, for the sale of antiquities, pictures, &c. from all parts of the world, under certain peculiar arrangements. M. Thénard has proposed in *Les Salons de Paris*,—*Le Cercle Universel*, comprising—

1. A grand hall for meetings and conversations, of the grandest architecture, decorated and furnished in the style of the halls of the Crusades, at Versailles.

2. A hall for reading, having the journals of all countries, offices for writing, &c., and having a library composed of the best works, the designs, and lithographies of all nations.

3. A hall of games and amusements, such as are lawful.

4. A *café*, the administration of which shall be confided to the best providers of food.

5. A hall of plans, containing plans in relief of Paris, of the environs of Paris, of all the lines of railway, of steam-boats, details of daily amusements, play-bills, &c.

6. A hall of interpreters, where the stranger may find all necessary directions, the names of all the travellers in Paris, the addresses of the best business houses, details of carriages for hire, places at theatres, &c., and guides to Paris.

7. A vast covered garden-hall, divided into saloons of sciences, of arts, of commerce, and industry. In these saloons there shall be a permanent exhibition of statues, statuettes, paintings, engravings, bronzes, jewelry, and objects of fine art.

It is satisfactory to find that M. Thénard's project is being supported by many capitalists, and a company is formed at this moment.

I am desirous the idea should be known in England, and ventilated; and you are the medium for that purpose. It would be an immense boon to poor and clever artists, and would give a great and permanent stimulus to the sale of works of art. PETER WHELAN, Numismatist.

IRISH NEWS.

THE new convent buildings at Trim occupy an area of about 180 feet square, and are quadrangular on plan. A convent chapel will adjoin the present parish church, and at the west end will be a handsome and lofty tower. The ground floor comprehends reception, confraternity, and school rooms, culinary offices, &c. and in the second story are dormitories, cells, novitiates' and community-rooms, &c. Open timber-work throughout, stained and varnished. Style, Gothic. Expenditure, about 7,000*l.* collected through the exertions of the Rev. Dr. O'Connell, P.P. At present the buildings are up to first floor, and the works are being pushed forward by Mr. R. Davis, the contractor. The materials used are hammered black stone for the walls, with limestone dressings. Mr. W. F. Caldbeck, of Dublin, is the architect.

The same architect has also designed convent buildings and new parish church, which are now in progress of erection at the pretty village of Clondalkin, near Dublin, in the immediate vicinity of the Round Tower, said to be the most perfect specimen extant, and on the estate of F. W. Caldbeck, J.P. They are quadrangular on plan, the church occupying one side; the schools, which are to accommodate 300 children, another; the culinary offices, refectory (24 feet by 17 feet), and principal reception-room (28 feet by 17 feet), a third; and the entrance-buildings and private chapel the fourth side of the quadrangle. On the second story are dormitories, novitiates, and community-rooms. The church is to have an open roof, and the plan consists of nave, aisles, chancel, and tower at the junction with the convent chapel, and is lighted from ends and flanks by windows with tracery in the heads. The tower will be about 80 feet high to top of cross, and divided into three lengths, terminated by a rusticated pyramidal roof. A bower-window, carried up the two stories, and with chiselled stone roof, is a conspicuous feature in the gable of entrance-building, in which the principal reception-room is situated. Portion of the convent is completed, the church half built, and up to the present time 3,000*l.* or 4,000*l.* have been expended. The exterior is decorated with buttresses, ornamental windows, with label mouldings and heads, gables, &c. and the material is black stone, with limestone dressings.

Alterations are to be made to the church of Stackallen, county Meath, according to plans, &c. by the architect to Ecclesiastical Commissioners; also to the churches of Castlerickard and Clongill, in the same locality.

The new church of Kilcronaghan, has been consecrated by the Lord Bishop of Derry and Raphoe. It is in the immediate vicinity of the town of Tobermore, and stated to be a handsome edifice, capable of containing 250 persons.

Books Received.

VARIORUM.

THE "Fourth Annual Report of the Directors of the Association for Promoting Improvement in the Dwellings and Domestic Condition of Agricultural Labourers in Scotland" has been printed for the association, by Messrs. Blackwood and Sons, of Edinburgh and London, and is sold to non-subscribers at 1s. each copy, being free to subscribers. Although partly devoted to matter of more special interest to Scotland than to England, this publication contains not a little matter of general interest. Besides the main report, there is a supplementary report, with hints on cottage building, and four designs for cottages, by the architect and secretary to the association, Mr. James C. Walker; and an appendix containing extracts from the chairman's correspondence with members, and a report of the proceedings at the fourth annual general meeting. Considering that the chief landed proprietors of Scotland, from the Dukes of Buccleuch and Sutherland downwards, are members of this association, it may readily be conceived that such a publication as this, embodying an abstract of the active measures now in progress towards the improvement of cottages and bothies in the agricultural and pastoral districts of Scotland, must contain the substance of a good deal of practical and valuable experience on the subject; especially when it is considered that although the object of the association is primarily architectural, its title implies that through the improvement of the dwellings of agricultural labourers, it distinctly aims at raising their moral and intellectual condition.——The very able lecture of Dr. Guy, "On the Sanitary Condition of the British Army and especially on the want of space in Barracks," which first appeared in print in the pages of the Journal of the United Service Institution, has been reprinted in a separate form and published by Renshaw, 356, Strand, "in the hope that a simple and popular exposition of the case of the British soldier, divested of details which would render it unfit for general perusal, will tend to promote his best interests and to secure to the nation the inestimable advantage of a healthy British Army." In this lecture or essay Dr. Guy demonstrates clearly, and apart altogether from the official report lately issued,—firstly, that a very high rate of mortality prevails among our soldiers generally, but especially our foot soldiers; secondly, that our barracks and hospitals are greatly overcrowded; and thirdly, that this overcrowding issues in fever, cholera, and

such like diseases on the one hand, and diseases of the chest, but especially consumption, on the other. As regards consumption, is it not a lamentable fact that, keeping out of view the mortality amongst our soldiers, one of the most "frightful examples" adduced by the experienced author of the present lecture is drawn from the great fount of all publicity of facts and knowledge —the printing-office. There, overcrowding, closeness, heat and foul air from gas, &c. are so injuriously operative that consumption is fearfully prevalent, so much so in some instances that "it created the same alarm that a contagious fever would have done." Could any evidence more clearly prove the association between overcrowding and pulmonary consumption than the following statistical details of the comparative state of a number of compositors and pressmen at work in crowded and in less crowded premises.—"I encountered," says Dr. Guy, "104 men unfortunate enough to have less than 500 cubic feet of air to breathe, the average, of course, being much less than that. Now, these men had spit blood at the rate of 12½ in every hundred; and the same number, 12½, said that they were constantly suffering from what they called colds. I found another body of 115 men, who had from 500 to 600 cubic feet of air to breathe, and, therefore, very much more than the first group, of whom some had, as you have seen, as little as 202 cubic feet of air to breathe; and these 115 men, instead of suffering to the extent of 12½ in the 100 from spitting of blood, suffered at the rate of little more than 4 per cent.; while the liability to colds fell in nearly the same proportion. Lastly, I found a third group of 101 men who had more than 600 cubic feet of air to breathe, and their liability to consumption was still farther reduced to a little *less* than 4 per cent.; and their liability to colds to a little less than 2 per cent."——In "Nova Scotia considered as a Field for Emigration; By P. S. Hamilton, Barrister-at-Law, Halifax, Nova Scotia;" published by authority of the Provincial Parliament of Nova Scotia (Weale, 59, High Holborn, London), we have the advantages of the Nova Scotian peninsula set forth in an attractive light, in respect to its variety of soil, its minerals, woods, fishings, &c. as a field for British emigrants; and,—keeping out of view the superiority of our own favoured isles, arising from the benefit conferred by the warm gulph stream, which, generated in the tropics, flows around them as if cosmically arranged on purpose for *our* special behoof,—Nova Scotia does appear to be better adapted, from its almost insular nature on the Transatlantic coast, to the constitution of such islanders as ourselves, than the main land of America. The fertility of much of the soil is said to have been underrated on account of the barren nature of the granite districts about Halifax. About one half of the whole area of the peninsula is still in the shape of unsold Crown lands, much of it of great value, though obtainable for so small a sum as 1s. 9d. the acre, while similar land already cultivated is now valued and sold at 16*l.* to 20*l.* an acre.

Miscellanea.

Meeting of Nailmasters.—No Reduction of Wages.—At a meeting of nail-masters held at Dudley, a proposition for the reduction of the wages of nail-makers, adjourned for consideration from a previous meeting, was very fully discussed. The present position and prospects of the trade were considered: and, after careful deliberation and comparison of opinions, the masters came to the conclusion that there was reason to hope that the depression which has so long existed in the trade will be alleviated ere long, and unanimously agreed to the following resolution:—"That no reduction be made in workmen's wages, but that the workmen's list of August 26, 1857, be strictly adhered to."

Sale of the Art Treasures Exhibition Building Materials.—On May 5th, the anniversary of the opening, the sale commenced, Messrs. T. M. Fisher and Son auctioneers. About 200 persons were present. The lots to be sold numbered 600, and included 600 tons of wrought iron, in girders, principals, &c.; 900 tons of cast iron in columns, beams, gutters, and ornamental castings; 20,800 square yards of corrugated iron; about 35,000 square yards of boarding; 45,000 square feet of skylights and glazing; the white and gold doors to the queen's room; windows, doors, partitions, gates, many thousand yards of brick walling, and "other valuable property." The total receipts during the three days' sale were 8,500*l.*; the building cost 40,000*l.*

Birmingham Architectural Society.—The annual meeting of this society was held on Monday evening, at the rooms in Cannon-street, when the following gentlemen were elected officers for the ensuing year:—President, Mr. W. Harris; Vice-president, Mr. W. Martin; Treasurer, Mr. Charles Edge; Secretary, Mr. J. R. Botham; and, in the room of the two members of council whose term of office had expired, Mr. F. Empson, and Mr. J. G. Bland. Mr. D. W. Raimbach, Head Master of the Government School of Art, was elected an honorary member. The following resolution was adopted unanimously, on the motion of Mr. J. R. Botham, seconded by Mr. A. B. Phipson:—"That this meeting, being desirous of preserving Aston Hall in its integrity as a monument of architectural art of a past age, and learning with regret that a building of iron and glass is being erected against the terrace in front of the Hall, begs respectfully to urge the managers of the Aston Hall Company to take steps for the removal of the building, when it shall have been used for the inaugural festival.

Gas.—In the Commons, on the 7th inst., Mr. Byng having moved for a select committee as to metropolitan gas arrangements, Mr. Walpole, the home secretary, said he thought there was reason for complaint; and, after some further remarks by Mr. Ayrton, Mr. Locke, and Mr. Cox, the motion was agreed to. The Doncaster Gaslight Company have announced a reduction in the price of their gas to 3s. 9d. per 1,000 cubit feet, subject to the present discounts of five, ten, and twenty per cent. in proportion to the amount consumed. They have also reduced the rents of gas-meters.—The Wigan Gas Company have reduced the price of their gas ten per cent., so that the nett price will now be 4s. to small consumers, and 3s. 7d. to large.

The Metropolitan Railway.—Sir, I wish most respectfully to direct your attention to the Metropolitan Railway as affecting the future welfare of the metropolis. It is the opinion of one of the experienced engineers of the present day that it is a preposterous scheme. It is a plan not only ill-designed, but the proposed mode of working the traffic is utterly impracticable. In order to avoid the fumes from the furnaces of so many locomotives in their long tunnel, which would render it quite unsupportable, the directors state, in their advertisements, that "the trains will be impelled by locomotive engines moved by steam, generated from heated water (!), carried with the engines." That this is impracticable is not a mere matter of opinion, but of pure calculation. In consequence of the latent heat of steam, 300 gallons of heated water (the ordinary quantity in a locomotive boiler) will throw off only thirty-two gallons of water into steam, sixteen only of which would be steam at a working pressure; while the actual expenditure of water in high-pressure steam in the best locomotives amounts to eighteen gallons per mile. It is evident, therefore, that though in such a mode of working an acquired impetus might impel a train one mile, it would lack the power of starting after stopping at the first station. It is not necessary to go into other features—such as the extreme liability to danger from trains, each way, every three minutes, in a system of mixed gauge, artificially lighted; or the possibility of transferring, or otherwise manipulating so large a mass of "heated water" under a high pressure.—Pro Bono Publico.

The Hogan Fund.—A subscription has been commenced in Dublin, under good auspices, for the family of the late John Hogan, the sculptor, and a request has been forwarded to us that we would receive any donations that might be offered from the well disposed in London. We will willingly do so, and will transmit to the secretaries any sums that may be sent to our office.

The Officers' Residences, Dover Castle.—Sir, your Correspondent "B. F." at page 292, writing on "Military Architects," says: "Thus we have such unsatisfactory buildings as the officers' residences at Dover castle and the military chapel to the Canterbury barracks, built at great expense, and yet showing manifest want of knowledge in all the characteristics of mediæval design. Now this arises from the inflexible law of routine and a false notion of economy." What does your correspondent mean by these assertions? Let me inform "B. F." who seems to be not very well informed upon the subject, that the elevations for the Officers' new residences at Dover castle were designed by Mr. Salvin, and that Mr. Salvin has expressed to me his entire satisfaction with the way in which his designs have been carried out by the Royal Engineer Department: thus showing to your correspondent that "the inflexible law of routine" is not so "*inflexible*" as he imagines.—George Arnold, New Barracks, Dover.

The Society of Arts at Brompton.—The Conversazione of the Society of Arts at the Government Museum at Brompton, was a great success. The attendance was very numerous and the arrangements very good. Mr. Dilke, as chairman of the Council, received all the visitors; music lent its charms to the other arts, and all found something or somebody to interest them. Is there any good reason why other establishments intended for the advantage of the public should not occasionally be thrown open at night? Officials may, perhaps, think it worth while to turn this question over in their minds.

New Bridges at Drogheda.—Of the two new bridges which are about to be erected over the Boyne, Sir John Macneill has been appointed engineer in-chief. He attended, last week, says the *Drogheda Argus*, "when the plans of Mr. Bower, C.E. were submitted: he said no better plans could be given, but they were too expensive: he would give them plans of cheaper bridges, and no pier would be in the centre of the river. He said the bridges he would plan would cost in their iron-work but one-half the estimated cost of 10,000*l.* He would give a draft to Mr. Bower, and tell him what to do."

Electro-Telegraphic Progress.—Proposals are about to be issued, we hear, for the laying down of a second electric telegraph to America, by an Association to be called the European and American Submarine Telegraph Company, with a capital of 1,000,000*l.* in 20*l.* shares. Plymouth is to be the point of departure from the English coast, whence it is to proceed, *viâ* Cape Finisterre, Lisbon, and the Azores, to Boston, in the United States, or to the Island of Bermuda, and thence to Cape Hatteras in North Carolina. The total length would thus be nearly 1,000 nautical miles. The promoters state they have received certain concessions, with exclusive privileges, from France, Spain, and Portugal. It is also suggested that an advantage of the route would consist in the fact that the line could be continued from Lisbon to Gibraltar, so as to connect with the Indian communication by way of the Mediterranean. We have seen no directors' names as yet.

Explosion in a Sewer at Bermondsey.—On Monday before last, eight men were severely burnt by the explosion of foul air in a sewer running under the Neckinger-road, Bermondsey. They had all gone down the shaft near Christ Church, one of them carrying a lamp; and had not proceeded far when the explosion occurred. All managed to get out without help, notwithstanding their injuries, which in several cases were very serious.

New Theatre, Whitechapel.—The erection of a new theatre is to be immediately commenced on the site of the Pavilion Theatre, Whitechapel, destroyed by fire about two years ago. It will be of very large dimensions, and we are told will present several new features in construction and arrangement. Mr. Arthur Taylor is the architect.

Cambridge Architectural Society.—At the second meeting for the Easter term, Mr. W. M. Fawcett, Jesus College, read a paper on St. Michael's Church, Baslingthorp, Leeds. This church was built in a very poor parish in Leeds, and as a matter of economy the plan consisted merely of a nave and chancel, with a transept for the children, but no aisles. He discussed the question of increasing the thickness of a pointed arch towards the apex, and also the theory of throwing the glass in a window far back from the outer surface of the wall. Mr. J. W. Clark, Trinity College, then read a paper on the wooden churches of Borgund and Hitterdal, in Norway. They are both about 800 years old, and are noteworthy as being specimens of a genuine wooden architecture.

York School of Art.—The annual meeting of this school has just been held at the institution in the Minster-yard, York, Lord Londesborough in the chair. The chairman, in his address, expressed a hope that recent improvements under Mr. Swallow, the head-master, would lead to an increase in the funds. The report showed an increase of pupils from 103 to 126 during the past year. The debt was now reduced to 24*l.* The meeting was addressed by the Rev. Canons Harcourt and Hey, and by the master, Mr. Swallow, and other gentlemen.

"Strand Buildings." — These "improved dwellings for the poor," in Angell-court, are to be opened this Friday, the 14th inst. the Duke of Marlborough presiding. On Wednesday his Royal Highness the Prince Consort, attended by Colonel Ponsonby, inspected the "Buildings," and was received by Viscount Ingestre, M.P. chairman; Viscount Ranelagh, the architect, the builders, and others.

ompletion of St. Isaac's Church at ersburg.—The church of St. Isaac, at St. ersburg, the building of which has lasted y-two years, during which time it has swal- d immense sums, is now completely finished. edifice will contain six thousand people, and been lavishly adorned with gold, marble, mala- e and jasper. The pictures are by the hands of low, Bruni, Neff, Bassin, and Steuben. raved views of this church, and of the con- tion of the dome, will be found in the lder for 1848 (vol. vi.), pp. 594 and 607. Chevalier de Montferrand was the architect.

he late Mr. Herbert Minton. It is pro- d to erect a spire to St. Mark's church, quay, as a memorial to the late Herbert on, who not only resided, latterly, at Tor- , but largely contributed to the embellishment . Mark's Church there. An advertisement on subject appeared in our last number, to which rish earnestly to direct the attention of our ers. The sum required is 500*l*., and already derable subscriptions have been promised, on ition that the whole sum shall be forthcoming in one year.

ilmore Cathedral.—Sir, your notice of the ring of my design for Kilmore Cathedral, No. in the Royal Academy Exhibition, complains y of a want of description in the catalogue. forwarded the necessary description with the ring, I cannot understand why it should not t been inserted. I therefore take this means plain, that the new cathedral of Kilmore is urse of erection in memory of Bishop Bedell. t to serve as a cathedral for the united dio- of Kilmore, Elphin, and Ardagh, and will 6,000*l*. exclusive of stalls, bishop's throne, &c.

William Slater.

TENDERS.

r new church, schools, and master's residence, at uston, for Wm. Orme Foster, Esq. M.P. Messrs. ke and Lovatt, Wolverhampton, architects. Quan- supplied :—

	No. 1.—The Church complete.			No. 2.—The Schools and Master's Residence.			Total, including drainage, out-buildings, play-ground, boundary walls, &c.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
l and a	4,069	5	2	2,155	3	5	7,671	16	4
and G. vley	4,200	0	0	2,031	0	0	7,191	15	0
lliott (accepted)....	4,046	19	0	1,998	18	6	7,149	2	8

new sewerage works for Hackney District Board of s. Mr. James Lovegrove, surveyor :—

	No. 3 Contract.			No. 4 Contract.			No. 5 Contract.		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
ill	1,802	8	0	1,085	16	0	502	19	0
rethick	1,894	0	0	1,202	0	0	577	0	0
Wood	*1,524	13	10	1,016	0	0	465	4	6
urray......	1,719	2	7	1,028	14	2	499	1	10
Hocken ..	1,711	0	0	*989	0	0	*352	0	0
le	1,829	15	8	1,103	11	0	514	15	0
ragge......	1,963	0	0	1,168	0	0	476	0	0
ogers......	1,590	0	0	924	0	0	401	0	0

* Tenders accepted.

r new church, St. Simon's, Upper Chelsea. Mr. ock, architect :—

Kelk..........................	£4,439	0	0
Holland	4,390	0	0
White	4,263	0	0

r five houses, in New-inn-yard, Shoreditch, for Mr. ock. Mr. Fras. G. Widdows, architect :—

Rivett, J.	£3,647	0	0
Dove, W.	3,200	0	0
Sarjeant, J. F.	3,110	0	0
Roberts, R. E.	3,100	0	0
Tolley, G.	2,997	0	0
Child and Co.	2,990	0	0
Raby, J.	2,897	0	0
Wheen, G.	2,537	0	0

r the additions and alterations to the infirmary at the noaks Union Workhouse, Tunbridge, Kent. Messrs. on and White, architects. Quantities supplied :—

Grover, Sevenoaks..........................	£900	0	0
Wilson, J. London	888	0	0
Wells and Dartnell, Brasted	884	0	0
Hack and Son, London..........	789	0	0
Punnett, Tonbridge	698	15	0
Billson, West Malling	679	0	0
Constable, Penshurst (accepted)	620	0	0

r stables, including fittings, to be erected at Red-hill, ey, for Mr. Thompson. Mr. Bell, architect. Quan- supplied by Mr. E. J. Austin :—

Carter, London..........................	£1,129	0	0
Carruthers, Reigate	1,072	0	0
Wesley, Reigate	1,037	10	0
Adamson and Sons, Putney	1,032	0	0
Coleman, London	1,025	0	0

For the new cemetery chapels, lodge, mortuary, and entrance-gates, at Aberdare, Glamorganshire. Mr. W. S. Rampling, architect :—

J. Archbutt, Neath..........................	£2,397	0	0
Messrs. Williams and Venables, Aberdare	1,976	0	0
P. Ruce, Aberdare	1,890	0	0
T. Williams, Aberdare	1,840	0	0
J. Gabe, Merthyr	1,800	0	0
W. Prosser, Abergavenny......	1,800	0	0
D. Bevan, Aberdare	1,763	0	0
D. Prosser, Birkenhead........	1,713	0	0
H. Pritchard, Aberdare (accepted)	1,590	0	0
T. Davies, Neath..........................	1,476	0	0

For Dwellinghouse, Hadleigh, Suffolk. G. E. Pritchett, architect :—

Clarke, Hadleigh..........................	£1,253	18	0
Gibbons, Ipswich	1,168	0	0
Corder, Hadleigh	1,073	6	4
Spooner and Cooke..........	1,000	3	6
Oates, Cambridge	1,000	0	0
Raynham, Hounslow..........	979	0	0
Cornish, Ipswich..........	915	0	0
Luff, Ipswich (accepted)	908	0	0

For a small house in Fenchurch-street, City. Mr. H. J. Brown, architect. Quantities by Mr. J. S. Lemon :—

Thompson..........................	£628	0	0
Rivett..........................	583	0	0
Gresswell and Co.	546	0	0
Turner and Sons..........	540	0	0
Fisher..........................	512	0	0
Lawrence..........................	494	10	0
Hall..........................	482	0	0
Hocker	477	0	0
Ring and Stanger	475	0	0
Bishop	450	0	0
Single..........................	445	0	0
Cave	445	0	0
Lewis, Thorne, and Co. (accepted)	440	0	0

TO CORRESPONDENTS.

F. B.—T. E. K.—Provincial Reader (we are forced to decline). D. C. L. (ditto).—E. P. (ditto).—C. (ditto).—Honestas (in the case in question the *order* was disputed).—J. C.—F. L. (thanks).—Honor. —A Reader of the *Builder*.—Dr. M.—T. P.—J. La F.—B. R.—B.—E. A. S. —C. M. J.—F. B.—H. T. B.—W. W.—Birmingham Baths' Competition (before admitting any other letter on this subject we would know if the advertisement required that designs should be anonymous).— —F. C. P.—M. and W.—J. T.—J. G. R.—R. P.—F. D.—G. C.—Disappointed One.—R. B. (the walls have become *party-walls* unless any other arrangement is recorded by existing document).—S. E. M. Mr. B.—F. B.—Messrs. P.—J. R. (the information asked for was given in a former volume).—Lover of Fine-toned Bells.—W. R.—A Competitor.—J. McC.

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE. All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

"THE BUILDER."—Wanted, the Numbers for January 17, 24, and 31, 1857.—Apply at the Office of "The Builder."

HARGRAVE PARK, UPPER HOLLOWAY.—The Second Portion of the valuable Freehold Building Land, in several lots.

MESSRS. PRICE and CLARK are instructed to SELL by AUCTION, at GARRAWAY'S, Change-alley, Cornhill, on TUESDAY, MAY 25, at TWELVE for ONE, in lots, the very desirable BUILDING LAND, delightfully situate on the Hargrave-park estate, and lying between Maiden-lane and the Junction road, leading from Kentish-town to Highgate, and near to the Archway Tavern. The land will be lotted partly in acre plots, to suit large capitalists, and partly in building frontages upon the Junction road, and in the New-road, leading into Maiden-lane, with roads and sewers already made. The elegant villa residences, recently built, adjoining this spot, and already occupied by tenants of the highest respectability, afford an ample proof of the value of the land, the charming locality, the beauty of its elevation, the command of extensive views, the proximity to the metropolis, the rapid succession of omnibus accommodation, and other numerous advantages, all combine to render this land superior to anything now to be obtained in the vicinity of London. The property is rapidly rising in public estimation, and capitalists desirous of creating freehold ground-rents will do well to secure a few of these valuable plots.—The property may be viewed until the sale, and particulars, with plans, had ten days preceding the sale, of R. L. ROUMIEU, Esq. Architect, 10, Lancaster-place, Strand; of P. A. HANROTT, Esq. Solicitor, 36, Southampton-row, Russell-square; and at PRICE and CLARK'S Offices, No. 48, Chancery-lane.

MOORGATE-STREET, CITY.—VALUABLE BUILDING LAND.—By

MR. MASON, at the AUCTION MART, early in JUNE (unless previously disposed of by private contract), a valuable PLOT of FREEHOLD BUILDING GROUND, nearly square, occupying an area of 4,000 feet, adjoining Coleman-street-buildings, within 100 yards of the Bank of England.—Apply to Mr. MASON, 15, Finsbury-place South, who is instructed to receive proposals for the same.

TO CONTRACTORS AND OTHERS. River and Canal Barges.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the REGENT'S CANAL BASIN, Limehouse, near the Stepney Station, on TUESDAY, MAY 18, at TWELVE for ONE, the following superior BARGES, viz. :—"Alice," river barge (new), 70 tons; "Struggler," river barge (new), 80 tons; "Star of Hope," river barge (new), 80 tons; "Progress," river barge (new), 40 tons; "Stepney," river barge, 70 tons; "John," river barge, 60 tons; "Hope," canal barge, 80 tons; "Nancy," canal barge, 80 tons; "Onward," canal barge, 70 tons; "George," canal barge, 70 tons; and "Caledonia," canal barge, 65 tons. The barge, "Alice," was built by Mr. Fox, of Limehouse-hole; and the "Struggler," "Star of Hope," and "Progress," by Messrs. Talbot, in the very best manner; the others are in excellent condition and thorough repair.—May be viewed three days previous; and catalogues had on the Premises; and of the Auctioneers, Coal Exchange, and 40, Parliament-street, Westminster.

ROTHERHITHE.—To Lightermen, Timber Merchants, Contractors, and others.

MESSRS. EVERSFIELD and HORNE are favoured with instructions from Messrs Gassell, Brothers, to SELL by AUCTION, on the PREMISES, Canada Wharf, Rotherhithe, near the Commercial Dock Pier, on TUESDAY, MAY 25th., at TWELVE for ONE, the following superior RIVER BARGES, viz., "Frederick," open barge, 70 tons, nearly new; "George," ditto, 70 tons, ditto; "Richard," ditto, 70 tons, ditto; "William," ditto, 60 tons; "Thomas," ditto, 60 tons; "Emma," ditto, 30 tons; "Julia," ditto, 25 tons; "Frances," ditto, 40 tons. Also a quantity of excellent Mooring Chain, Barge Oars, Tarpaulins, &c.—May be viewed and catalogues had on the Premises, and of the Auctioneers, 40 Parliament-street, or Coal Exchange.

NORWOOD.—Valuable Freehold Building Site, near to the principal entrance of the Crystal Palace, containing about three acres, with a commodious Chapel on one portion of it; also an abundant supply of pure water, raised by steam power from a capacious well.

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District School to SELL by AUCTION, at the MART, on FRIDAY, JUNE 4th, at TWELVE, in Two Lots, the valuable FREEHOLD PLOT of GROUND, containing three acres, or thereabouts, forming the angle of the two roads called Central hill and Weston hill, Upper Norwood, embracing the most extended views, both towards the metropolis, as well as over the counties of Surrey and Kent, for which this locality is so celebrated. One lot will comprise the Chapel, erected but a few years since, and built in Gothic Style, of Kentish ragstone, and capable of accommodating one thousand persons, with vestry room and raised gallery, adjacent to which is a building of one story, 127 feet in length, adapted for a school-room, and a well of water. There is also sufficient space for a residence and garden, and if the school is not wanted a valuable frontage to the road for building purposes would be acquired. The other lot will comprise the remainder of the ground, 160 feet in width where separated from the last lot, and having a frontage of 384 feet to Weston Hill, and 594 feet to Central Hill; on one portion of it there is a well of pure water, with pumps and steam engine capable of raising not only the quantity likely to be required on this estate, but offering a good opportunity of supplying the surrounding district; there is also a smaller well upon the same lot.—The property may be viewed, and printed particulars with plans may be had, ten days before the sale, at the Office of Mr. SAMUEL HEATH, Solicitor, 10, Basinghall street; also at the Woodman Tavern, at the Mart, and of the Auctioneers, &c., 40, Parliament street, Westminster.

NORWOOD.—LEASEHOLD GARDEN GROUND AND PREMISES AT WESTOW-HILL.

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District School, to SELL by AUCTION, at the MART, on FRIDAY, JUNE 4, at TWELVE, a Valuable PLOT of GARDEN GROUND, with Shrubs and Fruit trees thereon, and Farm buildings at the rear, with Road thereto, the whole occupying an area of 181 feet frontage to the road, by 379 feet deep. Held for an unexpired term of eighteen years, from March last, at a ground-rent of 27*l*. a year.—May be viewed and printed particulars had, ten days previous to the Sale, at the Office of Mr. SAMUEL HEATH, Solicitor, 10, Basinghall street; also at the Woodman; at the Mart; and of the Auctioneers, 40, Parliament street, Westminster.

TO BUILDERS, CABINET AND PACKING-CASE MAKERS, AND OTHERS.

MR. C. F. SMYRK will SELL by AUCTION, on the PREMISES, Grove-lane, Camberwell, on MONDAY, MAY 17th, at ONE, the STOCK IN TRADE of a BUILDER, including dry white and yellow planks, deals, and battens, cut and uncut, prime [illegible] timber, carpenters' benches, 100 square well-seasoned [illegible], spare [illegible] lime [illegible], coach house gates, and stable fittings, pebble paving, &c. On view Saturday prior and morning of Sale.—Catalogues on the Premises, and at the Auctioneer's Office, corner of Grove-lane, Camberwell.

AN ARCHITECTURAL DRAUGHTSMAN, of energetic and expeditious habits, is open to a RE-ENGAGEMENT. He has been in some well known architects' offices for seven years, and is accustomed to prepare finished, working, and perspective drawings; he is well versed in construction in the Pointed styles. First-class references.—Address, GAMMA, Office of "The Builder."

TO ARCHITECTS AND OTHERS.

A THOROUGHLY practical and experienced CLERK of WORKS is in want of an immediate ENGAGEMENT. References, first class.—Address, prepaid, with particulars, to "CALPHA," Office of "The Builder."

TO CIVIL ENGINEERS AND SURVEYORS.

AN ASSISTANT desires an ENGAGEMENT; is competent in town and estate surveying, levelling, mapping, measuring up works, and has had much experience in drainage and other works under Local Boards of Health. Terms moderate.—Address, J. C. 203, Western road, Brighton.

TO BUILDERS, CONTRACTORS, AND ARCHITECTS.

A SURVEYOR, of considerable experience as a measurer, and who has a thorough knowledge of construction and planning, wishes for an ENGAGEMENT. (Abroad not objected to.)—Address H. H. 1, Great Ormond-street, W.C.

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AN ASSISTANT is open to a RE-ENGAGEMENT. He is accustomed to the general routine of an office; to get out fair and working drawings, and prospectuses; has also a knowledge of surveying, and can assist in taking out quantities.—Address, A. Z. 6, Quality-court, Chancery-lane, W.C.

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WANTED, by a respectable Young Man, a SITUATION; is a good Plumber, and will fill his time up by [illegible] if [illegible] Address, [illegible] Nelson's Library, 3, Paternoster-row, London.

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WANTED, a SITUATION, on a Nobleman's or Gentleman's estate, as CARPENTER. He [illegible] can [illegible] understands [illegible] can be [illegible] Address, L. Q. L. 3, Bedford Post-Office, Bedford-row.

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WANTED, by a respectable Man, the SITUATION of [illegible] MAN PAINTER, [illegible] can be [illegible] Address, A. B. K. at Mr. Dexter's, [illegible] Street, Queen's Square, Bloomsbury.

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WANTED, a steady active Man, as FOREMAN of PAINTERS, must be a good Grainer and Writer and [illegible] Address and [illegible] Apply personally to Mr. P. ANEY, [illegible] Upper Wh[illegible]

WANTED, for a Young MAN, 19 years of age, a SITUATION as IMPROVER for two years, in the building [illegible] Address, H. B. 6, White Hart passage, Saltshouse-lane, Hull, Yorkshire.

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WANTED, a SITUATION as FOREMAN, or WORKING FOREMAN, by a middle aged Man [illegible] thoroughly [illegible] all the different branches [illegible] ing, [illegible] and [illegible] work, &c.—Address, J. C. T. 4, Grove-terrace, Nassau-road, Hoxton.

WANTED, by a Young Man, a SITUATION as a handy and useful man in PLUMBING, PAINTING, and GLAZING; is in general a good distemperer, able to make himself generally useful [illegible] and [illegible] Address, Mr. GRINSTEAD, 6, Paddington street, Baker-street, Marylebone, for H. H.

WANTED, by a respectable, steady Man, a SITUATION as HEAD CARPENTER on a gentleman's estate, or WORKING FOREMAN to a country builder.—Address, W. M. Little Grove house, High street, Kensington.

TO GAS FITTERS AND BRASS FINISHERS

WANTED, a SITUATION, by a Lad who has been five years in the business. Age 18. Good references [illegible] Apply to [illegible] W. 13, London-terrace, Hollywood-road, Brompton.

TO CABINET MAKERS AND OTHERS

WANTED, by a steady Young Man, CONSTANT EMPLOYMENT as CABINET MAKER, PAPER HANGER, or GENERAL PLANNER. Good character can be [illegible] Address, A. B. C., 5, Dyott-street, Bedford-square, W.C.

TO CARPENTERS AND JOINERS

WANTED, by a Young MAN, 19 years of age, a SITUATION as IMPROVER to the above. Has experience in the trade.—Address, T. S. L., Crossstreet, Hatton-garden, W.C.

TO FREEHOLDERS AND OTHERS

WANTED, from Twelve to Twenty Acres of LAND, for a Cemetery, about four miles from Cornhill—Surrey side preferred. [illegible] Apply to Mr. CHARLES FIELD, [illegible] Southwark.

WANTED, by a first-class PLUMBER, a CONSTANT SITUATION. Has a good knowledge of gasfitting. No objection to country or to fill up his time with [illegible] Good reference. Apply, A. B. 44, Mr. Daly's, Newsagent, [illegible] Bridge, Lambeth.

PARTNER WANTED in an old-established and increasing business accountancies with the Building trade [illegible] The present proprietor undertakes the practical part entirely. Knowledge of accounts, ability to conduct or assist [illegible] Apply by letter only to Messrs. [illegible] and G. BARNARD, [illegible], 11, Verulam-buildings, Gray's-inn, W.C.

FREEHOLD GROUND for BUILDING An ELIGIBLE PLOT of about Half an Acre, situate at the end of Denmark-street, Camberwell, having a frontage to the present [illegible] about [illegible] feet, by a depth of 200 feet, and to the rear [illegible] feet. SOLD by PUBLIC AUCTION, [illegible] in JULY, if not [illegible] sold or disposed of.—Apply to W. SKEEL, Pinner's Hall, Old Broad-street, City.

THE PROPERTY of a WIDOW LADY.—TO BE SOLD, [illegible] of the remainder portion of a valuable ESTATE of PUILDING GROUND, [illegible] recently sold, to Mrs. [illegible] each having a frontage of 25 feet, as shown in plan. There is a large sewer recently finished, at a cost of 800l. The property is delightfully situated at the [illegible] of Hammersmith, Middlesex, and [illegible] Rate, but [illegible] Omnibuses pass the entrance of the estate to Knightsbridge and Piccadilly, and the [illegible] Notting Hill and Oxford-street every ten minutes. It is within three minutes' walk of the steam boat pier on the new railway, which will be opened on the 8th inst. The [illegible] price of 10l. per [illegible] will produce the [illegible] of 28l. per [illegible] Per Annum.

The lowest rental value for ground rent	£219 0 0
Rate [illegible]	35 14 .
Net income ..	£183 6 0

P.S. Every house [illegible] upon the estate is let (except one recently finished). Apply to E. S. RAINBOW, King street, Hammersmith, W.

TO BRICKMAKERS. -TO BE SOLD by PRIVATE CONTRACT, a FREEHOLD BRICKYARD (comprising about five [illegible] well-tried white and red earth), plentiful supply of sand and water, situate within a mile of Lowestoft, and convenient for water carriage.—For [illegible] apply to Messrs. REYNOLDS and PALMER, Solicitors, Great Yarmouth.

RIVER-SIDE PREMISES.—TO BE LET, DESIRABLE PREMISES, at 49, Bankside, Southwark, suitable for a Builder, or any other similar Trade, containing large workshops, timber store, sawpit, large yard, stable, dwelling-house for foreman, &c. Rent [illegible] including [illegible] fitted for loading with crane.—Apply as above.

ARCHITECTS, or others, requiring a [illegible] for [illegible] PROFESSIONAL RESIDENCE, with [illegible] Office, [illegible] can [illegible] leave the same at Michaelmas next, by applying to Mr. HAMILTON RANDSLEY, [illegible] Old Cavendish-street, W.C. The Board of Health Architect has surveyed the above premises, and the house for the last seven years.

TO SMALL BUILDERS. TO LET, a First-rate WORKSHOP, at the West End, fitted up with central Benches, Stock and Conveniences, &c. Apply to ANON, Office of "The Builder."

BUILDING LAND TO BE LET, well adapted for fourth-rate houses, being a turning out of the main road, near Bow Church [illegible] Apply to Mr. PUNCH, [illegible] Road, Bow.

TO BUILDERS and CAPITALISTS.—A Gentleman, having a long lease from the freeholder of small eligible land, in the [illegible] of Bexley, [illegible] Road, [illegible] Station, and CITY [illegible] desires to [illegible] BEST-OF-WAY [illegible] Office of the Estate, Bexley, Kent, or to TAKE the BUILDING, or take a Building Lease of the Land.—All particulars will be given on [illegible] to post [illegible] to Mr. SAMUEL PANNOM, Solicitor, No. 1, Pump-court, Temple, E.C.

TO ARTISTS. Langham Chambers, Langham-place, Portland-road, TO BE LET, an excellent STUDIO and BED-ROOM, also, a STUDIO and APARTMENTS, together or separate, for a SCULPTOR or PAINTER. Well [illegible] Apply to Mr. [illegible] Langham Chambers, Portland-road.

ELIGIBLE BUILDING LAND to be LET, At SYDENHAM, near the Railway Station and New Church, adapted for Villas and Shops

MITCHAM, [illegible] MORDEN, and CLAPHAM, with eligible frontages to the main roads.

BROMLEY, MIDDLESEX. Well [illegible] frontages to Bromley-street and [illegible] Road, for Pairs, Detached and Semi-detached Villas.

For particulars apply personally to Messrs. Crowter, Surveyors, Land Agents, and Auctioneers, 7, Bedford-row, Gray's-inn.

BUILDING GROUND, at Camden-town. TO BE LET, for the term of 75 years, a [illegible] frontage, and of [illegible] depth, situate in Bayham-street, near Park-street, eligible for two private dwellings or shops, and would readily let at 45l. per annum.—Apply to Mr. S. H. LINDLEY, Agent, 19, Catherine-street, Strand.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Manufactured by Pomphrey Warings on sale or hire. Orders by post receive the most prompt attention.

H. PIGGOTT,

115, Fore-street, City, Manufacturer, by appointment, to the Master, Sheriffs, and Honourable Board of Ordnance.

WHITE BRICK ARCHITECTURE.—ARCHITECTURAL WHITE BRICK MOULDINGS, of [illegible] design, [illegible] the [illegible] and [illegible] to [illegible] Also, PAVING BRICKS of the [illegible] of the Patent White Paving Brick, Roofing Slates of [illegible] Address, [illegible]

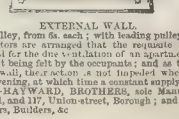
TO CONTRACTORS and BUILDERS.—For immediate SALE, large quantity of PORTLAND STONE, shipped direct from the quarries, in the Wyke steam vessels at Rotherhithe.—For price, &c. apply to Mr. G. PAWN, 123, Stanley-street, Pimlico, S.W.

TO FREEHOLD LAND SOCIETIES, RAILWAY COMPANIES CONTRACTORS, &c.—I GRAHAM and CO. Barge Yard, Bucklersbury, London, E.C. having a large quantity of FENCING Larch and [illegible] Pales, [illegible] to deliver the same wherever it may be required, at reasonable prices.

MR. ALBERT SMITH'S MONT BLANC, NAPLES PORTFOLIO, and SWISS, EVERY NIGHT (except Saturday) at 8 & 15, Piccadilly, Tuesday and Saturday Afternoons at Three. Private [illegible] at the Box-Office, [illegible] between 10 and 5. Admission, 1s. and 2s. [illegible] to any part of the house.

ROYAL POLYTECHNIC. Vigorous production of novelties for the Winter Holidays. A Continental Tour, or Where to Go? and What to See? illustrated by a magnificent moving Diorama, painted by Mr. Charles Marshall, Esq., of "Her Majesty's Theatre," in which the spectator will be conducted [illegible] of interest in Germany, the Netherlands, Switzerland, Italy, Austria, and the [illegible] with H.R.H. the Prince Frederick William of Prussia. J. L. Molloy, Esq., will illustrate the "Continental Guide." Every Morning at Four, Evenings at Nine. Although a first-class Diorama is usually considered a good shilling's-worth, "The Celebrated Chinese Opera" [illegible] Evening [illegible] good, and will give their extraordinary [illegible] Nightly, and [illegible] the last two Nights of the Second Week [illegible] at Eight, and on Thursday and Saturday Mornings at a Quarter to Three. The popular Lectures on topics of universal interest by J. H. Pepper, Esq., are [illegible] the [illegible] Experiments, and [illegible] for which this Institution is so justly celebrated. Lectures by Thos. Griffiths, Esq., and J. L. King, Esq., the Dissolving Views, and the whole of the varied Polytechnic [illegible] Admission to the [illegible] to the whole, 1s.; Children under Ten, and Schools, half price.

VENTILATION—PURE AIR.



With single pulley, from 6s. each; with leading pulley, from 6s. 6d. These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 196, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c

O BUILDERS.—Eligible Plot of BUILDING GROUND, TO BE LET, for five or six Villas, in the best part of Wimbledon common, embracing views of the most picturesque description, and 15 minutes' walk from the station. There is not a house to be let of the character proposed to be built, in any part of the common. The owner of the land would guarantee the erection of Mansfield villas, and would be glad to make an arrangement with a builder for erecting a residence of the value of about 70*l*. per annum, on lease, for his own occupation: to be completed by the September or next. Further particulars of Messrs. LOCKWOOD, (CWOOD), and SYMES, Surveyors, &c. No. 1, Burwood place, Edgware-road, W.; or No. 44, Upper Baker-street, N.W.

SOUTHEND RAILWAY.—FREEHOLD LAND TO BE LET on Building Leases for Ninety-nine Years, near the Railway station at Southend, and immediately on the Cliff, overlooking the sea. First-class railway passes will be granted for 7 years at a low rate to every person building a house. Particulars of plans may be seen at the office of A. WIGHTMAN, Esq. Block Building, Benchurch-street; Messrs. HOLLINGSWORTH and GILMAN, 24, Gresham-street, E.C.; and of Messrs. DANIEL GRAY, 80*b*, and OAKLEY, Land Agents and Surveyors, 19, Waterloo-place, Pall-mall.

WOKING, SURREY.—TO BE LET, with immediate possession, within five minutes' walk of the Woking Railway Station, a modern VILLA RESIDENCE, with the requisite offices, consisting of drawing-room, dining-room, library, six bedrooms, bath-room, &c. with one acre of garden ground.—For particulars, apply to Mr. RICHARD CHURCHILL, 2, Lancaster-place, Strand, London, or to Mr THOMAS MILLER, at the Woking station.

TO BRICKMAKERS, BUILDERS, and OTHERS.—TO BE SOLD, the LEASE, with the PLANT and MACHINERY, of a BRICKFIELD, situate at Bromley, Middlesex, adjoining the Stockton, Darnington, and North eastern railways. The field occupies a site of two acres, with great depth of the finest brickearth, and sand; there is also an excellent supply of water. The machinery, which is new within two years, consists of a Chamberlain's machine, capable of making 10,000 bricks per day; pug-mill, sufficient for two machines; drain-pipe machine, and hoisting machine, worked by a 4-inch cylinder high pressure steam engine, and two boilers. There is also a circular saw-bench, for which profitable employment may be found in the preparation of pit wood for the collieries. There are 8 brick kilns, each capable of 250,000 bricks. The premises are held for 21 years, at the low rent of 50*l*. per annum, or 25*l*. per half-year. For further particulars, apply to Messrs. FULLER and HORSEY, Mincing-street, E.C.

OFFICES TO LET, in Parliament-street.—TWO FRONT ROOMS, one about 20 feet by 12, and the other, by 11, well lighted. Rent moderate. For particulars, address to Office, "The Builder."

MESSRS. JOHN and WM. EASTWOOD are now engaged to make engagements for the SALE of LOTS from the NEW CLAIMS for the coming season. The sales to commence towards the latter end of the month.
Timber room Lambeth, 1st May, 1858

WHITE and RED SUFFOLK FACING BRICKS,
to Messrs. ALLEN and CO. BALLINGDON, near SUDBURY.

YELLOW & PALE MALM FACING BRICKS,
Sold by Messrs. CALEB HITCH and CO. WARE, HERTS

NEWELL'S BLACK RUBBING and BUILDING BRICKS,
to EWELL and CHALFONT dark and bright RED RUBBERS.

JOHN and WM. EASTWOOD, } SOLE
BELLINGTON WHARF, Belvidere-road, } CONSIGNEES
Lambeth, and Kent-road Bridge.
Usual allowance to the trade from the monthly price lists

HALEY, KENT, and ESSEX BRICKS,
By barge or gangside, in any quantities
For EVERY DESCRIPTION of the BUILDING GOODS of the trade always in stock

STAFFORDSHIRE PAVEMENTS and EDGING. Blue, Red, and Buff Terra Metall. Patent Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles of every variety. Plain Relief, Coped, and Pointed Ridge Tiles. Red and Blue Pointed Relief Ridging, with Crest Pointers, in Green, Blue, and Red, for the different Tiles. Vitrified Stable Paving, Channelled, of various sizes. Blue Paving Bricks, &c.
J. and W. EASTWOOD,
Belvidere road, Lambeth; and Kent-road Bridge.

MESSRS. JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, and PAINT.—CLARK and BENGOUGH, Manufacturers, Grand Union Canal Bridge, Old Kent road. Office, 4, George's yard, Lombard-street.

MR. JAMES'S MUSIC-HALL.—The whole of the interior of the above Hall has been restored with MARTIN'S PATENT CEMENT. The elaborate Ceiling, including the Panelling, Coloring of the principal and intended Figure Medallions, &c., as also the Proscenium Arch, were all completed in the space of a month, on the SAME MATERIAL. Manufactured by MESSRS and SON, Drury lane, and Derwent Mills, Derby.

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NORTHFLEET, KENT.—Messrs. ROBINS and CO. to WHOM the PRIZE MEDAL WAS AWARDED in 1851, are prepared to supply quantity of the very best PORTLAND CEMENT, manufactured by them for all the purposes to which Cement is applicable. Orders received at Great Scotland-yard, and at the Works.

MESSRS. ROSHER and CO.
LIME, CEMENT, and BRICK MERCHANTS,
THE WORKS, CHALK, FLINT, and BALLAST WHARFS,
NORTHFLEET KENT
LONDON WHARFS:—
UNION WHARF, HOLLAND STREET, BLACKFRIARS, S.E.
ABRAHAM STREET, WESTMINSTER, S.W.
ENGLAND BASIN, KINGSLAND ROAD, N.E.
BEKIN HILL, LIMEHOUSE, E.
Wherein can be obtained of the best quality:—
PARKY STONE, CHALK, and PLARE LIME
MAN, PORTLAND, RUGBEES, ATKINSON'S, MARTIN'S, and
ON CEMENTS.
ATLEY and KENT BRICKS.
TER and RED SUFFOLK FACING BRICKS
ELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS,
GOINGS
THORSHIRE ORNAMENTAL PAVEMENTS, in RED,
and BUFF, the GARDEN EDGINGS
RED-METALLIC GROOVED STABLE BRICKS, CHANNELS,
S, and CLINKERS
IN and ORNAMENTAL ROOFING and RIDGE TILES
ER, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS,
and TILES of every description
ed and GLAZED STONEWARE DRAIN PIPES, &c.
ERA COTTA, CEMENT, and RED CHIMNEY-POTS.
RE, PLASTER, LATHS, SAND, BALLAST, and other BUILDING MATERIALS
Goods forwarded by Railway with despatch.

LONDON and WEST of ENGLAND
CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, and Roman Cements, Lime and White Lias Lime, lump and ground. KIALLMARK and CO. Dunball, Bridgwater, and 9, North-road, Paddington.

PARIAN CEMENT.—This article is valuable for internal stucco instead of common plastering, and is especially adapted to skirtings, flooring on brick arches, &c. &c. It takes paint as dry as bone after the application on walls or laths, is with all others cheaper, and may be painted or papered forthwith. A finer quality forms a beautiful sagglola, and polishes with any admixture of cement. Manufactured by the Patentees, FRANCIS, BROTHERS, and POTT, Cement Works, Nine Elms, London.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge delivered by the yard or by barg. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Oil Bricks. Dry Rubbish delivered, per barge, in any quantity, along side the Thames.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 8, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent
N B Trees. Cements supplied for shipment, on advantageous terms.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements: read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no colouring. Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster, and Seed-street, Liverpool.

GEO. and THOMAS EARLE, CEMENT MANUFACTURERS, HULL. Light, Dark, and Portland Cements, equal to any used. Manufacturers and dealers in Plaster, Paris White, Mastic, Hedr, Lias Lime, Laths, Slates, and Roofing Slates. Fire-bricks, Grindstones, Cement Chimney tops, ditto Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Pozzolana

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT
KNIGHT, BEVAN and STURGE,
Manufacturers only of the above Cement, for the home and foreign trade.
Portland Cement is manufactured at these Works with especial reference to the destination whether for stucco, brickwork, blocks for breakwaters, tidal work, or otherwise
LONDON WHARF, LEAD ENHALL ROAD, LAMBETH.

COLES, SHADBOLT, and CO.
CEMENT and PLASTER MANUFACTURERS,
LIME BURNERS,
Brick, Tile, Drain-pipe, Hair, Lath, and Fire Goods
Merchants,
ST. JAMES'S and THORNHILL WHARFS,
Caledonian road, London.

CHARLES RICHARDSON,
BRUNSWICK WHARF, VAUXHALL,
And at SOUTH WHARF PADDINGTON BASIN.
COWLEY and KENT BRICKS, per barge, Lodged, or delivered in any quantities, direct from Wharfs
SUPERIOR WHITE SUFFOLK FACINGS,
Splays, Door Jambs Coping Bricks, Stable Quarters, &c.
DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c
BRIGHT YELLOW MALM FACINGS, and Cutters of the best quality. Mean and Pale Malm Seconds, Pickings, Pavings, &c
BLACK HEADERS, Glazed and Unglazed.
BEART'S PERFORATED BRICKS.
STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks Red, Blue, and Buff Terro-Metallic Paving Tiles. Plain, Flanged, Rolled-top, and Ornamental Grooved Ridging, &c. Broseley Tiles.
WHITE GLAZED BRICKS.
FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Fluc Linings, any Pattern Backs to order
TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c
SLATES, best quality from the Bangor Quarries.
YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Copings, &c. Sawn Slab for Hearths, Tombs, &c
TILES, Plain, Ornamental Roofing, Paving, Oven, Malt and Kiln, &c. A great variety. Red and White Tesselated Pavements kept in Stock
GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c
GREY STONE and CHALK LIME.
BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw
CEMENTS. Roman, Portland, Parian, Lias, Bath, Keene's, &c
PLASTER of PARIS, fine and coarse, of best quality, at reduced prices
HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials sent by Rail to any part of the country.
Estimates given for any quantity.
N.B. Landing Wharf and Drawing Dock at Vauxhall.

SCOTT'S PATENT CEMENT,
Manufactured only by
WILLIAM LEE, SON, and SMITH,
EARL STREET, BLACKFRIARS.
This Cement is highly recommended for Internal or External Plastering, Brickwork, &

KEENE'S and PARIAN CEMENTS for internal use. To be well known hard stucco, equally suitable for the basement floor or the cornice, and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

BLUE LIAS LIME.—Messrs. GREAVES and KIRSHAW have recently erected Works on the Banbury and Oxford Line of the Great Western Railway, at Hanwell, where they are now prepared to supply LUMP and GROUND LIME of the finest quality, direct from the kilns, to all Stations on the Great Western Railway. Greaves's Blue Lias Lime, Portland, Roman, and Lias Cement.
Works at Hanbury, Stockton, and Wilmcote. Office at Warwick.

TO DYERS, COLOUR MAKERS, &c.—Some excellent BACKS, of various sizes, TO BE SOLD, cheap.—Apply to Mr. SOWTER, 92, Baker-street, Bagnigge-wells-road.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their parish able coverings. MAW and CO.'S Pattern Book, designed by N. Digby Wyatt, esq., together with a specimen and estimates of cost, adapted to any given dimensions of hall, passage, conservatory, verandah, frieze, &c. will be sent on application to Benthall Works, Broseley, Salop.

BEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macdonald-street North, City road Basin. Finally, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 381, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufacture known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

PLASTER of PARIS, unequalled in quality and price, manufactured by W. JACOBS, Trent Works, Newark, Notts.

GLASS BENDING, STAINING, and EMBOSSING WORKS
W. HICKS (late Hicks and Dickson),
80, Rathbone-place.
ESTIMATES FORWARDED ON APPLICATION.

E. and W. H. JACKSON supply PATENT PLATE, BRITISH PLATE, ROLLED PLATE, CROWN, SHEET, COLOURED, and ORNAMENTAL GLASS, in every variety of the best manufactures, at the lowest terms. WHITE SHEET and WHITE PATENT PLATE, English manufactured, the best articles ever produced for drawings, prints, and all purposes where perfect freedom of colour is a requisite. All applications for estimates and lists of prices to be made at their Warehouse, 315, Oxford-street, W.

SOHO PLATE-GLASS WAREHOUSE,
No. 26, SOHO-SQUARE, LONDON, W.
PLATE-GLASS,
Of a superior Quality and Colour,
SUPPLIED AT THE LOWEST CURRENT RATES.
Contracts given upon application.

PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. R. STEVENS PREMISES, No 14, Stafford row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN-STREET, Lincoln's-inn-fields. Estimates given for the mounting of Pulpits, Reredos, Fonts, &c. &c. Tessellated Pavements, with Patent Tesserae. The New Transparent Glass Mosaic. Descriptive Catalogues on application.
N.B. 56, GREAT QUEEN-STREET, LINCOLN'S INN.

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THOMAS MILLINGTON'S NEW LIST of REDUCED PRICES are now ready, and may be had on application.
SHEET GLASS, fourths, in 200 feet cases, at 26s. per case.
" thirds, " 33s. "
" seconds, " 50s. "
" best, " 80s. "
Boxes of 100 feet each at 10s. 12s. or 16s according to size.
21oz Rough and Ribbed Glass in various qualities.
Also CRYSTAL SHEET GLASS
16oz and 21oz Ground, Matted Glass of various Patterns, and Coloured Glass, Rolled Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

COLOURS, VARNISHES, &c.
Genuine White Lead, 32s. 6d.; seconds ditto, 30s. 6d. per cwt. Linseed Oil, 2s. 8d.; Boiled ditto, 2s. 10d.; Turpentine, 3s. 6d. per gallon Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &
The above prices subject to the fluctuation of the markets.
PLUMBERS' BRASS WORK.
LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER-CLOSETS
Cocks and Valves of every description.
Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in Exchange
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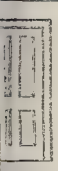

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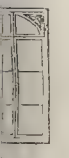

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GREENSLADE'S PATENT GROUND-PAINT, DUSTING, and VARNISH BRUSHES, are highly recommended, combining many important improvements, both in manufacture and durability. GREENSLADE'S Painters' Pincers, of all descriptions, are made with two pairs of cutters, and superlatively good. The latter are of the very best materials, and worthy of the attention of those who desire a really good Brush.—Manufactures, E. A. and W. GREENSLADE, Thomas-street, Bristol.

DURABLE VARNISH PAINT, for Fences, Out-buildings, &c. Colours, Black and Brown. Price 2s. per gallon, at LIVETT, FRANK, and SONS, 14, Wellington-street, Borough, London-bridge, S.E.

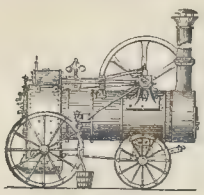
TO DECORATORS and BUILDERS.—First-class OAK GRAINING in OIL, 4d. per yard; staining deal to imitate all kinds of woods, no sizing required, mottled or veined, by experienced grainers, 4d. per yard; or as per call. Specimens sent to any part of town or country.—Address, W. WILSON, 7a, Old Church-st., Paddington-green.

TO PAINTERS, BUILDERS, AND CONTRACTORS.
THE BEST MARKET on the south side of the River, for
GENUINE OLD GROUND WHITE LEAD,
LINSEED OIL, TURPS, VARNISH, and COLOURS of every description, is
SIMPSON and CO.'S,
53 and 54, London-road, Southwark.
A price list sent on application.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 6d.; Turpentine, 3s. 2d.; Boiled Oil, 2s. 9d.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Crystal Hard-drying Dry and Ground Colours, Brushes, &c. &c. for Cash.
F. LANGTON'S, 143 and 144, Whitecross-street, St. Luke's, E.C. and 725, Tottenham-court-road, W.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 7d. per gallon; Boiled Oil, 2s. 10d. per gallon; Turpentine, 2s. 2d. per gallon;
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill-street, Pimlico.
Every article for the Trade at the lowest price.

A SUBSTITUTE for PAINT and at HALF the COST.—STEPHENS' DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chittlehampton, near South Molton:—
"The effect produced by the Staining Fluid and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."
54, Stamford-street, London.



ENGINES,

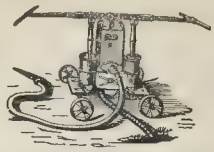
SINGLE & DOUBLE

PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.



HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE

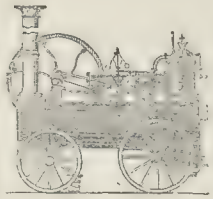
STEAM

ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 15 inch diameter, kept ready for use, at reduced prices

MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

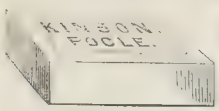
DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

Price 6s. 6d. each.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.

WORKS: KINSON, near POOLE.

PATENT FIRE-BRICK MANUFACTURERS.



The Directors are desirous to call the attention of Engineers, Iron Masters, Gas Companies, and others, to their new patent Fire-clay Bricks, which have been severally tested, and proved quite equal if not superior to any Fire Bricks, hitherto introduced in the Metropolis, for Chamber and all purposes for which Fire Bricks are required. Their Patent Retort Bricks, Patent Oven Bricks, Patent Stove Bricks, Patent Flue Bricks, and Patent Oven Bricks, approved by the Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Common Tiles, Paving, Chimney, &c. at the lowest prices. Shipping orders executed with despatch.

Mr. GILBERT E. MITCHELL, Manager, at the Works: Mr. JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth; or to Messrs. H. C. QUINTON and SON, Bristol.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
By the use of which Drains may be examined without the necessity of breaking a Pipe.
SALT GLAZED AND TERRA COTTA FLUE-PIPES,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. M'WILLIAM, at the Depôt, 8, Belmont-place.

GAS SOIL put on BOARD BARGES, at GRAYS.—Apply to MEESON and CO. Grays, Essex; or 13, Great Tower street, London, E.C.

CHELSEA WATERWORKS. — STEAM-ENGINES, PUMPS, &c. FOR SALE. On [illegible] the Company's Waterworks, Thames Bank, Pimlico, [illegible] Chelsea between the hours of ELEVEN and FOUR and further particulars may be obtained of the Secretary, at the Company's Office, 16, Great Queen-street, Westminster.

THE PATENT ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of PALE'S PATENT ENAMELLED ROOFING TILES, now superior TESSELATED TILES, 6 inches by 4 inches, &c. white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticoes, verandahs, &c.; as also for external decoration, imperishable strings, pilasters, &c. and wall glazed tiles, for baths, dairies, &c.—Various specimens of the above may be seen, and every information obtained, at the Offices of the Company, No. 9, Buckingham street, Strand, from Messrs WM. W. BONNIN and J. & H. MACCOLL, Sole Agents for London.

STEAM POWER.—TO BE LET, at NEWINGTON BUTTS, a MANUFACTORY, with DWELLING-HOUSE attached; four-horse high-pressure engine, and eight horse boiler. Also, close thrasts, a large Warehouse, with Dwelling-house, large yard and stabling, suitable for a builder or extensive jobber.—Apply to Mr. BROWN, 4, Adam's-court, Old Broad-street; or No. 8, High-street, Newington Butts.

PORTABLE ENGINES ON SALE OR HIRE.—W. JACKSON, Engineer and Millwright, 6, Leman street, Goodman's fields, E.

BRICKS.—Messrs. PILTON and REYNELL have always on hand a large supply of BRICKS for building purposes, of first-rate quality and manufacture, delivered per barge from either Cowley or Kent. Aylesford Wharf, Belvedere road, Lambeth.

BRICKS. Mr. RYDON having made more Bricks than he requires for the Buildings on his Highbury New Park Estate, is willing to make arrangements with Builder and others for SUPPLYING a quantity of first-class BRICKS of every description.—Address, Estate Office, Bell's Farm, Stoke Newington green.

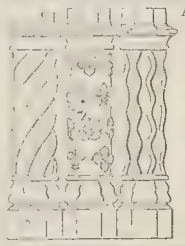
JOHN NEWTON and CO. HONDURAS WHARF 71, BANKSIDE, Southwark, S.E. Fire Bricks, Lumps and Tiles of every description (seventeen years with James Newton, of Pimlico, deceased), beg to acquaint the patrons, Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Common Tiles, Paving, Chimney, &c. at the lowest prices. Shipping orders executed with despatch.

I. M. PAINE'S FARNHAM SILICA WORKS.—INDESTRUCTIBLE SILICEOUS FIRE-BRICKS are now ready for delivery at the above works and will be delivered at the North Kent Railway Station at 12s. per thousand. Particular attention is directed to these bricks, as from their capability of sustaining a very much greater amount of heat than any that have hitherto been produced, they are of the utmost value in all cases in which a good and durable fire-brick is desirable. All the usual forms are ready for delivery, and any shapes will be manufactured with the least possible delay.—Communications to be directed to E. H. OLSTON, Silica Works, Dippenhall, Farnham, Surrey.

BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery.—

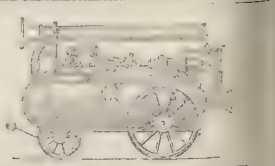
Best Grey Stocks	22s	per Thousand
Rough Stocks and Grizzles	19s	"
Fine Stocks	13s to 15s.	"
Bright Stocks	28s	"
Malms	18s	"

Address, GEORGE SMEED, Sittingbourne, Kent.
P.S. Up any of the Canals on payment of Dues extra.



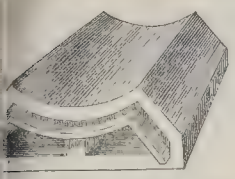
AUSTIN, SEELEY, and CO.
371-375,
EUSTON ROAD,
ARTIFICIAL STONE WORKS.

CATALOGUES OF
CHIMNEYS,
AND SKETCHES OF
FOUNTAINS,
ON APPLICATION.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars road, London.

DOULTON'S PATENT INVERT BLOCKS.



MESSRS. D. AND CO. HAVE RECENTLY PATENTED AN IMPORTANT IMPROVEMENT IN THEIR INVERT BLOCKS. The Blocks are connected by A LIP, OR PROJECTION, WHICH UNITES THEM FIRMLY TOGETHER, AND EFFECTUALLY PREVENTS THE SEWAGE FROM ENTERING THE LOWER CHANNELS, which are thus KEPT QUITE CLEAR FOR LAND DRAINAGE.

This simple arrangement perfects an invention introduced by Messrs. D. and CO. seven years ago, and now adopted in almost all town drainage-works.

DOULTON'S IMPERISHABLE TERRA-COTTA CHIMNEY-TOPS.

DOULTON'S GLAZED STONEWARE SOCKET, HALF-SOCKET, AND OPERCULAR PIPES.

HENRY DOULTON and CO. HIGH-STREET, LAMBETH, LONDON.
anufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

REAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle BROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from ctions, and meets the demand for removing Pipes at any point.

each;
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LIGHT
VES,
.. each,
tra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN's PATENT AIR-TIGHT VALVE on the Top of the Trap.

Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

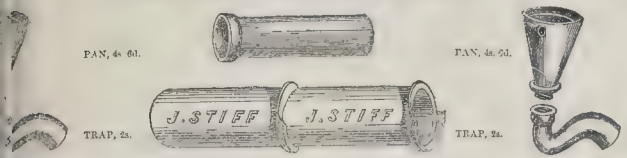
GREAT REDUCTION IN PRICES.

JAMES STIFF,

FACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



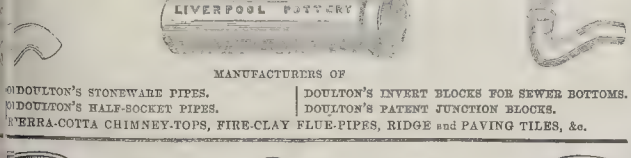
ALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
ssrs. GLADDISH'S, Pedlar's acre, Westminster-bridge-road, City road Wharf, City Basin; Deckhead Wharf, Bermondsey;
Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
ssrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
ssrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
r. LAVERS, Dowgate Wharf, Cardinal-road, Hoxton
ssrs. COLWILL BROTHERS, 32, Bridges-street, Covent-garden.
r. HENRY TURNER, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

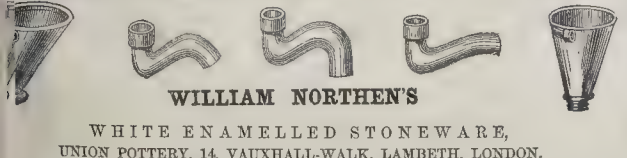
JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
ERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.



WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET PANS, being an new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.
SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.

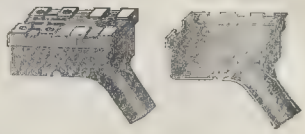
UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE. D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Barton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4 in.	6 in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

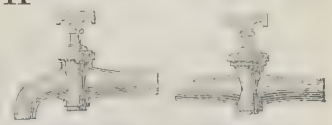


BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS Foundery, Engineers, etc. Smiths, 168, Drury-lane, and Sparrow, Bermondsey

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patentees and Makers of Beams, with supply valve for public baths, to work pipes with brass stem, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 350 feet; their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

WARNER'S PATENT

VIBRATING STANDARD PUMPS, PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ ,, long	3 3	gutta percha	1 14 0
3 ,, ditto	3 6	or cast iron	2 8 0
3½ ,, ditto	3 6	flanged pipe,	2 12 0
4 ,, ditto	3 6	as required.	3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in long ditto ditto			2 18 0

The short barrel Pumps is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in wash-houses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London. Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

HANCOCK'S PATENT VULCANIZED

INDIA-RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, Cloth Round and Flat, SOCKET RINGS, for Hot-water Pipes. Vulcanized Rubber Door Springs, and Red Rubber sheet of all sizes of any length. Round Cord, and Rubber Strips cut to any pattern for Bagatelle Tables.

Dying Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, including Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-road, Goswell road, London.

DURABILITY of GUTTA PERCHA

TUBING. Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart VENTNOR, ISLE of WIGHT, second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

PERREAUX'S PATENT INDIA-RUBBER

VALVES, for Feed Pumps of Steam Boilers, enable the Pumps to give one hundred per cent. of duty, and render derangement in the pumps a matter of impossibility.—Prospectuses, prices, lists, testimonials, and references, at the Offices of the Patentees, PERREAUX and CO. 39, Mark-lane, City, E.C.

SALES BY AUCTION.

IMPORTANT FREEHOLD.—Sufferance Wharf, with the newly-erected Saw and Planing Mills, Engine-house, and Offices, a Dwelling-house, and Two Freehold Public-houses, Rotherhithe, Surrey.

MESSRS. FULLER and HORSEY are instructed by Messrs. Grissell, Brothers, to SELL by AUCTION, at the MART, on THURSDAY, the 2[illegible] of MAY (unless an acceptable offer is previously made by Private Contract, of which due notice will be given), a highly important FREEHOLD PROPERTY and SUFFERANCE WHARF, known as [illegible] Wharf, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 2a. 3r. The premises have been arranged by Messrs. Grissell as a timber-yard, wharf, and saw mills. The buildings newly erected in the most substantial manner, comprise the saw mill, about 7[illegible] feet by 64 feet, engine and boiler house, [illegible] shed, offices for clerks and principals, stabling, and carriage-house; also, a dwelling-house, with private entrance, suitable for a manager. The Horns old-established and well [illegible] public-house [illegible] the [illegible] stairs, and the [illegible] public [illegible] street. The distance of this property by [illegible] bridge is about three miles, but, by the Blackwall Railway to Limehouse and the ferry boat across, it may be reached from the city in about twenty minutes. A large outlay has been made in fitting machinery of the most modern and approved description for [illegible] and planing, worked by a highly finished double cylinder steam-engine of 40-horse power, by Hall, of Dartford. The sawing and planing machinery may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the mills. The arrangement of the buildings and situation of the property for the purposes intended by the present occupiers are most desirable in every respect, or the site is equally available for the establishment or erection of [illegible] water-side premises. The property may be viewed by cards only, which may be had at the Offices of the Auctioneers. Printed particulars and plans are in course of preparation, and may be had shortly of Messrs. W. MURRAY, SON, and HUTCHINS, Solicitors, No. 11 [illegible] (late 11, London-street), E.C.; of B. F. WATSON, Esq. Solicitor, 30, Lincoln's-inn-fields, W.C.; at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

TO CONTRACTORS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by Thomas Jackson, Esq., to SELL by AUCTION, on MONDAY, MAY 1[illegible], 1858, at TWELVE, at the WORKS, [illegible] the new bridge from Battersea, Pimlico side, the PLANT lately used in the construction of the piers and earthworks: including 200 [illegible] poles, 2[illegible] wheeling planks, 150 navvy barrows, six [illegible] carts, eight [illegible] framed centres, portable crane and trolly, two framed shear legs, [illegible], thirty pair water [illegible] well pumps and [illegible], carpenters' benches, crosscut saws, augers, 16,000 superior stock bricks, [illegible] tiles, brick erection of offices, with slated roofs, [illegible] of carpenters' and smiths' shops, with slated roofs, foreman's office, [illegible] watchmen's boxes, [illegible] screwed bolts, [illegible] and other effects.—To be viewed on Saturday previous to the Sale, when catalogues may be had at the Works; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO MARBLE AND STONE MERCHANTS AND MASONS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on the Works of Thomas Jackson, Esq., Commercial-road, Pimlico, on THURSDAY, MAY 27, at TWELVE, in Lots, the valuable STOCK of MARBLE and STONE, in block and slab, including Statuary of Genoa green, Emperor's red, [illegible], serpentine, [illegible], black [illegible], American green, Devonshire red, St. Ann's, Bardiglio, and Bardilla marbles: 1,000 feet of Portland stone in block, 300 feet of Caen stone, 1,[illegible] feet of French stone, 15[illegible] feet of Wainsworth stone, York landings, Portland slabs, blocks of granite, and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter-street, E.C. Note.—Approved bills, at three months' date, will be taken from purchasers to the amount of 50l. and upwards, or 1½ per cent. allowed for cash.

TO BUILDERS, TIMBER MERCHANTS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the Works of Thomas Jackson, Commercial-road, Pimlico, on FRIDAY, MAY 28, at TWELVE, in Lots, without reserve, 1,000 YELLOW DEALS, [illegible] yellow planks, 500 crown white Riga planks, 70 loads of Swede timber, [illegible] loads of Dantzic timber, 1,[illegible] feet of mahogany boards, 1[illegible] squares of flooring boards, and prepared match boarding, [illegible] planks and battens, 50 loads of birch timber, oak planks and cills, a self-acting [illegible] bench, [illegible] timber carriage, two carts, [illegible] truck, and other miscellaneous items.—To be viewed on Thursday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C. Note.—Approved bills at three months' date will be taken from purchasers to the amount of 50l. and upwards, or 1½ per cent. discount allowed for cash.

TO ENGINEERS, IRON FOUNDERS, AND OTHERS.—James's Patent Weighing Machines, Cranes, Machinery, and Tools.

MESSRS. FULLER and HORSEY are instructed by Messrs. [illegible] and Malcolm, who are dissolving partnership, and whose tenancy is expiring, to SELL by AUCTION, at the VICTORIA IRON WORKS, Bethnal-green (near the [illegible] Bell), on TUESDAY, JUNE 8, at ELEVEN, in lots, without reserve, the STOCK IN TRADE, MACHINERY, and TOOLS. The stock [illegible] three wharf cranes, two of 3 tons each, one of 7 tons, two portable cranes, 1 ton and 3 tons, one 30 cwt. warehouse crane; four weighbridges, 3 to 10 tons, for waggons and carts, [illegible] James's patent weighing machines, from 3 cwt. to 4[illegible] cwt.; a lift for raising casks or heavy weights, for loading, &c. The machinery includes a new 12-inch centre self-acting lathe, with 12 feet gap bed, by Smith, Beacock, and Tannant; one 6-inch self-acting lathe, with 5 feet 6-inch bed, with change wheels, self-acting shaping machine, cut 10 inches, by Shanks; one double-geared drilling and boring machine, horizontal steam engine of 6 horse power, two steam boilers, shafting, riggers and bands, vices and benches, steel tools, foundry crane, equal to 4 tons, two wrought iron cupolas, fan blast, core stove, 10 tons boxes and flasks, crane, [illegible] ladles, smiths' forges, bellows, anvils, and tools, [illegible] tons rod and bar iron, one ton cast and shear steel, stoves of various descriptions, and numerous other effects.—To be viewed on Saturday and Monday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, JUNE 14, and three following days, at ELEVEN each day, at the WAREHOUSES, No. 8, Holland-street, Blackfriars-road, in Lots, without reserve, an extensive STOCK of BUILDERS' IRONMONGERY, including 2,500 gross iron screws, 200 gross brass screws, 600 sets brass casters, 800 sets iron and wood bowl plate casters, 100 pair ornamental bell levers, sunk pulls, &c.; 100 bags wrought and cut nails, 4 tons coach bolts and screws, 350 dozen brass and iron frame axle pulleys, 300 dozen brass and iron locks, 70 dozen brass flush bolts, a very large assortment of bellhangers' work in cranks, carriages, &c.; wrought and cast butts, crossgarnet H and HL hinges, 200 dozen Tower and London bolts, ebony and China lock and door furniture, 500 dozen files and rasps, cast steel tools, chisels, gouges, axes, adzes, hammers, trowels, saws, [illegible] brass cornice poles, [illegible] yards half round and O G guttering, heads and shoes, brackets, three chaff cutting machines, and numerous other effects.—To be viewed on SATURDAY previous to the sale, when catalogues may be had at the Warehouses, and at Messrs. FULLER and HORSEY, Billiter-street, E.C.

The spacious Warehouses to be Let.

By order of the Assignees of G. B. Pelham, Builder, a Bankrupt.

MR. LEREW will SELL by AUCTION, on the PREMISES, Devonshire Wharf, Albert-street, Camden-road, on the banks of the canal, on TUESDAY, MAY 18th, at TWELVE, the valuable STOCK in TRADE, comprising half a ton of white lead, 20 cwt. of lead in sheet and piping, 15 cwt. of whiting, 70 gallons of oil, turps, and varnish; putty, plate, crown and sheet glass, colours, 1,500 pieces of paperhangings, 1[illegible] planks, deals, and battens, dry cut stuff, 17 four panel and sash-doors, scaffolding, ladders, nine benches, 15 cwt. of nails, ironmongery, two carts, muck barrows, circular saw bench, stone, iron works, old materials, office fittings, and other useful items too numerous to mention.—May be viewed the day before the sale, when catalogues can be had on the Premises; of H. H. CANNAN, Esq. Official Assignee, 18, Aldermanbury, City; and of the Auctioneer, Cardington-street, Hampstead-road, near the Euston Station.

SALES BY AUCTION.

PENZANCE, CORNWALL.—Important and Extensive Manufacturing Premises, held at a ground-rent, bounded by the sea-wall, in the occupation of the London and Penzance Serpentine Company, with the option of taking the valuable plant and machinery, and the leases of six quarries.

MR. BOYES has been instructed by the Official Liquidator appointed by the Court of Chancery to wind up the above Company, to SELL by AUCTION, at GARRAWAY'S COFFEE HOUSE, London, on MONDAY, MAY 17th, at TWELVE o'clock, the above valuable PROPERTY. The Premises are extensive, have been built with stone during the last four years in the most [illegible] and substantial manner, at a cost of several thousand pounds, and contain a noble show room, factory, masons' and turners' shops, polishing, engine, and store rooms; smithy, boiler-house, large shed, yard, &c.; also, a desirable plot of Building Land, having a frontage of about 400 feet. The machinery is of the best description, and in excellent working condition. To any party desirous of embarking in this business a most desirable opportunity is hereby offered; but the premises, from their extent and eligible situation, [illegible] every modern improvement, offer unusual advantages for many other manufacturing purposes. A plan and description may be seen at the Auctioneer's Office. The premises may be viewed, and particulars may be had thereof of Messrs. CLUTTON and ADE, Solicitors, 18, High-street, Southwark; of H. CROYSDILL, Esq. Official Liquidator, 84, Basinghall-street; at the principal Hotels at Plymouth and Truro; at Garraway's; and at the Auctioneer's Offices, 33, Abchurch-lane, London.

The general and valuable Stock in Trade of the London and Penzance Serpentine Stone Company, removed from Penzance.

MR. BOYES has been directed by the Official Liquidator, appointed by the Court of Chancery to wind up the above Company, to SELL by AUCTION, without the slightest reservation, at the AUCTION ROOMS, 21, Old Bond-street, on THURSDAY, the 20th inst. at TWELVE, the architectural, useful, and ornamental STOCK, consisting of chimney pieces, vases, pedestals, columns, bust-stands, console slabs, obelisks, a most beautifully [illegible] font, which obtained the prize medal in the 1851 Great Exhibition, [illegible] font, mounted brackets, paper weights, thermometer stands, inkstands, candlesticks, chalices, brackets, and numerous other articles. The durability, as well as the beauty of the serpentine manufactured by this Company renders this notice well worthy the attention of the nobility, gentry, the clergy, architects, builders, and others.—May be viewed the day prior to and morning of sale. Catalogues may be had at the Rooms; of Messrs. CLUTTON and ADE, Solicitors, 18, High-street, Southwark; of H. CROYSDILL, Esq. Official Liquidator, 84, Basinghall-street; and at the Auctioneer's Offices, 33, Abchurch-lane, Lombard-street.

POTTER'S BAR, MIDDLESEX.—Freehold Building Land, within [illegible] walk of a railway station, and about fourteen miles from London.

MESSRS. WINSTANLEY are instructed to OFFER for SALE by AUCTION, at the MART, Bartholomew-lane, on THURSDAY, MAY 27, in lots, TWO desirable PLOTS of FREEHOLD BUILDING GROUND, with a frontage of about 87 feet to Green Dragon-road, leading from the station on the Great Northern Railway to Potter's-bar, and about 300 feet in depth; also another Plot, situate in Heath-road, on the same estate, with a frontage of about [illegible] feet by a depth of about 290 feet, both exceedingly well adapted for the erection of villas or other residences. To be viewed. Printed particulars may be obtained of Mr. W. M. SKILBECK, Solicitor, 19, Southampton-buildings, Chancery-lane, W.C.; at the Red Lion, Barnet; White Horse, Potter's-bar; the Hotel, near the Potter's-bar Station; Place of Sale; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

GREENWICH.—Valuable Freehold Building Ground, situate a short distance from the Hospital, fronting the River, and extending to the Woolwich Old-road.

MESSRS. WINSTANLEY have received instructions from the Family of the late CROWLEY MILLINGTON, Esq. to SELL by AUCTION, at the MART, on THURSDAY, MAY 27, in one Lot, the Valuable FREEHOLD PLOT of GROUND, upon which the ancient mansion called Crowley House, and the adjoining warehouses, formerly stood, including the gardens at the rear, comprising altogether rather more than two acres, exclusive of the site of that part of the front of the late warehouses which overhangs the wharf. The property possesses a considerable frontage to the River Thames, and also to the Woolwich Old-road, is particularly eligible for the erection of a first-class hotel and tavern, factories, or moderate sized houses, [illegible] required in this locality, in consequence of the advantages afforded by the railway and steam communication with the metropolis.—To be viewed by application to the Gatekeeper, at the lodge in the Woolwich Old-road, of whom particulars may be obtained in due time. Particulars also of Messrs. REYROUX and BROMEHEAD, Solicitors, 35, Old Broad-street, E.C.; at the Mart; at the Greyhound and Yacht Taverns, Greenwich; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

WESTERN SUBURBS of LONDON.—Important Building Estate, near Shepherd's-bush-green, and immediately adjoining Shepherd's-bush-lane, connecting the Uxbridge-road with Hammersmith, and near to Notting-hill-crescent; freehold and land tax redeemed.

MESSRS. DANIEL SMITH, SON, and OAKLEY have received instructions to OFFER for SALE, at the MART, near the Bank of England, on TUESDAY, the 18th of MAY, the most important and valuable PROPERTY, containing in the whole about 32 acres, which, if not then sold in one lot, will be offered immediately afterwards in four lots. This property demands particular and general attention from its peculiarly valuable position, [illegible] the Uxbridge-road on the one side, and Hammersmith on the other, and thus is in direct and easy communication with every part of the metropolis, and near to Hyde-park, Kensington [illegible] Holland-park. It is freehold and land-tax redeemed, [illegible] have been made with adjoining owners [illegible] and main roads, so that the progress of building will not be retarded from these causes.—Particulars and plans may be had of D. HUGHES, Esq. 11, Gresham-street, City, and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall Mall, S.W.

WALKINSHAW FOUNDRY and ENGINE WORKS, at JOHNSTONE, FOR SALE. There will be exposed for SALE, by PUBLIC ROUP, within the FACULTY HALL, Glasgow, upon WEDNESDAY, the 2nd day of JUNE next, at TWO o'clock afternoon, the long established and celebrated ENGINEERING and MACHINE MAKING WORKS, carried on by Messrs. John M'Dowall and Sons, Johnstone, and belonging to the Trust Estate of the late Mr. John M'Dowall, with the Haill Pertinents thereto belonging, and Goodwill of the Business, Patent rights, &c. Mr. M'Dowall's eminence as an engine maker and inventor and patentee of vertical sawing frames, wood planing, moulding, and mortising machines, &c. &c. secured for him a large and lucrative business, which can be readily shown to intending purchasers. The works have an abundant supply of water, are conveniently situated about ten miles from Glasgow, and command transit at moderate rates by canal and railway. It is well known the late proprietor spared no expense in fitting up the premises in the most complete and superior style. They are compact, well arranged, complete in every respect, and in active operation, and comprise large turning shops, smiths' shop, fitting up shops, and sheds connected therewith, counting house and business chambers, drawing room, and other conveniences requisite for the business; patent steam-hammer in smiths' shop, steam engine, large court yard, &c. The plant of tools is in perfect working order, and embraces planing-machines, boring-mills, turning-lathes, &c. &c. of the best description, and with the latest improvements.—On application to the Manager, the Works can be seen at any time, and further particulars will be given by ALEXANDER M'KENZIE, Esq. 89, Buchanan-street, Glasgow; or JOHN HOLMES, Esq. Writer, Union Bank of Scotland, Johnstone.

Johnstone, Renfrewshire, April, 1858.

Valuable Building Materials, Mortimer-street, Cavendish-square.

MESSRS. GLASIER and SON will SELL by AUCTION, on the PREMISES, on TUESDAY, MAY 2[illegible], at TWELVE for ONE, the valuable BUILDING MATERIALS of extensive coachbuilder's premises, No. 3[illegible], Mortimer-street, Cavendish-square, and coach houses, stabling, and offices adjoining, comprising capital stock brickwork, sashes and frames, large skylights, doors and frames, coach house gates, sound timber in large scantling, slates, flooring, matched boarding, capital clinker paving, iron columns and gratings, stable and other fixtures and fittings.—May be viewed the day prior and morning of sale, and catalogues had of SYDNEY SMIRKE, Esq. Architect, 79, Grosvenor-street, Bond-street; on the Premises; at Garraway's; and of the Auctioneers, 41, Charing-cross.

SALES BY AUCTION.

SUTTON, SURREY.—Freehold Building Land, and a productive Orchard, within thirty-five minutes by rail from both the City and West-end.

MR. DEBENHAM will SELL, at the MART, on FRIDAY, the 28th of MAY, at TWELVE, FIVE ACRES of valuable FREEHOLD BUILDING LAND, in the centre of the picturesque village of Sutton, rapidly increasing in population and importance in consequence of the proverbial salubrity of the spot, and its accessibility from London. The land possesses two valuable frontages (one particularly eligible for shops), and affords a fine opportunity for securing a sound investment in ground rents. Also, a Freehold Orchard, of an acre and a quarter, on Sutton-common, about a mile from the station, commanding extensive views, and offering a delightful site for a villa.—Particulars and plans may be had of Messrs. SLE[illegible] and ROBINSON, 1, Parish-street, Southwark; and of Mr. DEBENHAM, 80, Cheapside; or will be forwarded by post, on application.

Building Land at Hounslow, Middlesex, comprising 16a. 3r. 32p. with eligible frontages.

MESSRS. HAMMOND and EILOART will SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE, in two lots, the above valuable PLOTS of LAND, only a few minutes' walk from the town of Hounslow, and having very valuable building frontages on the Bath road, and on the road leading from Heston to Sutton. It is copyhold of the manor of Heston, and held at a mere nominal fixed fine on death or alienation, thereby rendering it nearly equal to freehold. Plans and particulars may be had at the Bell, Hounslow; of J. W. FLOWER, Esq. Solicitor, 17, Gracechurch-street, City; and at the Auction-offices, 28, Chancery-lane.

Valuable Freehold Building Site close to Portman-square, alike eligible for the erection of two first-class houses of business, or a public institution.

MESSRS. HAMMOND and EILOART will SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE for ONE, the above eligible FREEHOLD BUILDING SITE, situate at the corner of Edward-street and Duke-street, Portman-square, with a commanding double frontage of about 70 feet, the entire being unencumbered by ancient lights or any restriction whatever, presents a rare and most desirable spot for building operations.—Full particulars may be had of Messrs. SMART and BULLER, Solicitors, 56, Lincoln's-inn-fields; at the Mart; or at the Auctioneers' Office, 28, Chancery-lane.

TO BUILDERS.—Absolute Sale of Two Carcases, without reserve, by order of the Mortgagee.

MESSRS. HAMMOND and EILOART will SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE, the UNFINISHED CARCASES of a PAIR of NINE ROOMED HOUSES, 16 and 17, Chelsea View, Brompton, close to the Goat and Boot, held for ninety odd years, at 4l. 2[illegible] each; the adjoining houses let as soon as they are completed, at [illegible] per annum.—Full particulars at the Goat and Boot; of Messrs. SMART and BULLER, 56, Lincoln's-inn-fields; and of the Auctioneers, 28, Chancery-lane.

KENT.—Very valuable Freehold Quay Property, Brick Earth, Building, Orchard, and Accommodation Lands, Cottages, &c. situate in the parishes of Rainham, Upchurch, and Lower Halstow, Kent, by

MESSRS. COBB, at the CROWN INN, Rochester, on TUESDAY, MAY 2[illegible], at TWELVE o'clock, in nineteen lots, by order of the executors of the late Mr. Thomas Wakeley, the very valuable FREEHOLD QUAY PROPERTY, known as Otterham Quay, in the parish of Upchurch, consisting of an extensive length of wharf, with good depth of water, spacious warehouses, granaries, coalsheds, barn, stables, &c. with a public-house, known as the Anchor and Hope; also, a cottage, or three dwellings, the whole standing on 11 acres of land, and well situate for carrying on an extensive and lucrative trade, or for the erection of manufacturing premises; [illegible] 2r. 1[illegible]p. of freehold arable, orchard, and pasture land, in the parish of Rainham, called the Vineyard, adjoining Otterham Quay-lane, containing a deep substratum of brick earth of the finest quality, and near to water carriage at Otterham Quay, together with seventeen lots of orchard, accommodation, building land, and cottages, &c. The above properties are situate within a short distance of the Rainham station of the East Kent Railway. Possession of the whole of the lots may be had at Michaelmas, 1858.—Particulars, with plans, may be had fourteen days before the day of sale, at the Crown Inn, Rochester; the Sun, Chatham; and the Bull, Sittingbourne; of THOMAS CHEESMAN, Esq. Solicitor, Gravesend; and of Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's-inn-fields, and Rochester, Kent.

VALUABLE BUILDING LAND.

MESSRS. BLAKE have received instructions to offer for SALE at PUBLIC AUCTION, about the latter end of JUNE next, all that very Valuable BUILDING LAND, situated directly in front and abutting the high road of the Royal Medical College at Epsom, and close to the town and station. Epsom is one of the healthiest places in England, and the demand for houses of all sizes is so great and increasing, as to render this Land highly worthy the attention of Builders, Land Societies and private purchasers. In point of value the Land speaks for itself; and its value will soon be much increased when the railway now in progress to the West End is opened. Then there will be a rapid transition both to the City and the West End, which it is expected, from the immense demand for houses and the exceeding salubrity of this locality, will soon render Epsom a place of great importance. This Land comprises about twenty eight acres. The soil is chalk and gravel; the water excellent.—For further information, apply to Messrs. BLAKE, Auctioneers and Estate Agents, Croydon.

LEADENHALL-STREET.—Valuable and important Freehold Premises situate near the Royal Exchange and Bank of England, and nearly opposite the East India House.

MESSRS. BEADEL and SONS are instructed to SELL by AUCTION, at the MART, on TUESDAY, JUNE 8, at TWELVE, in one lot, an exceedingly valuable and important FREEHOLD PROPERTY, comprising the brick-built premises, most commandingly situate, and known as No. 146, Leadenhall-street, in the occupation of Messrs. Butters, Gordon, and Yeatman, at rents amounting to 300l. per annum. The situation of these valuable premises, nearly opposite the East India House, within a short distance of the Bank of England and Exchange, and in one of the leading thoroughfares in the heart of the city, render them eligible either for business or as a secure investment, the ground itself being in an advantageous situation for the erection of first-class warehouses or offices.—Particulars may be obtained of Messrs. WORDSWORTH, GREATHEAD, and BLAKE, Solicitors, South Sea House, Threadneedle-street; at the Mart; and of Messrs. BEADEL and SONS, 25, Gresham-street, E.C.

Second Portion of the beautiful Works in Terra Cotta, at the Galleries in Praed-street, Paddington, including reproductions of many of the finest Ancient Greek and Etruscan Vases, Tazze, Statues, Statuettes and Busts, and a variety of Fountains, Flower vases, Garden seats, &c.

MESSRS. RUSHWORTH and JARVIS will peremptorily SELL by AUCTION, at the above GALLERIES, on THURSDAY, the 27th of MAY, and two following days, at TWELVE, the SECOND PORTION of the extensive and valuable STOCK of WORKS in TERRA-COTTA, the property of Mr. J. M. Blashfield, comprising statues and statuettes of the Apollo Belvidere, Venus, Diana, Flora, Musidora, a Neapolitan girl with a tambourine; an original statue of Erin, size of life, by John Bell; copies of many Greek and Roman vases, tazze, bassi relievi, and amphoræ, including the Medici, Borghese, Albani, Warwick, and Townley vases, and many fine busts; variety of flower-trays, garden seats, pendant and other flower vases, terminals for gate piers and pedestals, tracery for parapets, Tudor chimney shafts, consoles and other architectural ornaments, several magnificent fountains in terra-cotta, and one in marble, two fine original statues, life-size, by Woodington; also an Egyptian sarcophagus, in Oriental granite, found near the Pyramid at Gizeh.—The galleries will be open to public view three days prior to the sale, when catalogues may be obtained of Messrs. RUSHWORTH and JARVIS, Saville-row, Regent-street, and 19, Change-alley, Cornhill.

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The Builder.

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ETY of PAINTERS in WATER-OLOURS.—The FIFTY-FOURTH ANNUAL EXHIBITION OPEN at their Gallery, 7, Pall Mall East, close to Trafalgar-quare Nine till Dusk. Admittance, 1s. Catalogue, 6d. JOSEPH J. JENKINS, Secretary.

W NEW SOCIETY of PAINTERS in WATER COLOURS.—The Twenty-fourth ANNUAL EXHIBITION of this Society is NOW OPEN at Mr. Gallyer's Gallery, Pall Mall, next the Palace, from Nine till Dusk daily. Admission, 1s. Season Tickets, 5s. JAMES FAHEY, Secretary.

MITSUN HOLIDAYS.—The SOUTH KENSINGTON MUSEUM. The Museum, Schools, and Library OPEN FREE every MORNING from MONDAY, the 24th, to FRIDAY, 28th MAY, inclusive, and in the EVENINGS of MONDAY, TUESDAY, and WEDNESDAY Hours, from TEN till SIX; on SUNDAY from SEVEN till TEN.

GRAND CEREMONY and FESTIVAL, on the 18th of JUNE next, at the OPENING of the SOLDIERS' DAUGHTERS' HOME, Hampstead, by his Royal Highness PRINCE CONSORT, who, with his Royal Highness the PRINCE ... as, have been graciously pleased to purchase presentations to ... Several Military Bands will play in the beautiful Grounds ... Admission by purchased Tickets, to be had only at the ... Whitehall (exactly opposite the Horse ... A Single Ticket for the Ceremony and Ground, 10s.; ... Reserved Seat for the Ceremony and ... An omnibus starts from the Tottenham-court-road ... every twelve minutes, reaching Hampstead, ... in forty minutes.

H. L. POWYS, Major, Chairman.

COMPETITIONS.

RKSHIRE AGRICULTURAL SOCIETY.—NOTICE to ARCHITECTS.—The following special ... given by R. J. Bentley, Esq.) are offered by the above ...

... best Design for Labourers' Cottages, with complete ... £20
... and best ditto ditto ... 5
... ditions of competition may be had on application to me.—
JOHN HANNAM, Secret'y.

... ighton, Wetherby.

ARCHITECTS and others.—SUNDERLAND ORPHAN ASYLUM.—The Principals and ... of the Sunderland Orphan Asylum are desirous of receiving ... ELEVATIONS, and general SPECIFICATIONS from Archi... for the ERECTION of an ASYLUM for Boys. The cost of the ... not to exceed 3,000*l.*, and two designs, that may be in... wings or otherwise. To be drawn to a scale of 8 feet to an ... ired with Sepia. A premium of 20*l.* for the best and 10*l.* ... nd best design, both of which designs are to become the ... of the Principals and Governors, who will not, however, ... bound to employ the Architect of either the first or second ... copies of the printed conditions and instructions to Archi... ting, and lithographed plan and sections of the site, may ... application to Mr. THOMAS MOORE, Architect, Sunderland. ... are to be sent, under seal, without name and with a pri... or motto thereon, accompanied by a letter under cover, ... containing a corresponding mark or motto, and the ... name and address, to her by the first day of JULY next. ... May, 1858. Mr. F. J. H. W. CLARKE, Secretary, ... 10, Fawcett-street, Sunderland. ... and Plans and printed Conditions will be ready ... A ... Further particulars, and to whom applications ... to Messrs. GREGORY and CO. No. 1, Bedford-row, W.C.

COMPETITIONS.

COMPETITION.—Drainage of the District of Surbiton.—The Surbiton Improvement Commissioners offer the following rewards for two schemes complying with the requirements of the Surbiton Improvement Act, combining the greatest economy and efficiency for DRAINING such parts of the district of Surbiton as shall be necessary, with a detailed estimate of expense and full description. 75*l.* for the best scheme; 25*l.* for the second best selected. The Commissioners do not bind themselves to employ either of the authors of the successful plans. The Act of Parliament plans and contour lines of the district can be inspected at the Offices of the Commissioners at Surbiton, where further information can also be obtained any evening between FIVE and SEVEN.

JAMES BELL, Clerk to the Commissioners.

TO ARCHITECTS.—Messrs. WRIGHT, ... perfecting to enlarge their BANK, are desirous of receiving DESIGNS for the same. A premium of 20*l.* will be given for the most approved design, and 10*l.* for the second; such designs to be sent to the BANK, Curlis-street, Nottingham, not later than MONDAY, JUNE 21st, 1858. A ground plan may be seen, and written particulars as to the requirements obtained, at the Office of Mr. FREDERICK JACKSON, Civil Engineer, Peter-gate, Nottingham.

May 12th, 1858.

TO ARCHITECTS and OTHERS.—SCARBOROUGH UNION.—The Board of Guardians of the Scarborough Union are prepared to receive PLANS for a NEW WORKHOUSE, intended to be erected in the Township of Scarborough. A Lithograph Plan of the ground, and instructions to Architects for preparing Plans and other particulars, will be furnished on application to the Clerk to the Guardians. The Guardians will give a premium of 50*l.* for the best and least expensive Plan in their opinion, and 30*l.* for the second best Plan in their opinion, the former sum to become the property of the Architect's Commission, and the Plans to be sent (sealed) to the Union Office before the 15th day of JULY, 1858. By order,

EDWARD S. DONNER, Clerk to the Union.

Scarborough, 13th May, 1858.

CONTRACTS.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of the MINTON TESTIMONIAL BUILDINGS, at Stoke on Trent, may inspect the Plans and Specifications at our Office, 14, Buckingham-street, Strand, London, and may obtain them on application to Mr. WM. DEAN, Station-er, Stoke on Trent, on and after the 19th INST. The Tenders to be sent to the Secretary on the prescribed FRIDAY. The Committee do not hold themselves bound to accept the lowest Tender.

PUGIN and MURRAY, Architects

London, May 1.

TO BUILDERS.—NEW WORKHOUSE. The Guardians of the Hamlet of Mile-end Old Town, are desirous of receiving TENDERS for the ERECTION of a WORKHOUSE, SCHOOLS, and other Buildings, in the said Hamlet. The plans, specifications, and conditions, may be seen at the Town Hall, between TEN and FOUR. Tenders endorsed, "Tenders for Workhouse, &c.," to be sent to me before TWELVE o'clock, on the 10th day of JUNE next. The Guardians do not pledge themselves to accept the lowest or any Tender.—By order,

E. J. SOUTHWELL, Clerk.

Town House, Mile-end road, Stepney, E. May 6, 1858.

TO BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the ERECTION of a SIXTY-QUARTER MALT-KILN, OFFICES, and SEED WAREHOUSE, proposed to be erected at Newark, may inspect the plans and specifications, and obtain further particulars, at the Offices of Messrs. HINE and EVANS, Regent street, Nottingham, from MONDAY, MAY 24th to THURSDAY, 27th, inclusive.

N.B.—The Lowest Tender not necessarily accepted

HINE and EVANS, Architects

Nottingham, May 6th, 1858.

GLASGOW CORPORATION WATER-WORKS, Loch Vennchar.—To CONTRACTORS and MASONS. The Magistrates and Council of Glasgow, as Commissioners acting under the Glasgow Corporation Water-works' Act, have Postponed the Letting of the Works for Regulating the Stowing and Discharging of Water in Loch Vennchar, and invite further TENDERS for the same. The Works consist of about 190,000 cubic yards of earth work, about 60,000 cubic feet of ashlar work, a large quantity of other mason work, sundry iron work, and the formation of new roads to the length of about 2½ miles. The outlet of the Loch, at which the principal Works are situated, is about two miles from the town of Callander, to which place a railway is to be opened next month. Plans, drawings, and specifications will be exhibited for the inspection of Contractors, at the Dreadnought Hotel, in Callander; and explanations will be given by Mr. GEORGE H. HILL, Resident Engineer, Loch Ard, Aberfoyle; or by Mr. BATEMAN, the Principal Engineer, Little George-street, Westminster. Tenders must be sent in, addressed to the Subscriber, at the Office of the Commissioners, 24, Miller street, Glasgow, on or before TUESDAY, the 1st day of JUNE next.—By order,

JOHN BURNETT, Secretary.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a RESIDENCE HOUSE, PORTERS LODGE, STABLING, &c. proposed to be built at Peterborough, may see the plans and specification, at the Architect's Office on and after MAY 20, and to whom sealed Tenders are to be delivered by JUNE 10, by TWELVE o'clock.

May 7, 1858. EDWARD BROWNING, Architect, Stamford

FREEHOLD. TO BE SOLD, within three miles of St. Paul's, on the south side of the Thames, about NINE RIBBS of most valuable FREEHOLD BUILDING LAND, with a good family residence. The property is pleasantly situate for the erection of villas, or tenancies of houses. The soil is gravelly, and ... roads have lately been made up to the property, so the ... is ... and in all lots for building purposes is now partly ... The whole is let at the low rental of ... Further particulars, and to whom applications ... to Messrs. GREGORY and CO. No. 1, Bedford-row, W.C.

CONTRACTS.

WAR DEPARTMENT CONTRACTS.—To BUILDERS and CONTRACTORS.—The Commanding Royal Engineer of the Aldershot District hereby gives notice, that sealed TENDERS will be received by the Director of Contracts (War-office, Pall Mall, London, until TWELVE o'clock on SATURDAY, the 5th JUNE next, from parties desirous of CONTRACTING for the WORK required to be performed in REMOVING and REBUILDING STRAW STORE, SOUTH CAMP, and FITTING UP SINKS in KITCHENS of Messes, Establishments in the North and South Camps at Aldershot, in the County of Hants, the plans of which may be seen, and specifications and forms of Tender obtained, on application at the Royal Engineer Office, Aldershot, on and after TUESDAY next, the 25th instant. The War Department reserves the right of rejecting the whole or any of the Tenders. No notice will be taken of any Tender which is not upon the prescribed printed form supplied to.

Royal Engineer Office, Aldershot, 19th May, 1858.

TO BUILDERS.—The Justices of Cheshire are desirous of receiving TENDERS for the ERECTION of a BARRACK, near the Castle of Chester, for the Permanent Staff of the First Regiment of Royal Cheshire Militia. The plans and specifications, and conditions of contract, may be seen at the Office of Mr. T. M. PENSON, Architect, the Bars House, Chester. The quantities will be taken out, and copies may be obtained at the said Office, on and after the 27th day of MAY inst. Sealed Tenders to be sent to the Clerk of the Peace on the said County, at his office, in Chester, not later than the 17th of JUNE next. The Justices do not bind themselves to accept the lowest or any Tender.

CHARLES WILLIAM POTTS, Deputy Clerk of the Peace.

Chester, May 12, 1858.

SOUTHAMPTON LOCAL BOARD OF HEALTH.—SEWERAGE WORKS.—To CONTRACTORS and OTHERS.—Notice is hereby given, that the Southampton Local Board of Health are prepared to receive separate TENDERS from any Person or Persons willing to enter into CONTRACT

1st.—To Supply about ONE MILLION of KILN-BURNT BRICKS, required for the Construction of certain Sewers in the Town;

2nd.—To CONSTRUCT certain MAIN SEWERS, for the completion of the Sewerage of the Town of Southampton.

Separate Plans and Specifications of the Works may be seen upon application to Mr. POOLE, Surveyor to the Local Board of Health, Southampton. Sealed Tenders (according to the Form on each Specification) must be delivered to me on or before TUESDAY, the 1st day of JUNE next. No pledge is given to accept the lowest or any other Tender.—By order,

CHARLES E. DAVIES, Clerk.

Southampton, May 7, 1858 Clerk to the Local Board of Health

RESTORATION of the BELLS, CLOCK, and CHIMES of the PARISH CHURCH, BIRMINGHAM.—The Committee are now prepared to receive TENDERS for the following:—

No. 1.—For a New Eight day Turret Clock, on the most approved Principle, and best workmanship, suitable for 6 or 8 Dials.

No. 2.—For a thorough Restoration of the present Clock, introducing such new Improvements as may be rendered desirable.

No. 3.—For the most efficient and complete Apparatus for illuminating the Four Dials, and to supply one or more new Dials, if required.

No. 4.—Restoration of the Chimes, adding all modern improvements.

Specifications and Estimates for the above work to be sent on or before the 1st of JUNE, to Mr. W. B. MAPPLEBECK, Hon. Secretary, Bull Ring, Birmingham. The Committee do not pledge themselves to accept the lowest or any Tender.

TO BUILDERS.—NEW CHURCH and PARSONAGE HOUSE, at Leafield, near Witney.—Any Builder willing to TENDER for the above-named buildings, is requested to signify the same, by letter, to the Rev. H. WORSLEY, Leafield, Witney, or to the Architect, Mr. G. G. SCOTT, 20, Spring-gardens, London, from either of whom he will obtain every information to see the drawings and specifications, and information as to the conditions, &c., of the competition.

N.B. Leafield is situated 4 miles from the Shipton Station, and 2½ miles from the Ascot Station, on the Oxford, Worcester, and Wolverhampton Railways.

TO BUILDERS and OTHERS.—Hargrave Park Estate, Upper Holloway.—The Trustees of this highly eligible FREEHOLD PROPERTY are prepared to entertain offers for the SALE or LEASE of BUILDING PLOTS on liberal terms. Houses built on adjacent property command ready tenants and purchasers.—For particulars apply to R. L. ROUMIEU, Esq. 10, Lancaster place, Strand; or to F. A. HANROTT, Esq. 36, Southampton-row, Russell-square.

TO BUILDERS and OTHERS.—FOR SALE, by TENDER, a MANSION at ERITH, to be pulled down and removed by the purchaser. For particulars, apply to Mr. J. PARISH, Erith, Kent; or JOHN APPLETON, Esq. Solicitor, 32, Broad-street-buildings, London.

BOARD of WORKS, WHITECHAPEL DISTRICT.—Notice is hereby given, that a Meeting of this Board will be held on MONDAY, the 31st day of MAY, next, at six o'clock in the evening, at the Office of the Board, No. 15, Great Alie-street, Whitechapel, to receive TENDERS for CLEANSING the STREETS, and GULLIES, &c. within the district of the Board, and Tenders for Refuse from within the district for the term of nine months, to commence on the 1st day of JULY next. Forms as proposed to contract may be obtained, printed forms of Tender at the Office of the Board, and Tenders must be delivered at the Office of the Board before FOUR o'clock in the afternoon of the day of meeting, and any Tender which is not upon the printed forms prepared by the Board, and duly signed by the person or persons so Tendering, will be rejected. The Board, however, do not bind themselves to accept the Lowest or any Tender.

ALFRED TURNER, Clerk.

15, Great Alie-street, Whitechapel

[For remainder of Contracts see next page.

CONTRACTS.

TENDERS are required for certain ALTERATIONS and ADDITIONS to the INDEPENDENT CHAPEL, Lymington, according to plans and specifications to be seen at the house of Mr. CHARLES P. HAYWARD, 2 St. John-street, Oxford-street, on SATURDAY, the 26th of JUNE, or at the Office of Messrs. Scott and Moffatt, Architects, Southampton-buildings, Chancery-lane, on the following day. Tenders to be delivered at the Vestry-room, Lymington, on or before WEDNESDAY the 30th of JUNE, at one o'clock precisely. Tenders to be sealed and addressed to the Secretary, and endorsed "Tenders for Alterations to Chapel." The Committee do not bind themselves to accept the lowest or any Tender.

ST. LEONARD, SHOREDITCH, MIDDLESEX.—To SEWER CONTRACTORS, BUILDERS, and OTHERS.—Mr. [illegible] is directed by the Vestry of the said St. Leonard, Shoreditch, to invite TENDERS for the following Works, viz.:—

1,310 feet in length of sewer 9 brick thick, 2ft. in diameter, and
1,058 feet in length of pipe sewer, 12in. in diameter.

The Specification and Conditions of Contract may be seen and forms of Tender obtained at the Vestry-clerk's Office, Shoreditch Church, on and after MONDAY, the 24th instant, between the hours of 10 and 4, and Tenders must be delivered at the Offices of the Vestry, as under. Security will be required for the due performance of the Works, and sealed Tenders must be delivered before the expiration of SIX o'clock on the day of meeting. The Vestry do not bind themselves to accept the lowest or any other Tender.

Vestry-room, Shoreditch, this 18th May, 1858.

GLOUCESTERSHIRE.—To BUILDERS.

COUNTY POLICE STATION.—The Magistrates for the County of Gloucester are willing to receive TENDERS for the ERECTION of a POLICE STATION and PETTY SESSIONAL COURT at [illegible]. Persons desirous of contracting for the same may see the plans, specifications, and particulars of the intended Works at the Office of the County Surveyor, Clarence-street, Gloucester, on and after TUESDAY, 18th inst., on which days, and not before, they are requested to attend at the Office of the Clerk of the Peace, at Shire Hall, Gloucester, to receive the same on MONDAY, the 31st of May. The lowest or any tender will not necessarily be accepted.

Shire-hall, Gloucester, 17th May, 1858.

TO SEWERAGE CONTRACTORS.—Waterloo-with-Seaforth Local Board of Health.—The above Local Board of Health are prepared to receive TENDERS for the CONSTRUCTION of about 2,000 YARDS of MAIN BRICK SEWERS within the district according to the plans, sections, and specifications prepared by their surveyor, which may be seen at the offices of the said Board, Great George-street, in Waterloo, on and after WEDNESDAY, the 19th inst., between the hours of 11 and 4 o'clock on Saturdays, and not before. Sealed tenders, addressed to Mr. W. A. BRADSHAW, Surveyor to the said Board, Crosby, near Seaforth, and delivered at the Board-room aforesaid on or before TEN o'clock in the forenoon, and THREE and FIVE o'clock in the afternoon of WEDNESDAY, the 26th inst., for the said sewerage," to be sent free, and addressed to "The Clerk of the Local Board of Health, Public Offices, Waterloo, near Liverpool," according to the forms prepared and delivered at the offices of the Board before mentioned, on or before THURSDAY, the 27th inst. The Board of Health do not bind themselves to accept the lowest or any other tender.

By order of the Board,
JOSEPH MASON, Clerk to the Local Board.
Public Offices, Waterloo, May 11, 1858.

NOTICE to TRADESMEN, BUILDERS, and CONTRACTORS.—Persons willing to enter into the next Triennial CONTRACTS for WORKS and REPAIRS, for the Royal Engineer Department, at Portsmouth and Alderney, are requested to forward their TENDERS on or before the 2nd of JUNE, addressed to the "Director of Contracts," War Office, Pall Mall, S.W. Schedules of prices, forms of Tender, and all other information, may be had on application at the Storekeeper's Office of the Director-General of Fortifications, War Office, Whitehall, S.W.; and at the Royal Engineer Offices at Gosport and Alderney.

Dated 14th May, 1858.

TO BUILDERS.—The Commissioner of Woods and Forests in charge of Her Majesty's Land Revenues in England have graciously directed TENDERS to be received, on or before MONDAY, the 24th day of MAY instant, for the ERECTION of FARM-HOUSES and BUILDINGS at Whitehall, in the county of Oxford. The necessary specifications may be seen on and after the 10th instant, at the Office of Works, Whitehall, where the said buildings to be erected will be shown, and the spot with the proposed new approaches for the use of the tenant; and by Mr. BOSWORTH, at Woods, on the Estate. The person whose tender is accepted will be required to enter into a contract with the Commissioners of Her Majesty's Woods, &c., and to be bound in a penalty of £500 for the due performance of the works. Further particulars may be had on application to Mr. JOHN CLUTTON, No. 7, Whitehall-place, S.W.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a DWELLING-HOUSE and OFFICES at Maypole-farm, near Hadleigh, Essex, may see the drawings and specification at the Office of Messrs. ADAMS and WIGAN, No. 19, Gracechurch-street, on and after TUESDAY, the 25th instant, at the Office of the Architect, Mr. ROBERT P. POPE, 21, Bedford-row, Gray's-inn, between the hours of TEN and FOUR o'clock. Tenders must be delivered at the said Office on or before SATURDAY, JUNE the 5th. The Architect will not be bound to accept the lowest or any Tender.

May 20th, 1858.

TO BUILDERS.

PERSONS desirous of CONTRACTING for the ERECTION of a large MALTING OFFICE in the Parish of Saffron Walden may see the plans, &c., at the Office of the undersigned, and Tenders must be delivered at the said Office, addressed to the Trustees of the late Mr. [illegible], on or before SATURDAY, the 29th inst. The Trustees do not bind themselves to accept the highest or any Tender.

W. THOMPSON, Architect.

Elm-street, Gray's-inn, May 21st, 1858.

PLYMOUTH SEA BATHING COMPANY (Limited).—To BUILDERS and OTHERS. PERSONS desirous of [illegible] the ERECTION of a BUILDING for BATHS, and of making that Road from Durnford-street, [illegible] to the Sea-shore, in front of the Hoe, Plymouth, according to the Plans and Specifications of Messrs. DYMENT and REED, Architects, No. 22, Golden-square, Piymouth, between the hours of TEN and SIX, from TUESDAY the 25th to SATURDAY, the 29th JUNE.

18th May, 1858.

GLOUCESTERSHIRE.—To BUILDERS.

COUNTY POLICE STATION.—The [illegible] are willing to receive TENDERS for the Erection of a Police-Station and Petty Sessional Court. [illegible]

[illegible] 12th May, 1858.

LLYNVI VALLEY RAILWAY.—CONTRACT of WORKS.—The Directors of the Llynvi Valley Railway Company intend to CONTRACT for the [illegible] of the Railway, from the Duke-street, Maesteg, to the Tondu Junction, on the Llynvi Valley Railway, a distance of about 2 miles 20 chains, including a viaduct over the River Llynvi, and a bridge over the Glamorganshire Canal. Plans, sections, and specifications may be seen at the Company's Office, Maesteg, on and after WEDNESDAY, the 19th day of May instant, between the hours of 10 and 4 o'clock. Tenders, sealed up, addressed to the Secretary, and endorsed "Tenders for Contract," to be delivered at the Company's Office, Maesteg, on or before MONDAY, the 31st day of May instant, at 12 o'clock at noon.

CONTRACTS.

TO BUILDERS.

BUILDERS desirous of TENDERING for the ERECTION of SCHOOLS and RESIDENCE at Willenhall, can inspect the Drawings and Specifications at our Offices, on and after TUESDAY, the 25th inst.—Tenders to be delivered to the Rev. [illegible] Willenhall, on or before MONDAY, the 7th of JUNE. The Committee do not bind themselves to accept the lowest or any Tender.—GRIFFIN and WELLER, Architects, Wolverhampton.

BROKEN GUERNSEY GRANITE. The Vestry of the Parish of [illegible] HALF PAST SIX o'clock on TUESDAY EVENING, the 25th instant, at the Vestry-hall, in Upper Rosoman-street, to CONTRACT, until Michaelmas next, for the BROKEN GUERNSEY GRANITE required for repairing the [illegible] from an inch and a half to not exceeding two inches to the square, to be completed within the [illegible] Forms of Tender may be had at the Vestry-clerk's Office, and sealed Tenders must be delivered at the Office of the Vestry, as under. Security will be required for the due performance of the Contract, and sealed Tenders must be delivered before the expiration of SIX o'clock on the day of meeting. The Vestry do not bind themselves to accept the lowest or any other Tender.

By order,
WM. DAVIS, Clerk to the Vestry.
Vestry-room, Clerkenwell, 19th May, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a small VILLA, at Hyde Vale, Greenwich, for MARK LINDSAY, Esq., may see the plans and specification, and obtain quantities, on and after WEDNESDAY, MAY 26th, at the Offices of the Architects, Messrs. W. G. and E. HABERSHON, No. 8, Bloomsbury-square, London. Tenders to be delivered at the latter address, on THURSDAY, the 27th MAY, at TEN o'clock precisely. The Architects do not bind themselves to accept the lowest or any Tender.

NOVEL and BEAUTIFUL WORKS of ART, AUTO RELIEVOS in paper, bronzed, and in gold and silver, to the choicest patterns, forming elegant ornaments in frames or otherwise, for the drawing-room, library, &c. Wreaths of Bottle, arranged in trophy, new designs, and boxes of the Fine Arts are in particular request for Ball.

The attention of architects and first-class decorators is especially invited to these works as peculiarly suitable for overmantels, panels, &c., and for the latitude in their price renders available the extensive adoption for small houses.

Various specimens, price-lists, and circulars, can be obtained on application at the Exeter-Hall Gallery, No. 301, Strand (four doors west from Wellington-street).

[illegible], Secretary.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from 4 to 6 inches wide, perfectly dry, and well manufactured by Machinery, Wimbourne, and all kinds of Timber required for Building Purposes. Address R. SLADE, Slade's Saw Mills, Floors, Matchboard, Wimbourne, Dorset.

MAHOGANY and DEALS at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of buyers to an unusually well-selected Stock of Mahogany (including counter top and dining-table boards), and Deals of every description, commencing at the following prices, viz.:—

Honduras Mahogany, 4s. 6d. and 5s. per foot
Yellow Pine Planks, from 9 to 21 inch.
Spruce Deals, from 9 to 21 feet each
Pine Planks, from 3s. 6d. each.
Yellow Deals, 11f. 10s. per 120 12 to 24
4 inch Flooring, 11s. 6d.; 1 inch ditto, 15s. per square.

An assortment of Mahogany and Walnut Veneers, &c.
Elm-street, Gray's-inn-lane; and Borough-road, Southwark.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 6 in. Spruce, 2s. 9d.; Pine Planks 3 in. Mahogany and F. Walnut, 5½d.; 2½-inch White Battens, 9d. per Yellow, 11f. 10s.; 1-inch White Flooring, 1s. 6d.; ditto, 11s. 6d.; 1-inch Yellow, 1s. 6d.; ditto, 13s. Bird's-eye Maple Veneer, 2d. Carriage for town paid to [illegible].

I. PURMAN, 11, Walnut-tree walk, Walcot place, Lambeth, S.

ALFRED ROSLING and SONS beg to inform the Commercial and Building Trade generally, that they are about to allow a discount of 17½ per cent upon their net prices for Mouldings, Architraves, &c. A large Stock of Flooring at low prices.

Southwark-bridge Wharf, Rankside, S.E.

A CORN TIMBER WHARF and SAW MILLS.
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-street, Pimlico, Pavement, and to the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c., at the LOWEST Remunerative PRICES.
Books of Designs of Mouldings free to any applicant.

PREPARED FLOORING!! W. G. WARBLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	1	1¼	
Spruce	12s.	13s.	15s.	per square
White	15s. 6d.	16s. 6d.	17s. 6d.	18s. "
Yellow	18s. 6d.	19s. 6d.	20s. 6d.	21s. 6d. "

Lengths cut in any required size free of charge.
STANGATE SAWING and PLANING MILLS, Lower-road, Lambeth, S.

TO BUILDERS, CABINETMAKERS, and others.—ALFRED CAREY solicits the following very reduced [illegible]:—

4-inch Prepared Flooring	£0 11 6 per square
5-inch Prepared Flooring	0 14 0 per square.
6-inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals.....	0 0 6 each
Pine	0 2 6 each
Pine	0 3 6 each.
Yellow Battens	11 10 0 per 120.

All sawing and planing [illegible] at the lowest charges.
ALFRED CAREY, Old Kent-road, S.E.

MOULDINGS by MACHINERY. [illegible] carefully packed and sent to all parts of the country. A Pattern List sent on application.

E. SOMES,
SAWING, PLANING, AND MOULDING MILLS,
KING'S ROAD, CHELSEA.

JOINERY of EVERY DESCRIPTION.
SEARCASES,
SHOP FRONTS, SASHES AND FRAME DOORS [illegible]
Orders [illegible] applied at the
J. MILLS,
11a, Bridge-road, and 17, Penton-street, Pentonville, London.

JOINERS' WORK in all its branches EXECUTED with despatch, and cheaper than any house in London.

S. A. JEFFS,
48 and 49, Cornwall-road, Stamford-street, Lambeth, S.
N.B. Price-list on application.

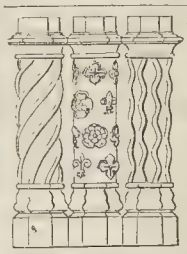
TO BUILDERS and CONTRACTORS.—FOR SALE, a quantity of capital well-seasoned Ironclad Yellow FOUR-PANELLED DOORS, 7ft. 6in. by 3ft. 6in. Also Scantlings for Building and other purposes.—Prices and particulars may be had on application to TREDWELL and CO., Railway Timber and Iron Works, Gloucester.

PATRONIZED BY HER MAJESTY.
THE "GRAND EMPEROR" LOG MAHOGANY is now CUT into VENEERS. Her Majesty has been pleased to [illegible] furniture for her Palace to be made from the celebrated wood. The Veneers are now on sale, with the [illegible] Spanish Mahogany just opened—the "Prince of Wales," together with French walnut, rosewood, and other veneers.—At Messrs. TULLY and CO.'s, Mahogany Merchants, Bridge Wharf, City-road.

WHITE and MITCHELL, JOINERS AND SASH-MAKERS TO THE TRADE, No. 11, Commercial-road, Lambeth.
Sash-cases, Sash-fronts, Fittings, &c. Well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage stamp. Work-shops, 74, Commercial-road, Lambeth.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOP SHOP SHUTTERS are SHOD and SECURED by the above at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Sizes referred to, every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depôt, 6, Buckingham-street, Excelsior-road.



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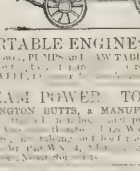
371—375, EUSTON-ROAD.
ARTIFICIAL STONE WORKS.
CATALOGUES OF CHIMNEYS AND ALSO OF FOUNTAINS ON APPLICATION.

THE PATENT GALVANIZING and CORRUGATING IRON WORKS, Glasshouse Yard, opposite the entrance of the London Docks, Aldgate, E. TEMPLE and CO. beg to inform the public that they are prepared to supply CORRUGATED SHEET IRON, Galvanized, Painted, or Black, of the best quality at the most reasonable terms. By the new [illegible] they can now [illegible] better castings than have hitherto ever been attempted. Sheet and Wire Work of every description. Estimates given for Hoists, Roofs, Screens, &c.

MIRAMS, COWELL, and CO. WHOLESALE AND RETAIL IRONMONGERS, RANGE AND STOVE MAKERS, 24, CHISWELL-STREET, FINSBURY, Beg to call the attention of the Building Trade to the extensive and varied Stock of IRONMONGERY AND BELL HANGING MATERIALS, PIPES, GRATES, &c. &c. At wholesale Prices. A full List of which can be had on application by enclosing a card.

N.B. A LIBERAL DISCOUNT TO THE TRADE.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES to LET or HIRE, and sold on the most liberal terms.—Apply to T. CRESWELL, [illegible], Lambeth, S.

STEAM POWER TO BE LET, at NEWINGTON BUTTS, a MANUFACTORY, with DWELLING-HOUSE, Steam Engine, [illegible] power, and light [illegible] with dwelling-house if required. Also, a Timber Yard, with dwelling-house and [illegible] for Timber or Firewood. Apply to Mr. TAYLOR, 187, Southwark-bridge-road, Newington.

STEAM BOILERS, 150 tons.—Cornish and tubular boilers, new and second-hand, from 10 to 30 horse power; Steam Engines, Sawing and Mortising Machinery, Hydraulic and Screw Presses, Lathes, Atmospheric Machines, Double Brick Mill, Builders Crane with [illegible], useful Machinery, and Fixed Portable Steam Engines, suitable for [illegible] Apply to Messrs. [illegible], Southwark-bridge-road, Newington-causeway. N.B. Plant and Machinery purchased.

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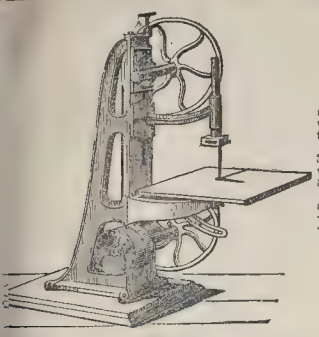

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ENGINEERS AND MANUFACTURING IRONMONGERS,

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POWIS, JAMES, and CO. beg to call the attention of House and Coach Builders, Cabinet and Chair Makers, and others using such Machinery, to their improved ENDLESS BAND-SAW, both of HAND and STEAM POWER, which are well adapted for every variety of work, CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT, of any thickness; the TABLES are swinging so as to CUT to any ANGLE.

Also, their CIRCULAR SAW-BENCHES, for HAND or STEAM POWER. The HAND POWER one will RIP UP 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and it is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.

Contractors and Proprietors of SAW MILLS are particularly invited to inspect at work, at POWIS, JAMES, and CO.'S Manufactory, their

IMPROVED PATENT PLANING, TONGUEING, and GROOVING MACHINE,

doing SEVENTY FEET per minute of board of any thickness, and GOOD WORK.

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POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE,

With full set of solid Cast-Steel Tools, complete,

IS NOW REDUCED TO FOURTEEN POUNDS.

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For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

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ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

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Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,

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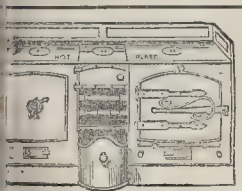
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.



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These Ranges are strongly recommended for Economy, Cleanliness, and Ease of Management.

The Trade Terms are entire and efficient Hot Plates, and have an Open Fire, enabling all the comforts of a Close Fire Range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

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Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

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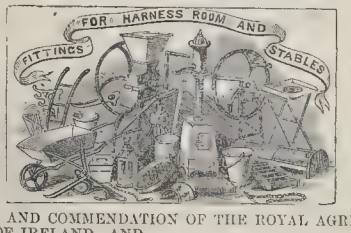

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ARRANGEMENTS.

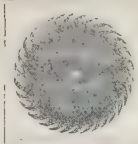
PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Driving, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.



JOHN PARKIN late Blake and Parkin,

STEEL WORKS, HARVEST LANE, SHEFFIELD

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Awarded by the Jurors of the GREAT EXHIBITION, 1851, for the Manufacture of Steel.

FIRE PROOF CONSTRUCTION. — FOX and BARRETT'S PATENT.

This improved system of [illegible] has been [illegible] extensively erected, and [illegible] LARGE DESIGNS OF [illegible] JOHN [illegible]

These [illegible] GENOUS, will [illegible] perfectly fire-proof, [illegible] and [illegible] all [illegible] dangers.

The floors are formed [illegible] rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possesses [illegible] adapted to receive a finished surface, either of the ordinary flooring boards, or of cement, asphalte, tiles, slate, or other material.

[illegible]

Mr. BARRETT,

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CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's — JONES and BLAXTON, having made great additions to their STOCK of PATTERNS, [illegible] Trade [illegible] are now supplied [illegible] with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Stable Fronts, Iron Staircases, Trees, Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Large Boiler and Tank Plates, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges always in stock.

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IRON WORKS for SALE. — TO BE SOLD, by Private Contract, the BEDLINGTON IRON WORKS, situated at Bedlington, on the [illegible] Blyth, and along the [illegible] and Tyne Railway, with a branch. The works consist of two powerful engines of [illegible] horse power, [illegible] and one [illegible] engine, with [illegible] and one [illegible] and [illegible] There are thirty puddling and eleven heating furnaces; also one engine for large plate [illegible] small purposes, [illegible] and a good 25-horse power engine for working a good use forge, with [illegible] furnaces. The works are capable of making [illegible] tons per week. The [illegible] and with these works are their being situated in a large coal district; also, their being connected with the Blyth and Tyne Railway, which goes [illegible] Blyth Harbour, on the East Coast, and sent to any part of the kingdom by rail, or at Blyth, at a very small cost, where also the raw material can be delivered ex ship. The works could be ready for immediate operation at very small cost. There is attached to the works a mansion house, a manager's house, offices, and several cottages; also a first-rate dam and a large reservoir of water, capable of driving a water-wheel of 100 horse power. For further particulars apply to Mr. GIBB, at the works; to Mr. JOSEPH THORNMAN, Newcastle-on-Tyne; or Messrs. LACE, MARSHALL, and GILL, Solicitors, Liverpool.

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THE POLICE AUTHORITIES of London and Manchester having allowed Mr. CHUBB to examine and experiment with the very ingenious

BURGLAR'S DRILLING-MACHINE,

Lately captured in those cities by the Police, he has Invented and Patented a simple but most effectual PREVENTIVE, which is now supplied, without any extra charge, to all

CHUBB'S FIRE-PROOF SAFES.

The above Invention is applied in addition to the plan of protecting the lock by case-hardened iron and hard steel plates, as used by Messrs. CHUBB for the last twenty years. These Safes are also fitted with

CHUBB'S GUNPOWDER-PROOF LOCKS.

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Complete Illustrated Price Lists of CHUBB'S SAFES, Patent Detector Locks, Cash and Deed Boxes, &c., sent on application.

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Makers to Her Majesty, the Principal Government Offices, the Bank of England, and the Principal Banks in the United Kingdom.

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CONTRACTORS
FOR THE
ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,
With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;
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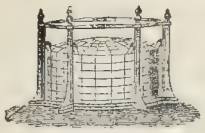
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



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Gas Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
DEVICES FOR GAS ILLUMINATION.
IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.
These Turnstiles were selected for the Entrances of the Great Exhibition, New York.
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Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.
DARLINGTON WORKS, 16 to 19, SOUTHWARK-BRIDGE-ROAD, LONDON.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

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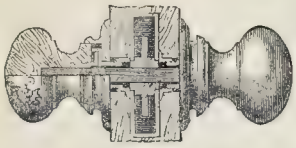

THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershott, &c. &c. and is universally approved.

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A most complete and extensive stock of every description of locks, latches, brass foundry, and furnishery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

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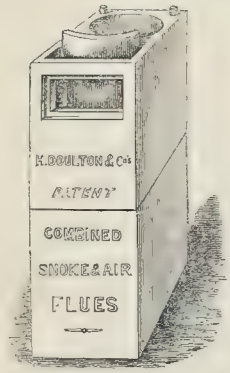

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PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork*.

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

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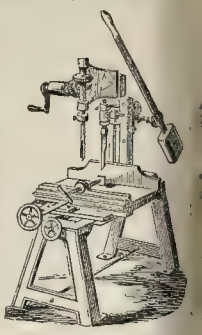

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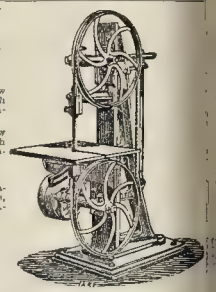
Testimonials of the highest class can be shown from Builders in almost every part of the United Kingdom.

A The Boring and Drilling Apparatus, which can be removed at pleasure

Price 16*l.* complete, with a set of eight chisels, centre driver, and Boring Apparatus

Ditto, ditto, without the Boring Apparatus. 12*l.*

MACHINERY FOR SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55*l.*

Price of Band Saw Machine, with 21-inch pulleys and light framing, 32*l.*

A descriptive Catalogue, with Drawings, may be had on application to

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THOMAS ROBINSON and SON,

ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*

Drawing sent on application.

PATENT MACHINES for WORKING in WOOD.—These celebrated Machines have been awarded a number of prize medals by many scientific institutions, and also by the Great Exhibition in London, and are now extensively used by the Indian, American, and all the principal Governments in Europe, also by eminent Contractors, Builders, Shipwrights, Model makers, and other workers in wood. Their operations are in every respect perfect, either in hard or soft wood, for planing, squaring up, moulding, tenoning, mortising, grooving, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.

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CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c. half-round and Ogee Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful crane.

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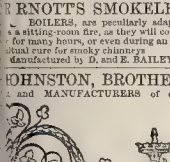

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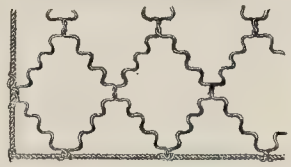

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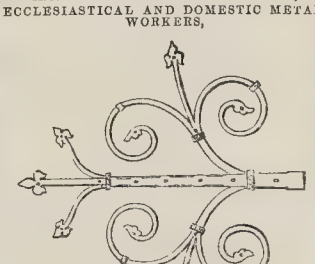

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The Builder.

VOL. XVI.—No. 798.

The Opening of the New Opera House, Covent-garden.

HARDLY ever has the progress of a structure excited so much attention from the public, as the building of the New Opera House, Covent-garden.* For days before the opening on the evening of Saturday last, Bow-street was crowded with gazers, marvelling at what had been effected, but incredulous as to any accomplishment of what remained to be completed. Surely never had architecture such a site of vantage for the attraction to itself of the due, and long-desired, popular appreciation. "*Video* [the architect might have said] *Patres Conscripti* [*i.e.* Oh! British public] *in me omnium vestrum oculos esse conversos.*"

Recollecting the state of the interior of the house on the Wednesday before the opening,—when ny of the box fronts had to be fixed; when a seat in the pit was placed, and not a e of drapery hung to 120 boxes; when the dre chandelier had to be put together and ded, railings to be fixed and gilded, furning and upholsterer's work to be done in the sh-room, staircases, corridors, and dressingms; electric telegraph wires to be brought and matters before and behind the curtain merable, to be completed; and recollectthat up to a late hour in the afternoon of rday, the covered roadway was inaccessible, the scaffolding hardly down, the state of pleteness in which the house opened was ainly remarkable,—after making every rwance for the large number of hands emed, and the skill with which they were ected. Even at the last hour, difficulties e that were unavoidable, but which might e prevented the opening for one night at t. At one moment the chandelier could be lighted by the usual means: at another, eluge of water in one of the lower corridors, monstrated in the most powerful but ward manner, the efficiency of means for sting progress of fire; but eventually the se was presented to the public in a manner ch reflects credit on the architect and the tractors. The elaborate scroll railing to principal staircase, was finished and gilded he course of a few hours on the Saturday.

Defects are indeed observable in details of decorations; and others of the greatest portance, were created on the opening night, he arrangement of some of the entrances exits; but the defects of the former class we believe, due in part to the circumstance certain amount of interference with the itect, and those of the latter kind to the use, or omission of the use, of the means ch the plan provided.

ong after eight o'clock, on the opening t, the single staircase which it was ught fit to use for the "amphitheatre ls" and gallery indiscriminately, was blocked en people, in slow and toilsome ascent; and at the conclusion of the performance, the mistake referred to was repeated. The plan, in fact, provides an unusual number of exits to the several divisions of the auditory. There are distinct doors and staircases on the Hart-street side, intended for the "amphitheatre stalls" and the gallery respectively. About 1,100 persons are believed to have found room on Saturday night in these parts of the house; and the best possible provision will have to be made for like audiences, on grounds both of convenience and safety. The staircase originally designed for the "amphitheatre stalls," appears to have been appropriated as a communication between the different tiers of boxes—additional to that which there is towards the opposite side of the house, but sufficiently near to the centre and to the grand staircase and crush-room for most purposes. It is suggested, however—provided one entrance and staircase can suffice for access to the different classes of seats of the "amphitheatre" and gallery that the original intention should be carried out as to *exit*, at the close of the performance, whereby the going upstairs from the stalls in order to get down the gallery staircase, an arrangement itself a source of danger, would be avoided. In ordinary cases, the classes of visitors to the "amphitheatre stalls" and gallery would enter at different times; the unreserved seats being filled soon after the opening of the doors; and the holders of tickets for stalls not arriving till about the time for commencing. We should have preferred indeed, having regard to the probable increased demands in the winter season, to have had still another exit from the gallery, or on the south side. We have reason to suppose, however, that in these matters the architect has had to yield to the opinions of others. He has not given that amount of egress from the galleries, which seems to be provided by the plan of Drury-lane Theatre, though not now made use of; but he has been able to afford much more than is usually met with in London theatres, and has planned the stairs themselves in a manner which would leave little to be desired. As to the arrangements existing, generally, at the London theatres, our opinion as to the want of thought on the part even of the public themselves, is well known; and we need hardly now recur to facts which have painfully justified our apprehensions. The means of exit from the pit, at Covent-garden, we believe will be found especially well provided. The entrances to the pit-stalls are (one on each side of the house) by descending steps from the corridor of the lower or pit-tier of boxes. The ordinary seats at the back which are, of course, on a higher level, or following the rise in the floor of the pit—are reached by *ascending* steps from the pit corridor, which is beneath that just mentioned. The ends of this pit-corridor (next the line of division of the proscenium) would be useless; but the space there will be devoted to dressing-rooms.

As changes have been made in the arrangement of the seats since our last notice appeared, it may be well here to give the numbers of persons which the house is now planned to accommodate during the opera-season, with a rough estimate of the total number that it would contain after the alterations which the house is designed to admit of. The numbers, in tabular form, are as under:—

Estimate of the Accommodation provided in the New Opera House, Covent Garden.

OPERA SEASON, As arranged for,—

Pit:		
Stalls, reserved	274	
Add for chairs, extra, in the alleys at the ends, say	20	
		294
Seats, ordinary; separate, but not reserved (price 10s. 6d.)	193	
Carried forward	487	
Brought forward		487
Boxes:—		
Pit tier: thirty-four boxes of ordinary size; four persons in each	136	
Grand tier: thirty-three boxes of ordinary size; four persons in each	132	
,, Her Majesty's box, say	8	
,, The Duke of Bedford's box, say	6	
First, or upper box tier: thirty-six boxes of ordinary size; four persons in each	144	
Top tier, on the level of the "amphitheatre stalls:" sixteen boxes of ordinary size; four persons in each	64	
		490
"Amphitheatre stalls," reserved (price, front row, 10s. 6d.; second row, 7s. 6d.; back rows, 5s.)		320
Gallery,—front portion,—not reserved (price 2s. 6d.), estimated to hold	380	
Gallery, side galleries, not reserved (price 2s. 6d.), with extra numbers, say	220	
		600
(*** On the opening night, May 15th, there were 380 persons in this part of the house.		
A full audience		1,897
Orchestra,—number of musicians		70
Total accommodation of the auditory (without crowding), under the arrangement of the house for the ordinary opera season		1,967
WINTER SEASON, Add, say 600 for the increased numbers in pit and boxes, by removal of the divisions		600
As above		1,967
A full audience		2,567
And add, on extraordinary occasions, in galleries, say		200
Total		2,767

On the opening night, May 15th, it is estimated there were at one time in the house:—

The number of "a full audience"	1,697	
The excess in the galleries	200	
Excess in boxes, say	100	
		2,197
Orchestra		70
Total		2,267

The decorative character of the interior of the house offers a marked contrast to that of the Opera House in the Haymarket,—as to that of the Princess's, Lyceum, Haymarket, Olympic, Adelphi, and other London theatres. For painted decorations, that is to say, ornament and allegorical compositions, simple white and gold enrichments, with a subject in relief, and isolated figures modelled as terminals to trusses on the box fronts, are to be seen, Mr. Gye's idea being that, in decorative effect, the *colour* needed is supplied by the hangings (crimson or rose-coloured in this case) and the dresses of the audience; and it may be true, not only that the "white and gold" system is, comparatively speaking, a *safe* one; but that the chromatic decoration in some London theatres detracts from the scenery, as we have had occasion to this to observe. The avoidance of colour in the present case,—save as to the ceiling, where a light blue ground is resorted to,—is justified, it is maintained, by the result in some of the chief theatres of the Continent, whereof one at Berlin is specially mentioned. But we need not refer to the increased prominence, and we think *effect*, which may be given to gold by background of colour, though so small in amount as to be in itself hardly apparent, of which an illustration will be referred to shortly. Indeed, the use, in many recent works, by decorative artists, of mere lines, and of ornaments of very simple character, whether in positive red or in a light tint of tertiary colour, occupying a small area of surface in proportion to the field, and likewise the manner in which floral subjects may be introduced without obtrusiveness, seem to us sufficiently happy in their results to invalidate any conclusion of the kind supposed, on the point in question. And it is a curious and note-worthy fact that another building—the St. James's Hall—opened some weeks earlier than the theatre, is designed on a principle entirely opposed to that of the decoration of Covent-garden, though the distinct uses of the buildings should not be left out of the question. It is satisfactory, however, to find that the mistake often made, in distorting forms of ornaments by gilding edges and tips of leaves, and from which some of the courts at the Crystal Palace are not free, is not made at Covent-garden; it is perceived that the whole of a detail, or [illegible] or the

* Of which we give an interior view at page 355.

background, should receive the particular enrichment.

In the boxes at Covent-garden, the fronts of the principal tiers—which are nearly alike—have the common pulvinated, or, strictly speaking, the inverted-ogee form of section, surmounted with a moulded and enriched capping and the crimson-covered shelf or arm-rest, and finished below by mouldings, and a band or fascia with upright beadings as ornament. The swell of the bow is covered with trellis-work, and immediately above it is a collection of leaf-work and floral ornament, which seems to be varied in the several cases, but so as to vary little from uniformity in the general decorative effect. The main divisions, comprising two of the ordinary boxes in width, or 18 bays in all, are marked by the trusses with figures as terminals—these holding up the strings or festoons of the ornament. The figures are white, with gilded wings; their attitude is not altogether unobjectionable. At the top tier, the ornament is solely of ivy leaves, and the figures are represented standing on the trusses, and blowing gilded trumpets. The lowest front of all is different from the others in section and in enrichment, being only a fluted podium, the flutes gilded, with some floral ornament on panels of pedestals to the main divisions. The boxes, eight on each side, on the level of the "amphitheatre stalls," are finished with a bold cresting of good design, gilt. The bays themselves of the three main tiers of boxes are separated by a twisted column with capital, the whole gilt; and above each division of the lower tier is a three-branch candle-light. In addition to the side hangings to the boxes, a line of plain drapery is carried round, below the band or fascia of the fronts already mentioned. Considerable breadth of surface in the fronts, between the ornament and the cornice, is left as white ground, and, with the gold, tells as was intended: but the form itself of the ornament is confused and lost at a distance.

What the architect himself designed was, in many respects, better than what is executed. He proposed a more architectural, or as we may say, a less *rococo* character of ornament, one in which details would have told from a distance, and would have borne examination better than those of naturalistic or floral ornament, and of the minute enrichment of the mouldings, as executed. Both mouldings and ornaments were bolder; and trellis-work with rosettes covered the upper portion or concavity of the front, and a row of acanthus-leaves, of no great size, ranged along the pulvinated or convex portion. In place of the band or fascia, a depending fascia with ornament and tassels, was to be used as a crowning feature to the lower draperies; and on the main divisions of the bays, were circular panels with mouldings, to contain the heads of composers, musical instruments, or other accessories, varied in the several tiers. It was first proposed to colour the ground to correspond with the curtains, under the idea that the box fronts having little apparent support, should be made themselves to appear as light as possible. In all respects, design would doubtless have been further studied had it been decided to adopt its general character. We do not ourselves see,—where, as in the present case, a ceiling is supported on four elliptical arches, carried on piers, and is in plan independent of the plan of the boxes,—that the extraordinary lightness would have been required, or would have been procured altogether and satisfactorily, by the means intended. However, from some reason, a different principle has been adopted in a specimen which is now at the establishment of Messrs. Jackson and Sons. The interspaces of the acanthus-leaves are there coloured red, as are also the fillets or reveal edges of the panels formed by the trellis-work. With little alteration to the depending ornament, this design would have left nothing to be desired.

With results which are even less satisfactory, the architect has not had his way, we learn, in every part of the ceiling. The design, as executed, comprises an outer circle of [illegible] ribbings, borne by the elliptical arches and piers, and a slightly domical [illegible] or soffit, divided into twelve main [illegible]ments by radiating bands in white and gold. The outer portion of these compartments is filled with a gilt trellis-work of novel pattern, which, like the other parts of the ceiling, with exceptions we shall mention, is from the architect's drawings. The bands extend to the ring of gilt mouldings round the ventilator, which last is filled with gilt tracery of intersecting circles. The first weakness to be noticed, for which, as we understand, the architect is not responsible, is in the treatment of a cove or space which occurs between the compartments and the outer ring of mouldings. Instead of continuance of the bands, so as to give the idea of support to the centre from which the chandelier hangs, the cove has a number of pateras (or circles filled with ornament), and these inevitably give the idea of revolving movement. Fresh from an examination into the construction of a swing-bridge, we will acknowledge that we may in this case be liable to prejudices of a sort which might be avoided by critics and the public with considerable advantage to art. The actual and radical defect of the present design, however, lies deeper than mere resemblance to any one object, or familiar mechanical contrivance. Again, a defect in the ceiling, is the use of imitative gilt cords. These serve to conceal the meeting edges of the "fibrous slab," and are tied at central points by rosettes. The mistake here may seem a trifling one; but it is not so, and it operates much in the effect of the ceiling. Mr. Gye's taste, and skill in a certain branch of decorative art, are not to be questioned—proved as they have been on frequent occasions. There is much that any architect might have learned from what he has done, often with the most simple materials—cords and drapery; festoons of flowers; evergreens and sculpture. But there is, nevertheless, distinction as well as unity, between his branch of art and ours; and, not to refer to the dissatisfaction to be felt as to a particular sort of *imitation*, there is a certain solidity and an architectonic character which must be adhered to, even in parts the most ephemeral and superficial, in decoration of buildings. Again, the architect has not been able to carry out his designs for the proscenium, so far as the upper portion, or rather the tympanum of the elliptical arch, is concerned. The subjects *in rilievo*, the figures the size of life, in white on a gold ground, and representing Music and Poetry, with Orpheus and Ossian as the chief personages, executed in lieu of the original treatment, however, are happily introduced; but the central ornament gilt, composed of two figures holding up a crown, and of a medallion with a head of the Queen, has not the smallest title to art, and belongs to a class of works which should make a great show next week in the confectionary booths of Greenwich. The proscenium opening itself is advisedly treated by the architect as a simple gilt frame to the *spectacle*: it has quadrant corners, at the top, and bold enriched mouldings on brackets; and to the sides has twisted shafts and mouldings, whereof one portion is moveable by a contrivance referred to in our last week's article. The opening in ordinary use will thus be some four or five feet less than the available dimension stated by us.

Completing the description of the ceiling;—what may be called the pendentive spaces (though they are nearly horizontal), are each filled with a circle and three spandrils,—the circular space being richly moulded and filled with radiating flutes, with a wreath and lyre in the centre, and the spandril spaces having a diaper of moulded leaf-enrichment. The bands of the elliptical arches have a panel with a guilloche ornament and wholly gilt; whilst the soffits over the side galleries are arranged with large square panels, whereof that in the centre, apparently for ventilation, is filled with elaborate enrichment. The fronts of these galleries themselves bracket out with a cove which is covered with trellis-work, and have a gilt railing of a simple but effective pattern. The portions of the piers to the arches, showing in the "amphitheatre," are also panelled and ornamented with trellis-work. The front of the central, or principal gallery, above the stalls, has oblong and small circular panels—the latter filled with rosettes. Decoration somewhat of this character was, we believe, intended by the architect, for the fronts of the pit-tier of boxes, in place of the fluting now used. The centre chandelier is composed of strings of lustres in four tiers, besides the tent-shaped top; and has, further, a number of attendant lights around the upper tier or circle. The Queen's entrance and ante-room has not yet been finished in the painter's work, quite as was intended; but, it is a well-proportioned and effective apartment. The ceiling has a cove enriched with gilt trellis-work; and a plafond with a centre ornament for the chandelier of glass lustres: an arch-headed window with gilt mountings groins in, and paintings are inserted in the walls. The crush-room and grand staircase are at present not seen to advantage; the decorative effect of the former is comprised in the use of Ionic columns and pilasters, and that of the latter in the width of the stairs, the marble base-moulding, and the gilt scroll-work before mentioned.

The entrance-hall with the carriage-porch are exceedingly convenient as compared with the arrangement of the old theatre, though the causeway laid down under great difficulties, to be absolutely free from danger at the entrance and exit, needs alteration, which no doubt it will speedily receive.* It is perhaps, on æsthetic grounds, to be regretted that so much use was made of cement on the exterior of the building, though we are by no means now prepared to solve the problem of the fitting use of cement, or of the proper means to be taken as the alternative in dispensing with it. The sides of the building were originally intended to be finished in brickwork; the alteration was due to the stipulations of the Duke of Bedford's surveyor. There is, perhaps, less objection, on the ground just referred to, to these flanks, than to the pilasters, mouldings, and other more imitative parts, which, within a few years, under the influence of the weather, may not appear so satisfactory as they do at present. The use of cement to the piers and sides of the carriage porch is certainly, structurally, an error. The portico was not completed, or ceiled in, on the opening night; the columns with their architrave, the balusters, and the iron girders for the ceiling, were however finished. The trusses carrying the ends of the girders, the masks as consoles to the windows, and the four heads of ancient and modern dramatists, in circular panels between the windows, may be named with approval for propriety of selection in the subjects, or for their execution. The modification in the *rilievi*, by Flaxman, which was required to fit them into the new design, may be regretted. The figures of Melpomene and Thalia are unchanged, save the cleaning of them with soap and water.

Were we to notice all the misstatements that have been "going the round" of the newspapers as to this building, we should inconveniently extend the present notice. Let us, for the hundredth time, dispute the assertion as to buildings of good proportions appearing smaller than they really are: without the slightest reference to the particular case of the interior of the theatre, we say that lack of apparent size is simply so much lost in effect, and so much thrown away in brick and stone. And when future historians are looking into the facts of this theatre, as it has been the habit of others to do regarding former theatres on the site, let them disbelieve that any "brick shaft" was the means of raising the girders, and "whereby" and "of course" a *fulcrum* was obtained, and so forth. The real contrivances resorted to in the progress of a work like this theatre, would, indeed, merit a record. As to the girders, they were raised in great lengths to the top of what we may call a table, built up of whole timber in the centre of the building, on which platform the final riveting was done. The girder was then moved on rollers on a kind of temporary railway, laid along the top of the walls, until

* The dimension named as the height of the entrance-hall which was given to us, and, it happened, was set down without testing, was an error. The height of the hall cannot be half what was stated. In other particulars our figures will have to be amended only in the matter of the accommodation, altered since the date of our article, which, as it exists, we have given above. The grand staircase is less effective than the old one.

it reached its intended position. The girders are now so formed, and so fixed, that every portion of them, even where they tail into the walls, can be kept regularly painted. The contract was, we believe, taken for 60,000*l.* or thereabouts; but the extra works are likely to raise the cost to 70,000*l.* As to the fitness of the structure in acoustic properties, we can as yet arrive at no decision; but as to its safety and commodiousness, we have before said, it makes a considerable advance on previous structures. It is only fair to give with as much precision as we can, the names of the chief persons who have contributed to the result. The architect was Mr. Edward M. Barry; the clerk of the works was, up to the completion of the carcase, Mr. Josiah Allan, and subsequently Mr. H. Miller; the contractors for the whole works were Messrs. Charles and Thomas Lucas; their general foreman was Mr. Samuel Clemence; their foreman of bricklayers, Mr. Jacobs; of masons' work, Mr. Hadfield; and of painters' work, Mr. Wilson. The carving was executed by Mr. Tolmie. The sub-contractors were for the slaters' work, Mr. North; for the founders' work, Messrs. H. and M. D. Grissell, to whose managing clerk, Mr. Lane, we believe, is due the design of the roof girders; for the plasterers' work, Mr. Parsons; for the plumbers' work, Mr. Dent,—the principal apparatus being supplied by Messrs. Botten. The decorative work of the proscenium frame, and the main portion of the ceiling, designed by the architect, were executed by Messrs. Jackson and Sons; whilst Mr. R. Monti designed the *rilievo* over the proscenium and the fronts of the boxes, all which were executed in the patented material by M. Desachy; the entrance hall is paved with Maw's encaustic tiles; the gas-lighting to the house was by Strode, and to the stage by Jones and Outhwaite, whilst the principal chandeliers were by Defries and Son; one chandelier of the crush-room was by Messrs. Osler. Mr. H. Sloman, as we have already said, designed the stage-carpentry, and with his own men constructed the machinery. The scenery of "The Huguenots" was painted by Mr. Beverley; and the "act-drop" by Messrs. Grieve and Telbin, unfortunately not so good a work as we usually see from their hands; and the list should not conclude without allusion to the exertions of the architect's own staff, which at the last hour were greatly taxed, although nothing that could be done by the stage-manager, Mr. Harris, was wanting to acquit himself of the responsibilities thrown upon him by the sudden illness of Mr. Frye, who had, throughout the progress of the undertaking, to bear an amount of labour in personal direction from which he is at present suffering, but to which is due the consummation of the re-establishment and opening of the Italian Opera in a new building, on the site of the old theatre in Covent-garden.

MAY RAMBLING.—ROSHERVILLE.

"Out with your sketch-books and off into the country. For a time we have done with fog and snow, and we may look for clear sunny skies and silver-edged clouds of beautiful tint, to gladden the eyes of even town dwellers. Artists look out with their windows and think longingly of pleasant places where Nature has spread "a clean palette," and the fresh breezes may be found in purity,—of

"Sunny spots of greenery,"

which Coleridge calls them, which are sunny memories for ever. Camp-stools, knapsacks, and pencils are examined and handled with relish; young architects make strong resolutions to wander to old cathedrals and churches and vigorously use the pencil, and gain knowledge of the spirit of the works of those famous men of ancient days,—adding, too often, to the resolve, the reservation, "if they have time," and then sometimes forgetting that the way to have time is to make it.

The disciples of honest Isaac Walton, some dwelling in dark Inns of Court, some in City printing-houses and other places which are dingy enough, brighten up and sing,—

"Come, bring to me my limber gad
I've fished with many a year,
And let me have my well-worn creel,
And all my fishing gear."

Amateur gardeners, whose grounds do not extend over many feet, throng to Covent-garden and elsewhere in search of favourite seeds and plants; and, by the way, few prettier scenes are to be met with than one of these metropolitan flower-markets on an early morning in spring: the philosophic observer will remark on the freshness which has marched from the country, and contrast it with the squalor which surrounds it. Courts and alleys seem to have been deserted by their inhabitants, and surround the water-cress dealers in hundreds; faded children, and women in sad habiliments, barter eagerly for primroses or wallflowers.

With the early flowers comes the world to London; the shops present a new aspect, and are gay with colours. Many thousands flock to London from different parts of the country; picture galleries are open, amusements are plentiful; but, notwithstanding all these temptations, the pent-up Londoner is anxious for a change; considers in what direction he had best bend his steps; and, thinking of the absurd difficulty which has been put in the way of British travellers, opens out his map of the British islands, and finds consolation in reflecting on the sunny spots therein,—the lakes of mingled sweetness and sublimity, the mountain ranges, heath-covered moors, rocky coasts, castles rich in legends and historical interest, our glorious old cathedrals and our churches.

Within an hour or two's ride, and at small cost, we have Canterbury and Dover, St. Alban's, Winchester, and many other places. The coast of Southampton and the Isle of Wight are soon reached. In the midland counties hosts of interesting objects offer themselves to the inquirer. Those who delight in wild scenery, and have also antiquarian taste, who adopt the knapsack and staff, may spend a few days in walking and sketching between Newcastle-upon-Tyne and Carlisle, keeping along the line of the Roman wall. The objects of interest to the young architect to be found in these and many other parts we have often spoken of, with a motive. Once and again we say to the town student, "Up and away; start when

'All in the sheen
The princely morning walks o'er diamond dews,'

and pick up health while extending your knowledge and enlarging your ideas." The sun has thrown us off our equilibrium. Steadiness has deserted, and all the odd bits of the poets bearing on the season and rural delights, that have stuck by us, are fluttering about the tip of the pen like butterflies. Whole nations used annually to go mad at the advent of May: what wonder then at us? There is something in the word itself that disposes one for unbending. As Leigh Hunt writes—

"May's the blooming hawthorn bough—
May's the month that's laughing now.
I no sooner write the word,
Than it seems as though it heard,
And looks up and laughs at me,
Like a sweet face, ruddy;
Like an actual colour, bright,
Flushing from the paper's white."

A day ago chance led us to Rosherville,—Gravesend's neighbour. It does not sound very architectural or archæological, nor even very poetical. One thinks rather of tea-gardens and shrimps than of lofty towers and noble carvings. It is only necessary, however, to recollect that it is in Kent to know that there are many things about for the archæological student; and the railway makes this neighbourhood almost a part of London. From London-bridge went the train:

"It shook the sunny suburbs with a scream;
Skimm'd milk-white orchards, walls, and mossy trees
One sheet of blossom; flew threw living rocks,
Adown which pain'd and patient faces, tears
Trickle for ever; plunged in howling gloom;
Burst into blinding day;"

which burst reminds us that the rail as yet has had but one painter, Turner; and one poet, Mrs. Browning. How vigorous is this her description of a railway journey from Paris to Marseilles:—

"We shot through tunnels, like a lightning wedge
By great Thor hammers driven through the rocks,
Which, quivering through the intestine blackness, splits,
And lets it in at once; the train swept in
Athrob with effort, trembling with resolve,
The fierce denouncing whistle wailing on
And dying off sin thro'it in the shuddering dark,
While we, self-awed, drew troubled breath, oppress'd
As other Titans, underneath the pile
And nightmare of the mountains. Out, at last,
To catch the dawn afloat upon the land."

However, Rosherville is not Marseilles, though it is a seaport, the Cockneys say, and apparently flourishing: "villas" are rising, and so are rents. There is a very creditable Early English church here, though a little too much according to pattern, which was built at the cost of the Rosher family,* also a commodious hotel where a good business might be done by good managers. Londoners are learning that a pleasant retreat is to be found here, and are asking for fitting houses. Those

—— "who are anxious for a country seat,
Pure air, green meadows, and suburban views;
Rooms snug and light—not over large, but neat,
And gardens water'd with refreshing dews,"

may choose

"Burch Row, and there repose,
Midst *prospects* worthy of their admiration.
How long they'll last is quite another thing—
Not longer p'raps than the approaching Spring,"

as each succeeding house cuts off some body's view.

The old church at Milton, and, in another direction, the church of Northfleet, notwithstanding that it has been "restored," are worth a visit. Stone Church is well known from illustrations of its Early English windows, and the beautifully sculptured foliage in the arcade of the chancel: it is worth a pilgrimage. The sculptured ornamentation of the chancel arch is a curious elaboration of the dog-tooth. Parts of the building are even earlier than the thirteenth century: the north doorway has a semicircular head, and shows with the dog-tooth moulding a zigzag. The tower is massive and low; and we may exclaim with *Delta*,

"How like an image of repose it looks
That ancient, holy, and sequester'd pile!"

Unfortunately we cannot continue the quotation and say,—

"So absent is the stamp of modern days,
That in the quaint carved oak, and oriel stain'd
With saintly legend, to Reflection's gaze
The Star of Eld seems not yet to have waned;"

for an interpolated porch against the west front of the tower disfigures and vulgarizes the whole. A window, blocked up at the end of the north aisle of nave, when perpendicular additions were made beyond, deserves study. The sculptured decoration of the rural arcade in chancel, to which we have already referred, is, as a specimen of conventional ornamentation, beyond rivalry.

There is a beautiful brass, much injured, in memory of John Lumbarde, once rector of this church, whose effigy appears in the quatrefoil of a cross. The date is 1408.

The church at South Darenth is remarkable for a small Norman chancel, once perhaps the whole church, to which a second nave was added in later times. The floor of the chancel is raised considerably in that part of it which formed the ancient chancel; the lights are semicircular-headed; the ceiling is vaulted, and there is a considerable space above between the vaulting and the roof, with an opening to light it. The font is Norman, octagon in form, and displays rudely sculptured figures, including perhaps King Edgar, St. Dunstan, and Sagittarius, which latter may fix its date as the reign of King Stephen. The remains of an ornamented Norman arch are to be seen in the north wall of the church.

Swanscombe Church has a tower as old as the Saxons, and a curious old font. Originally there were clerestory windows on the south side of nave, but these are now blocked up. An alabaster monument of large size commemorates Sir Ralph Weldon, knight. The inscription says

"And for his life, his charge and honest fame,
He hath well don and so made good his name."

The chancel screen now under the tower arch, should be repaired and made perfect. There is an ancient wooden lectern in the church, not so handsome as the one at Detling, in the same county, but still interesting.

Swanscombe Wood, hard by, is associated with the brave doings of the Kentish men in maintenance of their rights against William the Conqueror.

Wending on to Thorne Church, an ancient font of curious aspect, a cross-legged effigy, a late brass, 1583, and some good screen-work at the east end, will be found. For brasses the student must go on to Cobham Church, St. Mary Magdalene's, where there is a series in memory of the Cobhams and others, of the greatest interest and beauty, ranging from 1320, or thereabout, (Joan de Cobham—unique example) to 1529. These are descanted on and illustrated both in Mr. Boutell's "Brasses and Slabs," and the Oxford "Manual of Monumental Brasses." There are other things in the church to be looked at: credence and sedilia, and a good specimen of Elizabethan monument dated 1561.

Cobham Hall is a brick-and-stone house of the end of the 16th century, remindful, in parts, of Hampton Court: the gateway is dated 1587. Inigo Jones made additions here; and within, if you go on the right day, will be found a few good pictures, ill arranged. The park is beautiful; the approach to the hall charming. A noble cedar, close to the mansion, covers an area of 90 feet in

* Illustrated in our 12th vol. p. 175.

diameter. Underneath the trees are primroses in thousands, and everything is green and smiling. Softly springs the turf to meet the step—

> "And as we pass, the flow'rets brush us by,
> And, shaking all their sorrows to the ground,
> Breathe salutation from their scented lips."

But our rambling must end, and our readers will perhaps ask what we have meant to say? Simply this: go forth into the fields now and then to drink the pure air and commune with nature: see what there is to be seen of the art of former times, wherever it is to be found, and don't forget the sketch-book.

A DISCOURSE ON THE BEAUTIFUL AND THE FINE ARTS.*

My purpose on the present occasion is to impress upon the art-student, upon his own peculiar ground, this great first principle of his philosophy, that his art is not so confined, or so confinable, as he may have been thinking. The fine arts are many; but fine art is one. Developments are many; essence is one. There are many streams; the source from whence they come is one; the ocean where they meet again is one. There are many members; the spirit which animates the whole is one. One star may differ from another star; but the light by which they shine is one, and the joy of all their shining is one.

No other idea can give to the art-student that expansiveness of view, that grasp of his work, which this idea will be found to supply. The painter who is only a painter, the poet who is a poet and no more, even the musician who knows nothing but music, knows only half the mystery of his art. The other half is hidden among the other arts. The essence of all art is one essence. The principles of all arts are the same. Their analogies are perfect as a whole. Their influences are for ever mutual. They will explain each other when nothing else will. They support each other; they are never at variance; they are each other's bosom friends; their phalanx is invincible. The theory of any one of them is made up of the theory of the whole. The artist who discards those of them which are not his own shuts the door upon the best friends of that which he retains, the most suggestive of all attendants upon the one which he chooses to cherish.

I affirm, even more especially of architects, that if their practice of artistic architecture is founded upon a study of architecture alone, it has a comparatively feeble and narrow basis upon which fancy is to build; but that if it be founded upon a comprehension, as far as can be expected, of the fundamental principles of fine art as a whole, of all the arts together as one harmonious family of art, it has a basis broad and enduring upon which it may always rely.

To commence with the foundation of the question, I may say, speaking in a practical and superficial manner, that there is found to exist in the organization of Nature a certain essential quality which we call *Beauty* (or pleasurableness as a whole); and that there is found to exist in the organization of man a certain essential faculty for its appreciation, which we call *the sense of beauty*. I am quite aware that this language is not critically accurate, but I think it will call up in the mind a more correct idea of the fact in view than any scientific definition can accomplish, so far as I know.

We all know that there is with us a certain class of perceptions and enjoyments which connect mankind with the intelligences beneath him, namely, those of simple sense and mere luxury. We also understand that there is another class of perceptions and enjoyments which seem to connect mankind with the intelligence of the Divine Being above him, namely, those of the moral sense—goodness, virtue, affection,—and of the wisdom sense, leading us to knowledge and greatness. And it is equally plain that we possess still another class of perceptions and enjoyments, above luxury, but beneath virtue, namely, those of the sense of the beautiful.

Such, then, being the nature of our organization in this respect, there comes to be a certain system of intellectual endeavour with us, having for its object the application of our faculty of invention to the beautiful for the sake of its enjoyment. This, as a whole, is *Fine Art*,—poetry, for instance, music, sculpture and painting, architecture, ornament.

Do not let any one confound fine art with the mere vehicle of its manifestation. Do not let yourselves be blinded to the difference between art and science. Science is the solid substance, but art is the airy spirit; science plants his strong foot upon the ground, but art puts life into his eye, and words into his mouth. Correct language is not poetry; scientific counterpoint is not art music; the mere work of the pencil and the chisel is not art imagery; building of the proudest and the best is not art architecture; all this is science, mighty it may be, but lifeless; one touch of *fancy*, and the lifeless is all lit up, there is breathed into its nostrils the breath of life.

The history of this function of the human mind, the history of fancy, the history of fine art,—is matter of complete record. It runs parallel with the history of human intelligence. It derives its characteristics, indeed, from the same source: it is a portion of the same current of cause and effect. So much so, that the history of fine art is even an interesting and valuable commentary upon the history of mankind; in other words, the development of the beauty sense as a part, an index to the development of the mind as a whole.

With regard to the existence of a sense of beauty as a matter of actual appreciation, it may be said that this in fact seems to supply the best definition, and perhaps the only one which is perfect and precise, of the sole superiority of man as contrasted with the universal inferiority of the lower animals. It is true that the human mind, taking this contrast from an ordinary point of view, displays the peculiarity of what is called a higher order of intelligence, progressive intellect, exquisite desires of knowledge, and creative powers; but all these ideas fail us when we would define by them the supremacy of man: all are found to be so inseparably identified with some point of mental cultivation that it is impossible to reduce any one of them to the form of an elementary basis of distinguishment: whereas, on the other hand, it seems to me that nothing can be more simple and obvious than the fact that man universally possesses more or less an appreciation of the beautiful, while the inferior intelligences of the earth are no less universally devoid of it. No instance was ever known of an inferior animal displaying any approximation to a perception of the beautiful as such; and in no case does any human being, even of the lowest rank of intelligence, exhibit the absence of this perception, except in new-born infancy, when the mind is yet unopened, and in rare cases of fatuity when its gates are closed.

In entering for a moment into the question of the organization by which the beautiful exists, I need not remind you of the five senses which constitute the vehicles of our perception of material nature, save to remark that all of these are not merely organs of perception, but means of pleasure and pain. Two of these five, however—the sight and the hearing—are so distinguished that, while in respect of the other three senses the lower animals are more or less on an equality with man, the eye and the ear, on the contrary, convey to man a species of enjoyment of a manifestly superior description, and to the lower animals no enjoyment whatever. These two senses, in short, are those which pertain to the beautiful; and, consequently, those to which the fine arts apply.

As to the manner in which fine art is originated, it may be broadly stated that, if it is natural and inevitable for man to apply himself from the first to inventions of comfort and luxury, so it is no less natural and inevitable for him to adopt from the first also the principle of beauty or embellishment in every form possible, as occasion offers. Independently of all accident, of all example, of all instruction, it is as much an instinct in us to beautify our handiwork, to make it pleasurable, as it is to select our food, or seek a covering from the weather. But this instinctive application of the art-principle goes but a very little way; and the practical development of art is indeed a very slow process. So easy a thing does it appear to us now-a-days to deal with the beautiful, so common an attribute in every-day life is natural and inherent taste, so palpable is fine art in a thousand ordinary forms, so entirely has it become a necessary of our life, that we can scarcely credit at the first how tedious a history there is to tell of the growing up of all these matters. But history records that to paint a portrait such as is now the work of a tyro, took the world some six-and-thirty centuries, and that the simplest musical harmony was unknown to mankind for even 5,000 years. Fine art, in short, if it may start hand-in-hand with intelligence (and theoretically it must do so), advances no farther of itself, but creeps foot by foot with the slow advance of knowledge, with the discoveries of philosophy, and the inventions of science.

As a preliminary to the taking up of the actual history of our subject, I have to submit a scheme of arrangement for the fine arts, as respects their several identities and their derivation.

I need not prove that the idea of fine art, or the invention of beauty, is first drawn from the perception of the beautiful in nature; this is self-evident. Out of nothing nothing comes: in the mechanism of the mind, nothing can be originated without a pre-existing cause; and so nature is the suggestor of art. Now, fine art may be described as the presentment of an act of the beautiful, or an act of fancy, by the mind of man to the mind of man. Perhaps the foremost and simplest of those operations of the mind, whereby one man presents anything to another, is *language* or *description*: then follows *delineation*: and if we add to these *construction*, or the formation of natural material into objects of use, and take into account also the circumstance that there is a certain *expression* involved in tone, gesture, form, and colour, we have, I think, a complete system of the various modes of the act of presentment between mind and mind. And it is a fact without question, that throughout the whole of this system, the principle of fine art or embellishment is from the first instinctively introduced. From description springs up *poetry*; from delineation *sculpture* and *painting*; from construction, *architecture*; from expression, *music*: with lesser arts from the same sources. In other words, throughout the entire range of such operations of the mind as admit of the application of the beautiful, the production of the beautiful is from the first the infallible result of a natural law. The mechanism of our being is expressly constructed so. I may, therefore, define the fine arts according to this system as follows:—

Architecture is an art of the vehicle of construction, with expression of form, and partly of colour.

The ornamental arts of manufacture, decoration, costume, &c. are of the same class, involving also delineative art occasionally.

Sculpture and *painting* are arts of delineation, in part involving expression of form; and in pictures of colour; and in figures, of gesture.

Poetry is an art of description simply.

Music is an art of expression of tone simply: it is vocal music combining description therewith.

Rhetoric, eloquence, or *oratory*, is an art of description, aided by expression both of tone and gesture.

Romance, or fictitious narrative, and belles lettres generally, belong essentially to the art of description, poetry.

The drama is the art of romance, aided by the expression of oratory, the delineation of scenery, the statuesque effect of attitude and grouping, the ornamental art of costume, and in the opera by music. Even architectural design may be pressed into the service of the drama.

The first great period of art history is the Egyptian; I include here all art before the rise of the Greeks; it is all of one school.

The fine art of this first period is to be judged of by extant examples as follows: namely, the architecture, sculpture, and painting of the ruins of Egypt and Assyria; the poetry of the Hebrew writings; the ornamental art in furniture, costume, arms, and so forth, incidentally represented in the monumental pictures; and the music and dramatic dance also so represented, and alluded to in the Hebrew writings.

It is an interesting question whether fine art does not owe its origin, as matter of fact, to the practice of idolatry. I cannot think with some that its origin is to be imputed to religion properly so called; for if its first efforts are identified with magnificence of worship, it was the worship of idols which necessitated such magnificence, and not the worship of the true God, which at that time was studiously simple. Even the religious services of Christianity only surrounded themselves with the magnificence of architecture and decoration, sculpture, painting, and music, when the simplicity of spiritual worship was lost, as we Protestants believe, in the pomp of worldly pride.

The second commandment of Moses forbids not merely the worshipping but the *making* of any graven image or any likeness, that is to say, denounces the arts of sculpture and painting altogether, because in Egypt these had been so entirely identified with idolatry; and even Mohammed had to establish a similar law lest the worship of his unity of the godhead should be corrupted by the introduction of a host of divine assessors, such as in his day filled not only the temples of paganism, but the churches of Christianity itself. Certainly, art is no matter of pure religion. But neither is it, I think, identified with idolatry, except by accident. It is not, in short, a certain point in religious feeling which

* A reproduction of the Essay delivered at the Architectural Exhibition last January, and read before the Architectural Association at the *conversazione* on April 30.

originates art, but a certain point in material wealth and intellectual power alone; and I believe that if the Greeks of the age of Phidias and Polygnotus had been worshippers of the true God the genius of the nation would have exhibited itself none the less in some structure, other than the Parthenon, and in figures other than the gods of Olympus.

There is one of the fine arts, however, which is an exception even to the general rule of the accidental identification of early art with idolatry. This is poetry. If the simple worship of the true God can dispense with the arts of Delineation and even Construction, it cannot dispense with the art of Description. If religion were to be a matter of hard dry mathematical fact, it must cease to be a matter of conception of the unseen and the ineffable. When Moses led his people up from the Red Sea, it was to the shout of a mighty lyric; when king David carried the Ark to Mount Zion he sang psalms and danced before the Lord. Even Paul the most metaphysical of preachers, cannot refrain from the enthusiasm of imagination; and Jesus of Nazareth himself, whose gentle soul and clear calm vision had no sympathy with the frivolous or the obscure, adopts at times a strain of simple poetry all the more passionate that it is so rare.

It is sometimes said that the origin of poetry may be found in the poverty and consequent ambiguity of primitive languages, on account of which any idea comparatively difficult of expression comes to be indicated by such terms as may be most nearly applicable to it,—that is, by figure. But there is more than this in poetry. It is a matter of fact, I think a limited vocabulary is *not* found to produce metaphor, but circumlocution and iteration only. Poetry is simply the first born of the arts. It is the most easy of accomplishment. It is the genius of the beautiful beaming out in the earliest of man's efforts—speech itself.

The oldest extant work of poetry in a regular form, is the Song of Moses at the Red Sea. Perhaps the practice of poetic composition may have been a part of the Egyptian learning which Moses is said to have acquired. At the same time, it is possible that among the Hebrews themselves, who are held to have been a more imaginative race than the Egyptians, this art, the essential solace of a lofty mind and pure faith in captivity and distress, may have attained a perfection unknown elsewhere; but at any rate it is manifest, that even in this their earliest effort upon record there is a simple majesty and power, both of thought and language, which can scarcely be surpassed. The same characteristics, with a profusion of fancy and an unaffected taste, run more or less through the whole school of the poetry of what I call the Egyptian period of art, that is to say, the Hebrew psalmists and prophets. It is considered to culminate in Isaiah, and to decline from Jeremiah and Ezekiel. The fine art of this period was in all forms almost entirely religious; it is that there was, at least, a poetry of every-day life and of love, and this by no means neglected, as seems from the Song of Solomon to be pretty manifest. The poetry of wisdom, also, is exemplified with unparalleled force in the marvellous epic of Job and the books of Proverbs and Ecclesiastes. As for the poetic power of the Egyptians themselves, I fear we must accept the translations of the hieroglyphics as evidence of its having been developed chiefly in the production of ostentatious titles and pompous laudations; if graceful thought and felicitous expression had been either cultivated or admired, the temples and tombs would at least have contained some inscriptions of a much more pleasing character.

The origin of music ought, perhaps, to be put as anterior to that of poetry itself; at all events, it is ascertained that the poems of all antiquity were composed, not for declamation, but to be sung, or rather intoned. When musical instruments came to be invented, their purpose would appear to have been originally only for a simple accompaniment to the voice, not in harmony, but at the best in unison. The instruments of the period, such as the harp, guitar, dulcimer or bagpipe, and tambrel or tambourine, were of a very primitive description; and no doubt the vocal performances which they accompanied, were what we would call very dreary and monotonous indeed. Variety was obtained by nothing better than the employment, among the Hebrews at least, of three choirs for response; and the musicians and other persons in procession walked and leaped in a slow, but probably vehement dramatic dance, taking very often the form of a circle. The very earliest efforts of fine art of a public kind, may be said to be the celebration of high acts of worship and festival in this manner.

As respects the rise of delineative art, it must be borne in mind that drawing, or the representment of the solid by lines on a flat surface, although with us the first step in instruction, is not naturally the first step in origination. On the contrary, to copy the solid on the flat, is a complex invention: the simplest act of imitation is to copy the solid in the solid. Sculpture, or modelling, therefore, might be expected to take the lead of painting—that is, of drawing. And so I think it does: it is invariably found in all historical periods that sculpture not only comes to perfection with much more facility than painting, but is also more tenacious of existence in its fall.

The earliest delineations extant are no doubt mere hieroglyphics; but these are not fine art. Delineative art—properly so called—which is always found to have its most important development in the representation of the human figure, seems to come up in the Egyptian monuments considerably later than architecture. It commences with the basso-relievos, or chiselled outlines of gods and heroes upon the walls of certain tombs and temples which are very early in date, but not the earliest. The cutting of such figures in very simple profile seems to have been the first great step in delineation: the application of flat colours to these would originate painting, which would afterwards come into use by itself, the chiselling of the outline being then dispensed with. The primitive art of painting never reached any further stage of progress than this; but sculpture came to be executed in monumental statuary, not only of considerable crude accuracy, but of the most colossal size.

The general character of the works which this Egyptian period produced in architecture is too well known to need description in a hasty argument like the present. The type was simple, but grand,—huge moles, ponderous columns and entablatures, heavy ornament, crude colouring, and a mysterious maze of hieroglyphics. Few of the remains appear to be anything else but temples.

We may already find illustration of certain important historical laws of fine art:—

1. Every period and every people, or we may call it every individual development of society, will be found to display, in respect of fine art, a certain uniformity of design or manner: this is style.

2. Style pervades not only the entire development of each art by itself, but the development of all the arts together as a whole: they are all in harmony of style.

3. Style assumes a character in precise accordance with the characteristics of the people at the time.

4. The several departments of fine art do not however progress in the same degree, or quite in the same manner; but, on the contrary, there is a disparity in their advancement which in itself accords with the peculiarities of the time, as well as with the peculiarities of the several arts themselves.

It is well known what uniformity of style there is in the remains of Egypt, in architecture, sculpture, and painting severally: it is palpable throughout a thousand years. It is, perhaps, none the less apparent how definitely there is one general character impressed upon the remains of all these arts as a whole. Stern and solemn, almost mysterious and sublime; polished in elaboration, but crude in conception; the work of patient labour rather than brilliant genius; heavy and stiff and unimpassioned; all possess the self-same attributes.

That all this corresponds with the national character of the Egyptians is equally clear; stern and solemn and mysterious they were, as history tells; polished comparatively in their customs, but crude in their philosophy; patient in labour, and in genius dull.

If my limits would admit of it, I could describe the remains of the Assyrians with reference to this question, and point out peculiarities of style corresponding with the recognised peculiarities of that people also according to the same law: the like may be said of the Persians none the less, with whom the stern simplicity of the earlier ages gave place to luxury of habits and corresponding elegance of art; while the hero-worship of Egypt was replaced by the old worship of the heavens: and, lastly, the poetry of the Hebrews affords equal evidence of correspondence with the peculiar characteristics which at such a period the worship of the true God, the preservation of impressive traditions, even independently of their possession of unequalled fertility of descriptive fancy, must have conferred upon them.

As regards the diversity of progress in the several arts in Egypt, it must be obvious that we find architectural art and sculpture nearly on a par, painting very much behind, poetry probably in a very questionable form, and music in a very primitive condition. Among the Hebrews, as another instance, we have a school of poetry of a grandeur scarcely yet excelled, music, perhaps, far in advance of that of Egypt, sculpture and painting prohibited by law, and architecture of no account whatever, inasmuch as Solomon had to send to Phœnicia for workmen to build his temple, simple as it seems to have been, after all. This disparity, I need scarcely say, could very easily be traced further, and referred in every respect to peculiarities of national disposition and general attainment.

In taking leave of the Egyptian period of the fine arts, it would be perfectly natural to remark how poor in merit their productions are; and perhaps the suggestion might arise, and call up a smile, whether those solemn old patriarchs were at all aware of their deficiencies, or whether they may not have been vain enough to consider their clumsy devices as great works of genius. At all events, this idea opens up to our view another historical principle, which must be kept in mind. If the work of these early artists be imperfect, it is only as all other work is, in comparison with better; and if their authors deemed them to be successful, so they were, as all other work is, in comparison with worse. Our own perfection is only a point of progress; and the day will, no doubt, come, when some new idea shall, in a happy moment, by a happy accident, beam upon a man, as yet unborn, to originate some now inconceivable advance, by which our present works, in their turn, shall take their place among the despised. Art excellence is only comparative, after all, and true merit attaches, whether in history or in passing time, not so much to him who, living in a favourable age, is equal to his day, as to him who fights manfully against decline, or plants a footstep in advance. Not only so, but art *influence* also is comparative. To the untutored mind of the Egyptian crowd, the figures which now excite a smile may have been, nay, *were undoubtedly*, the expression of a power of intellect which was as great in its day as our own; for the influence of art must depend upon the mind of the observer, no less than the mind of the artist. It is not in the artist, in short, that the glory lies, but in the *art* of which he is the minister, whose powers are adapted to all degrees, and whose voices, of many tones, speak not to the lofty alone, but to the lowly, too. It is the eternal charm of art that it suits itself to all ages, to all classes, and to all climes.*

ROBERT KERR.

ON PUBLIC COMPETITIONS FOR ARCHITECTURAL DESIGNS.†

IN diverting the attention of the Institute and the profession to public competitions for architectural designs, I am actuated more by a desire to promote a calm consideration and discussion of this important subject at this opportune period, than by any confidence in my own powers to treat it with any novelty, or to grapple successfully with all, or any, of its difficulties and abuses. I am unwilling that the present session should glide by without an endeavour, on the part of the profession, to establish a system of public competition on a more satisfactory basis. Recent events have made vividly manifest the injustice, disappointment, and loss which the present system entails on architects, and have enlisted such an amount of sympathy, on the part of the public and the press, as to render facile any well-directed attempt to reform it. I could have wished that some more able and experienced member of the Institute had resuscitated this subject, but I trust that any deficiencies on my part may be atoned for by the good that must result to art, the public, and the profession, if, through my humble endeavour, architects will resolutely determine to settle the terms upon which they will enter into public competition. So grave a matter may well be approached by any one with great diffidence, when it is remembered that (in 1838), nearly twenty years ago, a committee was appointed by this Institute to consider my subject, who, having thoroughly investigated it, seemed appalled by its difficulties, and concluded by publishing a report containing much valuable information, but leaving the remedy very much where it was before, in the hands of the profession.

Save a most laudable attempt, in the year 1850, by the Architectural Association, and the publica-

* To be continued.

† A paper read at a meeting of the Royal Institute of British Architects, held on the 17th inst. by Mr. George Morgan, Fellow.

tion of a report by that body, containing a code of regulations, no other combined movement has, I believe, been made to carry out the suggestions of the committee of 1838. From time to time, and recently with the greatest force, the council of this Institute has urged upon the profession the recommendation of the committee of 1838, "that architects should meet together and lay down a set of regulations as to on what terms they ought to furnish designs in competitions. Our professional press have always endeavoured to arouse that section of our profession who treat the whole subject with apathy or indifference, to its importance, and to make manifest to the other the suicidal policy of rushing indiscriminately into public competition. To show the extent of public competition amongst us, and its application to the most trivial objects, I have searched, and find that during the last year, 1857 (a year of great depression generally, but especially in building matters), invitations were issued for sixty-nine public competitions for designs for buildings, representing, at a rough estimate, 30,000*l.* the premiums ranging from 21*s.* to 200*l.* and in the majority of instances the conditions gave notice that the employment of the successful architect was very doubtful. It is impossible to form an accurate estimate of the cost of the preparation of the designs submitted in response, but most probably 30,000*l.* would not be an excessive estimate representing the prime cost of the production of the designs and the professional value of the services in the carrying out of the buildings. Here, then, is an annual loss to the profession of 15,000*l.* assuming the very doubtful proposition that the full commission of 5 per cent. is received by the successful competitors.

In reference to the general principle of competition, the conclusion is evident that it dates from and exists the moment that two or more individuals seek a common object. It is fostered by the aspirants, and springs from them: it therefore rest with them to determine the terms on which they will strive. It cannot be imagined for one instant that our profession can escape the action of this general principle, and, consequently, competitions amongst us must exist, and the terms of competition rest with ourselves. In what form can it exist most conducive to the advancement of art, the progress of science, and the welfare of the public and the profession? If competition is to be only that of interest, or canvassing for commissions, how degrading is the position of the architect; and in such a strife the most talented artist has probably the least chance.

If competition is to be select or limited, it must partake also, in some measure, of favouritism, canvassing, &c. and the advance of our art will be proportionately impeded. A competition of merit can alone exist amongst artists, if any regard be paid to the prosperity of art. Employment ought not to be sought, it ought to be commanded by artists. Public competition, then, appears in principle to be the system most likely to produce the desired objects. To substantiate this conclusion, I will not cite the many admirable buildings that competition, with all its corruption, has given us, for I admit that the name is legion of those buildings diametrically the reverse in character, and yet the offspring of the same system. But I endeavour to substantiate it by the increased study and knowledge of architecture, and by its progress as a fine art amongst architects during the term that public competition, in its abused form, has increased amongst us. I attribute the revival of Gothic and Italian architecture, and the rapidity of the progress of such revival, mainly to public competition. I attribute the establishment of the Architectural Exhibition to public competition. I attribute the accession of many noted names as architects, and the great increase in the number of members and importance of the profession to public competition. I attribute a great diffusion of architectural knowledge amongst the people to public competition; and, perhaps, progress in art depends more upon the state of education of the public, than upon that of the professors themselves. If the client be an artist, the architect cannot fail to be so.

Let me first consider the evils which are inseparable from public competition for designs in art. A proposal for public competition may be divided into four sections;—the instructions, the terms, the regulations, and the award. It is obvious that the public must draw the instructions, and make the award: it ought to be equally clear, that the artists should settle the terms of remuneration and the regulations amongst themselves, so that each competition design is equitably represented, and that the successful artists be not deprived of their reward. Now, the evils which are inseparable from all art competitions, are as to the instructions,—

The imperfection or vagueness of instructions.

The want of direct communication and consultation between artist and the client.

As to the award,—

Injustice on account of incompetency or fickleness of the judges.

The above evils are inseparable from competition, mainly, from the ignorance of the public on all matters connected with art, but almost hopelessly irremediable as regards our profession. A general knowledge of painting or sculpture is much more easily attained than of architecture; and yet no one would pretend to act, in a competition of painters or sculptors, without some pretensions or qualifications of fitness for the office. There are many highly-educated amateurs, competent to decide on the merits of a work of art in painting or sculpture. But in respect to our neglected art, how different is the case! The public invite architectural designs, and adjudicate upon them without the slightest capability for so important a duty or knowledge of the subject. The unavoidable evils to which I have alluded are therefore magnified, and, in an increased degree, beset architectural competition.

The evils to which our profession are more subject in competition are the endless waste of thought, energy, and time, and loss which are suffered by the unsuccessful competitors. Public competition seldom calls on the energies and pocket of the painter and sculptor, and the fruits of their labours are never entirely lost. The painter's cartoon or the sculptor's model, although unsuccessful in competition, may secure him patrons and clients, and if vivified by genius, will certainly command a reward on the consummation of the work. Again, the painter or sculptor can enter into competition without any study foreign to his art or preparatory loss of time. How different is the lot of the unsuccessful architect! He has to study instructions, incur journeys, and collect his materials, before he can enter into competition. Let me take an example from the late competition for barracks. His first labour was to muster the contents of the elaborate report. This entailed an inquiry into the construction of a battalion, the manners and habits of soldiers, sergeants, officers, and all the minutiæ of military life. If he competed for the cavalry barracks, he had to study stables, riding-schools, forges, &c. granaries, hay-lofts, and all matters relating to troop horses. He had to incur outlay in travelling, to inspect barracks in various parts of the kingdom, and he had to turn his attention to barrack-rooms, canteens, libraries, schools, hospital, orderly-rooms, guard-rooms, ablution-rooms, bakery, provost prison, powder magazine, washhouses, and drying-rooms; to ventilation, warming, supply of water, cooking apparatus, and engineering details, under special circumstances; formation of parade-grounds, racket courts, &c. &c. &c. and numerous other matters to which perhaps he may never turn his attention again, with but small opportunity for the only study from which he could derive any permanent benefit as an artist, that of the fine art of his profession.

It is really lamentable to consider the waste of time, thought, and money expended on this almost gigantic task without any profitable result. It is evident that, in the majority of competitions, the position of the unsuccessful architect assimilates in a greater or less degree to that in my example. His progress as an artist is impeded by unprofitable pursuits and by the vast ramifications of the studies into which he must enter. In contrast to him his brother artists, the painter and sculptor, even in competition, are perfecting themselves in their arts, and expending their time and energy to some profitable result. I can hardly consider but that, if the public be made fully aware of the unrequited labour which the profession bestow on the preparation of designs for public competition, that even the successful are never fully repaid, many of the abuses which now encompass the system will be cheerfully remedied. The most prominent of these abuses are its too general application, its application to favouritism, or for mere commercial purposes; and, again, when there is no positive intention to erect the building for which the competition is invited. To revert to my subdivision of the component parts of a proposal to compete:—

1. I may classify among some of the abuses of the "Instructions,"—

I. The avoiding of any definite instructions.

II. The naming of an estimated sum for which it is impossible to complete the building with all its requirements.

III. The suggesting of requirements which are not really wanted, and which often lead astray the competitors. Instance,—the Government offices competition, and the schemes which were submitted through the allusion to the communications of the metropolis.

2. The abuses of the terms are:—

I. Offering inadequate remuneration.

II. The hollow speciousness with which they are often drawn, to excite the too willing belief of the aspirant that the only real prize for which an architect competes—that of the carrying out of his design—shall be awarded to him, if he be successful. Ostensibly the terms promise this, but they are encumbered with provisoes,—"if his character be unexceptionable"—"if he be competent"—"all things being equal"—"he shall have the preference," &c. &c. which the too credulous competitor never thinks can apply to him.

III. Architects under the present system being always ready to respond to any terms; however absurd, we have public bodies through their clerk, generally a solicitor, drawing terms more and more onerous, introducing some additional hardship on the profession, and reducing the remuneration on every fresh appeal.

IV. A competition of terms. In two or three instances lately, the competition has been simply one of terms. I may notice the memorable one of Bolton workhouse, in order to ask the Institute if the majority of these men are to be considered architects by the public or will the Institute take some steps to point out the difference.

3. The abuses of the regulations I think rest principally with the profession. They may be enumerated: —

I. Wilful attempts to gain advantage by exceeding or departing from the regulations.

II. False perspective drawings.

III. Inaccurate estimates.

IV. The discovery to the judges of the ownership of drawings when a competition is under consideration—

V. Canvassing the judges.

4. The abuses of the award are—

I. The ignoring of their own instructions by the judges.

II. An unjust award, either through favouritism or from a determination to adjudicate, to escape from the difficulties which the unfortunates judges have at last discovered.

III. The selection of designs without testing the estimates or representations of competitors.

IV. An award solely on commercial grounds, as if the designs were mere tenders.

V. The adjudicating secretly or politically.

VI. The want of any remedy to architects.

It is not necessary for me to occupy the time of this meeting by citing examples in detail to prove the abuses which I have enumerated. All of us know practically that these, and many other abuses which I have failed to specify, exist, and that there is no probability of their diminution but that they will rather increase and multiply unless the profession make some effort to remedy them. But the greatest of all abuses, and one which I cannot pass by without some further remark, is the most prevalent and rather recent abuse of the depriving the successful architect of the fruit of his exertions—the realization of his design. I have endeavoured to sketch the position of the unsuccessful architect; but the position of a successful architect deprived of his reward is a disgrace to the profession.

Many have experienced the bitter lessons of disappointment, but still have struggled on, time after time, with the same heartsick result, and only buoyed up with the hope of ultimate success. It is absolutely shameful that any system should exist which, through the apathy of his profession deprives an artist, successful after such a struggle, of his just and hard-earned reward. That this system does exist, even amongst the guardian patrons of art, let me trace the history of the late Government offices competition. Suddenly we heard rumours of a grand scheme in contemplation by the Government for the concentration of all the widely spread offices of the various executive departments. We watched with interest the proceedings. We read attentively the minutes of evidence taken before a Parliamentary Committee summoned to consider it, and rejoiced at the unanimity of their report in favour of the scheme. The First Commissioner of Works sought the counsel of the profession, and discussed with the members of this Institute the terms of a public competition for designs. Amongst others a question was put as to the intention of Government in regard to employment of the successful architect, and was answered in the usually re

served official manner. But I quote the *Builder*, April 20th, 1856:—"Although no pledge would be given, it was understood that the successful competitors, if competent, would be employed to carry out their designs, and would receive the usual commission of 5 per cent."

As soon as the advertisement of the invitation appeared, many of us, if not all the profession, applied for copies, and we read—

"Office of Works, Whitehall, London,
"30th September, 1856.

"The Commissioners of Her Majesty's Works and Public Buildings give notice, that they are prepared to receive three designs from architects of all countries: the first, to comprise a scheme for the concentration of the principal Government offices on a site lying between Whitehall and the New Palace at Westminster; the other two, designs for buildings *which Her Majesty's Government have determined to erect forthwith as parts of such scheme*—one for the Department of the Secretary of State for Foreign Affairs, and the other for the Secretary of State for War.

"If the architect to whom a premium may be awarded in respect of designs No. II. and III., or either of them, shall be employed to superintend the execution of the work, he will not be entitled to receive such premium, but he will be paid a commission, at the rate of five per cent. upon the outlay. Such commission to include all expenses for measuring, superintendence, &c. except the salaries to clerks of works."

The above particulars were forwarded to all the European embassies without one word of comment. Many of us responded to this invitation, and all of us are intimately acquainted with the proceedings down to the final award. Now, if the profession had been only true to itself, could there have been any doubt of the result, that the successful competitors would reap their reward? It is with regret we are compelled to admit that there has been an attempt to deprive them of it. Now, I am not going to prejudge the result of this case of public competition; I fervently hope that justice will be done to the successful competitors, and through them, to the profession. I think that the case of the successful competitors is much stronger than it has yet been put before the Government, and I urge upon the profession to use every endeavour to obtain justice. This case appears to me the fittest for consideration upon the present occasion, as it exemplifies the interpretation by the highest public authority of the present system of public competition. By analysing this, in order to suggest, or arrive at, a remedy, I give the public the benefit of the most liberal interpretation of the view which is taken by them of their part of the contract, involved in public competition.

On first sight, the invitation to architects to compete for the new Government offices seems all that could be desired. We have instructions explicit and complete; terms ostensibly fair and consonant with the views of the profession; regulations drawn almost in accordance with the code prepared by the committee of the Architectural Association; and an award by irreproachable judges, assisted by professional assessors. Why, then, should there be any doubt about the result? Because we, the profession, tacitly assent to a limited responsibility on the part of the public. This is the crying evil in public competition. In private practice we are protected by the law of custom; in public competition we abrogate the law by our own acts in competing on whatever terms the public dictate, trusting to the moral effect of custom upon the public. It will never be maintained that any member of the profession competes for the mere small money premium; then why permit the public to think that we do? Why do we respond to invitation after invitation, and accept the shadow for the substance in competition after competition without a murmur or complaint? What can be the result but what it is; and that when the Institute memorializes Lord John Manners on the Government competitions, the First Commissioner being ready with a precedent, it is implied that if the Government do not employ the successful competitors to erect the Government offices, they are not acting in any way contrary to custom or at variance with justice?

If we only enter into competition for the prize of executing our design, why do we not as honourable men state boldly and unreservedly that the first prize in any competition must, in the usual professional terms, be the professional employment?

There must be no proviso of competency, or age, or character on the part of the successful candidate. If the public resort to public competition they must share some of the evils with the profession, and not cast all the burden on the shoulders of those least able to bear it. We must fix upon them the responsibility of proper instructions, the voting a sufficient sum for the required accommodation, a thorough examination and publication of the designs, and the most just award in their power. We must make them aware of the responsibility that rests with them in every step of their progress, and urge them to seek the assistance of professional men, both in the preparation of their instructions, and in making their award. I consider they must be bound to make an award under any circumstances; for in ninety-nine cases out of a hundred, the excess of the cost of a design over the estimate rests with the public, as they stipulate for the requirements, and gratify their taste in the selection. If the public are wrong, why should the author of the selected design be only punished? It appears to me, then, that the great experiment of the Government offices competition fails (and all systems may be said to fail when there can be a doubt as to the results) solely from the limited responsibility assumed by Government. From this cause we have instructions hastily conceived and calculated to mislead the competitors, as they aimed at concentration, and we have an award evidently defeating the main object of the competition, the concentration of the Government offices. If Government did not interpret their invitation that they might put the profession to the expenditure of 25,000*l.*, awaken the rivalry of the whole profession, and deprive the successful competitors of their real reward at an outlay of 5,000*l.*, we should not have had instructions to aim at concentration, and an award of prizes to those who had simply contented themselves with designing separate buildings. Simply, then, the reform of the abuses of the instructions and award, as far as they can be reformed, except by the progress of art, rests with the profession, by increasing the responsibility of the public, and thus enforcing parties inviting designs in competition to first mature their own plans. No objection can well be taken to the terms in the Government offices competition, except that the first prizes should have been the *unconditional* professional employment on the usual professional terms. In respect to the regulations, it should have been stipulated that the perspective views should have been all taken from one point. I am also strongly of opinion that the practice of submitting designs under motto should be abandoned. It is no preventive against favouritism, or an unjust decision; in fact, it will be found to foster these abuses. It also tends to lower the character of competitors, induces the submission of many absurd and ill-considered designs, and enables adventurers to compete by hiring the talent of others. The exhibitions of designs before and after the award should also be a condition insisted upon by architects.

Let me now urge upon the Institute the consideration of this most important subject. On what principle are the members honourably bound to one another to pursue private practice upon the usual professional terms, and yet are unfettered and left to their discretion as to their professional conduct in public competition. Why should an abandoned design prepared privately for a 3,000*l.* building be worth 75*l.* but if prepared for public competition be worth say 20*l.*? This is practically the result of non-interference with competition. It is incomprehensible to the public; and, as architects are too willing to compete for the smaller sum, so, when in private practice, they require their just remuneration, it is too often considered an excessive demand. If it be necessary to regulate private practice for the good of all, how much more necessary to regulate public conduct! I call upon the council as one of its members to legislate on this subject. Let me beg you to take a lesson from the committee of 1838, and avoid delay. The evils and abuses that existed then were made fully manifest to the Institute, but it was simply content with suggesting remedies. The result of this course is, that in twenty years, such abuses and evils have been neither decreased nor remedied, but have been increased. In the meantime, the number of architects in practice in London has increased from a little more than 200 to nearly 650. Another year will only add to the difficulties of legislature. If this body cannot suggest and carry out a remedy, no other professional institution can; and all the other professional societies are eager for the reform of the present system. Any remedy must emanate from the Institute In rank, influence, and number of its members, it has no rival. For want of legislation on this subject and a unity of practice, we have seen Sir C. Barry worried and annoyed as to his remuneration while carrying out his great design; we have a hesitation upon the part of Government to carry out their pledges in the Government offices competition; we have all kinds of theories propounded as to our professional remuneration; we have public competition resorted to on the most flimsy pretexts; we have public competition avoided by the most talented members of our profession; we have the young artist's career impeded, if not arrested, by disappointed success; and we have public competition unsatisfactory in its results to the public and the profession. To the council, I have only to urge that it is your bounden duty to take the control of the conduct of its members in public competition, and endeavour to improve the present system. I am satisfied all the members will heartily assist and co-operate in this work: the season is most fitting, and delay will only aggravate the evil. It would be presumption on my part to dictate to the Council or the Institute the course to be pursued. I have endeavoured to touch upon most of the points connected with public competition, in order that they should be calmly discussed, but the principle upon which I would wish to insist is that as public competitions for architectural designs entail a certain loss upon the unsuccessful competitors, it is only a matter of common justice that the successful competitor should have the reward for which he competes, without any reservation whatever, and that architects should resolve to submit designs on no other terms. If architects will resolutely adopt this principle, if the motto system be abandoned, if public exhibition of the designs before and after adjudication be insisted upon, I have great faith that many of the abuses which now beset public competition for architectural designs would be ameliorated. I have essayed to show that it is the abuse and not the use of public competition that has entailed most of the evils which beset the present system; that public competition is advantageous to art, the public, and profession; that any reform must emanate from architects, as they have the control of the terms and regulations; and that the most practical step towards improvement is only the extension by general resolution of the same honourable code of regulations to public competition which exists among all members of the Institute as to their private practice. I feel confident that the public on their part require only to be made fully aware of the duties and responsibilities which they undertake in inviting competition, and it rests with the Institute to enlighten their ignorance, and remove those false impressions which, unhappily, are now so prevalent, and have become so widely disseminated, that even the Government, the guardians and patrons of art, blindly hesitate between justice and injustice.

ROYAL DUBLIN SOCIETY.

ART EXHIBITION OF 1858.

With comparatively little parade, and very appropriately for the public opening of the new museum building on Leinster Lawn, the Royal Dublin Society has produced a very creditable exhibition this year. Previous to particularizing some of the chief objects of interest, we shall take a passing glance at the building itself, which interiorly is somewhat novel in character. The principal apartment—of oblong form, 200 feet in length by 40 feet in width in clear of walls, and by about 50 feet to the lantern of roof, which runs through,—is approached by a spacious stone staircase, and is at a level of about 16 feet above the lawn, having a similar-sized apartment below, we believe intended for the exhibitions of agricultural produce. It has at either side a range of pilasters casing metal columns, which are placed at 4 feet from the walls, and are carried up three stories, whence, at a height of about 30 feet, spring the curved timbers of the roof. The clear width of nave (if so we may term it), is therefore only about 28 feet 6 inches, which, for exhibition purposes, is decidedly too narrow, after space is given to the cases, stands, and musical instruments which occupy the centre; and the aisles are of necessity shut out by drapery; whereas, had they been wider, they would have proved advantageous. The ornamentation is light, and the *coup d'œil* effective, though the colours of the roof are somewhat too gay for the sombre sage and white of the pilasters and fronts of galleries. The ribs are cut with dog-tooth mouldings, and have scroll-work on the sides. Each bay over the galleries is panelled in stucco, and ornamental brackets are introduced at the ends of the hall. Externally

the building is of one storey, the principal story being pierced and perforated by windows, the upper having niches and arches over the windows below, and with carved and pointed pediments alternately. A projecting cave, resting on carved cantilevers, and a continuous enriched entablature, surmount the building. Mr. Clarendon was the architect. Messrs. Cockburn and Son were the builders. A very valuable and beautiful collection of works of decorative art has been lent to the Society by the Science and Art Department of the Committee of Council on Education, on the condition "that the Fine Arts' Committee should endeavour to add to the Exhibition by obtaining loans of specimens from the collections of private individuals in the neighbourhood." This condition has been warmly responded to by a number of parties, amongst whom we may particularize Messrs. C. Brien, J. Owen, Journeaux, Sir J. Dombrain, Col. Tottenham, &c. &c. Of the portraits, that of her Majesty the Queen, taken life size by Mr Catterson Smith, R.H.A. and the property of the Dublin Corporation, attracts most notice, and is the most conspicuously placed. The same body also exhibits a portrait of George the Fourth, by Sir Thomas Lawrence. Mr. G. F. Mulvany's portrait of William Dargan, life size, is also an object of interest. The collection of pictures is the best brought together since those in the Fine Arts gallery of the Great Industrial Exhibition of 1853, and which occupied nearly the identical position of the present building. Amongst the other pictures we noticed the "Winter Scene," "Landscape and Figures," and "The Story of Letitia,"—a series of five, by George Morland. Mr. Waller contributes an *Ecce Homo*, by Correggio, and Mr. Malony "A Greek Mother and Child;" and Mr. Brien, "Mercury instructing Cupid," by the same artist. We also find "Thomyris with the Head of Cyrus," and "The Head of St. Augustine," by Reubens, the only works of that celebrated painter in the collection; but of the native artists, we may mention that the following works deserve particular notice:—"Gipsies crossing a Stream," after Jutsum, by the late W. Howis; "Coal-pit Heath, Gloucestershire," by Edwin Hayes; "Woodlands on the Liffey," by H. McManus, R.H.A.; "Female Head," and "Holy Family," by Robert Mannix, a young and aspiring artist, who has also contributed some very creditable designs for decorations. The architectural subjects are very limited, owing, as we believe, to the ambiguity of the prospectus, which did not allude to such a department being contemplated. This is a pity, as the local architects always did respond to the call for contributions to the triennial exhibitions of the Society. With the exception of a few views of the existing buildings of Dublin, viz.—Trinity College, the Bank of Ireland, the Provost's House and Custom House, exhibited by Mr. Malton, and designs for the Moore testimonial, Villa at Howth, and a Roman Catholic decorated church by Mr. Geoghegan, no architectural work having reference to recently-erected or proposed buildings, has been contributed. In the "Sculpture and Carving" department, the Exhibition, though somewhat more limited than might have been expected, is creditable. Mr. J. R. Kirk, R.H.A. contributes marble groups of "Rachel weeping for her Children," "Faun and Infant Bacchus" (antique) portraits, statuettes, &c. Amongst the other sculptors exhibiting, we find Messrs. John L. Jones, Cunningham, Christopher Moore, and ("The Angel of Death," by) Thorwaldsen. A bust of Edward VI. by Roubilliac; "Discobolus," by M. Kessels, and busts by Van Ost, deserve notice. Of poor Hogan's works, we only find his bust of the late Father Mathew, lent by Mr Bianconi; and we cannot but say that had some of his productions been sent to this exhibition they would *not a little* have influenced the public mind, and public pocket, in favour of the fund now collecting to assist the family of that late disappointed Irish artist. Bronze, carved brackets, wax flowers, ivory, wood, and card models, are also to be found dispersed throughout. The electro-plating, plated ware, jewellery, &c. by Messrs. Acheson, Brunker, and Edmondson Mason, respectively, porcelain by Messrs. Kerr, of Worcester; musical instruments by Scales; furniture by Fry and Co.; chandeliers by Gregg and Son; the cases of toilet and dressing-room requisites, by Austin; brass and ladies' requisites by Jones and Son; and stained glass and woodwork by Hardy, deserve especial notice. In the gallery is a collection of photographs, by the Dublin Photographic Society, Professor Wilkinson, and others, but it would be attended with advantage, and education, if the names of the many buildings, of which views are given, were attached to the photographs.

In the archæological department, the Royal Dublin Society is itself a chief contributor, and we find a vast number of Celtic works of interest, including hatchet and axe heads, palstaves, hammers, daggers, ornaments, &c. We have snuff boxes, caskets, goblets, a bell of St. Patrick, and case, believed to have been bequeathed to the Church of Armagh, by St. Patrick; also the Miosagh (containing a MS. copy of the Gospels, said to be in the saint's own handwriting) of St. Columba. It bears an inscription in Irish, of which the following is a translation:—

"Brian MacBrian Ua Muirguissan covered me, anno Domini MCCCCC."

The family of O'Muirguissan, or O'Morreesen, was Herenach of the Bishop of Derry, and had the official custody of this reliquary. The model and drawings of fortifications by the Hibernian schoolboys deserve notice. We cannot conclude our notice of this very creditable exhibition, without stating that, despite the disadvantages offered by the internal unsuitability of the building to such a purpose, much annoyance could be obviated by a more systematic mode of transmitting the crowds of visitors to the various departments; for at present it is next to an impossibility to stop to inspect anything, as a crowd moving to and fro compels every one else to "keep moving" likewise; and especially where there are staircases at each side, which offer facility for those going to the galleries, to ascend by *one* stair, and those coming from them to descend by another. We should also mention that, on the evenings devoted to the working classes, the atmosphere in the galleries (which contain a variety of objects of interest) is intolerable, and the jamming of a vast concourse of people, in a *four* feet space, produces inconvenience which may easily be imagined.

On Monday, Wednesday, and Friday evenings, the exhibition is open for 3d. and in the daytime for 1s. admission. We take it for granted, from the construction of the new Agricultural-hall, that it, too, will form an addendum to the exhibition space, at the disposal of the society, it being somewhat similar (though plainer) in character to the Museum building, and designed by the same architect. A cattle show has been held in it recently. As yet nothing seems to have been done towards the construction of the National Gallery, for which Messrs. Lanyon and Lynn furnished plans, and which is to form a corresponding wing to the new museum.

MILITARY QUARTERS AT CAMP.

WHATEVER may be the advantages derived from locating large bodies of troops in encampments, such as Aldershot or Shorncliffe, it has been discovered that economy is not an issue of the experiment. Wooden hovels or huts are erected to last for a few years, at an expense very disproportionate to their durability; they are comfortless in winter—in summer they are oppressively hot, and infested with vermin—all the expense of drainage required for permanent barracks must be incurred to keep the occupation healthy; and the same amount of labour must be given to the formation of roads. All that is gained, or sought after, is the habituation of battalions to rude service, as in campaigns, and the question is, whether this object could not be as well attained by having sound and commodious buildings erected at suitable points throughout the country, near enough to the wide heaths or commons, so that the forces might, on fitting occasions, be at intervals ordered on field service, when with tents and travelling munitions, as in war, they might take their turn in an actual and summary encampment, and there learn the art of strategy and the realities of mimic combat.

While on such duty the modes of hastily pitching tents, of making drains, of providing for all the requirements of large masses, and above all, the habits of endurance for a season, would inure the soldier to duties which on actual service are inevitable; and, at the same time, as soon as a regiment or company should show symptoms of ill-health or languor from too long and severe a probation, the solid barrack provided at hand might afford a suitable refuge.

It is notorious that the endurance of those outquarters for too long a time dissatisfies the men, and tends neither to the improvement of health nor the other end that domestic treatment which establishes the constitution of any male adult may, it is presumable, be equally profitable for the soldier. A continued residence in cities cannot be desirable, neither can a continued seclusion and separation from all social intercourse be promotive of vigour of body, united to that tone of mind and thought which contents the recruit with his vocation.

As to the comforts afforded by the wooden huts, as continued habitations, those of the privates cannot be very agreeable, when it is known how difficult it is for officers to make their quarters tenable in winter, even with papered walls and carpeted floors: the penalty paid by all in rheumatic aches sufficiently proves this. But in summer the heat is nearly as inconvenient, and one fact, which may, perhaps, not be very creditable to the officers of a certain regiment, ought to be known to the authorities. It is this:—That a certain militia regiment was marched to Aldershot; they were assigned quarters, that day vacated by another militia regiment; they were ordered to turn in, but refused, to a man. Inquiry was made, and the explanation (deemed in this instance a good excuse for mutinous conduct), was, that the blankets left by the regiment just then drafted off were full of vermin!

Whether by scrupulous care and cleanliness such a disgusting state of filth could have been avoided where men are crowded together hastily and in hot weather, is a question altogether for practical military men: it may have been neglect, or it may be an evil inseparable from the condition of things; but such is the fact.

There is, however, one evil that can hardly be guarded against in the thronged wooden encampment, and that is *fire*. This default has been before referred to in the *Builder*, and has since been felt. A permanent barrack, and none other, can offer security against such contingencies. Tents can at once be struck and removed without loss; the timbers form a line of communication for the element, which, when once in the ascendant, runs like electricity.

It is desirable, and indeed is a paramount necessity, that troops should be trained in habits of the camp; but it is no more necessary to keep them continuously in comfortless hovels than it is to constitute war an interminable and enduring necessity. The raw levies, the household troops, the drawing-room officers, the raw militia regiments, all did nobly in our late war, and that without any camp practice whatsoever; it was only the dignified staff of officials that failed, and their failure was death to thousands of the brave.

What we wish to point out is, that a good barrack, provided with all the comforts which our time of higher civilization affords, ought to be at the service of troops who, whenever and wherever called into action, have done good service. They ought to have rooms for assembling, for reading, for instruction, and for refreshment. The life of the soldier should not be that of the slave, nor of the serf. The best economy is to improve his mind and habits, as well as his health; his contentment of spirit is of as much importance as his vigour of frame; and by the careful nutrition of both the services of our common country would be more nobly asserted, whilst the time of servitude would be thereby extended, and the burden of the military list much alleviated.

To play at soldiers in time of peace is no doubt a pleasant pastime, but it is also useful; reviews and field-days have their profit as well as pomp. Judiciously constructed permanent barracks, erected as proposed, might afford a "point d'appui," not only for these pastimes, but for the drill practice of serious war, and with a few structures placed near lines of railway, a standing resort for supernumerary troops might always be kept in reserve, to save the householders and publicans of British towns and cities from the detested intrusion of billets.

ART AND THE CHURCH.

I AM much obliged to your correspondent, "R. M." for the very courteous manner in which he has expressed his approbation of my lecture. But he has, in effect, asked me to do a somewhat difficult thing—to supply a reasonable argument *against* the views I have advocated.

If a man should assure me, for instance, that whatever be the admitted beauty of music, he cordially dislikes it, and that it distracts and depresses him, no amount of reasoning could possibly convince such a person that he *does* like it, and that it does *not* distract him, all that he avers to the contrary notwithstanding. "R. M.'s" objector is in this position with regard to "Art in the Church;" and I should despair of *proving* to him that worship in a "glorious cathedral does *not* make him wretched," when he declares it does. Nevertheless, his statement contains a fallacy or two, which I am surprised so sensible a writer as "R. M." should feel any difficulty in detecting.

First. We have an *assertion* that this "grand and noble theory" *will not work*. But, in point

of *fact*, nearly all the religious edifices built in this country, for many years back, have been built in more or less accord with the principles of the said theory. The same may be said also to have been the moving cause of the great revival of Gothic art among us, and of the amazing number of "restorations" that have taken place. For, with what other idea have we done all this, except that which animates our theory? I might, therefore, fairly meet the above assertion by replying that it does work, is working, and will work. The second assertion is, that our objector *knows* "that to a vast majority of mankind (!) such thoughts and principles of action" as ours "are unknown and incomprehensible." But if national churches represent the feeling of nations, where is no such majority at all. The Roman church, the Greek church—all civilized heathendom as well, ancient and modern—supply us with an immense majority the other way. Indeed, the simplest computation will show, that the views held by our objector are those of a very small minority among the Christians of the universe, to say nothing of the heathen, who are, I suppose, to be counted into his "mankind?" But, perhaps, I have already admitted too many Christians into it, for our objector? We now come to the "splendour" part of the statement. And here I must recall to mind, that my lecture distinctly says, that "true spirituality will always lean to the severe, the pure, and the chaste," and that "grotesqueness and gaudiness are impertinent in the house of God." I mention this in order to dispose of the *gay* splendours and flaunting trappings" of "R. M.'s" friend. He, however, finds that the "glitter of earthly splendour" obscures his "view of the beauty of holiness." The fallacy here lies in a confusion of things utterly different in kind. How can a *material* thing obscure a *spiritual* view? I cannot suppose that our opponent is in the habit of indulging in a "material" imagination of heaven as a place full of thrones, wings, and illumination; and that, in a "glorious cathedral," he finds the already embodied imagination of the artist for a mundane purpose, better than his own of a far higher place? The beauty of a church, and the beauty of holiness, are vastly different. Indeed, it would be almost as sensible in our objector to allege, that the light falling through stained-glass windows coloured his *faith*, as well as his head; or that the "Hallelujah" chorus prevented his hearing the song of the angelic choirs,—in his imagination, that is. Yet that "Hallelujah" chorus is only Handel's imagination invested with an abiding form, and perhaps in a better and grander imagination than he possesses, whom it may prevent from indulging in his own. It is clear, therefore, that the objection about the *material* beauty of *churches* obscuring the *spiritual* beauty of *holiness* does not hold. It would be quite as reasonable to object to live in houses "because" they hide the Creator from us. It may also observe that it is a misfortune of the school to which "R. M.'s" objector belongs, to be never considering the "morning star of Gospel truth" to be so immeasurably *distant*. It cannot be said to be "distant" from the senses; for it is in no relation to the senses at all. And yet he calls us the glory of it is *pale, because* it is so far from the senses,—which is as much as to say, they should appreciate it if it were nearer! And here the whole fallacy lies. For if it were the office of the senses to perceive the glory of divine truth, as it is to perceive the splendour of a church, *then* it might be urged that there was some risk of confusion; but, seeing that with the former of these the senses have nothing at all to do, and cannot perceive it if they would, it follows that where can be no such confusion, and, therefore, none of the calamitous effects or dangers our objector imagines. That morning star, therefore, will shine on for ever, wherever two or three are gathered together in His name, and has no risk of having its pure beams discoloured by a glass-stained window, simply because its light is not of this world at all. I have already disposed of the asserted "majority of sincere Christians," which, like the "own sphere" of art and her "unwelcome presence," is mere assumption. We have dealt with things as they are, for I have shown that out of five fine arts there are three already admitted into the church by almost universal consent. Art actually does exist in the church, and that in some excellence. I have only justified that existence, a thing which *is*, and advocated its *improvement* as what ought to be. It is no longer (practically) a question whether or not art shall be admitted: if it had been, we might certainly appear to have been "dealing with what ought to be rather than what is," contrary to my own advice. As to the "limit," God has fixed it himself: it is as far as we can go, and that is but a little way at best. So we need not be chary of our work, as if we could do any thing very great. There is yet another fallacy, or rather confusion. "Decorate your own houses and public buildings as much as you think proper, but keep aloof from *God's house, for* the living God dwells in a temple not made with hands." Observe this "for." *God's house* here stands (I suppose) for a church, or churches in general. Where then is God's house, if He dwell not in temples made with hands? Either a church is not His house, and therefore He is not there more than anywhere else, or it is His house, and He *does* dwell there in a somewhat particular way. Hence, according to "R. M.'s" objector, we may decorate it, if He is not there, for then it is like any other public building; and if He is there, there is every possible reason why we should not keep aloof. But He is omnipresent, and is ever particularly "in the midst" where the faithful are assembled to pray. In this case the most faithful and earnest work of a man's mind appears to me to be as much in place in a church, in God's house, as the man himself; for, "while a thing of beauty is a joy for ever," a *devout* thing of beauty is a *prayer* for ever, and is certainly well placed where men for ever pray.

"R. M.'s" objector may not be convinced, for with him it is a matter of feeling, and not of argument. As he has been brought up, so he will remain: such is the natural force of custom; and the "glorious cathedral" shocks him, and will shock him, because he is not used to it, or because of the "constitution of his mind." But he admits my "noble theory," and will, therefore, look with tolerance on those who admit the practice too. I do not doubt his sincerity, and here tender to him, and those who think with him, the cordial expression of esteem and Christian regard of one who, widely differing from them in opinion, nevertheless considers a gentle and friendly spirit towards each other, in spite of differences, of infinitely more importance than any amount of high art, or any possible multiplication of "glorious cathedrals." HENRY T. BRAITHWAITE."

ARCHITECTURAL UNION COMPANY.

ON Wednesday, 19th, an extraordinary general meeting of the shareholders was held at the rooms of the Institute of Architects, Mr. Charles Mayhew in the chair, in the absence of Sir C. Barry and Mr. Tite, M.P.

The chairman said the meeting had been called to show what the company had accomplished. Everything was now being carried to a climax. Lord Macclesfield, he was happy to say, had agreed to the proposed terms, and the contract had been sealed but not exchanged, and everything had been satisfactorily arranged up to the present period.

Mr. Edmeston read a report which showed, amongst other points, that:—

"The directors, in the first instance, exerted themselves to get the objects of the company made known, and by that means to enlist the support of those who might approve of the scheme. The result was such as to warrant them in proceeding with vigour and confidence, and in a short time about 900 shares were applied for upon which deposits were paid; and as Lord Macclesfield had offered to allow 4,000*l.* of the money for the purchase of the premises in Conduit-street to remain for four years at interest, funds enough were thus provided for paying the whole amount now required, and for carrying out the alterations and additions."

"The directors believe the shareholders will admit that all possible economy as to preliminary expenses has been used, when they state that the amount paid for printing (which included most of the books which the company are required to keep by law) was only 68*l.*, while the amount paid for advertisements has been only 20*l.*"

"The number of shares upon the register is 894, and the total amount received in cash from all sources, up to this day, is 3,014*l.*"

"The company and the profession at large are greatly indebted to the Right Hon. the Earl de Grey, and to Messrs. Samuel Ware, Henry T. Hope, C. H. Smith, E. Collins, Thomas Grissell, Eastwood, Maw, Lucas, Waterhouse, C. F. Oldfield, A. J. B. Beresford Hope, and J. J. Scoles, who, with the utmost liberality, have subscribed to the donation fund, and have for the most part paid up their donations in full. The dividends from all shares invested in this fund will be applied in accordance with the wishes of the donors for the furtherance of architectural art or science as provided in clause 107 of the Articles of Association."

"They have not yet been able to make any conclusive contract for the alterations and additions, but they have good reason to believe that 4,000*l.* will cover all the outlay in connection with this item, in part payment of which they are able to reckon the premium of 500*l.* to be paid by that Institute, and, if necessary, some proportion of the contract may no doubt be paid in shares.

The directors would wish it to be most widely known that it is their desire to appropriate the whole of these premises to the uses of societies connected more or less directly with architecture and the fine arts. They think there is every reason to believe that the means which they command of providing a room for the secretary, with the occasional use of a large room or gallery for holding meetings, and which in this way may be done at greatly reduced cost, will render the advantage and the saving so clear that many of those societies that suffer loss and inconvenience by the present system, of renting large and extensive premises for their permanent use, will be ready at once to negotiate for the admirable accommodation which the company will provide."

"Lord Macclesfield has agreed to give possession on or before the 1st of July, and, as he is now having the house dismantled, there is every reason to believe that as soon as ever the company are prepared to pay the second 2,000*l.* possession may be had; and the directors, therefore, desire to call the special attention of the shareholders to the desirability of a prompt payment of the calls."

"Lord Macclesfield has agreed to give possession rather more than 50 0 by 30 0; 50 0 by 210 0; 37 6 by 25 0, and 11 by 11. They will be warmed with hot water, and easily ventilated."

Mr. Banks proposed, and Mr. Whichcord, F.S.A., seconded a resolution to the effect, that this meeting receives with satisfaction the report now read, and pledges itself to support the directors in carrying out the contemplated improvements.

The resolution having been carried unanimously,—

Mr. Cates proposed a vote of thanks to the chairman, deputy chairman, and board of directors, for their unremitting exertions in their honorary capacity in behalf of the interest of the Company.

Mr. Wyatt Papworth seconded the resolution, and it was carried by acclamation.

Mr. Edmeston intimated that he and the directors would be happy to answer any inquiries, or give any information.

Mr. Mair, as a shareholder, would like to know if the Institute of British Architects were thoroughly satisfied with the accommodation proposed to be given them in the new premises; and whether the plans had been laid before the council. He considered it an important question, and had himself been disposed to take shares in the new company from the strong conviction he entertained of the desirableness of improving the present accommodation of the Institute. He was quite sure the meeting was numerous enough to condemn the present room in which they had met for so many years, and which he thought was about as dirty and shabby a room as they could have; and he confessed he never came into it without regretting that so influential a body was content to go on year after year in really (if he might use so strong a term) so beggarly an apartment. It was bad in ventilation, and in everything else. Had the plans been laid before the council?

Mr. Edmeston replied that in the new premises the Institute would not only have all the accommodation that was promised and approved by the council, but he was happy to say they would have considerably more. They would in fact have one-third more accommodation than was originally proposed, without additional rent.

Mr. Mair expressed his satisfaction at the explanation and inquired when active operations would be commenced.

The chairman said the contract had been sealed, but not yet exchanged, and the money would be paid by Monday next.

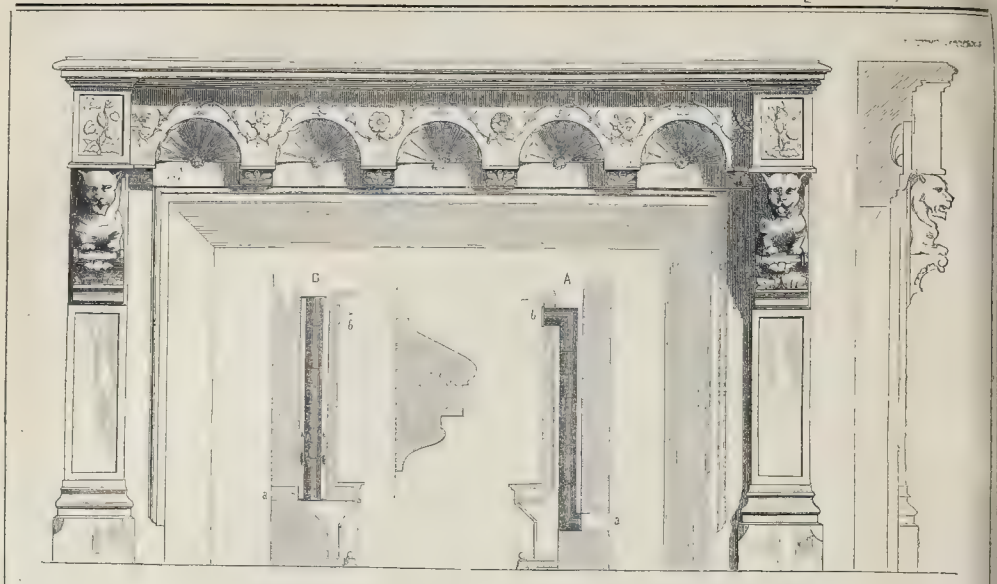
Mr. Wyatt explained that although the matter had not yet been formally placed before the council and approved, he did not anticipate the slightest objection.

Mr. Edmeston explained, in answer to inquiries on the plans, the accommodation that would be given to the Architectural Exhibition and the Association, and the directors would be able to make arrangements with other societies to participate in the space. They also expected a rental of £200 a year for the ground floor. It was not proposed to alter the street front.

On the motion of Mr. Papworth, seconded by Mr. Mair, thanks were given to Mr. Owen Jones for his liberality in presenting a design for the company's seal, and to Mr. Hesketh for the use of his offices.

Thanks on the motion of Mr. Cox, seconded by Mr. Pennethorne, were also warmly awarded to the chairman for presiding, and to the Institute of Architects for the use of their rooms.

A NEW ROUTE TO DOVER.—The contest for an independent route to Dover has been decided by a committee of the House of Commons in favour of the East Kent Company, by an extension of their line from Strood to St. Mary Cray. The effect is to place in the hands of this company, whose total capital is only 2,000,000*l.*, the shortest route by Dover to the Continent, avoiding the angle by Reigate. It is said to save twenty miles to Canterbury, Ramsgate, and Margate, nearly thirty to Herne Bay, and eight or nine to Dover; affording also a west-end terminus at Pimlico.



MODERN FRENCH ARCHITECTURE.—*Chimney-piece: Modes of Ventilation.*

MODERN FRENCH ARCHITECTURE.

CHIMNEY-PIECE AND VENTILATION.

THE necessity of renewing with certainty the air of an apartment, and, at the same time, of maintaining its temperature, is receiving attention in France, as it is amongst us. The annexed diagrams show some of the means which are resorted to. Fig. A shows a section of an ordinary fire-place. An iron pipe, placed in the centre of the flue, has one of its ends open to the atmosphere at *a*, and the other opens into the apartment at *b*. The pipe being heated by the smoke which passes around it up the chimney, a current is established, and warm fresh air passes rapidly into the apartment.

In figure B the smoke goes up the pipe, and the fresh air admitted at *a* passes round it, and into the apartment at *b*.

The chimney-piece, of which we give a drawing one-tenth full size, was executed in white marble by M. E. Marga, of Paris, statuary. The enrichments of the frieze are elegantly cut.

THE "STRAND BUILDINGS."

UNDER this title a lodging-house for families has been erected upon a site in Eagle-court, Strand, opposite Somerset House, by Lord Ingestre and a committee, on the part of a company incorporated under "The Labourers' Dwellings Act, 1855," an Act promoted by Lord Shaftesbury, for facilitating improvements in the erection of dwellings for the poor. By this Act, on complete registration, the shareholders are members of a corporation *without any liability individually*, except to the company for the payment of the amount of their shares. This company was completely registered on 18th August, 1857. It having become known to the committee that Miss Burdett Coutts had offered one thousand pounds towards the erection of improved dwellings, and to endow a church with the interest arising from such sum, communications were opened with the advisers of that lady, and her assistance being secured to "the Strand-buildings," the church of St. Michael's, Burleigh-street, Strand, was selected for the endowment.

The capital of the company was fixed at 5,000*l.* in shares of 10*l.* each; and in May, 1857, immediate steps were taken for the erection of the buildings. In the month of July, all arrangements being fully completed, the plans were prepared by Messrs. Morgan and Phipson, architects, and the tender in competition of Messrs. Piper and Son, builders, was accepted, who have carried out their contract with vigour. A meeting was held on the 14th inst. to open the building, when Mr. George Morgan read a report. The buildings contain seventy-six rooms, of which nine may be called double rooms. The average size of the rooms is 12 feet by 10 feet, by 9 feet clear height, and the rent averages two shillings and sixpence per room per week. Tenants will be permitted to occupy two, three, or four rooms, according to the number of the proposed occupants.

Lord Ingestre, the Duke of Marlborough (who presided), and others, addressed the meeting. The duke said, one thing to be avoided in such undertakings as much as possible was anything that partook of an eleemosynary character. His wish was to assist the labouring poor, but not to treat them as objects of charity. He believed more real benefit would be derived from efforts of this nature, when founded on commercial principles only; and, although this was a small experiment, he had the utmost confidence in its success even in a mercantile point of view. The meeting was then addressed by the Duke of Marlborough, who spoke with pleasure on the improved state of feeling on the part of society generally to aid the labouring classes. Although the splendid public buildings, fine squares, and large spaces that were to be seen in this metropolis, presented a bright side of the picture, yet there was its dark and gloomy side—there were narrow streets and alleys festering with every loathsome disease, in which were located a degraded population, who were almost beyond the reach of those efforts to which the minds of earnest men were directed for their improvement. Nothing more strikingly indicated the moral character of a people than the state of their dwellings. By improving the comforts of their homes you at the same time advanced their moral civilization.

It is most gratifying to find men in the position of those who were assembled on this occasion coming forward for such an object. To Lord Ingestre in particular thanks are due. Of the building itself we will simply say that it appears to be soundly constructed, and that it offers healthful lodgings at moderate rents; but it has unfortunately a certain amount of that "grimness" in aspect which seems to have been thought unavoidable in model lodging-houses up to this time. How to produce an indestructible, inexpensive building, with an attractive air of comfort, is a problem yet to be solved.

The exact cost, including 308*l.* for concrete and digging, 250*l.* for a very completely fitted-up laundry, and 46*l.* spent on the adjoining premises, has been 4,460*l.* Irrespective of these items, therefore, the thirty-eight sets of rooms have cost 3,856*l.*

THE NELSON COLUMN.

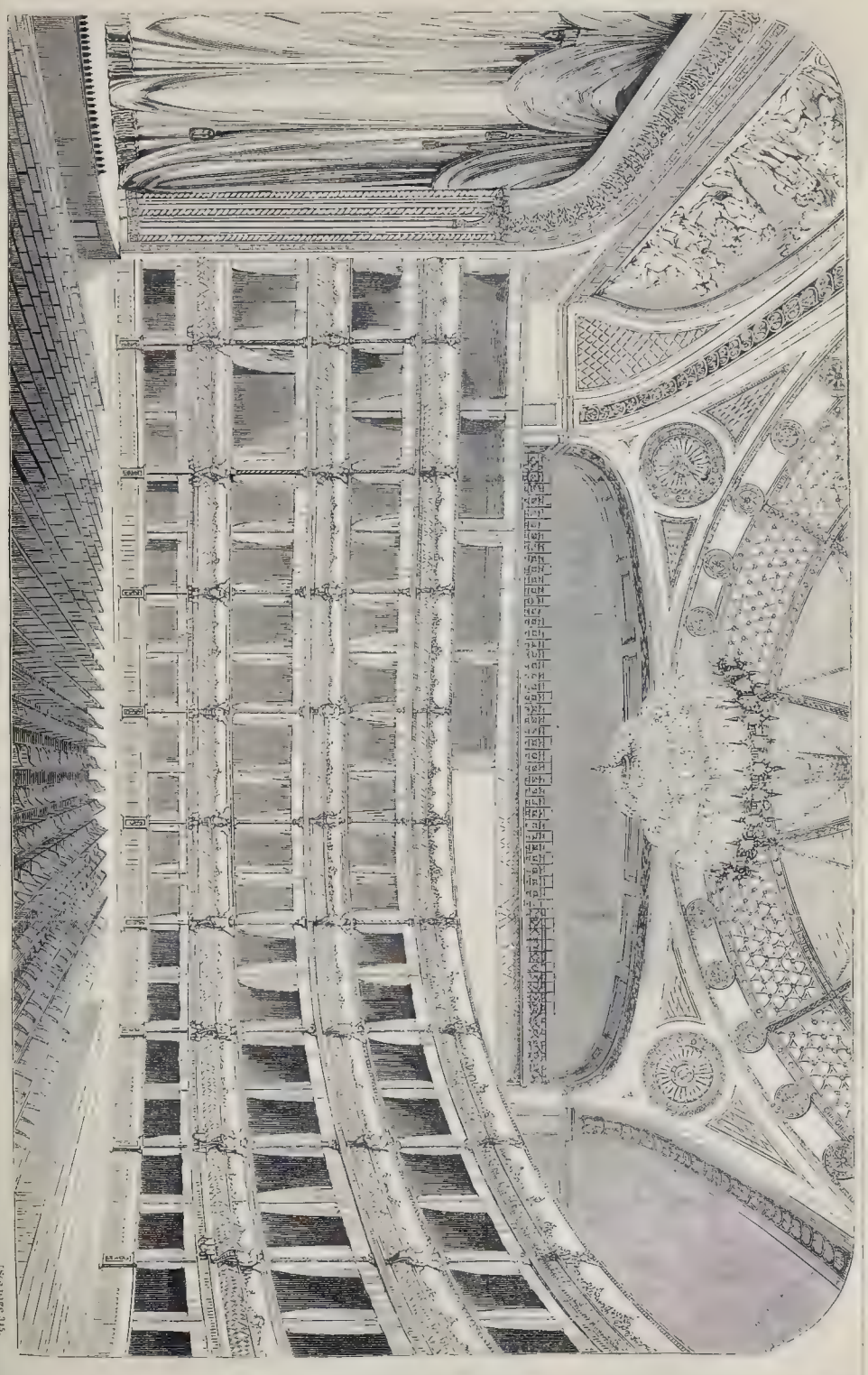
COMPETITION AND ITS RESULTS.

SEEING there is again a chance of the progress towards completion of the Nelson column details, and observing in your pages the just remonstrances of architects in the case of the Government Offices competition, I trust I, as a sculptor, may also raise my voice at the very unjust manner in which I was treated in the said Nelson column competition. Called upon by my friend Mr. Railton, in the year 1839; I designed, with his entire approval, and at great pains, the whole of the sculptural details for his finally successful drawings. After his appointment, I went into detailed estimates, &c. concluding when the time came, I should in any case share in the work. This period, however, with *Punch's* graphic sketches of "the man and boy," only loomed in the distance.

Months and years passed on, the column slowly rose, the original committee became extinct, and the Government took it up. To this time, through Mr. Railton only I applied, who had so kindly placed me in so honourable a position; but having a knowledge of a member of the then Cabinet, I stated my position, and solicited the honour (remember *not emolument*, for that was, as is usual in Government employ, at starving prices), of carrying out at least some part of my designs. But no. Sir Robert Peel, though appealed to by members of his own Government and other influential friends, "would take his own course;" and this he did, to my exclusion effectually, by appointing four artists—two who had competed, and two who had not. My labours formed the groundwork for the larger models, and all I ever obtained on designs for work exceeding 12,000*l.* was a small cheque, kindly bestowed by the successful architect. Could he, as he ought, have nominated, I should not have been forgotten or passed over. Had I accepted, on the other hand, at the Government price, the whole of the details, I should have been a ruined man: as it is, therefore, the loss of the Nelson details has been to me a great gain, having since that time been fully occupied; and, be assured, much as I might feel the honour, I have now no desire of accepting what only, I believe, still remains to complete the column, viz.—the lion's share.

EDWARD RICHARDSON.

DEODORIZING WORKS AT CHELMSFORD.—The deodorizing works of the Chelmsford Board of Health are completed. The new tanks, however, although built with cement, were found to leak very much: they will probably have to be lined with cement.



ROYAL ITALIAN OPERA-HOUSE.—Mr. E. M. Barry, Architect.

[See page 345.

IMPORTANCE OF NATIONAL EDIFICES TO A COUNTRY.

A NATIONAL edifice should not be treated as a light affair. It should receive a certain homage from the architect whose work it is: the plans, designs, and specification for its erection, should guarantee the perfect execution of the structure. Whatever the special destination it may have, its character should indicate it as a public object and a public utility: means must be proportioned to the accomplishment of that end, and everything done to make it appear in its perfection as much as possible. It should reflect the image of an ingenious and superior mind; and show that everything has been done from first to last that the work required; that the necessary union of the useful and the beautiful, the last derived from the first, has been scrupulously attended to; that the architect has proved himself a master of his art, and his subject, able to cope with all the difficulties that it entails, excelling in spite of them, and original in his manner. But if a national edifice does not, like beautiful nature from which its principles are or ought to be deduced, bespeak the exercise of a high degree of intelligence and conform to the ideas of a perfect state of civilization,—if it be unsightly to the eye and disfigured by false ornaments and abuses of sound architectural principles,—it will tend to corrupt and vitiate the taste of those who look to such a monument for a criterion by which to judge of the merit of works of art of that kind. Having been carried on and finished, not in accordance with good examples and excellent precedents, but in defiance of all rules, it is not what it ought to be, an oracle of truth on such matters, and the only abiding touchstone of the true and the false—of real beauty in building: it is, therefore, of no use consulting such an example as an authority; and the worse it is the greater the pity, for it is within the observation of all, and the benefit of instruction, which it might otherwise have spread abroad, is lost to all. It is impossible to calculate the injury done to society by faults and abuses perpetuated in marble or stone, and even in more perishable materials. The impressions they make on some minds, easily attracted by the clothing of beauty which envelopes them, is not so quickly effaced. We have frequently stopped to gaze on public buildings, hoping to have our attention repaid and our curiosity gratified; for the pleasure and instruction derived from them we consider far greater than that which critics can give: but we have often been disappointed at seeing false but showy ornaments used to hide defects in construction; worked too large and ostentatiously, to the detriment of the mass, and the harmony and repose of the whole; or too flat and petty, with a purpose it would seem of increasing the apparent height of the building; decoration, but want of effect; artifice, but want of art; the building, a kind of masquerade and a delusion to the senses. How much *scamped* work, careless and hasty work, mis-spent labour, absence of moments of intermission, necessary at certain temperatures of heat and cold which the materials require; and causes of failure of different kinds, occurring from mean and mercenary motives, from negligence, and from want of respect to the noble science of building, or the praise which success in it procures. Fortunately, in a large and prosperous city, the nursery of civilized and refined life, there is plenty of good edifices to counteract the influence of the bad ones; and by the habit of the generality, comparing two together, and discriminating their respective merits, and the character that distinguishes the one from the other, judgment may be gradually acquired of the leading principles and prevailing manner of two buildings of different styles thus contrasted; and the appreciation of beauty and excellence quickened among people of all sorts, to whose souls they appeal. They are sensible of more pleasure, and enjoy with more benefit to themselves such objects, as their minds grow familiar with their beauties, and as they learn from what resources of art, and what industry and ingenuity of artists and workmen these works spring, as also the important services which both render to their country. But a monument devoid of beauty—one of those things so essential to its value, so accessory to its enchantment—a national monument destitute of all power, from its poverty, its abjectness, its meanness, its dearth of dignity or grandeur, to gratify the senses, to move the affections, or awaken the love of country, and incapable of conveying a strong and healthy impression of its usefulness, may become an object of dislike, of ridicule, or regret,—something from which we turn away and pass by in haste, feeling it quite sufficient to throw a glance at it, and glad to escape from its impressions, which are anything but agreeable. Besides, it bears on its front a kind of selfishness, something with which human hearts can have no sympathy, which has been done solely to satisfy individual fancy and caprice, the love of producing strange, surprising, and foreign ornaments, with a total disregard to the feelings of the people, or to what might be the opinions of judges respecting it. The difference is great between realizing a project of a public edifice, a national institution, with no expense, but as cheaply as possible, with no sacrifice, no strife against difficulties, without much practical experience or talent which must be paid for dearly, and on terms and conditions easy of fulfilment; and, on the other hand, elaborating a project with incessant application of the highest powers, and giving up a part of revenue or fortune in order to meet the expense of the construction. The difference is vast indeed, both in itself and in its issues, between a work of art that is the idol of a single individual, the cherished property of only one pair of eyes, the object that is beheld and captivates only the single heart of its solitary possessor; and an institution which, if not seen, has its fame spread and its objects supported in all the corners of the earth, and which is an asylum for the unfortunate and afflicted of mankind from generation to generation. Architecture is never so noble and so ennobling as when beheld by a community who cannot resist its influence, rising from native soil in its stately and commanding proportions, a work of benevolence and a blessing to society. No art (although for its perfection it embraces all the others), appears then so closely bound up with the hopes, the actions, the interests, and the happiness of society.

FREDERICK LUSH.

THE LABOUR QUESTION.

"Open thy mouth, speak boldly, and plead the cause of the poor and needy."

"Much food is in the tillage of the poor."—*Proverbs.*

SIR,—I observe with great pain the depressed condition of the operative builders, a class of men for whom it is right to cherish all Christian sympathy. Every home in England owes to their industry and *skill* its comforts. Without their labours the princely revenues of our nobility would be powerless to procure them a shelter. Shall nothing be found for them but the bleak prospect of the union workhouse? It would be discreditable indeed to this great country if, in dealing with the exigency of the virtuous and industrious poor, its legislators can contrive nothing better than that system which has for its object the punishment of voluntary or of self-induced destitution. These men do not desire to be loiterers and idlers in the path of life: on the contrary, they seek that employment which shall enable them to perform their duties as fathers of families, as supporters of helpless beings necessarily dependent upon them.

Why do we not to our union system add that of cottage building and estate cultivation? Why do not the corporations of towns purchase estates whereon to employ their surplus labour, instead of shutting it up in prison darkness and hopeless separation from all the affections which stimulate human virtue? Is it not folly, is it not SIN, thus to disobey the voice of God in his word, and the equally loud voice of God in our hearts? We have heard it also in his recent judgments, if we will but listen. England must be deaf indeed to the more than thunderings of Sinai, if she can disregard the warnings of flame and slaughter in India,—the unquestionable result of misrule, of that grand "*traditional policy*" of making gold our god in the eyes of all the heathen! In the treatment of the labour question at home, which necessarily involves that of wealth, if we propose to *save* at the expense of humanity, we shall find ourselves as woefully mistaken as do the rulers of India, who by *smiling* upon the bloody human sacrifices which enriched their coffers, vainly imagined that they were infusing attachment to their sway into the hearts of the cruel Brahminical priesthood! This comparison may seem far-fetched and irrelevant, but it is not so. The same principle produces similar fruits. The love of money, we are told, on the highest authority, is the wide-spreading ROOT OF ALL EVIL, and the antagonism which now prevails, and is continually gaining in strength, between the wealthy employer and the indigent employed, may hereafter convulse society in a way that we little suspect. In connection with this fear, which is a reasonable one, I cannot but revert to the statement which appeared only a week before, in the *Builder*, of the increase of insanity among the poor! To what is this to be ascribed? I would suggest, as a highly probable cause, the increase of intemperance in consequence of the *want of comfortable homes*, which in London especially sends men, and women too, I fear, to the gin-shop, where they obtain a temporary forgetfulness of their miseries. I hear of a new workhouse at Leeds to contain 800 *paupers* (as they are designated), and to cost 30,000*l*. Is not this a waste of corporation funds? The same sum applied to the purchase of an estate and the building of cottages thereon for the really industrious poor, those who would be able shortly to pay rent and to support themselves, would assuredly reflect greater honour on the people of that great manufacturing city.

It is remarked, in an able article in the *Builder* on this subject, that the Government will not encourage emigration; and the Government is no doubt right not to send away recklessly the physical strength of which it may soon have need, for the defence of the country against its enemies; and which, whether threatened or not at this moment by outward foes, it should always sedulously cherish as, under God, its best safeguard.

While thousands of acres are still lying waste in Yorkshire, in Suffolk, and in Cornwall, which might certainly be reclaimed at a less expense than building workhouses, or laying down useless railways, is it not criminal to look with apathy on the sufferings of manly and womanly hearts in our great cities pining for healthy employment for remunerative labour? We find, on incontrovertible testimony, that the human frame degenerates in the everlasting workshop and the presence of the unceasing steam-engine. Let us try now this long-forgotten command of God, "Replenish the earth and subdue it," and bring back the bloom of human life to "the desolation of many generations."

On this subject especially I recommend to the notice of your readers the work of Mr. George Gilbert Scott on Domestic Architecture, as containing some facts which the owners of untilled estates cannot take too earnestly into their consideration, "for there is that is *destroyed for want of judgment.*"

S. E. MILES.

THE BARRACKS AT DOVER CASTLE

CONDITION OF THE SOLDIER.

IT is really quite refreshing to see the name of a member of the Royal Engineer Department, attached to an article written in defence of a system so replete with everything that is inconsistent in its operations. I, however, quite agree with your correspondent, that the word "inflexible" is not the most suitable adjective to use, when referring to the doings of that body in connection with the erection of the new officers' barracks in question. Do you not observe, sir, that Mr. Arnold says, the "elevations" for the new officers' barracks were designed by Mr. Salvin? This is ostensibly for the purpose of enlightening your former correspondent, "B. F." who, doubtless, knows very well, that an architect designed the elevations. Mr. Arnold evidently wishes to inform you (but is too modest), that the plans and general arrangements were made by himself, and that Mr. Salvin merely designed the Mediæval exterior. This is the very absurd system that your correspondent, "B. F." so justly exposes. Can anything be more childish and ridiculous in the first place? Mr. Arnold, who occupies the situation of foreman of works, at the salary of 6s. per day, is instructed to make designs for the erection of a building which is to cost 40,000*l*. Being a talented gentleman, although holding a subordinate situation, he succeeds in making a good plan for the building, but does not succeed in making an elevation to the mind of the authorities, who then obtain the services of an architect at this point, who is to take Mr. Arnold's plans, and preserving their general arrangements, so alter the exterior as to make the whole to appear to be the design of an architect. No wonder if, with such arrangements, or rather derangements, the architect in question has been by some parties blamed for designing some things not purely Mediæval. No wonder if the details of the building are found fault with, in execution, by the Royal Engineer Department; but a great wonder if such a system had never been exposed.

There is, however, another subject which, upon visiting Dover Castle, certainly appears of far greater importance than a few disputable errors, either in design or construction of the new officers' barracks, and one which I should rejoice to see brought before the readers of the *Builder* by an abler pen than mine. I refer to the condition of the buildings, or rather caves, in which the common soldiers are lodged. At the foot of the new officers'

barracks, about 100 feet deep, embowelled in mother earth, are several caves, about 200 feet long and perhaps 25 feet wide each, called the cliff casemates. These rooms are about 6 feet out of a level, having a fall towards the edge of the cliff; at this cliff end the windows are made to open for ventilation, the effect of which is, that, while abundance of cold sea air is obtained at that end of the room, the impure air is driven up to the other end, which is at times almost insupportable. No means of ventilation whatever are provided either in the sides or arches of these long caves; but, at the high end of the room, the vitiated air, after having passed all through the room, is allowed to ascend a well-like shaft to the surface. In these casemates, with no partitions to divide one from the other, are huddled together as many men as they can be made conveniently to hold, who, besides the want of fresh air at one end of the room, are at times almost in darkness; for the only windows are those at the cliff end of the room, and a borrowed light from the ventilation shaft at the other end.

The only other accommodation for troops at the castle is found in rooms and casemates near the keep, which are admirably represented by drawings which appeared in the *Builder* of March 6th, p. 150, showing rooms in Portman-street barracks.

Here, indeed, the Government display a pertinacious *inflexibility* and false notions of economy, seldom equalled and never surpassed.

The miserable condition of these barracks surely needs only to be seen by some *influential* friend of the soldier, that measures may immediately be taken,—not to lay out still larger amounts upon these wretched substitutes for barracks, but to provide suitable accommodation for the unfortunate and entombed occupants of these caves, who at present cannot but regard with dissatisfaction and jealousy the kind of accommodation provided for their superior officers above-ground.

A Powerless Friend of the Soldier.

THE SARDINIAN PRISONS' COMPETITION.

A Correspondent sends us the following from a letter received from one on his travels, who takes an interest in such matters:—

"I have heard here that the award has been made (though not officially announced yet) on the plans submitted to the Sardinian government of prisons, and I am glad English architects are amongst them.

There were two sets of prizes:—

3 for two prisons at Turin.
3 for two „ at Genoa.

And the names stand, I am informed, as follows:—

Turin—1. Messrs. Jones and Barber, London.
2. „ Thomson and Anderson, New York.
3. Monsieur Le-Feure, Paris.

Genoa.—1. Monsieur Le-Conte, Turin.
2. Messrs. Wilton and Hill, London; and
3. Messrs. Jones and Barber, London.

They have, I believe, to go through another tribunal yet."

BIRMINGHAM NEW BATHS COMPETITION.

WOODCOCK STREET.

At a special meeting of the Town Council, held on the 18th inst. the report of the Baths and Parks Committee recommending the selection of the design submitted by Mr. Edward Holmes, of Birmingham, was adopted.

There were eighteen competitors. With reference to the memorial from competing architects suggesting that engineering and architectural advice should be obtained to secure the most efficient and economical arrangement, and to afford the competitors the satisfaction of knowing that the committee had adopted the best means of selection; the committee report that of the efficient and economical arrangement of the proposed establishment they are of opinion they are themselves the best judges. "That they have in their Superintendent, who is also an engineer of great practical experience, an officer in whose advice and opinion, in all matters respecting engineering arrangement and estimates of the cost of the same, they have the greatest confidence. And that as regards the buildings, your committee are, from the established reputation and respectability of the competitors, satisfied with the estimates of the cost of the architectural portion of the respective designs according to the accompanying specifications. In conclusion, your committee have to express their regret at the step taken by certain of the architects in memorialising the Council upon a subject under deliberation, and not reported upon, as implying a reflection upon the judgment and impartiality of your committee."

BRITISH ART.

A DIALOGUE BETWEEN THE DUKE OF YORK AND NELSON.

D.—Nelson, my friend, what means that growl?
Do birds, or jokes, your form befoul?
N.—Sir, British art will drive me mad:
This last manœuvre is too bad.
First Napier; now, as I'm a sinner,
Comes a pock-doctor, sir, old Jenner.*
Why, zounds! sir, now I've shipp'd a surgeon,
Soyer, the cook, or Parson Spurgeon
May board me next.
D.—That's British taste:
Where is the right man rightly placed?
Where Carlton House stood, George should be;
So here John Bull has planted me:
Before th' Academy, art's temple,—
Itself a blunder, *par exemple*,—
John should the great in art install,
So there he posts his admiral.
Alike his great in peace or war,
In art, small pox, or Trafalgar.
Give but his image-worship vent,
Where—how—what recks he? John's content.
Give him no site outside its walls,
He'll plant Lough's Satan in St. Paul's.
N.—John's views of art are thick I' the clear,
Witness ourselves, mast-headed here;
Rigg'd as I am for Dame Tussaud's,
Th' Abbey, St. Paul's, or other shows:
Where gaping crowds my stars could note,
And count the buttons on my coat.
D.—Ah! friend, what whims seize artists' noddles!
Once you were deem'd the pink of models,
But if—as some may still believe
Art triumph'd in your armless sleeve,
A wooden leg might p'raps impart
"A grace beyond the reach of art."
N.—But why, sir, hoist us up so high:
Man needs a telescopic eye,
To make us out?
D.—The wise say this:
We're in our apotheosis,—
A higher state,—a state of glory.
N.—The wise may tell marines that story.
That bodies rise the Scripture teaches;
But what about cock'd-hats and breeches?
And look at us,—a pretty joke!
Begrimed with earthly dirt and smoke.
If mortals in our state can rise,
Egad! there's hope for sweeps and guys.
Are you, sir, risen from the dead?
What means that skewer on your head?
Do souls in glory lightning fear?
D.—My head may well provoke a sneer,
As do, at Rome, those heads divine,
Where Trajan tower'd, and Antonine,
In Peter's nimbus, all begull,
Heretic birds their nests have built;
And so th' Apostle's head besmirch,
As other heretics, his church.
N.—Such are art's glories, sir,—all stuff,—
But view my post here,—safe enough
For Victories, Fames, ideal things.
But for a mortal without wings,—
Like acrobat upon a pole,—
'Tis too absurd, sir, 'pon my soul.
D.—Yet men there were—the legend says—
Who, perch'd on pillars, pass'd their days,
As if for vantage-ground they'd striven,
To get a better start to heaven.
N.—Such ticklish posts the state might show,
Of certain potentates we know;
But art and all the world proclaim
I'm raised to everlasting fame.
A fig for art! high-sounding fuss;
Why what the deuce is there in us—
Stuck on these specimens of masting—
Suggestive of the everlasting?
D. Aye, what indeed?
N.—Wits cut on you
Sad jokes. Shall I repeat one?
D.—Do.
N.—They say, your monument's so tall,
Yourself so shapeless, black, and small,
A candlestick 'tis like enough;
You, on a candle-end,—the snuff.
You, sir, are doom'd "to blush unseen."
I'faith! you might as well have been
That scare-crow king on Bloomsbury spire,
Or yon "tall bully's" wig on fire.
D.—By George! our fools all fools surpass:
Well may France think John Bull an ass;
And mark! while art all means should try
T'enhance its subjects' dignity,
Here in our monuments 'tis seen,
The hero plays a part so mean,
Our elevation, all must grant,
But makes us insignificant
As some great men, to critics' eyes,
Still seem the less, the more they rise;
Though happier we, whom art exalts,
Our rise must help to hide our faults.
N.—Great comfort that.
D.—At least so great,
That when you yield to time or fate,
And fancy, as the feelings, warm
To heroes lends a hero's form,
This fact no more shall shock the eye,—
Th' immortal Nelson was a guy.
N.—Thanks, sir, yet rage my soul still harrows;
Befoul'd by wits, by soot, by sparrows,
E'en art itself must needs confess
My glory's in a glorious mess.
And, sir, what company we keep!
Perchance a hodman or a sweep.
Lone, sad, the sport of wind and weather,
What can we do but growl together?
D.—Nelson, my friend, I've much to tell,
But, whisht!—R.A.s approach—farewell!
Yet, hear my wish before we part,—
A brighter day for British art!

* All honour to the heroes of peace! Jenner richly deserved a statue. The mistake made is in the selection of the site.—Ed.

SCAFFOLDINGS IN BIRMINGHAM.

The Queen is going to Birmingham, as most persons know, to open Aston Park; and some of the loyal and acute inhabitants are already beginning to erect stages for the spectators on the occasion. Some of these seem to us anything but safe: we might point for example to one in Aston-road, on the roof of a blacksmith's shop, that appears to want looking at. Surely some supervision is required. The inspection of the Town Architect or some other authority might be insisted on, and his certificate made necessary before they are open to the public. While the launch of the Leviathan was going on at Millwall, a temporary erection of the same sort yielded and several persons were injured. There will be a repetition of the disaster at Birmingham with aggravated results, unless some such steps as we have indicated be taken to ensure sufficient strength.

PUBLIC BUILDINGS.

Newcastle-upon-Tyne.—The town council have met in the new Town-hall buildings, which are advancing towards completion so far as contracted for, at a cost of about 28,000*l*. The buildings were designed by Mr. Johnston, architect, and comprise a corn-exchange, music-hall, council-chamber, River Commissioners' rooms, farmers' club, hotel, with shops, and suites of offices for the town clerk and borough treasurer. The council-chamber is 42 feet long, 24 feet broad, and 24 feet high. The music-hall is nearly completed. It will seat from two to three thousand persons. The site of the Town-hall buildings is in St. Nicholas-square, "on the plateau occupied by the church of St. Nicholas and the Norman keep," remarks the *Gateshead Observer*, "where Newcastle-upon-Tyne (as Mr. Hodgson Hinde has recently shown) most probably had its origin."

Barnsley. The new bank for the Barnsley Banking Company is now approaching towards completion. It is erected in the Roman Italian style of architecture, but the frontage is somewhat narrow. The central doorway from the entrance to the premises is flanked by composite columns, and surmounted by a carved archway, with rusticated arch stones, which group in with the arches of the windows on each side, the whole of this story resting on a rusticated basement, and finished by a medallion cornice. The first-floor windows are composed of Corinthian columns, with carved pediments, filled in with carving. The whole façade is surmounted by a cornice and carved frieze. The architects are Messrs. Lockwood and Mawson, of Bradford; and the contractors are—for the mason's and joiner's work, Messrs. Nicholson and Parker, Leeds; slating, plumbing, and glazing, Mr. Brown, Barnsley; plastering, Mr. Henry Barker, Leeds; and painting, Mr. C. Rogers, Barnsley.

Edinburgh.—A bill for the acquisition of the property in Shakspeare-square, including the Theatre Royal and the Square-buildings, as a site for a new General Post-office, has been prepared, and will, probably, soon pass through Parliament, which has already voted 40,000*l*. towards the costs of the site. Plans have been prepared by Mr. Robert Matheson, architect of the Department of Works for Scotland. The edifice will be more or less seen on all sides. The north and west are the most important—the one facing the Register House, and the other, or side elevation, extending along North Bridge-street, opposite what is called "the New Buildings." The south end, which will be seen from the North Bridge, is rather a difficult feature. The north front will recede from the portico of the theatre in Princes-street about 40 feet; and the western elevation facing the North Bridge about 20 feet from the present wall—the spaces thus recovered being added to the breadth of the streets. The frontage towards Princes-street will extend to about 150 feet; and that towards the bridge about 180 feet. The style of architecture is the Italian. The two chief *façades* present a broken elevation, the central portion being two stories, the ends three. The cornice of the building will be on a level with the top of the domes on the corner towers of the Register House. The southern and eastern elevations necessarily, from the nature of the ground, each exhibit six stories.

Dundee.—The new Corn Exchange and public hall in Bank-street is nearly completed. The building is from a design by Mr. C. Edward, of Dundee, architect. It is in the Anglo-Italian style of architecture. The exterior is plain. The principal entrance is from Bank-street, by a flight of two steps, entering a lobby 20 feet by 10, in the centre of which is a doorway, 7 feet in width,

leading into an inner lobby, from which a similar doorway leads into the centre of the hall. Above the entrance-lobbies, and projecting into the hall, is a gallery for about 200 people. There are also separate front entrances to the hall and gallery by doors at the east and west ends of the building. The hall itself is 130 feet by 60, and 42 feet 6 inches high, and capable of accommodating about 2,500 people comfortably seated, so that on an emergency about 3,000 people might be accommodated within its walls. The side walls are 27 feet high and 3 feet thick at the pilasters, and recessed between the roof girders. The roof is supported by ten malleable iron girders, T shaped, and springing off stone corbels placed 12 feet high, and projecting into the wall. These girders are semicircular on the inside, with circular spandrils, filling into the sloping sides of the roof. The iron is cased with wood, with plaster mouldings round the spandril openings. The hall is lighted entirely from the roof. The gaslight proceeds from clusters of jet burners in enamelled cones on the roof. Ventilation is aided by these lights. For the purpose of a Corn Exchange the hall is on each side fitted up with a series of stalls for the corn-merchants, seven on each side, which are so constructed that they fold in close to the wall, so as not to interfere with the hall for public meetings or entertainments. The arms of the leading noblemen and gentlemen who have contributed to the building will be placed in the circle panels at the ends of the hall, and under the corbels of the roof. The contractors were—for the mason-work, Mr. David Brown, builder, Dundee; joiner-work—Messrs. Anderson and Chalmers, Dundee; slater-work—Messrs. Cooper and Balbirnie, Dundee; plumber-work—Mr. John Thomson; plaster-work—Messrs. J. and H. M'Conochie; smith-work—Messrs. Gourlay, Brothers.

SCHOOL-BUILDING NEWS.

Weymouth.—The foundation-stone of Holy Trinity District Schools was laid on the 22nd of March, and the works are advancing. The building, which is in style Early English, is 50 feet in length by 22 feet in width. The walls are of Portland stone with Bath stone quoins and dressings. The builders are Messrs. Charles and Alfred Williams; and the drawings were prepared by Mr. Peirse Arthur, architect.

Neath.—New schools were opened here on 26th ult. The cost of the three school-houses was 860*l.*; and the total expenditure about 1,440*l.*

Carnarvon.—The buildings connected with the North Wales Normal Training College, at Carnarvon, being completed, the students were accommodated within the college immediately after the Christmas vacation. The general arrangement of the edifice comprises a lecture-room and a dining-hall, each 55 feet long by 26 feet wide, and 16 feet high, with dormitories for forty-three students above; two large class-rooms, residences for the principal, vice-principal, and matron, and other accommodations. The external elevation being an adaptation of a former building, is plain and devoid of embellishments; the aim of the parties concerned being to secure satisfactory internal accommodation at a reasonable cost. A grant of 2,150*l.* was made by the Committee of Council on Education. The plans were prepared, and the works carried out under the superintendence of Mr. Henry Kennedy, of Bangor, architect, by Mr. David Williams, of Carnarvon, builder.

Heaton Mersey.—St. John's day and Sunday schools, Heaton Mersey, have been opened. The total cost will be about 1,900*l.* They are constructed for the education of 300 children. The buildings, which are in the Early English style, are of brick, with stone dressings: they consist of a boys' and girls' school, 51 feet by 20 feet, and class-room 18 feet by 14 feet, and 13 feet 6 inches by 13 feet; infants' school 40 feet by 18 feet, and class-room 19 feet by 18 feet. The roofing is of Baltic fir stained, and open to the apex. Adjoining the building is a residence for the master. On the south-west side is a turret, with an ornamental belfry of wood, covered with a lead spire. The work has been executed by Mr. W. H. Brown, under the superintendence of Mr. James Wilson, of Bath, architect.

East Retford.—The new National Schools, recently opened here, are in the Early Geometric period of Gothic architecture, and are built in red brick, with Ancaster stone dressings. At the west end there is a bell turret of stone. The school-rooms, interiorly, have trussed rafter roofs, and are about 30 feet high. The girls' school is 40 feet by 18 feet, and has a class-room adjoining, 17 feet 9 inches by 14 feet. The boys' school is in the shape of the capital letter L, being 39 feet 3 inches by 17 feet, and 34 feet 9 inches by 17 feet. There is also a class-room, 17 feet 9 inches by 14 feet. Each school-room has a porch, and both schools will accommodate about 300 scholars, viz. 180 boys and 120 girls. The teacher's residence separates the two school-rooms. The works have been carried out by Messrs. Tomlinson and Lee, contractors, from the designs, and under the superintendence, of Mr. William Kerby, of East Retford, architect.

Grantham.—The tenders for Grantham National schools and residences, were as follow. Mr. Edward Browning, architect: quantities supplied:—Cave, Oakham, 4,757*l.*; Lindley and Firn, Leicester, 4,031*l.*; Rudd and Co. Grantham, 3,996*l.*; Bradshaw, 3,611*l.*; Broadbank, Leicester, 3,599*l*; Hall, Nottingham, 3,590*l.*; Young, Nottingham, 3,560*l.*; Foster, London, 3,364*l.*; Wilson, Grantham, 2,980*l.*

Birkenhead.—The new Wesleyan schools here have been opened. The building is of grey brick, in the Elizabethan style, with stone facings and mullions. Mr. Joseph Bratton, of Birkenhead, was the architect; and Mr. John Hogarth, of Rock Ferry, was the contractor. The whole cost is estimated at 2,200*l.* There is accommodation for 300 scholars.

INSTITUTION OF CIVIL ENGINEERS.

WORKS IN INDIA.

On May 4, the paper read was "On Public Works in the Bengal Presidency," by Major-general Tremenheere.

The author traced the condition of India, with respect to public works, from the earliest period to the present time; and showed that, neither during the Hindoo nor the Mahomedan dynasties, had any real progress been made.

The personal experience of the author extended over the past thirty years, and the paper was confined to an account only of the modern public works in the Bengal Presidency, to which he had been attached.

The system of embankments was founded on erroneous views, and remedial measures were now most difficult of accomplishment. The effective restoration of the canals of the North Western Provinces was then fully described, and the advantages which had been permanently secured to the people were descanted upon. The results had been, up to the year 1852, a surplus of net revenue, over expenditure, of 299,616*l.*

Encouraged by this financial result, the British Government undertook the formation of the Ganges Canal,—a work of dimensions and extent far exceeding any other of similar character in any quarter of the world. The design and the execution were due to the skill and energy of Sir Proby Cautly, C.B. The length of navigable channel, and for purposes of irrigation, would be eventually 890 miles, of which 350 miles were already open, from the source near Hurdwar to the station of Cawnpore. The breadth at the bottom, at starting, was 140 feet, and the depth 8 feet· these dimensions were gradually reduced as the waters are drawn off for irrigation. The outlay, up to 1854, had been 700,000*l.* The expected return was a clear profit of 7 per cent. on the outlay, and as much more from the permanent increase in the rental of the land.

The state of the existing roads and bridges was then dwelt on, and the difficulties which had interfered with the construction of the permanent bridges, many of which were wanting at the present time to complete the only road of military communication between the seat of Government and its distant provinces.

In the opinion of the author, the best method of facilitating and increasing the traffic of the fertile districts lying to the north and south of the Ganges, would be by the construction of railways rather than common roads; and he saw no reason why, in a country so level and so generally free from engineering difficulties, such railways should not be made at a most moderate cost.

One great deficiency in India was the almost total absence of trustworthy and well-instructed European subordinate agents, which was the first difficulty to be encountered in the prosecution of any enterprise, or the execution of any great works in India. The author proposed that this defect should be remedied by training the children of the European soldiers in India, in industrial establishments, to be formed in the Himalayas, and he showed that thousands of English soldiers continually perished in India, without adding to that very element in the settled population of the country which recent events had shown to be so much required.

THE MANAGEMENT OF ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Sir,—It appears to me far from desirable that the details of the management of this corporation should be discussed in print, but, if entered upon at all, it is better that the whole question should be understood.

There can be no doubt that the Institute of Architects does not carry the weight in our profession that the Institute of Civil Engineers and the Law Society do in *their* professions; and those who think that the body of architects might be more united, naturally are anxious to remedy those defects in management which they consider circumscribe its usefulness.

The annual meeting is the only occasion on which the management can be taken into consideration, and it is a great pity that the Council should be so tenacious as to object to any criticism on their proceedings, or to discussion whether they are justified in subscribing to monuments, &c. without the authority of the general body.

As various persons spoke at the meeting in question, and the line of discussion was not so defined as to render it very evident who is the second person referred to by your correspondent in last week's *Builder*, it is probable that most persons will fix upon me, in consequence of my name being mentioned in Mr. Kerr's letter, and, although I am told that I was not intended, I have no hesitation in taking my full responsibility in discussing the questions which were really before the meeting, viz., whether it is expedient that the Council should be composed of new men every year, so that when any man has served his two years, he is shelved, and can take no further part excepting at the annual meeting; or whether the Council should at all times include a proportion of those whose names are known to all the profession. Also, the desirability of calling a meeting of the general body for any act of importance,—such as presenting a memorial to Government. Also, the necessity of calling a meeting when any money is to be voted for a purpose, such as a monument to Mr. Britton, or any other not directly within the scope of the charter.

The attendance of a few Fellows, combined for the purpose, would easily elect a new Council, without adopting the list printed by those in office; but those who advocate reform have no wish for revolution, and are anxious to prevail upon the Council to adopt improvements, and I had hoped that the election of Mr. Godwin, two years since, in opposition to the house list, would have shown the object in view, without any offensive combination.

Joseph Jennings.

"DIVISION OF WAREHOUSES" UNDER METROPOLITAN BUILDINGS ACT.

Herewith I send you a note of a case decided at the Southwark Police Court, under the Building Act. From it, it would appear that any warehouse may be built to contain any number of cubic feet without party-walls, and without even party arches or fire-proof floors, if only the different stories have entrances (for goods) from without—which they almost always have by means of the loop-hole doors—and are in one occupation. In the face of this decision, I should be glad if any of your readers would point out how the Act can be applied to a warehouse, say 100 feet square on plan, and 80 feet in height, so as to enforce any fire-proof division whatever. Is it not surprising that any Act can be allowed to pass, which, with reference only to this one section of it, gives a double meaning to the word "building;" a meaning to the word "party-wall" contrary to its already defined meaning; and uses, as I cannot doubt is done here, as throughout the Act, the present tense for the future?

R. Hesketh.

Southwark Police Court, before Mr. Burcham. Sec. 27, rules 3 and 4; and sec. 28, rule 3.

The defendant, John Clapp, had erected a warehouse in Potter's-fields, in the parish of St. John, Horselydown, containing 351,162 cubic feet, and it was divided by a party-wall into two divisions of 166,320 feet and 184,842 feet, respectively. In the cellar story of the wall, however, there were left four openings more than 7 feet wide (being 9 feet 3 inches wide each), and not being closed with wrought-iron doors. Mr. Hesketh, the district surveyor, required that the openings should be made in accordance with sec. 28, rule 3, by reducing their width to 7 feet, and by closing them with proper iron doors. The facts were admitted, as also that the cellar story was divided from the ground story by arches on brick piers, sufficient to resist the action of fire; and that there were areas, with iron gratings in the street, by which goods could be taken into the cellars without using the entrances to the upper parts of the warehouse.

Mr. Robinson (counsel for the defendant) at first contended, that the requiring the division to be effected by a party-wall was contrary to the definition of sec. 3, which defined a party-wall to be a "wall used, or built in order to be used, as a separation of one building from any other building, with a view to the same being occupied by different persons,"—that in the teeth of these contradictory directions, the magistrate could not enforce a highly penal statute.

Mr. Hesketh replied, that the definitions of sec. 3 were qualified by the commencement of the section, which said, that the terms defined were only to have the meanings assigned to them "if not inconsistent with the context:" that in this section, 27, not only was that definition inconsistent with it, but it was clear what the section meant by the term "party-wall," and that the same meaning was carried on in sec 28.

The magistrate said that he must suppose the clause to have some meaning in its enactment, and that it was clear that "party-wall" here is different from the meaning assigned to it in sec. 3. He thought, however, that the cellars were no part of the warehouse or building.

The district surveyor then pointed out many parts of the Act in which special reference was made to cellars, and to the whole building from its footings upwards.

A discussion then ensued, in which it was finally admitted that a party-wall could only mean a vertical wall, and not a horizontal division of any kind.

Mr. Robinson then contended that the cellar was, by the 3rd rule of the 37th section, defined to be a distinct building from the upper parts, there being "separate entrances from without," as was admitted, and as one of the two buildings was over the other, they could not be divided by a party-wall, and therefore the requirements of rules 1 and 4 of this section were absurd. To this, the District Surveyor replied that in rule 3, of s. 27, the word "building" is twice used, and in each case in a different sense. In the first case it meant the whole building, from bottom to top; in the second, it clearly meant only part of the whole building. In rule 4, it seems equally clear that the first sense being the usual one, was intended. Beside this, he contended that the cellars and the parts above were not divided into "two tenements," being both in one occupation, and therefore did not come under rule 3 at all.

The Magistrate said that the words were, "If any building *in one occupation* is divided into two or more tenements,"—therefore separate occupation could not be intended. To which the District-Surveyor replied, that as the terms "party-wall" and "building" had been shown so loosely used in this section, so he contended that the word "is" meant "shall be," because Part I. of the Act is wholly prospective, as shown by the sections 7 to 11, and by the heading of almost every section, and by s. 45, and that the present and future tenses are used indiscriminately throughout the Act. He considered the intention of the section to be,—"if any building in one occupation" *shall hereafter be* "divided into two or more tenements or occupation." The Magistrate said that he could not deem "is" to mean "shall be," and that "tenement" was a word of the largest signification, and meant any "hereditament corporeal or incorporeal,"—in fact, anything which could be held. In this case he considered it to be convertible with the word *part*, and to each of the parts or tenements referred to; it was shown there was a separate entrance from without, and they are therefore defined, by rule 3, to be "separate buildings." As they cannot be divided by a party-wall horizontally, he could not make an order to that effect, and must dismiss the case.

STREET ARCHITECTURE.

OXFORD ARCHITECTURAL SOCIETY.

At a meeting of the society held on the 28th ultimo, Mr. John Gibbs read a paper on "Street Architecture." In the course of it, he said, men have always differed in taste and opinion, as human beings differ in size, shape, expression, &c. &c. Most of the great buildings in the capital, and other cities of Europe and America, are after the Classic orders of architecture. A reaction is taking place; the demands of the age require it. The Victoria tower has admirers, so has the dome of St. Paul's. Eminent men have said that the Radcliffe Library is the only truly noble building in Oxford. Credit is due to members of the University for the spirit and zeal they are showing to make Oxford gorgeous in architecture. The Oxford Architectural Society has wonderfully advanced Christian art. The villas about Oxford are mostly meagre in design. The new Crescent does not harmonize with the locality. This is an age of progression in many important respects. Let the gigantic mind of the true architect roll on in its majesty of conception; and let sculptors and painters give their choicest gems of beauty to the brow of his lofty genius. The constituent elements of art are form and colour. Art may be either pleasing and instructive, or offensive and debasing. What music is to the ear, art is to the eye. Scientific construction is of great importance in building. Unless the mixing of coloured courses of stone is judiciously and harmoniously arranged in a building, beauty may be sacrificed for novelty. Beauty and economy may be combined. Bricks are very useful, but should not be used out of place. When effect by contrast in colour is required in stonework, it is unquestionably wrong to use cut bricks; stone of almost any colour can be obtained. Iron will be extensively used for building purposes. Shall we have Greek, Roman, or Gothic architecture? Before Christian art can prevail, there must be a change of soul, as well as taste. The architecture of our streets should be adorned with sculpture, devices, mottoes, texts, and symbols. A frequent use of encaustic tiles in string courses, panels, and cornices, would give beauty to all kinds of buildings. He would show that the semicircular arch is necessary in working out new principles, in his next paper.

CHURCH BUILDING NEWS.

Rearsby (*Leicestershire*).—The parish church here, dedicated to St. Michael, has undergone a thorough restoration. The old pews and gallery have been removed, and open benches substituted with increased accommodation. The reading-desk is of oak and the pulpit of stone. The south aisle has a new oak roof. An oak screen divides the basement story of the tower from the church and forms a vestry. The font, which is the greatest piece of antiquity in the building, has been restored by putting a new base to it with marble columns. An organ has been erected in the north aisle by Bamfield, of Birmingham. The chancel has a new oak roof with carved and moulded beams, also carved oak stalls and altar-rails with iron standards. The floor is of encaustic tiles by Minton. The works have been carried out by Mr. R. W. Johnson, of Melton Mowbray, at a cost of about 1,400*l*.

Hatfield Broad Oak.—The new-elected district church of St. John the Evangelist, at Bush-end, on Hatfield Forest, has been opened for divine service. It is built in the early English style, to accommodate 145, exclusive of school children. The walls are filled in with rubble, the exterior being of native flint casings and Bath stone dressings. At the west end is a tower, the floor of which, on a level with the nave, accommodates 50 children. At the east end is an apse, as a chancel, having three windows of stained glass, representing St. John the Evangelist, St. Peter with the keys, and St. James the Less. The chancel is paved with Minton's ornamental encaustic tiles, and the nave with plain ones, in blue and red. The whole of the seating is imitative oak open benches; and the roof open. The windows are of modern annealed glass.

Grays.—The foundation stone of the New Independent Chapel at Grays has been laid. The works of the chapel have made some progress. The architect is Mr. Gould, of Gravesend. The contract for the building is 650*l*. of which 300*l*. have yet to be raised.

Lindfield (*Sussex*).—The new chapel at Lindfield has been opened. The building is a parallelogram of 61 feet by 30 feet, and, with end gallery, is capable of accommodating nearly 500 persons. The style is early Gothic: the materials used for the facing are white bricks and Scayne's Hill stone dressings. The architects were Messrs. W. G. and E. Habershon.

Bromyard.—A new Methodist chapel has been built in this town. Messrs. Pearson and Son, of Ross, were the architects, and Mr. George Rouse, of Bromyard, builder.

Taunton.—The demolition of St. Mary's tower is being proceeded with, and it is expected to be entirely removed by Midsummer, when the foundation stone for the new structure will be laid.

Rock Ferry (*Cheshire*).—The new Presbyterian church, at Rock Ferry, has been opened. It is built in the Early Decorated style. The structure is 71 feet in length and 45 feet high, affording accommodation for 500 on the ground-floor; and, at a future period, it is intended to erect a gallery for 150 more persons. The roof is formed of arched timber, ceiled behind and varnished, and the pews are all open. The whole building is of white ashlar stone, from Stourton-hill. The spire is not yet completed. The architects are Messrs. J. W. and J. Hay, of Liverpool, and the contractor Mr. Henry Fisher, of Birkenhead. The total cost is about 2,500*l*.

Wolverhampton.—The foundation-stone of the new church of St. Philip, in a suburb of Wolverhampton, on the road to Penn, was laid on Ascension-day. This church, like that recently commenced at Tunstall, is one of the three churches in the same diocese specially to commemorate the late Archdeacon Hodson. For this purpose a memorial window of stained-glass is to be placed in the chancel. The building, which has been designed by Messrs. Griffin and Weller, of Wolverhampton, architects, will consist of nave 70 feet by 22 feet, with north and south aisles 12 feet wide, and north and south transepts 20 feet in length and 13 feet in width; a chancel 31 feet long and 20 feet wide, with north and south aisles. At the south-west angle of the church there will be a tower rising 70 feet, and through this will be the principal entrance into the church. The whole of the windows will be filled with tracery. The total length of the church, including the buttresses, will be 110 feet, and it will accommodate 650 persons. The style is Geometric. The walls, windows, &c. will be of red sandstone, and the roofs will be covered with blue and red tiles. Hollington stone will be employed for the columns in the nave, all the other internal dressings being of Bath stone. The seats and roof timbers will be of red deal varnished. The total cost will be about 4,000*l*. Mr. Cockerell, of Wolverhampton, is the contractor.

Birmingham.—A small Wesleyan chapel is about to be erected at the Sandpits, from designs by Mr. H. R. Yeoville, architect. The style will be Byzantine, and the material red and white brick.

Doncaster.—A memorial window has just been erected at the east end of Christ Church, Doncaster, to the memory of Mr. George Jarratt Jarratt, of Elmfield House, Doncaster. It is the production of M. Capronnier, of Brussels. The basement of the window is filled with ornamental work. The centre compartment represents the Ascension of our Saviour, at the foot of which, and the section on each side, are his Disciples and the Virgin Mary.

Sunderland.—The sewerage contractor in Sunderland having interfered with the foundations of the Primitive Chapel in Flag-lane (where planks had been laid over a quicksand), the fabric was so much injured as to render the building unsafe for worship. The case was referred to arbitration; and the result is, the contractor must pay 527*l*. 14*s*.

Hexham.—The interior of the Abbey Church of Hexham having been disfigured at various periods by the erection of irregular and unsightly galleries in the choir, it has been resolved by the parishioners to endeavour to effect their removal, and to erect new pews of more appropriate construction in the side aisles. It is their design, at the same time, to replace the pews which at present occupy the central portion of the choir by open seats, uniform with those to be erected in the side aisles. Plans have been prepared, and an estimate, which states the cost to be upwards of 1,000*l*. Of this sum, 576*l*. 7*s*. have already been subscribed.

Dyke.—According to the *Forres Gazette*, the monument, at Dyke, to the memory of Colonel Pattullo, has just been finished. It is placed at the east end of the church. The building enclosing the monument is in the Gothic style. The entrance is by a doorway, with pointed arches: at each angle of the building there are buttresses. The walls outside are of dressed ashlar, and all polished inside. The roof is open timber work, varnished. The floor is laid with Minton's tessellated pavement, by Daniell, of London. The entrance is shut in by an iron gate, ornamented with gilded stars at the intersections of the bars. An entrance has likewise been formed from the new building to the Brodie tomb, on which is placed a door of oak. The design is by Messrs. Reid, architects, Elgin; and the contractors are Mr. Goodwillie, Elgin, for the mason and sculpture work; Mr. Thom, of Elgin, for the carpenter; and Mr. Smith, plumber, Forres, for the roof.

Miscellaneous.—We are informed that the carving at Kidsgrove, Okeover, and Catherstone Lewston Churches, as also at Maidstone Cemetery Chapels, was executed under the immediate superintendence of Mr. John Herley.

THE VIRGINIA STATE MONUMENT AT RICHMOND, U.S.

The inauguration of the Washington monument at Richmond, executed by Crawford, by order of the commonwealth of Virginia, took place on the 22nd February last. The basement is in the shape of a star, with six points, upon each one of which will stand a statue of one of those Virginians who aided by their eloquence, their genius, or their swords. In the centre of this group, and towering above it, is the colossal equestrian statue of Washington, which, including the charger, is 25 feet high. The chieftain is represented in full continental uniform, at the critical moment in a battle. His horse is reined up, and partly thrown upon the haunches, as if suddenly checked while moving rapidly. The pedestal is 42 feet high, with a winding staircase in the interior leading to the bronze plate on which the statue stands, round which there are openings, from which a view of the city may be obtained. Mr. Crawford's share of the work, and the prices paid for it, have been as follows:—

	Dollars.
For Equestrian Statue of Washington	30,000
For Statues of Jefferson and Henry, each 9,000 dols.	18,000
For two Shields representing the great seal and coat of arms of Virginia, each 2,000 . . .	4,000
For stars and wreaths	975
	52,975
In addition to this, there is yet to be paid for a statue of George Mason (with a like sum to Randolph Rogers, Esq.	4,500
Making Mr. Crawford's total receipts . . .	57,475

In addition to the foregoing, three statues in bronze of Thomas Nelson, Jun., John Marshall, and Andrew Lewis, are to be executed by the sculptor Randolph Rogers, who is to receive for them 9,000 dols. each. Mr. Rogers's entire bill will amount to 31,500 dols., which, added to that of Mr. Crawford, will make the total cost of the seven statues and the other bronze work, 88,975 dols. The cost of the foundation, superstructure, &c. amounted, we believe, to 50,000 dols.

FACILITIES FOR ESCAPE FROM FIRES.

The constantly expressed anxiety to preserve human life from the many accidents it is exposed to savours considerably of cant, when we consider the very insufficient and limited means adopted for that purpose. This is very apparent with respect to the measures taken (or rather neglected), as to the preservation of life from fire. Our fire brigades are composed of as fine a body of men as any in the world, and their engines can scarcely be surpassed; yet we seldom hear of a building (and the property therein) being saved, although the fire may be confined to the spot whence it first originated. The cause of this is the want of a *signal* system, which it appears all, or most, countries possess but our own. As usual, after any frightful catastrophe, numerous suggestions have been published, most of which are utterly impracticable. One proposes balconies running along the entire range of house-fronts: this plan would let in the burglar as well as let out the inmate in danger from fire. Another writer, in the "Mechanics' Magazine," makes two suggestions that might, perhaps, be useful: one is, "that a strong board, with a hand-rail to it, should be kept in every house, each end to have a hook or other contrivance, by which it might be hung or fastened, one end to a window in the burning house, and the other to the window of the adjoining house, and thus form a *temporary* bridge or balcony, by which persons might easily go from one house to the other. Of course it would be kept *in* the room when not wanted." The other is, that as lower rooms are sometimes on fire when the inmates above know nothing of it till too late, if a common twopenny *cracker* were hung in any room, it would, in case of fire, soon be ignited, and by its numerous explosions alarm the inhabitants,

if not the police, and thus save life. The conductors of fire escapes should carry with them several *stout* blankets, to use where there is no time to spare, in consequence of a fire having gained a too great ascendancy: there would always be found persons willing to hold the corners of these amongst the assembled crowd: many lives might be saved by this means. Fire engines should also carry a supply of the same, as they are on the spot, generally, some time previous to the escapes appearing. The fewer and the smaller the openings into a burning house the better. It might, therefore, be advantageous to provide for the use of firemen a gimblet of a large bore, to cut out holes in doors, shutters, &c., large enough, and no more, to admit the entrance of the hose to play on a fire: this would be best cut in a slanting direction, so that the stream of water should pour upwards. "VOX."

HOUSE AGENTS' ACTIONS.

TAYLOR *v.* LEE.

THIS was an action tried in the Court of Queen's Bench, brought by the plaintiff, an estate-agent, in Grosvenor-street, Bond street, against the defendant, a surgeon, in Saville-row, to recover the sum of 21*l.* 14*s.* 6*d.* for commission and expenses of advertising. The point in controversy was whether the plaintiff was entitled, on disposing of defendant's interest in premises in Dover-street, to have a commission both on the premium and on the first year's rent, the rent being 140*l.*, and the premium 262*l.* 10*s.* It was contended by the plaintiff that, according to his card of terms and the evidence of several witnesses called to prove the custom, he could claim both commissions. On the other hand, the defendant contended that, as the party taking the house was introduced to the plaintiff by himself, no commission was payable, but only a reasonable recompense for his services.

The jury found a verdict for the plaintiff for 8*l.* beyond the sum of 7*l.* paid into court.

Books Received.

An Elementary Treatise on Iron Metallurgy, up to the Manufacture of Puddled Bars; with Suggestions, &c. By SAMUEL B. ROGERS. London: Simpkin, Marshall, and Co. Stationers'-hall-court. 1857.

THE author of this treatise describes it as being "built upon the atomic system of philosophy, the elements operated upon being estimated according to Dr. Wollaston's hydrogen scale of equivalents;" and it comprises "suggestions relative to important improvements in the manufacture of iron and steel, and the conduct of extensive iron works;" and also analytical tables of iron-making materials, with various engravings illustrative of the text.

Mr. Rogers was the inventor of the "iron bottom" for puddling furnaces in place of sand, by which, it is said, such furnaces now yield 20 to 24 tons of puddled bars each per week instead of eight or ten. Anything put forth by him, therefore, for the further improvement of the iron manufacture well merits attentive consideration. The atomic theory, as applied to such combinations as those of iron and carbon, has not been very clear or satisfactory hitherto, and Mr. Rogers is certainly theoretically right in basing the manufacture on that theory if he practically can. His main object, however, appears to be to point out how best to get rid of other and heterogeneous "atoms" rather than to shed any new light on the precise atomal proportions of carbon, silicon, &c., in combination with the different sorts as they are called of iron. That iron is simply one sort of thing, essentially, in itself, in all cases, he rightly points out; and that, wherever there is iron in ores, whatever the combination may be, *there* we have *good* iron, if it can only be separated from its heterogeneous combinations. How most easily and thoroughly to do this, the author treats of in detail. The proper mixture of the ore and the stripping agents, such as charcoal or coke, and lime, &c.,—and particularly the employment of soda or common salt as a special flux to complete chemically that mixture which has previously been mechanically made as complete as possible, constitute the chief features of Mr. Rogers's recommendations for the production of good iron from even what may be called bad and refuse ores; and by the processes advised, he alleges that not only inferior and otherwise worthless ores and slags may be thus made to turn out good iron, but that coke may thus be made to yield as good an article as charcoal.

The perfect fluidification, or solution rather, of all and sundry materials to be combined and separated in the process of making iron is assuredly a most important point, for no thorough chemical elimination of heterogeneous elements or atoms can ever be effected without it; and probably a better or cheaper agent than soda cannot be found. The base of soda, that is, sodium, is the great and almost indispensable agency by means of which even aluminium is separated from its combinations, and doubtless it has been used in the form of chloride in the reduction of iron also; but perhaps not with so clear and definite an aim as that which Mr. Rogers brings to bear on it. His object is to place the materials held in solution by its aid so intimately and chemically in connection, atom to atom, or in the due and exact proportions, that the requisite separations and new combinations cannot fail to be fully and instantaneously made, and the iron set free.

The volume under notice, however, is by no means restricted to a development of these processes alone. It contains a great deal of other and varied matter on the subject of iron metallurgy; and being evidently the work of a thinking and suggestive mind, it cannot but be of service to those interested in its subject, even though they may differ with the author on many points connected with that subject.

Miscellanea.

SOCIETY FOR THE IMPROVEMENT OF DWELLINGS AT HASTINGS.—The first annual Report of the Hastings Cottage Improvement Society presents some account of the origin and progress of this society. The society have purchased various cottages and are still adding to the number, so that very shortly there will be more than thirty families occupying their houses in different parts of the old town of Hastings, at weekly rents ranging from 1*s.* 6*d.* to 7*s.* No new houses have been built, but the old ones have been put into decent and tenantable repair, and overcrowding put a stop to. The rent has been increased in only three cases, while in one it has been diminished. There has never been more than one of the society's houses vacant at the same time, and there has been no loss from bad debts. The capital stock of the society, which had first consisted of 850*l.* has now increased to 2,150*l.* divided into 21½ shares of 100*l.* each, all fully paid up. The shareholders have received two half-yearly dividends, at the rate of 6 per cent. per annum, clear of the income-tax.

LIVERPOOL ARCHITECTURAL SOCIETY.—At the annual meeting referred to in our last, the report showed that the Society's list embraces the names of 176 members, of whom 4 are for life, 7 are honorary, 27 professional, 119 associate, and 19 are student members. The Council recommended the following list of officers for the ensuing year:—President, H. P. Horner; Vice-President, G. F. Chantrell and W. H. Weightman; Hon. Treasurer, F. Horner; Hon. Librarian and Curator, G. Goodall; Hon. Secretary, W. Stubbs; Council, J. A. Picton, J. Boult, John Hay, R. Dempster, and Thomas Jump. The financial statement submitted by the treasurer, Mr. F. Horner, showed the subscriptions for the year to be £101 4*s.* 11½*d.*, and after defraying all expenses there was a balance to the credit of the society of £4 5*s.* 8½*d.* The office bearers recommended were elected, with the exception of the name of Mr. Verelst being substituted for that of Mr. Demster in the list of members of the council.

RIVER THAMES.—There are many projects mentioned for embanking and otherwise curtailing this (with all its defects) chief ornament of the metropolis of the world,—Is there no way of improving it besides taking from its width and grandeur, and reducing it to the size of a common river, to say nothing of endangering its noble bridges?—PROGRESS.

THE BIG BELL FOR WESTMINSTER.—SIR: I see the same preliminary puffs which heralded the approach of the first "Big Ben," are appearing in the journals, in respect of the new bell which has been cast, under the eye of a very select circle of friends, by Mears. I beg leave, however, to withhold my admiration till the bell can be seen and heard. You will be glad to learn from the published accounts, if correct, that your spirited remonstrance, against the ugly lettering on the first bell, has had some effect: the present casting is said to be "tastefully" ornamented with Gothic figures and tracery, in low relief. We have to thank you for this at any rate, and it is on this account that I write. The bell itself has yet to be tested. I have grounds for believing that the reason assigned for the fracture of the last, namely, a thickness in a certain part of the bell beyond that specified, was all fudge.—CLAPPER.

*** We are compelled to say, that Mr. Mears has shown no willingness to allow impartial recorders to judge of proceedings for themselves.

THE POSITION AND PROSPECTS OF THE BUILDING OPERATIVES.—We have received a communication from "A Member of the Progressive Society," denying that the promoters of the special movement, at present in agitation amongst the metropolitan building operatives, "sanction strikes;" or that machinery "has been spoken against by the workmen, at different meetings, in such a manner as to excite the ill-will of the unemployed." It is gratifying to receive such assurances on the part of the building trades' workmen; but where or when did we, as alleged, either say or insinuate that *the promoters of the present movement sanctioned* strikes, or that machinery had been spoken against *by the workmen at different meetings?* We did say that "workmen generally," rather than expend any money in aiding their unemployed fellow-workmen to emigrate, had preferred wasting such means uselessly in strikes; and as to machinery, we did express a regret that "an endeavour was being made to excite the ill-will of the unemployed" in regard to it,—a regret, we think, not to be wondered at, when we find it represented, in a circular of the "Progressive Society," that many have been deprived of the means of subsistence, and are wandering about for want of employment, *in consequence* of the great increase of machinery and other causes. If the society alluded to really do *not* desire to excite the ill-will of the unemployed against machinery (and "A Member" of this society says that "machinery has been and is appreciated at its proper value"), we beseech them to reconsider what they do say on the subject in their circulars; for certainly they must thus "excite the ill-will of the unemployed."

THE FIRE IN WOKING FIR PLANTATIONS.—Is it not extraordinary that no less than five or six thousand acres of valuable plantation should have been allowed to burn away without any endeavour having been made to set limits to the devastation by cutting a line or circle amongst the firs and withdrawing the timber to one side? When a fire that is becoming very extensive occurs amongst houses, one or two houses are occasionally thrown down, in order to cut off the fire, and this is effectually done at a comparatively small loss. Something similar occurs with fires in the American prairies. Travellers collect their horses and other valuables, along with themselves, in the centre of a circle cut in the long grass of the prairies so as to prevent the fire they may have seen spreading towards them, from over-reaching and consuming them. With the methods practised of guarding against fires in the prairies every one who has read Cooper's novels must be familiar. Why could not a portion of these acres of plantation have been saved in some such way,—even admitting the greater difficulty of dealing with trees than with grass, or even with houses? The fallen trees might have been merely thrown upon the doomed side without absolute or deliberate removal from their native site; and a sufficient breadth of cut would have checked the flames, and by skilful arrangement might have saved much valuable property at comparatively little cost or trouble.

DEMOLITION OF A CHAPEL, AND HERMETIC SEALING OF BURIAL VAULTS. Mr. Burcham, the police magistrate, has ordered the demolition of Bethesda Chapel, Jamaica-row, Bermondsey, as a dangerous structure, and this is to be followed up by the filling in, with concrete, &c., of the vaults beneath it, containing 200 to 300 dead bodies, many of them still in a decomposing state. Dr. Challice recommended charcoal and McDougal's disinfecting powder to be used along with the concrete. Charcoal, however, acts by promoting the destruction of the compound gases emanating from decomposing bodies by help of the oxygen of the atmosphere, so that where a vault is hermetically sealed by means of concrete, charcoal can be of little use, except as a security against defective sealing with the concrete, in which case it may indeed be useful.

YEOVIL CEMETERY COMPETITION.—Two correspondents complain of being applied to by the town-clerk for the return of money paid by him for the carriage from London of their plans. Without approving of the system, it is only fair to say, that committees advertising for designs are not understood to undertake to pay the costs of carriage. In the present cases, involving as they did only a few shillings, the Town Council of Yeovil might have avoided the charge of illiberality without any sacrifice.

ARCHITECTURAL PUBLICATION SOCIETY.—The Annual General Meeting of the subscribers will be held on Friday evening, the 28th of May, at No. 16, Lower Grosvenor-street, when Mr. Sydney Smirke, A.R.A. will preside.

MORTALITY OF INFANTS BY CARBONIC ACID GAS.—Two inquests have just been held by Mr. Wakley, coroner for West Middlesex, upon the bodies of two infants, under six months old, who were suffocated by carbonic acid gas, arising from inhaling their own breath, under bedclothes, during the night. The coroner took occasion to state that the evil of infants being suffocated by mothers from want of precaution was becoming truly alarming. During the winter and cold spring months the mortality of infants from this cause was 50 per cent. more than in the summer and mild autumn months. He earnestly hoped, in time, with the aid of the press, to be successful in eradicating this deplorable evil.

PUTRID SORE THROAT AND OTHER EVILS FROM CESSPOOL EMANATIONS.—In the quarterly returns of the Registrar-General just issued, there are some important remarks on the new and malignant throat disease called Diphtheria, so prevalent in some French towns, and now not even altogether unknown in London. There is good reason to believe that the aboriginal cause, if we may so call it, of this probably infectious disease is the emanations from cesspools, with which some French towns, as well as English ones, are so offensively tainted. "It is a singular absurdity in civilized men," says the Registrar's report, "to attempt to hoard for years this volatile essence, which bursts its chains, and, like an unclean spirit, enters not only every apartment in the house, but every channel of access to the living chambers of the body, leaving at times such traces of its passage as diphtheria in the throat. The disease once generated, wanders abroad, and destroys life under circumstances quite different from those in which it was born; but impurity is always its natural ally. . . Dr. Barker has recently performed an ingenious series of experiments on animals, to determine the effects of each of the noxious principles which arise from cesspools. . . A young dog in half-an-hour 'became very uneasy and restless;' he vomited, and 'had a distinct rigour, and in the course of a day was exhausted. When he was removed he soon recovered.' 'Another dog was subjected to the cesspool air during twelve days:' in the first seven days he underwent a series of sufferings, not unlike the symptoms of the diseases of children in hot weather; on the ninth he was 'very ill and miserable.' After he was liberated, on the twelfth day, he remained 'very thin and weak for six weeks. Dr. Barker then continued his experiments on the effects of definite doses of the gases in the sewers, and killed or poisoned several sparrows, linnets, jackdaws, and dogs. Thus Dr. Barker has, for our instruction, imitated on a small scale, and on a few of the inferior animals, the vast experiment which is constantly going on, and destroys thousands of men, women, and children, all over England. Instead of a few animals in a close chamber, more than two millions of people live in London over sewers and cesspools."

MORTALITY IN THE ARMY, AND THE BARRACK QUESTION.—Lord Ebrington last week in the House of Commons moved the following resolutions:—"That the long-continued excessive mortality of the British army has been mainly caused by the bad sanitary condition of the barrack accommodation. That this House has viewed with satisfaction the efforts of successive Governments, aided by Parliamentary grants, to improve the moral, intellectual, and physical condition of the British soldier, and is encouraged by the happy results of such efforts and grants to hope much from a continuance and furtherance of the same. That much still remains to be done with regard to barrack accommodation; first, for its increase, with a view to the discontinuance, as far as may be, of the present practice of billeting, as being alike oppressive to the civilian and demoralizing to the soldier; and, secondly, for its improvement, both with a view to the healthy accommodation of the troops in general, and to the decent accommodation of the married soldier. That in the opinion of this House such increase and improvement are imperatively called for, not less by good policy and true economy than by justice and humanity." A good deal of discussion ensued, Lord Ebrington introducing the subject with various statistical and other details in support of his motion. The resolutions were favourably regarded, and were finally agreed to. Another discussion took place in the Commons on the vote of £397,091 for defraying the expenses of barracks. The number of members who took part in this as well as the discussion already referred to, shows the interest now felt in the subject. That portion of the vote relating to Netley Hospital, it was understood, was postponed, at the instance of Mr. Tite, who urged that the works should be stopped and the contractor compensated, the site being admittedly a bad one. The vote was otherwise agreed to. In the course of the discussion, Colonel Knox said that if the architects to whom the barrack competition premiums were awarded were not employed in the erection of new barracks, a great fraud was practised on them, and the engineers who built the barracks would be picking the brains of these architects in a most unfair manner.

MAIN-DRAINAGE OF LONDON. A public meeting was held on Tuesday, in the Freemasons' Tavern, Great Queen-street, Lincoln's-inn-fields, for the purpose of considering the present position of this question, and to take steps for protecting the interests of the metropolitan ratepayers in Parliament. The following resolution was passed by a large majority:—"That the plans hitherto proposed for the main-drainage of the metropolis are incomplete, conflicting, and unsatisfactory, certain to entail a heavy burden on the ratepayers, and of problematical utility to the public health. That whilst it has not been proved that the Thames exerts a prejudicial influence on the health of the metropolis, it is still desirable to improve the drainage and self-cleansing powers of the river, and to prevent the deposit of mud in its channel and on its banks." A resolution was also unanimously passed to the effect that, as great uncertainty appeared to prevail in the minds of the framers of the reports and estimates hitherto prepared, as to the extent and cost of the works required, varying from upwards of two millions to nearly eleven millions, the important question was not yet ripe for solution; and that, as a hasty decision would impose an enormous taxation on the already heavily-burdened ratepayers, before any final course was adopted, there should be a comprehensive report upon the whole question, and ample opportunity given to the ratepayers to examine and consider the same.

KILKENNY ARCHÆOLOGICAL SOCIETY.—At the May meeting the Rev. J. Graves reported that in accordance with the resolution passed at the March meeting, he had communicated with various persons on the subject of the restoration of the chancel arch of the ancient building known as the "Nunnery," at Clonmacnoise, said to have been built by a Dervorgilla after her separation from her paramour, Dermot M'Murrough. He had received so much encouragement, that he thought the issue of a circular, containing a brief historical notice of the building, and the nature of the repairs required, would produce the necessary funds. Amongst the papers read was one "On Ancient Masons' Marks at Youghal and elsewhere, and the Secret Language of the Craftsmen of the Middle Ages in Ireland," by Mr. Edward Fitzgerald, architect. The paper was illustrated by drawings of a great number of ancient masons' marks.

BATTERSEA PARK BRIDGE.—SIR,—It is bad enough to have to pay a toll in and out of Battersea Park if one go to it *via* the Middlesex side, but when you are there the ways are not sufficiently cared for: twice I have fallen. There are no lamps at night in the roads, &c. Pray, sir, will you recommend a few *oil* lights in the roads until the gas be laid on. As to lamps, would it not be a good plan to let every lamp tell the direction of the road, *e. g.*, let those running north and south have a slip of green glass perpendicular; those going east and west have a horizontal line. Green glass for these strips. But above all let them be placed *low to light the ground*: lamp-breaking is now too mean a trick for gentlemen; and if even done once in a way it will not be because they are placed usefully.—B.

THE AUGER WORM IN TIMBER.—A most destructive disease, termed the "auger worm," nearly equalling in its ravages the rot itself, has been discovered in Her Majesty's paddlewheel steam-sloop *Barracouta*, in dock at Woolwich. She was employed upwards of eighteen months cruising in the China seas, and, from her heavy draught of water she suffered at various times from contact with the rocky shoals along that coast, which damaged and stripped the copper from her bottom. The inferior planking thus exposed was found to have become infested with the worm, which had spread through the whole of the outer planks below the ship's bilge to a disastrous extent. On applying the usual process denominated "dubbing," or chipping off the surface, the planks, eight inches thick, presented the appearance of long honeycombs, and were literally eaten out in passages and chambers extending over the entire length and depth usually immersed. The beams and timbers in the vicinity of the engines are rotten and decayed from the effects of the steam.

SANITARY PROGRESS AT CROYDON.—The question whether Croydon would ever derive any benefit from its drainage is being triumphantly answered by the local returns of mortality, as the following brief table will show:

Mortality per Cent. per Annum.

1st Quarter of Year.	Average of ten years. 1stQuar.	1st Quarter, Year 1858.	Above Average	Under Average
In the town districts of England	2·678	2 854	·176	....
In the country districts of England.....	2 226	2·367	·141	....
All England	2·472	2·627	·155	....
In parish of Croydon	2·512	1·824	...	·688

Thus, while, in 1848, the average mortality was 3·940,—or far above that of all England, or even above that of the town districts alone of England, we perceive that the average has been of late reduced to 1·824, or not only *to* these averages, but considerably below them. The freedom from epidemic diseases is said to have been of late especially remarkable.

[ADVERTISEMENT.]

TO THE EDITOR OF "THE BUILDER."

SIR,—Numerous inquiries having been made of us daily during the last four years, respecting the Revolving Shutters adapted to our premises by the Patentees, Messrs. CLARK and CO. of 15, Gate street, Lincoln's-inn-fields, we feel but too happy in having the opportunity of doing them the justice their novel and useful invention deserves. In consequence of the magnitude of our frontage, which embraces about 30 feet of Oxford street, one entire quarter of Regent-circus, and between 40 and 50 feet of Regent-street, the process of closing with the old wooden shutters was not only a tedious but also a very laborious task—five porters requiring forty minutes to effect that object. All this loss in time and trouble is now obviated by the above-mentioned invention—the entire establishment being closed every evening by one porter in the incredibly short space of three minutes. In order to lead others to a just estimate of the superiority of this patent, it may be requisite to state that the size of one of our shutters alone is 700 feet in superficial measurement, composed of 57,345 pieces united by 2,000 hinges, weighing somewhat over two tons, and yet obedient to the hand of one porter' Messrs. CLARK and Co. having also executed other work for us, such as Brass Sashes, &c. we feel much pleasure in recommending them: the lowness of their charges and rigid punctuality, entitling them to the support of all those with whom durability is economy, and time saved money made. Our shutters may be seen in active revolution, nightly, at half-past eight o'clock.

SOWERBY, TATTON, and COMPANY,
Silk Mercers and Drapers, Regent-circus, Oxford-street.
Jan. 1, 1857.

TENDERS.

For Farnham Church, Essex. Mr. Joseph Clarke, architect. Quantities supplied by Mr. Crocker:—

Nixon, London.....	£7,299 0 0
Smith and Appleford	7,143 0 0
Piper	6,999 0 0
Winsland and Holland	6,894 0 0
Grey and Sons, Cambridge	6,664 0 0
Bell, Cambridge	5,650 0 0
Brown, Lynn	5,320 17 0
Foster, London (accepted)	4,996 0 0

For Gallowgate Baths and Washhouses, Newcastle-upon-Tyne. Engineering department. Messrs. Oliver and Lamb, architects. Quantities supplied:—

T. Thwaites	£2,646 0 0
Head and Wright, Stockton....	2,200 0 0
Bailey and Walker, Newcastle..	2,200 0 0
J. Glaholm and Son, Newcastle	2,065 0 0
Henry Watson, Newcastle	1,948 0 0
Dixon Brothers, Newcastle (accepted)	1,795 0 0

For Hemsworth Union Workhouse, received at a meeting of the Guardians, held on Monday last.—

Brickwork, Mason's Work, Plastering, and Slating—	
Wm. Duval, Hemsworth	£2,999 0 0
Thos. Taylor, Pontefract	1,849 0 0
Verity and Hosher, Sheffield ..	1,556 0 0
Richardson and King, Leeds ..	1,560 0 0
James Brice, Dewsbury.....	1,545 0 0
John Barstow and Sons, Pontefract.....	1,527 19 0
E. Lattrom, Wakefield (accepted)	1,290 0 0
Joiners' Work.	
John Youdhow, Huddersfield..	920 10 0
Wm. Clark, Sheffield	870 15 0
Henry Harrison, Huddersfield..	870 0 0
Verity and Hosher, Sheffield ..	856 10 0
John Homson, Sheffield.....	815 0 0
John Can, Barnsley.....	789 0 0
Booth, Bradford	776 0 0
John Scholes, Dewsbury	763 0 0
Thomas Hill, Leeds.....	749 5 0
C. Midgley, Bradford accepted)	729 0 0
Plumbing and Glazing.	
John Flint, Sheffield	325 0 0
Wm. England, Pontefract	316 0 0
Thomas Ingham, Pontefract ..	309 9 0
Thomas Storey, Leeds	294 0 0
John Tosher, Sheffield (and painting)	372 0 0
Wm. Brown, Barnsley	287 0 0
John Tosher, Risby.....	280 0 0
John Denton, York.....	278 0 0
Wm. Roberts	260 10 0
John Metcalf, York.....	258 0 0
John Horsfall, Halifax	248 10 0
C. Coates, Dewsbury accepted)	219 10 0

For the erection of a Warehouse building, in Union-street, Borough, for Mr. Craster Humble. Mr. Richard Roberts, architect. Quantities furnished :—

Jay	£8,685 0 0
Lawrence and Sons	8,430 0 0
Piper, William	8,356 0 0
Lucas	8,100 0 0
Piper and Son	7,899 0 0
Willson	7,835 0 0
Perry	7,748 0 0
Pritchard and Co.	7,660 0 0
Downs	7,639 0 0
Carter	7,549 0 0
Myers	7,434 0 0
Rider	6,720 0 0

For building two Cemetery Chapels, with Lodge, Offices, Boundary Wall, &c. at Whittlesea. Mr. R. Hutchinson, architect. :—

Geen	£1,398 0 0
Gray and Son	1,295 0 0
Ellis and Son	1,198 10 0
Bennett and Son (accepted)	1,185 17 0
Mills	1,173 0 0

For the erection of two semi-detached Villas, near the Arboretum, Nottingham, for Mr. Palmer. Mr. Frederick Jackson, architect. Quantities not supplied :—

Biddle	£1,115 0 0
Smith	1,057 0 0
Hains and Close	998 0 0
Rooke and Clarke	995 0 0
Whitworth	990 0 0
Dyer	935 10 0
Gray	903 0 0
Guy	900 0 0
Bakewell and Chambers	896 15 0
Blackwell	890 0 0
Haw and Wooll	875 0 0
May (accepted)	858 10 0

For the Brecon Cemetery, Chapels, Lodge, and Entrance Gates. Mr. H. J. Paull, architect :—

Winstone	£1,221 0 0
Hargess	1,190 0 0
Jones and George	1,183 0 0
Prothero	1,174 0 0
Griffiths and Son (accepted)	945 0 0

For works at Oxendon-street, Haymarket, for Mr. C. Lewis. Mr. Ainslie, architect. Quantities supplied by Mr. Munt :—

Potter	£1,200 0 0
D'Anson	1,137 0 0
Macey	1,018 0 0
Dove	935 0 0

For works at Old Broad-street, City, for Mr. W. Brown. Mr. D'Anson, architect. Quantities supplied by Mr. Campbell :—

	Add. for Stone Stairs.
Cubitt and Co.	£3,780 £130
Jay	3,750 110
Macey	3,543 97
Lucas	3,513 120
Lee and Son	3,479 105
Todd	3,459 120
Piper	3,380 100
Ryder	3,333 124

For Steam Flour-Mill (first portion of the work), Commercial-road, Guildford. Mr. Henry Peak, architect :—

Jas. Smith	£589 0 0
Beagley	540 0 0
Garnett	534 0 0
Bristow	513 5 0
Pollard	513 0 0
Strudwick	511 0 0
Jas. Loe and Sons	500 0 0
Nye	476 18 0

For finishing three Houses, No. 13, 22, and 33, Adelaide-crescent, Brighton, for Baron Goldsmid. Mr. W. F. Pocock, architect. Quantities by Messrs. Wright and Gould, Cheapside :—

	No. 13.	No. 22.	No. 23.	Total.
Piper and Son	£2,000	£3,200	£2,700	£7,900
T. Taylor	1,946	3,101	2,674	7,721
F. Finlan	1,875	2,040	2,506	7,321
R. Patching and Sons	1,790	2,650	2,289	6,729
Chapman and Parsons (accepted)	1,008	1,810	1,510	4,328

For the Ashford Cemetery buildings, &c. Mr. Chas. G. Edwards, architect. The quantities supplied by Messrs. Pearson and Doughney :—

	Chapels, Lodge, and Entrance Gate.		Boundary Wall, per rod.		Ornamental Coping to do. per foot.		Ornamental Iron Railing to do. at per foot run.	
	£	s. d.	£	s. d.	s. d.		s. d.	
Stiff and Richardson	2,084	3 2	6	0 0	4 0		7 0	
Sutton, Walter, and Co.	2,335	7 4	10	6 0	6 0		5 8	
Kirk and Parry	2,188	0 0	11	6 0	5 10		6 8	
Green	2,183	9 9	10	0 0	3 9		6 6	
Cobham	2,167	15 2	14	0 0	5 5		5 6	
Crutton and Vaughan	2,151	10 0	11	5 0	6 8		5 2	
Punnett	2,053	12 0	10	0 0	6 6		7 3	
Evans, Brothers	1,866	0 0	10	5 0	4 2		7 0	
Pickard and Co.	1,762	0 0	10	10 0	4 3		6 11*	
Clark	1,710	10 0	9	0 0	4 0		6 9	
Bates	..		2	12 0	3 5		..	
Marshall	..		2	2 0	..		..	
Russel and Boyle	..		..		..		2 10	

* Accepted.

For the erection of Lodge, at North-end Lodge, Fulham, for Mr. Albert Smith. Messrs. Finch Hill and Parairc, architects :—

Lucas Brothers	£1,195 0 0
Piper	1,167 0 0
Patrick and Son	1,123 0 0

For first portion of parish works, Middlewich Church, Cheshire. Mr. Joseph Clarke, architect :—

Faram, Lawton, Cheshire (accepted)	£886 0 0

For restoration of the Baron's Aisle and Lady Chapel, Middlewich Church, Cheshire, for J. France France, esq. of Bostock Hall :—

Dean, Northwich, Cheshire (accepted)	£1,136 2 3

For Mortuary Chapel, Entrance Lodge, and Gates, Box, Wilts. Messrs. Poulton and Woodman, architects, Reading :—

Myers, Lambeth	£920 0 0
Brewer, Box	840 0 0
Pictor, Box (accepted)	725 3 2

For works at Regent-street, for Mr. Foulsham. Mr. Poland, architect :—

Macey	£378 0 0
Rowland	376 0 0
Matthews	357 0 0

For Alterations at 16, Tokenhouse-yard, late British Bank. Mr. Edmund Woodthorpe, architect :—

Axford and Hall	£639 0 0
Brass and Sons	620 0 0
Turner and Sons	593 0 0
Ashby and Sons	590 0 0

For Rebuilding No. 4, Bell-alley, City. Mr. Edmund Woodthorpe, architect :—

Larke and Son	£387 0 0
Turner and Sons	358 0 0
Green	345 0 0
Pritchard and Son	329 0 0
Brass and Sons	310 0 0

For Repairs and Additions at Mr. Bett's, Sutton, Surrey :—

Symonds, Chelsea	£276 0 0
Dove, Islington	253 2 6
Cook, Sutton	250 10 0
Charles Warr, Sutton	241 0 0
Potter, Sutton	207 10 0

TO CORRESPONDENTS.

R. R.—Messrs. G.—Mr. O.—J. J. L.—Spectator.—E. H.—F. J.—W. C.—H. J. P.—J. P.—D. M. (it means rent-free, but reserves a right).—J. E. C.—Constant Reader (the drawings belong to the architect).—J. I.—R. K.—A Passer-by.—R. A. A.—R. P.—P. B.—H. K.—E. H.—H. P.—Mr. H.—G. P. C.—C. G.—An Architect (a plan of St. George's Hall, Liverpool, will be found in a previous volume).—S. L. S. (we find it inexpedient to give opinions on private disputes. We may say, however, that the plans of the old house, and the plans which "were approved but not carried out," may fairly be charged for.

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

"THE BUILDER."—Wanted, the Number, for January 17, 24, and 31, 1857.—Apply at the Office of "The Builder."

ARCHITECTURAL PUBLICATION SOCIETY.—Instituted 1848.—The ANNUAL GENERAL MEETING of the Subscribers will be held on FRIDAY EVENING, the 28th MAY, to receive the Report of the Committee on the general Affairs of the society, the Accounts of Receipts and Expenditure, and for the Election of Officers for the ensuing year. The meeting will take place at No. 16, Lower Grosvenor-street; the Council of the Royal Institute of British Architects having granted the use of their rooms for this purpose. The chair will be taken at EIGHT o'clock precisely, by SIDNEY SMIRKE, Esq. R.A. who has kindly consented to preside. Parts 2 and 3 for the year 1855-56, being the completion of the text of the Letter C; and Part 1, 1857-58, being illustrations to C, are now in the binder's hands. Members are requested to forward their subscriptions immediately, in order that they may be included in the accounts.

WYATT PAPWORTH, Hon. Secretary

14A, Great Marlborough-street, W. 18th May, 1858.

Building Land at Hounslow, Middlesex, comprising 16a. 3r. 32p. with eligible frontages.

MESSRS. HAMMOND and EILOART will SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE, in two lots, the above valuable PLOTS of LAND, only a few minutes' walk from the town of Hounslow, and having very valuable building frontages on the Bath-road, and on the road leading from Heston to Sutton. It is copyhold of the manor of Heston, and held at a mere nominal fixed fine on death or alienation, thereby rendering it nearly equal to freehold. Plans and particulars may be had at the Bell, Hounslow; of J. W. FLOWER, Esq. Solicitor, 17, Gracechurch-street, City; and at the Auction-offices, 28, Chancery-lane.

Valuable Freehold Building Site close to Portman-square, alike eligible for the erection of two first-class houses of business, or a public institution.

MESSRS. HAMMOND and EILOART will SELL by AUCTION, at the MART, on FRIDAY, MAY 28, at TWELVE for ONE, the above eligible FREEHOLD BUILDING SITE, situate at the corner of Edwards-street and Duke-street, Portman-square, with a commanding double frontage of about 70 feet, the entire ground unencumbered by sweet lights or any restriction whatever, presents a rare and most desirable spot for building operations. Full particulars may be had of Messrs. SMITH and BULLER, Solicitors, 56, Lincoln's inn-fields; at the Mart; or at the Auctioneers' offices, 8, Chancery-lane.

IN BANKRUPTCY.—Valuable Freehold Estate and Working Plant of an Iron Founder and Engineer.—TO BE SOLD by AUCTION, by

MR. JOHN THOMAS, on WEDNESDAY, MAY 26th, 1858, at ONE for TWO o'clock, on the Premises, a valuable FREEHOLD PROPERTY, situate on the banks of the Medway, at Strood, in the city of Rochester, Kent, in four lots; also, the WORKING PLANT of an IRONFOUNDER and ENGINEER. The freehold property comprises a newly-erected brick built foundry and engineer's shop with detached chimney shaft, smith's and carpenter's shops, a wharf with extensive frontage to the river, lay-by and yard, two weather-boarded cottages, two brick-built ditto, and a convenient brick-built residence in good repair in the Higher-street, Strood, at the corner of the roadway leading to the foundry. The trade and other fixtures in and about the foundry and smith's shop, with the plant and implements, will not be sold with the freehold. They may be taken by valuation of the vendors at the option of the purchaser, on his signing an agreement to that effect at the time of sale, and if he declines to take them they will be sold by auction immediately after the freehold. The fixed plant comprises a six horse-power horizontal steam-engine and boiler, two wrought-iron cupolas, Lloyd's patent fan-blast, two powerful cranes, screw cutting lathe with 19 feet bed and 6 feet centre-piece, two other lathes, 40 feet of iron shaft with flat riggers, grindstone, gas fittings, and other effects.—The premises may be viewed on application to the Auctioneer; and particulars and conditions of sale, and catalogues of the plant, &c. may be had of WILLIAM BELL, Esq. Official Assignee, 3, Coleman-street-buildings; Mr. R. FRALI, jun. Solicitor, 10, Essex-street, Strand; Mr. R. FRALI, Solicitor, Rochester; and of the Auctioneer, 147, Eastgate, Rochester.

TIMBER MERCHANT'S STOCK.—TO COACH AND CABINET MAKERS, PIANOFORTE MANUFACTURERS, BUILDERS, &c.

MR. MESSITER is instructed to SELL by PUBLIC AUCTION, on the Premises, Southampton-street, Camberwell, on WEDNESDAY, MAY 26, 1858, a large quantity of DRY BIRCH PLANK (3 years old), YELLOW WHITE SPRUCE and PINE DEALS, PLANKS and BATTENS, BALK TIMBER, &c. with about 2,000 Squares of YELLOW and WHITE PREPARED FLOORING BOARDS (very dry).—May be viewed two days previous to the day of Sale, and Catalogues had on the Premises, and of the Auctioneer, 24, Acton-place, Kingsland road.

TO CABINET MAKERS, PIANOFORTE MAKERS, BUILDERS, COACH-MAKERS, AND OTHERS.

THOS. EDWARDS and SON have received instructions from Mr. JOHN BRINSMEAD (who is relinquishing the mahogany trade, having disposed of the lease), to SELL by AUCTION, on the PREMISES, No. 7, Store-street, Bedford-square, on WEDNESDAY, the 26th of MAY, 1858, at ELEVEN o'clock precisely, the entire STOCK IN TRADE, consisting of large quantities of Honduras, St. Domingo, and Cuba Mahogany, in logs and curls, planks and boards; Rosewood in planks and boards; Birch, Beech, Cedar, Maple, &c. in planks and boards; Honduras Mahogany panel boards; Veneers of Spanish Mahogany, Maple, Rosewood, Ebony, Walnut; and Stores; a Pagnel Dog-cart, in excellent condition; Trade Utensils, and various other goods.—To be viewed two days previous to, and on the morning of sale. Catalogues may be had on the Premises, and of the Auctioneers, 15, Pinner's-hall, Old Broad-street, E.C.

FREEHOLD BUILDING LAND.—CAMBERWELL, SURREY.

MESSRS. DAVIS and VIGERS are instructed to SELL by AUCTION, at the AUCTION MART, in Lots, on TUESDAY, MAY 25, at TWELVE for ONE, FIVE ACRES of FREEHOLD LAND, singularly eligible and desirable for building purposes, lying between the Camberwell New-road and the Vassal road, midway between Kennington Church and Camberwell green, being the remainder of an estate laid out for building purposes, the greater portion of which has been drained and the roads made, and building already commenced thereon. The property may be viewed till the sale. Particulars and conditions of sale, with plans, may be had at the Horns Tavern, Kennington; the Red Cap, Camberwell-green; the Green Man, Brixton; the Estate Exchange, 19, Change-alley, Cornhill; at the Auction Mart; of F. WEST, Esq. 3, Charlotte-row, Mansion-house; of C. J. KILOART, Esq. 33, Great James-street, Bedford-row; and of the Auctioneers, 3, Frederick's-place, Old Jewry.

To Timber Merchants, Builders, Cabinet and Pianoforte Makers, Founders, and Others.

MESSRS. DAVIS and VIGERS are instructed to SELL by AUCTION, on the PREMISES, No. 9, Wharf, South Wharf Road, Paddington, on TUESDAY, JUNE 8, and following day, at TWELVE for ONE each day (the premises being rendered for the Timber Bending Company), the well-assorted and seasoned STOCK: comprising 6,000 pieces of wide Pine, and white and yellow Deals and Battens, 5,700 feet dia square, 3,000 feet fir quarterings, 1,750 pieces of white and yellow deal and moulded boards and battens, 1,500 feet moulded torus skirting, 40 loads of plasterers' best laths; a large and powerful iron traveller, equal to twelve tons, and particularly suitable for foundry purposes; a PATENT SMOKE CONSUMING FURNACE, ironwork for a crane, two iron pumps, two iron tanks, and sundry useful iron work, together with numerous other valuable items. To be viewed the day before and mornings of sale; catalogues to be had on the premises; and of the Auctioneers, 3, Frederick's place, Old Jewry, E.C.

FREEHOLD BUILDING LAND, AT BRIXTON, SURREY.

MESSRS. DAVIS and VIGERS will SELL by AUCTION, at the AUCTION MART, on FRIDAY, JUNE 18, at TWELVE, in Lots, about TWO ACRES of FREEHOLD LAND, situate between Brixton hill and Clapham New Park, and near to Brixton Church, a most eligible site for building purposes. Further particulars, with plans and conditions of sale, may be had of Messrs. WIZARD of GARNHAM, Solicitors, 55, Lincoln's Inn Fields; at the Auction Mart; the Estate Exchange, Change-alley, Cornhill; and Auctioneers' Offices, 3, Frederick's place, Old Jewry.

TO ARCHITECTS.

AN EXPERIENCED ASSISTANT requires a permanent SITUATION in the Country. Would prefer taking the management of an office. Understands designing, perspective, tinting, &c.; working and full-sized detail drawings; management and superintendence of buildings, surveying, land, levelling, quantity taking, and writing specifications. Further particulars on application to K. F. K. Humphrey's Library, 9, Middle-row, North, Knightsbridge.

TO BUILDERS AND OTHERS.

AN EXPERIENCED and confidential ACCOUNTANT, MEASURER, and ESTIMATOR, thoroughly and practically acquainted with the Building business in all its branches, will shortly be DISENGAGED. Eight years' reference from the situation he is leaving.—Address, Y.Z. No. 4, Balmes-road, Southgate-road, Islington, N.

TO THE PROFESSION AND OTHERS.

A SITUATION REQUIRED by an ARCHITECT, at from one and a half to three guineas per week.—Address, S. P. 40, New Oxford-street.

TO ARCHITECTS.

A THOROUGHLY Practical CLERK of WORKS is desirous of a RE-ENGAGEMENT. Has had the management of extensive works; with first-class testimonials.—Address, H. H. J. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

AN Experienced and Practical CLERK of WORKS wishes for a RE-ENGAGEMENT in Town or Country; unexceptionable references can be given.—Address, G. W. 10, Charles street, Goswell road.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT is open to a RE-ENGAGEMENT. He is accustomed to the general routine of an office; to prepare fair, working, and detail drawings; take perspectives; can assist in taking out quantities, and possesses a knowledge of land-surveying and levelling.—Address 6, Quality-court, Chancery lane, W. C.

TO ARCHITECTS.

A NEAT DRAUGHTSMAN, aged 22, desires a RE-ENGAGEMENT. Is used to both styles; and has some [illegible] Address 8, [illegible]

TRAVELLER, COLLECTOR, &c.

A RESPECTABLE Young MAN, who has held the situation of Traveller at Pollett and Bolton's large Cement and Terra-Cotta Manufactory, wishes for a similar ENGAGEMENT, or CLERK FOREMAN, or SALESMAN. Has had experience in stone masonry.—A A I, Church-row, Limehouse

TO ARCHITECTS, &c.

AN ASSISTANT accustomed to all BRANCHES of the PROFESSION is desirous of an ENGAGEMENT.—Address P Q Z Post Office, Broad-street, Bloomsbury.

TO SAW MILL OWNERS AND OTHERS

A YOUNG MAN wishes EMPLOYMENT as SAW-SHARPENER, in town or country. Can work frame, bench, or moulding machine, make tenon cutters, &c. Testimonials can be produced.—Address, C B Mr Mann's Dyer, No. 9, Lutwyche-mount street, Richmond

A LAND-AGENT, Surveyor, and Auctioneer, practising twenty miles from London, wishes to obtain the SERVICES of a YOUNG MAN as ASSISTANT, who has had actual experience in the business, and who, besides being a tolerable draughtsman in plan and elevation, is accustomed to all the general portions of business in an auctioneer's office. As he would have many opportunities of obtaining experience, a small salary only would be paid during the first year.—Apply stating age and experience, to B C Post-office, Watford, Herts.

TO ARCHITECTS

A FIRST-RATE DRAUGHTSMAN, accustomed to prepare finished bold working drawings, write specifications, and estimate, &c., wishes for a RE ENGAGEMENT. Is well up in contracts and arrangement of farm buildings. Terms moderate.—Address, A Z 278, Brailsford.

TO CIVIL ENGINEERS AND ARCHITECTS.

A YOUNG MAN is desirous of meeting with an ENGAGEMENT in an office of the above. Is a capital Draughtsman, can make finished and working drawings, take out quantities, and understands the plotting of surveys, &c.; also has a knowledge of bridge construction.—Address C L 12, York-place, City-road, E.C.

TO ARCHITECTS

AN efficient ASSISTANT, thoroughly conversant with Gothic and Italian design, detail, and construction, and a rapid expressive draughtsman, is open to a RE ENGAGEMENT (or pupilage), or a permanency. Salary 2*l.* 12*s.* 6*d.* or 3*l.* 3*s.* per week, according to time may be.—Address C. W. C. 53, King William-street, London Bridge

A GENTLEMAN, who has had considerable experience in a First-class Surrey, is desirous of an ENGAGEMENT. He is a good and expert draughtsman. Terms moderate. Excellent references.—Address, C Z Post-office, Derby

TO BUILDERS, CONTRACTORS, AND ARCHITECTS.

A SURVEYOR, a thoroughly experienced Measurer, fully acquainted with Construction, Planning, &c., and a good Accountant, wishes for an engagement (abroad not objected to).—Address, H. H. Q. 1, Great Ormond-street, Queen's-square, W.C.

AN expert and efficient DRAUGHTSMAN (27 years' experience in some eminent Offices), desires an immediate RE-ENGAGEMENT; he is well versed in Pointed Designs, and general practice; prepares working, detail, finished, and perspective drawings, understands surveying and valuing, and can be highly referred to.—Terms, moderate.—Address, VOLENS, Office of "The Builder."

TO PARENTS AND GUARDIANS

AN ARCHITECT, in extensive Practice, has a VACANCY for a PUPIL.—A well educated Youth would have more than ordinary opportunity of gaining a knowledge of the profession.—Address, A. B. Hadland and Plews, Stationers, Bucklersbury

TO ENGINEERS, ARCHITECTS, AND OTHERS

WANTED, a RE-ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN, by a thoroughly practical man, aged 38, who thoroughly understands taking out quantities, measuring up works, levelling, &c.—Address, J. A. 28, Newland-street East, Chelsea, S.W.

TO ARCHITECTS, SURVEYORS, AND ENGINEERS.

WANTED, by a Gentleman, a SITUATION in either of the above Offices. Every reference given as to ability. Country not objected to.—Address, A. C. L. Office of "The Builder."

FIVE or SIX good HARD-STONE CARVERS WANTED immediately. Apply to C. ABBEY, Carver, Bellevue House, People's-park, Halifax, Yorkshire.

NOTICE to CLERKS of WORKS, ARCHITECTURAL DRAUGHTSMEN, &c.—The Commissioners of Public Works in Ireland, desirous of the services of a qualified CLERK of WORKS, and of a competent person (Architectural Draughtsman may be acceptable), to apply for the same, and to accompany their application by a statement showing what experience they have had in the superintendence of buildings, and to send copies of any testimonials of qualification in their possession from architects by whom they may previously have been employed. Each candidate is to state whether he would be prepared to undertake the measurement of works, and the probable date most convenient for the production of drawings. The salary for the Clerk of Works will be 200*l.* per annum, but superior qualifications and experience will be rewarded by increase of salary, according to merit, up to 250*l.* per annum. The salary for the Draughtsman will be 150*l.* per annum, but superior qualifications and experience will be rewarded by increase of salary, according to merit, up to 200*l.* per annum. The salary for the Draughtsman will be 150*l.* per annum, but superior qualifications and experience will be rewarded by increase of salary, according to merit, up to 200*l.* per annum. Applications to be addressed to the Secretary, Board of Works, Ireland, Dublin, on or before the 1st day of June next.—By order, EDWARD HORNSBY, Secretary.

Office of Public Works, Dublin, May 13, 1858.

TO BUILDERS AND SURVEYORS.

THE Advertiser (24), leaving an eminent London building firm, is desirous of a RE ENGAGEMENT in Town or Country. Is well accustomed to Builders' book keeping and accounts, taking out quantities, estimating, measuring, abstracting, and valuing, including usual office routine. Security and satisfactory references given.—Address C. B. 8, Golden terrace, Barnsbury-road, N.

TO COUNTRY CARPENTERS AND BUILDERS

THE Friends of a respectable YOUTH are desirous of placing him as IN-DOOR APPRENTICE, where he would have the opportunity of learning the business well. Premium given.—Address, with particulars, J. C. C. Mr. Hall, Chemist, Lower Eaton-street, Pimlico.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser having just completed an Elementary two-mile Survey of one of the Metropolitan Boards of Works, requires EMPLOYMENT, as Assistant, Head Pupil, or Taker-out of Quantities. Measuring Work, &c. &c.—Terms 30*s.* per week, A Z 37, New Gloucester-street, Hoxton, N.

TO BUILDERS AND CONTRACTORS.

THE Advertiser wishes a Re-Engagement as an ASSISTANT in a Builder's Office in town. He has a good knowledge of measuring, is well acquainted with the routine of an office. A satisfactory reason can be given for wishing to change his present situation, which he has held the last six years. Salary not so much an object as improvement.—Address to ANDREW KILLEY, Mr. T. Gale's, Boiling Packers, and Iron Ware, Hull.

TO CIVIL ENGINEERS, SURVEYORS, &c.

THE Advertiser, aged 24, who has for the last two years been engaged in [illegible] ASSISTANT. He has had considerable experience in making working drawings, &c., and is well versed in levelling, &c. Address, G. R. E. 40, Oxford-street, London, W.

TO ARCHITECTS, &c.

THE Advertiser, who has been accustomed to Design Architecture, is desirous of an ENGAGEMENT in an ARCHITECT'S OFFICE. Can prepare specifications, take out quantities, measure up finished works, and get up working drawings. A Salary to start.—Address, Q. A. B. 65, Margaret-terrace, Cumberland-street, Glasgow.

WANTED, by a Gas-fitter, Paper-hanger, and Painter, a SITUATION. Is competent to take and value Houses, or attend to works. At Can give security if required.—Apply to A B 3, Chalk-farm-place, Edgeware-road, Camden-town.

TO SURVEYORS, &c.

WANTED, by the Advertiser, who has had five years' experience, an ENGAGEMENT in the Office of a Surveyor. Good testimonials as to character, ability, and steadiness. Can be highly recommended.—Address, A. B. C. 5, Upper Kennington-lane, Vauxhall.

WANTED, EMPLOYMENT, in an Architect's or Builder's Office, or as Time-keeper, by a Bricklayer, 26 years of age. Has had considerable experience, and can take out quantities, &c. Has a good knowledge of drawing, and writes a good hand. Has held a situation of this kind before. Good reference.—Address, T. G. B. 2, Henry-street, Lorrimore-road, Walworth.

WANTED, by a first-rate PLUMBER, a SITUATION. Is a good painter, glazier, &c. Good reference.—Address A. Y. stating wages, 45, Sandwich street, Burton-crescent.

WANTED, a SITUATION as CLERK of WORKS, TIMEKEEPER, STOREKEEPER, or in any other capacity, by a Young Man of experience in the mechanical trades. Is quick at accounts. Good references. Moderate salary, for a permanency, will be preferred.—Address, J. Post-office, 13, High-street, Islington, N.

TO IRONFOUNDERS

WANTED, a SITUATION as FOREMAN in an IRONFOUNDRY. Has had upwards of twenty years' experience in all its branches.—Apply, C. L. No. 16, Goldington-street, Old St. Pancras, London.

TO ARCHITECTS AND SURVEYORS, OR ENGINEERS, AUCTIONEERS, DRAUGHTSMEN, &

WANTED to APPRENTICE a YOUTH, who has a good taste for Drawing, to any of the above Professions. In-door. A Dissenter's family, in the country, will be preferred.—A note, stating the lowest premium that can be taken (as 50*l.* will have reasonable attention), to B. L. care of E. MILES, 17, Lincoln's-inn-fields, City, London, E.C.

WANTED, an ARCHITECTURAL DRAUGHTSMAN.—Address, DOX B. I. Post-office, Manchester, stating terms and qualifications. As first-class man will be dealt with liberally, it is hoped that none but those of a superior class will apply.

STONE YARD FOREMAN.

WANTED, a Respectable Man, a MASON, whose abilities will enable him to conduct the operations of such employés in a yard, as may be able to understand drawings, set out the work, and superintend the sending to their proper situations. The character will be the strictest in respect, a permanency, and a good salary, to a person to whom every reference can be given. Apply by letter only, which will be duly attended to, stating where last employed, in what capacity, and wages expected, to Messrs. BROWN and BOOTH, 42, Bankside, S.

BRICKS.

WANTED, a person qualified to take the entire MANAGEMENT of a BRICK-YARD and TILERY. Apply stating terms and particulars, to DAVIES and SAVIS, St. Asaph, North Wales

WANTED, a SITUATION as PLUMBER. A Young Man from the country wishes to obtain a situation in the above line. Can give every reference, and has been employed from his last employers.—Apply to W. B. at Mr. Simpson's, New street, Quadrant, W.

WANTED, an active Man as a working FOREMAN of JOINERS. Must be steady and quick at setting out work. A reference required.—Apply by letter, stating age and salary required, to A. D. 17, Mount Pleasant, Gray's-inn-lane.

TO GRAINERS AND WRITERS

WANTED, in an old-established business in the Midland Counties, a PERSON thoroughly competent to undertake the SITUATION of FIRST-CLASS GRAINER. It is essential that the applicant should be of steady and industrious habits, and not object to make himself generally useful. One who can write and spell correctly would be preferred. Application to be made, post-paid, to Messrs. SPARROW and SON, No. 1, Park-row, Nottingham.

TO GILDERS AND DECORATORS

WANTED, for a Young Man, 19 years of age, a situation as IMPROVER. Wages not so much an object as to get forward.—Address H. C. 9, Belvedere-road, Lambeth.

TO BUILDERS.

WANTED, a SITUATION in a Builder's Office, by one who has been ten years in the trade. Can take out quantities, measure up works, and keep an accountant. Address, R. R. P., Alexander-street, Westbourne-park.

TO PLUMBERS AND BUILDERS

WANTED, a SITUATION by the Advertiser, who is a First-class PLUMBER in all its branches, and who would be willing to fill up his time with Painting and Glazing; can have a good reference from his late employer, with whom he has been for upwards of seven years.—Direct to M. N., 3, M. Cottages, 3, Christmas-place, Hammersmith, Middlesex.

TO MASONS, CARVERS, &c.

WANTED, to apprentice to a Carver, a well-educated Youth, 16 years of age, who has a good taste for the business, as well as drawing.—Address, stating terms, &c., to R. C., Messrs. Rhodes and Co.'s, New Agents, Market Rasen, Lincolnshire.

WANTED, a RE-ENGAGEMENT as WORKING FOREMAN, having been similarly engaged in a leading firm for seven years. Good testimonials.—Address, CARPENTER, 10, Trafalgar-place, R. D. Wright's, 4, Frederick's-place, Hampstead-road.

TO BRICK AND TILE MAKERS

WANTED, immediately, an active MAN to TAKE the MAKING of a large quantity of Tiles, Drainingpipes, Bricks, &c.; or, if preferred, to act as FOREMAN.—Apply to Mr. J. S. FORSTER, 91, High-street, Gateshead.

PLUMBING, &c.

WANTED, by the Advertiser, a steady, Middle-aged Man, a SITUATION as PLUMBER, or three-parts Hand. Well experienced in, and accustomed to, Bell, Range, and Closet work; is also a good painter and glazier. No objection to the Country, or to do the general work on an estate.—C. J. Office of "The Builder."

WANTED, in a Surveyor and Builder's Office, an Apprentice CLERK, who shall be taught to measure and estimate works, prepare drawings, keep accounts, &c.—Address to Mr. Gabler, Lavant, Bullingham-street, Sussex-gate, W.

TO BUILDERS, CONTRACTORS, AND BRICKMAKERS

WANTED, by a Young Man, aged 2[illegible] years, EMPLOYMENT as FOREMAN; has had 13 years' practical experience as Bricklayer, Foreman, and has had the entire management in Building of Public Works, General Repairs of Houses, and in the Construction of Sewers. Good testimonials can be furnished. General Foreman in the Building Department, or Time Keeper, or as Brick Field Foreman.—Address, T. K. Mr. Osborn's, Prith-street, Soho, London.

TO PLUMBERS, BUILDERS, AND OTHERS

WANTED, by a First-class PLUMBER, a SITUATION. Is qualified to take charge of [illegible] ing work in all its branches; also has a good knowledge of gas fitting. No objection to fill up his time with lead glazing, &c.; town or country; good reference.—Apply, R.B.S. at Mr. Darlington's, Goldsmith-street, Shaftesbury, Dorset.

WANTED in a small country SAW MILL worked by steam and water power for cutting round timber with circular saws, A STEADY ACTIVE MAN competent to take the entire charge of the MILL, and to keep the Accounts. Strict inquiry as to character and ability will be made. Apply to Mr. [illegible] Surveyor, Shaftesbury, Dorset.

TO BRASSFOUNDERS AND OTHERS

WANTED, a SITUATION, as PLUMBER, BRASS-FINISHER, in the Pump and Water-closet line.—Address E. F. 11, North street, St. John's Church, Westminster.

WANTED, by the Advertiser, a RE-ENGAGEMENT as CLERK in ARCHITECT'S or BUILDER'S Office. The highest recommendation as to character and ability can be had. Age 20.—Address C. N. care of Mr. Jewhurst, 3, Emily-row, Old Kent road, S. E.

TO TIMBER AND DEAL MERCHANTS.

WANTED, a SITUATION as SALESMAN, by a Young Man who has held a similar situation. is a good accountant, writes a neat hand, and understands the practical working of a saw-mill. Town or country.—Address, M. P. Mrs. Stevens, 28, North street, Edgware-road.

TO ARCHITECTURAL ASSISTANTS.

WANTED, a CLERK, competent to design and practically carry out works, and prepare fair and working drawings. He must also have a correct knowledge of measuring and estimating.—Address, stating terms and reference, to ZETA, Hugh Roberts's Library, Chester.

TO RAILWAY CONTRACTORS.

WANTED, a SITUATION, as RAILWAY CONTRACTOR'S ENGINEER, by one who serves [illegible] in a Civil Engineer's Office; who is experienced in estimating the cost of [illegible] Railway Works, and will [illegible] to [illegible] for testimonials. Unexceptional [illegible] Apply to Mr. [illegible] IBBET, Auctioneer, Jewin-street, City.

TO BUILDERS, PAINTERS, &c.

WANTED, a SITUATION as PAINTER, to take charge of [illegible] or otherwise. Has been twenty years in the trade, and can have a six years' reference from present employer. Satisfactory reasons given for wishing to leave.—Address, H. W. 18, Westbourne-street, Pimlico, S.W.

WANTED, for a Permanency, a SITUATION as PAPER-HANGER and HOUSE-DECORATOR, by one who can be highly [illegible] filling up his time [illegible] tion in Printing and Pianoforte Action Factories.—Apply to H. C. No. 24, Emma street, Hackney-road

WANTED, by a respectable Person, a SITUATION as Clerk in a Builder's Office, Clerk of Works, or as Manager or Clerk on a Wharf. Good references can be given.—Address T. T. Messrs. Davis and Co. Post-office, Brompton, S.W.

WANTED, an experienced FOREMAN, to take charge of an extensive Job in London.—Address, stating age, wages required, and where last engaged, to J. K. Office of "The Builder."

TO POTTERS AND OTHERS

WANTED, by a Practical Man, who is possessed of limited capital, a partner to join him in the STONE POTTERY LINE, in first rate business premises, which [illegible] in the first-class districts in good working order, in the neighbourhood of Lambeth.—Apply by letter only, post paid, to A. B. 8, Barton-street, College-street, Westminster. First-class references will be given also required.

PARTNERSHIP WANTED, in a well-established and increasing practice in the country. PARTNER, who can command a premium, and who is competent to conduct a first-class Architectural business.—Address, INIGO, care of Mr. Wall, 5, High-street, Bath.

CARPENTERS' COMPANY.—A large FREEHOLD ESTATE, belonging to the Company, situate at SHEPHERD'S-LANE, Dalston, and consisting of Dwelling-houses, Shops, and Workshops, TO BE LET, for a long term, either in large or small plots. The property is now in the occupation of tenants, who will show the premises; and further particulars may be had of Mr. L. B. JUPP, Clerk to the Company, Carpenters' Hall, London-wall.

TO FREEHOLDERS AND OTHERS.

WANTED, from Twelve to Twenty Acres of LAND, for a Cemetery, about four miles from Cornhill—Surrey side. The neighbourhood of Nunhead is preferred.—Address, [illegible] Mr. M. EDMUNDSON, Bankside, Southwark.

WOKING, SURREY.—TO BE LET, with immediate possession, within five minutes' walk of the Woking Railway Station, a modern VILLA RESIDENCE, with [illegible] rooms, [illegible] drawing-room, [illegible] library, [illegible] and closets, with [illegible] plot of [illegible] Further particulars apply to Mr RICHARD CHURCHILL, 2, Lancaster-place, Strand, London; or to Mr. THOMAS MILLER, at the Woking Station.

HIGH HOLBORN.—TO BE LET upon a Building Lease for 99 years (terminable at the option of the tenant at the end of the first or second term), FREEHOLD SHOP, No. 87, High Holborn, the property of the Saint Clements Danes, Holborn, Land Charity. TENDERS of GROUND RENT to be sent in on or before 1st of JUNE, to Mr JOHN P. ISAACSON, Solicitor, 40, Norfolk-street, Strand, of whom any further particulars may be had

HARROW.—FREEHOLD LAND, TO BE SOLD, at a moderate price, in one or several lots, with [illegible] frontages, about 250 acres of very [illegible] FREEHOLD PASTURE LAND in ring fence, with extensive frontages to the Public Road, Harrow-on-the-Hill, and within a few minutes' walk of Harrow Town and Station, and within an easy walk of Harrow Weald and Stanmore. It is bounded and intersected by [illegible] roads, and has [illegible] of good water in the fields, and a supply may be had from the Harrow Waterworks Company's Mains. Part of the property has capital building sites, and the whole is agreeably undulated, perfectly drained, and in every respect eminently suited to building or agricultural purposes. Each tenant of the adjoining cottages to the property of Harrow School, and [illegible] Farm, has a [illegible] lease from the London and North-Western Railway Company, [illegible] from a purchaser taking the entire property, a very low price will be accepted, so as to secure to him a most profitable and eligible [illegible] Further particulars may be had of Messrs. COOPER and [illegible] Solicitors, [illegible] Harrow-on-the-Hill, and of Messrs. [illegible] Auctioneers, [illegible] Harrow-on-the-Hill, and [illegible] Hall, City.

WANTED to PURCHASE, a FREEHOLD [illegible] HOUSE, for a respectable family, with [illegible] Rent not to exceed £[illegible]. Apply by letter, stating full particulars, to Mr. [illegible] Stock Exchange. Letters must be post paid.

FREEHOLD BUILDING LAND.—TO BE SOLD or LET, in Lots of Six Perches, a valuable PIECE of LAND, situate between the Hornsey and Harringay Parks, adjoining Turnpike-road, with good frontage, well suited for the erection of villa residences, and for immediate building. Also a Piece of Building Land, containing about 1 acre, with extensive frontage to the Hornsey-road. Apply to Mr. REARDEN, 91, Piccadilly.

FREEHOLD BUILDING LAND TO BE LET, with Advances of TO BE SOLD in Plots to respectable Builders, at Wanstead, Essex, near the Suburban Station. For terms and particulars, apply to Mr. CHARLES GRAY, Architect, 11, Lothian-place, Strand, W.C.

TO BUILDERS. Some very eligible PLOTS of LAND at Tulse-hill, Lower Norwood, near Roupell-park, suitable for the erection of good Ten-roomed Villas; also, some eligible Plots on the Railway Station at Herne-hill, adjoining Denmark-terrace; TO BE LET, on Building Leases, for ninety-nine years, Advances, if required. Apply at the Offices of the United Building and Investment Company, Lincoln's-inn, 25, Portsmouth-street.

TO WHARFINGERS and OTHERS. TO BE LET on LEASE a VALUABLE WHARF on the Regent's Canal, near the King's Road, St. Pancras, together with four capital Offices, stabling, and vaults, country house, &c.; lay-by timber stage, and traveling crane for loading goods.—For particulars apply to Messrs. R. J. and H. LILLYSTON, 9, Whitehall Place, Westminster.

GROUND-RENTS and FREEHOLD ENFRANCHISE.—The CONSERVATIVE LAND SOCIETY is enabled to purchase all Leasehold Estates and Interests in Possession, Reversion, or Remainder, and to grant Leases for terms of Sixty, Seventy, and Eighty Years, at Rents proportioned to the Purchase-money. At Barnet, Kentish Town, Tottenham, Enfield, Highbury, Tunbridge Wells, Forest Hill, Maidstone, Bow-hill, Woolwich, Battersea, Reading, Winchester, Museum Hill, Taunton, and other Places. Plans of the estates proposed to be sold, or of the Property, will be sent to any part of the United Kingdom.

CHARLES LEWIS GRUNEISEN, Secretary.

TO BUILDERS AND OTHERS.

TO BE LET, without Dwelling, a LARGE ROOMY YARD and SHEDS, with Workshops adjoining, two Inclosing Office Walls, and Double Floor, suitable for many purposes, fronting a Great Thoroughfare.—Apply at 1, Cullum-street, Fenchurch-avenue, North Western Railway.

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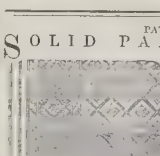

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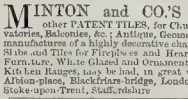
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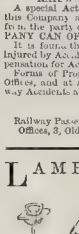
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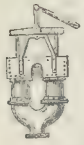

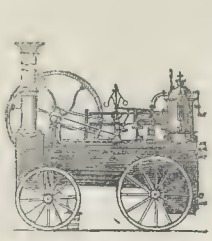

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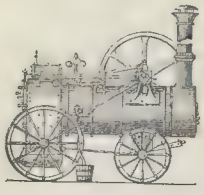
MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

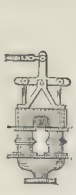


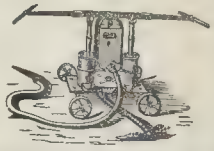
ENGINES, SINGLE & DOUBLE PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

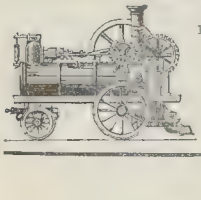
HIRE OR SALE.





HOLMAN'S Patent CESSPOOL PUMPS, CONTRACTORS' PORTABLE PUMPS, Pumps of every description for HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

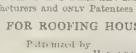
ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

N.B. Steam-power, with Workshops, to Let.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and CO. of LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON, Manufacturers and only Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS.
H.R.H. PRINCE ALBERT.
HONOURABLE EAST INDIA COMPANY.
H.R.H. THE MASTER GENERAL AND BOARD OF ORDNANCE.
H.R.H. MASTER, ELDER, TRINITY HOUSE.
PUBLIC INSTITUTIONS, BUILDERS, ROYAL PARK, &c.

And by the most eminent Engineers of the Railway Companies of England, Scotland, and Ireland, to whose notice it has been established, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, 12, HANOVER-square. It adds lightness, warmth, durability, and economy. It is a protection from snow, and frost, and a perfect barrier against rain. The Felt is sent to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, as to the opinions of eminent Engineers, Architects, Surveyors, Noblemen, and Gentlemen who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c. is also manufactured, by which a saving of about 2s. per cwt. is effected. The TRADE are respectfully informed that the Felt is DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and to obtain the best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and CO.'S Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW. Roofs were with the Felt laid at the Factories, at the low price of Three-halfpence per foot, the passage and freight to Westminster Hall, and other buildings at the New Houses of Parliament, to be allowed to the Trade.

NOTICE OF REMOVAL,

From Opposite the London Docks.

PALE BOILED OIL, a very pale dryer, possessing the properties of Gold Size, with the colour of Copal Varnish.

BODY PAINT, a combination of Metals, forming a bright stone-colour Paint. Being indestructible by heat, is well adapted for iron steam ships and engineering works.

HUBBUCK'S PATENT WHITE ZINC PAINT and SNOW-WHITE ZINC.

DECORATORS' WHITE FOR CEILINGS, the whitest of all Pigments; gives an elegant surface, resembling the finest Alabaster; is a powerful Reflector of Light, and is unchangeable by Gas.

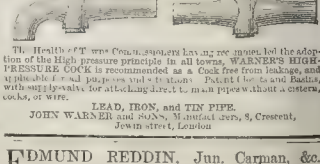
THOMAS HUBBUCK and SON, Paint and Varnish Works, 157, FENCHURCH-STREET.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Harrow's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	8d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

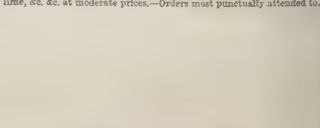
Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.



BELL'S PATENT TRAPS, for Stables, Cowhouses, Gentlemen's Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS Founders, Engineers, and Smiths, 168, Denmark-street, and Pine-road, Rosemary-street.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commission having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes under the above. Patent Hose and Bathing, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London

EDMUND REDDIN, Jun. Carman, &c. Beaufort wharf, Strand. Goods carted and delivered. Cartage of any description done on reasonable terms. Bricks, sand, ballast, lime, &c. &c. at moderate prices.—Orders most punctually attended to.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

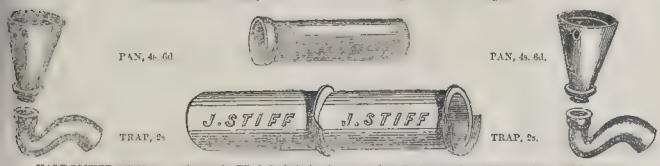
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Podlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs COLES, SHADBOLT, and CO.'S St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RICHARDSON, SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Downgate Wharf, Canal-road, Hoxton.
Messrs COLWILL BROTHERS', 32, Bridges street, Covent-garden
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

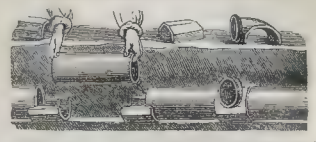
HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

TO the ARCHITECTS and ENGINEERS of the NORTH of ENGLAND.

JENNINGS'S PATENT SYSTEM of LAYING DRAIN-PIPES

Is the most Perfect yet introduced.

It is now universally acknowledged as the only "IMPROVEMENT" yet effected on the ordinary Socket or Half-socket Pipe



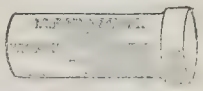
JOSEPH CLIFF, WORTLEY, near LEEDS, being empowered by Letters Patent for the exclusive Sale and Manufacture of the above Pipes, has made extensive arrangements to meet the increasing demand, and is prepared to deliver them throughout the NORTHERN, MIDLAND, and EASTERN COUNTIES, at the ordinary Last Prices, as below:—

3-in.	4-in.	6-in.	9 in	12-in.	15-in	18 in
5d	6d.	8d	1s 1d	1 10d.	3s	4s. per foot

Less 2½ per cent Discount for Cash.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



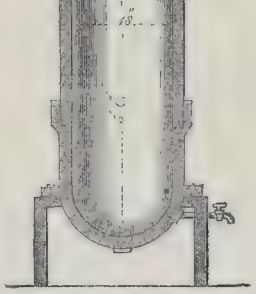
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

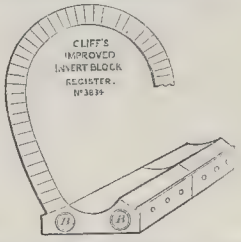
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s	9s 3d.	8s 6d.	5s. 6d
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
8s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter.
Connection can be made with the sewer at any time
And the Pipes guaranteed to stand better than any Brickwork.

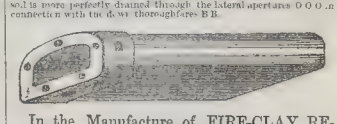


These GLAZED STONEWARE WATER-CISTERNS are made of any size from 15 inches diameter to 3 feet, capable of containing from 50 to 300 gallons. As a Cottage Water-Cistern they are the CHEAPEST, the PUREST, and most DURABLE article made.—Vide "The Builder," March 20th, 1858.



By use of CLIFF'S IMPROVED INVERT,

The uniform level of sewer is easier of attainment
Greater regularity is ensured by the ring-joints inserted at B
The work is executed with more speed
The lateral ledges ensure better support for the bricks, and the subsoil is more perfectly drained through the lateral apertures O O O, in connection with the drainage thoroughfares B B.



In the Manufacture of FIRE-CLAY RETORTS for Gasworks, JOSEPH CLIFF has brought to bear the experience of now more than thirty seasons, and he with confidence invites the attention of all Gas Engineers to their superiority of finish, correctness of form, and FREEDOM FROM SURFACE CRACKS. A stock is always kept in hand; also Fire Bricks, Lumps, Guards, Tiles, and Clay, at the

WHARF No. 4,

INSIDE GREAT NORTHERN GOODS' STATION, KING'S-CROSS, LONDON.

SALES BY AUCTION.

POTTER'S BAR, MID. LESEX. Freehold Building Land, with a few enclosed walls of a Cottage, a Stable, Coach-house, and Yard, 14 miles from London.

MESSRS. WINSTANLEY are instructed TO OFFER for SALE by AUCTION, at the MART, Bartholomew-lane, on THURSDAY, MAY 27, at TWO for THREE precisely, in Two Lots, FOUR PLOTS of FREEHOLD BUILDING GROUND, with a frontage of about 80 feet to Green Dragon-road, leading from the Station of the Great Northern Railway to Potter's-bar, and about 300 feet in depth; also another Plot, next to Heath-row, on the same side, with a frontage of about 80 feet by a depth of about 290 feet, both exceedingly well adapted for the erection of villas or other residences. To be viewed. Printed particulars may be obtained of Mr. WM. SKILBECK, Solicitor, 19, Saffron-hill, Holborn; at Chancery-lane, W.C.; at the Red Lion, Barnet, Herts; at the Green Dragon, Potter's-bar; at the Potter's-bar Station; Place of Sale, and of Messrs. WINSTANLEY, Paternoster-row, E.C.

GREENWICH Valuable Freehold Building Ground, in a most eligible distance from the Hospital, fronting the River, and extending to the Woolwich Old road

MESSRS. WINSTANLEY have received instructions from the Family of the late CROWLEY MILLINGTON, Esq. to SELL by AUCTION, at the MART, on THURSDAY, MAY 27, in one Lot, the Valuable FREEHOLD PLOT of GROUND, upon which are an ancient mansion called Cowley House, and the adjoining wash-house, formerly used as a brewery, in all, the gardens in the rear, comprising altogether rather more than two acres, exclusive of the site of that part of the front of the late mansion which overhangs the wharf. The property possesses considerable frontage to the River Thames, and due to the Woolwich Road, is particularly eligible for the erection of a first-class hotel and tavern, factories, or moderate-sized houses, with the privilege, at the same time, of the use of the advantages afforded by the river and steam communication with the metropolis.—To be viewed by application to Cowley House, at the Lodge, in the Woolwich Old-road, of whom particulars may be obtained in due time. Particulars also of Messrs. REYROUX and BROMHEAD, Solicitors, 35, Old Broad-street, E.C.; at the Mart; at the Greyhound and Yacht Taverns, Greenwich; and of Messrs. WINSTANLEY, Paternoster row, E.C.

TO MARBLE AND STONE MERCHANTS AND MASONS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the Works of Thomas Jackson, Esq., Commercial-road, Pimlico, on THURSDAY, MAY 27, at TWELVE, in Lots, the Valuable STOCK of MARBLE and STONE, in block and slab, including Statuary of Greek green, Empress-red, Sienna, serpentine, vert-el, Sicilian, black, umber, dove, black and gold, American, green, Devonshire, red, and Irish, Breccia, and Bardilla marbles; 1,000 feet of Portland stone in block, 300 feet of Caen stone, 1,400 feet of French stone, 150 feet of Wingerworth stone, York landings, Portland slabs, blocks of granite and other items.—To be viewed three days previous to the sale. Catalogues may be had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C. Note.—Approved bills, at three months' date, will be taken from purchasers to the amount of 5*l.* and upwards, or 1½ per cent allowed for cash.

TO BUILDERS, TIMBER MERCHANTS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, at the Works of Thomas Jackson, Commercial-road, Pimlico, on FRIDAY, MAY 28, at TWELVE, in Lots, by order of the Reserve, 1,200 YELLOW DEALS, and yellow planks, 300 of St. White Red planks, 70 logs of Swede timber, 50 loads of Dantzic timber, 1,000 feet of mahogany boards, two squares of flooring boards, and 1 pipe of clarified linseed oil.—To be viewed and catalogues had at the Works, and of Messrs. FULLER and HORSEY, Billiter street, E.C. Note.—Approved bills, at three months' date, will be taken from purchasers to the amount of 5*l.* and upwards, or 1½ per cent discount allowed for cash.

TO ENGINEERS, IRON FOUNDERS, AND OTHERS James's Patent Weighing Machines, Cranes, Machinery, and Tools

MESSRS. FULLER and HORSEY are instructed by Messrs. James and Malcolm, who are dissolving partnership, and whose premises are expiring, to SELL by AUCTION, at the VICTORIA IRON WORKS, Bethnal-green (near the Sidney and Ball), on TUESDAY, JUNE 8, at ELEVEN, in Lots, without reserve, the STOCK IN TRADE and MACHINERY, viz.:—The stock includes—three whiff cranes, two 5-ton cranes, one of 3 tons, two portable cranes, 1 ton and 3 tons, one 40-cwt. warehouse crane, four weighbridges, 3 to 30 tons, two engines and eight-twenty-one James's patent weighing machines, from 2 cwt. to 40 cwt.; a lift for raising casks or heavy weights, for loading, &c. The machinery includes a new 12-inch centre self-acting lathe, with 12 feet gap bed, by Smith, Beacock, and Tannant; one 8-inch self-acting lathe, with 5 feet 6-inch bed, with change wheels, self-acting shaping machine, cut 10-inches, by Shanks; another ditto, drilling machine, by Holtzapffel; a small steam engine of 4-horse power, two steam slide-boring and facing machines, vice and bench, steel tools, foundry crane, cabin, 11 feet, two weighing machines, 4 cwt. and 10 cwt., one set of 4-inch brass cocks, screw plank, and 1 and 2-inch dies, smiths' forges, bellows, anvils, and tools, 20 tons pig and bar iron, cast iron roof and shear stage, stores of sundry castings, and 1 mortar and other effects. To be viewed on Saturday and Monday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

The spacious Warehouse to be Let

SUTTON, SURREY.—Freehold Building Land, and a productive Orchard, within thirty-five minutes by rail from both the City and West-end

MR. DEBENHAM will SELL, at the MART, on FRIDAY next, MAY 28th, at TWELVE, FIVE VERY VALUABLE FREEHOLD BUILDING LAND, in the village of Sutton, in the charge of Station, rapidly increasing in importance and value, in consequence of the improved railway facilities and easy accessibility from London. The land possesses two valuable frontages to the public highway, and is eligibly situate for building, or for the erection of villa residences, and is well worthy the attention of Builders, Land Societies, and others. Also a very large assortment of bellhangers' work in cranks, carriages, &c.; wrought and cast bells, Jongeaux Hand Bells, Large Sets of Lever and Lanchen bells, clery and China Clocks and door furniture, tin dog-grates, and maps, cast steel tools, chisels, gouges, axes, adzes, hammers, vices, saws, 100 planes, screws, files, sash cords, and O G gutters, heads and stops, brackets, three shaft cutting machines, and Lancets in their effects. To view on SATURDAY previous to the sale, when catalogues may be had at the Warehouse, and at Messrs. FULLER and HORSEY, Billiter-street, E.C.

The spacious Warehouse to be Let

SALES BY AUCTION.

BUILDING MATERIALS, BETHLEHEM HOSPITAL

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, on MONDAY, MAY 24th, at TEN for ELEVEN, the MATERIALS and FITTINGS of the Chapel, at present forming part of the Centre Building in the Centre Square of Bethlehem Hospital, Lambeth-road. To be taken down by the purchaser. May be viewed and catalogues had on the Premises; of the clerk of SYDNEY SMIRKE, Esq., Architect, 79, Grosvenor-street; and of the Auctioneers, 40, Parliament-street, Westminster.

ROTHERHITHE.—To Lighterage, Timber Merchants, Contractors, and others

MESSRS. EVERSFIELD and HORNE are favoured with instructions from Messrs. Grissell, Brothers, TO SELL by AUCTION, at the PREMISES, Canada Wharf, Rotherhithe, by the Thames Police Office, on TUESDAY, MAY 25th, at TWELVE PRECISELY, the following superior RIVER BARGES, viz., "Fly" punt, open barge, 70 tons; "Eagle," ditto, 65 tons; "Richard," ditto, 70 tons, ditto; "William," ditto, 60 tons; "Thomas," ditto, 60 tons; "Emma," ditto, 30 tons; "Julia," ditto, 25 tons; "Frances" ditto, 40 tons. Also a quantity of excellent Mooring Chain, large Oars, Tarpaulins, &c. May be viewed and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, or Coal Exchange

NORWOOD Valuable Freehold Building Site, near to the principal entrance of the Crystal Palace, containing about three acres, with a commodious Chapel on one portion of it; also an abundant supply of pure water.—To be SOLD by AUCTION, from a spacious wall

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District School to SELL by AUCTION, at the MART, on FRIDAY, JUNE 4th, at TWELVE, in Two Lots, the valuable FREEHOLD PLOT of GROUND, containing three acres, or thereabouts, forming the angle of the two roads called Central-hill and Weston-hill, Upper Norwood, embracing them of extended views, both towards the metropolis, as well as over the counties of Surrey and Kent, for which this locality is so celebrated. One lot will comprise the Chapel, erected but a few years since, and built in Gothic Style, of Kentish ragstone, and capable of accommodating four thousand persons, with entry-room and private gallery, adjacent to which is a building of one story, 127 feet in length, adapted for a school-room, and a well of water. There is also a small piece of land for a garden, and also the school-house, and wanted a valuable frontage to the road for building purposes would be required. The other lot will comprise the remainder of the ground, 794 feet in width where separated from the first lot, and having a frontage of 384 feet to Weston Hill, and 591 feet to Central Hill; on one portion of it there is a well of pure water, with pump and steam engine capable of raising not only the quantity likely to be required on this estate, but offering a good opportunity of supplying the surrounding district; there is also a similar well up the estate lot.—The property may be viewed, and printed particulars with plans may be had, ten days before the sale, at the office of Mr. SAMUEL HEATH, Solicitor, 9, Basinghall-street; also at the Woodman Tavern, at the Mart, and of the Auctioneers, &c., 40, Parliament street, Westminster

NORWOOD LEASEHOLD GARDEN GROUND AND PREMISES

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District School TO SELL by AUCTION, at the MART, on FRIDAY, JUNE 4, at TWELVE, a Valuable PLOT of GARDEN GROUND, with outbuildings and Fruit trees thereon, and Farm Buildings at the rear, with flood thereto, the whole occupying an area of 1,100 feet in front to the road, by 420 feet deep. Held for unexpired terms of 60 years, from March last, at the low rent of 27*l.* a year.—May be viewed and printed particulars had, ten days previous to the sale, at the office of Mr. SAMUEL HEATH, Solicitor, 9, Basinghall-street; also at the Woodman Tavern, at the Mart, and of the Auctioneers, 40, Parliament-street, Westminster.

GIPSEY-HILL, NORWOOD.—Detached Freehold Residence, with possession, Pair of Villas, and several Plots of Freehold Building Ground

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the Mart, on FRIDAY, JUNE 4, at TWELVE, the FREEHOLD RESIDENCE and Grounds, called Laurel House, near the Railway Station on Gipsey-Hill, with Garden in the rear 250 feet deep; and a Plot of Ground adjoining, extending 100 feet by 250 deep and 20 feet frontage; also, a pair of Freehold Semi-detached Residences, No. 1 and 2, Canterbury Villas, Gipsey-hill, of neat elevation, let at 42*l.* per annum; and Two Plots of Freehold Building Ground, suitable for the erection of semi-detached pairs of cottages, having twenty-eight acres. The soil is chalk and gravel; the water excellent.—For further information, apply to Messrs. BLAKE, Auctioneers and Estate Agents, Croydon.

CARDIGANSHIRE.—The valuable Leases, Plant, and Machinery of the Lisburne Mining Company for absolute sale.

MESSRS. EVERSFIELD and HORNE are instructed by the official Liquidator to SELL by AUCTION, at the AUCTION MART, in Tokenhouse-yard, on FRIDAY, JUNE 4th, at TWELVE, as one lot, the valuable LEASES of the LEAD MINES known as the Esgair Mwyn, situate in the parish of Llangynfelin, in the county of Cardigan, as exhibited in a certain schedule or prospectus of the Lisburne Mining Company, bearing the immediate date hereof. This mine has been most favourably reported on by three eminent surveyors of eminence, and can be worked by a very moderate outlay, as the preliminary expenses have been incurred, so that any subsequent upon a new working thereby avoided. The machinery is of the most approved description, and much of it has been erected some months, but not yet at work. In addition to the Esgair Mwyn, the Company have obtained a Lease of the adjoining property of Esgair Dafn, which there is reason to believe will be a valuable adjunct to the former.—Particulars may be obtained, ten days previous to the sale, at the Offices of WILLIAM TUGLAND, Esq., Official Liquidator, 19, Great Winchester-street; of Mr. J. PARKER, Engineer, 19, Great Winchester-street; and of Messrs. EVERSFIELD and HORNE, Auctioneers to the Commissioners of Her Majesty's Woods and Forests, &c. 40, Parliament-street, Westminster, S.W.

BARK, 260 Tons, for TANNERS and OAK BARK MERCHANTS.—260 TONS OF COPPICE BARK, in the following woods, to be SOLD by AUCTION, by

MESSRS. RICHARDSON, on MONDAY, the 24th day of MAY, 1858, at the GEORGE INN, STAMFORD, No. 1 About FORTY TONS of NEW BARK, in Bourn Wood, ten miles north-east of Stamford.—Apply to the same, or to Mr. JAMES FEATHERSTONE, of Bourn.

No. 2 About EIGHTEEN TONS of NEW BARK, in Pickwell Gorse Wood, eight miles north-east of Stamford.—Apply to Mr JOHN CHRISTIAN, of Great Casterton.

No. 3 About SIXTY TONS of NEW BARK, in Barnsley Park, near Stamford.—Apply to Mr. J. or Mr. S. SHARP, Barnsley Park.

No. 4 About SIXTEEN TONS of NEW BARK, in Easton Vigo Wood, forty miles south of Stamford.—Apply to Mr. J. or Mr. S. SHARP, Burghley Park.

No. 5 About TEN TONS of NEW BARK, in Collyweston Wood, four miles south of Stamford.—Apply to Mr. S SHARP, Burghley Park.

No. 6. About TWENTY-EIGHT TONS of NEW BARK, in West Hay Wood, near Kings Cliffe, seven miles south-west of Stamford.—Apply to Mr. SHARP, Burghley Park.

No. 7. About TWENTY-TWO TONS of NEW BARK, in Wakerley Wood, eight miles south of Stamford.—Apply to Mr W PEPPER, Wakerley.

No. 8 About THIRTY TONS of NEW BARK, in Southorpe and Watering Fields, five miles south-east of Stamford.—Apply to Mr J or Mr S SHARP, Burghley Park.

For [illegible] will be held in the Bark [illegible]

SALES BY AUCTION.

LEADENHALL-STREET.—Valuable and important Freehold Premises, situate near the Royal Exchange and Bank of England, and nearly opposite the East India House

MESSRS. BEADEL and SONS are instructed to SELL by AUCTION, at the MART, on TUESDAY, JUNE 8, at TWELVE, in one lot, an exceedingly valuable and important FREEHOLD PROPERTY, comprising the brick built premises, messuage, and BARGE, Schooner, and Keel, No. 5, Leadenhall-street, in the occupation of Messrs. Batters Bond, and Wetmall, and presents an unusually deep frontage. The situation of these valuable premises, nearly opposite the East India House, within a short distance of the Bank of England and Exchange, and in one of the leading thoroughfares in the heart of the city, renders them eligible either for trade purposes as a secure investment, the ground itself being in all cases a sufficient value for the erection of first-class warehouses, &c.—Offices Particulars may be obtained of Messrs. WORDSWORTH, GREENWELL, and BRAKE, Solicitors, 6, South Sea House; Messrs. Beadle-street; at the Mart; and of Messrs. BEADEL and SONS, 27, Gresham-street, E.C.

HARGRAVE PARK, UPPER HOLLOWAY. The Second Portion of the valuable Freehold Building Land, in several lots.

MESSRS. PRICE and CLARK are instructed to SELL by AUCTION, at GARRAWAYS, Change-alley, Cornhill, on TUESDAY, MAY 25, at TWELVE PRECISELY, in lots, the very desirable BUILDING LAND, delightfully situate in the Hargrave Park estate, and lying between Middle-lane and the Junction road, leading from Kentish-town to Highgate, and near to the Archway Tavern. The land forms a little detached portion of the estate, and is well adapted for the erection of villa residences, to suit large capitalists, and partly as building frontages up the Junction-road, and in the New-road, leading into Maiden-lane, with roads and sewers already made. The elegant villa residence recently built adjoining this spot, and already occupied by tenants of the highest respectability, afford an ample proof of the value of the land, the charming character of its locality, the unbounded command of extensive views, the proximity to the metropolis, the rapid succession of omnibuses accommodation, and other numerous advantages, all combining to render this land superior in every way to be sold in the vicinity of London. The property is rapidly rising in public estimation, and capitalists desirous of erecting freehold ground rents will find it well secured by these valuable plots.—The property may be viewed until the sale, and part maps, with plans, had in the principal place, Strand; of P. A. ROUMIEU, Esq. Architect, 16, Lincoln's-inn-fields; of Messrs. SMITH and PEARMAN, Solicitors, 36, Southampton-row, Russell-square; and at PRICE and CLARK'S Offices, No. 29, Chancery-lane.

Second Portion of the beautiful Works in Terra Cotta, at the Galleries in Fitzroy-street, Paddington, including reproductions of many of the finest Ancient Greek and Etruscan Vases, Tazze, Statuettes, Statuettes, and Busts, and a variety of Fountains, Flower vases, Garden seats, &c.

MESSRS. RUSHWORTH and JARVIS will peremptorily SELL by AUCTION, at the above GALLERIES, on THURSDAY, the 27th of MAY, and the following days, at TWELVE, the SECOND PORTION of the extensive and valuable STOCK of WORKS in TERRA COTTA, the property of Mr J. M. Blashfield, containing statues and statuettes of the Apollo Belvidere, Venus, Diana, Flora, Musidora, a Neapolitan girl with a tambourine; an original statue of Erin, size of life, by John Bell, copies of many Greek and Etruscan Vases, bas-reliefs, and antiques, including the Medici, Barberini, Albani, and Townley vases, and busts, tazze, variety of flower-trees, garden seats, pendant and other jets, Tudor chimney shafts, cornices, gate piers and pedestals, trees for patterns, bread-basket fountains in terra cotta, and other ornaments, several hundred fronts in terra cotta, and one in marble, two fine original statues, life-size, by Weatherley, also antique and modern pieces, in oriental granite, found in the Pyramids of Egypt. The galleries will be open to public view three days prior to the sale, when catalogues may be obtained of Messrs. RUSHWORTH and JARVIS, Saville-row, Regent street, and 19, Chancery-lane, Cornhill.

VALUABLE BUILDING LAND.

MESSRS. BLAKE have received instructions to offer for SALE at PUBLIC AUCTION, about the latter end of JUNE next, all that very Valuable BUILDING LAND, situated on the high road adjoining the Royal Medical College at Epsom, and about the town and station. Epsom is one of the healthiest places in England, and the demand for houses in the original estates, lifesize, by Weatherley, also antique and modern pieces, in oriental granite, found in the Pyramids of Egypt. The galleries will be open to public view three days prior to the sale, when catalogues may be obtained of Messrs. RUSHWORTH and JARVIS, Saville-row, Regent street, and 19, Chancery-lane, Cornhill.

THE WATFORD STATION, LONDON AND NORTH WESTERN RAILWAY.—The BUILDING MATERIALS comprising the erection of the Clarendon Hotel at the Watford Station, and fittings also of the brick erection of Booking Office and the wood erection of Waiting-room, and Foot Bridge over the railway, with the various appurtenances; a large quantity of Cast Iron Columns and Corrugated Iron Roofing; also a large quantity of Yorkshire Paving, Coping, and Steps; the brick erection and stone curbing of Platforms; an erection of Covered Steps and Waiting-room, &c.; by

LAHEE and WOOD, on the PREMISES, Watford Station, as above, on THURSDAY, the 3rd of JUNE, at ELEVEN o'clock precisely, by order of the Directors of the London and North Western Railway Company, comprising:—Iron and Timber fittings of the Public House entrance, Beer engine, Bar fittings &c.; in the Lot of Waiting-room are Mahogany seats with Plate Glass backs, with arms, Mahogany and Oak seats, marble and metal pieces, gas burners, pipes; stove with descending flues, &c.; Minton's encaustic tile flooring; the mahogany fittings of several water-closets; slate slabs, lead pattens, and plunging; capital four-plunge pattern and rainwater pipes, &c. &c. May be viewed and Catalogues had seven days prior, at the Essex Arms, Watford; at the Stations at Harrow and Watford; and at the Directors' Offices, No. 65, New Bond-street, W., by post enclosing two stamps.

WALKINSHAW FOUNDRY and ENGINE WORKS, at JOHNSTONE, FOR SALE.—There will be exposed for SALE, by PUBLIC ROUP, within the FACULTY HALL, Glasgow, upon WEDNESDAY, the 2d day of JUNE next, at TWO o'clock afternoon, the long-established and celebrated ENGINEERING and MACHINE MAKING WORKS, carried on by Messrs. John M'Dowall and Sons, and belonging to the Trust Estate of the late Mr. John M'Dowall, with the Hall Pertinents thereto belonging, and Goodwill of the Business. Parties' Agent, Mr. M'Dowall's Office, Walkinshaw, Engine Maker and inventor and patentee of vertical sawing-frames, wood planing, moulding, and mortising-machines, &c. &c. secured for him a large and lucrative business, which is now carried on by the intending purchaser. The works have an abundant supply of water, are conveniently situated within 3 miles from Glasgow, and command direct at moderate rates by canal and railway. It is well known the late proprietor spared no expense in fitting up the premises in the most complete and superior style. They are compact, well arranged, capable in every respect, and in active operation, and consist of large turning-shops, smiths' shop, fitting up shops, and sheds connected therewith, counting-house and business chambers, drawing-room, and other conveniences necessary for the business, patent stoves in smiths' shop, steam-engine, large court-yard, &c. The plant of tools is in perfect working order, and embraces planing machines, slotting machines, lathes, &c. &c. of the best description, and all of the latest improvements. On application to the Manager, Mr. Wilson, he will show the premises, and any further information will be given by ALEXANDER M'KENZIE, Esq., Buchanan-street, Glasgow, or JOHN HOLMES, Esq. Writer, Union Bank of Scotland, Johnstone.

Johnstone, Renfrewshire, April, 1858.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of CHARLES WYMAN, No. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published at the said Office by WYMAN and SONS, No. 74 and 75, Great Queen-street, aforesaid, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, May 22, 1858.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.

An ELECTION of TWO PENSIONERS, one male and one female, was held on 20th instant, at the London Tavern, Mr. GEORGE BIRD, Treasurer, in the chair. The result of the poll was as follows:—

Successful Candidates		The others were—	
Henry Budd	1,421	Jane Wilkins, Brighton	1,684
Jas. Goodfellow, Plymouth	238	Wm. Taylor, Southampton	30
Mrs. Martin	313	Jas. Oliver	136
Mrs. Tretheway	1,219	Maria Furnan	1,576
Mrs. Squires	156	Julia Gerrod	59
Mrs. Palmer	23	Katherine Edmunds	283
Mrs. Glowser	44	Elizabeth May	117

May, 1858. A. G. HARRIS, Sec.

THE NEW SOCIETY of PAINTERS in WATER COLOURS.—The Twenty-fourth ANNUAL EXHIBITION of this Society is NOW OPEN at their Gallery, Pall Mall, near St. James's Palace, from Nine till Dusk daily. Admission, 1s. Season tickets, 5s.

JAMES FAHEY, Secretary.

GRAND CEREMONY and FESTIVAL, on the 18th of JUNE next, at the OPENING of the SOLDIERS' DAUGHTERS HOME, Hampstead, by his Royal Highness the PRINCE CONSORT, who, with his Royal Highness, the PRINCE of WALES, have been graciously pleased to purchase presentation to the Home. Several Military Bands will play in the beautiful Grounds of the House. Admission by purchased Tickets, to be had only at the Office of the House, No. 7, Whitehall (exactly opposite the Horse Guards). A Single Ticket for the Ceremony and Grand Dinner, 10s.; a Double Ticket for two, 18s.; or a Reserved Seat for the Ceremony and Dinner, 20s. An omnibus starts from the Tottenham-court road end of Oxford-street, every twelve minutes, reaching Hampstead, without changing, in forty minutes.

H. L. POWYS, Major, Chairman.

GENERAL ARCHITECTURAL CONGRESS, at OXFORD. — WEDNESDAY, JUNE 9th, to SATURDAY, JUNE 12th. President—The Rev. the VICE-CHANCELLOR. Applications for tickets and prospectuses, to be addressed to the Secretaries, Holywell-street, Oxford.

ELLESMERE MEMORIAL. — A large number of MODELS and DESIGNS for the above has been received, and arrangements are in progress for exhibiting them in a public room, after the Committee shall have declared the names of the successful competitors; but owing to the unexpected and unavoidable absence from home of some members of the committee, some delay is necessarily given in deciding upon the premiums, and the models are sent in to remain meanwhile unopened.—Due notice will be given of the exhibition of the designs.

COMPETITIONS.

TO ARCHITECTS and OTHERS.

SCARBOROUGH UNION.—The Board of Guardians of the Scarborough Union are prepared to receive PLANS for a NEW WORKHOUSE, intended to be erected in the Township of Scarborough. A lithographed Plan of the ground, and instructions to Architects for preparing Plans and other particulars, will be furnished on application to the Clerk to the Guardians. The Guardians will give a premium of 50*l.* for the best and least expensive Plan in their opinion, and 30*l.* for the second best Plan in their opinion, the former sum to become part of the Architect's Commission, and the Plans to be sent (sealed) to me on or before the 15th day of JULY, 1858.—By order,

EDWARD S. DONNER, Clerk to the Union.

Scarborough, 13th May, 1858.

COMPETITIONS.

YORKSHIRE AGRICULTURAL SOCIETY.—NOTICE to ARCHITECTS.—The following special PRIZES (given by R. J. Beilby, Esq.) are offered by the above Society

For the best Design for Labourers' Cottages, with complete specifications £20
For second best ditto ditto 5

The conditions of competition may be had on application to me By order,

JOHN HANNAM, Secretary.

Bank Deighton, Wetherby.

TO ARCHITECTS and OTHERS.—

SUNDERLAND ORPHAN ASYLUM.—The Principals and Governors of the Sunderland Orphan Asylum are desirous of receiving PLANS, ELEVATIONS, and general SPECIFICATIONS from Architects, for the ERECTION of an ASYLUM for Boys. The cost of the Building not to exceed 3,000*l.*, and so designed that it may be increased by wings or otherwise. To be drawn to a scale of 8 feet to an inch, coloured with Sepia. A premium of 30*l.* for the best and 10*l.* for the second best design, both of which designs are to be the property of the Principals and Governors, who will not consider themselves bound to employ the Architect of either the first or second designs. Copies of the printed conditions and instructions to Architect, comprising, also, lithographed plan and sections of the site, may be had (on application to Mr. THOMAS MOORE, Architect, Sunderland. All designs are to be sent, under seal, without name and with a private mark or motto thereon, accompanied by a letter under cover, and sealed containing a corresponding mark or motto, and the Designers name and address, on or before the 31st day of JULY next, to

Mr. E. J. H. W. CLARKE, Secretary,
16, Fawcett-street, Sunderland.

N.B. The Lithographed Plans and printed Conditions will be ready for Artists to go and after the 13th instant.

CONTRACTS.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a RESIDENCE HOUSE, PORTER'S LODGE, STABLING, &c., proposed to be built at Peterborough, may see the plans and specification, at the Architect's Office, on and after MAY 29, and to whom sealed Tenders are to be delivered on JUNE 10, by TWELVE o'clock.

May 5, 1858. EDWARD BROWNING, Architect, Stamford

TO BUILDERS.—The Justices of Cheshire are desirous of receiving TENDERS for the ERECTION of a BARRACK, near the Castle of Chester, for the Permanent Staff of the First Regiment of Royal Cheshire Militia. The plans and specifications, and conditions of contract, may be seen at the Office of Mr. T. M. PENSON, Architect, the Bars House, Chester. The quantities will be taken out, and copies may be obtained at the said Office, on and after the 27th day of MAY inst. Sealed Tenders to be sent to the Clerk of the Peace for the said county, at his Office, in Chester, not later than the 15th of JUNE next. The Justices do not bind themselves to accept the lowest or any Tender.

CHARLES WILLIAM POTTS, Deputy Clerk of the Peace.

Chester, May 12, 1858.

BOARD of WORKS, WHITECHAPEL DISTRICT.—Notice is hereby given, that a Meeting of this Board will be held on MONDAY, the 31st day of MAY, 1858, at Six o'clock in the evening, at the Office of the Board, No. 19, Great Alie-street, Whitechapel, to receive TENDERS for CLEANSING the STREETS and GULLIES, & and for removing the Dust and other Refuse from within the district for the term of nine months, to commence on the 1st day of JULY next. Persons desirous of contracting, obtain printed forms of Tender at the Office of the Board. All Tenders must be delivered at the Office of the Board before Four o'clock in the afternoon of the day of meeting, and each Tender which is not upon the printed forms prepared by the Board, and duly signed by the person or persons Tendering, will be rejected. The Board, however, do not bind themselves to accept the lowest or any Tender.

ALFRED TURNER, Clerk.

15, Great Alie-street, Whitechapel.

TO BUILDERS.

BUILDERS desirous of TENDERING for the ERECTION of SCHOOLS and RESIDENCE at Willenhall, can inspect the Drawings and Specifications at our Offices, in said town after TUESDAY, the 25th inst. Tenders to be delivered to the Rev. C. B. TWISS, Bank Cottage, Willenhall, on or before MONDAY, the 7th of JUNE.—The Committee do not bind themselves to accept the lowest or any Tender.—GRIFFIN and WELLER, Architects, Wolverhampton.

METROPOLIS LOCAL MANAGEMENT ACT.—BOARD of WORKS for the WESTMINSTER DISTRICT.—To BUILDERS, SEWER CONTRACTORS, and OTHERS.—The Committee of Works of the said Board hereby give Notice, that they are prepared to receive TENDERS from persons willing to CONTRACT for the execution of GENERAL WORKS, and REPAIRS to the SEWERS, GULLIES, DRAINS, &c. within the district under the jurisdiction of the Board, for the term of One Year, commencing from Midsummer day next. Printed conditions of contract, schedule of prices, and forms of Tender, may be obtained upon application at the Offices of the Board, in Millbank-row, Westminster, between the hours of TEN and SIX, upon payment of 10*s.* which will be returned to each person tendering in a Tender. Parties tendering will be required to state in their Tender the rate per cent above or below the printed schedule of prices (or at the same) at which they will be willing to execute the several works. Sealed Tenders to be delivered, endorsed "Tender for General Works, &c." at the Offices of the Board, in Millbank-row aforesaid, by or before FOUR o'clock in the afternoon, on WEDNESDAY, the 9th day of JUNE next, at which time and place parties tendering, or some authorized agent, will be required to attend. No Tender will be received after the time specified, and that does not contain the names and description of two sufficient sureties, to be approved by the Board, for the due performance of the contract, nor unless made out in one of the printed forms, and strictly in accordance with the conditions.—The Committee do not pledge themselves that the lowest or any Tender will be accepted by the Board.—By order,

W. P. JEUB, Clerk to the Board.

Millbank-row, Westminster, May 26, 1858.

CONTRACTS.

TO BUILDERS.—The Commissioner of Woods and Forests in charge of Her Majesty's Land Revenues in England, Ireland, &c., hereby gives notice, that TENDERS will be received, on or before MONDAY, the 7th JUNE, at TWELVE o'clock, for the ERECTION of FARM HOUSES and BUILDINGS at Whichwood, in the county of Oxford. The plans and specifications may be inspected on and after the 24th MAY, at the Churchill Arms, Ascott, Oxon. The sites of the several buildings are staked out, and will be shown, together with the stone and timber allotted for the use of the Contractors, by Mr. Mosse, the Local Agent. The Commissioner does not bind himself to accept any of the lowest Tender. Tenders to be addressed to the HONOURABLE CHARLES GORE, Office of Woods, 1, Whitehall-place, S.W. and to be endorsed "Tender for Buildings." Further particulars may be obtained on application to Mr. JOHN CATTON, No. 5, Whitehall-place, S.W.

GLASGOW CORPORATION WATER-WORKS.—To IRONFOUNDERS and MACHINE MAKERS.—The Water Commissioners of Glasgow are ready to receive TENDERS for STREET COCKS, in connection with the City Piping. Specifications may be had on and after MONDAY, the 24th inst. of the SUBSCRIBER, at the Office of the Commissioners, No. 23, Miller-street, Glasgow; or of J. F. BATEMAN, Esq., C.E. at his Office, Little Queen-street, Westminster, from whom any further information or explanation may be obtained. Tenders must be sent in addressed to the Subscriber, sealed, and marked "Tender for Street Cocks," not later than TUESDAY, June 8, 1858.—By order,

JOHN BURNET, Secretary,
Waterworks Office, 23, Miller-street, Glasgow, May 22, 1858.

TO ENGINEERS, ENLARGEMENT of the CITY of BRISTOL WORKHOUSE at STAPLETON.—The Guardians of the Poor of the City of Bristol give notice, that all persons willing to CONTRACT for the ENGINEER'S WORK to be done in enlarging the above workhouse, are required to send by post to the undersigned, on or before THURSDAY, the 10th of JUNE, 1858, sealed TENDERS in writing, endorsed, "Tender for Engineer's Work, Stapleton," together with the names and descriptions of two responsible persons who will become sureties for the proper performance of the contract in a sum equal to one-fourth of the total amount of such Tender. Tenders will be opened at the meeting of the Guardians on the 11th JUNE, 1858. The particulars of the engineer's work required, the plans and drawings for enlarging the said workhouse, and the condition of the contract, may be seen, on and after the 15th of MAY next, at St. Peter's Hospital, Bristol. The Guardians do not pledge themselves to accept the lowest or any Tender.—By order of the Board of Guardians,

W. B. WILMOT, Clerk

7th May, 1858.

TO BUILDERS.—KENT COUNTY LUNATIC ASYLUM.—Barming-heath, near Maidstone.—Persons desirous of CONTRACTING with the Visitors of the Kent County Lunatic Asylum for the EXECUTION of certain ALTERATIONS in the WARDS in the Women's side of the main building of the Asylum, and for the ERECTION of ADDITIONS to the Refractory Wards, and also for the REMOVAL of the present, and the ERECTION of additional FARM BUILDINGS, may see the conditions, plans, and specifications of the several works, at the Offices of Messrs. WHICHCORD and BLANDFORD, Architects, Maidstone, every day between the hours of TEN and FIVE. Tenders, with the names of sureties, are to be delivered at the above named Offices, on or before THURSDAY, the 10th day of JUNE next, sealed up and addressed, "Tender for Works at the Kent Lunatic Asylum." Persons tendering are requested to attend at the Asylum, on FRIDAY, the 11th of JUNE, at ONE o'clock. The Visitors do not pledge themselves to accept the lowest or any other Tender, unless approved in all particulars.

WILLIAM BEALE, Clerk to the Visitors.

Maidstone, May 20th, 1858.

N.B. Bills of quantities may be obtained upon payment of ten shillings and sixpence each copy.

TO CONTRACTORS.—Notice is hereby given, that TENDERS will be received at the Office of the Director General of Contracts, War Department, Pall mall, London, on MONDAY, 14th JUNE, 1858, from such persons as may be willing to undertake the DREDGING, &c. in DEEPENING the BED of the GUNWHARF CAMBER, at PORTSMOUTH. The specification and Conditions of Contract may be seen, and every information obtained on application at this Office, between the hours of TEN and FOUR each day, Sundays excepted. Tenders to be delivered "Tender for Deepening the Bed of the Gunwharf Camber, at Portsmouth, in the County of Southampton."

Royal Engineer Office, Portsmouth, 25th May, 1858.

NOTICE to TRADESMEN, BUILDERS, and CONTRACTORS.—Persons wishing to enter into the said Triennial CONTRACTS for WORKS and REPAIRS, for the Royal Engineer Department, in the islands of Guernsey and Alderney, are requested to forward their TENDERS on or before the 2nd JULY, addressed to the "Director of Contracts," War Office, Pall Mall, S.W. Schedules of prices, forms of Tender, and all other information, may be had on application to the Surveyor, at the Office of the Inspector-General of Fortifications, War Office, Whitehall, S.W.; and at the Royal Engineer Office in Guernsey and Alderney.

Dated 14th May, 1858.

TO SHIP-BUILDERS.—Notice is hereby given, that TENDERS will be received at this Office for an IRON SCREW STEAMER complete, required for service of the War Department. Parties desirous of Tendering can inspect the specifications and obtain all necessary information, and make application to the Principal Military Storekeeper at the Royal Arsenal, Woolwich, on any day (Sundays excepted) up to the 9th JUNE next, between the hours of TEN and FOUR. The Tenders must state the period within which the party Tendering will undertake to deliver the steamer complete without sail, as well as the cost thereof. The Tenders must be received at this Office on or before the 10th JUNE next, addressed to "The Under Secretary of State for War, Warrenfice, Pall-mall, London, S.W." and marked on the outside "Tender for a Steamer." The contractor will be required to enter into a contract and bond with two sufficient sureties for the due fulfilment of his engagement

THOMAS HOWELL, Director of Contract.

War-office, Pall mall, S.W. 24th May, 1858.

[*For remainder of Contracts see next page.*

CONTRACTS.

TO PAVIORS and OTHERS.—The Vestry of the parish of St. George in the East, Middlesex, will meet at the [illegible] of the Workhouse, Charles-street, Old Gravel-lane, on THURSDAY, the [illegible] day of JUNE next, at SIX o'clock in the Evening precisely, to receive TENDERS for PAVING [illegible] street, in the said parish, [illegible] seen at the Offices of Mr. A. WILSON, Surveyor, 34, Cannon-street-road, between the hours of TEN and FOUR. [illegible] The Vestry do not bind themselves to accept the lowest or any tender.
W. L. HOWELL, Vestry Clerk.
Vestry [illegible] street, [illegible] May, 1858.

TO BUILDERS. — Builders desirous of CONTRACTING for the ERECTION of the proposed NEW SCHOOL-ROOMS and RESIDENCES, at [illegible], Surrey, may see the plans and specification, prepared by Mr. FERREY, the architect, upon [illegible] Tenders [illegible] Rev. WM. HARDEN, [illegible] "Tender for New Schools, [illegible]" [illegible] themselves to accept the lowest or any Tender.

TO BUILDERS and OTHERS.—Builders [illegible] TENDERS for the BRICKLAYER'S, MASON'S, SMITH'S, PLUMBER'S, PAINTER'S, GLAZIER'S, and SLATER'S WORK [illegible] Middlesex, for [illegible] Wilkinson, [illegible] plans and specifications [illegible] at the Offices of Messrs. PAXTONE and [illegible], Westminster, [illegible] SATURDAY, JUNE the 12th. [illegible] The lowest or any Tender will not necessarily be accepted.
CHARLES E. DAVIS, F.S.A.
3, Westgate-buildings, Bath, May [illegible], 1858.

PARISH of BRIGHTON.—To ENGINEERS and OTHERS.—The Directors and Guardians of the Poor of the Parish of Brighton are desirous of receiving TENDERS from persons willing to CONTRACT for Providing and Fixing a Horizontal High-pressure STEAM-ENGINE, Two Cornish Boilers, Pumps, [illegible] Steam Pipes and Cocks, and Fire-plugs [illegible] the Industrial Schools proposed to be built [illegible] the parish of [illegible] The drawings, specification, and conditions of contract may be inspected at the Parochial Offices, Church-street, Brighton, on any day (Sunday excepted), between the hours of TEN a.m. and FOUR p.m.; and further information obtained on application to Mr. G. MAYNARD, Surveyor to the Directors and Guardians. Tenders, endorsed "Tender for Steam-engine, Pumps, &c." to be delivered at the Office of the Clerk to the Directors and Guardians, Parochial Offices, Church-street, on or before TUESDAY, the [illegible] day of JUNE next, by TWO o'clock in the afternoon. Each Tender to be accompanied by a separate sealed note, containing [illegible] the approval of the Directors and Guardians, the names [illegible] of two persons who are willing to enter into the required Bond for the due performance of the Works. The Directors and Guardians will not bind themselves to accept the lowest or any Tender; neither will they be at, nor allow any expense for preparing any [illegible]. By order of the Board,
ALFRED MORRIS, Clerk.
Parochial Offices, Church-street, Brighton, May 24, 1858.

COUNTY of LANCASTER.—To BUILDERS and CONTRACTORS.—The Militia Storehouse Committee are prepared to receive TENDERS for the ERECTION, and ENTIRE COMPLETION, of a MILITIA STOREHOUSE, proposed to be built upon the [illegible] New Road, near Manchester, for the Sixth Regiment of Royal Lancashire Militia.—The Committee are also prepared to receive [illegible] for the Erection and Entire Completion of a Militia Storehouse, proposed to be built at Elton, near Bury, for the Seventh Regiment [illegible] Royal Lancashire Militia.—The plans and specifications may be seen, and all information obtained, at the Office of Mr. CHARLES HOLT, Architect, Nelson-square, Bolton-le-Moors, from WEDNESDAY, the 26th day of MAY, to SATURDAY, the 12th day of JUNE, both days inclusive.—The whole of the work to be contracted for [illegible] Tenders to be sent, sealed, on or before the 12th day of JUNE, 1858, addressed to the Chairman of the Militia Storehouse Committee, [illegible], Bolton-le-Moors.—The Magistrates do not [illegible] the lowest or any Tender.

BUILDERS desirous of TENDERING for the ERECTION of a VICARAGE HOUSE, at Besthorpe, Norfolk, for the Rev. [illegible], may see the plans and specification at the Offices of the Architect, Mr. JAMES THOS. KNOWLES, jun., 1, Raymond-buildings, Gray's-inn, London; as also at the New Inn, Attleborough, [illegible] JUNE [illegible]. Tenders are to be delivered at the Architect's Office, in Gray's-inn, on or before WEDNESDAY, JUNE [illegible]. [illegible] not bind himself to accept the lowest or any Tender.

TO BUILDERS.

PERSONS desirous of CONTRACTING for the ERECTION of a large MALTING OFFICE in the Parish of Spittlegate, may inspect the plans, &c. at my Office. A copy of the quantities [illegible] TENDERS to be [illegible] SATURDAY, the [illegible] of JUNE next, by FIVE o'clock in the evening.
W. THOMPSON, Architect.
Elme-street, Grantham, May 18th, 1858.

PRESTON LOCAL BOARD of HEALTH.—To PIPE MAKERS.—The Local Board of Health for the Borough of Preston [illegible] TENDERS for the SUPPLY [illegible] SEWER PIPES [illegible] of JUNE, 1858. [illegible] Mr. J. NEWTON, C.E. [illegible] Tenders [illegible] on or before the 7th day of JUNE next.
ROBERT ASCROFT, Town Clerk.
Preston, May, 1858.

TO VALUERS and SURVEYORS.—COOKHAM UNION.—Notice is hereby given that TENDERS for a SURVEY of the parish of Cookham, in the county of Berks, containing about 6,800 acres, and for a PLAN and VALUATION of the [illegible] SATURDAYS between [illegible]
[illegible], May 26th, 1858. JAMES SMITH, Clerk.

TO BRIDGE CONTRACTORS.—DESIGNS and TENDERS are required for an IRON BRIDGE over the River [illegible], Brecknockshire [illegible] to include approaches. Llangrwyney is 5 miles from Abergavenny [illegible] Bell Inn [illegible] will be returned, [illegible] Designs and Tenders may be sent to the [illegible] Crickhowell [illegible] before the 12th JUNE.
EDWARD CON DAVIES, Solicitor.
Crickhowell, [illegible] May, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW BOROUGH DISPENSARY [illegible] may see the drawings and specifications at the Offices of the Architects, Messrs. W. G. and E. HABERSHON, [illegible], and at their local office, King's Hill Field, Newport, and 7, Charles-street, Cardiff. Tenders to be delivered [illegible] King's Hill Field, Newport [illegible] WEDNESDAY, the 9th of JUNE. The Architects do not bind [illegible] accept the lowest or any Tender.

TO BUILDERS.—TENDERS are required for [illegible] ALTERATIONS [illegible] TWO HOUSES at Kentish Town [illegible] plans [illegible] at the Offices of Messrs. [illegible], Cannon-street. Tenders to be delivered [illegible] WEDNESDAY next.

CONTRACTS.

TO BUILDERS.—The Town Council of Walsall are prepared to receive TENDERS for the ERECTION and FITTING UP of a BUILDING on land in Goodall-street, Walsall, for the purposes of a Free Library, according to a specification and plan, which may be inspected at the Town Clerk's Office, 7, Bridge-street, Walsall, on and after TUESDAY, the [illegible] instant. Tenders, sealed and marked "Tender for Free Library," are to be sent in to the Town Clerk [illegible] before FOUR o'clock in the afternoon of the [illegible] JUNE next. The Committee do not bind themselves to accept the lowest or any Tender.
SAMUEL WILKINSON, Jun., Town Clerk.
Walsall, May [illegible], 1858.

TO BUILDERS and OTHERS.—Hargrave Park Estate, Upper Holloway.—The Trustees of this highly eligible FREEHOLD PROPERTY are prepared to entertain offers for the SALE or LEASE of BUILDING PLOTS on liberal terms. Houses [illegible] property [illegible] For particulars apply to R. L. ROUMIEU, Esq. 10, Lancaster-place, Strand; or to P. A. HANROTT, Esq. 36, Southampton-row, Russell-square.

GROUND-RENTS and FREEHOLD FRANCHISE.—The CONSERVATIVE LAND SOCIETY.—[illegible] plots in the following [illegible] are now on sale, the [illegible] being allowed to remain [illegible] of the purchase money:—St. Margaret's, Kentish Town; Tottenham, Enfield, [illegible], Tunbridge Wells, Forest Hill, Maidstone, Redhill, [illegible], Battersea, Reading, Winchester, Malvern Hills, Taunton, and Leeds. Plans of the estates price [illegible] each, or 7d. by post, will be sent to any part of the United Kingdom.
CHARLES LEWIS GRUNEISEN, Secretary.

CARPENTERS' COMPANY.—A large FREEHOLD ESTATE, belonging to this Company, situate at STRATFORD, near the railway station, and suitable for manufactories and workshops, TO BE LET, for a long term, either in large or small plots. The property is exonerated from land tax and tithe. For particulars apply to Mr. E. B. JUPP, Clerk's Office, Carpenters' hall, London-wall.

TO BUILDERS.—Some very eligible PLOTS of LAND at Tulse-hill, Lower Norwood, near Brockwell-park, suitable for the erection of good Ten-roomed Villas; also, some eligible Lots close to the Railway Station at Harrow, suitable for Six-roomed Houses; TO BE LET, on Building Leases, for ninety-nine years. Advances, two-thirds.—Apply at the Offices of the United Building Land and Investment Company (Limited), 9, Poultry.

TO WHARFINGERS and OTHERS.—TO BE LET on LEASE a VALUABLE WHARF on the Regent's Canal, near the King's Road, St. Pancras, together with four large dry arches, [illegible], country house, &c., [illegible] timber store and travelling crane for [illegible] goods. For particulars apply to Messrs. R. J. and H. CLUTTON, 9, Whitehall Place, Westminster.

BUILDING GROUND at BROMLEY, KENT, TO LET on LEASE, for 99 years, with the option of BUYING the FREEHOLD. The estate is within five minutes' walk of two stations on the Mid Kent Railway, which will open on the 1st of June, and will give access to the London bridge Terminus and the West End. It commands an extensive view of the beautiful district of Mid Kent, has a dry and gravelly soil, and is acknowledged to be one of the most healthy and [illegible] spots near London. There is a great and increasing demand for first-class residences in this locality. The ground landlord will advance all the materials except timber required for the construction of the houses. Cost of agreement, 2*l.*; ditto lease, 5*l.*; ditto conveyance, 5*l.*; exclusive of stamps. Apply to Mr. J. BROWNING, [illegible], near Bromley, Kent.

TO SMALL CAPITALISTS.—TO BE SOLD, a Bargain, a well-built LEASEHOLD HOUSE, containing [illegible] rooms, with [illegible] and garden, well fitted, [illegible] a good tenant at [illegible] per annum, who pays all rates and taxes; situate in a retired and respectable neighbourhood, within five minutes' walk of Westminster Bridge-road, Lambeth. Price, [illegible]. For further particulars apply at the Offices of Messrs. WARING and BLAKE, Architects and Surveyors, 2[illegible], Pratt-street, Lambeth; and [illegible], Parliament-street, Westminster.

RARE OPPORTUNITY for BUILDING a COFFEE-HOUSE immediately opposite the large manufactory of the Electric Telegraph Company now erecting, and in which numerous workmen [illegible] will be employed. A corner piece of FREEHOLD LAND in Gloucester-road, Regent's-park, TO BE LET ON LEASE for a long term at a moderate ground rent, other adjacent land to be also Let on Building Lease.—Apply to C. J. G. EILOART, Esq. Solicitor, 39, Great James's street, Bedford-row, W.C.

VALUABLE INVESTMENT.—TO BE SOLD, immediately, SEVEN EIGHT-ROOMED HOUSES, one being a shop, let to good tenants, at a rental of 243*l.* To be sold together or separately, with a low ground-rent, 62 years of the lease to run. For further particulars apply to Mr. ARROWSMITH, 40, Devonshire-street, Queen-square.

LAND REQUIRED.—WANTED, at a few miles from London, and near a Railway Station, about an ACRE of GROUND, either a garden or otherwise, and if enclosed with a wall about seven feet high would be preferred. Apply with full particulars, to Mr. T. W. CONSTANTINE, Architect and Surveyor, [illegible] New Ormond-street, near Bedford-row, Holborn, W.C.

TO BUILDERS.—FOR SALE by TENDER, a MANSION at ERITH, to be pulled down and removed by the purchaser.—For particulars apply to Mr. J. PARISH, Erith, Kent; or JOHN APPLETON, Esq. Solicitor, [illegible], Broad-street [illegible] to whom all Tenders are to be sent on or before the 7th day of JUNE next. The owner will not be bound to accept the highest or any Tender.

TO BE SOLD, by the EXECUTORS, the PROPERTY of a WIDOW LADY, the whole (half, or quarter part) of the remaining portion of a valuable ESTATE of BUILDING LAND, [illegible] semi-detached Villas, [illegible] with or without Two Houses [illegible] at 20*l.* per annum. There is a large sewer recently finished, at a cost of 800*l.* The property is delightfully situated at the west end of Hammersmith, Middlesex, and joins Ravenscourt-park. Omnibuses pass one entrance of the estate to [illegible] Piccadilly, [illegible] Notting-hill and [illegible]. It is within three minutes walk of the [illegible] and the new railway. The usual charge of [illegible] per [illegible] will produce the purchaser [illegible] back of the purchase [illegible].

	Per Annum
Rent [illegible]	£[illegible] 0 0
Ground-rent	8[illegible]
Improved rent	£6[illegible] 0
Investment [illegible] value of land	£21[illegible] 0
Improved [illegible]	[illegible]
Net income	£216 6 0

Or the whole or any part of the ground to let upon building leases. [illegible] from October 1854. Every house built up [illegible] recently finished.—Apply to E. H. RAINBOW, King-street, Hammersmith.

EXHIBITION GALLERIES.—TO LET, the GALLERIES of the SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall Mall East. The principal room is 60 ft. by [illegible] ft., and [illegible] considered the best [illegible] in London, either by day or night, for Exhibitions of Art, Lectures, or the Soirées of Literary, Scientific, or Musical Societies. The extent of the Gallery is 120 ft. by 40 ft. comprising six rooms, &c.—For particulars apply by letter [illegible] to Mr. CHILCOTE, Society of British Artists, 6½, Suffolk-street, Pall Mall East.

SOUTH ESSEX GAS WORKS for SALE.—In Chancery.—The Official Liquidator for winding up this Company is directed to dispose by PRIVATE CONTRACT of the GAS WORKS, PLANT, &c., and is prepared to receive other offers before submitting, for the approval of the Vice-Chancellor, those already made. The fullest particulars, with [illegible] plan of the mains, &c., may be obtained on application as below. The mains consist of about 14,[illegible] yards. The gas rental has gradually but rapidly increased, and now yields 1,10[illegible] per year, and is capable of great augmentation. The business is thoroughly established. The works, mains, gas-meters, and other plant cost upwards of 7,500*l.* For further particulars, apply to GEORGE BROOM, Esq. the Official Liquidator, 35, Coleman-street, City; or to ROBERT PECKHAM, Esq. Solicitor, 4, Serjeants'-inn, Fleet-street.

TO CARPENTERS, BUILDERS, &c.—TO BE LET, in a [illegible] Town in Essex, a HOUSE and PREMISES, where a Carpenter or Builder would have an excellent opportunity of [illegible] trade. For further particulars apply to Mr. EARL, Surveyor, &c. Billericay, Essex.

NOVEL and BEAUTIFUL WORKS of ART, ALTO-RELIEVOS, in copper, bronzed, and in gold and silver, [illegible] process, forming elegant ornaments in frames for the walls of the drawing-room, library, &c. A series of battle, scriptural, and emblematical pieces, from works by the first masters, just completed, at a great expense, are NOW ON VIEW at 391, STRAND, where the Nobility, Gentry, and lovers of the Fine Arts are respectfully invited to inspect them.

The attention of architects and first-class decorators is especially invited, these works being [illegible] for insertion in panels, furniture, &c., while the extremely moderate price renders available their extensive adaptation for such purposes.

[illegible] specimens, [illegible] and all particulars, can be obtained on application at the Electro Bronze Gallery, No. 391, Strand (four doors west of Southampton-street).
H. CHALON, Secretary.

TO LOCAL BOARDS of HEALTH, CORPORATIONS, and OTHERS.—FOR SALE, several WROUGHT-IRON, COVERED, TUMBLE SCAVENGERS' CARTS, suitable for removal of sewage, &c. made by Crosskill and Fowler and Fry. The carts contain about two cubic yards each, are in good order, and have tipping gear, &c. complete.—Also, a Portable Crane, on wheels, capable of lifting about one ton. For price and further particulars, inquire of the Surveyor to the Local Board of Health of Kingston-upon-Hull.
Hull, May, 1858.

IRON WORKS for SALE.—TO BE SOLD, by Private Contract, the BEDLINGTON IRON WORKS, situated at Bedlington, on the river Blyth, and adjoining the Blyth and Tyne Railway, with a branch. The works consist of two powerful engines of 11[illegible] and 1[illegible] horse power, driving three finishing, two puddling, and one plate mills, with two squeezers and shears attached. There are thirty puddling and eleven heating furnaces; also one engine for large plate shears, with small pumping-engine and donkey, and a good 25-horse power engine for working a good use forge, with two heating furnaces. The works are capable of making from 300 to 500 tons of finished iron per week. The advantages connected with these works are their being situated in a large coal district; also, their being connected with the Blyth and Tyne Railway, where goods can be shipped either at the Hayhole Docks, in the Tyne, and sent to any part of the kingdom by rail, or at Blyth, at a very small cost, where also the raw material can be delivered ex ship. The works could be ready for immediate operation at a very small cost. There is attached to the works a mansion-house, a manager's house, offices, and several cottages; also a first-rate dam and a large reservoir of water, capable of driving a water-wheel of 10[illegible] horse power.—For further particulars apply to Mr. GIBB, at the works; to Mr. JOSEPH THORNMAN, Newcastle-on-Tyne; or to Messrs. LACE, MARSHALL, and GILL, Solicitors, Liverpool.

LIGHTNING CONDUCTORS.—R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s. 0d.	per foot.
Half-inch diameter	1s. 6d.	"
Five-eighths-inch diameter	2s. 0d.	"

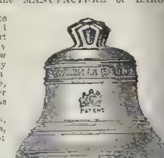
R. S. Newall and Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men in all parts of the world.

Offices—Gateshead-on-Tyne.
" 130, Strand, London.
" 27, Dale-street, Manchester.
" Broomielaw, Glasgow.
" 14, Goree-piazza, Liverpool.
" Exchange-buildings, Dundee.
" 7, Frederick-street, Aberdeen.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS having of late years devoted much time and study to the long neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has hitherto been accomplished.



Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals.

TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND BELLS tuned to the Chromatic Scale, with improved Clappers, and pegged on a new system, which gives superior tone and facility for ringing.

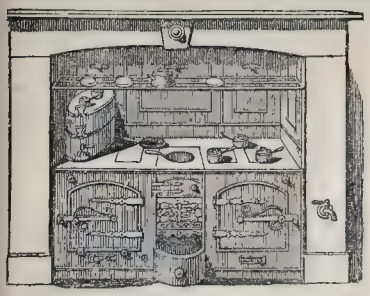
The great 16-ton Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1856, under their Patent.
8, CRESCENT, Jewin-street, London, E.C.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited), HENRY ROGERS, Manager, Lyon's Wharf, and No. 44, Upper Thames-street, London. These Windows combine the advantages of great strength with lightness and cheapness, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and lunatic asylums, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE.—This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials of the highest possible character, are gladly given by the parties who have them in operation.—Price, No. 1, 3*l.* 3s.; No. 2, 3*l.* 10s. for furnaces, or complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN-TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with unqualified approval. These articles may be had of all Ironmongers, and at the General Iron Foundry Company (limited), 44, Upper Thames-street, Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Columns and Stanchions, Furnace-bars, and all other kinds of Castings, for manufacturing and building purposes.

STEAM POWER.—TO BE LET, at NEWINGTON BUTTS, a MANUFACTORY, with DWELLING-HOUSE attached; four-horse high-pressure engine, and eight-horse boiler. Also, close thereto, a large Warehouse, with Dwelling-house, large yard, and stabling, suitable for a builder or extensive works.—Apply to Mr. BROWN, 4, Adam's-court, Old Broad-street; or No. 6, High-street, Newington-butts.



BENHAM AND SONS, WIGMORE-STREET, LONDON,

INVITE ATTENTION TO THEIR EXTENSIVE SUITE OF SHOW-ROOMS,

STOVES, FENDERS, AND FIRE-IRONS,

THE LARGEST AND BEST SELECTION IN LONDON.

KITCHEN RANGES and COOKING APPARATUS, BATHS, &c. for Large or Small Establishments.

CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.

HOT WATER APPARATUS, GAS-FITTING, &c.

BENHAM'S IMPROVED KITCHENER.

The Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

BENHAM and SONS, 19, Wigmore-street, Cavendish-square, London;
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

POWIS, JAMES, AND CO. ENGINEERS AND MACHINISTS,

Also, PATENTEES and MANUFACTURERS of all kinds of MACHINERY for WORKING in WOOD,

26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of BUILDERS, CONTRACTORS, and PROPRIETORS OF SAW-MILLS to their much improved ENDLESS BAND SAWING-MACHINES, which are well adapted for every variety of work—CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT—of any thickness, with Swinging Tables to CUT TO ANY ANGLE, for HAND or STEAM POWER.

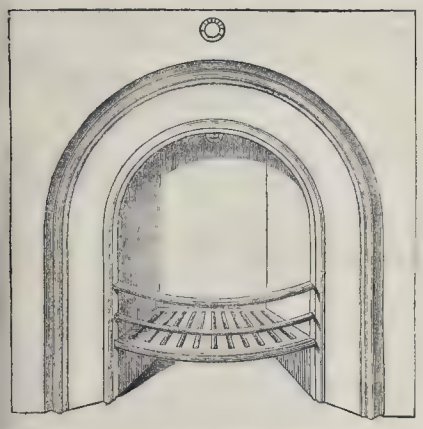
Also, their improved HAND or STEAM-POWER RISING TABLE Circular Saw Bench, with Shifting Fence to cut to any Angle, and extra loose Guide, made expressly for TENON CUTTING. This BENCH only requires to be SEEN to be APPRECIATED.

Also, their PATENT MORTISING, TENONING, and BORING MACHINE, of which upwards of a THOUSAND have been sold in ENGLAND alone, and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE KINDS OF WORK by ONE MACHINE.

P. J. and Co. also invite inspection, at their Manufactory, of their Improved Patent Planing, Tongueing, Grooving, and MOULDING MACHINE, doing SEVENTY FEET per minute, of board of any thickness, and GOOD WORK.

*** CONTRACTS FOR STEAM ENGINES, AND THE FITTING-UP OF SAW-MILLS, WITH DRAWINGS AND PRICES SUPPLIED ON APPLICATION.

POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.



THE BEST GRATES ONLY.

IMPROVED SHAM REGISTERS WITH STOURBRIDGE FIRE BRICK BACKS, REGULATING DAMPERS; MOULDINGS PLAIN OR ORNAMENTAL.

PRICES AND SIZES.

WIDTH OF STOVE.	WIDTH OF FIRE-BARS.	PRICES. £	s.	d.
18 in.	9 in.	1	4	0
20 in.	9 in.	1	5	0
22 in.	9 in.	1	6	0
24 in.	12 in.	1	7	0
26 in.	12 in.	1	8	0
28 in.	12 or 15 in.	1	9	0
30 in.	12 or 15 in.	1	10	0
32 in.	15 in.	1	11	0
34 in.	15 in.	1	12	0
36 in.	15 or 18 in.	1	13	0
38 in.	15 or 18 in.	1	14	0
40 in.	15 or 18 in.	1	15	0
42 in.	15 or 18 in.	1	16	0

F. EDWARDS, SON, & CO.,

GENERAL STOVE AND KITCHEN RANGE MANUFACTURERS,
42, POLAND STREET, OXFORD STREET, W.

MANUFACTURERS OF EDWARDS' SMOKE CONSUMING KITCHEN RANGE; DR. ARNOTT'S SMOKE-CONSUMING GRATE; EDWARDS' IMPROVED GRATES WITH PORCELAIN SIDES, &c. ILLUSTRATED PROSPECTUSES FORWARDED.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

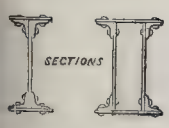
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



WROUGHT-IRON GIRDERS

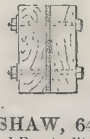
For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.



ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,

BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

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IRONMONGERS, SMITHS, BELL-HANGERS, AND GAS-FITTERS,

MANUFACTURERS OF CLOSE AND OPEN FIRE KITCHEN RANGES, including the BEST LEAMINGTON KITCHENER.

REGISTER STOVES, 5d. per inch and upwards; ELLIPTIC STOVES, from 2½d. per inch; SELF-ACTING COTTAGE RANGES, from 24s. each; BEST SELF ACTING OVEN and BOILER RANGES, with Wrought Bars and Bright Fittings, from 5l. each.

CAST RAIN-PIPES—2-in. 10d.; 2½-in. 12½d.; 3-in. 1s. 9½d.; 3½-in. 1s. 6d.; 4-in. 1s. 10d.; 5-in. 2s. 3d. per yard.
Ditto HALF-ROUND GUTTERS—3-in. 7½d.; 3½-in. 8d.; 4-in 8½d.; O. G. GUTTERS—3½-in. 11d.; 4-in. 1s.; 4½-in. 1s. 1d.; 5-in. 1s. 6d. per yard.

BEST CUT CLASP—2-in. 14s.; 2½-in. 13s. 6d.; 3 to 6 inch, 12s.; BEST CUT LATH, 15s.; BEST SHEET FLOOR BRADS, 12s. 6d. per cwt.

19, HORSEFERRY-ROAD, and1, NEW PETER-STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

JOHN PARKIN (late Blake and Parkin), STELL WORKS, HARVEST LANE, SHEFFIELD,

Manufacturer of Circular Saws, Machine Knives, Mill Saws, Endless Band, Cross Cut Saws, of Edged Tools, Files, Rasps, Machine Plane Grooving, Moulding, and Mortising Irons; Saw Files, &c.

Agent for London: Mr. CHAS BADGER, 1, Stangate, Westminster road.

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PATENT WROUGHT IRON WELDED TUBE for GAS; Galvanized do. for Water, High pressure cocks, &c. Manufactured for Arnott's Improved Ventilators. HULETT and Co. 65, High Holborn.

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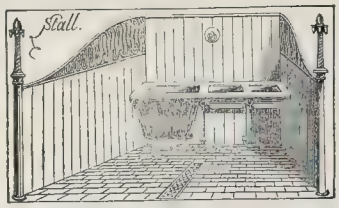
COTTAM AND COTTAM, ST. PANCRAS IRON-WORKS,

Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

COTTAM'S PATENT MANGERS AND STABLE FITTINGS.



VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

CHUBB'S FIRE-PROOF AND THIEF-PROOF SAFES.

THE POLICE AUTHORITIES of London and Manchester having allowed Mr. CHUBB to examine and experiment with the very ingenious

BURGLAR'S DRILLING-MACHINE,

Lately captured in those cities by the Police, he has Invented and Patented a simple but most effectual PREVENTIVE, which is now supplied, without any extra charge, to all

CHUBB'S FIRE-PROOF SAFES.

The above Invention is applied in addition to the plan of protecting the lock by case-hardened iron and hard steel plates, as used by Messrs. CHUBB for the last twenty years. These Safes are also fitted with

CHUBB'S GUNPOWDER-PROOF LOCKS.

Among many instances in which CHUBB'S SAFES have been the means of preserving valuable books and documents, may be mentioned the destructive fire on the 22nd of November last, on the premises of Messrs. GRIFFIN, MORRIS, and GRIFFIN, Wolverhampton, in which two of CHUBB'S SAFES saved the whole of their contents uninjured, under extraordinarily severe tests.

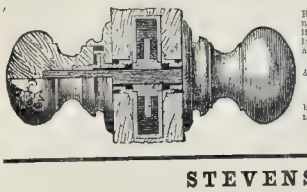
Complete Illustrated Price Lists of CHUBB'S SAFES, Patent Detector Locks, Cash and Deed Boxes, &c., sent on application.

CHUBB and SON, 57, ST. PAUL'S CHURCHYARD, LONDON,
Makers to Her Majesty, the Principal Government Offices, the Bank of England, and the Principal Banks in the United Kingdom.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershot, &c. &c. and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

Hobbs and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery required for buildings, of the best quality manufactured, at the lowest wholesale prices

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

STEVENS AND SON,

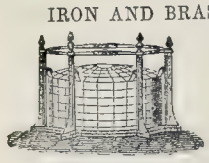
ENGINEERS,
IRON AND BRASS FOUNDERS AND MANUFACTURERS,
CONTRACTORS

FOR THE

ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,

With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;

WATERWORKS FOR THE SUPPLY OF TOWNS, WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
Gas Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.

DEVICES FOR GAS ILLUMINATION.

IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.

These Turnstiles were selected for the Entrances of the Great Exhibition, New York.

PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.

Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.

DARLINGTON WORKS, 16 to 19, SOUTHWARK-BRIDGE-ROAD, LONDON.

GLOVER, BROTHERS,

FOUNDERS, ENGINEERS, and SMITHS,
168 DRURY-LANE,
And Works also at
SPA-ROAD, BERMONDSEY.

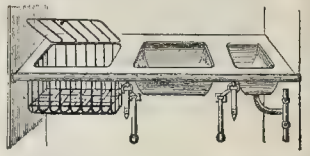
Castings and wrought ironwork of every description.

A large stock of patterns for building and other purposes, for the use of which no extra charge is made.

Estimates on application.

168, Drury-lane, and Spa road, Bermondsey.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY-RACK.



These Fittings are now made with the newly invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guards attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed-box; and combine the most perfect safety with the greatest economy, both in cost and use.

ANGLE LOOSE-BOX FITTINGS, with guard-rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.

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CHUBB'S LOCKS, with all the recent Improvements, Strong Fire-proof Safes, Cash and Deed Boxes. Complete Lists of Sizes and Prices may be had on Application.—CHUBB and SON, 57, St. Paul's-churchyard, London; 28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

TO ARCHITECTS and BUILDERS.—MORTISE LOCKS are now being manufactured by patent steam machinery, at a moderate price, superior to any other in the market. All the parts of these locks are made of the best materials, and their perfect action secured by the exact production of machines that cannot err. By the adoption of HOBBS'S PATENT FRICTION-LESS FOLLOWERS, the excess of wear upon the parts connected with the latch-bolt is avoided. The plates are made of "No. 13 gauge" iron, and being so thick the pins cannot be loosened by the constant jarring of the door. The security consists of four double acting levers, constructed with the least possible liability ever to get out of order. In addition to Mortise Locks, HOBBS and CO. are manufacturing every other description of Locks required for building or cabinet use, by the same process, and at correspondingly low prices. These Locks can be procured from any wholesale ironmonger, or from the manufacturers direct, on the usual trade terms. Price Lists forwarded per post on application. HOBBS, ASHLEY, and CO. Wholesale and Retail Warehouse, 76, Cheapside, E.C.

N.B.—A complete assortment of Milner's Patent Fire and Burglar Proof Safes, Strong-room Doors, &c.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, which invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Bath Furniture, and cut, Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, &c.; and the New Registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.

J. H. BOOBBYER (late STURCH and BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

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CLARK and HUNT'S IRONMONGERY,

STOVE, and METAL WAREHOUSE, 159, Shoreditch

A great variety of Elliptic, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.

Improved Self-acting Cottage Ranges, with Large Oven and Boiler,
30 32 34 36-inch.
28s. 29s 30s. 32s.

Best Self acting Ranges, with Oven and Back Boiler, Bright Wrought Bars,
34 36 38 42-inch.
54s. 56s. 58s. 68s.

Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

Register Stoves, with Solid Bars, per inch, 5d.
Improved New Pattern, Circular Cheek Register, with strong Bars and Tweels, 6d. per inch.
Best Solar ditto, with Fire-brick Back, per inch, 10d.
Bright Stoves, with Two Fires, 40s to 100s. each,
Best Cut Clasp and Rose Nails.

1½ inch.	1¾ inch.	2-inch.	2½-inch.	3-in.
16s.	16s. 6d.	15s	14s.	13s. per cwt.

Best Sheet Cut Floor Brads, 12s. 6d. per cwt.
Best Cut Lath Nails, 15s. per cwt.

Cast Rain-water Pipe	2	3	4	5-inch.
	10d.	1s.	1s. 3d.	per yard.

Cast Gutters, 4-inch, 8d. per yard.

				4½-inch.
O G Gutters	4	4	1s.	1s. 2d. per yard,

	2	3	4	5	6
Patent Line	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d per cwt.
Dr. Arnott's Ventilators, 4s each.
Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12s. PER CWT.

KITCHEN RANGES, BROWN and GREEN'S PATENT, with the late Improvements, is the best and most economical. It is a certain cure for a smoky chimney. Prize cottage post free.—BROWN and GREEN, Luton, Bedfordshire. Agents, R. W. KENNARD and CO. 67, Upper Thames-street.

THE LONDON WARMING and VENTILATING COMPANY, Limited,

(Offices, 36, Great George-street, Westminster.

Manager, WM. WOOLCOCK.)

undertake the Warming of Churches and Buildings of every description, by means of a modification of the plan which, during the last three years, have been successfully used by Mr. Goddard, with Gurney in both Houses of Parliament.

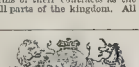
Economy and effectiveness are the advantages solicited.

Particulars and Testimonials forwarded on application.

BATHS and HOT-WATER APPARATUS. J. TYLOR and SON'S ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application. Estimates and Plans for Fixing given. J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate-street, London.

WELCH'S PATENT CALORIFIC REGISTER STOVE, FOR WARMING TWO OR MORE ROOMS, AND DISPENSING WITH COLD DRAUGHTS FROM DOORS AND WINDOWS, May be seen in operation at 36, Ely-place, Holborn-hill. Price of a good Stove ... £3 0 0 Do, with handsome Chimney-piece ... 3 10 0

J. RUNCIEMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, Newcastle-on-Tyne, beg to call attention to their economical method of warming buildings with hot water. J. R. and Co. from their long and practical experience, are enabled to guarantee the efficiency of all apparatus they fix; and from being situated in the midst of a coal and iron district, can with confidence submit the terms of their contracts as the lowest ever offered. Workmen sent to all parts of the kingdom. All work warranted for thirty years.

HEATING BY  HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c., where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to churches, schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Roscoe-place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 20, John-street, Adelphi.

HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER.—This apparatus forms a complete register stove, and may be fixed in the library or dining-room, the same fire heating a conservatory, greenhouse, or anywhere that heat is required, without the expense of extra fuel. Also has lately improved VENTILATING GREENHOUSE, which can be erected at 1s. per foot.—Applications at the MANUFACTORY, 18, George-street, Portman-square.

LEAMINGTON KITCHEN RANGES. Improved in quality and construction, and reduced in price. Manufactured by MAPPLEBECK and LOWE, BIRMINGHAM. The largest assortment of STOVE GRATES, RANGES, FENDERS, FIRE-IRONS, &c. in the kingdom. BUILDERS' IRONMONGERY AT WHOLESALE PRICES.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys. Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIEVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.

Drawings and estimates furnished.

Architects' designs accurately executed.

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HAWKINS'S REGISTERED SASH CHAIN, in Tinned Iron, and Copper Wire, is greatly approved for its strength, durability, and facility in running over pulleys, and is allowed to be one of the most useful and efficient inventions for hanging window sashes, of any weight, up to 4 cwt. Also, his Registered Chain, for Lamps, Chandeliers, &c. Sold by every respectable Ironmonger in the kingdom. Manufactory, 27, Dale End, Birmingham.

JOHN HENDERSON PORTER, ENGINEER AND CONTRACTOR, IRON BUILDING AND ROOFING WORKS, GAS-STREET, BIRMINGHAM. LONDON OFFICE—1, RICHES COURT, LIME STREET

NAILS and IRONMONGERY from BIRMINGHAM direct. Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES, A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth and Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM; and at 16, Gresham-street, London, E.C.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.

ADOPTED BY THE GOVERNMENT.

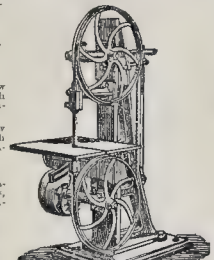
EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

AUSTIN'S IMPERIAL PATENT SASH and BLIND LINE can be obtained of all ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY. Established 1774.

SMOKY CHIMNEYS.—PILBEAM'S PATENT DOUBLE-CHAMBERED SMOKE-PREVENTING CHIMNEY-POT.—Price 37s.; Kitchen, 30s. Also the Double-chambered Chimney-top, as applied to existing chimney-pots. Price 15s. Kitchen, 12s.—A prospectus will be forwarded on application at the Office of Mr. A. PILBEAM, Architect, 18, Adam street, Adelphi.

MACHINERY FOR SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55l.

Price of Band Saw Machine, with 24-inch pulleys and light framing, 32l.

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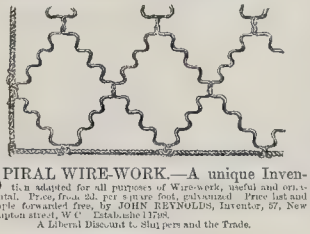

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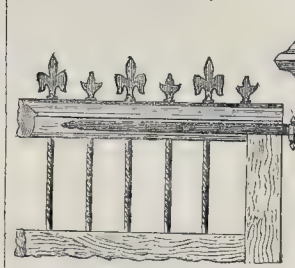

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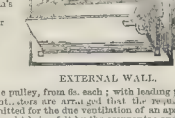

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VOL. XVI.—No. 799.

The Resources of Estates—Farm Buildings.

URING the last fifteen years farming in this country has made great progress. It has become a science. A farm is seen to be a manufactory of corn or beef, as it may be, where skill and money must be expended, in order to produce an advantageous result, as they must be in a manufactory of tables or long-cloths. The movement owes much to the publication of Liebig's works on Chemistry about 1840; and many books to help it on have been published by English investigators. Even now, however, the application of the knowledge which is certain is far from universal, and nowhere is it *fully* applied. There is not a landed estate in the kingdom, however well managed it may be, that might not be immensely improved. The land could be made to support a much larger number of persons than it does, and increase largely the general sum of happiness. This will be effected gradually, and to bring it about we must look to the dissemination of knowledge on the proper management of land. Let us, therefore, give a friendly welcome to the portly volume called "The Resources of Estates," by Mr. John Lockhart Morton, which has been recently published* and is calculated to aid very considerably the object in view. The writer speaks from practical experience; and, with decided opinions on some of the points discussed, states his views with fairness, and solicits correction if he be wrong. The headings of some of his chapters,—"How to make the most of Landed Property;" "The Soil and the Treatment it should receive;" "Land Agents;" "Farm Leases;" "Building Fixtures;" "Valuation of Landed Property;" "Farm Buildings;" "Home Farms;" "Let Farms," and "The Preservation of Timber,"—will serve to show the scope of the work at once. Unfortunately it has not been thought necessary that the landowner should undergo a special course of training to enable himself to make the most of his own, and he not unfrequently fails, partly in consequence, in obtaining a good agent and the amount of income the property ought to yield. Mr. Morton strongly objects to lawyers as agents. "As a general rule," he says, "law agents make bad land agents:"—

"Their studies have taken them altogether in a wrong direction; and, though they may strenuously endeavour, by reading books on rural subjects, and by conversation with practical farmers, to make up for the want of special training, they seldom succeed in being more than mere smatterers, who could be put to shame by a few questions from any tyro in farming. Fancy a man who does not know the difference between wheat and barley, nor between swedes and yellow turnips, laying down rules for the guidance of a tenant farmer, and even ridiculously enough determining, on his own judgment, the rent that ought to be paid for a farm. There are many agents of estates, in different parts of the United Kingdom, who are even more ignorant of farming affairs than this would seem to imply. They care little about the properties committed to their charge, except it be in connection with the rental which is yielded by them; and rather than lay out a small sum annually on the repairs of buildings, they will allow them to fall into a dilapidated state, thereby taking direct means to lower the letting value of the land."

Often the landlord cannot change his agent if he would. He is, perhaps, in debt and must depend on his law agent for a mortgage. To change his agent is to pay off his debt, a thing not always easy. Choose a right agent, therefore, in time.

To promote agricultural progress, nothing is more needed in the letting and taking of land, than the general adoption of equitable leasehold tenures; many yearly tenants think the landlord's verbal promise good enough security, but this is a very unsafe position. Properly looked at, the landlord is as much interested in letting his land on lease as the tenant is.

Such is the confidence felt in the landowners of this country that thousands of pounds are spent by tenants on land not their own without any deed whatever to prevent the owner from raising their rent to the extent of their expenditure. Under our own eyes not long ago ten or twelve thousand pounds were spent on a twenty-one years' lease, the tenant taking for granted that a renewal will be given hereafter on fair terms; and so doubtless it will be. But this is not the right ground to stand on. Mr. Morton says on the subject,—

"From the bad treatment experienced, a year or two ago, by one of the best of the Duke of Northumberland's tenants, who—after making great improvements upon his farm—was turned out of it without receiving compensation, there should be no trusting to a landlord, however good he may be. Distinct agreements cannot be objected to by those proprietors who wish to act fairly with their tenants, and with others there is an absolute necessity for them."

The chapter on the valuation of land may be usefully studied. The writer objects very strongly to those who value land by simply learning the rent of the land, or who even go so far as to inquire if it be underlet or overlet, and then take so many years' purchase of this rent as the value of the land:—

"It is misapplying a name altogether, to call the man who follows this system, a land-valuer. He simply takes the rental as his guide; he does not *value* land at all. True, he converts the rental into a fixed amount, and *says it* is the gross worth of the property; but the data on which he does this are not his own. He merely apes at the position of a valuator—he has no right to be regarded as occupying it, and does not occupy it. That proprietors frequently suffer by unskilful valuations of this sort being made, there cannot be a doubt. A property may be very cheaply let, without the fact being known to very many in the district. The soil may be naturally good, but in consequence of its not being properly farmed, those who know no better, will possibly think it not only poor, but too highly rented. In a well-cultivated district, the general opinions entertained by intelligent persons, in respect to the value of a neighbouring farm, are often very correct; but in a badly farmed locality, it is a totally different thing."

For the proper valuation of land considerable acquirements and great discrimination are necessary.

The farm dwelling-house and farm buildings are treated of at some length, and a number of plans and views are given. The first requirement of a farmer is a proper homestead: without this he will be unable to compete with those who have it; every thing will cost him more. The losses sustained in feeding cattle, from the use of cold or ill-ventilated houses, cannot be calculated; and so with regard to stables. You cannot farm profitably without good farm buildings, any more than you can grind without a mill. It is not the first time we have brought this subject before our readers. In previous volumes it has been urged and re-urged, and we have given our reasons for suggesting that in the designing of farm buildings Beauty should not be altogether lost sight of. In this point of view we are forced to withhold praise from the designs given by Mr. Morton. He advocates very strongly the use of Covered Homesteads, in opposition to those with an open court, maintaining that in reducing the space to be walked over, the saving in labour on a large farm amounts to from 80*l.* to 100*l.* a year. The great objection to them, as it seems to us, is the *difficulty of ventilation*, and of keeping all clean. We rather incline to a central open yard, the manure-court being of course roofed over.

The ignorance, or perhaps thoughtlessness, that prevails in respect of the making of manures is extraordinary. Looking over the wall of an old churchyard in Kent a few days ago, into a large open yard filled with cows, where manure was lying about in heaps,—dried by the sun and lifted by the wind, its essence flowing off into a stream at the side,—it was impossible to prevent the expression, "How wasteful!" "What do you mean by that?" said the farmer, who happened to be behind the stable-door: "there's no waste here, I can tell you." After two minutes' conversation, however, he exclaimed, "Well, I beg your pardon. There is something in what you say; but I never gave it a thought before, and I have had a muck-heap many a year." Manure is corn, grass, gold; and should be properly taken care of. Millions of pounds sterling are sent out of the country every year to buy those fertilising agents which we waste on all sides.

In designing stables, our author urges the value of a feeding passage in *front* of horses, and with much reason. He says,

"The position of the stalls in a stable has a material effect upon its general healthiness. It is still frequently the practice of architects, to place the stalls against a dead wall, and, accordingly the animals, in breathing, are compelled to re-inhale the corrupted air which, on leaving the lungs, is obstructed in front. In the injurious effects which result from the ammonia of the manure coming into contact with the lime of the building, and affecting the eyes of horses, we see another objection to this mode of placing the stalls. A wall at a little distance from the horses' heads, especially if it happens to be an outside one, must, by its condensation of foul vapours and the hinderance to circulation, greatly add to the impurity of the whole interior. The high temperature of the expired air causes it to ascend towards the roof; but if no provision is made for supplying fresh air directly in front of the stalls, the colder and heavier air is drawn forward from behind, and with it comes ammoniacal vapour, which, besides injuring the eyes, is taken into the lungs, and, polluting the blood, seriously weakens the system of the animal."

With regard to feeding-boxes for cattle, as compared with stalls, he considers that the first are far preferable. In erecting new farmsteads, it is desirable to provide both. An impression exists that when a proprietor cultivates his own farm he will lose his money. That this is often the case is tolerably certain, but the loss is usually the result of ignorance or bad management. He is often looked upon as fair game by all parties, and must keep his eyes open to protect his pockets. Much will depend on the bailiff he may have in his employ; and we wish it were easier than we have seen it to be in our own experience to obtain the right man. Clever scamps and honest dolts seem to be more plentiful than men who unite honesty, knowledge, and common sense. Mr. Morton fully appreciates this difficulty, and points out to "loving mothers," whose sons must live by their own exertions in one way or another, that they

* "The Resources of Estates: being a Treatise on the Agricultural Improvement and General Management of Landed Property," by John Lockhart Morton, Civil and Agricultural Engineer, London; Author of Thirteen Highland and Agricultural Society Prize Essays. London: Longman, Brown, Green, Longmans, and Roberts, 1858.

ought not to object to their learning *practical* farming merely because in so doing they must soil their fingers and sleep the sleep of a labouring man for several years. *Practice* alone, however, will not do, there must be science too. To get qualified home-farm managers we must have an educated class, and their education, our author thinks, should have for its object – 1*st*, Practical agriculture, including working with the hands for several years on a farm; 2*nd*, A careful study of farming practices in different districts; and 3*rd*, An acquaintance practically with the mode of executing general agricultural improvements. Then, in the scientific department, they must acquire a well-grounded general knowledge of — 1*st*, Chemistry; 2*nd*, Geology; 3*rd*, Botany; 4*th*, Physiology; and 5*th*, Natural History and Veterinary Surgery.

"But it may be said that I am laying out a course of instruction for farm managers little less than that of some of the learned professions. Yes, I am perfectly aware of the fact; for what is farming, in the highest sense, but a profession requiring more skill and general acquirement than perhaps any other business? The cultivator of the soil is the connecting link between the great inorganic world and the world of business activity. He stands in a very intimate relation to Nature, for he is the agent that draws forth her resources, and demonstrates her latent power. And can he do this in the most effective manner, without a comprehensive knowledge of all the laws which his daily operations call into action? Surely not; and yet the farming of the United Kingdom is carried on with a comparatively small share of this comprehensive knowledge, and is considered superior to that of any other country in the world. Were our home-farm managers and tenant-farmers educated as they ought to be, this country would no longer require to import her millions of quarters of wheat; for it would not only become self-supporting, but ultimately capable of exporting large quantities of grain. How desirable is it that this should be the case! and how important that all the home farms in the kingdom should be the exemplars of the general systems of management that are capable, when universally adopted, of bringing about this result!"

It is because this book of Mr. Morton's is calculated to aid very efficiently in bringing this about that we cordially recommend it to our readers.

ART ABROAD.

Rome.—The city of Rome has been enriched with two very fine tombs, that of the sculptor Carlo Pinelli, executed under the direction of Rinaldo Rinaldi, and that of Cardinal Angelo Maï, executed by Benzoni.

Germany.—Kaulbach has recently completed the cartoon of a large wall-painting which he intends to present to the National Germanique Museum, and which represents the Opening of Charlemagne's Tomb, at Aix-la-Chapelle, by Otho the Great.

Paris.—The erection of a monumental Fountain at the entrance of the Bois de Boulogne is under discussion. It would face L'Avenue de l'Impératrice, and be of colossal proportions.

Brussels.—The current number of the *Journal Belge de l'Architecture* contains an engraving of the design by Mr. Durham for a memorial of the Great Exhibition, which was selected by the committee as the best.

New York.—The 33rd Annual Exhibition of the National Academy of Design at New York, now open, comprises 636 works, the largest number yet collected by the Academy. It includes 250 landscapes and 100 figure subjects.——The American Institute of Architects has been holding meetings. The *Crayon* prints a paper "On Style," read at the Institute by Mr. Leopold Eidlitz. The writer ends by stating,—"1st, that a critical examination of the architectural monuments of the world, and their classification by others, may lead us to a selection of the best and purest, for the establishment of a school of architecture as a basis for future action; that the establishment of a school of architecture is imperative, if the American Institute is to make a mark in architectural progress; 2nd, that a series of papers, embodying such critical examinations, in connection with another series on æsthetics and consequent debates upon these papers, may lead to the establishment of an acknowledged school of architecture."

THE DEBATABLE LANDS OF THE METROPOLIS.

A short time since an action was tried in one of the courts of law to decide the point where "Father Thames" ceases to be a river, and, having fulfilled his mission, like other rivers, both great and small, mixes with the ocean. It would be more difficult to decide the suburban boundary, where the buildings can be considered as separated from the vast city. Certainly a line has been drawn to mark the district, which is under the management of the Metropolitan Board, and within these bounds considerable improvement has been made in the arrangement and condition of dwellings; and yet so great is the increase of population, and so sudden the changes which every now and then take place in the suburbs, that neighbourhoods of considerable extent are permitted to be reared in the old-fashioned state of neglect in consequence of being just a little bit over the boundary.

It may be noticed, that along the divisions of parishes there is a sort of debatable land, which is worse conditioned than other parts: Belle Island, for instance, is in the parish of Islington, but is close to the boundary of St. Pancras. We give an engraving of some dwellings here, which may be taken as a sample of many others in a similar position. Three or four years ago we gave some account of those dwellings and the adjoining manufactory. As regards the latter, the black smoke seems to be now consumed, and the people who live around do not complain so much of the unpleasant smells from this neighbourhood; they have, however, not been got rid of, and although it is said by some that they are not unwholesome, they are anything but agreeable. Certainly much ingenuity has been displayed in the erection and contrivance of some of the chimneys here, which are unlike any other architectural feature of the metropolis. As regards the poorer sort of dwellings, but little, if any, improvement has taken place. The engraving gives but a faint notion of the dilapidated state of some which are here situated. There is no drainage—one closet for a row of houses, and a pool of most offensive matter passes from the closet, and close past the doors and windows. The gutters along the broken roofs are filled up with weeds, the walls are green with damp, broken and mildewed. In some of the houses near the closet, the whole appearance is such that most persons would think they had not been occupied by human beings for some years: even in the worst of these we are told a man finds a home; in other of the houses there are families. In connection with these dwellings there is no water supply of any kind, and one woman said they depended for water chiefly on the kindness of a person who is not connected with the houses, but who occupies some places for the reception of cattle close by, which he has had thoroughly drained and supplied with water. The animals here are certainly better cared for than the human beings.

A policeman who chanced to come in the way, said he understood that the tenants, being very poor, were allowed to stay here without payment; this, however, was contradicted by the inhabitants, who stated that they paid 2*s.* a week for their rooms. It has been often a painful duty to refer to neighbourhoods such as this, for public notice has often led to the closing or demolition of dwellings, and the people find much difficulty in getting accommodation elsewhere. These are, however, dangerous places, and if it be not worth while to render them wholesome, they should be disused. We could mention instances of similar neglect to this along the edge of other parish bounds, and some may be noted in parts of the line of separation between the City and county. Even the division of police is at times attended with ill-effect; for instance, during the last cholera attack some parties near the bottom of Leather-lane, Holborn, proceeded to pump the contents of a cesspool into the street, and the matter ran over the wide footpath of Holborn-hill while hundreds of persons were passing. Although this nuisance flowed over a most important thoroughfare of the City from a house not more than a dozen yards from the City boundary, it was not within the duty of the City policeman to step a few yards over the border to inquire respecting the cause of this overflow; we do not know what may be the duty of the police in case of a fire taking place in a similar position.

In nearly all directions in the suburbs, houses have been planted without care for drainage or water supply, except such as can be obtained from unwholesome wells, many of which, in the course of a few years, must become quite as bad as those at Belle Island; and we fear that just outside the limits of the power of the Metropolitan Board of Works, advantage will be taken more largely to build dwellings for the industrious classes similar to those which have been such a source of mischief.

Our object in making these observations is that they may be the means of directing the attention of sanitary inspectors to the frontiers, where frequently more danger is to be apprehended than in other parts. The extremity of the metropolitan bounds should be watched with a vigilant eye, in order to prevent building on such places as parts of the Plumstead marshes, and the planting of numerous houses where drainage is almost impossible—spots in which the refuse, instead of being carried off, is passed inland, poisoning the streams which flow into the marshes. Some think that it would be well to extend the radius of the London boundary four or five miles farther, in order to take in effectually such suburban buildings as may be reared during the next century. At any rate, some plan should be devised to prevent the erection of undrained houses in the country as well as in the metropolis and large towns, for the value of human life is equally great in both places.

A DISCOURSE ON THE BEAUTIFUL AND THE FINE ARTS.*

The arts of the Egyptians had no doubt been passing through a gradual decadence for many ages, before the final overthrow of the nation by the Persian conquest. The conquerors, moreover, did not (as the Romans did with the Greeks), appropriate to themselves the arts of the subdued people. The Persians had attained to the position of art development, it is true, but their style of art, such as it was, became developed more in accordance with Assyrian than Egyptian, because, in fact, their national character was of the one cast and not the other.

But about this time the energies of fine art were beginning to germinate in another land, and in new form, among the Greeks. It is a common doctrine that Greece derived her arts from Egypt. Even those who dispute this as matter of fact, will say that Greece derived her art from Assyria and Persia; and both classes of theorists will unite in demanding, if both theories be rejected, whence otherwise could art have been derived at that time? But we ought to consider whether these suggestions are not altogether grounded upon an erroneous principle,—whether the law of derivativeness be law or not. It had certainly been held among ourselves for some time to be a law, that the first origin of a style of art in any given country must, of necessity, be traceable to the previous style of some other country. But this, I submit, is no law of universal application. There are cases in its favour, but there are many against it. Even when one country has directly communicated to another the first suggestions of design, we generally find some new characteristic speedily introduced, upon which the young style is moulded, in obedience to the invariable law, that style shall correspond with the characteristics of mind. We shall find very few cases like that of the Romans, where another nationality could definitely claim the merit of furnishing them with a style to be completely or even essentially adopted.

There is sufficient evidence, I think, to admit of our assigning to Greek art, in every department, the credit of national originality. The gradual rise of sculpture, more particularly of painting, of architecture, and also of poetry and the drama, can be distinctly traced on Greek soil. Whatever suggestions may have come from Egypt or Assyria, in the course of ages, they were lost in the unproductive or preliminary period of effort: when the Greeks started fairly on their course, the principles they developed were *their own*.

The law of the influence of national peculiarity of intellect was very clearly evidenced from the first. While the Egyptian religion, for example, was a worship of vague and mysterious ideas of a hidden world, that of the Greeks was essentially a worship of the *beau ideal* of the present world in its own proper shape. Take the public games: in these great festivals the whole people were convened to pay homage to manly strength and mental vigour. The judges were solemnly sworn, the candidates publicly challenged; no slave, no barbarian, no vicious person was admitted; the judgment was pronounced in the face of all the multitude; the victors were crowned with acclamation, and carried home in triumph, and statues of honour were awarded to them at the public cost. All this was the worship of the beautiful. Not only wrestlers and racers, but poets, dramatists, and sculptors, presented themselves for the judg-

* See p. 348, *ante*.

DEBATABLE LANDS. —*As the Home, so the People.*

ment of the crowd. "The multitude is the surest judge of works of art," said not only Cicero the orator, but Aristotle the sage. If such a people should fail to win the laurels of universal history, then could we put no faith in manliness.

The primitive remains of the Greeks are rude. Then came Thales, Solon, and Pythagoras, in philosophy; Sappho in song, and Anacreon and Homer in the epic; and Thespis converted the mimes of the Bacchanalian dancers into a primitive performance on the stage. Then came on rapidly the age when Æschylus in the heroic, Sophocles in the pathetic, Euripides in comedy, Aristophanes in burlesque, carried the drama swiftly through its brilliant career; when Pindar sang; when Socrates, Herodotus, Plato, Thucydides, lived; when Pericles swayed Athens; when Phidias and Apollodorus, in sculpture, and Polygnotus and Zeuxis in painting, to be followed speedily by Praxiteles and Apelles, brought art almost out of nothing to the utmost perfection of the ancient world. This was the culmination of Greek excellence: it passed across the face of Hellas like a dream.

The position which the fine arts now attained was this. Of the architecture (which is too well known here to require any description), we may argue now-a-days that it was monotonous, and had occasionally a solitary, although exquisitely refined imperfection, that the pedantry of the academy was perhaps too much displayed in the correction of optical deflections; but as a whole the design of the Greeks, looked at philosophically as an advance upon pre-existing examples, has never been equalled yet. In sculpture a perfection was attained which was vastly greater still, and is to this day the standard. In painting the advancement was much less. Compared with Egyptian drawing that of the Greeks was all perfection, but the style was entirely statuesque, and the colouring, although cultivated with success down to the time of Alexander, never reached beyond a very primitive description of light and shade. In poetry (still the first-born of the arts) the chief work was the collection by Pisistratus, of the ancient heroic bard songs of Hellas into the form of the epics of Homer. The drama was finished of its kind, but tedious, pedantic, and crude. Music was little better than a refinement upon that of the Egyptian period, a chorus of intonation; except that as poetry had acquired rhythm, so music, also, had acquired some degree of measure. The natural principles of the diatonic and chromatic scales were also understood; Euclid wrote a treatise upon this subject, which was so far complete.

Greek art is to the full an illustration of accordance with national character. Clear-sighted and brilliant to a degree which astonishes us; with an intimate study of nature which is a miracle of patient industry; with an appreciation and critical knowledge of the beautiful which seems to have constituted their very religious faith; and with a refinement of judgment, which, if sometimes pedantic, was always performed; the first and last of their art were cloudless as their own blue sky, and steadfast as their rocks.

It is a universal principle of the development of any school of art, that it exhibits a long preliminary period of vague and abortive effort, a somewhat sudden awakening, a rapid culmination, and then the immediate commencement of a long decadence, seldom interrupted, inevitably fatal. It may be suggested that this is only, in other words, an assertion of the law of the rise, culmination, decline, and fall of nations; but the two progresses are not perfectly identical. The summit of the artistic flight does not always correspond with the summit of the national greatness. Neither does the highest point of *activity* in art always correspond with the highest point of artistic *excellence*. Although it is true that artistic progress originates with material and moral progress, yet it does not necessarily follow a parallel course.

Many of the developments of art have died away in the preliminary stage; some, for instance the Persian, have perished under the sword of the invader when rising into active life; one, the Greek style itself was paralyzed by intestine strife at its very zenith; and, indeed, the same may be said of the modern Italian, while the Egyptian, the Roman, the Gothic, and, indeed, most others have passed away in tedious and decrepit old age.

The *rationale* of the preliminary stage is simple, and that the perfection once attained should be tenaciously imitated when the genius which created it had been lost, it is not difficult to understand; but the remarkable rapidity with which fine art rises to perfection when once fairly on the way, demands some explanation before we leave that exquisite period of art-history which exemplifies so wonderfully the operation of this law. So wide is the distinction between the act of mere advancement and the act of commencement, between improvement and invention, that, after the whole force of collective effort has been wasted in vain for ages, groping in the dark, no sooner does good fortune at length cast an accidental ray of new light upon some one of the workers, than all seems easy. The road was open before, but it is now visible: and human genius runs joyously in it and with all its might towards the goal.

Out of this train of thought there may naturally arise the question, how it is that that uniformity which we call style happens to lay hold of the entire mind of a nation or a period. The drawings on the wall exhibit in contrast, the several styles of delineative art of several periods. The subjects are selected as fair types of the styles and such as may be fairly compared together. The question is this: if the same problem of design be offered to the several minds of these several periods or nations, why is it that they should not all take the same view of the same subject? And, if not so, let the same problem be offered to several minds of the same period or nation, and why is it that they *should* all take the same view of it? Why does every man follow his father and take the same track as his brother? If fancy be so free a thing as it proverbially is, there ought to be none of this dependance, none of this beaten track.

What is the mind of the artist? or, indeed, any mind? I call it a mill. Here is the raw material; here, the machinery; there, the finished product. Those constitute the cause; this is the effect. The cause and the effect are equivalent; they always are. It is true that there is in this mill more mechanism than we can describe; it is true that the movements of its electric wheels are more rapid than we can measure; it is true that the eye cannot peer in at the window, nor the ear listen at the door; that its busy work is done in secrecy and in silence; but thus far we may know and affirm, that nothing can come of nothing, and that the product at the last must have been material at the first. Observe its channels of communication with the outer world and outer minds: through these there are continually flowing in currents of material which we call perceptions. In its hidden chambers of repository these float like a vapour, or vibrate like a tone, from infancy to age. All the day long is the engine working in thought; and in the night its busy nerves are working still in sleep, removing the waste, repairing the exhaustion, repolishing the wheels, trimming the sacred fire, and marshalling in order the stores of reminiscence. When the judgment is in action, the fancy in request, all its ceremonies are quivering. A thousandfold more swiftly than the thought can follow (for they are themselves the elements of thought), do these mysterious and subtle things play their silent but restless part. From innumerable secret hiding-places these innumerable influences pull the innumerable strings of will, and the tongue of wisdom, the pen of the poet, the hand of the painter, is impelled.

There is therefore nothing here that is uncertain, nothing that is arbitrary; here is the material, there is the product, whether it be philosophy or wit, discovery or invention, reason or imagination, science or art, nothing comes out of the mill of the human mind but the product of that which in another form has first passed into it as material. According to the education, therefore,—according to the associations in the storehouse of the mind, so will be the operation of the fancy; and hence the trammels of style, hence the fatherhood of every age to its successor, hence the slow progress of human advancement as a whole, and hence—let me also take this opportunity of impressing upon you—hence the necessity for that systematic education for the artist which for the last few years I have ventured to inculcate upon my professional brethren, and still mean to continue to do.

Have I rightly understood that it is argued against this demand that education will only raise up dulness to mediocrity and debase genius to the same level?

What then is genius? Is it a scintillation on the sea, that comes and goes, we know not whence or whither? Is it a sacred fire smouldering in hidden corners, and touched into flame now and again by the wand of some magician in the air? Is it a breath from the invisible world, which fitfully breathes upon our dry bones and they live? It is time that men of ability should waive all such pretensions,—their genius is no such necromantic thing. If it were better known in its own simplicity, it would be better used. It is a fire burning more brightly than common, I know, but that is all; it is a harp more delicately strung than others, but nothing more. It is a mind like other minds, a mill like other mills; but happily, in respect of some one function or another, by the favour of God, of a mechanism more powerful or more free. Nothing can be more fatal to genius than to imagine itself another thing than merely judgment of the best, to be instructed as judgment is to be instructed, and controlled as judgment is to be controlled. To be endowed with this brilliancy of intellect is a great gift of nature: it is better than riches of possession, or nobility of rank; but it is so good a gift, that it ought to be gratefully cherished, patiently cultivated, and humbly worn.

The zenith of Greek art was attained under the great artists I have named, in the age from Pericles to Alexander. The patriotic combinations occasioned by the assault of the Persians may be said to have called forth that national spirit which produced this culmination; the internal dissension and ruin springing from the Peloponnesian war produced the decline; and after the time of Alexander the arts were fast falling away.

But the Romans, 200 years afterwards, still found enough of artistic fire among the embers of ancient Greece to give warmth to the world for centuries more. The flickering flame was not destined to die out on its own altar, but to be transmitted, even in its feebleness, to the temples of another empire. It was to be fanned into new life, carried over all the earth, and its decline protracted until the young world which now came to worship it should itself, in the extremity of age, fall slowly and solemnly to the ground.

In this we have the most celebrated illustration of the principle of directly derivative art; for the Romans,—whose art-development at this time was below zero,—who, in fact, possessed in Italy no fine art other than sculptures of the same class as those of the Pelasgic forefathers of the Greeks in their day, expressed their admiration of the ancient remains without disguise. They bore them away as art treasures, and formed collections and galleries of painting and sculpture. They carried the Greek artists personally to Rome. They adopted the Greek drama in its entirety. They took Homer for their master in poetry. But go farther, and we see the reason for all this. They adopted also the philosophy, the manners, the very religion of Greece; it was only because they were able to assume the Greek mind as a whole that this appropriation of the Greek school of art became possible with them; and it was only because their own essential principles of national peculiarity happened to be the same as those of the more ancient people that this assumption of the foreign mind was admissible at all. The Romans acted by no arbitrary or even dogmatic impulse; they abandoned nothing of their own; they found by accident the perfection of the Roman mind, and the Roman mind entered gladly upon it. The Romans were the *natural* successors and pupils of the Greeks.

The Greek school of the arts continued in the main to decline steadily under the Romans. Architecture, the art of the proud, was chiefly encouraged, but its chasteness was lost in magnificence. Sculpture was cultivated only as an art of portraiture. Painting stood still. Poetry died out. The drama gave place to gladiatorship. If music advanced (for Nero kept 5,000 musicians in his personal service), it was perhaps little more than in the form of monster concerts of intonation and very simple accompaniment.

Towards the fourth century this school of art had at length almost quite died out. The Roman empire was breaking up. The removal of the seat of government to Byzantium—Constantinople—was but an escape from the coming struggle. Christianity, moreover, was growing into importance with its new principles of thought; so much so, that the government of the Roman empire itself saw it now to be a matter of necessity to devise a compromise between the new creed of the people and the old traditional religious policy of the empire, and thus to establish so-called Christianity as the faith of the world. The Church then came into power.

The Church soon laid hold upon the mind of mankind throughout the empire. The barbarians, or Western invaders, who now made Italy their head-quarters, bowed to it with an unprecedented homage. The new principles of thought thus enthroned in the human spirit, the principles of suffering deified and self-denying hope in place of power and pompous authority in high places, produced a revolution in society at large throughout its every vein and nerve. Fine art, never idle, changes with every change, and as the world had become Christian of this sort, art became Christian of this sort too.

But the revolution was too profound: the change was too vital. The world had to become much worse yet before it should become much better: it had to lie down for a dreadful sickness of a thousand years—and art must lie down with it. The intellect of man had to come very near to death's threshold and art had to come very near it too. It would rise up some day—and art would rise up with it. It would be strong again—and art would be strong. It would be young again when the long winter was gone—and art would be young and fresh again like the spring flowers.

If the arts do not keep pace together when they are at their best, neither do they fade together in their weakness, nor spring up together in better days. At the period now in question they died away each in its own time, and were buried among the shadows of the Dark Ages; and out of this tomb we shall find them again, each in its own time, rising up.

The Dark Ages served a great and good purpose in history. To affect any sympathy for them,—to say that they should not be visited with such hard measures as to be called Dark Ages,—is only to affect to think it a pity to call the winter, for instance, by such a very cold, unkind, and wintry name. These Dark Ages were the baptismal time of the Christian world. It went down into their dreary waters a grim Pagan and barbarian world, to rise up with a better and a happier face,—a world of pleasing promise.

Architecture was perhaps the last of the arts to sink into utter feebleness: the pride of imperial Christianity still kept it up. Painting passed into mosaic and tapestry: as for sculpture, it was pronounced an abomination, and the statues of Phidias and Praxiteles were publicly put upon their trial with halters round their necks, and pounded to powder as anti-Christ. Poetry there was none; the dogmatic dialectics of the faith had supplanted it. Music alone may be said to have suffered no decay. When the Christian chanting took the place of the classic chorus and the barbarian lay, no doubt it assumed a very dreary and desolate character, as the congregation of voices drawled forth, without concert and without expression, and in all the notes of the octave together, a sorrowful whim of intonation, to whose measureless course prose and verse, or whatever else, were all alike. But as early as the fourth century, St. Ambrose and St. Augustine had begun to introduce the germs of system, so that the worshippers, as they said, should "no longer languish and pine away in tedious sorrow;" and in the 6th St. Gregory the Great had formed a code of rhyme, if nothing more, and intonation began to assume the form of melody.

Look, now, at the Dark Ages themselves. To architecture the Byzantine and Romanesque styles were of little value indeed; the corresponding schools of painting and sculpture of still less: and poetry had sunk into monkish legends and the romantic epics of the Nibelungen, King Arthur and his round table, Charlemagne and his peers, and the like, and some feeble presentments of historic passages, sacred and profane, and Homeric and Virgilian incidents; just as learning had become the sole heritage of the monks, and dialectical controversy their chief good. Music alone still advanced; the organ (such as it was) became distributed over Europe; and although for centuries it attempted no more than to lead in unison, and that still without much of melody, it presently ventured to strike a feeble concord of the third at the end of a chant (which was called organizing), and out of this at length there was discovered the fact that two melodies, as was said at the time, might be played together (which was called double chant or descant), the foundation of harmony.

All this while the Saracens did good service in art and learning, but not so as to produce much influence upon future history, or to demand attention here.

But even the Dark Ages were not without a good spirit of their own: it would be a dark day indeed if the sun were not to shine at all. For the third time in history there was rising up an original spirit of art. It was the new mind of the Christian barbarian, the Goth we call him. He dallied for a while with the decaying principles of the old Roman world, but he found they had no efficacy now, and he discarded them all.

It was in Western Europe that this new runner of the glorious race appeared. He came out of the darkness, for what little light there was at that day was far away in the East. But so be it: out of the darkness there were springing up now strong nationalities, not very courtly as yet, but fresh and young at all events; whereas in the brighter East the old nationalities were only waxing more stale and withered. New languages came into form, new sympathies became settled, new patriotisms arose—above all, an independent Western Church was now dominant under the popes. The crusaders carried these ideas to meet the ideas of the East on their own ground. Chivalry arose. Constantinople was visited, although somewhat rudely; the Saracens were vanquished; the Troubadours wandered over Europe, and the spirit of fine art found its way into the Gothic kingdoms.

The old world, which had lain down in weakness a good many ages ago, was now beginning to show signs of that renovation being in some degree accomplished, for the sake of which it had pleased God to plunge it into this desolate case. The old Roman elements had been so far purged away, and the new elements of the coming time were springing into being out of the barbarism of the West. Presently this Christian world would be strong enough, and wise enough, to pass into still a further stage of destiny; in the mean time it had to gather itself well together, and put itself to school. It is not for us to find fault with the way in which this was done. If there was conflict, and oppression, and intolerance, monkery, and the inquisition, and many a horrible pit, we can believe now that all this was for the best, seeing that the thing to be accomplished was no easy thing. And so, in the meantime, I say, the Papal church consolidated itself, and became firm, and strong, and rigorous. And it set itself to read old books, and painfully to multiply copies of them.

It was as the church became powerful and magnificent that fine art was again introduced. The people were simple, and the kings were poor; but the priests were neither. If the now increasing communion with the Eastern world and Italy (Italy being the outpost of the Byzantines in respect of art) all this while gave to the Western priests the first hints of artistic practice, these hints were soon left far behind. I need not describe to you how the eleventh century saw springing up in France and Germany, and ultimately in England, great ecclesiastical edifices in a style of design which for four hundred years became amplified and elaborated in every successive effort; or how these cathedrals and abbeys soon added to the glories of architecture those of refined decoration, -carvings, sculptured figures, stained glass, tapestry, and paintings. And I need not tell you that, if anything was borrowed from either the Byzantines or the Saracens, it was never at the sacrifice of that peculiar spirit which, however unrefined in many points, was a thing to be boasted of as a thing purely of the Western and the Christian mind. The Gothic style of architecture and ornamental art, of sculpture, and of painting was, in obedience to the unalterable law, a homogeneous whole.

Architecture was necessarily the favourite form of artistic development under the particular magnificence of an ecclesiasticism like this, and certainly the character of this art was perfectly suitable to the period which produced it, when the ideal grace of the Greeks and the idle voluptuousness of the Romans had given place to the wilder energies of the Northern blood, the more picturesque associations of Northern climate, and the sublimer sympathies now springing up of Christian faith. Of painting and sculpture little need be said but that they were very far behind their sister art in progress. Poetry had small encouragement from the monks, but grew up and flourished as the art of the people. Music made considerable progress as an ecclesiastical accessory, and, in fact, it was by the rude descant of the Dark Ages that the system of the modern gamut was discovered, and the whole science of counterpoint systematized for practice.

Towards the close of the Gothic period of art in Western Europe there was coming into operation in Italy what is called the revival of ancient art. Italy, all through the Middle Ages, had been inspired from Constantinople as the seat of intellect; and, when the Byzantine empire yielded to the

rapacity of the crusaders, and afterwards trembled before the threatenings of the Turks, the artists and men of letters, obliged to seek refuge elsewhere, began to pass in great numbers into Italy. The modern Italian mind was able to grasp this welcome gift and mould it to new characteristics, and the result was what is commonly called a revival, but what I venture to maintain was not so, but a new effort of original national genius to correspond with a new phase of social development. This new development of society had established its head-quarters in Italy. It was destined to be the basis upon which the overthrow of the feudalism and ecclesiasticism of the Middle Ages was to take place, to make way for the polity of modern Europe. The cities of Northern Italy had been brought into being by what may be called the rise of *trade*. Commerce is the mother of modern freedom; the merchants of the new commonwealths constituted them republics, and the little republics became the great powers of the world. The republics of ancient Greece were the seeds of the coming Roman world. The republics of modern Italy now were the seeds of the coming modern European world. The republics of the Anglo-Saxon colonies in our present time seem in their turn to be similarly destined to prove the seeds of still another development of human progress. But at all events, as early as the eleventh century the republics of Italy were becoming the first head-quarters of a new species of intellect—the intellect of the present day. Art becomes a necessity with every new intellect, as we have always seen. Art in Italy was not altogether absent; but it was on the poor dead level of the preliminary stage; it was groping in the dark. The cities sent for Byzantine artists. These brought a gleam of light: this was enough. The native mind took up the case. Cimabue led the way to a new school of painting, Dante and Petrarch to a new school of poetry, and presently Brunelleschi to a new school of architecture. At the same time the awakening mind began to knock hard at the door of philosophy too, and to demand of the scholasticism of the Church a fair hearing.

It was the last of these measures which gave rise to the reference to antiquity: it was philosophy that required the help of the ancients, and not art. For long before this time the schoolmen of the Church had called in the aid of Aristotle; and now, in their turn, the Freethinkers called in the aid of Plato. Dispute ran high: Platonists with Aristotelians, Realists with Nominalists, the new light with the old light, science in the birth with priestcraft in its strength. It was out of this that there came the revival of ancient philosophy and literature, and the authority of ancient mode. Such was the thraldom of the Church, that nothing less dogmatic than its own principles could hope to stand against it.

To whom are we indebted for all this? To the Church itself. It had been reading up for ages, and thinking over what it read; and at length, in the fulness of time, it found itself strong enough and learned enough to begin to struggle with itself in a new birth, and the origin of modern science was the result, and the origin of modern art with it.

The Italian school began in the fourteenth century with Cimabue and Giotto. Dante and Petrarch. In the fifteenth came Masaccio and Perugino, Brunelleschi and Alberti, in the sixteenth, the period was in perfection under Leonardo da Vinci, Correggio, Raffaelle, Giulio Romano, Michelangelo, Titian, Palladio, and, in poetry, Tasso and Ariosto; while, in music, Palæstrina was still in progress.

At this very time, the new light was breaking in another form in the Western kingdoms. That which had been done in Italy for the sake of learning, was now being done in Germany for the sake of manly virtue; and the reformation of Luther brought the Gothic mind to an end. The Italian school of thought now spread all over Europe; and in the seventeenth century, while Bacon, Descartes, Locke, and Newton opened up new fields of science, art was in the hands of Vandyke, Rembrandt, Murillo, Claude Lorraine, and Poussin; Inigo Jones and Wren; Shakspeare, Cervantes, Milton, Dryden, Corneille, Molière, and Racine. In the eighteenth century and the beginning of the nineteenth, their successors have been such as Thornhill and Hogarth, Canaletti, Wilson, and Gainsborough; Reynolds, Barry, Fuseli, Canova, Flaxman, and Banks; and so on to Wilkie, Turner, and Gibson; Vanbrugh, Mansard, Gibbs, and other architects, to Soane and Wilkins. In poetry, the drama, and romance,—Addison, Pope, Fenelon, Rosseau, Alfieri, and hundreds more, down to Byron, Scott, Goethe, and Wordsworth; while in the fascinating art of music (which the seventeenth century had perfected), we have the names of Handel, Gluck, Haydn, Mozart, Cimarosa, Cherubini, Weber, Rossini, Beethoven, and others. Science and general literature, too, have been well served by Reaumur, Voltaire, Johnson, and Gibbon; Kant, Fichte, and Compte, the geologists, and the chemists, and the men of the steam-engine, the railway, and the electric telegraph. The new light of modern society, which had its dawn among the Italian cities, 600 years ago, is at the present moment shining with such brightness of both art and science on our own land, that the Anglo Saxon believes himself to be, not the possessor of Heaven's present favour merely, but the established leader of the human race in a course of advancement only just begun,—the colonizer of the earth, the patriarch of a millennial age of prosperity and peace.

There is still another phase of art in history; and I must say one word upon this as the conclusion of my argument. The idea of copyism, antiquity, rule, precedent, and reproduction, has so taken hold of the mind of the present century, in some respects, as to constitute the most striking feature of the art of a new age.

The natural tendency of the revival of ancient letters would be to cause a revival of ancient art. When the freshness of the young Italian mind, as exemplified in the best men of the fifteenth century, should have abated—still more when it had spread over all the world, and lost in power what it gained in dominion and thus, when it would begin to fall into indolence and decay, any dogmatism which might happen to lurk in its elements would become, with the many, the law—the law of style. And there was a good deal of such dogmatism.

Ancient philosophy was reproduced early, and the reproduction soon passed away before the triumphs of positive science, to which Bacon led the way. Ancient letters were brought into request all over Europe in the seventeenth century; and it is only now that the battle is being fought, which is to displace even in English schools the pedantry of the classics for the study of the knowledge of actual life. The revival of the mode of ancient poetry had but a feeble and vapid reign, and is now forgotten. The ancient drama is only known in the Westminster play of schoolboys. Classical music was incapable of revival; so was the painting of that period. The sculpture of antiquity was referred to in the last century by those who felt that the art was waning; and its revival has, at least, served the good purpose of directing the mind to that close study of nature which, especially in this art, was the all-in-all of the Greeks. In architecture, lastly, the practice of Palladian principles led the idle and the pedantic into the assertion of antiquity-rule to such a degree, that Palladio was followed back to Vitruvius, Vitruvius to the Roman ruins, and Rome to Athens itself; and when we stopped at the sight of Egypt it was because human credulity, patient as it had been, would no further go. But we were not prepared for open revolt; we had nothing to begin the world with. Revivalism habits had so laid hold of our architectural constitution, that we had no alternative but to go on in them somehow. We put the matter in a new form, however; the revived—the Gothic. For a long while this made no way, except that antiquarians wrote books about it of a very superficial sort; and architecture, some twenty years ago, was turning rationally towards its natural style again—the style of the present period of art in which we live—the Italian or modern European style before the Palladians came in, with their unlucky wisdom, when, as fortune would have it, there began to spring up in England a new ecclesiastical mind. The law of art development was now satisfied, and the old Gothic style of architecture was raised up in a sudden triumph, which has, perhaps, never had a parallel. But, suffice it to say, that if the Greek revivalists found no rest for their feet, but followed the *ignis fatuus* of dogmatic authenticity, farther and farther back till they stood aghast upon the borders of the desert; so also the Gothic revivalists, nevertheless, are at this moment following fast the same backward track—the acquisition of yesterday, the refuse of to-day;—and they are pushing on faster and faster still while the darkness of the tenth century is already close at hand.

True to their inevitable fate of fellowship, the other arts have bowed to the same impulse as this one; all have, more or less, gone together. Pre-Raffaellitism in painting, Gothicism of all kinds in the ornamental arts, Intonation and the Gregorian chant in music, have gone as far, and sometimes almost farther, than poor Pugin did in architecture. Poetry and romance have not gone so far; and if Shakspeare is at present produced in the perfect character of the period represented, this is as it should be,—it is not any following of the rule of antiquity, but a sound idea of art in the representation of antiquity. As for sculpture it has stood its ground well, and has little of Pre-Raffaellitism in it, if any: it is the characteristic of this art to be tenacious of its life.

That this remarkable reaction in art is in perfect accordance with a reactionary tendency in society in this country, I need scarcely say. How far it is likely to spread abroad to other countries, it is for those to predict who take more note of the signs of the times than I do. For my own part, I am only inclined to say, that this state of things will not last for ever; that it cannot last long; that we are already at the crisis of reproduction; that the entire principle will presently pass away.

But the vocation of fine art is not yet finished: the wide fields of its delights are not yet all reaped. If the next century of time should bring with it some great overthrow of existing incompatibilities, some breaking of chains and shackles,—whether by gentle or ungentle hand it matters not,—shall we say that fine art is exhausted, and can supply to the new time no new development? Not so: the pictures of the sunlight are only now beginning to operate on painting; sculpture has a whole universe of the heroic and the grand scarcely touched upon as yet; architecture has new materials and new purposes which are all ready to show themselves; and poetry, romance, music, and the drama, are inexhaustible as ever.

At last, to what does all this tend? Art is but child's play after all, perhaps you will say;—amusement and recreation, but nothing more;—a pleasant game to while away a leisure hour, snatched from the more important or the nobler cares of life. No; in following the footprints of the arts, I have been tracing the origin and history of a principle, precious among the elements of our being, really and truly so, and without a metaphor a principle now so interwoven with everything about us, in ten thousand ways, that even where we scarcely value it, to dispense with it would be to change our nature—a principle which has a destiny to fulfil, a great good purpose in the universe to serve. Eternity is above all: virtue and holiness and the life to come are our supremest good: but amongst all the goodly things which have their beginning and their ending here—amongst all those things that perish with the using—the beautiful is of the best, the happiest, the freest from all guile. It is the destiny of our nature that wisdom in its relentless march should supplant our idols one by one; but to art, in its yet undeveloped fields, wisdom is no enemy, but a friend. Whatever may be overthrown, art will endure while the beautiful endures—while man endures. In the richer soil of ever-progressing intellect, in the pure moral air of better days—the pencil and the pen will blossom beautifully still, and still bear fruit, when the sceptre and the sword may be forgotten.

I have one word more to offer. It is now a good many years that I have been coming occasionally to this hall to say a friendly word, and a word of good-fellowship and encouragement to the young men of my profession. I have always let it be understood that whoever might be among my hearers, it was the young architect to whom I was speaking. When I was young myself the counsel I offered to those who were young with me was this: our profession, I said, whatever of business there may be in it, whatever of science, has something in it which is of a greater value, not greater in money's worth, but in intellectuality, greater than either,—of a very noble nature,—it has *fine art* in it. I well remember how a reviewer, in 1846, thought it enough to say of me, that I was one who actually put in a claim for architecture, to the effect that it was a fine art on a par with poetry and painting. If this claim had been so senseless, I think I should have discovered as much by this time. But I have not discovered it; and I think, on the contrary, that the reviewer of 1846 would be a hardy man to say in 1858, that architecture is not a fine art on a par with poetry and painting. Since 1846 the fine art of our profession, if nothing else belonging to it, has competed with all the world, for Lille, for Constantinople, at the Paris Exposition, and in Westminster Hall—and it has always won the day. Am I not emboldened, then, to repeat to young men to-night my old counsel—to look well to the *art!* I grant that it would be folly in any one to advise that science and the business of life should be neglected, and I hope I have never been chargeable with such an error; but what I

have always thought, and still think, and think from experience, is this, that science and business are less difficult of acquirement than fine art is—that, to a great extent, *routine* will look after them, but that routine will never look after fine art. I have only, therefore, to say again what I have so often said here before, let the fine art of your profession be your chief delight; but I have now to add a further element in the principle, an idea for which I demand your careful consideration after my sketch of to-night,—that in the contemplation of your own one art you do not forget to cast a glance from time to time all round the harmonious circle in which that one is only one of many magic stars, of mutual origin, of mutual influence, of mutual history, of mutual aim and end.

ROBERT KERR.

CHRONOLOGY OF THE FINE ARTS.

	EPOCHS.	POWERS.	PHILOSOPHY.	POETRY.	MUSIC.	SCULPTURE AND PAINTING.	ARCHITECTURE.	
1500	Egyptian	Rameses	Egyptian and	Moses	Psalms and	Idols and	Thebes	1500
1000		Sardanapalus	Assyrian	David	sacred	Picture		1000
600	Assyrian	Nebuchadnezzar	Priestcraft	Homer	Dances, &c.	Records.	Babylon	600
500	Persian	Cambyses	Pythagoras	Anacreon	Rhapsodies	Ornaments	Persepolis	500
400	Greek	Pericles	Socrates	Æschylus	Greek Chorus	Phidias	Athens,	400
300		Alexander	Aristotle	Aristophanes	Greek	Apelles	Greece, and	300
200		Roman	Euclid	L. Andronicus	Gamut	Greek	Ionia	200
100		Republic	Cato	Terence		Emigrants		100
0	Roman	Augustus	Livy	Virgil		Roman	Rome	0
100		Nero	Pliny	Ovid	Early	Portrait	Vitruvius	100
200		Hadrian	Justin. Martyr	Juvenal	Christian	Statues	Roman	200
300		Diocletian	Dav. Cassius		Chanting		Empire	300
400	Eastern	Constantine	Athanasius		St. Ambrose	Byzantine	Constantinopl	400
500	Christian	Theodoric				Religious	Byzantine	500
600		Justinian	Boethius	Monkish	St. Gregory	Effigies and	and	600
700		Mahomet		Legends	Organs	Mosaics	Romanesque	700
800	Western	Charlemagne	Iconoclasts	and	in Unison			800
900	Christian	Alfred	Saracenic	Romances	Organizing	Byzantine	Saracenic	900
1000		Otho	Learning		Descant	School	Mosques	1000
1100		The Normans		Troubadours	Modern	reaching	Western	1100
1200		Crusades	Inquisition	Abelard	Gamut	Italy	Ecclesiastical	1200
1300	Modern	Italian	T. Aquinus	Dante	Theory of	Cimabue	Gothic	1300
1400	European	Republics	Wickliffe	Chaucer	Counterpoint	Giotto	Wykenham	1400
1500	Revival	The Turks	Printing	Ariosto	Gaffurio	Da Vinci	Brunelleschi	1500
		Leo X.	Erasmus	Tasso	J. De Pres	Raffaelle	Alberti	
1600	Reformation	Elizabeth	Luther	Spenser	Palestrina	Michelangelo	Palladio	1600
		Charles I.	Bacon	Shakspeare	Opera Music	Vandyke	Inigo Jones	
1700		Louis XIV.	Newton	Molière	and Orchestral	Claude	Wren	1700
		George I.	Kant	Pope	Handel	Vernet	Stuart	
1800	Revolution	Louis XVI.	Watt	Voltaire	Mozart	Reynolds	Chambers	1800
		Napoleon I.	Humboldt	Byron	Haydn	Canova	Nash	
1850	Reaction	Victoria	Stephenson	Scott	Rossini	Turner	Pugin	1850

NOTE.—This table must only be taken as a very general sketch of history, and by no means methodized even as it might be. Moreover, when I can only insert one name in a column for a whole century, it must not be expected that parallel names shall always mark contemporaneous persons.—R. K.

THE BUDRUM MARBLES IN THE BRITISH MUSEUM.

THE collection, which reached England in July, 1857, conveyed in the *Gorgon*, and which had been excavated at Budrum (the ancient Halicarnassus) under the personal superintendence of Mr. C. T. Newton, Vice-Consul at Mytilene, has been distributed in such parts of the British Museum as could be temporarily provided for its reception. The large sculptures have been placed in a temporary apartment formed under the colonnade of the south-front of the Museum, in which place the various fragments are being rejoined and arranged. The minor sculpture and fragments, with the mosaics, have been deposited in some rooms of the basement under the northern portion of the library.

The principal portion of this collection consists of architectural and sculptural remains of the Mausoleum erected by Artemisia, queen of Caria, to her deceased husband, Mausolus, about B.C. 350. This monument, of which the site was first positively identified by the excavations of Mr. Newton, was esteemed by the ancients one of the Seven Wonders of the world, and is recorded to have been embellished by the sculptural skill of Scopas, Timotheus, Bryaxis, Leochares, and Pythis. Our readers will remember a letter from Mr. Newton on the subject, which appeared in our pages.

Availing ourselves of the official report of Mr. Edward Hawkins, we may state that the remains of the Mausoleum brought by the *Gorgon* include five marble fragments, forming when united, the principal portion of a colossal horse, supposed to have belonged to the Quadriga, sculptured by Pythis, on the summit of the pyramid surmounting the building. On the head of the horse remain the bronze head-stall and bridle, which are believed to be the first examples discovered in modern times of a method of decoration habitually employed by the ancients. The horse is nobly formed, and brings into the mind Abd-el-Kader's reply, not long ago, when asked seriously for some information as to the origin of the Arab horse:—"God," said he, "created the horse out of the winds, as he created Adam out of dust. Many prophets have proclaimed that when God would create the horse he said to the south wind, 'I would bring forth out of thee a creature: be thou, therefore, condensed.' Then comes the angel Gabriel, and taking a handful of the matter, presented it to God, who formed therewith a brown-bay horse, and said, 'I name thee Horse, and create thee Arab, and give thee a bay colour. I attach blessing to the forelock which falls between thine eyes; thou shalt be lord of all the animals. Thou shall fly without wings, and from thy back shall proceed riches.' Then marked he him with a star on the forehead, the sign of glory and blessing." Whether the hoof placed as if forming part of the near hind-leg could have formed part of the group originally is doubtful. It would seem to have belonged to a larger animal. Continuing our notice, there are:—

A colossal male statue, draped and erect, discovered in numerous fragments, which, having been now rejoined, present, with the exception of the arms, a nearly complete figure. The head exhibits a portrait conjectured with some probability to be that of Mausolus.

A colossal female figure, also draped and erect, without the head, hands, and left foot, but otherwise in fair preservation, though, like the preceding, discovered in fragments.

A standing lion, of which the legs only are wanting, in fine preservation, and exhibiting the remains of paint in the mouth.

Portions of at least seven other similar lions, more or less mutilated.

Four slabs, and several fragments of slabs, from a frieze of the building, representing in high relief an Amazonomachia.

All these sculptures are executed in a style inferior only to that of Phidias, and form the most valuable representation yet discovered of the Greek school of the fourth century B.C.

The architectural remains of the Mausoleum which accompanied the sculpture include part of an architrave, a capital, base, and part of the shaft of a column, all of the Ionic order, and on a large scale.

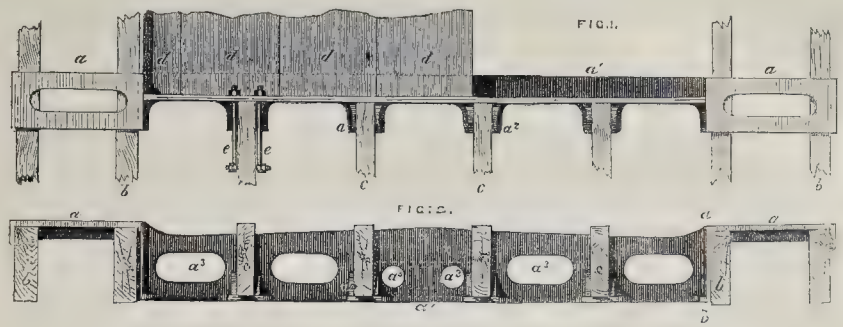
We mentioned not long ago that the antiquities in the Museum had been rearranged and labelled in groups, and great credit is due to Mr. Hawkins and his assistants for what has been done. It may be carried even further with advantage, and we would suggest that some of the pieces are placed too high. The bust of Cleite, for example, that most beautiful of all the antique busts, is at least two feet too high for a proper appreciation of its elegancies. If Mr. Hawkins will take the trouble to look at it, we shall find it altered when we next visit the Museum.

At the Institute of Architects last week Mr. Octavius Hansard, having presented the parliamentary papers on the Budrum marbles referred to above, sketched pithily their history. We prefer to print his observations here, rather than in our report of the proceedings at the Institute. He said the subject was especially interesting to the Institute, as it was owing to the exertions of the architects of this country that the Government had first been roused to obtain possession of these valuable marbles. Since the writings of Pliny, Vitruvius, and others, describing the Mausoleum of Mausolus at Halicarnassus, no notice seems to have been taken of the remains until 1404, when the Knights of Rhodes took possession of Halicarnassus, and erected the citadel, calling it the Castle of St. Pietro, which, according to Fontanus, was built from the remains of the Mausoleum. In 1472, Cepio, in the expedition of Mocenigo, refers to these remains. In 1180, and again in 1522 the castle was repaired with the marbles. Mons Guichard, in a work entitled "Funerailles des Romains, Grecs," &c., published at Lyons, 1581, mentions that much valuable sculpture was remaining upon the site, and particularly refers to the marble steps, friezes sculptured with battle subjects, &c.

In Dr. Clarke's Travels, published 1810-23, he mentions that Mr. Morett, in 1795, visited Budrum, and was so struck with the fragments he there saw, as to report that they were equal to those from the Parthenon, then recently imported by Lord Elgin. In 1811 the eminent hydrographer, Capt. Beaufort, contributed, through the Dilettante Society, much valuable information on the architectural monuments which he visited on the S.E. coast of the Adriatic. Between this period and 1839 many architects visited these remains, amongst whom were Mr. Cockerell and Professor Donaldson. But it was not until Mr. Fellows (now Sir Charles), under the auspices of the Geographical Society, in the latter year, visited the cities of Asia Minor, that we fully knew the valuable remains of antiquity they contained, and amongst them those of Halicarnassus.

This report led to the Architectural Society, at that time in existence, Mr. Tite being their President, forming a deputation to Lord Palmerston, the then Secretary of State for Foreign Affairs, which was followed by "A Memorial" from the Institute of British Architects to the Government, which received answer from Lord Palmerston, that he had instructed our ambassador at Constantinople to get permission of the Porte for the removal of these marbles; and which was soon obtained.

In 1846 Mr. Charles Newton read a paper at the Institute on the drawings of the bas-reliefs



PATENT ARRANGEMENT OF HEARTHS.

made by Mr. Joseph Bonomi; and Mr. Cockerell, Professor Donaldson, and others, offered many valuable remarks from their personal knowledge of the site. But it was then a question whether these marbles had ever formed a part of the Mausoleum of Mausolus.

At that meeting the council announced a resolution that, "It was with great satisfaction that the acquisition of the marbles had been effected through Her Majesty's Government by the architects of this country in 1841, and expressed the acknowledgment of the members to the Secretary of State, Lord Palmerston, through whom such a valuable addition to our Museum had been made."

In 1856 Mr. Charles Newton was appointed Vice-Consul at Mytilene, and went out with full powers to transmit these remains home. And from the autumn of that year commence his despatches, which are now published accompanied by drawings made by Lieut. Smith of the Royal Engineers.

The care he has taken in the investigation, the assiduity and knowledge he has shown, must be apparent to all who read these documents, and it must be a great satisfaction for him to know that he has set at rest all theories that have been built up of the original form of the Mausoleum. Not only has he discovered the Ionic columns, beautiful cornices, sculptures, and mosaics, but the steps, showing the manner in which that marvellous flight was constructed, and which was conceived to be a myth only equal to the Tower of Babel.

In conclusion Mr. Hansard alluded to Mr. Hawkins's admirable letter of April 26th, 1858, to which we have already referred, giving the early history of these remains, and a catalogue of the sculptures that have been deposited in the British Museum, and to the very beautiful drawing now on the walls of the Royal Academy, by Mr. Cockerell; and a hope was expressed that before long Mr. Charles Newton might give the Institute the result of his more recent investigations on the Mausoleum of Mausolus.

PATENT ARRANGEMENT OF HEARTHS FOR VENTILATION.

OUR readers are acquainted with the mode patented by Mr. George Jennings, of forming flues and air passages in buildings. The accompanying diagrams illustrate another portion of Mr. Jennings's patent.

Instead of using the ordinary wood trimmers at the fronts of fireplaces, cast-iron trimmers are employed, having air passages through them, so that any air admitted between the floor, by air bricks or otherwise, may pass freely through such trimmers; hollow blocks of earthenware being used below the hearths, so that the longitudinal passages through them are made to correspond with the air passages in the trimmers.

The *Engineer* says:—

"From the ends of these blocks proceed similar blocks, which rise up the sides or the backs of the flues or chimneys; suitable junctions, with corresponding hollow passages, being used for connecting the horizontal and upright blocks; and, to insure good joints, the ends of the blocks are formed with grooves to receive tongues. In making flue and air passages combined, the blocks are formed of earthenware, by forcing clay through moulding orifices so constructed that each die will produce in any desired lengths rectangular blocks, the central passage of which is suitable for a flue, which it is preferred should be cylindrical, whilst the four angles are made hollow, and form four angular air passages around the central passage or flue, or in place of each die being formed to produce the rectangular hollow blocks, each die may be made to produce half or a quarter of such a block, in which case the sides where they come together are formed with grooves to receive tongues or cement; and in all cases the ends of such blocks are made with grooves to receive tongues or cement. In order to more conveniently provide for the conveying away rain water from the roofs of buildings, and for ventilating the drains into which rain water descends, hollow blocks are formed, suitable for bonding in with the brickwork of a building, such hollow blocks being of clay expressed through dies or moulding orifices: each such block, in addition to the tubular passages for the rain water, is formed with three sides at right angles, which form suitable projections for bonding in with brickwork."

Fig. 1 shows a plan of a cast-iron trimmer, having suitable flanches and recesses to receive the ends of the joists, and formed with passages through it for the passage of air to and through the hollow hearth-blocks; and Fig. 2 is a front elevation of the trimmer, the form shown being the one preferred, but requiring variations to suit special cases: *a*, *a*, is the trimmer, which at its ends are supported by joists *b*, *b*, or by walls or otherwise: *c*, *c*, are joists, which are supported by the flanges a^1, and are kept upright by recesses or projections at a^2, a^2: a^3, a^3, are air passages; and *d*, *d*, are blocks of hollow earthenware, which conduct air from a lower apartment into air flues in the walls above the hearth. Where such hollow blocks are applied, these air blocks are supported at one of their ends on the flange of the trimmer. The joists may, where necessary, be tied to the trimmer by screw bolts and nuts, as shown at *e*, *e*. The ordinary hearth is placed over the hollow earthenware air blocks, and the ends of the hollow blocks are connected at one end with air flues in the walls, and with the source from which the impure air is to be withdrawn. When it is desired, one or more of the hollow channels in the hollow earthenware blocks may be arranged to supply air to the fireplace which is above such earthenware blocks. By thus using cast-iron trimmers and hollow earthenware blocks in combination with air flues, great opportunity will be afforded for ventilation, by making openings in the ceilings and cornices in the rooms below, and arranging for the air to pass between the joists, and to and through the channels in the hollow earthenware blocks.

The patentee claims, first, the construction of air flues in combination with cast-iron trimmers and hearth-blocks; secondly, the construction of smoke, in combination with air-flues, by means of hollow earthenware blocks made by expressing clay through moulding orifices, either in one or more pieces; and, thirdly, the construction of earthenware blocks for rain-water pipes and air-flues.

LUNATIC ASYLUMS; AND TREATMENT OF THE INSANE.*

DISTRIBUTION of plan in buildings, and architectural features, go to form the habits and character of the residents or inmates; and in no class of structures is an analogous influence so necessary to be kept in view, in design, as in the case of lunatic asylums. Like many branches of an architect's practice that require particular study, this field claims almost more than belongs to architecture proper, and to building.

General hospitals, prisons, and reformatories; industrial and scholastic institutions of several kinds,—indeed large buildings under many different designations, and with new and special requirements, have been lately erected in all parts of the country, at the demand for social and educational improvement,—one long neglected, and still, in many respects, having to be answered by the provisions in which practical architecture and its professors must exert a chief share of direction and contrivance. Professional architecture thus has become extended very greatly beyond the bounds of the hypothetical *art and science*; and the architect will have to keep himself informed of the most advanced ideas in the medical and the scholastic professions, and many others, in addition to preserving his acquaintance with general science.

It is to be regretted, as to certain recent structures, that the architectural and the other professionally operative agents in the design, have not produced a result satisfactory in the opinion of those who have the best claim to judge. We may hear of lunatic asylums, planned so as to present obstacles to watching and superintendence, or similarly ill-adapted to primary objects; and some of these buildings are even so deficient in the supply of water, as to give rise to a complaint from medical authorities, of the inability of architects to conceive the great extent of the provision required in that particular. These defects being attributed to works which happen to have decorative and æsthetic character—which deserves to be considered in all buildings, and in lunatic asylums certainly—something to the extent of prejudice seems to have revived against art itself as inimical to use. It is desirable that any defects as referred to, should be avoided in future, for which object, in lunatic asylums, as before observed, more than *architectural* knowledge will be needed,—to wit, some study of the treatment of insanity itself. With this treatment the arrangement and construction of asylums have to be so intimately connected,—intimately, even as compared with any curative appliances in ordinary hospitals,—that it is not to be wondered at that the subject has been attentively studied by medical men who have devoted themselves to mental disorders.*

Principles as at present arrived at, being found directly condemnatory of many asylums of old construction which are still in use, and of some later works of new building or enlargement, we shall probably return to this subject,—to trace the progress of the changes made, and to contrast advantages of the several arrangements.

We may observe, that whilst particular study of objects and new requirements in distinct classes of structures, may be set down as of modern date, it is doubtful whether objects can be properly attained in the present system of architects' practice, and especially by competitions. Educational qualifications of a very general and comprehensive character are needed by the architect; but somewhat greater separation than exists between fields of practice might be advantageous to all objects, as the system in other professions is found to be. There is little inducement to make a special study of any class of buildings, so long as

* See page 293, *ante*.

* Reference may be made to Dr. Conolly's papers published some time back in *The Lancet*; also to several articles which have appeared in *The Asylum Journal of Mental Science*.

an architect's reputation goes for nothing, and the successful result of one production constitutes no step in progress for the public, and affords little private advantage. At least, it is deserving of consideration, whether the present practice is not favourable to experiment, rather than to direct progression at the hands of the really competent men, who often hold aloof from competitions. As to the probability of advancement in art and science, the practical pursuit of the departments of the profession that include public buildings would not be open to the counteracting agencies which seem ever to have frustrated improvements in house-building and the appliances for domestic comfort.

Though there be no class of buildings that so much require to be planned for their purpose,—as we have intimated, it unfortunately happens that a large majority of the asylums and hospitals for the insane, referred to as in use, never had any character of special design or fitness. Of the 21,344 lunatics set down in the last report (the eleventh, dated 31st March, 1857) of the Commissioners in Lunacy, as confined in asylums, hospitals, and licensed houses in England and Wales, at the date of the 1st January, 1857, —5,175 were in the private establishments. In the latter case, the buildings, 117 in number, seldom appear to be more than old houses, remodelled in various degrees for their new purpose. Beyond the figures just given, however, a considerable number of lunatics would be found in the wards of workhouses. The general tenor of the recent reports seems to point to a very large amount of works still to be effected, both in the improvement of existing asylums and the provision of new and additional ones. The proportion of pauper lunacies and idiots to population appeared to have increased in the five years ending 1st January, 1857, from 1 in 847 to 1 in 701. Whether this indicated the true prevalence of the disorder, taking all classes of the population, does not seem conclusively settled. The tendency is doubtless to the discovery of cases which might once have passed unobserved. Moreover, it is admitted in the tenth report of the Commissioners, that the present improved treatment in asylums may induce comparative longevity, and therefore an accumulation of chronic cases. Combe, the phrenologist, has argued that a certain large proportion of a people, though not in the condition which would be recognized as lunacy, are so constituted that it is desirable for the public good and the safety of society, that such individuals should be always kept in confinement. Taking, however, the statistics as first presented, the work still to be done is enormous in extent.

Forty one counties of the fifty-two in England and Wales, as we can gather from the eleventh report, had provided asylums up to the end of 1856; Lancashire having three, and Middlesex and the Ridings of Yorkshire each two in number; joint asylums served for Bedfordshire, Hertfordshire, and Huntingdonshire; for the counties of Denbigh, Anglesey, Carnarvon, Flint, and Merioneth; for those of Monmouth, Hereford, Brecon, and Radnor; for Leicestershire and Rutland; for Oxfordshire and Berkshire; and for the counties of Salop and Montgomery. The other asylums, up to January, 1857, included those of the counties of Bucks, Chester, Cornwall, Derby, Devon, Dorset, Essex (at Brentwood), Gloucester, Hants, Kent, Lincoln, Norfolk, Nottingham, Somerset, Stafford, Suffolk, Surrey (at Springfield, Wandsworth), Warwick, Wilts, and Worcester. There were borough asylums at Birmingham, Bristol, Haverfordwest, and Hull; and other institutions, classed as "hospitals," at Exeter, Colchester, Liverpool, Cheadle (for Manchester), Lincoln, Norwich, Northampton, Oxford, Stafford, Reigate, York (two), and London; St. Luke's Hospital, Guy's Hospital, and Bethlehem Hospital being those of the metropolis. There were *refused admission* for want of room, in 1856, at the asylum for Beds, Herts, and Hunts, 33 cases; at the Dorset asylum, 2 cases; at the three Lancashire county asylums, in all, 113 cases; at the two Middlesex asylums (Hanwell and Colney Hatch), 618 cases; at the asylum for Nottinghamshire, 11 cases; at the Surrey asylum, 50 cases (females); and at the asylum for the West Riding of York (at Wakefield), 95 cases. The state of the metropolitan county still claims serious attention; though, as in the case of some other counties, and as alluded to in our last article, means have been recently taken to extend the provision by the enlargement of existing buildings. Amongst the counties not in the enumeration which we have made from the report of 1857, there may be mentioned as having asylums about being commenced or completed, Cambridgeshire, in conjunction with the Isle of Ely and borough of Cambridge; Durham county, also to provide for Newcastle-upon-Tyne; Carmarthen with Cardigan, and Pembroke; the county of Sussex (at Hayward's Heath); Cumberland with Westmoreland (a plan and elevations of the building were given with our last); and some others might perhaps be added.

Still, both the amount of actual provision and the nature of the provision should form a subject of present moment and deep national concern. Many boroughs have evaded their duties, and committed their lunatic poor to private asylums, which, though obliged to be licensed, seem to be beyond the power of full control. In some cases lunatics are at distances of many miles (amounting even to a hundred, or more) from their friends and relatives; and the parsimony of certain boards of guardians seems to have afforded a show of excuse for the worst neglect. The lunatic wards in workhouses are represented often as in a sad condition; and patients are frequently retained in these, who, whether from being curable or dangerous, should be placed in asylums, as directed by the Lunatic Asylums Act of 1853. Many of the features of the horrible condition of the insane in former days, indeed, appear to be repeated at this very time. Rooms very offensive; want of water, of conveniences of every description, and of the services of trained nurses and attendants; restraint, where it may be unnecessary as injurious; or the idea of it given by gloomy apartments; defective ventilation, and inconsiderate neglect amounting to cruelty, are shown, by the reports, to be yet possible, and to exist in the workhouses and the other institutions, in spite of remonstrance after remonstrance.

The London asylums are considered to be radically defective, both in their arrangement and from the localities in which they are placed, and as offering great impediments to the exertions of the medical officers. The abandonment of St. Luke's Hospital, and the disuse of the insane wards at Guy's Hospital, have been recommended and dwelt upon by the Commissioners; and whilst the improvements in Bethlehem Hospital are recognized, the defective condition of the criminal wards is remarked upon as the result of grave defects in the building itself; the wards occupied by the female patients are adverted to as of "imperfect construction," and those of the males are called "radically bad, and quite unable to afford even tolerable accommodation to the patients."

In this view, great importance is attached to the effects of exercise in the open air, but it is curious that we find the chief requirements above alluded to, and the defects of the then recently erected London buildings, and of other means for the treatment of the insane, adverted to as far back as in the years 1814 and 1817, in articles in the *Edinburgh Review*, the last of which appeared after the great exposure of the condition of the insane in the Parliamentary Reports of the two preceding years.

On the other hand, as to St. Luke's Hospital, it is right to state, that at the annual meeting of the governors in February last, it was shown that the number of cures during the previous year had amounted to no less than 63 per cent. of the number of patients. The wing-wards on the male side then remained unaltered, and presented a very unhappy contrast to those on the opposite side. The medical directors remarked (showing, were it necessary, the operation of those influences which we adverted to at the outset), that since the alteration of the wing-wards on the female side, the patients were not only more tidy and well behaved, but seclusion was hardly ever called for; accidents, formerly frequent, had ceased to occur; the patients could be kept under constant observation; and the good results would be apparent from the statement that, of the unfortunate creatures confided to the institution during the year, one half before their admission had either meditated or attempted suicide, yet that, under the new system, not one accident had occurred.

The thirty-seven county and borough asylums which, at the beginning of last year, comprised the whole public provision for the lunatic poor of England and Wales, had space for little over 1,300 additional inmates, whilst during the previous year, nearly 1,000 patients had been unable to find admittance to asylums, for want of room. Space had to be found in licensed houses for nearly 2,000 paupers, for whom there was no room in county asylums and hospitals; whilst other lunatics and idiots in workhouses, or with their friends, amounted on the 1st January, 1857, to no less than 12,297. Thus no temporary expedients would satisfy a want steadily increasing. The condition of the workhouses is an element of the question pressing for speedy solution. Many of these places are becoming lunatic asylums, only without the attendance and appliances which are necessary, and which form the safeguard of patients elsewhere.

THE DRAINAGE QUESTION AT THE SOCIETY OF ARTS.

On Friday the 14th, Mr. T. Baker read a paper at the Society of Arts, "On the Plan suggested by the Government Commissioners for disposing of the Metropolitan Sewage;" Lord Ebury, in the chair. Mr. Baker introduced his subject by pointing out that the rapid ravages of cholera, in the various epidemic seasons which have prevailed in this country since 1832, have rendered more palpable to the eye of the inexperienced, that which the silent devastations of typhus had long before made clear to the enlightened physician, viz.—that very much of the disease under which the population suffer, especially among the classes at the base of the social scale, is not only preventible, but easily preventible, by the most simple means,—expressed in that important word,—CLEANLINESS. He thought it would be preposterous to imagine that in Britain, the birthplace of the steam-engine, the railroad, the *Leviathan*, and the electric telegraph, —there can be any real practical engineering difficulty, in this latter half of the nineteenth century, in thoroughly draining even the metropolis of the world, or in carrying the refuse to any distance where it may be safely disposed of. Yet we are still hammering at the plan! He then described the existing sewerage, and the intercepting main scheme, now so long before the public, with which the name of Mr. Frank Forster has usually been connected, as the proposer, and which was based upon the labours of Mr. Roe, and other engineers, previously in the service of the Commissioners of Sewers, further modified by Messrs. Haywood and Bazalgette.

"Soon after the passing of the Metropolis Local Management Act, in 1855, the general plan of interception was revived by Mr. Bazalgette, and adopted by the Metropolitan Board of Works; but, after revision by Captain Burstall (who advised the river at Erith as the outfall, in lieu of Barking Creek), was finally rejected by her Majesty's First Commissioner of Public Works, who referred the plan to Capt. Galton and Messrs. Simpson and Blackwell, with special reference to the proposed outfall at Erith.

These gentlemen have reported against the outfall adopted by the Board, and recommended the construction of channels on both sides of the river, together about forty-seven miles in length, chiefly open, but partly covered, for the purpose of carrying the sewage to Sea Reach, near the mouth of the Thames.

The estimated cost of the intercepting sewers recommended by this plan is upwards of two millions and a quarter, and of the continuing channels to Sea Reach, upwards of three millions and a half, together about six millions, from which no return whatever is to be looked for.

This plan of the referees, on being submitted to the Metropolitan Board of Works, was itself referred by that body to two other engineers, who have just reported that in their opinion the proposed works would cost full eleven millions, and suggested other modifications in the scheme of Mr. Bazalgette." He then proceeded to speak of the utilisation of the sewage, and read the Conclusions arrived at by the Government commissioners, and which we laid before our readers at p. 329, *ante*.

"With regard to the purification of the River Thames," Mr. Baker continued, "independently of the continued discharge of sewage into the stream, a valuable report, by Mr. Goldsworthy Gurney, was printed, by order of the House of Commons, in December last. In this report it was shown that the solid matters of sewage, being considerably heavier than water, sink at the rate of about a foot per minute in still water or slow currents—and that they will also precipitate in stronger currents, even up to the rate of 170 feet per minute; but, when the current runs above this rate, the sewage is kept in a state of mechanical admixture with the water. Consequently, sewage will deposit at all times of the tide along the banks, where the current is always sufficiently slack, although, in the middle of the stream, while the tide is running full, such portions as have not already sunk will continue suspended in a mixed state. When the tide is

not running it sinks in all parts. It follows that immense deposits of sewage and foul matter are retained in the mud-banks along shore—the accumulations of centuries,—and that these deposits can never be removed by the tidal influence. Eddies along shore, produced by the opposition of the freshet, down the river to the flow of the tide, and running upwards at the ebb, would prevent this, even were the foul matter in a state of admixture with the water."

"The tide," says Mr. Gurney, "off the terrace at the Houses of Parliament, runs at an average rate of from three to four miles per hour in the middle of the stream: towards the sides its rate is considerably less: within eight yards of the shore it never runs at a rate exceeding 78 feet per minute. nearer to the shore it generally falls into a slack: at from two to four yards off the shore, the tide is either still or takes an opposite direction: when the stream runs up, the eddies run down: when the stream runs down, the eddies run up; as is the case in all tidal rivers. Between these currents the natural water brattice is formed, with a series of recesses, or little cesspools running along shore." Mr. Gurney explains that the water brattice is the still line which divides two retrograde or opposite parellel currents. "Within these brattices a large quantity of sewage is always precipitated and permanently retained. On looking along the river, two black lines may generally be seen stretching along the sides: these black lines are the series of cesspools just adverted to, filled with sewage."

As a natural consequence, it was found, by careful experiment, that the water at the sides was at all times more than five times as foul as that taken from the middle of the stream.

Again, Mr. Gurney says, "in the river, at high water, about the turn of tide, there is a notable period in which the water is still, or nearly so, for about ten or twenty minutes. The sewage will then fall about the rate of a foot per minute, and if it continues for ten or twenty minutes, the sewage will fall as many feet · at this depth it will reach the bottom in many places. After the tide has turned, and the slow current commenced, the sewage will still continue to sink in the slack, retrogrades, and eddies along shore, where it will remain until the turn of tide. A large portion on the flow will be stirred up and carried back again by the upcast."

He proceeds to point out that the quantity of foul deposit retained in the Thames is nearly constant, being governed by the size of the slack and retrograde currents; that the sewage, if discharged into the river at all, no matter how far down, would be brought back by the upcast; and that if the retrograde currents be not destroyed, it will be retained in the stream in large quantities. But if the retrogrades are destroyed, the sewage will not be so retained, as in all tidal rivers where there is no room at the sides for slacks or retrogrades to form there is no deposit; and he recommends—

"That all the retrogrades and brattice cesspools be destroyed.

That all obstructions to a uniform flow of the river, at low water, be removed.

That the projections along shore be rounded off, and the hollows filled up.

That the serrated edges of the river at low water be made plain, and continued along the whole line of low water-mark.

That the width of the whole water-way, when the tide is at its lowest ebb, be not more than 140 yards from side to side; so that the river may run, not only in a uniform current, but at a rate of not less than 225 feet per minute."

Arriving at the plan of the Government Commissioners, an outline of which we have given, the reader expressed his opinion strongly in favour of it, and urged that it should have the immediate attention of scientific and philanthropic men.

A discussion of some length followed. The chairman defended the delay of the Metropolitan Board of Works, and approved of the plan of the Government commissioners. The disadvantage, he said, which principally struck him was this: they had in this scheme to deal with the difficult subject of the sewers themselves, which it was proposed to place within this embankment, and it was not stated whether the three and a-half millions estimated cost included these sewage works. There could be no doubt that a very large amount of valuable fertilising material could be precipitated by chemical means, and that as far as that went the problem was solved. If they could get the sludge separated from the water, the latter might be safely discharged into the river without being productive of any evil at all; for, even in the present day, it had not been proved that the discharge of sewage into the river had had any seriously bad effect upon the health of persons living in houses where proper attention was paid to ventilation. It was only the very poorest classes, dwelling in wretched and ill-ventilated tenements, who suffered from the malaria generated from the deleterious substances discharged into the river. The great difficulty was, how to deal with the sludge. It was exceedingly necessary for those to whom the carrying out of this measure would be entrusted, to consider what would be the effect upon the river itself of confining it within new and narrower banks. Serious evils had resulted at Chester, a city with which he had formerly been closely connected. The embankment of the river there was undertaken, and most favourable effects had been expected from it, but the result had been that the mouth of the river had silted up to such an extent that now they were not able to get ships up to Chester except at very high tides. If the flow of the tide was impeded and a smaller amount of water was carried up the channel, the scour would be diminished to an equal extent.

Mr. Lawrence Palk, M.P. also approved the report which had been so much alluded to that evening. He did not mean to say that with regard to some of the conclusions there might not be doubt, but upon the whole he thought it had put the question of getting rid of the sewage of towns upon a more practical footing than it had ever been on before. The principle which predominated in that report was that of getting rid of the liquid sewage of towns by a system of irrigation of meadows, as practised with great success in the neighbourhood of Edinburgh; but there, as they would perceive by the report, complaint was made that a nuisance occasionally arose from the deposit of the sewage in the open ditches. The system of irrigation was by no means new in Devonshire, and, in fact,' was almost peculiar to that county. They had had for many years a system of irrigating the meadows there by the springs that rose from the sides of the hills, the result of which, as regarded the crops, had been found to be extremely beneficial. The hon. gentleman proceeded to read a letter which he had received from Mr. Campbell, of Rugby, detailing the results of some experiments he had made in irrigating with sewage water. Judging from the conclusions arrived at by the writer of that letter, it would seem that the irrigation of land with sewage might be carried on with profit to the town, and with great benefit to the agricultural districts. The other leading feature of the report of the Royal Commissioners was the chemical deodorisation of the sewage by the means with which they were already acquainted. Being very anxious to test that plan by actual experience, he went to Leicester and witnessed the entire process under Mr. Wicksteed's system, and he could speak with the greatest confidence of its perfect success. He saw the process through all its stages, and he did not notice any particularly offensive smell; indeed, the smell was not of a character to satisfy the critical senses of the agriculturalists of the district in that respect.

Mr. Haywood was not quite so well satisfied with the report. He said the commission was appointed in January, 1857; and, after sitting for twelve or fifteen months, it had arrived at nine certainly very satisfactory conclusions, and these conclusions had, doubtless, acquired considerable additional importance from having received the assent of that commission; but every one of them had been arrived at before by practical men who had carefully considered the question. There was not a single point of novelty in any one of these nine conclusions. The most important of them, perhaps, was the fourth, in which the commissioners admitted that, after examining nearly all the places in the country where irrigation by sewage water was practised, their opinion was that, excepting under very favourable circumstances, it would not pay. That was a most important point. There was no novelty in it, but it would derive greater force by being promulgated through the authority of this blue-book. The next conclusion was also an important one, as bearing upon the subsequent scheme, viz., that works for precipitating sewage matter might be erected in the vicinity of towns without inconvenience to the inhabitants: with that he quite agreed. The tenth conclusion required some explanation, as at present it was put in a very doubtful shape. With regard to the scheme itself, it was necessary that they should have it really before them before they could discuss it, but the report merely gave an outline an idea of a scheme. It told them, in the first place, that sewage might be dealt with without fear of harm to the inhabitants of the city, and, secondly, that if the Thames embankment were carried out, the sewage works could be made upon that embankment. That, in fact, comprised the whole of the scheme now propounded, and, as such, he was quite unable to discuss it. There was an entire absence of all detail by which the probable cost might be estimated.

Dr. Barnes repeated his statement,—that the Thames population was remarkably healthy. Fever and diarrhœa were less prevalent amongst those living near the river than amongst those at a distance from it. He must also insist that the principle of concentrating sewage in gigantic drains was radically wrong. The right principle was the very opposite one—to sub-divide the sewage as much as possible. Mr. Haywood had shown the insurmountable difficulties in ventilating the sewers even in their present comparative simplicity, and surely this difficulty would be enormously increased by collecting the sewage into main-drains. We should be subject to the reflux of sewage gases into our houses with tenfold greater virulence. Mr. Goldsworthy Gurney's report had been much referred to, but he (Dr. Barnes) felt bound to point out that it displayed such misapprehension of some of the first principles of chemistry, that it ought to be read with caution. His opinion that sewage gases were propagated solely by virtue of the law of the diffusion of gases, was directly at variance with observation. The sewage gases escaped into the streets and houses under the immediate action of currents, the force of which was demonstrable by the anemometer. In referring to the scheme of the Royal Commissioners, Dr. Barnes said it had been truly pointed out by Mr. Haywood that no complete plan had been presented by them. He was at first much disposed to agree with that report, but the difficulties urged by Lord Ebury and Mr. Haywood now satisfied him that this report only added another argument to those he had been urging for some time past, in favour of a full and open inquiry into the whole subject, including the fundamental principles, which had been overlooked altogether.

Mr. Holland felt with Mr. Haywood, that the plan of the Royal Commissioners was a mere sketch, and therefore we were not in a condition to do more than discuss the idea which had been propounded. Mr. Haywood had omitted to notice one very important feature in the question. The report of the Royal Commissioners started with the assumption, that the embankment of the Thames was a good thing *per se*, without any reference to the sewage question at all. If they assumed that this ought to be carried out on its own account, and was worth its cost, then Mr. Haywood's argument about that part of the cost did not hold good. He had no doubt the embankment would be a matter of enormous expense, and he was sceptical as to whether the benefits resulting from it would be equal to the cost it would involve; but assuming this to be the case, then he thought no one could doubt that, so far as the disposal of the sewage went, this plan, if effectual, would be the cheapest that could be adopted. With regard to the question of disposing of the sewage profitably, there were various opinions upon that. He took it for granted that the sewage of London was too valuable to be thrown away; but, at the same time, he thought the expense of conducting it to where it could be brought to profitable use would be very great, and it would be difficult to persuade the public that it was worth while to incur such an expense under the idea of eventual profit. The rendering of the sewage inoffensive was an easy thing enough, and was carried out perfectly at Leicester. He did not, however, agree with Mr. Palk, that the process was entirely free from all offensive smell.

Mr. Frederick Doulton thought good would result from the report, although upon the question of the disposal of the sewage the Royal Commissioners had scarcely gone further than to condemn the proceedings of former commissioners of sewers and boards of works as radically wrong. In his opinion further inquiry was necessary, not only as to the necessity of diverting the sewage from the Thames, but also upon the question of the large intercepting sewers proposed. They had a very striking illustration of what might be looked for in the carrying out of the larger scheme in the Victoria-street sewer, which was to cost 1,400*l.* or 5,000*l.* but which had reached, he believed, 200,000*l.*

Mr. Pittard, as the medical officer of the London Docks, said, the water in these docks having become extremely offensive in hot weather, he sought means to effect a remedy, and with that view he paid a visit to the Tottenham Sewage

Works, and witnessed the process of deodorisation carried on there. The water that was discharged had the appearance of great purity, but having had the curiosity to preserve a little of it, he found after a few days its odour became intolerable, which, he thought, proved that the impurities, although temporarily suppressed, had not been really removed. Mr. Pittard made some remarks upon the present polluted state of the Thames, which was perceptible to all who made the passage of the river; and the odour being similar to that emitted from the gully-holes of the sewers, he thought there could be no doubt as to its deleterious influence on the health of the population.

Mr. Robert Rawlinson informed the meeting that, although the report of the Royal Commissioners had been termed an outline or sketch of a plan, this was no proof that a plan had not been matured previously to this outline having been published. He might state that the estimates in the report were not matters of guess. The details had been duly worked out, and might, he believed, be fully relied on.

THE DEAD AMONGST US.

FROM time to time the evils of intramural interment are still painfully brought under the notice of the public; and it is seen that, although this suicidal practice has in great measure been stopped, much care is still required to prevent the danger which is incurred by disturbing the immense masses of dead bodies which crowd the graveyards and vaults of numerous churches and chapels in the metropolis and large provincial towns. Attention was recently drawn to this important subject by the circumstance that in Jamaica-row, Bermondsey, the condition of the burial vault below Bethesda Chapel had become so dangerous that the medical officer very properly brought the matter before the magistrate. On this occasion it appeared in evidence, as previously mentioned, that the vault was occupied by almost as many dead bodies as there were sitting spaces above, and that a poisonous effluvium endangered the health of the neighbourhood. Some discussion took place respecting the best means of finding a remedy for the evil, and it was suggested that the vault should be filled with layers of peat charcoal and concrete, and thus substantially bury the dead and prevent danger to the living. Some objection was made to this, when it was shown that the superstructure was in such a dangerous condition that it had been condemned by the police surveyor, and an order was given for its demolition within a fortnight. When this is done we shall be glad to hear that the remains of those who rest in this vault have been properly cared for, for the trustees of this building should remember that a large sum of money has been given for the privilege of burial: this sum has been paid in trust that the dead would be permitted to rest. Years since we directed attention to the evils of burials in the vaults of churches, and think that those who have made it a matter of profit since the warning should be accountable for any danger that may arise in consequence.

Having watched the management of many of the London grave-yards and vaults since the enactment for their closing has been brought into effect, we believe that further power is required in order to provide for the safety of the living and the respect and decency due to the dead. Independently, however, of any new enactment, much might be done if those who attend the churches and chapels of the metropolis with their families made inquiries respecting the condition of the vaults below their places of worship, and insisted that proper sanitary measures should be taken. Thousands who attend our churches do not think of the large mass of poison which is placed beneath and pollute the air they breathe. Some years ago we brought this matter prominently before our readers, and a view we gave of the vaults of Bow Church had a strong effect on the public for,—"nine days." While writing this a report by Dr. Letheby on the state of the vaults of the City churches has come to hand. The officer of health has examined the public vaults below the church of St. Botolph, Bishopsgate-street, and reports that they should be publicly closed, and says that the result of an inspection up to the present time shows that in the vaults of twenty-five of the City churches there are not less than 5,700 dead bodies,—upwards of 200 in each! Some of these receptacles are, however, much more crowded than others.

Dr. Letheby remarks,—"If the same proposition holds in respect of all the City churches, there are about 16,000 corpses beneath the pews occupied by Sunday congregations." We have frequently remarked that the gases which are generated by the decomposition of human bodies cannot be confined in the thickest of leaden coffins, and that the longer the gas is pent up, the more dangerous is the poison. Dr. Letheby confirms this opinion and says,—"In some cases the effluvium from the vaults is most offensive; for, although it is the general practice to confine the body in a lead coffin, yet the metal gives way after a longer or shorter time * and then oozes out a dark treacle-like liquid, which smells abominably and which is, I believe, a most deadly poison. I have seen this escaping from a lead coffin that had been deposited in the vaults for more than one hundred years, so there is no saying how long a time the mischief of decay and slow corruption may be carried on. Again, the way in which the coffins are piled upon each other leads to the crushing in of the lowermost of the series when the wood decays, and then the putrid matter is squashed out through the fissures of the broken coffins. In many cases, the vaults are entered by imperfectly closed traps or doors from the general area of the church, and the vaults are either not ventilated at all or they are ventilated into the public way, so that there streams out a quantity of poisonous vapour that may be the cause of much mischief." The remedy proposed for this mischief is to divert the gases from the vaults into a proper channel; and by conveying them through a shaft to a high level they may be safely disposed of: this has been done in the case of the Roman Catholic chapel at Moorfields. A better mode of disposing of the remains is to arrange the coffins on the floor of the vault and cover them with dry lime or fresh earth, as has been done in the vaults of All Hallows, London-wall.

It is to be hoped that clergymen, churchwardens, and others, who are responsible for the health of those who visit the buildings entrusted to their care, will use the best means of stopping the danger which still exists: in fact, when we find that in the City of London alone, which is but a scrap of the whole of the metropolis, there are about 16,000 corpses poisoning the air by their decomposition, and think of the additional thousands of dead bodies which lie in St. John's and St. James's, Clerkenwell; St. Clement Danes and the other churches in the Strand, and many other places which might be mentioned; it is evident that a most vigilant supervision of the burial vaults of London and the provisional towns is required.

* If the lead coffins were thoroughly air tight decomposition would not take place, and of course if the atmospheric air is admitted other gases will escape.

DESIGN FOR A FOUNTAIN, WITH THE STORY OF SABRINA.

WE depart to some extent from our usual practice to engrave the annexed design, as it appears to us to be a clever attempt to illustrate our national history, more than is the case with public monuments generally, a point but too often lost sight of by our architects. In the present instance, Mr. W. Burges, who has already appeared before the public as a successful competitor in the affairs of *Lille* and *Constantinople*, has undertaken to illustrate the story of Sabrina, a story well known to general readers by the beautiful allusion made to it by Milton in his "Comus."

Geoffry of Monmouth thus relates the course of events in his very veracious Chronicle, book ii. ch. i. p. 109, of Bohn's edition:—

"Brutus had, by his wife Igogne, three famous sons, whose names were Locrin, Albanact, and Kamber. . . . After they had a long time reigned in peace together, Humber, king of the Huns, arrived in Albania, and having killed Albanact in battle, forced his people to fly to Locrin for protection. Locrin, at hearing this news, joined his brother Kamber, and went with the whole strength of the kingdom to meet the king of the Huns, near the river now called Humber, where he gave him battle, and put him to the rout. Humber made towards the river in his flight, and was drowned, and on account of which it still bears his name. Locrin, after the victory, bestowed the plunder of the enemy upon his own men, reserving for himself the gold and silver which he found in the ships, together with three virgins of admirable beauty, whereof one was the daughter of a king in Germany, whom, with the other two, Humber had forcibly brought away with him, after he had ruined their country. Her name was Estrildis, and her beauty was such as hardly to be matched. Locrin, smitten with love, would gladly have married her, at which Corinæus was extremely incensed, on account of the engagement Locrin had entered into with him to marry his daughter. He went therefore to the king, and wielding a battle-axe in his right hand, vented his rage against him in these words—'Do you thus reward me, Locrin, for the many wounds which I have suffered under your father's command, that you must slight my daughter and debase yourself to marry a barbarian: while there is strength in this right hand, that has been destructive to so many giants upon the Tyrrhenian coasts, I will never put up with this affront;' and repeating these words again and again with a loud voice, he shook his battle-axe as if he was going to strike him, till the friends of both interposed; and after they had appeased Corinæus, obliged Locrin to perform his engagement.

Locrin therefore married Corinæus's daughter named Guendolœna, yet still retained his love for Estrildis, for whom he made apartments under ground, in which he entertained her, and caused her to be honourably attended. In this manner he concealed her, and made frequent visits to her for seven years together, without the privity of any but his most intimate domestics, and all under a pretence of performing some secret sacrifices to his gods. Estrildis became with child, and was delivered of a most beautiful daughter, whom she called Sabre. But in process of time, when Corinæus was dead, Locrin divorced Guendolœna, and advanced Estrildis to be queen. Guendolœna, provoked beyond measure at this, retired into Cornwall, where she assembled together all the forces of that kingdom, and began to raise disturbances against Locrin. At last, both armies joined battle near the river Sture, where Locrin was killed by the shot of an arrow. After his death, Guendolœna took upon her the government of the whole kingdom, retaining her father's furious spirit, for she commanded Estrildis and her daughter Sabre to be thrown into the river now called the Severn, and published an edict through all Britain that the river should bear the damsel's name, hoping by that to perpetuate her memory, and by that the infamy of her husband, so that to this day the river is called in the British tongue Sabren, which by corruption of the name is in another language Sabrina."

Thus far Geoffry. Mr. Burges has endeavoured to work out the story by representing the early part of the history in the groups under the lower basin. Those shown in the cut represent Estrildis brought captive to Locrin—the marriage of Locrin and Guendolœna — and Locrin visiting Estrildis and Sabrina in the underground apartment. At the extreme top we see Guendolœna ordering Estrildis and Sabrina to be thrown into the water; while quite at the bottom are bas-reliefs of the Undines, or water-spirits, who rejoice over the prey that awaits them. The tributary streams are placed in the capital, immediately under the top group.

So much for the history. We now proceed to notice the animals, fish, and insects abounding or supposed to abound on the banks of the stream. Uppermost of all is the otter holding a shield emblazoned with the arms of Gloucester; below are the frogs, firstly in their natural position and secondly developed as gurgoyles. Then come the fish; and lastly, intermingled with the foliage running round the lower basin, the lizards, the insects, and the shells. The lizards are made use of as a means of procuring extra jets of water.

The background shows an imaginary view of ancient Gloucester at the beginning of the thirteenth century. On the right is an armourer's shop, on the left the pillory; behind is the town-hall with a lofty belfry tower. An arched opening gives us a view of the town, while at the crown of the arch is hung a sabre taken from some Saracen by one of the Earls of Gloucester during a crusade.

Of course the background is unattainable at the present day, but there is no reason why the good citizens of Gloucester should not add a beautiful and useful adjunct to their famed cathedral by executing the conception of Mr. Burges in stone or marble.

PLATE-GLASS.—The prospectus has been issued of the "Imperial Plate Glass Company." It is proposed to be constituted by the union under one management of all the plate-glass companies in Great Britain. The capital is fixed at a 1,000,000*l.* in shares of 10*l.* each, and debentures. The persons interested in the six existing works subscribe for 380,000*l.* in shares. It is said that the cost of production will be materially lessened under the new arrangements.

A PROPOSED FOUNTAIN FOR GLOUCESTER. — *Designed by Mr. W. Burges.*

CONSTRUCTION OF THE SOUTHAMPTON DOCKS.

INSTITUTION OF CIVIL ENGINEERS.

AT the meeting held May 18, Mr. Joseph Locke, M.P., president, in the chair, the first paper read was "On the Construction of the Southampton Docks," by Mr. Alfred Giles.

The author stated that these docks were designed by the late Mr. Francis Giles. The works were commenced in the autumn of 1838, by building a quay wall from the shore towards low water, and by driving piles for a coffer-dam, for the enclosure of the dock. These works were stopped during a financial difficulty, after an expenditure of about 7,000*l.* They were resumed in 1840, but an alteration was made in the mode of procedure, in order to obtain a quay berth for the vessels then building for the Royal Mail Steam Packet Company. It was, therefore, proposed to build the quay walls in short lengths upon piles, and afterwards to dredge the dock to the requisite depth. Subsequently, owing to an increase in the size of the vessels, and to a delay in their completion, it was considered desirable to enclose the whole area, so that the dock might be excavated to one uniform depth, and the foundations of the walls be carried to the bottom. For this purpose, an embankment was thrown up by tide-work, enclosing about 20 acres, the soil excavated from the enclosure being used to form the embankment. Some difficulty was experienced at the point of junction of the embankments with the coffer-dams, which were 2,170 feet in length. In November of the same year, during the occurrence of a violent gale, a breach was made in the bank itself; but this it was not thought necessary to repair, as the enclosure was nearly complete, and indeed was perfected in the following March. The excavation of the dock was then proceeded with, and the quantity of soil so removed amounted to 1,150,000 cubic yards, the contract price for which was fourteen pence per yard. During the progress of the excavation, the foundations and masonry of the walls were carried on, as rapidly as possible; but the walls had not been advanced to their full height, when several heavy slips of earth caused some portions to move forward. The piles were consequently strengthened, but as the walls still moved forward, additional engineering advice was obtained, and a plan for land-tying the walls was suggested and carried out. The plan consisted in drilling holes through the walls, as low as the tide would allow, inserting strong bars therein, and tying them back to heavy buttresses of piles, driven at a distance of 100 feet from the wall. After an expenditure of about 10,000*l.* this plan proved a failure, when further mischief was prevented by the removal of the soil from the back of the walls. The walls were strong enough in themselves, but the evil lay in the foundations. One wall, in a length of 600 feet, was found to have moved forward 3 feet; whilst another, only 650 feet in length, had two distinct bulges of 2 feet 3 inches and 2 feet 6 inches beyond the straight line. These walls were 38 feet in height from the coping to the foundations: they were built on a timber platform 6 inches in thickness, the front of which rested on piles driven to the batter of the wall, while the back rested on longitudinal sleepers laid on the soil. Up to low-water mark, they were built with brickwork and concrete bays, and above of rubble masonry, faced with granite ashlar, and having a granite coping. The cost of the wall was 40*l.* per lineal yard. This dock, having an area of 16 acres, with quays, 3,300 feet in length, an entrance 150 feet in width, and a depth of 18 feet below the average of low water of spring tides, was opened in June, 1842.

Owing to the method of founding the walls, an unequal settlement took place, which produced a longitudinal crack. The pressure of the back water against the dislocated face, assisted by the outward thrust of the shears, which were set on the edge of the quays, and by a severe frost operating upon the water in the crack, caused a length of 124 feet to separate: the shears fell, and were destroyed with the wall, and an additional length of 120 feet was so damaged, that it was necessary to re-build it. The square counterforts were torn asunder at the line of the back of the wall, so that the author subsequently adopted a different form, being a square joined to the back of the wall by its diagonal, which he conceived to be the most suited to resist the strains to which it was liable. The fall of the wall occurred in January, 1854, and its re-building cost 11,800*l.*, and occupied twelve months. The coffer-dam used in the reconstruction had to sustain a pressure of 33 feet of water. It was made of two rows of piles, 6 feet 6 inches apart, without any gauge piles. The cost was 20*l.* per lineal foot.

In 1846, the first graving dock was constructed of stone, at a cost of 49,800*l.* The length of the floor was 282 feet, the breadth of the gates 66 feet, and the depth over the sill at high-water spring tides 18 feet. It was lengthened to 343 feet in 1852, at an additional cost of 1,800*l.*

In 1847, the second graving-dock was executed, at a cost of 19,290*l.* The length of the floor was 250 feet, the breadth of the gates 51 feet, and the depth over the sill at high-water spring tides 14 feet. This dock was built of brick and concrete, having only the nosings of the alters, and the key of the invert, of stone. It was particularly free from leakage, and the cost was small.

In 1851, it was determined to complete the excavation of the area, which had been partially cleared in 1840, and to build walls on two sides. This work was executed in the summer of that year, at a cost of 18,000*l.* The area of the dock was 10 acres, its depth of water was 25 feet, the length of the walls was 1,800 feet, and the entrance of the lock was 46 feet in width. The quay walls were made of concrete, with a rubble-face, built of Purbeck stone, tied to the concrete by transverse layers of iron-hoop bond. The concrete was made of blue lias lime and gravel, in proportions of 1 to 8; the gravel being obtained from the excavations. The cost of the walls, 35 feet in height, from the coping to the foundations, was 19*l.* 10*s.* per lineal yard. These walls had answered exceedingly well: their great bulk afforded security against backward pressure, and the width of the base tended to prevent unequal settlement; and for economy they would bear favourable comparison with any other walls. There was only one pair of gates to this dock, as the neck of the entrance was too short to admit of a lock of adequate length for ordinary screw steamers. As high water remained nearly stationary at Southampton for from two to four hours, the gates were allowed to remain open for the ingress and egress of vessels, for at least three hours out of every twelve hours. The lock gates were made of oak posts, with fir bars and planking, and from being framed during the summer, they became so light as to require loading when hung. The bridge across the entrance was framed in two leaves running on wheels, the overhanging parts of each leaf being balanced by the length on the wheels. It was opened by each leaf being run backwards, under a vertebrated and self-supporting platform, which was raised by the bridge itself. It was used for carriages and railway trucks, and had raised footways on each side.

In 1853, the increasing size of the ocean steamers induced the directors to authorize the construction of a graving dock, having a length of floor of 425 feet, gates 80 feet in width, and a depth of 25 feet over the sill. This work was completed in December, 1854, at a cost of 53,000*l.* inclusive of the coffer-dam necessary for making the entrance. The foundations were laid on concrete, 4 feet 6 inches in thickness, upon which was built a base of brickwork and tiles in cement to receive the brick invert, having simply a stone key, and stone nosings and seats for the alters. This large dock could be emptied in less than three hours; and, in cases of emergency, docking and undocking had been repeated twice in twenty-four hours. The gates were constructed of wrought-iron beams, with oak heel and mitre posts. They were worked by ordinary winches, and could be opened in six minutes by four men on each side. For graving dock purposes, where leakage was objectionable, the author thought gates entirely of wood were preferable, as iron being acted upon by change of temperature, the gates were liable to become leaky at the mitre posts.

When the first dock was opened in 1842, the tonnage of vessels entering and leaving the port of Southampton was 276,000, whilst in 1857 it was 657,000. The appliances now existing consisted, first, of an open dock, which all ordinary vessels could enter, at all times of the tide, with quays 3,000 feet in length; second, of an inner dock, which large vessels could enter, or leave, for nearly six hours out of every twenty-four hours; third, of graving docks, which could accommodate the largest class of vessels, with shears capable of lifting weights of 50 tons; and fourth, of a system of railways running all round the quays, in connection with sheds and warehouses for the examination and deposit of goods, and for direct transmission to all parts of England, without change of carriage. The entrance to the inner dock was about to be widened, and both the entrance and the dock itself to be deepened, whilst the walls were to be continued round the south and west sides, with a view to the construction of another dock on the western side.

The expenditure on the docks, dry docks, custom-house, sugar refinery, workshops, warehouses, sheds, rails, and all other appliances, up to the present time had been 705,000*l.* The gross return was 53,000*l.* per annum, and although the dividend to the original shareholders had not hitherto exceeded 4 per cent. the country had been benefited by the conversion of a huge mud bank into a useful national work.

AMERICAN NOTES.

A NEW hotel has been built at the corner of Chatham and Chambers streets, New York. The interior arrangements of the establishment are said to be comprehensive, and of costly character. A new hotel, called "The Verandah," has also been opened at New Orleans, in Camp-street, opposite Lafayette-square.

Another building of a similar class, and called "The Cowherd House," has been opened at Washington. The Great Southern Hotel Company of St. Louis are about erecting an extensive building, with all the modern improvements, and according to designs by Messrs. Barnett and Weber, architects.

The Atchison and St. Joseph Railroad is to be completed forthwith, and contracts are now being entered into.

Newhaven, a small town, situated about sixty miles from St. Louis, on the Pacific railroad and Missouri river, boasts of some new buildings at present in course of construction; viz.—a church and schoolhouse, railroad depôt, saw-mills, manufactories, &c.; and an addition, with wide streets crossing each other at right angles, is being laid out, and will be rapidly built upon.

The city of Parkville has subscribed 50,000 dollars, the citizens of Smithville and vicinity a like sum, and 125,000 dollars have been collected from other sources, towards the construction of the Parkville and Grand River railroads.

A fire broke out in the Harmony Mills, Troy, N. Y. and destroyed 10,000 dollars' worth of property.

The corner-stone of a new Roman Catholic church has been laid at Boston. In the diocese of Portland there is a cathedral and six churches in progress of erection.

Activity is apparent in the building trade in Buffalo. Workmen receive constant employment; and several new warehouses of an important character have been recently erected and opened for the transaction of business.

Mr. Francis, the inventor of the new mode of transporting troops across rivers by means of an apparatus which is a large boat when afloat, and serves as a baggage-waggon on shore, has disposed of his patent to the French and English Governments, and is said to have been sent for by the Czar.

The Wisconsin Lake Shore Railroad Company was caught during the late crisis with a floating debt of 184,000 dollars, which is being carried at onerous rates of interest.

The road from Milwaukee to La Crosse will be completed within a year. The work has been completed on forty-four miles of road between Kilbourn city and Tomah. Mr. Chamberlain has contracted for the formation of the remainder.

The sum of 100,000 dollars has been appropriated for the completion of Chicago Harbour; and other appropriations have been likewise made for Western River and Harbour improvements.

The rapid growth of Stevens's Point, especially in the erection of new buildings, is announced by a local journal, which says that, on the ground of the late fire, the foundations of five new buildings are laid, three of which are nearly completed, and all will be ready for spring business. In Curtis's new block, the post-office will be situated. Scores of other new buildings are going up all over the plat. The most splendid taverns are in course of erection, especially one by Mr. Brawley, and another by Mr. Hewett, which rival the gin palaces in the great metropolis of England. The town is extending rapidly, and dwelling-houses, as fast as they are built, find occupants.

The work on the Capitol extension has been abandoned for reasons unknown to the public.

Traffic on all the railroads is increasing. A monster hotel is being built in Chestnut-street, Virginia.

The night trains running between New York and Philadelphia are now lighted by gas obtained through a cylinder, to which it is forced on from the street main in sufficient quantity for the trip, of about four hours. The cost of lighting each

carriage is but 10 cents, whereas the old system of sperm candles cost 50 cents.

The road from Nininger to Louisville will cost at the rate of 20,000 dollars per mile, or a total of 700,000 dollars. At Nininger (only one year in existence), one hundred and twenty-five houses, schools, and a Lyceum, two saw-mills, a sash factory, grist-mill, and a number of smaller works are in progress of erection. Lots bought a year ago for six dollars each, now sell for 1,000 dollars *cash*.

Lakeville, in Minnesota territory, is only two years old, and yet boasts of a number of comfortable dwellings, stores, &c. but places of worship are wanting. Masons are in great demand in Minnesota.

A new block of buildings is being erected in Main-street, Waukesha. The *Prairie du Chien Courier* says, "We notice several new buildings are in course of construction. This is strong evidence of better times coming." "It is thought a large number of additional works will be commenced this season." It further states that the local stone is durable, susceptible of a high polish, and resembles granite in texture, and white marble in colour.

A railway bridge, on the Seabord and Roanoke line, in Virginia, broke down, and eighteen cars, with their contents, were precipitated into the water, causing an estimated damage of 50,000 dollars.

Californian statistics show that insanity prevails alarmingly, attributed by some to the climate, by others to the *mal-construction of the dwellings*.

THE CHATEAU OF CHENONCEAUX.*

IN the visitors' book, at Chenonceaux, there stand recorded, in the handwriting of the great Algerian chief, Abd el-Kader, words which, being translated, run thus:—"If Touraine be the garden of France, Chenonceaux is surely the garden of Eden." This eulogium on the situation occupied by the château of Chenonceaux will not be considered very extravagant by those who have paid it a visit.

The principal approach —an avenue of fine elms —is by no means the best point of view for forming a proper estimate of the beauty of the building. From either of the paths along the banks of the Cher it appears to much greater advantage. It may be described as built upon a bridge which crosses that river. There are eight arches, under which boats are daily passing up and down. The effect produced by this quasi-insular position is singularly pleasing. Although furnished with draw-bridges, which, when raised, render it accessible only by the river, and thus give it a certain degree of strength, Chenonceaux has no claims to be called a *château fort*. Nor are the associations connected with it of the gloomy character which generally attaches to historical buildings. It was consecrated to the pleasures of the kings of France. Its graceful turrets, its balconies, and large windows; the garden, with its gay *parterres* and low-running balustrade in place of the lofty wall; its noble, but unclosed park;—are all typical rather of the royal *maison de campagne* than of the fortress or castle.

The northern part of the building is in the debased Italian style. There are two turrets, however, on either side of the main door, which, with their high-pointed conical roofs, are exactly the same as those we find in Scotch architecture. Above this door there is an enormous salamander, in stone, the device of Francis I. On the second story of this front there are two windows, with massive semi-circular balconies, supported by corbels. The roofs are, as usual, very high pitched, and are surmounted by rails of metal foliage. As at Chambord and Blois, the dormer windows are very beautiful, while the design of each is different. Part of the building, which was added by Diana, of Poitiers, is Palladian in style. Near the river's side there stands a round tower, which, for whatever purpose it may have originally been intended, is now occupied by the *concierge*. It has a conical slate roof, surmounted by a belfry.

The grounds have very much of an English look, and contain some fine timber. To one of the many pleasant avenues in the château grounds, Jean Jacques Rousseau, during his residence at Chenonceaux, gave the name of *L'Allée de Sylvie* in some verses, one of which is here transcribed:—

"Qu'à m'égarer dans ces bocages
Mon cœur goûte de voluptés!
Que je me plais sous ces ombrages!
Que j'aime ces flots argentés!"

* This château is the subject of one of Mr. Beverley's new scenes for "The Hugnenots" at the Italian Opera House—the 2nd of the 1st act.

In the year 1496 the property of Chenonceaux was purchased by Thomas Boyer, who had been chamberlain to Louis XII. As already said in a former paper, a great impulse was given to the study of architecture by the example of Francis I.; and Boyer, following in his royal master's footsteps, commenced the construction of the present château in the style of the Renaissance, having first pulled down an older building which occupied the same site. It afterwards passed, however, into the possession of Francis, whose son, Henry II., made a present of it to Diana of Poitiers. As long as Henry lived, notwithstanding the intrigues and machinations of the jealous and implacable Catherine de Medici, the enchantress retained her influence over that monarch, and he continued to pass the greater part of his time at Chenonceaux in her society. She greatly improved and enlarged it; but her plans were yet uncompleted when the king's death exposed her to all the hatred of Catherine, who, from the minority of her son, Francis II., became virtually the ruler of France. Diana was banished from the court, and in 1560 was driven into a bargain, by which she accepted the château of Chaumont in exchange for that of Chenonceaux. In the same year the queen-mother brought her court to the château to welcome her son Francis and his bride, the beautiful but unfortunate Mary Stuart. This was the brightest period of Mary's life. Beloved by her husband, and amid a throng which numbered among it the bravest of France's chivalry and the fairest of her daughters, the observed of all observers, little could she then dream of the dark future which was in store for her.

"The homage of a thousand hearts—the fond deep love of one,—
The hopes that dance around a life whose charms are but begun,—
They lighten up her chestnut eye, they mantle o'er her cheek,
They sparkle on her open brow, and high-soul'd joy bespeak."

And yet the following year saw her a widow, and shortly after she took what, her foreboding heart too truly told her, was her last look of that France which was so dear to her.

The nuptials of Charles IX. and Elizabeth of Austria were celebrated with great splendour and magnificence at Chenonceaux. Here also, on Henry III. ascending the throne, Catherine gave a grand banquet, which is said to have cost no less than 100,000 livres. A curious insight into the want of morality and looseness of the manners of the French court at this period is obtained from the following description of this banquet, extracted from a journal of the time:—"En ce beau banquet les plus belles et honnestes de la cour à moitié nues et ayant leurs chevenx espars comme espousées furent employées à faire le service. Madame de Sauve estoit maitresse d'hostel, et tout y estoit en bel ordre." Our ideas of wherein *bel ordre* consists are considerably altered since those days.

The plans of the additions and alterations made by Catherine de Medici are still preserved in the library of the château. She subsequently bequeathed the château to her daughter-in-law, Louise de Touraine, who retired thither shortly after the assassination of her husband, Henry III. Visitors are shown her sleeping-room, which is still hung with black tapestry. Above the chimney-piece is the inscription,—

"Saevi monumenta doloris."

The compartments of the ceiling, which are grey and black, are very beautifully carved. This room opens into what was formerly an oratory, but is now fitted up as a most charming library, with stained glass windows. The Queen Louise passed the remainder of her life at Chenonceaux in prayer and in acts of charity to the poor of the neighbourhood.

In 1598, Henry the Great, accompanied by Gabrielle d'Estrees, paid a visit to Chenonceaux. After that, the château changed hands several times, and in 1733 was purchased by Monsieur du Pin. This gentleman and his wife were both well known in the literary world, his reply to Montesquieu's "Spirit of Laws" being considered the best that has been written. It was their pleasure to collect around their board at Chenonceaux the literary and scientific celebrities of the day, and Bolingbroke, Voltaire, Jean Jacques Rousseau, Bouffon, and Montesquieu, were their frequent guests. Rousseau, who was engaged at one time as Madame du Pin's amanuensis, and tutor to her son, composed *Le Dévin du Village* there, and it was performed for the first time in one of the rooms of the château, which was fitted up as a theatre. This room still retains its theatrical furnishings. Owing to the great esteem in which M. du Pin and his family were generally held, Chenonceaux suffered but little at the time of the Revolution; and most of the apartments to which historical interest is attached retain their original furniture, paintings, &c. The collection of objects of art is particularly rich: Venice glasses, bronzes by Cellini, china enamelled by Leonard de Vosges, medallions, and many other interesting articles of vertu are to be seen. Chenonceaux is fitted to give us a tolerably good idea of the internal architecture and furnishings of the period of the Renaissance. The walls are not panelled, as is the case in English houses of the same period, but are hung with tapestry. Most of the floors are paved with porcelain. The ceilings are all panelled, the compartments being elegantly carved, and either gilded, or richly blazoned with colour. The fireplaces have projecting mantles, which run up to the ceiling, the mouldings containing some very beautiful specimens of foliage.

The little chapel, which occupies the north-east corner of the building and partly overhangs the river, has been restored lately and is very beautiful. The cushions of the royal seat and *prie-Dieu* are embroidered with *fleurs-de-lis*.

Through the liberality of the present proprietor, the Comte de Villeneuve, who is a grandson of M. du Pin, the most interesting rooms are thrown open to visitors.*

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Monday, the 17th instant, the ordinary meeting was held at the rooms in Grosvenor-street, Mr. Henry Ashton, one of the vice-presidents, in the chair, when various donations were announced.

Mr. Octavius Hansard, in presenting copies of several parliamentary papers, gave a concise account of the proceedings that have attended the recent acquisition by the country of ancient marbles; this we have printed under another heading.

A letter from Dr. Petrie was read, acknowledging with thanks his election as hon. fellow.

Mr. George Morgan, fellow, then read a paper on "Public Competitions for Architectural Designs," printed in our last number.

Mr. Papworth thought that this question of public competition for architectural designs was one that called for serious deliberation. Mr. Morgan suggested that the Institute should set the matter right; and really, if that could be done, all that was wanting would be achieved. Mr. Morgan called on some two hundred men out of a couple of thousands in the country, to bind themselves to a certain course, forgetting that these two hundred men did not compete at all, excepting under special circumstances. Now the Institute, no doubt, presented a majority of the architectural skill and eminence of the country, and a list of members of which the profession might be proud, and they were asked to arrange for themselves certain conditions, without which they should not compete. How could this be practically or consistently effected? and how could they induce other architects in all parts of the country to accept and be governed by the conditions proposed? Nothing was to be accomplished without an alteration in the law of the land. Suppose the proposition, however Utopian, was adopted by all the architects, there would be found plenty of others to do so,—men practising as engineers, and surveyors, and builders, who might call in architectural assistance to prepare specious and showy drawings, and on which the committees would proceed.

Mr. Kerr said he was not much of a competition man, but liked to look at this question in its commercial bearings. He would suppose a case, as the lawyers have it. Boys, A, B, C, and D, united to invest sixpence in buns. A secured the sixpence to himself, and proceeded to adjudicate by eating them all up; and so it was in competitions: the result was arrived at in favour of one, to the sacrifice of all the others. What was wrong in the system, was the want of sound commercial principle. That was the screw that was loose in the system of competitions. As an illustration of fair dealing in matters of competition, he might mention the case of a competition for a banking-house in the North some years ago, where three architects competed, and where 100 guineas were awarded to each, the committee selecting the best design. The establishment of an order of merit would make up the commercial balance. After alluding at some length to commercial correctness in competition, Mr. Kerr proceeded to contend that the proper and legitimate judge of merit was the architect. He only was the fitting judge of the appropriateness of an architect's design, and all the committees in the world would never persuade him that they possessed the knowledge that was adequate to entitle them to adjudicate in matters architectural. The calling in of an architect to adjudicate was not only a benefit to the competitors, but to those who offered the competition, and was in itself commercially sound. He laid great stress on an order of merit in public competitions, and he thought it was a pity it had not been adopted by Government in the late

* For previous articles on French châteaux see pp. 50, 309.

mpetitions. Thus architects, if they did not get money, uld obtain reputation. In conclusion, he would throw t for consideration a scheme of his own: instead of vertising for designs, he would advertise for candidates. e candidates should state their qualifications, and the chitectural judge could decide at once; and he never ard of a case in which the award of an architect had en called in question, or pronounced to be corrupt.

Mr. Fraser referred to some passages in the preface to e catalogue of designs for the Houses of Parliament, in pport of the opinion that, in cases of architectural com- tition, the best judge was an architect himself. It was on is principle that the Propylea, the Erictheium, and other reat works of antiquity were constructed. A judge and rector were appointed by the Athenian assembly, of hich architects were members, and they decided on the bject. In the case of the Houses of Parliament, the dges acknowledged their inability.

Mr. Jennings expressed his opposition to the principle competition altogether, and observed that many went to them on the ground of knowing one or more of the dges, the judges under the present system being almost ways incompetent as a body. Good results no doubt ose from the instigation these competitions gave to the oduction of designs for exhibition by young men; but objected altogether to the principle on which they were nducted, and he believed that, with reference to se- ctions, the best selection had always taken place where architect had been called in to advise the committee.

Mr. Hussey contended that one of the great evils inci- nt to the present style of competition was the loose and ulty system that obtained in matters of instruction.

Mr. M. D. Wyatt could not agree with Mr. Morgan in inking that the revival of Mediæval art in the present y was the result of competition. No doubt it had given an impetus, but hardly to the extent alluded to. Com- etition, no doubt, had vastly increased the profession, t whether beneficially so, it was difficult to determine. ne of the great evils of competition was that there was previous educational test of the character of those who mpeted, and of the ineligibility of those who were nployed; and this naturally led to a vitiated system. ne of the great mistakes of the present day was that the chitect was never called in early enough; and he could ot agree with Mr. Kerr that competition for excellence as a commercial matter, however much it might be in atters of cost.

Mr. Hansard thought that much was due to Sir B. Hall r the part he had taken in favour of the profession in ie late Government competitions, and for the manful anner in which he had spoken up for it.

The chairman remembered that, in the case of the esigns for the Houses of Parliament, a general meeting f competitors was held at the Thatched House to oppose e adoption of Sir C. Barry's design, so that in that case, any rate, if left to the competitors, his design would robably not have been selected. Everything depended n good advice in preparing the instructions.

Mr. Hesketh thought it was desirable to adopt the ggestion of Mr. Morgan, that the question should be aken up by the Institute. Good might result from the romulgation of a set of rules for the guidance of com- ittees.

Mr. Kerr alluded to the way in which the question had een taken up by the Architectural Association, who ould very likely be disposed to adhere to any system the nstitute might recommend.

Mr. Wyatt conceived that one of the more injurious ffects of competition was, that it called away the atten- on of the young architect and student from his more erious studies, to compete for the attainment of objects hat require the unremitting attention and experience of e least twelve years of labour.

Mr. Morgan would be perfectly satisfied if his paper had nly the effect of drawing attention to the system of com- etition, which he could not help thinking had been very nuch instrumental in bringing architecture to the position t at present occupied.

CONVERSAZIONE OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The Earl de Grey received the members of the nstitute at his residence in St. James's-square, on riday, the 21st inst. and invited a large number f distinguished persons, including many ladies, o meet them. Drawings, and other works of art, overed the tables in all the rooms but one, where ere required for the exhibition of a generous ospitality. There are few houses in London so ell adapted for receptions of this kind as that ccupied by Lord de Grey, filled as it is, too, with ch furnishings and noble pictures. There is but ne thing wanting, and that is a little more cor- iality and personal interest on the part of the ccomplished and noble host. Many members of he Institute, who were received with a bow, two ards off, by the president some twenty years ago, d had visited annually, or nearly so, ever since, ound precisely the same reception on Friday, the st, and nothing more. Such "mutual relation- hips" are worth study. However, it was a bril- iant evening, as it always has been, and is of great alue to the Institute.

At the meeting to be held on the 31st, the Rev. Richard Burgess will read a paper on the Egyptian belisks now in Rome, and will speak with re- erence to the introduction of monoliths in the metropolis. Something will probably be said, too, by Mr. John Bell, of the entasis to be given to belisks.

We must note, for the information of those who it may concern, that the recent election of office-bearers has led to the expression of more dissatisfaction than has ever before reached us from the Institute.

CHURCH-BUILDING NEWS.

Whittlesea.—At a meeting of the Local Burial Board, on the 19th ult. the following tenders were received for the new chapels, lodge, &c.:—

Green, London	£1,398	0	0
Gray and Son, Cambridge	1,295	0	0
Ellis and Son, Peterborough	1,198	10	0
Bennett and Son, Whittlesea	1,185	17	0
Mills, Whittlesea	1,173	0	0

Mr. Bennett's tender was accepted. Mr. R. Hutchinson, of Huntingdon, is the architect.

Tunbridge.—A fund is being raised for the purpose of restoring the chancel of the parish church, according to a design executed by Mr. Hope Scott, of London. The sum at present obtained is insufficient.

Cheriton.—The restoration of the parish church has been completed by the repewing with light open benches, and the opening of a new organ.

Denton.—There has been an addition of three more stained glass windows to the nave of Denton church. The whole of the windows in the church are now completed. The east window has been entirely restored with new stone work, and the stained glass consists of three full-length figures of St. James, Our Lord, and St. John. The side windows in the chancel are filled in with subjects from the life of Our Lord, and the south window with two figures of St. Peter and St. Paul. The nave windows are of geometrical patterns. A new description of ventilation is said to have been introduced by the artist. The chancel and nave have undergone great alterations, and the whole of the unsightly pews removed to make way for oak stained seats. The cost of all has been defrayed by the rector, the Rev. G. Crespiny Lamotte. The artist employed for the execution of the windows was Mr. Charles Gibbs, sen., of London. Mr. Gibbs also executed the church windows for Deal, Patrixbourne, New Hythe, and East Malling, in the same county.

Odiham.—Messrs. Hardman and Co. have recently erected, in the parish church of Odiham, Hampshire, three stained windows in memory of the late Lieut.-Colonel Short. The windows are of the Decorated period. The chancel window consists of three lights with tracery. In the centre light is the figure of Our Lord on the Cross, surrounded by Seraphim, rays, and clouds. At the foot of the Cross kneels the Centurion. The head of this light is filled with a foliated canopy of vinework. At the base of this light is a representation of our risen Lord and Mary Magdalene. The dexter light contains the Virgin and St. Mary the wife of Cleophas, looking towards the Cross. The sinister light contains the disciple St. John and Mary Magdalene, kneeling. In the heads of these lights are figures of weeping angels, and others bearing the sun and moon veiled. At the base of the dexter light is the Centurion beseeching our Lord to heal his servant. At the base of the sinister light is the baptism of the Centurion Cornelius by St. Peter. The east windows of the north and south aisles to the chancel contain each three lights and tracery. The side lights are filled with grisaille and monograms. The centre light in the north aisle represents the Good Samaritan. The centre light in the south aisle represents the Centurion with the model of a church in his hand.

Weston super-Mare.—The new Independent chapel here, opened on 29th ult. has been erected at a cost of 2,300*l.* including fittings: of that amount, 1,700*l.* were contributed by Mr. Richard Ash, of Bristol: about 2,150*l.* have been raised. The chapel consists of a nave, north and south aisles, an apse at the east end, and a tower with a spire at the south-west angle. It will seat about 500 adults on the ground-floor, with provision for a gallery at the west end. The walling is quarry-faced snech-work of dark-coloured native stone, and the dressings Bath stone boasted. The west end contains a four-light window in the centre, with two smaller windows on each side of a niche underneath, and a doorway opening into each aisle. The north and south sides have each a range of four three-light windows, of alternately different design. The principal feature of the design is the tower, which forms the main entrance. The upper part is an octagonal lantern, with the lights filled with slab tracery. Above the lights are crocketed canopies, surmounted by carved finials, and finished by grotesque heads at the terminations. The lantern is finished by an open carved parapet and carved pinnacles. Behind the parapet rises the spire, surmounted by a gilt cross, being in height 85 feet from the ground. The windows of the apse are filled with stained glass. Behind the chapel are a school-room, about 10 feet by 20 feet, with lofty open roof, and a vestry, boiler-room, and outbuildings. The architect is Mr. Pritchett, of Darlington. The contractor for the general work is Mr. Pollard, of Taunton. The ironwork and gasfittings have been furnished by Messrs. Hart, of London. The carving has been executed by Mr. Herley, of Ellastone, under the general contractor. The warming and ventilating were done by Messrs. Haden, of Trowbridge; and the stained-glass windows by Messrs. Hodgson, of York.

Manningford Bohune.—The district of Manningford Bohune, which is part of the parish of Manningford Bruce, has hitherto had no church of its own; but this want is now about to be supplied, the foundation-stone of a church for that place having just been laid. The church, which is to be in the Early English style, is from the design of Mr. W. C. Clacy, of Devizes, architect, and is calculated to seat 160 persons: the cost, including boundary walls, will be about 1,300*l.* of which 1,100*l.* are already in hand; the Rev. Canon Howman, rector of Barnsley, Cirencester, contributing 700*l.* Messrs. May and Son, of Bath, are the contractors.

Broughton.—The old church has been demolished, and the foundation of a new one has been laid about a quarter of a mile from the old site, in a pleasant spot on Yorton farm. The style is Early English, from a design by Mr. T. D. Barry, of Liverpool. The building, calculated to contain about eighty sittings, is 44 feet long by 17 feet wide. There will be a small vestry on the north side, and a bell-turret. Messrs. Smith and Kauk are the builders. Sufficient funds are not yet raised for the completion of the edifice.

Plymouth.—A mural monument of white marble, from the design of Mr. Damant, executed by Mr. Bovey, has been erected in the outer vestry of St. Andrew's Church, Plymouth, to the memory of the late Mr. Augustus Hamilton Bampton, civil engineer.

Cardiff.—A Hebrew synagogue has been opened in Cardiff It is capable of accommodating about 100 persons. It is situated in East-terrace, and has been built by Mr. Edwards, of Newport, from a design supplied by Mr. Paul, of Cardiff, architect, at a cost of 600*l.*

Merthyr. The new church at Penydarren has been opened. It is a plain building, almost devoid of ornament, and is surmounted by a bell-turret, rising 16 feet from the ridge of the roof, and 60 feet from the ground. Its length externally is 91 feet, the width 32 feet, and height to the ridge of the roof, 44 feet. In style it is what may be termed Early Pointed Gothic. It has four windows on each side, of freestone work, and two at each end. The roof is of reddish slate. The interior is open from end to end. The edifice has been erected from the design of Mr. Brigden, of Dowlais. He submitted two designs, the one simple, the other more ornate. Preference was given to the simpler structure, and Mr. John Gabe contracted to erect it for 820*l.* The work was carried out under the inspection of Mr. M. Davies.

Hanmer.—The vicar of Hanmer, in correcting a statement made by a correspondent of the *Shrewsbury Chronicle* as to the repairs of Hanmer church, says,—"The 'superb chancel window of stained glass,' exists, alas! only in your correspondent's imagination. There is not a particle of stained glass in the chancel. Of the real improvements which are transforming Hanmer church from a disgrace into an honour to the parish, nothing is said,—such as the entire relaying of the floor, the re-arrangement of the seats, and the almost total removal of the unsightly gallery; nor is the fact alluded to that the restoration of the beautiful oak roofs of the north and south aisles was executed entirely at Sir J. Hanmer's expense, by Mr. Morris, of Chester, as a gift to the parish."

Edgeley.—A new church, dedicated to St. Matthew, has been consecrated in the populous district of Brinksway. The land, about an acre, was given by Mr. Robt. Gee, of Holly Wood. The building is of stone. There is to be a tower and spire 165 feet high. The nave is pewed with open seats. There is accommodation for 600 persons, one half free. The cost has been about 4,000*l.* The design of the edifice was furnished by Mr. J. S. Crowther, of Manchester, architect. The style is Transitional Geometric, the windows containing fully developed tracery, each member of the tracery springing out of the soffits of each other. The plan of the church consists of a nave, with north and south aisles, and fully developed chancel. Messrs. Longson, builders, were the contractors for the work, except the masonry, that having been taken by Mr. Haywood, of Alderley.

Ruabon. The new Congregational Chapel here was opened on the 5th inst. The cost of the edifice is somewhat more than 1,200*l.* about 300*l.* of which still remains upon it. The building is in the Early Decorated style of Gothic architecture. It is 48 feet long by 28 feet 8 inches broad, and will accommodate 250 persons. The design has been prepared and carried out by Mr. W. I. Mason, of Liverpool, architect, the contract for the works being taken by Mr. John Williams, of Ruabon.

New Malton. St. Michael's Church, New Malton, has been restored and re-opened. Besides various other restorations and alterations the whole of the building has been rechiselled, the old pews and west gallery removed, the whole of the windows restored, and a new one inserted on the north side: the chancel is new. The *tout ensemble* of the edifice is that of a new one, in the Norman style: in the interior every vestige of antiquity has disappeared. Mr. Chantrell was the architect employed in the restoration, and Mr. J. C. Teale, of Malton, the builder; Messrs. Gibson and Skirrey, the contractors for the woodwork; Mr. J. Moca for the ironwork, gas fittings, and warming apparatus; Mr. J. Jackson, the plumbing; and Mr. J. Shepherd, of Malton, the painting.

Darlington. The new cemetery for Darlington was consecrated on 28th ult. It is situated about a mile from the centre of the town, and comprises twelve acres, laid out and planted by Mr. J. Bowker, of Scarborough, gardener. The chapels stand on an eminence, dividing the consecrated and unconsecrated portions of the ground, and are attached to the central tower by porches opening from the archway through it. The buildings are designed in the Late Decorated style of English architecture. The walls are built of snecked quarry-faced wall stone, from Dunhouse quarry, the dressings being of tooled stone from the same place. Each chapel is lighted by a four-light window at each end, and two two-light windows at each side. The floor is paved with Minton's tiles, and the windows filled with Hartley's cathedral tinted glass. The tower, which is the principal feature of the design, forms a carriage-porch in the lower part, through which funeral processions will drive for the mourners to alight at the porches under cover. The upper part forms an octagonal lantern containing the bell cast by Warner and Sons, and has carved canopies, open parapet and pinnacles, and is surmounted by a spire terminating in a gilt cross 100 feet from the ground. The lodge near the entrance-gates is built of red brick with stone dressings. The buildings are executed from the design and under the superintendence of Mr. J. P. Pritchett, architect. The masonry and carving were executed by Mr. W. E. Jackson, of York. The joiners' work was executed by Messrs. Elwin and Son, of Darlington. The cost of the land was 2,400*l.* and the entire outlay about 7,000*l.*

Dublin. The new Presbyterian Church, at Sandymount, was expected to be opened for divine worship on the 23rd instant. It is picturesquely situated on the angle of the Sandymount-road and Tritonville-avenue. It is in the Decorated style of Gothic architecture, and is in form a simple oblong or double square, the interior dimensions being 60 feet long by 30 feet, giving accommodation for 300 persons. A large porch, forming the main entrance, occupies the westmost bay on the north side, with small tower in the west angle, in which provision is made for a staircase to a gallery (when it is required), to contain about 120 sittings. The tower is capped with a slated spirelet. The church is divided by buttresses into five bays, having two-light windows in each, and a large five-light window in the west gable, with small single-light windows below for lighting under the gallery. In the interior, the roof is open up to the ridge. The woodwork is stained and varnished. The architects are Messrs. Hay, of Liverpool, whose designs have been carried out by the contractor, Mr. S. H. Bolton, of Dublin.

PROVINCIAL NEWS.

Redhill. The Nuisance Removal Committee for the borough of Linkfield, have called for tenders for the construction of a sewer, which will form the commencement of a system of sewers for draining the borough.

Worcester.—The New National School building, in Mill lane, is nearly completed. The materials are red brick, faced with Bath stone. About 500 children can be accommodated. There will be an infants' school and a mixed school, also a residence for the infant school-mistress and another for the master and mistress of the mixed school. Mr. Elmslie was the architect, and Mr. Davis the builder. Lady Emily Foley presented the land for the site, and the funds for the erection were raised by a Government grant of 1,215*l.*, and a public subscription, to which the Morris family gave about 600*l.* The building will cost nearly 3,000*l.* There is still a small deficiency.

Weymouth.—At a meeting of the Town Council of Weymouth, the proposal of Mr. Joseph Cubitt to superintend the erection of the Pile pier on the following terms, namely,—200*l.* for his own services and expenses, and three guineas a week for a clerk of works to be appointed by him, with the clerk's expenses to Weymouth and back, was considered and agreed to, and Mr. James Payne, of Rotherhithe, appointed as the contractor, on the usual condition as to his sureties.

Leeds.—The salary of the borough surveyor of Leeds has been advanced to 300*l.* per annum,—no very large sum, considering the extent and importance of the town.—The Town Council has voted 800*l.* for a clock and bell for a tower to the new town-hall; 2,000*l.* for laying out the exterior of the building; and 1,650*l.* for gas chandeliers and fittings for the large hall and other parts of the building, in addition to 600*l.* previously granted for the purpose. The mover that these sums be granted, stated that, with reference to the clock and bell, a number of estimates were sent in, and the lowest, or the lowest within 1*l.* or 2*l.*, was from a first-rate maker, who offered to make an illuminated clock, with four faces of 13 feet diameter, for 500*l.*; if chime-works were added, 150*l.* more; a bell, weighing 35 cwt., 300*l.*, or 45 cwt., 400*l.*; and if quarter bells in addition, 280*l.* extra. If chimes were preferred, he offered to provide a chime of twelve bells, weighing ten tons, for 1,470*l.* The committee proposed, however, merely to have a clock, and one bell weighing 35 cwt., and if quarter bells or chimes were afterwards wanted, they could be added without difficulty. With regard to the tower, he added that the works had been suspended because they had no stone, but it was probable it would not be completed before the opening. The architect thought it desirable that sufficient time should be allowed for the foundation to consolidate.

WATER-CISTERNS AND FIREPROOF STAIRS.

I CONSIDER the suggestions on this subject have not yet been fully responded to; therefore I beg to add a few practical remarks, having made cisterns of brick and cement, terra cotta and slate; also stairs of the same materials for a long time. I consider no water-cistern is complete or adapted for general use, especially for towns, without it at the same time acting as a filter. I have not seen or heard of such a thing made for sale and ordinary use, though it is easily accomplished. In the country most wells have some animalculæ, more than it is agreeable to swallow, in the water.

For economy, I recommend brick on edge in cement for cisterns to hold 200 or 300 gallons; if larger, half a brick thick, and cemented inside; this, with a filtering stone partition, can be made for about half the expense of earthenware, and water would keep more pure in cemented cisterns. There is so much risk in burning earthenware of a size for general use for filtering, that it increases the cost too much. I have one in use I made, containing twenty-four gallons, that filters and supplies a family, with only to pump into it once a day, and let out the animalculæ and filth weekly. This sort of cistern can be made by a handy bricklayer who knows *how* to use cement *properly*.

Slate cisterns are perhaps the most applicable for general use, being lighter to move about than even brick and cement; but the cost, on the same filtering principle, is from twenty-five to thirty-five per cent. more than brick and cement.

For fire-proof stairs I recommend slate, especially Valentia, for economy, strength, and general use, being more likely to compete with wood than earthenware. Where there are not two supporting walls, I make brick on edge in cement for the other end; but they can of course be built in the wall, the same as stone, and infinitely stronger than Portland stone, especially for stairs of public resort or amusement, which get weakened by wear; and, loaded as they sometimes are, it is wonderful there are not more accidents, like that which occurred at Chelmsford, more so to those by whom Portland is worked, knowing what large fossil shells occur in it, that tend to weaken it for such purposes, especially when cut of the usual form.

The risers of slate stairs can be drilled in various devices, very simply, for cheapness, instead of the frequent dark closets under, in small houses; a for superior houses they admit of tasteful tre ment. The risers may be formed of Minton's, other inlaid tiles, terra-cotta panels, &c.

For a Tudor villa I have formed the risers complete quatrefoil and other panels, in Keene cement, backed with fine perforated zinc, painte black; the stair-carpet and rods being turn under the nosings. The newels, balustrade, also of Keene's cement, answer admirably; t landings should be of slate, fireproof as can b and not expensive, as no ceiling is required und it: by these means fireproof staircases are applicable to the cottage as the mansion, but most ordinary dwellings built for profit, *fireproo ing* is too little thought of, but whatever com cheapest, regardless of durability, so that it is b of little use to recommend improvements unle cheapness is combined. Some will rest content because they are insured, and go on making pr paration for a fire; but what a source of satisfa tion to know if it *does* happen, there are reac means of exit by the stairs, the necessity of whic I need not urge.

I will conclude by making a suggestion to iron founders to cast step and riser in a piece, som with a neat open riser, but serrated on the top t prevent their being slippery, or provision for strip of lead on the front edge.

I write somewhat as I feel on this subject, havin been a sufferer by fire twice. JAS. PULHAM.

A WOODEN CHURCH.

THE wooden church lately erected at Upp Holloway, for the Rev. Henry Hampton, from th designs of Mr. George Truefitt, architect, wa completed in six weeks by Messrs. Evans, builders at a cost of 700*l.*: it contains 900 sittings. Th diameter of the building is 84 feet, height to top of cross 72 feet, the span of roof 64 feet, being only 2 feet less than that of Westminster Hall. The appearance of the interior is extremely high and effective, and shows what may be done in church building with inexpensive materials.

We are informed that if the building had been erected as a permanent one, with brick walls slate roofs, &c. the amount spent would even then have been under thirty shillings per sitting.

The building is a polygon constructed with twenty-four principals, the outer upright posts 9 in. by 3 in. 16 feet high, being well braced together, having boarding inside and out, and being filled in with sawdust. The inner posts and principal rafters are 7 in. by 3 in.; the other framing of principals being 6 in. by 3 in. Principal rafters, 59 feet in length, join into a ring 60 feet from the floor. The ribs of principals are canted off at angles, and meet in a ring 16 feet diameter, and 47 feet from the floor: these two rings are each 8 in. by 4 in., surrounded with plates of iron, and well bolted in every part. Above the upper ring is a lantern for ventilation, and below it, for 10 feet, are large sheets of Hartley's rough glass, through which the building is lighted. The under sides of the ribs are coloured bright blue. Between each principal at the commencement of the ribs a pair of struts rise, meeting each other, where they help to support a purlin 12 feet above.

The Decalogue was designed and executed by the architect. The seats rise from the centre. There are five entrances, vestry, bell-turret, and a good organ, by Hunter and Webb, for which the gabled roof was projected.

THE BUILDERS' BENEVOLENT INSTITUTION.

LAST week the thirteenth election of candidates for the benefits of this valuable Institution, took place at the London Tavern, Bishopsgate-street, Mr. George Bird, treasurer, in the absence of Mr. Alderman Rose, occupying the chair.

The chairman, in opening the proceedings, said that upon this occasion, as far as he was concerned, there was very little to be done. They had met together for the purpose of electing from nine male and five female candidates, two persons, one from either sex, as recipients of the benefits attached to the Institution; but at the same time he could not but express his sorrow that their means were not large enough to enable them to relieve a greater number of the numerous applicants. He however hoped that those who had not yet contributed to aid and support the fund of the Institution, would now come forward, and by preserving the interests of that Institution, enable them to relieve in future a greater number of the aged and necessitous, and smoothe the declining years of their less fortunate brethren. He concluded by declaring the poll open.

The names and numbers of the successful candidates having been announced,

The chairman rose, and said he found with much surprise, that 250 subscribers had not balloted, which on the whole would amount to 800 votes. He regretted that subscribers did not take more interest in the candidates, and exert themselves, so that a return of their votes might be recorded. He could not, by the way, help referring to one poor woman, who had, previous to her application, broken her thigh, and subsequently her arm.

Mr. Joshua Higgs hoped that the provincial towns would form committees, and like the old Brighton branch, exert themselves to aid the parent Institution.

Mr. Williams (of Brighton), said in one sense he could not but say he was sorry that his candidate had been successful, because he thought she had supplanted one in London, who perhaps more needed the Institution's benefits. He regretted that the state of the funds would admit only of the election of two candidates, as he also did for the large number of the necessitous, for whom he deeply felt and sympathized.

On the motion of Mr. Joseph Bird, a vote of thanks to the chairman, for the efficient manner in which he had fulfilled that duty, as also for his unwearying and untiring efforts for the promotion of the welfare of the Institution, was passed.

A vote of thanks to the scrutineers, Messrs. Bezens, Higgs, and Thorn, concluded the proceedings.

SCHOOL OF ART, YARMOUTH.

THE distribution of prizes to successful students in the late local competition for medals and prizes in the School of Art, Yarmouth, shows us that even in a comparatively small town an art school may be of considerable advantage to the inhabitants. The difficulty of keeping alive the interest of provincial art patrons, and the sluggishness displayed by those for whose benefit art schools are established, are among the evils which an art master has to contend with: when he succeeds in both overcoming the latter and maintaining the former for a moderate length of time, success in such a school must follow as a natural consequence. This, however, is not an easy task, as those have felt who have more encouraging theatres of work than Great Yarmouth. It would appear from the provincial report of a meeting convened in the Town-hall at Yarmouth, for the distribution of prizes obtained by art students there, that both of these objects have been tolerably well accomplished, for we find that after many changes and reverses since its first establishment, in 1854, the School of Art has now become recognized by the town authorities, and, together with a school of science (recently established there also), considered deserving the support and co-operation of the Mayor and Council of Yarmouth as representatives of the town itself. This is a sensible step, and one which, if consistently carried on, may contribute very materially to the prosperity of the locality, as well as to its education and refinement.

The number of prizes and medals obtained by the students and pupils of the Parochial Schools is much larger than in any previous year; and, from the number of the parochial pupils, we should be inclined to think that the system of general art education is successfully carried on. We must, however, caution masters of art schools against the question of making parochial teaching a secondary consideration. It is the most important of their duties, though by no means necessarily to be carried on by themselves in person. Mr. Chevalier, the master at Yarmouth, seems to understand this, and the people there are indebted to him for this as well as for his success in other things.

IRISH NEWS.

A new banking-house for the National Bank is being built at Clonmel, in a prominent position. It has a frontage of about 70 feet, to Bagwell-street a similar depth, and is raised to level of first floor. The style is Italian, and the centre, 36 feet in width, projects from the sides, in which the entrance-doors are placed. The lower story is rusticated, and has vermiculated work round the window opes, and the upper windows are quare-headed. The whole surmounted by a main cornice, above which is a balustraded parapet, continued the extent only of the central projection. Internally it contains the usual accommodation for manager, clerks, and the public. Mr. Caldbeck, architect. Mr. Wm. Brash, contractor.

The same directory and the same architect are building a bank at Cashel, Italian in character, three stories high, with a frontage of 30 feet. The lower story is rusticated, and has large semi-circular-headed windows.

Likewise, at Mullingar, three stories high, and 50 feet frontage, with all the usual requirements internally.

Ballyfin church, situated on the estate of Sir Charles Henry Coote, bart. has been remodelled, and a vestibule, 15 feet square, with vault underneath built. The roof, which formerly had a flat ceiling, has been made open, and the timbers stained and varnished, as also all the internal fittings. A semi-octagon transept, with additional sittings, has been added. Buttresses are introduced externally, and new Gothic-headed windows built. The outside of the walls is finished in Portland cement, and the tower has been ornamented with finials and battlemented parapet, the total height to top of spire being now 60 feet. Expenditure about 1,100*l*. Mr. Caldbeck is the architect. Mr. Waldron, of Edenderry, the contractor.

Schools for 200 children are to be built at Drogheda, in connection with the Presentation Convent. Mr. Caldbeck, architect.

A new convent chapel has been built at Rells, and consists of nave, chancel, and organ-gallery; is 38 feet by 18 feet, independent of chancel; style Gothic. The east window is decorated, and filled with stained glass. The roof is of open timber work, stained and varnished. Material of walling, black stone, and lime stone dressings. Mr. Caldbeck, architect; Mr. Nutty, of Rells, the contractor. Cost 700*l*.

The foundation-stone of a new Roman Catholic church has been laid at Ringsend, Dublin, and the building will be dedicated to St. Patrick. It adjoins the bridge, and occupies a site of 174 feet by 106 feet. There are on it at present two buildings, one a school, the other a presbytery.

Tenders are being received for alterations and additions to Mayo Court-house, according to designs by Mr. Carson, architect, who recently obtained a premium of 50*l*. for same in competition.

A new mansion, of important character, and occupying an area of 85 feet by 40 feet, is being erected at Williamstown, near Castlebellingham, for Finlay Chester, esq. Mr. Caldbeck, architect.

Considerable additions and alterations are being made by the same architect, to Knock Abbey Castle, for Myles W. O'Reilly, esq. The present building is in the Baronial style, and a new front and flank are to beadded. A battlemented parapet, square tower, and transomed windows, with label mouldings, are chief features. Mr. Caldbeck, architect.

THE IRONMONGERS' ASSOCIATION.

ON Wednesday evening the second annual dinner of the above Association took place at the George and Blue Boar, Holborn, under the presidency of Mr. W. S. Burton, who was supported by Messrs. Hibbert, Atkins, Wilson, Smart, Critchley (of Sheffield), Mr. Smith (of Birmingham), and many influential members of the trade. About 120 individuals sat down to dinner.

The objects of the Ironmongers' Association, it may be well to mention, are to promote a friendly and amicable feeling amongst all the members of the trade; to obtain and give information respecting assistants and vacancies; to assist (by means of a loan without interest), any member who, from accident, illness, or any unavoidable cause, may require such temporary assistance; to solicit from manufacturers and others any new patent, pattern, or invention, for the purpose of having a quarterly exhibition; and to establish a library and lecture-room, where the mind may be developed and improved, and the trade derive a benefit. These advantages are confined to persons who are acting in the capacity either of traveller, assistant, clerk, or warehouseman, in the ironmongery or metal trades.

After dinner, and the usual loyal toasts had been given and enthusiastically received, the second annual report was read by the secretary, Mr. J. W. Sutton. It exhibited a very marked success in the operations of the Association. Commencing with the increase of patrons and members, the past year recorded 35 new patrons and 57 members, making now in all 11 patrons and 121 members. The committee referred with pleasure to the great benefit the various lectures delivered during the year had produced, especially the one by Mr. Hobbs on "Locks."

The chairman, in proposing the toast "Success to the Ironmongers' Association," remarked upon its original and independent character. It bore little, if any, resemblance to other societies established in connection with the various branches of their trade, for they partook almost of the character of peculiar pecuniary institutions, while in the Ironmongers' Association, money, although an element, was so very subordinate, as far as the objects were concerned, that it could scarcely be regarded as an element in its constitution. He looked upon the Association more in the light of a training and educational institution than as a benevolent society; and although he thought it was susceptible of improvement and enlargement in its own sphere of action, he could not shut his eyes to the fact that much good had already been effected through its agency.

METROPOLITAN BUILDINGS AND THE METROPOLITAN BOARD OF WORKS.

AT the meeting of the board to be held on Friday, 28th, a statement from the Committee under the Building Act will be brought up;

Reporting, amongst other matters, –

"That, from the inquiries instituted by the Committee, it appears that the district surveyor, Mr. Foxhall, did not fail in his duty with reference to the construction of the fire-place, at No. 13, Sutherland-terrace, Pimlico, in consequence of the faulty construction of which a fire occurred; and recommending—That the district surveyor be instructed to summon the builder who was engaged in reinstating the premises after the fire, for not giving notice of the reinstatement.

That, in the case of the fire which occurred at No. 7, Hyde-park-terrace, the fire-place of the house was constructed contrary to the provisions of the Metropolitan Building Act; that the district surveyor received notice of the intention to alter the premises, and ought to have superintended the work, and detected the faulty construction of the fire-place in question: and recommending—That a communication be addressed to Mr. Gutch, the district surveyor, informing him to that effect, and also informing him that a serious fire has arisen, from similar circumstances, at No. 119, Westbourne-terrace.

Recommending—

That a circular be addressed to the district surveyors calling their attention to the neglect of builders in giving proper notices of alterations, and the necessity for employing more stringent measures in order to compel stricter compliance with the act in this particular.

Reporting –

That the committee see no reason calling for any departure from the previous practice of the board in refusing to allow an additional fee for a second survey of a dangerous structure, as the committee consider that a sufficient inspection and report should be made in the first instance, so as to comprehend all the defects in the structure.

That the committee have investigated the complaint of Mr. Hunt, relative to the conduct of Mr. Badger, District Surveyor, Lewisham, and that the facts of the case are not such as, in their opinion, call for the interference of the Board.

Recommending—

That the line of thoroughfare from Oxford-street to Portland-road, Marylebone, be called Great Portland-street throughout; that the several houses and premises be re-numbered, the odd numbers being assigned to the houses on the west side, and the even numbers to those on the east side; that such numbers do commence at Oxford-street, and that notices be served upon the occupiers of the said several houses and premises accordingly.

Reporting—

That the committee have investigated the subject of the irregular building erected on the forecourt of No. 197, Marylebone-road, and are of opinion that it was the duty of the district surveyor, Mr. Jennings, to take steps for the removal of such irregular structure; and that he has been guilty of a grave dereliction of duty in omitting to take that course."

PICTURE-PURCHASES BY ART-UNION OF LONDON.

THE following works, amongst others, have been selected up to this time, by the prizeholders of the Art-Union of London:—

From the Royal Academy.—The Gauler's Daughter, P. H. Calderon, 200*l*.; Tibbie Inglis, the shepherd's daughter, T. F. Marshall, 100*l*.; Pensive Moments, S. B. Halle, 73*l*. 10*s*.; At Trarbach on the Moselle, G. C. Stanfield, 42*l*.; Kate—"Taming of the Shrew," T. F. Dicksee, 52*l*. 10*s*.; The Valentine, G. Smith, 36*l*. 15*s*.; A Highland Dairy, A. Cooper, R.A., 31*l*. 10*s*.; The Rest by the Way, N. O. Lupton, 35*l*.; Loch Nicraig, A. Stanley, 25*l*.; A Quiet Pipe, G. Smith, 26*l*. 5*s*.; A Lane at Beckenham, R. P. Noble, 26*l*. 5*s*.

From the British Institution.—Beatrice de Dante, H. Weigall, 60*l*.; Sheep-Washing, J. Stark, 25*l*.; Net-Making, E. J. Cobbett, 25*l*.; "Come into the Garden, Maude," J. D. Wingfield, 20*l*.; the River Teign, near Chagford, T. J. Soper, 20*l*.; St. Mary's Redcliffe, A. Montague, 20*l*.

From the Society of British Artists.—Lyme Cob, Coast of Dorset, J. B. Fyne, 75*l*.; Distant View of Swansea, J. Tennant, 50*l*.; Near Snowdon, W. W. and J. C. Morris, 30*l*.; The Wedding Day, T. Clater, 40*l*.; Bay of Swansea, A. F. Rolfe, 30*l*.; Lyme Dinas, H. J. Boddington, 42*l*.; Hide and Seek, J. Bouvier, 25*l*.; The Evening's Repose, R. Benedict, 20*l*.; Gossip on the Way, T. Clater, 20*l*.

From the National Institution:—Waiting for Fish, W. Underhill, 75*l*.; A Bright Day at Ulleswater, S. R. Percy, 75*l*.; Derwentwater, C. Pettitt, 50*l*.; Buttermere, E. A. Pettitt, 25*l*.; Scene on the River Trent, B. Shipman, 21*l*.; Going to the Mill, N. O. Lupton, 20*l*.; The Homestead, J. F. Herring and A. F. Rolfe, 20*l*.; Babes in the Wood, F. Underhill, 25*l*.

From the Old Water-Colour Society.—Going to Market, W. Goodall, 40*l*.; Hastings—East Cliff, C. Davidson, 30*l*.; A Summer Noon, G. Dodgson, 20*l*.

From the New Water-Colour Society.—Still Life, Mrs. Margetts, 30*l*.; Near the Lac de Garda, Tyrol, Mrs. W. Oliver, 21*l*.

From the Royal Scottish Academy.—Wetherall Abbey, J. C. Wintour, 20*l*.

From the Society of Female Artists. Lower End of Loch Tummel, Miss Stoddart, 20*l*.

"GRAVEN IMAGES."

SIR, In an article in your last number, with the signature of "Robert Kerr,"—an article read at the Architectural Exhibition,—there occurs the following astounding statement:—"The second commandment of Moses [sic] forbids not merely the worshipping, but the making of any graven image or any likeness," *i. e.* "denounces the arts of sculpture and painting altogether, because in Egypt these had been so entirely identified with idolatry." I had certainly imagined that no sensible Christian held such an extraordinary view of the second commandment as this. Has Mr. Kerr never been taught that it is not the making of images that is forbidden, but the making of them with a view to falling down and worshipping them? Does he not know that in the holiest place in the Jewish temple,—on the altar itself,—the Shechinah, or visible manifestation of God's Presence, rested "between the wings of the cherubim," or two figures, or "images," or "likenesses," of angels, standing on the north and south ends of the altar, whose wings extended inward and formed a sort of cradle, in which the Divine Presence rested and made itself manifest? And does he not know that these "images" were made under God's own direction? And would God have (I write it with all reverence) so stultified His own commands as to have commanded two images to have been placed on the very altar itself, if His command had forbidden the "making of any graven image or likeness," as Mr. Kerr interprets this command?

How can a sensible man's mind have become so warped? When will the *virus* of Puritan and Protestant tradition cease to enslave and poison so many English minds?—minds, too, that promise great and noble things, if they could only get clear of that shallow prejudice which stunts and distorts both their faith and practice; and makes their owners (to use a simile of an eccentric English monarch) prefer to go barefoot, rather than demean themselves by servilely imitating certain sounder-headed but hated neighbours of theirs, by wearing shoes; a proceeding which would ruffle their trumpery dignity: for the minds of such specimens of religious humanity have not manliness enough to be taught by an enemy,—even in a common-sense question. ANGLICAN.

Books Received.

VARIORUM.

A VERY useful little volume titled "Chronology for Schools, being a revised abridgment of the 'Compendium of Chronology,' and containing the most important dates of general history (political, ecclesiastical, and literary), from the creation of the world to the end of the year 1857 By F. H. Jaquemont; edited by the Rev. John Alcoran, M.A.," has just been published by Messrs. Longman and Co. So far as the work relates to ancient history, this present edition is an abridgment, but the modern part has been greatly enlarged. The history of the British empire is printed in italics amongst the general matter; and there are indices facilitating the use of the whole as a book of reference.——By the same publishers has been issued a tract titled "An Introduction to Grammar on its true Basis with relation to Logic and Rhetoric." The essay is submitted, by the author, Mr. B. H. Smart, to the consideration of teachers as well as learners, and can scarcely be called a school treatise, being rather too logical and metaphysical for children.——The "First Report of the Vestry of the parish of Chelsea," under the Metropolis Local Management Act, 1855, has been printed. It treats of parochial and other matters for 1856-7. The authorities complain in their report that although the Government had 145,753*l.* voted by Parliament for the river embankment at Chelsea, the embankment had not proceeded farther westward than Chelsea Hospital; while a public company had been prevented, by the Chief Commissioner of Works for the time, from procuring an act of Parliament for making this embankment, on the ground that it would be improper such a company should have the control of the river frontage. The population of Chelsea, once a sparsely-studded "village of palaces," is now upwards of 64,000. It contains twenty-one miles of streets, and forty-four miles of footways. The rateable value is 208,510*l.*; the number of houses, 8,252, only 1,123 of which are above 40*l.* rateable value.——Two standard little books for emigrants, published by Wilson, of the Royal Exchange, London, have just entered their fifth edition: these are Mr. D. Puseley's "Rise, Progress, and Present Condition of Australia and Tasmania," and of "New Zealand:" each treatise comprising "necessary information for all classes of emigrants from authentic sources and personal observation." Mr. Puseley was some time a resident in these colonies, and he had access to Government sources for much of his statistical and other information. The works are, therefore, by no means mere home-manufactures, and of this there is sufficient internal evidence. The author, not only has a "high opinion" of New Zealand and of "its incomparable climate," but he says,—"if asked to name the first colony in the southern hemisphere, as a desirable home for the intending emigrant, the writer, with the most impartial sincerity, would answer—New Zealand."——In a "Letter of a Canadian Merchant, on the Prospects of British Shipping in connection with the Grand Trunk Railway of Canada" (Algar and Street, Clement's-lane, London), the writer points attention to the importance of this most comprehensive system of railway, and of Quebec and Portland in connection with it, as an outlet for the agricultural and other wealth of the Far West, and a way in for immigrants to the fertile territories which the Grand Trunk and its feeders have opened up.

Miscellanea.

ELECTRO-TELEGRAPHIC PROGRESS.—Experiments it seems have been tried in Paris, at the office of the *Moniteur*, to test the invention of M. de Lucy Fossarieu, "by which every kind of despatch, in whatever language, can be reproduced with mathematical precision and identity." A *transmetteur* and *récepteur* appear to have been invented, by the latter of which the writing of the former is reproduced with an exactness and rapidity of which the photographic process can alone convey a correct notion. Another still more expeditious method is said to have been discovered by the Abbé Casselli, of Florence. By this, facsimiles of manuscripts and drawings, coloured or otherwise, upon common paper, steeped in a certain liquid, can be transmitted to any distance. The machinery is self-acting. The paper required to be telegraphed is wrapped round a cylinder at one station, and another paper, similarly prepared, is rolled round a second cylinder at the other station. The machinery is put in motion, and a fac-simile of whatever is contained on the one paper is immediately reproduced on the other. The idea is not altogether new, whatever improvements may have been effected in it.—From a communication sent us by a Glasgow correspondent, it appears that Mr. N. J. Holmes, who has already realized improvements in the telegraph, has made a further discovery, of importance, especially in long lines such as the Atlantic cable. As described, the advantages of this improvement comprise a capability of being worked over very long or extended circuits by the direct action of the current without the intervention of the relays or secondary currents now in use, while the amount of battery power, requisite to transmit signals on long or short circuits, is reduced by one-half or more, both from the capabilities of the invention and the absence of secondary power. The large amount of battery power now used tends to impair the individuality of the signals, and this defect, by the reduction of the power, would be overcome. The invention is said to be applicable to all the existing systems of telegraphing, with comparatively little outlay. It is not yet patented, and therefore is not particularly described; but an offer is said to have been made of it to the Atlantic Company.

THE FINANCES OF THE CORPORATION OF LONDON.—According to a report on the revenues of the corporation, they have incurred prodigious liabilities. Within the last ten years they have expended upwards of 915,000*l.* over and above their income; 550,000*l.* having been expended in the Cannon-street improvements, 450,000*l.* on the new market, and 270,000*l.* in the Clerkenwell improvements, the entire returns from which do not now amount to upwards of 9,000*l.* per year, including the ground-rents and the tolls of old Smithfield-market. It is understood that all the ground-rents of the Cannon-street improvements now remaining unsold will be disposed of, and upon the sale of the surplus ground in Clerkenwell being completed, sums will be realized in diminution of the aggregate debt, so as to leave the deficiency on the whole improvements about 900,000*l.*

GAS EXPLOSIONS.—Explosions of gas causing serious injury to person and property having recently occurred, I have made inquiry as to the cause of the escape of gas, and having ascertained that the escape was from the hydraulic slide of the chandelier, in consequence of its becoming unsealed by the evaporation of the water, I beg through your columns to point out the necessity for attention to the hydraulic slides, and to recommend a simple remedy against evaporation. When the hydraulic tube is supplied with water, a teaspoonful of good salad oil should be afterwards added, which will effectually prevent evaporation of the water. I have in some cases had the hydraulic tubes filled entirely with oil, but found that the chandelier did not work so well as in water for any length of time. My object was to avoid the constant evaporation of the water, which object is effected by the use of a small portion of oil as above stated.

MAGNUS OHREN.

LATTICE GIRDERS, ITALIAN OPERA HOUSE.—We are asked to state that the design of these girders has been wrongly attributed, and that it is due to Mr. S. Barrass, acting in conjunction with Messrs. Grissell.

THE ITALIAN OPERA HOUSE.—Sir, in your notice last week in the *Builder* of the Royal Italian Opera House, Covent Garden, you gave a list of those by whom the various works were executed; but our names were omitted. I beg to state that all the paper hangings for the boxes, including her Majesty's and the Duke of Bedford's boxes, retiring rooms and staircases, were supplied and hung by us.—J. COLE and SON.

THE CRYSTAL PALACE.—The Flower Show at the Crystal Palace on Saturday, the 22nd, whether as respects the flowers, the day, or the attendance, was a success. The number of plants collected was very large, and some of them were singularly beautiful specimens. Music and the fountains contributed to the enjoyments of the day. The music-loving public will have heard with pleasure that arrangements have been completed with Mr. Gye for Six Concerts on a grand scale, comprising the entire talent of the Royal Italian Opera. These Concerts will commence on Friday, 28th May, and be continued fortnightly.

THE ADELPHI THEATRE.—The pleasant little Adelphi is to be rebuilt forthwith, it seems, from the designs of Mr. Thomas H. Wyatt. Additional space, we suppose, will be obtained so as to give what is so much wanted there, more stage room. Mr. Webster and Madame Celeste have added to the association of the old house by their admirable acting in "Our French Governess."

THE GALLERY OF ILLUSTRATION, REGENT-STREET.—Mr. and Mrs. German Reed's new entertainment, "After the Ball," although it presents scarcely such variety of character as that which preceded it, is very cleverly written, capitally acted and sung, and exceedingly amusing. Mr. Reed is more at home than formerly, and Mrs. Reed has no occasion to be so: her versatility, talent, and acquirements, are unrivalled. A good Elizabethan interior, enlivened by oblique lines in the disposition of the walls and ceilings, provides an effective scene for the display of the entertainment.

NEW VESSELS LONGER THAN THE LEVIATHAN.—The *Liverpool Albion* says that two vessels of greater length than the *Leviathan*, and of a more remarkable character, have been advancing to completion in Liverpool without the general public being even cognizant of their existence. These vessels are each 700 feet long. They have been constructed by Messrs. Vernon and Son, for the Oriental Inland Steam Company, and are intended for the navigation of the Indian rivers. The purpose of their peculiar features of construction is to enable a large cargo to be carried at a good rate of speed upon a light draught of water. As great length without other provision would imply great weakness, each vessel is broken up into six parts, each of which part floats and is a complete vessel of itself, so that each vessel consists, in fact, of six independent vessels, or barges, of which the first one is a steamer, towing all the rest.

PROPOSED PUBLIC BUILDINGS AT IRVINE.—Public buildings are about to be erected in Irvine, a considerable town in the west of Scotland. The site of the buildings is that of the public market, opposite to the present town-house, an old building standing in the centre of the street. The new building includes on the ground floor, the town clerk's offices, record-room, council-hall, &c.; and on the second floor is the town-hall, 70 feet by 32 feet 6 inches, with retiring-rooms, &c. The walls throughout will be of stone. The cost will be about 3,500*l.* Mr. Ingram, of Kilmarnock, is the architect. The building is Italian in style, in two stories, with a tower over the central doorway.

HOLY TRINITY DISTRICT SCHOOLS, WEYMOUTH.—Sir: In your journal of the 22nd inst. it is stated that "The foundation-stone of the above schools was laid on the 22nd of March," &c. &c., and that "the drawings were prepared by Mr. P. Arthur." This statement is incorrect, as the schools and school-house were erected from my designs in 1853, at a cost of upwards of 1,000*l.* I have been informed by the incumbent of the district that a small addition was proposed to be made to correspond in design and style, but as it was not necessary to apply to me, two guineas had been paid for a drawing of a plan for the builder's signature and contract. This is all that has been done, and the design is no more like "Early English" than Early Hindoo. However, I shall feel obliged by your inserting this in your next publication, in vindication both of myself and of my building.

TALBOT BURY.

The Works at Cherbourg.—A letter from Cherbourg gives some interesting details relative to the works now being constructed in that port. The inner dock is 1,260 feet long and 600 broad. It is capable of receiving an entire fleet, which will be quite safe from an enemy's fire at the greatest distance at which it has been ever known to take effect. The execution of this dock cost enormous trouble, being cut out of the solid rock to the depth of 54 feet. The excavation of this was effected by a mine, which only explodes with a dead noise, and raises the soil to the extent of some hundred yards. This dock, which is completely isolated, will communicate with the other docks by a sluice 1,200 feet long, and by another 300 feet long The plan was given by Napoleon I.

Kellin, Landscape Painter.—We are informed of the death of the eminent French painter, Kellin, one of the best pupils of Roquepian and Bonington. This artist, who was often admired at the exhibitions of Paris and of the most important towns of France, died at Samer, near Boulogne-sur-Mer, on the 18th of May. The finest epoch of Kellin's reputation was under the reign of the king, Louis Philippe, who bought many of his water-colours, especially views of royal residences. Kellin, in spite of his age, still worked very much, and several of his pictures were exhibited at the last exhibition of Lyons. He was named member of the "Société Libre des Beux Arts" in 1857.

Conversazione of the Institution of Civil Engineers.—The conversazione given by the President, Mr. Locke, M.P., on Tuesday evening last, was very numerously attended, and passed off well. Many interesting works of art, including a bust by Hiram Powers, to pair with "Cleite," and various models of inventions, occupied the attention of the visitors.

Map of London in the Reign of King Charles the First.—Messrs. Evans, of the Strand, have published a *fac-simile* of W. Faithorne's map of London, of which, it is asserted, but two impressions are known to be in existence, one in the Bibliothèque Impériale at Paris, the other in the possession of Messrs. Evans. "The date of the survey seems to be pretty accurately determined by the two following facts, viz.: Cheapside-cross, formerly standing at the end of Wood-street, is *not* here represented: the populace demolished it on May 3rd, 1643, in contempt of the Popish anniversary of the Inventio S. Crucis; while that long known as Charing-cross is depicted as standing in all its glory: it was wholly cleared away in August, 1647." The engraving of the survey was not completed until 1658, and advantage was taken of the delay to introduce the new buildings and improvements up to that date, as is proved by the introduction (among others) of the buildings on the west side of Lincoln's-inn-fields over the archway, in the centre of which still remains a stone inscribed DVKE STREETE, 1648); and Clare Market (here designated New Market), which was opened by John Holles, Earl of Clare, in 1656. Great research, it appears, has been made by an ardent collector of London topography, in the hope of discovering another impression of this map to add to his collection, but without success. The *fac-simile* is engraved on copper on five large sheets, the same size as the original, and is a very interesting document in elucidation of the progress of the metropolis.

Scarlet Fever at Chester Barracks.—In consequence of an overcrowding of troops at Chester Barracks scarlet fever and measles have made their appearance among the soldiers there. In a fifteen-man's room were crowded eighteen women and forty-four children, and there the fever shortly afterwards made its appearance. Detachments were forthwith sent to Salford, Bury, and Liverpool, and every effort made to prevent the contagion from spreading,—unless, indeed, it has been thus been spread to Liverpool and elsewhere.

An Assyrian Antiquities.—A new Assyrian saloon has just been opened at the Louvre. Some additions have been made to the Emperor's gallery in the Museum of Antiquities.

Granitic Breccia Stone Company.—A company has recently been formed for the manufacture of this stone under letters patent. The stone, it is said, possesses the qualities essential to a constructive material—strength, durability, and economy—and can be manufactured in a single piece, varying from 1 cwt. to 30 tons or more, and in slabs of from 5 to 100 feet superficial. The capital of the company is 100,000*l.* in 100,000 shares of 1*l.* each, incorporated with limited liability, under the Joint Stock Companies Act.

The Architectural Museum.—The Earl de Grey, President of the Institution, has fixed Thursday, July 15th, for the Annual Conversazione.

South Kensington Museum.—The distribution of the Local Medals awarded to the Students of the London District Schools of Art took place on the 19th inst., in the Theatre attached to the South Kensington Museum, the Marquis of Salisbury, Lord President of the Council, officiating.

Cubic Feet of Gas per Pound of Coal.—At the Philadelphia gas works, in 1857, according to the (U.S.) *Mining Register*, the largest quantity of gas from each pound of coal, made for any full day's work, was 4·83 feet.

Glasgow Architectural Association.—At a meeting of this association, held on Wednesday evening, the 19th instant, Mr. Thomas Halket, jun. read a paper on "The Antiquities of Rome."

Workmen's Dwellings, Battersea.—An association has been formed, in connection with Price's Patent Candle Company, to provide dwellings at Battersea for the workpeople in that establishment, a similar experiment at their factory near Liverpool having been successful. The sum required, which is to be raised among the proprietors and their friends in 1*l.* shares, is 20,000*l.*, and the rentals are proposed to be fixed so as to yield 6 per cent. on the outlay, and to provide a Repair and Depreciation Fund.

Egyptian Antiquities in France.—A letter from Alexandria says:—"Some excavations made under the direction of M. Mariette, conservator of the Egyptian Museum of the Louvre, have led to the discovery of a great number of valuable antiquities. Thirty cases have already reached the French consulate, where they await the arrival of a vessel of the State to convey them to Marseilles. Among them is a sarcophagus in rose-coloured granite of the time of Cheops, the founder of the great pyramid. It is 2½ metres (about 8ft. 2in.) in length, and covered with sculpture in excellent preservation,—in all 1,500 articles, which will form a fine collection, and are estimated in value at more than 200,000f. The viceroy has just issued an ordinance which the whole of Europe will applaud. He has ordered the formation at Alexandria of an immense museum, in which will be collected curiosities from every part of the country of the Pharaohs, where so many still remain notwithstanding the dilapidations which have taken place up to this time. MM. de Montant and Linant-Bly, engineers-in-chief of the Government, are already engaged in drawing out plans for this building, which the Viceroy wishes to be worthy of the antiquities which it is intended to contain.

TENDERS.

For new dock, entrance, basin, inner dock, and timber-pond at the Grand Surrey Docks. Messrs. Bidder and Jennings, engineers.

Lucas	£147,500	0	0
Aird	142,041	0	0
Gow	134,555	0	0
Tredwill	127,473	0	0
Jay	124,250	0	0
W. Cubitt	123,740	0	0
Perry	119,934	0	0
Smith and Knight	116,500	0	0
Peto and Betts	113,740	0	0
Baker	107,000	0	0

For new building in Leadenhall-street, City, for the Peninsular and Oriental Steam Navigation Company. Mr. W. H. Currey, architect. Quantities supplied by Messrs. Welch and Atkinson:—

Westacott	£9,835	0	0
Lee and Son	8,870	0	0
Cubitt and Co.	8,390	0	0
Holland and Co.	8,336	0	0
Piper and Son	8,287	0	0
Lucas, Brothers (accepted)	8,114	0	0

For the erection of nine houses on the Ashburnham Estate, Greenwich, for Mr. J. G. Fleay. Mr. C. H. Howell, architect. Quantities supplied by Messrs. Pearson:—

Penny	£6,995	0	0
Lote	6,856	0	0
Smith	6,797	0	0
Cooper	6,450	0	0
Jarvis and Co.	6,366	0	0
Todd and Co.	6,259	0	0
Hawkins	5,940	0	0
Dove	5,889	0	0
Hollamby	5,847	0	0
Symmons	5,710	0	0
J. and W. Barker	5,691	0	0

For re-building premises, No. 36, Fenchurch-street. Mr. E. Ellis, architect. Quantities supplied by Mr. Percy and Mr. Carter:—

Mansfield and Son	£5,680	0	0
Little and Son	5,597	0	0
Westacott	5,575	0	0
Ashby and Horner	5,325	0	0
Colls and Co.	5,275	0	0
Piper and Son (accepted)	5,242	0	0

For building a warehouse and offices in Newgate-street and corner of Panyer-alley, for Messrs. Faudel and Phillips. Messrs. Tillott and Chamberlain, architects. The quantities supplied:—

Holland and Co.	£3,945	0	0
Jay	3,863	0	0
Ashby and Son	3,845	0	0
Nicholson and Son	3,800	0	0
Myers	3,789	0	0
Burton	3,748	0	0
Patrick and Son	3,744	0	0
Brass	3,693	0	0
Piper and Son (accepted)	3,667	0	0

For new Corn-exchange, Stamford. Mr. Edward Browning, architect, Stamford:—

Perkins, Stamford	£2,593	0	0
Jeffs and Roberts, Stamford	2,336	0	0
Ellis and Son, Peterborough	2,100	0	0
Young, Lincoln	1,784	0	0
Bradshaw, Stamford	1,743	0	0
Norman, Leicester	1,689	0	0

For the erection of a pair of semi-detached houses on Hackney-downs. Messrs. Morphew and Green, architects. Quantities supplied:—

Amos	£2,300	0	0
Gammon	2,291	0	0
Rudkin	2,262	0	0
Patrick and Son	2,242	0	0
Smith	2,197	0	0
Calow	2,097	0	0

For farm-buildings and bailiff's house at Fiskerton, near Lincoln. Mr. Michael Drury, architect:—

Lovelee, Branston	£2,285	0	0
Cullen, Market Rasen	2,280	0	0
Freeman, Market Rasen	2,259	0	0
Barnes and Birch, Lincoln	2,249	0	0
Jackson, Lincoln	2,165	0	0
Kirk, Lincoln	2,157	0	0
Ward, Lincoln	2,130	0	0
Young, Lincoln	1,923	0	0
Booth, Boston	1,900	0	0
Wallis, Market Rasen	1,825	0	0
Bavin, Metheringham	1,783	0	0
Clipsham, Norwell	1,769	0	0

For sewers for the parish of Shoreditch:—

Wood and Son	£1,760	0	0
Cole	1,750	0	0
Hocken	1,700	0	0
Phillips	1,597	0	0
Hill	1,517	0	0
Dethick	1,295	0	0

For abattoirs for the Borough of Reading Local Board of Health. Mr. J. G. B. Marshall, architect and surveyor, &c.:—

Orton and Child	£1,850	0	0
Hayes	1,800	0	0
Strong	1,722	0	0
Savage	1,683	0	0
Strong	1,675	0	0
Matthews (accepted)	1,557	15	0

For house to be called "Rose Villa," Vine-road, East Mouisey. Mr. J. C. Catling, architect. Quantities supplied:—

Elston and Son	£809	0	0
Aderton	850	0	0
Adamson and Sons	838	0	0
Wood and Son	820	0	0
Hocken	785	0	0
Harrison	739	0	0
Heather (accepted)	649	0	0

For alterations and additions to a house at Hammersmith. Mr. G. Truefitt, architect:—

Hale	£370	0	0
Bird	340	0	0
Hurst	336	0	0
Smith	307	0	0
Evans	300	0	0
Eydman	229	0	0

TO CORRESPONDENTS.

G. M.—A. J.—Mr. H.—R. C.—Mr. F.—O. H. (thanks).—Portsmouth.—S. B.—R. R. B.—L. M.—R. A. A.—J. C. and Son.—W. and S. H.—W. M.—H. C.—J. G.—A Ten Years' Reader.—T. B.—W. M (list was not enclosed).—H. W.—J. A. D. (in type).—F. L.—W. S. (would involve us in action for libel).—Rev. A. C.—W. B. G.—T. and C.—Mr. E.—"An Observer of Churches" (out of print).

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

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A FULLY-QUALIFIED ASSISTANT wishes for a RE-ENGAGEMENT; has been accustomed to Depôts, general, working, and detail drawings, perspectives, estimates, specifications, and superintending works; is a first rate draughtsman, and well versed in [illegible]. Terms moderate. Address, S. B. 28, Hall-place, W.

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A GOOD WORKMAN in the above [illegible] desires a RE-ENGAGEMENT; [illegible] Address, J. SMITH and SON, Northampton.

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WANTED, by the Folkestone Gas and Coke Company, an experienced man as MANAGER. He will be required to [illegible] and keep the books, and [illegible] and [illegible] Coke. A moderate salary will be given to the right party. Applications will be received on the [illegible] Apply to Mr. JOSH. GARDNER, Gas Works, Folkestone. May 29, 1858.

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Manufacturers only of first-class quality, for the home and foreign trade
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STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles. Plain, Flaired, Rolled-top, and Ornamental Grooved Ridging, &c. Broseley Tiles
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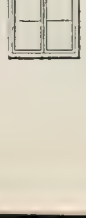

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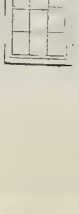

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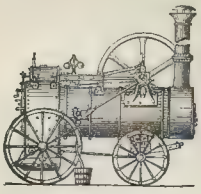
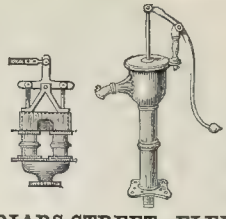
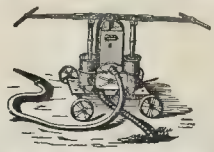
PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSS'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.





HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE
STEAM
ENGINES,
FOR
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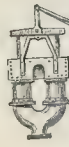
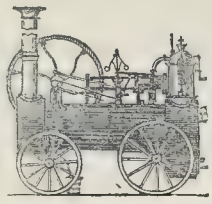
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.





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OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices
MORTAR MILLS, BUILDERS' CRABS,
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PORTABLE CRANES, WHARF CRANES,
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STONE-SAWS, IRON PAILS,
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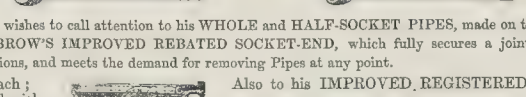
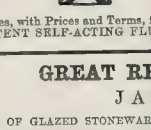
R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.
STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

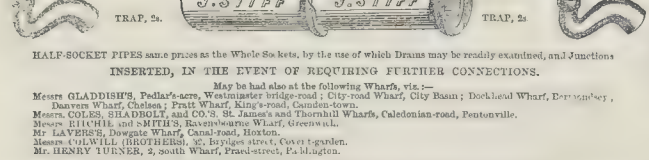
7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION IN PRICES.
JAMES STIFF,
MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs GLADDISH'S, Pedlar's-acre, Westminster bridge-road; City-road Wharf, City Basin; Duckhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs COLWILL (BROTHERS), 36, Bryanston street, Covent-garden.
Mr. HENRY TURNER, 2, south Wharf, Praed-street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the Timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 32 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

JOINERY of EVERY DESCRIPTION
STAIRCASES,
SHOP FRONTS, SASHES AND FRAMES, DOORS, &c.
Of well seasoned Material and superior Workmanship, supplied at the Lowest possible Price.
J. MILLS,
110, Broadwall, and 3, Princes-street, Stamford-street, Lambeth;
Late Shop Foreman to Messrs. Lawrence and Sons.
By enclosing a postage-stamp, a full list of prices will be returned.

JOINERS' WORK in all its branches
EXECUTED with despatch, and cheaper than any house in London.
S. A. JEFFS,
43 and 49, Cornwall-road, Stamford-street, Lambeth, S.
N.B. Price-list on application.

PATRONIZED BY HER MAJESTY.
THE "GRAND EMPEROR" LOG of
MAHOGANY is now CUT into VENEERS. Her Majesty has been pleased to order furniture for her Palace to be made from this beautiful wood. The veneers are now on sale with the log of Spanish Mahogany and Honduras "Prince of Wales," together with foreign walnut, rosewood, and maple veneers, at Messrs TURLY and CO.'S, Mahogany Merchants, Bridge Wharf, City road.

WHITE and MITCHELL
JOINERS
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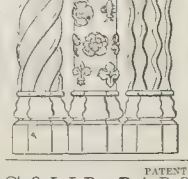
No. 11, Commercial road, Lambeth.
Staircases, Shop fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage stamp.—Workshops, 2, Commercial-road, Lambeth.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above AT HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland-street, Blackfriars-road.



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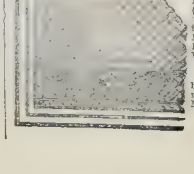
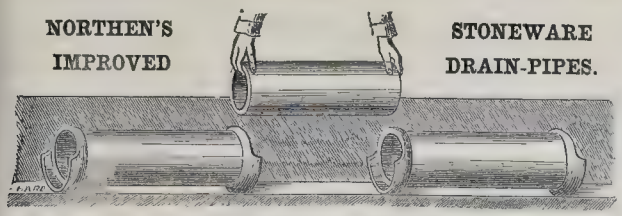
371—375,
EUSTON-ROAD,
ARTIFICIAL STONE WORKS.
CATALOGUES OF
CHIMNEYS,
AND ALSO OF
FOUNTAINS,
ON APPLICATION.

PATENT
SOLID PARQUETERIE,



For floors, walls, and furniture (inch thick trees in per foot), as used by the most architects, Sir Charles Barry, Messrs. Burn, Hardwicke, Pennell, G. G. Scott, T. H. Wyatt, &c. &c.
"From its strength, durability, and elegance, well worthy of notice."—Times, May 29.
ARROWSMITH,
No. 30, New Bond-street.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect another drain, as every alternate pipe can be taken up without disturbing either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of easy access to drain.

The above Improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

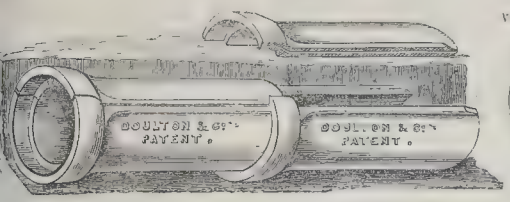
W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

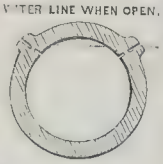
DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain, or Lessening its Capacity.

SOCKET JOINTS.



WATER LINE WHEN OPEN.



ADVANTAGES.

I. The Pipes may be laid whole as ordinary Socket Pipes, and the covers need only be removed should necessity arise
II. On the removal of the lids the drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert
III. The advantages of inspection are obtainable without any imperfect joints or other complication, which would allow either the escape of the liquid contents of the Drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part or cover being fired in one piece with the Pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. Perfect truth of form is secured, and increased strength obtained.
VIII. Simplicity of construction, and consequent cheapness.
IX. They may be laid alternately, or at any intervals, with ordinary Socket Pipes.

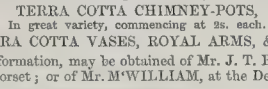
Manufactured by HENRY DOULTON and CO.

Offices—HIGH-STREET, LAMBETH, LONDON. Manufactories—HIGH-STREET, LAMBETH; ROWLEY REGIS, STAFFORDSHIRE, and SMETHWICK, near BIRMINGHAM.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe.

SALT GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

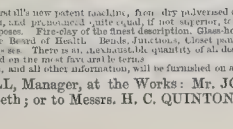
TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. M'WILLIAM, at the Depôt, 8, Belmont-place.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.

WORKS: KINSON, near POOLE.

PATENT FIRE-BRICK MANUFACTURERS.

FIRE  BRICKS.

The Fire bricks are manufactured by Bonsall's new patent tackling, from dry pulverised clay, unrivalled for beauty of finish and fire-resisting properties, have been severely tested, and pronounced quite equal, if not superior, to any other fire-brick known. Furnace Blocks, Bars, Quarries, and all goods used for fire purposes. Fire-clay of the finest description. Glass-house Pots, Furnace Brick, and Pot Clay. Sanitary Glazed Stoneware Pipes, approved by the Board of Health. Bends, Junctions, Closet pans and Traps, Invert Blocks, and every article of the first quality required for drainage purposes. There is an inexhaustible quantity of all descriptions of Dorsetshire Clay used for pottery purposes on their estate, which can be supplied on the most favourable terms.

List of prices, and all other information, will be furnished on application to

Mr. GILBERT E. MITCHELL, Manager, at the Works: Mr. JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth; or to Messrs. H. C. QUINTON and SON, Bristol.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Barton's Machine, warranted to bear a pressure equal to any Red Pipes

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2½d.	3½d.	3½d.	5½d.	9d.	1s. 2d. per foot.

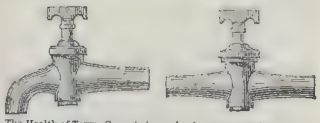
Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Quarls, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS Founders, Engineers, and Smiths, 165, Drury-lane, and 32a-road, Bermondsey.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



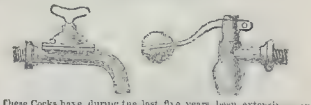
The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 360 feet; their efficiency and durability is by experience established

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,

Brass and Iron Founders, Short-street, New-cut, Lambeth.

WARNER'S PATENT VIBRATING STANDARD PUMPS. PATENT CAST IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d
2½ in.	short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 10 0
2½ „	long	3 3		1 14 0
3 „	ditto	3 6		2 8 0
3½ „	ditto	3 6		2 12 0
4 „	ditto	3 6		3 3 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in.	long	ditto ditto		2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with a ft. water from underground tanks, or in hot forcing, and plant houses; they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms. Apply to T. CRESSWELL, Engineer, 92, Bishopsgate-road, London.

TO BE SOLD, a capital Six-horse PORTABLE ENGINE, price 80*l*.—N.B. A Barn Work applicable can be had, if required. An Eight-horse Horizontal fixed Engine, price 60*l*. A New Three-horse-power Thrashing Machine and Shaker, complete, price 35*l*.—Apply to the Manager, Iron-works, Haleworth, Suffolk.

FOR SALE, the PATENT RIGHT of LANE'S TUBULAR PUMP.—The above Patent, in consequence of the death of the proprietor, is offered for Sale. It has the following advantages, as compared with other pumps:—The water way being very much larger, and there being no friction on this new principle, a much larger quantity of water is raised to a much greater height with considerably less labour. The cost of manufacture is also much less, with greater facility for repairs than in any pump, and, when required, this may be done by any ordinary workman. This pump will be extensively exported, in consequence of the great demand for a cheaper and more efficient pump than any yet in use. It is also most admirably adapted for fire engines, garden engines, for agricultural purposes and breweries, and in all cases where a large supply of water is required.—Apply to Messrs. RICHARDS and GILLAM, Solicitors, Temple-street; or to Mr. J. C. STOKES, 2, New-hall-street, Birmingham.

SALES BY AUCTION.

TO ENGINEERS, IRON FOUNDERS, AND OTHERS.—James's Patent Weighing Machines, Cranes, Machinery, and Tools.

MESSRS. FULLER and HORSEY are instructed by Messrs. James and Malcolm, who are dissolving partnership, and whose tenancy is expiring, to SELL by AUCTION, at the VICTORIA IRON WORKS, Bethnal-green (near the Salmon and Ball), on TUESDAY, JUNE 8, at ELEVEN, in lots, without reserve, the STOCK-IN-TRADE, MACHINERY, and TOOLS. The Stock includes three wharf cranes, two of 3 tons each, one of 7 tons, two portable cranes, 1 ton and 3 tons, one 30-cwt. warehouse crane, four weighbridges, 5 to 10 tons, for waggons and carts, twenty-one James's patent weighing machines, from 3 cwt. to 40 cwt., a lift for raising casks or heavy weights, for loading, &c. The machinery includes a new 12-inch centre self-acting lathe, with 12-feet gap bed, by Smith, Beacock, and Tannant; one 6-inch self-acting lathe, with 5 feet 6 inch bed, with change wheels, self-acting slotting machine, [illegible], by Shanks; one double-geared [illegible] boring machine, horizontal steam engine of 6-horse power, two steam boilers, shafting, riggers and bands, vices and benches, steel tools, foundry crane, [illegible] to 4 tons, two wrought-iron cupolas, fan blast, core stove, 10 tons boxes and flasks; claw, shank, and hand ladles, smiths' forges, bellows, anvils, and tools, 10 tons rod and bar iron, one ton cast and shear steel, stores of various descriptions, and numerous other effects.—To be viewed on Saturday and Monday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, JUNE 14, and three following days, at ELEVEN each day, at the WAREHOUSES, No. 8, Holland-street, Blackfriars-road, in lots, without reserve, an extensive STOCK of BUILDERS' IRONMONGERY, including 2,000 gross iron screws, 200 gross brass screws, 600 sets brass castors, 800 sets iron and wood bowl plate castors, 100 pair ornamental bell levers, sink pulls, &c.; 100 bags wrought and cut nails, 4 tons coach bolts and screws, 360 dozen brass and iron frame axle pulleys, 300 dozen brass and iron locks, 70 dozen brass flush bolts, a very large assortment of bellhangers' work, cranks, carriages, &c.; wrought and cast butts, cross-garnet, H and HL hinges, 200 dozen Tower and London bolts, ebony and China lock and door furniture, 200 dozen files and rasps, cast steel tools, chisels, gouges, axes, adzes, hammers, trowels, saws; 100 brass cornice-poles, 100 yards half-round and O G guttering, heads and shoes, brackets, three chaff-cutting machines, and numerous other effects.—To be viewed on SATURDAY previous to the sale, when catalogues may be had at the Warehouses, and at Messrs. FULLER and HORSEY, Billiter-street, E.C.

The spacious Warehouses to be Let.

HALL PARK, PADDINGTON GREEN.—Building Materials.

PULLEN and SON will SELL by AUCTION, on the PREMISES, on FRIDAY, JUNE 4th, at TWELVE, in LOTS, all the valuable BUILDING MATERIALS of the Cropton Arms public-house and two Cottages adjoining, in Hall Park, Paddington-green, comprising good sound brickwork, slates, oak, and fir timber, in roofs and floors, sashes, doors, stone paving, lead flat, gutters and pipes, and various useful fittings up.—May be viewed, and Catalogues had of PULLEN and SON, [illegible], Fore-street, Cripplegate.

Valuable Building Land, about 5½ Acres, Land tax redeemed, situate at the junction of the road leading from Hornsey to Highgate, 4 miles from London.

MESSRS. FAREBROTHER, CLARK, and LYE are instructed to SELL, at Garraway's, on WEDNESDAY, July 7, at 12, a valuable FREEHOLD and small PART COPYHOLD ESTATE, land tax redeemed, situate at the northern extremity of the Hornsey-road, at its junction with the Highgate Archway-road, in the parish of St. Mary, Islington, only 4 miles from London, consisting of a close of land, containing about 5½ acres, lying very high, and possessing charming views, admirably adapted for the erection of villas. The whole will be divided into 23 lots, each with a frontage of 45 feet to the Hornsey-road, together with 3 proposed roads to be carried through the property. The estate is contiguous to Mount Pleasant, and abuts on the residence of George Buckland, Esq. and the lands of Henry St. John, Esq., and contains an inexhaustible supply of good brick earth, which may be removed without in any way affecting the views or the value of the land for building purposes. The plots, when laid out, are designed to form 3 sides of a square, leaving reserved ground in the centre for ornamental purposes common to all the lots.

May be viewed, and particulars, with plans, may be had of F. J. HAND, Esq., Solicitor, 14, Southampton-buildings, Chancery-lane; at Garraway's, and at the offices of Messrs. FAREBROTHER, CLARK, and LYE, 6, Lancaster-place, Strand, W.C.

CLOSE to KILBURN GATE, EDGWARE ROAD.—Very Important Freehold Building Land, comprising about Eighteen Acres, adjoining the Hampstead and City Junction Railway.

MESSRS. FAREBROTHER, CLARK, and LYE are instructed by the Trustees for sale under the Will of H. A. Aglionby, Esq., to SELL by AUCTION, at GARRAWAY'S, on WEDNESDAY, JULY 7, at TWELVE, a very valuable ENCLOSURE of FREEHOLD MEADOW LAND, important, standing very high, and commanding the most extensive views, situate in West End-lane, a very short remove from Kilburn-gate, Edgware-road, nearly adjoining on one side the Hampstead and City Junction Railway, and on the other the grounds of York Villa. It comprises an area of 17a. 3r. and has a frontage of 800 feet, and extends in the rear to the gardens of the residences in the Edgware-road. This property is immediately available for buildings. Handsome villas and a spacious church having been recently erected close to it. Particulars may be had of Messrs. GRAY, ARMSTRONG, and MOLINEUX, Solicitors, Staple-inn, Holborn; of GEORGE POWNALL, Esq., 37, Bloomsbury-square; at Garraway's, and at the Offices of Messrs. FAREBROTHER, CLARK, and LYE, Lancaster-place, Strand.

MOORGATE STREET, CITY.—Valuable Building Land.—By Mr. MASON, at the AUCTION MART, on MONDAY, JUNE 14.

A VALUABLE PLOT of FREEHOLD BUILDING GROUND, nearly square, occupying an area of 4,000 feet, adjoining Coleman-street buildings, within 100 yards of the Bank of England, in the line of intended new street from Tokenhouse-yard.—Apply to Mr. MASON, 15, Finsbury-place South. Particulars also of THOS. LEACHMAN, Esq., Solicitor, 50, Basinghall-street.

The entire remaining copies of these magnificent works of Art, Owen Jones's "Grammar of Ornament," "The Treasury of Ornamental Art," and Roberts's Sketches in the Holy Land.

SOUTHGATE and BARRETT have received instructions to SELL by AUCTION, at their ROOMS, 22, Fleet-street, on MONDAY evening, JUNE 7, and following evenings, the whole of the remaining copies of these splendidly illustrated books, the "GRAMMAR of ORNAMENT," by Owen Jones, being a series of 1,000 examples, from various styles, exhibiting the fundamental principles which appear to reign in the composition of ornament of every period. One hundred and one imperial folio plates, drawn on stone by F. Bedford. Printed in colours by Day and Son. The complete work, handsomely half-bound morocco, with appropriate designs by the author, published at 17l. 12s. The "Treasury of Ornamental Art," illustrative of objects of art and virtu, photographed from the originals in the Museum of Ornamental Art, and drawn on stone by F. Bedford, with descriptive notices by J. C. Robinson, F.S.A., curator of the Museum of Ornamental Art—Department of Science and Art, 71 large 8vo. plates in colours and gold, elegantly bound, gilt edges, published at 3l. 13s. 6d. Roberts's Sketches in the Holy Land, Syria, Idumea, Arabia, Egypt, and Nubia, reduced from the lithographs by Louis Haghe, with historical and descriptive notices, and an introductory view of Jewish history, by the Rev. George Croly, LL.D., and W. Brockedon, esq. 250 beautifully executed double-tinted lithographs, by Day and Son, Lithographers to the Queen. Published in 6 vols. cloth elegant, nine guineas, or 3 vols. morocco, eleven guineas. Specimens can be seen, and catalogues had (price 1s.) of the Auctioneers, 22, Fleet-street.

TOTTENHAM.—Materials of Sheds and Stables, Carts, Chaise, thirty-five loads of Meadow Hay, &c. by

MR. A. RICHARDS, on the PREMISES, near the Red Lion Inn, on THURSDAY, JUNE 3, at ONE o'clock. The MATERIALS, in lots, to be taken down by the purchasers, comprise stock brickwork, pan tiles, timber in plates, rafters, and quartering, stall divisions, doors, weather boarding, &c. four hay and tumbril carts, spring ditto, Dennet chaise, farming implements, and effects.—View the day preceding and morning of sale. Catalogues obtainable on the Premises, and of the Auctioneer, Tottenham.

SALES BY AUCTION.

NORWOOD.—Valuable Freehold Building Site, near to the principal entrance of the Crystal Palace, containing about three acres, with a commodious Chapel on a portion of it, also an abundant supply of pure water raised by steam power from a capacious well.

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District School to SELL by AUCTION, at the MART, on FRIDAY, JUNE 4th, at TWELVE, in Two Lots, the valuable FREEHOLD PLOT of GROUND, containing three acres, or thereabouts, forming the angle of the two roads called Central-hill and Westow-hill, Upper Norwood, embracing the most extended views, both towards the metropolis, as well as over the counties of Surrey and Kent, for which this locality is so celebrated. One lot will comprise the Chapel, erected but a few years since, and built in Gothic Style, of Kentish ragstone, and capable of accommodating one thousand persons, with vestry room and raised gallery, adjacent to which is a building of one story, 127 feet in length, adapted for a school room, and a well of water. There is also sufficient space for a residence and garden, and if the school is not wanted a valuable frontage to the road for building purposes would be secured. The other lot will comprise the remainder of the ground, 150 feet in width where separated from the first lot, and having a frontage of 484 feet to Westow Hill, and [illegible] feet to Central Hill; on the portion of it there is a well of pure water, with pumps and steam engine capable of raising not only the quantity likely to be required on this estate, but offering a good opportunity of supplying the surrounding district; there is also a smaller well upon the same lot.—The property may be viewed, and printed particulars with plans may be had, ten days before the sale, at the Office of Mr. SAMUEL HEATH, Solicitor, 10, Basinghall-street; also at the Woodman Tavern; at the Mart; and of the Auctioneers, &c., 40, Parliament-street, Westminster.

NORWOOD.—LEASEHOLD GARDEN GROUND AND PREMISES AT WESTOW-HILL.

MESSRS. EVERSFIELD and HORNE are instructed by the Board of Management of the Central London District School, to SELL by AUCTION, at the MART, on FRIDAY, JUNE 4, at TWELVE, a Valuable PLOT of GARDEN-GROUND, with Shrubs and Fruit-trees thereon, and Farm buildings at the rear, with Road thereto, the whole occupying an area of 181 feet frontage to the road, by 370 feet deep. Held for an unexpired term of eighteen years, from March last, at a ground rent of 27l. a year.—May be viewed and printed particulars had, ten days previous to the Sale, at the Office of Mr. SAMUEL HEATH, Solicitor, 10, Basinghall-street; also at the Woodman; at the Mart; and of the Auctioneers, 40, Parliament-street, Westminster.

GIPSEY-HILL, NORWOOD.—Detached Freehold Residence, with possession, Pair of Villas, and several Plots of Freehold Building Ground.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the Mart, on FRIDAY, JUNE 4th, at TWELVE, a detached FREEHOLD RESIDENCE, known as "Laurel Cottage," near the Railway station, on Gipsy Hill, with Garden in the rear 200 feet deep, and a Plot of Ground adjoining, extending to George-street, 80 feet deep and 19 feet frontage; also, a pair of Freehold Semi-detached Residences, Nos. 11 and 12, Camden Hill Villas, Gipsey-hill, of neat elevation, let at 42l. per annum; also, several Plots of Freehold Building Grounds, suitable for the erection of a similar class of property, and having good roads and brick sewers already made.—May be viewed by leave of the tenants, or on application to Mr. BRYANT, on the Property, and Particulars had ten days previous to the Sale, at the Office of JOHN CHAPPLE, Esq., Solicitor, 19, Great Carter-lane, Doctors' Commons; at the Woodman; at the Mart; and of the Auctioneers, 40, Parliament-street, Westminster.

CARDIGANSHIRE.—The valuable Leases, Plant, and Machinery of the Esgair Mwyn Mining Company for absolute Sale.

MESSRS. EVERSFIELD and HORNE are instructed by the Official Liquidator to SELL by AUCTION, at the AUCTION MART, in London, on FRIDAY, JUNE 4th, at TWELVE, in one lot, the valuable LEASES of the LEAD MINES known as the Esgair Mwyn, in that portion of the county of Cardigan so celebrated for its rich metal ferous products, the Lisburne mines being in the immediate neighbourhood. This mine has been most favourably reported on by mineral surveyors of eminence, and can be worked by a very moderate capital, as the preliminary expenses have been incurred, and the delay consequent upon a new working thereby avoided. The machinery is of the most approved description, and much of it has been erected within the last four years at considerable outlay. In addition to the Esgair Mwyn, the Company have obtained a Lease of the adjoining property of Esgair Ddu, which there is reason to believe will be a valuable adjunct to the former.—Particulars may be obtained, ten days previous to the sale, at the Offices of WILLIAM TURQUAND, Esq., the Official Liquidator, Old Jewry Chambers; of J. FARRAR, Esq., Solicitor, 10, Great Carter-lane, Doctors' Commons; and of Messrs. EVERSFIELD and HORNE, Auctioneers to the Commissioners of Her Majesty's Woods and Forests, &c. 40, Parliament-street, Westminster, S.W.

MILLWALL.—Trade Implements and Effects at the Cement and Terra-cotta Works of Mr. J. M. Blashfield, for peremptory Sale.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, Millwall, Poplar, on TUESDAY, JUNE 15th, at TWELVE for ONE, the STOCK and EFFECTS, comprising two cart horses, spring van, three carts, two sets of harness, barrows, planks, wheeling plates, weighing machines, fittings of smith's shop, modelling tables, whitlers, and batts, terra cotta washing troughs, earthen drain pipes, a quantity of mangrove profiles, and other effects.—May be viewed one day previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

SURREY.—FREEHOLD LAND.

MESSRS. WINSTANLEY have received instructions from the Executors of the late Mr. Procter to offer for SALE by AUCTION, at the MART, on TUESDAY, JUNE 8, in one or more lots, a valuable FREEHOLD PROPERTY, consisting of about 20 acres of building and accommodation land, pleasantly situate at Lower Tooting, about seven miles from London, in the county of Surrey, having a frontage to the high road, and adapted to the erection of gentlemen's villas. There is brick earth, and also gravel of excellent quality.—To be viewed. Printed particulars may be obtained of GEORGE BRACE, Esq., Solicitor, 24, Surrey-street, Strand, W.C.; at the Place of Sale; of Messrs. WINSTANLEY, Paternoster-row, E.C.; at the Plough, Clapham; George, Balham-hill; Angel, Upper Tooting; and at the Mitre, Lower Tooting.

Valuable Freehold Building Land, Battersea.

MESSRS. GLASIER and SON are instructed to SELL by AUCTION, at GARRAWAY'S, on THURSDAY, JUNE 17th, at TWELVE for ONE, in three lots, THREE very desirable PLOTS of FREEHOLD BUILDING LAND, each containing upwards of half an acre, pleasantly situate close to the royal park and new bridge, and well adapted for the erection of detached cottage residences. Land-tax redeemed.—Particulars with plans, may be had of Messrs. MOSELEY, TAYLER, and MOSELEY, Solicitors, Old Jewry-chambers, City; at the Swan, Battersea-bridge; at Garraway's; and of the Auctioneers, 41, Charing-cross.

TO BUILDERS, CONTRACTORS, MARBLE MERCHANTS, and OTHERS.—The valuable Lease, Goodwill, Plant, Machinery, Tools, Trade Fixtures, Utensils, &c., with possession, of the Improved Wood Moulding Mills and Marble Works, Harrow-road, Paddington.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, on WEDNESDAY, JUNE 9th, 1858, at TWELVE o'clock, in ONE LOT (unless previously disposed of by private contract), in consequence of the ill health of the proprietor, the valuable LEASE, for about thirteen years unexpired, at a moderate rental, of the spacious and commodious BUSINESS PREMISES, distinguished as the Improved Wood Moulding Mills and Marble Works, No. 20, Bridge-terrace, Harrow-road, Paddington, comprising engine, moulding, drying, and show-rooms, offices, coach-house, sheds, and large yard; also the goodwill of a lucrative business, together with the whole of the excellent fixed plant, machinery, and tools, consisting of grinding, planing, and polishing machines, complete and in the best working order, including a capital [illegible]-horse power engine, surfacing table 8 feet in diameter, with fittings, a wrought-iron shaft, with fittings complete, a superior double moulding machine, patent saw-bench, patterns, &c. The purchaser may be accommodated with the stock of marble, [illegible], and mantel-pieces, by valuation.—May be viewed, and particulars with conditions of sale obtained on the Premises, at the Mart, and at Mr. MARSH'S Offices, 2, Charlotte-row, Mansion-house.

SALES BY AUCTION.

LEADENHALL STREET.—Valuable and Important Freehold Premises, situate near the Royal Exchange and Bank of England, and nearly opposite the East India House.

MESSRS. BEADEL and SONS are instructed to SELL by AUCTION, at the MART, on TUESDAY, JUNE 8, at TWELVE, in one lot, an exceedingly valuable and important FREEHOLD PROPERTY, comprising the two brick-built premises, most commandingly situate, and known as No. 141, Leadenhall-street, in the occupation of Messrs. Butters, Gordon, and Yeatman, at rents amounting to 300l. per annum. The situation of these valuable premises, nearly opposite the East India House, within a short distance of the Bank of England and Exchange, and in one of the leading thoroughfares in the heart of the city, render them eligible either for business or as a secure investment, the ground itself being in an advantageous situation for the erection of first-class warehouses or offices. Particulars may be obtained of Messrs. WORDSWORTH, GREATHEAD, and BLAKE, Solicitors, South Sea House, Threadneedle-street; at the Mart; and of Messrs. BEADEL and SONS, 25, Gresham-street, E.C.

THE WATFORD STATION, LONDON AND NORTH WESTERN RAILWAY.—All the BUILDING MATERIALS comprising the erection of the Clarendon Hotel at the Watford Station, and fittings; also of the brick erection of Booking Office, also the wood erection of Waiting-rooms, and Foot Bridge over the railway, with their various appurtenances, a large quantity of Cast Iron Columns and Corrugated Iron Roofing, also an erection of Covered Steps and Waiting-room, &c. by

LAHEE and WOOD, on the PREMISES, Watford Station, as above, on THURSDAY, the 3rd of JUNE, at ELEVEN o'clock precisely, by order of the Directors of the London and North Western Railway, the station having been removed. The interior fittings of the Public House comprise Beer engine, Bar fittings, &c.; in the Ladies' Waiting-room are Mahogany Sashes with Plate Glass, and door with engraved glass, marble and other mantel pieces, gas burners, pipes, stove with descending flues, &c.; Minton's encaustic tile flooring; the mahogany fittings of several water-closets; slate slabs, lead gutters, and ridges, capital force-pump, cistern and rain-water pipes, &c. &c.—May be viewed and catalogues had seven days prior, at the Essex Arms, Watford; at the Stations at Harrow and Watford; and at the Auctioneers' Offices, No. 65, New Bond-street, W. by post enclosing two stamps.

N.B. The York Paving is withdrawn.

WALKINSHAW FOUNDRY and ENGINE WORKS, at JOHNSTONE, FOR SALE.—There will be exposed for SALE, by PUBLIC ROUP, within the FACULTY HALL, Glasgow, upon WEDNESDAY, the 2nd day of JUNE next, at TWO o'clock afternoon, the long established and celebrated ENGINEERING and MACHINE MAKING WORKS, carried on by Messrs. John M'Dowall and Sons, Johnstone, and belonging to the Trust Estate of the late Mr. John M'Dowall, with the Heritable Pertinents thereto belonging, and Goodwill of the Business, Patent rights, &c. Mr. M'Dowall's eminence as an engine maker and inventor and patentee of vertical sawing frames, wood planing, moulding, and mortising machines, &c. &c. secured for him a large and lucrative business, which can be readily shown to intending purchasers. The works have an abundant supply of water, are conveniently situated about ten miles from Glasgow, and command transit at moderate rates by canal and railway. It is well known the late proprietor spared no expense in fitting up the premises in the most complete and superior style. They are compact, well arranged, complete in every respect, and in active operation, and comprise large turning shops, smiths' shop, fitting up shops, and sheds connected therewith, counting-house and business chamber, drawing room, and other conveniences requisite for the business, patent steam hammer in smiths' shop, steam engine, large [illegible]. The plant of tools is in perfect working order, and embraces planing machines, boring mills, turning-lathes, &c. &c. of the most [illegible], and with the latest improvements. On application at the [illegible], the Works can be seen at any time, and further particulars will be given by ALEXANDER M'KENZIE, Esq., 80, Buchanan-street, Glasgow; or JOHN HOLMES, Esq., Writer, Union Bank of Scotland, Johnstone.

Johnstone, Renfrewshire, April, 1858.

GREENWICH.—Valuable Freehold Building Land, bounded by the River Ravensbourne, and close to the Greenwich and Deptford Stations.

MESSRS. NORTON, HOGGART, and TRIST have received instructions to offer for SALE, at the MART, on FRIDAY, JUNE 4, at TWELVE, in one lot, a very valuable PLOT of FREEHOLD BUILDING LAND, now used as market-garden, and immediately contiguous to the Greenwich and Deptford Stations on the London and Greenwich Railway. It comprises about eight acres, with access to Roan-street, Ravensbourne-street, and a street to be called Morden-street, leading direct to the town of Greenwich, admirably adapted for building purposes, also having a very extensive wharf frontage to Deptford Creek. Particulars and plans may be had at the Mitre and Railway Hotels, Greenwich; of Messrs. RICKARDS, Crown-court, Old Broad-street; at the Mart; and of Messrs. NORTON, HOGGART, and TRIST, 62, Old Broad-street, Royal Exchange.

Important and Extensive Sale of Valuable Building Material and Timber of several Large Blocks of Warehouses, Dwelling houses, and Out-buildings, removed from Southwark, Westminster, and the City, to the Grounds of the King Harry Tavern, Mile End-road, near the Toll-bar, for convenience of Sale, without the least reserve.

MESSRS. GREEN and SON will SELL by AUCTION, by order of the Contractors, on TUESDAY, the 1st of JUNE, at ELEVEN for TWELVE o'clock precisely, on account of the number of Lots, about 500 Loads of Sound Memel TIMBER, in long joists, plates, principally purlins, rafters, girders, bressummers, and story-posts, 800 squares of yellow floor, lining, and other boards; two, four, and six-panelled doors, modern sashes and frames, panel and glazed partitioning, wainscoting, lead, iron, &c., 500 new pine planks, in 1, 2, and 3 cut stuff, 200 new fir poles, 10,000 feet run of new cut post quartering, scantlings, plates, and rafters; 100 oak and fir girders and bressummers, 50 squares of York paving, coping, sills, mantels, landings, and hearths, several tons of iron in columns of various sizes; caps, bases, and iron girders, ties, railing, register, cooking, elliptic, and other stoves, copper and lead, iron force pumps, plain, ridge, and pan tiles; slates, 100 large stacks of fire wood, and a vast accumulation of valuable materials.—On view the day prior and morning of sale. Catalogues had on the Premises; at the various Inns in the neighbourhood; and of the Auctioneers, St. Michael's House, St. Michael's-alley, Cornhill.

To Timber Merchants, Builders, Cabinet and Pianoforte Makers, Framers, and Others.

MESSRS. DAVIS and VIGERS are instructed to SELL by AUCTION, on the PREMISES, No. 9, Wharf, South Wharf Road, Paddington, on TUESDAY, JUNE 15, and following day, at TWELVE for ONE each day (the premises being required for the Timber Bending Company), the well-assorted and seasoned STOCK, comprising 6,000 pieces of wide Pine, and white and yellow Deals and Battens, 5,700 feet cube square, 3,000 feet fir quartering, 1,270 squares of white and yellow flooring, and matched boards and battens, 1,500 feet moulded torus skirting, 40 loads of plasterers' best laths, a large and powerful iron traveller, equal to twelve tons, and particularly suitable for foundry purposes, a PATENT SMOKE-CONSUMING FURNACE, ironwork for a crane, two iron pumps, two iron tanks, and sundry useful iron work, together with numerous other valuable items. To be viewed the day before and mornings of sale; catalogues to be had on the Premises; and of the Auctioneers, 3, Frederick's-place, Old Jewry, E.C.

TO TIMBER MERCHANTS, CABINET MAKERS, PIANOFORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS.

MESSRS. C. LEARY and CO. beg to announce that in consequence of the expiration of the Lease of the Premises, 35, Sun-street, Bishopsgate-street, they will OFFER, by PUBLIC AUCTION, on the PREMISES, on MONDAY, the 31st MAY, and two following days, a second portion of Mr. R. Bateman's very superior and well seasoned STOCK of WOOD, comprising prime dry Wainscot in every thickness, Spanish and Honduras Mahogany, Rosewood and Walnut wood, in planks, boards, and veneers, Amboyna veneers, dry pine, plank, &c. &c. &c. To be viewed two days previous to, and on the morning of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, 28, Old Broad-street, City, E.C.

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The Builder,

Architect, Engineer, Operatives & Artist.

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SOCIETY of PAINTERS in WATER-COLOURS. The FIFTY-FOURTH ANNUAL EXHIBITION is now OPEN at their Gallery, 5, Pall-mall, East (close to Trafalgar-square), from Nine till Dusk. Admission 1s.
JOSEPH J. JENKINS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER-COLOURS. The Twenty-fourth ANNUAL EXHIBITION of the Society is NOW OPEN at their Gallery, Pall-mall, near St. James's Palace, from Nine till Dusk daily. Admission, 1s. Catalogue, 6d.
JAMES FAHEY, Secretary.

ARCHITECTS' BENEVOLENT SOCIETY
PATRONS.
Sir Robert Smirke, R.A. | George Stanley Repton, Esq.
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TRUSTEES.
Charles Barry, R.A. | Charles Robert Cockerell, Esq., R.A.
TREASURER—William Tite, Esq., F.R.S.
The List of Subscribers and Annual Report may be obtained from the Secretary. Subscriptions will be received by WILLIAM HUNT, 28, St. Helen's-place, the Treasurer, or by Mr. GOULD, the Collector, 9, Great Ormond-street, W.C.
J. TURNER, Hon. Secretary, 15, Wilton-street.

GRAND CEREMONY and FESTIVAL, on the 18th of JUNE next, at the OPENING of the ROYAL DAUGHTERS' HOME, Hampstead, by the Royal Patroness PRINCE CONSORT, who, with His Royal Highness the PRINCE OF WALES, have been graciously pleased to purchase presentations to the Home. Several Military Bands will play in the beautiful Grounds of the House. Admission by purchased Tickets, to be had of you the Secretaries of the Home, No. 7, Whitehall, (exactly opposite the Horse Guards). A Single Ticket for the Ceremony and Ground, 10s.; a Double Ticket for two, 15s.; a Reserved Seat for the Ceremony and Déjeuner à la Fourchette, 20s. An omnibus starts from the Tottenham-court-road Station every few minutes, reaching Hampstead in about an hour, changing, in forty minutes.
H. L. POWYS, Major, Chairman.

COMPETITIONS.

YORKSHIRE AGRICULTURAL SOCIETY.—NOTICE to ARCHITECTS. The following special prizes given by R. J. Bentley, Esq., are offered by the above Society:—
For the best Design for Labourers' Cottages, with complete specification £30
For second best ditto ditto 20
The conditions of competition may be had on application to me, to whom the Designs must be sent, carriage paid, on or before the 1st of JULY next.
JOHN HANNAH, Secretary.
York Deighton, Wetherby.

CONTRACTORS.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a CHURCH and PRESBYTERY at Great Harwood, near Blackburn, Lancashire, are invited to signify to us their intention to do so. The Plans, &c., may be seen on application to the Rev. W. BUNDERDALE, Great Harwood.
PUGIN and MURRAY, Architects,
Buckingham-street, Strand, London, June 3, 1858.

CONTRACTS.

TO CONTRACTORS. Notice is hereby given, that TENDERS will be received at the Office of the Director of Works and Buildings, War Department, Pall-mall, East, on or before MONDAY, 14th JUNE next, at Noon, in person or by letter, for the GUNWHARF CAMBER, at PORTSMOUTH. The Specification and Conditions of Contract may be seen, and every information obtained, on application at this Office, between the hours of TEN and FOUR each day, Sundays excepted. Tenders to be endorsed "Tender for Deepening the Bed of the Gunwharf Camber," and addressed to the Secretary of State.
Royal Engineer Office, Portsmouth, 25th May, 1858.

WAR DEPARTMENT CONTRACT.—*To* BUILDERS and CONTRACTORS.—The Commanding Royal Engineer of the Aldershot District hereby gives notice, that sealed TENDERS will be received by the Director of Contracts, War-office, Pall-mall, London, S.W., until TWELVE o'clock, on THURSDAY, the 17th inst., for such persons as may be desirous of CONTRACTING for the erection and completion of the ERECTION of a GRAND POWDER MAGAZINE, at the Small Camp, Aldershot, in the county of Hants; the plans, &c., which may be seen, and specification and forms of Tender obtained, on application at the Royal Engineer Office, Aldershot, on or after TUESDAY NEXT, the 8th inst. The Tenders to be sealed, and delivered to the Rev. JNO. FARR, Guardian's Rectory, on or before the 12th day of JUNE next, inclusive of the said day, as previously advertised.
Mr. J. PENRICE, Architect.

TO BUILDERS. NORTHERN BAPTIST COLLEGE, RAWDEN, near BRADFORD.—TENDERS are required, free of expense for the ERECTION of the said College. The drawings, specification, conditions, and forms of tenders may be seen at the present Baptist Hall, Horton-lane, Bradford, from MONDAY, the 24th instant to MONDAY, the 28th instant, between the hours of TEN and FIVE; and the Tenders are to be delivered at the said Hall on TUESDAY, the 29th instant, before ELEVEN o'clock, a.m. sealed and endorsed "Tender for new College," and addressed to "The Secretaries of the Building Committee." The Tenders may be in the whole or in part. The Committee do not bind themselves to accept the lowest or any Tender. Quantities signed by Messrs. RAWSON and HURST, of Bradford, may be obtained of the Curator of the Premises on and after MONDAY, the 21st instant, upon payment of two guineas per copy, which sum will be returned to the parties whose Tenders may not be accepted.
H. J. PAULL, Architect, Carr-street.
Dated 14th June, 1858.

TO PAVIORS and OTHERS. The Vestry of St. Martin-in-the-Fields will meet on THURSDAY, the 10th JUNE, 1858, to receive TENDERS for PAVING and REPAIRING the FOOTWAYS, and also for PAVING and REPAIRING the CARRIAGEWAYS of the parish, also for the supply of Broken Stone, Granite, for the same for one year.
The Tenders will be opened by the Vestry, at Nos. 15, Castle-street, Long-acre, between the hours of TEN and FOUR, and not after the hour of Two o'clock on the day of meeting. The contractors will be required to enter into a recognizance and bond, with two responsible sureties (to be prepared by the Solicitor of the Vestry), for the due performance of the contract, for due performance of the covenants.
The Vestry do not bind themselves to accept the lowest or any other Tender.
J. DANGERFIELD, Vestry Clerk.
Vestry-house, St. Martin-in-the-Fields, May, 1858.

TO BUILDERS.—The Justices of Cheshire are desirous of receiving TENDERS for the ERECTION of a FARM-YARD, at the Castle of Chester, for the Penitentiary Staff of the First Regiment of Royal Cheshire Militia. The plans and specifications, and conditions of contract, may be seen at the Office of Mr. THOMPSON, Architect, the Bars House, Chester. The quantities will be taken out, and drawings to be obtained at the same Office, on and after the 27th inst. and sealed Tenders to be sent to the Clerk of the Peace for the said county, at his Office, in Chester, not later than Ten o'clock on the 12th day of JUNE next. The Justices do not bind themselves to accept the lowest or any Tender.
CHARLES WILLIAM POTTS, Deputy Clerk of the Peace.
Chester, May 27th, 1858.

TO BUILDERS.—KENT COUNTY LUNATIC ASYLUM.—Farming-land, near Maidstone.—Persons desirous of CONTRACTING with the Visitors of the County Lunatic Asylum for the ERECTION of certain ALTERATIONS in the WARDS on the women's side of the main building of the Asylum, and for the ERECTION of ADDITIONS to the Laundry, Work-rooms, and Bread-room, and for the REMOVAL of the present, and the ERECTION of additional FARM BUILDINGS, may see the conditions, plans, and specifications of the said works, at the Offices of Messrs. WILKINSON and BLANDFORD, Architects, St. Faith's-lane, every day between the hours of TEN and FIVE. Tenders, with the names of sureties, are to be delivered at the above-named Offices, on or before THURSDAY, the 10th day of JUNE next, sealed up, and addressed, "Tender for Works at Kent Lunatic Asylum." Persons tendering are requested to attend at the Asylum, on FRIDAY, the 11th of JUNE, at ONE o'clock. The Visitors do not pledge themselves to accept the lowest or any other Tender, unless approved on all parts as one.
WILLIAM BEALE, Clerk to the Visitors.
Maidstone, May 29th, 1858.
N.B. Bills of quantities may be obtained upon payment of ten shillings and sixpence each copy.

CONTRACTS.

PARISH of BRIGHTON. To ENGINEERS and OTHERS.—The Directors and Guardians of the Poor of the Parish of Brighton are desirous of receiving TENDERS from persons willing to CONTRACT for Providing and Fixing Eight or Nine Horse-power STEAM ENGINE, Two Cornish Boilers, Pipes, &c., &c., and to erect a Shed for the same, and a Fire-shaft or Flue, among the parish, as is now being part of the Workhouse Premises, Eastwood-street, Brighton. Plans, &c., may be had of the Architect, Mr. CHARLES BARRY, Jun., on any day (Sunday excepted), between the hours of TEN and FOUR; and further information obtained on application at Mr. G. MAYNARD, Surveyor to the Directors and Guardians, Bridge-street, Brighton. Tenders, addressed "Tender for Steam-engine, Pumps, &c.," to be delivered at the Office of the Clerk to the Directors and Guardians, Parochial Offices, Church-street, on or before TUESDAY, the 15th day of JUNE next, by TWO o'clock, afternoon. Each Tender must be accompanied by a separate Sealed Letter, containing the names of the Parties who are willing to enter into the required Bond for the due performance of the Works. The Directors and Guardians will not be bound to accept the lowest or any Tender, but will pay the sum of £5 5s. to the Architect for preparing any Estimate or Tender.—By order of the Board,
ALFRED MORRIS, Clerk.
Parochial Offices, Church-street, Brighton, May 24, 1858.

PRESTON LOCAL BOARD of HEALTH. TO PIPE-MAKERS. The Local Board of Health for the Borough of Preston are prepared to receive TENDERS for the SUPPLY of such Glazed Earthen-ware SEWER PIPES as they may require during the period of one year from the 10th day of JUNE, 1859.—Any person may be furnished by Mr. J. NEWTON, C.E. Surveyor to the Board, to whom Tenders must be sent, on or before the 7th day of JUNE next.
ROBERT ASCROFT, Town Clerk.
Preston, May, 1858.

ST. FAITH GREEN, MAIDSTONE.—To BUILDERS and OTHERS. SALE by TENDER. The proprietors of the St. Faith Estate, Maidstone, having determined on a SALE of the PROPERTY, except the part proposed to be reserved for the site of a Chapel and Premises hereby given for the erection, and made the subject of a CONTRACT for the PURCHASE, by private treaty, to TENDER for the whole, or for any part thereof. The estate to be sold is freehold, and consists of between Eight and Nine acres of fine building land, situate in the middle of the town of Maidstone, with the entrance from Week-street. Week-street is the line of communication between the Bridge and Foot Bridge, and is suggested as a design of Messrs. WILKINSON and BLANDFORD, Architects, Maidstone, may lay between TEN and FOUR o'clock. Tenders are to be sent to Messrs. BEALE and HOARE, Solicitors, Maidstone, on or before TUESDAY, the 29th day of JUNE next, sealed up and addressed "Tender for St. Faith Estate, Maidstone." The Executors reserve to themselves the power of not accepting the lowest or any other Tender, unless approved in all respects.—By order of the proprietors,
Maidstone, May 29, 1858.
BEAL and HOARE.

TO BUILDERS. NATIONAL SCHOOLS, WALHAM GREEN, FULHAM.—The Committee of Management are prepared to receive TENDERS for the ENLARGEMENT and ALTERATION of the SCHOOLS. The plans and specification may be seen at the Schools, on and after MONDAY, the 7th day of JUNE, between the hours of TEN and FIVE o'clock. The Tenders are to be delivered on FRIDAY, the 18th inst. at SEVEN o'clock precisely, at the School-house, where the committee will be in attendance to receive them. The committee do not bind themselves to accept the lowest or any Tender.

TO ENGINEERS and OTHERS.—TRINITY-HOUSE, London, May 31, 1858.—This Corporation being desirous of obtaining TENDERS for the CONSTRUCTION of LANTERN for the NORTH FORELAND LIGHTHOUSE, invite Engineers and others who may be desirous of executing the work. The plans, specifications, form of Tender, and conditions of contract, are deposited at the house, the key to be had on application at the 17th JUNE next, between the hours of TEN o'clock a.m. and FOUR o'clock p.m. The Tenders must be delivered at this House, directed as required, on or before TEN o'clock a.m. of TUESDAY, the 15th JUNE next.
By order,
P. H. BERTHON, Secretary.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a FARM-HOUSE and OUTBUILDINGS at Cove Hythe, Suffolk, for the Trustees of the late Sir Edward Leeds, Bart. may inspect the plans and specification at the Architect's Office on, and after JUNE 9.—Tenders to be delivered on JUNE 18, before TWELVE o'clock.
GEORGE GLOVER, Architect, Lowestoft.

GUILDHALL, May 31, 1858.—The Committee for LETTING the CITY'S LANDS will meet at Guildhall, on WEDNESDAY, the 9th JUNE next, at ONE precisely, to receive PROPOSALS for LEASES, in lots, of several HOUSES and PREMISES, Nos. 6, 7, and 10, on the north side of Banner-street; Nos. 17 and 18, on the north side of Featherstone-street; and Nos. 2 to 21, on the south side of Golden-street, Finsbury. Plans of the premises, forms of contract, and forms of Tender obtained, upon application at the Architect's office, Guildhall.
FERDINAND BRAND, Comptroller.

GUILDHALL, London, May 31, 1858.—BUILDING LEASES, Newgate-street. The Committee for Letting the Bridge-house Estates will meet at Guildhall, on FRIDAY, the 11th day of JUNE, at TWELVE o'clock precisely, to receive TENDERS for BUILDING LEASES of TWO PLOTS of GROUND on the north side of Newgate-street, and the east side of Christ Church-passage, in the city of London. A plan of the ground and conditions for letting may be seen at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

[For remainder of Contracts see next page.

CONTRACTS.

TO BUILDERS.—ENLARGEMENT of the CITY of BRISTOL WORKHOUSE at STAPLETON.—The Guardians of the Poor of the City of Bristol, give Notice that all Persons who may wish to TENDER for ENLARGING the above WORKHOUSE are required to send by post to the undersigned, in writing, sealed, Tenders for executing Stapleton Workhouse, together with the names and places of two responsible persons who will become sureties for the proper performance of the contract, in a sum equal to one-fourth of the said amount of such Tender. Tenders will be opened at the meeting of the Guardians, on the 11th of JUNE, 1858. The Guardians do not undertake to accept the lowest or any tender, but will require a satisfactory security for the performance of the contract by the party whose Tender may be accepted. Plans, specification, and conditions of the contract may be seen on and after the 14th of MAY next, and Printed Forms of Tender obtained on application to the Clerk of the Works, at the Workhouse, Stapleton, Bristol. The Guardians do not pledge themselves to accept the lowest or any Tender.

By order of the Board of Guardians,

W. B. WILMOT, Clerk.

30th April, 1858.

TO CONTRACTORS for SEWERS, BUILDERS, and others.—The Vestry of the Parish of St. Martin-in-the-Fields will meet on THURSDAY, the 10th of JUNE, 1858, to receive TENDERS for the SUPPLY of MATERIALS for the CONSTRUCTION of SEWERS and DRAINS, and for PAVING and FLAGGING the Streets, Courts, and Places of the Parish, for one year, from the 24th of JUNE inst. Tenders must be made out on printed forms, which may be had at the Vestry Hall, Castle-street, Leicester-square, and delivered to Mr. BUSTALL, Surveyor to the Vestry, at his Office, No. 14, Castle-street, Long-acre, between the hours of 12 and 4, on or before the 9th of JUNE, when they will be opened and read in the presence of such Tenderers as may attend at the Vestry Hall aforesaid. Tenders are to be made for the several works mentioned in the Specification, which may be had at the Vestry Hall, and at the Office of Mr. BUSTALL, on and after the 1st of JUNE, and no Tender will be received unless made out in conformity with such Specification. Each Tender must be accompanied by the name and residence of a person who will become bound with the Tenderer in the sum of £100 for the due performance of the contract, if the Tender be accepted. The Vestry do not bind themselves to accept the lowest or any other Tender.

By order of the Vestry,

T. DANGERFIELD, Vestry Clerk.

Vestry House, St. Martin-in-the-Fields, May, 1858.

THE Local Board of Health of Kingston-upon-Hull are desirous of receiving TENDERS for REPAVING, with Granite the following Streets, viz.—High-street, Lowgate-street, and Engine-street; and for Making, Supplying, and Fixing Granite Kerbs, in the way in Posple-street. Drawings and Specifications may be seen at the Office of the Surveyor to the Local Board, in Lowgate, from JUNE 7 to 12, inclusive, and Tenders are to be sealed up and left at the Office on or before the 12th of JUNE, addressed to the Clerk to the Local Board of Health, Parliament-street, marked "Tender for Streets." The Local Board do not bind themselves to accept the lowest or any other Tender.

Hull, June 2nd, 1858.

BUILDERS desirous of TENDERING for the ERECTION of THREE PAIR of SEMI-DETACHED COTTAGES, in the Stratford Estate of the Temperance Permanent Land and Building Society, may inspect the drawings and specifications between TEN and FOUR o'Clock, at the Offices of the Society, No. 1, Moorgate-street, City, where Tenders are to be delivered by SEVEN o'clock in the evening of TUESDAY, the 15th inst. The Lowest Tender not necessarily accepted.

HENRY J. PHILLIPS, Secretary.

TO BUILDERS. Persons desirous of CONTRACTING for the ERECTION of a NEW CHURCH, in the Parish of St. Mary-at-Hill, London, may see the Plans and Specifications which will be open to inspection at the Office of Mr. WELLS, Timber Merchant, Chatham-place, Blackfriars, on and after MONDAY, the 7th of JUNE next. Tenders to be delivered at the house of the Rev. Mr. DRAKE, Rectory-house, Hill-street, Berkeley-square, on or before TWELVE o'clock on MONDAY, the 28th day of JUNE. The Committee do not bind themselves to accept the lowest Tender, nor any other, unless perfectly satisfactory to them.

TO BUILDERS. Persons desirous of giving TENDERS for the ERECTION of a PARSONAGE-HOUSE and OFFICES, and SCHOOL-ROOMS, at Hoxton, are requested to apply at the School-room, Hoxton-square, near Nine Elms, from MONDAY, the 7th, to THURSDAY, the 10th of JUNE, between the hours of TEN and FOUR, for such information as may be required. Tenders, addressed to the Rev. ROBERT JENNINGS, Archbishop's Apartments, Lambeth, on SATURDAY, the 12th of JUNE, 1858, by TWO o'clock. Each Tender, on the part of the intending builder, to be signed by two of the Trustees of the Benefice.

Abbreviated May 31, 1858.

TO BUILDERS, CONTRACTORS, and others.—ST. JOHN'S CHURCH, COVENTRY.—Persons desirous of CONTRACTING for the performance of the several Operations mentioned in the TOWER and SPIRE of ST. JOHN'S CHURCH, are to deliver TRANSCRIPTS of ST. JOHN'S CHURCH, in the City of Coventry, to see the Plans and Specifications of the Works to be performed, on application at the Vestry of the said Church, on and after MONDAY, MAY 31st, between the Hours of TEN and FOUR, for a fortnight from that date. TENDERS for the Contracts to be delivered to me, sealed, and marked "Tender for Works," on or before Twelve o'clock of TUESDAY, JUNE 15th, 1858, by which time I shall have completed the examination of the Tenders. I do not bind myself to accept the lowest or any Tender.

F. LAMB, Hon. Sec.

TO ENGINEERS.—ENLARGEMENT of the CITY of BRISTOL WORKHOUSE at Stapleton.—The Guardians of the Poor of the City of Bristol give Notice, that all persons who may wish to CONTRACT for the ENGINEER'S WORK, for the new Laundry and Kitchen Warehouse, and Steam Apparatus, to be erected at Stapleton Workhouse, are required to send by post to the undersigned, on or before THURSDAY, the 10th of JUNE, Tenders in writing, sealed, "Tender for Engineer's Work, Stapleton," together with the names and residence of two responsible persons who will become sureties for the proper performance of the Contract, to a sum to be fixed by the Committee of Guardians, on the Plans and Specifications being finally settled. Plans, Specifications, and Conditions of the Contract may be seen on and after the 14th of MAY next, and Printed Forms of Tender obtained on application to the Clerk of the Works, at the Workhouse, Stapleton, Bristol. The Guardians do not pledge themselves to accept the lowest or any Tender.

By order of the Board of Guardians,

W. B. WILMOT, Clerk.

May 7, 1858.

TO BUILDERS.—NEW CHURCH at MARAZION, CORNWALL.—Mr. Matthew Wyatt, Jun., will receive TENDERS for the erection of the above-named CHURCH, may inspect the drawings and specification, on application to Mr. PASSMORE, at Sir Christopher Cole's, Marazion, or to the Architect, Mr. J. P. St. Aubyn, 5, Adelphi-terrace, London, W.C., to whom the Tenders are to be sent, on or before the 24th inst. The Architect does not hold himself bound to accept the lowest or any of the Tenders.

CHURCH of S. MICHAEL AT THORN.—BRUNSWICK-STREET, NORWICH.—TENDERS are required for the REBUILDING and RESTORING of the above Church. Plans and Specifications may be seen at the Office of Mr. W. BLANDY JONES, Architect, Bethel-street, Norwich, and at the Office of Whitehall, 3rd June, 1858. FREDERIC WARREN, Architect.

HASTINGS and SAINT LEONARDS.—HOLY TRINITY CHURCH, HASTINGS.—The Building Committee are instructed to invite Tenders for COMPLETING the TOWER and SPIRE to the level of the Works now executed. Applications to be made to [illegible] Architect, [illegible] Hastings, on or before the 15th of June next.

By order of the Committee,

V. EYKELBOSCH, Secretary.

BRICKS.—IMPORTANT to BUILDERS. [illegible] per Thousand.

[illegible] 1st [illegible] 21s. "

[illegible] 2nd [illegible] 19s. "

Bright Stocks . . . 20s. "

Shippers supplied. Apply to Mr. H. E. SMILLIE, at Holborne, Kent Post Office, or to Messrs. Cubitt, Pavement, Pimlico.

GREAT REDUCTION IN THE PRICE OF BRICKS, TILES, DRAIN-PIPES, &c. &c.

PATENT CONTINUOUS BRICK FURNACES.

THE CRYSTAL PALACE AND SUBURBAN BRICK AND TILE COMPANY (Limited),

WORKS: LORDSHIP LANE, DULWICH,

One mile from the Forest Hill Station, have on SALE, BRICKS and TILES, DRAIN PIPES, and other CERAMIC Wares, of every description, and of the best quality, and at prices much lower than those usual in the trade; great economy being effected by this patent in the burning of bricks, and in the consequent increase of the make. Their Patents for drying, burning, and cooling Bricks, Tiles, Drain Pipes, and other Ceramic Wares, whereby a considerable saving in fuel and labour is effected in the manufacture, and the burning of the goods at all seasons of the year, irrespective of locality or climate; also perfectly free from nuisance, being smokeless and inodorous, and is to be seen daily in operation.—For terms, &c., particulars, apply to Mr. JULIEN DENIS, the Manager, at the Works; or to the Office of the Company, No. 85, King William-street, E.C.

JOHN NEWTON and CO. HONDURAS WHARF, 7, BANKSIDE, Southwark, S.E. Firebacks, Linings, Kiln Tiles, Fire-clay Goods, and every description of Fire Bricks. John Newton, Patent Dock Brick-shot, &c. for Docks, Piers, Pathways, Gas Companies, Engineers, Builders, &c. &c. Depôt for Bursley's superior Newcastle Fire Clay. Lily Roberts, 45, Saint-ley Pitts, Chimney Tops, Dutch Cookers, &c. at the lowest prices. Shipping orders executed with despatch.

WHITE BRICK ARCHITECTURE.—ARCHITECTURAL WHITE BRICK MOULDINGS, of almost any design, sharp in the arriss, and (being made by patent machinery) of truth hitherto unattained also, FACING BRICKS, of any size, may be had at Peter Pain's White Brick Works, Rugby.—List of prices and samples on application.

J. M. PAINE'S FARNHAM SILICA WORKS.—INDESTRUCTIBLE SILICIOUS FIRE BRICKS are now being manufactured at the above Works, and will be delivered at the Nine Elms Railway station, at 20s. per 1,000. Particulars established, is directed to these bricks, as from their capability of containing so very much greater an amount of heat than any that have hitherto been produced, they are of the utmost value in all cases in which an enormous and steady temperature is required, while they will withstand the sudden and violent changes of temperature, to which fire bricks are usually subjected. All the usual fire bricks are ready for delivery, but any shapes will be executed with the least possible delay.—Communications to be directed to G. H. OGSTON, Silica Works, Dippenhall, Farnham, Surrey.

GARRETT, BROTHERS (late H. and R. Haywood), Manufacturers of METALLIC TILES, PIPES, &c.—Blue, red, and buff paving tiles, of various designs, for churches, entrance-halls, schools, dairies, &c. Italian, Grecian, plain, and ornamental roofing and ridge tiles in great variety. Edge facing and paving bricks, tiles, kerbs, pavers, and channels, plain and socket pipes, grids, chamber tracks, coping, fireproof flue linings, &c. all of very superior quality, with numerous other articles, together with Lists, Illustrations, Prices, and other particulars of the same may be obtained at GARRETT, BROTHERS' Manufactory, Bridge Wharf, Pimlico, Stafford-bare, or their London Depôt, 1a, South Wharf, Paddington-n.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW and CO'S Pattern-book, designed by M. Digby Wyatt, esq. together with a special design and estimate of cost, will be forwarded to any given dimensions of the area to be covered, on receipt by post of a Sketch. Messrs. Maw and Co. have also published a pamphlet, containing a brief account of the Ancient Pavements, with Illustrations, Prices, and other particulars of the same now obtained at GARRETT, BROTHERS' Manufactory, Bridge Wharf, Paddington, Middlesex, and their London Depôt, 1a, South Wharf, Paddington-n.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Pipes, that the trade terms. "TERRO METALLIC" is the exclusive right of the Proprietor, see Bells, if of the Reports of the Juries page 58, of the Great Exhibition, both the great of a Prize Medal, and rank the Brass factories from the first of the kind in the world.

MINTON and CO.'S ENCAUSTIC and other PATENT TILES, for Churches, Halls, Conservatories, Entrances, &c. Quick, economical, and durable. Also Plain Tiles for Fireplaces and Hearths, Copings for Gables, Door Furniture, White Glazed and Ornamental Tiles for Baths, Dairies, and Kitchen Ranges, may be had, in great variety, at their Warehouses, 9, Albion-place, Blackfriars-bridge, London; and at their Manufactory, Stoke upon Trent, Staffordshire.

PATENT

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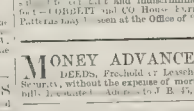

for floors, walls, and furniture (inch thick from 1s per foot), used in the mansions of Architects, Sir Charles Barry, Messrs. Banks, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance well worthy of notice"—Times, May 25.

ARROWSMITH, No 80, New Bond street.

KAMPTULICON FLOOR-CLOTH, the Improved Patent Noiseless, Warm, Waterproof, Cleanly and Everlasting, NOW READY, Plain, and in a Variety of Elegant Designs, adapted for Churches, Halls, Public Buildings, and Rooms; also for Durable and Indiscriminate wear.—Price 6d. per square foot.—ROBERT and CO. House Furnishers, Deptford Bridge, S.E. Patterns may be seen at the Office of "The Builder."

MONEY ADVANCED, on DEPOSIT of DEEDS, Freehold or Leasehold Property, or other available Securities, without the expense of mortgage or insurance. Good trade bill discounted.—Address to J. B. 14, Morden-terrace, Pimlico, S.W.

TWENTY-FIVE THOUSAND POUNDS WANTED. The Member for Local Board of Health [illegible] Surveyor to the Board for [illegible] of water works on the [illegible] of these works and the several sites connected therewith, will be examined as to [illegible] Part of the evidence to be given before the Committee [illegible] Plans and Estimates [illegible] JAMES W. RUSSELL, Clerk.

Merthyr Tydfil, June 1, 1858.

TEN THOUSAND POUNDS ready to be ADVANCED on the Purchase or Investment Land or Building Security on a New Estate, at Blackheath, upon the Security of BONDS and HANDS, repayable either by one sum or by instalments.—Apply at the Offices of the Society, between the Hours of NINE and FIVE.

JOHN EDWARD BRENDISH, Secretary.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer, SUPPLIES CO-COANUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c. of the best quality on the most reasonable terms. Warehouse 42, Ludgate-hill E.C.

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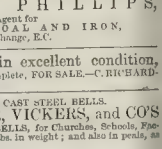

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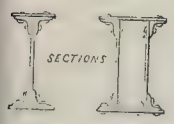

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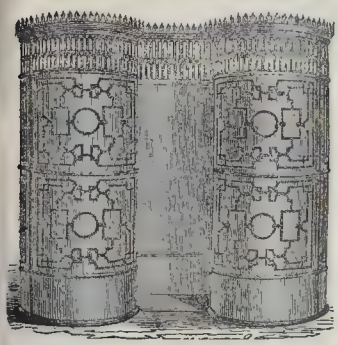

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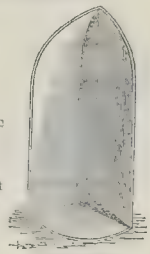

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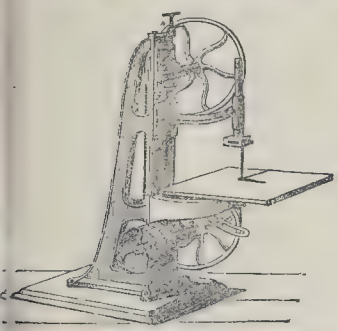

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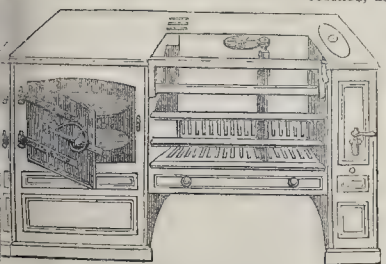

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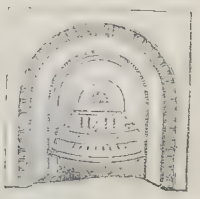

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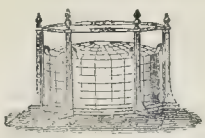

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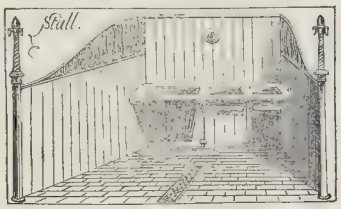

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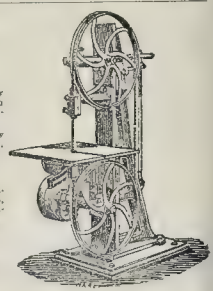

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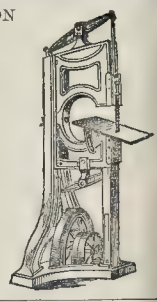

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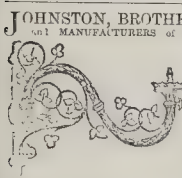
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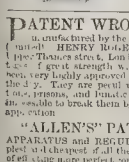
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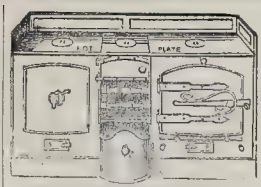

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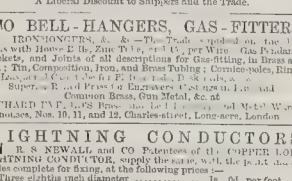

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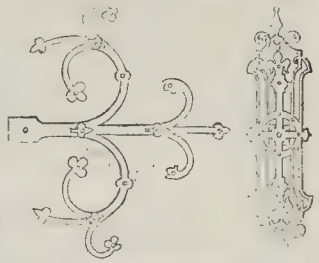
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VOL. XVI.—No. 800.

The Struggling Classes. Public Play-grounds. The Penny Theatre.

MUCH credit is due to Mr. Slaney for continuous endeavours to improve the condition of the masses. Amongst his good works must be placed his Bill (without admitting all its details) to facilitate the grant of land near popu lous places for the regulated recreation of adults and as playgrounds for poor children;—notwithstanding that it was difficult to keep "a house" while he was moving for leave to bring it in. He pointed out that the changes which had taken place in various directions for the benefit of all other classes of society had operated to the injury of the labouring poor, by driving them to reside within a narrower area, and by not having reserved places for exercise and recreation. He had drawn the attention of the House of Commons to this twenty-five years ago, and had obtained a committee upon the question, and the report which that committee had made contained suggestions, many of which had been since adopted. We sincerely hope that the House will aid Mr. Slaney in his object. Wholesome recreation for adults is amongst the necessaries of life: and as to the poor *children* of London and other large towns, it is scarcely possible to over-estimate the degradation and money loss brought about by confining them to the wretched homes of their parents or the more wretched haunts of the thousands of town children who have no parents, or protectors to overlook them. You may often see children, dwellers in the close courts and alleys which in many cases adjoin our nicely planted squares, following the instincts of nature, creeping from the shadow to the fresher air and sunshine, and eagerly peeping through the enclosures at the shrubs and flowers, till driven back by stalwart street-keepers and policemen, when they scamper off to their dingy homes, where, in too many instances, evil and contamination await them. In confined streets the children are without the means of healthy amusement or of any chance of occupying their time and leading their thoughts in such a manner as would be likely to strengthen the body or cultivate the faculties. They cannot, like little George Stephenson, ramble to the "burn," and amuse themselves in constructing miniature water-mills, or dig clay from the bog and gather the stems of hemlocks and fashion the materials into engines. A rightly formed heart must ache for the poor boys of London, particularly when it is recollected what multitudes of them there are who are progressing towards manhood deteriorated and educated downwards. To many of them the glorious tints of the setting sun are a sight scarcely known, and to them the "rosy hue of incense breathing morn" must be as strange as the fresh green places in which children in the country have an opportunity of cheerfully spending their play-hours. Who has heard without delight the joyous voices and the rush into lanes and fields of the children of the village schools—how different from the dismissal from the schools of the poor in many parts of London—to many of whom a large dust-heap, the embankment made when opening a sewer, or some similar arena, is a treat of an extraordinary description. Priceless are the recollections of those green lanes and flowery banks in after days, as when,

> "In vacant or in pensive mood,
> They flash upon that *inward eye*
> Which is the bliss of solitude."

Those who are acquainted with the subject know the evil which follows from allowing children to play in the streets. "What can we do?" say the parents: "it is natural for children who are in health to play, and how can they do so in their inconvenient room, without quarrels with the neighbours?" They must swarm into the streets, and risk the great dangers which await them. It is absolutely necessary that some means should be taken to remedy this evil, and afford the means of such healthy exercise as can be had in the midst of a large population. In order to show this, glance at the dense population which inhabits the district from St. Martin's-lane to Farringdon-street, and between Oxford-street and Holborn, and the Strand and Fleet-street, and notice what few breathing-places are left for the use of the many thousands who occupy that space. To those living in the western portion, St. James's-park and the space in front of the National Gallery are not at a great distance; but only few of the poorest avail themselves of those very public places; and many have remarked with wonder how small a number of children from pent-up places make use of the parks. This is to be partly accounted for by the circumstance that the ill-clad are often looked at with suspicion. Moreover, young children seldom stray far from home. The only other open spaces in this locality are Leicester-square, the centre of which is nearly covered by the Great Globe building; Covent-garden Market,—a space generally occupied; Clifford's-inn; Lincoln's-inn-fields; and Gray's-inn. In the latter there is a beautiful piece of ground, with large and venerable trees, which have an historical interest: and we venture to suggest that great benefit would be conferred by opening it to the public, as the authorities of the Temple have opened their garden, which is the only other uncovered space in this district worthy of notice. To the latter place in the summer evenings, thousands of the wives and children of the working classes living around have resorted; and it is worthy of notice that the most orderly conduct has been observed, and no damage has been done, although so many children have been admitted, to either the grass or flowers. In the week-days, during both winter and summer, any persons tidily dressed, with or without children, are admitted, and none have complained of noise or inconvenience. This ought to be an encouragement to the members of the other Inns to follow the example which has been set them by the Templars. Would it not be useful to try a similar experiment inside the railings in the centre of Lincoln's-inn-fields?

In connection with some of the metropolitan schools in the more open parts of London, space has been reserved as playgrounds for the scholars, some of which are fitted up with poles for gymnastic exercise. In the parish of St. Clement Danes, which is thickly built upon, substantial school-rooms have been erected in Milford-lane. There was, however, no ground to spare for a playground, but a sort of cage has been ingeniously thrown over the flat roof, which affords a safe and airy flat for the children to play on.

The play-ground of Christ's School is, for the City, large and convenient; so is that of the Charter-house. Both these, however, want the gymnastic apparatus which has been so well fitted up in the grounds of University College.

In the Regent's-park, near the south base of Primrose-hill, a gymnasium some time since was opened, and this we have seen in the summer time crowded by youths and boys. A person who seems to have been an old soldier acted as superintendent: before dark the ropes and poles were taken down, and the company soon dispersed. Similar arrangements might be made in Hyde and the other parks. What seems, however, to be wanted, in addition to the matters already mentioned, are little plots of ground for public play-grounds, at convenient intervals, in the midst of our densest population; and a society, whose offices are at No. 17, Bull-and-Mouth-street, St. Martin's-le-Grand, has been formed to carry out this laudable object. The idea is worthy of all praise, although we are reluctantly forced to confess that in those localities in which such institutions are most needed, there will be some difficulties to encounter, such as the great value of ground, and the objection which arises to the noise. As children grow up, other means of recreation should be made available. Any one who would devise a system of attractive, cheap, and innocent amusements for the poor, would further the cause of morality. All classes must have recreation. "Recreation," says Bishop Hall, "is intended to the mind, as whetting is to the scythe, to sharpen the edge of it, which otherwise would grow dull and blunt. He, therefore, that spends his whole time in recreation, is ever whetting, never mowing; his grass may grow and his steed may starve: as, contrarily, he that always toils and never recreates, is ever mowing, never whetting: labouring much to little purpose."

It is related that when Tahiti first came under European influence, the missionaries, from pure but mistaken motives, interdicted all the native amusements. They made dancing, foot-racing, and athletic games punishable offences, and prohibited every species of national pastime, from the holding of floral festivals to the singing of traditional ballads. To the effects of this policy a recent traveller bears mournful testimony. He tells us that, "supplied with no amusements in the place of those forbidden, the Tahitians have sunk into a state of listlessness, and indulge in sensualities a hundred times more pernicious than all the games ever celebrated in the temple of Tanee."*

The ignorant condition of thousands of both sexes in London, notwithstanding what has been done by ragged schools lately, is frightful to contemplate. They see the sky above their heads, but have no notion of its composition; the rain falls, but they know not the cause; the bread they eat, the coal that warms them, and the dingy brickwork of their courts and streets, conveys no idea to them beyond what is presented to their untaught eyes. Their mind cannot wander to the waving corn-fields, or to the sources of the production of the familiar things by which they are surrounded. Of the simplest religious truths and moral principles, they know nothing. It may seem to some that we are making an overcoloured statement, but those connected with the police-courts of the metropolis, know well the numerous cases which are brought before their notice of children from ten to twelve years of age, or more, who are not capable of taking an oath, in consequence of want of understanding; and those who have

* Sawyer's Essay on "Popular Amusements."

visited the poor districts of London can form a further idea of the extent of this evil.

It is evident that this absence of knowledge is in a great measure the result of the want of opportunity; for although, in some instances, bad air and other evils have created a dull and morbid temperament even in the young, it cannot fail to be noticed by all who have studied the subject, that the desire in these poor neighbourhoods for knowledge of some kind is remarkable, and as the right kind does not present itself, it is not surprising to see with what activity they set about a description of education they would be much better without. The human mind in varied degrees must find something to occupy itself with, and if good cannot be had, it rushes to the bad.

It is a curious sight to notice groups of young boys, of from seven to nine years of age, engaged, with all the earnestness of mature years, in games of chance,—such as dice, pitch and toss, and even cards; smoking short pipes, and betting in a manner which would seem to show an instinctive knowledge of counting, although they know neither a letter of the alphabet nor the figures of arithmetic. But the eagerness and rapt attention here seen are as nothing compared with what is apparent at *a penny theatre*, the chief means of education to large bodies of boys and girls who will be men and women, and form part of the community. Much evil arises from these resorts; nevertheless, we have a strong conviction that they are calculated to do more good than harm, and that it is not so desirable to interdict as to improve them, and render them a means of satisfying innocently that yearning for mental food to which we have alluded. The real nature of these places is little understood: but those who would suggest adequate remedies for the social evils which exist amongst a very large number of the long neglected classes of our population, must thoroughly investigate and understand existing circumstances. A year ago, the performances at penny theatres consisted of singing, dancing, and a short piece, generally of a melodramatic kind; or, in the season, a sort of pantomime: in some instances, the words of the songs were broad and improper. Since then, however, the police have overlooked them; many have been closed; all attempts at what may be called theatrical exhibitions have been stopped; and the amusement offered now consists chiefly of the singing of the popular street songs and negro melodies in characteristic costumes. Dancing of the most vigorous description is highly relished, as also are feats of strength, legerdemain, &c.; and it is remarkable how great an attraction chemical experiments have. The exhibition of laughing-gas, galvanism, &c. has been, and still is, a standard portion of these exhibitions. The matter which we have taken the pains lately to see at these places, although not instructive, had not of itself any immoral tendency.

The point we have in view is to show the eagerness with which this sort of *education* is taken advantage of, and that it is in truth the only sort of instruction to which many can attend. The apartment is full, and the appearance, seen from the stage, very striking. Here are infants in the arms of mothers who have scarcely passed the years of girlhood; the "two years' child," with staring eyes and open mouth, looking with wondrous intentness on the scene passing on the small ill-decorated stage: mixed in the group are boys of elder growth, and a few very young girls; there are, besides, youths of from sixteen to twenty, dressed in as nearly as possible the same style, viz.: short coats of velveteen, or some other stout material, cord trowsers, caps, and showy neck-ties. The younger boys imitate as closely as may be the fashion of their elders, although some are but ragged copies. We saw few on any occasion who seemed over twenty years of age, excepting one or two broken-down old men, who strangely contrasted with those surrounding.

At the risk of startling some of our readers, we have engraved an admirable drawing made for us by Mr. James Godwin,—not "fancy's sketch," but a true record. As we are not seeking to advertise these places, but to lead to their improvement, we need not give the locality of the structure. The first "house" was just over: we counted out 680 boys and girls, many of the worst possible character; and there were nearly as many waiting, who went in immediately after. A third representation was to follow, and complete the night. The engraving shows the boxes (2d.), and part of the back row of the pit (1d.). We saw no impropriety then, or on any other occasion, and could find no greater difference between that place and Astley's than there is between Astley's and the Italian Opera-House. Of course, gazing at this youthful crowd, it is impossible to ignore the danger and mischief which lie beneath; and it is saddening to reflect that this is only a small sample of some thousands scattered here and there over the metropolis, and who, in a great measure, have been reared in neglect. The peculiar education (if we may so call it) of this class requires unusual measures, and it may be observed that, although, under the circumstances, books are useless, yet paintings, music, and exhibitions which place a tale of interest before the eye meet with ready appreciation, and in the absence of the power of deriving amusement from books, we are inclined to think that the penny theatres, as now managed, do more good than harm, and that they might be very greatly improved, not only with advantage to the owners of them, but also to the visitors. Some of our readers will recollect Dr. Livingstone's observation, that the views afforded by the magic-lantern were the only kind of knowledge he was asked twice for by the Africans.

It has been objected to these exhibitions that they bring large numbers of dangerous characters together, and expose the younger part to the bad instruction of the elder. The same objection was made to the Ragged Schools at their commencement, but does not seem to hold good.

In the neighbourhood of Whitechapel there are various exhibitions which are resorted to by crowds of the same description as visit the penny theatres: these are of an artistic nature: they consist of views of places and incidents connected with the late war, and other stirring events, which are shown by panoramas and dissolving views. Views in the Holy Land and places connected with the sacred Scriptures are very popular. These humble art-exhibitions are highly spoken of by experienced City missionaries; and we are told that such considerable sums of money are raised by the speculators that they are enabled to effect great improvements, and that the people are becoming more critical. These exhibitions for the poor ought to receive encouragement, the pictures and the short lecture being the only books many can understand.

The cheap concerts and balls held in public-houses which are licensed for music are more mischievous than the places to which we have alluded. It would be well if rooms unattached to such places could be formed for the purpose of having well arranged and popular concerts at a small cost; and no doubt illustrated lectures on subjects of common interest would be well attended, and these would be a means in some measure of connecting the darkness which feels pleasure only in sensual amusements with the light of more advanced intellectual recreations.

When, however, such groups as those at present under consideration are seen, when we view them hovering around the outskirts of crowds, or assembled together in friendly groups in the Borough and elsewhere, or coming forth in thousands at executions or in times of tumult, the prospect of effecting much real good in this sturdy and dangerous army seems small; but the greater is the necessity of preventing the young and the yet unborn from growing up in large numbers to recruit this force which is now arrayed against honest industry and order.

We must encourage the erection of Social Bridges, however small, which lead in a right direction, and amongst these are public playgrounds for children, and innocent recreations for adults. All should remember that,—"When God gives a blessing to be enjoyed, he gives it with a duty to be done; and the duty of the happy is, to help the suffering to bear their woe."

THE RISING GENERATION TAKING THEIR LESSONS.

A Penny Theatre in London.

THE REPORT ON DISTRIBUTION OF THE SEWAGE OF TOWNS.

THE responsibility belonging to every expression of our opinion on the question of sewerage, we feel, expands as the evils in London and other towns increase, and with every fresh publication of other opinions on the subject. The documentary matter—the several direct assertions, and the "conclusions" of all kinds,—are embarrassing from their contradictory character,—and we may add, the doubt in which, to this moment, they leave some of the primary elements of the question. So far, if we have ourselves been unable to attempt to solve the difficulty, we have been able to offer to our readers of late, views, as to the different statements and propositions, which it is now clear were not inopportunely expressed. The grounds of the difficulty we had in any approval of the scheme of the Government Referees, or even of that of the Board of Works, which was in some respects more skilfully devised,—to wit, objections on the score of decomposition, to long distance of outfall and to great bulk and concentration of sewage in the arterial sewers and outfall channels; the *prominent* importance of the ventilation question in such a system, and the obligation which really belonged to the scheme, of taking into consideration an area larger even than the extended one proposed; the fresh conditions encountered by every approach to the coast, in the saline admixture; the impossibility of accepting a system as the conclusive and satisfactory one, under the great doubt of its applicability elsewhere, as in the instance of the northern towns; the claims of the lime process of precipitation to some attention, and yet the fallacy of looking for complete results therefrom; and the claims of sewage irrigation to further examination,—such points, which we dwelt upon, have been perceived and admitted in every later portion of the inquiry, though all questions comprised are not yet solved.

The actual position of the subject appears to be this. The principle of main intercepting drainage, with distant outfalls, in the mind of the ratepayer is *not proven*. The very legislature is almost hesitating about a question whether the sections 135 and 136, c. 120, of the Metropolis Local Management Act, were rightly passed; and it is obvious that their amendment will be necessary on the ground alone of impossibility of deciding upon and completing any works "for preventing all or any part of the sewage within the metropolis from flowing or passing into the river Thames," prior to "the 31st day of December, 1860." But the idea of ever *literally* complying with this provision, seems to be given up on all sides. Some question the whole of the conclusions as to the sewage in the river, excepting as to effect of the mud-banks; the latest report (to the Treasury mentioned in our recent numbers, and to be further noticed here) recognises a like view, so far as contemplating the discharge into the river of the bulk of the sewage, or supernatant liquid after precipitation, and apparently accepts it to such extent, as a principle capable of being applied to other towns, and albeit after having alluded to the use of river water (as that of the Thames) for drinking, and spoken of "the very idea that any population should be compelled to resort to such sources" as those which are at present used for the London supply, as "revolting in the extreme," and having said that—granting the mitigation of the evil by "natural causes," such as "the influence of the air, aquatic vegetation, fish, &c. which materially diminish the quantity of offensive matters"—"as a matter of common sense and public decency, it is not to be tolerated that the sewage of one town shall flow through, and still less be the water-source of another;" whilst Mr. Goldsworthy Gurney, in his report "to the First Commissioner of Works, on the state of the Thames in the neighbourhood of the Houses of Parliament"—after having done service in showing how the tendency is, of the sewage, to return with the tide and be deposited on the present banks to a degree far beyond what had before been demonstrated,—as we mentioned in a former article,* goes so far as to say, that if measures which he had recommended, were undertaken, a "question would probably arise as to whether any drainage of London beyond the natural outcast power of the river would ever be required." As a committee will have to report on Mr. Gurney's proposals very shortly, we need not anticipate their conclusions. It seems, however, that—with varying importance attached to embankment of the river, and to other measures as affecting the purification—outfall into the Thames within the metropolitan area, is now one of the propositions to be named as under consideration.

It cannot fairly be imputed to the ratepayers that they have taken an improper view of the main intercepting drainage with distant outfalls, considering the doubtful claims of even the best-considered of the schemes. These schemes, it may be well to remark, are based on one particular principle, taken as granted,—namely, one shadowed forth in the wording, though not involved in the intention, of the sections before named of the Local Management Act,—a principle which we do not say or believe is incorrect, but which dates from the opposition raised not many years ago, to the pollution of the Thames, when statements such as those of the last few months,—which it is, at least fair to give a hearing to,—had not been made, and from a time when the methods of disposal of sewage matter such as are now effectively carried out, had either not been undertaken, or were not generally known out of their immediate localities. To the former of these circumstances, we simply remark, is due the *predominant* attention given to main intercepting drainage (which has its proper value as an auxiliary), and the want of many necessary *data*, from actual experiment, in sewage utilization. Acts of Parliament, however, are sometimes passed with too hasty assumption of principles, as in the case of the Water Supply Act,—if the views on that branch of the sanitary question expressed at the time were correct, and if there be any kind of reason for the remarks which have been already quoted as to the sources of supply; as it might now turn out that *a certain portion* of the sewage could be ejected into the Thames within the metropolis, without danger. We may observe further, that the assumption of a principle by the Referees (Captain Galton, and Messrs. Simpson and Blackwell) involved the rejection of very many valuable suggestions that might now deserve reconsideration, not to mention also other schemes set forth in the plans which were sent in to the Metropolitan Commissioners in the year 1849. The latter were classified by Messrs. Bazalgette and Cresy, according to the outfall proposed, under two main heads,—1. "The Thames;" and 2. "The Country." Under each of these, proposals for utilization and application were, it appears, included. Again, the recent report to the Metropolitan Board of Works had its authors been free from the obligation imposed on them by the Act—would, no doubt, have favoured an outfall within the metropolitan boundary into the Thames, or works for precipitation in a similar locality, or both arrangements. The question, therefore, as to the outfall and disposal of London sewage, has assumed the position of of requiring the selection of one of three general principles,—(1.) the admission *to some extent* of the use of the Thames as a receptacle for sewage, or supernatant liquid after precipitation; (2) separation of the solid matter of sewage by chemical or mechanical means, on the supposition that the liquid could be got rid of without use of the Thames; and (3) direct application of the whole sewage to the land, by irrigation.

At this juncture appears the Report of the Royal Commission, addressed to the Treasury, dated 26th March, 1858. It is not easy to say what exact importance should be given to it. It comes to "conclusions," but these not very different from such as we were previously able to form, and it leaves the *data* mainly as they were before. Considerably more information is to be procured from the Appendices to the report of the Referees, the report to the Board of Health by Mr. H. Austin, one of the Commissioners, and from other sources;—information, however, which is given, in the report on the irrigation by sewage at Milan, had been wanting. It may, therefore, be well that we should attach more importance than the Commissioners themselves have expressed, to the particular character of this as a "*Preliminary* Report." The report professes to supply results of examinations of different works of sewage utilization, arrived at by frequent deliberations, "leaving it to a later period to institute practical trials of the methods that have already been proposed for the treatment of sewage, and of other processes which might possibly present themselves in the course of such an inquiry." Preliminary, however, in a full sense, or not, the report has attached to it the "Outline of a Plan for dealing with the Sewage of the Metropolis," which it has been stated has been carefully considered, and which certainly bears about it the aspect of a *conclusive* recommendation, as much as any other scheme that is before the public. We have already stated what are the main features,* but should now add that its special character consists in admission of the precipitation-process as an agent which may be employed even within the area of towns, without injury to the surrounding neighbourhood; in the view of the subsequent conditions of the liquid itself, or the *status* of the river, as allowing the portion of the sewage referred to, to be ejected without injurious results, and therefore permitting such an arrangement, at all events temporarily, and in the assumption that there will be the means of getting rid of the precipitate by the use of methods supposed to be free from the objections as well of a commercial as of a sanitary nature, that have been found at Leicester and other places. These methods consist in the discharge or conveyance of the "sludge" (or precipitated sewage and liquid) by pipes to the country, instead of attempting to get a dry product. Expense and nuisance at one end of the pipeage are supposed to be thus saved; and, at the other end, it is thought that the *sludge* could be distributed in the manner of irrigation, but without the difficulty apprehended in the other form, or the direct irrigation, of the requirement of an enormous quantity of land ready to receive the sewage. Of course, were the larger area of land happily found, the irrigation could then be conducted on the principle to which there are so many reasons for giving preference.

We have not alluded to that part of the "plan" which is connected with the construction of an embankment, although admitting that such a measure for preventing the formation of the mud-banks has the greatest importance in connection with the sewerage question. A communication along the banks of the river, vastly important as this has become, and architectural improvement which would be served by it, however, must not be allowed to influence the choice of outfall for the sewage. The latter object is too important in itself to bear being warped by any consideration whatever of a different kind: if two objects can be combined,—well—as money will be saved that way; but the judgment must be formed without bias. Indeed, there are those who believe that embankment would be destructive, not merely to the interests of the wharfingers, but to the *régime* of the river and to the navigation. Surely that question is one which there are sufficient materials for deciding, in the blue books long since issued, and in what is known to geologists of the operations of nature in estuaries and rivers. We prefer here to leave it for some separate notice.

Considering the decided claims, advanced at every recent inquiry, and fortified by this report, of the application of sewage by irrigation, it is to be regretted that points which most needed investigation, in that branch of the subject, are left in obscurity. In our notice last year of the Referees' report,* we thought even then that evidence, as afforded in the Appendices, and in the report of Mr. Austin, tended to show that where towns were situated favourably as to surrounding levels of land, the method of application by irrigation might be made to succeed, if not returning interest of money, as the system had done largely in many cases, at least by affording the needed outfall, without disadvantage sanitarily. This much, indeed, the Commissioners admit. The question, we said, was,—could there be obtained near London, ground over which the great and increasing volume of sewage water could be made to flow; and could such irrigation be carried on in all seasons, and under all circumstances, or in some manner to avoid the objections to storage, and the expense of supplementary outfall? Not only the question of levels is involved, but the agricultural one of the quantity of sewage capable of being absorbed by particular soils beneficially, as well as that of the right application of land-drainage as necessary to the system of irrigation. Grass appears to be the only kind of produce to which constant or frequent irrigation would be suited. The system viewed theoretically, is one that effects deodorization, does not allow of stagnation or malaria, and allows the object to be attained on which some authorities dwell so much, of the return of water which had been first drawn from the river to the same course, and returning it even in a state of greater purity.

"The large water-supply and area of rainfall in the metropolis, and the different conditions as to sewage and rainfall of the urban and suburban districts," we admitted, occasioned difficulties; whilst "drainage of the marshes," was alluded to as itself a desirable thing for the health of London, and possibly necessary to their being in a condition to form, as it were, a market for the sewage. The marsh-drainage, with the objects named, was suggested to the Referees by Mr. J. Bailey Denton. His opinion, however, in the

* See page 254, *ante*,—"Main Drainage of the Metropolis: the report of Messrs. Bidder, Hawksley, and Bazalgette."

* See page 329, *ante*.

* Vol. xv. page 590.

special case, we have since heard contested by persons well acquainted with the districts. Probably the difference is not one that affects general principles; and land-drainage may be only unfitted to work with the system of irrigation, so to speak, as it now acts there, by capillary attraction, —the body of water being confined to ditches.

However the circumstances may be as to such localities, we regret that inquiry could not be pursued by the Commissioners as to whether there might not be obtainable, there or elsewhere, the grass land in sufficient quantity, and suited to receive the sewage of London. On the one hand, the facts at places like Edinburgh, where the irrigation is in use, are more valuable for the solution of the difficulty in London, than is generally apprehended; on the other hand, many questions present themselves that we could wish were answered, as to agricultural value of the *irrigation* as proposed, by sludge,—the worth of such manure itself, and the possibility of applying it economically to the roots of the grass,—and as to the effect which there might be on public health by exposure of the one form of manure in contradistinction to the rapid absorption of the constituents in the other form, in irrigation. It is this latter branch of the question which should have been investigated further. We shall have to return to it when we complete our notice of the Commissioners' Report.

THE FOOD COLLECTION IN THE BROMPTON MUSEUM.

A COMPREHENSIVE Food Museum is in course of formation at the Brompton Museum, partly to replace the collection originated by Mr. Twining, and since removed to the Polytechnic Institution in Regent-street. A very interesting feature in the Brompton Food Museum consists in the chemical analysis of various articles of food, such as wheat, oats, rice, potatoes, tea, cocoa, &c.—the results of the analyses being all displayed side by side, so that at a glance the various organic constituents or proximate elements of all the most usual and interesting articles of food may be seen and made acquaintance with by all, and something like a fixed and definite idea turn up in the mind ever after, when the gluten of wheat, the starch of potatoes, the theine of tea, &c. &c. are either read of or spoken of. For these chemical analyses and arrangements the public are indebted to Dr. Lyon Playfair, who has given not only the constituents but their relative quantities, together with tables and labels wherein the relative proportions of the heat-producing, flesh producing, and other ingredients, in the principal articles of food, can readily be arrived at.

Thus, from a large tabular arrangement in colours, the relative quantity of flesh-yielding material in wheat, oats, rice, potatoes, and even tea, cocoa, and many other articles, may be at once seen. And it is interesting, as well as curious, to note the fact that there is actually much more of the flesh-forming material in dry tea than in potatoes, barley, maize, or even wheat, as a whole, but much more in pulse, or peas, beans, and lentils, than in *any other* kind of vegetable food. The quantity in potatoes is very small, indeed, compared with any of these. On the other hand, there is a great deal of heat-giving material in rice, as well as in wheat, but only half the flesh-yielding quality in rice that there is in dry tea. This heat-giving quality of rice is remarkable, when it is considered that rice is the chief article of food amongst the natives of India, who in general live in a climate where there is abundance, one would think, of heat, without the administration of it inwardly. The thin, spare, lean forms of many of the Indians, however, may partly depend on the fact that rice is by no means a distinguished flesh-yielder. The flesh-yielding qualities of all the pulse—or bean, pea, and lentil—family are very notable, but by no means a modern discovery. If Esau paid dearly for his mess of pottage, he had at least the advantage of a bowlful of the very best vegetable food for the support of his fleshy, hairy, body; inasmuch as Esau's "red pottage" was made of "lentils," as appears from Genesis xxv. 30, 34. Listen, too, ye patronizers of the "Arabic" Revelanta — Relevanta — Ervelanta — and all the other change-ringing in the pulse—the pea, bean, and lentil—line, to the words of Daniel on this special subject:—"Prove thy servants, I beseech thee, ten days; and let them give us pulse to eat and water to drink: then let our countenances be looked upon before thee, and the countenance of the children that eat of the portion of the king's meat. . . . . And at the end of ten days their countenances appeared fairer and *fatter in* FLESH than all the children which did eat the portion of the king's meat. Thus Melzar took away the portion of the meat and the wine that they should drink and gave them pulse." And thus, too, pulse appears to be "a dainty dish" not only fit "to set before a king," but better than all the king's meat and all the king's wine! And, moreover, with reference to modern chemical analysis and its results, so far as regards this precise description of food, and considering the difference between heat-giving, which, in fact, is a sort of fat-yielding material, and actual solid *flesh*-yielding substance, how peculiarly and strictly, and even chemically, correct is the expression, "fatter in flesh," when the *flesh*-yielding, rather than merely *fat*-yielding quality of the food is considered!

In one of the series of Dr. Playfair's cases there is an interesting collection of food ingredients illustrative of the flesh-yielding, heat-producing, and other properties of the food dispensed to our soldiers and sailors in active service, and again in their retirement at Chelsea and Greenwich; as also similar collections with respect to the food of the boys at the Royal Naval School at Greenwich, the Christ Church Hospital boys, the old maids in Gillespie's Hospital at Edinburgh, and the paupers in the workhouses throughout the country. There are large collections of specimens of all sorts of corn and other crops; a curious collection of teas; great varieties of fruits, and other articles far too numerous to mention; the whole forming a complete study in itself, and one which seems already to excite a special interest among the every-day visitors to the Brompton Museum.

Before concluding our present hasty notes, by the way, we may refer to what we had occasion not long since to say in regard to the use of oatmeal as an article of food in England, while noticing one of Mr. Twining's little publications as to the first food collection, which was entirely originated by that gentleman. The healthfulness of oatmeal as an article of food, even in England, may be instanced by its use in the Caledonian Asylum at Holloway. All the children in this excellent institution, girls as well as boys, breakfast every day (or used to do so at least, and doubtless still do) on "cogs" of oatmeal "porridge" (with milk) made in the old Scottish fashion of their forefathers; and a more healthful and comely collection of children are not often seen than the Caledonian Asylum children.

There is another valuable article of food to which we also before drew attention, namely Indian corn or maize, and which we would again allude to, in order merely to remark that it is worth while for any visitor to the Brompton Museum, interested in the subject of cheap and good food for the poor, just to look at the pure and really beautiful flour made from this article, and placed in one of the cases. Compared with the best wheaten flour, which may also be seen there, all the brilliancy of whiteness is in favour of the Indian corn flour: it is almost as white as the flour of fine starch. Its yellow meal and other forms and varieties may also be seen in the food collection at the Museum.

THE ART-QUESTION OF THE SECOND COMMANDMENT.

THE question set forth by your correspondent "Anglican" (putting aside the manner in which it is enunciated) is one which may be worthy of at least an explanation of the grounds upon which I made the statement which is contradicted.

The Mosaic moral law, in its ancient and proper form, was not ten commandments, but two tables. First, there was the law of duty towards God; secondly, that of duty towards fellow-men. A greater than Moses points out this principle in so many words. The first table, then, opens thus: "I Jehovah thy God which have brought thee out of the land of Egypt out of the house of bondage thou shalt have no other Gods before me thou shalt not make unto thee any graven image or any likeness that is in heaven above or that is in the earth beneath or that is in the water under the earth thou shalt not bow down thyself to them nor serve them for I Jehovah thy God am a jealous God." *

I did not lay it down as an important point in my history, but I suggested it as an interesting one, that here the very act of making an effigy, the first basis of the art of delineation, is advisedly forbidden.

The prophet Ezekiel, at a later period, gives the following vivid picture of idolatry: "And he said unto me Go in and behold the wicked abominations that they do here. So I went in and saw and behold every form of creeping things and abominable beasts and all the idols of the house of Israel pourtrayed upon the wall round about:" and seventy men of Israel "with every man his censer in his hand." Also, "He brought me into the inner court of Jehovah's house and behold about five and twenty men with their faces toward the east and they worshipped the sun toward the east."

Here we have indicated the two great generic forms of idol worship; namely, first, the employment of natural objects or their representations as the symbols of the abstract attributes of Providence unseen; secondly, the adoration of the heavenly bodies as themselves the visible presentment of Providence beyond. To the first form belonged the worship of Egypt.

In our familiarity with Egyptian works of later periods we must not forget that at the very early date of the Exodus of Israel delineative art was in an almost incomprehensibly primitive condition. It is not probable, I believe, that we possess any remains whatever of that very early period. Drawing on the flat was most likely unknown except in the preliminary invention of hieroglyphic record; and carving in the solid was itself an art of the very simplest, crudest, rudest kind imaginable, consisting merely in the manufacture of *teraphim*, the "graven images" of the Mosaic language. These objects were small statuettes of clay, wood, stone, or metal. (Such, of an advanced kind, were the Lares and Penates of the Romans, and such at the present day are the well-known household gods of India and China.) They were moulded or carved (graven) in a very primitive approximation to human or animal forms; and it is quite certain, I believe, that this effort of ingenuity was animated, not by any idea of fine art or even representation *per se*, but by an idea of *god-making*, and nothing else. The earliest household gods we imagine to have been meteoric stones ungraven, and the first act of sculptural art the correction of their accidental forms into a more distinct representament of their character as messengers from heaven. From this the transition was easy to the actual manufacture of the rude statuettes I have spoken of, and this in large numbers. Thus the land of Egypt was "filled with idols;" long before there were any temples or sculptured figures of public gods, every man had his own little "graven image" set up in his tent or hut, or perhaps carried in his bosom, to watch over the welfare of himself alone.

It seems uncertain how far the Israelites in Goshen followed this practice of their masters; but it was out of this state of affairs in Egypt that Moses led the children of Israel forth—a very simple, uncultivated people in the mass,—heart-humbled by the lash of slavery, unreasoning, ignorant, uninquiring, stubborn, stolid—"a stiff-necked people" of the most primitive associations.

He carried them into the solitude of the wilderness, and there propounded the mighty principle of spiritual monotheism afterwards expressed in the maxim, "God is *a spirit* and they that worship him must worship him *in spirit*."

The great *practical* obstacle to the establishment of this principle was manifestly the dogmatic use of these teraphim,—the orthodoxy of the day. It may seem to modern theologians of a certain school a very undignified thing that a commandment of the moral law should be levelled against a practice so insignificant as this; but, on the contrary, I think it was as important in that day as our own most important principles are now, that Jehovah the Spirit should not become a deity of teraphim. These images must therefore be denounced. But how? Shall the *worship* of these images be forbidden? No; the *making* of them, the possession of them, the existence of them, must be prohibited. It would be manifestly vain with such a people to forbid the worship of the gods which they were not forbidden to make. The intention of worshipping (so to call it) was the sole idea involved in the act of making. The principle of the time so far was, not so much, perhaps, that a god was an image, but that an image was a god. "Cursed the man that maketh graven or molten image;" the priest was therefore ordained to say, "an abomination unto Jehovah!"

Look at the incident of Aaron and his golden calf, which took place at the very period of the giving of the law,—a few days before. Moses was lost sight of in the clouded mountain. The people were in consternation. The mouth-piece of Jehovah their God, the oracle, the divine representative, was lost. There was only one course open to their intelligence. While Jehovah the Spirit was present in the mouth of Moses,

* In quoting the Bible as historical evidence we must omit the punctuation, the division into verses, and the italic or parenthetical words. I need not say that the word LORD in our translation marks "Jehovah" in the original.

they were comparatively at ease; thus far the great lawgiver had succeeded in setting aside their old orthodoxy. But when they awoke to the dreadful consideration that they had *lost* him, their old associations returned, in the only possible form. They had lost Moses, and with him their God: they went to the priest; it was his function to provide them with another. In fact, the very principle of monotheism was lost to view immediately. "Up, make us *gods!*" they cried. And Aaron was equally at fault. Moses alone understood the point,—*in all the world, perhaps, Moses alone!* Aaron called for gold. "I cast it into the fire," he said, "and there came out this calf." He graved it into better form, as was usual, and it was an orthodox god. It is an error to suppose that the act of the people here was a returning to Egyptian or other false gods. The sin was the returning to *teraphim*. Aaron was making, not an *Apis*, or a *Baal*, but (as he would no doubt have said) *a Jehovah*. "And when Aaron saw it he built an altar before it and Aaron made proclamation and said To-morrow a feast to Jehovah!"

We thus see how hard a task Moses had to perform in overthrowing the practice of making graven images. In fact, not only was it unsafe to countenance the simple idea of sculptural art, but architectural decoration also had to be discouraged lest even that should become a source of idolatry. "An altar of earth thou shalt make unto me—and if thou wilt make me an altar of stone thou shalt not build it of hewn stone for if thou lift up thy tool upon it thou hast polluted it." The very tooled stones would have become teraphim in the estimation of those simple people.

What, then, of the cherubim? The mercy-seat in the holy of holies was overshadowed by cherubim. That these were (as "Anglican" says) "two figures whose wings extended inwards and formed a sort of cradle," is the baby's picture-book idea, long since discarded from all volumes above the value of sixpence coloured. From the Syriac *charab* (so I read) the cherubim are imagined to have indicated *the mighty ones*, or heavenly powers: they were either in whole or in part *pairs of wings;* but this is all we know. Josephus says expressly that they were *not images*. But even if this were otherwise, the special instance, the single exception, the remarkable and most solemn exception thus constituted, would be only a proof of the rule which provided against their multiplication as idols.

The brazen serpent of Moses is a better case for my opponent; but here the special and solemn exception to a rule is clear.

The heraldic emblems of the tribes are a still better case for him; but I think there can be no historical doubt that these came into use with direct and open idolatry.

The delineative art in Solomon's temple is still a better case than all: but at that later period the art question has passed into another phase; we must confine ourselves to the Mosaic age alone. Time changes all laws; we do not imagine that the making of statuettes could be forbidden for ever; but that for the Mosaic time it was a matter for absolute prohibition I think is clear.

That the shrewd genius of Mohammed (who took Moses for his model), interpreted the principle in question in the sense I suggest, is well known. Christianity, he saw, had become the religion of the world, proclaiming the eternal fact—the self-evident and universal maxim—that GOD is ONE. But the detail of Christian theology (he would say) had placed not only the Son, but the Mother on God's throne; and all surrounding them, there were the angels of heaven and the spirits of the just as demigods. Monotheism was lost. The hero-worship of the old Roman empire had become the saint-worship of the new. And long ago, step by step, the churches had become their "chambers of imagery." Three hundred years before, the use of images had been made the solemn subject of denunciation by the Fathers and even by a council of the Church; but all in vain: the house of God, who is a spirit, was filled with idols. Christianity, therefore, in the eye of the new monotheist of Arabia, had lost all its essence; it would be a vain task for him to attempt to overthrow the polytheism of his native land by referring to a theoretical monotheism such as this,—whose practice was a polytheism of the most complicated kind. It would be a far easier task to set up a new faith. To do this he took the simple course of following the Christian principle of monotheism back to its beginning. The day has gone by for alleging that he was not sincere, according to his light. He communed with Moses. And amongst other elements he adopted in its very strictest form this our second commandment. God is a Spirit, he declared: *the use of any idol* is sin: to guard this law *the making of the idol* is sin; to guard this in its turn, *the making of any image whatever* is forbidden: and such is Mohammedan law to this day.

Lastly, to this day also, "*the Jews absolutely condemn all images*, and do not so much as suffer any statues or figures in their houses, much less in their synagogues or places of worship." I quote the "Bible Cyclopædia" (1841).

The question whether these facts agree with the opinions of one school of Christians or with those of another, I must beg to be excused from debating. I speak with reference, not to theology, but to art and history alone.

When your correspondent speaks of the virus of Puritan and Protestant tradition enslaving and poisoning English minds, I for one have no answer for him, except I say that the Puritan or Quaker principle of creed which repudiates all art as *vanity* (an altogether modern question) is one which we no doubt will both concur in thinking a very feeble idea indeed. ROBERT KERR.

MERCHANT TAILORS'-HALL, THREAD-NEEDLE-STREET.

SOME years since the ceiling of Merchant Tailors'-hall, which was of plaster, fell down, and it was necessary, in order to prepare for a meeting about to be held at the hall, that it should be restored with the utmost despatch. Mr. Hardwick having been called in, he advised the entire removal of the plastered ceiling, which he considered unsound, and Messrs. Cubitt, under his direction, with great promptness, removed the old work and substituted, as we recorded at the time, a ceiling of wood. The great object then being despatch and security, no attempt was made to give any decoration to the work, which, in fact, resembled nothing so much as the deck of a ship, turned upside down.

In the present spring, the Master and Wardens of the Company, Joseph Turnley, Esq. George Parbury, William Forster White, William Gilpin, and William Jackson, esqrs. having determined to decorate the ceiling and walls of the hall, the work was entrusted to Mr. Edward I'Anson, the present architect of the company. They subsequently determined on decorating the drawing-room, principal staircase, western corridor, and dining-room. The work was let by tender, and carried out by Mr. Rider, of the Borough, who associated with him Mr. McLachlan, of St. James-street, as decorator. The whole work was executed in about ten weeks. The architect, of course, felt that the decoration of the hall was the work which required the greatest consideration; for although a noble room, built by Jarman, the City architect, soon after the Great Fire of 1666, it is by no means pure in its architectural features. The chief note is, however, given by the late Gothic character of its windows, and although all the woodwork and panelling round the hall are of the style of the seventeenth and early part of the eighteenth century, the windows certainly form the predominant feature. Mr. I'Anson, therefore, wisely adopted in the decoration of the ceiling the style of the latest Mediæval decoration, endeavouring to keep all the detail as pure in character as possible.

The old boarded ceiling was retained as the basis of the work, and the new ceiling is entirely composed of wood, chiefly oak, enriched with colour and gilding. The span is divided into bays, corresponding with the windows, and filled in with cross-beams and star-shaped coffers. On the sides of the main beams are written in gold letters, on a dark ground, the names of the masters of the company, for about sixty years back; and the stone trusses which support the beams are decorated with the armorial bearings of the present master and wardens.

The walls are covered with a diaper pattern, enriched with gilding, on an orange-coloured ground. The screens at either end of the hall are painted oak, but the wall linings at the side are painted a maroon colour, which was thought likely to add value to the other part of the decoration. Their dark colour is relieved by some light lines round the panels, and by the arms of the members of the court of the company, and gilt bands bearing their names.

The wainscot screens would have been restored as wainscot, by removing the paint, but it was found that many parts were of deal, and time did not permit any extensive restorations. The general effect of the hall is very satisfactory.*

* The length of the hall between the walls is 90 feet, besides the picture gallery at one end, and the musicians' gallery at the other, about 12 feet wide each. The width of the hall is 45 feet.

The drawing-room has been decorated in white and gold, with dark-marbled pilasters (too dark, perhaps, for the tone of the rest); and the ceiling, which was before perfectly plain, has had raised bands of ornament added, enriched in gold and colour.

On the staircase the paint has been removed from the handrail and balusters, and the fine oak carved work restored. The ceiling has here also been enriched with raised ornaments and shields, but, except the necessary gilding to the shields; none other is used. In the picture gallery no decoration has been applied on the walls, and but sparingly on the ceiling, so as not to interfere with the pictures. The prevailing tone of colour is the same as the hall, with which room it is connected by an open arcade. The western corridor has been decorated by marbling the walls and columns, and ornamenting the ceiling panels in colours.

And, lastly, the dining-room which faces the west corridor, used by the members of the court, has had some simple coloured decoration added to the ceiling.

There are several pictures scattered about, including a head of Henry VIII. by Paris Bordone; and full lengths of George III. and his queen, by Ramsay; Lord Eldon, by Briggs; and Wellington, by Wilkie. The company have preserved their ancient state palls, and some tapestry hangings of great interest.

On the 29th, the Master and Wardens entertained at luncheon a number of the architect's friends and professional brethren, including Mr. S. Angell, Professor Hosking, Mr. Lewis, Mr. W. Papworth, Mr. M. D. Wyatt, Mr. C. C. Nelson, Mr. Butterworth, Mr. Allen, Sir F. Graham Moon, and others, when the Master expressed his appreciation of their architect's services.

VICTORIA-PARK.

AT this season of the year those dwelling in the west of London who take an interest in the social progress of the people will derive pleasure from a visit to this spot, which, by skilful hands, has been made a place of beauty highly enjoyed by a large multitude. Those who have never seen this park will be surprised at the amount of ornamental gardening which has been already brought into flourishing condition. On entering from the Victoria-park station of the North-London Railway, the lilacs and other plants, the greenness and trim condition of the grass, the numerous bands of cricketers of different ages, with small children, loaded with buttercups and sorrel from the fields beyond, on their way to their dingy homes, presented a scene the other day of the most pleasing description. When looking at those engaged in healthy and athletic sports, the remembrance arises of the days when London's citizens thronged to Moorfields to practise the use of the long and cross bow, and other warlike weapons, and it would be far from undesirable if attention were given to such exercises now, substituting modern weapons.

As we approach towards the centre of the park along excellent roadways, in most directions nice little bits of distance meet the eye, such as the old grey tower of Hackney Church, seen over trees, and other buildings of more recent date, but which have good architectural outlines; and in parts of the park margin rows of houses have sprung up, which, although smaller and less presuming than those which surround the Regent's and Hyde parks, are snug and comfortable, and well decked with flowers and plants. It must be confessed that in some parts tall chimneys and gas-works are less agreeable, but it may be noticed that the landscape gardener is devising means of concealing these.

The luxuriance of everything which has been planted in the park will strike most strangers. Some of the gardeners here will soon account for this, by stating that the ground has been well drained. The first operation was to dig a deep trench completely round, and the subordinate branches have been carefully completed.

The broken and varied surface of Greenwich-park gives it a charm which is possessed by none of those in the metropolis, and it has been suggested that the Victoria-park might be greatly improved by artificial embankments, well planted. It is, however, said that this is a very expensive work, and that it is difficult to persuade those concerned to provide the requisite funds. A large pool has been made ready for bathers, and we were told that from 7,000 to 8,000 use it every week. This great public convenience in such a district should be improved and enlarged.

There is also a gymnasium which seemed in active demand. Some of those who were strength-

ening their bodies by this exercise did not seem to be of the most worthy description, and the language used by them could not be beneficial to boys of better class. We refer to it simply as showing the difficulty which exists in the metropolis of providing the means of amusement for the young, without the danger of contamination.

On the Sundays from 60,000 to 70,000 people, we are told, from pent up neighbourhoods, flock to this park; and it is easy to fancy how much good must be effected by such a change. The money expended will produce good fruit; and as years roll on, the value of the park will be even more appreciated.

ON THE INFLUENCE EXERCISED ON CERAMIC MANUFACTURES BY THE LATE MR. HERBERT MINTON.

At the Society of Arts, on the 26th ult. Mr. M. Digby Wyatt read an interesting paper "On the Influence exercised on Ceramic Manufactures, by the late Mr. Herbert Minton." As we have already given some particulars of Mr. Minton's valuable career, and borne testimony to his usefulness, we confine ourselves to portions of the paper containing general information. The early stages of ceramic manufacture in England, said Mr. Wyatt, were marked probably by no great originality. In the production and ornament of porcelainous or semi-transparent wares, very shortly after the year 1700, great excellence was attained on the Continent, at Meissen, Moscow, St. Cloud, Hochst, Doccia, and Chantilly; and although some evidence exists of the contemporaneous establishment in this country of the manufactories at Bow and Chelsea, a corresponding degree of excellence does not appear to have been attained in them at so early a date. It was during the period between the years 1750 and 1765, that the Chelsea factory, with its soft and semivitreous paste, most successfully rivalled the great establishments of Vincennes (subsequently Sèvres), and Dresden. George II. was a liberal supporter of it, causing workmen, artists, models, and even materials to be procured from Saxony and Brunswick. In 1764 a magnificent service, the cost of which was no less than 1,200*l.*, was made for the king and queen, under the superintendence of a foreigner, a M. Spremont, who directed the works for many years. On his retirement, about 1765, the manufacture was abandoned in London, and the principal workmen betook themselves to Derby, where an establishment had been set up in the year 1750, by a Mr. Dewsbury. In the following year a rival sprang into notice at Worcester, in the person of Dr. Wall, with whom a triumphant course of ingenious originality may be said to have been inaugurated in England. His principal invention is believed to have been that of printing on biscuit.

Up to the year 1768, no porcelain capable of bearing an extraordinary heat, and so hard as to resist scratching with a steel point, had been made in this country, for want of those materials which had, prior to that date, been discovered on the Continent, in Saxony, at Aue, by Botteher, and in France, at St. Yrieix, by Madame Darnet. In the above-mentioned year the discovery of Cornish kaolin and petuntze, by Mr. Cookworthy, of Plymouth, introduced a new element into the manufacture, and hard china was speedily made in considerable quantities at Worcester. From this parent establishment several others branched off, the most important probably being the Caughley Works, near Broseley, Shropshire, which were directed by John Turner, who joined them from Worcester, and who is stated to have discovered the art of printing in blue on china in 1780. It was under John Turner that Mr. Herbert Minton's father was brought up.

Such was the general aspect of the porcelain trade in England prior to 1788, and it remains to trace what had been done in the opaque earthen and stone wares. From a very early period pottery was made in Britain, and the art never appears to have been altogether lost. In the reign of Elizabeth, some dexterity was acquired, and specimens are extant evidently made of slip or clay brought into a fluid condition, and cast into moulds. The Staffordshire "tigs," or drinking-cups, certainly abounded in her reign; and much rude pottery was subsequently produced from local plastic clay, occasionally ornamented with pipe-clay patterns, and glazed with a coarse lead glaze. A great improvement on this common pottery was effected, about the end of the seventeenth century, by the brothers Elers, natives of Nuremburg, who discovered, at Bradwell, near Burslem, some fine red clay, with which they made a rude but hard kind of Saxon ware, which they ornamented with raised patterns, formed in copper stamps and glazed with a salt glaze, which they are believed to have been the first to introduce in England. The secrets of these Germans were discovered through a stratagem, by a man of the name of Astbury, and the foreigners were speedily ejected through local jealousies. To Astbury's son is accorded the merit of the discovery of the use of calcined flint in combination with clay, in the year 1720, and from that period commenced the manufacture of cream coloured, buff, and dingy white, stone-ware—destined to speedily assume an altogether different and superior aspect under the master handling of the celebrated Josiah Wedgwood, who was born in 1730, and who died in the year 1795. He first set up in business in a very humble way at Burslem, in Staffordshire, in the year 1759, and the value and speedy popularity of the inventions he made within a few years of that date, supplied him, in 1771, with the means of founding his celebrated establishment at Etruria. The wares of Wedgwood must be so well known to most of those present that it is probably unnecessary to dwell upon them. It may suffice to remark that they were produced in great abundance, and largely exported previous to the year 1788.

In spite, however, of various ingenious efforts, which cannot now be even enumerated, little that was good was produced in any considerable quantity previous to the close of the eighteenth century, excepting by the establishments of Derby, Worcester, Caughley, Leeds, Wedgwood, and Spode; the latter, through his judicious use of calcined bones and felspar, obtaining an enormous business in common but very good earthenware. * * *

Fifty years ago, Mr. Thomas Minton's establishment at Stoke gave employment to just about fifty hands, and at the date of his son's death upwards of 1,500 were in active operation. It has been estimated by that distinguished authority, M. Leon Arnoux, that the value of our exports of ceramic manufactures, which amounted to 573,000*l.* in 1849, cannot now be valued at less than 2,500,000*l.*, having more than quadrupled in the interim.

The hard porcelain manufacture, which, though, through the discoveries of Cookworthy, extensively manufactured for a time, had been altogether abandoned in this country until the year 1839, in which Mr. Minton, in conjunction with Dr. Turner, took out a patent for its manufacture.

The plan proposed, however, was not carried beyond a series of experiments until 1849, when, with the assistance of M. Arnoux, Mr. Minton resumed the attempt to make a body infusible, at very high temperatures, and of elements as pure as to be unaffected by ordinary chemical solvents. The renewed experiments succeeded so well, that in 1851, vessels for the laboratory were exhibited by Mr. Minton, and pronounced by judges to be superior to the Meissen and Berlin wares of the same description, which had previously entirely supplied the English demand, amounting to little less than 60,000*l.* worth annually. The result was most favourably reported on by the Duke of Argyle, president of the jury of Class XXV. at the Great Exhibition of 1851, who stated that Mr. Minton's crucibles and capsules were subjected by Mr. Henry, at the instance of the jury, to the severest chemical tests, along with specimens from Dresden, and were found to stand those tests with perfect success; and that, besides being fully equal to the German ware in quality, they had the additional merit of being considerably cheaper. The jury, therefore, looked upon the successful establishment of this manufacture in England as a matter of much importance and interest in a scientific point of view.

We now arrive at the third section of our subject, the manufacture of "Parian," the well-known material in which a very fair imitation of marble has been attained. There has been considerable discussion with respect to the rival claims of the houses of Copeland and Minton to the origination of this material; and the jury of 1851, after receiving statements from both firms, deduced therefrom, that "whichever party may have actually been first in publicly producing articles in this material, both were contemporaneously working with success towards the same result." On these grounds, as well as on their conviction that all of these bodies, respectively known as Parian, Carrara, and statuary porcelain, were but modifications of that which had been long known, and applied to the same department of art under the name of biscuit, the jury declined to adjudicate between the claimants. They, however, fully appreciated the value of the material and its probable salutary influence on public taste. My own impression certainly is, that as a manufacturing invention, after the Sevres and Dresden biscuits, and Wedgwood jasper, there was but little merit in the introduction; but as a commercial idea it was, unquestionably, most happy and well timed; and I am inclined to receive with great respect the statement of Mr. Robert Hunt, that this idea originated with Mr. Thomas Battam, the well-known and able artist directing the extensive porcelain manufactory of Mr. Alderman Copeland, at Stoke-upon-Trent, in the commencement of 1842. After a series of experiments he succeeded in producing a very perfect imitation of marble, both in surface and tint. One of the earliest specimens was submitted to his Grace the Duke of Sutherland, who expressed his unqualified admiration of the material, and his high appreciation of the purposes to which it was being applied, and became its first patron by purchasing the sample submitted. This was on the 3rd of August, 1842, a date which marks a memorable event, as the commencement of a trade now not only of large commercial advantage to the potteries generally, but, fortunately, of a class that has most materially advanced the artistic state of English ceramic manufacture.*

From the first launching of the material, a lively competition sprang up between the firms of Copeland and Minton, and to both it unquestionably proved a source of increased profit and extended reputation. It was also most useful in two ways—in teaching the public eye to recognise pure beauties in graceful form divested of any possible vulgarity, and in attracting to the potteries a class of artists such as had not found employment there since the days of Wedgwood.

The manufacture is one of much difficulty, and not only is great care necessary in fitting the various parts together, each object being moulded in several parts, which are united and dried, and then exposed to successive firings; but much judgment and experience are requisite in drying and firing, as in these operations they shrink to three-fourths of their original size.

Mr. Minton introduced various modifications into the process at first adopted at his works, and succeeded in reducing the shrinkage from one-fourth to one-fifth. To the members of the Society of Arts, who must recal the successive brilliant displays presented at their exhibitions of 1847-8, and 1849, by the firms of Copeland and Minton, as well as their efforts in 1851 and 1855, it is unnecessary to dwell further upon the results respectively attained. We pass, therefore, fourthly, to that branch of our subject in which Mr. Minton's individuality shone most conspicuously, viz. the manufacture of those encaustic tiles in the production of which he remained at his decease without a rival.

It was during the last century only that the attention of antiquaries became specially directed to the ancient tiles to which the designation of encaustic has been given, and which were very generally adopted by the architects and builders of the Middle Ages to form the pavements of churches and other structures throughout our native country and some parts of France, especially Normandy. * * * *

It would be irrelevant to dwell upon the archæological interest of these relics of the past, but it is essential to note the important part they played in enhancing the general decorative effect of the finest Mediæval interiors. A close examination of many of these tiles, and the discovery, at Great Malvern and St. Mary Wilton, near Droitwich, of two ancient kilns, in which tiles in different stages of manufacture were found, enabled those interested in the matter to predicate with almost certainty the ancient process of manufacture, which appears to have been somewhat as follows.

The moist clay having been well beaten together was compressed into the form of thin squares, which were generally of the size of from four to six inches, and one inch in thickness. These were probably exposed to the sun until they had acquired the proper degree of plasticity to retain any design impressed upon them by a stamp, so formed as to indent the ornamental pattern upon the face of the tile. The indented pattern was then filled up with a different coloured clay, which was usually pipe or white clay. After the tiles were put into the furnace, a thin coating of powdered lead ore, mixed with clean sand, was probably dusted over their surfaces, so as to give a vitreous glaze when withdrawn from the kiln, which gave permanence to the work, and added to the richness of the effect. This glaze gave the

* The first important impulse to the use of this material, was given by its employment by the Art-Union of London, in the reproduction of Gibson's "Narcissus;" this was in 1844.—ED.

white clay a slight tinge of yellow, and added fulness of tone to the red colour which usually formed the ground upon which the pattern was relieved.

The revival of these processes was, I believe, first contemplated by Mr. S. Wright, of the Staffordshire Potteries, about thirty years ago, who took out a patent for it as an original invention. It was some years before any like specimens could be obtained, but he advanced sufficiently to encourage the hope that success might be ultimately attained. This, however, was reserved for Mr. Herbert Minton, who purchased the patent, to effect. He set to work with a thorough English determination to succeed; and, with untiring energy and perseverance, notwithstanding repeated failures, and many difficulties and obstacles which presented themselves in his successive experiments, at length succeeded in producing tiles very far superior to those of the ancients. From the above hasty description the problem of manufacturing encaustic tiles does not appear, at first sight, to be attended with any great difficulty or complexity: in practice, however, in the present day, the case is very far different. In the first place, clays have to be mixed to burn with certainty to uniform tints throughout their body. In the second, each of these bodies requires different tempering so as to correct the irregularities of shrinkage induced by the diversity of materials mixed with the clays to obtain the required colours, so that the filling in in one-coloured clay shall not pull away and crackle all over, or detach itself from the incised base into which it is to be fixed by firing. In the third place, the range of colours used by the potters of the middle ages was limited to two—buff and red. Gradually, Mr. Minton added to this range marone, cream colour, black, grey, and fawn, in thorough coloured clays; and blue, green, white, crimson, and purple, in enamels of porcelainous body, floated over portions of the surface of the tile slightly sunk to receive comparatively thin coatings of brilliant colours.

The difference in the shrinkage of the clays, while merely drying, or from simple evaporation, and while they are exposed to the heat of the fire, is an even more difficult problem than that involved in the adjustment of the materials for a compensating balance-wheel to a chronometer, or a pendulum to a clock, since that which does for the drying may not suit the firing, and *vice versâ*. Dependent upon this nice balance of conditions are not only the coherence of the surface without any gap or fissure, but the flatness of the tile as a whole. This last quality may be also deranged by the kiln not working equally, so that one side of a tile shrinks before the others. The remedy is chiefly derived from an intimate practical acquaintance with the actual shrinkage of the various materials, and not only so, but also of their various combinations. These last are not always, nor are they often, results that can be calculated from the known facts of the separate materials of which the tiles are composed. Great practice, based upon costly experiment, can alone give the necessary knowledge.

The great danger with which the makers of encaustic tiles have to guard against continually is the impending risk of having a whole kiln full of valuable tiles spoiled in the firing, for in order to bring out the colour and obtain the requisite hardness of texture the fire must be carried to the very verge of destructiveness; and, by overstepping that limit but a little, actual destruction to the tiles in the kiln ensues. Moreover, until the kiln is opened, no one can certainly tell what its fate may be. The criterion usually adopted is the shrinkage of "trial pieces," which are tried by a gauge; and, as soon as they will drop into the gauge, the kiln has been sufficiently fired. Kilns usually take four days and four nights firing, and after that three or four days cooling. * * *

At this distance of time it is difficult to determine whether the manufacture of Majolica ware was derived by the Italians from Sicily, Greece, or Majorca, or whether they owe the fabric to the improvements introduced by Luca della Robbia early in the fifteenth century, previous to which the pottery of Umbria and Tuscany was a common earthenware, covered with an opaque veneer, made from a white clay found in the province of Sienna, and known as "terra di San Giovanni." When covered with this revêtement, the vessel was heated till the outer coat was reduced to a state of "biscuit:" it was then covered with a glaze, in which any colour desired was mingled, or the white coating was ornamented by painting in enamel colours, which were then covered with a transparent glaze. A final baking vitrified the colours and glaze, thereby rendering them permanent. Wares so produced are known to connoisseurs as "Mezzo-Majolica." Amongst many other improvements, Luca della Robbia substituted, for the original coating of white clay, a thin opaque glaze composed of sand and tin, with a small quantity of antimony and other metallic substances. Through his rare talent as a modeller, his ware attained an extraordinary popularity, and was used extensively as a beautiful architectural adjunct throughout Tuscany. Some idea of the scale upon which this material was employed may be obtained by an inspection of the great frieze from the Ospedale dei Poveri, at Pistoia, a reproduction of which surmounts the Renaissance and Elizabethan Courts at the Crystal Palace. Our modern architects have singularly neglected to avail themselves of Mr. Minton's beautiful revival; and I believe that my use of it, at the Paddington Station, and in one or two other places, is almost unexampled. Luca della Robbia's process appears to have been known to the Arabs in the thirteenth century, and is believed to have been in their possession as early as the ninth century.

An extensive trade in vessels of Majolica ware was carried on in Italy, in the sixteenth century, principally in the Duchy of Urbino, whose duke, Guid'Ubaldo della Rovere, in 1509, granted a patent to Giacomo Lanfranco, of Pesaro, for the application of gold to the ornamentation of earthenware. Asciano is considered by Passeri to have been the first town in Italy possessed of an established manufactory of Majolica ware, but at the date referred to a very large quantity was produced in the towns of Perugia, Rimini, Spello, Bologna, Sienna, Forli, Civita-Castellana, Faenza, Gubbio, &c.; in the last-mentioned of which, some years later, a series of improvements were introduced into the manufacture of this species of pottery by Maestro Georgio Andreoli, who introduced a splendid ruby colour into his draperies. When completed, the painting was often covered with a glaze, which in firing gave a peculiar brilliant metallic and prismatic lustre to the surface of the object fired. Vincenzo Andrioli, the son of Maestro Georgio, carried on and still further improved upon his father's manufactures.

Majolica ware attained great perfection under the Fontanas and Baptista Franco, declining in excellence under the too facile hands of the Zucchari.

During its best days—between the years 1520 and 1560—the engravings of Marc' Antonio, Marco di Ravenna, and others, from the designs of Raffaelle and Julio Romano, became diffused through the country, and were eagerly seized upon and applied to the decoration of the ware, which at that time was largely used by the Italian nobles for their tables, as well as for ornamental purposes. Timoteo della Vite, one of Raffaelle's favourite pupils, is said to have greatly improved the forms and ornaments of these vessels. Some specimens of Majolica ware, which had formed part of the collection of the duke of Buckingham, having come into Mr. Minton's possession; his attention was directed by them to a revival of the art,—with what success is shown by the various beautiful productions which adorn the room this evening.

For much of the success of this revival, Mr. Minton was indebted to the consummate knowledge of enamel colours and glazes, as well as to the taste and judgment possessed by M. Leon Arnoux. His brilliant success in Palissy wares, in highly-decorated earthenware and encaustic tiles, unquestionably won for Mr. Minton the great honours he received at the Exhibition in Paris of 1855. The demand for these objects is increasing beyond the utmost capabilities of the vast establishment of Stoke to supply. To recur to the story of Barnard de Palissy, would be only to repeat some thrice-told tale, already worn threadbare by authors and artists. The peculiar character and design of his wares must be known to all; and it is not too much to say that Mr. Minton's productions can scarcely be distinguished from the best of those over which the genius and influence of François Briot is most manifest.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ON Monday, the 31st of May, an ordinary general meeting of the members was held at the rooms, in Grosvenor-street, Mr. Hussey, V.P. in the chair, when, after the announcement of the donations,

The Rev. R. Burgess, B.D. read a paper "On the Egyptian Obelisks, in Rome, and Monoliths as Ornaments of Great Cities."

Mr. John Bell also read a paper "On the Application of the Entasis to the Obelisk."

In a discussion that ensued, Mr. Tite, M.P. concurred with Mr. Bell in thinking that the judicious application of the entasis to the obelisk would improve its artistic effect. He also concurred with Mr. Burgess as to the applicability of monolithic obelisks to ornamental purposes, especially in connection with park scenery, and regretted that in two instances monuments of a different character had been preferred by committees. He alluded first to the Scott monument at Edinburgh, for which his friend Mr. Playfair had suggested an obelisk, as a necessary feature in the view of Edinburgh; and, secondly, to the memorial of the Great Exhibition intended to be erected in Hyde-park. He was not aware that Mr. Bell had designed an obelisk for that memorial, but in assisting the committee of selection, he, Mr. Tite, had expressed his opinion that such a form of monument was best adapted to the situation and to our climate, and it was well understood that Prince Albert was of a similar opinion. The committee, however, by a majority, had selected a group of statues. Mr. Tite next referred to a modern obelisk in the gardens of the Colonna Palace at Rome, which was of good form and proportion, and on which hieroglyphical inscriptions had been successfully introduced; and also to an Egyptian obelisk from Philæ, set up by Mr. Ranks, in his park in Dorsetshire, which was a very pleasing example. With regard to Egyptian hieroglyphics, he had paid some attention to the subject, and considered that much of the credit due to Dr. Young for deciphering them had been too often given to Champollion; and as French critics were very apt to assume unfairly the merit due to English discoverers, he thought it was the duty of Englishmen to vindicate the claims of their own countrymen on all possible occasions. Mr. Burgess had suggested that the pyramid forming the summit of the obelisk was calculated to collect and reflect the rays of the sun, and it was remarkable that the Luxor obelisk in Paris had the upper part of the shaft cut or recessed, as if to receive a metal termination, which would increase the effect referred to. Dr. Lepsius had introduced modern hieroglyphics in the museum at Berlin, where there was a restored Egyptian temple with hieroglyphics on the frieze, recording the particulars of its erection. The question of moving large masses of stone was a very interesting one. The block of granite for the statue of Peter the Great at St. Petersburg was removed from the marshes of Finland (seven miles from the coast), under the superintendence of a French engineer, with great facility and economy. Timbers grooved with iron were employed, and made to run over the rollers, or rather what might be termed cannon balls of gun metal; and he thought this principle had been lost sight of in launching the *Leviathan*, where, instead of using different metals in contact with each other, iron plates had to slide over plates of the same metal. The friction was consequently enormous, and the delay and expense very great. It was much to be regretted that in the present age the ornamental was too often sacrificed for the useful, and that they built less for posterity and in a more make-shift way than in former times. Cleopatra's Needle was left half buried, and exposed to mutilation, because, in spite of many efforts to induce them, the Government would not go to the expense of bringing it to England. Mr. Tite concluded by moving a cordial vote of thanks to Mr. Burgess, whose example in furnishing such admirable paper to the Institute every year, notwithstanding his numerous avocations, would, he hoped, be followed by the members themselves.

Mr. Bonomi observed that there was a very slight concavity on one side of the Luxor obelisk, and a convexity on the other; but whether this was intentional on the principle of entasis, or whether it arose from a defect in the masonry, could not be ascertained. None of the obelisks in Rome had been measured to ascertain whether they had entasis or not. As an instance of modern hieroglyphics he referred to the inscriptions on the Egyptian court of the Crystal Palace, as being remarkable.*

Mr. Scoles moved a vote of thanks to Mr. Bell

* We have since received the following note:—"In the discussion which took place at the Royal Institute of British Architects after the reading of the papers, it was my wish to state that, although Mr. Angell, a member of the Institute, had suggested, many years ago, the desirableness of ascertaining whether those remarkable monuments of Egypt were bounded by straight or slightly curved lines, such as the entasis of the Greek column, it had not yet been investigated by actual measurement; but that M. Lebas, the French engineer who was employed to remove the obelisk of Luxor to Paris, had discovered, and described in his work on the subject, that both the obelisks of Luxor were curved on plan on the east and west faces, but in elevation the east surface was concave, and the west convex. The exact measures of these curves are given in the work of M. Lebas—cap. 4, page 26.—JOSEPH BONOMI."

and observed, that Mr. Bonomi had himself employed hieroglyphics prior to Lepsius.

The chairman said obelisks were often objected to as interfering with the effect of neighbouring churches and as too much resembling factory chimneys. He believed the cost of setting up the Paris obelisk had been 80,000*l.* and that this fact had deterred the English Government from removing Cleopatra's Needle.

Mr. C. H. Smith alluded to the removal of the great Sunderland lighthouse, which was 120 feet high, 18 feet diameter, and had been removed bodily a distance of 120 yards.

Mr. Bell, in acknowledging the vote of thanks, said he had made inquiries that led him to the conclusion that blocks of granite might be obtained in Cornwall of the length of 80 feet, for about 5,000*l.* and that the difficulties of removing them might be easily surmounted.

The Rev. Mr. Burgess said it was wonderful what might be accomplished if they would only start a "Monolithic, Phonetic, Obelisk-moving Joint-Stock Company." He was very anxious to see some of the finest situations in the metropolis occupied by monoliths, and he hoped good would result from the present discussion.

RAILWAY AND OTHER ENGINEERING WORKS ABROAD.

THE section from Vesoul to Belfort, just opened to the public, is 62 kilomètres in length, and contains seven stations, Colombier, Genevreuille, Lure, Rouchamp, Champagne, and Bas-Evette. The heaviest works on this section were the Genevreuille and La Chuillière tunnels, and the cutting of Des Barres, opposite Belfort. Thus, the line from Paris to Mulhouse (491 kilomètres) is completed. The concession was granted in 1853, but the works only commenced towards the close of 1854. By the opening of the last remaining section of the Mulhouse line, nothing is left at the company's charge but the construction of some secondary lines, comparatively inconsiderable.

A tramway, called in France an American railway, is about to be established in the department of the Pas du Calais, traversing five towns and fifty communes, forming an aggregate population of 180,000 souls. The line is to be 30 kilomètres long, and the estimate, including the works of the Montreuil pass, is 3,350,000 francs.

The preliminary formalities of the Phillippeville and Constantine railway in Algeria have been terminated. The Conseil Général of Ponts and Chausées have given approval of the surveys submitted by the Company, so that nothing remains to be arranged but the formalities and conditions required by the French Government.

The same Government engineers have also reported favourably upon a scheme for a line from Algiers to Oued-Riou, the boundary between the sub-division of Orleansville and the province of Oran. The Minister of War has notified to the Governor-general of the colony the above decisions, with authority to execute the earth-works upon the different portions which are definitely approved of. Already the troops are in the field, equipped for work. The tools, transport, and encampment arrangements are completed. Independent of these troops, two workyards of about 750 men, furnished by the penitentiaries of Algiers and Douéra, will be placed between the former town and Birtouta. On the 4th instant, the above forces turned the first sod between Maison Carrée and Bouffarick, on the Algiers and Blidah line.

The official inauguration of the extension of the railway from Barcelona to Granollers, as far as the French frontier, took place three weeks ago, in presence of the engineer in chief of the Barcelona division, the directors of the Catalonian General Credit Society, and several other personages. The members of the Council of Administration performed the interesting ceremony of striking the first blow at the Cardeden tunnel. The tools bore the significant inscription, "Galliæ viam aperio," and were of workmanship and elegance worthy of so great an occasion. Immediately afterwards the men were put to their work along the line of tunnel.

On the 7th ult. the treaty relative to the construction of a permanent bridge on the Rhine, near Mayence, was signed by all the Governments interested.

The opening of the line from Darmstadt to Mayence is fixed for the 9th of June, the Grand Duke's birthday.

On the 1st ult. a train of honour inaugurated the section of the Luxembourg Railway between Namur and Ciney.

The inauguration of the Madrid and Alicante Railway, which was to have taken place on the 12th ult. is retarded, owing to circumstances of which the administration had no control. It is thought that the Queen will undertake the trip. Nine locomotives are being mounted at Alicante, and six new ones have also arrived. This important line, opened to public traffic only a few days since, has already changed the aspect, not only of Alicante, but of most of the towns and villages it traverses. The value of property has generally been doubled. The town itself of Alicante, hitherto so desert and silent, is traversed by commercial thoroughfares, and the merchandise arriving from all quarters in great quantities, causes a busy movement hitherto unknown. In the port the crowd of ships is so great, that they find moorings with difficulty, many of them being obliged to anchor outside the bar. The animation which reigns here will be repeated in Galicia, Asturia, Old Castille, Biscay, Estramadura, and Andalusia, at the moment of their enjoying the benefits of railway communication for the first time

From Madrid to Avila, the first section of the Northern Spanish Railway, the works are in a great state of advancement. From Avila to Burgos, the earthworks were finished up to 157,016 lineal mètres, in March last, during which month 18,269 linear mètres were executed. Ballast is laid for 32 kilomètres. The viaduct of Arévalo is in course of construction; also the eleven bridges of Gomez Nahana, Medina, Valdestillas, Viana de Vega, del Duero, first and second of Esqueva, Cabezon, Carrion, Torquemada, and Buniel. The Duenas-bridge is completed. 4,149 men were employed on this section during the month of March.

On the section from San Isideo de Duenas to Alar, the same activity has been displayed. 21,317 lineal mètres of earthworks were done before the month of March · 652 lineal mètres were added during the month. Two kilomètres of ballast are laid. The Cabanas-bridge is finished, and six others are in construction, by Monzon, Pina, Fromista, that over the Boedo, Abanados, and Herrera. 1,000 men at work for the above month.

On the first section of the Madrid and Saragossa line the same activity is displayed: 1,980 men are employed daily, 180 pair of horses, 249 carts, and 11 waggons.

On the 28th April last, a treaty was concluded between the representatives of the province of Alava and the *Crédit Mobilier* of Spain, by which the company engage themselves, for a subvention of eight million reals, to construct the railway destined to unite Vittoria with the general northern line.

The cabinet of Berlin has informed that of St. Petersburg, that the Prussian Chambers having voted the necessary funds, the Government is ready to undertake this year the construction of the railway from Kœnigsberg to the Russian frontier. Thus the line to St. Petersburg can be opened in the spring of 1860.

The great Russian Railway Company has proposed to the government to take up the line from St. Petersburg to Moscow, offering to reimburse the State 170 million roubles, the cost of that line, and to construct a third line of railway valued at twenty million roubles.

The construction of Russian railways has rendered necessary the erection of buildings or stores for imports and exports on the frontiers; and the Minister of Finance of that empire has thought it fit that the expenses of these constructions should be defrayed by a tax on the importers and exporters, who will benefit by such storehouses. So, from the 12th July next, an additional duty of five kopecks per rouble is to be levied upon all European produce, for export or import, that may be in the depôts after that date. Sugars, raw and refined, are alone excepted from this imposition.

Russia presents a development of 1,000 versts of railways at present, namely, Warsaw to Cracow, and Zarskezelo to Peterhoff. The following concessions have been made to the Russian Railway Company (*La Grande Compagnie des Chemins de Fer Russes, Place Vendome*, 15, *Paris*):—Moscow to Theodosia, and to Nischi-Novogorod; Kursk to Libau, St. Petersburg to Warsaw, Warsaw to the Prussian frontier,—altogether 4,000 versts.

The committee of the Exchange of Riga have obtained the concession for the Riga and Dunaberg Railway (210 versts).

The line from St. Petersburg to Warsaw is in construction, and the works are about to commence on the Nishni-Novogorod and Theodosia lines.

In addition to the above, the following lines have been submitted by different companies:—

1. Moscow to Sartor by Klomna and Riazan.
2. Orel to Odessa by Kien and Braelau, and from Braelau to Brody.
3. Rybinsk to the Blagov station on the St. Nicholas railway.
4. Odessa to the Macakov station.
5. Riga to Mitau.
6. From the port Dubov on the Volga to Kolatzcheu on the Don.

These lines extend to 3,000 versts in all.

The following schemes are on foot:—

1. In the government of Viatka, to unite by rail the Katka and Wytschegda rivers.
2. In the government of Astracan, to unite the salt lake of Ettou with the Volga.

The works of the Moscow and Saratov railway will be commenced in 1859. The capital, forty-five million roubles, will be furnished, one half by a Belgian house, the other half by funded proprietors of Tambou and Saratov.

The organization of the Netherlands railways appears to be attended with no small difficulty. The Minister of the Interior will not adopt the whole group of lines proposed: he will keep to the order of the Chambers in only sanctioning some lines. The Minister of Finance claims the withdrawal of the law, reserving ten millions of francs for railways, with the view of appropriating that sum to the redemption of the national debt. Meanwhile, the minister declares his intention of not losing sight of railways or other useful works, but at the same time necessities of the moment must be kept in view, especially those which demand a reserve of capital. The chambers adopted unanimously this proposition. On the other hand, the shareholders of the Netherlands and Hanover railway met in a general assembly and subscribed 4,100,000 florins, to which sum the Hanoverian government and the regency of Osnabruck have largely contributed. Notwithstanding this sum, the Prussian government have refused to let the line pass through their territory, and the Netherlands government have refused all pecuniary aid to the enterprise.

AMERICAN CHIPPINGS.

IT is said that 100,000 dollars are expended annually in California in the purchase of poisons to destroy ground squirrels, but it is now proposed to construct a steam boiler of about four-horse power, mount it in a wagon, get up steam and conduct it into "the dens of the varmints" by pipes, and thus destroy them. Happy thought!

A bill has been introduced into the New York Legislature by Mr. Dayton, to regulate the manufacture and the sale of gas. It provides for "the quality manufactured," and "accurate measurement" by meter. There is to be a board of gas inspection in every city of over 50,000 inhabitants, to see that the quality of gas is to be at a merchantable standard to be fixed by a central board, composed of delegates from each local board, and to exercise strict supervision over the truthful action of the meters. These are important provisions for the interests of gas consumers, and our home legislators might with advantage follow the example of our American brethren!

Amongst the recently-patented inventions connected with building matters we find that "House heating apparatuses" occupy a prominent position. "Brown's hot-water heater" is spoken favourably of. John Child, of Elyria, Ohio, claims to effect a gradual heating and active circulation of air, by a horizontal prolonged passage. Amongst those for railway purposes are for new rails, by Leverett Ball, of Auburn, N.Y., claiming "the use of plates inserted at the middle and ends of the sections of compound rails, in combination with said sections, locked together throughout their whole length, thus binding the rail together like a continuous rail, the whole being constructed and arranged substantially."

George C. Bigelow, of Worcester, Mass., has invented a "self-adjusting door sill," level or even with the floor when the door is opened, and when closed, raised to form a close fit to the bottom of the door by means of spring levers.

So many catastrophes have occurred lately from the over-heating of furnaces, that Mr. Ebenezer Barrows, jun., of Brooklyn, N.Y., has directed his attention to a new damper, which will prevent over-heating in the hot-air conducting pipes of air-heating furnaces, when the register of the pipes is wholly or partially closed. The invention consists in placing in the lower part of each air-conducting pipe a valve or damper, hung on an axis in nearly an equilibriated state, so that when the register

of the pipes is closed and the draft stopped, the dampers will close by their gravity, and shut off the pipes from the air-heating chambers; and when the registers are fully or partially open, the dampers will be opened to a corresponding degree.

OXFORD ARCHITECTURAL SOCIETY.

AT a meeting of this society, held May 26, Mr. Lowder read a paper on "the Principles to be observed in Building Churches in the Tropics."

The subject of churches for tropical climates is one of increasing interest.

The paper was confined to churches in the tropics, and the remarks refer chiefly to West India churches. The points which call for consideration, Mr. Lowder said, are those connected with the necessities of climate, such as the extreme heat, the comparatively uniform temperature, the violent storms and rains.

For preservation against periodical hurricanes great strength is requisite, and for the purpose of preserving a sufficient supply of cool air means for excluding the sun's glare, and for the admittance of cool draughts, are necessary. In the matter of materials, each locality must decide for itself, and in ornamental decoration the natural products of each country must be the guide. In tropical countries the palm-tree is one which affords great opportunity as a subject to be used in decoration.

Few mistakes can be more injurious for the growth of architecture in other regions, than those which arise from a desire to transplant English Pointed into foreign countries: it cannot grow healthily, and fits itself but awkwardly in many ways in which it has to accommodate itself. The spirit of Pointed architecture may yet direct: it will take the materials at hand and mould them to the requirements of the country. In this way Byzantine buildings may be proper models for many of the peculiar features of tropical climates.

Some suggestions were offered in reference to the construction of roofs and windows, &c. and a general scheme of a church adapted to those countries where hurricanes prevailed: the necessity of having a cloister round churches generally in hot climates was insisted upon; and some remarks were made upon the value of furthering art in the countries themselves, by educating the native workmen and encouraging them to rival, not to imitate, the best built edifices of foreign production.

GENERAL ARCHITECTURAL CONGRESS AT OXFORD.

THIS congress will be held from Wednesday, June 9th, to Saturday, the 12th. On Wednesday, after a general meeting at two o'clock, when the objects of the congress will be explained, the new Oxford Museum will be thrown open, and remarks offered upon the architectural arrangements by Dr. Acland and other gentlemen. In the evening, papers on Oxford will be read.

On Thursday, the colleges, churches, and public buildings will be visited in succession, and remarks on them offered. At a quarter to two, the congress are invited to luncheon in the Hall at All Souls College, by the Hon. Frederick Lygon. In the evening, there will be a *conversazione* in the Society's rooms, when the subject for consideration will be metal-work.

On Friday, an architectural excursion will be made in the neighbourhood of Oxford, visiting Forest-hill, the new church at Wheatley, Cuddesdon college and church, Great Milton, Haseley, and Dorchester; returning through Nuneham-park, and visiting Sandford and Iffley churches.

On Saturday, a concluding meeting will be held, at which a report will be read on the proceedings of the Society, and the progress of Gothic architecture in Oxford and the neighbourhood.

We should mention specially, that amongst those invited to join the congress, on the same terms as members, are the subscribers to the Architectural Museum. Applications for tickets should be made to the honorary secretaries, at the Architectural Society's rooms, Holywell, Oxford.

AN IMPROVEMENT COMPANY.

IN your article on the "Debatable lands" in last week's *Builder*, the want of some general supervision over the enlargement of our metropolis is manifest; and, as it should be remediable, I submit a plan which I believe to be practical in these times of gigantic undertakings: its insertion in your valuable journal will lead others to improve upon the suggestion, or to introduce something better. I propose that all the freeholders of districts form companies on the limited liability principle, receiving shares in proportion to their property, the property to be managed in the same way as any other large company is. The shares will, no doubt, prove as transferable as the stocks, and benefit the public immensely. I will not enlarge on the subject as your space is too valuable, but the benefits are obvious, and the details easily arranged.

A LONDONER.

THE MIND.

INSATIABLE and inexhaustible,—
Most wonderful art thou, immortal Mind!
To limit thee, thought is incapable:
Ever and ever, fresh realms dost thou find,
O'er which to stretch thy wings; invisible
Thy track, but the results clear, well defined.

If thy long list of triumphs we would scan,
We must go back to the far distant Past;
Must raise our thoughts to the ethereal span,
Round whose bright zone thy girdle thou hast cast,
Drawing her nearer to the heart of man,
Yet leaving half her lore uncomm'd at last.

Turn we to earth, with all her precious store,
Rich veins of metals, mines of jewels bright;
Thy guidance taught the strong hand to explore
Her depths, and bring this hidden wealth to light:
And o'er her face glad harvests thou didst pour,
To give man's body food—his soul delight.

Thy power stupendous monuments uprear'd
In ages past, and, though the desert's sand
Long while conceal'd, once more have they appear'd,
Restored to mortal ken by thy command;
And later fanes, whose beauty has endear'd
Them to our hearts, thou'st raised in many a land.

The painter's pencil and the poet's pen,
The voice of oratory and ministrelsy;
The sculptor's chisel, the engraver's burin;
Each owes its inspiration unto thee:
And thine the skill to ease the pain of men,
To lighten toil, and life's dull drudgery.

Thou bindest earth, fire, water, and thin air,
The lightning's flash, and sun's fierce scorching ray,
To be thy servitors; and wheresoe'er
Thou issuest thine orders, all obey:
Thou driest rivers -makest gardens fair
To bloom where desolation once held sway.

These be a portion of thy glorious deeds;
And, while we pause in wonder as we count
Thy works, we reverently bow our heads
Before thy great First Cause, th' Eternal Fount,
Whence every brilliant flash of thine proceeds!
And thus, led up by thee, to Heaven we mount.

A CAMBRIDGE COMPETITION.

POLICE STATIONS.

THE magistrates of the county of Cambridge, desiring plans for police-stations and lock-ups, offered by advertisement 10*l.* for the plan that might be selected, the chief if not only condition stated being that each station was not *to exceed in cost* 800*l.* The plan was to be accompanied with "full specifications and estimates," and they reserved to themselves the option of purchasing the selected plan for 10*l.* in full discharge of all claims against them. This was bad enough, but what comes after is worse. The chairman, it seems, had made a set of plans; but finding, as he was to be a judge of other people's work, that this was a wrong move, as he said, he withdrew it. On the 27th, at the adjourned special sessions, three plans from those submitted were laid on the table, and, according to the *Cambridge Chronicle*, were as follow:—

	Estimate.
1. Mr. Gearrard, London (includes stables)..	990 gs.
2. Mr. Hutchinson, Huntingdon (or 700, minus stabling)	800 gs.
3. Mr. Clark, Newmarket	750 gs.

The plan submitted in the name of Mr. Gearrard was really that of the chairman, who confided it to Mr. Gearrard to be worked out in detail.

All the plans above mentioned were severely criticised, and ultimately Mr. Gearrard's (or the chairman's) plan was adopted for the Arrington Division, and that of Mr. Clark for the divisions of Caxton and Bottisham. A margin of 1,050 guineas was allowed to Mr. Gearrard.

It was resolved that the premium of 20 guineas offered for the best design be divided between Mr. Gearrard and Mr. Clark, the chairman saying that if it were considered that he were entitled to any share of the premium, he should present the same to the county!

The chairman, if we are rightly informed, is the county chief constable. If he have any sense of shame, he will commit himself to one of the new lock-ups the moment they are finished. A cooler piece of impropriety we never read of. Architects are persuaded to waste their time to design stations that can be erected for 800*l.* and the committee find out that a plan which will entail an admitted expenditure of 990 guineas is better than those the cost of which were kept within the amount specified—800*l.*; especially, moreover, as it was made by the chairman, and they select that for execution. If such a case as this is to pass without, at any rate, a protest on the part of the profession, it is useless for us to waste ink on the subject of competitions.

We are told that the committee met once, and sent back all the designs but three, the same day, so that the court had no opportunity of judging for themselves.

CHURCH BUILDING NEWS.

Kingston-upon-Thames.—The tower of the parish church is being repaired; the works are being executed under the direction of Mr. W. P. Griffith, the architect for the churchwardens, who have raised the funds by voluntary contributions. The builder is Mr. Patman, of Kingston. About one half of the tower was rebuilt with brick at the period of the "classic revival;" the belfry windows are Late Gothic, and the angles of the tower are adorned with pine-apple ornaments on Italianized pedestals. These incongruities are to be removed. Some years ago the question as to the safety of the tower was referred to Mr. Godwin, whose report on the subject was printed in one of our early volumes.

Boulge (Ipswich).—The church at Boulge has been reopened. This little edifice has been enlarged and "beautified" by Mr. John Purcell Fitzgerald. The building has been restored in accordance with its original style—the Perpendicular. A new eastern front, together with a small side aisle, have been built; the latter divided into two parts, consisting of a vestry, and a recess with sittings for Mrs. Purcell Fitzgerald's family. The eastern wall is of broken flint, with dressings of Caen stone. The work, from the designs of Messrs. W. G. and E. Habershon, has been executed by the contractor, Mr. Stevenson, of Woodbridge.

Bury.—In St. John's church the large three-light Early English window of the chancel has been filled with stained glass, representing the three great closing scenes of the Saviour's sojourn upon earth—the Last Supper, the Crucifixion, and the Ascension. The centre subject (the Crucifixion) is the gift of Mr. Thomas Anderson, of Emmanuel College, Cambridge, as a memorial of the late Mrs. Anderson: the cost of the side lights is to be defrayed by subscription. The subjects, which are taken from paintings by the old masters, are in panels of the angular-vesica form, the remainder of the lights being filled with diapered work, intersected by quatre foils and lozenges in ruby and blue. The artists were Messrs. Forrest and Bromley, of Liverpool.

Malvern.—A new west window has just been erected in the church of North Malvern, as a memorial of the late Mr. Charles Morris. The new window consists of two trefoil-headed lancet lights, widely separated, with a quatrefoil in the centre above; and between the lights at the bottom is the inscription, on a mural brass. The design of the window consists of four subjects of the acts of mercy, namely—1, Clothing the Naked; 2, Feeding the Hungry; 3, Giving Drink to the Thirsty; and 4, Taking in the Stranger. The south light contains the sentences—"I was hungry and ye fed me: I was naked and ye clothed me." And in the north light—"I was a stranger and ye took me in: I was thirsty and ye gave me drink." The principal figure is an elderly man, dispensing to the necessities of a group of poor claimants in the several ways indicated. The back ground is mosaic and grisaille, in subordination to the principal figures. The quatrefoil above contains emblems of the Trinity. Mr. O'Connor, of London, was the artist. The east window (given by the late Mr. Morris), was also by O'Connor: it is of three lights, with Early Decorated tracery, and represents the Transfiguration. A small light in the north wall of the chancel is to be filled up with a representation of St. Michael, the window being given by the Rev. W. H. Vale.——A parish meeting has been held to enter into arrangements for the purchase of land for the proposed cemetery.

Three acres belonging to the representatives of the late Col. Bund have been chosen, at a cost of 1,100*l.*, independent of the expense of fencing in, draining, and road approaches to it.

Walsall (*Staffordshire*).—The trustees and friends of the Wesleyan Methodists of this place have decided upon erecting a new chapel in Abbewell-street upon a site adjoining the present one. It is arranged for the old chapel to be converted into day-schools for that locality. The probable outlay is 4,000*l.* The work will be carried out under the superintendence of Messrs. Horton, of Wednesbury, architects.

Dewsbury.—A monument has been erected in the chancel of the parish church to the memory of the late Mr. Joseph Crawshaw, and Mrs. Crawshaw, his wife, of the city of York. It is in the Decorated style of architecture, sculptured in Caen stone, and placed upon a ground of polished black marble. It consists of a moulded base, pilasters, and pinnacles on each side of the tablet, which is surmounted by a carved arch. The tablet is of black marble with gold letters, and bears a suitable inscription. The monument is from the works of Messrs. Skelton and Son, York.

Newcastle-upon-Tyne.—The last stone and vane of the Virgin Mary Hospital Church, at Rye-hill, have been fixed in their places. The height of the spire is 177 feet 9 inches.

Gateshead.—On Whit-Tuesday the foundation-stone of a new Roman Catholic church, dedicated to St. Joseph, was laid here. The architect is Mr. A. M. Dunn, of Newcastle; and the contractor, Mr. Hogg. Considerable progress has already been made with the work. "From the nature of the ground," says the *Observer*, "the church is raised upon a stone basement 10 feet above the road, the basement being rock-faced work in straight courses, with chiselled weatherings between the buttresses, and a chiselled plinth above. The superstructure is of 'block in course,' with chiselled dressings to doors, windows, quoins, &c. The church is to consist of a nave 86 feet by 24; north and south aisles, 81 feet by 14½; chancel, 28 feet by 18; together with a chapel of Our Lady and a chapel of St. Joseph, opening into the chancel and aisles by moulded arches, to be filled with richly-carved screen work. There will also be a baptistery, erected upon the foundation of a tower and spire, not at present contracted for, which, when finished, will rise to the height of upwards of 200 feet. The sacristy is upon the south-east of the chancel, connected by a corridor with the presbytery, which will afford accommodation for three priests. A large traceried window of five lights will fill the west end of the nave, above which is a canopied niche for the patron saint of the church, and a bell gable, to contain one bell, surmounted by an ornamental iron cross, the topmost point of which will be nearly 90 feet above the road. The nave is, moreover, to be lighted by a high clerestory of couplet windows in each bay. Corresponding windows, with traceried heads, will fill each bay of the aisles. The chancel is apsidal, with a curved ceiling of wood, divided by mouldings into panels for decoration. The rest of the church will be covered with open timber roofs, dressed and moulded, and stained and varnished. The west end entrance to the church will be reached by a large flight of twenty-two steps, having ornamental railing of stone and iron, with lamps, gate, &c.

SCHOOL-BUILDING NEWS.

Seaford. The foundation-stone of the new school-rooms and master's residence, about to be erected, partially by private subscriptions and by Government aid, has just been laid at Seaford. The site of the buildings is upon an elevated spot, with a marine view to the south, near to "The Crouch." The estimated cost is 881*l.* and the schools, which are calculated to accommodate about 150 boys and girls, will be in the Gothic style.

Malvern.—The new national schools here are nearly completed, and have been formally opened. The buildings, which are situate in Mill-lane, are of red brick, with Bath-stone dressings, and are in the old English style. They consist of a mixed school for 300 boys and girls, with class-rooms for each sex; an infants' school to accommodate 200, also with a class-room; and two cottages, one for the master and mistress of the mixed school, the other for the mistress of the infants' school. The roofs of the schools and class-rooms are open and ceiled to the backs of the rafters, and the principals spring from moulded and carved stone corbels. A bell-cot terminates the turreted east porch of the mixed schools. The friezes of the fireplaces in the mixed and infant schools are divided into compartments, containing carved groups illustrating Scripture subjects. The carving was executed by Mr. W. Forsyth. The ground in front of the schools is laid out as a play-ground. Mr. Elmslie, of Malvern, was the architect, and Mr. Davis, of the Wells, the builder. Lady Emily Foley presented the site, and the funds were raised by a Government grant of 1,215*l.* and a public subscription, to which the Morris family gave about 600*l.* The building will cost nearly 3,000*l.* There is still a small deficiency to make up.

Leeds.—The foundation-stone of a new school and school-house, in connection with the parochial district of St. Michael, Buslingthorpe, has been laid. The schools are to accommodate 600 children. They are from designs by Mr. Isaiah Dixon, and the style of architecture adopted is Early English. The estimated cost of site and buildings is 1,600*l.* which is to be raised by voluntary subscription, supplemented by a grant from the Committee of Council on Education.

Grantham.—The promoters of the scheme to erect new schools for Castle Gate have accepted Mr. Wilson's tender, and the work is to be commenced without delay. The cost will be about 3,000*l.* Subscriptions and grant from Government of 1,250*l.* have been obtained, and the remaining deficiency is being made up.

BLACKBURN INFIRMARY.

LAYING THE CHIEF STONE.

THE foundation-stone of the Blackburn Infirmary was laid with a good deal of ceremonial on Whitmonday last, and a full report of the whole proceedings appeared in the *Preston Guardian* of the 29th ult. to which we are indebted for the following details as to the building.

The idea of erecting the Infirmary originated with Mr. W. Pilkington, in 1856. Messrs. Smith and Turnbull, of Manchester, are the architects. The general arrangement consists of separate and distinct blocks of buildings, two floors in height, placed alternately at intervals of 20 feet, on opposite sides of a principal corridor, 10 feet wide, which is continued throughout the entire range, and opens at the extremities to gardens. By this arrangement a series of quadrangles are obtained, each 65 feet wide, and having 20 feet of clear and uninterrupted, well-lighted and ventilated corridor space on each side, across which, under all circumstances, a constant flow of fresh air is obtained, and the atmosphere of one ward is effectually prevented mingling with that of another.

The blocks, extending 47 feet at right angles to the principal corridor, contain on each floor a single ward of eight beds (four on a side), occupying the entire width, with five windows in each external side wall, placed directly opposite, and so arranged as to completely separate the beds, and to be at each extremity, above these windows and level with the ceiling (as also to the corridors), are placed permanent ventilation openings, by which means a constant but imperceptible flow of fresh air is obtained in every part of the wards and corridors, the fresh air entering at the windward side and passing out at the leeward side, whereby the foul air is prevented collecting in any part of the wards. The wards are entered from the principal corridor: at the opposite and extreme ends of each ward are situated the patients' bath-rooms, nurses' sculleries, and self-acting water-closets, two to each ward. The closets are the furthest removed and separated from them by double doors and anties, being external on three sides, and so arranged that a constant flow of fresh air is passing through, which at once expels any foul matter arising in them.

In allusion to the novelty and the advantages of the plan adopted for this Infirmary, the *Preston Guardian* says:—

"England owes much to Lancashire. The debt will be largely increased, but gratitude, which taxes no man's purse, can easily discharge the obligation. The building, which partially covers an admitted want long keenly felt by the industrial classes in this division, also supplies a nearly exact model for other parts of the kingdom. Mr. Turnbull, the architect of the building, has sagaciously adapted his edifice to the necessities of various patients. He has availed himself of the labours of Mr. Roberton and Mr. Godwin, who have devoted themselves long and patiently to the exposition of the true theory of hospital architecture. The Blackburn Infirmary will be a blessing to the active community located in its neighbourhood, and, for a reason just stated, a boon to society at large. The country has many specimens of what an hospital should not be: in a few months this county will possess a specimen of what such an institution should be."

Upon the general question we shall shortly have further occasion to speak.

PROGRESS OF WORKS ON THE MADRAS RAILWAY.

SIR,—It is intended to open for traffic another portion of fifteen miles of this line on or about the 15th May (beyond this point no one can form any opinion, at least not under three years, unless the shareholders will look to their own affairs, and send only men who understand the management of works). There are plenty here now who understand how to do the work (if they were allowed to do it); but the Board of Directors have a will of their own: they select boys, and one may say old women from the Cove of Cork, the Highlands of Scotland, the Blue-coat School, and Greenwich-park, and send them to India as railway engineers, without the least qualification, other than it is supposed they are either relations or friends, and have received a lesson before they start in domineering: they are well versed in that.

The cause of the delay is that there are two bridges of twenty-four arches each; they have been commenced more than three years, and are not one-tenth part completed yet.

There are several practical men sent out from England, but, as the engineers cannot supply them with places, they are all placed under the orders of old soldiers, who are either tailors or shoemakers, and never saw a railway before; and the result is, that some take it quietly, others leave for other lines, and some enter the law courts. See Coates *v.* Madras Railway, in the Supreme Court in February, and in which the company had to pay the piper. Mr. Coates built the Painey Bridge, of 56 arches, being the largest in Southern India, and 8 arches larger than the Palor and Gomattim bridges put together; commenced the Palor in March, 1857, after two attempts made by the engineer and failed; by the 12th of August had in the two abutments, twelve piers to span height, and two above ground; but because he would not put up with the boy-engineer's sneers and domineering, he was discarded, and is now building a bridge on another railway.

The progress, since Mr. Coates left the Palor bridge, is as follows: The works were resumed on the 12th of September by the engineer, and up to this 23rd of April there is temporary sheet piling for one pier nearly completed; and at that rate there being eight more to put in, it will take, for piling alone, sixty months, while December next would have been the furthest, had Coates been allowed to continue, before the train could pass over.

If any of the inspectors complain to the engineer-in-chief of their engineer, they are told that the engineer is responsible for what he does. Now, if such is the case with regard to the inspectors, how stands he with the public and shareholders?—delay, and waste of some thousands in cash.

MY NOTE-BOOK.

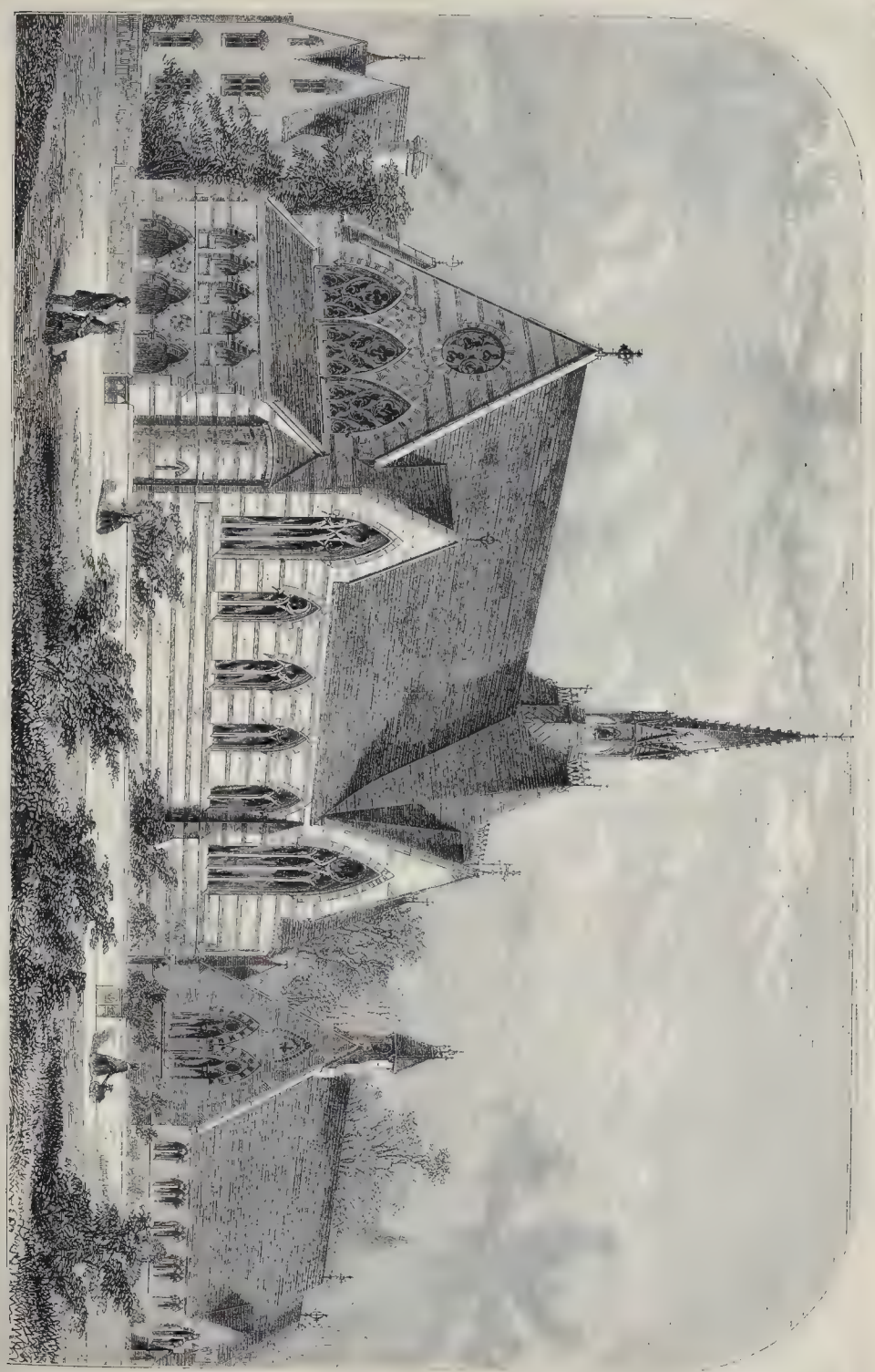
Madras, 23rd April.

SCHOOLS, CHURCH, AND PARSONAGE-HOUSE FOR AGAR TOWN, LONDON.

OUR readers do not require now to be told of the neglected condition of Agar Town. Years ago we drew attention to it, and from time to time since have sought to stimulate those who had the power to remove some of the evils which existed, and to render the houses more fitted for the residence of human beings.* The vicar, Canon Dale, has taken up the subject of building church, school, and parsonage-house there, and our engraving shows the design fixed upon. A beginning has been made with the school, which is so arranged as to answer the purposes of a church also until the church is built. All these buildings are to be of brick with coloured diapering. The interior of the church will be carried out in Huntingdon brick and some other coloured bricks. The construction of the church is as that of the Dominican Church at Ghent, the whole being under one large roof with internal buttresses. There is also a western porch with a gallery over, in effect like a triforium.

The first stone of the school was laid by Lord Ebury, and the school was opened in November last by the Venerable Archdeacon Sinclair. The church will be proceeded with next. Mr. S. S. Teulon is the architect.

* See also "London Shadows," No. 1, York-street.



SCHOOL, PROPOSED CHURCH, AND PARSONAGE, AGAR TOWN, ST. PANCRAS.—MR. S. S. TEULON, ARCHITECT.

THE RENAISSANCE.

To know well and succeed in an art, recourse must frequently be had to its elements and principles. Mouldings are the alphabet of architecture. They are to it what letters are to writing. As by the combination of characters an infinite variety of words is made in different languages, so by the mixture of mouldings one may invent a quantity of different profiles for all kinds of orders, for regular and irregular composition. The orders are the principal ornaments of architecture; and, as distinguishing features, ought to be well proportioned and well executed. The grace and the beauty of edifices are much increased by them, indeed owe every thing to them. They include in their variety of assemblage all that is beautiful and useful in architecture. It is, therefore, necessary thoroughly to understand this subject, and to know how it has been treated, in order to excel in architecture, which derives its beauty, its delicacy, or its grandeur chiefly from the effect of the contours, the relation, and number of its mouldings. The revivers of ancient architecture were fully aware of this. Their elements were the resources of the greatest minds, and they drew from them as from an inexhaustible treasury, producing a variety of agreeable forms and a charming effect of light and shadow. Vignola has been justly considered as the best guide and conductor of workmen in their labours. It is enough to say that he was employed in the court of kings, and succeeded Michelangelo in finishing the design of St. Peter's, Rome. He acquired a reputation above all others by the facility of his rules and the good taste of his profiles, which he has drawn from the most perfect models of antiquity. He chiefly laboured to adjust his mouldings to his proportions, to ascertain the height to be given to certain objects at a certain distance and situation, and the proportions due to all sorts of edifices. For this reason he is reputed one of the best authors who have written upon architecture, and illustrated it with designs, and one of the best commentators of Vitruvius. The perseverance with which he pursued his system, the importance he attached to what are sometimes supposed to be trifles—but trifles, after all, which make perfection—is a valuable lesson to the student.* The precision with which Vignola determines the height of pedestals, columns, and entablatures; the eminent men—some his pupils—who have adopted his measures and imitated his examples of the five orders, are well known: he is allowed by judges to have invented mouldings and profiles, and in every circumstance to have improved where he altered, and to have observed a due proportion among all the parts of the order which admitted of modification, and which, though unlike, and perhaps superior in some respects, to the old style, was so striking as henceforth to be regarded as a new and original one. When he wished, as has been often recorded, to have a Doric order for his rule or model to go by, he took that of the theatre of Marcellus, being the most universally admired for its solidity, its satisfactory effect, its massy and lofty entablature; but when finding from the negligence of the workmen, want of inspection, or some other cause, any mouldings not conformable to the general proportion observed, he would take from other examples of the Doric to supply the places of those which were deficient to that of the theatre of Marcellus. It must be owned that Vignola has, in the composition of this Doric profile, far exceeded the original, having omitted the many trivial, insignificant mouldings with which that is overloaded, and in various higher respects improved both its form and proportions. Such is the statement of Sir W. Chambers in notes to his edition of the books of Vitruvius. Chambers himself did not hesitate to vary particular members when observation taught him they might be improved. He also remarks that Vignola, Scamozzi, and others, did not always design and compose strictly in conformity to the doctrine and practice of the ancient architects, but altered certain details and ornaments to suit their architectural purposes. In this they proceeded just in the same way and from the same motive as the ancients did in treating the three Greek orders; the difference of which consists in the proportion of their parts, and in the decoration of their capitals; for the particular ornaments which they gave them, as the triglyphs to the Doric, the dentiles to the Ionic, and the modillions to the Corinthian, but being of an indispensable necessity, they on one occasions did not use them, or they invented new, principally in the Corinthian order. In the Doric the proportions were required to be simple; and solidity rejected all little and delicate ornaments; and in the Ionic, which holds a middle place between the two preceding orders, the architect ruled his genius according to the destination and dedication of the building. And Chambray sets up the composite, which he considers a hybrid, as a beacon for those who are too greedy after novelty, and as an order that has been the cause of all the confusion introduced into architecture, because, far from following the rules of the Grecian order, it presents novelties which the art disapproves. Vignola was deservedly admired for his famous cornice, the model of so many cornices since his time: no one could improve upon it, and many seemed pleased to transfer it from their portfolios to their buildings, for the sake of its fine effect, and being too beautiful to be concealed between two pieces of millboard. The proportions, the composition of mouldings, the sculptured architraves, and other ornaments of his doors and windows, are very beautiful,—things which one loves in his leisure hour to pore over. Daviler, in his comparison of the works of Vignola and Michelangelo, gives a number of different details from the two examples, both reduced to the same module, contrasting one which is perfect, simple, and unostentatious, with another which is defective, overstrained, or excessive; so that by comparing these specimens, the difference is seen between the two. It is indeed pleasant and useful to examine the designs of great rival artists, thus brought into juxta-position; to discern their respective merits; to see which has used his powers to the best advantage, and for what reason one claims our admiration more than the other.

The student may learn from them the value and importance of these mouldings to architecture; the different ones that are employed for different kinds of orders and compositions, so that they become characters by which to judge what country and age produced them: he will see that they were all formed upon the nature of geometry—upon the rule and compass, and are not arbitrary as some have supposed; that the most beautiful sections are least charged with mouldings, or least repeated, but are mixed alternately with square and round, or composite, but especially that there are always small ones between the great, to give value by comparison; that every part is of the size suited for the use and end for which it is destined; that the principal members of each order have few parts, and greatness of manner is preserved; that the projection of the cornice is proportioned to its height; that one member of it is a foil to set off another; and that the one the most essential reigns dominant over the whole. Chambray thought Vignola very exact in his profiles, and very judicious in his proportions; superior to Serlio and many others. Alberti was then, as now, an authority for construction and the art of building. Of Scamozzi he says, he did not design with so much grace as Palladio. His manner is dry, his ornaments badly selected, his taste is bad,—nevertheless, he was very regular in his proportions.*

The differences which are found in the works of each of these eminent men are worth seeing and knowing, for the purpose of guiding our choice and fixing our taste. Palladio was the only architect in the north of Italy whose simplicity of style approached the most perfect models of antiquity. He was well imitated by Inigo Jones. He has left us an excellent collection of plans and sections of all sorts of ancient buildings, well drawn, and measured with great care. He is always correct and elegant, as much, if not more so than the other restorers of ancient Roman architecture. His general dispositions are often happy; his outlines distinct and regular; his forms graceful: little appears that could with propriety be spared, nothing seems wanting, and all his measures accord so well, that no part attracts the attention in prejudice to any of the rest. Scamozzi, in attempting to refine upon the style of Palladio, has overdetailed, and rendered his own rather trifling—sometimes confused. Vignola's manner, though bolder and more stately than that of Palladio, is yet correct, and curbed within the limits,—particularly in his orders; but in Michelangelo's we see licence, majesty, grandeur, and fierce effort extended to bounds beyond which it would be very dangerous to soar.† Sansovino's mode of treating the extremities of his façade of the library of St. Mark's, Venice, is original, simple, and beautiful. It was nothing difficult to solve, but the ancient Doric not having been treated so before, it was looked upon as something extraordinary. In ancient examples of this style the entablature invariably ends by a demi-metope. But Sansovino, in treating the angles of this edifice, lengthened the entablature, and, widening the space, gave the metope in full at the angles instead of having it a half metope; thus heightening the beauty of his design, and giving greater breadth and solidity to parts which required them. A very great improvement was made here by most simple means. Modern Rome, with all its ruins and magnificent fragments of ancient architecture, is yet disfigured by many vices, especially in the ornamental parts of its public and private edifices. Michelangelo, with all his greatness and genius, has by no means left in doorways and windows which he executed, examples to be imitated. And the Fontana, Borromini, and Bernini of the Eternal City, although celebrated names, were architects remarkable chiefly for the eccentricity and extravagance of their conceptions. But those who knew the reasons and the motives for everything that was done by the ancients in their orders; who carefully studied the details, with pencil always in hand; who felt the incessant pains and applications to which they must submit in order to attain success; who knew the principles upon which a race of intelligent beings built structures, which have been the admiration of all mankind; who, not content with ready-made rules derived from the most approved specimens, sought the principles which made those rules, and solved the most difficult problems of architecture; who, by calculation, knew the best means and materials of construction, and all the data and formula necessary for building well; who mastered the most interesting questions relative to the laws and regulations of that science; who could do everything demanded by their employers, and compose plans and drawings according to the projects proposed, so as not to deceive or compromise the interests of the parties; who could discern at a glance the true from the false, and had the compass in the eye for justness, proportion, and symmetry;—raised themselves and their profession to a level with the ancients whom they imitated, and carried the art by new combinations to a further perfection. To seize the fine skill that formed the orders, to take them for models, imitating them in their great characteristics, yet altering or modifying their details, and improving their profiles; shifting a member in one part of an entablature, where it might be spared, to another part where its effect told; to discover a mode of describing curves, the spiral of the volute the swell of the column; to produce pleasing, yet necessary novelty to meet new demands and different circumstances, showed an originality before which the dull and servile task of copyism sinks into insignificance. The men who thus followed the bent of their own genius, and were gifted with an enthusiasm for art, which to them was a second nature, could not slavishly copy and trace the manner of another, however perfect it might be. Original minds will differ in respect of what they make beauty to consist in, and each may be right to some extent, and each attain his end if certain terms are not exceeded. What some esteem rich and delicate, others think small and confused. Perrault was disposed to value the style of Louis XIV. above that of Pericles and Augustus; a sentiment that perhaps was in accord with the distinguished *clique* of the French artists of the sixteenth century, who have left evidence that, though the art was imitative, their object was to create beauty. If sometimes they did not succeed in departing from rules and authorities that had been scrupulously observed before, and which fashion had sanctioned, they had compensation to offer in the new route which they opened, in the new resource and fresh aspect which rose out of their innovations. To these men of fertile and brilliant imagination, architecture, in the liberal expansions and developments which it received, owes much. It was with them a happy presage and foretaste of what was afterwards to be accomplished by others when the age was more decided, when the art was more understood, when commerce had discovered natural and artificial productions before unknown; when artists, and all who honoured and enlightened their country, were at a higher premium, and more patronage given to architecture and the arts connected with it. These pioneers, whilst they preserved the primitive character of monuments which the united judgment of all mankind had approved, adopted one in conformity with the national spirit which acquired for it a similar fame. It was impossible in the nature of things for architecture to resist the powerful influence of the manners of the court, the system of government, the effect of literature on society in improving their condition. The contemplation of works of the most skilled

* Daviler's Architecture d[e] Vignole et M. Ange.

* Parallèle de l'Architecture antique et la moderne.

† Sir Wm. Chambers's Treatise on Civil Architecture.

artists, possessed by princes having wealth to command and reward them, purified taste and diffused it till it became general, and everywhere excellent, because modelled from that belonging to the aristocracy, which was excellent.—pre-eminently so in the time of the style of the Renaissance in France, when in such works it eclipsed all Europe. The copying with intelligence what was fine was of some use to accustom the eye to form, to inspire noble ideas, and to give to the hand facility of execution. This might be only mechanical after all; one the copy of the other. But to imitate the principles, the taste, and the manner, is neither to copy the work nor the artist. Admiring, therefore, and studying a work as a model chosen out of many, the revivers of ancient art yet showed, by their manner of rendering it and adapting it to circumstances, that they were men of free and independent minds; but this did not prevent them paying deference to the standard works of antiquity. Their success even, the fruit of great precautions and solid judgment, may teach those whose ambition leads them to stray, the danger of transgressing rules and breaking through the restraints imposed upon all. To hold them in contempt will lead only to extravagance of conception, and is not a proof of genius,—at all events not of good taste. The art asks so much toil, such continual striving, to know always how much good may be done, what is good to do, and what it is to follow Nature, to see and learn from her the principles of order, convenience, fitness of things, harmony, and elegance, which art, an imitatress of Nature, should imitate, that the labour of a life is often insufficient for the purpose: it would be better to pursue our course on principles which are fixed and always the same —like the laws of the Medes and Persians,—better to distinguish our work by something true, agreeable, and simple, instead of something extraordinary, capricious, confused: it would be better and safer, for the student at least whilst in a state of pupillage and separated by a long interval from the great restorers and professors, to remain in that state a little longer if he would guarantee his design against failure, and not incur censure by attempting what he cannot perform. It is the gifted only who can produce sure and satisfactory effect from themselves, and without any assistance from other sources—an effect which is neither attributable to the compass, nor to be tested by a measure: an emanation of pure genius, it is a splendid exception to ordinary rules, and a delight for the eyes of the true connoisseur. The generality are in the habit of consulting principles before they undertake a design, weighing and deliberating upon every work they do, and trusting for success to the mechanical instruments they use. It belonged only to geniuses of the highest order, to those who carried the art to the same elevation as did the Greeks and Romans,—to the Vignolas, Palladios, Scamozzis, and to those who resembled them, to exercise a perpetual sway in the vast domain of architecture. We have endeavoured to show that the proper way of exploring and imitating the ancient monuments is not by merely retracing their designs, or by reproducing them, but in thoroughly understanding the reasons of their proportions, the causes which enabled them to arrive at such a degree of perfection; and in applying the rules of ancient art to the wants and to the requirements of modern usages, and taking advantage of mechanical improvements. The great artists of the *cinque-cento* period exercised their influence upon the taste of all Europe, by their ingenious manner of applying these rules, and sometimes producing a grace beyond the reach of these rules. There is, perhaps, no other country where the arts of design have offered the most varied phrases, and the most contrasted characters; indeed, it has been thought that the French are apt to degenerate, for want of constancy in their tastes and principles. Among them the beautiful and the new often dispute the pre-eminence. The sixteenth century—the age of Germain Pilon, Jean Goujon, Ponce, Cousin—was a great epoch of artists; and a French writer, J. P. Brès, says that there was not wanting among them, either the study of form, the expression, or the finish which increases the perfection without injuring the effect; but what was wanted was perhaps a more happy selection of forms, and that grace which cannot be attained but by a most profound study of the chief works of the Greek artists. They certainly, however, carried some parts of sculpture to the highest degree of perfection; and visitors and artists, in Paris, often go to see and admire Goujon's groups of figures in the façades in the court of the Louvre, and other parts of this celebrated palace, the works of the ancient masters of the Renaissance. Some of the old royal castles of France,—such as Chambord,* the façade of Blois, and others, are worth seeing as specimens of this style; and anterior specimens, showing the passage from the last stage of the Gothic to the first attempts of the Renaissance. In the fifteenth and sixteenth centuries, when classical architecture was revived, and reappeared with the new taste that had sprung up with it, all the edifices of that epoch presented a reminiscence of the ancient style: but, at the same time, a host of ingenious, clever artists lived, and produced a school, in which the system then inaugurated was infused with the elements and inveterate habits of the ancients. These intelligent minds gave to the pretended or assumed imitations of ancient edifices an air of forms absolutely original. Many different motives are assigned for this peaceful revolution in the human mind: but the great cause of the modification of the architecture in France was the absolute inutility of the fortified cities in the interior of the kingdom, and the reduction of the nobility to the obedience of a sovereign was not slow in obliging it to change its adventurous and turbulent life to another kind of life very different, which consisted in frequenting the court, the source of all favours, and to enjoy its great benefits.† We will now conclude with merely referring to some edifices in the style of the Renaissance in other countries. It was not till after the coronation of James I. in 1608, that Oxford exhibited the first attempts at this style. Witness the treatment of the five orders, piled one above the other, in the façade of the University College, a practice of Inigo Jones, after Palladio. The banqueting-house, Whitehall, is an instance of this. An example of employing columns on a larger scale of a single colossal order, and a bolder or more severe style, is seen at St. Paul's, Covent-garden. The tombs of Queen Mary and Elizabeth, in Westminster Abbey; the chapel of Bishop West, in Ely Cathedral; and front elevation of Longleat, at Audley End, and other noblemen's villas, are in the Renaissance style;—in Rome, a great number of mausoleums; the Loggia of the Vatican; the court of the Tribune of the Belvedere; the Palace Giraud, and the Chancellerie; besides a number of churches and palaces.

F. L.

* A very majestic edifice. Ducerceau gives it in his interesting work. By some attributed to Primatrice, 1532.

† Album du Château du Blois; restauré par Duban, architecte, 1851.

LONDON AND THE LOCAL PRESS.

So unwieldy has the metropolis become, that it is scarcely possible in any single book of moderate size to convey an adequate historical or descriptive account of the numerous and vast localities, some of which are remarkable for time-honoured associations, and some for the peculiar manner of their rapid growth and the interesting literary and other associations of more recent years.

In the time of honest John Stowe—even in Strype's days and in those comparatively later ones of Pennant—London was of such an extent that it might be grasped by the historian: it is now, however, no longer possible to keep a general account of London, within anything like convenient dimensions: it is therefore of the greatest importance that the districts of the metropolis should be dealt with separately. In order to meet this want local historians have done useful work in collecting and publishing the materials connected with Bermondsey; St. Giles in the Fields; Mill-wall and the Isle of Dogs; Islington; Clerkenwell; Lambeth, and some other districts. St. Pancras, with its immense population, and other larger districts, still remain without chroniclers, and this is the more to be regretted in consequence of the circumstance that many important particulars which are at the present time accessible, will, without record, be forgotten. In the provinces, most of the towns of importance, such as Shrewsbury, Chester, Birmingham, Newcastle-on-Tyne, &c. have had careful historical notice, and it seems wonderful that neighbourhoods like St. Pancras, whose population is much greater than that of most of the places mentioned, should have been so long neglected. Surely there would be enough patronage in these districts to afford sufficient remuneration for such works. Much might be done in the various metropolitan districts by the formation of local historical societies. Our object, however, is at present to direct attention to a new literary feature which the great increase of the extent of this immense city and the removal of duties have brought into use and notice: we allude to the local Newspaper Press, which is doing good, and we may particularly point to Clerkenwell and Islington. The *Clerkenwell News*, which we believe is the oldest of these publications, contains, with a supplement, thirty-six closely printed columns of matter: eighteen of these consist of advertisements, which are entirely of local interest, such as houses and apartments wanted or to be let, servants wanting places and mistresses servants: the public institutions give notice of their meetings, and the various tradesmen, school teachers, &c. &c. use this vehicle for the purpose of advertising. In the other parts are careful reports of the various parish boards, statements of accounts, the reports of the medical officers, &c.; and undoubtedly the publication of the speeches in the vestry affords a great deal of useful information to the public and is also the means of improving the proceedings of those upon whom so much the health of the London parishes depends. The condition of the ragged schools and other similar institutions which require support is kept before the public, and the sanitary neglects of the neighbourhood are constantly more carefully noticed, than it would be possible in journals of a more general character. From time to time, there are also given notes of antiquarian interest and discussions of matters which particularly concern the community. We have for some time noticed this publication, and find that it is conducted with ability and in the spirit of fair play. This local print, which being sold for one halfpenny, finds its way into the hands of a large number of working men, is undoubtedly one of those instruments which the large size of the metropolis has rendered necessary.

ARCHITECTURAL PUBLICATION SOCIETY.

On Friday, 28th May, the Annual General Meeting of the subscribers was held at the rooms of the Royal Institute of British Architects, Grosvenor-street, Mr. Sydney Smirke in the chair, to receive the report of the committee on the general affairs of the society, together with the receipts and expenditure for the past year.

Mr. W. Papworth read the report:

It said, *inter alia*:—"In the last report it was stated that Part I. for the year ending 30th April, 1856, comprising letter C to the word Chamber, had been issued. Since then the preparation of the articles included in the remainder of letter C has been taken in hand. Their publication, however, has been retarded by many causes, some beyond the control of the committee, and others arising from the nature of the undertaking, and the care bestowed on revising the text. The committee have, however, the pleasure to announce that a copy of Parts II. and III. completing the letter C is laid on the table, and that next week these parts will be in course of delivery to the subscribers. The whole number of pages occupied by the letter C is 181: 170, it may be remembered, were delivered of the letter B, and 156 of the letter A.

This increase in the quantity of text has been mainly occasioned by not incurring the expenses of so large a number of woodcut illustrations as were used for the two previous letters. Some regret has been expressed at the absence of such illustrations; but it has appeared to the committee inconvenient to increase the time necessarily occupied in the publication of each letter by the addition of large or minutely-detailed woodcuts, the expenditure for which would materially lessen the funds available for the text.

With respect to the progress of this portion of the Society's works, the committee would impress on the attention of the subscribers that the greater portion of the labour of producing the dictionary may be considered as overcome. The number of articles under the letters A, B, and C, as shown in the 'List of Terms,' comprises one-third of the quantity contained under all the letters of the alphabet; and it is believed that the articles comprised under most of the remaining letters will require comparatively far shorter time for preparation, and less actual inspection of original authorities, as the dictionary itself has now become a work of reference for the remaining articles. It is, indeed, to this verification of authorities, and to the care bestowed by the gentlemen who devote their time to the revision of the articles, that much of the delay in printing off the sheets must be attributed: it should be remembered, however, that these 'labours of love' for the undertaking have materially increased the value of the work.

As some illustration of the attention paid to the subjects treated in the dictionary, it may be mentioned that several experiments have been *mad*

individual members to test the accuracy of the tements in the articles submitted to their nsideration.

Another of the Society's years having comenced from the first of this month, the committe are prepared to begin their labours. As yet, e funds are, of course, not in a state to guantee the committee from the responsibility of bt. For the works of the current year (ending th April, 1859), it is proposed to change the n of confining the letter-press and the plates to lividual years, and to prepare as large an nount of illustrations and text in the letters E, and F as the income will permit. Thus the ates and the letter-press will appear together, arrangement which it is believed will be more isfactory to the subscribers, and which, it is ped, will prove to be an assistance in forward- the dictionary to its early completion.

Most of the members are no doubt aware of the jects proposed to be accomplished by the fortion of the Architectural Union Company. As r Society forms one of those, connected with the ofession, which it is the purpose of the company assemble under one roof, your committee have tified to the directors of the company their sire to rent one room to contain the papers of e Society, the stock of letter-press, and the sets the year's works, which necessarily increase ar by year, and now occupy a considerable ace in the house of the honorary secretary, and e not protected by insurance. At present the rectors do not feel themselves in a position to form the committee of the terms on which such oom can be obtained.

In conclusion, the committee have much pleare in observing the favourable notices of the ustrations which have lately appeared in the chitectural press; but they would request the tention of the subscribers to the statements erein made, that the body of the profession does t respond to the exertions and labours of the ciety, exemplified by the fact that not half the mber are enrolled of those who should constite the list of subscribers. Many gentlemen, omoters of our objects, and amateurs, have exssed their opinion that the operations of the ciety would be materially aided if a guarantee uld be given for the completion of the diction- . But as its completion rests mainly upon the scription-list being continued at least in its ginal amount, the committee feel it imprudent undertake any such guarantee. Could they, wever, calculate with certainty upon the same mber as at the commencement, some undertak- might then be given that the dictionary uld be completed within a stated period. While crying on this important work with the present all number of subscribers, they must regret that a quantity of matter issued annually is necesily only half that which the promoters hoped have had the gratification of placing on the le at these annual meetings."

The chairman, in proposing the adoption of the port, said that from the earliest formation of Society he had felt a deep interest in it, and d continued to watch its progress with anxiety l, generally speaking, with perfect approval. thout going into details, he thought it was his y rather to invite the expression of opinions suggestions that might be of advantage for the rancement of the Society; although, on an nual occasion like that on which they were mbled, he thought it was important that they uld consider their course of action for the ure with a view to improvement in their proects; for there was no denying that their course d not been so animated, and that their pace had been so quick, as they had originally expected; t therefore he held that any suggestion calcud to quicken their pace and improve their dition should be received with gratitude by the mmittee. The individual interest of every mber of the Society was identical with that of Society itself; and they could not take any in promoting its prosperity without promoty the professional, and he might say their own nuniary, advantage. The larger their funds the ker would be their pace, and the quicker ir pace the sooner would the payment of their nual subscriptions cease, and place them in ssession of a series of volumes of the greatest ity and value. The proposal, made in the ort, of indexing the existing portion, would, he ught, tend to utilize it and be calculated to duce a favourable impression on the architecpal public; and the intention announced in the rt, of publishing cotemporaneously the text illustrations, would also be received with at favour by the architectural public. In con-ion, he would urge on them that the great aim in view was to complete their important undertaking as quickly and successfully as possible.

Mr. J. Thomson seconded the adoption of the report and it was carried unanimously.

Mr. Hussey then moved, and Mr. Brightsmith seconded, a vote of thanks, to the committee, treasurer, and local hon. secretaries, for their valuable services during the year, and requesting a continuance of the services.—Carried unanimously.

Mr. Williams moved a vote of thanks to the hon. secretary, Mr. W. Papworth, for his valuable services, and that in furtherance of the recommendation contained in the report, Mr. Newton be requested to accept the office of joint hon. secretary, and Mr. Hansard that of examiner of illustrations.

Mr. Kerr said he should have preferred seconding a special vote of thanks to Mr. Papworth, without other names being mixed up with the resolution. All who knew the working of the Society, knew that Mr Papworth's services were of the most valuable and unremitting nature; and they were, moreover, rendered in that unobtrusive way that made them still more valuable. He thought that stronger efforts should be made to increase the numbers of the society, and he believed that 500 copies of their works might be produced at a cost but slightly more than 250 were now produced at. Without wishing to say that the Society was at all falling off, he desired to add his voice to that of the chairman in impressing on the profession and the professional press, in the strongest possible language, the desirableness of increasing a Society which belonged to no party, professed no peculiar sympathies, and whose only object was the advancement of art. They had now been engaged for ten years in this work, and he believed the names of the committee were a sufficient guarantee that the work would be carried out safely in the end. That was the great point. They might not be very showy people, or attempt to make a great stir, but he thought the Society was calculated to confer the most permanent and valuable advantages on the profession in the long run.

The resolution was put and carried unanimously.

Mr. Cates proposed a vote of thanks to those gentlemen named in the report, who had placed their collections and original sketches at the disposal of the Society; and to Mr. Octavius Hansard and Mr. Lewis, for their kind services to the committee in the illustrated portion of the dictionary, and in the preparation of drawings. He thought that the works recently issued by the Society bore evidence of its increasing usefulness and prosperity.

Mr. J. Papworth said the zeal these gentlemen had displayed, and the handsome way in which they placed their portfolios at the disposal of the Society, entitled them to the warmest thanks.

The resolution was put and carried unanimously.

Mr. Hansard returned thanks, and said, with regard to the plates in the present number they were now giving half a guinea's worth, or, a half year's subscription. There were, he found, seventy-six subjects and nineteen plans, making ninety-five different subjects, in the number, and he thought no one could complain of the quantity given for their money. There were many members who said "We have many things in our portfolios, but they are not worthy of your work." This, however, was a mistake; for, however small and unfinished, or however large their contribution might be, photographers could now deal with it prior to its going into the hands of the artist. He would therefore urge on subscribers to send in their drawings, though the committee would not guarantee their publication, because that would depend on the numbers sent in; but out of the present list now sent out there were forty subjects given, and although issued a couple of months, not more than three or four letters had been filled up in the portfolios—D and E.

Mr. Aitchison moved, and Mr. Cates seconded, thanks to Messrs. Snooke and Thomson, auditors, and requesting Mr. E. H. Martineau and Mr. J. Whichcord, to accept the auditorship of accounts for the year ensuing. Carried.

Mr. J. Papworth proposed, and Mr. A. Morant seconded, on which it was carried, that the best thanks of the Society be given to the Royal Institute of British Architects, for the use of their rooms for meeting in.

Mr. Nelson moved a cordial vote to the chairman for presiding.

The chairman, in acknowledging the compliment, regretted that he could not take a more active part in the transactions of the Society. At all events, they would have his best sympathies and assistance he would not say to the letter Z for he was afraid he should have but little chance of enjoying the reading of that article.

ARCHITECTURE AS A FINE ART.

SIR,—I should feel obliged by your permitting me to call attention to a few considerations which have suggested themselves to my mind relative to the above subject.

I must first say that I consider nature to be the basis of all fine art, because it appears to be the only true resource to which we can go, and the only certain authority to which we can appeal for the purpose both of attaining and judging true excellence. This may be discarded by many who would set up their own taste and reason as the standard of merit, but I merely ask whether the wide diversities of opinion which exist upon some of the most simple cases of artistic skill do not prove that human judgment is no criterion of this kind of perfection?

With regard to architectural art, I cannot but think that all modern and ancient buildings are more or less imperfect, both artistically and constructively; and I am persuaded that this arises from not paying any, or a proper amount of, attention to the corresponding examples presented to us by nature. I will endeavour to point out the chief of these defects, for such I think they are.

1. The habit of placing columns where they have nothing, or a very indequate weight, to support. This, I am sorry to say, is very common. It is entirely opposed to all mechanical and artistic science, and is, in fact, so ridiculous that I much wonder that it can be tolerated, and that common sense should not convince every architect how preposterous is such a sight. They can never, when thus situated, appear ornamental, because the inconsistency produced draws off all attention from the mere inert beauty of the object itself.

2. The ornament applied to the rectangular and angular projections of walls, by which they are dignified by the name of pilasters, is productive of a very ruinous effect, because it deceives, by making these square buttresses appear to act as pillars, which every one who looks at them knows is not the case.

3. The use of broken pediments is a great fault; as is also their application to doors and windows. A pediment is a crowning member, and is only intended for the summits of buildings. The same applies to round pediments. These members cannot be broken without producing imperfection, because they suggest a complete idea, which is that of finish, and hence, when broken, fail to impress the mind with this notion.

4. The improper use of cornices. A cornice, like a pediment, is a crowning member, and consequently should not be stuck anywhere; nevertheless it is often seen half-way up a building, appearing ridiculous as having no meaning.

5. The use of unnatural ornament I maintain to be truly barbaric. Such stuff as we find attached to some of our buildings is a disgrace to the term. All ornament should be representative of nature. Triglyphs, whether real or imitated, are altogether abortive as far as ornamental capacity is concerned. The same may and must be said of mutules and dentils. The Corinthian modillions are superior, and why? Simply because they embody a natural curve: they somewhat resemble natural objects, and I hold (and I defy any one to refute it) that architectural ornament is such just as far as it resembles nature. If unnatural it is unornamental. How beautiful is the Corinthian capital! It is a copy of nature, hence I am at no loss to account for its beauty. It is impossible for any one to supersede, or even equal in invention, the natural types of beauty which lie around us.

The use of both animal and floral sculpture is good; nevertheless the Greek pseudo-lion is a great absurdity. Such a figure is not the imitation of anything real it is quite a fanciful idol—and as an architectural ornament is to me unbearable. The use of bull's-heads shows a very depraved and sensual taste, and the expression which they give to a building is anything but enviable, consequently such vulgar and selfish pretences to ornament should be set aside as being utterly unworthy of preservation, even with all the sanction of antiquity. The Doric fret is a very lame apology for ornament,—in fact, no ornament at all; and, although superior to it, the Ionic anthemion is not the best by any means that might be made use of. Most architects seem to imagine that symmetry is a necessary element of perfection, whether artistic or otherwise, but this is a great mistake. Nature exhibits comparatively little of symmetrical arrangement; thus, the branches of trees and the leaves of plants do not present a symmetrical arrangement; and I think, therefore, that it is absurd to suppose that floral ornament should present the appearance of servile regularity and uniformity. Let our architects wreathe the flowers of nature (not imagination), and place them upon our edifices: let them also take of the riches of animal nature, and then might we expect to see such architecture as we now look for in vain.

6. A great fault of some buildings is their top-heavy appearance. Now, I do consider that this is the case with the Ducal Palace, Venice, notwithstanding what has been asserted to the contrary. The lofty wall, which is even with the lower arches, gives it this appearance; and even if it had been set back, I doubt whether, on account of its solidity, this injurious effect would be much increased. There is an appearance of top-heaviness about St. Michael's Church, Cornhill; and I am persuaded that this, in the present case—yea, always—arises from the custom of making the tops of buildings the same size as their bases. This is, of course, not perceived unless the buildings are tolerably high, and so does not affect domestic architecture. The Egyptians knew better than to fall into such a mistake; and I cannot but think that the grandeur of their temples arose from the adoption of one of Nature's rules, which is, never making the base of any object so large as the top. It is a universal principle, for we never see trees whose tops are

equal in diameter to their bases. Although the Greeks rejected it for the *contour* of their buildings, they made use of it for their windows; and otherwise than referring it to nature, as I have done, the beauty of these members is inexplicable.

J. A. D.

A COVERED PLATFORM.

HIGHBURY-BARN TAVERN.

IN the gardens attached to Highbury-barn Tavern, a covering to a portion of a large dancing platform, denominated "the Leviathan," by the proprietor, Mr. Hinton, has been recently put up. An area of about 1,000 feet is covered by this structure. The platform beneath this building is raised 2 feet 6 inches above the level of the other portion of a monster platform, and it is so arranged as to be entirely independent of the iron fabric itself, inasmuch as the piers and plates which support the former have no connection whatever with those which support the latter: it was considered necessary to accomplish this, so that the vibration caused by dancing should not be likely to interfere with the main structure. The roof is supported by cast-iron shafts, about 3 inches in diameter, resting upon cast-iron pedestals: these shafts are 12 feet 7¾ inches long, and rest upon a plate 8 inches by 8 inches, supported by 14-inch brick piers, worked in cement, and built upon a concrete foundation. From the tops of these shafts, above the capitals, spring three perforated ornamental cast-iron brackets, two of which support the gutter, which forms a fascia to the building, while the third performs a similar office to the pagoda-formed front which surmounts the gutter, and is decorated through its whole length with circular scollops. The building is 24 feet in span, and the roof is supported by wrought-iron tie-rods, ¾-inch in diameter, from shaft to shaft, securely bolted to the cast-iron rafter-shoes, which are fastened to the tops of the shafts. Struts, ¾ of an inch in diameter, support the T iron rafters, 2 inches by ¾ inch, and these again support angle iron purlins, of the same dimensions as the rafters. Mr. James J. Laforest was the architect, Messrs. Cutler and Sons were the contractors.

LEGAL NOTES.

Joint-Stock Company Shares.—One of the directors and promoters of a company took, in 1851, 500 shares in order to enable the company to be registered; calls were made on these shares, and at a meeting of the directors by a resolution, seconded by this director, his shares were declared forfeited and shares bearing the same numbers were issued to other persons. It has been held by Vice-Chancellor Kindersley that this director was still liable as a contributory in respect of those shares. In the same case it appeared that at a meeting of directors, a sum of money was voted to this director for introducing a new manager; and in consideration of an equal sum this director was declared free from all liability as to the forfeited shares; it was, however, held by Vice-Chancellor Kindersley, that he was still liable as a contributory in respect of those shares. —*In re the London and County Insurance Office.*

Bankruptcy—Lien on Goods. The Master of the Rolls has lately decided a very important question in Bankruptcy. A Mr. Hoggard acted as manager in London of the Glasgow house of Macdonald and Co., which became bankrupt last October. Mr. Hoggard accepted bills for the accommodation of the firm, and these bills were paid regularly till the bankruptcy took place when there were outstanding acceptances of Mr. Hoggard to the amount of 14,000*l.* The goods in London belonging to the firm were at the time of the bankruptcy of the value of 50,000*l.*, and Mr. Hoggard claimed a lien on these to cover his liabilities. The Master of the Rolls has held that the property consigned to London was in the "order and disposition" of the bankrupts and belonged to the trustees under the Scotch sequestration, and that the same was the state of the law with respect to the rights of assignees if the case were an English bankruptcy.—*Hoggard v. Mackenzie.*

Private Way—Obstruction.—The Court of Common Pleas has lately decided the following case:—The plaintiff had the use of a private way to Hanwell Asylum, and one night, when driving to the asylum, his vehicle was overturned by some slates which the defendant (a contractor engaged in the erection of certain buildings) had placed on the private road. The defence was, that the defendant had lawfully placed the slates on the road by the license of the owners of the land. The jury, however, held (and this view was unanimously held by the court on a motion in arrest of judgment) that the defendant was liable for the injury done to the plaintiff, as he was bound to place some signal near the slates, to show that the road was not free from obstruction.—*Crosby v. Hill.*

The Powers of District Boards.—A case has lately been decided in the Court of Queen's Bench, which shows that district boards possess very extensive discretionary powers. The facts were these. The Wandsworth District Board of Works made an order directing the overseers of Putney to raise certain sums off certain lands for the purpose of the Metropolis Local Management Act. The land in question was alleged not to be within the Act, and it was contended that it derived no advantage from the objects for which the rate was made. It was a piece of land occupied by the Middlesex Waterworks Company. The Putney overseers assessed the company, and the company applied to the Wandsworth board to lessen the rate, or to agree on a case for the Court of Queen's Bench. The board refused to take either course, and the company came forward to ask the court to compel them. The court held unanimously that it had not power to issue any compulsory order to the board, which possessed full discretionary powers, under the Metropolitan Local Management Act. *In re the Wandsworth District Board of Works.*

CONTRACTORS' CASE AT DUBLIN.

A TRIAL, involving a comparatively small amount of money, but of some interest to contractors and others, took place in the Court of Queen's Bench, Dublin, on Friday, May 28th, Judge Perrin presiding.

Messrs. Burgess, contractors for the new lighthouse now erecting at Rockabill, on the eastern coast of Ireland, defended a claim for 46*l.* odd, made by Mr. Cunningham, quarry proprietor, at Dalkey, for forty-nine stone steps, delivered at the building. The plaintiff, by his foreman, produced a model of the steps, and proved that they were executed in exact accordance with it; alleging that the model was made strictly according to the directions of one of the defendants, and approved of by him, until he subsequently discovered the steps, as constructed, did not admit of sufficient overlap, and then directed an additional piece of 1 inch to be added to it, and the work to proceed according to such amendment.

The plaintiff stated that the dimensions given by Messrs. Burgess were as follow:—2 feet 6 inches in length (independent of 9 inches for tailing in), 7¼ inches high, 7½ inches wide at narrowest part, and 12¼ inches *at line of wall*. The sketch of the defendant, though entered in the plaintiff's foreman's book at the quarry, was not forthcoming, and he relied on recollection. On the dimensions the chief point turned; for the defendants swore that the order they gave was for steps of the length above described, but 1 foot 2½ inches at wall-line, instead of 12¼ inches; and the steps being constructed to the *latter* dimension, they could not execute their works according to the instructions of the engineer. They (defendants), however, alleged that the forty-nine steps were allowed by them to be delivered at the lighthouse, although known to be erroneous, and payment consented to be made for the same, if no objection were offered to their being put in the work. Twenty steps were worked in, and for *that* number the defendants lodged a sum of 27*l.* in court as the full value. Much contradictory evidence was adduced.

The judge summed up, but left the case entirely to the jury, who, after some delay, found a verdict for the plaintiff for the full amount claimed.

Counsel for the plaintiff, Messrs. O'Hagan, Q.C. and Hamerill; for the defendants, Messrs. Clarke, Q.C. and Lynch.

RECENT PATENTS.*

J. H. JOHNSON.—*Improvements in Apparatus for testing the strength of Materials.* (A communication.) Dated June 24, 1857.—This consists in employing gearing and mechanism for applying strains or forces, in combination with a piston operating against a body of water or other fluid contained within a cylinder, so that on applying the strain to the object to be tested such pressure shall be transmitted to the fluid in the cylinder, and thence to an indicating apparatus in connection with the same.

* Selected from the condensed lists published in the *Mechanics' Magazine* and *Engineer* journal.

A. V. NEWTON, London.—*Wrought-iron Beams or Girders.* (A communication.) Dated Octob 24, 1857.—Wrought-iron girders are usually ma in the form of an I. In making such girders has been customary to build up a solid pile rectangular section, by laying a number of f bars or strips of iron, one on the top of the oth The present invention consists in forming the p of two flat pieces or bars of about double t width of the upper and lower flanges respective

C. FLETCHER. *Improved Machinery for maki Bricks, Tiles, and other Articles of Clay or Pla tic Materials.* Dated June 20, 1857.—This co sists in adapting to the feeding part of the m chinery rollers, provided with sliding palle which are made to move radially from and to t centre or axis of the rollers as the latter rotate their bearings. The rollers or cylinders are pr vided with flanges, whereby the clay or plast material is prevented from being squeezed o laterally.

R. MALLET. *Improvements in Tiles and Cove ings for Roofs and other parts of Building* Dated June 24, 1857.—The patentee construc roofing tiles of metal or glass, or of pottery, of square or lozenge form, adapted for being plac diagonally on the roof, and susceptible of vario ornamental and other combinations.

HENRY WIMBALL, Aldermaston, Berkshire.— *Apparatus for the manufacture of Bricks, Til Pipes, and other Articles of a similar natur* Dated October 19, 1857.—This invention main consists in the employment of pug mills with t or more shafts and sets of knives. These shaf are geared together, and consequently rotate opposite directions, and as the die or orifice f the passage of the clay is placed between t shafts, the clay is more readily and freely force out than when the orifice or die is situate imm diately opposite the shaft of the mill.

WILLIAM PADGETT, Poole.—*Earthenware Pip for Drains and Sewers.* Dated October 29, 185 —The welts or annular convex projections at t ends of the pipes or tubes do not take any bearin upon or against the interior of the annular r cesses within which they are placed, but only up or against the clay, or plastic, or other materi within which they are imbedded, and the sides the pipes or tubes bear upon, or come in conta with, annular rims or fillets within the collar each of which has within it one such rim or fill at each side of its annular recess, so as to conne and hold the pipe ends securely together.

CHRISTOPHER CRABB CREESE, Bournemouth, Hants.—*Earthenware Pipes.* Dated Septemb 30, 1857.—Instead of making the pipes of equ thickness throughout, the patentee proposes t flute them; or by other sectional forms (whic may be varied at pleasure) to give their outs surface such corrugations or flanges as will i crease considerably their strength without mat rially adding to their weight, and parallel wit each other, thus enabling the manufacturer t produce them with facility and economy. Th junction of the pipes is made by forming an an nular groove at each end of the tube for the pur pose of receiving one half of a projecting flange o metal ring, which must be perfectly imbedde with red lead or other suitable putty or cemen worked into the annular grooves at the ends o the pipes, and after bringing the end surfaces o the pipes into close air-tight contact, by having their surfaces ground and prepared with th putty or other suitable cement or composition.

J. LLOYD.—*Improvements in utilizing and de odorizing Sewage Matters of Dwelling House and other places, and in Apparatus to be used i connection with the same.* Dated June 26, 1857 —This consists in applying the waste of fire places, alone or in combination with lime, to cor rect the nuisance produced by the sewage o houses, especially by human excretions, and there by reduce them to a harmless state, so as to b easily removable with such refuse, and so to b used as manure. The patentee proposes to use inside of closets, and beneath the seats, metallic or other pans of sizes convenient to be introduced and removed therefrom, and through passages &c., when full.

W. E. NEWTON.—*Improved Machinery for cut ting Files.* (A communication.) Dated June 22 1857.—This consists in a mode of operating the cutting chisel in file-cutting machines, for the purpose of producing a uniform depth of cut from end to end of a file.

T. SPENCER.—*Certain Improvements in the Purification of Water and other Fluid and Gaseous Bodies.* Dated June 19, 1857.—This relates to the purification of water from any tinge of organic colour or deleterious gaseous body by treating it with an oxide of iron.

Books Received.

smos: Sketch of a Physical Description of the Universe. By ALEXANDER VON HUMBOLDT. Vol. IV. Part 1. Translated under the superintendence of Major-General EDWARD SABINE, V.P. and Treasurer, R.S. London: Longman and Co. and Murray. 1858.

this volume, Humboldt, having already ated of the heavens, begins to speak of the rth in its cosmical phases. Magnetism and the action of the interior of the earth on the exrior, as in volcanoes, constitute the subjects iefly treated of; and to these are appended the thor's notes, and those of the editor.

Although neither recommendation nor speciin of Humboldt's "Cosmos" is called for from we extract the following curious passage, as aring on a subject recently alluded to in the *ilder*, namely, the probable existence of a force tithetical to light, and which manifests itself iefly in darkness; as shown in certain photophic phenomena connected with engravings. treating of the aurora borealis, and of certain hly favourable opportunities for watching its uliarities in the extreme north of Scandinavia, joyed by several distinguished physicists for ht months uninterruptedly in 1838-9, Humldt says:—

I would direct the attention, in the first place, to dark misty wall which rises gradually on the horizon, s is called the 'black segment of the aurora borealis.' blackness, as Argelander remarks, *is not a result of rast*, for it is sometimes seen before the luminous arch ins to bound it: it is a process going forward in a part the atmosphere, for hitherto we have had no evidence ny admixture of foreign matter causing the darkness. smallest stars are perceived by the telescope in the segment as well as in the coloured and bright parts the fully-developed aurora. The black segment seems e much more rare in the higher than in the middle tudes. . . . Even out of the segment there appear, ough rarely, *black rays*, which Hansteen and I have n than once seen stream upwards. Together with e there appear rounded black patches, enclosed by minous borders, to which Siljestrom has given especial ntion. Also, in that rare phenomenon the aurora ona, which, by the effect of linear perspective projects, corresponds in altitude to the magnetic inclination se place, the middle of the corona is mostly of a very h black. Bravais regards both this and the black rays ely as optical effects of contrast"

contrast will not explain the black border ore the luminous arch begins, however, as reked; and is useless, therefore, either as a neral explanation of the blackness, or a special lanation of the black rays and black coronal ore. The whole subject reminds one of the ccountable black patches in the midst of ased "star dust" in certain portions of the ky heavens beyond our own firmament, the y way; and the phenomena in both cases apr to corroborate the idea of the operation of a inciple antithetical to light.

Miscellanea.

LACKET'S PATENT INACCESSIBLE LOCK.—To ate the access of burglars and lockpickers to locks, either by boring tools, or by pick-locks skeleton keys, an ingenious invention has been ated, by means of which any lock, and we presume almost any good iron safe of ordinary conction, may be greatly increased in security. this invention, the boring of safe doors is nered useless altogether to the burglar, while ock is so placed as to present a formidable cle also to the use of pick-locks. The lock, whatever kind, is affixed to the back of the e which is inserted usually into a wall, and to the door at all, and is reached by the "key," ard-traversing bit, through a tubular keyhole ched to a partition running through the safe fr front to back, and containing a rod which the part of a handle to the "key," but never ely quits the tubular keyhole, although it can wn backward and forward for the insertion withdrawal of the "key" or bit. The keyis thus always occupied by the rod, or handle, n may be massive enough to move the stiffest st ponderous lock, such as cannot be tickled e usual picker or skeleton key, even were it uced. The lock acts at the back on an atus which catches the safe door by means both above and below, so that the usual s of the skilled lock-picker and burglar r to be foiled.

BRICKMAKERS' STRIKE AT BROSELEY. — The among the brickmakers, occasioned by the yers having reduced the price of making from 3s. 6d. to 3s. 3d. per thousand, after uring nearly three weeks, has terminated. en have accepted the reduction, including nny in the shilling for making cress, &c.

PURIFICATION OF IRON ORES.—Mr. Bessemer, says the *Mining Journal*, appears again in the field as a patentee, in connection with the production of iron. The specification of a patent for a method of purifying iron ores has just been issued to the public, and was probably directed towards remedying the defects of his method for converting pig-iron into malleable iron. As regards the separation of sulphur and phosphorus, it was rumoured some time since that considerable expectations were entertained as to the efficacy of this method of purification of iron ores; but since the patent has not been proceeded with, it may be inferred that these expectations have not been realised, or that the invention is not novel.

GAS.—The governors of the Middlesex County Lunatic Asylum, at Colney Hatch, are about to have put up an apparatus to cook by gas for *fifteen hundred persons* daily. Mr. James Sharp, engineer to the Gas Works at Southampton, according to the local *Independent*, has been employed to advise them on the plans and construction. Drawings and specifications will be submitted to several manufacturers, who will be invited to tender for the manufacture and fixing of the apparatus.——At the annual meeting of shareholders in the Burslem and Tunstall Gas Company, the report stated that, notwithstanding the depression of trade, the extension of the company's business had gone on without interruption. The new purifying apparatus and buildings had been completed, and it was anticipated that the large tank and gas-holder now in course of construction would be completed in time for the ensuing winter. A dividend at the rate of 7½ per cent. upon the old shares and 5 per cent. upon the new shares was declared.

HER MAJESTY'S VISIT TO BIRMINGHAM.—Preparatory to the opening of Aston-park by her Majesty, on the 15th instant, numerous decorations are being got up, chiefly from designs supplied by architects and others. The Aston-park Company have obtained a design for the arch to be erected over the entrance-gates of the park, from Mr. Steeple and Mr. Joseph Allen. Mr. Yeoville, architect, has prepared one for Colmore Row, comprising three Gothic arches, the whole to cost 50*l*. For the embellishment of Ann-street, nine designs were submitted, and one by Mr. Bishop, including a triumphal arch, was chosen; the cost to be about 85*l*.,—already subscribed. A project for the adornment of Bull-street, by Mr. Cresswell, at a cost of 180*l*. has been adopted. A very general desire prevails that the decorations should be allowed to remain till the 17th, or over the market-day, as many country people, not in town at the opening, would thus have an opportunity of seeing the decorations.

THE NEW BARRACKS AT GOSPORT. — This extensive range of buildings, now in course of construction at the top of the town, by Messrs. Lucas, Brothers, of Lambeth, is progressing rapidly, so that the whole pile (according to present calculations) will be ready for occupation at the end of the year. The soldiers' barracks is a block about 700 feet long and 75 feet wide, containing forty barrack-rooms, 50 feet by 22 feet, each of which rooms is intended to accommodate twenty-five men; twenty ablution rooms, 20 feet by 10 feet; two cook-houses, four sergeants' quarters, with latrines and other conveniences. This building will thus house 1,000 rank-and-file, while upwards of 500 cubic feet of air will be allowed to each man. At the north-west corner of the soldiers' barracks will stand the canteen, a building not yet commenced: in the bastion at the back a "fives" court has been erected for the use of the soldiers, which is 55 feet long, 30 feet wide, and 26 feet high. The guard-house is ornamented with a clock-turret of Portland stone. The guard-room contains, in addition to guard-room and cells for the refractory, court-martial and orderly rooms. The officers' quarters extend about 410 feet by 61 feet, and afford accommodation for forty officers. The mess-room is on the first floor: its dimensions are 50 feet long, 28 feet wide, and 15 feet high; the ante-room to it, 40 feet long, 20 feet wide, and 10 feet high: kitchens, offices, larders, cellars, plate-closets, &c. are also provided, adjoining it. The non-commissioned officers' quarters, workshops, infants' and adult school-rooms, library and reading-room, are contained in one block, 250 feet long by 62 feet wide. Each non-commissioned officer is to have two rooms, 12 feet by 11 feet, and 11 feet high. The married men's quarters are 230 feet long by 60 feet, for sixty married couples. Each man has one room, 11 feet by 13 feet, and 11 feet high. A small building for a laundry, with a drying-ground adjoining, completes the range as laid out at present.

REFLECTION ON GLASS CASES IN MUSEUMS.—During several visits to the new gallery of objects of art I have experienced some inconvenience from the reflection of the windows on the plate glass cases. From some points of view the windows and the trees outside present a picture which prevents any artist who may be sketching from properly seeing the objects beyond: even when the blinds of the windows are drawn down the evil is not remedied. I have noticed the same unpleasant effect in other galleries which are lighted at the sides instead of the roof. Would it not be possible, instead of having the cases perpendicular, to arrange the glass at such angles as would enable a person, when sitting or standing, to sketch the objects without being troubled by the reflections? —AN ARTIST.

ELECTRO-TELEGRAPHIC PROGRESS.—The *Agamemnon* and *Niagara* are by this time, doubtless, in the Atlantic Ocean, where the purpose is to rehearse the subsequent laying down of the Atlantic cable. For this preliminary operation twenty miles of cable have been shipped, besides the line to be permanently laid. The ships have also on board the paying-out machinery and steam engines for lifting the cable if requisite. It is hoped that the whole work will be completed by the end of the present month.——Mr. Layard, of Nineveh celebrity, writing to the *Times* as to the merits of the proposed telegraphic communication with India, gives preference to the Red Sea line, for practicability and safety; and he ought to know something as to the danger of laying a line *vid* the Euphrates and the Persian Gulf. The coral reefs in the Red Sea, however, are regarded as a special danger in the way of the line *vid* that sea.—— Mr. Henry, patent agent, Fleet-street, has just specified, on behalf of an American, some improvements in protecting telegraphic wires. It is proposed to cover the wire, enclosed in its insulating coating of gutta percha or India rubber, with an exterior protective casing of lead or other ductile metal, applied by a process in which the caloric from the hot metal is intercepted, and prevented from reaching and destroying the gum coating, by a current of fluid interposed between the metal and gum as they are moving towards a die where they are to be united; by the time of reaching which a proper relative temperature is to be secured between them. The apparatus preferred consists of a combination of tubes, with a die and hydraulic press.

SCHOOL DESIGNING AT WAINFLEET.—A correspondent, Mr. Spreckley, a builder, complains of treatment he says he has received in regard to certain school plans which he was employed to prepare by "the architect," a cabinet-maker, to whom a local clergyman had entrusted the erection of National Schools at Wainfleet. After detailing some procedure in regard to the appointment of a good customer of the cabinet-maker as contractor, an appointment resolved upon, it is alleged, before the advertisement calling for tenders was issued, the complainant goes on to say that he was refused all compensation for his plans and had to sue "the architect," against whom he got a verdict of 7*l*. for "about twenty sheets of drawings, four lots of specifications, some of them twenty pages of foolscap filled, and other details and estimates," all regarding an outlay of 903*l*.; and that what with law expenses, loss of time, &c., he had but a few shillings left for his trouble. As our correspondent's letter, however, would be a libel in law, we cannot publish it as he desires.

MODEL DWELLINGS AT BOMBAY. The movement in favour of improved dwellings for the working classes is extending far and wide, and now we have before us a prospectus of a "Bombay Mechanics' Building Company, under the Limited Liability Act; capital, two lakhs of rupees, in 1,000 shares of 50 rupees each." This company has been formed for the purpose of providing comfortable and healthy dwellings for mechanics and other Europeans of a similar class, who are at present compelled to inhabit inferior houses in unhealthy localities, at high rents. The undertaking is said to be cordially approved of by the governor and the members of council, and the local government have offered an eligible site in Mount-road, near Byculla station, on favourable terms. An elevation and plan accompany the prospectus, from which it appears to be intended to erect a large building in form of a square, and divided into flats, with a cooking establishment apart in the centre of the square, surrounded with baths. The elevation is castellated, and has not quite that unsightly, workhouse-like aspect, which the patrons of model dwellings in London seem to think good enough for the industrial classes.

SOLDIER WORKMEN.—A number of soldiers are now occupied at the camp of Sothonay, near Lyons, in constructing, under the direction of the engineers, a number of barracks, the walls of which are made of earth mixed with chopped straw. The sides of the doors are faced with stone, and those of the windows with wood. This mode of construction is to replace that of planks, and will have the advantage of being warmer for the troops in winter and cooler in summer.

BUILDINGS IN MANCHESTER.—The total number of buildings in Manchester on the 29th of September last (according to one of the miscellaneous police tables) was 71,249. They are classified thus:—Cotton mills, 94; silk mills, 11; worsted mills, 2; smallware mills, 14; printworks, 5; dyeworks, 33; hat manufactories, 11; machinists' premises, 62; foundries, 52; leadworks, 4; paperworks, 4; saw mills, 52; corn mills, 13; miscellaneous workshops, in various trades and manufactories, 1,213; warehouses, 1,753; dwelling-houses, 56,942; shops used as dwelling-houses, 6,615; shops not used as dwelling-houses, 777; places of worship, 130; public and private schools, 283 (many of the schools are included with dwellings, places of worship, and public institutions); barrack, 1; banks, 11; markets, 11; theatres, 2; railway stations, 8; gas stations, 3; workhouses, 2; infirmary, fever hospitals, dispensaries, 6; night asylums, 2; lock hospital, 1; penitentiary, 1; public institutions, 13; public buildings, 35; baths and washhouses, 9; breweries and distilleries, 193; slaughter-houses, 144; buildings used as offices, 598; livery stables, 59; miscellaneous buildings, such as sheds, &c., not used as workshops, 2,080.

STATE OF CROYDON THEATRE.—A somewhat eccentric circular has been printed at Croydon, advising the inhabitants as to church-rates and poor-rates, and as to the advisability of avoiding any meetings, on these or other subjects, held in the old Croydon playhouse. The galleries and staircases are said to be alarmingly unsafe. "I have indeed, lately," says the writer of the circular, (which is signed "Joshua Beardmore"), "strengthened and supported the most threatening parts of the horrid *suspension* staircase, but still I find, *from the survey of an architect*, that deaths and broken limbs or fractured skulls must occur in case of a panic. . . . . This Croydon dangerous old structure I have tried to close by legal means, but found it was beyond the interference of magistrates, from being situated outside of the limits of the Metropolitan Building Act."

ROYAL IRISH ACADEMY.—His Excellency the Lord Lieutenant of Ireland attended a meeting of this body on Monday evening, 24th May, and the chair was taken by the president, the Rev. Dr. Todd, S.F.T.C.D. The president entered into a brief history of the "Cunningham prizes," which they had assembled to see presented; and stated that they were medals, four in number, and for the periodical awarding of which Mr. Timothy Cunningham, of Gray's-inn, London, who died in 1789, left a sum of 1,000*l*. It was suggested by Dr. Aquila Smith, that each medal should bear the name and portrait of the recipient, and an inscription, stating the reason for which it was awarded. The medals are of gold, and are given this year to the following gentlemen, respectively:—To E. J. Cooper, M.P. for Sligo, for his "Catalogue of Ecliptic Stars;" to the Rev. G. Salmon, F.T.C.D. for his treatise on "Higher Plane of Curves;" to the Rev. Dr. Wall, for his work on "an important subject in Hebrew literature;" and to the Rev. Dr. Reeves, for his translation of "Adamson's Life of St. Columbkill." His Excellency addressed the meeting, and said that, "in his opinion, of all sciences, astronomy was the highest;" and concluded by moving a vote of thanks to the president, which was seconded by Sir William Hamilton.

FEVER AND AGUE IN ISLINGTON.—Dr. Ballard, the officer of health of Islington, in a recent report, remarks that in his district, during the four weeks which ended on the 1st of May last, there have been two deaths attributed to diarrhœa, and six to fever; and although in neither of these two cases has the mean of the two last years been exceeded, it is worth while to remark that "one of the deaths from fever took place in one of the only two houses in Pulteney-terrace which has been exempted from the orders of Sanitary Committee for the Improvement of Drainage, &c. in 1856." Dr. Ballard does not refer to the state of the drainage of the other houses, in which the deaths from fever took place; but it would be well worth while to do so in all cases of fever and other preventible complaints, whether they may occur in the houses of the poor, or in those better circumstanced.

HYDRAULIC CEMENTS.—A paper on this subject has been submitted to the Academy of Sciences by M. F. Kuhlmann, showing the advantage that may be derived from the combination of silicates with mortars and cements in general, and especially with those that are intended to resist the action of sea water. It is well known that the first effect of water on cements is that of forming hydrates; after which a gradual contraction takes place, producing a degree of hardness, which increases in proportion as the contraction is slower and there is more silex or alumina in the cement. Now, M. Kuhlmann has observed that if alumina or its silicate, or else magnesia, whether caustic or carbonated, be kneaded into a paste with a solution of silicate of potash or soda, the compounds resulting therefrom will bear a perfect resemblance to the natural silicates,—such as feldspar, talcous slate, magnesite, &c., and will, by repose and slow contraction, become hard and semi-transparent, resisting in a high degree the corrosive effects of water. If slaked lime be added to the said compounds, they acquire the properties of hydraulic cements. M. Vicat, jun., having shown that calcined magnesia added to a cement would resist the action of sulphate of magnesia, M. Kuhlmann has endeavoured to turn this observation to account, by mixing calcined dolomites (which contain magnesia) with mortar, with the addition of alkaline silicates. This composition he finds very advantageous, since most of the salts contained in sea water must contribute towards the preservation of such cements. In fact, the chloride of magnesium, as well as the sulphate of magnesia, will be decomposed and form a layer of silicate of magnesia on the surface of the cement: in the same manner, the sulphate of lime must, being in contact with the silicate of potash or soda, form a silicate of lime; and all these silicates strongly resist the action of sea water. As for sea salt, which is a chloride of sodium, M. Kuhlmann proves that, in the proportion in which it exists in sea water, it will slowly decompose the silicate of potash contained in the cement and leave the silex free. The compositions proposed have therefore the singular property, not only of resisting the corrosive qualities of sea water, but of actually becoming more insoluble the longer they are in contact with it. A cement composed of 30 parts of rich lime, 50 of sand, 15 of uncalcined clay, and 5 of powdered silicate of potash, is recommended by M. Kuhlmann as having all the requisite hydraulic properties, especially for cisterns intended for spring water. In marine constructions care should be taken to add an excess of silicate to those portions of cement which are exposed to the immediate contact of the sea.—*Galignani's Messenger.*

ROME.—The *Giornale di Roma*, of May 1st, describes some interesting discoveries made by Signor L. Fortunati in excavations *coraggiosamente* carried on by him in the *Via Latina*, two miles from Rome. These include a quadrangular sepulchral chamber in the form of a cross, presenting in the vaulted ceiling paintings and reliefs in stucco. In the stuccoes we see represented the Judgment of Paris; Achillas at Scyros; Ulysses and Diomede with the Palladium; Philoctetes at Lemnos; Priam before Achilles for the ransom of the body of Hector; and finally Hercules, who is there perhaps in connection with the capture of Troy. In the centre, Jupiter is represented borne by an eagle, with a thunderbolt by his side; and in various compartments are different divinities and combats of Centaurs with wild beasts, and vignettes painted in the midst, which render the effect of the stucco yet more wonderful and beautiful. In the midst of this chamber there is a large sarcophagus of *marmo Greco*, divided inside in two parts, to receive two bodies. It is about 13½ palms long. Around it lie nine other sarcophagi, without any order, three of which are of the finest workmanship, and in wonderful preservation.

SCHOOL OF ART FOR BANBURY.—Several gentlemen have joined themselves into a committee, and obtained the use of the British School at Banbury, where a drawing class has been started, under the superintendence of Mr. Stanley Reeves. There were forty-two pupils in attendance. So soon as the school is perfectly organized, it will be placed in connection with the Government Department of Science and Art.

KNIGHTSBRIDGE BARRACKS.—We some time since drew special attention to the state of these barracks. It now appears that scarletina has broken out there, and that an entire family of four children have been cut off, one after the other, by this disease. Surely something will now be done ere matters get from bad to worse, as they are but too likely to do in the present hot weather.

THE LABOUR QUESTION.—You will not, I trust, consider it a vain repetition, if I again call the attention of your readers to the desirability of societies being formed for the improvement of towns, upon which subject I wrote to you a few weeks ago. I am induced to do this, as there appears to be some interest taken in the matter, and the only hope we can have of seeing anything done of a practical nature, is to keep the subject before the public ere that interest ceases. Your correspondent, Mr. S. E. Miles, has exposed some of those great evils which might be remedied by that public spirit which I have more than once before now advocated; and in your correspondent's last paragraph but one, mention is made of improvements being wanted in the country, as well as in towns. Now, this want, together with the want of employment among farm labourers, might be remedied by a society being formed in each county town, for purchasing and reclaiming waste lands. Surely shares in a company of this kind would be worth having, while the existence of such a society would bring wealth into the town where its meetings were held. Societies for the improvement of the metropolis and other large towns might be made self-supporting by the sale of shares, and would save much trouble to the Government, and expense to the public purse. I hope some of your correspondents will continue to keep these matters before the public, and that your journal may be the means of remedying the evils above alluded to, as it has been with regard to many other evils.—W. SCARGILL.

SCRAPS FROM ADELAIDE, MELBOURNE, AND HOBART-TOWN.—The opening of the Gumeracha bridge over the Torrens, in South Australia, took place on the 12th of February last. It consists of a single arch of timber, supported on stone abutments. The span is 100 feet. The plan was furnished by Mr. Ashwin, chief draughtsman to the central road board, and the work was executed (under the superintendence of Mr. Alfred Hardy, superintending surveyor of the north eastern district) by the contractors, Messrs. T. and J. Baker, of Adelaide, who had already erected the bridges over the Light, the Wakefield, the Angus at Strathalbyn, the Onkafaringa at Greenthal, and several others. The road between the bridge and the chain of ponds is not yet completed, according to the *Adelaide Observer*.——Another bridge, the Virginia bridge, built over the Gawler river, was opened about the same time as the preceding. It is a bowstring bridge, with two roadways, supported at each end by piles, and gives a waterway of 100 feet. The design was prepared by Mr. Macaulay, the superintending surveyor of the central board of main roads in South Australia. Mr. S. Wastell was the clerk of the works, and Mr. Pitman the contractor.——From the *Melbourne Herald* (Victoria) we observe that an advertisement was issued on the 2nd of March last, calling for competitive designs to be sent in by the 20th of April, for a new banking house in Collins-street, for the London Chartered Bank of Australia; premiums 150*l*. and 100*l*.——Hobart-town, the capital of Tasmania or Van Diemen's Land, appears to stand much in need of water supply. The climate is very dry, and the state of the town rivulet, according to Dr. Hall's health reports, is such, that the drainage is very defective, and the consequence of this and other causes is that the mortality of the town is about 28 per 1,000, a mortality exceeding that of London. Dr. Hall has shown that in so healthful a climate the mortality ought to be no more than 17¼ per 1,000, by the adoption of by no means extraordinary sanitary measures, such as the formation of an adequate water supply. The lives of 200 persons, out of a population of about 18,000, might thus be annually saved in Hobart city and Launceston alone.

LAYING THE FOUNDATION-STONE OF ST. JOHN'S CHURCH, PUTNEY, BY THE BISHOP OF LONDON.—Wednesday, the 26th ult. was the day fixed for the performance of the above interesting ceremony, and there was a large assemblage of ladies and gentlemen. The freehold site was very liberally given by J. Temple Leader, esq. and who also contributed the munificent sum of 2,500*l*. The church will be in the Early English Decorated style, from the design of Mr. Charles Lee, architect. The exterior is to be of Kentish rag-stone, with Bath stone dressings, and calculated to hold 500. The height of the spire is to be 160 feet; total length, about 110 feet; width, 50 feet. The bishop, after going through the formula, delivered one of those eloquent addresses for which his lordship is so well known. The stone was then laid in the usual manner. The building is being erected by Messrs. Aviss and Sons, of Putney, and the cost is estimated at 4,529*l*.

DRURY-LANE THEATRE.—CHEAP MUSIC.—After hat we have written elsewhere in our present mber, it is scarcely necessary to say that the deavours which Mr. E. T. Smith is making to pply the public with good music, at so low a te as to bring it within the reach of the humblest, s our heartiest support. On Wednesday last, erdi's opera, "Rigoletto," was produced, the ell-known tenor, Naudin, making his first apearance here, in the part of the Duke, and the her parts being supported efficiently by Sig. attioli, Made. Fumagalli, and Made. Borchardt. he representation was exceedingly successful. audin established himself as a favourite, and the oruses were effectively given. If such a perrmance, at such prices (ranging from 6d. to 4s.), not warmly supported, it will show little appreation on the part of the public of spirited efforts r their amusement.

THE NORTHERN DRAINAGE OF THE CITY OF ORWICH.—The Board of Health, says the local *hronicle*, has determined to carry out the plan, if ch it can be called, for the drainage of the north de of the city, without its main feature—the eposit bed for the sewage. Now, all the sewage to go into one part of the river, close to the ow Tower, to be a great nuisance there, and ence to pollute the whole course of the stream, aking it, in fact, a stinking ditch, unfit either r purposes of navigation or pleasure, and injuous to health. The river is polluted enough ready by the sewers from the south side of the ty, and by the abominations from fellmongers' rds and dye-houses, but these sewers, &c. are idely apart. The contractors for the first scheme ave given notice to the Paving Committee of ing for penalties on account of the delay. etter give them the 20,000*l.* intended to be ent, for nothing, than for making the river ten nes more polluted.

THE METROPOLITAN MAIN DRAINAGE.—At a ecial meeting of the Metropolitan Board of orks, held on Wednesday, Mr. Carpmael moved series of resolutions; but after some discussion, d the moving of an amendment by Mr. Doulton, e whole matter was adjourned till October next, e Board being desirous of further information l the subject.

WINDOWS.—I observe in many houses of modern ection, that light is admitted in the front by one atral window, seven or eight feet wide, divided stone uprights into three equal compartments. is has a very elegant appearance, and answers ll the purpose of throwing light into the centre the room. But it is open to one objection, ich I think a rather serious one. In case of e *during the night* the aperture between the ne uprights is so narrow, that a very lusty per, or one not very active, would find it difficult escape through the window. SPECTATOR.

WATER GLASS, OR OIL OF FLINTS, AND ITS PLICATIONS.—In consequence, chiefly, of the dicle in our columns of 5th December last on this ious and interesting subject, water-glass has eady come into extensive use, so much so that detropolitan Water Glass Works" have been ught into operation at Eastcheap, and we have ore us a tract issued from that establishment ecommendation of the article, and giving inmation as to its varied and numerous uses,—as heap and good substitute for oil and varnish, e, cement, soap, starch, &c. &c. and as a preservative against atmospheric influences, moisture, fire,—for stone, which it silicates and hardens, or brickwork, compost, clay, chalk, wood, paper, h, metal, glass, and other substances. Amongst more recent applications it has been used as a ze for earthenware, free of lead, and as a ent for broken articles of earthenware, glass, : in calico printing and dyeing it has also n used; in the removal of old fresco paintings; preservation of walls from damp; in cementgas, water, and steam pipes, combined with ttening or manganese; for coating metals, and a ships; preserving timber, roofs of houses, atrical decorations and dresses, hangings, &c.: short, it bids fair to rival gutta percha and dia-rubber as a Proteus.

PLANS SUPPLIED TO A SURVEYOR.—At the elverhampton County Court, an action, Manton Fereday, was brought to recover 8*l.* 13*s.* for wing plans and specifications, the plaintiff ng Mr. Manton, a draughtsman, and dendant, Mr. Fereday, surveyor. From the statet at of Mr. Manton it appeared that in 1856 fendant was employed as surveyor by the al Board of Health at Wednesbury, and ered into an agreement with plaintiff for the wing of certain plans, &c. for which plaintiff to be paid at the rate of two and a half per . Plaintiff also supplied defendant with three mounted plans, with plaintiff's name attached, which were to be hung in defendant's office as a kind of advertisement for plaintiff. Defendant, however, had effaced the name of plaintiff, covering it with his own name, and had also made certain marks which led plaintiff to suppose that defendant had used his specimen plans professionally. Under these circumstances plaintiff made a claim of three guineas, the value of the plans and of arrears of commission for work done. For the defence it was contended that the plans were sent by plaintiff with an understanding that there was to be no charge for them. The marks were descriptive, and made in presence of plaintiff. Defendant admitted his liability for commission to the amount of 1*l.* 7*s.*—one and a half per cent. —which amount had been paid into court. The judge having ascertained that the specimen plans had not been rendered useless by the effacing of plaintiff's name, gave a decision for one guinea, in addition to the amount paid into court.

ACCESS TO HYDE PARK.—On all sides of the park we find that wickets have been liberally opened at the ends of leading streets: since the improvements in plantation, this indulgence has been liberally conceded by the late efficient chief commissioner, and in some instances, as at the end of Brook-street, a wicket has been opened within one hundred yards of Grosvenor Gate. At the south side, on the contrary, the park is closed against the termination of the Great Exhibition road, which is the direct approach from Brompton and other very populous districts. At the end of this road we have to turn out of our way three hundred yards, either to Prince's Gate on the right, or to the late Count d'Orsay's wicket on the on the left—this latter entrance being now obvious to nothing but the temporary park paling-fence of the gardens of promise. We peripatetics, who range the loved flower-walks with our children, having no communion with commissioners, implore of you, Mr. *Builder*, to lay our case before them, and to procure for us the indulgence of direct entrance to those little civic Elysiums which the late commissioner projected and completed evidently for our recreation. Such a short cut will lessen the toil of approach, and extend our rambles of enjoyment in the floral borders.

"—— NOBIS HÆC OTIA FECIT."

[ADVERTISEMENT.]

86, Regent-street, June 2, 1857.

Messrs. CLARK and CO.
15, Gate-street, Lincoln's-inn-fields.

GENTLEMEN,—In reply to your inquiry as to my opinion of your Shutters and other work, I beg to state that the Brass Front and Stall-board Plates you made for me I think equal in finish, and, indeed, altogether such as are not to be excelled by any other in London; they wear well, and I think the colour of the brass is excellent. As to the Shutters, it is now eight years since they commenced work, and I believe 20s. will cover all charges for repairs during that time. They do, and have worked well during all that period, and I believe them to be as sound now as on the day they were fixed. Yours obediently,

JAMES MEDWIN.

TENDERS.

For the erection of sundry new buildings at the Britannia Iron Works, Bedford, for Messrs. J. and F. Howard. Mr. R. Palgrave, architects. Quantities by Messrs. Balam and Lee:—

Holland	£5,704	0	0
Carter	5,375	0	0
Myers	5,370	0	0
Coils and Co.	5,224	0	0
King (Bedford)	5,088	0	0
Freshwater (Bedford)	4,780	0	0
Holme (Stafford)	4,600	0	0
Thompson (Derby)	4,289	0	0

For additions to a factory, with an Elizabethan flagstaff tower, for Messrs. J. and W. Lambert, Nottingham. Mr. R. Clarke, architect, Nottingham. Quantities supplied:—

Simpson and Lynam	£3,633	0	0
Wright and Scoffield	3,622	0	0
Bennett	3,498	0	0
Willmott	3,405	0	0
Ferguson and Allen	3,225	0	0
Rooke and Clarke (accepted)	3,159	0	0

For Stockton baths and washhouses, building department. Messrs. Oliver and Lamb, architects, Newcastle-on-Tyne. Quantities supplied:—

Jones, Barnard Castle	£2,179	0	0
Clarke, Sunderland	1,653	10	8½
Frowsdale, Stockton	1,676	0	0
Bulmer, Darlington	1,652	0	0
Moore and Graham, Redcar	1,626	8	0
Pratt, South Stockton	1,626	0	0
Fletcher, Stockton	1,623	0	0
Elgee, Stockton	1,616	0	0
Wilkinson, Stockton	1,549	0	0
Crosby, Norton	1,523	18	9
Bell and Jeckels, Stockton	1,511	0	0
Mothersdale, West Hartlepool	1,506	5	0
Russell, West Hartlepool	1,503	0	4
Wright, West Hartlepool	1,478	2	8
Horseman and Stockhill, West Hartlepool	1,453	10	0
Suggitt, West Hartlepool	1,392	14	0
Bowron, Stockton (accepted)	1,340	0	0
Wade, Stockton	1,320	0	6

For building new police offices, and for the restoration of the stone front of the Judges' lodgings, sent in to the Leicester county magistrates. Messrs. Dain and Smith, architects, Leicester:—

Broadbent (Leicester)	£2,410	0	0
Porter (Leicester)	2,174	0	0
Neale (Leicester)	2,119	0	0
Osborne (Leicester)	2,115	0	0
Herbert and Son (Leicester)	2,097	0	0
Lindley and Firn (Leicester) (accepted)	2,083	0	0

For the erection of a range of stables in Regent-street, Westminster; and three cottages in Douglas-gardens. Mr. James Howell, architect —

Piper and Son	£2,047	0	0
Trollope and Son	1,986	0	0
King and Son	1,851	0	0
Mills and Son	1,828	3	3
Wardle and Baker	1,782	0	0
Greig	1,777	0	0
Bowley, Brothers	1,750	0	0

For erecting four houses in Brecknock-street, Camden-town. Mr. C. G. Searle, architect:—

Richardson	£2,140	0	0
Blanchard	2,077	0	0
Pritchard and Sons	1,979	0	0
Higgs	1,850	0	0
Turner and Sons	1,849	0	0
Ennor	1,678	0	0
Brown and Hewlett	1,650	0	0

For the erection of a Baptist Chapel, schools, and two houses. Messrs. Morris and Son, architects. Quantities supplied —

John Jeffrey	£1,830	0	0
Billson	1,724	0	0
Ennor	1,712	0	0
Hack and Son	1,700	0	0
Frow	1,677	0	0
Blackburn	1,659	0	0
Watts	1,650	0	0
Ring and Stanger	1,619	0	0
Sheffield	1,490	0	0
Salt	1,450	0	0

For residence of the Manager of the West Ham Gas Works. Mr. D. A. Cobbett, architect. Quantities by Mr. Meakin: —

Piper	£1,525	0	0
Munday	1,446	0	0
Hack and Son	1,425	0	0
Rivet	1,397	0	0
Hedges	1,388	0	0
Morter	1,373	0	0

For Barnwell Abbey National Schools and teacher's residence, Cambridge. Mr. R. Reynolds Rowe, architect. Quantities not furnished:—

Bell and Sons	£1,297	0	0
Quinsee and Attack	1,284	0	0
Cauham	1,220	0	0
Thoday and Clayton	1,188	0	0
Gray and Son (accepted)	1,095	0	0

For additions to a residence for Mr. William Nixon, East Burnham-park, Bucks. Mr. John Barnett, architect. Quantities by Mr. Richard Roberts —

Laurence and Son	£1,782	0	0
Piper and Son (accepted)	1,703	0	0

For the erection of a detached Mediæval house, for Mr. Wm. Midworth, Mansfield (foundations and cellars put in before the contract). Mr. R. Clarke, architect, Nottingham. Quantities supplied:—

Sills	£1,200	0	0
Frisby	1,155	0	0
Ferguson and Allen	1,029	0	0
Simpson and Lynam	990	0	0
Valance	987	0	0
Wright and Scoffield	973	0	0
Rooke and Clarke	957	0	0
Brooke (accepted)	927	0	0

For two semi-detached houses at Wandsworth-common, Surrey. Messrs. Gardner and Co. architects. Quantities not supplied:—

Keast and Moon	£750	0	0
Curnick	735	0	0
Thornton	685	0	0
Hersee	597	0	0
Westrope	595	10	0
Heather (accepted)	544	14	6

For addition to retort-house and coal-store at West Ham Gas Works, Essex. Quantities by the engineer:—

Piper	£754	0	0
Munday	690	0	0
Hack and Son	680	0	0
Rivet	663	0	0
Hedges	655	0	0
Morter (accepted)	640	0	0

For a house at Millwall, Poplar, for Messrs. Whiterow and Cochrane. Messrs. Morris and Son, architects:—

Jeffrey	£467	0	0
King	450	0	0
Billson	420	0	0
Salt	420	0	0
Ring and Stanger	413	0	0
Hack and Son	403	0	0
Watts	398	0	0
Sheffield	387	10	0

For alterations and additions to the Free Samaritan Hospital, Edward's-street, Portman-square. Mr. J. F. Bush, architect:—

Cheeseman	£434	12	0
Keyes and Head	427	0	0
Longmire and Burge	399	0	0
Patman and Co.	360	0	0
W. Hyde	323	17	0

For building a tank for a new gas-holder, at the Ventnor Gas Works, Isle of Wight. Mr. Geo. Garnett, C.E.:—

Bull	£143	10	0
Wheeler	140	0	0
Bevis and Son (accepted)	135	0	0

For alterations and repairs at 189, Union-street, Southwark. Messrs. Herbert Williams and Bright Smith, architects:—

Downes	£236	0	0
Chessham	181	0	0
Turner and Sons	177	0	0

For works on the Bridgewater Estate. Mr. Edward Browning, architect, Stamford:—

	Thomas Gadsden's Farm-stead, Netticleh.	Thomas Gadsden's House, Netticleh.	George Pratt's Home-stead, Berkhampstead-common	Agent's House, Little Gaddesden.	Estate Office, Little Gaddesden.
	£. s.	£. s.	£. s.	£. s.	£.
H. Bradshaw	3,820 0 ..	..	1,360 0	4,775 0	1,950
W. Walker ..	4,123 0	1,553 0	1,547 0	4,095 0	1,032
Jarvis and Co	3,817 0 ..	..	1,633 0	5,023 0	2,028
J. Wilson	4,861 0 ..	..	1,486 0	4,666 19	1,926
G. Cooper....	3,923 19	2,484 17	1,468 16	3,775 15	..
Nash and Matthews.....	4,815 0	..	1,408 0	..	..
Hardy	3,119 13	..	1,148 11	..	..
Lawson & Joy	2,987 0	..	1,418 0	..	..
Harris	..	..	1,250 0	..	..
Watson.....	..	..	1,519 0	..	..
Smith	1,996 0	..	..	..	..
Orchard.....	2,849 0	..	..	..	..

TO CORRESPONDENTS.

R. C.—Messrs. M.—S. B. G.—A Constant Reader.—Mr. O.—J. B. L.—W. Mc P. I H. I M A.—We have no further information.—S. E. M.—A. B.—"Thoughts among the Statues" (shall appear).—C. C (the answer would depend on one or two points unstated. Under ordinary circumstances B would have the party L. le—R M (Richard Wellington).—R. R B (Bath).—H. W (see last notice in the architects: the correction should also come from them).—P. M. H—K. and H—C. and Co

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

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A YOUNG MAN, aged 18, who can survey, take levels, draw plans and sections, and railway engineering work generally, and is a good mathematician, wishes for an ENGAGEMENT. Terms moderate.—Address, B. C. 4, Mecklenburg-street

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May 26, 1858

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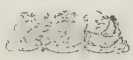
By Her Majesty's  Royal Letters Patent.

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CRYSTAL WHITE SHEET GLASS, First, Second, and Third Quality, in Cases of 100, 200, and 300 feet, suitable for Pictures and superior glazing, from 3d. to 6d. per foot, also in cases of 100 and 200 feet, as sorted sizes. Belgian Sheet Glass, in cases 200 feet each; 24s. 30s. and 39s.; 42s, 57s. 6d. Squares, in Boxes of 1 foot each, 6 by 4, to 10 by 8, 15d. per foot. Larger sizes, up to 24 by 14, 2l. per foot. Ground Glass in Cases, 4d. per foot. Crown and Sheet, Rough and Polished Plate, HARTLEY'S Patent Rolled Rough Plate, English and French Plate Glass, Silvered Glass, Slates, &c. &c. Price lists and estimates forwarded on application to ROBERT METTAM, 30, Princes street, Leicester-square.

TO ARCHITECTS, ENGINEERS, BUILDERS, JOINERS, AND THE TRADE GENERALLY
BIELEFELD'S PATENT.—The PATENT WOOD or FIBROUS SLAB CO. (Limited) are ready to deliver from their Stores in Wellington-street North, Strand, London, SLABS of the best quality, at prices per super foot, to any amount or thickness, from 3-16ths to 1 inch. The size of each Slab (all waste cut off) is 14 feet 4 inches by 6 feet 4 inches wide; and any smaller size may be cut to order. These Slabs are not subject to warp, nor to flame when in contact with fire. They are in particular suitable for the best and cheapest panels for interior decorations of dwelling-houses, for lining of cabins, for ceilings, clothing of boilers, fittings of cottages, huts, barracks, and other works, where durable and easy-worked materials are required, and desirable subject. The Bramble material may be seen in the dining-room of the Reading room of the British Museum, and in that of the Royal Opera House, Covent-garden.—Orders are received at the Offices, 15, Wellington-street North, Strand, London, where also a stock may be viewed.
T. NATTRASS, Manager
WM. F. CROSSMAN, Secretary.
15, Wellington-street North, Strand.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Planks, 3s. 6d.; Mahogany and Walnut, 8d.; 2½ inch White Lattice, 1l. 10s.; Yellow, 1l. 3s.; 1-inch White Flooring, 12s. 6d.; ½ ditto, 11s. 6d.; 1-inch Yellow, 10s. 6d.; ½ ditto, 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth, S.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany
¾-inch Prepared Flooring, 11s. 6d. per square.
1-inch ditto, 15s. per square.
Yellow Battens, 12' long per 120, 12 by 2½
Yellow Deals, from 3s. 3d. each
Spruce Deals, from 2s. 9d. each.
Pine Plank (dry), 13 ft. 3 in. by 11 in from 3s. 6d. each
Best Honduras Mahogany Plank and Board, from 6d. per ft.
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ALFRED ROSLING and SONS beg to inform their Friends and the Building Trade generally, that they are enabled to allow a discount of 17½ per cent upon their list prices for Mouldings. A large Stock of Dry Flooring always on hand.
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Capping, Sash-bars, Beads, &c. to any design carefully packed and sent to all parts of the country. A Pattern List sent on application to
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SAWING, PLANING, AND MOULDING MILLS,
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Spruce	12s.	13s.	15s.	—	per square
White	12s 9d.	13s 6d.	15s 6d.	18s.	"
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¾ in 1. Prepared Flooring	£0 11 6 per square.
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Good Yellow Deals	0 3 3 each.
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Mahogany, in logs and planks, from 6d. per foot.
All sawn goods delivered within three miles free of carriage.
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GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
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A Monthly Price Current forwarded on application.
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GREENSLADE'S PATENT GROUND-PAINT, DUSTING, and VARNISH BRUSHES, are highly recommended, combining many important improvements, both in usefulness and durability. GREENSLADE'S Painters' Brushes of all descriptions, are made in two qualities, good, and superlatively good. The latter are of the very best materials, and worthy of the attention of those who desire a really good Brush.—Manufacturers, E. A. and W. GREENSLADE, Thomas-street, Bristol.

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TO PAINTERS, BUILDERS, &c.—LIVETT, FRANK, and SON, 14, BOROUGH, London-bridge, quote their present prices:—Genuine White Lead, 32s.; Second, 30s. per cwt.; Linseed Oil, 2s. 10d.; Boiled ditto, 3s. 2d.; Turpentine, 3s. 6d.; Oak Varnish, 7s. 6d.; Pale ditto, 10s. per gallon.—A list of prices on application.

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Fine Pale Oak Varnish, 7s. 6d. per gallon.
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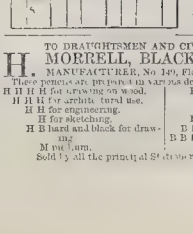

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OF ALL SIZES, TO ANY DEPTH,

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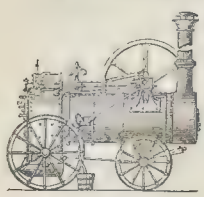

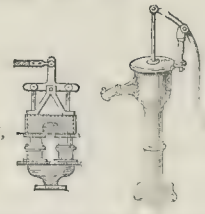

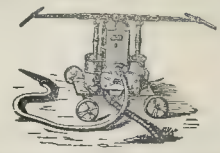

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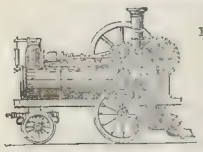

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Price from 8s. 6d. each, according to size.

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IRON PIPES and fittings for gas, water, and steam in stock.

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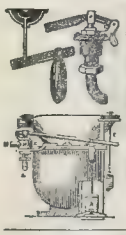

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Pan, Valve, Self-acting, and Servants' Closets, on the principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed, none of them have been sold, at no instance of failure has occurred.

These Steel Valves are cheaper, stronger and more ornamental, than any other. Many thousands in use, and greatly approved of.

Manufactured by CHARLES BRITTEN JACKSON, Brass Founders and Bell Hangers, Clerkenwell, London.

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By the substitution of the vibrating standard, the cumbrous carriage and expensive gearings and guides are unnecessary, making the Pump considerably less than Pumps usually delivered at.

For raising Water, Minerals, or other fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same Principle.

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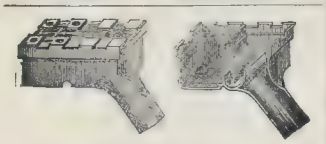
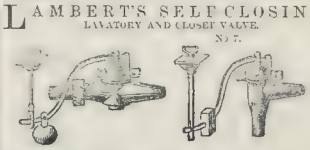


BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and 4, Spur-road, Bermondsey.

LAMBERT'S SELF CLOSING, LAVATORY AND CLOSET VALVE. No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured only by the Patentee,

THOMAS LAMBERT and SON, BRASS FOUNDERS AND ENGINEERS, Corner of Skirt-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced. Price, complete, 15s. 6d. each.

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HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

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3-in.	4-in.	6-in	9-in	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot

Samples may be had at Falcon Wharf, Blackfriars, and at Harrow Bridge Wharf, Stamford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the solidity.

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N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

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TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE made by Retailers upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

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175, Fore-street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

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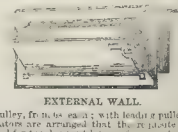
Sherina Lam's Ventilator for the admission of Pure Air through an



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These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of any apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. HAYWARD BROTHERS, 169, Sun Tavern Fields, Blackfriars road, and 117, Union street, Borough; and of all respectable Ironmongers, Builders, &c.

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SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,
LAMBETH POTTERY,
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Price 6s. 6d. each.

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STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

PAN, 4s. 6d.

PAN, 4s. 6d.

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TRAP, 2s.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
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Messrs COLWILL (BROTHERS), 22, Bridges street, Covent-garden.
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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

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MR. S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

Prices 7s. each; can be fitted with PATENT AIR-TIGHT VALVES, at 6s. 6d. each, or extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

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JENNINGS'S PATENT SYSTEM of LAYING DRAIN-PIPES

Is the most Perfect yet introduced.

It is now universally acknowledged as the only "IMPROVEMENT" yet effected on the ordinary socket or Half-socket Pipe.

JOSEPH CLIFF, WORTLEY, near LEEDS, being empowered by License for the exclusive Sale and Manufacture of the above Pipes, has made extensive arrangements to meet the increasing demand, and is prepared to deliver them throughout the NORTHERN, MIDLAND, and EASTERN COUNTIES, at the ordinary List Price, as below:—

3-in	4-in	6-in.	9-in.	12-in.	15-in.	18-in
5d.	6d.	8d	1s 1½d.	1 10d.	3s.	4s. per foot.

Less 20 per cent. Discount for Cash.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.

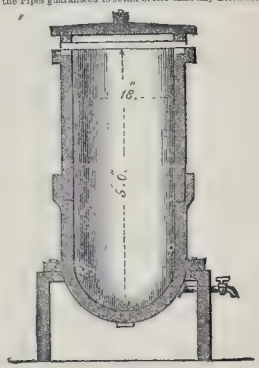
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

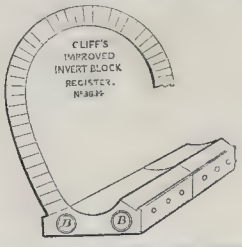
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s	9s. 3d	8s 6d.	6s. 6d.
24-inch.	2 ft by 1 ft 6 inches.	18-inch.	12-inch
5s.	4s. 3d.	3s.	2s. per foo

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.



These GLAZED STONEWARE WATER-CISTERNS are made of any size from 18 inches diameter to 4 feet, capable of containing from 50 to 300 gallons. As a Cottage Water-Cistern they are the CHEAPEST, the PUREST, and most DURABLE article made.—Vide "The Builder," March 20th, 1858.



By use of CLIFF'S IMPROVED INVERT,

The uniform level of sewer is easier of attainment.
Greater rigidity is ensured by the ring-joints inserted at B.
The work is executed with more speed.
The notched sides ensure better support for the bricks, and the sub-soil is more perfectly drained through the lateral apertures O O O in connection with the down thoroughfares B B.

In the Manufacture of FIRE-CLAY RETORTS for Gasworks, JOSEPH CLIFF has brought to bear the experience of now more than thirty seasons, and he with confidence invites the attention of all Gas Engineers to their superiority of finish, correctness of form, and FREEDOM FROM SURFACE CRACKS. A stock is always kept in hand; also Fire Bricks, Lumps, Guards, Tiles, and Clay, at the

WHARF No. 4,

INSIDE GREAT NORTHERN GOODS STATION, KING'S-CROSS, LONDON.

SALES BY AUCTION.

TO ENGINEERS, IRON FOUNDERS, AND OTHERS. James's Patent Weighing Machines, Cranes, Machinery, and Tools.

MESSRS. FULLER and HORSEY are instructed by Messrs. James [illegible], who are dissolving partnership, and whose tenancy is expiring, to SELL by AUCTION, at the VICTORIA IRON WORKS, Bethnal green (near the Salmon and Ball), on THURSDAY, JUNE 1[illegible], at ELEVEN [illegible], the STOCK-IN TRADE, MACHINERY and TOOLS. [illegible] includes—three wharf cranes, two of 3 tons each, one of 7 tons; two portable cranes, 1 ton and 3 tons, one 30 cwt [illegible], four weighbridges, 3 to 10 tons, for waggons and carts, twenty-one James's patent weighing machines, from 3 cwt. to 40 cwt.; a lift for raising casks or heavy weights, for loading, &c. The [illegible] new 12-inch centre self-acting lathe, with 12-feet gap bed, by Smith, Beacock, and Tannant; one 6-inch self-acting lathe, with 5 feet 6-inch bed, with change wheels, self [illegible] by Shanks; one double-geared drilling and boring machine, horizontal [illegible] boxes and [illegible] bellows, anvils, [illegible] shear steel, [illegible] of various descriptions, [illegible]. The [illegible] viewed on Wednesday previous to the sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

TO IRONMONGERS, BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, JUNE 14, and three following days, at ELEVEN [illegible], at the WAREHOUSES, No. 8, Holland street, Blackfriars road, in lots, without reserve, an extensive STOCK of BUILDERS' IRONMONGERY, including 2,500 gross iron screws, 200 gross brass screws, 600 [illegible] brass castors, 500 sets [illegible] plate castors, 100 pair ornamental bell-levers, sunk pulls, &c., 100 bags wrought and cut [illegible] ls, 4 tons coach bolts and screws, 360 dozen brass and iron frame [illegible] pulleys, [illegible] dozen brass [illegible] flush bolts, a very large assortment of bellhangers' work in cranks, carriages, &c.; wrought and cast butts, [illegible] H and HL [illegible], Tower and London bolts, ebony and China lock and door furniture, [illegible] tools, [illegible] hammers, trowels, saws; 100 brass cornice-poles, 100 yards half-round and O G guttering, heads and shoes, brackets, three chaff cutting machines, and numerous other effects. [illegible] SATURDAY previous to the sale, when catalogues may be had at the Warehouses, and at Messrs. FULLER and HORSEY, Billiter street, E.C.

The spacious Warehouses to be Let.

MOORGATE STREET, CITY.—Valuable Building Land.—By Mr. MASON, at the AUCTION MART, on MONDAY, JUNE 14.

A VALUABLE PLOT of FREEHOLD BUILDING GROUND, nearly square, [illegible] an area of 4,[illegible] feet, adjoining Coleman street buildings, [illegible] the Bank of England, in the line of intended new street from [illegible] yard.—Apply to Mr. MASON, 15, [illegible] south. Particulars also of THOS. LEACHMAN, Esq. Solicitor, 35, Basinghall-street.

MILLWALL.—Trade Implements and Effects at the Cement and Terra-cotta Works of Mr. J. M. Blashfield, for peremptory Sale.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, Millwall, Poplar, on TUESDAY, JUNE 15th, at TWELVE for ONE, the STOCK and EFFECTS, comprising two cart horses, spring van, three carts, two sets of harness, barrows, planks, wheel [illegible], weighing machine, [illegible] of smith's shop, [illegible] tools, whirlers [illegible] terra-cotta washing troughs, earthen drain pipes, a quantity of unground [illegible], and other effects. May be viewed the day previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

THURSDAY NEXT.—Votes for West Kent.—Freehold Building Land, East street, Gravesend.

MR. T. S. SMITH (of Lombard-street) has received instructions to SELL by AUCTION, at the MART, London, on THURSDAY next, JUNE 10, at TWELVE for ONE, in one Lot, a very valuable PLOT of FREEHOLD BUILDING LAND, advantageously situate, and having a frontage of [illegible] to East-street, Gravesend, within one door of High street and the Town [illegible]. Particulars and conditions of sale and plans obtained at the Mart; the [illegible] Exchange; of G. M. ARNOLD, Esq. Solicitor, [illegible], Gravesend; and of Mr. T. S. SMITH, Auctioneer, &c. 42 [illegible], Lombard street, and Upton, Essex.

ENFIELD.—MIDDLESEX.

MR. HOFMAN is instructed to SELL by AUCTION, at the Mart, on WEDNESDAY, JUNE 16, at 12, in four lots, a truly valuable FREEHOLD PROPERTY, known as the Enfield Arms Tavern, most prominently situate at the Railway Station, with excellent stabling, lock-up coach houses, rooms and lofts over, a large bowling-green, and a plot of ground in the rear for a garden. The structure is modern, attractive, and substantial, has been erected but a few years, commanding a fine view of the Hertford Hills, Epping, and surrounding country, and contiguous to the Conservative and National Freehold Land Societies; also three plots of Freehold Building Land, for 42 houses.—May be viewed, and particulars, with plans, had on the Premises; at the Mart; the King's Head, and Green Dragon, Winchmore hill; the Angel, Edmonton; of Mr. H. D. DRAPER, Solicitor, 45, Vincent-square, Westminster; of Mr. RIDLEY, surveyor, 7, Bridge-street, Westminster; and at the Auctioneer's Offices, 4, Castle-street, Leicester-square, W.C.

TO BUILDERS, HOUSE DECORATORS, SHIPPERS, LANDLORDS, AND OTHERS.

MR. PEAKE is directed to SELL by AUCTION, at his ROOMS, 44, Tooley-street, Southwark, on TUESDAY, the 8th of JUNE, 1858, at TWELVE for ONE o'clock, about 6,000 PIECES of PAPER HANGINGS, in elegant flocks on crimson, gold, and silver grounds, [illegible], borders, [illegible] mouldings, decorations, &c. As this property is to be sold without the least reserve, to [illegible] an advantage [illegible] builders and others would do well to avail themselves of the present opportunity.—May be viewed the day prior and morning of sale, and catalogues obtained at Mr. PEAKE'S Rooms and Offices, 44, Tooley street, Southwark.

Valuable Freehold Building Land, Battersea.

MESSRS. GLASIER and SON are instructed to SELL by AUCTION, at GARRAWAY'S, on THURSDAY, JUNE 17th, at TWELVE for ONE, in three lots, THREE very desirable PLOTS of FREEHOLD BUILDING LAND, each containing upwards of half an acre, pleasantly situate [illegible] the royal park [illegible] new bridge, and well adapted for the erection of detached residences. Land tax redeemed.—Particulars, with plans, may be had of Messrs. MOSELEY, TAYLER, and MOSELEY, Solicitors, [illegible] Jewry chambers, City; at the Swan, Battersea-bridge; at Garraway's; and of the Auctioneers, 41, Charing-cross.

The entire remaining copies of those magnificent works of Art, Owen Jones's "Grammar of Ornament," "The Treasury of Ornamental Art," and Roberts's Sketches in the Holy Land.

SOUTHGATE and BARRETT have received instructions to SELL by AUCTION, at their ROOMS, 22, Fleet street, on MONDAY evening, JUNE 7, and following evening, the whole of the remaining copies of these splendidly illustrated books: the "GRAMMAR of ORNAMENT," by Owen Jones, being a series of 1,000 examples, from various styles, exhibiting the fundamental principles which appear to reign in the composition of ornament of every period. One hundred and one imperial folio plates, drawn on stone by F. Bedford. Printed in colours by Day and Son. The complete work, handsomely half bound morocco, with appropriate designs by the author, published at 17l. 12s. The "Treasury of Ornamental Art," illustrative of objects of art and vertu, photographed from the originals in the Museum of Ornamental Art, and drawn on stone by F. Bedford, with descriptive notices by J. C. Robinson, F.S.A. Curator of the Museum of Ornamental Art.—Department of Science and Art, 71 large 8vo. plates in colours and gold, elegantly bound, gilt edges, published at 3l. 13s. 6d. Roberts's Sketches in the Holy Land, Syria, Idumea, Arabia, Egypt, and Nubia, reduced from the lithographs by Louis Haghe, with historical and descriptive notices, and an introductory view of Jewish history, by the Rev. George Croly, LL.D., and W. Brockedon, esq. 250 beautifully-executed double-tinted lithographs, by Day and Son, Lithographers to the Queen. Published at 6 vols. cloth elegant, nine guineas, or 3 vols. morocco, eleven guineas.—Specimens can be seen, and catalogues had (price 1s.) of the Auctioneers, 22, Fleet street.

SALES BY AUCTION.

TO TIMBER MERCHANTS, COACH MAKERS, PIANOFORTE MANUFACTURERS, CABINET MAKERS, BUILDERS AND OTHERS.

THOMAS EDWARDS and SON have received instructions from Mr. William Marshall, to SELL BY AUCTION, on MONDAY, 21st JUNE, 1858, and two following days, at ELEVEN o'clock precisely, on the PREMISES, Grand [illegible] Bridge, Wharf, Kingsland Road (the Lease being sold, the Premises must be cleared by the 24th Instant), the whole of the extensive Stock, consisting of large quantities of dry Mahogany panel board; Honduras, St. Domingo and Cuba Mahogany in logs, planks, and boards; Birch in logs, planks, and boards; very fine Walnut planks and veneers, Havanna and [illegible] Cedar, with [illegible] yellow Pine, planks and deals (whole and cut), large quantities of Pine timber, and other goods. To be viewed two days prior to and on the Morning of Sale. Catalogues may be had on the Premises, and of THOMAS EDWARDS and SON, 15, Pinner's Hall, Old Broad-street, E.C.

To Timber Merchants, Builders, Cabinet and Pianoforte Makers, Founders, and Others.

MESSRS. DAVIS and VIGERS are instructed to SELL by AUCTION, on the PREMISES, No. [illegible] Wharf, South Wharf Road, Paddington, on TUESDAY, JUNE 8, and following day, at TWELVE for ONE each day (the premises being required for the [illegible] Company), the well-[illegible] and [illegible] STOCK, comprising [illegible] of [illegible] Pine and white and yellow Deals and Battens, [illegible] feet cube square, 3,000 feet fir quartering, [illegible] of [illegible] yellow floor and matched boards and battens, [illegible] skirting, [illegible] plasterers' lath; a large and powerful iron traveller, equal to twelve tons, particularly suitable for foundry purposes; a PATENT SMOKE CONSUMING FURNACE, ironwork for a crane, two iron [illegible], iron tanks, and sundry useful iron work, together with numerous other valuable items.—To be viewed the day before and mornings of sale. Catalogues to be had on the Premises; and of the Auctioneers, 3, Frederick's place, Old Jewry, E.C.—Approved bills at three months will be taken for purchases amounting to 30l. and upwards.

LEADENHALL-STREET.—Valuable and important Freehold Premises, situate near the Royal Exchange and Bank of England, and nearly opposite the East India House.

MESSRS. BEADEL and SONS are instructed to SELL by AUCTION, at the MART, on TUESDAY, JUNE 8, at TWELVE, [illegible] valuable and important FREEHOLD PROPERTY, [illegible] premises, [illegible] No. 15, Leadenhall street, [illegible] Messrs. Butters, Gordon, and [illegible] rents [illegible]. The situation of these valuable premises [illegible] opposite the East India House, within a short distance of the Bank of England and Exchange, [illegible] of the leading thoroughfares in the heart of the city, [illegible] for [illegible] advantageous situation for the erection of first-class [illegible] offices. Particulars may be obtained of Messrs. WORDSWORTH, GREATHEAD, and BLAKE, Solicitors, [illegible] House, Threadneedle-street; at the Mart; and of Messrs. BEADEL and SONS, 25, Gresham-street, E.C.

SURREY.—FREEHOLD LAND.

MESSRS. WINSTANLEY have received instructions from the Executors of the late Mr. Procter to offer for SALE by AUCTION, at the MART, on TUESDAY, JUNE 8, at [illegible], a valuable FREEHOLD PROPERTY, consisting of about 20 acres of building and accommodation land, pleasantly situate at Lower Tooting, about [illegible] miles from London, in the county of Surrey, having a frontage to the high road, and adapted to the erection of [illegible] villas. There is brick earth, and also gravel of excellent quality. To be viewed.—Printed particulars may be obtained of GEORGE BRACE, Esq. Solicitor, 24, Surrey street, Strand, W.C.; at the Place of Sale; of Messrs. WINSTANLEY, Paternoster-row, E.C.; at the Plough, Clapham; George, Balham hill; Angel, Upper Tooting; and at the Mitre, Lower Tooting.

TO TIMBER MERCHANTS, BUILDERS, CARPENTERS, AND OTHERS.

MR. LEREW will SELL by AUCTION, on the PREMISES, [illegible] Union street, Somers town, on MONDAY, JUNE [illegible]th, at TWELVE, about 2,[illegible] yellow, white, pine, and spruce planks, deals and battens; 6,000 feet wide pine board, 150 squares of 1¼ inch, 1-inch, ⅞-inch, and ¾ inch prepared yellow and white flooring, 400 [illegible] feet [illegible], [illegible] bricks, [illegible] miscellaneous stock. May be viewed the Saturday prior and morning of Sale, when catalogues may be had on the Premises; and of the Auctioneer, Cardington-street, Hampstead road, near the Euston Station.

In Re T. G. Gabriel, Bankrupt. Steam Saw Mill for cutting veneers also the Lease of the Premises.

MESSRS. PRICE and CLARK will SELL by AUCTION, on the PREMISES, [illegible], on THURSDAY, JUNE [illegible], 1858, at TWELVE for ONE, in one lot, the Benefit of LEASE of the PREMISES, together with the valuable MACHINERY and PLANT, consisting of a [illegible] horse power high-pressure steam engine, [illegible] shafting, [illegible] drums, [illegible] feet of leather bands, three veneer cutting saws, of 14 feet, 11 feet, and 7 feet diameter, with all the driving motions and necessary fittings complete for working the mill. The property may be viewed [illegible] preceding the sale. Particulars had of W. PENNELL, Esq. Official Assignee, Basinghall-street; of Messrs. FLUX and ARGLES, Solicitors, 68, Cheapside; of Messrs. LAKE and KENDALL, 10, New-square, Lincoln's-inn; of GEORGE TURNER, Esq. Solicitor, 30, Charles-street, City road; of Mr. W. F. BRAY, jun. King's-road, Bedford row; and at PRICE and CLARK'S Offices, 48, Chancery-lane.

The exceedingly valuable and important Freehold Warehouse Premises, lately occupied by Mr. Joseph Goodchild, situate between Fenning's wharf and Topping's wharf, and nearly adjoining London-bridge.

MR. DEBENHAM has received instructions from the executors and devisees in trust of the late Mr. Goodchild to SELL by AUCTION, at the MART, on TUESDAY, JUNE 22 (unless an acceptable offer be previously made by private contract), the above-mentioned valuable FREEHOLD WATERSIDE PREMISES, possessing a river-side frontage of 45 feet (with facilities for the erection of a wharf platform), including two spacious warehouses of three floors each, and two capital dwelling-houses, Nos. 2 and 3, Tooley-street, adjoining. The property embraces a large area in a most important position, being close to London bridge, abutting on each side on extensive wharfs, and therefore such an opportunity as rarely occurs [illegible] the most valuable positions for [illegible] of the very highest character, [illegible] value. May be viewed [illegible], and particulars and plans obtained of C. WELLBORNE, Esq. Solicitor, 67, Duke street, London-bridge; and of Mr. DEBENHAM, 80, Cheapside.

FLEET-POND STATION AND FRIMLEY, SURREY.—Eligible Freehold Building Sites.

MR. DEBENHAM will SELL at the MART, on TUESDAY, JUNE 22, at TWO for THREE punctually, in lots, [illegible], about SIXTY ACRES of eligible FREEHOLD BUILDING LAND, a portion situate near the healthy village of Frimley, [illegible] Station, and [illegible] position, nearly abutting on the Fleet-pond Station. Particulars, with plans, may be had at the Mart; and at Mr. DEBENHAM'S Offices, 80, Cheapside.

NORWOOD and SOUTHGATE.—To Builders and Others.—About 50 eligible Freehold Building Plots, tithe free, and land tax redeemed, varying from an acre each to a plot of 20 feet frontage.

MR. DEBENHAM will SELL, at the MART, on TUESDAY, JUNE 22, at ONE for TWO o'clock punctually, in numerous lots, the SURPLUS LAND on the Beulah Spa and Southgate Estates, the former situate within a pleasant walk of the Crystal Palace and a short distance from Norwood Station; the latter in a fine healthy and picturesque neighbourhood, nine miles from London, and half an hour's drive from four railway stations, both offering eligible and attractive sites for those desirous of building on their own freehold.—Particulars of H. J. GODDEN, Esq. Solicitor, 1, Clement's-lane; and of the Auctioneer, 80, Cheapside.

SALES BY AUCTION.

SOUTHAMPTON.—Building Land of Fifty Acres.—Freehold, [illegible] situation, near this growing Town.—TO BE SOLD BY AUCTION, by

R. H. PERKINS and SONS, at the DOLPHIN HOTEL, Southampton, on the 29th of JUNE, 1858, unless an acceptable offer be made by private contract. [illegible] and particulars of Messrs. SHARPE, HARRISON, and SHARPE, [illegible]; or of the Auctioneers, Southampton.

WANSTEAD, ESSEX.

MR. J. Y. GIBBS is instructed to SELL by AUCTION, on the PREMISES, WANSTEAD, near the George Inn, on TUESDAY, JUNE 15, 1858, at TWELVE for [illegible] o'clock, HOUSEHOLD FURNITURE and EFFECTS, together with the STOCK IN TRADE, [illegible] Mr. James [illegible]. The furniture consists of the usual [illegible], chairs, tables, pianoforte; also bed-room suits, glasses, and the customary kitchen requisites, the stock-in trade of yellow and pine deals, planks, battens; a beautiful turning lathe and tools, work-benches, pony-cart, hand-truck, and numerous other effects; also the valuable lease of the Premises. [illegible] and catalogues had at the Green Man, Leytonstone; Eagle, Snaresbrook; Rose and Crown, Low Leighton; [illegible] Angel, [illegible] place of Sale; and the Auctioneer's Offices, [illegible], High street, Poplar.

IN CHANCERY.—SURREY.—In the Parishes of Croydon and Streatham, on the main London Turnpike Road.

MESSRS. NASH have received instructions to SELL BY AUCTION, at GARRAWAY'S Coffee House, Change Alley, Cornhill, on THURSDAY, the [illegible]th day of JUNE, 1858, in Thirty-seven Lots, at TWELVE o'clock (pursuant to an order of the High Court of Chancery made in the matter of [illegible], 1857), the remaining portion of the NORBURY ESTATE (land tax redeemed), comprising a Cottage Residence (at Thornton Heath) with its charming grounds, meadows, and wood lands, containing 32a. 35p., let to Thomas Turner, esq. (excepting about 6a. of the Wood Land which is in hand); also, a piece of Woodland close thereto, suitable for the erection of a Villa Residence, containing 13a. 3r. [illegible] and known as [illegible]; another piece of Woodland [illegible], containing 28a. 3r. and known as Long Close Coppice (a fine preserve for game, in hand); also, a short distance off, a [illegible] of Meadow Land, containing about [illegible] known as [illegible] Streatham Meadows; a piece of Freehold Garden Ground, on the Beddington and Croydon Road, near Waddon, [illegible] for the erection of a Villa Residence; [illegible] Freehold [illegible] Land, eligible for building purposes, [illegible] Mr. Rattock, together with [illegible] of Freehold Building Land, conveniently arranged in lots for the erection [illegible] and other buildings, [illegible] near Thornton Heath [illegible] from Croydon to London. The [illegible] property is within two miles of the town of Croydon, [illegible] of the [illegible]. To be viewed by permission of the respective tenants. Particulars with lithographic plans, [illegible] may be had in London at Garraway's, Change Alley, E.C.; of JOHN GREENWOOD, Esq. Solicitor, 7, Chandos-street, Cavendish-square, W.; W. [illegible] FORD, Esq. Solicitor, [illegible], W.C.; Messrs. LANSDOWN, COBB, and PEARSON, 4, Basinghall-street, E.C.; and in the Country of the Tenants on the Estate; Greyhound Inn, Croydon; Bull Inn, Streatham; Plough, Beddington; Cock, Sutton; Spread Eagle, Epsom; Red Lion, Dorking; Laker's Hotel, Reigate Junction; Old Ship, Brighton; White Hart, Bromley; Crown Hotel, Sevenoaks and Tunbridge; and of Messrs. JOSEPH and JOHN NASH, Land Agents, Valuers, and Auctioneers, Reigate, Surrey.

GEORGE WHITING, Chief Clerk.

ON the ISLE of WIGHT COAST, at SANDOWN BAY, distant five hours from London, six miles from Ryde, and seven miles from Ventnor.—TO BE SOLD, or LET on long leases, CLIFF PARK ESTATE, SANDOWN, containing about SIX ACRES of BUILDING LAND, in the most healthful situation in the Isle of Wight. The property is on the cliff, and extends to high water mark. The sea shore (which can be reached by a footpath from the grounds) affords the best bathing in the island, and the sands form a natural esplanade of several miles in length nowhere to be surpassed. The view towards the bay, from Culver Cliff to Dunnose Point, as also the inland prospect, can never be intercepted. The subsoil is a dry sand rock, and there is good spring water obtainable at a moderate depth. The church is [illegible] yards distant. [illegible] from Ryde and Ventnor, in connection with the South-Western and the Brighton Railway trains, pass through Sandown daily. The fee simple of the property can be purchased on reasonable terms. The land-tax is redeemed. For a plan and further particulars, apply to Mr. WOODMAN, Architect, Clifton-ville, Brighton; or Mr. SEARLE, Grange-place, Sandown, Isle of Wight, who will show the land.

CITY of LONDON.—Freehold Ground Rents.—The Commissioners of Sewers of the City of London will meet in the Guildhall of the said City, on TUESDAY, the [illegible] of JULY next, at TWELVE o'clock at Noon precisely, to SELL by TENDER certain FREEHOLD GROUND RENTS, on Premises let on leases, having [illegible] years to run, situate in Chancery lane, Fetter lane, and Philpot lane; particulars of which may be had on application at this Office. Tenders for the said Ground Rents must be sent in, sealed, addressed to the undersigned, before TWELVE o'clock on the said [illegible] of JULY, but the Commissioners do not bind themselves to accept any Tender delivered unless the same be deemed eligible.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, May 26, 1858.

TO LET, EXHIBITION GALLERIES of the SOCIETY of BRITISH ARTISTS, Suffolk street, Pall Mall East.—TO LET, early in October, after the close of the Society's Exhibition, until the end of February next, the extensive Galleries at Suffolk-street, Pall Mall East, comprising five rooms and council room, &c. The principal room is 60 feet by 40 feet, and about [illegible] feet high, and is considered the best-lighted room in London, either by day or night, for Exhibitions of Art, Lectures, or the Soirées of Literary, Scientific, or Musical Societies. The extent of the Gallery is [illegible] feet.—For particulars apply by letter to Mr. CHILDOTF, Society of British Artists, Suffolk-street, Pall Mall East.

TO BUILDERS and OTHERS.—TO BE LET, EXTENSIVE PREMISES, in Honduras street, St. Luke's: consisting of the Tiger Brewery, and Dwelling-house, and a Large Building [illegible], at present used as a Ragged School, having [illegible] floors, and well adapted for workshops. The Freehold may be purchased.—Apply to Mr. R. C. BAXTER, Architect, 21, A[illegible] lane, E.C.

VALUABLE LEASEHOLD INVESTMENTS.—TO BE SOLD, to pay 20 per cent. FORTY-ONE HOUSES, pleasantly situated near [illegible] Railway [illegible], producing [illegible] per year, clear of ground rent and taxes. [illegible] from the freeholder. May be sold in one, two, or three lots.—Apply to Mr. R. C. SOPER, House and Estate Agent, 10, Featherstone-buildings, Holborn, W.C.

WANTED, a PIECE of LAND for Building Purposes, within a sixpenny ride of the Bank.—Address, stating full particulars, to W. H., 13, Park-walk, New Brompton.

TO SMALL BUILDERS, JOINERS, &c.—TO BE LET, a good WORKSHOP at the West end, with new benches, stock, &c. Not over 20l.—Apply to ALFRED, Office of "The Builder."

BUILDING LAND, between Forest-hill and Catford bridge Stations.—TO BE LET on LEASE, about SIX ACRES, in Plots, well drained, and where gas and water are supplied. To view the land apply to JAMES WARBY, at the Cottage, opposite Stanstead Lodge, near the above stations; and for terms, to JOSEPH SKILBECK, 16, Hamilton terrace, St. John's wood, N.W.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, June 5, 1858.

The Builder.

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SOCIETY of PAINTERS in WATER-COLOURS.—The FIFTY FOURTH ANNUAL EXHIBITION is now OPEN at their Gallery, 5, Pall-mall East (close to Trafalgar-square), from Nine till Dusk. Admittance 1s. Catalogue 6d.
JOSEPH J. JENKINS, Secretary.

SOCIETY for IMPROVING the CONDITION of the LABOURING CLASSES.—Incorporated by Royal Charter.

PATRON—HER MAJESTY the QUEEN.
PRESIDENT.—His Royal Highness the PRINCE CONSORT, K.G. &c.
The ANNUAL MEETING of the Society will be held at St. James's Hall, Regent street and Piccadilly, on FRIDAY, the 18th of JUNE (the Right Hon. the Earl of SHAFTESBURY, Vice Patron, will take the Chair at THREE o'clock precisely.—Tickets of admission may be obtained by application at the Offices of the Society, Nos. 19, 20, and 21, Exeter Hall.
H. HARWOOD HARWOOD, Hon. Sec.
CHARLES PAYNE, Sec.

COMPETITIONS.

RUNCORN CEMETERY.—To ARCHITECTS.—The Runcorn Burial Board are desirous of receiving PLANS, accompanied with specifications and estimates, for the ERECTION of TWO PLAIN NEAT CHAPELS, detached, with an Entrance Lodge, gates, receiving house, and boundary fence, and for laying out the ground as a burial ground. A premium of 30*l.* will be paid for the most approved plan, &c. and 15*l.* for the next such plans, &c. to become the property of the Board. The Board will not pay any charge or expense whatever for preparing plans, &c. The party whose plans, &c. are approved, will probably be required to superintend the carrying out of the same, and if so, the premium will be deducted from the amount of per centage to be paid to him. Every information will be given by the Secretary, to whom the plans, estimates, and specifications must be delivered on or before THURSDAY, the 1st of JULY next.—By order of the Board,
WILLIAM FRANCIS SALKELD, Secretary.
Runcorn, Dated at the Town's Offices, June 7, 1858.

CONTRACTS.

ST. FAITH-GREEN, MAIDSTONE.—To BUILDERS and OTHERS.—SALE by TENDER.—The proprietors of the St. Faith Estate, Maidstone, having determined on a SALE of the PROPERTY, except the part proposed to be reserved for the site of a church and parsonage, hereby give notice thereof, and invite persons willing to CONTRACT for the PURCHASE, by private treaty, or TENDER for the whole, or for any part thereof. The estate to be sold is freehold, and consists of between three and four acres of the building land, situate in the middle of the town of Maidstone, with the means of opening a street from Week-street, in a line of continuation of Brewer-street. A plan of the property (suggesting a design for building, with the terms of a contract), may be seen at the Office of Messrs. WHICHCORD and BLANDFORD, Architects, Maidstone, by day between TEN and FOUR.—Tenders are to be sent to Messrs. BEALE and HOARE, Solicitors, Maidstone, on or before TUESDAY, the 29th day of JUNE next, sealed up and addressed "Tender for St. Faith Estate, Maidstone." The proprietors reserve to themselves the power of not accepting the lowest or any other Tender, unless approved in all respects.—By order of the proprietors,
Maidstone, May 29, 1858. BEALE and HOARE.

TO BUILDERS.—The Justices of Cheshire are desirous of receiving TENDERS for the ERECTION of a BARRACK, near the Castle of Chester, for the Permanent Staff of the first Regiment of Royal Cheshire Militia. The plans and specification, and conditions of contract, may be seen at the Office of Mr. J. M. PENSON, Architect, the Bars House, Chester. The quantities shall be taken out, and copies may be obtained at the said Office, on and after the 27th day of MAY inst. Sealed Tenders to be sent to the Clerk of the Peace for the said county, at his Office, in Chester, not later than the 17th of JUNE next. The Justices do not bind themselves to accept the lowest or any Tender.
CHARLES WILLIAM POTTS, Deputy Clerk of the Peace.
Chester, May 12, 1858.

CONTRACTS.

BUILDERS desirous of TENDERING for the ERECTION of THREE PAIR of SEMI-DETACHED COTTAGES, on the Stratford Estate of the Temperance Permanent Land and Building Society, may inspect the drawings and specifications between TEN and FOUR o'clock) at the Offices of the Society, 74, Margaret-street, City, where Tenders are to be delivered by SEVEN o'clock in the evening of TUESDAY, the 15th inst.—The lowest Tender not necessarily accepted.
HENRY J. PHILLIPS, Secretary.

BUILDERS desirous of TENDERING for the ERECTION of a VICARAGE-HOUSE, at Besthorpe, Norfolk, for the Rev. E. Banister, may see the plans and specification at the Office of the Architect, Mr. JAMES THOS. KNOWLES, Jun., 1, Raymond-buildings, Gray's-inn, London; as also at the New Inn, Attleborough, Norfolk, from JUNE 1 to 26.—Tenders are to be delivered at the Architect's Office, in Gray's-inn, on or before WEDNESDAY, JUNE 30. Mr. Banister will not bind himself to accept the lowest or any Tender.

SOUTH STAFFORDSHIRE RAILWAY.—CONTRACT for WORKS.—The Directors are prepared to receive TENDERS for the following WORKS:
First. TUTTON BRANCH.—A double line of Railway, from a junction with the main line, near the Wednesbury Station to the Birmingham Canal, near the Wednesbury Oak Furnaces, including the formation of Canal Basins, sidings, &c.
Second. DARLASTON BRANCH.—A double line of Railway, from a junction with the main line, at the Wednesbury Station, to the town of Darlaston.
Drawings, specifications, and form of contract, may be seen on and after MONDAY, the 21st JUNE next, on application to Messrs. McLEAN and STILEMAN, Engineers, 17, Great George-street, Westminster, S.W.; or at their Offices, at the Walsall Station, Staffordshire. Tenders addressed to the Secretary, T. J. BUCKTON, Esq., Lichfield, Staffordshire, to be delivered on or before the 1st JULY next.—The Directors do not bind themselves to accept the lowest Tender.—By order, T. J. BUCKTON, Secretary.
Lichfield, June 8, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a NEW PARSONAGE HOUSE, at Little Addington, in the County of Northampton, may see the plans and specifications, and obtain a bill of the quantities, at the Office of Mr. E. F. LAW, Architect, on and after WEDNESDAY, the 9th instant. The Tenders are to be delivered to the Architect, on or before WEDNESDAY, the 23rd instant.
N.B. The lowest Tender will not necessarily be accepted.
Priory-cottage, Northampton, June 4, 1858. E. F. LAW.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a NEW CHURCH in the Parish of St. Margaret, near Rochester, are informed that the plans may be seen at the Office of Mr. WELLS, Timber Merchant, Chatham, on and after MONDAY, the 7th day of JUNE next. Preprint of the same at the Office of the Architect, Mr. CHRISTIAN, 10, Whitehall-place, any day, except the 15th and 21st instant. Tenders to be delivered at the Office of the Architect, Mr. CHRISTIAN, 10, Whitehall-place, London, S.W. on or before MONDAY, 28th JUNE. The Committee do not bind themselves to accept the lowest Tender.

TO BUILDERS.—TENDERS are requested for the Mason and Bricklayers', Carpenters', Joiners', Slaters', Plumbers', and Plasterers' Work, required in the ERECTION of a RESIDENCE HOUSE, near Durham, together with Entrance Gate Way, Lodge, Stabling, Boundary Walls, Water Supply, Drainage, Formation of Roads, &c.—Plans, specifications, and quantities will be ready on the 16th instant at the Office of Mr. GILSON KYLE, Architect, North-road, Durham, and 20, Commercial-buildings, Darlington, of whom printed Tenders are to be delivered on the 30th instant. The proprietor, JOSEPH LOVE, Esq. does not pledge himself to accept the Lowest Tender.—Durham, June 9, 1858.

NORTH-EASTERN RAILWAY.—The Directors are prepared to receive TENDERS for the undermentioned articles, in such quantities as may may require, from the 30th June to the 31st December, 1858, delivered at the Company's Storehouses, at Newcastle, Gateshead, York, Leeds, or Hull. Payments for each month's delivery at the end of three months, or cash, deducting discount.
1. Timber and Deals.
2. Best English Oak Wagon Wood
3. Railway Keys.
4. Chairs, Spikes, Cast-iron Wheels, and General Cast-iron Work.
5. Nails.
6. Heavy Ironmongery
7. Steel Files, Springs, &c.
8. Tire Hoops.
9. Brushes.
10. Wire Ropes, and General Hemp Cordage.
Forms of Tenders may be had on application to Mr. BARNES, Stores, Gateshead, and Tenders must be sent in addressed to the Secretary, at York, sealed, and marked "Tenders for Stores," not later than MONDAY, the 28th instant. The Directors do not bind themselves to accept the lowest or any Tender. J. CLEGHORN, Secretary.
York, 7th June, 1858.

TO BUILDERS. NORTHERN BAPTIST COLLEGE, RAWDEN, near BRADFORD. TENDERS are required, free of expense, for the ERECTION of the above building. The drawings, specifications, conditions, and forms of Tenders may be seen at the present College, Little Horton-lane, Bradford, from MONDAY, the 21st instant, to MONDAY, the 28th, both inclusive, between the hours of TEN and FIVE, and the Tenders are to be delivered at the same place on TUESDAY, the 29th instant, before ELEVEN o'clock, in sealed and endorsed "Tender for new College," and addressed to "The Secretaries of the Building Committee." The Tenders may be in whole or in part. The Committee do not bind themselves to accept the lowest or any Tender. Quantities supplied by Messrs. BATSTONE and HUNT, of London, and may be obtained of the curator of the drawings on and after MONDAY, the 21st instant, upon payment of two guineas per copy, which sums will be returned to the parties whose Tenders may not be accepted.
Dated 1st June, 1858. H. J. PAUL, Architect, Cardiff.

CONTRACTS.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS from persons willing to ERECT a RIDING-SCHOOL, at the Royal Artillery Barracks, Woolwich, to contain 160 feet and corresponding Interior dimensions, 70 feet by 85 feet: brought to Lower Surface.—Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, from TUESDAY, the 15th, to TUESDAY, the 29th JUNE, between the hours of TEN and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded post paid, to the Director of Contracts, War Office, Pall-mall, London, by NOON of FRIDAY, the 2nd JULY next, marked, "Tender for the Formation of an Open Manege." The War Department reserves the right of rejecting any of the Tenders.
Royal Engineer Office, Woolwich, June 8, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the FORMATION of an OPEN MANEGE, 160 feet long by 70 feet wide, Interior dimensions, at the Royal Artillery Barracks, Woolwich.—Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks from TUESDAY, the 15th, to TUESDAY, the 29th JUNE, between the hours of TEN and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded post paid, to the Director of Contracts, War Office, Pall-mall, London, by NOON of FRIDAY, the 2nd JULY next, marked, "Tender for the Formation of an Open Manege." The War Department reserves the right of rejecting any of the Tenders.
Royal Engineer Office, Woolwich, June 8, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING and removing portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Bidos, near Portsmouth, in the County of Hants. The plans, specifications, and conditions of contract may be seen, at every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted, until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," at Bidos, near Portsmouth, in the County of Hants, in the left-hand corner of the envelope, and addressed to the Director-General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Portsmouth, June 9, 1858.

TO BUILDERS.—Sealed TENDERS, in one special sum, will be received by the Director of Contracts, War Department, Pall Mall, London, on or before the 1st JULY, 1858, at noon, for RENEWING the UPPER STORY of the BARRACK at SOUTHWOLD, Master Builders in the Plymouth district. Detailed specifications of the works required, will on every reasonable day, be found at the Royal Engineer Office, Dockyard, Plymouth, (Saturdays excepted, between the hours of TEN and FOUR o'clock, from the 18th JUNE to the 30th JULY, 1858, both days inclusive.
Royal Engineer office, Devonport, June 9, 1858.

TO BUILDERS.—White Webb's, near Enfield. The FIRST Remaining TENDERS for the ALTERATIONS, &c. at White Webb's, is EXTENDED. Tenders to be sent in to me, at my Office, on FRIDAY, JUNE 18th, properly endorsed "Tenders," when the Bills of Quantities can be seen at the Offices of Messrs. EARTHAM and BLANDFORD, 1, West-minster-chambers, Westgate-buildings, Bath, June 8, 1858.
CHARLES E. DAVIS, F.S.A.

NOTICE to CONTRACTORS.—WET DOCK.—The Trustees of the Harbour of Whitehaven are prepared to receive TENDERS for a CONSTRUCTION of a WET DOCK and TIDAL BASIN, with SEA WALL and minor WORKS, at Whitehaven, in conformity with Drawings, specifications, and conditions, to be seen in the Office of Messrs. M. and G. RENDEL, C.E., No. 8, Great George-street, Westminster; and also in the Office of the Superintendent of the Docks at Whitehaven. Plans, specification and conditions, with form of Tender and of a bill of quantities, prepared for the convenience of contractors, may be obtained on application to Messrs. RENDEL, or the superintendent. Sealed Tenders must be lodged with Mr. JOHN MUSGRAVE, Secretary to the Trustees, at his Office, 41, New-street, Whitehaven, on or before MONDAY, the 5th day of JULY next.
Whitehaven, 8th June, 1858.

TO VALUERS and SURVEYORS.—COOKHAM UNION. Notice is hereby given that TENDERS for a SURVEY of the Parishes of Cookham, in the county of Berks, containing about 5,000 acres, and for a PLAN and VALUATION of the various properties therein, will be received at my Office on or before the 28th day of JUNE, 1858, where all particulars of the contract required to be entered into may be seen any day, except Saturday, between the hours of TEN and FOUR, and on SATURDAYS between the hours of TEN and FIVE. By order of the Guardians.
Maidenhead, May 26th, 1858. JAMES SMITH, Clerk.

TO BUILDERS.—PUBLIC HOSPITAL and DISPENSARY, Sheffield, Yorkshire.—Persons desirous of TENDERING for the WORKS of the HOSPITAL ACCOMMODATION in connection with the Dispensary, West-street, Sheffield, can inspect the drawings, &c. at the Office of the Architect, Mr. M. P. MANNING, 17, Clement's-inn, Strand, London; and copies of the same at the Dispensary, Sheffield, on and after TUESDAY, JUNE 15th. Sealed Tenders to be delivered to the Hon. my Secretary, on or before WEDNESDAY, JUNE 23rd. The quantities will be taken out, and copies may be obtained. The Council do not bind themselves to accept the lowest or any Tender.—By order,
June 9, 1858. J. C. HALL, M.D. Hon. Sec.

[For remainder of Contracts see next page.

CONTRACTS.

TO BUILDERS.—NEW WORKHOUSE. The Guardians of Mile-end Old-town have EXTENDED the TIME for receiving TENDERS from the 7th to the 21th JUNE inst. The quantities can be obtained of Mr. MEADEN, Architect, 4, Martin's-lane, Cannon-street, City. Tenders must be sent before TWELVE on THURSDAY, the 24th. (See former advertisement.)
E. J. SOUTHWELL, Clerk.
Town-house, Mile-end road, Stepney, June 1, 1858.

TO BUILDERS, PAINTERS, &c.—OAK GRAINING in OIL, 4½d. per yard, in quantities not less than sixty yards. Maple, Satin Wood, and Marbles equally low.—Reference given.—Apply to C. PETITT, 17, Maddox-st., Regent-st.

IMPROVED MINERAL OIL, for MACHINERY, at 3s. PER GALLON
Tins included.
DEPOT FOR ENGINEERS' STORES,
No. 31, SUFFOLK GROVE,
Great Suffolk-street, Southwark, S.E.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather. Price 6s. per gallon. Varnishes for W. SAYLOR'S Staining may be had at the Depôt, 44a, James street, Oxford-street, also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT and at HALF the COST.—STEPHENS' DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Chattisham Vicarage, near Ipswich:—
"The effect produced on the Stained Floors and Varnish has proved more satisfactory than the friends here have required me to state to procure fifty times the quantity now paid for, in order to finish the church."
54, Stamford street, London.

TO PAINTERS.
GREENSLADE'S PATENT GROUND-PAINT, BUILDING, and VARNISH BRUSHES, are highly recommended, containing many important improvements, both in using and durability. GREENSLADE'S Painters' Brushes of all descriptions are unrivalled for working freely, and are guaranteed good. The latter are of the very best materials, and worthy of the attention of those who desire a really good Brush.—Manufacturers, E. A. and W. GREENSLADE, Thomas-street, Bristol.

TO PAINTERS, BUILDERS, AND CONTRACTORS.
THE BEST MARKET on the south side of the River, for
GENUINE OLD GROUND WHITE LEAD, LINSEED OIL, TURPS, VARNISH, and COLOURS of every description, is
SIMPSON and CO.'S,
53 and 54, London-road, Southwark.
A price list sent on application.

COLOURS and VARNISHES at REDUCED PRICES
Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 8d.; Turpentine, 3s. 6d.; Boiled Oil, 2s.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Coach, 14s. per gallon. Dry and Ground Colours, Brushes, &c. & 5 per Cent. Cash.
F. LANGTON'S, 143 and 144, Whitecross street, St. Luke's, E.C.
and 113, Tottenham-court-road, W.

TO PAINTERS, BUILDERS, &c.—LIVETT, FRANK, and SON, 14, BOROUGH, London-bridge, are the first to produce Genuine White Lead at 28s. per cwt.; Linseed Oil, 2s. 10d.; Boiled ditto, 3s. 2d.; Turpentine, 3s. 9d.; Oak Varnish, 7s. 6d.; Pale ditto, 10s. per gallon.—A list of prices on application.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead 28s. per cwt.;
Linseed Oil, 2s. 9d. per gallon; Boiled Oil, 3s. per gallon;
Turpentine, 3s. 8d. per gall.;
Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill street, Pimlico.
Every article for the Trade at the lowest price.

DURABLE VARNISH PAINT, for Fences, Out-buildings, &c. Colours, Black and Brown. Price 2s. per gallon at LIVETT, FRANK, and SONS, 14, Wellington street, Borough, London-bridge, S.E.

TO LOCAL BOARDS of HEALTH, CORPORATIONS and OTHERS. For SALE, several waggon-iron covered TUMBLE SCAVENGERS' CARTS, suitable for removal of sewage, &c., made by Croskill and Fowler, and Fry. Dimensions about the inside 9 feet 6 inch., 3 feet 6 inch. deep, the interior tipping gear, &c. complete. Also a portable CRANE, on wheels, capable of adding about 20 feet in height. For price and further particulars, apply to the Surveyor of the Local Board of Health of Kingston-upon-Hull, Hull, May, 1858.

STEAM POWER.—TO BE LET, at NEWINGTON BUTTS, a MANUFACTORY, with DWELLING-HOUSE attached, 10-horse high pressure engine, and eight-horse boiler. Also, close thereto, a large Warehouse, with Dwelling-house, large yard, and stabling, suitable for a builder or extensive works.—Apply to Mr. BROWN, 4, Adam's-court, Old Broad street; or No. 6, High-street, Newington-butts.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL and SON'S Show-rooms contain a large assortment of Brass and Iron Bedsteads, both for home use and for tropical climates: handsome iron bedsteads with brass mountings and cheaper japanned, plain iron bedsteads for servants, every description of wood bedstead that is manufactured, in mahogany, birch, & other woods, polished and unpolished, all fitted with bedding and furniture complete, as well as every description of bedroom furniture.

HEAL and SON'S ILLUSTRATED CATALOGUE, containing designs and prices of 100 bedsteads, sent free by post.—HEAL and SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

SYLVESTER'S PATENT COCKLE STOVE.—TO BE SOLD, in good condition, suitable for warming a church, public building, or drying closet in a laundry. Size, 9 feet 9 inches square. Price £7.—Apply to Mr. LANGLEY, Stewart, County Asylum, Nr. Derby, near Derby.

TWENTY IRON COLUMNS FOR SALE at 5s. per cwt. suitable for Warehouses or Maltings, 6 feet high by 34 inches diameter.—Apply to RANDELL and EVANS, Tile-works, Maiden lane, King's-cross.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c.—The Trade supplied on the best terms with Bronze Bells, Bell Tube, and Copper Wire. Gas Pendants, Brackets, and Joints of all descriptions for Gas-fitting, in Brass and Iron; Tin, Composition, Iron, and Brass Tubing; Cornice-poles, Rings, and Ironwood Cornices for Bedroom Use, Desk-rails, &c. &c.
Superior Bells. Brass-cast, Fluted, Carriage-paid and Common Brass, Gun Metal, &c. at
RICHARD EVERED'S Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charles-street, Long-acre, London.

JOHN HARDMAN AND Co.
BIRMINGHAM,
MANUFACTURERS OF
EVERY DESCRIPTION OF MEDIÆVAL METAL WORK,
In SILVER, BRASS, and WROUGHT IRON.
MONUMENTAL BRASSES AND STAINED GLASS WINDOWS.
Designs and Estimates FREE, on application to the
LONDON OFFICES AND SHOW-ROOMS,
13, KING WILLIAM-STREET, STRAND, W.C.

WILLIAM PHILLIPS,
Lately Agent for
LORD WARD'S COAL AND IRON,
2, Coal Exchange, E.C.

IRONMONGERY.
PFEIL AND STEDALL
THE LARGEST STOCK AT THE LOWEST PRICE,
5 AND 6, BROAD-STREET, BLOOMSBURY.

HAWKINS'S REGISTERED SASH CHAIN, in Tinned Iron, and Copper Wire, is greatly approved for its strength, durability, and facility in running over pulleys, and is allowed to be one of the most useful and efficient inventions for hanging sash-casements of any weight, up to Four Hundredweight. Chain, for Lamps, Chain delivery, &c. Sold by every respectable Ironmonger in the kingdom.—Manufactory, 27, Duke Road, Birmingham.

LARGE IRON WEIGH-BRIDGE,
TO WEIGH UP TO SEVEN TONS,
In Excellent Condition, Balances and Weights Complete,
FOR SALE
C. RICHARDSON, 6, South Wharf, Paddington.

MORRIES STIRLING'S PATENT CAST and MALLEABLE IRON.—The toughened cast iron for girders, castings, rails, pinions, railway waggon wheels, straight cylinders, hydraulic cylinders, and for all purposes where a strong, dense iron is required, can be obtained of the following brands:—
Dunsyvach, Lloyd, Foster, and Co.
Forth Company, Russells, Hall, and Co.
Horsley Company.
RAILS of (or surfaced with) Patent Hardened Iron can be ordered from the following works:—
Parkgate, Ebbw Vale.
Lloyds, Foster, and Co. Tredegar.
Coed Talon and Rhuna. Dunsyvan.
Hawks, Crawshay, and Co. Monkland.
Leigh, Wilson, and Bell.
By amalgamation with them.
For durability these Rails have never been surpassed. They do not laminate, and wear out several sets of ordinary rails. Full information, and terms for use of patent right, can be obtained of Messrs. CONNELL and HOPE, 3, Princes-street, Westminster; and of Mr. S. THORNTON, Broad-street, Birmingham, to whom all wholesale orders for Mr. MORRIES STIRLING'S Patent Iron and Rails.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY RACK.

These Fittings are now made with the newly-invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guards attached, which also prevents waste of corn, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, for warded on receipt of Four Postage-stamps. JAMES BARTON, Ironfounder, &c. 87, Oxford street, London.

HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard rollers and seed-box; and combine the most perfect safety with the greatest economy. Full illustrations.
ANGLE LOOSE BOX FITTINGS, with guard rollers, and every variety of Furniture for Stables. Engravings and prices forwarded on application.

HOOD and SONS' STABLE-GUTTERS, cast in one piece, and free from the defects caused by the present arrangement of close tapered plates; are easily cleaned; and with their CHEQUERED DOUBLE TRAPS, form the safest, and most complete, surface drain for stables in use.—West London Iron Works, Notting hill; and Castings Warehouse, 63, Upper Thames street, London.

SKAIFE and CO. (late Skaife and Pollock), Manufacturers of
PATENT GALVANIZED IRON
Sheets, corrugated and plain; Fencing and Telegraph Wire, Bars, Rods, Hinges, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tanks, Sheets and Tubes for export.
IRONWORK GALVANIZED.
Roofing orders promptly and carefully attended to.
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PLAIN or CORRUGATED, and CURVED, of all Gauges.
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TUPPER and COMPANY, Manufacturers of
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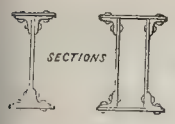

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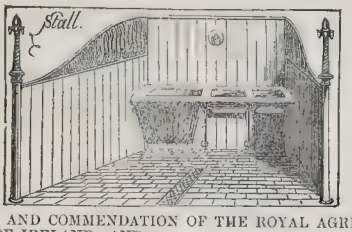

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"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.
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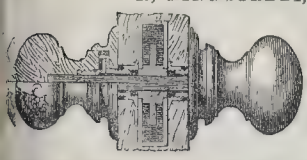

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A most complete and extensive stock of every description of locks, latches, brass founding, and ironmongery, required for building, of the best quality manufactured, at the lowest wholesale prices.
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Castings and wrought-iron work of every description.
A large stock of patterns for building and other purposes, for the use of which no extra charge is made.
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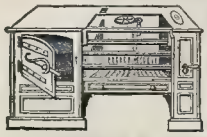

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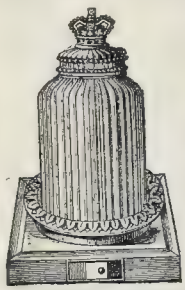

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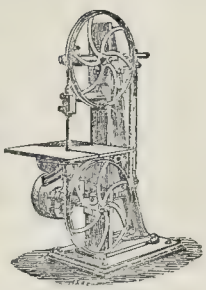

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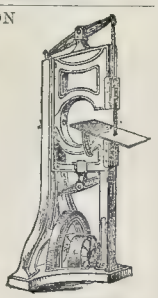

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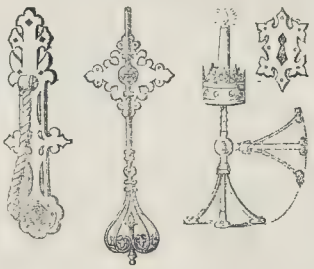

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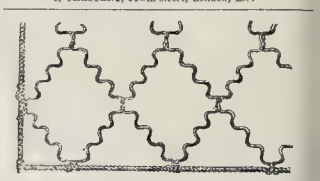

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CITY of LONDON. — Freehold Ground Rents.—The Commissioners of Sewers of the City of London, will meet in the Guildhall of the said City, on TUESDAY, the 6th of JULY next, at TWELVE o'clock at Noon precisely, to SELL by PUBLIC AUCTION certain FREEHOLD GROUND RENTS, in the Sewers' Offices, having about eighty years to run, situate in Chancery-lane, Fetter-lane, and Philpot-lane; particulars of which may be had on application at this Office. Tenders for the said Ground Rents must be sent in, sealed, addressed to the undersigned, before TWELVE o'clock on the said 6th of JULY; but the Commissioners do not bind themselves to accept any Tender delivered, unless the same be deemed eligible.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, May 26, 1858.

TO LET, EXHIBITION GALLERIES of the SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall Mall East.—TO LET, early in October, after the close of the Society's Exhibition, until the end of February next, the extensive Galleries in Suffolk-street, Pall Mall East, comprising five rooms and commodious Entrance Hall, &c.—The principal room is 60 feet by 40 feet, and about 30 feet high, and is considered the best lighted room in London, either by day or night, for Exhibitions of Art, Lectures, or the Soirées of Literary, Scientific, or Musical Societies. The extent of the Gallery is 100 feet by 40 feet.—For particulars apply by letter to Mr. CHILCOTE, Society of British Artists, Suffolk-street, Pall Mall East.

TO BUILDERS and OTHERS.—TO BE LET.—EXTENSIVE PREMISES, in Honduras-street, St. Luke's, consisting of the Tiger Brewery, and Dwelling-house, and a large Building opposite, at present used as a Ragged School, having long floors, and well adapted for workshops. The Freehold may be purchased.—Apply to Mr. R. C. BAXTER, Architect, 21, Abchurch-lane, E.C.

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CARPENTERS' COMPANY.—A large and FREEHOLD ESTATE, belonging to this Company, situate at WATFORD, near the railway station, and suitable for manufactories or workshops, TO BE LET, for a long term, either in large or small lots. The property is exonerated from land-tax and tithe.—For particulars apply to Mr. E. B. JUPP, Clerk's Office, Carpenters'-hall, London-wall.

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WORWOOD, within three minutes of the Station to London-bridge and West-end.—GROUND TO BE LET for building Villas, from 50l. to 100l. per annum, which are in great request. There is not a house on the estate unlet, while applications are daily made for residences. Private gentlemen requiring plots can secure them. Advances made.—Apply to W. F. LOW, Solicitor, 67, Wimpole-street, Cavendish-square.

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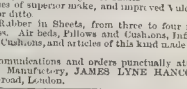

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THE TWENTY-SEVENTH ANNUAL GENERAL MEETING of this Society was held at Edinburgh, on 4th MAY, 1858, THOMAS SCOTT ANDERSON, Esq. W.S. in the Chair.

From the Report which was read, it appears that during the year ending 31st March last 470 Policies were issued. The sums thereby assured amounted to £1,350,000, and the Annual Premiums thereon to £46,000.

The following was the position of the Society at 1st March, 1858:—

Amount of Existing Assurances	£4,957,144
Annual Revenue	182,717
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Copies of the Report may now be had at the Head Office, or from any of the Society's Agents.

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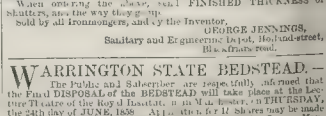

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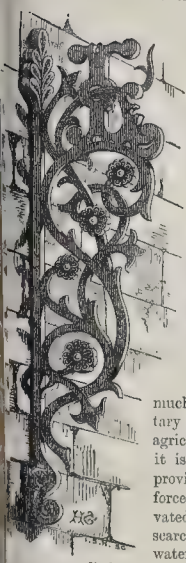
The Builder.

VOL. XVI.—No. 801.



The Distribution of the Sewage of Towns.

ET us look again at the Report of the Government Commissioners on this subject. Irrigation, as a branch of agricultural science, requires to be studied further in this country, great as may be the antiquity of the thing itself. The methods that have been adopted for distributing sewage with economy, are of as much value in the sanitary object as in the agricultural one. If even it is found to pay, to provide steam power to force the sewage to elevated places; if the scarcely impregnated water of the Milan ewerage applied to the land, greatly increase e value of this latter; and if the limit of plication as to quantity in the more imtant instances, has never been reached, we ve surely cause to say that ere this, the estion as connected with London sewerage, uld have been answered with a direct rmative or a negative. The only experiment tried (at Stanley-bridge, Fulham) failed m causes which are perfectly well underod. When we find in the account of the aigentinny meadows at Edinburgh, that he fertility is invariably in proportion to the antity of sewage employed," we are inclined coincide with Mr. Austin, in his Report, t there "can be no reason why, by similar thods, judiciously applied, similar results y not, in most cases, be produced, wherever id sewage is at command." The difference value between certain portions of the Scotch adows is said to arise from the fact that in e case, "the continuous application of the age is reduced to a system, by which imse quantities of manure are judiciously upon the land; while in the other cases y inadequate quantities are injudiciously an by intermittent application, without em." And the same authority continues,—

"There is nothing special in the Edinburgh beyond this, and the mode of disposal of produce. The ordinary sewage of a mixed ulation is there distributed in enormous dies of water over land of various quality, t and heavy; and that portion of the land ch was naturally not well suited for the reion of such large quantities of liquid, was ered so by artificial drainage. * * * he same course of irrigation goes on through winter, and if any portion of the land has done so well the previous season, it is ted in the winter time with a larger quanof the sewage than usual, invariably with ked improvement. The limit of the proion has not yet been reached; the more er each portion of the land receives, the ier is the crop produced."

though Mr. Austin, in the Report quoted , restricted his attention to less important es than London, we recapitulate the statements as tending to show that some of the difficulties in the copiousness of the sewage of London might be overcome with the agency of the legislature. The financial objections, if not the evils sanitarily, which have arisen from distribution by the system of pipes, and hose and jet, could be overcome by the well-known inexpensive system of contour-gutters as practised by Mr. Bickford, of Crediton; whilst advantages of that method as to speedy absorption by the roots and soil are essentially called for. The objections to the open ditches at Edinburgh would be overcome by substitution of underground mains, as recommended by Mr. Austin; and thus, with proper drainage, it would seem that an enormous amount of sewage might be used and deodorised by the only effective agent—the soil; and that pure water could be returned in channels to feed again the river. We have met with no analysis of water from the drains after irrigation of land by sewage; but if we may trust to appearance and taste in the instances at Reigate and Rusholme, both mentioned in former articles treating of this subject, no impurity would exist that need be apprehended.

The great points to keep in view agriculturally, sanitarily, and commercially, in this question of outfall and utilisation, are, both that water is the best and the proper vehicle for the application of manure, and that the operations of nature, supplemented by science in drainage, will effect in the best manner, deodorisation. Whilst to prevent noxious influences in the atmosphere breathed by man, and for the health of the plant, stagnation of surface water must be prevented; in like manner, stagnation in the soil must be prevented, by land-drainage. In the article on Irrigation in the new edition of the "Encyclopædia Britannica," the writer, Mr. James Caird, says:—"The great use of drainage is to render the soil like an open filter, through which the water, as it passes off, is deprived of much of its fertilising qualities,"—those, in fact which exist in the sewage of towns. "Grass is the surface filter which retains the fertilising qualities of the water of irrigation; the soil is the underground filter which acts in the same capacity on the water of drainage." "The water of irrigation must *pass* over the surface, and that of drainage through the soil and substratum, before any benefit can arise from its presence."

Although greater care is necessary in the management of irrigation than may have appeared above, it is clear that the method of disposal of sewage deserves at this juncture very energetic examination. The most careful consideration that we can give to the subject, tends to show that irrigation alone, affords the means of really getting rid of the chief noxious effects.

The alternative offered by the Commissioners does not come to us with sufficient evidence to be at once preferred, and more especially as to the use and advantage of the "sludge." The chief difficulty as to the direct irrigation would be,—What could be done with the sewage in time of frost?

In the Appendix to Report of the Government Referees, of last year, we find the following:—

"Estimate of the cost which it would be necessary to incur for the daily distribution of the ordinary daily flow of the metropolitan sewage.

Prime cost of engines, mains, and reservoirs for conveying the sewage an average distance of fifteen miles	£4,642,500
The formation of 100,000 acres of land into water-meadow, at a cost, including distributing mains and water-courses	1,200,000
Capitalisation of annual working expenses of foregoing, horse-power alone, say 78,200*l.* at twenty years' purchase	1,564,000
	£7,406,500

Total cost, 7,406,500*l.* or 74*l.* per acre on 100,000 acres, distributed in twenty-three separate lots.

In this estimate no provision is made for the daily management required by a system of irrigation so extensive."

Taking merely the interest on 74*l.* Dr. Hofmann and Mr. Witt are inclined to put the annual expense of irrigating an acre of land (without management) at 4*l.* an acre, in round numbers; and on their estimate of 1,100,000*l.* as about the value of the fertilizing constituents of sewage, each acre would receive an amount of constituents equal to those contained in one ton of guano, of a money value of 11*l.*—leaving thus "a profit of 7*l.* per acre, or a return of 175*l.* per cent. of the cost." The calculation of course supposes, not merely that the 100,000 acres would be sufficient, but that difficulties from the nature of the ground, or prejudices of landowners, would be overcome.

It would, then, appear that on the estimate of the Referees, of 95,000,000 gallons, or about 431,850 tons as stated by Dr. Hofmann and Mr. Witt, as the quantity of sewage flowing into the river in a day, a quantity slightly exceeding 4¼ tons would have to be absorbed by each acre of ground. In the case of the sewage of Rugby, only about 1¼ ton per day would seem to be distributed,—but it is admitted in that case, that a much greater quantity per acre could be taken up with advantage to the land, as well as economy in distribution. But, the Craigentinny meadows, on the statements before us, must receive as much as 23 tons per acre per day. No disadvantage results from the distribution of a quantity so much in excess of what is supposed as having to be got rid of in London; but at least four crops of grass annually are procured; and now, the Commissioners inform us these are sold at an average of from 20*l.* to 30*l.* per imperial acre. Indeed, in the meadows of the adjoining estate of Lochend, nine crops once were taken off in a single year. As bearing on the question of difficulty which might be caused in the case of London by interruption of the irrigation, it is distinctly stated that the irrigation at Edinburgh goes on incessantly, except on Sundays, night and day, winter and summer, all the year round; and, as to the expense of the work, besides the superintendence, it would appear that two men can get through the irrigation of about 210 Scotch acres, those which are supplied by gravitation, in three weeks or a month, and of 50 acres of high land, to which the sewage is raised, in about ten days.

It may be well to say that in some towns, there might be advantages in a diverging system of sewerage, with outfalls to the country, in the matter of sewer-construction. The system would extend with the population, without requiring that main sewers should be taken up and relaid to serve for a larger volume of sewage than could be emitted at the outlet of original construction. Lengths of main sewer could be gradually added,—enlarged if required; and the branch sewers or pipes would ramify from them. Of course this supposes levels to be favourable; but, with contrivance, the particular advantage from the divergence, could be found even in districts of London. And the system would meet the views of those who contend for providing many separate outfalls to mitigate nuisance.

It is due to the authors of schemes which were laid before the Government Referees, or were prepared previously, to allude to their suggestion of the arrangement adopted by the Commissioners,—who themselves mention the priority of a proposal by Mr. Gibbs, C.E.

Although we could have wished that the investigations of the Commissioners had extended further towards the settlement of the question as to direct application, and had been

so far conclusive and definite as to avoid any "it is said" on such a point as the important one whether or not the fish at Leicester "have returned to their old haunts," we regard the Report, on the whole, as the nearest approach that has yet been made to the discovery of a measure to remedy the evils that exist.

FRENCH BUILDING MATERIALS AND FRENCH WORKMEN.

FRANCE is famous for the number and excellence of its quarries of marbles and stones for building, and supplies Paris as well as the provincial cities with large quantities. A great part of old Paris and much of the new were built from the immense quarries of Montmartre, and out of what is now called the Catacombs. The wealth of some of them in the north has been exhausted. Many are in the environs of the capital which they have embellished: the vast extent and prodigious height of the subterranean chambers to which the industry of ages has reduced them, is worth a visit from the traveller, as also the depôts of stone kept by the contractors near the quarries. In passing along the busy quays of the Seine, one may continually see the huge cranes at work, unloading, by the aid of labourers, barges of great blocks of marble, or the hardest and strongest stone, for the construction of public edifices, or for the paving of the streets. They come from different parts of the country, and are of all sorts, as different one from the other as the soil of the localities from which they are taken. The proper time for extracting them is the summer, and they should be exposed to the air two years before being worked. Very extensive lists of the native beds and names of marbles, with tables of their specific weight, as well as granite, porphyry, and alabaster, have been given in works treating on the art of building; but we shall confine ourselves to the selection of a few. The marble of Rance is very common. Columns of it are seen in the Church of the Sorbonne. It is got from the Hainant, and is of a dull red colour, with veins, and white and blue spots. The marble of Roquebrue, in Languedoc, and the marble of Savoy, are somewhat similar, and much used. The marble of Serancolin, taken from the Aure valley, in the Pyrenees, is green, yellow, and blood-red, transparent in some places, like agate. We see it employed in cornices and bases of pedestals, in the great gallery of Versailles. The name of *pierre de liais* does not indicate a locality, but a certain kind of stone, which is in general full, fine, and easy to work. It is taken from the neighbouring quarries of St. Jacques, from a mountain near St. Leu sur l'Oise, in the plains of Creteil, near Paris. It is adapted to balustrades, capitals, and columns. Any one at all acquainted with the luxury and splendour that appeared in the courts of France, and which were so indebted to it for the precious productions which the earth yielded, afterwards moulded into the most exquisite forms, which could charm the sense or gratify the taste, knows how the judicious use of these coloured marbles and glittering stones, chiselled into the most graceful arabesques, added to all that the fairy skill of a Bernard or Cellini could do, produced a magnificent effect in the interior, furniture, and decoration of the royal houses, in those times when kings loved to patronise art and have artists of all countries around their thrones; and also in many a *salon*, now extinct, but once of great literary and artistic celebrity. Marbles from foreign countries have sometimes been preferred, but the buildings which they have adorned may not have been more beautiful, and have cost much more than those got from the home-quarries; while some of the latter receive as fine a polish as any other foreign marbles. In works that are intended to show their superiority over all others, in respect of good material and solidity of construction, expense is not an obstacle. But buildings of the first rank have been constructed from the neighbouring quarries. The cement used in the recent Government works in Paris was from the quarries of Pouilly. Perhaps there is no other country in the world so well stored, so opulent, with such a variety of good stone and marble as France, excepting perhaps Italy or Greece; and no other nation which has a better supply of materials, readier means of building, and more perfect knowledge of using them than the French. Judgments and experience of course are required in the selection. Few stones unite all the essential qualities of stones; but it is interesting to learn from what quarries celebrated edifices have been built, to examine the state in which they are found, and the power with which they have resisted the ravages of time. Both the marble and the stone for masonry, and woods for carpentry, are fit or unfit for certain purposes, according to the degree or mixture of the elements that constitute their weight, their grain and texture, their hardness, their capacity to resist moisture, their not burning in the event of a fire occurring; and it is the business of an architect to know what he can most successfully do with these materials of different properties, never attempting to do with one what can only in the nature of things be done with another, and achieving the best effect and the utmost strength with the greatest economy. The calcareous or building stones are very plentiful in France. That which is called the rock of St. Cloud is used in Paris, and its conveyance to the quays of the Seine is easy and direct. The isolated columns which decorate the *façade* of the court of the Louvre and the Tuileries, overlooking the garden, are executed with this stone. The Château-Landon stone, which can be fetched out of the quarry three feet high above its bed, has been employed in the Nemours bridge: it cuts easily with the chisel, and makes good joints. It is used in the pavement of Sainte-Geneviève, that masterpiece of Soufflot, in the facing of the Arch of Triumph, Champs-Elysées; at Château-d'Eau; and Pont-Neuf, one of the most curious bridges in the world, designed by Ducerceau. Thus the modern French, like the ancient architects, in ministering to the pomp and gratification of the Roman emperors, employed block marble in the most sumptuous edifices, in their public monuments, in their churches, triumphal arches, and palaces: like the ancients, they used white marble for the entablatures, capitals, and bases of their columns, for their bas-reliefs or sculptured ornaments; and, like them, employed coloured marbles for the columns and compartments which decorate the interior of their edifices, and with the chips and fragments spread on their spacious area a rich mosaic pavement. The French seem to have wished to imitate the ancients in other respects. In the revival of the arts every country more or less gradually adopted classical principles and classical thoughts. The ancient temples are frequently mentioned for the large stones of which they consisted. It is well known also that the cornice in Perrault's colonnade was formed of a single stone taken from the quarries of Meudon, near Paris: being sawn, like a piece of wood, into two pieces, each had 51 feet in length, 8 in width, and 18 inches only in thickness. The machine used to raise and place these stones in their beds was the invention of a carpenter, named Ponce Cliquin; and Claude gives a plan and sketch of it in his last edition of Vitruvius. Israel Sylvestre likewise, in his "Vues du Louvre," illustrates the much-talked-of scaffolding erected on this occasion. The writer of this article remembers with pleasure the intense curiosity and excitement that prevailed in Paris, when Lebas raised, by means of his skilfully-devised and well-concerted plan, the noble obelisk of Luxor, in the centre of the Place de la Concorde, amidst the bravoes and the applauses of thousands. Nothing can be said to detract from or depreciate the merit of M. Lebas, but the principle adopted by him was the same as that of the Egyptians in removing and setting up their colossal monoliths, a ceremony with them which they took good care, by means of the chisel and colours, to perpetuate for posterity on their everlasting walls. As there were things among that ancient race regarded by their posterity as crude and infantine, because associated with such very remote times, it is well to remember that, after all, without alluding to the true and beautiful science of mathematics, for which they were never surpassed, the character this extraordinary people impressed on their architecture and sculpture by a few sublime thoughts and simple lines, is to the moderns the perfection and the type of art. The common but useful workman, whose glory is the careful, skilled labour he bestows on the design of the architect, seems to follow, but not blindly, the old paths and traces marked out by these his predecessors. Here he is not such a drudge in the building as may be imagined: he is often superior to his work, and master of it. He is no labourer with a hod of bricks: that is as rare to see, as, among birds, was once a black swan: such a phenomenon is unknown here. They avoid in general carrying too heavy weights on the head after the fashion of our London porters, who do so to their injury very often: that is not their custom of bearing weights at all; but their movables are placed in a frame adjusted to their back, and supported by straps round their body and over their shoulders, the object being to relieve and lessen the weight as much as possible. The style adopted is exactly like that used among the ancients, as we learn by figures of water-carriers and labourers represented on their monuments. Praise, however, is indeed due to people whose physical sensibility—a productive cause of some of the best inventions, reaches certain ends by employing means so exact and just that it is not possible to imagine better. The French artists are inventive, careful, and ingenious. It appears that at the most important periods in their past history, their originality, their skill, and their diligence enabled them to carry away the great prizes of architecture from the Italians who competed with them;—that their designs were preferred. This was the case in the contested works at Fontainebleau and in the competition for a façade or wing of the Louvre. And what renders them so expert, so proverbial in improving, in bringing about what others before them have insufficiently done, to a greater degree of perfection or usefulness; what renders them so fond of refining, of modifying; so ready to execute well what they conceive, is the various applications to useful purposes of the mechanical powers which are constantly before their eyes, and which they are in the habit of managing, explaining, or examining. Objects of beautiful and practical construction, or of admirable contrivance, which once possess the imagination, grow strong in the mind by the habit of contemplation. Visitors cannot but think that the number of excellent institutions open, and free of access to them, containing respectively a collection of medals; moneys of all ages and countries; specimens of materials; models of all kinds of machinery; museums of natural history; cabinets of curiosities; monuments of their country; libraries to read; archives to consult, tend considerably to strengthen and guide their spirit of observation, and increase their love of literature and the arts. And more than this. There can be no doubt that the remarkable care and preservation which are taken of the national monuments in this centre of civilisation, direct the attention of the great numbers of workmen and artificers who are employed, when the fine weather sets in, in cleansing, scraping, running fresh paint in the joints of the stone-work,—which operations are not suited to the edifices of every climate, and which anywhere require great precaution, especially in the finer and more delicate parts of them;—we say that the renovation which the public monuments in Paris thus undergo must naturally incite the masons and workmen employed upon them to give their due regard and best services to works so much cherished by the State and so much admired by the public. The government shows it is interested in the highest degree in preserving them; and, therefore, it has founded an official committee, charged with similar functions to those which were confided in Rome to the ediles, and commissioned to look after the roads and public edifices, to report upon them and watch over their preservation. An official committee also (*comité des arts*) was founded by government for another similar purpose, but more specially that of repairing and restoring the monuments of the Middle Ages that had been ruined or dilapidated, and in respect of which they inculcate the necessity of certain principles to be guided by in the matter of restoratives: namely, they think it is better to strengthen and consolidate than to repair, better to repair than restore, better to restore than embellish, but in any case nothing must be suppressed. It is their opinion also, as architects have the propensity to alter or to add to the edifices they are commissioned to restore, under the pretext of fulfilling the first intentions or completing them, that they ought not to be permitted to correct even irregularities, nor to alter the dominant lines, because the deviations, or the absence of symmetry, are historical facts full of interest, and often furnish archæological characters capable of marking an epoch, a school, a symbolic idea. There are other associations headed by a committee composed of eminent men, of one of which the Emperor is president, for diffusing art, for making known discoveries and improvements, and promoting the interests of artists, inventors, and artisans; and these must have a most beneficial influence on the working classes. It is very instructive to observe some of the better qualities of a part of the French working population. The mechanical powers with which they must be thoroughly acquainted, on account of using them in their occupations, they sometimes discard as if such things had grown obsolete: they dispense with them on some occasions in a most independent manner. It is not unusual for the greater internal bulk of a house to be constructed without any tackle or scaffolding to speak of: a very little is erected, which is needed; and by the workmen reclining on ladders and raising stones of a size easily lifted, from hand to hand, the house is built very quickly. There is a

man, of course, at the foot of a ladder, to supply the stones. Suspended scaffoldings, capable of being shifted at will, for the purpose of painting or compoing the elevation of a building or interior of a church are often seen on the Continent. It is a custom with them when they erect a scaffolding before any building in progress in the street or crowded thoroughfare, to fix the standard poles on the pavement in a bed of strong mortar, heaped round their ends, about 2 feet in circumference, and 2 feet in height, as their *point-d'appui*. The earth is not dug to receive the standards, nor the granite or bitumen removed (as is the case in London), except for new buildings or some other cause. In the course of the construction of a building, and whilst the scaffolding is up, the blocks of stone (*bossages*) are left with a projection suited to their position, or to the nature of the mouldings or ornaments intended to be chiselled out of them; and it is pleasing to see those blank parts of the masonry, with which the building is faced, rapidly receiving those graceful forms which the practised hand of the sculptor gives them. French masons of the present day, and modern masons of all countries, may be reminded of the particular care and patience the ancient constructors took in order to dress level and adjust the beds and the joints of blocks of marble or stones, so that they should join together in all the points of their surfaces, and form masses as solid and as stable as if they had been one single block, and incapable of any injury from pressure, or of separation from the trying changes of temperature. The essential conditions of the solidity of masonry or brickwork in walls and habitations destined to promote private comfort and convenience, as well as those designed for public utility, should be sufficient of themselves to prevent those vices in construction that arise from bad, ill-seasoned, or unsound materials, and the bad way of disposing of them. The old mortar that united the stone or brick in the ruins of ancient Rome; the old mortar used by the Romans in many of the castles that they built in England; and the mortar in some of our fine old parish churches, is so strong as to be difficult to break, and puts the best iron tools to proof. Their practice in general was to build with precaution, to test and determine on nothing without deliberation, to *hasten slowly*, to ensure stability; hence their plan of tempering their mortar, and trying it on the beds and between the joints as much as possible; of not using the lime at the same time it was slaked, but allowing it for some months to putrefy, and to produce a sediment, which, joined with stones or brick, made an inseparable union. Many of your readers may have gazed on and perhaps directed the pulling down of some old walls, which may have excited a wonder at their minds that they could have lasted so long, half the substance being sand and dust. The bricks used in Paris come from the department of Yonne, known under the name of the Bourgogne brick; from Montereau and Salin, Seine and Marne department; from Sarcelles about nine miles from Paris, in the department of Seine and Oise. Bricks are fabricated also in Paris. The French have also executed beautiful façades, in brickwork, and some clever compositions in stucco. In Paris, where plaster, manufactured from gypsum, which is found in great abundance, is much in vogue, and so much commanded, it is much more convenient for the construction of ordinary houses than the mortar, because it acquires the solidity of which it is susceptible: many years are required for mortar, which consolidates with the stones of a building, whilst plaster weakens it: the solidity of constructions in mortar is always going on augmenting; but on the contrary, works of plaster go on always diminishing and deteriorating. When these last are exposed to a severe frost or a burning heat, they require to be renewed or repaired at the end of about twenty years. The works of mortar acquire by time a consistency more solid by the union of their parts; whilst those of plaster change their form in increasing their volume by expansion. It is for this reason that in cities where they have been built in mortar, the edifices have an appearance of solidity that does not belong to those which are executed in plaster. The walls raised with masonry in mortar preserve themselves right and perpendicular, but those in Chester have lost their essential beauty, although they were originally built as upright as those in Tartar. In modern buildings, the beds and joints of the stonework and brickwork are often neglected, and badly made, an evil arising sometimes from their being done by contract, sometimes from want of superintendence. But happily from the examples of good stonework and brickwork, seen in most modern cities, where proprietors and architects are jealous of their reputation, there are still excellent masons and bricklayers amongst us to do honour to their craft, and to embellish our streets. A most interesting work for the student on the science and materials for construction, is by Jean Rondelet, in his "*Traité de l'Art de Bâtir.*" On the subject of lime, he says, that there is found in the neighbourhood of Metz, a very hard, strong stone, from which they make lime, of a superior quality. This lime, newly extinguished, and mixed with gravel, forms a *béton*, or kind of concrete, of which the consistency is so great, that vaults are constructed with it without bricks or tiles, and that these vaults become in time a single piece as hard as stone itself. The best lime is sent to Paris from Senlis and from Champigny. The best stone for making lime is the hardest, for the lime is then more binding and glutinous. That which is made from marble, or from stone of a similar nature, is wonderfully good. The mortar should be well tempered, and in this and in the laying of it, in preparing and purifying the lime, both English and French builders and masons may, as we have already said, derive a useful lesson from the ancient Romans. Another excellent practice, which the moderns ought never to forget, was their care and precaution in making the foundations of their edifices large and deep, to let the superstructure raised on them rest and settle a good while before proceeding further.

F. LUSH.

ST. GEORGE'S CHURCH, SYDNEY.—MR. W. B. FIELD, ARCHITECT.

ST. GEORGE'S CHURCH, SYDNEY.

THE architectural progress of the colonies must ever be a matter of interest to our readers. In reply to an advertisement of a public competition for sets of designs for a proposed new Presbyterian church, to be called St. George's Church, Sydney, under the pastoral charge of the Rev. Dr. Mackay, twelve sets of designs were submitted to the committee in the middle of August last, and after consideration the committee selected two of these sets, which proved to be those of Mr. W. B. Field and Mr. T. Rowe: it was then determined to carry out those of Mr. Field; and Mr. Field and Mr. Rowe were jointly appointed to carry it into execution, and to these two gentlemen the first and second premiums were then awarded. The requisite working drawings and specifications having been prepared, tenders were invited from contractors by advertisement, and the tender of Mr. Thomas Alston, formerly of Glasgow, and the contractor for many of the largest public works in Sydney, was accepted.

Mr. Alston commenced his work on Monday, 19th October, and the building is now midway up. The style adopted purports to be that known as the Decorated, and the general arrangement of the building is as follows:—

A flight of six broad steps, each 50 feet long, leads to a platform 4 feet above the level of the pavement of Castlereagh-street, on which the church will stand; in the centre, in front, is the tower with spire, forming, with its large doorway, the central entrance; and which is flanked, on either side, by an entrance porch. The interior of the

tower is 15 feet square, and each porch is 8 feet square; and each communicating with the tower by a large archway, in all forming spacious entrance lobbies to the church. The internal dimensions of the church are, length, 76·0 feet, width 45·6 feet, and height 25 feet. All the passages or aisles in the interior of the church will be 4 feet wide, and will be paved with ornamental tiles; the seats, with bench ends, are raised one step from the aisles, and are all 2 feet 8 inches from centre of back to centre of back; and each adult will be allowed 1 foot 6 inches in length of seat, or making the accommodation of ground-floor 620 adults; the gallery accommodation is calculated on the same data, and will contain 300 adults besides seats for children; the front of the gallery will be of polished cedar, supported on carved cedar columns, and spandrils, and will be approached by a double cedar staircase in tower and by two doorways through tower wall. The pulpit and precentor's desk will stand on a platform 18 feet long and 12 feet wide, and 2 feet 6 inches above the floor of the church; the body of the pulpit will stand on twisted columns, with foliage capitals, and will be framed of colonial or ornamental woods, with a sounding-board over, and with winding staircases on each side. The windows on each side of the pulpit will be of mosaic coloured glass, and stained glass will be introduced into the borders of all the other windows throughout the church. The ceiling will be a flat panelled deal ceiling, divided by large and small moulded ribs, and which will be relieved by polychromatic colouring in diaper, introducing the motto of the Church of Scotland "*Nec tamen consumetatur*," and other appropriate legends in scrolls. From the church two doorways open, one into the Session House being a room of 25 feet long and 12 feet wide, and the other into the vestry 12 feet long and 10 feet wide, communicating together, and both having yards.

The ventilation will be effected by means of thirty-six cast-iron ventilating gratings, 6 inches in diameter, let into the wall of the church beneath the floor joists, the joists themselves being 4 feet above the ground, and the riser of step being perforated by quatrefoils throughout. The ceiling is so arranged as to allow an open space between all mouldings, and between the panels and mouldings, so as to allow a free egress of all heated and vitiated air into the roof. On the ridges of the roof are four ventilating louvre cowls, so as again to allow this vitiated air to escape into the open atmosphere, fresh air being freely admitted by the air-grating below the floor.

The exterior of tower is 21 feet square, independently of the buttresses; the height of the platform on which the tower stands is 4 feet, the height of tower to top of cornice is 62 feet, the height of spire to top of stone finial is 72 feet, and the height of vane is 8 feet, making in all 146 feet. If not too late, we would suggest a re-arrangement of the windows and porch on each side of the tower.

The cost, including site, will be 10,000*l*. A considerable portion of this is provided, but money is still wanted to enable the committee properly to complete their work.

DAY THOUGHTS AMONG THE STATUES.

Oft in St. Stephen's Hall I love to stroll,
Musing on monuments to names undying—
On England's "men of might, her grand in soul"—
Yet it's one passing numbers as me sighing—
"Look here, in all this picture, and on this,"
Wits! would ye have a contrast?—here it is.

Hampden's sublime—he looks the man who stood
E'en in the "last resort of kings," unshrinking.
Art must have labour'd when at happiest mood.
Grand is the work that sets us grandly thinking.
Who can, unmoved, the patriot's form pass by?—
To me, this statue speaks a history.

But, mark how rudely perch'd in Gothic niche,
That doll-like king, the patriot all but shoulders:
Hardly such dwarfs the giant's breast could reach.
A contrast so absurd to all beholders—
At least, it sentimental thoughts must bring
More flattering to the patriot than the king.

Falkland, my inmost soul less deeply moves,
Though great his fame, and great his sculptor's merits,
For all by art accomplish'd merely proves
He was a gentleman—and out of spirits—
And such there were who grieved with equal force,
Whether a cause was ruin'd—or a horse.

Of art's grand monuments of men—to me—
Hampden's among the grandest—ay, including
Great Michael's glorious work—the Medici—
Who in his Florence sits, o'er vengeance brooding.
Gods, dreams of art, let those admire who can:
Give me what moves man's sympathy—a man.

What is "the statue that enchants the world?"
Ideal form—æsthetic senses charming;
But though perchance some schoolboy's lip has curl'd—
Waking no sympathy—no bosom warming.
As for that pink of gods, the famed Apollo,
Why, in his prime, D'Orsay had beat him hollow.

Hyde's well-carved features all respect command.
On "learned Selden," contemplation lingers.
Although too much that pose, that outstretch'd hand,
Suggest the stage—I long to rap his fingers.
Somers is fine, but art has play'd sad rigs
With Mansfield, as with Chatham—burn their wigs!

Here Walpole struts;—if art would thus portray
The genius of corruption—art may glory;
But brighter names invite my rhymes to-day—
The illustrious Whig, and more illustrious Tory.
How lean that Tory! and that Whig how fat!
Shade of fat-loving Cæsar! think of that.

Pitt was not born for art—and critics own
That "lean and hungry look" is true to nature;
And art, when working on a form well known,
Must soften, not destroy, so mark'd a feature.
Fine subjects, Fox and Pitt, for artists' easels!
What can art do with men like pigs or weasels?

Yet art may boast—for here Pitt takes his stand,
Improved—yet Pitt to taunts from Fox replying
He looks the man who would the world command;
But now, when fortune frowns, the world defying;
Ready, with nose in th'air, at words uncivil,
To send Fox, foes, and rivals, to the devil.

Ah! hapless sculptor! doom'd to mould Charles Fox,
Well might you mourn your fate with sighs pathetic.
We know Adonis was not a prize ox:
We know the adipose is not æsthetic,
But has art laws such Chinese truth demanding?
Will art own legs ti at pass all understanding?

Truth for your guide you must have sworn to take
Th'ideal—as a will o'-the-wisp—excluding;
But were you bound G...'s image thus to make
So very conscientiously like pudding?
Must art all mercy, like the Jew, renounce?
Could you not bate the pound of flesh—one ounce?

Oh! for a cloak, or—if art's wardrobe 's bare—
Oh! for a blanket, from the load oppressing
That ill-used invalid in Bloomsbury-square:
Fox there, as here, would find the change a blessing
So strange, that monument, some critics doubt
Whether it was raised to honour Fox or gout.

Men of the Fox club! do ye nought but dine?
Are ye quite reckless of your idol's glory?
Whigs! who once deem'd his eloquence divine,
Does not his shade, to hide his legs, implore ye?
Who that heard Fox could dream so soon thereafter,
Fox "on his legs" would raise but "roars of laughter?"

Eloquent Edmund!—ay, and handsome, too—
Art found in you a model worth the showing.
You seem preparing, like the Burke we knew,
To set your famous "dinner-bell" a-going:—
I'm off—that Grattan shan't delay my journey,
His looks repel—I hate a sharp attorney.

Homeward I stroll—but ever at one spot
A monster startles me—alas! poor Canning!—
Passing whoe'er absorb'd it matters not—
Hammering at rhymes, or airy castles planning—
I start as though I'd run against a post
Or saw—egad! I wish 'twere but a ghost.

Gods! how I long some sculptors' pates to maul!
What changes dunces should their statues muffle!
"Odious! in woollen!"—why, the thought must all
Aspirants to art's honours sorely ruffle,
As Pope's Narcissa somewhat naively said—
"One would not, sure, be frightful when one's dead."

Statesmen! who hope posterity will view
Your graven images the land adorning—
Names I won't mention—but to some of you
Poor Canning's history should prove a warning;
Yet Heaven forbid! your fate should be—like his—
To die a victim—and to rise—a quiz.

JENNER'S STATUE.

SPREAD OF SMALL-POX.

THE sitting figure of Jenner, executed by Mr. Calder Marshall, R.A., and erected in Trafalgar-square, is esteemed a good likeness by the few who recollect him. The pose is easy and the execution good. On the occasion of its inauguration, when Dr. Conolly sketched eloquently the life of Jenner, and Mr. Pettigrew and Lord Lansdowne spoke admirably, his Royal Highness the Prince Consort remarked, that while we ought to feel thankful for the large amount of life which has been saved in all parts of the civilized world by the exertions of this benefactor, it is deeply to be regretted that in this country five thousand lives are still lost annually by this scourge.—If so many deaths occur in spite of improved medical treatment, the number of cases of small-pox must be very large. Formerly as dangerous in the dwellings of the affluent as in the houses of the poor, small-pox has now been driven from the former. It still commits ravages in Bermondsey, in parts of the Borough, and other poor metropolitan districts. Inquiry shows that, although vaccination is performed gratis in every parish, and also in most of the hospitals, thousands of children are neglected in this respect. Some parents object in consequence of a fear that impurities of the blood are spread by this means, and others say that "it is wicked to interfere with the ways of Providence." It must be admitted that great care should be taken by those who have charge of the vaccination of the poor; and, considering that so many deaths are caused by this preventible complaint, it might be well if the fine for neglect by those having charge of children were occasionally enforced.

Mr. Monsell, in the House of Commons the other day, asked the vice-president of the Privy Council Committee whether his attention had been called to the fact that out of 1,636 deaths reported to have taken place from all causes in the quarter ending March 31, 1858, at Burton-on-Trent, Sheffield, and Merthyr Tydfil, 419 were reported to have been caused by small-pox; and whether he proposed to introduce any amendment of the Vaccination Act.

Mr. Adderly said that it was unfortunately true that this great mortality had been caused by small-pox. From all the information he had been able to gather on the subject, he believed that the prevalence of small-pox was owing as much to bad vaccination as to neglect of vaccination; indeed, the state of the vaccination throughout the kingdom was sufficient to create great alarm. It had engaged his attention, and he had given much consideration to the question in what manner it was desirable to amend the Act.

The circumstance that in certain districts 419 (one quarter, or twenty-five per cent.) out of 1,636 deaths have arisen from small-pox—a disease which has been shown to be preventible—is a circumstance which requires great and immediate attention; for the large per-centage of deaths above alluded to are but a portion of 5,000 deaths which take place in this country annually; and it is to be feared that, if proper means are not taken, the number which is at present so large will soon be increased.

A correspondent, writing on the unsatisfactory character of most of our portrait statues, says,—The fact is, that the practice of placing portrait statues in the open air is one which we have borrowed wholesale from a country and an age very different from our own; and we ought to know that such a proceeding is not likely to produce pleasing results. In our climate, anything which suggests the idea of being exposed to the open air night and day all the year round has an uncomfortable effect; and thus the natural feelings are set against these works to begin with.

Further, many of our statues are open to another objection, by which, I believe, the public is unconsciously influenced: I refer to the preposterous costume in which they are disguised. It appears to me incontrovertible that a man's dress is part of himself for all purposes of portraiture; and that to represent an Englishman of the nineteenth century in the dress of a Roman senator, or in a fancy suit of slippers and a blanket, is to give us no portrait of him at all. "But," it is said, "modern dress is so unbecoming, so unpicturesque, so unstatuesque." I do not altogether assent to this, believing that a good deal of this contempt is only what is bred by familiarity, and that a good statue in modern dress may be made by a good artist; but if it were true that modern dress is of such a nature, that a good statue in it is an impossibility, that would be no reason for giving portraits of honest John Bulls in togas and sandals: the only legitimate conclusion would be that we must give up attempting to make portrait statues at all.

The critics have much to answer for in this matter, for they have bewildered the public judgment in two ways: they have ordered it to admire what is absurd, and to ridicule what is just and natural. B. R.

UNION OF ART AND LITERATURE.

PAINTERS, both ancient and modern, have, generally speaking, not relied sufficiently on the power of the pencil to create forms which would appeal to the mind as strongly as the written descriptions of poets and historians. If we glance, for instance, at the glorious works of Michel-angelo, and other disciples of that great school, or at the gorgeous pictures of Rubens or Titian, we shall find them chiefly to consist of representations described in Scripture, or pictorial delineations of the traditions connected with the heathen mythology. While remarking this, it must be admitted that it is a great power to be able to embody and place in forms like life, with all the charms of colour, and light, and shade, the rare fancies of such poets as Shakspeare, Chaucer, Spenser, Milton, and others; and it should also be remembered that painting, being an imitative art, in some measure requires for a foundation subjects which are well known, and appreciated by, the multitude. Still it is a fact worth notice that the poet—the originator of ideas—forms, by his rich fancy, scenes which, before he expressed them in words, were equally as much unknown as the forms which are now rendered so familiar to us by the efforts of the painters and sculptors of the last three or four centuries.

It is not the object of this paper to undervalue the works of the great artists of the various schools who have shewn so much mental ability in their conception, and so much mechanical skill in their execution; but rather to convey the idea that painters, who were also true poets, have not

sufficiently employed the pictorial art for the purpose of putting forth original ideas which would, in the same manner as a book, delight and teach all beholders.

Although there is much poetry in the marvellous light and shadow of pictures by Rembrandt—some glowing with light and harmony, and others equally harmonious, in which "the light but counterfeits a gloom," and which convey materials for poems or imaginative descriptions,—other pictures, of about the same period, have not such qualities; for the fairs, drinking-scenes, and elaborately-wrought interiors of even such masters as Teniers and Ostade, have not the merit of being original embodiments of descriptions which appeal to the higher senses, but are (wonderful it is true, but, at the same time) very matter-of-fact delineations of scenes which are often uninstructive and unpleasant.

In the English school of art Sir Joshua Reynolds, who may with justice be considered its founder, displays but little originality of thought. His "Puck the Fairy," "The Infant Hercules," "The Strawberry Girl," and some of this artist's finest works, are rather to be considered sketches from nature, which have suggested certain arrangements, than poetical conceptions, and are more remarkable for the breadth, richness, and depth of colour, than for the display of the powers of the imagination.

The paintings of Gainsborough, Richard Wilson, and others, will come readily to the memory; but, in order to show the capabilities of art, let us examine the series of designs of the "Dance of Death," and some of the other efforts of Albert Durer, which convey a history that without a word of description, can, after the lapse of two centuries, be understood by the meanest capacity, and will for centuries to come clearly tell their own story to both the most intellectual and the most uneducated. In the same way our own Hogarth has displayed the powers of satire, taught moral lessons, and shown histories on his canvas which are as readily understood by the multitude as the most masterly works of those teachers who have used the pen to describe the passions and frailties of humanity. No writer, past or present, has more clearly shown the folly and danger of vice than Hogarth has done in these original pictures.

In glancing at the artistic works of more recent times, it will be found that a large proportion of the figure subjects consist of compositions illustrative of poems and other literary performances. There are, however, many pictures which have the merit of both mental and artistic qualities; for instance, Landseer's, in those mountain scenes of brooks, lakes, and mists, enlivened by noble deer and other wild inhabitants. "The Departure of the Highland Drovers for the South," "The Bloodhound waiting at the closed Door,"* and other productions of this great English artist, have distinct ideas founded on nature, which have all the power of the writings of Sir Walter Scott and others, who have been gifted with poetic powers of description.

In landscape painting, "The Upas Tree," by Danby, which, by a wonderful faculty of delineation, gives such a terrible idea of poisonous atmosphere in a deathly valley, deeply affects the mind: so does the "Solitude," by the same artist, in which is shown the deep unruffled pool—the torn clutter slowly sailing away into the dark distance—the melancholy drooping eaves and branches, the weeds connected with spiders' webs: so still is everything, that you can fancy no sound except the suppressed sobs of the disconsolate maiden, who seems to be so earnestly watching the vanishing of her last hope. Other pictures by this artist might be usefully studied.

It is not our purpose to endeavour to place the sister arts of painting and poetry, one higher than another, but rather to place each in its true and honourable position; and, while admiring greatly the graphic descriptions of landscape scenes, by Scott, such as—

> "And though the sun was on the hill,
> In that deep dell 'twas twilight still;"

and the innumerable printed pictures which are presented in his poems and novels,—

> "The rainbow's lovely form,
> Evanishing beneath the storm,"

and like lines by Robert Burns, and the splendid word painting of Thompson and Gray,—we must claim that equally as much power of the imagination and originality are exhibited in the works of Turner, which will for long be a glory to the British School of Art.

We might carry these comparisons to a much greater length, but our object at present is not so much to do this as to consider the advantages which must result from a more close connection between the workers in the paths of literature and art than at present exists; and also strongly to advocate the necessity, even in the higher classes of society, of making art instruction a more important branch of education than it is at present. There has, no doubt, been much improvement in this respect lately; but, notwithstanding, a great deal remains to be done; and yet the day may not be far distant when, by a combination of the skill of the pen and pencil in the same individual, important results may be effected. Most persons who have seen the characteristic, humourous, yet slight sketches of the late Tom Hood, will agree that it was only the want of mechanical skill which prevented him from having been a first-rate artist. His want of skill of hand alone prevented him from completing these works in such a manner that they might be appreciated by the multitude. At the last Royal Academy dinner, Mr. Thackeray said,—"Permit me to remark, that had it not been for the direct act of my friend who has just sat down (Mr. Dickens), I should, most likely, never have been included in the toast you have been pleased to drink, and I should have tried to be a painter or designer of pictures. That was the object of my early ambition; and I can remember when Mr. Dickens was a very young man, and had commenced delighting the world with some charming humourous works, of which I cannot mention the names, but which were coloured light green, and came out once a month,—this young man wanted an artist to illustrate his writings; and I recollect walking up to his chambers with two or three drawings in my hand, which, strange to say, he did not find suitable. But for this unfortunate blight which came over my artistical existence, it would have been my pride and my pleasure to have endeavoured one day to find a place on these walls for one of my performances. This disappointment caused me to direct my attention to a different walk of art, and now I can only hope to be translated to those walls, as I have been, thanks to my talented friend Mr. Egg."

We have little doubt that if the admirable author of "Vanity Fair" (who, by the way, is frightening off some of his warmest admirers by his last two numbers of the "Virginians") had applied himself to master the difficulties which are usually to be conquered in acquiring the principles and mechanism of pictorial art, we would have had works of rare excellence from his hands.

The sketches of given subjects produced by the "Sketching Club" in a very short space of time, at their meetings show the large amount of imagination and poetic fancy which is possessed by this society of some of our best artists; and when we remember the suggestive ideas of the late Douglas Jerrold, and of others engaged in literature who are still spared to us, we cannot but feel regret that clubs consisting of both literary men and artists have not been more generally established. The meeting together of the men of the pen and the pencil to express in their various ways certain passions and ideas, would cause each the better to appreciate the other's art, and would also be the means of striking out valuable thoughts, which but from such circumstances might be lost to the community.

In the Department of Natural History we have the excellent example of the Bewicks and others to show the great advantage of the union of literature and art, notwithstanding in the scientific world, generally speaking, there is a great want of this combination—in anatomy and surgery, for instance. But few attempts have been made by professors personally to illustrate their descriptions; and artists, many of them possessing great talent in this way, have been employed for the purpose; and although the accuracy of these delineations may be remarkable, it is likely that many graphic sketches which would simplify the description, are lost by the party who thoroughly understands his subject, not being able to explain his meaning (pictorially) with his own hand.

* Respecting this fine picture, Mr. Redgrave remarks at "Suspense" is a picture likely to call forth the imagination of the spectator, and says:—"A bloodhound is watching at a closed door, shut out, one may imagine, from the wounded knight, his master. There are the steel gloves removed from the now powerless limbs—the torn eagle-plume speaks of the deadly strife—and the continuous track upon the floor shows how his life-blood flowed away drop by drop as he was borne within. Who does not watch with the faithful hound in deep "suspense" for some token that he yet lives? Others, again, may read the picture far differently they may imagine that the dog has tracked the author of some act of violence or deed of blood—torn from his casque by the struggling victim, as the plume on the floor, sprinkled with the blood shed in the struggle ere the victim was borne within the now closed portal: we recognize the scuffle of the moment, the hand clenching the door post with fearful energy to prevent the closing, the stifled cries, the hopeless resistance, etc. Yet there, like a watchful sentry, waiting in silence, the animal crouches, whose deep instincts teach him unerringly to follow the object of his search: the spectator himself waits in anxious eagerness for the re-opening of the door, or, anticipates the spring of the animal, and the renewed struggle that will ensue. Thus variously may the picture be read, each painting for himself a far different scene; but there are few who, looking on the painter's work, will stay entirely without the door, nor allow imagination to carry them away beyond the narrow canvas actually bounding the artist's labours."

WESTMINSTER NEW PALACE AND ITS ARCHITECT.

ON the motion of Mr. Tite, a return has been made "Of further Correspondence between the First Commissioner of Works and Sir Charles Barry, relating to Estimates and Expenditure upon the Works of the new Palace at Westminster, including a Copy of the Specification and Summaries of the various Estimates (in continuation of Parliamentary Paper, No. 160, of the present Session)."

With reference to an instruction that tenders in the gross should be obtained for the works yet remaining to be done, from the contractors already employed, it appears, "that upon application to Mr. Jay, the contractor for the principal portion of them, he refuses positively to make any such tender, and insists upon the strict fulfilment of the terms and conditions of his present contract: at the same time, he states that, upon receiving proper compensation, he would not be unwilling to relinquish his present contract if the Government should so desire."

The estimated sum required to complete the works sanctioned from 14th November, 1857, is.	£81,102	19	4
Architect's commission	3,244	4	8
	£84,347	4	0
Deduct the available amount of vote for year ending 31st March, 1858.....	15,423	0	0
Total estimated amount required	£68,924	0	0

"NOTE.—The porch and other additions to the Speaker's residence, the additional accommodation for peers' and commons' libraries, and other minor supplemental estimates, that have been rendered during the current year, are not included in the foregoing estimate, they will not exceed the amount stated for them, and which is supposed to have been already provided (5,140*l.*). The cost of the dials, bells, clock, &c. is not also included in the general cost of the building, by the authority of the Board, by letter dated 5th February, 1857.

Also, the assistance that may be required by the fresco painters for fixing their work, and works that may be required by the Fine Arts Commissioners, is uncertain, and is not included.

The landing steps and inclosure at the south end of the building, and the inclosure at the north end, are not yet determined, and no amount is provided for them.

(Signed) C. BARRY."

Further estimates were rendered by Sir Charles Barry subsequently to the 11th April, 1858, amounting to 35,376*l.*

In reply to a memorandum which was printed by order of the House of Commons, and in which his conduct, as the architect of the new Palace at Westminster, has been called in question, Sir Charles emphatically denies that he ordered any works without the late First Commissioner's sanction, and asserts that he has never failed to give every explanation and information in his power whenever required by the late First Commissioner, upon this and all other subjects.

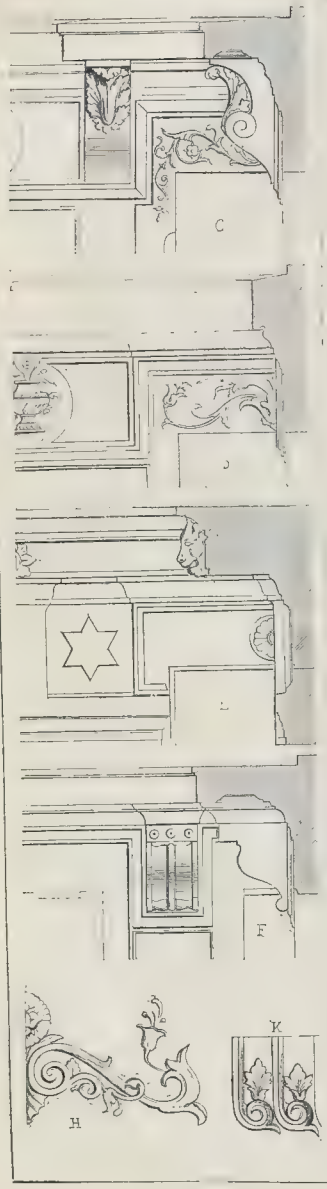
The letter ends,—

"I have thus replied *seriatim* to the several charges of the late First Commissioner, which I cannot admit to be justified either by the correspondence or the facts and circumstances of the case. Notwithstanding such unmerited accusations, however, I have the satisfaction to feel that I have ever discharged the anxious and responsible duties which have devolved upon me as the architect of the new Palace at Westminster, zealously, faithfully, and to the best of my ability, although under the most trying circumstances and great discouragement.

"CHARLES BARRY."

SCHOOLS IN THE EASTERN COUNTIES. — The Rev. M. Mitchell, in his report for the past year on the Church of England Schools inspected in the counties of Norfolk, Suffolk, and Essex (printed with the Minutes of the Committee of Council on Education, issued on the 23rd ult.), states that his previous observations respecting the lighting and ventilating of schools are beginning to "work a good effect." He is persuaded that yellow-coloured walls like those at Rendlesham, Kesgrave, and the girls' school at Lowestoft, produce an effect of melancholy and depression. The rev. gentleman's report of the schools inspected is generally more favourable than at any former period.

PARISIAN STREET ARCHITECTURE.—*Details: House, Rue de la Chaussée d'Antin.*



Plan of House, Boulevard Beaumarchais.

PARISIAN STREET ARCHITECTURE.

HOUSE ON THE BOULEVARD BEAUMARCHAIS.

THE plan of the house illustrated on this and the opposite page may be regarded as the type-plan of a large number of houses in Paris. The vestibule, it may be seen, communicates directly with all the apartments, and so renders them independent of each other,—an obvious desideratum not always effected in French architecture. C, marks the chambers; S, sitting-room; L, living-room; V, vestibule; K, kitchen; W, water-closet; Y, inner court.

The façade is not wanting in originality. In the frieze of the first-floor casements are let in some tablets of Rose marble, which harmonises happily with the stone, and enables the eye to appreciate the details, which we give 1-20th full size.

HOUSE, RUE DE LA CHAUSSÉE D'ANTIN.

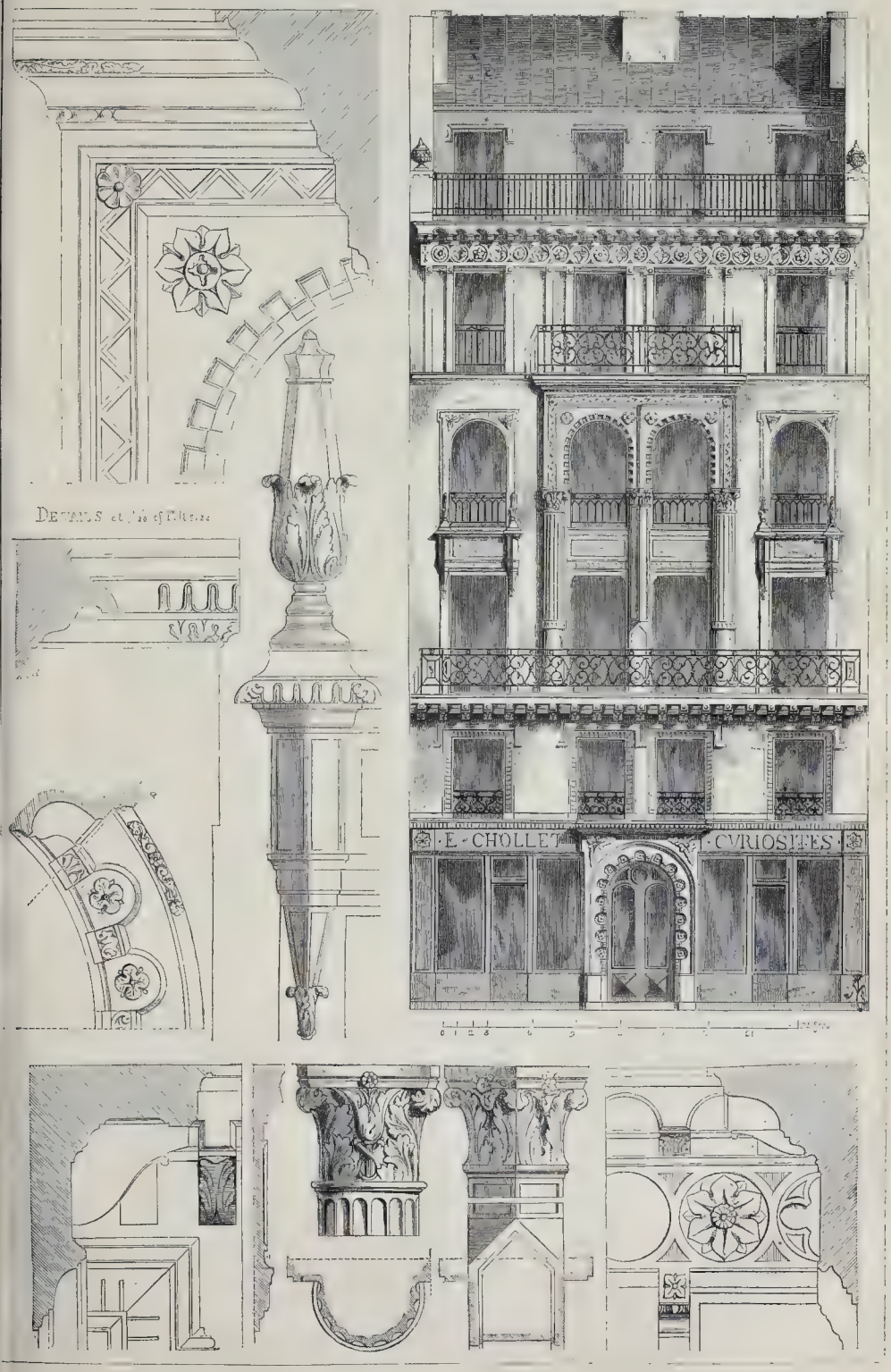
We append the windows and other details of this façade, engravings of which we gave pp. 158 and 314. A and B, window-heads and consoles, first-floor; C, centre window, second-floor; D, side window, second-floor; E, window and cornice of the third-floor; F, console of the entresol; G, cornice and gutter of the fourth story; H and K, details of door.

THE PUBLIC OFFICES.

SIR,—It seems another attempt is to be made to settle the vexed question of the Public Offices. Surely the late abortion was quite sufficient to show that the Office of Works was neither prepared nor willing to take the matter in hand; and although the public are paying 24,000*l.* per annum for miserable accommodation, besides suffering an enormous loss by property already purchased, and an enormous outlay in Pall-mall for the War Department, still we are as far off from a proper settlement of the question as ever, and so we shall continue until public attention is drawn to this monstrous extravagance. As I have already said, the Office of Works have neither the time nor inclination to engage in it, for this simple reason, it will entail upon the officials an immense increase of labour, without the slightest pecuniary advantage, and therefore they will give it the go-by. The only course left open is to follow that adopted under the old Westminster Improvement Act of 1806, and also followed out under the Regent-street Act, viz. by the appointment of an independent commission, with ample power to make purchase, settle plans, and superintend the whole affair. Then, and not till then, will there be a chance of something being done; but to expect an already over-worked body of men to be willing to take an additional burthen is more than will ever be realized.

T. G.

PARISIAN STREET ARCHITECTURE. — *House on the Boulevard Beaumarchais.*



THE BRITISH MUSEUM AND THE HOUSE OF COMMONS.

IN moving for the estimates of the British Museum, Lord John Russell stated that the increase of the vote for the present year amounted to 12,820*l.* of which the increase for purchases was 3,450*l.*; and that the average attendance in the reading-room used to be about 180 persons a-day; last year it increased to 200; but since the new room has been opened, on the 18th of May, 1857, it had increased to nearly 400 a-day. The number of persons attending the general collection of the Museum has also greatly augmented. In 1856 it was 360,000, and in 1857 it had increased to 621,000,—a larger number than had been before known. The noble lord concluded by moving that a sum not exceeding 79,275*l.* be granted to defray the salaries and expenses.

Some discussion then took place respecting the propriety of opening the Museum on Sunday afternoons, after divine service. Mr. Gladstone said that the question of opening places of amusement and recreation on the Sundays was one of public policy; and, whatever might be the private opinions of the trustees of the British Museum, they would make a great mistake in taking it on themselves to open that institution on the Sundays. It was rather for the hon. gentleman (Sir J. Trelawny), and those who thought with him, to make that proposal to the House; but he might easily anticipate what the fate of it would be.

Lord Elcho complained of the manner in which the space in the British Museum was appropriated, as well as of the general arrangement of the buildings. Efforts should be made to methodize the various collections, as had been suggested by Mr. Newton. A distinct line should be drawn between Christian and Pagan art. It was also worthy of consideration whether the collection of natural history might not advantageously be removed to another place Burlington House might be available for that or the mineral collection. The botanical collection in the Museum and that at Kew should be placed together. The collection of portraits should be placed with those in George-street. The collection of Mediæval art in the Museum, that in Kensington, and that in Jermyn street Museums, ought to be all placed together.

Mr. Gregory hoped that the system of lectures in this Museum, which had been so warmly advocated by Professor Owen, would be shortly established.

Mr. Duff thought that the time had arrived for raising the salaries of the second class officers of the Museum; and Sir P. Egerton suggested that ample room might be provided if a light cast-iron gallery were put around the rooms. For want of private studios the officers had to occupy one of the finest galleries in the Museum. He hoped that a vote would be taken for providing accommodation for the officers.

Mr. Tite believed that at present the houses north of the Museum might be purchased for a moderate sum (Lord John Russell says 150,000*l.*), and wished to know whether something could not be done to make the bequests to the Museum more generally known. One of the finest archæological collections ever known, the property of an Italian nobleman, at Rome, was for sale at present, and some efforts ought to be made to secure it for this country. The question of lectures was a large one. If they were established, he did not think there would be room enough in the Museum for those who would flock to them.

With regard to the archæological collection referred to, Lord John Russell said that an offer to purchase had been made by the late Chancellor of the Exchequer, but it had not been deemed high enough. Since then the Papal Government had shown a disposition to purchase it; but probably a part of it might still be obtained by this country. Every year there were proposals to remove some part of the collection,—the parts of course in which they took no interest. The opening of the Museum in the evening had been considered by the trustees; but they were all of opinion that the danger from fire would be very great. Anxious to accommodate the public, the trustees have agreed to open the Museum to the public on Saturday afternoons. Mr. Gladstone believed that the time had arrived for separating the great collections of the British Museum, and transferring them to other sites of the metropolis. The Chancellor of the Exchequer agreed in this opinion, and he believed that they could no longer leave the matter in the hands of the Royal Commissioners. "They had already before them all the necessary information upon the question, and what was wanted was a determination to draw from that information its legitimate consequence." The hon. gentleman remarked that about six years ago, a great effort was made to provide increased space for the national collections, and he had with great pleasure about six years ago the honour of proposing a grant of the public money of 180,000*l.* to be added to an equal sum advanced by the trustees of the Great Exhibition, out of the surplus fund for the purchase of land, with the idea that when sufficient space had been obtained, a second collection should be formed in the metropolis, which would not only relieve the British Museum, but in which the public collections might be studied with greater advantage to the public. The land was purchased, and had been held in trust by the Commissioners of the Great Exhibition; but it was impossible to deny that the expectations which had been raised respecting it had not been fulfilled: the site itself had been objected to, and the only result had been the formation of the Museum of Science and Art. The Government were now in this position: the Commissioners of the Great Exhibition called on them to assist in fulfilling the just expectations of the country, when they subscribed their surplus in aid of the vote of the House, and the Government did not find itself in a position to do so. Under these circumstances the Royal Commissioners had made a proposition to the Government to dissolve the partnership which had been so barren of results, and to pay to the country the amount they had received (180,000*l.*), with a moiety of all rents that had been received during the interval, so as to leave them free to effect their object, and give them an absolute title in the land at South Kensington. He thought it a very prudent course to take, and would shortly bring the matter before the House. This arrangement would re-open the question of providing more accommodation both at the British Museum and National Gallery.

In glancing at the above discussion, it is gratifying to notice the unanimous feeling in favour of the grant, and the promise it seems to hold out of a careful re-arrangement of our collections before long.

COMPETITIONS.

CORRESPONDENTS are asking what has been done with respect to Buchanan-street station, Glasgow.

Sunderland Orphan Asylum.—The reference made in the advertisement to an architect for information has excited animadversion. The *Sunderland Daily News* says,—"Who that reads that advertisement but will at once come to the conclusion that the Board intend Mr. Moore to carry out the plans, and that, while the designer gets only a paltry 20*l.* for his intellectual vigour, it is intended that another is to run off with the cream of the bowl—2½ per cent. or so on the amount of the contract—for a mere act of routine? What architect of respectability and talent will compete on such terms—terms that are insulting to a race of highly-educated men? We trust that the blunder is but an inadvertence, and that the future proceedings of the principals and governors will be such as to prove that it was so." One of our own correspondents says that having written for information, he is told they cannot "give the least idea as to the *number* of boys the principals and governors are prepared to *keep*: so architects will have to *guess* for required accommodation. You will at once see what a medley of useless productions will result from such a *wide* advertisement."

Architects who compete.—I have just read an article in the *Builder* of June 5, on "A Cambridge Competition." It must be admitted that every such competition is a disgrace to the profession:—I say, advisedly, to the *profession*; for it is too much to expect from the weakness of human nature, as represented in committees, that they should offer honourable conditions and make their decisions in accordance with these conditions, so long as they find that they can always obtain designs on dishonourable terms and make dishonest decisions with impunity. I repeat, therefore, the profession alone are to blame. But the remedy is the difficulty. It is now some time since you commenced publishing lists of builders' tenders for works, which sometimes were headed "blind builders;" and I think their publicity has had a good result. Could you not give a column to "foolish architects," and therein give the names of those who so unprofitably feed the craving appetite of committees for competition. In all fair and *bonâ fide* competitions the publication of the names of the competitors would, I think, be an advantage to them, and would not therefore be objected to.—BONA FIDE.

The Cambridge Station.—Sir: In your last week's publication you animadverted on the Cambridgeshire police stations competition, giving, with a reservation, the county chief constable the credit of the gross act. In this you were misinformed: it was the Hon. Eliot Thomas Yorke, M.P. who presided, and gave judgment in favour of his own plans, his drawings being introduced three weeks after the other designs had been submitted to, and overlooked by the magistrates, who then adjourned their decision. This wrong-doing was not altogether overlooked by the profession, as appears from a letter, published in the Cambridgeshire papers, a copy of which I send you.—COMPETITOR.

Banbury.—About forty designs for the cemetery chapels, it seems, were sent in for competition; premium, 20*l.* The local public were to be admitted to see them after inspection by the Health Board

ARCHITECTURAL INSTITUTE OF SCOTLAND.

ON Monday, 31st ult. a meeting of the Architectural Institute of Scotland was held in Edinburgh, when Col. Moody, R.E. gave some explanation of the plans, so far as approved, of the proposed alterations on the Castle, the plans being exhibited on the walls. There was a very numerous attendance of the members and of the public. The Lord Provost presided.

Colonel Moody said that the only work now in progress was the formation of the roadway behind the armoury, which was not a piece of architecture, but of civil engineering. Of this there only remained a piece of the retaining wall to be put on, and the green slope to be restored. With regard to the future, it was perfectly true that, as commanding officer of engineers in Scotland, he considered that a great many additional buildings at the Castle were desirable, and, more than that, absolutely necessary for the comfort of the troops. So far as he was concerned, he should urge it on those higher authorities with whom he would come in contact, that whatever designs were prepared for Edinburgh Castle, whether prepared by himself or any one else, should be subjected to the very highest judgment and skill in architecture which the kingdom could produce. With regard to all matters referring to the comfort of the troops, he should be guided very much by his own judgment and his knowledge of the service, which was considerable; but, with regard to the architectural part of it, all he wanted was that in Edinburgh Castle the very best things should be put there that could be put there, and, whether put there by him or any one else, he gave his word of honour, as a soldier, he did not care in the least. He hoped yet to restore the great dining-hall of the kings of Scotland—a magnificent chamber, in which many of the Scottish parliaments were held. The old roof stood exactly as it once was. The dormers, and floors, and windows were all modern introductions, and were all barbarisms; and it would be desirable once more to show that interior, with its fine open timbers, its dais and music gallery, and ancient character as a hall of the old Scottish kings.

The Lord Provost then proceeded to deliver the medals to the successful competitors for the prizes offered by the Institute, a list of whom we gave some time ago. The medals were delivered to Mr. John Alexander Hamilton, apprentice to Mr. Rhind, for the best specimen of geometrical drawing of an architectural subject competed for by architects' apprentices; to Mr. Robert Morham, apprentice to Mr. Rhind, for the best perspective drawing; and to Mr. William Gellatly, Pleasance, for the best model of an architectural ornament.

AMERICAN HOTEL BUILDINGS.

PERHAPS there is no class of edifice to the arrangement and construction of which our American brethren have devoted more study and attention than hotels. Externally they form the chief architectural features of the cities and towns, and internally are usually fitted up in gorgeous style, and are replete with every requisite conducing to the comforts of the inmates.

On frequent occasions we have had opportunities of describing in the *Builder* the general features of some of the principal of these buildings, and can now give a few additional particulars respecting others not previously noticed. In New York a "Hotel Exchange" is in progress of formation, with the avowed purpose of directing the management of the hotels in that city, and to "afford the most luxurious accommodation to the travelling public at the smallest amount of cost." It will be conducted by an organized body, having cha-

racter, intelligence, and firmness, and who will be invested with legal powers and privileges, banking and insurance authority, power to hold and convey real estate, to issue stocks, and perform all such functions as usually appertain to corporations.

The Pavilion Hotel at Evansville, Muriana, is a new and fine building. A new family hotel is projected to be built in Pennsylvania Avenue and Lafayette-square, at Washington. The land will cost 170,000 dollars, and the house and furniture 200,000 dollars more. The arrangements are of a comprehensive and costly character.

The Hon. J. M. Wood, of Portland, is erecting a magnificent hotel, intended as a first-class house at that city, and will, when completed, be one of the most elegant and spacious in the land.

The most prominent public building in New Orleans is the St. Charles Hotel. It not unfrequently contains from seven hundred to seven hundred and fifty guests, and its grand entrance-hall, where gentlemen smoke, read, chew, &c. presents a scene of bustle only to be compared to the Paris Bourse. The ladies, averaging one hundred in number, sit down to breakfast in full dress; and after dinner, the drawing-room scene is said to resemble the court of Queen Mab. This monster establishment is a model of its kind, and one of the sights of America. Messrs. Hall and Hildreth are the proprietors. Great improvements have been made in the hotels at Pittsburgh. The steam-engine is designated as the "right arm" of the establishments: it cooks, bakes, broils, fries, washes, warms, dries, and, in short, does everything for the landlord, except talk and collect his bills. The Troy House, Congress Hall, Albany, and Stevens's House, are worthy of special consideration in connection with "hotel improvements" in that locality.

ROYAL DUBLIN SOCIETY.

AT a recent meeting of this body (Mr. James Haughton in the chair), a very interesting paper, exhibiting statistical facts connected with agricultural improvements in Ireland, was read by Mr. Thomas Millar. In 1847 and 1850 the author visited the provinces of Ulster, Leinster, and Connaught, and was much struck with the natural fertility of the soil but the bad husbandry of the small farmers. The poor-rates were often higher than the rent roll. Whole districts were depopulated, and emigration, famine, and pestilence had added to the number of farms on the landlords' hands. The case now is different. English and Scottish capitalists are purchasing freely, but the latter were in considerable majority. Useless fences and ditches are being rooted out, fields enlarged, better houses and offices built, and improved husbandry will necessarily follow.

The Registrar-General estimates a reduction in the population since 1851 of 539,282, and the present population at 6,013,103. Hence the reduction of small holdings, and increase of rates for labour. From 10d. to 1s. 3d. per day are now paid by the settlers, being from 6d. to 8d. more than hitherto. Toll-gates are almost unknown: the county cess is applied to making and macadamising roads. Mr. Pollock is a great benefactor to the country.

CHURCH-BUILDING NEWS.

Hawkhurst.—Extensive alterations are to be shortly carried out at the parish church. According to plans and specifications provided by Mr. Slater, it is proposed to do away with all the galleries. The present arrangement gives 1,038 sittings; the new plan, 1,062. The total expense is estimated at 1,700*l.*, 800*l.* of which are already subscribed. The alterations will comprise the heating of the church by hot water apparatus, and perhaps an organ may be added.

Colwich.—The church of Great Haywood, in this parish, has been enlarged, and re-opened. The additions consist of a new chancel and south aisle, besides which the old church has been newly roofed, and the entire building fitted with new seats of oak. The whole church is laid with Minton's tiles. The architect is Mr. Stevens, of Derby.

Wolverhampton.—The foundation-stone of a new Jewish Synagogue has been laid here. The site of the building is in Fryer-street, and the edifice itself will be but of a comparatively small size. Mr. Bloor is the architect, and Mr. Elliott the contractor.

Wolverton.—The foundation-stones of a church and of a school have been laid at Wolverton, respectively by the Marquis and Marchioness of Chandos. They are chiefly intended for the people connected with works of the London and North-Western Railway Company, and the funds for their erection have been mainly contributed by the directors. The church will afford seat-room for 800 persons, and the school will accommodate 300 children.

Westhoughton.—The foundation-stone of a new church at Wingates, in Westhoughton, to be dedicated to St. John the Evangelist, has been laid on a site within a short distance of the school. The want of a church being felt, the Vicar of Deane offered 1,000*l.* and Mr. Starkie, of Huntroyde, gave the land. The architect is Mr. Shaw, of Manchester.

Barnsley.—St. John's church, at Barnsley, recently consecrated, is designed in the Early Decorated style of architecture, and, according to the *Leeds Intelligencer*, consists of chancel, 31 feet by 18 feet, with sacristy on the north side; a clerestoried nave of five bays, 75 feet by 21 feet, having north and south aisles 9 feet in width. The total internal width of the church is 45 feet, and the total length is 106 feet. The height of nave to the apex of the roof is 56 feet. The nave roof consists of braced and bolted principal framing (no intermediates being used) and common rafters, and is open to the ridge. The roof over the chancel is high pitched, and divided into panels formed by moulded ribs. The seats in the nave and aisles are low open benches, having quaintly-cut standards. The chancel is pierced on the south side by two three-light windows, and on the north side with one two-light window. The east gable is filled with a moulded window of five lights, supporting a circle containing six spherical triangles trefoliated. The clerestory walls are pierced, with ten circles filled with tracery of various designs. The aisles have two-light windows moulded, the tympanums being perforated in geometrical forms. The west gable is supplied with two two-light windows and a vesica above. In the east end of the south aisle there is a small two-light stained glass memorial window, executed by the St. Helens Stained Glass Company. The walls are built with pitch-faced sandstone, from an adjoining quarry. The whole of the walls are diapered. There is a gabled stone bell-turret over the chancel arch; height to summit of cross 76 feet. The church will accommodate 600 persons (including 453 adults) all free. The persons who executed the works were Mr. Wm. Robinson, mason; Mr. Josh. Smith, joiner; Mr. M. Wood, plumber and slater; Mr. Barker, plasterer; and Mr. Chas. Rogers, painter. Mr. Philip Boyce was the architect. The estimated cost of the building is upwards of 2,300*l.*

Heaton Mersey.—The Bishop of Manchester has just fixed up other two stained glass windows in the south side of the nave of St. John the Baptist's church here. They are of geometrical design, and in the centre of one are the arms of the see of Lichfield and Coventry, and in the other the arms of the see of Chester. These make four windows put up in this church by his lordship, and executed by the same artists, Messrs. R. B. Edmundson and Son, of Manchester.

Berwick.—The foundation-stone of the church now being built in Wallace's Green has just been laid. The edifice will be cruciform, but internally it will be denuded of a portion of that character, as the part beyond the transept is to be appropriated to the purposes of a vestry. The length of the nave will be 83 feet 6 inches, and the breadth 41 feet 6 inches. The arms of the transepts, which will be 32 feet across, will alone contain galleries. The building will accommodate 1,000 persons. The entire work has been contracted for by Mr. M. Reed, of Newcastle.

Belper.—The ceremony of laying the foundation-stone of the new cemetery at Belper was performed by Thos. Wm. Evans, esq. M.P. on Whit-Tuesday, when nearly 7,000 persons were present. The chapels are semi-detached, having robing-rooms, and connected by a carriage-way with the central tower and spire, 140 feet high. They are in the Geometric style of Pointed architecture. A lodge similar in character is to be erected at the extremity of the land contiguous to the turnpike-road leading from Belper. The architect is Mr. Edward Holmes, and the builder, Mr. W. Freeman, of Belper.

Queenstown (Cork).—A new stained-glass window has been put up in St. Mary's Convent, Queenstown. The architect employed in the improvements was Mr. John Hurley, of Cork. The centre light of the window depicts the agony of our Lord, near whom is seen an angel presenting him with the chalice: in the background is a palm-tree. Below this subject is another, forming, as it were, the foreground, the disciples Peter, James, and John, asleep. Underneath is a third compartment representing an angel kneeling and bearing a scroll. The whole is surmounted by canopy work, with diapered background composed of the passion-flower running through it. In the large opening at the top of the window is the Crucifixion, with the Virgin and St. John on one side of the Redeemer, and Magdalen weeping at the other. All the other tracing is filled with foliated ornament. The two side-lights are of geometrical pattern. This window has been designed and executed by Messrs. Edmundson and Son, of Manchester.

LAW NOTES.

Poor-laws—Embezzlement by Collector—Liability of Parishes to pay again.—The Court of Queen's Bench has lately decided the case of the City of London Union frauds. The collector embezzled large sums, which he ought to have paid to the treasurer and to tradesmen. When the frauds were discovered, the guardians made an order on all the parishes of the Union to contribute towards the loss. The right to do so was disputed, but the Court has decided that the order so made is good, even against the parishes for which the defaulter had not been collector.—*Waddington* v. *The City of London Union Guardians.*

Metropolis Local Management Act—Drainage.—The Poplar District Board of Works caused two houses to be demolished which were built over an embankment of earth (known as the Marsh Wall) running round the Isle of Dogs, and keeping back the Thames water from the island at high tide; and a question was raised as to whether they could recover the expense so incurred. It was held by the Court of Queen's Bench (on appeal) that the buildings were illegally erected, as they were on the place of the wall (which was strictly a sewer) without the consent of the proper authority; and that the District Board was entitled to be paid for removing them. A question of jurisdiction was also raised; but it was held that as the parties who had begun to build had treated with the District Board as having jurisdiction, and as the Metropolitan Board had not ever exercised jurisdiction over the sewer in question, the Poplar Board had jurisdiction to pull down the buildings, and to reinstate the "Marsh Wall." Lord Campbell held that, under the Act, a "sewer" is not only a drain, but that a wall keeping back high water is a "sewer," according to the evident intention of the Legislature.—*The Poplar District Board of Works* v. *Knight.*

Sale by Auction—Deposit.—A cottage and garden were put up for sale (the conditions including notice of forfeiture of deposit), and were knocked down for 120*l.* The buyer signed an agreement, but paid no deposit, and ultimately refused to complete the purchase. The premises were put up again, and only brought 105*l.* An action was brought for the loss, 15*l.*; the expenses, 9*l.*; and for the amount, 24*l.* which ought to have been deposited, and the jury found for all these sums. On motion, however, the 24*l.* were struck out. Lord Campbell (who stated that the Court had consulted Lord St. Leonards on the point, and that he agreed with them) held, that though deposit, if paid, could not have been recovered by buyer, even if re-sale produced more than first sale, still that as it was not paid, the seller could only recover the amount lost and the costs of second sale.—*Ockenden* v. *Henley.*

Parish Law—Constables.—It was held, lately, that the justices have a discretion to issue a precept to overseers to summon a vestry meeting to make out a list of persons qualified and liable to act as parish constables, and that if such precept be disobeyed, a *mandamus* may be obtained from the Court of Queen's Bench to enforce it.—*The Queen* v. *North Bierly.*

Landlord and Tenant.—A tenant about to quit a house before his time, agreed with landlord that the latter should accept another tenant found by the outgoing one. The tenant named was refused without reasonable cause, and the outgoing tenant sued for damage sustained, and recovered 30*l.* On a motion for a new trial, it was urged that the agreement was invalid, as not being under seal; but the new trial was refused, the Court holding that such an agreement did not require to be under seal.—*Grindell* v. *Kelly.*

Railway Company—Lands.—A railway company, being empowered to make a branch line, took possession by law of certain lands. Changing their intention, they applied to Parliament for power to make another branch instead of the intended one, but still requiring the lands. It was held, that the landowner had not power to restrain the company from making such new

branch, nor could he call for a re-conveyance of his land, under any circumstances, before the expiration of ten years after the time limited for the completion of the works.—*Astley* v. *Manchester, Sheffield, and Lincolnshire Railway Company.*

THE NINE HOURS QUESTION.

On the 3rd inst. an aggregate meeting of carpenters and joiners of London was held at Exeter Hall, Strand, in furtherance of the above object. Mr. Baine presided, and there was a large attendance.

The chairman said,—Some time back, when the greatest distress prevailed, a meeting of delegates was held to consider the best means to alleviate that distress. Several measures were proposed, but the reduction of the hours of labour from ten to nine hours was carried by a large majority. Upon that district meetings were called, and resolutions passed in its support. Appeals were made to shops and jobs in support of the movement, and they had responded to a great extent. He considered that they should be organized the same as other branches of the building trade, to reduce the hours of labour to nine per day. They would be doing that which would be giving employ to their 2,000 brother workmen.

Mr. Charles Hackworth then proposed the first resolution :—"That this meeting views with deep regret the distress existing amongst our fellow workmen through want of employment. It therefore proposes to reduce the hours of labour without interfering with the present rate of wages."

Mr. Taperill, in seconding the motion, contended that the hours of labour could be reduced without national injury, for there was abundance of property, and the productions of the working-classes were above what was wanted. As to the question of the wages, he thought it was a most knotty point; but they must not, under any circumstances, be reduced.

The motion was carried unanimously.

Mr. George Potter then moved the second resolution, as follows :—"That in the opinion of this meeting a memorial should be drawn and presented to our employers, praying them to reduce the hours of labour from ten to nine hours per day, by which many of our destitute fellow-workmen will obtain their proportionate share of employment, and would also give to those employed more time for moral and intellectual improvement." He contended that although the masters might sacrifice a little at first, they would not lose anything in the end.

Mr. Pepperell having seconded the motion, others addressed the meeting, and it was carried.

HEALTH REPORT ON ST. JAMES'S PARISH, WESTMINSTER.

The second annual report of the medical officer of health for this parish, has been printed. From this report it appears that, although the number of deaths is slightly more than those of last year, still they are below the average of the last twelve years, and there is a decided decrease of mortality in the once notorious Berwick-street district. The comparative unhealthfulness of last year is partly attributed to the high temperature of the summer, and the closeness of the season, or slowness of the wind's movements, and also to the cold of the latter part of the year. The increased tendency to diarrhœa is a cause for anxiety, especially as it is a known precursor of virulent cholera, which indicated its presence in the autumn; and if the present summer prove a close and hot one, with a deficiency of electric storms, we fear much for the result; but the summer has made an excellent and promising beginning in these respects, hot as the weather is. The closing of surface pump wells in St. James's, Westminster, has been engaging the attention of the authorities: it is to be hoped, however, that no other street pumps will be withdrawn, and that on the contrary those suppressed will be replaced with better water. The poorer classes greatly need an increased supply of street taps or pumps, especially during summer; and while fountains are being opened at Liverpool and elsewhere by the dozen, it is to be hoped the metropolitan public are not to be made worse off than they were for a draught of water in the street while thirsty. The temperance societies could not employ themselves better than in agitating such a question. But the water supplied by the metropolitan water companies themselves is complained of in the report under notice, and justly so. The New River water has of late been at times quite disgusting; and the company which supplies Battersea with water appears to think it necessary to lay it on occasionally as thick as possible. Boiling and filtration are recommended by the reporter, Dr. Lankester, in using the New River and Thames waters, and a wish is expressed that the metropolitan public could be spared the necessity of swallowing the Oxford sewage with their internal water supply. Constant supply at high pressure is also pointed out as desirable, and it is noted that four-fifths of the occupiers or owners of houses can now compel this to be done. The report contains remarks on drainage and various other subjects connected with the sanitary state of the parish of St. James's, Westminster.

Books Received.

A Manual of applied Mechanics. By W. J. M. Rankine, F.R.S. &c. London and Glasgow: Richard Griffin and Co. 1858.

This elaborate and valuable elementary work, by the President of Engineers in Scotland, and Regius Professor of Civil Engineering and Mechanics in the Glasgow University, forms the thirty-ninth volume of the "Encyclopædia Metropolitana. Second Division: on the applied Sciences." It is illustrated with numerous diagrams. The subject is thus arranged :—I. First Principles of Statics. II. Theory of Structures. III. First principles of Cinematics. IV. Theory of Mechanism. V. First Principles of Dynamics. VI. Theory of Machines. The second division,—on the theory of structures,—is especially valuable: it is subdivided into chapters on definitions and general principles,—stability,—and strength and stiffness. The second and most extensively developed portion of the treatise on the theory of structures is so mixed up with the numerous diagrams that it is impossible to give any idea of it without them. On the subject of "strength and stiffness" there is rather less difficulty, and we therefore select a few passages for quotation :—

"The *ultimate strength* of a solid is the stress required to produce fracture in some specified way. The *proof strength* is the stress requred to produce the greatest strain of a specific kind consistent with safety; that is, with the retention of the strength of the material unimpaired. A stress exceeding the proof strength of the material, although it may not produce instant fracture, produces fracture eventually by long-continued application and frequent repetition. Strength, whether ultimate or proof, is the product of two quantities, which may be called *toughness* and *stiffness*. *Toughness*, ultimate or proof, is here used to denote the greatest strain which the body will bear without fracture or without injury, as the case may be: *stiffness*, which might also be called *hardness*, is used to denote the ratio borne to that strain by the stress required to produce it,—being, in fact a *modulus of elasticity* of some specified kind. *Malleable* and *ductile* solids have ultimate toughness greatly exceeding their proof toughness. *Brittle* solids have their ultimate and proof toughness equal or nearly equal."

* * * * *

"*Factors of Safety* are of three kinds, viz.:—The ratio in which the *ultimate strength* exceeds the *proof strength*, the ratio in which the *ultimate strength* exceeds the *working stress*, and the ratio in which the *proof strength* exceeds the *working stress*. The following table gives examples of the values of those factors which occur in practice.

	Ult. Strength. / Proof Strength.	Ult. Strength. / Working Stress.	Proof Strength. / Working Stress.
Strongest steel	1½	..	..
Ordinary steel and wr. iron, steady load....	2	3	1½
Ordinary steel and wr. iron, moving load ..	..	4 to 6	2 to 3
Wrought iron boilers..	2	8	4
Cast iron, steady load..	2 to 3	3 to 4	about 1½
,, moving load	..	6 to 8	2 to 3
Timber; average.....	3	10	3⅓
Stone and brick	about 2	4 to 10, av about 8	av abt. 4

* * * * * *

Resolution and Composition of Strains.—Let a solid of any figure be conceived to be ideally divided into a number of indefinitely small cubes by three series of planes parallel respectively to three co-ordinate planes. Each such elementary cube is distinguished by means of the distances, x, y, z, of its centre from the three co-ordinate planes. If the solid be strained in any manner, each of the elementary cubical particles will have its dimensions and figure changed, and will become a parallelopiped, which may be right or oblique—its size being conceived to be so small, that the curvature of its faces is inappreciable. The *simple* or *elementary strains* of which a particle, cubical in its free state, is susceptible, are six in number, viz.:—three *longitudinal* or *direct strains*, being the three proportional variations of its linear dimensions, which are elongations when positive, and compressions when negative; and three *transverse strains*, being the three *distortions*, or variations of the angles between its faces from right angles, which are considered as positive or negative according to some arbitrary but fixed rule, and are expressed by the proportions of the arcs subtending them to radius. When the values of those six strains for every particle are expressed by functions of the co-ordinates, x, y, z, the state of strain of the solid is completely expressed mathematically. The six elementary strains, in the cases to which the theory is limited, are very small fractions.

The method of reducing the state of strain of the solid at a given point, as expressed by a system of six elementary strains relatively to one system of rectangular axes, to an equivalent system of six elementary strains relatively to a new system of rectangular axes, is founded on the following theorem :—Let α, β, γ, be the longitudinal strains of the dimensions of a given particle along x, y, z, λ, μ, ν, the distortions of its angles in the planes $y\,z$, $z\,x$, $x\,y$. Conceive the surface of the second order whose equation is—

$$\alpha x^2 + \beta y^2 + \gamma z^2 + \lambda y z + \mu z x + \nu x y = 1.$$

Transform this equation so as to refer the same surface to the new axes of co-ordinates: the six co-efficients of the transformed equation will be the elementary strains referred to the new axes. Other ways of resolving strains have been pointed out by Professor W. Thomson, *Cambridge and Dublin Mathematical Journal*, May, 1855.

The sum of the direct strains $\alpha + \beta + \gamma$ represents the cubic dilatation of a particle when positive, and the cubic compression when negative. The state of strain of a transparent body may be ascertained experimentally by its action on polarized light. On this subject experiments have been made by Fresnel, Sir D. Brewster, M. Wertheim, and Mr. Clerk Maxwell."

Scudamore Organs; or, Practical Hints respecting Organs for Village Churches and small Chancels, on improved Principles. By the Rev. John Baron, M.A. London: Bell and Daldy.

Pressed for funds for the restoration of his church, and anxious, nevertheless, to give his congregation the advantage of an organ, the Rev. John Baron devised a satisfactory chancel organ, which may almost be said to take up no room at all. Mr. Baron thus describes it :—

"The bellows, 4 feet by 1 foot 5 inches, placed under the seat of the stalls, the windchest and pipes (all 'im prospect,' as the Germans say over the head of the organist against the wall, extending 4 feet from west to east, with a projection of 1 foot 3 inches. The keyboard, 4 octaves from C C to c 3 in alt., is just below the bookboard of the stalls, so that the player can see and control the whole choir. The pipes, forty-nine in number, are an open metal Diapason; the C C pipe, including foot, being 9 feet in length. The case, including oak case, and allowing fair profit to the organ-builder, is 40*l.*; but, by making the seven lowest pipes, from C C to F sharp, Stopped Diapason, of wood, the cost would be still less, without impairing the musical effect."

In the work now before us the rev. writer seeks to point out how builders and restorers of churches may obtain with small funds truthful small organs in lieu of the pretentious pieces of sham with which village churches are sometimes disfigured. We will let him speak for himself :—

"That a small organ may be, and at the present day generally is, a great absurdity, I freely admit. But, upon the same principle, small churches have often, in an architectural point of view, been very absurdly designed and built. In the beginning of the revival of Gothic architecture, about twenty years ago, when as yet was unformed the school of highly talented and highly educated church-architects, who have since arisen to assist and guide the movement, many persons who had work to do in church building and restoration were thrown upon their own necessarily imperfect resources in taste and information. Britton's 'Cathedrals' was one of the earliest and best authorities, and consequently many seemed to be possessed with a notion that a parish church ought to be a miniature cathedral, and many would not rest contented with a set of plans, till they had crowded into them as many as possible of the pretty and remarkable things they could find in Britton, Rickman, Parker's Glossary, &c. till they had achieved a patchwork of prettiness as much like a genuine Gothic design as the style of Erasmus's 'Colloquies,' choke full of phrases, is to the chaste and natural Latin of Cicero. Even so has it been, and still is it in organ building, as will be more fully explained below. Many are the costly and mischevous absurdities which have been perpetrated upon the supposition that an organ for an ordinary parish church must be a miniature cathedral organ, an epitome (*multum in parvo!*) of that 'vast and comprehensive instrument' which is, in truth, an agglomeration of four organs. As it is now possible to obtain from many architects a simple, reverent, truthful, and satisfactory plan for a village church, entirely free from the fault of aping a cathedral, or of needless and incongruous ornamentation, so I trust it will, ere long, be possible to obtain from many organ-builders a simple, specific of a simple, reverent, truthful, and satisfactory organ at a moderate expense, suited to the humblest village church."

The writer suggests that the essential parts of an organ are:—a set of keys, with the requisite action to carry onward the touch of the player; a bellows; a wind-trunk; a wind-chest; and the pipes, with sufficient framework to hold these parts together, or at least connect them in working order.

"The employers must take care not only that the organ may not exceed the forthcoming funds, but that it may really be suited to their requirements: the architect must take care that the dimensions and arrangement of the several parts harmonize with the building; for an organ ought to be as much a feature of a church as a door or window, without, however, being an architectural gimcrack, decked in every part with dandy Gothic. The organ-builder must also be continually consulted in the formation of a plan for an organ, lest the plan should interfere with the principles of good organ-building, as, for instance, by an undue complication or crowding of mechanism, a leading about of wind, a muffling of pipes, &c. &c."

Without advocating the cutting down of organs to the merest possible help to the congregation, we have no doubt Mr. Baron has "the right sow by the ear," to use his own quotation, in proposing to have

as few stops as may be, and to make the most of the stops used, by good materials, construction, and workmanship, and good acoustic position. The volume contains several designs for such small organs by Mr. Street. The subject is vitally connected with church architecture, and deserves the most candid consideration.

Miscellanea.

THE CHISWICK HORTICULTURAL FETE.—The fête of the Horticultural Society, on Wednesday, attracted a numerous and fashionable attendance, and it is gratifying to find that former difficulties appear to be vanishing. The Prince Consort is the president, and was present with her Majesty and other members of the Royal Family. The fruits were tempting, and the flowers quite gorgeous. There was a large show of implements, hot-houses, conservatories, &c. and numerous specimens of vases, in Ransome's silicious stone.

THEATRICAL AND EQUESTRIAN SICK FUND ASSOCIATION.—About 200 members of the Dramatic, Equestrian, and Musical Sick Fund Association went to Woking Cemetery, on Wednesday, led by Mr. Benjamin Webster, Mr. Cooke, of Astley's, and Mr. Buckstone, where these eminent caterers for the public amusement in all its varied moods,—"from grave to gay, from lively to serene,"—inaugurated their new and provident association by the much more grave than lively duty of taking solemn possession of a burial place for the members, which has been purchased from the Woking Cemetery Company in perpetuity, and comprises an acre of ground in the consecrated precincts of the Cemetery. An association that starts with the provision of ground for burying itself *must* be provident, and deserves support.

LINCOLNSHIRE DIOCESAN ARCHITECTURAL SOCIETY.—The annual spring meeting of this society commenced at Horncastle on Wednesday in last week, and was continued on the following day. The first day was appointed for holding the meeting, and the next for the excursion. A lecture on "Horncastle Church," was delivered in the outset by the Rev. George Atkinson, vicar of Stowe, in the chancel of the church. The meeting was held in the Corn-Exchange, where the museum of the Society was arranged. The Rev. E. Trollope read a paper "On the Roman Remains of Horncastle," and the Rev. F. C. Massingberd one upon "Bolingbroke Castle." The meeting then separated; but in the evening a public dinner took place at the Bull Inn. The chair was occupied by Mr. J. Banks Stanhope, and there was a large attendance. Next day the society and friends went to visit the objects of interest in the neighbourhood of Horncastle, and amongst others—St. Michael's Church, Martin; Tower on the Moor; St. Andrew's Church, Langton; Kirkstead Abbey and Church; Tattershall Castle and Church; St. Michael's Church, Comingsby; Revesby Abbey, and St. Benedict's Church, Scrivelsby. The proceedings were terminated with a *conversazione* in the Corn-Exchange.

WORCESTER DIOCESAN ARCHITECTURAL SOCIETY.—The first excursion of this society for the present season took place on the 1st of June, and was devoted to portions of South Worcestershire and the borders of Gloucestershire. Bredon and its church were first visited, and an ancient tithe-barn inspected. The party then proceeded to Twyning Fleet. In the church here Mr. Walker read a paper on the edifice. Thence they went to Ripple, by Brockeridge-common, and Mr. Hopkins read a paper on the church of Ripple, the gablee of which was noted at one time as the best place in the parish for keeping,—not exactly parish registers, but—the parish game! The route next lay through Upton to Ham Court, and thence to Queenhill chapel and Pall Court, where Mr. Dowdeswell, the president of the day, entertained the whole party, now numbering between forty and fifty, to dinner; after which the company drove to Bushley church, when the Rev. C. Allen gave a descriptive account of the edifice. They then returned, *viâ* the Tewkesbury station, to Worcester.

THE NEW TOWN-HALL BUILDINGS AT NEWCASTLE-ON-TYNE.—It is the intention of the town council of Newcastle-on-Tyne to formally open the entire suite of buildings in St. Nicholas-square in that town in September, and it is hoped that her Majesty will honour the town with a visit on the occasion. The Corn-exchange, Council-chamber, the River Tyne Commissioners'-room, and other private and public offices in the buildings have already been opened; but by September it is anticipated the large music-hall, capable of containing 6,000 persons, will be ready.

THE ROYAL HIBERNIAN ACADEMY.—A report on the affairs and past management of this academy, by Mr. Norman M'Leod, and certain official correspondence relative to the said report, have been published, on the motion of Mr. Maguire, M.P. The Royal Hibernian Academy has proved a failure as an institution for the cultivation of the fine arts. The causes are alleged to be the narrowness of its constitution (the number of academicians being restricted to fourteen) and miserable mismanagement in matters of detail. To obviate these evils, suggestions are offered by Mr. M'Leod. A correspondence has since taken place between the Academy and the present Lord-Lieutenant of Ireland, and on the 3rd ult. his Excellency was informed by Mr. Mulrenin, the secretary, that the academy would be happy to accept the general proposition of the Viceroy.

VESSELS LONGER THAN THE "LEVIATHAN."—In the *Builder* of May 29th, I observe you give under the heading,—"New Vessels longer than the *Leviathan*," an extract from the *Liverpool Albion*. This paper states that these "vessels" are each 700 feet long! and have been advancing to completion without the general public being even cognizant of their existence. Now to anyone reading the above paragraph, an idea is conveyed of there being something very grand, very vast, and very extraordinary connected with this undertaking, whereas the very contrary is the fact, as I will now prove. First, these "vessels" consist of several "flats," or "barges," each about 100 feet in length, provided with means of attaching them together at each end, on a similar principle to the coupling together of railway carriages, or as we sometimes see the tugs on the river tow ing two or three barges in a line, one after the other: thus instead of its being a "vessel" 700 feet long, it is nothing more than a train or line of barges "hooked," "linked," or "coupled" to one another, and may just as easily be increased to seven miles in length as be made 700 feet long, only requiring a sufficient number of barges, and a steamer of sufficient power to tow them. The origin of these jointed "vessels," or barges, is most satisfactorily proved to be due to the late Sir Samuel Bentham, and an account of the first used by him, some sixty years since, may be found in, I think, the *Artizan* for last year. Sir Samuel's invention has often been resuscitated, as may be seen in *Hebert's Encyclopædia*, the *Mechanics' Magazine*, and other periodicals, and it is now again brought forward as something new and wonderful. The next remark is, that the general public of Liverpool were not even cognizant of their existence. This is neither remarkable nor extraordinary, for the appearance presented in the yard during their construction was simply that of an ordinary iron ship-yard, with six river barges in course of construction at once; and no one, unless told that they were to compose a "vessel" 700 feet in length, would have thought the proceedings were other than the execution of the orders of half-a-dozen lightermen for iron barges: so I think there is an end of any wonder there.—AN ENGINEER.

PROVISION FOR THE WORKING CLASSES.—When I strongly recommended, in a former number of your valuable journal, the distribution of the working classes of many injurious trades over a more extended space, and to more healthy parts of the country, the editor of the *Times*, and many others at that time, inserted a copy of those remarks from the *Builder*, thereby seconding and enforcing the subject on their readers. Yet no steps have been taken to carry out that desirable object. It ought to form an important item in the legislature of this country, and to have beneficial measures adopted without delay, as the health of thousands depends upon it, both of the higher and lower classes. Who could suppose that, on the opposite side of the Thames, and within about a quarter of a mile of the Houses of Parliament, there would be found a working population crowded and huddled together in the most dilapidated habitations, many of them below high-water mark, and totally unfit for any human beings to occupy. Thousands are employed in the potteries of Lambeth; and any person of common sense must acknowledge that potteries and bone-boilers, and factories of a like nature, ought not to be allowed to continue their operations, to the prejudice of thousands in a populous neighbourhood, and within half a mile of Charing-cross. What a fine site for handsome houses is lost in that part of the river-side, from Lambeth Church and Palace up to Vauxhall-bridge, now occupied by sheds and such-like buildings, which would disgrace any part of our noble river, more especially so close to the Palace of Westminster and the metropolis in general.—R. M. C. R.

ELECTRO-TELEGRAPHIC PROGRESS.—The preliminary expedition and "rehearsal" of the laying down of the Atlantic cable has taken place in the Bay of Biscay; and although the cable was repeatedly broken and lengths of it lost, the result is considered to be "highly satisfactory." Some valuable experience, certainly, has been gained, and the apparatus for paying out and hauling in seems to have worked well, with this exception, that the donkey-engine of 12-horse power in the *Agamemnon* was not powerful enough to lift the cable from very deep water; but the least satisfactory part of the whole business appears to us to be that the only one portion of the cable to be laid which happened to be used in these experiments, was found to be shamefully defective at a point where it broke under a very small strain compared with what the cable is considered to be able to bear, and where no less than six strands of wire were found to be badly joined, and moreover all within the space of 6 inches! Should the attempt prove a failure, the cable, and not the *modus operandi*, is but too likely to be in fault. ——A limited liability company is about to join the Channel Islands, Jersey, Guernsey, and Alderney, with the English coast, according to the *Jersey Times*, which reports the progress of the scheme from week to week.

SUSSEX COUNTY LUNATIC ASYLUM. — This building now in course of erection on the borders of Hayward's Heath, in a south-easterly direction from the railway station, is pretty far advanced, according to the *Brighton Gazette*. In the course of last year the whole of the centre building, or officers' quarters, and one wing, above 200 feet in length, were covered in, as well as an infirmary for males. The style of architecture, chosen by the architect, Mr. H. E. Kendall, jun. of London, is called Byzantine, with red, yellow, and black bricks, coped with Bath stone. Each sleeping apartment for a single individual contains 800 cubic feet of air, with an opening for pure air. The whole of the foul air is being constantly driven off through air chambers built in the roof, to ventilating towers at each end. On each floor are lavatories, baths, and closets. On the ground floor at the back, and running the whole length of the building, is a corridor, covered with glass, above 600 feet long. In the centre of the building, on the ground floor, is a hall for recreation, 60 feet by 25 feet; in front of which is to be a series of terraces. The ground will be laid out with walks. The two water-towers have tanks, each capable of holding 10,000 gallons of water, which will be kept full by a steam-engine from a well in the centre of the building. Should that fail, there is a natural spring on either side, running all the year round. The centre of the building will be appropriated to officers' quarters, and the two wings to 400 inmates. In addition, infirmaries, workshops, bakehouse, brewhouse, washhouse, and sundry other numerous offices and stores are to be erected, several of which are in a very forward state. The gas-works are to be built at the east end capable of supplying 500 lights. There is a separate chapel, capable of containing 400, with a tower about 80 feet high. The works have been carried out under the superintendence of Mr. J. B. Heard, of London. The original contract for the works was taken by Messrs. Rees and Ayres, of Dover, for 37,450*l.*: the engineering contract in addition, amounts to 3,423*l.*: all the extras on the building, up to the present time, only amount to about 800*l.*

THE ELLESMERE MEMORIAL.—Between seventy and eighty designs for the proposed monument to the late Earl of Ellesmere have been sent in for the approbation and selection of the committee, and they will shortly be placed for public inspection in the Royal Manchester Institution, previously to the best being chosen, and the award made. The merits of the models are as various as their designs. The choice will be substantially between half-a-dozen of the best models.

A MARVELLOUS BELFRY.—The belfry of the church of Bon Secours, at Rouen, is about to be supplied with a chime similar to those of Bruges, Antwerp, and Malines, but with all the improvements recently effected. The collection is to consist of twenty six, and is to play the air "Inviolata" every hour of the day and night; but, in order to avoid the monotony produced by the constant repetition of the same air, the chimes are so arranged that they are to play special airs at Advent, Lent, Christmas, Easter, Whitsuntide, Ascension, and All Saints' Day; in a word, on all the seasons and holidays of the church. In addition, a finger-board has been adapted to the chimes. When our own abortive English attempts to produce far less than this are considered, it may well be called a marvellous belfry.

NEW MINOR MODEL SCHOOL AT OMAGH.—The Board of Public Works in Ireland are about erecting a large school-house at Omagh, with a frontage of 130 feet by 44 feet depth, and standing on an inclosed site of about 428 feet by 110 feet. The building is of Byzantine character, one story in height, except at the left wing, to which is attached a teacher's residence, containing living and bed rooms, kitchens, &c. On the principal front it presents a central gabled feature, connected by low buildings with wings of similar design; and in each are respectively situated infants', boys', and girls' schools: the former 30 feet by 20 feet, the latter each 40 feet by 20 feet, with class, and cap and bonnet rooms, porches, &c. in connection therewith. A triplet-arched window, situated at a height of about 8 feet from the ground, is the chief feature of the wings; and the central building has an arched doorway and two windows. Zig-zag ornaments in limestone, unequal quoins, chamfered arrises, tracery-headed windows, and tall chimneys of various designs, are introduced throughout. Horizontal thorough-ventilated flues are constructed in the roofs over each school-room, and terminate in the front and rear gables in circular apertures, 15 inches in diameter. The front and flanks are to be built of squared stone, with half hammered face and horizontal beds, and vertical joints. Extensive playgrounds are attached. We should specify that this is the second set of plans made by the Board for this building, the first having been found too expensive.

ISLINGTON AND CLERKENWELL.—Sir: Knowing the earnestness with which you press sanitary improvements upon all classes, I venture to solicit your influence to induce the authorities of Islington and Clerkenwell to examine thoroughly both these parishes. I am glad you referred last week to Pulteney-terrace; I would call attention to No. —, White Conduit-street, where one of these filthy open cesspools is still in use. I have been to the "Commissioners" of Islington and Clerkenwell, and whether the landlady *promised* to make the required improvements or not I cannot say, but it is not done. *Sickness has already been the result of delay*, and a medical practitioner who attended the sickness wrote to the Commissioner, but it has not had the desired effect; and perhaps the best way is to expose it, that further sickness may not be caused. And while this house is being examined, there are several others in the immediate vicinity nearly if not quite as bad.—G. H.

ATTEMPTED INFRINGEMENT OF PATENT FOR MOULDING PIPES.—A case of some importance to inventors and patentees was lately disposed of by the Solicitor-General. The discussion arose in an application by Mr. Steven, a partner in the firm of John M'Dowall and Co. Milton Foundry, Glasgow, Thomas Reid, foreman moulder, and Thomas Frew, foreman pattern-maker to the same firm, for a patent for "improvements in making moulds for castings," the granting of which was opposed by Mr. Macfarlane, of the Saracen Foundry, of the same city, who explained to the Solicitor-General his grounds for suspecting that the patent applied for contemplated an infringement on his patents. The Solicitor-General having heard both parties, and examined models, expressed an opinion and decision to the effect that the arrangements for which the applicants attempted to obtain a patent were direct infringements of Mr. Macfarlane's patented inventions.

THE ARMY WORKS CORPS AND SIR J. PAXTON.—The Army Works Corps are pursuing their demands upon Sir Joseph Paxton. A rule was lately obtained, on the part of Sir Joseph, to show cause why the proceedings should not be stayed. It appears that, arising out of the dispute in relation to the claims of the discharged corps, no less than forty-six actions have been brought against Sir Joseph. The men were employed by the authority of the Government, and it is alleged that at the termination of the contract all their claims were fully paid: it is to save the enormous expense of so many actions that the rule was applied for.

GREECE.—According to the *Literary Gazette*, the excavations of the theatre of Herodes Atticus, near Athens, are almost completed. The whole front, which is built in the Roman style, is now freed from rubbish, and the proscenium and the marble seats are exposed to view. The latter are capable of providing ample room for 12,000 people. They have evidently suffered much from the action of fire. A male statue of considerable beauty was lately found amongst the ruins. The head and the right-arm were wanting, but the head was afterwards dug up. The hair was gilt, the eye-lashes painted, and the iris of the eye coloured.

ARRANGEMENT OF HEARTHS FOR VENTILATION. A Manchester correspondent, Mr. Isaac Holden, encloses for our inspection a tracing from a drawing said to have been submitted by him, in 1848, for the New County Lunatic Asylum at Prestwich, near Manchester, for which place he had designed it; and he draws our attention to the fact that there is a remarkable similarity in the arrangement to that patented by Mr. Jennings. Mr. Holden, however, does not suppose it possible for that gentleman to have seen his design, and adduces it only as a somewhat curious coincidence of ideas, but suggests that, as his design was published at the time of its formation, the value of Mr. Jennings's patent may be affected by it.

COVENT-GARDEN ROYAL ITALIAN OPERA-HOUSE.—At a meeting of the Committee of Management of St. Paul's, Covent-garden, in the Vestry-room of that parish, on Monday last, Mr. Paine (for the third time) and also Mr. Hakewill were appointed to the survey and valuation of this theatre for the purpose of parochial assessment. The survey of the new Board of Works' buildings and offices, together with sundry other properties in King-street and Bow-street, were referred to Mr. Paine.

FREE PLAYGROUNDS FOR THE PEOPLE. Mr. C. P. Melly, a young merchant of Liverpool, after having provided the public and especially the poor of that town with numerous wall fountains, has recently fitted up a piece of land in the suburbs, belonging to the corporation, as a free gymnasium and playground for the people. It has just been opened, and is numerously attended.

THE NEW APPROACH TO WESTMINSTER ABBEY. On the Bill now before Parliament to give power to build over the whole vacant ground opposite the western front of Westminster Abbey, Lord Redesdale has decided that he cannot look to public interests in the matter, as no Act of Parliament has been passed to give powers to purchase the land in question. He has, however, consented to take the opinion of Mr. Clutton, of the Woods and Forests, as to whether the rental agreed to be given is the full and fair value of the property.

RAILWAY CARRIAGE LAMPS.—As there is a time for everything, I most earnestly hope that the directors of our several railways will avail of the present long days to effect some improvement in railway carriage lamps. To thousands of professional and business men, the time spent on the journeys to and from town is most valuable, but in the winter season is rendered almost unavailable for the purposes of either profitable employment or literary relaxation, from the defective light which is so very generally furnished. Surely in the present day, the skill and enterprise of the country are equal to the production of a carriage lamp, which shall afford sufficient illumination to enable the occupants of a carriage to read with ease and comfort, instead of with pain and vexation. The long-journey passenger, as also the residential one, will hail an improved light as a great boon. Pecuniary considerations cannot be regarded as the impediment to progressive steps in burners, reflectors, and glasses, as the expense must obviously be inconsiderable.—SPES.

LAND VALUATION.—For years I have been one of your constant readers, and the other day I read with much pleasure your review of Mr. Morton's book, "The Resources of Estates." I have in my memory many important suggestions which came from your pen, and in requital I ask you to lodge in your memory one from my pen on the above subject. You could readily enough dash me off a plan of a mansion, or any other important building, and all the other plans necessarily connected with it; but you could not tell me, within a trifle, what it would cost to erect your mansion without soundly *working out your quantities*. In like manner, it is an easy thing for a valuer to tell an employer that a given farm is worth a certain yearly rent; but, unless the man works out *his* quantities—brings himself by a sound demonstrative debtor and creditor statement to the balance rent, no man in his senses ought to consider him a true valuer; and until all landowners demand from their land-agents, that to every valuation there shall be appended these demonstrations, we shall go on having nothing better than charlatan land-valuers. I write to you with much respect, and I hope you will not deem me a vulgar intruder. For twenty years I have been collecting materials for a work on the "landed interest," and this is why I am at home on the above point.—SAMUEL PAULL, Fellow of the London Statistical Society.

INSTITUTE OF BRITISH ARCHITECTS. — The closing general meeting will be held on Monday evening next, the 14th inst. when the discussion on Mr. Burgess's paper will be resumed, and the following paper will be read: "Notes on the assumed Use of Chesnut Timber in the Carpentry of Old Buildings," by Mr. Wyatt Papworth. The loan of specimens of presumed chesnut wood obtained from any structure, is requested for the evening. McKinnell's patent system of ventilation will be explained.

TENDERS.

For alterations and additions to Walton Hall, Warwickshire. Mr. G. G. Scott, architect:—

Symm (Oxford)	£28,998	0	0
Wheeler (Reading)	28,000	0	0
Higgs (London)	27,872	0	0
Hardwick (Birmingham)	27,595	0	0
Robinson (Coventry)	27,538	0	0
Ruddle (Peterborough)	26,794	0	0
Piper (London)	25,750	0	0
Trollope (London)	23,673	0	0
Norris (London) (accepted)	22,250	0	0

For warehouse, Nos. 5, 5½, and 6, Newgate-street, for Messrs. Hutton and Co. Messrs. Tillott and Chamberlain, architects. Quantities supplied:—

Myers	£5,419	0	0
Jay	5,039	0	0
Nicholson and Son	4,857	0	0
Lawrence and Son	4,840	0	0
Piper and Son	4,757	0	0
Wilson	4,726	0	0
Pritchard and Son	4,719	0	0
Browne and Robinson (accepted)	4,357	0	0

For a parsonage at Thames Ditton, Surrey, for the Rev. W. Talman. Quantities supplied by Messrs. Pearson and Doughney.—

Lote	£1,978	0	0
Donnelly	1,523	0	0
Wiliams	1,460	0	0
Adamson and Sons	1,259	0	0
Goulter	1,219	10	0
Matthews and Son	1,199	0	0
Heather	1,149	0	0
Barker, J. and W.	1,094	0	0
Evans, Brothers	1,087	0	0
Dodson and Son	1,085	0	0

For an infant school and teacher's residence, in connection with St. Matthew's schools, City-road. Messrs. Mason and White, architects. Quantities taken out by Mr. Cant.—

Hill	£689	0	0
Hedges	669	0	0
Piper and Son	669	0	0
Cole	649	0	0
Roe	649	0	0
Wood	637	0	0
Pritchard	635	0	0
Brown	590	0	0
Joshua Wilson	586	17	0

For alterations and repairs to a house, 18, Little Russell-street, Bloomsbury, for Mrs. Harding. Mr. W. J. Trehearne, architect:—

Cole	£300	0	0
Williams	295	0	0
Hawkes	287	0	0
Miller	285	0	0

For re-building Kentchurch church, Herefordshire. Messrs. Prichard and Seddon, architects, Llandaff, and 6, Whitehall:—

	If roof new.
Hoskins (Abergavenny)	£925 £985
Ramm (Abergavenny)	900 950
Lewis (Raglan)	872 932
Bigglestone and Bowlers (Hereford) (accepted)	856 911

For re-building nave and restoring chancel of Llangwm Ucca church, Monmouthshire. Messrs. Prichard and Seddon, Architects, Llandaff, and 6, Whitehall:—

	Nave.	Chancel.
Young (Chepstow)	£767	£175
Jackson (Monmouth)	534	26
Ramm (Abergavenny)	500	50
Lewis (Raglan) (accepted)	432	77

For villa to be erected at Harrow-on-the-Hill. Mr. C. Laws, architect —

	Bricklayer, Slater, Mason, and Plasterer.	Carpenter, Plumber, Painter, Glazier, and Smith.
Chapman	£620*	....
Woodbridge	....	£453
Waldron	....	434*

* Accepted.

For a house and offices, conservatory, and boundary walls, at Mortlake, Surrey, for Mr. James Wigan. Mr. R. P. Pope, architect. Quantities by Messrs. Pearson and Doughney —

	House, &c.	Conservatory	Boundary walls, perrod.
	£.	£. s. d.	£. s. d.
Gates	3,330	156 10 0	10 10 0
Donelly	3,320	128 0 0	11 0 0
Bray	3,247	136 0 0	11 0 0
J. and W. Todd	3,105	141 0 0	
McLennan and Bird	2,687	120 0 0	10 17 6
Patman	2,670	124 0 0	10 10 0
W. Dove	2,631	137 0 0	10 0 0
Ayers and Co.	2,628	120 0 0	10 5 0
Adamson and Son	2,559	113 0 0	10 0 0
W. T. Purkiss	2,550	129 0 0	10 0 0
Goodall	2,533	85 0 0	
Hawkins	2,460	135 0 0	10 0 0
Barker, J. and W.	2,298	94 0 0	10 0 0
Pickard	2,197	119 0 0	9 7 6
Jarvis & Co.	2,164	117 0 0	9 5 0

TO CORRESPONDENTS.

Dugging Floors—Sir, I shall be glad if any one of your readers will inform me the best plan of constructing a floor if rendering the noise of footsteps made in a room above that in which the sound is heard.—W. A.

*** Several suggestions will be found in early volumes of the *Builder*.

J. J. L. (we shall be glad to have an account of the camp)—H. P.—J. G. N.—W. A.—R. D.—F. S.—T. W. M. S. (it is a house of two stories).—J. W.—L. J. B.—W. D. M.—J. M.—H. E. K.—P. Y.—W. S. (as a general rule, an architect, in charging for plans and specifications for a work which is to be executed, is not bound to give up the plans, &c. to his client. Something would depend on circumstances).—B. B. C.—J. W. A.—Dr. M.—J. A. D.—W. G. R.

ADVERTISEMENTS.

"THE BUILDER." Wanted, the Numbers for January 17, 24, and 31, 1857.—Apply at the Office of "The Builder."

TEMPORARY ASSISTANCE. An ARCHITECTURAL DRAUGHTSMAN, accustomed to prepare finished, working, and detail drawings, specifications, take out quantities, measure up work, &c., is desirous of obtaining temporary ASSISTANCE to Architects, either at their own offices, or as Clerks of Works.—Address, R. B. 43 Southampton-row, Russell-square, W.C.

RUGBY LOCAL BOARD of HEALTH.—The BOARD are in WANT of a PERSON to fill the office of SURVEYOR and INSPECTOR of NUISANCES for the District of Rugby, at a salary of £100 per annum. The person appointed will be required to devote his whole time to the duties of his office, and to have a knowledge of surveying, road making, and engineering and drainage generally. Applications, with testimonials of marriage (which must be married) to be addressed to the Chairman of the Local Board of Health, on or before THURSDAY, the 1st day of JULY next.—By order of the Board,
Rugby, June 8th, 1858. C. E. WRATISLAW, Clerk.

SCINDE RAILWAY.—WANTED, immediately, for the above line, some thoroughly qualified INSPECTORS of PLATELAYING WAY, MASONRY, BRICKWORK, and work generally. Age not to exceed thirty-five. Salary, 4/. to 6/. per week, according to qualification. None need apply but men who have had much experience, and can be well recommended. Candidates must be prepared to undergo a medical examination.—Apply by letter to T. A. YARROW, Esq. C.E. Gresham House, Old Broad-street.

TO SMITHS.—WANTED, in a Smith's Shop, employing about twelve men, a good WORKMAN as WORKING FOREMAN. Address, stating qualifications and references, to Mr. WILSON, Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.
WANTED, immediately, an ASSISTANT, fully competent to undertake the entire management of a country practice, including designing, preparing working and detail drawings, specifications, and estimates, perspective, &c., and must be a good surveyor, leveller, and leveller.—Apply by letter, stating salary required, and experience, and accompanied by the name and address of a reference, to GEORGE PILTON, Architect, Land Surveyor, and Auctioneer, Penrhyn, near Conway, North Wales.

WANTED, EMPLOYMENT in a Builder's Office, by a Young Man, who has served five years with an Architect. Has first-rate reference for integrity and ability. Salary moderate.—Address, Z. A. B. Post-office, Buckhurst-hill, Woodford Wells, Essex.

TO GAS ENGINEERS.
WANTED, by the Folkestone Gas and Coke Company, an experienced man as MANAGER. He will be required to have a good practical knowledge of gas engineering in all its branches, and to take the register of all metres, and must be able to give most undoubted references as to character and capabilities. A residence will be provided on the works.—Apply to Mr. JOSH. GARDNER, Gas Works, Folkestone.
May 26, 1858

WANTED, by a Builder in the Country, a FOREMAN to CARPENTERS and JOINERS. He must be a man of sober and industrious habits, who has filled a similar situation in the country before. To a applicant must state the name and residence of the last employer, and how long he lived with him; the amount of wages required, and his age.—Address, C. F. 9, Belle Vue Cottages, Cecil-street, Camden-town, London.

WANTED, a respectable skilful Man, who understands GRAINING on SLATE.—Apply at 4 Wharf, South-wharf road, Paddington, London, W.

WANTED, for Foreign Service, a SMITH, accustomed to erect IRON HOUSES and GALVANIZED ROOFS; also, his Assistant. None but steady men need apply.—Address, J. B. M. at Messrs. Tupper and Co.'s, 61A, Moorgate-street, E.C.

WANTED, a CLERK of WORKS to SUPERINTEND the ERECTION of a WAREHOUSE immediately. He must have a thorough knowledge of deck and waterside work.—Apply, stating terms and references, to T. C. C. 137, Leadenhall street, City, E.C.

TO SHOP FOREMEN.
WANTED, as WORKING FOREMAN of CARPENTERS and JOINERS, a practical Man, thoroughly acquainted with the trade in all its branches, and competent to set out work. None need apply who have not filled a similar situation.—Address, stating age, wages, and reference, to GEORGE and F. TOHAM, Builders, Wolverhampton.

WANTED, a steady, active Man as WORKING FOREMAN of JOINERS. One preferred accustomed to country jobbing. Testimonials required, at which will be strictly inquired into, as to ability and integrity. Steady and permanent, suitable. Address, with age and terms, to JOHN EDWARDS, Contractor, Pickering.

WANTED, a steady, active Man as THREE-BRANCH HAND. Must be a good plain writer. Testimonials required as to character and ability. Situation permanent, if suitable. Address, with terms, to JOHN EDWARDS, Contractor, Pickering.

TO BUILDERS, SAW MILL OWNERS, OR OTHERS WITH MACHINERY
WANTED, by a sober, steady Man, with undeniable character, who thoroughly understands his business, the CHARGE of an ENGINE, and KEEPING in REPAIR the MACHINERY; or ASSISTANT. He has been employed in the above for some years.—Address, A. W. 81, Westbourne-street, Pimlico.

TO BUILDERS AND PLUMBERS.
WANTED, by a respectable young Man, a SITUATION as good PLUMBER and who will do plain painting, if required. Good reference can be given.—Address, post-paid, Z. Z. 10, Paradise-street, High-street, Marylebone, London.

TO MASTER CARPENTERS AND PLUMBERS.
WANTED, by a respectable Young Man, a SITUATION as BRICKLAYER, PLASTERER, and SLATER. Good references can be given, and no objection to go to any country.—Address, post-paid, J. G. 85, East-street, Manchester-square, London.

WANTED, by the Advertiser, EVENING LESSONS in Landscape Drawing in Water-colours.—Address, stating terms, &c. A. J. T. Christian Young Men's Association, Aldersgate-street, E.C.

TO PLUMBERS, PAINTERS, AND GLAZIERS
WANTED, by a steady first-class WORKMAN, a permanent SITUATION, in the above line. Can have four years' good character from my last situation.—Address, A. J. B. at Mr. Bennell's, 2, Clarendon-place, New-road, Camberwell.

WANTED, by a Young Man, who has been upwards of four years engaged with a Civil Engineer and Architect, a SITUATION. He has good testimonials from his late employer. Salary is less much an object as employment of time.—Address, D. D. Mr. Dare's, 88, Piccadilly, London.

WANTED, by a respectable Young Man, a SITUATION, as House Carpenter and Joiner, or to keep House Property in repair, either in Town or Country. Can have good recommendations.—Direct, B. J. K. 8, Charlotte street, Pimlico, S.W.

TO PLUMBERS AND BUILDERS.
WANTED, by a respectable, experienced PLUMBER, EMPLOYMENT. Willing to make himself useful. No objection to the country. Wages not so much a consideration as a likely permanency. Respectable reference.—Address, T. W. care of Mrs. Banks, the Bell Inn, Church-street, Lambeth, S.W.

TO CARPENTERS AND BUILDERS.
WANTED to ARTICLE a LAD, in his 17th year to the above trade. Has been three years at the bench. A small premium given.—Address, A. B. K. 20, George-street, Portman-square.

WANTED to APPRENTICE, a Youth to a CARPENTER, BUILDER, CABINET MAKER, UPHOLSTERER, DECORATOR, IRONMONGER, or any good working business or trade. A liberal premium will be given.—Direct to E. 91, Piccadilly.

TO SAW MILL PROPRIETORS.
THE Advertiser, aged 40, wants a SITUATION as FOREMAN in the above trade, either in Town or Country. Understands the business thoroughly.—For testimonials apply to Messrs. WORNSAM and CO. Saw-mill Machinists, Kingsland, London.

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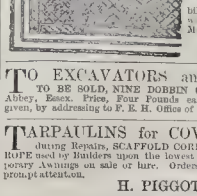

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GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c.
GREY STONE and CHALK LIME.
BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wiltshire, Leicester, or Aberthaw
CEMENTS. Roman, Portland, Parian, Lias, Bath, Keene's, &c.
PLASTER of PARIS, fine and coarse, of best quality, at reduced prices.
HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials sent by Rail, the same day as ordered.
ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken.
Tenders sent in for any quantity.
N.B. Landing Wharf and Drawing Dock at Vauxhall.

GREAVES'S BLUE LIAS LIME. Messrs. GREAVES and KERSHAW are now bringing from the Trade that they are prepared to offer GREAVES'S BLUE LIAS LIME, LIMEGROUND, direct from the Works, to any part of London, and the neighbourhood, at very lowest Rates.
Since Mr. GREAVES introduced the LIME into the London Market it has been extensively used in all the principal public and other works where strength and durability are required, and that its quality is well known. By the arrangements now made, Messrs. GREAVES and KERSHAW will be enabled to deliver LIME, direct from their Works, at such a price as will cause it to be used in all situations where inferior Limes are employed, it being the best and strongest LIME in the London Market.
Wood's Buildings, Regent's Park
" Hornsey Park Estate
" Willesden Park Estate, Acton
" Wormwood Scrubbs
Portland, Roman, Lias, Bath, and Parian Cements

KEENE'S and PARIAN CEMENTS for internal uses. These materials can be used precisely as lime, and can be painted upon within a few days. Made and Sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street Westminster.

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EDWARDES, EDWARDS, and CO. PROPRIETORS,

The LARGEST and MOST SUPERIOR STOCK of CHIMNEYPIECES in EUROPE on VIEW at the above-named Establishment.
Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.
ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.'S

WOOD OR IRON REVOLVING SHUTTERS ARE EQUAL TO THOSE OF ANY OTHER MAKER, AND MUCH CHEAPER.

BRASS SASH-BARS, AND STALL-BOARD PLATES, AT A GREAT REDUCTION IN PRICE.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS POST-FREE ON APPLICATION AT
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CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,

FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT.

CLARK'S NEW PATENT REVOLVING IRON SHUTTERS for Shop-fronts and other openings, have great advantages over all others extant, being stronger, more durable, and far cheaper.

Brass-drawn Sash-bars, Brass Name-plates, Double and Single Acting Spring Hinges, and all Metal-work connected with Buildings.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

CLARK AND CO. ENGINEERS, 15, GATE-STREET, LINCOLN'S-INN-FIELDS, LONDON.

PATRONISED BY HER MAJESTY.

THE "Grand Emperor" LOG of MAHOGANY is now cut into veneers. Her Majesty has been pleased to order furniture for her palace from this beautiful wood. The veneers are now on sale, with the fine log of Spanish Mahogany, "the Prince of Wales," together with a stock of dry Wainscot Planks and Boards, at Messrs. TUELY and CO.'S, Mahogany Merchants, Bridge-wharf, City road.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from 1 inch to 1½ inches thick, seasoned and ready for use. Also Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Hilton-road, Pimlico

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Fine Plank, 3s. 6d.; Mahogany and F. Walnut, 5½d.; 2¼-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 3-inch White Flooring, 13s. 6d.; ¾ ditto, 11s. 6d.; 3-inch Yellow, 16s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth, S.

FLOORING and DEALS, at the LOWEST CASH PRICES. SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany
¾-inch Prepared Flooring, 11s. 6d. per square.
1-inch ditto, 15s. per square.
Yellow Battens, 11l. 10s. per 120, 12 by 2½
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Fine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d. per foot.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

MOULDINGS by MACHINERY.—Capping, Sash-bars, Beads, &c. to any design, carefully packed and sent to all parts of the country. A Pattern List sent on application to

E. SIMMS,
SAWING, PLANING, AND MOULDING MILLS,
KING'S-ROAD, CHELSEA.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	¾	1	1½	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	,,

Delivered within three miles free of charge
ST. STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0 11 6 per square.
¾-inch Prepared Flooring	0 13 0 per square.
1-inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 3 0 each.
Fine Planks	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, in logs and planks, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
Books of Designs of Mouldings forwarded on application

CORN TIMBER WHARF and SAW-MILLS.
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.
MOULDINGS to any design manufactured of first quality yellow pine thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Pattern-List
FLOORING (dry): a large Stock, of various description.
MATCH BOARDING of any width.
Also,
Lumber, Deals, and Mahogany, on either Wharf, or at the Docks.
JOHN BUTTY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.
Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference.

BURT AND POTTS'S

WATER-TIGHT WROUGHT IRON WINDOW AND FRAME,

Registered April 26th, 1858,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

BURT & POTTS, Sole Manufacturers, Wholesale and Manufacturing Ironmongers, 38 and 65, York-street, Westminster.

WATERLOW, DRAPER, AND WEBB,

MANUFACTURERS OF HOUSE AND COTTAGE JOINERY,

TREDEGAR WORKS, BOW, E.

Beg to call the attention of the Building Trade to their extensive Stock of

DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

WAREHOUSE, 121, BUNHILL-ROW, FINSBURY, E.C.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

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PATENT REVOLVING WOOD AND IRON SHUTTERS,

WITHOUT MACHINERY,

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Testimonials from Architects, Bankers, &c. of their security and durability, forwarded.

MANUFACTURER OF METALLIC DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required. 4th. It can be easily applied by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

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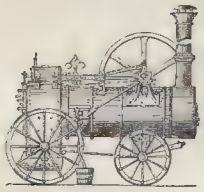

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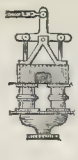
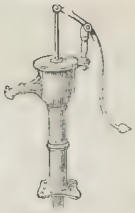
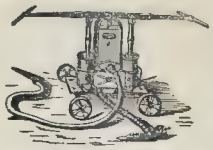
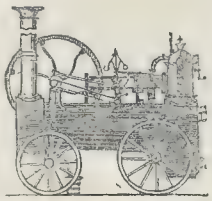
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.

HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE
STEAM
ENGINES,
FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
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STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

TIMBER and SLATES.—To BUILDERS, SLATERS, and OTHERS. The CHEAPEST HOUSE in LONDON for TIMBER and SLATES is JOHN EADES'S, Regent-wharf, Millwall, Poplar, E. Those Wishing to buy South Dock, where he has always on hand a large stock of English and foreign timber, deals, battens, prepared flooring, lath, match boarding, mouldings, &c. &c. Begs to call attention to the following low prices for roofing slates, slate slabs, &c.

ROOFING SLATES.

Duchess	24 in. by 12 in.	£10	15	0	per mille of 1,200
Small ditto	23 "	12	9	5	0 "
Marchioness	22 "	11	8	10	0 "
Countess	20 "	10	6	15	0 "
Small ditto	18 "	10	5	0	0 "
Viscountess	18 "	9	4	10	0 "
Ladies	16 "	8	3	10	0 "

Slate slabs, sawn all round and planed on one side, from 5 to 10 feet super. slab, at per foot, 1½-in. 5d. 2-in. 6d. 2½-in. 8d. 3-in. 9d.
12-feet and over, 1½-in. 7d. 2-in. 8d. 2½-in. 11d. 3-in. 12d.
N.B.—Large stock on hand of very cheap Larch Fencing, ready for use.

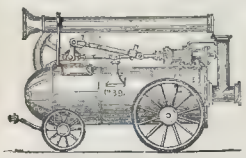
DRY HORNBEAN in all thicknesses.—About Ten Loads, first quality, very dry, at Mr. HAYNES', Timber Merchant, 129, Old-street, Goswell-street.

GREY LIME.—The Wouldham Patent Portland Cement Company (Limited), are prepared to CONTRACT for the DELIVERY of the best GREY LIME at rates reduced cost, to wholesale dealers.—Apply to the Secretary, 69, Mincing-lane, London, E.C.

PORTLAND and CAEN STONE.—Go to TRIGATT'S WHARF, Isle of Dogs, Poplar, and see his Large Stock, the Best and Cheapest in London. The Woolwich Boat calls at the Wharf, also from Limehouse Station every half hour. Supplied direct from the Quarries to any part by Vessel or Railway. Large Consumers most liberally dealt with.

THE PATENT ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of ENCAUSTIC TILES PATENT INLAID MOSAIC TILES; also elegant ENCAUSTIC PAVEMENT TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticoes, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. &c. White glazed Tiles for bath rooms, &c. Various specimens of which may be seen, and every information obtained, at the Offices of the Company, No. 9, Bucklersbury, Strand, from Messrs. WILLIAM W. BONNIN, and J. G. H. MACCOLLA, "Sole" Agents for London.

FOR SALE, a PIPE-MACHINE, suited to make drain-pipes from 4 to 18 inches, with dies to suit. Can be worked by hand or steam power. Also an EDGE-RUNNER, 6 feet diameter, 16 inches wide, with upright shaft spindle, bed-plate and ring complete, with all the necessary driving-gear. Also a smaller pair of Cast-iron Runners, with shaft, &c. &c. Also a pair of Cast-iron Rollers—all in good working order.—For further particulars, apply to MESSRS. WM. PIKING, 20, High-street, Lambeth.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars-road, London.

TO ENGINEERS, BUILDERS, LIGHTERMEN, and OTHERS. TO BE SOLD, a bargain, an EIGHT-HORSE HORIZONTAL HIGH-PRESSURE STEAM ENGINE, with Metallic Pistons, and all other recent improvements. Also, a Screw Steamer, suitable for towing of barges; timber built; has an engine 14-horse power, tubular boiler, her length being 70 feet, breadth of beam 8 feet, and is very fast.—Apply at R. BURROUGHS, Engineer, 8, Welbeck-street, Poplar.

STEAM-ENGINES FOR SALE.—A NEW 20-horse high-pressure BEAM ENGINE; also, a SECOND-HAND TABLE ENGINE, 12-horse power, with Governor complete, TO BE SOLD CHEAP. For cards to view, apply to Messrs. BEVINGTON and POPHAM, Consulting Engineers, 65, Lombard-street, E.C.

JOHN DOULTON, BROTHERS, AND CO.
LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES.
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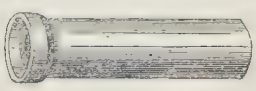
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,
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Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his
GLAZED STONEWARE DRAIN-PIPES.
LISTS OF PRICES FORWARDED ON APPLICATION.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS
WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.
MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.
DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
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DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.
HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

The only White Zinc Works in the United Kingdom.
HUBBUCK'S PATENT WHITE ZINC PAINT.
MANY Painters and Decorators have never had really good PATENT WHITE ZINC PAINT. The adulterated and so generally sold to them as Zinc Paint bear no comparison with the genuine article.
But still greater prejudice is created by their having been supplied with this paint in manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns, but is first loses its gloss, and ultimately mixes up with the water and washes off.
HUBBUCK'S Patent Process completely resists London atmosphere, hot or cold water, and gas under every form.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.
N.B. OLD ZINC AND ZINC CUTTINGS BOUGHT TO ANY EXTENT.

KAMPTULICON FLOOR-CLOTH, the Improved Patent Noiseless, Warm, Waterproof, Cleanly and Everlasting, NOW READY, Plain, and in a Variety of Elegant Designs, adapted for Churches, Halls, Public Buildings, and Rooms; subject to constant and indiscriminate wear.—Price 6d. per square foot.—CORBETT and CO House Furnishers, Dorking-bridge, S.E.—Patterns may be seen at the Office of "The Builder."

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer, SUPPLIES COCOA-NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c. of the best quality on the most reasonable terms. Warehouse 42, Ludgate-hill E.C.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.

WORKS: KINSON, near POOLE.

PATENT FIRE-BRICK MANUFACTURERS.

FIRE

BRICKS.

The Fire bricks are manufactured by Burstall's new patent machine, from dry pulverised clay, unrivalled for beauty of finish and fire-resisting properties. They have been severely tested, and if not superior, to any other fire-brick known. Furnace Blocks, Tiles, Quarries, and all goods used for fire purposes. Fire-clay of the finest description. Glass-house Pots, Furnace Brick, and Pot Clay. Sand for the first quality required for drainage purposes. There is an inexhaustible quantity of all descriptions of Dorsetshire Clay used for pottery purposes on their estate, which can be supplied on the most favourable terms

List of prices, and all other information, will be furnished on application to

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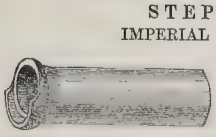
GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7 7s. each; if fitted with PATENT AIR-TIGHT VALVES, s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION IN PRICES.

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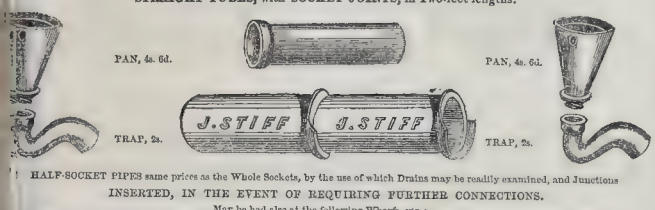
MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

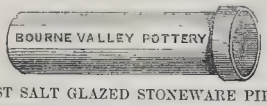
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-cross, Camden-town.
Messrs COLES, SHADBOLT, and CO.'S at James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS 3, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bryd ges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Paul-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT GLAZED STONEWARE PIPES,

s, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe.

SALT GLAZED AND TERRA COTTA FLUE-PIPES,

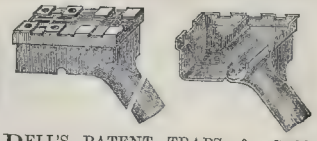
By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

dst of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne ley Pottery, near Poole, Dorset; or of Mr. M'WILLIAM, at the Depôt, 8, Belmont-place.



BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Wards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Pye road, Bermondsey.

UNGLAZED DRAIN-PIPES.—GREAT REDUCTION in PRICE—D MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4 in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 300 feet, their efficiency and durability as by experience established

The Improved Ball Valve is simple and certain in its action, and is cheaper than the common Cocks now in use

Enamelled Iron, Self setting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

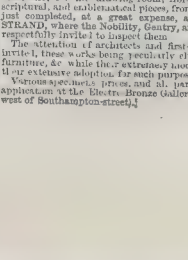
THOMAS LAMBERT and SON,

Brass and Iron Founders, Short-street, New-cut, Lambeth.

WARNER'S PATENT VIBRATING STANDARD PUMPS—PATENT CAST IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Sackers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, gutta percha or cast iron flanged pipe, as required.	1 10 0
2½ „ long	3		1 14 0
3 „ ditto	3		2 0 0
3½ „ ditto	3		2 12 0
4 „ ditto	3		3 3 9
2½ „ short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses: they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.



AUSTIN, SEELEY, and CO.

371—375, EUSTON-ROAD,

ARTIFICIAL STONE WORKS.

CATALOGUES OF CHIMNEYS,

AND ALSO OF

FOUNTAINS,

ON APPLICATION.

NOVEL and BEAUTIFUL WORKS of ART, ALTO-RELIEVOS, in copper, bronzed, and in gold and silver, by the electro process, forming elegant ornaments in friezes or otherwise, for the drawing room, library, &c. A series of battle, scriptural, and emblematical pieces, from works by the first masters, just completed, at a great expense, are NOW ON VIEW at 301, STRAND, where the Nobility, Gentry, and lovers of the Fine Arts are respectfully invited to inspect them.

The attention of architects and first-class decorators is especially invited, these works being peculiarly eligible for insertion in panels, furniture, &c. while their extremely moderate price renders available their extensive adoption for such purposes.

Various specimens, prices, and all particulars, can be obtained on application at the Electro Bronze Gallery, No. 391, Strand (four doors west of Southampton-street.)

H. CHALON, Secretary.

SALES BY AUCTION.

IN CHANCERY.—SURREY—In the Parishes of Croydon and Streatham, on the main London Turnpike Road.

MESSRS. NASH have received instructions to SELL BY AUCTION, at GARRAWAY'S Coffee House, Change Alley, Cornhill, on THURSDAY, the 17th day of JUNE, 1858, at Three o'clock precisely, in the following Lots, or such other Lots as may be determined at the time of Sale, unless previously disposed of by Private Contract, of the Remainder of the Unexpired Term of Sixty-one Years, from Lady-day, 1857, of the Valuable Freehold Estate, called or known as "The Grove," situate at Mitcham, in the County of Surrey, and within a short distance of the Mitcham Station of the London, Brighton, and South Coast Railway, comprising a Capital Family Residence, with Coach-house, Stabling, Lodge, Gardens, Pleasure Grounds, Meadow Land, and Plantations, containing 10a. 3r. 19p., or thereabouts, as the same are now in the occupation of Mrs. Elizabeth Hall, as Tenant thereof, at the annual Rent of £100, and Land Tax £5 5s. 4d.

Lot 2. A Piece of Freehold Land, adjoining the Grove, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 3. A Piece of Freehold Land, adjoining Lot 2, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 4. A Piece of Freehold Land, adjoining Lot 3, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 5. A Piece of Freehold Land, adjoining Lot 4, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 6. A Piece of Freehold Land, adjoining Lot 5, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 7. A Piece of Freehold Land, adjoining Lot 6, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 8. A Piece of Freehold Land, adjoining Lot 7, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 9. A Piece of Freehold Land, adjoining Lot 8, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

Lot 10. A Piece of Freehold Land, adjoining Lot 9, containing 1a. 2r. 32p., or thereabouts, as the same is now in the occupation of Mrs. Hall, as Tenant thereof, at the annual Rent of £5 5s.

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The Builder,

A JOURNEY FOR THE

Architect, Engineer, Operative & Artist.

Vol. XVI.—No. 802. JUNE 19, 1858. Price Fourpence. Stamped, 6d.

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SOCIETY of PAINTERS in WATER-COLOURS.—The FIFTY-FOURTH ANNUAL EXHIBITION is now OPEN at their Gallery, 5, Pall-mall East (close to Trafalgar-square), from Nine till Dusk. Admittance, 1s. Catalogue, 6d.
JOSEPH J. JENKINS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER COLOURS.—The Twenty-fourth ANNUAL EXHIBITION of this Society is NOW OPEN at their Gallery, Pall-mall, near St. James's Palace, from Nine till Dusk daily. Admission, 1s. Season tickets, 5s.
JAMES FAHEY, Secretary.

THE FIRST EXHIBITION of ART MANUFACTURES, designed or executed by Students of the Schools of Art, will be OPENED DAILY, at the South Kensington Museum, on and after MONDAY, the 21st of JUNE, 1858. Admission on MONDAYS, TUESDAYS, and SATURDAYS, and by payment of 6d. on WEDNESDAYS.

THE ARCHITECTURAL MUSEUM, South Kensington Museum, W.—The ECCLESIOLOGICAL SOCIETY (of London) offers, through the Committee of the Architectural Museum, a PRIZE of FIVE GUINEAS for COLOURED DECORATION.
Full particulars may be had by written application to the Honorary Secretary of the Architectural Museum, at 13, Stratford-place, W.

The ANNUAL CONVERSAZIONE will be held on THURSDAY, JULY 15.
GEO. GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

CONTRACTS.

ESTIMATES WANTED for the ERECTION of the WESLEYAN CHAPEL, Seacombe, Cheshire. Plans to be seen, and quantities may be obtained, at the Offices of the Messrs. HAY, Architects, St. George's Chambers, Liverpool. Tenders to be sent in on or before the 24th instant, addressed to H. POOLEY, Esq. The charge for quantities of mason's and carpenter's work is 30s. each: that for all the other works, 1s. each. The Committee do not bind themselves to accept of the lowest or any Tender.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of TWO PAIRS of SEMI-DETACHED VILLAS, at Forest-hill, Sydenham, may inspect the plans and specification at this Office, on and after MONDAY, the 21st inst. TENDERS to be delivered on the 5th of JULY, at TWELVE o'clock. The lowest or any Tender will not necessarily be accepted.
MORPHEW and GREEN, Architects.
34, Queen-street-place, Cannon-street.

TO BUILDERS and CONTRACTORS.
The Directors of the Dundalk Exchange and Market Company (Limited), will be prepared to receive TENDERS for the ERECTION of a CORN EXCHANGE, READING-ROOMS, and other BUILDINGS connected therewith, in the town of Dundalk, according to plans and specification which will be lodged at the Company's Office, 160, Clanmassel-street, Dundalk; and at the Office of the Architects, Messrs. SLAMY and HARDY, Lincoln, on and after the 12th of JUNE. Tenders to be lodged at the Company's Office on or before the 1st of JULY. The lowest Tender will not necessarily be accepted. Contractors to name two solvent persons as securities.
JAMES SHEKLETON, Hon. Secretary.
Company's Office, 160, Clanmassel-street, Dundalk, June 11, 1858.

CONTRACTS.

ST. FAITH-GREEN, MAIDSTONE. — To BUILDERS and OTHERS. SALE by TENDER.—The proprietors of the St. Faith Estate, Maidstone, having determined on SALE of the PROPERTY, except the part proposed to be reserved for the site of a church and parsonage, hereby give notice thereof, and invite persons willing to CONTRACT for the PURCHASE, by private treaty, to TENDER for the whole or any part thereof. The estate to be sold is freehold, and consists of between three and four acres of fine building land, situate in the middle of the town of Maidstone, with the means of opening a street from Week-street, in a line in continuation of Brewer-street. A plan of the property (suggesting a design for building, with the terms of a contract), may be seen at the office of Messrs. WHICHCOTE and BLANDFORD, Architects, Maidstone; and may day between TEN and FOUR.—Tenders are to be sent to Messrs. BEALE and HOARE, Solicitors, Maidstone on or before TUESDAY, the 22d day of JUNE next, sealed up and addressed "Tender for St. Faith Estate, Maidstone." The proprietors reserve to themselves the power of not accepting the lowest or any other Tender, unless approved in all respects.—By order of the proprietors,
BEAL and HOARE.
Maidstone, May 29, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a NEW PARSONAGE HOUSE, at Little Addington, in the County of Northampton, may see the plans and specifications, and obtain a bill of the quantities, at the Office of Mr. E. F. LAW, Architect, on and after WEDNESDAY, the 9th instant. The Tenders are to be delivered to the Architect, on or before WEDNESDAY, the 23rd instant.
N.B. The lowest Tender will not necessarily be accepted.
Priory-cottage, Northampton, June 4, 1858. E. F. LAW.

TO BUILDERS.—TENDERS are requested for the Mason and Bricklayers', Carpenter, Joiner, Slater, Plumber, and Plasterers' Work, required in the ERECTION of a RESIDENCE HOUSE, near Durham, together with Entrance Gateway, Lodge, Stabling, Boundary Walls, Water Supply, Drainage, Formation of Roads, &c.—Plans, specifications, and quantities will be ready on the 16th instant, at the Office of Mr. GIBSON KYLE, Architect, No. 47, North Bailey, Durham, at 11 o'clock, Commercial buildings, Darlington, to whom indorsed Tenders are to be delivered on the 30th instant. The proprietor, JOSEPH LOVE, Esq., does not pledge himself to accept the lowest Tender. Durham, June 9, 1858.

NORTH-EASTERN RAILWAY. — The Directors are prepared to receive TENDERS for the undermentioned articles, in such quantities as they may require, from the 30th June to the 31st December, 1858, delivered at the Company's Storehouses, at Newcastle, Gateshead, York, Leeds, or Hull. Payments (for six months's delivery at the end of three months), to be made, deducting discount
1. Timber and Deals.
2. Best English Oak Wagon Wood.
3. Railway Keys.
4. Chairs, Spikes, Cast-iron Wheels, and General Cast-iron Work.
5. Nails.
6. Heavy Ironmongery.
7. Steel, Files, Springs, &c.
8. Tires, Bolts.
9. Buckets.
10. Waste Rope, and General Hemp Cordage.
Forms of Tenders may be had upon application to Mr. BARNES, Stores, Gateshead; and Tenders must be sent in addressed to the Secretary, at York, sealed, and marked "Tenders for Stores," not later than MONDAY, the 28th instant. The Directors do not bind themselves to accept the lowest or any Tender.
J. CLEGHORN, Secretary.
York, 7th June, 1858.

TO BUILDERS.—Sealed TENDERS, in one specific sum, will be received by the Director of Contracts, War Department, Pall-Mall, London, not later than the 6th JULY, 1858, at noon, for RENEWING the UPPER STORY of the BARRACK at No. 2 REDOUBT, Maker-heights, in the Plymouth district. Detailed specifications of the above service, with every requisite information, may be obtained at the Royal Engineer Office, Devonport, daily (Sundays excepted), between the hours of TEN and FOUR o'clock, from the 14th JUNE to the 5th JULY, 1858, both days inclusive.
Royal Engineer Office, Devonport, June 9, 1858.

TO BUILDERS.—PUBLIC HOSPITAL and DISPENSARY, Sheffield, Yorkshire.—Persons desirous of TENDERING for the WORKS of the HOSPITAL ACCOMMODATION in connection with the Dispensary, West-street, Sheffield, can inspect the Drawings, &c. at the Office of the Architect, Mr. M. P. MANNING, 17, Clement's-inn, Strand, London; and copies of the same at the Dispensary, Sheffield, on and after TUESDAY, JUNE 15th. Sealed Tenders to be delivered to the Honorary Secretary, on or before WEDNESDAY, JUNE 23rd. The quantities will be taken out, and copies may be obtained. The Council do not bind themselves to accept the lowest or any Tender.—By order,
J. C. HALL, M.D. Hon. Sec.
June 9, 1858.

TO BUILDERS. — The London General Omnibus Company desire to receive TENDERS for REPAIRS to STABLING at Notting-hill, but do not bind themselves to the acceptance of the lowest or any Tender. Particulars may be obtained of the Company's Surveyor, Mr. SURREY, No. 6, Salisbury-street, Strand, W.C. Tenders to be endorsed, and directed to Mr. A. G. CHURCH, Secretary, 448, Strand, by TWELVE o'clock on the 25th JUNE instant.

TO SEWERAGE CONTRACTORS. — TENDERS are wanted by the Commissioners of Police for CONSTRUCTING certain SEWERS within the Burgh of Dundee, plans, sections, and specifications of which may be seen at the Office of the Town Surveyor, Police-buildings. The Tenders are to be made on printed forms, which will be applied to contractors, and they are to be addressed to the Commissioners of Police, Surveyor's Office, Police-buildings, Dundee, marked "Tender for Sewers," and must be delivered there not later than MONDAY, the 12th JULY next. Parties tendering must be prepared to find sufficient security for the due fulfilment of their contract. The Commissioners do not bind themselves to accept the lowest or any Tender.
Dundee, June 8, 1858.

CONTRACTS.

GOVERNMENT CONTRACT. — WAR DEPARTMENT. — The Director of Contracts will receive TENDERS from persons willing to ERECT a RIDING-SCHOOL, at the Royal Artillery Barracks, Woolwich, to be constructed of cast and corrugated iron. Interior dimensions, 150 feet by 55 feet, height to the hair, 16 feet. Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, from TUESDAY, the 15th, to TUESDAY, the 22nd JUNE, between the hours of TEN and FOUR p.m. where forms of TENDER and all information may be obtained. The Tenders to be delivered or forwarded, post paid, to the "Director of Contracts, War-office, Pall-mall, London," by NOON of FRIDAY, the 2nd JULY next, marked "Tender for Erection of a Riding-School."—The War Department reserves the right of rejecting all or any of the Tenders.
Royal Engineer Office, Woolwich, June 8, 1858.

GOVERNMENT CONTRACT. — WAR DEPARTMENT. The Director of Contracts will receive TENDERS for the FORMATION of an OPEN MANEGE, 110 feet long by 60 feet wide, interior dimensions, at the Royal Artillery Barracks, Woolwich. Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, from TUESDAY, the 15th, to TUESDAY, the 22nd JUNE, between the hours of TEN and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded, post-paid, to the "Director of Contracts, War Office, Pall-mall, London," by NOON of FRIDAY, the 2nd JULY next, marked, "Tender for the Erection of an Open Manege." The War Department reserves the right of rejecting all or any of the Tenders.
Royal Engineer Office, Woolwich, June 8, 1858.

GOVERNMENT CONTRACT. — WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the RENEWAL of ROOFS and GALLERIES on the West side of the Royal Artillery Barracks, Woolwich. Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, until MONDAY, the 5th JULY, 1858, between the hours of TEN a.m. and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded, post-paid, to the Director of Contracts, War Office, Pall-mall, London, by noon of WEDNESDAY, 7th JULY, 1858, marked "Tender for Renewing Roofs, &c." The War Department reserves the right of rejecting all or any of the Tenders.
Royal Engineer Office, Woolwich, June 16, 1858.

TO BUILDERS.—Notice is hereby given that TENDERS will be received at the Office of the Director General of Contracts, War Department, Pall-Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specifications, and conditions of contract may be seen, and every information obtained, on application at the Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings, &c. at Hilsea, near Portsmouth, in the County of Hants, in the left-hand corner of the envelope, and addressed to the Director General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Portsmouth, June 9, 1858.

NOTICE to CONTRACTORS.—The Commanding Royal Engineer gives Notice, that TENDERS will be received on or before THURSDAY, the 24th instant, from such persons as are competent to perform the work, and are desirous of CONTRACTING for the ERECTION of PALISADE FENCING and GATES, with STONE KERBS, &c. at Blue Town, Sheerness. The drawings may be seen, and printed specifications and forms of Tender obtained at this Office, between the hours of TEN and FOUR o'clock, on TUESDAY next, till THURSDAY, the 22nd instant, Sundays excepted. The party whose Tender may be accepted will be required to enter into a bond with two eligible securities, jointly and separately to be bound under a penalty of 100*l.* for the due performance of the contract. Tenders for the above work to be addressed, "The Director General of Contracts, War Office, Pall Mall, London, S.W." endorsed, in the left-hand corner, "Tender for Iron Fence at Sheerness." No Tender will be received after the said 24th day of June.
N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Sheerness, 12th June, 1858.

TO BUILDERS.—TENDERS are invited for BUILDING a FARM-HOUSE, BARN, and other Works, at Crockmore Farm, Fawley, near Henley, for E. Mackenzie, Esq.—Plans and specifications may be inspected at the PREMISES on and after WEDNESDAY next, and further particulars obtained at the Steward's Office, Fawley-court: or of Mr. THOMAS WYATT, Surveyor, 9, Mobbs-street, Regent-street, London. Tenders requested by WEDNESDAY, the 23rd inst.
N.B. The lowest not to be necessarily accepted.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of FOUR VILLAS on the Ascot Park Estate, Surrey, may inspect the plans and specification, and obtain conditions, at the Office of A. B. FREND, Esq. Architect, 2, Bedford-row. Tenders to be delivered on or before SATURDAY, JULY 3rd, 1858. The proprietor does not bind himself to accept the lowest or any Tender.

TO BUILDERS.—Persons desirous of offering TENDERS for the REPEWING and RESTORATION of the PARISH CHURCH of BECCLES, Suffolk, can see the plans and specification upon application to WM. E. CROWFOOT, Esq. Beccles; or at the Office of the Architect, 59, Maddox-street, London, W.; on and after SATURDAY, JUNE 19th.—The Tenders are to be sent in by TWELVE o'clock on WEDNESDAY, the 30th JUNE, under cover to W. E. CROWFOOT, Esq. The Committee do not bind themselves to accept the lowest or any Tender.
JOHN HENRY HAKEWILL, Architect.

[For remainder of Contracts see next page.

CONTRACTS.

BUILDERS desirous of TENDERING for Sir ROBERT HITCHAM'S SCHOOLS, for Pembroke College, Cambridge may see the plans and conditions, from the 22nd inst. at the Vestry-house, Great Coggeshall, Essex, or at Mr JOSEPH CLARKE'S, the Architect's, 15, Stratford-place, Oxford-street, London. Sealed Tenders to be sent to the Architect on or before the 2nd JULY

BOROUGH of BLACKBURN. To MANUFACTURERS of EARTHENWARE DRAIN-PIPES, &c. The Corporation of the Borough of Blackburn are prepared to receive TENDERS for the SUPPLY of DRAIN PIPES, BENDS, JUNCTIONS, SYPHONS TRAPS, &c. The specification may be seen, and further information obtained, on application to Mr BRIERLEY, Borough Surveyor, at his Office, Town-hall, Blackburn. — Sealed Tenders endorsed "Tender for Drain Pipes," to be sent to the Office of the Town Clerk, Town hall, not later than FOUR o'clock in the afternoon of MONDAY, the 28th instant

THOMAS AINSWORTH, Town Clerk.

Town hall, Blackburn, June 14, 1858

NOTICE to CONTRACTORS. — WET DOCK. The Trustees of the Harbour of Whitehaven are prepared to receive TENDERS for the CONSTRUCTION of a WET DOCK and TIDAL BASIN, with SEA WALL and repairs WORKS, at Whitehaven, in conformity with drawings, specification, and such plan, to be seen at the Office of Messrs. MANDERSTELL, CE, No. 8, Great George street, Westminster; and also in the Office of the Superintendent of the Docks at Whitehaven. Copies of specification and conditions, with form of Tender and of a bill of quantities, prepared by the Contractor (if contractors may be obtained) in application to Messrs. RENDEL, or the Superintendent. Sealed Tenders must be lodged with Mr JOHN MUSGRAVE, Secretary to the Trustees, at his Office, 41, New-street, Whitehaven, on or before MONDAY, the 5th day of JULY next.

Whitehaven, 8th June, 1858

TO BUILDERS.—ST. GEORGE-IN-THE-EAST, Middlesex.—The Guardians of the Poor of this Parish will, at their meeting, to be held at the Workhouse, Charles-street, Old Gravel-lane, on FRIDAY, the 25th day of JUNE instant, at SIX o'clock in the evening precisely, RECEIVE TENDERS for MAKING certain ALTERATIONS and ADDITIONS to the INFIRMARY of PLASHET SCHOOL, East Ham, Essex; plans and specifications of which may be seen at the Board Room, Mr. WILSON, Esq., Architect, No. 34, Cannon-street road, between the hours of TEN and FOUR. The party contracting will be required to enter into a written contract and bond, with two sufficient sureties, to be approved of by the Guardians, for the due and punctual performance of the works, under the terms, conditions, and stipulations contained in the specification.

Tenders must state the Christian and surname of the proposed sureties, and be delivered at the Workhouse, sealed, and addressed "Tenders for Works at Plashet," at or before SIX o'clock on the day of meeting, and the party tendering, or some authorized person on his behalf must be in attendance at the meeting. The Guardians do not bind themselves to accept the lowest Tender, nor hold themselves liable to any charge connected with the preparation of the estimate. By order of the Board,

THOMAS STONE, Clerk

Shorter street, Wellclose-square, June 14, 1858.

SOUTH STAFFORDHIRE RAILWAY.—CONTRACT for WORKS.—The Directors are prepared to receive TENDERS for the following WORKS:—

First TIPTON BRANCH.—A double Line of Railway, from a junction with the main line, near the Wednesbury Station to the Birmingham Canal, near the Wednesbury Oak Furnaces, including the formation of Canal Basins, Sidings, &c.

Second. DARLASTON BRANCH.—A double line of Railway, from a junction with the main line, at the Wednesbury Station, to the town of Darlaston.

Drawings, specifications, and form of contract, may be seen on and after MONDAY, the 21st JUNE next, on application to Messrs. McCLEAN and STILEMAN, Engineers, 17, Great George-street, Westminster, S.W.; or at their Offices, at the Walsall Station, Staffordshire.—Tenders addressed to the Secretary, T. J. BUCKTON, Esq. Lichfield, Staffordshire, to be delivered in on or before the 1st JULY next.—The Directors do not bind themselves to accept the lowest Tender. By order,

T. J. BUCKTON, Secretary.

Lichfield, June 8, 1858

TO CONTRACTORS and BUILDERS.—SURREY HOUSE of CORRECTION, WANDSWORTH COMMON. The Visiting Magistrates of this prison purpose extending the accommodation for Male Prisoners. Plans, specifications, and conditions may be seen at the said prison from the 21st instant to the 12th of JULY next, between TEN a.m. and FOUR p.m. The Visiting Magistrates will meet at the Session House, Newington, on FRIDAY, the 16th of JULY, at the hour of TWO o'clock precisely, for the purpose of opening such TENDERS for the execution of the WORKS as may then and there be presented to them. Further information and the bills of quantities may be obtained on and after the 3rd of JULY next, upon application to Messrs. HILL and MARTIN, Architects, at 27, King-street, Cheapside, or Christchurch Buildings, Birmingham. The Visiting Magistrates do not bind themselves to accept the lowest or any Tender. Every contractor applying for a copy of the bills of quantities will be required to deposit the sum of £5, which will be returned in all cases in which a Tender shall have been delivered.

RICHARD ONSLOW,

14th June 1858. Governor of the said House of Correction

TO BUILDERS.—TENDERS are required for sundry WORKS in RESTORING, ALTERING, and EMBELLISHING the WELSH CALVINISTIC CHAPEL, Jewin crescent, Aldersgate street. Plans, &c., &c., relative to be seen at the Office of Mr. RICHARD HENRY MOORE, Architect, 10, Walbrook, City, from NINE till SIX p.m. until WEDNESDAY next.

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H for sketching. B B ditto ditto.
H B hard and black for drawing. B B B ditto ditto.
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A special Act provides that persons receiving compensation from the Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. The Company has already paid as compensation for Accidents £7,000

Forms of Proposal and Prospectuses may be had at the Company's Offices, and of the Railway Stations, where, also, Railway Accidents alone may be assured against by the Journey or Year.

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WILLIAM J. VIAN, Secretary.

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INVESTED FUNDS ONE MILLION STERLING

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NOVEL and BEAUTIFUL WORKS of ART, ALTO-RELIEVOS, in copper, bronzed, and in gold and silver, by the electro process, forming elegant ornaments in cabinets or otherwise, for the drawing-room, library, &c. A series of battle, scriptural, and mediæval pieces, from works by the first masters, just completed, at a great expense, are NOW ON VIEW at 391, STRAND) where the Nobility, Gentry, and lovers of the Fine Arts are respectfully invited to inspect them.

The attention of architects and first class decorators is especially invited, these works being peculiarly eligible for insertion in panels, furniture, &c. while their extremely moderate price renders available their extensive adoption for such purposes.

Various specimens, prices, and all particulars, can be obtained on application at the Electro Bronze Gallery, No. 391, Strand (four doors west of Southampton-street).

H. CHALON, Secretary.

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Architects and Builders can effect a great saving in PULPITS, DESKS, ALTAR RAILS, TRACERY, ANTIQUE and CHURCH FURNITURE
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Old Windows fitted, complete, at 5s. each, or materials supplied, from 3s 6d
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Fine Pale Oak Varnish, 7s. 6d. per gallon,
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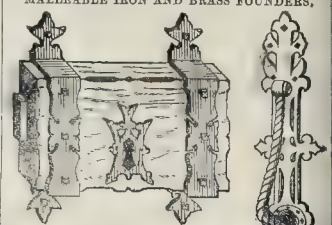

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Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

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Bright Stoves, with Two Fires, 40s to 100s. each.
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½-inch	1¼ inch.	2 inch	2½ inch.	3 inch.
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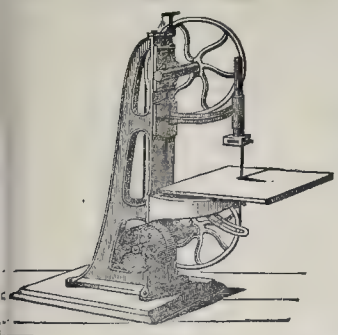

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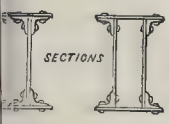

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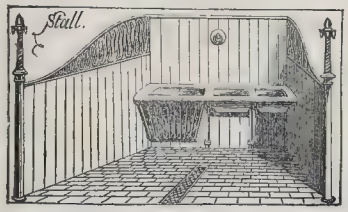

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(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

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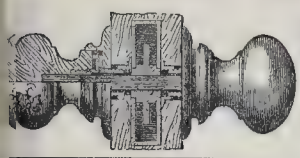

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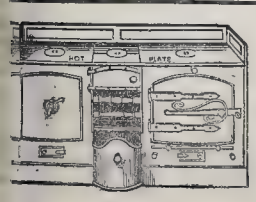

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The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

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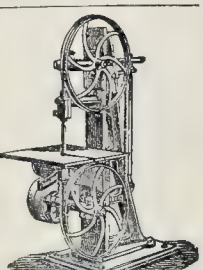

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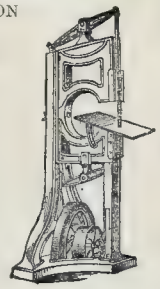

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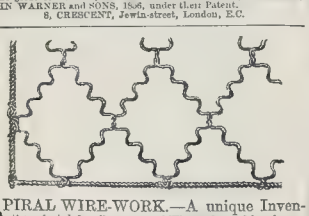

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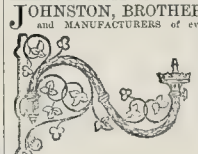

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Arrangements have been made by which the assistance of a strong staff of contributors, of established literary character, has been secured for the various departments of literature and of the arts; the department appointed to scientific subjects has been carefully vigilant, and a portion has been made for the receipt of such communications from the principal foreign cities as will enable the English reader to note the state and progress of Continental literature and art.
The principles of the new undertaking may be very briefly stated. The most respectful consideration of literary and artistic excellence, without absolute regard to prestige and position, and without any regard to private influence, interest, or clique. Endeavours to promote the best interests of literature by inviting attention to the highest productions; but without neglecting or discouraging efforts of secondary merit, or of mere promise; or submitting to tests of unjust severity works of an unambitious, temporary, or simply practical character.
Among the new features in the Series about to commence will be the Correspondence of the Journal. It is believed that valuable interchange of thought may be promoted by a reasonable development of this portion of the journal.
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The price of the LITERARY GAZETTE, unstamped, will be Fourpence; stamped, Fivepence.
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VOL. XVI.—No. 802.

Construction of Hospitals.

Ventilation.

Blackburn Infirmary.

IN previous volumes we have commented earnestly on the errors observable in the construction of our *Hospitals*, and shown their inherent defects.

Two thousand years ago Hippocrates, when asked, "Who is the physician that is an honour to his profession?" said,—"It is he who has merited the esteem and confidence of the public, by profound knowledge, long experience, conscious integrity; who has been led through the whole circle of the sciences; who has a due regard to the seasons of the year, and the changes which they are observed to produce—to the states of the wind peculiar to each country, and to the quality of its waters; who marks carefully the locality of towns, and of the surrounding country, whether they are low or high, hot or cold, wet or dry; who, moreover, neglects not to mark the diet and regimen of the inhabitants, and, in a word, all the causes that may produce disorder in the animal economy." And yet, strange to say, those buildings which our physicians regulate, and over which they preside, continue up to this very hour to be erected on plans ill calculated to aid in the restoration of health, in the face of principles laid down long ago in France, and with the evil results of existing arrangements in this country constantly before their eyes. When we stated, in respect of the Victoria Hospital at Netley, as then planned, before the building was contracted for, that, if it should ever be full of patients, more diseases would be generated there than cured, we were pooh-poohed by some and abused by others. A very short time, however, elapsed, before the correctness of the assertion was seen. Memorials were presented and alterations were made. What is being done there at this moment is a mystery, and we hope Mr. Tite will keep an eye upon the subject in the House of Commons. Many of our provincial and some of our London hospitals, are most unhealthy. If a commission were issued to inquire into their condition, and evidence were taken, the results would startle the public as much as the Report of the Barrack Commission did. There are some where patients, after an operation, have a less chance of life than they would have if they were taken into the fields and covered with a tent. "We touch a nerve, and when we lay our hands on a human body," as a German poet:—certainly we deal with the divinest and most consummate work of all in hand; but it must be supposed that this conviction is not very general, if we look to the carelessness of human life and suffering everywhere manifested. No one can have any conception of the smallness of the stock of sanitary knowledge in the world unless he visit the English hospitals, where, if anywhere, perfection of sanitary arrangements ought to be found. Even in the case of the most recently erected provincial hospital, on which from 20,000*l.* to 30,000*l.* have been spent, we are compelled to say we have great dislike to the plan and arrangement, and anticipate anything but satisfactory results. It is to be hoped that, at any rate, the governors will keep accurate records. We have no faith, as we have often said, in simply "scientific ventilation" for hospitals. The necessity for artificial ventilation implies, we think, a defect in plan. In this belief we are more and more confirmed. Miss Nightingale, in her replies to the Barrack Commissioners, when asked to say what she thinks is "the best system of ventilation for a hospital, and why?" remarks,—

"The doors, windows, and fireplaces should be the means of ventilation for such wards as these: nothing else is wanted. If a hospital must be ventilated artificially, it betrays a defect of original construction which no artificial ventilation can compensate. It is an expensive and inefficient means of doing that which can be done cheaply and efficiently by constructing your building so as to admit the open air around.

But there are buildings of original defective construction which it is undoubtedly necessary to ventilate artificially. And in countries where fuel is dear and cold severe, the problem complicates itself, because it is a less consumption of fuel to warm the fresh air as you admit it.

In the case supposed, warming is a necessary part of ventilation, and heating the air required heats the wards, without extra cost of fireplaces, which always burn many times the quantity of fuel expended for warming.

In England, where fuel is cheap, there can be no such excuse.

If attendants cannot be trained to keep the rooms ventilated without draughts, there is a defect of intelligence, and attendance on the sick is not their calling.

Occasionally, ventilating shafts, carried up from the ceiling of the ward to the roof, will be found an advantageous means of renewing the air.

There should be one or more open fireplaces in the ward, but lofty, so that the throat of the chimney shall be above the patient's head and bed.

We look upon the chimney as the best ventilating shaft; and one disadvantage of artificial ventilation is, that you must then supply the fire with its own consumption of air by a shaft to itself, or it will take the air from the artificial ventilation, and cause it to cease to act. Whereas, with natural ventilation, the fire sets it acting, takes the air from the room, and is the most valuable means of ventilation.

Our grandfathers' lofty fireplaces are the greatest loss in modern house architecture. The little low fireplaces of this date bring the best current of air below the stratum in which we are breathing. With our system, to breathe the best air, we must not be more than six years' old, or we must lie down."

Mr. John Roberton, of Manchester, of whose labours we have before spoken, has recently published a second pamphlet, with a view to the Improvement of Hospitals for the Sick and Wounded.* In this, he says,

"As exception has been taken to my comments on what is called 'scientific' ventilation, I beg to observe that I have little to say regarding it, unless as applied to hospitals; but I here repeat what I formerly stated, that so wide is the difference between the wants of a ward filled with the sick and wounded with respect to ventilation, and the wants of every other kind of apartment in which people in health congregate or lodge, that the means which are found sufficient to maintain the purity of the one fail in maintaining the purity of the other; and an architect who has not submitted to make himself familiar with the state of the atmosphere in, for example, the crowded wards of a badly-constructed hospital at those hours of the day and night when the admission or exclusion of air is left to the nurse and patients, is ill qualified to form an opinion on ward ventilation. Until the architect will consent to give his organ of smell a few minutes' practical training, about six or seven o'clock in the morning, in a crowded surgical ward, he can never realise the importance of a truth, which can hardly be enunciated with too great emphasis—that not merely must a ward, if it is to be kept sweet, be ventilated in the ordinary sense of that term, but it must be so ventilated as to secure for it the constant renewal of the contained air—the displacement of the fœtid effluvia ever being admitted from the bodies of the sick and wounded, and the substitution instead, of air, not drawn from cellars, corridors, and passages, but admitted direct from the store of the unpolluted heavens."

It should not be forgotten, when the purification of an hospital is under consideration, how liable "scientific" modes of ventilation are to disappoint, owing to derangements occurring in the apparatus; insomuch that the most renowned inventions of this sort are ever being pronounced failures, and so given up. "Nature's ventilation,—the unceasing flow, parallel to the earth's surface, of the atmospheric tide,—may be depended upon. Only let there be openings, facing one another, in the side walls of an apartment, and a through current of air never ceases: it flows on with the same certainty that may be predicted of the law of gravity itself."

He has found the hospitals in Germany very bad; those in Belgium comparatively good. Concerning the materials to be used in hospitals, he says,—

"The material of which ward floors should be composed would be easily decided had we marble in such abundance as one sees in the Low Countries. In Holland, all the better class of shops are flagged with marble; and the lobbies, and even the steps of stairs in the houses of the opulent, are of beautiful polished marble. The first ward I entered in the St. Elizabeth Hospital, Antwerp, had a polished marble floor; but this did not extend to all the wards. At Cologne, too, some of the hospital corridors were paved with marble. In the hospital at Liege, the floors were of oak, cleansed twice a day; and unquestionably, save marble, the best material for the flooring of wards is oak, painted, waxed, or varnished, as in the great Hamburgh Hospital, and, I think, in several more of the hospitals I visited; for it is easy to clean, and when moist can be easily rubbed dry. The principle—which cannot be too strongly urged in reference to the floors, walls, and ceilings of hospitals—is, that every kind of porous material ought to be avoided. If all the interior surfaces of an hospital were of some material like glass—hard, smooth, and polished—so much the better for its sanitary condition.*

The most decisive test as to the good or bad sanitary condition of a hospital is the tendency in wounds, received by accident or made by the knife of the surgeon to heal speedily or otherwise—to heal or not to heal, as quickly as would happen were the same cases treated singly in a commodious private house. "And if an hospital do not afford advantages equal to the best private dwelling, it is assuredly, to use the mildest term, a failure—I might, perhaps, without impropriety, say, a snare and a curse. Yet in how few of our hospitals is it that compound fractures, amputations, the excision of large tumours, and the like, do not linger far longer than they would were they treated at home. The test referred to has never yet, I imagine, been applied to the results of hospital practice, else it would have brought into open day a mass of harrowing evidence as to the weeks and months of suffering needlessly inflicted on multitudes of the most valuable members of almost every industrial community in England, who have had cause to bewail the evil fortune that sent them into an hospital; to say nothing of the waste of hospital funds, owing to the enormous enhancement of expense in the treatment of every such lingering case; for it would be

* "A few Additional Suggestions, with a View to the Improvement of Hospitals." By John Roberton. Reprinted from the "Transactions of the Manchester Statistical Society."

* "See, in the *Builder* of December 5th, 1857, page 799, a curious and interesting notice of 'Water Glass,' and its application. This is a kind of cement having a powerful chemical attraction to mortar, brickwork, &c. drying quickly, being very durable, smooth, and hard, like glass. How far it may be found suitable for coating the walls of hospitals, I do not venture to determine."

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VOL. XVI.—No. 802.

Construction of Hospitals.

Ventilation.

Blacklarn Infirmary.

IN previous volumes we have commented earnestly on the errors observable in the construction of our *Hospitals*, and shown their inherent defects.

Two thousand years ago Hippocrates, when asked, "Who is the physician that is an honour to his profession?" said,—"It is he who has merited the esteem and confidence of the public, by profound knowledge, long experience, conscious integrity; who has been led through the whole circle of the sciences; who has a due regard to the seasons of the year, and the changes which they are observed to produce—to the states of the wind peculiar to each country, and to the quality of its waters; who marks carefully the locality of towns, and of the surrounding country, whether they are low or high, hot or cold, wet or dry; who, moreover, neglects not to mark the diet and regimen of the inhabitants, and, in a word, all the causes that may produce disorder in the animal economy." And yet, strange to say, those buildings which our physicians regulate, and over which they preside, continue up to this very hour to be erected on plans ill calculated to aid in the restoration of health, in the face of principles laid down long ago in France, and with the evil results of existing arrangements in this country constantly before their eyes. When we stated, in respect of the Victoria Hospital at Netley, as then planned, before the building was contracted for, that, if it should ever be full of patients, more diseases would be generated there than cured, we were pooh-poohed by some and abused by others. A very short time, however, elapsed, before the correctness of the assertion was seen. Memorials were presented and alterations were made. What is being done there at this moment is a mystery, and we hope Mr. Tite will keep an eye upon the subject in the House of Commons. Many of our provincial, and some of our London hospitals, are most unhealthy. If a commission were issued to inquire into their condition, and evidence were taken, the results would startle the public as much as the Report of the Barrack Commission did. There are some where patients, after an operation, have a less chance of life than they would have if they were taken into the fields and covered with a tent. "We touch a bird when we lay our hands on a human body," says a German poet:—certainly we deal with the divinest and most consummate work of man's hand; but it must be supposed that this conviction is not very general, if we look to the carelessness of human life and suffering everywhere manifested. No one can have any conception of the smallness of the stock of sanitary knowledge in the world unless he visit English hospitals, where, if anywhere, perfection of sanitary arrangements ought to be found. Even in the case of the most recently erected provincial hospital, on which from 20,000*l.* to 30,000*l.* have been spent, we are compelled to say we have great dislike to the plan and arrangement, and anticipate anything but satisfactory results. It is to be hoped that, at any rate, the governors will keep accurate records. We have no faith, as we have often said, in simply "scientific ventilation" for hospitals. The necessity for artificial ventilation implies, we think, a defect in plan. In this belief we are more and more confirmed. Miss Nightingale, in her replies to the Barrack Commissioners, when asked to say what she thinks is "the best system of ventilation for a hospital, and why?" remarks,—

"The doors, windows, and fireplaces should be the means of ventilation for such wards as these: nothing else is wanted. If a hospital must be ventilated artificially, it betrays a defect of original construction which no artificial ventilation can compensate. It is an expensive and inefficient means of doing that which can be done cheaply and efficiently by constructing your building so as to admit the open air around.

But there are buildings of original defective construction which it is undoubtedly necessary to ventilate artificially. And in countries where fuel is dear and cold severe, the problem complicates itself, because it is a less consumption of fuel to warm the fresh air as you admit it.

In the case supposed, warming is a necessary part of ventilation, and heating the air required heats the wards, without extra cost of fireplaces, which always burn many times the quantity of fuel expended for warming.

In England, where fuel is cheap, there can be no such excuse.

If attendants cannot be trained to keep the rooms ventilated without draughts, there is a defect of intelligence, and attendance on the sick is not their calling.

Occasionally, ventilating shafts, carried up from the ceiling of the ward to the roof, will be found an advantageous means of renewing the air.

There should be one or more open fireplaces in the ward, but lofty, so that the throat of the chimney shall be above the patient's head and bed.

We look upon the chimney as the best ventilating shaft; and one disadvantage of artificial ventilation is, that you must then supply the fire with its own consumption of air by a shaft to itself, or it will take the air from the artificial ventilation, and cause it to cease to act. Whereas, with natural ventilation, the fire sets it acting, takes the air from the room, and is the most valuable means of ventilation.

Our grandfathers' lofty fireplaces are the greatest loss in modern house architecture. The little low fireplaces of this date bring the best current of air below the stratum in which we are breathing. With our system, to breathe the best air, we must not be more than six years' old, or we must lie down."

Mr. John Roberton, of Manchester, of whose labours we have before spoken, has recently published a second pamphlet, with a view to the Improvement of Hospitals for the Sick and Wounded.* In this, he says,—

"As exception has been taken to my comments on what is called 'scientific' ventilation, I beg to observe that I have little to say regarding it, unless as applied to hospitals; but I here repeat what I formerly stated, that so wide is the difference between the wants of a ward filled with the sick and wounded with respect to ventilation, and the wants of every other kind of apartment in which people in health congregate or lodge, that the means which are found sufficient to maintain the purity of the one fail in maintaining the purity of the other; and an architect who has not submitted to make himself familiar with the state of the atmosphere in, for example, the crowded wards of a badly-constructed hospital at those hours of the day and night when the admission or exclusion of air is left to the nurse and patients, is ill qualified to form an opinion on ward ventilation. Until the architect will consent to give his organ of smell a few minutes' practical training, about six or seven o'clock in the morning, in a crowded surgical ward, he can never realise the importance of a truth, which can hardly be enunciated with too great emphasis—that not merely must a ward, if it is to be kept sweet, be ventilated in the ordinary sense of that term, but it must be so ventilated as to secure for it the constant renewal of the contained air—the displacement of the fœtid effluvia ever being admitted from the bodies of the sick and wounded, and the substitution instead, of air, not drawn from cellars, corridors, and passages, but admitted direct from the store of the unpolluted heavens."

It should not be forgotten, when the purification of an hospital is under consideration, how liable "scientific" modes of ventilation are to disappoint, owing to derangements occurring in the apparatus; insomuch that the most renowned inventions of this sort are ever being pronounced failures, and so given up. "Nature's ventilation,—the unceasing flow, parallel to the earth's surface, of the atmospheric tide,—may be depended upon. Only let there be openings, facing one another, in the side walls of an apartment, and a through current of air never ceases: it flows on with the same certainty that may be predicted of the law of gravity itself."

He has found the hospitals in Germany very bad; those in Belgium comparatively good. Concerning the materials to be used in hospitals, he says,—

"The material of which ward floors should be composed would be easily decided had we marble in such abundance as one sees in the Low Countries. In Holland, all the better class of shops are flagged with marble; and the lobbies, and even the steps of stairs in the houses of the opulent, are of beautiful polished marble. The first ward I entered in the St. Elizabeth Hospital, Antwerp, had a polished marble floor; but this did not extend to all the wards. At Cologne, too, some of the hospital corridors were paved with marble. In the hospital at Liege, the floors were of oak, cleansed twice a day; and unquestionably, save marble, the best material for the flooring of wards is oak, painted, waxed, or varnished, as in the great Hamburgh Hospital, and, I think, in several more of the hospitals I visited; for it is easy to clean, and when moist can be easily rubbed dry. The principle—which cannot be too strongly urged in reference to the floors, walls, and ceilings of hospitals—is, that every kind of porous material ought to be avoided. If all the interior surfaces of an hospital were of some material like glass—hard, smooth, and polished—so much the better for its sanitary condition.*

The most decisive test as to the good or bad sanitary condition of a hospital is the tendency in wounds, received by accident or made by the knife of the surgeon to heal speedily or otherwise—to heal or not to heal, as quickly as would happen were the same cases treated singly in a commodious private house. "And if an hospital do not afford advantages equal to the best private dwelling, it is assuredly, to use the mildest term, a failure—I might, perhaps, without impropriety, say, a snare and a curse. Yet in how few of our hospitals is it that compound fractures, amputations, the excision of large tumours, and the like, do not linger far longer than they would were they treated at home. The test referred to has never yet, I imagine, been applied to the results of hospital practice, else it would have brought into open day a mass of harrowing evidence as to the weeks and months of suffering needlessly inflicted on multitudes of the most valuable members of almost every industrial community in England, who have had cause to bewail the evil fortune that sent them into an hospital; to say nothing of the waste of hospital funds, owing to the enormous enhancement of expense in the treatment of every such lingering case; for it would be

* "A few Additional Suggestions, with a View to the Improvement of Hospitals." By John Roberton. Reprinted from the "Transactions of the Manchester Statistical Society."

* "See, in the *Builder* of December 5th, 1857, page 799, a curious and interesting notice of 'Water Glass,' and its application. This is a kind of cement having a powerful chemical attraction to mortar, brickwork, &c. drying quickly, being very durable, smooth, and hard, like glass. How far it may be found suitable for coating the walls of hospitals, I do not venture to determine."

wrong to overlook the fact that perhaps every social evil, not excepting the present, admits of being estimated at its money value."*

The pamphlet contains a plan of the intended infirmary at Blackburn, recently described in our pages, and which is admittedly founded on Roberton's valuable statements, and the observations in our own pages. The system of separate pavilions, with windows on each side opposite to each other, is adopted, somewhat too confined by the chapel and dining rooms, but displaying a considerable advance towards a model arrangement. We shall watch its progress with interest.

A MEMORANDUM ON THE COMMERCIAL QUESTION OF ARCHITECTURAL COMPETITIONS.

THE architectural competition system has been for a long time criticised with much anxiety by the profession, in respect of detail of regulation as between competitor and competitor; but it seems to me that this must be all in vain until we have first examined into its fundamental principles, as between the competitors as a body on the one part, and the client on the other part. These parties are seller and buyer, in a commercial transaction; and if there be anything unsound in respect of this, the primary relation of the parties to each other, the whole transaction thus unsoundly begun, will be unsound to the end.

First, let us look at the elementary idea of buying and selling involved in the obtaining of an architectural design, in the simple or usual manner. The client being about to build, requires a design. He applies to a maker of such designs, an architect, and explains his requirement. The architect makes a design; and (if the transaction goes no further), is paid for his work a certain standard price, which for the sake of ready-reckoning, we may call in ordinary works, *one per cent.* on outlay.

But a second client, being advised that *a choice of designs* is preferable, how shall he obtain this? Here is the competition question. How shall he procure several designs out of which to choose the best?

A first mode.—He applies to several architects, and obtains from each a design: he agrees to pay for each design the standard value of one per cent. and makes his choice from among them. This is a first-class select competition.

A second mode.—He obtains several designs, as in the former case; but he agrees to pay only for the one which is best the full standard value as a perfect project, and for the others he will only pay their commercial va ue as imperfect projects. This is a second-class select competition.

A third mode.—He collects designs indiscriminately from all who offer: he agrees to pay for the best one the full standard value; and for the others their commercial value, as in the last case. This is a public competition.

Now, all these modes of proceeding are commercially sound. The client is not satisfied with requesting *one design* to be made for him: he requests *several designs* to be prepared for a choice, which is quite another thing. And if he is willing to pay a fair value for this choice, it cannot be disputed that competition in the mode of these three forms is serviceable, both to the art, and to the profession, in all its classes of practitioners. What, then, is this fair value of choice?

An architectural competition design is not a sample of goods. The error here indicated is a very likely one for a commercial community, such as the English, to fall into; and no doubt this lies at the root of much of the abuse of architectural competition; but such an error has only to be pointed out, and a commercial man will at once perceive it, and for his own part repudiate it. He is willing to pay equitably for value received; he has no wish to have designs prepared for him without fair payment; he merely desires to know what this fair payment is.

The principle of fair payment in any such transaction is this. The contributors on the one part contribute so much in money, or money's worth; the receiver, on the other part, pays a precise equivalent in money or money's worth. If ten persons contribute 1*l.* each, under the arrangement that he who draws the highest card shall have a prize of commercial value, this prize must be 10*l.* in full. The transaction would be a fraud, if any attempt were made to pass off 9*l.* as the prize. This is the commercial principle now in question.

In the case of the first mode stated, or first-class select competition, the choice of a certain number of designs is to be paid for by as many full standard values: is this fair towards the client? It is: the competitors have been selected as first-class men; and their designs are therefore to be taken as all perfect works, and each of the full value. The value of the choice is therefore the sum of the standard values of the whole: and, if in such a case the number of competitors be reasonable (say three), the three per cent. for such a choice of designs, in a case worthy of the principle, is not money wasted.

By the second mode stated, or second-class select competition, the client may indulge himself with a larger number of designs to choose from. As a whole, they must be supposed to be of one rank less in merit; because the first-class man declines to work for less than a certainty of full standard value. But still the result may be none the less successful for the client; because merit of design is not a thing of certain calculation, but in great degree of accidental happy fancy. What, then, is the value of this second form of choice? The best, or one perfect design, is of full standard value of course. What is the commercial value of the rest?

A perfect design (so to call it) has its value made up of two considerations: first, the labour and outlay involved; secondly, the peculiar merit or adaptation for the case which may be called its perfectness. The assumed percentage pays for both of these, say in equal moieties—one-half per cent. for each. Then suppose a competition of our second mode embraces (as a reasonable number) five designs. The best is of the standard value of a perfect work—one per cent. in full; the other four are of a commercial value of one-half per cent. each, as for the labour and outlay alone, and not the merit of perfection. That is to say, each of the four defeated competitors, by virtue of his selection as a competent man, is to be considered as having contributed to the transaction the value of his outlay and labour, equal to one-half per cent. The value of the aggregate, therefore, is one and four half per cents.—in all, three per cent.; and this is the lowest fair value for the choice. The best or perfect design is to be paid for in full, and the half-standard value of the others divided amongst these as comparatively imperfect designs. And if the competitors agree that the inferior payments shall be not all equal, but graduated according to merit, there is no objection to this; only let not the prizes be too few.

But there is *the third mode*, or public competition. The choice is still more extended; no limit is imposed whatever as to number. So far commercial soundness is still satisfied, provided the fair value of the choice be paid for it. What then is this value now?

The client declines in the second form to pay the full standard for the defeated designs; he now declines again to undertake to pay without limit, for a number without limit, even upon the principle of half-standard price, as in mode second. The commercial value must, therefore, be computed on a new basis. Perhaps the best course will be this. Is the public competition worth more or less than the select competition of the second mode? If the highest rank of men decline the second as speculative, an inferior rank will now decline this third mode for the increased reason. The competitors will be, as a whole, of less standing. But, on the other hand, unknown merit comes in, and greater numbers; we may safely assume from experience that these restore the balance, or very nearly so. The value of this third choice, that is to say, in ordinary cases, may be about the same as that of the second; and, taking five as a proper number of competitors for the second mode of select competition, then their three per cent. of aggregate payment will still hold good as the fair value of a choice by public competition.

In other words, the result of all this is, that *three* selected *first-rate* architects, or *five* selected *second-rate*, or *all that offer unselected*, may be about equal as to the value of the choice. And on reflection, most competing men will, perhaps, think this as fair an approximation as can be safely relied upon.

According to the above estimate, then, three per cent. on outlay in common cases,—the full value of a competition of three first-class men,—is the fair value of choice in a select competition of five of a second class; and the same in a public competition without limit. That is to say, for a work of 2,000*l.*, 60*l.* ought to be paid for the competition, in whatever case. If the transaction is to be commercially sound, nothing less can be accepted; *and if the transaction is not commercially sound, it ought not to be entered into by any man of business.*

Whether this outlay of three per cent. would be objected by respectable persons generally as clients need not be argued; no one would look upon it other than as a very trifling charge in the entire outlay, and money well laid out for fair value received.

We come now to consider other advantages involved.

How far the engagement to employ the successful competitor to carry out the work ought to come into account is an important question. If the successful competitor is awarded one per cent. as the fair value of his design, and is further employed to carry out the work at the other four per cent. as being the person whom it is the best interest of the client to employ, there is nothing here to spare,—nothing to be an inducement to unsuccessful competitors, on commercial grounds, to give up their proper claims as laid down. The commercial value of the choice remains, therefore, thus far as it was.

The value of the opportunity for acquiring professional advancement is a thing which has to be taken into view. But upon commercial principles the client will certainly not lay claim to appropriate any such allowance to himself; he will not ask that the value which he pays for the choice should be reduced on this account. The value of the opportunity will turn to his advantage in another way: it will procure for him greater anxiety for success on the part of the competitors, and thus greater merit in their works.

But commercial soundness merely as to the value given and received is not our whole question: commercial principle is not yet fully satisfied. The adjudication of reward must be commercially sound also; judgment must be adequately weighed out. How shall a competition be adjudicated upon? By the opinion of the uninitiated client? Under mode first, when every one is paid in full, yes—if first-class artists have no objection to so mean a contest. But, under mode second, by no means; for the competitors take a risk in the transaction, and must be consulted. And, under mode third, this is still more the case.

It is the essence of all the availableness of competition, that the judgment should be critically perfect. The only thing that competitors can undertake to go by is what we call merit; and nothing but merit can be acknowledged. Architecture is a study in which no non-professional man of any knowledge will pretend to be a perfect judge of merit. If the most learned of our amateurs could work in an architect's office for even twelve months, the amount of knowledge he would acquire of that kind which shows us how little we know, would astonish him. What then if he had twenty or thirty years of it? In one word, the only fit judge of architectural merit is an architect of experience; and for the interest of the client none the less, the only decision which is likely to be approved of by himself in the end is that of such a person. To this principle all men of business would agree without a murmur.

The errors of the competition system as at present practised are many; but it is no matter wherein they consist in detail. If the elements of commercial soundness are violated at the beginning, this is enough to produce any amount of error in the end; and enough to account for it all. Restore the balance, and at any rate the ground is safe. Claim the proper commercial payments, and the proper critical adjudication, and everything else may be expected to come right of itself. But if the payments are not of fair amount, and the test is not that of recognised merit, nothing can make the system either honest or honourable.

ROBERT KERR.

At a meeting of the Architectural Association on Friday evening, the 11th inst. the above memorandum was read in connection with certain resolutions reported by a committee of the Association appointed to deal with the competition question.* Mr. Kerr previously explained the circumstances in which he appeared before the meeting. His remarks on Mr. Morgan's paper at the Institute having been, as he thought, misunderstood, he had put his argument in writing for publication, believing it really to touch the root of the matter. He had, however, taken the opportunity of attending a meeting of the Association's competition committee last week, to lay the memorandum before them, and explain it; and the result had been their adoption of the two resolutions now reported. He had also undertaken to attend on the present occasion, and present the memorandum to the association at large, in explanation of the principles thus laid down. In the course of further observations, he argued that one of the greatest mistakes of the profession, in respect to this question, had been the idea that men of business, when calling on architects to compete, desired to overreach them. Such persons, he contended, erred only from want of information; and he had no doubt that any committee of gentlemen setting on foot a competition for a projected work, only needed to have the equity of the matter explained on commercial grounds, and they would be too glad to understand it, and be enabled to act fairly. He thought that if the resolutions now reported were impressed upon any committee in such circumstances, in most cases the result would be the immediate appointment of one or more architects of experience to take charge of the entire competition, from instructions to adjudication, when details of administrations would be found to be easily adjusted.

THE CHATEAU OF AMBOISE.

ABOUT fifteen miles higher up the Loire than Blois stands the picturesque little town of Amboise, nestling snugly at the foot of the château of which I am about to give an account. The château stands upon a high and precipitous rock, and, the stone of which it is built, being of a very dark colour, it has altogether a very formidable and imposing appearance. It is said to have been built by Julius Cæsar, and to have been called by him Ambacia. It is surely more probable that its present name is a corruption of that of Ambacia, than that Mr. Murray's derivation, *"ab ambabis aquis"* is correct. Early in the sixth century Amboise was the scene of an interview between Clovis and Alaric, king of the Visigoths. After his coronation Louis XI. went to Amboise to visit his mother, Mary of Anjou, who had retired thither after the death of her husband, Charles VII. It was there that he instituted the order of St. Michael. It was the scene also of his death. Warned of his approaching dissolution by an attack of apoplexy, he caused himself to be carried thither, and expired soon after. His son, Charles VIII. a prince of very refined tastes, brought from Italy a number of artists, under whose direction he caused the little chapel of St. Hubert to be built. It stands on the very edge of the rock, and overhangs the arched doorway, which is the principal entrance to the château. Time and the ruthless hands of revolutionists had done much to destroy it; but the late king caused it to be completely restored in accordance with the original design, and it is now a perfect gem of its kind. The style is Decorated Gothic, profusely ornamented. The carving is so fine and delicate as to resemble lacework, and the marble whiteness of the stone adds to the illusion. Above the door is laboriously and beautifully sculptured the conversion of St. Hubert. The saint, so says the tradition, had remained in the darkness of paganism, until one day, while he was out hunting, the miraculous appearance of a stag carrying a crucifix between its horns effected his conversion. I know of nothing approaching in beauty to this little chapel unless it be that of Henry VII. in Westminster Abbey. Charles VIII. had also commenced substituting a magnificent palace for the old château, but no more than the two immense round towers, which still remain, had been completed when death cut him off. His plans were never carried out by his successors. Within the eastern tower, which rises from the base of the rock, and is 60 feet in diameter and nearly 100 in height, there is a spiral road, so broad and of so gradual an ascent that one might drive a four-in-

* When remarks are made as to the unhealthiness of an hospital, at some particular season, the reply usually is that erysipelas is epidemic—that it is found to attack wounds and sores under treatment in private dwellings; but on inquiry, the dwellings referred to are generally found to be cellars, or the sleeping-rooms in back-to-back cottages, where a good sanitary condition of the apartments, supposing surgical cases treated there, is impossible.

* 1. "That in any competition, the aggregate amount of premiums ought to be the full commercial value of the choice of designs; that is to say, of the right of selection out of many." 2. "That professional experience alone can a judicate upon the relative merits of the designs."

and without difficulty from the top to the bottom. It is, in fact, an inclined plane working round the interior newel. The same peculiarity of corbelling which I mentioned as seen on the oriel windows at Blois* is to be observed on the portal of this tower; but the details, instead of being Roman, are more Gothic in their character.

The fine gallery which faces the Loire was constructed by Louis XII. It commands a most extensive view of the surrounding country, which, with the exception of the forest of Bleré, is almost entirely covered with vines; and on a clear day the noble spires of the cathedral of St. Gatien, at Tours, which are six leagues distant, may be distinctly seen. The garden of the château is also owing to Louis XII. who caused it to be made for the use of Anne of Bretagne.

Francis I. who spent his boyhood at Amboise, always retained an ardent affection for his "old familiar home," and on his accession to the throne made it the scene of frequent tournaments, in which, as in all other chivalric sports, he himself excelled. Leonardo da Vinci, who was one of the many Italians attracted to France by the encouragement given to art by this prince, inhabited a small château in the neighbourhood of Amboise. Francis added two wings to the château, one of which, however, was subsequently destroyed by fire. There remaining one is in the style of the Renaissance, and the dormer windows are as usual especially beautiful. In my account of the château of Loches,† in speaking of the variety of designs of the dormer windows of the Renaissance, I mentioned that when I came to speak of this château I should have occasion to notice another variety of design. The peculiarity I there referred to is that the upper part of the window strongly resembles a species of tomb-stone which is not unfrequently to be met with in Scotch church-yards, where we have a pedestal on either side, with a double dado, surmounted by a pediment.

The next page in the history of Amboise is a dark one; but space will not allow me to do more than glance at the celebrated *conjuration d'Amboise*. This conspiracy was formed against Catherine de Medici, the Duke of Guise, and the Cardinal of Lorraine. On the 18th of March, 1560, La Renaudie advanced at the head of the rebels to attack Amboise; but the queen-mother and the Guises having been apprised of the projected attack, sent a body of soldiers, who encountered the conspirators near the town, and utterly defeated them. Then commenced a scene of carnage and wholesale slaughter, which was only surpassed by the terrible massacre of St. Bartholomew. La Renaudie was killed, and his body hung high above the Loire, with the inscription, "*Chef des rebelles.*" The streets literally ran with blood. Some were sewn up in sacks, and thrown alive into the river, while many were hanged from the iron stancheons of Louis XII.'s balcony. A scaffold was erected in the court of the château, and the court ladies assembled in full dress to witness the executions. The admirers of Mary Stuart may probably have some difficulty in accounting for the fact that she was among those who graced (may I not say *disgraced*?) the spectacle. The reader is acquainted with the tragical fate which awaited the Duke of Guise and his brother the Cardinal. So true is it that "they who take the sword shall perish with the sword."

After the reign of Henry III. Amboise ceased to be a royal residence, and was only made use of as a state prison. Fouquet, Louis XIV.'s minister, and Lauzun, were imprisoned there; and in our own time the emir Abdel Kader was confined there till liberated by the present Emperor of the French. This chief was allowed to have his family with him, which included four wives and a large retinue. Since his liberation the rooms have been stripped of their furniture, so that there is little to be seen by going over them. In the garden there is a monument erected by the inhabitants of Amboise in memory of one of Abdel Kader's wives, and fifteen of his suite, who lie buried near the spot.

This concludes my notice of the château of Amboise, and with it the task which I set myself in my first letter. Imperfect as I am aware my descriptions have been, I yet trust they may have been sufficiently interesting to some of your readers, whose professional duties admit of a month or two's relaxation, but who have not yet unveiled themselves of the easy communication between this country and the continent, to induce them to pay a visit to the centre of France. I can safely say that, in addition to those monuments of architecture, which I have attempted to describe, they will find a profusion of architectural remains well worthy of their attention.

J. M.

* See p. 50, ante. † See p. 308, ante.

WHAT OUGHT GAS TO COST?

THE public interest, a few years ago, was aroused in this metropolis to the gas question, on the formation of a new company, which proposed at once to reduce the price of that article from 8s. to 4s. per 1,000 cubic feet, stipulating at the same time to make a further reduction to 3s. on acquiring a certain number of consumers as customers. This company at length accomplished their object so far as obtaining an Act of Parliament, notwithstanding the combined opposition and hostility of the old companies, which in some instances amounted to brute force. Within six months of deciding and arranging their project, they were fully and efficiently at work; and at a meeting of the Board of Directors, within six months thereafter, having fully made good their pledges, and satisfactorily carried out their scheme, the announcement was made of a dividend of 6 per cent. per annum, on the proprietors' capital

In this essay, my aim and object is to bring before the public of this country, the justice, the importance, and the perfect practicability of a further reduction in the price of gas, from its present rate per thousand cubic feet, to 6d. per 1,000 cubic feet; and by proper management and the adoption of an improved system of manipulation in the chemical products, exclusive of the carburetted hydrogen gas in a state of purity (the greater the purity of the gas, the larger the other products from the combustion of coal), the possibility of even making them yield a very handsome profit to the maker, by making the gas a free boon to the community. As illustrative of my theory, I submit the following facts:—In the United Kingdom, the quantity of pit coal distilled, or carbonised, for the production of illuminating gas, amounts to 3,510,000 tons per annum, which, by devoted labour, practical calculation, and observation, continued for a period of sixteen years, I have ascertained, produce on an average 11,000 cubic feet of gas per ton, or an aggregate of 38,610,000,000 cubic feet, yielding a rental at the present ascertained average price of 9s. 5d. per thousand cubic feet, of 18,178,875*l.* sterling. Now, my object is to save this amount to the community, and I am prepared practically to demonstrate that, by carrying out an improved system, scientifically and efficiently, and converting the resulting products from the carbonisation of coal for gas in the best form, after supplying the present demand for the arts and manufactures of this kingdom, there would arise an unlimited demand for the surplus. This surplus, if combined with the waste matter of our manufactories, together with the animal and vegetable refuse, would form an amount of fertilising elements which, on being judiciously applied to the soil of this kingdom, would enable our agriculturists to have more corn to export than we now import; and I have no doubt that in a few years our soil would acquire the fertility of that of Chaldea previous to its spoliation and desolation under Cyrus, and yield to the husbandman its two hundred-fold of increase, instead of its present yield of ten or twelve fold. I will touch on this subject again before concluding.

In this kingdom the following will be found to be a pretty close approximation to the actual state of the gas question, without requiring much modification, being the result of careful experimental calculation:—

The quantity of pit coal carbonized for the supply of England, Wales, and Scotland with illuminating gas, may be fairly estimated at 3,510,000 tons per annum, which at an average ascertained cost of 10s. 8d. per ton, amounts to the sum of 1,872,000*l.*

Illuminating gas, produced at the rate of 11,000 cubic feet per ton, 38,610,000,000, at the present average market price of 9s. 5d. per 1,000 cubic feet, will yield a rental of 18,178,875*l.*

Ammoniacal products evolved and passing with the gas from the retorts, and deposited by condensation in a state of hydrosulphuret and carbonate of ammonia, in solution, in a crude state, commercial average value of this produce from a million cubic feet of gas, 35s. Thus, 38,610,000,000 cubic feet at 35s. per million, 67,567*l.* 10s.

In using the proper purifying materials, the saturated solution will be equal to the production of one ton of sal-ammonia in a state of sublimation per million cubic feet of gas, present market value whereof is 55*l.* per ton, or 38,610,000,000, at 55*l.* per million, 2,123,550*l.*

I estimate the condensation of smoke with the ammoniacal liquor, to amount to 150 gallons of tar per million feet of gas, which, by the agency of a cheap commercial article with a metallic base, I have discovered, under proper conditions, can be converted, by inducing spontaneous combustion, into a highly valuable, dry, fertilising compound, market value for agriculture, 8*l.* per ton, 5,791,500 gallons, the estimated produce will yield with the combination aforesaid, 24,131 tons at 8*l.* per ton, 193,048*l.*

I estimate the resulting carbon or coke, as fully equal in value to one-fourth of the coal employed in its production, say one-fourth of 1,872,000*l.*—468,000*l.*

Summary of the foregoing cost of coal for the production of 38,610,000,000 cubic feet of gas, 1,872,000*l.*

Chemical products, solution of hydrosulphuret and carbonate of ammonia	£ 67,567 10
Sublimated sal-ammoniac	2,123,550 0
Prepared tar	193,048 0
Coke or charcoal	468,000 0
Total	£2,852,165 10

Thus leaving a balance for working expenses, management, and interest of capital, of 980,165*l.* 10s.

Without the gas rental, or including the gas revenue, the amount would be 19,159,040*l.*; or a gross profit of more than 1,000 per cent.

I estimate that 50 per cent. on the cost of coal, would amply suffice to pay the interest of capital, labour, management, &c.; which, added to the coal amount, would give 2,808,000*l.*

Thus leaving a surplus on a year's working, exclusive of the gas revenue, of 44,165*l.* 10s.

This surplus profit would be found to be considerably increased by concentrating the seats of supply as much as possible; as, where rival companies exist, with mains and the requisite appliances of supply and distribution multiplied, and running parallel with each other, their cost, and wear and tear, are much increased beyond what is required, from each rival company having their vehicles of conveyance of sufficient capacity for the transmission of the whole supply. Pit coal, be it observed, is a formation from the decomposed vegetable matter of past ages of the world, before man converted it to his use; and it becomes us so to investigate its properties, that such an immense and exhaustless source of wealth may not be lost sight of or misapplied.

The inert elements of the food of man, animals and plants abounding in this our sphere, only require development and organization to sustain ten fold the present inhabitants. What must have been the fertility of the soil about the ancient city of Babylon, when they were in a condition to store a plentiful supply of provisions for twenty years, during the siege under Cyrus? We have not yet succeeded in combining the elements of organic bodies by artificial operations. They show a tendency to pass into ternary and quaternary compounds; and even in the living bodies, products that have been organized appear essential to the formation of new ones. Thus vegetable life is in a great measure supported by the decay of former vegetables, and granivorous and carnivorous animals require vegetable and animal substances for their sustenance; for, although it be true that carbon, hydrogen, oxygen, and nitrogen are the ultimate elements of our food, we should soon starve upon charcoal, and water, and nitrogen, or upon any of their compounds that had not already gone through the process of organization. As, therefore, we cannot so combine the insulated inorganic elements as to imitate the products of organization, we are deprived in our researches upon these forms of matter of the aid of synthetic proof, in the ordinary acceptation at least of that term, and in determining the nature and relative proportions of the elements of organic compounds, we are limited to analytic operations; and even in them, numerous difficulties will be found to occur, especially affecting the determination of the integral atomic weights of the compounds, and the theory of their elementary arrangements. The first attempt, I believe, at the analysis of vegetable substances, consisted in subjecting them to destructive distillation, and this method was greatly extended by Hales, Priestley, and the earlier pneumatic chemists who paid especial attention to the gaseous products of such operations, which, together with aqueous and oily liquids, and a residue of carbon, constituted the results of the process. Hence the conclusion of the older chemists, that air, oil, water, and earth, including under that name the carbonaceous residue, or *caput mortuum*, as they called it, were the universal elements of organic bodies. It is, however, evident that most of these are secondary results,—that they are products of the operation, and accordingly their composition and relative

proportions are liable to infinite variation, dependent upon the manner in which the distillation has been effected. In modern analysis, therefore, this method is rejected, or at least only adopted where some general inference is to be drawn from the nature and proportion of the newly-produced compounds. Ammonia, for instance, denotes the presence of nitrogen; a large quantity of oil announces excess of hydrogen; and of acid, excess of oxygen. The uncondensed gases may also be examined.

JAMES HARLING.

SCENERY AND THE STAGE.

The Princess's Theatre. — The Merchant of Venice.—Venice is essentially a poetic city. If we would recall a recollection of it, it comes in the language of Shakspeare, or Otway, or Byron. "*C'est la plus triumphante cité que j'aye jamais vue*," wrote Philippe de Commynes, in 1495. With its palaces and prisons, water-roads and weedy banks, its doges and gondolas, although it stand now but "a ghost upon the sands of the sea," we hear of it only in measured language, see it only in brilliant colours. In the last revival at the Princess's Theatre, Mr. Kean has brought this

"Pleasant place of all festivity,"

before the eyes of the Londoners, presenting to them successively with the powerful aid of Messrs. Grieve and Telbin, St. Mark's-place, the Merchants' Exchange on the Rialto Island, the Rialto-bridge and Grand Canal, the Hall of the Senators, and other parts of the often painted city. For the second act, showing the exterior of *Shylock's* house, a bit of Venice is admirably built up on each side of a canal, along which gondolas pass and repass, a practical bridge spanning it. The water is very effective, and in this scene the curtain comes down on a wild group of maskers and revellers, picturesque and characteristic. The Saloon of the Caskets, in *Portia's* house, at Belmont, seen several times during the play, is a very elaborate Italian interior polychromed, and furnished with candelabra and seats, a Gothic covered way opening out from the back. The last scene, an avenue leading to *Portia's* house, is a charming piece of moonlight painting. The costumes and customs are represented as existing about the year 1600, when Shakspeare wrote the play, the dresses being chiefly selected from a work by Cesare Vecellio, entitled "Degli Habiti Antichi e Moderni di diverse Parti del Mondo: in Venetia, 1590;" as well as from other sources to be found in the British Museum. The acting of Mr. Kean in this play is well known, but has never been so good, as it seems to us, as it is now. His scene with *Tubal*, when anger and sorrow, in respect of his daughter, struggle with the gratification with which he hears of *Antonio's* losses, is a grand piece of acting. Of Mrs. Kean's delivery of the appeal for mercy and the judgment, it is impossible to speak too highly. Her energy in the latter, and the subtlety of the device which strikes the mind even now, 250 years after it was written, and when every one knows it, bring down deservedly a thunder of applause, reserved as the audience of this theatre always is.

St. James's Theatre.—Thanks to Mr. Frederick Gye, who is recovering, we are most sincerely glad to hear, from the prostrating illness with which he has been afflicted, the public have an opportunity, at St. James's Theatre, to see again the greatest foreign tragic actress now living, Madame Ristori. She appeared as *Lady Macbeth* on Wednesday evening last. Accident prevented us from then attending, but we shall take an early opportunity to do so. There are to be but twelve performances.

GOTHIC INTERCOLUMNIATIONS.

THE term *order*, in its extended sense, has been considered to apply to the relative proportion between the height and width of the bays or compartments into which a building is divided. In Gothic art it has been used by some authors to denote the number of shafts forming the jamb of a door or window. I have observed in some of the best-proportioned examples in that school of art a feature in which these two definitions appear to be reconciled one with another rather remarkably; namely, in the proportion of the height of the piers, supporting the arches between the nave and aisles, to the distance between them.

If we consider the single shaft to represent the first or lowest order, *a*; the next above it will of course be the cluster of four equal shafts, *b*; then comes an intermediate or half order of four shafts, divided from each other by a large moulding and two hollows, *c*; the next order of eight shafts, and the next of twelve, *e*. Now we shall find in these orders the following proportions, of which I subjoin a table of examples, all of which have a pleasing effect; and wherever these proportions are widely departed from, the effect is weakness or heaviness, according to the excess or defect in the height of the shaft in proportion to the intercolumniation:—

Example.	Order.	Height.	Intercol.	Relative Proportion.
		Ft. In.	Ft. In.	
Wittersham, Kent ..	1, *a*	7 6	10 0	*c* 3 : 4
West Walton, Norfolk	1	10 0	13 9	
St. Nicholas, Colchester	2, *b*	11 4	11 4	Quadrate or 4 : 4
Chancel arch of do..	2	15 6	15 6	
St. Leonard, Colchester	2	*c*12 0	12 0	
Bottisham, Cambridge.....	2½, *c*	15 6	12 7	Between 4 & 5 . 4
Tower Church, Ipswich	2½	17 9	*c*15 0	
Westminster Abbey, Nave	4, *e*	*c*27 0	*c*18 0	6 : 4

These proportions do not appear in the Perpendicular school of architecture, but only in the Early English and Decorated. I shall be much obliged to any of your correspondents who will point out other examples where these rules appear to have been followed.

W. SCARGILL.

NOTES ON TOWERS.

THE CENTRE TOWER OF LICHFIELD CATHEDRAL.

IN the *Builder* for April 17, page 260, it is stated, that "at Lichfield, the centre tower is beautifully proportioned externally, and would form a splendid lantern if it were open to the top; but it is now wholly lost to the interior of the church to accommodate bells."

Now, inasmuch as this note may possibly draw serious attention to a point of great importance, while Lichfield cathedral is undergoing extensive and well-advised alterations, I am induced in kindly feeling to offer some local explanation to your correspondent.

1. The proportions alluded to by him are, unfortunately, not, as originally intended, in strict keeping with all other parts of the fabric. For it is probable that Lichfield cathedral, as designed in the twelfth century, was intended to be symbolic of Christian faith; and, as part of this intent, was laid out, in all and each of its main proportions, with especial reference to the Christian mystical number eight; and that the great steeple, symbolic of the first great person of the Trinity, was perfect in this respect; perfect in its parts, and perfect as a whole. But, in consequence of the spire of this steeple having been battered down by cannon, during the civil wars of the seventeenth century, the top of the tower was variously damaged; and, in the so-called restoration of the steeple, the original proportions were altogether lost sight of; for the tower was reduced in height, and yet the whole steeple was built two feet higher than it had been of old. And, to heap error on error, stunted pinnacles were placed on the reduced tower.

From Ashmole's rude print in the first edition of Fuller's "Church History," and from other sources of information, it may be gathered, that the old tower stood as high above the high-pitched roof of the church as the present tower stands above the present roof; and that its pinnacles were built in due proportion to those of the west front.

How far it is possible to amend the errors committed here at a "restoration" may possibly be noticed by some of your correspondents.

2. The upper division of the centre tower of Lichfield Cathedral, it is true, is "wholly lost to the interior of the church, "but not to accommodate bells." The only bell hung here is the *Tintinnabulum*, which in our day is popularly known as the T'Anthony; although on the print just alluded to it is named the Coe-bell, in evident corruption of Go-bell. The S.W. or Jesus steeple, is that in which large bells are hung; and their effect upon a clock bears out the truth of "S.'s" remarks on clocks in bell-towers in general, for before railway time was known in "the ancient city of Lichfield," it was a popular local belief that something "serious" was sure to happen, if the cathedral clock and St. Mary's struck together. Each clock was in a bell-tower, and neither of them ever went right.

The lantern is lost to general view by the interposition of a spurious arch. The modern character of this arch, the ancient character of the lantern, and the exact position of an oak roof, are all plainl traceable. The work of the lantern, though plair originally agreed with that of a most graceful tr forium, north and south; and the unison of part was further increased by the triforium arche and certain windows of the transept being open t view externally, which are now variously conceale or blocked up.

3. Since the year 1839, many different opinion have been expressed about the best site for a organ. But unless I mistake the matter in refer ence only to the diffusion of sound, no site can b found good in Lichfield Cathedral, at a distanc from the centre tower; whereas if the lantern an different arches and windows be opened, an excel lent site may be obtained near this tower, a marked on a ground-plan in the year 1840.

In reference to the question of the diffusion o sound, we had a remarkable example here a few months ago. There was a meeting of choirs i the church, about 200 voices being employed on th occasion, to "swell the note of praise." But th organ was placed under the low arches of an aisl towards the north-east of the building, and th singers were drawn out like a file of soldiers, south of the instrument. The consequence of this was that the war of sound from the "long-drawn" file was so far driven out of the church, south wards (and in a street south of the church percep tibly driven out), that the effect of the 200 voice was lost at the west end of the building. The gentlemen unconsciously wasted much of thei "sweetness on the desert air;" for a small organ, well placed, and fifty voices from a suitable stage would have produced better effect than they did with a powerful organ and four times fifty voices.

J. R.

BUILT UP IN ISLINGTON.

SINCE the publication of my last letter in your valuable journal, the process of building up in Islington has been continued with as much perseverance as might have been expected during the late uncertain condition of monetary affairs; and notwithstanding the advance of the bricks and mortar has been slow, it has made some progress; and I find myself now enclosed in the heart of a large city, instead of breathing freely in a pleasant suburb. The vestiges of greenness have faded from my view, which is now composed of a monotonous and somewhat confined collection of red and blue roofs, dingy walls, and parched and hardened ground. I strive in vain to find pleasure in that harmony of colour which is said to exist in the most unpromising scenes of nature, and to call up other images in my mind to counteract the forms of decided ugliness which in all directions are visible; and it is difficult to describe the effect which uncongenial objects have in the tasteful eye. I might speculate upon the manner in which such a painter as the late J. M. W. Turner, or a sculptor delighting in beautiful forms, would vigorously cover all of the view from my window, except the peep of sky, if called on in such circumstances to create one of those things of beauty, which is to excite the admiration of many for years to come.

It is true that I might resort to the plan of concealing my prospect in the above manner. I might have my dwelling internally ornamented with choice pictures and other works of art; I might dull the glazing of the windows by diapers and other means; by frequent change procure a sort of artificial greenery from Covent-garden, and produce a rural effect by the help of an imprisoned sky-lark, thrush, or other feathered song-bird. But, in spite of all this, the external view would still haunt me as surely as would a deadly form, if covered with the richest and most glittering of mantles. Besides, we all look naturally to a window as a means of relief or change, and it would be well if those who have supervision of the building of either large or small neighbourhoods were to consider how much the prospect from a house has to do with its general comfort.

Together with the disappearance of the trees and fields, many interesting objects of natural history have vanished. In the space which is now covered by close streets, I have in the spring time seen the ground ploughed up and thickly occupied by crows, whose noise and eccentric tricks afforded much amusement. These sounds have given place to the voices of the milkman and costermonger. A crow or two may be occasionally seen now soaring at a great height, and as swiftly as possible, over the neighbourhood. Fifteen or sixteen years ago it was by no means uncommon for them to fly over here from the direction of the New River to Kensington-gardens.

In summer the cuckoo might be often heard in

the Copenhagen-fields; and hundreds of swallows skimmed about the banks of the canal: these birds although so familiar to many of the homes of England, have ceased to be visible, except for a few evenings at the close of autumn, when they seem to meet together and suddenly vanish; and it is worthy of remark that similar flocks used a few years ago to gather on the northern verge of Somers and Camden towns. They now no longer visit them, and probably those of the preceding winter may be the last to Islington, for the number was very small in comparison with other years. Such living things as remind one of the country are very rare. A robin redbreast gave a few chirrups at the approach of winter, but, in spite of encouragement, he did not long continue his visits.

AN ARTIST.

FATHER THAMES.

A CORRESPONDENT writes to the Lord Mayor as follows:—

"My Lord,—What is to be done? The stench from the Thames yesterday, even at high water, exceeded anything I have ever felt or noticed before. On leaving the Adelphi Pier, I was seized with vomiting, and I really expected that some injury would accrue to me. Can nothing be done (excepting speeches in Parliament) on the subject of this 'sewer evil?' When some dreadful calamity shall brand its pestilential form over the great metropolis, then shall we mourn the effects of our great negligence."

This is one of several letters which the Lord Mayor has received on this subject. His lordship has himself made a voyage to Westminster, and remarks that certainly no stench that he ever encountered was comparable with that which assailed the passengers on that occasion. "He knew that the nuisance was most abominable, and, he apprehended, most dangerous; but Parliamentary speeches having failed, how could it be expected that the remarks of a mere magistrate would have any effect." Notwithstanding the evidence of both eyes and nose, learned authorities say that Thames water is very wholesome. It however requires much faith to put trust in the remarks of the learned while taking the air either on the banks or on the bosom of this dingy river. I, in believing rather in matters which are clear to every observer, than in learned theories, hope that this question will be considered without the vision being obscured by the ideas of cost. It must be borne in mind that several years must elapse before any important works of drainage can be carried out; and it is to be hoped that those who have been instrumental in causing delay may not have to regret when an immediate remedy is needed that their efforts are without avail.

A COMMON-SENSE PASSENGER.

ENGINEERING AND OTHER WORKS ABROAD.

THE surveys for the Nemours section on the intended railway from Paris to Lyons, by the Bourbon province, are finished. Already, at Nemours, there are fresh arrivals every day of the necessary plant for the work, and on the 1st of June 6,000 men were to be put in gangs along the line. If this be carried out as promised the Nemours section will be attached to the principal line at the end of a year.

The immense station for the junction of the Southern and Mediterranean lines is perfectly finished, even to the last touch of paint. It was announced in Cette that from the 16th or 20th inst. the direct passage from one line to the other would have been open by rail; but the day is not yet fixed, and the communication is still made by omnibus through the town from one line to the other. The magnificent swing-bridge (of riveted plates) carrying the line of junction over the Bordigne navigable canal, has been lately submitted to its definitive test. Four locomotives, each 70 tons, were driven over the bridge, first uncoupled together, and afterwards two by two united, and running in opposite directions over it at a high speed. The result was very satisfactory, and the deflexion (scarcely perceptible) was only what one could expect from its natural elasticity and long span. Swinging on a central pier, the total length of the bridge is 56 mètres, and it thus opens and shuts both bays at once. The apprehensions as to the working of the bridge, on account of its enormous weight, were soon laid aside when it was seen that two men were sufficient to turn it round.

The critical situation of the iron trade in France is becoming more and more evident. "From information that we have received," says *L'Ancre*, "we perceive in all quarters, especially in the countries of Champagne, Comté, the Landes, the Charente, and the Rhône, a reduction of hands in the fabrication of iron, and some of the furnaces extinguished."

On the Central Belgian Railway, the works of the second section, Beaume to Ecaussines, are in active progress, and the line will be inaugurated on the 1st July next. Independently of the great importance of this line individually, it will also be the shortest route from Brussels to Paris. At a general meeting of the shareholders on the 30th ult. the directors' report gives the receipts of the portion opened last year (18th Sept. to 31st Dec.), 87,125 francs, and the expenses 55,757 francs.

On the Chimay Belgian Railway (*entre Sambre et Meuse*), the Eau-Blanche viaduct is terminated, and only 10,000 cubic mètres are required to complete the line from Mariemberg to Chimay. This first section, 16,200 mètres long, can be opened in the beginning of July next. The second section is the prolongation of the first to the French frontier. The French government has authorised the company to continue the line beyond the Moningnies Belgian station into the French territories, in order to facilitate the introduction of agricultural and industrial indispensables into those places where they are needed.

The works of the Chemin de Fer de l'Ouest, between Lisieux and Pont l'Evêque, advance rapidly, and to all appearance will be finished early in June.

The Northern Spanish Railway is in active progress: 7,376 mètres of earthworks were done, during the month of April, between Airla and Burgos. The line is ballasted for a length of 34,727 mètres. The masonry is in a forward state: nearly all the bridges have been terminated.

The Toledo line is finished, and ready for opening. On Ascension-day, the neighbouring population was treated to a trip to Aranjuez by rail. In a few days, as soon as some minor arrangements are completed, it will be ready for permanent service.

On the line from Lisbon to Santarem, the section of Virtudes to the Puerta Santa Ana has been opened to traffic. This is the first railway in circulation in Portugal. The portion open is only 6 kilomètres, the whole line being 95 kilomètres.

By order of the Minister of Commerce of Prussia, the directors of the Eastern Bamberg Railway have taken into their hands the administration of all the works of the Kreuz, Kustrin, and Frankfort Railways, in place of the Royal Commission, which has been dissolved.

Plans for the Biscay Railway are to be sent in next month. On their being approved of, the works will be commenced forthwith.

According to the *Moniteur du Puy-de-Dome*, the commission appointed by the Minister of Public Works for the reception of that portion of railway between La Palisse and Roanne, set out from Paris by special train, 8 a.m. on the 19th of May, and arrived at Palisse at 4 p.m. and Roanne at 7 p.m. The return journey, between Roanne and La Palisse, was accomplished in 2½ hours. The works having been examined, and reported on favourably, there is nothing to prevent the line being open as soon as the necessary formalities are complied with.

The Paris and Cherbourg Railway is to be opened for public traffic at the end of next month. The directors were to proceed there on the 29th, and goods traffic was to commence on the 30th of May. This line, perhaps the most important western line in France, has already been for some time completed to Caen (239 kilomètres), and the completion to Cherbourg, 121 kilomètres further, will be, as we have before stated, inaugurated by a series of fêtes on that portion of the Normandy coast.

The Governor of Algeria has paid a visit lately to the railway works. He went along the line from Maison-Carrée to Bouffarick, and took minute notes of the state of the works. The local newspaper assures us that the effect of the thousands of army shovels is truly miraculous. Independently of the soldiers, there are 771 prisoners from the Algiers division, who work on the gangs from Birtouta to Bouffarick: other batches of prisoners from Oran and Constantine are expected. In all, the effective will be about 1,000 prisoners, in addition to the army, the exact number of which has not transpired.

In France, from April 1, 1857, to March 31, 1858, 1,432 kilomètres of railway were opened, classified thus:—April, 371 kilomètres; May, 186; June, 105; July, 116; August, 62; September, 240; October, 60; December, 30; February, 1858, 208; March, 1858, 54.

In 1857, it had 6,275 kilomètres, and on March 31, 1858, 7,707 kilomètres in circulation.

According to the *Messager de Bayonne*, the Ebro Canal works progress with astonishing rapidity. Already steamers can ascend from Mequinenza to San Carlos, and facilitate greatly the transport of goods, and the development of the interior. The company, in order to provide for the storage of increasing traffic, have constructed immense wine cellars and grain stores. The works are in a good condition throughout the line.

THE DEBATABLE LANDS OF THE METROPOLIS.

THE following is one of the instances which are so often occurring of the difficulties which arise on the borders of districts, and helps to show the necessity which exists for care in those quarters:*—

At a recent meeting of the City Commissioners of Sewers, Deputy Barnard stated that he wished the inspector of sewers (Mr. Santler, sen.), to be called, in order that that officer might explain the state of a drain at the rear of the Ram Inn-yard, Smithfield, which had been broken in, and in consequence of which the rats issued from the orifice in thousands, to the annoyance of the inhabitants of the neighbourhood.

Mr. Santler said the drain was not in the jurisdiction of the City—it was in the county of Middlesex, so that the Commissioners had no power to interfere.

Deputy Barnard.—The Ram Inn is in the City, surely?

The Inspector.—Yes, sir, it is; but the yard where the drain lies is not.

After some little further conversation, the court decided to refer the matter to the engineer to report upon at an early court.

PRESBYTERIAN SEMINARY, ILLINOIS, U.S.A.

THAT our readers may see what is doing in the New World, we have engraved a perspective view and the principal floor-plan of a building which is about to be erected at a place called Hyde-park, in the suburbs of Chicago, which building is to be used as a *theological seminary* (old school Presbyterian), and is to be called the "Presbyterian Theological Seminary of the North-West." The site for this building is one of the finest in this section of the country, it being in a rural district south of the city, and within some twenty rods of Lake Michigan, and one which commands a fine view not only of the lake, but of the city and surrounding country. The architect is Mr. G. P. Randall. The leading features of the interior will be learnt from an inspection of the plan. The building will have the lake on the east, the Michigan and Illinois Central Railways on the west (with a street between the building and railways), and a street at each end. Across the street north is a beautiful park, which is immediately on the lake shore, and is covered over with trees. The end of the building fronting this park is arranged for the professors' residences. At the opposite end is the chapel and library. The stories above the one shown are to be used for students' rooms, and are divided and arranged similar to those in the wings on the principal floor. The basement has a kitchen, dining-room, laundry, servants' rooms, &c. and all the conveniences of a first-class hotel, and will accommodate about 200 students. The building is to be warmed by steam throughout. The structure is to be built of a limestone of an excellent texture, which in colour resembles the Caen stone, only that it is whiter, finer, and much harder.

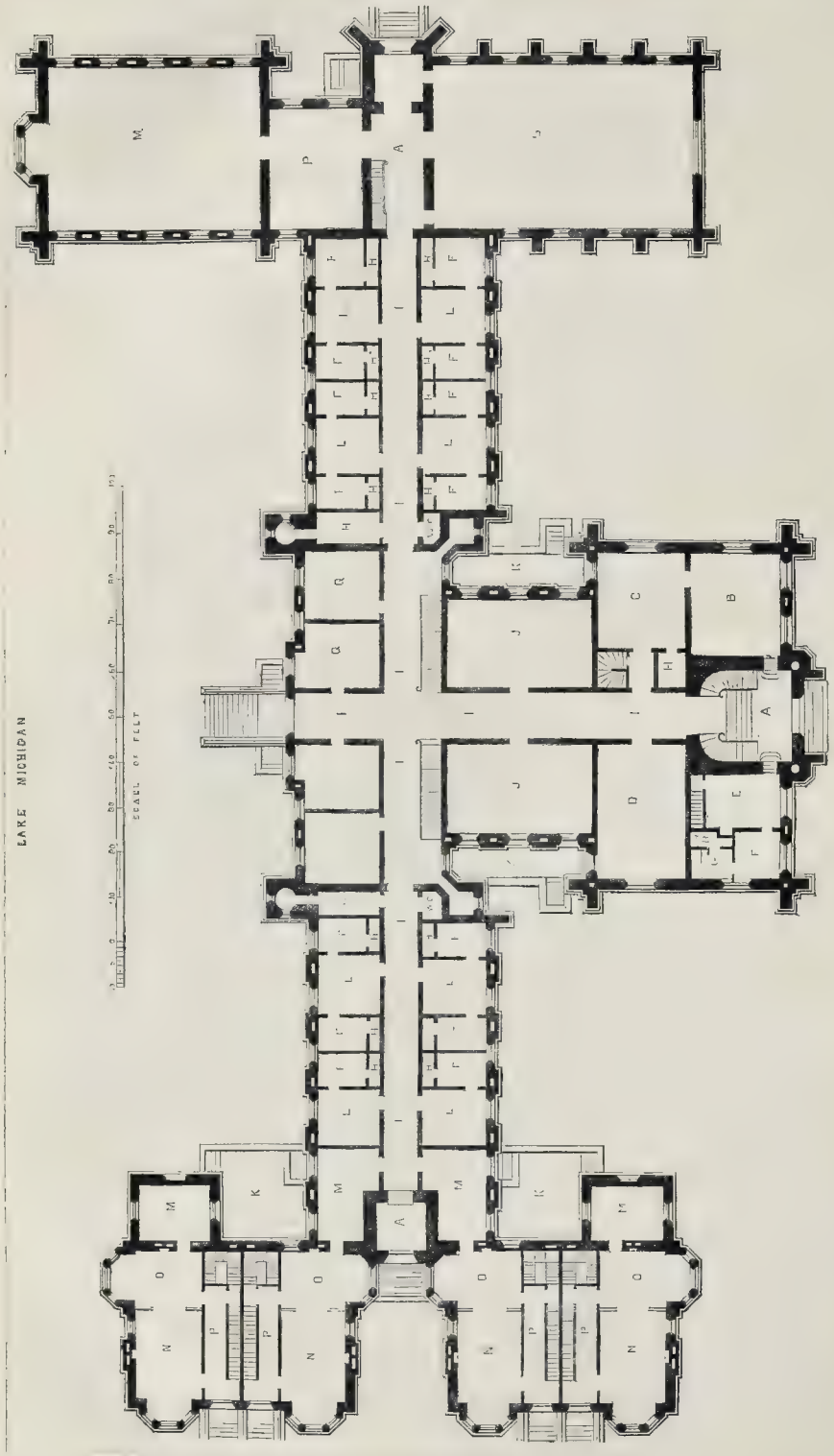
G. P. RANDALL.

REFERENCES.

A. Vestibules	K. Areas
B. Office	L. Studies
C. Reception-room	M. Libraries
D. Class-room	N. Parlours
E. Matron's parlour	O. Sitting-rooms
F. Chambers	P. Halls
G. Bath-room	Q. Professors' rooms
H. Closets	R. Reading-room
I. Corridors	S. Chapel
J. Class-rooms	

A PARK FOR HULL.—Some gentlemen interested in obtaining the Citadel of Hull for a public park, or place of recreation, have adopted a requisition, now in course of signature, requesting the mayor to call a public meeting for the purpose of taking the matter into consideration, and memorialising the Government authorities.

* See paper on the Debatable Lands, p. 366, *ante*.



PLAN OF THEOLOGICAL SEMINARY, ILLINOIS, U.S.—PRINCIPAL FLOOR.

PRESBYTERIAN THEOLOGICAL SEMINARY OF THE NORTH-WEST, HYDE-PARK, ILLINOIS, U.S.—MR. G. P. RANDALL, ARCHITECT.

DISTRICT SURVEYORS AND THE METROPOLITAN BOARD OF WORKS.

St. George's, Hanover-square.—Mr. Edward M. Foxhall has just now signified to the Metropolitan Board of Works, his desire to resign his district from the 1st day of July next, or as soon after as may be their pleasure. An increase in fortune, under the will of the late Sir John Soane, we believe, is the cause. Mr. Foxhall will carry with him the warm regard of all his former colleagues.

Marylebone.—At a meeting of the Board on Friday, June 4th, the recommendation of the committee in respect of a building on the forecourt of 197, Marylebone-road (see p. 381, *ante*), was discussed. Mr. Jennings explained at some length that he had done everything in his power that could be wisely attempted in the face of decisions come to by magistrates. Mr. F. Doulton and Mr. Ware protested against the report made by the committee, and it was ultimately withdrawn. It is to be hoped that the committee will be more cautious on a future occasion how they defame an individual before giving him an opportunity to be heard.

THE WESTMINSTER QUARTER BELLS.

THE new bour or largest bell for the New Palace of Westminster having come a little flat of F, the quarter bells which were cast some four months since by John Warner and Sons, of the Crescent Foundry, London, and which have been lying there until the large bell should be recast, have within the last few days been tuned to accord with it; and having been inspected and approved by Mr. Denison and Mr. Taylor, Messrs. Warner have received instructions from the First Commissioner of Public Works to deliver them at the foot of the Clock Tower at Westminster, where preparations are making for suspending them; so that in a few days the public will have an opportunity of judging of their merit previous to their being placed in the Clock Tower. The sizes, weights, and notes, are as under:—

Diam. at Mouth.		Weight. cwt.	q.	lb.	Note.
1st quarter, 15 in.	...	21	0	0	flat of A
2nd ,, 48 in.	...	26	0	0	flat of G
3rd ,, 54 in.	...	35	0	0	flat of F
4th ,, 72 in.	...	77	3	24	flat of C

NOTES FROM IRELAND.

THE committee of the Protestant Orphan Hall, Limerick (previously illustrated by us), intend completing the building, and are receiving tenders for that purpose. The society was founded in the year 1833, and its annual income is upwards of 2,000*l*. Mr. W. Fogerty is the architect.

A new Roman Catholic church is to be erected at Thomastown.

The new church at Lisadell has been consecrated by the Bishop of Elphin. The building adjoins the site of the old church, which has been converted into a school-room. Its length is about 100 feet, and breadth about 40 feet. In the chancel is a memorial window of stained glass, with this inscription,—"Erected by a grateful tenantry and friends to the memory of Lady Caroline Susan Gore Booth, to perpetuate their feeling of esteem and admiration entertained for her many virtues. Died 17th January, 1858." The window was stained and designed by Warrington and Son, London, at a cost of 190*l*. At the opposite end of the church is another small stained glass window, dedicated to the Rev. Mr. Jeffert, incumbent. The internal arrangements of the church are said to be excellent, and to ensure comfort. Cost, upwards of 2,000*l*. besides private subscriptions for internal fittings. The bell alone cost 55*l*. The foundation-stone was laid on the 17th of June, 1856.

It is said that the Methodists in the United States of America purpose raising 100,000 dollars to build a college for their society in Ireland.

New iron bridges, dock-gates, and other works are to be erected at the Custom House Docks, Dublin, according to plans, &c. by the architect to the Commissioners of Public Works.

The additions and alterations to Kilmainham gaol, the premiums for plans for which Mr. McCurdy, architect, obtained in competition, are to be proceeded with forthwith.

We are told it is in contemplation by a few to do honour to the memory of the late John O'Connell, by the erection of a monument or other memorial. The proposed Goldsmith Testimonial, so eagerly advocated for a time, seems to be at present in a state of abeyance. Let us hope that the work may be more architecturally successful than "The Moore Testimonial."

Much discussion is going forward at the meetings of the Dublin corporation relative to curtailing the space in front of Trinity College, and increasing the public way thereby. The Board offers 10 feet in the centre, and 2 feet 10 inches at the sides. Some maintain that 15 feet in the centre is necessary, and that the present railing should be replaced by one of more ornamental character; but it would appear at present as if nothing was really intended to be done, for the new pavement is being proceeded with at a higher level, and no change made in the boundary line. A correspondent suggests that all the objects could be obtained by taking down the railing, substituting dwarf piers connected by chains, 1 foot 6 inches high, or thereabouts, to define the boundary, as at present; flagging on level with pathway, the present gravelled space, and introducing two *jets d'eau*, which would appropriately ornament this most central part of the Irish metropolis.

The directors of the National Bank are receiving tenders for the erection of a banking-house at Dundalk. Mr. Caldbeck, architect.

Operations have been commenced in the pulling-down of that time-honoured, but certainly not very architectural structure, "Bloody Bridge," Dublin.

The new terminus of the Dublin and Wicklow Railway, at Harcourt-street, progresses, but will be much less unpretending in appearance and comprehensive in arrangements, than any of those attached to the chief lines branching from Dublin. Mr. Wilkinson is the architect, and (we believe) Mr. Dargan the contractor.

AMERICAN NOTES.

THE new capital of Nebraska is to be called Neapolis. It is to be located in some central situation, and 320 acres of land will be laid out in city lots, and sold by auction to defray building expenses.

A bridge 100 feet long, with a train running at the rate of 25 miles an hour, broke down on the Lafayette and Indianopolis railroad, and the train went through to the bed of the creek. Three persons only were killed, and the passengers generally escaped without material injury.

Another bridge over the Sanquoit creek, on the New York Central Railroad, gave way, and a number of passengers were killed. The timbers were found to be of rotten bastard elm. It is in contemplation to appoint bridge inspectors for the different railways throughout the States.

In Diamond Bluff, Trenton, Saratoga, and Maiden Rock, many new buildings are going up. In the adjoining country parts, substantial farm offices are being put up in goodly numbers, and the farms fenced and cultivated.

In demolishing the walls of old Gosenhoppen Church, Penn., erected 1744, the corner-stone was found at the north-west corner of the building, and contained two small coins, one dated 1695, and the other 1652; the one supposed to be English, the other a German coin. A small flask of tasteless liquor and black mouldy parchment were likewise discovered.

A handsome brick edifice for a Congregational church was not long since erected at Galesburgh, and cost upwards of 20,000 dollars, but it, as also the new Catholic church, a large engine-house of the Northern Cross Railway Company, and several other buildings, were reduced to rubbish by a dreadful storm.

An experiment to ascertain the amount of oxygen necessary to support life was tried at Chicago, by placing 600 persons in a hall of one of the hotels, the doors and windows being closed. At the end of the third half-hour, it was deemed unsafe to continue the experiment longer, and the fact was considered established that, under the circumstances, life would be extinct in ninety-five minutes.

The building of the Capitol at Madison is to go on.

CHELSEA.

ON Tuesday last, the 8th inst. the stone of the new church of St. Simon was laid by John Ashley Warre, esq. M.P. of Lowndes-square, before a large assembly, consisting of many of the inhabitants and the surrounding clergy. A printed service, arranged and conducted by the Rev. Richard Burgess, was read, with hymns selected for the occasion sung by the children and congregation; and in the address which was delivered, it was stated that 5,000*l*. had been contributed by two individuals, and that it was proposed to expend in the church and parsonage-house 7,000*l*.; that a site had been purchased adjoining for the schools, which it was hoped would quickly follow. The minister appointed to the church is the Rev. W. Scott Moncrieff. The church will accommodate 900 persons. The architect is Mr. Joseph Peacock; and the contractor, Mr. White. It is to be built of Bath stone and Kentish rag, with coloured bricks for the interior; and the west front, in Moore-street, will have a double bell-gable.

PRIVILEGES TO BE RETAINED SHOULD NOT BE ABUSED.

MR. EDITOR,—You have more than once worthily urged upon the owners of fine sites, ancient houses, and instructive collections the value of liberality, and pleaded for the occasional enjoyment of them by the public: you quoted Willis, who says:—"To fence out a genial eye from any corner of the earth which Nature has lovingly touched with her pencil, which never repeats itself,—to shut up a glen or a waterfall for one man's exclusive knowing or enjoying,—to lock up trees and glades, shady paths and haunts among rivulets, would be an enlargement by one man of God's gift to all." And I fully agree in the object you had in view. But if the public have a right to look for such privileges, if the public think them desirable, they are bound not merely not to abuse them, but to show proper consideration for those who kindly grant them.

I was staying a few days ago at a delicious place in Sussex midway between London and Brighton, where Nature has combined with an affluent hand rocks, wood, water, and flowers into a glorious whole, to which time and taste are adding charms. The owner and occupier of the place gives glad permission to all who desire to see it, though his own hourly use of the grounds and his horror of lobster-shells, noise, and broken bottles of course prevent the intrusion of unlimited picnics. Well, permission to view the place was sought for a party, including, it was said, officers of Her Majesty's 6th Dragoons, the Enniskellins, and permission was given.

Not to make a long story, I say nothing of the trail across the grass just ready for the scythe, or the cutting of initials, or of the van full of hampers accidentally introduced; but what I would say is, that when the "Visitors Book" sent out to the party through the individual who had applied for permission was returned, it was found disfigured with ribaldry, and some had signed themselves "Blacking-bottles," "Grummo," "Cautious Baby," and "Sheep." Dogberry told another to write him down "An Ass:" these individuals preferred doing it each for himself. At the foot of the insolent disfigurement, with another name, "Young," was that of "Charles Carpenter, Brighton,"—no relation, I should think, of *our* Carpenter, poor fellow, or he would not have permitted such impertinence and wilful damage.

I write this letter without the knowledge of the excellent owner of the estate, and solely in the interest of the public, who are vitally concerned in seeing that the privileges kindly accorded by individuals, in opposition often to their own convenience, are not abused, as the result in that case would necessarily be the withdrawal of those privileges. If any of the *gentlemen* who exhibited their knowledge of slang and their ignorance of decent behaviour on the occasion in question desire the name of your correspondent, you have my full permission to give it to them, but I hope they already feel sufficiently ashamed of themselves not to need further exposure.

A LOVER OF NATURE.

GOTHIC ARCHITECTURE, AND ITS REVIVAL FOR ECCLESIASTICAL PURPOSES.

SIR,—When I state that I am not an architect, perhaps I shall be accused of ignorance and presumption in attempting to convey any opinion to professional readers; but, on the other hand, I hope I may claim exemption from prejudice.

The sanitary knowledge which modern science has communicated to us teaches us that the health and comfort of the inhabitants of a building, whether for permanent or temporary purposes, are primary considerations. Warmth, light, ventilation, coolness in summer and heat in winter, to be indispensable requisites. Are these requisites properly attended to in our modern Gothic edifices? I fear they are not.

This return of hot weather reminds me that on Sunday the 28th June of last year, I was present at the Surrey Gardens Music-hall for the purpose of hearing Mr. Spurgeon. The heat was intense outside the building. 11,000 persons were said to be present, and the papers declared that it was the hottest day that had been known for nearly forty years. Although, as I have said, the heat was intense outside the building, inside everything wore the appearance of light and coolness. The numerous windows were opened, air was freely admitted everywhere, and in all this vast assemblage not one case of fainting occurred. Can the builders of our modern Mediæval churches produce the same beneficial results?

Let us turn to another picture. I am in the habit of attending a modern Gothic church in the suburbs of London, which has just sprung into fame from the ministration of a well-known popular preacher—deservedly popular if exemption from sectarian teaching be a legitimate passport to favour. This building is, I presume, artistically correct in its Gothic pretensions. The windows are long, but narrow and gloomy, with the approved trellice work of lead, which denotes the infancy of the glazing art. The windows begin to spring at a height of some 10 or 12 feet from the ground, leaving the lower part a mass of dead wall, unrelieved by either light or ventilation. Thus this portion becomes a kind of cellar, or vault, cold and cheerless in winter, and stifling in the summer.

The external air rushes with the violence of a tornado through the western door when opened at the backs of the congregation.

The consequences of this non-sanitary and uncomfortable construction are, that cases of fainting are by no means uncommon in this church. I never attend with my wife in this hot weather without having before my mind's eye the prospect of being obliged to remove her from the church—perhaps in a half-senseless state.

I am no enemy to Gothic architecture: this form is associated with our earliest memories of the Established Church. Cannot we avail ourselves of its benefits and reject its disadvantages? Is it wisdom, or folly, to copy all the defects, such as the little leaded panes of glass which are in truth errors exploded in all other building

by superior knowledge? If we preserve the external form of Gothic windows, for instance, cannot they be large, extending nearly to the ground, and filled in with panes of glass of a large size?

To copy all defects slavishly in a revival of ancient external forms seems to me the most egregious absurdity. As well might we discard railways and return to pack-horses and saddles.

P.

LAW NOTES.

Infringement of Patent.—Publication of an Invention.—Mr. Newall invented a machine for letting out telegraph wire. This machine had a truncated cone, round which the wire was wound, and from which it was paid off, and there were outside supports for the coil of wire, as also some rings, which were used for guiding the wire and preventing it from flying out. Messrs. Elliott and Glass subsequently produced a machine for the same purpose, which only differed from that of Mr. Newall in having a cylinder with a domed top instead of a cone. To an action for infringement of patent it was answered that the first specification did not state the use of rings, and also that there had been such a publication before taking out the patent as prevented the patentee from claiming legal protection. To this the plaintiff replied that the rings were not the substance of the invention, and that the publication was an experiment,—the laying down of a cable in the deep sea, in accordance with a contract with Government; and it was not ascertained before that experiment whether the invention was useful or not. The Court of Common Pleas has held that the provisional specifications need not contain all minute particulars, but only a general description, and that publication, even with profit, if still only experimental, is not necessarily a gift of the invention to the public. If, however, the utility of the invention had been already proved, the public use of it for profit before patent obtained would not be protected. The Court decided that Mr. Newall was entitled to judgment for infringement by defendants.—*Newall* v. *Elliott and Glass.*

Canal.—Liability to keep Locks in Repair.—A lease for fourteen years, from 1848, was made to a person named Chapple, of the Alvingham Canal, and this lease is now vested in the Great Northern Railway Company. The lessors are certain commissioners, who derive their powers from an Act of 1768, for improving and maintaining the navigation from the Humber to Alvingham, and thence to Louth, in Lincolnshire. The barge of a person named Walker entered the canal, and one of the locks fell in, so that the barge was obliged to remain. The owner brought an action against the commissioners' clerks, but he did not show that they had power to take possession and repair; nor did he show that he was not aware of the defective condition of the locks before he entered the canal, and there were also other technical points of pleading relied upon. The Court of Exchequer held (Baron Martin dissenting), that the action against the canal commissioners' clerks could not under such circumstances succeed.—*Walker* v. *Goe and Others.*

Parish Boundaries: Poor-rate.—An occupier of lands in two adjoining parishes was rated for his lands, 595 acres, in both parishes, Hethe and Cholesford, in Oxfordshire. The old boundaries were removed, and the sessions could not decide where the boundary between the two parishes was. It was, however, ascertained that 195 acres were in Hethe, and the rate was confirmed at Sessions, for that portion. On appeal it was argued for the occupier, that there must be a precise description of the exact situation of assessed lands, and that until the boundaries are fixed, he ought not to be assessed to either parish. The Court of Queen's Bench has, however, held that the rate as to the 195 acres is correct, and that the parish officers were not bound to point out the exact lands rated, provided they were satisfied that 195 acres were within the parish named.—*The Queen* v. *Woods.*

Poor-laws: Auditor of Accounts.—In the parish of St. Pancras, directors of the poor were chosen by the vestry, who appointed officers to act under the directors, and make the poor-rates. The Poor-law Board issued an order to the directors, churchwardens, and overseers, to appoint a special auditor of accounts, but the order was not obeyed. An order was then issued for the directors to make the appointment, but they refused on the grounds that the Poor-law Board had not the power to make the order, and that the directors were not the parties to whom it should be addressed, since the Metropolis Local Management Act came into operation. The Court of Queen's Bench has held that the Poor-law Board has the power to make the order, and that the directors are the proper parties to carry it into execution, as they are virtually the overseers of the parish.—*The Queen* v. *Stockton and Others.*

Bankruptcy: Proceedings of Wife.—The wife of a trader called a meeting of his creditors at the house of another person, and it has been held that this act did not bind him in the absence of proof that the circulars were issued by his authority. As, however, it was proved that he absented himself from home for several days, and left no directions for creditors, he was held to have committed an act of bankruptcy.—*Re M'Clelland.*

PROVINCIAL NEWS.

Reading.—Measures are being adopted for rebuilding the town-hall in connection with a county police station. A design by Mr. J. B. Clacy, the county surveyor, is under consideration: it is in the Elizabethan style. It is proposed to raise a sum of 650*l.*, according to the *Mercury*, for the purpose of purchasing a plot of private garden-ground requisite for the preservation of the entire site of the abbey ruins and the enlargement of the Reading pleasure-gardens.

Bilston.—The St. Leonard's new national schools, with master's house, &c., situate alongside the Great Western railway, and fronting Arthur-street, are progressing towards completion. The boys' and girls' school-room will be 90 feet by 30 feet, with a class-room to each school. The infants' school is 48 feet by 20 feet. The works are being executed from the designs of Messrs. Briggs and Everal, of Birmingham, architects, by Mr. Stephen Samson, builder.

Hanley.—The national school-room attached to the Hope parish, Hanley, has been opened. The building has been erected by Mr. J. Jones, of Hanley, from designs furnished by Messrs. Ward and Son, architects. Only one-half of the entire design has at present been carried out. The style is in general keeping with the church, which the school adjoins, and which is Norman. It is built of white bricks with stone dressings, and is relieved occasionally by blue brick patterns. The portion at present raised consists of a room 44 feet long by 24 feet wide, with class-room 14 feet by 12 feet, porch entrance, and a lavatory. The interior has an open wood-work roof, and is lighted after dark by a sunlight, which assists the ventilation.

Topsham.—The town of Topsham kept holiday on Saturday week, on the occasion of the opening of a new dry dock, capable of accommodating a vessel of a thousand tons burthen. Hitherto the want of such a convenience at the port of Exeter has been much felt. Mr. G. Cumming, of Exeter, was the engineer; and Mr. Barnes, of London, was the contractor.

Swansea.—The erection of the long-projected docks at Swansea is progressing. The proposed extension is marked out along the coast. A sea-wall is to be constructed on the margin of the bay, forming an esplanade of great length, and building operations are also actively carried on in the neighbourhood. The construction of the half-tide basin of the float is progressing.

Thurstaston (Cheshire).—The foundation-stone of new schools, in connection with Thurstaston church, and erected at the sole expense of Mr. Joseph Hogan, of Dawpool, was laid on the 9th of June by the wife of the Rev. Philip Robin, of Barnston. The building will be erected from designs by Mr. W. Scott, architect.

Liverpool.—New business premises have been erected in Church-street, opposite St. Peter's church, for the Liverpool branch of Messrs. Elkington and Co.'s business. The style is Lombardo-Venetian, from a design furnished by Mr. Hornblower, architect. In the basement story, as described in the *Journal*, the chief ingredient of construction has been grey granite, from Dalbeatie, in Dumfriesshire, employed in alternate courses of polished and rough-picked surfaces, intermingled, at symmetrical points, with warm-coloured sandstone. The second story is altogether of Welsh sandstone, as is also the third and superincumbent stories; but here the granite element has been continued, by the introduction of tall, slender shafts of grey granite, reaching from the base of the second story up to the lofty cornice, nearly 60 feet from the ground. These shafts are bound to the front by bands of sandstone. The cornice projects boldly forward. The shop, which is just perceptibly raised above the street, is 36 feet long by 35 feet wide, and 20 feet high. The principal show-saloon, on the first landing of a stair directly opposite the doorway, is a hall 100 feet long by 35 feet wide, and 32 feet high. There is also an upper show-room of the same dimensions. The shop and two show-rooms are heated by a steam-warming apparatus on a plan suggested by Mr. Mason, one of the partners of the firm of Elkington, Mason, and Co. and executed by Mr. Alderman Bennett. The plan consists of a large wrought-iron steam-boiler, with branches to the several apartments to be warmed, the steam being conducted by means of Mather and Platt's patent steam-valves. The escape of air from the pipes is adjusted by the application of Travis and Carstelle's patent steam-trap. The condensed steam returns again to the boiler. The general contract for the work was taken by Messrs. Kilpin and Montgomery. The plumber's work was executed by Mr. James Crellin. The heating apparatus, and all the ironmongery furnishings and fittings, have been supplied by Mr. Alderman Bennett. Mr. Shaw, of Brownlow-hill, executed the chief portions of the stone carving.

Market Harborough.—The Market Harborough Corn Exchange was opened on the 1st of June. The building, the front of which has been adapted from a private residence, was erected under the superintendence of Mr. Goddard, of Leicester, architect, and is simple and unpretending in its appearance. On each side of the principal entrance on the ground-floor are rooms which it is intended to let for offices. Above is a room which extends along the whole width of the front, and intended for a reading-room. There are also other rooms on this floor, for committee meetings, &c. The room intended for the Corn Exchange is 66 feet long by 33 feet in width, and has an open-framed roof, principally of glass. The place is ventilated by traps opening to the external air, ranged along one side and the end. At the rear are several waiting-rooms and out-offices, and the building is cellared throughout.

Accrington.—The new reservoir, which is now being constructed by the Accrington Gas and Water-works Company for the supply of Accrington and its neighbourhood with water, is in progress. The reservoir will contain 138,000,000 gallons of water: it is 660 feet broad, about 1,000 feet long, and its average depth will be 33 feet.

Shields.—The Building Committee of Sherburn Hospital have agreed upon a plan furnished by Mr. Austin, of Newcastle, for a new hospital for new inmates. The building will be erected immediately behind the range of low houses at the bottom of the square, now occupied by the hospital brethren. The new building will be two stories high, and have a stone frontage.

Blackburn.—The Infirmary Committee met on Tuesday to open and decide upon the tenders for the erection of the proposed building. There were seven tenders, and that by Mr. B. Abbott, and J. Hacking, of King-street, was accepted, subject to their finding two sureties for the due performance of the work.

Headington-hill (Oxford).—During the past autumn the works in progress at Mr. Morrell's new residence on Headington-hill have been visible for some distance on every side of Oxford. The building is a first-class mansion, in the Italian style. The architect was Mr. Thomas, of London, who has been engaged on the decorations of the Houses of Parliament for some years; and the building has been erected by Messrs. Joseph Castle and Co. of Oxford. The art of the landscape gardener, and the natural advantages, says the *Oxford Herald*, have here produced glimpses and views which are unrivalled, especially the views in the direction of Oxford.

MEMORIALS AND MONUMENTS.

Saffron Walden.—A large stained-glass window, of four lights and tracery, has been put into the south side of the parochial church, near the chancel, as a memorial to the late Mr. Martin Nockolds, the subjects representing "The Good Shepherd,"—"The Prodigal Son,"—"The Good Samaritan,"—and "The Sower." These are on a flowered quarry back-ground, with borders and coloured tracery above, with symbolical foliage and emblems.

Wisbech.—A memorial window to the late Rev. H. Fardell, vicar of Wisbech, has been placed on the north side of the chancel of the parish church here. The subject, "The Good Samaritan," is in six divisions, and was executed by Mr. Wailes.

Gloucester.—It is proposed to erect a monument to the memory of Bishop Hooper, at Gloucester, on the spot where he was burnt. The amount required, according to the *Bristol Mirror*, is estimated at 200*l.*

Ironbridge.—Proceedings are being taken for the collection of funds for the erection of a school, as a memorial of the late Rev. H. Fletcher, the Wesleyan, in close proximity to the spot where he erected his first school. The design for the building which has been lithographed, is by Mr. James Wilson, of Bath.

Halifax.—It has been decided by the committee of management that the statue to Mr. Frank Crossley, the member for Halifax, shall be of marble. The cost of the sculpture will be met by a public subscription, towards which about 1,000*l.* have been already received. The statue will represent Mr. Crossley, and is designed as a tribute by the inhabitants of Halifax for his gift of the People's Park. The figure will be erected in the saloon on the terrace in the park. Three artists, Messrs. MacDowall, Durham, and Milnes, were selected, and they will be requested to supply models. A premium of fifteen guineas will be awarded to each of the two unsuccessful candidates.

CHURCH BUILDING NEWS.

Crawley.—A new Independent chapel is now in course of erection at Crawley. Mr. Ockenden is the builder. The edifice is in the Gothic style, erected on a site near the railway station, and capable of accommodating three hundred persons. The cost of erection will be about 500*l.* The chief stone has just been laid, but the building is pretty well advanced.

Moreton.—The parish church of Moreton-in-the-Marsh is undergoing alterations, extensions, and improvements, to adapt it to the requirements of an increasing population, under the direction of Messrs. Poulton and Woodman, of Reading, architects. The expense is to be defrayed by voluntary subscriptions.

Belper.—The ceremony of laying the foundation stone of the chapels for the new cemetery at Belper was performed by Mr. Thomas Wm. Evans, M.P. on Whit Tuesday, when nearly seven thousand persons were present. The chapels are semi-detached, having robing-rooms, and connected with a carriage archway, with tower and spire, 140 feet high. They are in the Geometric style of Pointed architecture. A lodge, similar in character, is to be erected at the extremity of the land, contiguous to the turnpike road, leading from Belper, having entrance gates and ornamental boundary wall. The architect is Mr. Edward Holmes, and the builder Mr. William Freeman, of Belper.

Hereford.—The work of restoring the cathedral of Hereford is being pursued. The soil is to be removed from the external base of the north transept walls, the masonry made good, and the excavations to be filled with concrete. Men are engaged in scraping and cleaning the groining, pillars, and mouldings of the same transept. Mr. Scott is the architect.

Farlow (near Cleobury Mortimer).—The new church of St. Giles, which has lately been erected in this parish from a design by Mr. R. Griffiths, of Quatford, architect, has been consecrated by the Bishop of Hereford. Funds for the building were raised by private subscriptions, and a grant from the Diocesan Society. A considerable sum was given by Mr. B. Botfield, M.P. who also gave the site as well as paid the expenses of alteration in the plans, as it was originally intended to raise the new church where the old one formerly stood, namely, at the base of the hill. The church is built in the Early English style of architecture, and consists of a nave, chancel, south porch, and vestry. It is built of local stone, the walls in hammer-dressed work, with facings of tooled stone. The west end is finished with a bell-cote for two bells, and the nave and chancel gables terminate with moulded stone crosses. The old Norman entrance archway has been preserved from the old church and re-erected as the entrance to the new church. The roofs are covered with Broseley tiles. In the interior the nave is separated from the chancel by a stone arch. The roofs are of open timber work, having arched trusses resting in moulded stone corbels, and stained and varnished throughout. In the chancel there is a communion-rail of wood, supported by iron standards. The chancel, aisles, and porch are laid with coloured tiles, and the floorings of the seats are of wood. The seats are wholly open, and formed of wood stained and varnished. The sittings are capable of accommodating 210 persons. In the nave fronting the entrance is the ancient font from the old church. The churchyard covers an area of about three-quarters of an acre, and is surrounded by a stone wall surmounted by a coping. The churchyard is approached by an ornamental gateway.

Aberavon.—The foundation-stone of Aberavon New Church was laid on Monday in last week, by Mrs. Griffith Llewellyn, of Baglan Hall. There is still a great deficiency in the funds required to complete this edifice. It is expected it will be opened early next year.

COMPETITIONS.

Cambridge Stations.—Mr. Eliot Yorke, M.P. the chairman, has written a letter to the *Cambridge Chronicle*, admitting that his plan, to which the premium was awarded (as already stated, p. 393), was not placed before the magistrates until after the date named, and yet asserting, with singular bravery, that "the terms of the advertisement will be strictly carried out." It has not been denied that the conditions said the cost should not exceed 800*l.* and that the selected design is estimated at more than 1,000*l.*; and yet, "the terms of the advertisement will be strictly carried out." Strange obliquity of vision!

The Hertford Corn Exchange.—Last week, an adjourned meeting of the town-council was held, for the purpose of considering the plans sent in for altering and improving the Corn Exchange. Three of the plans were rejected altogether, on account of the estimates accompanying them exceeding 1,000*l.* it being considered unfair to allow them to be brought into competition with plans which had been prepared in accordance with the amount specified in the advertisement, "about 800*l.*" A ballot was then taken for selecting the seven best, after which the council adjourned till Tuesday morning, when they further considered the plans.

Sardinian Prisons.—A correspondent says,—"There were nine English competitors for the Sardinian prisons. The plans for the two at Turin, for which it is reported Messrs. J. P. Jones and Barber have attained the first prize, are of a peculiar kind, and adapted to the wants of a country where revolution is possible. There is no possibility of the prisoners arranging an outbreak, and 100 men could hold the building for a considerable time against twenty times their number. The plan of the Genoa prison, for which the same architects are awarded the third premium, is somewhat on the principle of that at Pentonville. Mr. Smith, of Adam-street, Adelphi; Mr. Hill, of Bedford row; two architects from Liverpool; and one from Manchester, are also competitors. Mr. Smith's plans are considered very good, as also a plan by Mr. W. T. Jackson."

IMAGES, AND THE SECOND COMMANDMENT.

SIR,—I cannot think that Mr. Kerr, in his letter in your impression of the 5th inst. has done more than shown the *abuses* to which the making of images has sometimes led. But the abuse of a thing is no argument against its proper use. The brazen serpent of Moses was set up by the *Divine command*. When it began to be *abused* then it was destroyed. But this does not prove that the making of the image itself was a breach of the second commandment. Mr. Kerr very justly remarks, that the punctuation and division into verses of the sacred writings is quite arbitrary, and the false punctuation of our version has done much to obscure the meaning of the second commandment, and if we read the first and that part of the second command relative to God's worship as one sentence, the meaning of the whole becomes much clearer. It would run thus:—"Thou shalt have none other gods but me, thou shalt not make to thyself any graven image, nor the likeness of anything in heaven above, or in the earth beneath, or in the water under the earth, thou shalt not bow down to them nor worship them;" and the meaning of this as interpreted by Catholic tradition is, not that the making of images or likenesses of animate or inanimate nature *per se* is unlawful, but the making of them *as idols*, and paying them divine adoration and worship; and the prohibition is more clearly pointed out in the following command,—"Ye shall not make with me *gods* of silver, neither shall ye make unto you *gods* of gold."—Exod. xx. 23. Reasoning on this command as Mr. Kerr does, and as modern Protestantism is wont to do, it would be a breach of this command to make any image or picture at all, sacred or profane. But knowing, as we do, that the temple was *filled* with images of cherubim on the hangings and on the veil, as well as on the mercy-seat itself; that there were carved images of pomegranates, and a molten sea standing upon twelve images of oxen, and images of flowers and lilies, and palm-trees, and "lions and oxen and cherubim" (1 Kings, vii. 29), all placed in the Temple under God's own direction; remembering the brazen serpent and other instances of the same kind; there can be no doubt as to the meaning of the command, viz. that *idols*, not *images*, are condemned; not the painting or embroidering or sculpturing "an image or likeness of anything in heaven or earth, or under the earth" is forbidden, but the making it with a view to paying it divine worship—not the making an image, but the making a representation of the Deity with a view to paying worship to that representation.

And with regard to this latter point of representing the Deity, it would seem that this was merely a temporary command, addressed especially to the elder Church, and not binding on those living under the Christian dispensation. The reason why an image of the Deity was forbidden, seems to be, that the human imagination was before the Incarnation utterly incapable of conceiving *a fit image of Deity*. But now that God has become incarnate, we may most fitly represent God in the *person of Christ*; and so what was impossible and profane to the Jews, becomes truthful and helpful to the Christian. With regard to Mr. Kerr's theory about the cherubim, I must confess to a liking to the old and Catholic "baby's picture-book idea," and which it seems is "discarded from all volumes above the value of sixpence coloured," and am certainly glad to find that the cheap baby's picture-books represent so faithfully the description given of the cherubim by the Holy Scriptures. That description is as follows:—

"And thou shalt make two cherubim of gold, . . . in the two ends of the mercy-seat, and make one cherub on one end, and another cherub on the other end. . . . And the cherubim shall stretch forth their wings on high, covering the mercy-seat with their wings, and their faces shall look one to another, towards the mercy-seat shall the faces of the cherubim be. . . . And there I will meet with thee, and I will commune with thee from above the mercy-seat, from between the two cherubims which are upon the ark of the testimony."—Exod. xxv. 18–22.

Mr. Kerr's "baby's picture-book" seems to convey a very truthful account of the mercy-seat, and of the Divine Presence manifested between the wings of the cherubim, and though "discarded by volumes above the value of sixpence," is apparently far more trustworthy than dearer volumes recording the modern views of enlightened Protestants. Again, Mr. Kerr seems to assert, and quotes Josephus to strengthen his view, that the cherubim were not images. That they were not *idols* is true, but that they were images is as true. "The wings of these cherubim [those in the second temple] spread themselves forth 20 cubits, and they stood on their *feet*, and their *faces* were inward."—2 Chron. iii. 13. That they were then more than "pairs of wings" is certain. They were figures having wings, and feet and faces at least; but even if they had not these, they were at any rate "images or likenesses of something in heaven above," and were placed by God himself in the most holy place in the temple, notwithstanding the second commandment, and this is all I argued for, viz. that the use of images, and pictures, and effigies in the holiest places, have no necessary connection with idolatry, and are not forbidden by the second commandment, that commandment referring, not to images, but to idols; not to the making of images, but the making them with the intent to worship them, and that the whole force and meaning of the commandment is in the prohibition "not to fall down and worship them." I am sorry to occupy so much space in your paper, and hope the importance of the question will plead my excuse.

ANGLICAN.

PROVISION FOR RAILWAY COLLISIONS.

RAILWAY authorities or officials have hitherto devoted but little attention comparatively to the preservation of human life, and it is chiefly through public interference that any measures to effect this purpose have emanated. There is even now great capability for the introduction of measures to ensure safety to life and limb. Supposing that precautionary means were perfect, so far as signals, &c. are concerned, accidents from collisions may, from the fallibility of human oversight, occur. The ends of all carriages used in passenger traffic ought obviously to be three times as solid as the sides. To deaden or lessen the breaking or splintering up of these, the introduction of a padding between two partitions of wood would probably lessen the disruption of such partitions or ends of carriages. Increasing the width of rails to double their present ratio, and of course the wheels also, might tend to lessen the danger of running off the line, besides producing an easier locomotion and greater steadiness of transit. Improvements such as have been just indicated would involve an outlay which railway proprietaries would not incur unless compelled, though

it is certain that large sums of money are frittered away by them for purposes serving no useful end, but ornamentally, often to an incongruous and useless extent,—as the stone and brick elevations at stations fully exemplify, and otherwise. The comfort of railway servants in this country is almost entirely ignored and overlooked, though one of great importance; for servants of all denominations or kinds will work better, and take greater interest in the duties they have to perform, when attention is paid to their own welfare and happiness. This is a subject too little understood (or at least acted upon) by public capitalists as well as private employers. The want of protection from rain and other atmospheric changes, and exposure to the sun's rays, is a serious evil, and one that in other countries, especially America, has been duly provided for. The tenders in the latter are covered over by what is termed there a "cab," or some similar and perhaps inappropriate designation. W. D. M

RAILWAY MATTERS.

THE traffic returns of the whole of the railways in the United Kingdom, for the week ending May 29, amounted to 481,620*l.* and for the corresponding week of 1857, to 488,050*l.* showing a decrease of 6,430*l.* The gross receipts of the eight railways having their termini in the metropolis amounted to 196,378*l.* and in 1857 to 209,462*l.* showing a decrease of 13,084*l.* The decrease on the Great Western amounted to 3,630*l.*; on the North-Western to 4,360*l.*; on the Brighton to 6,809*l.*; and on the South Western to 576*l.* But from this must be deducted 590*l.* the increase on the Eastern Counties; 1,908*l.* on the Great Northern; 130*l.* on the Blackwall; and 63*l.* on the South-Eastern. The receipts on the other lines in the United Kingdom amounted to 285,242*l.* and last year to 278,588*l.* showing an increase of 6,654*l.*——The directors of the St. Lambert and Grenoble Railway Company have introduced an innovation in the construction of their carriages, which has given general satisfaction. Travellers frequently complained of being deprived of the finest views when travelling through a picturesque country, and to remedy this inconvenience the directors have affixed outside seats to the carriages, to which the passengers ascend by two staircases placed at the extremity of the carriage. —— We learn from the *Melbourne Argus* that the tenders for the great railway works there had been opened with the following results:—There were three tenders for the whole works, one from Messrs. Randle and Holmes, for 1,010,324*l.* payment to be made in cash; one from Messrs. John Musson and Co. for 5,826,223*l.* payment to be made in cash, or in 6 per cent. debentures at par; and another from Messrs. Cornish and Co. for 5,449,202*l.* payment to be made in cash, or in 6 per cent. debentures at par. The whole of the tenders were subsequently handed over to a committee composed of the professional head of the Public Works Department, the engineer-in-chief, and the professional head of the Survey Department, to be analysed previously to the Government being called on to decide on their acceptance or rejection. Mr. Gabrielli gave in a tender in conjunction with Sir S. Morton Peto; but, in consequence of informality it was not received.

RECENT PATENTS.*

J. NORRIS, jun., and G. WORSTENHOLM.—*Improvements in Machinery for making Nails, Bolts, Rivets, Screws, Rivets, and Screw Blanks.* Dated June 22, 1857.—The machinery is composed of forming dies, a heading tool and feeder, all worked by direct action from the axis of motion or driving shaft. Each set of these tools may be employed singly in one machine, or in duplicate.

VICTOR HIPPOLYTE LAURENT, Plancher-les-Mines, France.—*Machine for forging Nails and other similar Articles.* Dated August 21, 1857. The various forging machines hitherto known usually allow the forging, at a single heat, of small objects, such as a nail, for example. This invention is intended to produce by machinery the same objects as are obtained by hand-forging.

VICTOR PEAN, Paris.—*Protecting the Walls, Ceilings, Wainscots, and other parts of Buildings from Humidity.* Dated October 19, 1857.—This invention consists in coating walls, &c., with glass or other adherent to sheets of wood or other material susceptible of receiving the application of glass by means of a composition which is described.

T. M. SOREL.—*New Mechanical Composi-*

*Selected from the condensed lists published in the Artizans' Magazine and Engineer journal.

tions, producing either House Paintings, Cement, or Plastic Paste to be moulded. Dated June 19, 1857.—These compositions are obtained by combining the following substances in certain proportions:—chloride of zinc, a tartrate, muriatic acid, a feculent or amylaceous substance, water, and oxide of zinc.

E. B. OLOFSON.—*Improvements in the Manufacture of Pigments or Colours for preserving Iron.* Dated July 2, 1857.—This composition is a mixture of graphite (otherwise plumbago or black lead) and linseed oil, to which is added powdered white marble, or calx, and sometimes a small quantity of sulphur.

F. C. CALVERT and C. LOWE.—*Improvements in the Manufacture of Size.* Dated July 14, 1857.—This consists in the use of calcined amylaceous substances, salts of soda, potash, ammonia, magnesia, and mucilage, as a substitute for animal size in stiffening, sizing, preparing and finishing yarns, textile fabrics, paper, &c.

J. T. PITMAN.—*An improved Method of Making Carburetted Hydrogen Gas.* (A communication.) Dated June 30, 1857.—This consists in the use of fused metals, in connection with a suitable retort, so constructed as to pass carbono-hydrone vapours or substances beneath or in immediate connection with the surface of such fused metal.

ADOLPHE AMBROISE SALOMON COHEN, Paris. *Apparatus to be employed in the Manufacture of Drain Pipes and other light Articles, from Plastic Materials.* Dated November 18, 1857.—The first part of this invention relates to the moulding plates or holes through which the articles are expressed and moulded or formed. It consists in the application of a double or counter plate for this purpose. The second part of the invention relates to the apron or surface for receiving articles moulded or formed by expressing or forcing plastic material through mould holes or apertures, and facilitates the continuous action of machines furnished with the mechanism of the double moulding plates before mentioned.

Books Received.

VARIORUM.

THE writer of "The Rat," one of Messrs. Routledge's little books, has a purpose beyond that of amusing with anecdotes and natural history; namely, to rouse his fellow countrymen to "universal warfare against those enemies of mankind, which, by their voracious habits, contribute to the impoverishing of our farmers, and the privation of our fellow creatures." Nothing is proof against them, and their numbers are appalling. "A party of farmers," the writer says, "with whom I was lately in conversation, gave different estimates of the number of these vermin on their respective farms. One estimated them at 250; consequently his losses amounted to half a bushel per day, or eleven quarters, three bushels, and a peck in the half-year. Another gentleman estimated his rats at 500; consequently his losses amounted to a bushel per day, or twenty-two quarters, six bushels, and a half in the six months. The chairman of the meeting estimated his rats at 750; consequently his losses amounted to one bushel and a half per day, or thirty-four quarters, one bushel, and three pecks in the half-year. Three of the gentlemen estimated their rats at 1,000 each, and, as a matter of course, their losses would be proportionately greater; that is to say, 1,000 rats, eating only a wine-glassful of corn per day each, and allowing in the same time only twenty-four glasses for waste among 1,000 feeding, will, in six months, or 182 days and a half, consume five bushels over nine loads of British corn."

If farmers would get rid of their rats and keep hens instead, they would find profit instead of loss.

Miscellanea.

STATE OF CHRIST CHURCH, YORK.—Owing to the dilapidated condition of Christ Church, York, meetings of the parishioners have been held to determine upon the steps proper to be taken. Mr. Pickersgill, the city surveyor, had pronounced the building to be in a highly unsafe state, and his recommendation was that it should be razed to the ground. A committee was appointed to obtain authority to take down the church, and to enter into negociations for uniting with some other parish.

PROFESSOR WESTMACOTT, R.A. will lecture on "Fine Art; its Object and Use," at the St. Bartholomew's Literary Institute, Gray's-inn-road, on Tuesday evening next.

THE CRYSTAL PALACE MUSICAL FESTIVAL.—The great *musical* event of the season is fixed for the 2nd of July, and will consist of a demonstration by the Great Handel Festival Choir, with full orchestral and military bands, to the number of 2,500. The Handel Festival Choir achieved an extraordinary success at the palace last year, and on this occasion will be reinforced by deputations of the best trained voices from the provinces and the Continent. Mr. Costa has used his utmost exertions since last year to keep the 1,400 London amateurs together and in constant practice; and they have now attained a degree of excellence unsurpassed by any choir in Europe. They will be reinforced by about 200 selected voices from the Bradford Choral Association, and by deputations from many provincial and continental societies. The instrumental music will be on a corresponding scale of efficiency. The stringed and wind bands of the Crystal Palace will be strengthened by the addition of those of the Royal Italian Opera, the Sacred Harmonic Society, and the Amateur Musical Society, and also by the full military bands of the Grenadier and Coldstream Guards. The concert will be conducted by Mr. Costa; Madame Clara Novello and Mr. Sims Reeves will sing the principal solos (including the famous "war song" from Costa's "Eli," by the last-named artist), and Mr. Brownsmith, of the Sacred Harmonic Society, will preside at the Great Handel Festival organ. This will be available to season-ticket holders.

OXFORD CONGRESS.—The General Architectural Congress has been held in this city, under the presidency of the Vice-Chancellor, and it has been attended by several architects. At the preliminary meeting at the Oxford Architectural Society's rooms, in Holywell-street, in the unavoidable absence of the president, the Very Rev. the Dean of Christ Church occupied the chair, and, in a brief address, stated the general objects of the Congress, and directed attention to the recent progress of architecture as accomplished in this city and neighbourhood. Of what was read and seen we may have another opportunity to speak.

MUTILATION OF CHURCH MONUMENTS.—In the *Morning Post* a letter from Mr. Roach Smith lately appeared, making public the violation of a church monument for some unworthy object. So far as we can make out the particulars, says the *York Herald*, it seems this: the monument of Sir John Talbot, in Broomsgrove Church, was consulted by some of the parties conducting the great Shrewsbury peerage case; and it would seem Mr. Roach Smith was solicited to examine the inscription. Mr. Smith found that while the greater portion of the inscription was quite perfect, that part which related to the fact that Sir John had a numerous progeny by his two wives, had been cut down almost level by some skilful artificer, and then painted over. Mr. Smith thinks it is quite time the Government instituted some stringent measures to protect our church monuments, which ought not to be at the mercy of unscrupulous violators of records.

BUILDING ACCIDENTS.—In St. James's-parade, Bristol, a Presbyterian Church is in course of erection, with a house adjoining. The work of excavation for the foundation of the church caused the ground of the house to give way, and it fell. Happily the only injury done was to the building and household goods.——A portion of the heavy cornice on Mr. Lamb's upholstery warehouse, John Dalton-street, Manchester, fell last week, smashing the paving-stones by its weighty descent. To prevent serious accidents, the whole of the cornice, which was very wide, deep, and heavy, has been removed, it being supposed that it would speedily fall if not taken down. Some time ago there was a similar fall of a cornice on the Stamp-office in Cross-street. These flimsy stucco productions, remarks the *Courier*, are both dangerous to the public, and discreditable to the architects who use them.

INSTITUTION OF MECHANICAL ENGINEERS.—A special meeting of this institution is to take place at Newcastle on the 24th of August next, when a collection of models and drawings illustrative of recent improvements in steam-engines, boilers, machinery, and tools, together with philosophical apparatus and specimens of mechanical art generally, will be exhibited, and papers upon important subjects will be discussed.

THE WALLS OF CHESTER.—We hear, says the *Chester Chronicle*, that the portion of the walls between the Phœnix Tower and the Northgate (which is, we believe, the oldest part), is in a crumbling state. This relic of hoar antiquity is likely to come down by the run one day, unless the Improvement Committee see to it.

AN IRON CHURCH.—Messrs. Tupper and Co. have just completed at Westbourne-road, Barnsbury-park, Islington, for the district of the Rev. J. K. Harrison, an iron church. It is calculated to seat comfortably 500 persons, but at the opening, on Friday, the 4th, the congregation numbered over 600. The cost of the church, including seats, desk, pulpit, communion-table, &c. complete, will be something under 1,000*l.* or less than 2*l.* per sitting. The work was completed in six weeks from the commencement.

THE LATE BARON D'HERVEY.—The railway world has sustained a great loss by the death of the Baron d'Hervey, chief administrator of the French Eastern Railway (*Chemin de Ter de l'Est*). Born at Rouen in 1780, he entered the commissariat department, and served therein with distinction during the wars of the first Empire. Promoted to the grade of military intendant, he filled, at two different periods, the post of director of the *personnel* of the War Minister under the celebrated Marshal Gouryon-Saint-Cyr. In 1830 he was appointed military intendant for the three departments of Normandy; and while so engaged he organised in a successful manner the military trains which were conspicuous for active service in the Crimean war. The model establishment of Vernon is wholly due to the talent and engineering experience of the Baron d'Hervey. On his retirement from public service in 1845, when the "*Chemin de Fer de l'Est*" sought a director gifted with energy to grapple with the difficulties of a vast enterprise, and to govern an immense staff, their choice fell upon the baron. He lived to see this great enterprise carried out, by the late opening of the direct line from Paris to Mulhouse, a few weeks ago; and as the *Moniteur* says, "*Partout il a passé, il a laissé le souvenir d'un homme d'honneur et de haute probité.*" He leaves one son, the author of some scientific works of merit.

PUBLIC GARDENS FOR LEWES.—It having been ascertained that the cricket-ground, Mountfield, and the field to the south, may be purchased by the town, and used as public gardens for botanical and recreative purposes, a meeting was held at Lewes, to consider as to the formation of a company, &c. A committee was appointed to carry out the object in view, and to draw up a prospectus and raise capital, not exceeding 5,000*l.*

ELECTRO-TELEGRAPHIC PROGRESS.—The Turin correspondent of the *Times*, in a description of the articles shown at the Sardinian Exhibition of manufactures, &c. now or lately open in that city, thus alludes to the "autographic telegraph," an invention of Signor Bonelli, the director of Sardinian telegraphs. Whether this be one and the same with that lately noticed as an invention by the Abbé Casselli, of Florence, we cannot clearly make out; but there is some resemblance:—"In a small machine that stands on one side of a room you insert a slip of prepared paper, which looks as if it were silvered, and on which you have written a sentence. This machine communicates by an electric wire with another machine, of similar appearance, at the other end of the room. Between two small rollers of the latter machine you insert a slip of yellow paper, which passes through the rollers, receiving in its passage a green stripe down its centre, on which appears, in black, the exact *fac-simile* of the writing on the paper put in at the other end. The transmission is only across a room, but it is presumable, and the inventor assures us, that it might be made with equal ease and correctness across a continent or under an ocean, the wires once laid down. The marvel is effected by a combination of chemistry and electricity. Should no practical objections be found to the adoption of the system, this will be, as far as correctness goes, the very perfection of telegraphic transmission."

UNIVERSITY COLLEGE, LONDON.—Professor Donaldson has been elected Dean of the Faculty of Arts and Laws at University College for the session of 1858-9. We believe this to be the first occasion that an architect, *as such*, has been elected in this country to such a position in a college in connection with one of the leading universities of the United Kingdom.

CANAL BETWEEN THE ATLANTIC AND PACIFIC.—The French papers publish a convention concluded and signed between the governments of Costa Rica and Nicaragua on the one part, and M. Millaud and Co. of Paris, on the other, relative to the concessions of an interoceanic canal by the river San Juan and Lake Nicaragua. The company are to commence the work in two years, and complete it in six, and the channel is to admit two of the largest ships to pass abreast. But what of the volcanic disturbances to which Central America is so subject?

LIGHTING RAILWAY CARRIAGES.—With reference to a paragraph in your journal of June 12, in which the attention of railway managers is called to the present defective lamp now used for the purpose of lighting railway carriages, a correspondent mentions that Mr. Defries has patented an improved lamp, which answers all purposes required by the public. It gives a light to read by equal to gas, and has been used in some of the South-Eastern carriages and Great Northern. It has been brought before the notice of nearly all the principal railway boards, but has not received that attention which might have been expected.

KEW-GARDENS are now in all their summer beauty and splendour, the lawn is in the most perfect order, the American and rose gardens alone are a sight of surpassing beauty and loveliness; a new lake has been added to the attractions of this delightful resort. The gardens are open free every day at one, Sundays at two, closing each day at seven.

CHEMICAL ORGANIC TRANSMUTATIONS: "BREAD FROM COAL."—The *Morning Post* says, in a somewhat enthusiastic article on the wonders of chemical science,—"Coal presents us with all the ingredients for making the best of bread; and when we consider what the chemist has already done with coal, it need not excite surprise that he should knead it into the staff of life. Look at the splendent lights which illuminate the streets! at the beautiful translucent candles called paraffine! admire the brilliant dyes, of all the colours of the rainbow, which are extracted from that hard black mineral! and then cease to think it absurd to expect that from the same substance, which contains the elements of wheat, we should be able to obtain loaves of bread. Professor Frankland informs us that within the last five years nearly seven hundred organic substances have been produced by various modes of combining the elements which are found in coal, and among the compounds thus produced are the peculiar essences which constitute the flavours of our choicest fruits. When we bear in mind, that only thirty years ago the production of *any* organic compound without the agency of vitality was considered impossible, and that seven hundred of such products have been since formed, principally within the last five years, there is reason to expect that further researches and discoveries will ere long disclose the means of making from the inorganic elements all kinds of food adapted to the sustenance of man. And that which thus seems within the range of probability for the production of food is equally possible for the materials of clothing. When that millennium arrives the fields will be turned into flower gardens and ornamental parks, fountains of nectar and of fragrant liquid perfumes will gush forth on every side to renovate and refresh; the butcher and the pet lamb will lie down in peace together; beggars and paupers will be no more; and the nation will rejoice in universal plenty." All this will not come to pass in our day it is to be feared; but, sanguine as the writer in the *Post* appears to be, there is a good deal of truth in what he says as to the wonders of chemical transmutation in substances not strictly mineral. A sort of nauseous bread, we recollect, was some years since made from saw-dust, but it had not entered into the imagination of chemists at that time to produce it out of coal!

A WORKMAN ENCLOSED IN A WATER-MAIN.—In Ninth Avenue, New York, a man was lately entombed in the Croton water-mains, which were being laid down in that avenue. The pipes, when laid, have to be caulked inside as well as out before they are cemented, in order to make them perfectly tight. The 2-feet mains in the Ninth Avenue were laid from both directions, and upon the connecting-pipe being put down, it was necessary for a man to enter in order to caulk them, the intention being to extricate him through the stopcock. The work was completed, and the pipes soldered on the outside; after which the workmen proceeded to unscrew the stopcock, but, to their dismay, discovered that they had no wrench sufficiently large to accomplish the work, and also that there was not a wrench in New York that would answer the purpose. In the meantime the man was shut out from the world in his narrow iron tomb, compelled to lie down, and with a fair prospect of suffocation. The labourers finally procured sledge-hammers, and, by repeated battering, succeeded in breaking a hole through the thick iron pipe.

ALUMINIUM.—An important discovery, according to *Galignani*, has just been made at Florence; a simple workman having found out the means of making aluminium in a manner much less expensive than has hitherto been known.

FREEMASONS' NEW HALL AT EDINBURGH.—The Grand Lodge of Scotland's new hall, now in course of erection at 98, George-street, is being rapidly proceeded with, and the chief stone is to be laid on the 24th inst. In style the building is Roman, but of little architectural pretensions. It is contemplated, according to the *Scotsman*, hereafter to replace the face of the structure by a design which will not only give an imposing character to the building, but prove an ornament to the street. Internally, the hall represents a temple of the Ionic order. The ceiling consists of an elliptical arch, supported by a range of Ionic pilasters, with a rich entablature. Over each pilaster, on the frieze, there are to be masonic devices, with a scroll ornamental frieze between each, the other members of the cornice being also ornamented. Light is admitted to the hall by three large windows, placed at the south extremity, and also by numerous panelled compartments, filled with plate glass, in the ceiling. At the north end of the hall there is to be an orchestra, having an arched "back" and space for an organ. The plans have been prepared by Mr. David Bryce, Grand Architect, and are being realised under the superintendence of Mr. D. Bryce, jun. The building will cost 4,500*l.* The purchase of the site involved an outlay of fully 5,000*l.* making the total cost of the edifice nearly 10,000*l.*

OUR DITCHES.—I reside in a village twelve miles from town, where the open ditches on each side of the road receive the drainage of the houses built on the higher ground. The consequence is, that fever of a most malignant kind has been amongst us. My neighbours have complained at the vestry, and a committee, headed by the rector, have been round to view the nuisance more than once, and promised us their assistance to abate it. I suppose, however, they have no power, as months have elapsed since their last visit, and of subsequent applications no notice has been taken. Will one of your correspondents inform me what steps are requisite to remedy the evil? Your columns are always open to complaints of this nature; and hundreds here, and elsewhere, will be thanful to know the proper course to pursue.

T. LIGHT.

[ADVERTISEMENT.]

TO THE EDITOR OF "THE BUILDER."

SIR,—Observing in one of the late numbers of the *Builder*, a letter referring to Messrs. Clark and Co.'s, (15, Gate-street, Lincoln's-inn-fields) Patent Revolving Shutters, and having daily a great number of applications respecting the one they erected for me at my premises, 78, 79, and 80, Fleet-street, which I believe to be the largest ever made, to save myself trouble and for the benefit of your readers, I beg to state it has given me the greatest satisfaction, and its advantages are made manifest by the fact, that one of my men can open or close one of the largest shop-fronts in London (18 feet by 24 feet) in thirty seconds, with the greatest ease, that formerly occupied the time of three men upwards of half an hour, and obviates the great risk of breaking the glass and damaging the premises, which always will attend the use of the common lifting shutters. It also presents a greatly improved appearance, and has attracted universal attention.

I remain, Sir, your obedient servant,
Signed) CHARLES M'LEAN.
Fleet-street, August 29, 1853.

TENDERS.

For three warehouses, Cannon-street, City, to be built for Mr. John Hudson, under the superintendence of Mr. Thomas Hayne. Quantities supplied by Mr. H. W. Jass:—

Ashby and Sons	£13,987 0 0
Brass and Son	13,486 0 0
Holland and Hannan	13,425 0 0
Lawrence and Son	12,240 0 0
Bowack	12,145 0 0
Lucas, Brothers	11,940 0 0
Piper and Son	11,916 0 0
Raby	11,875 0 0
Mallcott	11,790 0 0
Wilson	11,495 0 0
Gammon	11,485 0 0
Mansfield and Son	11,450 0 0
Patrick and Son	11,440 0 0
H. Burton	11,348 0 0
Myers	11,176 0 0
Batterbury	10,980 0 0
Moxon	10,700 0 0

For the erection of two warehouse buildings, Montague Close, Southwark, for Messrs. James Hartley and Co. Mr. T. C. Clarke, architect. The bills of quantities prepared by Mr. Richard Roberts:—

Lucas	£9,926 0 0
Cubitt and Co.	9,799 0 0
Browne and Robinson	9,557 0 0
Ashby and Sons	9,095 0 0
Jay	8,950 0 0
Brass and Son	8,947 0 0
P'Anson	8,776 0 0
Piper and Son	8,655 0 0
Lawrence and Sons	8,430 0 0
Coleman	8,220 0 0

For ironwork, delivered on site and fixed by contractor:—

Grissell and Co.	£1,704 0 0
Lawrence, Brothers	1,583 0

For a house to be erected at Eliot Bank, Forest Hill. Mr. George Legg, architect :—

Ashby and Horner	£1,976	0	0
Wells	1,855	0	0
Thompson	1,678	0	0
Coleman	1,649	0	0
Harrison	1,630	0	0
McLennan and Bird	1,598	0	0

For the erection of three pairs of semi-detached cottages for the Temperance Permanent Land and Building Society, upon their estate at Stratford :—

G. Wilsmer	£1,185	0	0
J. Single	1,070	0	0
H. W. Cooper	1,060	0	0
Cross and Whitworth	981	0	0
T. Fisher	899	0	0
Child, Son, and Martin	893	0	0
A. Symons	860	0	0
A. Anderson	840	0	0
A. Adams	829	0	0
J. Rivett	828	0	0
J. Winterborn	771	0	0

St. Matthew's Schools, City-road.—We are asked to say the quantities were taken out by Mr. Carter. We would impress upon correspondents the importance of clear writing, especially in the case of *names*.

TO CORRESPONDENTS.

A. B. (go to a respectable manufacturer).—J. H.—Plodder.—J. P.—L. and L.—D.—R. C. H.—A. K.—Dr. R.—A. U. C.—R. W.—H. B.—M. H. S. T. (we are forced to decline advising in the dark).—C. and Co.—J. K.—J. W.—B. R.—H. D.—J. L.—P. B. D. (we cannot venture an opinion *ex parte*).—J. A. D. (declined with thanks).—B. (we may perhaps do as he suggests for review).—In an enlarged number next week, we hope to get rid of some arrears.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

THE BUILDER."—Wanted, the Numbers for January 17, 24, and 31, 1857.—Apply at the Office of the Builder."

LOCAL BUILDERS' PRICE-BOOK is now ready, price 5s which has been compiled chiefly by upwards of twenty practical builders, and may be had, post-free, of J. ACTON, Builder, Broad-street, Nottingham, by the remittance of sixty postage stamps, or post-office order.

TO BELLHANGERS

THOROUGH PRACTICAL BELL-HANGER WANTED Note need apply unless they can give good reference as to their practicability and integrity.—Address, by letter, to Mr. PARKES, 77, London-street, Paddington.

CARPENTER'S FOREMAN WANTED. A Wanted, a first-class Man, to superintend the erection of a warehouse He will be expected to be sufficiently familiar with the various branches of the building trade to take the entire superintendence of such works None need apply who have not been so engaged. Particulars, stating age, length of service in last situation, qualifications, &c. to be addressed H. M. D Messrs. Beard and Nicholl's Launderers' Rooms, Wellington street, Borough.

RUGBY LOCAL BOARD of HEALTH.—TO SURVEYORS and OTHERS.—The Board are in WANT of a PERSON to fill the office of SURVEYOR and INSPECTOR of NUISANCES for the District of Rugby, at a salary of 100l. per annum. The person appointed will be required to devote his whole time to the duties of his office, and to have a knowledge of surveying, draining, and engineering, and also be prepared to give security in 200l. Applications, with testimonials (carriage paid) must be forwarded to me, addressed to the Chairman of the Local Board of Health, on or before SATURDAY, the 1st day of JULY next.—By order of the Board, Rugby, June 5th, 1858. C. E. WRATISLAW, Clerk.

TO PLUMBERS AND GAS-FITTERS.

WANTED, immediately, an experienced PLUMBER and GAS-FITTER. No one need apply who cannot furnish testimonials of honesty and sobriety. Preference given to a man who can take out quantities. Constant employment. Wages 24s. per week. Address, Mr. J. LIND, Chemist, Carlisle.

TO BUILDERS, PLUMBERS, PAINTERS, &c.

WANTED, constant EMPLOYMENT, by a PLUMBER or as a THREE BRANCH HAND.—Address, Novice of "The Builder."

TO JOINERS' FOREMEN.

WANTED, a STEADY MAN, to SUPERINTEND from Thirty to Forty JOINERS. He must be able to take dimensions, set out rods, and direct the shop work. A character for good moral conduct and business habits indispensable—Particulars, stating age, length of time in last situation, and references, to be addressed to Messrs. COLEMAN, Westerham, Worcestershire.

WANTED, by JOHN WILSON, of Grantham, a GENERAL FOREMAN of CARPENTERS and JOINERS; one who can take shop work, as well as the management, of a jobbing business, and setting out work in his own department in the shop.

TO PARENTS AND GUARDIANS.

WANTED, an OUT-DOOR APPRENTICE to the GRAINING and MARBLE BUSINESS.—A small premium required.—Address, by letter, to F. A. D 25, Baring street, Upper Holloway road, Islington, N.

WANTED, a GLASS SALESMAN, in a Plate-glass Warehouse. An active young man, accustomed to the sale and settlement of Plate Glass.—Apply by letter, stating age, occupation, and the salary expected, to A. B. Messrs. Wilkinson's Lumber-yard, Fish street-hill.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, aged 25, of persevering and business habits, a SITUATION as CLERK in an office or on the works. Is quick at measuring, drawing, and accounts, and fully acquainted with artizans' work No objection to the country. Good testimonials as to ability, &c Address, HOMO, Post office, Commercial road, Peckham, S.E

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, as CLERK or FOREMAN, or to TAKE CHARGE of a BUSINESS, by a competent Person, aged 35. Unexceptional references from late employer. — Address, by letter, to X. L. Mr. Roxburgh, Stationer, Aldgate, E.C.

WANTED, EMPLOYMENT in a Builder's Office, by a Young Man, who has served five years with an architect. Has first-rate reference for integrity and ability. Salary moderate — Address, Z. A. B. Post office, Buckhurst-hill, Woodford Wells, Essex.

TO ENGINEERS, CONTRACTORS, AND BUILDERS

WANTED, by an experienced, active Man, 34 years of age, a SITUATION as GENERAL FOREMAN or AGENT Accustomed to extensive constructions, both architectural and engineering.—Address, W. A. 20, Nichols-square, Hackney-road, London.

TO LEAD MERCHANTS, PLUMBERS, BUILDERS, &c.

WANTED, by the Advertiser, a steady, practical PLUMBER, EMPLOYMENT, where a confidential man is required. Is experienced in London and country work. Four years' character from late employers Address, T. M. Messrs Clark's Lead Works, Reading, Berks.

TO BUILDERS.

WANTED, by a respectable young Man, a PERMANENT SITUATION as GRAINER. Can fill up time at painting and glazing.—Address, O. P. 8, New Church street, Bermondsey.

TO WRITERS, BUILDERS, AND DECORATORS.

WANTED, by a good SIGN-WRITER and GLASS WRITER, a SITUATION in either or both of the above branches He can furnish good references, and show specimens of work. Would not object to the country.—Apply, by letter, S. D. 9, Townsall road, Queen's road, Dalston.

TO BUILDERS AND HOUSE DECORATORS.

WANTED, a SITUATION as GRAINER, WRITER, and PAINTER. Apply by letter, prepaid, to A. Z. 15, Warner-place, Hackney road, London.

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WANTED, by a Young Man from the country, a SITUATION as PLUMBER Good reference can be given —Address, M. E Office of "The Builder."

TO CARPENTERS AND BUILDERS.

WANTED, by a Young Man, aged 19, a SITUATION as an IMPROVER in the above line, or would be bound for two years He has been in the trade for four years — Address, C. R. Allen-street, York-road, Old Kent road.

WANTED, a SITUATION in a BUILDER'S or ARCHITECT'S OFFICE, by a respectable Youth, 18 years of age; is a good draughtsman, and understands surveying and levelling.—Address, X. C D. 34, Great Sutton street, Clerkenwell, E.C.

TO IRONMONGERS AND SMITHS.

WANTED, by a respectable Young Man, a SITUATION as BELL-HANGER Can fill up his time in locksmithing, gasfitting, &c. Good reference can be given Country preferred.—Address, H. B. 25, Great Carlisle-street, Edgware road.

TO BUILDERS.

WANTED, by an experienced Man, an ENGAGEMENT as SHOP or GENERAL FOREMAN. Good references. No objection to the country.—Address, B. B. 26, Grange-road, Bermondsey.

TO ENGINEERS, MILL-OWNERS, CEMENT MANUFACTURERS, &c.

WANTED, by a practical and experienced Millwright, Engineer, and Mechanist, a SITUATION as FOREMAN, to superintend either in a manufactory or a mill The country preferred. Satisfactory references can be given.—Address, D. F. 10, Platt-terrace, Old St. Pancras-road, King's-cross, N.W.

TO PLUMBERS AND BUILDERS.

WANTED, a SITUATION as PLUMBER, ZINC-WORKER, PAINTER, and GLAZIER. Has been employed as working foreman.—Address, A. O. J 13, Charton street, Pitfroy square

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a handy Young Man, a SITUATION as PLUMBER'S ASSISTANT. No objection to make himself useful in any way required.—Address, A. K. B No. 41, Pulford-street, Lupus street, Pimlico.

TO BUILDERS, PLUMBERS, &c.

WANTED, by a Young Man who thoroughly understands his business, a SITUATION as PLUMBER and GASFITTER; can fill up his time with painting, &c Address, J. C. No 3, Everett street, Russell-square, W.C.

TO CARPENTERS and BUILDERS.—The Parents of a well-educated YOUTH, aged 15, are desirous of an IN-DOOR APPRENTICEHIP for him, in a respectable family, where his comforts would be attended to, and where he would have an opportunity of acquiring a thorough knowledge of the above business, including the drawing of plans, &c.—Address, S. Post-office, Wantage.

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THE Advertiser, who has just finished his apprenticeship, would engage himself, at moderate wages, for one or two years where he could have experience at good work Good reference —Address, R. W. St Martin's Coffee-house, 68A, Long-acre, W.C

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THE Advertiser, who is a good Draughtsman, and thoroughly understands construction, would be happy to give his services at a small salary to assist in TAKING OUT QUANTITIES, measuring and valuing artificers' works, &c.—Address, ALPHA, Post-office, Reading

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THE Advertiser, a first-rate Draughtsman and Designer, is in WANT of a SITUATION (temporary or otherwise) in London. Well acquainted with Gothic and every kind of perspective —Address, L. B 20, Sidney-terrace, Pentonville

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THE Advertiser wishes a SITUATION as PLUMBER; has no objection to fill up his time in painting and glazing. No objection to the country. Good references can be given.—Direct to A B. Z. 4, Northampton-place, Upper Holloway, Islington, N.

MOULDING MACHINE.—WANTED, a MOULDING MACHINE MAN.—Apply at Caledonian Mills, New Wharf road, Caledonian road

TO ARCHITECTS, ENGINEERS, AND CONTRACTORS.

AS CLERK of WORKS or OFFICE ASSISTANT A Gentleman accustomed to work out the ideas of a principal, is OPEN to an ENGAGEMENT in either of the above capacities. He is a ready designer of ornamentation, or construction, a good draughtsman (geometrical or perspective), can undertake specifications, quantities, or use the theodolite and levels.—Address, BABEL, care of Messrs. Davis and Co. Advertising Agents, 1, Finch-lane, Cornhill, City.

TO BUILDERS.

AN experienced MEASURING and ESTIMATING CLERK is desirous of an ENGAGEMENT. Reference unexceptionable —Address, F. B. Post-office, Leigh street, Burton-crescent.

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A PRACTICAL CLERK of WORKS, being on the completion of some large works in the City, is open to a RE-ENGAGEMENT.—Address, B. B. C. No. 30, Fore-street, City

TO ARCHITECTS, &c.

A THOROUGHLY practical CLERK of WORKS is open to a RE ENGAGEMENT. First-class testimonials.—Address, W. S. 7, Witham, near Boston, Lincolnshire.

TO THE PROFESSION.

AN ARCHITECTURAL DRAUGHTSMAN, accustomed to prepare finished, working, and detail drawings, with the advantage of a thorough knowledge, and of many years general practice in Gothic design, church decoration, &c, OFFERS his SERVICES as OCCASIONAL ASSISTANT.—Address, M. S. 2, Princes street, Jubilee street, Stepney

TO ARCHITECTS AND BUILDERS.

A THOROUGHLY PRACTICAL MAN, of quick business habits, who is a good Surveyor and Draughtsman is desirous of an ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN in the country preferred Good reference Salary moderate Address, ALBATA, Mr Thompson's, 21, Brunswick street, Great Dover street, Southwark, S.E.

A THOROUGHLY PRACTICAL MAN, aged 36, is open to an ENGAGEMENT as SHOP or GENERAL FOREMAN; or to take any amount of task work. Has ten years' testimonials Address to T. DOVEIL, 53, Southwark bridge road

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A YOUNG MAN wishes to ARTICLE himself, for two years, to SMITHING, &c.—Address, J. A. B. No 103, Gloucester-mews West, Mortimer-square.

TO MASTER PAINTERS, BUILDERS, &c.

A THOROUGHLY practical and highly respectable Man, of great experience, both at town and country, is in want of a RE-ENGAGEMENT as FOREMAN of PAINTERS, &c. Is thoroughly acquainted with painting in all its branches, and also a first-rate writer, oil gilder, paperhanger, distemperer, and grainer. The first references can be given, and security if required.—Apply, by letter, prepaid, Y. W Office of "The Builder."

TO ENGINEERS, IRONFOUNDERS, AND CONTRACTORS.

AS MANAGING or PRIME COST CLERK —A Gentleman, aged 28, will shortly be OPEN to an ENGAGEMENT as above He has high testimonials, and can give a reference to present employers Address, X O Mrs. Dennington's News Agency, 23, Brunswick-parade, Barnsbury road, Islington, N.

TO ARCHITECTS, &c.

AN ENGAGEMENT, either TEMPORARY or PERMANENT, is required by an ASSISTANT, who has had great experience both in the Office and in Works Is a first rate draughtsman, artistically competent to figure every description of drawing, write specifications, take dilapidations, &c.—Address, H. H 105, Hilborn hill.

A YOUNG MAN is desirous of EMPLOYMENT in the SMITH or ENGINEERING Has had five years' experience, and would not object to articles himself for the same WHITE, 9, Dorset street, Manchester-square.

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A YOUNG MAN, who thoroughly understands Painting, Glazing, &c. wishes to ARTICLE HIMSELF to the PLUMBING BUSINESS, for two years A premium will be given for the plumbing only. Good testimonials required if required. Address, X. Y. Mr. Lodge's, 13, Lant-street, Borough-street.

TO BUILDERS, CONTRACTORS, AND ARCHITECTS.

A THOROUGHLY QUALIFIED MEASURER and ACCOUNTANT, who has had considerable practice in quantities and estimating, wishes for an ENGAGEMENT.—Address, R. R care of Mr Heldey, 20, Oxford street.

TO ARCHITECTS AND BUILDERS.

A QUANTITY SURVEYOR, Measurer, Estimator, &c. would be glad to enter into an AGREEMENT with ARCHITECTS, for taking off and supplying bills of quantities (which he guarantees), measure up works, or price and make estimates for builders, upon reasonable terms References, if required. Address, R. S. T. 195, Strand

TO ARCHITECTS.

A GENTLEMAN, having finished his engagement with an eminent architect in town, wishes to meet with a RE-ENGAGEMENT as DRAUGHTSMAN in an Architect's Office, either in town or country, and is thoroughly conversant with the routine of an Architect's office.—Address, A. A. care of Mr. Ager, 88, Park-street, Camden-town.

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THE ROYAL POLYTECHNIC INSTITUTION.—Mr. PEPPER begs respectfully to announce that his connection with the Polytechnic, as sole lessee and professor of chemistry, will cease on the 24th instant. Mr. Pepper has therefore determined to present to the public, on the last three mornings and evenings of his occupancy, viz. next MONDAY, TUESDAY, and WEDNESDAY, the 21st, 22nd, and 23rd of JUNE, a variety of extra attractions, in the hope that those whom he has so often had the pleasure of seeing will do him the honour of paying another visit on this his first, and, in all probability, last BENEFIT at the ROYAL POLYTECHNIC. On the 21st, 22nd, and 23rd of June, Mr. Pepper will deliver some of his most popular lectures, and has already received many kind promises of assistance from numerous talented ladies and gentlemen. Full particulars will be duly announced; but Mr. Pepper cannot avoid mentioning that his kind friend Mr. Albert Smith has thus early promised his valuable assistance, as have also Mr. Henry Leslie and his celebrated choir.—Programmes and tickets, 1s. 2s. 3s. and 5s. each, may be obtained at the Royal Polytechnic Institution.

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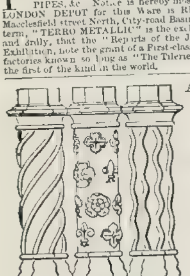

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CITY of LONDON.—Freehold Ground Rents.—The Commissioners of Sewers of the City of London, will meet in the Guildhall of the said City, on TUESDAY, the 6th of JULY next, at TWELVE o'clock at Noon precisely, to SELL by TENDER certain FREEHOLD GROUND RENTS, on Premises let on leases, having about eighty years to run, situate in Chancery-lane, Fetter lane, and Plumtree lane; particulars of which may be had on application at this Office. Tenders for the said Ground Rents must be sent in, sealed, addressed to the undersigned, before TWELVE o'clock on the said 6th of JULY; but the Commissioners do not bind themselves to accept any Tender delivered, unless the same be deemed eligible.
JOSEPH DAW, Principal Clerk.
Sewers Office, Guildhall, May 26, 1858.

TO BUILDERS and OTHERS.—TO BE LET.—EXTENSIVE PREMISES, in Honduras-street, St. Luke's, consisting of the Tiger Brewery, and Dwelling house, and a Large Building opposite, at present used as a Ragged School, having strong floors, and well adapted for workshops. The Freehold may be purchased. Apply to Mr. R. C. BAXTER, Architect, 21, Abchurch-lane, E.C.

FREEHOLD LAND for SALE, at Sutton, near Carshalton, five minutes' walk from the Croydon and Epsom Railway, SEVERAL ELIGIBLE SITES, at 3*l.* per foot frontage, land tax redeemed, conveyance deeds free. The situation is healthy, the soil dry and good, and commands a view of the Crystal Palace. Apply to Mr. GEORGE KING, Sutton, Surrey.

TO BUILDERS and OTHERS.—Hargraue Park Estate, Upper Holloway.—The Trustees of this highly eligible FREEHOLD PROPERTY are prepared to entertain offers for the SALE or LEASE of BUILDING PLOTS on liberal terms. Houses built on adjacent property command both ready tenants and purchasers.—For particulars apply to R. L. ROUMIEU, Esq. 10, Lancaster-place, Strand; or to P. A. HANROTT, Esq. 36, Southampton-row, Russell square.

NORWOOD, within three minutes of the Station to London bridge and West end. GROUND TO BE LET, for building Villas, from 50*l.* to 100*l.* per annum, which are in great request. There is not a house on the estate unlet, while applications are daily made for residences. Private gentlemen requiring large plots can secure them. Advances made.—Apply to W. F. LOW, Esq. Solicitor, 67, Wimpole-street, Cavendish square.

TO CEMENT and PLASTER MANUFACTURERS, POTTERS, &c. TO BE SOLD or LET, with immediate possession, the whole of the valuable PLANT and MACHINERY known as "BLASHFIELD'S CEMENT and TERRA COTTA WORKS," situate at Millwall, Isle of Dogs (nearly opposite the East Country Docks). The works have a river frontage of 180 feet, and a depth of 480 feet, with a back frontage to the West Ferry-road. The quay has a depth of water in front of 9 feet at ordinary tides, upon which is a crane, worked by steam, capable of lifting and landing half a ton in one minute from shipping or craft. The cement and plaster works consist of two Roman cement and two Portland cement kilns, seven plaster ovens, three coke ovens with large drying floor over for cement slip, four large backs or reservoirs, with connected wash-mill for washing and mixing clay and chalk for Portland cement, mill-house with four floors and two pair of horizontal stones for grinding cement or concretes, large vertical crushing mill, with sifting machinery for grinding and sifting plaster, a 20-horse high pressure steam-engine, with boiler, supply pumps, and well, and also tank for a supply of fresh water for engine from the Thames. The whole complete, and in good working order. There are five large dry store vaults, capable of storing 500 tons of ground material. The chimney shaft is about 100 feet above ground, and is well executed in brickwork. The terra-cotta works consist of three large pottery kilns for burning terra cotta (or, if required, stone-ware); two pug-mills and sifting machinery, clay baths and bins, slip kiln, ten large workshops fitted with shelves and benches, large warehouse room, drying floor, and experimental kiln, &c. There is a cooperage and carpenter's shop, lime shed, and stable, a dwelling-house, with five rooms, kitchen, and water closet, counting house, with three rooms and four dwelling-rooms for clerk or foreman above; smith's shop and forge, coal vaults, &c. The whole of the premises are in good condition, and securely enclosed, and are capable of being adapted to any large general business. In connection with the above an inland wharf and warehouse in the north west part of London can be had at a moderate rent.—For further information, apply to Mr. J. M. BLASHFIELD, Praed street, Paddington; or to Messrs. WORDSWORTH, GREATHEAD, and BLAKE, Solicitors, South Sea House, Threadneedle street.

TO MANUFACTURERS and OTHERS requiring extensive Premises.—TO BE LET on LEASE, with possession at Midsummer, a large and commodious BUILDING in John-street, Tottenham-court-road.—For terms apply to Messrs. SCADDING and SON, 1, Gordon street, St. Pancras, W.C.

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CHARLES LEWIS GRUNEISEN, Secretary.

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METROPOLITAN CATTLE MARKET.—LAND TO BE LET on BUILDING LEASES.—The Market Improvement Committee will meet, at Guildhall, on WEDNESDAY, the 7th of JULY next, at ONE o'clock in the afternoon precisely, to receive TENDERS from parties willing to take BUILDING LEASES, for Eighty years, of GROUND at the north-west portion of the Metropolitan Cattle Market at Islington, with frontage to Maiden-lane.—Particulars and plans can be inspected at the Architect's Office, at Guildhall.
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Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.

ESTIMATES FOR EVERY DESCRIPTION OF MARBLE WORK.

WATERLOW, DRAPER, AND WEBB,

TREDEGAR MOULDING MILLS, BOW, E.

BEG TO CALL THE ATTENTION OF BUILDERS AND CARPENTERS TO THEIR SUPERIOR

STEAM-STRUCK MOULDINGS,

Which are fit for the immediate use of the Joiner. A large Stock always on hand, at the Warehouse for House and Cottage Joinery, 121, Bunhill-row, Finsbury.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

London Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

GREAT REDUCTION IN THE PRICE OF BRICKS, TILES, DRAIN-PIPES, &c. &c.

PATENT CONTINUOUS BRICK FURNACES.

THE CRYSTAL PALACE AND SUBURBAN BRICK AND TILE COMPANY (Limited),

WORKS: LORDSHIP LANE, DULWICH,

One mile from the Forest Hill Station, have on SALE, BRICKS and TILES, DRAIN-PIPES of various sizes, and other CERAMIC Wares, of very superior quality, and at prices much lower than those usual in the trade; great economy being effected by this patent mode of burning. For prices and particulars respecting licenses, apply to Mr. JULIEN DENIS, the Manager, at the Works; or at the Offices of the Company, 86, KING WILLIAM STREET, LONDON, E.C. where Samples and Specimens may be inspected.

PATENT CONTINUOUS BRICK FURNACES, for BRICKS, TILES, DRAIN PIPES, &c. &c.—THE CRYSTAL PALACE and SUBURBAN BRICK and TILE COMPANY (Limited). Works, Lordship-lane, Dulwich, one mile from the Forest-hill Station.—are prepared to grant Licenses for the use of their Patents for drying, burning, and cooling Bricks, Tiles, Drain Pipes, and other Ceramic Wares, whereby a considerable saving in fuel and labour is effected, and may be continued working during all seasons of the year, irrespective of locality or climate; also perfectly free from nuisance, being self-smoke consuming, and is to be seen daily in operation.—For terms and particulars apply to Mr. JULIEN DENIS, the Manager, at the Works; or at the Office of the Company, No. 86, King William-street, City, E.C.

BRICKS.—IMPORTANT to BUILDERS.

Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	25s	per Thousand.
Rough Stocks and Grizzles	19s	,,
Place from 18s. to 19s.		,,
Bright Stocks	20s.	,,
Shippers	30s.	,,

Address, GEORGE SMEED, Sittingbourne, Kent.

P.S. Up any of the Canals on payment of Dues extra.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire Bricks, Lumps, and Tiles of every description (seventeen years with James Newton, of Falcon Dock, Bankside), beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire bricks, Clay Retorts, &c. Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

WHITE BRICK ARCHITECTURE.—ARCHITECTURAL WHITE BRICK MOULDINGS, of almost any design, sharp in the arrise, and (being made by patent machinery) of truth hitherto unequalled. Also, FACING BRICKS, of any size, may be had at the Patent White Brick Works, Rugby.—List of prices and samples on application.

TO BRICKMAKERS and BUILDERS.—TO BE SOLD, or LET, a large quantity of excellent BRICK EARTH LAND, well situated for working and building, within about three miles north of the General Post office.—Apply by letter to Mr. HOOPER, 13, Bridport-street, Blandford-square.

BRICK-MAKING.—A PORTABLE MACHINE, well adapted for contractors and large consumers, as it quickly converts the clay nearest the work, and most available, into either solid or hollow bricks. The principle of this machine has been well tested. Samples and particulars may be obtained of EDWARD SPENCER and CO. 18, Billiter-street, London, E.C.

PATENT

SOLID PARQUETERIE,

for floors, walls, and furniture (inch thick from 1s per foot), as used by the eminent architects, Sir Charles Barry, Messrs. Burn, Hardwick, Parnell, G. G. Scott, T. H. Wyatt, &c. &c.

"From its strength, durability, and elegance, well worthy of notice."—Times May 29.

ARROWSMITH, No. 80, New Bond-street.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.

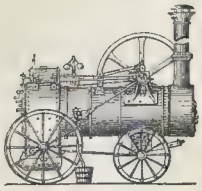
HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

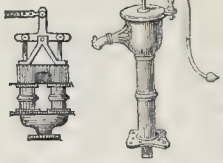


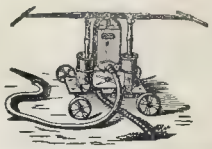
ENGINES, SINGLE & DOUBLE PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

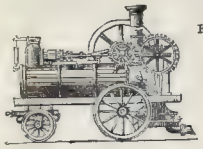
HIRE OR SALE.





HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

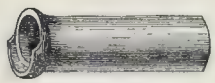
BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

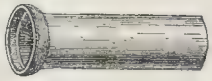


PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, **TO LET ON HIRE,** by the Week or Month
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.
N.B. Steam-power, with Workshops, to Let.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.





S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

The only White Zinc Works in the United Kingdom.

HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Painters and Decorators have never had really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no comparison with the genuine article.

But still greater prejudice is excited by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns lighted by gas. It first loses the gloss, and ultimately mixes up with the water and washes off.

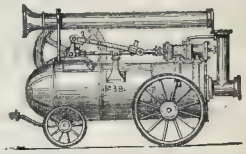
Hubbuck's Patent Process completely resists London atmosphere, bilge water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.

N.B. OLD ZINC AND ZINC CUTTINGS BOUGHT TO ANY EXTENT.

STEAM POWER.—TO BE LET, at NEWINGTON BUTTS, a MANUFACTORY, with DWELLING-HOUSE attached; four-horse high-pressure engine, and eight horse boiler. Also, close thereto, a large Warehouse, with Dwelling-house, large yard, and stabling, suitable for a builder or extensive works.—Apply to Mr. BROWN, 4, Adam's-court, Old Broad-street; or No. 6, High-street, Newington butts.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars road, London.

EIGHT-HORSE ENGINE-BOILER and SHAFT, erected, ENGINE-HOUSE, COUNTING-HOUSE, SHED, and LOFT over, TO BE LET on LEASE 21 years, adjoining the canal, near the New North road.—Apply to T. N. 12, Barth. lonewplace, Hertford-road, Kingsland.

TABLE STEAM-ENGINE for SALE, of nominal 8-horse power, but equal to 10, with large steam boiler and fittings complete, the whole of strong, sound construction, and in good working order. To be seen any day in work'g yards only.—Apply to J. and W. BROWNE and ROBINSON, Builders, 24, College-street, College-hill, City.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Gorwell-mews, Gravel-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—"Second Istanchal.—"March 10th, 1858.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY ROAD, LONDON.

PAPER-HANGINGS. — None so Cheap as at 260, OXFORD-STREET. Observe!—Satin paper, 1½d per yard; Gold ditto, 3d.; neat Bed-room ditto, 5d. per piece.—Cheap Window glass Warehouse, 260, North-row, North Audley-street.—ARCHIBALD HOLDEN, Decorator and Contractor.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CROSSE'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

GREAT SOUTHERN and WESTERN RAILWAY.—WANTED, about SEVENTY LOADS of SEASONED SCANTLING, cut according to specification.—Particulars can be had on immediate application to the Secretary of the Company, Kingsbridge Terminus, Dublin. Tenders will be received up to the 1st JULY next.—June 10, 1858.

JENNINGS'S PATENT AIR-CHAMBER SMOKE-FLUE.

During the last three months various experiments have been tried with these SMOKE-FLUES, their power of Extraction tested and recorded, as well as their Applicability for the Supply of Warm Air to apartments.

Architects and others interested in obtaining drawings referring to these matters, are informed that these experiments have necessarily occupied much time; but the advantages to be gained by their adoption are now so satisfactorily established, that DRAWINGS, illustrative of their use in every class of building, are now being prepared by Messrs. KELL, BROTHERS, the Lithographers.

Not a moment will be lost consistent with their proper execution; and when complete, they will be furnished to all who may desire to have them.

JENNINGS'S PATENT DRAIN-PIPES.

These Pipes are now being employed in every work of importance. The facilities they offer for PROPER LAYING, for EXAMINATION, or for the INTRODUCTION of JUNCTIONS, have been duly appreciated, and respectable Manufacturers are now seeking Licenses under the Patent.

Mr. JOSEPH CLIFF, of Wortley, near Leeds, has TAKEN a LICENSE for the MANUFACTURE and SALE of these PIPES, within a circuit of fifty miles round his works; arrangements are also being made with other manufacturers, so that these Pipes may be obtained, in any part of the Kingdom, at the PRICE of the OLD-FASHIONED SOCKET-PIPES.

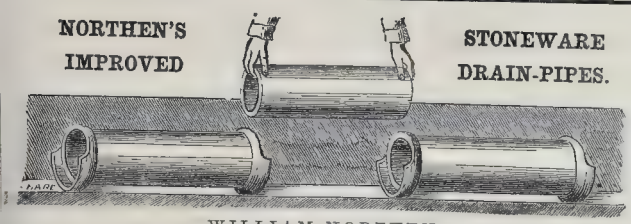
Architects specifying these Pipes will have the satisfaction of knowing that their Drainage can at any time be examined without breaking pipes, or in any way disturbing the general drain.

JENNINGS'S VALVE and SELF-ACTING WATER-CLOSETS, LAVATORIES, URINALS, and other Sanitary Appliances, have been proved durable and efficient, and may be seen in Action at the

LONDON SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS, S.E.

*** JENNINGS'S PATENT SLUICE VALVES, from 2 inches up to 24 inches, for the Cork Corporation Water Works, Dewsbury, Torquay, and other Towns, now on view.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect another drain, as every alternate pipe can be taken up without interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for safety and simplicity of easy access to drain.

The above improved pipes W. N intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

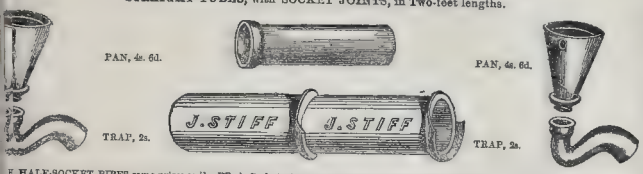
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz :—

Messrs. GLADDISH'S, Fedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.

Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.

Mr. LAVERS'S, Dowgate Wharf, Canal-road, Horton.

Messrs. COLWILL (BROTHERS), 22, Brydges-street, Covent-garden.

Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

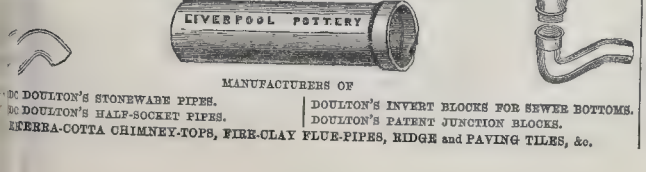
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

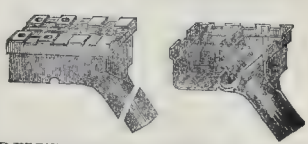
ST. HELEN'S,

STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.



BELL'S PATENT TRAPS, for Stables, Coach houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 108, Drury-lane, and Spa-road, Bermondsey.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

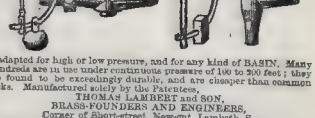
3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.

No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.

Price, complete, 13s. 6d. each.

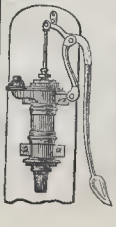
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Cocks and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

SALES BY AUCTION.

ABBEY WOOD.—TO BUILDERS AND OTHERS.

MESSRS. EVERSFIELD and HORNE are instructed by the executors of the late Mr Thomas Nesham, to SELL by AUCTION, near the LODGE, ABBEY WOOD about half a mile from the Station on the North Kent Railway, on TUESDAY, JUNE 22, at TWELVE for ONE, the surplus STOCK, comprising scaffold boards and poles, planks, ledgers, [illegible] falls and cords, new sash frames, unglazed sashes, 15,000 new bricks, erected as a shed, and other useful materials, and ironwork. May be viewed the day previous, and catalogues had of Mr HAVELOCK, on the Premises; at the Abbey Wood Station; and of the Auctioneers, 40, Parliament street, Westminster.

SOUTHAMPTON.—Building Land of Fifty Acres.—Freehold Blocks, [illegible] situate, near this growing Town.—TO BE SOLD BY AUCTION, by

R. H. PERKINS and SONS, at the DOLPHIN HOTEL, Southampton, on the 29th of JUNE, 1858, unless an acceptable offer be made by private contract.—Plans and particulars of Messrs. SHARPE, HARRISON, and SHARPE, Solicitors; or of the Auctioneers, Southampton.

Highly valuable Freehold Building Estate, comprising about [illegible] 2dp of very superior Land, principally Old Turf, in the Parishes of Milverton and Lillington, close to Royal Leamington Spa.—TO BE SOLD by AUCTION, by

MR. JOHN MOORE, by direction of the Proprietor, at the CROWN HOTEL, Royal Leamington, on TUESDAY, the 22nd day of JUNE, at SIX o'clock in the evening, in Seven Lots, [illegible] Lots as may be determined at the time of sale, unless previously disposed of by Private Contract, of which due notice will be given, a very Desirable and Fertile FREEHOLD PROPERTY, most eligibly situated within the parishes of Milverton and Lillington, near the Milverton College and Lillington Church, lying between the old and new roads leading from Leamington to Kenilworth, with very extensive Frontages and admirable Building sites for superior Villas or Country Residences, commanding fine views of a beautiful [illegible] neighbourhood, and Warwick Town and Castle, with the great advantage of excellent Grass Land, and for the most part a sound gravelly subsoil. Upon this valuable Property are the Kennels of the North Warwickshire Hunt, and the Land is let to A. Campbell, Esq. and other tenants of the highest respectability. A lithographic map, with full particulars, will shortly be issued, and may be obtained fourteen days prior to the Sale, from Mr. EBENEZER FOSTER, Solicitor, 38, Trinity-street, Cambridge; or upon application to Mr JOHN MOORE, Estate Agent, Warwick.

IN CHANCERY, "COTTAM v. HALLEN."—To IRONMONGERS, BUILDERS, CARPENTERS, BROKERS, and OTHERS.

MR. GEORGE ROBINSON is instructed to SELL, on the PREMISES, Cornwall road, Lambeth, on MONDAY, JUNE 28, and five following days, at TWELVE precisely each day, the whole of the very Extensive and Valuable MANUFACTURES, and partly manufactured STOCK of the old established and Respectable Firm of COTTAM and HALLEN, which comprises 700 iron bedsteads, of various sizes and patterns; 100 iron protean chairs; a very large quantity of parts of bedsteads and brass ornaments, pipes and gutters, hurdles, gates, stoves and stove metal, bell traps and gratings, pumps, barrow wheels, doors and frames, sashes, stable fittings, lamp posts, [illegible] tons of bar iron, a 20-horse power Cornish boiler, girders and columns, [illegible] machine, rivets and nails, garden-rollers, shovels, a small assortment of general ironmongery, &c. May be viewed two days prior, and catalogues had on the Premises; of W. KINSEY, Esq. 9, Bloomsbury-place; of Messrs. DUNN and SURTEES, 2, Raymond's-buildings, Gray's-inn; of Messrs. HARDING, PULLEN, and CO. 5, Serle street, Lincoln's inn-fields, and 4, Lothbury; and at Mr GEORGE ROBINSON'S Office, 21, Old Bond-street.

TO BUILDERS AND OTHERS.—Fourteen Houses, nearly finished, and a Plot of Freehold Ground, offering a capital opportunity for investment of small capital, or for occupation.

MR. DEACON will SELL, on the 30th of JUNE instant, by order of the Mortgagee, to settle an account, in Fifteen Lots, the capital modern built HOUSES, Nos. 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, and 27, St James's terrace, Clarendon-road, and Kensington-park, Notting hill. They are very cheerfully situate in this rapidly improving locality, and are held for about ninety-six years at [illegible] rent each, but of the estimated value of about 40l. and 45l. per annum. Mr Beale, of 44, Clarendon-road, will give every information respecting the property; and printed particulars will be ready ten days before the Sale, to be had of Messrs. BOULTON and SONS, Solicitors, Northampton square; at the Mart; and of the Auctioneer, at 21, Old Bond street.

WIMBLEDON-PARK.—Land-tax redeemed.—Sixty-one Freehold Building Sites, many containing several acres each of surpassing beauty, with south and west aspects, by far the most eligible that have yet been offered for sale, situate close to the Common, presenting frontages on the high Kingston road, on the beautiful private drive through the park to Wimbledon Church, and others sloping to the lake, with subsoil of gravel 10 feet deep, and including the best points of view of this truly picturesque and favourite park.

MESSRS. CHINNOCK and GALSWORTHY are instructed to SELL by AUCTION, at the MART, City, on MONDAY, JUNE 28, at ONE o'clock precisely, all the very valuable FRONTAGE of the PRIVATE DRIVE, commencing at Tibbett's Lodge, at the corner of the Common, and extending to the verge of the chief eminence of the park, also on West hill, fronting the high-road to Kingston, and on a new road just formed on the brow of the hill, in the interior of the park, fronting the beautiful lake. The plots vary from half an acre to four acres. This land lies at a considerable elevation from the valley of the Thames, and commanding fine views of the park and its noble lake, sheltered from, but close to, the Common, and studded with trees of magnificent growth, and shrubs of the rarest kinds, affording the means of an early enjoyment of a garden in its true English sense. Wimbledon-park is situate about ten minutes' walk from the Putney station on the Richmond line, and within an easy distance of the Wimbledon Station on the South Western, and by means of the West end Branch of the Crystal Palace Railway, now open to the New Bridge, and which will shortly be extended to Victoria-street, Westminster; this estate is in direct connection with Belgravia and the West end, as well as the London-bridge Railways. The sites have the advantage of being abundantly supplied with pure water; good drainage and gas-mains contiguous. With the view of securing a select neighbourhood, strict rules of building [illegible] have been instituted, and will be enforced, it having been found equally advantageous to owners of land and houses. The above lots offer to the builder unusual opportunity of profit, villas of a good class being here in constant demand. To gentlemen wishing to build for occupation, no estate in the neighbourhood of London possesses so many attractions as Wimbledon-park; and to land speculators this sale offers a tempting means of remunerative employment of capital. Two-thirds of the purchase-money may remain on mortgage.—Particulars and plans may be obtained of Messrs. BATTY and WHITEHOUSE, solicitors, 26, Charles-street, St. James's-square; of C. F. CUNDY, Esq. Carlton-chambers, 8, Regent-street; and of Messrs. CHINNOCK and GALSWORTHY, Land Agents and Surveyors, 28, [illegible], Waterloo-place.

BROMLEY.—A capital Cottage Residence.

MR. W. F. HAMMOND will SELL by AUCTION, on WEDNESDAY, 30th JUNE, 1858, at the MART, by peremptory order, a genteel COTTAGE RESIDENCE, situate [illegible] Kent [illegible] miles from the station on the Mid-Kent [illegible] from the [illegible] at thirty five [illegible] and occupied by the owner.—Particulars to be had of Messrs. R. B. and R. LATTER, Solicitors, Bromley; at the Auction Mart; and at the Auctioneer's Offices, No. 3, Carey-street, Lincoln's-inn, W.C.

TO BARGE AND BOAT BUILDERS, FOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 6, 1858, at ELEVEN [illegible] PREMISES, Creek bridge Wharf, Greenwich, [illegible] SURPLUS MATERIALS and STORES: 500 [illegible] No 7 Calder pig iron, twenty tons broken machinery castings, a new [illegible] iron, [illegible] and numerous other effects.—To be viewed on MONDAY previous to the sale, when catalogues may be had, on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

SALES BY AUCTION.

LONDON MARBLE AND STONE WORKS, ESHER STREET, S.W.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, July 7th, 1858, at ELEVEN o'clock, on the PREMISES, the spacious LEASEHOLD PREMISES, for many years occupied by the London Marble and Stone Working Company, situate in Esher street, Millbank, Westminster, occupying a large area, and especially erected for the [illegible]. The buildings comprise a spacious manufactory, of two floors, [illegible] and lofty show room, 120 feet long, 20 feet wide, and 20 feet high, with workshops beneath, large yard, offices, and manager's dwelling, and are held on lease for a term, of which fifty two years were unexpired at Lady-day last, subject to a ground-rent of 73l. per annum.—To be viewed till the sale. Printed particulars may be had on the Premises; of Messrs. WARRY, ROBINS, and BURGESS, Solicitors, Lincoln's-inn fields; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Machinery of the London Marble and Stone Works, Esher street, S.W.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, the 7th of JULY, 1858, at ELEVEN o'clock, on the PREMISES, Esher street, Millbank, Westminster, in lots, the MACHINERY and IMPLEMENTS of the London Marble and Stone Working Company, including four steam sawing-frames, from 11 ft. by 1 ft. 10 in. to 16 ft. by 3 ft. [illegible] frames for marble, two polishing machines, circle cutting machine, sanding table and [illegible], moulding bed for engine turning lathes, single saw-stone cutting frame, a steam-engine of [illegible] horse power, by Dryden, with tubular steam boiler; all the shafting, riggers, and gearing; two very powerful over head travelling cranes, block and falls, leather bands, saws, metal dinner bell, and other effects.—To be viewed on Tuesday previous to the sale, when catalogues may be had, on the Premises; and of Messrs. FULLER and HORSEY, Billiter street, City, E.C.

LONDON WORKS, NEAR BIRMINGHAM.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupancy of Messrs. Fox and Henderson, and situate at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, [illegible] the immediate vicinity, also, of the works of G. F. Muntz, Esq. Messrs. James Watt and Co. and the Birmingham Patent Tube Company. It is important to notice that the rates in the parish of Harborne are not more than one third the amount of those in the adjoining parish of Birmingham. The works occupy a site of 5a. 1r. 26p. 27 yards; they have a frontage of about 435 feet next Cranford-street, and a frontage of 490 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction [illegible] and thus affords facility for water carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding 30,000l. They were established in 1839 by Messrs. Bramah and Fox, and have been raised to their present importance by Messrs. Fox and Henderson, under whose practical judgment they have been arranged for carrying on the great undertakings in connection with which the name of that firm has been rendered famous. The buildings are arranged in a quadrangular form, and are most substantial erections. The entrance is through a gateway (on either side of which are offices and stores) to a spacious yard, in the centre of which is the boiler house and lofty chimney. To the left is a carriage-building shop, 201 feet by 103 feet; an iron store adjoining, 97 feet by 11 feet. The principal range of buildings include the smiths' shop, 119 feet by 102 feet; two anchor smiths' shops and turntable shop, a fitting shop, 119 feet by 114 feet, with galleries; a railway-wheel shop, the large foundry, 198 feet by 52 feet; two moulding shops adjoining, 119 feet by 64 feet, core stoves and brass foundry. On the right of the yard, are pattern makers' shops and pattern stores, painters' stores, a chain shop, stabling, ostlers' apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the different purposes at prices ranging from 4s. 6d. to 11s per ton, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road.—Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr CHARLES CLARKE, Smethwick, who will show the property; to Mr HORNBLOWER, Architect and Surveyor, Waterloo-street, Birmingham; to Messrs. SWIFT, WAGSTAFF, and BLENKINSOP, Solicitors, Liverpool, and 32, Great George street, Westminster; to Messrs. BEALE and MARIGOLD, Solicitors, Waterloo street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—A large proportion of the purchase-money may remain on mortgage.

To Engineers, Founders, Railway Wheelmakers and Carriage-builders, Anchor-smiths, Chain makers, and others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN each day, in lots, at the LONDON WORKS, Smethwick, lately occupied by Messrs. Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Lewis, Collier, and other eminent makers, including, in the fitting shop and galleries; 11 self-acting screw-cutting lathes, 6 to 16½ inch centre, 18 engine turning lathes, 14 railway wheel lathes, one very superior double action ditto; four axle lathes (self-acting); 19 vertical drilling and boring machines, many of them self-acting, three self acting planing machines, six self acting screwing machines, universal shaping machine, hydraulic machine for putting on railway wheels, axle guard slotting machine, wheel cutting machine, two 45 horse power expansive condensing steam-engines, 700 feet turned wrought iron shafting, 120 turned pulleys, 54 vices and benches, grindstones, a large assortment of steel tools for the [illegible] machines, &c. In the wheel shop.—Five powerful hydraulic presses, one for pressing bridge links, nuts, &c.; one for spoke bending, one for Beattie's patent wheels, one for pressing axle guards, and one for expanding tires, with pumps and gearing worked by steam power; tire furnaces, anchor forges, smiths' forges, two 3-ton cranes, one smaller lift, blast fan 6 feet diameter, drilling machines, &c. In the foundries.—Eight 5-ton cranes, each 16 feet sweep, 15 feet high, with [illegible] chains, and blocks, three [illegible] cranes (double purchase), one 20-ton traveller, 45 feet span, a very superior [illegible], two cupolas, four core stoves, 120 feet of black [illegible] shafting, [illegible] furnace, small cupola, six pot furnaces, [illegible] furnaces, [illegible], &c. In the turntable shop.—Two very powerful surfacing lathes, with face plates 13 feet and 16 feet diameter; one facing and boring machine, capable of boring cylinders 72 inches diameter, three self-acting facing machines, one superior self-acting radial drilling machine, with 6 feet radius, one 12½ ton traveller, 38 feet span. In the [illegible] Two Nasmyth's [illegible] steam hammers, with Cornish boilers; one tilt hammer, with 16-horse power horizontal steam-engine and boiler; two powerful Hercules (one to work by steam power), eight 5 ton and three 4 ton post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven anchor-smiths' forges with water tuyeres, a chain-proving machine, bed 106 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the rail shop.—Two self-acting planing machines, to take in 15 feet by 4 feet 1 and 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, [illegible]. In the carriage building shop.—Two large and [illegible] punching and shearing machines, one powerful [illegible] plate bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two [illegible] machines, four [illegible] for iron, three drilling machines, circular saw bench, thicknessing machine, 350 feet turned shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—48 forges, 4 anchor fires, fan blast (5 feet), one small Nasmyth's hammer, lever punching machine, one corrugating machine with [illegible], one Hercules, one Ryder's patent forging machine, 5 wrought-iron cranes, one small traveller, 15 [illegible] black shafting, pulleys, &c. In the boiler-house and yard.—Four [illegible] horse power high pressure steam boilers, one very powerful punching and shearing machine, capable of [illegible] 2½-inch hole in 1½-inch plate; two hydraulic proving machines, 15-ton weigh [illegible] weighing machine, two 5-ton iron post wharf cranes, one 8 ton derrick, Henderson's patent, 35 feet sweep; one 3-ton derrick, 35 feet sweep; two yard travellers, 21 feet 2 and 35 feet 3 span, with double-purchase gearing and rails; fittings in pattern makers' shops, pattern stores, paint stores, and offices; a large assortment of wood patterns, the dies for the various sizes of Lieutenant [illegible] boxes and flasks, ladles, stores of [illegible] patent anchors. Foundry:—Boxes and flasks, ladles, stores of various description, and a large collection of other miscellaneous requisites for a first-class engineering establishment.—To be viewed three days prior to the sale.—Catalogues may be had, at 1s. each, of Mr HORNBLOWER, Architect, Waterloo-street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the amount of 50l. and upwards.

SALES BY AUCTION.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM AT

F. K. BARNES and SONS' TIMBER-YARD, Canons' Marsh, Bristol, on WEDNESDAY, the 23rd of JUNE, 1858, at TWELVE o'clock precisely,

FOR ACCOUNT OF IMPORTERS.

Mahogany.
15,000 St John Spruce Deals and Battens.
3,000 Quebec Pine Deals.
5,000 St John Pine Deals.
10,000 Memel Red Deals.
1,000 Onega Red Deals and Battens.
2,000 Swedish Red Deals.
1,200 Christiania Red and White Battens.
1,000 Loads St John Yellow Pine Timber.
100 Loads St. John and other Port Birch.
600 Loads Memel Timber.
150 Loads Savannah Pitch Pine Timber.
10 Fathoms Hemlock Lathwood.
10 Fathoms Baltic ditto.
100 Crown Wainscot Oak Logs.
2,500 New York Staves.
5,000 Prepared Red and Spruce Flooring Boards.
With other Goods.

Catalogues will be issued on the Week of Sale.

F. K. BARNES and SONS, Brokers.

Canons' Marsh, Bristol, June 9th, 1858.

N.B. The Sale room being completed, Buyers are requested to attend early and look over the Lots, prior to the Sale.

TO OIL AND COLOURMEN, ROPE-MAKERS, SHIP-BUILDERS, AND OTHERS.

F. K. BARNES and SONS will SELL by AUCTION, on WEDNESDAY, the 23rd inst. in their NEW SALE ROOM, Canon's Marsh, Bristol, at ONE o'clock precisely.

250 Barrels Stockholm Tar,
300 Barrels Archangel Tar,
16 Barrels Archangel Pitch,
in suitable Lots.

Bristol, June 14, 1858. F. K. BARNES and SONS, Brokers.

TO TIMBER MERCHANTS, COACH MAKERS, PIANOFORTE MANUFACTURERS, CABINET MAKERS, BUILDERS AND OTHERS.

THOMAS EDWARDS and SON have received instructions from Mr. William Marshall, to SELL BY AUCTION, on MONDAY, 21st JUNE, 1858, and two following days, at ELEVEN o'clock precisely, on the PREMISES, Canal Bridge, Wharf, Kingsland Road (the Lease being Sold, the Premises must be cleared by the 24th Instant), the whole of the extensive Stock, consisting of large quantities of dry Mahogany panel board, Honduras, St Domingo and Cuba Mahogany in logs, planks, and boards; Birch in logs, planks, and boards; very fine Walnut planks and veneers, Havanna and Pencil Cedar, white Pine, yellow Pine, planks and deals (whole and cut), large quantities of Pine timber, and other goods. To be viewed two days prior to and on the Morning of Sale. Catalogues may be had on the Premises, and of THOMAS EDWARDS and SON, 15, Pinner's Hall, Old Broad-street, E.C.

IN BANKRUPTCY.—FREEHOLD BUILDING LAND.

MR. ANCONA is instructed by the Assignees, to offer for SALE by AUCTION, at the MART, on THURSDAY, 1st JULY (unless previously disposed of by private contract), a valuable plot of FREEHOLD LAND, eligibly situate in Carlton-street, Kentish-town, with a frontage of 223 feet to Carlton-street, and a depth of 64 feet 3 inches, offering a most eligible site for building, in this rapidly improving locality.—Particulars and conditions of sale may be obtained on application to Messrs. TUCKER, GREVILLE and TUCKER, Solicitors, 28, St. Swithin's lane; of H. H. STANSFELD, Esq. Official Assignee, Basinghall-street; of Mr. ANCONA, 8, John-street, Adelphi; and at the Mart.

KENTISH TOWN.—BUILDERS' STOCK.

MR. LEREW will SELL by AUCTION, on the PREMISES, Rochester-mews, Rochester-road, on MONDAY, JUNE 21st, at TWELVE, the SURPLUS STOCK of a BUILDER; comprising [illegible] feet yellow, white, and pine planks, deals, and battens, 7,000 feet wide pine board, 100 squares 1½ inch, 1 inch, and ¾ in. prepared yellow flooring; 5,000 feet quartering, dry cut stuff; 40 four-panel doors, 6,000 countess slates, stone truck, [illegible] young grey horse, useful stone, old materials, and a quantity of miscellaneous stock. May be viewed on Saturday prior, and catalogues had, on the Premises; at the "Castle" Tavern, Kentish-town; and of the Auctioneer, Cardington street, Hampstead road, near the Euston station.

DOWNING STREET PUBLIC OFFICES EXTENSION. Second Sale.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, JUNE 22, at TWELVE for ONE, the valuable BUILDING MATERIALS of FIFTEEN HOUSES, being Nos. 12, 13, and 14, King-street, Westminster, and Nos. 1 to 12, inclusive, Lower Crown street, adjoining, comprising about 500,000 capital stock bricks, 50,000 pan and plain tiles, useful timber in roofs, floors, &c., sashes and frames, doors and frames, York and other paving slabs, [illegible], several tons of lead, and useful fixtures and fittings.—May be viewed day prior and morning of sale; and catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at Garraways; and of the Auctioneers, 41, Charing-cross.

SOUTHEND RAILWAY.—FREEHOLD LAND TO BE LET, on BUILDING LEASES, for ninety nine years, near the railway station at Southend, and immediately on the cliff, overlooking the sea. First class railway passes will be granted for seven years, at a low rate, to every person building a house.—Particulars and plans may be seen at the Office of A. WHIGHTMAN, Esq. Blackwall Railway, Fenchurch-street; Messrs. HOLLINGSWORTH and TYREMAN, 24, Gresham-street, E.C.; and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land Agents and Surveyors, 10, Waterloo-place, Pall-mall.

TO LET, EXHIBITION GALLERIES of the SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall Mall East.—TO LET, early in October, after the close of the Society's Exhibition, until the end of February next, the extensive Galleries in Suffolk street, Pall Mall East, comprising five rooms, [illegible]. The principal room is 65 feet by 40 feet, and about 40 feet high, and is considered the best lighted room in London, either by day or night, for Exhibitions of Art, Lectures, or the Soirées of Literary, Scientific, or Musical Societies. The extent of the Gallery is 120 feet by 44 feet.—For particulars apply by letter to Mr CHILCOTE, Society of British Artists, Suffolk-street, Pall Mall East.

ON the ISLE of WIGHT COAST, at SANDOWN BAY, distant five hours from London, [illegible] from Ryde, and seven miles from Ventnor.—TO BE SOLD, or LET on long lease, CLIFF PARK ESTATE, SANDOWN, [illegible] SIX ACRES of BUILDING LAND, in the [illegible] the Isle of Wight. The property is on the cliff, and extends to high water mark. The sea-shore (which can be reached by a footpath from the grounds) affords the best bathing in the island, and the sands form a natural esplanade of several miles in length nowhere to be surpassed. The view towards the bay, from Culver Cliff to Dunnose Point, as also the inland prospect, can never be intercepted. The subsoil is a dry sand rock, and there is good spring water obtainable at a moderate depth. The church is 100 yards distant. Numerous public conveyances to and from Ryde and Ventnor, in connexion with the South-Western and the Brighton Railway trains, pass through Sandown daily. The fee simple of the property can be purchased on reasonable terms. The land can be [illegible].—For plan and further particulars apply to Mr. WOODMAN, Architect, Clifton-ville, Brighton; or Mr. SEARLE, Grange-place, Sandown, Isle of Wight, who will show the land.

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The Builder.

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THE NEW SOCIETY OF PAINTERS in WATER COLOURS.

—The Twenty-fourth ANNUAL EXHIBITION of this Society is NOW OPEN at their Gallery, Pall-mall, near St. James's Palace, from Nine till Dusk.—Admission, 1s. Season Tickets, 5s.

JAMES FAHEY, Secretary.

THE OPERATIVE MASONS' BENEFIT SOCIETY,

held at "The George," Great Chapel-street, Soho.—Instituted 1816. Enrolled 10 Geo. IV. c. 56.—The FORTY-EIGHTH ANNIVERSARY of the above Society, will be celebrated on MONDAY, JULY 5th, 1858, at Highbury-barn Tavern, Islington, after on table at HALF-PAST THREE o'clock. A. JOHNSON, Esq. in the chair.

HONORARY STEWARDS.

Messrs. G. Baker and Son	Mr. S. Hancock.
Butterbury, esq.	— Harris, esq.
Messrs. McLennan and Bird.	W. Harding, esq.
Mr. Walshaw, esq.	G. H. Hemmings, esq.
Messrs. W. Cubitt and Co.	T. Jackson, esq.
Mr. Cubitt, esq.	A. Johnson, esq.
Mr. Shellabear, esq.	Mr. E. Kash,
Mr. T. Cooper, esq.	Mr. Scrivener.
Messrs. Chadwick and Ackroyd.	Messrs. Lucas, Brothers.
Mr. Lee, esq.	— Mallett, esq.
Mr. E. Edmonds.	Messrs Martin and Wood.
Messrs. W. and J. Freeman.	G. Myers, esq.
Mr. Webster, esq.	J. Mowlem, esq.
Messrs. Trow, esq.	Messrs Piper and Son.
Mr. Nesbit, esq.	T. Stirling, esq.
Mr. Brooke, esq.	G. Smith, esq. Pimlico.
Messrs. Greave and Grillier.	C. H. Smith, esq.
Mr. Russell, esq.	Messrs Waller and Son.

Tickets to be obtained of the stewards, Mr. R. HASSELL, 9a, Queen-street, Belgrave-road, Pimlico; Mr. W. GOULD, 10a, Green-street, New-street, Kennington-road; Mr. R. FAIRBAIRN, 7, Howley-place, Belvedere-road, Lambeth; and of Mr. F. W. TARRAN, Secretary, 2, Lamp-office-court, Lamb's Conduit-street.

THE ARCHITECTURAL MUSEUM,

South Kensington Museum, W.—The ECCLESIOLOGICAL SOCIETY (of London) offers, through the Committee of the Architectural Museum, a PRIZE of FIVE GUINEAS for COLOURED DECORATION

Particulars may be had by written application to the Honorary Secretary of the Architectural Museum, at 13, Stratford-place, W.

THE ANNUAL CONVERSAZIONE will be held on THURSDAY, July 15.

GEO. GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon Sec

CONTRACTS.

UXBRIDGE DISTRICT LOCAL BOARD OF HEALTH.

—To BUILDERS and CONTRACTORS.—The Board are prepared to receive TENDERS for the ERECTION of additional FILTER TANKS, at their Sewage Works, Uxbridge Moor, and ALTERATIONS to other parts of the WORKS. The specifications and plans can be seen at the Office of Mr EVES, Surveyor, Uxbridge, on TUESDAY, the 22nd of JUNE. Sealed Tenders, endorsed "Tender for Filter-tanks," addressed to the Chairman, are to be delivered at the Board-room, Public Rooms, Uxbridge, by SIX o'clock on the evening of THURSDAY, the 1st day of JULY, 1858. The Board do not bind themselves to accept the lowest or any Tender.

CHARLES WOODBRIDGE, Clerk.

Uxbridge, June 17, 1858

CONTRACTS.

TO BUILDERS and CONTRACTORS.—The Directors of the Dundalk Exchange and Market Company (Limited), will be prepared to receive TENDERS for the ERECTION of a CORN-EXCHANGE, READING-ROOMS, and other BUILDINGS connected therewith, in the town of Dundalk, according to plans and specification which will be lodged at the Company's Office, 100, Clanbrassil-street, Dundalk; and at the Office of the Architects, Messrs. BELLAMY and HARDY, Lincoln, on and after the 15th of JUNE. Tenders to be lodged at the Company's Office on or before the 1st of JULY. The lowest Tender will not necessarily be accepted. Contractors to name two solvent persons as securities.

JAMES SHEKLETON, Hon. Secretary.

Company's Office, 100, Clanbrassil street, Dundalk, June 11, 1858.

TO BUILDERS.—Sealed TENDERS, in one specific sum, will be received by the Director of Contracts, War Department, Pall Mall, London, on or before the 6th JULY, 1858, at noon, for RENEWING the UPPER STORY of the BARRACK at No. 2 REDOUBT, Maker-heights, in the Plymouth district. Detailed specifications of the above service, with every requisite information, may be obtained at the Royal Engineer Office, Devonport, daily (Sundays excepted), between the hours of TEN and FOUR o'clock, from the 18th JUNE to the 5th JULY, 1858, both days inclusive.

Royal Engineer Office, Devonport, June 9, 1858.

TO SEWERAGE CONTRACTORS. — TENDERS are wanted by the Commissioners of Police for CONSTRUCTING certain SEWERS within the Burgh of Dundee, plans, sections, and specifications of which may be seen at the Office of the Town Surveyor, Police-buildings. The Tenders are to be made on printed forms, which will be supplied to contractors, and they are to be addressed to the Commissioners of Police, Surveyor's Office, Police-buildings, Dundee, marked "Tender for Sewers," and must be delivered there not later than MONDAY, the 12th JULY next. Parties tendering must be prepared with sufficient security for the due fulfilment of their contract. The Commissioners do not bind themselves to accept the lowest or any Tender.

Dundee, June 8, 1858.

NOTICE to CONTRACTORS. — WET DOCK.—The Trustees of the Harbour of Whitehaven are prepared to receive TENDERS for the CONSTRUCTION of a WET DOCK and TIDAL BASIN, with SEA WALL and relative WORKS, at Whitehaven, in conformity with drawings, specification, and conditions, to be seen in the Office of Messrs. M. and G. RENDEL, C.E., No. 8, Great George-street, Westminster; and also in the Office of the Superintendent of the Docks at Whitehaven. Copies of specification and conditions, with form of Tender and of a bill of quantities, prepared for the convenience of Contractors, may be obtained on application to Messrs RENDEL, or the Superintendent. Sealed Tenders must be lodged with Mr JOHN MUSGRAVE, Secretary to the Trustees, at his Office, 41, New-street, Whitehaven, on or before MONDAY, the 5th day of JULY next.

Whitehaven, 8th June, 1858.

TO CONTRACTORS and BUILDERS.—SURREY HOUSE of CORRECTION, WANDSWORTH COMMON.—The Visiting Magistrates of this prison purpose extending the accommodation for male prisoners. Plans, specifications, and conditions may be seen at the said prison from the 21st instant to the 30th of JULY next, between TEN a.m. and FOUR p.m. The Visiting Magistrates will meet at the Sessions House, Newington, on FRIDAY, the 30th of JULY, at the hour of TWO o'clock precisely, for the purpose of opening such TENDERS for the execution of the WORK as may then and there be presented to them. Further information and the bills of quantities may be obtained on and after the 3rd of JULY next, upon application to Messrs HILL and MARTIN, Architects, at 27, King-street, Cheapside, or Christchurch-buildings, Birmingham. The Visiting Magistrates do not bind themselves to accept the lowest or any Tender. Every contractor applying for a copy of the bills of quantities will be required to deposit the sum of £1, which will be returned in all cases in which a Tender shall have been delivered.

RICHARD ONSLOW,
14th June, 1858. Governor of the said House of Correction.

BLUNSDON ABBEY, WILTS, four miles from Swindon.—Persons desirous of TENDERING for the EXECUTION of WORKS in CONTRACT A, which includes Mason's, Bricklayer's, and Carpenter's Work, to be done in altering and enlarging a detached house and the plans and specification at my Office, in Bath-terrace, between the hours of NINE and SIX, on and after MONDAY, JULY 5th.—Tenders to be forwarded to me on or before THURSDAY, the 15th.

EDWARD W. MANTELL, Architect.
Swindon, June 21st, 1858
Neither the lowest nor any Tender will necessarily be accepted.

TO BUILDERS.—The Guardians of the Bromley Union are desirous of receiving TENDERS for certain ALTERATIONS and ADDITIONS to the INFIRMARY BUILDING of the Bromley Union Workhouse, at Locksbottom, Farnborough, Kent. The drawings and specification, with conditions of contract and form of Tender for such works, may be seen at the Clerk's Office, at the above Union Workhouse; or at the Office of the Architect, Mr FRANCIS FITHORNE, 7, Eton-terrace, Ducre-park, Lee, Blackheath, S.E. upon any day after FRIDAY, the 25th instant, between the hours of TEN o'clock in the morning and FOUR o'clock in the afternoon, and bills of quantities may be obtained from the Architect on payment of 10s. for each set. All the Tenders are to be sealed up and endorsed, "Tender for Infirmary Building, Bromley Union, Kent," and delivered, free of expense, at the Clerk's Office at the above Union House, at or before TEN o'clock in the morning of FRIDAY, the 9th day of JULY next. The Guardians do not pledge themselves to accept the lowest or any Tender.

RICHARD SCARR, Clerk to the said Guardians.
Bromley Union, Locksbottom, Farnborough, Kent,
June 18, 1858.

TO BUILDERS.—YARMOUTH, ISLE of WIGHT.—Parties desirous of TENDERING for the whole or any part of the works to be done in the ERECTION of a PARSONAGE and OUTBUILDING, at Yarmouth, may obtain the needful particulars on application to the ARCHITECTS, Messrs FLOCKTON and SON, Sheffield, before the 30th instant.

CONTRACTS.

GOVERNMENT CONTRACT. — WAR DEPARTMENT. — The Director of Contracts will receive TENDERS from persons willing to ERECT a RIDING-SCHOOL, at the Royal Artillery Barracks, Woolwich, to be constructed of cast and corrugated iron. Interior dimensions, 150 feet by 55 feet; height to the law, 16 feet. Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, from TUESDAY, the 15th, to TUESDAY, the 29th JUNE, between the hours of TEN a.m. and FOUR p.m. where forms of TENDER and all information may be obtained. The Tenders to be delivered or forwarded, post paid, to the Director of Contracts, War-office, Pall-mall, London, by NOON of FRIDAY, 2nd JULY next, marked "Tender for the Erection of a Riding-School."—The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, June 8, 1858.

GOVERNMENT CONTRACT. — WAR DEPARTMENT. The Director of Contracts will receive TENDERS for the FORMATION of an OPEN MANEGE, 160 feet long by 60 feet wide, interior dimensions, at the Royal Artillery Barracks, Woolwich. Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, from TUESDAY, the 15th, to TUESDAY, the 29th JUNE, between the hours of TEN a.m. and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded, post paid, to the "Director of Contracts, War Office, Pall-mall, London," by NOON of FRIDAY, the 2nd JULY next, marked, "Tender for the formation of an Open Manège." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, June 8, 1858.

GOVERNMENT CONTRACT. — WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the RENEWAL of ROOFS and GALLERIES in the West Square of the Royal Artillery Barracks, Woolwich. Drawings and specifications may be seen at the Royal Engineer Office, Woolwich Barracks, until MONDAY, the 5th JULY, 1858, between the hours of TEN a.m. and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded, post-paid, to the Director of Contracts, War Office, Pall-mall, London, by noon of WEDNESDAY, 7th JULY, 1858, marked "Tender for Renewing Roofs, &c." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, June 16, 1858.

GOVERNMENT CONTRACT. — WAR DEPARTMENT.—The Director General of Contracts will receive TENDERS for REPAIRING and RENEWING STONE PLATFORMS, EMBRASURES, &c. at Fort Cumberland, near Portsmouth drawings and specifications may be seen, and forms of Tender and all necessary information obtained, at the Royal Engineer Office, Portsmouth, between the hours of TEN and FOUR o'clock. Tenders to be delivered, or forwarded, post paid, to the Director General of Contracts, War-office, Pall-mall, London, on or before MONDAY, JULY 19th next, at NOON, and endorsed on the outside, "Tender for Work at Fort Cumberland." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Portsmouth, June 23, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the left hand corner of the envelope, and addressed to the Director General of Contracts.

N.B. The Secretary of State for War, reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, June 9, 1858.

TO CARTERS, IRONMONGERS, BLACKSMITHS, BROOM MANUFACTURERS, PLUMBERS, PAINTERS, GAS FITTERS, PRINTERS, and STATIONERS.—The Vestry of Bethnal green will meet at the Town hall, Church row, Bethnal-green-road, on THURSDAY, the 1st day of JULY next, at ELEVEN o'clock in the forenoon precisely, to receive TENDERS, and then contract for the SUPPLY of various ARTICLES enumerated, and also for performance of the several works duly specified in the Board's own printed form of Tender, to be obtained at the Vestry Clerk's Office, Town hall, aforesaid. Tenders, addressed to them, must be delivered there, on or before WEDNESDAY, the 30th of JUNE instant, and the Vestry do not bind themselves to accept the lowest, or indeed any Tender.—By order,

R. BRUTTON,
R. VOSS,
} Vestry Clerks.

Town-hall, Bethnal green, June 22nd, 1858.

NOTICE to BUILDERS.—Persons desirous of CONTRACTING for the ENLARGEMENT of a MANSION at COSSINGTON, near Bridgwater, may inspect the plans and specification at my Offices, High-street, Bridgwater. Tenders to be delivered on SATURDAY, the 3rd of JULY next, at TWELVE o'clock at noon. The lowest or any Tender will not necessarily be accepted.

(signed) CHARLES KNOWLES, Architect.

June 22nd, 1858.

NOTICE to BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a NEW PARSONAGE-HOUSE at MIDDLEZOY, near Bridgwater, may see the plans and specification at my Offices, High-street, Bridgwater. Tenders to be delivered on SATURDAY, the 3rd of JULY next, at TWELVE o'clock at noon. The lowest or any Tender will not necessarily be accepted.

(signed) CHARLES KNOWLES, Architect.

June 22nd, 1858

[For remainder of Contracts see next page.

CONTRACTS.

RUNCORN CEMETERY.—To ARCHITECTS.—The Runcorn Burial Board have EXTENDED the TIME for plans, specifications, and estimates being sent to me, for the ERECTION of the BUILDINGS previously advertised from THURSDAY, the 1st JULY, to WEDNESDAY, the 14th of that month.—By order of the Board,
WILLIAM FRANCIS SALKELD, Secretary.
Town's Offices, Runcorn, June 17, 1858.

BOROUGH of BLACKBURN.—The time for sending in TENDERS for the SUPPLY of DRAIN PIPES is extended to SATURDAY, the 3rd of JULY next.
THOS AINSWORTH, Town Clerk.
Town hall, Blackburn 23rd June, 1858.

ALL SAINTS, POPLAR.—To MASONS, IRONFOUNDERS, and OTHERS.—The Vestrymen of this Parish will meet at the Town Hall, on the 12th day of JULY, at FIVE o'clock in the evening, to consider TENDERS for TAKING down PLINTH and PAVING in the north side of their West Burial Ground. All Tenders must be sent in before TWELVE o'clock, noon, on the day of meeting. The Vestrymen do not bind themselves to accept the lowest or any Tender. Specific particulars to be seen at my Office between the hours of TEN a.m. and TWO o'clock p.m.
W. G. CEELY, Clerk to the Vestrymen.
Townhall, June 22, 1858.

TO BUILDERS.—The Guardians of the Poor of Bermondsey, surrey, will meet at the Workhouse, in Russell-street, on WEDNESDAY, the 30th day of JUNE next at FOUR o'clock in the afternoon precisely, to receive TENDERS for the execution of sundry ALTERATIONS at the said WORKHOUSE. The drawings and specification of the proposed Works may be inspected, on and after the 22nd inst. at the Office of Mr. CHARLES ELKINGTON, Architect, 3, Gannon-street, London. Sealed Tenders to be delivered at the said meeting of Guardians as above mentioned. The Board do not pledge themselves to accept the lowest or any Tender. Persons tendering must attend the meeting.—By order of the Board,
W. CORNWELL, Clerk.
June 18, 1858.

TO BUILDERS and OTHERS.—Notice is hereby given that PLANS and SPECIFICATIONS for BUILDING a NEW CHAPEL and VESTRY, at BURNHAM, in the Parish of Wordsbeach, in the Parish of Lydiard, in the county of Surrey, will be left at the Public-house, Burnham Road, and can be seen on application to the Hall Keeper, from MONDAY, the 28th inst. until SATURDAY, the 3rd of JULY inclusive. All Tenders must be sent to the Public Hall, directed to the Committee, or of the Hall-keeper, on or before the 10th of JULY. The lowest Tender will be accepted. The Contractor, if required, will enter into a proper legal bond, with two good and approved sureties, for the due execution of his contract.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District, are desirous of receiving TENDERS for the PROVIDING and LAYING of about 1,650 feet of 12-inch STONEWARE PIPE, in Wick-lane, Battersea. The specifications of the works may be seen at the Offices of the Board, to whom Tenders are to be sent in, under seal, on or before TUESDAY, the 6th JULY next, endorsed "Tender for New Sewer, Wick-lane." Sealed Bills of Quantities for the performance of the contract. The Board do not pledge themselves to accept any Tender.
By order of the Board of Works for the Wandsworth District,
ARTHUR ALEX. CORSELLIS, Clerk to the Board.
Board room near Mr. Wandsworth Common, S.W., June 15, 1858.

TO GAS ENGINEERS and CONTRACTORS.—"The Burnham Gas Company, Limited," are desirous of receiving PLANS, SPECIFICATIONS, and ESTIMATES for the ERECTION of GAS-WORKS, at Burnham, Somerset; the outlay not to exceed £5,000.—The site will be shown by, and further particulars obtained on application to, Mr. OXFORD, Solicitor to the Company, at whose Office the plans, &c. are to be deposited on or before the 10th day of JULY, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of the new WASHHOUSE and LAUNDRY, at the Star and Garter Workhouse, may see the drawings and specification at the Workhouse, on Cleveland-street, Fitzroy-square, between the hours of TEN and FOUR. Sealed Tenders to be delivered at No. 6, Bow-street, on TUESDAY, the 6th day of JULY, at FIVE o'clock p.m. The Guardians will not bind themselves to accept the lowest or any Tender.—By order,
JAMES KILNER, Clerk.
June 23, 1858.

AMERSHAM BURIAL GROUNDS.—To BUILDERS and OTHERS.—The Burial Board of Amersham, in the County of Bucks and Herts, are ready to receive TENDERS from persons willing to contract for the APPROACH ROAD, and the ENCLOSURE, and LAYING OUT of the new BURIAL GROUNDS and other WORKS. The plans, specifications, conditions, and form of contract may be seen at the Office of Messrs. CHARSLEY and ISAACSON, at Reading, on and after MONDAY the 28th day of JUNE, instant, between the hours of TEN a.m. and FOUR p.m. The estimates to be made out separately for one or more of the following divisions of the works.
No. 1.—Brickwork and Masonry.
No. 2.—Repairs and Laying out.
No. 3.—Gates, railings, and Railing.
Tenders, sealed, endorsed, and addressed to "The Clerk of the Amersham Burial Board," to be delivered at the Office of Messrs. CHARSLEY and ISAACSON, Reading, on or before THREE o'clock p.m. on TUESDAY, the 13th day of JULY next. The lowest or any of the Tenders will not necessarily be accepted, and the persons whose Tenders may be accepted will be required to enter into a bond, with sufficient sureties, for the due performance of the contract.—Information and copies of the Tenders may be had upon application to the Architects, Messrs. POCOCK and WOODMAN, Reading, to the
GEORGE ISAACSON, Clerk to the Amersham Burial Board.
Date the 23rd day of June, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a NEW CONGREGATIONAL CHURCH at Kentish-town, may see the drawings and specification, and obtain a copy thereof, at the Office of Mr. Architect, Messrs. W. G. and E. HABERSHON, 38, Bloomsbury-square, on and after WEDNESDAY, the 16th inst.—The Tenders to be delivered on MONDAY, the 12th of JULY.—The lowest Tender will not necessarily be accepted.

TO BRICK MERCHANTS, &c.
WANTED, immediately, 1,000,000 sound STOCK BRICKS, within two minutes' walk of Shoreditch Church, to such Parcels, and for such Parts to be addressed to Mr. THOS. HUGHES, Builder, 26, Dartmouth-street, Nottingham.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description, delivered with Johns Newton, Fulham Brick Bank now in course of completion by Commercial Gas Companies, Engineers, Builders, &c. &c. Depôt for lowering Stores, Sewage, Pipes, Drains, Tiles, Pavers, &c. Sanitary Pipes, Chimney Pots, Flue Linings, &c. at the lowest prices. Shipping orders executed with despatch.

WHITE BRICK ARCHITECTURE.—ARCHITECTURAL WHITE BRICK MOULDINGS, of plain and ornamental form, in the cheapest and most rapid manner, suitable for the Fronts of Houses, Shops, &c. All Sizes of BRICKS of any size made to Order. Quotations and Estimates for Moulds and Bricks of prices and specimens sent on application.

BRICK-MAKING.—A PORTABLE MACHINE, well adapted for contractors and large consumers, is for SALE. The machine will make the bricks, and load them on the carts, at the rate of 20,000 per day. The machine is in good working order, and has been used for the making of 3,000,000 bricks. Samples and full particulars may be obtained of EDWARD SPENCER and CO. 18, Bucklersbury, London, E.C.

BRICKS.—IMPORTANT to BUILDERS.—Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	23s. per Thousand.
Rough Stocks and Grizzles	19s. ,,
Pine from 13s. to 16s.	,,
Bright Stocks	20s. ,,

Shippers supplied. Apply to
Address, GEORGE SHEED, Sittingbourne, Kent.
P.S. Upon of the Canals no payment of Dues extra.

GUARDIAN FIRE AND LIFE ASSURANCE COMPANY,
No. 11, Lombard-street, London, E.C.

Henry Hulse Berens, esq. Chairman.
John G. Hubbard, esq. Deputy Chairman.

John Dixon, esq.
Francis Hart Dyke, esq.
Sir W. M. T. Farquhar, Bt. M.P.
Sir Walter R. Farquhar, Bt.
Thomson Hankey, esq. M.P.
John Harvey, esq.
John Labouchere, esq.
John Lubbock, esq.
Stewart Marjoribanks, esq.
John Murray, esq. M.P.
Rowland Mitchell, esq.
James Morris, esq.
Henry Norman, esq.
Henry R. Reynolds, esq.
Sir Geoffroy J. Thomas, Bt.
John Thornton, esq.
James Tulloch, esq.
Henry Vigne, esq.

AUDITORS.
Lewis Loyd, jun. esq. Henry Sykes Thornton, esq.
John Henry Smith, esq.

Thos. Tulloch, esq. Secretary. Samuel Brown, esq. Actuary.

LIFE DEPARTMENT.—Under the Provisions of an Act of Parliament, the Company's Life Profits are divided Triennially. The Fifth Division of Profits, with Quinquennial Division, or a Low Rate of Premium without participation of Profits.

The next Division of Profits will be declared in June, 1863, when all Participating Policies which shall have subsisted at least five years at Christmas, 1862, will be allowed to share in the Profits.

At the Five Divisions of Profits made by the Company, the total Reversionary Bonuses added to the Policies have exceeded £1,000,000.

At the last valuation, of Christmas, 1854, the Assurances in force amounted to upwards of £4,500,000; the Income from the Life Branch in 1854 was more than 200,000l.; and the Life Assurance Fund (independent of the Guarantee Capital) exceeded 1,700,000l.

FOREIGN RISKS.—The Extra Premium required for the East and West Indies, the British Colonies, and the northern parts of the United States of America, have been materially reduced.

INVALID LIVES.—Persons who are not in such sound health as would enable them to insure their Lives at the Tabular Premium may have their Lives insured at Extra Premiums.

LOANS granted on Life Policies to the extent of their values, provided such Policies shall have been effected a sufficient time to have attained a cash-surrender value, not under 30l.

ASSIGNMENTS OF POLICIES.—Written Notices of received and registered.

MEDICAL FEES paid by the Company, and no charge will be made for Policy Stamps.

Notice is hereby given, that Fire Policies which expire at Midsummer must be renewed within fifteen days at this Office, or with Mr. SAMS, No. 1, St. James's-street, corner of Pall-mall; or with the Company's Agents throughout the Kingdom, otherwise they become void.

Losses caused by Explosion of Gas are admitted by this Company.

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.
MOULDINGS to any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Patent list.
FLOORING (dry); a large Stock, of various description.
MATCH-BOARDING of any width.
Also,
Timber, Deals, and Mahogany, on either Wharf, or at the Docks.
JOHN RUTTY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.
Orders from the country directed to any of the Railways in London immediately, if accompanied with remittance or Town reference.

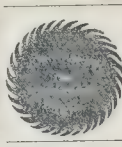
TO GAS COMPANIES, ENGINEERS, AND OTHERS
WANTED to PURCHASE a good Second-hand GAS-HOLDER, with or without Cast-iron Tank.—Full particulars as to size, price, &c. to be sent to J. H. BETHERINGTON, Slough, Bucks.

AUSTIN'S IMPERIAL
PATENT SASH and BLIND LINE can be obtained of all
IRONMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY.
Established 1774.

SMOKY CHIMNEYS.—PILBEAM'S PATENT DOUBLE-CHAMBERED SMOKE-PREVENTING CHIMNEY-POT.—Price 27s.; Kitchen, 30s. Also the Double-chambered Chimney-tops applied to existing chimney pots. Price 12s. Kitchen, 14s.—A prize-medal will be awarded on application at the Office of Mr. A. PILBEAM, Architect, 18, Adam-street, Adelphi.

IRON FOUNDRY, Harrow-street, Lant-street, Southwark, S.E.—W. R. BARTLETT, Manufacturer of Girders, Columns, Cisterns, Roofing, Lubricating and Newel Bars, Iron Cogging, Pinion, Tooth Pinions, Arm Castings, &c. Also Fly and Spur Wheels, Rice's, Engine and Machinery Castings; Forge Backs, Furnace Bars, Rakes, Pokes, Pipes, Tank Plates, Soap Frames, and their Castings, to patterns or drawings.

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Castings in Gun-iron,
STEWART'S PATENT CAST IRON GAS- and WATER-PIPES.
Office, No. 7, Moorgate Londen.



JOHN PARKIN (late Blake and Parkin), STEEL WORKS, HARVEST-LANE, SHEFFIELD,
Manufacturer of Circular Saws *machine-turned*, Mill Saws, Frames Band, or Rubber Saws, of tough temper, without joints. Machine Plane Grooving, Moulding, and Mortising Irons, Saw Files, &c.
Agent for London—Mr. CHAS. BADGER, 1, Margate, Westminster-road.

FOR SALE, Cheap, a Six-panel IRON DOOR, moulded on both sides, 6 feet 8 inches by 2 feet 8 inches. Apply to W. TOMLISON, Old Timber Dealer, Paneras-road.

CHANDELIERS,
GAS-ROASTERS,
GAS-BATHS AND STOVES,
DEANE'S,
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IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 24, Davies-street, three Doors from Oxford-street, for the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general at wholesale prices for ready cash. This old established firm, No. 18, Hunter-street, Mount-street-square, removed to Baker-street, Portman-square, London, W.

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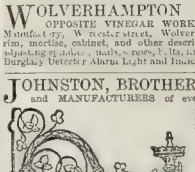

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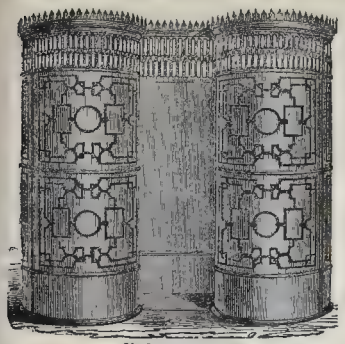

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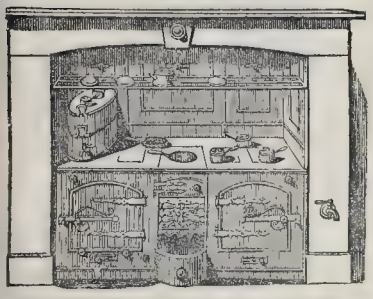

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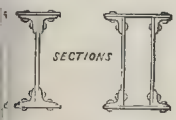

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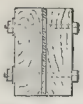

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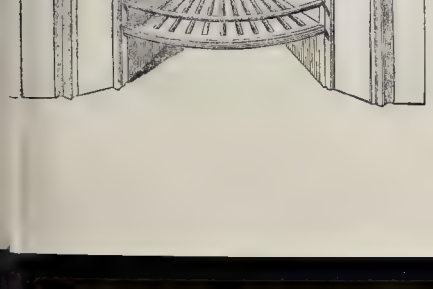

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24 in.	12 in.	1	7	0
26 in.	12 in.	1	8	0
28 in.	12 or 15 in.	1	9	0
30 in.	12 or 15 in.	1	10	0
32 in.	15 in.	1	11	0
34 in.	15 in.	1	12	0
36 in.	15 or 18 in.	1	13	0
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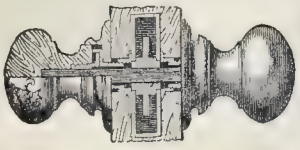

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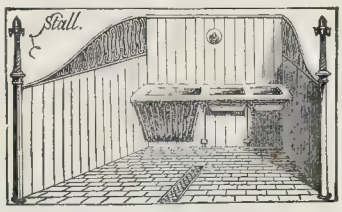

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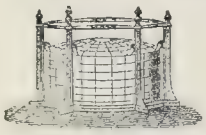

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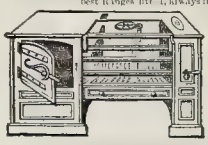

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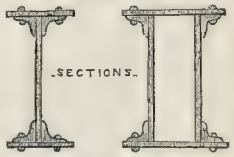

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TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND-BELLS tuned to the Chromatic Scale, with improved clappers, and pegged on a new system, which give superior tone and facility for ringing.

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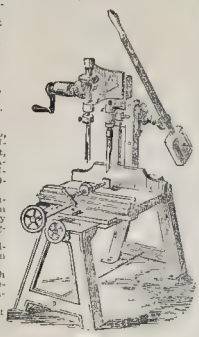

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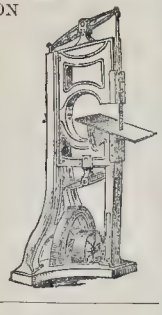

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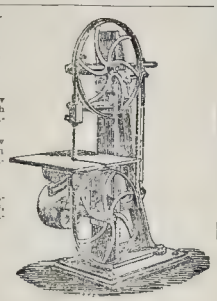

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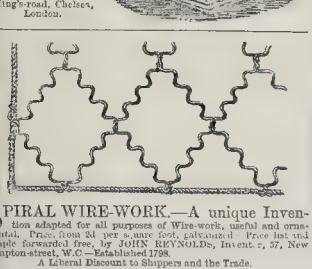

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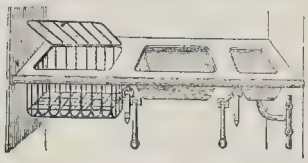

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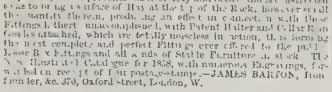

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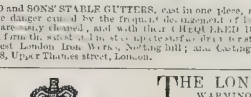

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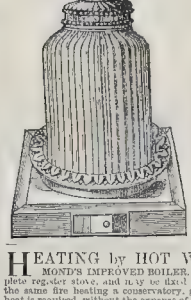

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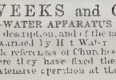
HEATING BY  HOT WATER.

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EDINBURGH REVIEW.—No. CCXIX. JULY, 1858. ADVERTISEMENTS intended for insertion are requested to be forwarded to the Publishers immediately.

London: LONGMAN and CO. 39, Paternoster-row.

THE ATHENÆUM.—The attention of the Proprietors has been directed to the inconvenience caused by the increasing bulk of the yearly volumes. It has been represented to them that will the *Athenæum* started, as nearly always connected of 840 pages, which, as contents and year extended to nearly double that Royal pages. The Proprietors have therefore resolved that the *Athenæum* shall in future be paged in half-yearly volumes, and an enlarged Index given with each volume.

The Index for the volume ending June will be published early in July.

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THE LITERARY GAZETTE.—The LITERARY GAZETTE has passed into the hands of a new Proprietary and Direction, and on and after the 3rd JULY, will appear in an improved form, enlarged to thirty-two pages, in new type, and with important variations in, and additions to, its literary and general characteristics.

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VOL. XVI.—No. 803.

Competition.

MONGST perplexing questions that now continually arise and fall due, on which we suppose it is considered to be our office to pronounce, we may assign a chief place to the subject of architects' competitions. We have discussed it for years, and sought in all ways to lessen its abuses, but with very little good result. It is quite clear that some decided attitude should be taken on this question, if only by the formation and expression of accordant opinions by the profession, or by a majority or an influential section of architects. But we do not know that it is in our power to clear away the entanglement which must somewhere exist,—judging from the divergence in views of persons who we might suppose would be acquainted with and best qualified to reason from facts,—for, of these last we can claim no knowledge beyond what is possessed by all our readers. Yet we must not shrink from any effort to help to the settlement of the question.

It seems to us that the recent contributions to the subject have not gone quite to the root of the difficulty, though they have claimed to be so doing, and that they are not free from error. Many of what are called abuses of the present system, and are such by reason of the initiative in regulations taken by committees, or the request of architects for "instructions," would vanish under the action of a true commercial or really competitive system, yet without leaving in their place what seems to be expected. Instead of considering the subject in the light of an ordinary mercantile question, where the manufacturer of articles receives "orders," the question of labour, its supply and demand, although analagous to the other, would have claim to first attention; for, the position of the architect at this day, is unfortunately that of a labourer when the supply of labour is greater than the demand. Such an individual can dictate no terms. The operative and the architect have the same prospects,—to wait the turn of events, when their commodity may be less abundant or more called for; to change to other employments; or to take the course, low as it may be, of educating society into increased feeling of need for their particular services—supporting each step so as to justify belief that increase of pay will be returned through corresponding increase of value in the labour or article supplied. The fact is that, in our calling, the operation of swelling the ranks has been going on at a much greater rate than other missions or vocations of ours, just referred to, which are of more importance to us,—the duty of a profession, of improving its qualifications, educational and professional, and so raising the standard of their value,—and that of fostering the education of the public, so as to extend the market and demand for art; and the dissemination generally of rather simple information as to the sort of services which we architects claim to be able to render.

In the commercial question affecting architects and architects' competitions, there are several subsidiary or collateral points to be kept in view—as the question as to method of ascertainment of the real quality of articles, works, or designs; and that of the assessment of a value corresponding. The recent ideas as to the regulation of competitions, regard these matters as capable of ready adjustment; but the means thereto are not, to our conviction, made so clearly workable as the line of argument assumes. Pursuing, however, the question in a somewhat different manner, the results to the profession and the art as hoped for, might be made to appear in prospect,—though they might be arrived at by the destruction, rather than the maintenance and regulation, of architects' "public competitions."

The difficulty of the subject almost entirely arises in circumstances of its position as identified with problems that, so far as we see, political economists, of whatsoever school, have been unable to solve; and these matters, as architects, we shall be compelled to touch, ere we can make progress in the question that concerns ourselves. In these primary questions, we fear much of error, or, at least, assumption, exists.

As an abstract statement, it is true that competition is beneficial. We are not about to discuss what is a natural law, one which may be the foundation of all progress. Even as it is, with whatever evils, *competition*, in its several forms and agencies, in this very year, may be working our advancement, like to that of which it would be said the impression would be reflected from an observation of the main course of centuries in history. But the first point to which we would direct attention is the worthlessness of such admissions, to the argument of the political economist, or the supporter of architects' competitions. The real question is left where it was.

It would, obviously, be quite accordant with history to suppose at this present period as existent, declination rather than advancement, in some matter political, social, or economical in its relations,—in our own art, or in some requisite of the art; and the question as to competition in the abstract, is, whether as conducted, it is now operating in advancement, or whether by any measures which we can devise it can be made to do so. Here is the real hitch at which we think the political economists fail us, or ask us to receive mere *verbiage*, for reasoning from minute apprehension of facts. Now, if any political economist would explain how competition does operate, as to the advantage of the community, commercially, socially, and above all, morally,—that is, granting that it does all this,—our difficulty as to architects' competitions might be in effect removed. But, we read the newspapers, and we con the speeches of Protectionists and Free-traders,—of the country gentlemen and of the "Manchester School,"—and our faculties are not enlightened. If, then, our particular question be in the main a politico-economical one, how can we supply the defects of the situation in which we are left by the best authorities on the subject?

That competition, as conducted, is now characterized by high sense of honour, fairness of dealing, and good morality, we must shrink from asserting. The position we would lay prominently before our readers is, that as the circumstances, so the present evils and the results, of competition generally and of architects' competitions, are substantially the same. They are antagonistic to the very principle on which our profession is based,—the position which, after all, it maintains proudly amongst the callings into which industrial and social life is divided,—and to the principle which it would be well to introduce into commercial transactions. It is the absence of real competition rather than the prevalence that inflicts the evils alluded to, those which—too much ignored by the free trader—would seem to be put forward by the extreme protectionist as arguments against all competition.

It is singular what habitual forgetfulness prevails, as to what it is in which *competition* really consists. We can hardly be surprised that this should have been somewhat apparent in the course of the discussion after Mr. Morgan's paper lately read before a body of gentlemen, to whom it will be no discourtesy to apply the designation, amateur political economists. Such a mistake, however, is one that the world in general makes, and which has been made by authorities claiming to hold a higher rank in this country than that allowed to the Institute of British Architects. Judging from what was said at the meeting referred to, it would seem to have been thought, on one side, that price *only* was the fair subject of competition, whilst on the other side that excellence alone was the proper subject; and this particular colour of expressions still remains much as the speakers left it on our apprehension. The fact is,—as to competition in the abstract—which was the real point—there would be, in each form of opinion, both error and truth,—as usually there is in such controversies. Theoretically speaking, competition can exist either between articles of which the price is the same, and the qualities matters for judgment; or between those of which qualities are the same, and prices are different. In the former case, the decision of course turns upon quality; in the latter case, it turns upon price.

Now, where the defect in the present posture in affairs, and lapse in the reasoning of political economists of fashionable schools, exist, is in the assumption that these primary conditions are necessarily and actually, as they are taken to be theoretically,—known quantities. The doctrine is *caveat emptor;* and price is said to adjust itself by what Mr. Cobden (surely most unwisely for his reputation as an exact thinker) called "the higgling of the market." But all experience shows that the capacity of the consumer to judge of the quality of the article, may fail him at the very point at which the hypothesis of competition assumes that the judgment is most active. If the rival articles were of known quality or qualities, it would be easy for the consumer to decide upon the economy of price; but as practically, with his knowledge, he *cannot* judge of these ordinary articles, he dismisses the question, or comes to regard things as pretty nearly of the same utility,—deceiving himself more or less,—and he takes that which is only lowest in price. For proof of the facts of the position here laid down, see the particulars, as to articles of food, of the investigations, now so well known, of Dr. Hassall and the *Lancet* Sanitary Commission, *passim*. Similar investigations into the qualities of materials and work in buildings expose evils of another branch of competition, those of which evidence stands under the head "Tenders" in most of the numbers of our journal. The facts and the objects to be attained are nearly the same in all the cases, and the means of securing any real benefit from *competition* are equally far from being agreed to by whatsoever parties are mainly interested. This position of the consumer, or public, being generally and notoriously as stated,—what are the means which can be taken to amend it, and to develope advantages which we have shown either are not found, or are so to very limited extent; whilst there is substituted for other competition, that which is only competition of dishonour and rascality? So deeply has this spurious kind of competition got infused into the transactions of commerce and banking, that it has become exalted almost to a principle, nay, a virtue; and, in spite of the forcible language of the press, that

which perverts real honour and morality, exists, and, when attended with success, gains some general approval. A sort of distinction seems to be recognised between what is professionally and what is commercially correct,—and quite irrespectively of particular arguments against mixture of trading and professional callings on the part of some professions. The scarcely concealed doctrine, "Rem, si possis recte; si non, quocunque modo rem,"—is the one fount and origin of the evil which gets bared to-day, in the mode of conducting the undertakings of great merchants and contractors, in the practices of the small tradesman, and in the tenders and the work of builders, and which is becoming the characteristic of "architects' competitions." Without going further into this branch of the question, we might hazard the suggestion, whether the introduction of *true* commercial and trading principles into professions, and something like what is deemed in the other case professional and honourable, into trading, would not benefit every calling, and conduce to the morality and the advancement of society at large.

Now, the position we appear to have arrived at is, that competition in the abstract, and architects' competitions, are in very similar relations to their assumed objects. In each of the cases there are the same advantages theoretically: but the means of securing them have to be discovered and applied. The inability of the public in either case to judge, whether arising from ignorance or from pressure of other avocations, has to be remedied or supplemented. Until the utmost refinement of honour and principle prevail, and personal interests be subordinated to an extent beyond what appears immediately probable or possible, a certain duty must be delegated. This is, in fact, suggested—and is now, to a slight extent, carried out—as to articles of food; and is what is contemplated in the different attempts to secure a good selection of designs in architects' competitions. We have to see how far the theory can be worked out in what more immediately interests our profession.

It may be admitted that if architectural and professional knowledge can be enlisted to the judicial office, selection will be made under circumstances which are far more favourable than where no such qualification in aid of the public, as embodied in a committee, exists. But, we wish to disabuse the minds of many persons, that this course only will attain the expected ends, or according to the propounded theory of "architects' competitions," and competition generally. The object, in a case where price is uniform, as it may be supposed to be in architects' work (though recent occurrences show that this may not be so, even where *per-centage* would guide the rate of charge), being to obtain the best article at the price agreed upon, what are the means to be taken for securing it, as out of a mass of articles, or a vast area of selection? Can the perfect judgment, and the apportionment of merits in nice gradation be attained? and does the chance of getting the one article of superior quality increase with the number of the articles that are offered? The whole theory of the advantage, on whichever side, from competition, assumes the answers to these questions as necessarily in the affirmative. If, however, in ordinary competition, and if in architects' competitions, as to some degree in select competitions, and to a very great degree in "public," or unlimited competitions,—the real *judgment* be difficult of obtainment,—whilst though, with every addition to the chance of a good article being amongst the lot, an agent counteractive to good selection gains force at each increase of the number of articles, and by a geometrical progression, then the discovery of the merit, and the acquisition of the advantages of unlimited competition, are by no means so easy as the acceptance of the system assumes. The advantages, to the public at least, ought to be greatest where the competition is unlimited: but, we doubt whether, in architects' competitions, this has proved to be the case: and the objection to them, imputed to leading men, is really a sound one; that is to say, may well have nothing to do with fear of defeat on the points of merit in themselves and their works.

Mr. Kerr is obliged by the requirements of his line of argument, to lay great stress upon graduation of the designs in an order of merit. He says,—and here we are disposed to agree in his meaning,—"It is the essence of all the availableness of competition, that the judgment should be critically perfect." But what if it be the essence of *competition* that judgment cannot be critically perfect?—that absolute justice, even, cannot be done unless by a conjunction of circumstances, and of opportunities and qualifications as to the judges, such as have hardly yet been found, and are hardly likely to exist. The difficulty of making selection at all in a competition, is great—far greater even than is recognised or supposed: but how much would the labour and responsibility be increased, were there a graduation to be made of several designs, say from ten to a hundred? Either the thing could not be attempted, or the duty would be "scamped," and the result be anything but "critically perfect:" and, as to the money equivalent, take the case put, of a building to cost 2,000*l.* the competitors for which, the writer in question says, would be fairly remunerated by an aggregate sum of 60*l.* whereof 20*l.* would belong to the successful competitor:—what would the other competitors get on the average? or what would any one of the better designs of the unsuccessful class get? If twenty men competed,—not by any means an extradinary assumption, the nineteen unsuccessful men, on the average, would get 2*l.* 2s. 1½d. each. The expressed object of returning the value of labour and outlay, surely is not here attained, making every allowance for the presence of some worthless productions.

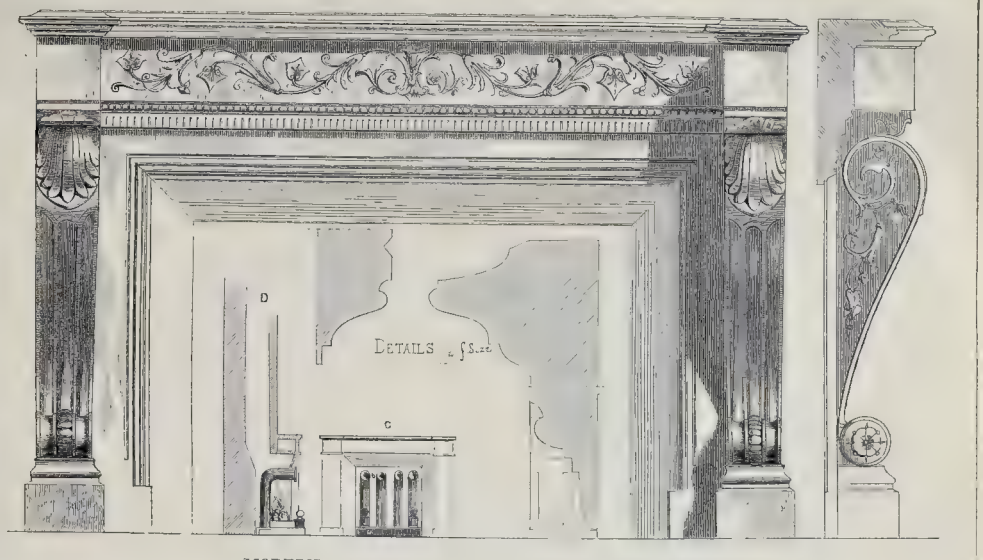
Along with Mr. Kerr, we recognise the graduation of merit and critical perfection of judgment as parcel of the question of competition award. Only we should prognosticate inevitable failure in supplying them. We have alluded to the difficulty of marking order of merit. But who are competent judges? Mr. Kerr says,—none but an architect. Does this go far enough? We think not for the object. No one but an architect who has made a special study of the particular subject can form that opinion which is wanted. In short, a competitor, if he could divest himself of prepossessions, or one in an associate position in reference to that competition, or at very least a professional man with vast experience, freedom from prejudice, ample leisure, and judicial aptitude,—in fact, qualifications like those sought for in the composition of the legal bench,—and which are not likely to be found in any living architect,—such an individual alone would be possessed of the special qualifications needed. We, however, are not prepared with a practicable scheme for a "court" of architecture, and its professional bench; though the idea may be set by as one which some day will be wanted, and for many objects. We do not better see means of working a plan of selection by the competitors. It does not seem to be recollected, indeed, that this system has been tried. But we doubt if it has had anywhere marked success; and the difficulties and the objections are obvious. In case of the tribunal before alluded to, besides the skill in gathering facts of a case, and the other professional and judicial qualifications, there would be needed emoluments so great as to form a heavy charge on the competition. Architects when engaged as umpires, under the present system, may do the best that the case admits of; but they are not able to devote the time which the theory of absolute merit of many designs requires; they have not all the special qualifications referred to; and they are not paid adequately even for the examination of the acres of drawings in cases such as the competitions for the Barracks, the Government Offices, and many far less important works. There may have been exceptions where "architects of experience" have had the management of the competition from beginning to end: that is to say, the theory and the practice of good selection and fair allotment of premiums, have in some of these cases been carried out; and the adjudicator or adviser having thus far acquitted himself of his duty, has proceeded with the erection of the building;—in fact, it is the very point of the difficulty, that such an adjudicator as has been referred to, will be the person best fitted, having regard to the public interest and the success of the building. Cases of this sort have occurred, and are the real origin of the apprehension which competitors have, when they find that an architect is at all associated with a committee. And to say that "instructions" should be prepared by an architect, is nearly equivalent to saying that the architect so engaged is the proper person to have the design and direction of the work.

Our views, long since expressed as to "instructions," prevent our agreeing with much of what has been said on that branch of the subject. The course usually taken by committees, and which seems to be required of them by architects, is really not calculated to attain objects of theirs, or those of architects. When instructions are given, they should be adhered to in good faith, and strictly, on both sides: but whilst, we say, all "false perspective drawings," and "inaccurate estimates" (named by Mr. Morgan), are amongst discreditable practices for competitors, we object to the architects "enforcing parties inviting designs in competition to first mature their plans," as tending to keep up the mistake, as to the architect's duty and office, which exists and is maintained by the present system of competitions. Our opinion as to the use of mottoes is well known. It attains no good object; but it interferes with benefit alike to committee and competitor, which each might derive were names appended to drawings.

It seems, therefore, that we must doubt whether the details of administration in unlimited competitions could be *easily adjusted*, and so as to ensure advantages, whether to competitors or the public, commensurate with the labour and skill now required in drawings. Some good, it might be thought, would be done were sketches, or drawings to a small scale, only allowed: but committees are not likely to see that even to themselves, there would be some conditions favourable to selection, by adoption of such a plan.

The best step to a better system for architects, will be made when they themselves discover that they are not gaining by that which (in the case of unlimited competitions at least) is, and tends always to remain, precisely what it has been so often called, a system of lottery and gambling. If competition in general, and the abstract, could be so ordered that the benefits assumed by the political economist could follow directly from it, there would be hope of speedily effecting sufficient improvement in the management of the competition amongst the architects, and of allowing the public and the art to derive the real benefit of it, commensurately with that labour and ability at present brought into play, of which there is such utter and wanton waste.

Architects now should be informed and agreed, in regard to the knowledge of what are their interests. Were they so, they could, perhaps, diffuse sufficient information as to the interests of the public, to modify the attitude towards them, of committees, and produce a good result without any problematical issue of an anti-competition protest. Committees find that they get designs of which the utility appears sufficient for their object, and that they get them on any terms; and can we be surprised that this seems to them enough? They must be educated to the correct view,—that view which is for their own objects and interest, allied with the public interest of advancement in art. Architects meanwhile on their side, should not, as it is their habit to do, expect *more* than is distinctly offered. Public exhibition of designs, before and after an award in a competition, should be claimed by intending competitors; and such exhibition, it should be understood, will be so managed as to place, duration, hanging of the drawings, appending of authors' names, and advertising the exhibition, as to afford some chance of return to the unsuccessful. Without guarantee of all this, architects had better spare their labour: the chances are, that *exhibition* will give their only return. Exhibitions



MODERN FRENCH ARCHITECTURE: CHIMNEY-PIECE.

as generally managed, are useless. They should in all cases be open a sufficient length of time, in proportion to their magnitude, to afford the opportunity for their being visited and studied by every one interested in the subject.

The object of "instructions," as they are called, is to afford as few restrictions as possible. When they attempt to define matters, the competition is simply useless. Architects, therefore, should not press for them. Committees may *suggest*, but we are disposed to think, if they would repudiate being bound by the suggestions in any way, the position of all parties would be improved. What can the committee know as to that which they would like? their object in the competition is to give themselves the means of knowing. They may say something as to the accommodation they require: but can they go beyond this, as, for example, into style,—or even exact amount procurable, since even that may be influenced by the design,—or exact demarcation of the site in every case. Architects will only tend to create ideas of their incompetence, by insisting on precise instructions.

As to the names to be appended to the designs, it might even be argued that the influence of a name *should* have weight with the committee,—or if not in the allotment of a premium, at least in the choice of an architect. Confidence is absolutely essential; and, moreover, what is a design divested of the guarantee that it can be executed by him who makes it?

For whose benefit, and for what object, is the building contemplated? Clearly the "competition" is instituted by the public for its own benefit; and all views which do not recognise this fact as prominent, had better be dismissed as only serving to complicate the subject. The sole points for the architect-interest then, are, that if offers are made they should be carried out, that any specified conditions should be observed, and that the attitude of the public generally should be such as to keep up the professional calling by supplying inducements, so that the profession may confer the services which, by its existence, it claims to hold available. The architect can expect nothing whatever but what is to the interest of the public, and what he can show is for such interest; but he may advisedly, for all interests, reclaim a recognition and return such as that assumed to be supplied by copyright, or the granting of a patent.

MODERN FRENCH ARCHITECTURE.

CHIMNEY-PIECE.

AMONGST our illustrations of Parisian architecture, we gave recently an engraving of a chimney-piece, together with sections showing some modes of heating apartments adopted in Paris (p. 351, *ante*). We add in our present number a second chimney-piece, with the details, as executed by M. Marga, in white marble. The sculpture of the frieze displays considerable delicacy. The elevation is one-tenth full size, and the mouldings are half full size. C and D are the elevation and section of a third mode, in use, of introducing warm fresh air to the apartment.

WORKS DESIGNED OR EXECUTED BY STUDENTS IN CONNECTION WITH THE DEPARTMENT OF ART.

WE are sometimes asked what the Government Schools of Design, in the first instance, and the Department of Art, in the second, have done for the improvement of our manufactures. And we have even received statements from manufacturers, gravely made, to the effect that they had more difficulty now in obtaining artistical assistants than they had before the establishment of the schools. An attempt has been made at the Museum of the Department, Brompton, to illustrate on a moderate scale the action of the Schools of Art throughout the country.

The works forming the Exhibition are, it is stated, mainly by students, past and present, of the former Schools of Design, and the present Schools of Art; a few examples only being by masters engaged in the work of instruction; but nearly the whole of whom also owe the greater portion of their art education to these schools.

"Very few examples indeed have been specially prepared for this Exhibition, and therefore it represents, in the aggregate, the objects commonly in demand, in which the principles of decoration taught in the schools have been either fully or partially applied; but it is necessary, in some degree, in justice to the designer, to take into consideration the exigencies of special manufacture, as also certain commercial requirements."

Mr. George Wallis, by whom the Exhibition has been arranged, points out in the introduction to the catalogue that—

"There has been an *indirect* action, perhaps even more valuable, and of such a character as to encourage further efforts in bringing art instruction to bear upon national industry, and especially in seeking to maintain an ornamental bias in the course of studies pursued in the Schools of Art. The lace trade of Nottingham is an example in point. Manufacturers who have not actually employed students of the school as designers, acknowledge that the character of the designs produced within the last five years has been altogether changed through the influence of the designs manufactured by those who have employed the talent developed in the School of Art."

At Birmingham the action of the school has not been found so capable of illustration as could be desired, from the nature of the employments and the division of labour.

That those who have passed through the Schools of Art are more intelligent workmen than those of similar age and standing who have not attended the classes, is acknowledged on all hands. At present, however, art stands little chance in the market, because the buyer seeks rather for *novelty* than *truth*. The public has to be further educated as well as the producer.

In the collection now formed we have glass, ceramic manufactures, metal work, silver ware, jewellery, furniture and carving, lace, silk, printed fabrics, and miscellaneous productions. The first example is a case, containing specimens of glass designing, cutting, and engraving, by students of the Birmingham School of Art, employed by Messrs. Lloyd and Summerfield, Birmingham. No. 8 in this case, Wine-glass, ornaments adapted from the papyrus; No. 9, glass jug of Greek form; and No. 12, water-bottle, both designed by William Silvers, are noticeable. There are some good glasses manufactured by Messrs. Robinson, of Bolton, and designed by William Fell, Warrington, not to mention others: but there is much yet to be done in the way of glass, in proof of which it is only necessary to look at the collection of old glass in the Museum below.

Under the head of Ceramic Manufactures there are some good tiles, executed by the students, at Stoke-upon-Trent; some modern Majolica ware, and good "imitation" Limoges ware, especially by Kerr and Binns. Why need it be considered an "imitation" of what it is not?

Of the small Celadon Vase, No. 35, manufactured by Minton, modelled by Simon Birks, and coloured by female students, which has merit, the "body" would seem to be defective.

The Palissy ware is for the most part a failure.

Amongst the specimens of Porcelain painting, we may mention No. 129, St Catherine, after a picture the property of the Right Hon. Lord Ward, manufactured by Kerr and Binns, Works, Worcester; and painted by Josiah Rushton.

If we mention No. 145, by the same manufacturers, described as "Foot-Ink," it is not for praise. It is a model of a foot holding a candlestick under the great toe, and is made to appear as if of ivory, silver, and gold!

The well-known cabinet executed by Messrs. Graham and Jackson, for the Paris Exhibition, is here for the sake of the porcelain plaques painted by Geo. Grey, of Hanley.

Mr. Potts, of Birmingham, sends some speci-

mens of "Art Mantelpieces." No. 222, subject, Shakespeare, and types of expression suggested by his works, is a superior production. It was designed and modelled by Robert Jefferson. We have before now mentioned this combination of materials, for which the manufacturer has obtained a patent. "The metallic portions of the work are electro-deposited from the original model, which is afterwards chased to constitute the future pattern. In aiming at a higher class of art-work than is usually found employed in such objects as mantelpieces, &c. except in very special cases and at great cost, the producer has desired to encourage native talent, and not only the original designs and models, but the chasing also, has been executed by English artists and workmen, nearly all of whom have received their art-education in schools of art, either in London or Birmingham."

In ornamental metal-work, Messrs. Hart, of Wych-street, are predominant, exhibiting works known to most of our readers, designed either by Michael John Higgins (who studied at Birmingham), or Joseph Ash, of Somerset-house and St. Martin's. These are the only works, moreover, in the collection that are Mediæval. No. 396 is a Garde Robe; satin wood, inlaid with various woods (all the natural colour); manufactured by George Trollope and Sons, and a superb piece of furniture. Nos. 400, 401, and 402 are three of William Perry's admirable carvings in lime-wood, including the Nightingale, the property of the Queen; and a clock case, carved in box-wood; the property of Mr. Dudley Coutts Majoribanks. No. 641 marks an interesting set of sixteen photographs (coloured) from a series of portraits of the Tudor family, executing for the Princes' Chamber in the New Palace of Westminster, in the Training School of the Department, by Richard Burchett, head master, and some of the students. The series, when complete, will contain twenty-eight portraits. No. 645, one of the executed works referred to, has an appearance of squatness, which makes it less satisfactory than some of the others. No. 646 is a statuette of Ruth, in Caen stone; and No. 647 an alto relievo of our Lord's agony, in the same material,—both executed by Samuel Ruddock, of whose works, as a carver, we have before had occasion to speak commendingly.

Lord Salisbury, as President of the Council, held a *conversazione* in the Museum on Saturday evening, the 19th, to which all the members of the House of Peers and the House of Commons, with some private friends, were invited. Music and hospitality were added to the native attractions of the place.

ON THE EGYPTIAN OBELISKS IN ROME, AND MONOLITHS AS ORNAMENTS OF GREAT CITIES.*

I INTEND the latter part of the title I have given to this paper to stir up a question rather than settle a point. The question to be agitated is, are monoliths suitable as ornaments of our metropolis? Have they not something more severe, sublime, and erect, than a mass of masonry reared in air, or an equestrian statue mounted on the attic of an ornamental gateway? The inscription "graven with an iron pen and lead on the rock" was the most ancient as it was the most durable of monuments; and our Druidical ancestors have at least shown us that, if we want a memorial to be lasting, we should lift up in air a mass of stone, and it will tell its story to a hundred generations. The monument which the builders on the plains of Shinar intended to erect of brick and slime was a failure. The stone which a patriarch reared with the help of his servant was said, many centuries after, to have remained "until this day." It is remarkable, in our day of mechanical power, that we should shrink from undertaking what the ancient men of Egypt seem to have found so easy. Herodotus tells us of the Monolith Temple of Latona, which from its dimensions must have weighed 5,000 tons, being removed from nearly one end of Egypt to the other, a distance of 600 miles. And yet the largest mass moved in modern times (carried only a few miles with prodigious labour) I mean the solid mass of stone which supports the statue of Peter the Great at St. Petersburg, weighed only 1,200 tons. The French found no small difficulty in transporting the Obelisk from Luxor, and all the power and might of England shrink from the attempt to get up and bring home Cleopatra's Needle. There are now lying in the quarries of Egypt two half-cut obelisks which might be easily obtained; another at Hieropolis that might be had; and, if the experiment were tried, I doubt not that we could get obelisks of near 100 feet high out of our own quarries in Cornwall or in Aberdeenshire. But I cannot expect to carry this Institute with me in this suggestion, unless I can succeed in commending to it the obelisk as an object interesting in itself, and magnificent as an ornament. I fall back, therefore, upon the first clause of my title—on the Egyptian Obelisks in Rome.

After the battle of Actium, which put Octavianus into possession of the Roman world, Egypt was reduced into the form of a province, and its monuments (of great antiquity) lay at the disposal of the emperors. Augustus immediately began to remove Obelisks to Rome, and his example was followed by his successors down to Constantius. During that period of 340 years, these Imperial expeditioners had managed to import forty-eight of these monoliths, which were all set up in Rome, and found standing in the time of Valentinian and Valens, A.D. 364. In the Regionary, or catalogue of public buildings, made at the time by Publius Victor, we read, "Obelisks (great) VI. viz. two in the Circus Maximus, the greater of which is 132 feet, the less 88½ feet; one in the Vatican, 82 feet; one in the Campus Martius, 72 feet; two at the Mausoleum of Augustus, 42½ feet each. Obelisks (small) 42. Upon most of them are Egyptian characters." It is rather a remarkable fact, and shows the enduring monumental power of a monolith, that all the great six obelisks have survived the ravages of "the Goth, the Christian, Time, War, Flood, and Fire," and are still erect by transposition, continuing to be the most expressive and striking ornaments of the City of the Popes. Of the smaller ones six only remain above ground, these are not all like the six large ones of genuine Pharaonic manufacture, but some of them of modern date, that is, they were made in Egypt for the Roman emperors, and transported at an enormous expense from the banks of the Nile to the Tiber. Besides the twelve that now stand erect at Rome, two are known to exist under the earth, especially one under the church of the Jesuits, of a large size, and there is one at Florence; but there are still more than thirty to be accounted for which may probably yet be dug out of the ruins of ancient Rome. It is not, however, my purpose to make any underground speculations, but to endeavour to illustrate, as well as a little smattering of Egyptian learning may enable me, the twelve obelisks now existing at Rome.

In the original places where these monoliths stood they had a use: where they stand now in a foreign city, they are mere ornaments. They were placed in Egypt generally in pairs at the entrances of large temples, palaces, or royal sepulchres, that they might indicate to posterity, by their monumental characters, the meaning of the edifice and the name of the king who had caused it to be erected. They served the same purpose as our epitaphs and inscriptions on less splendid monuments; so that when removed from their original site they of course lose much of their meaning. The ancient Romans, however, did employ them to some purpose: they set them up on the Spina of the Circus: they placed two in front of the Mausoleum of Augustus, and they made use of one in the Campus Martius as the gnomon of a monster sun-dial. The name now used for these monoliths is rather ignoble in its origin: ὀβελος is Greek for a spit, and obeliscus is the diminutive: the form may probably have suggested the word to the Greeks, but the Egyptians had the thing itself in use, for Diodorus Siculus in describing an Egyptian dinner mentions cauldrons and obelisks in which and on which immense joints of meat were cooked. It must, however, be confessed that the obeliscus or little spit is of a most graceful form: it is a monolith, as everybody knows, of four equal sides, gradually tapering from the base and ending in a pyramidion, which is longer or shorter in proportion to the shaft: it was a more poetical idea that likened it to a ray of the sun: "radium imitetur gracilescens," is the elegant expression of Ammianus Marcellinus. Its material was the warm red granite taken from the quarries of Syene in Upper Egypt, and termed "Syenite" by mineralogists, which differs from our common granite in this, that it contains as the third constituent part, hornblende instead of mica: this distinction, however, is not general, for sometimes the mica is seen in ancient obelisks. The characters engraven on all the four sides of these monoliths remained a mystery until some thirty years ago, when the Rosetta stone first gave the key to open it: it seems clear that the ancient Romans knew little of the meaning of these characters: all that Pliny could tell us about them was that the hieroglyphic inscriptions are Egyptian letters, and that the large obelisks brought to Rome by Augustus had engraven upon them the meaning of nature according to the Egyptian philosophy. Ammianus Marcellinus, who had studied the books of Hermapion, could tell us that the hieroglyphics contained the principles of ancient wisdom, and he says that single characters expressed nouns and verbs, and sometimes entire sentences. In modern times we have the voluminous works of the Padre Kircher, in which the most fanciful interpretations are enveloped in thick coats of learning. Warburton's lucubrations are mere theories made to square with his views of certain passages of Scripture; but the learned Swede Zoega, profound in Coptical learning, saw as far into these masses of granite as any scientific eye could penetrate before the last discoveries. We have now learnt that there are three sorts of hieroglyphics;—First, the Hierophantic or sacerdotal characters, the science of painting ideas, or the sounds of a language: here the Egyptian priests carried on a system of mystification by adopting conventional symbols understood only among themselves: it was not writing, but signs, where the figure of a bird or an animal, or some object, stood for a word or a sentence, as Marcellinus intimates: of this sort of hieroglyphics little is yet known. The second sort of hieroglyphics is called Demotic, or language of the people (sometimes also called Enchorial, or the dialect of the country or province): here the Egyptian characters are rendered into the popular language, or Coptic (the ancient language of the Egyptians): the Rosetta stone helped to make this discovery. The third sort of hieroglyphics is the Phonetic, that is, certain figures inclosed in ovals stand for letters, which, when put together, form a word where vowels are mainly to be supplied, as, for instance, KASRS for KAISAROS, &c.—a mode of reading which puts one's faith to some trials, but which, however, is too clearly made out to dispute the principle.

I shall now proceed to bring before you the twelve obelisks existing at Rome. And here again, as in other great matters, we have three courses. First, those remarkable monuments may be considered in the order of their antiquity, beginning from their origin in Egypt, to the date of their transport to Rome, and from that to the present day. Secondly, they may be taken in the order of erection on the places where they now stand, which would limit us between the year 1586 and 1817. And thirdly, we may view them in the order of their magnitude. The last mode of considering them will be the most convenient, for the references to their respective ages and dates of erection may be easily supplied: as to the antiquity of the genuine ones, it will be found that they are mostly of the same period, *i. e.* within the seventy years of the reign of the great Rhamses. The first in point of size and importance is the Lateran Obelisk. This splendid monolith was originally erected at Thebes, in Upper Egypt, in the propylæum of the Temple of Ammon-ra. Pliny says it was erected during the reign of the Rhamses, who was king of Egypt during the Trojan war. But obelisk readers discover upon it also the name of Thoutmosis or Thutmes III. or IV. the fifth king of the eighteenth dynasty, who is the same as the Mœris of the Greeks, so renowned for the formation of the lake which bore his name. Ungarelli, the Barnabite monk, assigns it an antiquity of 1740 years before the Christian era. If we are to believe Pliny, the king who first set it up was nervously interested in its safe erection, and fearing the machinery employed would be insufficient without the greatest care, he tied his son to the top of the pyramidion, to insure, not the safety of the heir to the throne, but the safety of the mass of granite. We should, I think, one and all protest against our heir apparent being staked against such odds, even if it were to secure the safe hanging up of Big Ben at Westminster. The name of Rhamses is also read on this obelisk as having restored the temple which his predecessor Thoutmosis had erected. After remaining for more than 2,000 years in its native city, it was floated down the Nile to Alexandria, by Constantine. That emperor intended it to embellish his new city on the Bosphorus, but having died before he accomplished his design, his son Constantius preferred to bring it to Rome. In a vessel provided with 300 oars he caused it to be brought to Ostia, and thence up the Tiber to the Vicus Alexandri, a small landing-place about three miles below Rome: from that place it was dragged slowly on chamulci, or low-wheeled

* Read by the Rev. Richard Burgess, B.D. honorary member, at the ordinary general meeting of the Royal Institute of British Architects, May 31st.

waggons, through the Piscina Publica, and with considerable labour set up on the spina of the Circus Maximus, A.D. 357. When it fell from its base it would be in vain to speculate: it was found in 1588 interred at the depth of 24 Roman palms, and broken into three pieces. The vigorous Pope Sixtus V. caused it to be erected under the directions of the celebrated architect Fontana, in the place where it now stands, near the Lateran Basilica. It stands upon a large pedestal of red granite, and measures, without the basement, 148 palms. It lost some of its original length in the pieces being put together, but if we measure from the ground to the cross which crowns it, it stands 204 palmi, or 145 feet high: its weight is estimated at 437 tons. It is covered on all the four sides with hieroglyphical characters, which read in three slips or columns from top to bottom: at the base of the pyramidion, or capitulum trabis, we have a group of two figures, with inscriptions above them four times repeated. Ammon, the king of gods, is seated with his insignia of deity, and Thutmes, or Thoutmosis IV. kneels before him: the god holds out to the king the symbol of life, while the king presents to Ammon in return two cups of wine. On the left above the god is written, "The bestower of perfect life, fortitude, and all goodness, Ammon-ra, lord of thrones, and of both Ægypts, lord of heaven, who tarries at the seat of Thebes." And again, spoken of Thutmes, "Lord of the upper and lord of the lower regions, pleasant in his kingdom as the sun in heaven." We might go on to read, "Horus resplendent, distributor of dominions, guardian of the double watch:" these are sufficient specimens of the style which runs through the whole. As we descend we come upon the name of Rhamses VI. supposed to be the great Sesostris. "He is greatly beloved of the sun, he is the friend of truth, he is life-giving as the light." In short, these hieroglyphical panegyrics are the very hyperboles of Oriental metaphor. The sultan is still called in public style and title, "Governor of the earth, lord of three continents and two seas," and very often "Hunkier, the slayer of men." Byron entered fully into the sublime phraseology of the harem when he introduced old Baba delivering his message to the sultana,—

> "Bride of the Sun, and Sister of the Moon
> (Twas thus he spake), and Empress of the Earth,
> Whose frown would put the spheres all out of tune,
> Whose smile makes all the planets dance with mirth,
> Your slave brings tidings—he hopes not too soon—
> Which your sublime attention may be worth.
> The Sun himself has sent me like a ray,
> To hint that he is coming up this way."

I know of nothing which gives a better idea of the styles and language employed on Egyptian obelisks than this stanza, and it will save me much trouble in reading, and you in hearing, the vain repetitions which fill the sides of these monoliths of Egypt.

Leaving now the Lateran Obelisk, we come to the next in point of magnitude, viz. that which now stands in the centre of the Piazza St. Pietro. The main interest attached to this is the account of its erection by Fontana: this peculiar interest arose from its being the first experiment of setting up a fallen obelisk in modern Rome, and from its being in one unbroken mass, weighing 331 tons. It was brought to Rome from Heliopolis by order of Caius Caligula, to ornament the Circus which was subsequently better known by the name of Nero, by whom it was enlarged and embellished: the site of that Circus was where the sacristy of St. Peter's now is, and therefore the obelisk stands not more than 300 yards from its original position. It took four months to move it that distance. Sixty cranes, 140 horses, and 600 men were employed in the operation. Our celebrated engineers no doubt performed a greater feat when they took only two months to move the *Leviathan* ship, but they had all the appliances of modern science, and had the advantage of an inclined plane. Full details of the machinery employed in erecting the obelisk of the Vatican are given in a work by Fontana himself, which you have in the library of this Institute. The expense of erection amounted to 40,000 scudi, or 9,000*l.*; and the architect's commission was the value of all the timber, iron, and ropes used in the execution, which were worth 4,500*l.* If anything more should be said by Parliamentary economists upon the commission charged by our modern Fontana, I should recommend him to appeal to the tariff of Pope Sixtus V. who gave, not five per cent. but fifty. The Pope had issued an order that no one there was to speak above a whisper during the anxious moments of placing the obelisk on its pedestal, upon pain of death, and you have all heard the history of the English sailor who happened to be present, and seeing the ropes stretch beyond the calculation, broke the silence by shouting out, "Wet the ropes!" But the English sailor has a competitor for fame: the bold advice is attributed to a member of the Bresca family of San Remo. There is an old picture in the Vatican Library which represents the man seized by the guards: he was taken as a culprit before the Pope, expecting to be condemned, but instead of executing the threatened punishment, Sixtus told him to name his reward, and he chose the privilege of supplying palm branches to the Sistine Chapel, and his descendants still claim the monopoly. This obelisk was set up in 1586. It is said by Pliny to have been cut out of the Syenite rocks by Nuncoreus, the son of Sesostris, and dedicated by him to the Sun; but there is much obscurity about the passage. We are not aware that any genuine Egyptian obelisk was ever set up without figures; but the Vatican obelisk is plain. The probability is that it was cut by order of Caligula in the Syenite quarries, and being brought to Rome was dedicated by him, as the inscription still proves, to the memory of Augustus and Tiberius. If we include the base and ornaments at the top the whole height is 127½ feet. It serves as the gnomon of a monster dial, which was traced on the pavement of the piazza by Pietro Maccarani in 1817, and there it stands between the two beautiful fountains, having completed its 1800 years since it was first set up in the Circus where the first Christians were thrown to the lions.

The Flaminian Obelisk, which salutes the traveller from the north as he enters the Piazza del Popolo, is the third in magnitude, but the first that was introduced into Rome: it is one of the two which Augustus conveyed from Heliopolis, and it was set up on the Spina of the Circus Maximus. The inscription on the pedestal, which is ancient, tells us that Egypt being reduced into the power of the Roman people, the emperor dedicated this trophy to the sun. This obelisk was discovered among the ruins of the Circus, lying at a depth of 24 feet below the surface, broken, like that of the Lateran, into three pieces: it was taken up and removed by order of Sixtus V. in 1589. The height of the whole, from the ground to the summit of the cross, is 115 feet 6 inches. Fontana also designed a beautiful fountain at the same time he set up the obelisk: this was demolished in the pontificate of Leo XII.; and the four lions of Egyptian style, vomiting water into the four round basins, are the invention of Giuseppe Valdier: perhaps he intended the quattro leoni to have some hierophantic allusion to the living pontiff, Leo XII. There is no doubt of this obelisk being a genuine Pharaonic monument: its four sides are covered with hieroglyphics: they run down as they read in three slips: the outside is by Rhamses; the middle by his father, Sethos II. It affords matter for an antiquarian dispute, if we were disposed to indulge in the pleasure of doubting. The question would be whether this or the Lateran obelisk is the one which Ammianus Marcellinus found interpreted in the books of Hermapion. Champollion confesses that the reading of Hermapion comes near to his own translation. The obelisk was made by one of the two brothers Mandouei and Susurei, probably the same as Sethos II. and it was originally placed before the temple of Re Athom at Heliopolis. Like all the other genuine obelisks at Rome, it also bears the name of the great Rhamses, who came after Sethos II. It is believed by Egyptologists that this Sethos was the Pharaoh who was drowned in the Red Sea; and, being held in abhorrence by the Egyptians, his name was effaced from all public monuments. It has been pointed out that the title in some of the ovals on the Popolo obelisk has really been defaced. If this should be ascertained, it would add greatly to the interest of this monument; but there is enough made out to assign to it an antiquity equal to the age of Moses. It was probably cut during the latter part of the residence of the Israelites in Egypt by the new king, that is, the king of the new dynasty, who knew not Joseph. On the southern side of the obelisk, M. Champollion reads thus:—"Horus seigneur de la région supérieure et inférieure, fort et clément, ami de la vérité, seigneur des panégyrics comme son père, le Dieu Phtha, roi du peuple obéissant, soleil gardien de la vérité, approuvé par Phrè, fils du Soleil, chéri d'Ammon, Ramses pieux envers les Dieux, a réparé leur temples, lui, le seigneur du monde, vivificateur comme la lumière.—Horus, god of the sun, is the title of the Egyptian dynasty, and Phrè is an ancient god of the sun. Sixtus V. did not allow the inscription of Augustus to monopolise the pedestal: he made the Madonna share in the honours of the sun by a pious turning of a phrase to which no one can object. One of his inscriptions in Latin, when translated, reads thus:—the obelisk speaks, "I rise more august and more joyful in front of the sacred shrine of S. Mary, from whose virgin womb, in the reign of Augustus, the Sun of Righteousness arose." Whatever may be thought of the mixture of sacred and profane on the same base, standing by this monolith in the Piazza del Popolo, it is difficult to contemplate without emotion a genuine object of antiquity which leads us back to the time of Moses.

The other obelisk which Augustus erected in the Campus Martius, known by the title of Campensis, is the fourth in order of size, and it stands now on the Monte Citorio. It was originally made use of for a meridian, of which Pliny gives us some description. None of the obelisks at Rome have their characters so beautifully executed as this one: it was the admiration of Winkelman. Pliny tells us it was made by Sesostris, but he seems to have made a mistake between the two which Augustus set up; for on the Solar obelisk is read the name of Psammatichus I. the 26th of the Pharaonic dynasty, date from 654 to 509 before the Christian era. Psammatichus was the father of Pharaoh Necho, who killed Josias, king of Judah, and took his son Joachaz a prisoner into Egypt. He styles himself "The wakeful Lord and King of Upper and Lower Egypt," and he erected the obelisk at Hierapolis, from whence Augustus brought it to Rome. After thirty years, for some cause which Pliny cannot explain, the sun-dial of which it was the gnomon went wrong. Some of the lines of the dial were brought to light in laying the foundation of the Sacristy of San Lorenzo in Lucina, in 1463. The obelisk itself near the site of the church was seen, for the first time, in the Pontificate of Julius II. Pope Sixtus V. did not think it worth his while to gather it up. Benedict XIV. caused it to be extracted from the ground by Niccolo Zabaglia, foreman of the handicraftsmen of St. Peter's, and in 1748 he deposited it in the Court of the Palazzo Vignaccia, and put an inscription, which is still there. Finally, Pius VI. (Braschi), in 1792, caused it to be erected in the Piazza Monte Citorio, where it now stands. Its total height is 103 feet 6 inches: it required considerable repairs, and these were done with granite, taken from a column of Antoninus, which was found, much broken, not far off: on the summit a globe of bronze with a spear's head was placed, and a hole pierced through the globe to let the sun's rays pass through at mid-day. It is of all the obelisks at Rome the one that had suffered most. It does not appear, from Pliny's account of this obelisk, that the Romans knew much about the science of dialling, and some of them had rather that such inventions for keeping time had never been brought into practice. Time-pieces are very disagreeable to the lovers of the *dolce far niente*. My friend, Mr. Thompson, of Banchory, to whose paper on obelisks, read two years ago in Edinburgh, I am vastly indebted, has taken from Thornton's translation of Plautus a fragment preserved by Aulus Gellius, in which an idle fellow anathematizes the invention of dials.

> "The gods confound the man who first found out
> How to distinguish hours! confound him too
> Who in this place set up a sun-dial,
> To cut and hack my days so wretchedly
> Into small portions. When I was a boy
> My belly was my sun-dial, one more sure,
> Truer, and more exact than any of them.
> This dial told me when 'twas proper time
> To go to dinner, when I had aught to eat;
> But now-a-days, why, when I have,
> I can't fall to unless the sun give leave."

The fifth obelisk in height now stands in the Piazza Navona. It is known by the name of the Pamphilian, so called from the family name, Pamfili, of Pope Innocent X. who, in 1651, employed Bernini to gather up the pieces, and set it up where it now is, in front of the Church of St. Agnese, towering above a fountain; which if not the most tasteful, is one of the most curious devices we meet with at Rome. This obelisk was first used for adorning the Circus Agonalis, the site of which is now occupied by the Piazza Navona, and it is now known to have been cut by Domitian. The penetrating eye of Winkelman detected the imitation long before the hieroglyphic writing was discovered. Dr. Young also detected the comparatively modern cutting of the characters. We are now enabled, with the aid of Champollion's Phonetic Alphabet, and Dr. Young's illustration, to read upon it the name and title of Domitian. This will serve as a specimen of Phonetic writing. All that these two ovals contain amounts to Cæsar, Domitianus, Augustus, Imperator. The Padre Kircher, who published six great folios in 1636, by way of explaining the obelisks, thus reads the cartouche, which contains Cæsar, Domitianus, Augustus.—"The beneficent Being who presides over repro-

duction, who enjoys heavenly dominion, and fourfold power, commits the atmosphere, by means of Mophtha, the beneficent principle of atmospheric humidity, unto Ammon, most powerful over the lower parts of the world; who, by means of an image and appropriate ceremonies, is drawn to the exercising of his power." After this flight of the imagination and learning run mad, we may safely consign the six folio volumes of Father Kircher to the old book-stalls in Holborn. From the Circus Agonalis this obelisk was transferred, about A.D. 307, by Romulus, the son of Maxentius, to the Circus on the Via Appia, which used to be known as the Circus of Caracalla: there it was found broken in many pieces, and five of the largest fragments were removed and set up where they now stand. Bernini declared he had gathered up every morsel; but, in the excavations made by the Duke di Bracciano in 1825, several pieces were found, and the foundations of the pedestal on which it stood, as well as those of the other ornaments. Like all the other great obelisks, this was dedicated by the Romans to the Sun, and it is evident that this idea was borrowed from the Egyptians: it confirms the poetical notion of the origin of the form of the obelisk, that it was a petrified ray of the great luminary. The adoration of the source of light and heat, the most resplendent visible image of an invisible Being whom the Orientals knew not, was perhaps the most sublime worship that the natural man could adopt; and in the fanciful mythology of the Greeks and Romans, perhaps Apollo, the god of light and poesy, is the most respectable personage in Olympus. On the Spina of the Circus his statue stood next to the obelisk, and struck the key-note of the allegorical allusions in the chariot race. The Metæ at each end of the Spina (the Obelisk in the middle) represented the East and West, or the Sun's day course: the twelve doors, from whence the chariots issued, were the twelve signs of the Zodiac: the four factions, with their respective colours, were emblematical of the four Seasons: the two yoked chariots were the Moon; the four yoked, the Sun; the seven times round the Spina, which was the usual length of the race, sometimes symbolized the seven days of the week, and sometimes the seven Planets: the "*Equi desultorii*," who preceded the chariots, were the morning stars that heralded the day; and thus the poet and the astrologer indulged their imaginations amidst the clamour of the multitude. On the top of the obelisk was a brass globe, called the Pyropus, with an arrow's point looking to the sky: the sun's rays, alighting upon the polished brass, made a strong reflector, which seemed to bring the god of day nearer to the race-course. "*Flammasque imitante Pyropo*," is the description of Ovid. The Sun, as Apollo's statue on the Spina indicated, presided over the races at Rome. This is more than can be said generally for the races of Epsom, and there does not appear to be any apprehension of Sun worship at our great games. The only similarity between the Derby and the Ludi Circenses, which seems to have survived the effacing power of Time, is, that when the Editor Spectaculorum had announced the time for the great race, the Senate did no business on that day. The top of the obelisk was sometimes adorned with the palm-branches which the victors had won, and sometimes with roses. Nero collected all the crowns he had won, and fastened them on the top of his obelisk in the Vatican Circus: as to roses, the very idea causes Argoli, the learned antiquary, to dance with delight. "*Quam bene*," he says, "*nam obeliscus in spina circi et in obelisco rosa.*" I need not observe where the *bon mot* lies: spina is a thorn as well as the back-bone of the circus. But enough is now said of the Pamphili Obelisk, which stands above Bernini's Fountain. The shaft is 52½ feet long, the whole height 95½; giving 30 feet for the ornaments of the basement. I must now hasten through the other seven obelisks, and it will suffice to say, of the sixth and seventh, that they were a pair cut out by the Emperor Claudius, and brought to Rome A.D. 57, for the purpose of being placed on each side of the entrance of the Mausoleum of Augustus. One of them was removed by Sixtus V. in 1587, and placed where it now stands, in the Piazza di S. Maria Maggiore. It was found broken into five pieces, and the jointures are visible. The fellow to this obelisk was not re-erected until 1786, when Pius VI. ordered it to be set up on the Quirinal Hill, between the two famous groups of man and horses. The Esquiline and Quirinal Obelisks have no hieroglyphics and no pyramidion. The length of each shaft is about 17 feet, but that is nearly doubled by the tops and bottoms which are added for ornament and elevation.

The eighth now stands on the Trinità dei Monti, where Pius VI. placed it in 1789. It was originally made by Hadrian, whose name, together with that of his wife Sabrina, and his favourite Antinous, was read in the ovals by Champollion: the hieroglyphics are rudely cut. Not improbably it was first erected in Egypt in honour of Antinous, who died in that country, and was canonized as an Egyptian divinity. When and by whom it was brought to Rome, no one knows. It is 44 feet in length, but with base and ornaments, 96½ feet. It is known by the name of the Sallustian obelisk.

The ninth is the Aurelian, so called because it was found among the ruins outside the walls of Sta. Croce in Gerusalemme, where the Circus of Aurelian is supposed to have been. It was removed from one place to another, until it was finally erected on the Pincian Hill, in 1822, by Pope Pius VII. It is 53 feet 9 inches high, with its ornaments; but has only 29 feet 9 inches of the genuine Egyptian granite. This, as well as the three smaller ones yet to be mentioned, are covered with hieroglyphics. A temple of Isis and Serapis stood in the Campus Martius, near to where now is the Convent of the Minerva; and this temple has furnished from its ruins, no doubt, the three real Egyptian obelisks which remain to be described. They are respectively 10½ feet, 16 feet, and 8½ feet high. The first, Macuteo, so called from the Piazza San Macuto, where it formerly stood, was removed by Clement XI. in 1711, to where it now is, in front of the Pantheon. The second, the Minervan, was erected by Alexander VII. (Farnese) in 1677. Bernini mounted it on the back of an elephant made by Ercole Ferrata, and the idea is illustrated by one of the Papal inscriptions. The reader is to understand that as the strongest of beasts carries the obelisk, which contains the weight of the learning of the Egyptian sage, so does it belong to a robust mind to sustain the weight of solid sageness. The play is on the word *sapientia*.* The name of the great Rhamses is said to be read on the other two small obelisks, the last of which is that which now stands in the Mattei Villa, belonging to Price Godoy, better known by the title given to him by the first Napoleon,—"The Prince of the Peace." The Roman Senate made a present of this obelisk to the Duke Mattei, in 1582. We know nothing of its early history.

Now these twelve obelisks, as they stand in their places at Rome, are not the simple shafts as they were made by the Egyptians, but they are all placed upon pedestals, some of them out of all proportion, and they are all surmounted by masses of bronze or metal, the insignia of popes and other devices. I think we shall all agree that the pyramidion, so suitable to the form of the obelisk, and so indicative of its meaning, ought to have been let alone; and if "Apostolic statues climb to crush the imperial urn, whose ashes sleep sublime buried in air," to which I see no objection, that is no reason why Papal emblems should be stuck "on the point of a needle," or be made "to ride on a beam of the sun." If ever, then, it should happen that we should begin to adorn this metropolis with monoliths from Egypt, or from Aberdeen, I should hope the pyramidion may be left to assert its own dignity in the face of clouds and sunshine. But the question of the basements may fairly be made a subject of discussion, and one object I have in view this evening is to throw that question *in medio* for more learned and tasteful heads to take up, and I am happy to find that I am to be followed by a gentleman who is as anxious as myself to see monolithic obelisks of a convenient altitude introduced into our metropolis.

I shall not attempt to invade the special province which he is to occupy this evening, but, if I may, I will give Mr. Bell this word of sympathy before he begins,—that I am a believer in Entasis, and I should not regret to see my shafts (providing the points are not touched) shooting up from his ornamented basements; but I am particularly anxious to enlist your sympathies for the monolith obelisk as an ornament and durable memorial suited to such a metropolis and such a nation as this. I have no respect for this placing one stone upon another when we have a public monument to erect in honour of a great man: they will all be loosened and want repairing long before Macaulay's New Zealander contemplates the ruins of St. Paul's while standing on London-bridge; but a monolith, if set up in front of the Exchange, might survive to indicate, at the end of 3,000 years, where the Three per Cents. were once done at 98, and where the Egyptian Hall stood by the side of the Egyptian obelisk. Besides, the discoveries which have been made in the most ancient writing of the world are rendering hieroglyphics every day more interesting, and none have more cause to rejoice than we who are the interpreters of our sacred Books in the results of this modern field of literature. Every colossal figure disinterred where Nineveh once stood, and every papyrus that is unrolled, confirms the accuracy of our sacred history,—every obelisk deciphered contributes something towards completing the succession of the kings of Egypt. We shall soon know the line of Pharaohs from the time of Abraham to the reign of the Ptolemies, and the impugners of the chronology of the Old Testament history will have to go into obscurity before the petrified sun's rays of Egypt. There is something of a Providence in this which we cannot but admire, that in an age remarkable for its craving for material proof of every proposition, which believes little except that which it can see and taste and handle, an age in which scientific discovery had begun to wave the flag of triumph over revolution, there should have been left concealed in the earth, or hid from the knowledge of man, a series of evidences which have proved the accuracy of those Scriptures which were given to make men wise unto salvation. I look forward to a great advancement in this walk of literature. I see no reason why, in the course of another generation, our national schoolmaster should not, by way of a treat to a dozen of his best boys, take them out on a half-holiday to read the obelisks that may be set up in Trafalgar-square (when it is a square), or Palace-yard, when it becomes an open court, or on the table-land of Hyde-park, or in front of Buckingham Palace, and that the name of Victoria in hieroglyphical signs be as familiar to the eye as "God save the Queen" is to the ear.* Have you not all read with perfect ease the hieroglyphical name of the Emperor Domitian, and could not every one here present make a phonetic Victoria and Albert for himself? If ever this scheme should be brought about, I ask no more honour for the suggestion than that our own hieroglyphical symbol, with which our honorary secretaries sometimes puzzle the uninitiated, R.I.B.A. may have an oval on the obelisk which is to be first reared at the west end, for R.I.B.A. has as much right to be "a beloved of the Sun," as any "Horus" of ancient time, for R.I.B.A.'s works are all made for the sun to shine upon, and architecture, even in its ruins, is "beloved of the Moon."

* It is, however, much more interesting to know that on the Minerva obelisk is read the name of Psammatichus. The fourth from Psammatichus I. in the Saïtana dynasty, 619 A.C.; his memory is preserved in the book of the Prophet Jeremiah, xxxvii. The prophet, in his reign, was taken away into Egypt. He is entitled on the obelisk the Begotten of the Sun, the Sun making glad the Heart.

GRANDEUR AN ESSENTIAL CHARACTER IN ARCHITECTURE.

THE Egyptians excelled, to a degree that has never been since surpassed, in giving to their works in granite and the hardest stones an expression of grandeur and a simplicity of plan and disposition which their temples and pyramids, colossal figures, and monuments of unequalled dimensions in any other country, sufficiently prove. They were a powerful means of exciting admiration and wonder. The durable material in which these works were wrought, capable of resisting the ravages of time, and of co-existing with the end of all things, was another cause that strengthened the impression made on the spectator, who, surveying them, could not but fancy he saw engraved on them the words "posterity," "eternity." There is no form that human ingenuity has devised so calculated to realize the desire of immortality which was so ardent in the breast of men in the first ages of the world, as the pyramid; no form of such passive and eternal resistance to gravitation and all ordinary destructive force. Whatever work of man carries the stamp of eternity must certainly have an essential title to grandeur. We can conceive of real greatness as coming from that source. The mystery which also enshrouds some of the Egyptian monuments contributes not a little to aid that effect; a mystery which it has employed the most learned archæologists to explore, and which has sometimes only proved the weakness of their researches and the fallibility of their judgments. They seem to have become oppressed in navigating such a great sea of antiquity. The Greeks superadded elegance and refinement to the grandeur of the Egyptians. The love of reputation with them also was the principle of all their actions: they studied to be admired; and, gifted with such excellence, could not fail to succeed:

* In the laborious, skilful, and elegant work of Messrs. Arundale and Bonomi, the hieroglyphic name of Victoria, as ruler of the waves, is at the head of the title-page.

they discovered, with their discernment, the proportions of pleasure that everything ought to give to men: they gave that life and wonderful beauty to the fine arts and to literature which was before unknown: they invented the orders in which they discarded or diminished the brute mass that prevailed in Egyptian architecture, substituting a far more beautiful and vital expression of the idea of permanence. They joined to this firmness and fixity the most delicate contours, the greatest skill in the treatment of ornaments. The beautiful in all things, but, perhaps, especially in their architecture, was the constant aim of this favoured Hellenic race. The Romans, imitating the Greeks with less success, evinced in their monuments their ambition of power and love of glory; but the age of Augustus could not produce works equal to those of the age of Pericles: they were more habituated to the sword than the chisel; but yet their great edifices, such as the Coliseum, the temples of their Forum, the Pantheon, are without example; and all these works were of a piece, and natural to the country and the institutions in the midst of which they were developed. All the great and distinguished heroes, philosophers, architects, sculptors, and poets were inspired with and certain of the hope of perpetuating their name among the latest generations. The names of some celebrated architects are at this day seen clearly cut in the marble of edifices that were the ornament of a once mighty empire, although the letters were, perhaps, for a time concealed by an external covering, which wore away in the course of years. But the fame of those who built them remains. It is well remembered how Horace, in his final Ode, exulting in the prospect of the future, proclaims these noble lines:—

"Exegi monumentum ære perennius
Regalique situ pyramidum altius," &c.

Works of Christian architecture of the present day should be great and intrinsically beautiful in their conception and execution to be at all commensurate with the greatness of the objects to which they are consecrated, and with the religious sentiments which ought to inspire and produce them. They should carry with them a character of sublime elevation, which recommends them to universal admiration. By the material and ideal beauty of which they are the type, they satisfy the wants of human nature, and make an impression on our senses at the same time that they elevate the soul. It is especially to this last influence, of an order wholly moral, that we recognise the characteristic sign of religious architecture. The elevated thoughts that a great building inspires, and the glory that attaches to its architect, seem to increase when it has once taken its source in the heart of the true connoisseur, and in the love and affections of the people. No one disputes the well-earned tribute of praise, or the just homage which ages have universally rendered to it. Where a considerable amount of intelligence exists, and where art is made accessible to the sentiments of all, a people will study and profit by objects of science, of taste, and of genius; and that which is known to be worthy of praise will come to be imitated. Grandeur is one of the principal means and one of the principal merits of architecture, and one for which architects are most admired; and the continual presence of a monument that has become generally admired, and often appealed to for its excellence, may be a great public utility: it will encourage emulation, and incite to the doing of great things. The mere habit of being pleased with and receiving impressions from it becomes a second nature, if it be not already a natural taste; for we cannot doubt that these, who, though unskilled in art, voluntarily stop to gaze at objects which they feel to be beautiful, and which they take an interest in—that many redeemed ignorant—are very sensible and susceptible of the pleasure arising from fair form and perfect symmetry, when it is before their eyes. The learned may know the reasons of beauty better, but the others judge of it by feeling. It should therefore never be forgotten, that the good and bad which characterise a building is contagious. It more or less developes or degrades taste; promotes or retards it. A building, perishable and gaudy, though it may attract some eyes during its short existence, is forgotten as soon as it ceases to cumber the earth: its fame is buried in its ruins, and it is like Beckford's "Fonthill," rebuilt only to flatter the vanity of the owner. But a work for all ages, a work that looks as if it would last for ever, a work founded on moral and physical utility, and yet made to present a most agreeable or picturesque aspect, and which is regarded as a model of perfection for forming all similar ones in future, is a boon conferred on the profession and on society, and a proof of the superiority of the talents and labour bestowed upon it. And it may do more good: whilst contributing to many sorts of improvements, it becomes at once the country's resource and glory, attracting foreigners, and increasing the revenues. It certainly, then, should be the object of Government, to bring the noble art of architecture to as great perfection as it will admit: in carrying it to perfection, the greatness of a country is carried along with it. There is no quality that is so essential to architecture in respect of its endurance and its dignity, as a grandeur in its masses;—the absence of every superfluous ornament and unnecessary details, the predominance of the masses for the sake of unity and simplicity, as well as solidity; so that the impression of the whole effect strikes the spectator at a glance, and still rewards his attention the more it is fixed upon it. It is the interest of every country that prides itself on its monuments, to spare no well-dispensed pains and expenses upon works possessing this quality of grandeur, or at least to secure, as much as possible, buildings distinguished for their elegance of form and durability of construction. F. LUSH.

LAYING OUT PUBLIC PLACES.

SCULPTORS' COMPETITIONS.

IN the course of a lecture on "British Sculpture, in connection with the Department of Science and Art," delivered some time ago by Mr. John Bell, the lecturer spoke of the want of just principles of arrangement too frequently displayed in the laying out of our public places, and proceeded as follows:—

It needs but little consideration to perceive how surely this prejudices sculpture, from this art coming naturally into the decoration of such places. Whenever the arrangements of such spots are ill-judged, and their shortcomings, when too late, discovered, it gives a direct distaste towards further enhancement of them, and checks the art that otherwise would have been called in. Trafalgar-square is a notable instance of this. Although now in the course of receiving such appropriate additions as the portrait statues of some of our heroes afford, it would doubtless have received similar enhancements long ago had the area been justly laid out. Allow me to give a few details as regards the unfortunate arrangement the spot evinces.

At the time of the completion of the Nelson Column the open space now called Trafalgar-square was free, the area to be laid out being that immediately in front of the National Gallery, and bounded to the south by the traffic passing between Pall-mall and the Strand. This space is, as you know, a long square or parallelogram, its length stretching along the front of the Gallery. A column being selected from among many designs as a memorial to Nelson, and Trafalgar-square being chosen for its site, it remained to determine the point in this which it should occupy.

Now the only effective feature in the façade or front of the National Gallery is its portico. Far advanced before this, in the direct line of the front and principal approach to the square (that of Parliament-street) stood, at the time I speak of, and now stands, the equestrian statue of King Charles on its picturesque and elegant base. This, as a comparatively small and highly-finished architectural feature, was most appropriate to its situation, and in no degree interfered with the front effect of any portion of the Gallery, but, on the contrary, was altogether in harmony with it. In the approach from Parliament-street the statue and the portico were brought agreeably into composition with each other, mutually forming an enrichment and a background. This arrangement was perhaps fortuitous, but it was happy, and it should have been left intact.

This, however, was not done: perhaps it was thought that three objects in a line must be better than two; and eventually it was determined to place the column where it now stands—just between them! The evil effect of this was of course not publicly appreciated until the large proportion of the column lifted its head aloft, and spread its base below over the square; when it became evident that from many points of the main approach the statue, the column, and the portico, instead of harmonising, were mutually injurious, being agglomerated into a confused and heterogeneous mass, in which all their outlines were embarrassed and destroyed. Further, the unhappy King Charles is wholly overcrowded by the admiral behind and above him, and the column itself, being of the same order as those of the portico before which it stands, dwindles them to playthings. It is not, perhaps, too much to say, that no amount of evil ingenuity could have produced a worse scheme.

The result of this and the grounds for these observations may be seen on the spot, and especially in coming up Parliament-street; and they are not the less evident because the three objects are just so much out of the straight line as to give the idea of an accidental want of precision.

The question now naturally occurs,—Was there any sufficient or cogent reason for this confusion and mal-appropriation of features? The National Gallery possesses a fine portico, but the wings are remarkably ineffective and devoid of interest, and yet the column was placed directly in the front of the portico so as to cut it in half, and the wings, which beg for enhancement, were left to their primitive baldness! Even a cursory reference to the plan would, one would have thought, have suggested a far different and directly contrary treatment, and have pointed at once to the division of the parallelogram stretching along in front of the National Gallery into two squares, one on either side, as spaces for objects of enhancement and decoration, and further, to the omission altogether (as an intrusion) of any large architectural feature where the column now stands, but to leaving instead a broad central access direct from Parliament-street, past King Charles's statue, straight up to the portico. A portico is an entrance, and yet in this case its front is completely blocked up, and you are sent round on either side of the square to reach it. Reason, propriety, and good effect all pulled one way, and yet the projectors and authorities went the other.

Had they, on the contrary, attended to the dictates of these guides, all would have gone well. The Nelson memorial would not have interfered between friends that agreed so well as the portico and King Charles, but would have taken up its just position in one of the two places, to the right or left in front of the wings of the National Gallery, now occupied by the fountains, and if thus placed, probably a worthy pendant would have arisen.

A just treatment of this, the central square of London, would have encouraged further art-enhancements; and the spot formerly eulogised by the late Sir Robert Peel as the noblest site in Europe, would now be a success instead of a mistake.

As may be seen in this rehearsal, the placing, in the first instance, of this column in the centre was 'the first step that has cost' all this mischief, and which also has led to a general distaste for the spot, and has checked its art-enhancements, a sufficient evidence of which is to be seen in the retributive incompletion of the column itself, as regards the decoration of the base, now after a lapse of twenty years.

Now be it noticed that all this evil, thus caused, is in no way attributable to our artists (they did not fix the place of the column), but wholly and solely to those authorities of which the artists are only the instruments.

Before leaving this subject, I cannot but also call your attention to the strange arrangement of material that this column evinces. The base and column are of granite, the foliage of the capital is of bronze, but Nelson himself, the hero to whom the whole trophy is raised, is in a secondary stone. The statue is in the inferior material of the whole work!

This most strange and ill-advised inversion of principle was certainly not the fault of the distinguished sculptor who executed the statue, and who assuredly would have preferred bronze for his work, as metal lends itself more readily than any other material to the difficult requirements of a figure forming the finial of a column.

The citing of this example (for I have no time now for more) may naturally lead to some consideration of the mode in which public works of sculpture in this country are generally obtained. Competition appears now to be the order of the day in most matters, and sculpture can, I suppose, be no exception to the general rule, although it is by no means clear that direct competition is the most successful way of obtaining works of art.

Passing by this consideration, however, I will submit a few remarks, dealing with the question as it stands, when I think some of the disadvantages of the present state of things will come out. The sculptors make designs and committees choose from them. Probably the general art-knowledge required to fix on the best and most appropriate design among many, is not far short of that required to make it, and yet how rarely do the judges approach the subject with minds duly instructed!

The major portion of those forming such committees have probably been abroad, in places where the art of public sculpture is more widely encouraged than here. They have there contemplated and admired various public works in which fine sculpture is associated with fine ornament and appropriate pedestals—in which the minor decorations and secondary parts lead up to and enhance the principal work, when they may have exclaimed,—'Ah, our artists do nothing like this!' On their return, mayhap, they are placed on an art committee for selecting a public memorial, when, forgetful of the harmonious combination of art and ornament which had elicited their praise abroad, like true Britons, they say, 'Let us have something simple!' and in this mood their deliberations most probably result in a prosaic bronze figure on a granite post. When in due time this is executed in large, and erected, no one, of course, esteemsit, —not even the committee,—and then the blame gets shifted on to the profession of British sculpture; whereas it is the British so-called 'competent persons,' that is, the *quasi* judges, who ought to bear the onus.

It is an unfortunate, but too certain fact, that whatever may be the character of mind of the members of art-committees individually, when they are agglomerated into a body, as such their united bias not unfrequently becomes *intensely prosaic*. In such a case, a novel idea, however just, has an unequal chance with a commonplace one backed by precedent (down the groove of which the committee is pretty sure to travel). With a committee of this character, had the choice of designs in those days rested with them, what possible chance would the noble sculpture of the tombs of the Medici, by Michelangelo, have had of being called into existence? or the Moses, or the Prophets and Sibyls of the Sistine Chapel?

Now committees are slow to think *they* want instruction. They hold that art-education is very excellent for artists and artisans, and the people generally; but they have very little idea that it is they themselves on whom it is especially incumbent to school; just because instruction applied elsewhere is comparatively in vain, unless they who form the deciding arbitrium are up to the level of due art-appreciation.

To avoid further allusion to modern mistakes, we will, by your leave, 'shift the venue' as to time, and go back as far as that of good Sir Christopher Wren, for two remarkable illustrations of direct disadvantages that have accrued to art in this country and town, from the deciding authorities not having been up to this due level of art-appreciation. After the Great Fire of London, in 1666, which nearly destroyed the town, and when the rebuilding of it was taken up in earnest, it was determined to erect a column on the site where the fire first burst out, and Sir Christopher Wren was called upon to furnish the design. That which he produced was, as might be expected, a work of genius. It was a column on fire, as novel and appropriate in idea, as it was graceful and complete as a work of art. The column itself was simple and grand, and the fire was represented by small gilded flames wreathing from the little slit-like openings which were to light the staircase all the way to the top; not, however, interfering with the use of these, but gaining thereby a beautiful spiral decoration all round and round the pillar up to the summit, where it culminated in a decoration as appropriate in idea as it was perfect as a finial—a phœnix rising from its ashes! London rising from hers!

What a thought was here! what a triumph of art-expression! This was the original design. But it was declined. There were 'competent persons' also in those days.

The next example I will refer to also regards Sir C. Wren, and in this instance I have the opportunity of referring you to a work in this building. By the consideration of the Dean and Chapter of St. Paul's Sir C. Wren's original model for that cathedral is now in the architectural gallery of this museum, where it remains to be repaired, but which, even in its present state, is worthy of universal regard. I believe I am not venturing too far in saying, that this design is now recognised, by those best qualified to judge, as a much superior conception to that which was erected. It is very sure that the artist himself thought so, as he actually shed tears when this, his original conception, was finally rejected, and he was ordered to erect the present structure. On viewing the model in its present state, in spite of many of its decorative members being broken off or injured, we cannot but be struck with the noble effect of the whole presence of the exterior; with the fine contrast and yet harmony of the leading lines of the structure; and especially how the bold convex of the dome is enhanced in dignity and power by rising out of the concave sweep of the body of the building, on the angle view! It is, however, perhaps the interior that chiefly demands admiration from the artist, from the perfection in which the various vistas are arranged, the accomplished grouping of the masses, and the startling and enchanting effects of light and shade there displayed. This design, in its completed state, was put before the authorities by Sir C. Wren, backed by all his energy and eloquence; but, as in the former case, all was in vain, and again did the strong arm of authority grasp and bend down the artist to carry out the inferior work.

Now there is not the least doubt that those who influenced the result on these two occasions thought they were doing perfectly right, and also that they really did act conscientiously. The fault lay in no want of rectitude, but in the fact of their not being instructed, or not having instructed themselves up to the due level of art-appreciation; and I conceive that committees at the present time are not unfrequently in the same condition, and therefore do I say that it is so important to the advance of art, that that class who are likely to be adjudicators on such occasions should not be too proud to be instructed or to instruct themselves.

BUILT UP.

No one can help feeling some sincere pity for "An Artist" who writes in your journal of the 19th inst. Most people who are called upon to live in towns are occasionally ready to give vent to something like a wail of lament at the devastation (as we call it) that is going on around them. I think these express a commendable feeling, though perhaps a weak one.

That admirable sympathy with pure nature, in preference to man's conceits, follies, and puerilities, which "An Artist" shows, is worthy of all esteem; but do we not betray some weakness in determining not to allow the inevitable necessity of growth, even of inconveniently luxuriant growth, of towns?

An extended civilization demands the massing of men: the extending civilization must be ever providing the means for it.

Large towns in our nation, and with our necessities, are the signs of life and success.

I have no love of bustle, or of struggle, or of the many things that generally go with them; but I like the abstract qualities that they display; and if I can only regard them from a distance, am always ready to admire.

And this is "An Artist's" feeling, I am sure; he would not turn one of those uncouth, ugly tenements that block up his view into a heap of ruins, if he had the power: perhaps, if he thought a little, he would not even wish it beautiful, instead of detestable.

I am certain that a good building among our English people—most of them—quite spoils the consistency of the scene.

Fresh air to a fitting proportion, and fair water and food, are all that a man has a right to demand in any place; of course, when houses in towns (or elsewhere) have them not, they are wrong; but all beyond are in the class of benefits, luxuries, mental or moral or fantastic demands.

I never look for anything beyond the rudest sincerity among townspeople. Refinement belongs to the dwellers in lone cottages by hill-sides, or in solitary valleys far from men's haunts. Without any definite culture, we there find all the elements of educated taste, &c. that are non-existent in people of the class in towns.

And how rarely do we get hold of a nature-taught man? Everybody is book-taught, or man-taught, or experience-taught, now-a-days.

Mr. Ruskin says that "the best drawing-masters are the rocks and hills"—are they not the best masters of all true learning?

Down in these valleys on the borders of Yorkshire, villages spring up and become towns in what seem but a few days; yet I think these places are honoured by the mills and great chimneys, instead of injured by them.

The smoke of the towns seen from the hills, and shone on by the sun, may suggest many an image of the beauty and earnestness of life, and of the rewards that hang over the heads of those who strive hard in the race.

These porcupine-backed patches of country are I confess, more enchanting at a distance—perhaps most things are. We generally enjoy things more in the prospect or retrospect than in the realization.

"An Artist" need not clothe his scene with any imaginary devices, need construct no fanciful abode for himself: let him look on what he sees as the symbol of that humanity that is toiling anxiously, and by day and night, and with blood-stained brow onward; and he will find the pleasing pain in such feeling will far outdo all ideas of (what would in this case be) sham sentiment and picturesqueness.

Our towns may be compared to a grove of trees, full of vigour and progress; sending out arms upwards, and to right and left; covering themselves in every part with foliage, sometimes with fruit; some with broken branches; some with cankered roots; some with blighted leaf, and some scathed by the lightning flash, and some by a giant force, torn up by their roots, and laid ruined on the land.

They need care and guarding, and should not grow too big in one direction, or intertwine themselves too much: occasionally one should be sacrificed to supply room for the rest; but in the end, if properly cared for, and attentively regarded, they form a place full of delight to the lover of nature, a place where the singing-birds build their nests, where the beasts of the field rest themselves in the heat of the day, and where Nature pours forth a song of rejoicing in the rustle of leaves, the lowing of cattle, and the song of birds; and where the sun's last rays rest before the night drops her pall on us.

Perhaps it may be still further true that, as in the course of years decay and other causes bring the giants of the forests to the earth, so our boasts, our cities of palaces, our seats of commerce and learning, will stretch themselves in their own ruins, and London will be a heap of dust, and Lord Macaulay's dream realized; but it is somewhat painful to speculate on it, and why should we?

I hardly know where I have got to. It probably has some connection with the subject, since it has followed from it. Most of us ramble in summer—walks on the high roads suit us better at other times. F.

WATCHMAKING IN ENGLAND.

For some time past considerable discussion has taken place amongst the watchmakers of Clerkenwell, on the subject of employing female labour in that business. On one side it is said that, unless cheaper labour is brought into use, it will be impossible to compete in price with the foreign markets; but a large majority of the watchmakers are opposed to change. It is, however, certain, that they must either produce a better article, or one as cheap as can be bought elsewhere, to prevent the loss of their trade. Considering the antiquity of the horologers' craft in England, and also the esteem in which it has been held, we are glad that an attempt is being made, by the formation of a Horological Institute, to promote the scientific education of the watchmakers of Clerkenwell.

A large meeting has been held, at which some of the most important persons connected with the trade were present.

Mr. Valentine Knight (the chairman) remarked, that he trusted that the watchmakers of Clerkenwell would not be content to remain second to those of any other nation. He remembered, some thirty years ago, that he was in the habit of visiting Coventry twice a year, and that the ribbon-makers there wove but one common brown ribbon:—they could not be moved to travel out of that one style. The London houses asked for something new; but, no, the Coventry weavers did not like to be put out of their way. When a communication with France was opened up, French ribbons were introduced, and for a time Coventry, in consequence of its obstinacy, lost all its ribbon trade. That depression compelled them to put their shoulders to the wheel, and retrieve their error; and now, perhaps, they made better ribbons than the French. Mr. Knight remarked, that a Horological Institute had been formed in Paris a year and a half ago, for the purpose of promoting the art. The plan of action was to distribute rewards to inventors, and to the authors of valuable works on horology, to skilful workmen for the excellence and beauty of their productions, and to self-educated workmen who had acquired a certain amount of scientific knowledge. The Institute invited communications on the effect produced by mechanical means, the improvement of tools, and the making of experiments, for which rewards were given. It was proposed, when the funds would admit of it, to afford pecuniary assistance to good workmen in time of need, and to enable poor inventors to obtain patents. It supplied lectures to workmen upon theoretical questions difficult of solution, to explain new pro-

cesses, to refute errors, and to decide questions in chemistry, physics, and mechanics. To these advantages a horological museum was added. The objects of the British Horological Institute were similar to those of the Paris Institute.

Mr. E. D. Johnson, in moving the first resolution, said he hoped no feelings of conceit would prevent them from imitating all the best parts of the French plan. Was it not a fact, in the history of English horology, that for years past they had felt the want of union? Were there not men amongst them who would deem it a boon if a system of complete gauges for measurement were established. They had the decimal and the duodecimal gauges, which were of infinite value in their application to the watch business. They would, however, never be adopted by the trade so long as they emanated from an individual; but let them come from a corporation, and they would be received with open arms. Was it not a disgraceful fact, that at that moment the very material necessary for the construction of a turret clock should be a bone of contention between those who ought to know? He hoped that although this institution was at present but a weakly infant, the day would come when the presidency of the British Horological Institution would be looked forward to as the crowning prize and glory of a long scientific life.

After several resolutions had been proposed, and unanimously carried, Mr. Breese, sen. the author of the article "Horology," in the *Penny Encyclopædia*, was nominated secretary; and subscriptions, from Mr. Valentine Knight, 10 guineas, Mr. E. D. Johnson, 20 guineas, and others, were announced.

ARUNDEL SOCIETY.

A RIGHT good guinea's worth is given to those who have paid, or will pay, the subscription to this society, for 1856,—namely, a chromolithograph, by Mr. Vincent Brooks, of "The Giotto Chapel, Padua, in 1306," from a drawing by Mrs. Higford Burr (a capital specimen of colour printing); "The Hiring of Judas," and "The Last Supper," two wood engravings after Giotto; "The Martyrdom of St. Sebastian," a chromolithograph, by Mr. Brooks, after the fresco by Pietro Perugino, at Panicale; and Five Outlines of the principal heads in this fresco.

The works issued by the Arundel Society are not addressed to the multitude, but to that section of it who can value a work for the particular qualities it may possess: and they will see in this fresco of Pietro Vanucci—or *Il Perugino*, as he was called from the city in which he laboured,—Perugia,—tenderness of colouring, sentiment in the heads, and correct drawing. The fresco is in a convent at Panicale, a small town rising above the lake of Perugia. Mr. Layard it was who had it copied, and he has written a notice of the work which accompanies the engravings. It was painted in 1505, when Pietro was in his 59th year.

DISCREPANCY IN ESTIMATES.

THE BRISTOL UNION.

SOME months since the Guardians of the Bristol Union determined upon making some extensive alterations and renovations in an old building in their occupation at Stapleton, about three miles from Bristol, with a view of adapting it for the accommodation of all their paupers, some of whom are at present lodged there and the remainder provided for in an antiquated edifice in the city, known as St. Peter's Hospital, but which in the palmy days of old Bristol was used as a mint. Advertisements were accordingly inserted in several papers, inviting plans from architects for the proposed alterations, and offering premiums for the best plans. The result was that ten plans were sent in; and, at a meeting of the Board, held on the 18th of December last, their merits were severally examined and discussed. After considerable discussion, and in opposition to an amendment to the contrary, the first prize, with a premium of 30*l.* was awarded to Mr. Henry Crisp, an architect of Bristol; and the second, with a premium of 20*l.* to Mr. H. A. Clerk, also an architect residing in Bristol. The estimated cost of carrying out Mr. Crisp's plan was between 8,000*l.* and 10,000*l.*; and while they determined upon adopting it and employing Mr. Crisp as the architect, the Board also decided, "that in case it hereafter appear that the cost of any plan decided upon by the Guardians exceed the architect's estimated amount by ten per cent. it shall be open to the Guardians to reconsider the plans."

Although the first prize was awarded to Mr. Crisp, his plans were not considered complete, and it was agreed that he should, in conjunction with a committee, called the Stapleton Enlargement Committee, revise his plans, and make such alterations and improvements as were considered necessary. The plans so improved were forwarded to the Poor Law Board, who, with two or three exceptions, expressed their approval of them, and authorized the Bristol Board to expend the sum of 10,000*l.* in carrying them into effect. Specifications were then prepared, and tenders from builders advertised for, and arrangements made with neighbouring unions for accommodating the paupers during the period of the alterations. A large number of tenders were sent in, and opened at the Board meeting, on Friday, the 11th inst. when they were all referred to the Stapleton Enlargement Committee. This committee met on Monday, the 14th, and after carefully considering the tenders, found that they exceeded Mr. Crisp's estimate by seventy per cent. They therefore felt themselves compelled to adopt a resolution to the effect that, having heard the explanations of Mr. Crisp on the discrepancy between his estimate and that of the builders, they were of opinion that on the question of so large an outlay, the best method would be to throw the whole responsibility on the Board.

The Board met as usual on Friday, the 18th instant, when the foregoing resolution was read by the clerk, and at the request of a Guardian the resolution of the Board of the 18th of December was also read.

The deputy-chairman then proposed the following resolution,—"That in the choice of a plan for enlarging Stapleton Workhouse, this Board of Guardians were materially influenced by the low price accompanying the plans of Mr. Crisp; but the estimates now received from builders being so much in excess of the architect's estimate, the guardians feel that they formed their resolution to adopt the aforesaid plan upon wholly inaccurate data; and, while they regret it upon Mr. Crisp's account, see no other course than to avail themselves of the resolution of the 18th December, 1857, empowering the Guardians to reconsider all the plans, if the builders' estimates exceed the architect's by more than ten per cent.; and that the further consideration of the plans be referred to the Stapleton Enlargement Committee."

Mr. Harley seconded the motion, which, after some conversation, was carried unanimously.

THE MAIN DRAINAGE OF THE METROPOLIS,

THIS main drainage question is still beset with difficulties. The representatives of parish boards declared by a large majority against the plan for conveying the sewage to a distance from the metropolis,—the plan proposed by Mr. Bidder, and those associated with him. A very general cry is made for new inquiry, for many think that all that is necessary to be done, is that the stream of the Thames at London should be narrowed, and bounded by quays, which would be the means of carrying away all refuse with such rapidity as would render Father Thames, if not altogether sightly, perfectly wholesome. The Board of Works are, this Friday, to consider the propriety of obtaining information as to an embankment. Thus "doctors differ" as to the treatment of this long-neglected river, and while they are disputing, the disease of the patient is advancing, and month after month he is becoming more and more polluted and dangerous to those who live near him. Years have been occupied in this inquiry, and at the present time the question seems to be as far from settled as ever.

It must be admitted that during the last half-dozen years sanitary matters have met with much consideration, and no one can say what a day may bring forth, or that some certain and practical means of deodorizing the sewage of towns on a large scale may not be discovered. This, however, is a matter of so much uncertainty and chance, that it would not be wise to wait for such an event. It is necessary to come to some conclusion, and considering the vast interests which are at stake, the effect which a tax for this purpose would have on a large amount of house property chiefly occupied by poor tenants, and also the question of life and health, we think that few would object to further inquiry; but it should be so managed as to be effectual, and should be commenced at once; and in making it, the best of varied talent should be consulted, the various points of dispute placed beyond a doubt, and the facts submitted to a proper tribunal.

It is said by some that the Thames water, although impregnated with such an immense quantity of refuse, is perfectly harmless, and that those living on its banks are remarkably healthy. We must have proof of this before it can be admitted. The extent of space in Thames-banks within a certain distance must be taken; the number and size of the houses, and the number of inhabitants in each: their method of living must also be considered, and the extent of cesspool accommodation. We must know to a certainty if the recovery of fever cases on board the *Dreadnought* are as many in proportion as in the hospital at Islington, for example, and if various diseases are as readily cured there as in other places which are thoroughly drained and ventilated.

We must also have evidence respecting other streams into which sewage has been passed, as regards the effect on the health of those living near; and above all, it must be borne in mind, when considering the state of the Thames, that there are still thousands of houses which are already built, which require to be more completely drained; and that in a short time undrained houses will be as great curiosities as the pack-horses and stage-waggons of old; and that the river, if such should be determined upon, must receive the refuse of the houses occupied by 5,000,000 of people, without counting those who inhabit the towns and villages on the banks of the tributaries of the great river.

Difficult as the task is, this subject should, if possible, be divested of its £. s. d. considerations, and looked at as a matter which affects the health of the immense capital. We remember the time when certain persons argued in favour of the wholesomeness of intramural burials; and that a venerable archdeacon who was, however, interested in the change, declared that he could sleep comfortably in a London burial-vault. There are few now, however, who would advocate the old system, and the day will come when the polluted and unhealthy condition of the Thames will be as generally acknowledged.

The medical officer of the *Dreadnought* hospital ship appends the following note to his last report:—

"The water of the Thames stinks most abominably. I cannot but think that the foul air has a deleterious effect generally on the health of the patients of this hospital, and I know that it has something to do with the induction of fever in two instances on the orlop deck, the ports of which are only a few feet from the surface of the water. Several men on board, myself among the number, have suffered slightly from diarrhœa."

Last Sunday a waterman, who was in the habit of working on the Thames, near the Tower, died of Asiatic cholera, and the jury, after a careful examination, returned a verdict,—"That the deceased died from the effect of an attack of Asiatic cholera, brought on by inhaling the noxious vapour of the Thames."

WHO WAS THE ARCHITECT OF ST. MARY'S TOWER, TAUNTON.

MR. W. F. ELLIOT, of Wilton, has addressed a communication to the churchwardens of Taunton St. Mary, on this subject, wherein he says,—

"If you desire information respecting the tower of St. Mary Magdalene, and consult Savage's 'History of Taunton,' you are told that Dr. Toulmin says that 'It was most probably erected by king Henry VII. who, when he came to the throne, rebuilt many of the churches in Somersetshire, in the style of the Florid Gothic (Perpendicular), in reward of the attachment of that county to the Lancasterian party, in the civil wars between the Houses of York and Lancaster.' Such is the tradition. Dr. Toulmin's supposition, with respect to the time of erecting this tower, you will find is not deemed correct by Mr. Savage, who, evidently understanding little about the styles of Gothic architecture, gives the building of this tower to William of Wykeham, between the years 1390 and 1400—a century before its date; and it will be observed that Mr. Savage also takes the doctor to task for his assertion that the tower is in the Florid Gothic, and incorrectly informs us that this style was principally confined to oratories, porches, and chapels.

Mr. Ferrey, in his 'Remarks on the Gothic Towers of Somerset,' in Dr. Cottle's book, published in aid of the fund for the restoration of St. Mary Magdalene, says, 'there are, unfortunately, no coats of arms or cognizances upon the tower to settle the exact date when it was built; but on the transoms of the two upper series of belfry windows are sculptured angels supporting shields, on which are carved the initials of "R. B." These letters may refer to Richard Beere, Abbot of Glastonbury, who presided over the establishment in the fifteenth century—a dignitary eminently skilled in architecture, and who built the churches at Glastonbury, on which are sculptured the same initials, "R. B." It is therefore not unlikely that he may have designed the beautiful tower of St. Mary's Church. Now, it appears to me very unlikely that he should have done anything of the sort. If he were eminently skilled in architecture, which I think is doubtful, and if he did build both the Glastonbury churches, which I think is also doubtful, as we have a pretty full record of what he did build at Glastonbury—why should he confer on Taunton a much more noble tower than those he erected on his own ground?—a town in the diocese of the Bishop of Wells, with whom the Glaston abbots were seldom on the best terms.' . . . . An unfortunate coincidence of initials has, I believe, led

many, with Mr. Ferrey, to suppose that Abbot Beere was the builder of St. Mary's steeple; and had it not been for two other letters on shields, on the other window, which he has not noticed, I believe I should have held the same opinion. But there occur four letters on these windows—R. B., A. S.; and it was in endeavouring to decipher the two latter that I was induced to believe that Richard Beere was not the name signified. Who, then, having deposed Beere, can be recognised as shadowed forth in the mysterious R. B., A. S.? I reply, Sir Reginald Bray, Architectus Spectabilis. Sir Reginald Bray, Knight of the Bath and Garter, Privy Councillor, Constable of the Castle of Oakham in Rutlandshire, Joint Chief Justice of all the Forests South of Trent, High Treasurer, Chancellor of the Duchy of Lancaster, High Steward of Oxford, and Architect, being principally concerned in this capacity, in building his royal master's chapel at Westminster, and finishing St. George's Chapel, Windsor, where his device, R. B. is exhibited in many places. This eminent statesman, pious benefactor, and rare genius, I suggest as the architect of St. Mary's Tower. Now my reasons for so doing are these: If you turn to the 'Companion to Parker's Glossary of Architecture,' you will find that "in 1488 the nave and aisles of St. Mary's, Oxford, were built by subscription, and that the architect was Sir Reginald Bray.' Here, then, we have an R. B. engaged in ecclesiastical architecture, during the Late Perpendicular period; and in turning to the life of this eminent man, we find that he was a great favourite with Henry VII. that he was recommended by the Bishop of Ely, as a man sober, secret, and well-witted to compass the marriage of the king with the Princess Elizabeth.' "

CHURCH-BUILDING NEWS.

Horncastle.—It is to be hoped, remarks the *Notts Guardian*, that the recent visit of the Lincoln Diocesan Architectural Society will accelerate greatly the much-needed restoration of Horncastle parish church. The removal of the plaster ceilings would effect a great improvement. The "open roof" of the nave has been examined, and found to be a very fine one, and in fair preservation. From the appearance of the tie-beams in the chancel it is very doubtful whether the "open roof" there contains so much good work as is seen in the nave roof. It is feared that some of the capitals of the pillars in the nave of this church have been seriously injured by the carpenters who erected the galleries there.

Chelmsford.—The foundation-stone of a new Congregational Chapel has been laid on the site of the ancient edifice recently removed, in Baddow-road, Chelmsford. The building is to be in the Decorated style of Gothic architecture, and is to be constructed of white bricks, with Bath stone dressings. The chapel will front Baddow-lane, instead of standing sideways as before, and will be entered by two porches, designed at the sides with four turrets. A traceried window occupies the centre, and additional effect will be produced by the introduction of grey bricks round the window arches and in other portions of the building. The roof will be slated. Galleries will be provided on both sides of the chapel. At the back of the chapel is an apse, so formed as to assist the voice of the preacher, and in the extreme apex of which it is intended to place some stained glass. The plans have been prepared by Messrs. Poulton and Woodman, of Reading, architects.

Ware.—Mr. Robert Hanbury is now erecting, and has endowed, at his own cost, a church at Ware. According to the *Herts Mercury*, the building is in the Early English style of Gothic architecture, of the period when the plain lancet began to be relieved by foliation. The form is a parallelogram, divided into nave with north and south aisles, covered with a triple roof of equilateral pitch; a chancel with vestry, north and south porches; a tower at the northern extremity of the north porch, the lower part having open archways on the three sides, and surmounted by a broach spire. The church will accommodate 700 adults, on the ground-floor: galleries are not provided except one over the vestry for an organ. The materials used for the exterior are Kentish ragstone with Bath stone dressings: the walls internally are faced with bricks of the neighbourhood, of a warm yellow tint. The nave arches are also of bricks with chamfered ends, resting on circular pillars of Bath stone. The roof is of deal stained: all the main timbers will be exposed, and the curved pieces to the principal trusses have all a trefoliated form. Open sittings of a simple design will be arranged throughout, and the floors of the aisles paved with Staffordshire tiles. Hartley's glass in imitation of quarry squares is intended to be used for the windows. A parsonage is also in course of erection, built with red bricks; the quoins, doorways, windows, &c. being relieved with white bricks. A school-house will probably be added in course of time. The architect is Mr. N. E. Stevens, of Tunbridge-wells; and the builders are Messrs. Dove, Brothers, of London.

Banbury.—The plans of the cemetery chapels have been definitively fixed upon, and the buildings will be commenced as soon as possible, on a site as high as can be found. The lodge is considered to be rather too expensive a building for the purpose, and Mr. Edwards is to take this into consideration when making the working plans.

Hamsey.—At the village of Offham, in this parish, the first stone of a new church, about to be erected in consequence of the remote situation of the present ancient edifice, was laid on the 16th instant by Lady Shiffner. Mr. Ewan Christian is the architect, and Mr. Parker Ayres the builder.

Hampton Lovett.—Sir J. S. Pakington is said to have decided on the restoration of the ancient little church of Hampton Lovett. Portions of the roof are to be renewed and the rest restored, the walls scraped, and new open seating furnished, the floor relaid with encaustic tiles, and new chancel fittings. It is also said that the east window and the other windows of the chancel will be filled with stained glass. Mr. Perkins, architect to the dean and chapter, has been engaged to carry out the restoration. Messrs. Wood, of Droitwich, are the general contractors.

Yeovil.—The design for the cemetery chapels at Yeovil, by Messrs. Foster and Wood, of Bristol, architects, was the one selected by the Burial Board to receive the premium of 20*l.* as being the best design forwarded in answer to their advertisement for two chapels united under one roof. The land purchased by the Board was upwards of eight acres in extent; but at present it is intended to lay out for the purposes of the cemetery about 5 acres. The chapels are designed so as to present the effect of a varied and picturesque group of buildings, regard being had to ecclesiastical traditions in the arrangement of the episcopal chapel. The buildings are in the Middle Pointed style. The episcopal chapel will be surmounted by a bell-turret of open tracery work, with flying buttresses and pinnacles, and surmounted by a spiret with metal cross and vane. This turret will be constructed of timber, covered with lead. The east window will be circular, and, together with the other windows, enriched with tracery. The Nonconformist chapel is placed at right angles with the other, and will have an apsidal end. The general external effect sought is that afforded by low walls with spreading buttresses and high-pitched roof, surmounted by enriched metalwork; the whole composition culminating in the spire as the leading feature.

Idle.—A new Unitarian chapel has been opened at Idle. The architect was Mr William Hobson. The seats, pulpit, &c. were made by Mr. Joseph Cryer, of Shipley, and the painting done by Messrs. Glovers, of Idle. The cost of the chapel has been about 900*l.*

HOSPITAL FLOORS.

WHILE reading your leader on Hospitals, last week, it occurred to me that such a composition or conglomeration as the Italians use for their floors so constantly, would be a very good substitute for the expensive and almost unprocurable polished marble Mr. Roberton sighs after in vain.

I know not if they are still laid down, but I fancy they are. I met with them in the hotels everywhere while travelling, and they are even used in the bed-rooms. Pieces of marble, travertine, or hard stone, are broken into small pieces, of all sizes and shapes, and mixed into a thick paste with some strong cement. This is laid down on a smooth bed, and usually in simple patterns, the shape of which seems to be traced out by thin planks, which are removed when the pattern is dry. There would, we will suppose, be a large white star in the middle of the room, with a red or green centre; and then, at some distance from it, a broad band of ornament all round the room, in another colour, the whole intervening space being filled in with a reddish brown conglomerate, resembling the marble which is, I think, called Breccio d'Egitto, or, though of a different colour, our own Petworth marble.

A Greek lyre in the centre, made of chippings of green Irish marble, on a field of pounded red granite, with a band of Greek fret or guilloche, in black marble or grey granite, would not be an ugly flooring for the poor weary hospital eyes to rest upon.

The floors take a very tolerable polish, and are very clean and cool; besides, if the bedding of the paste were made of tiles, the floor would be incombustible, which is, I know, a *sine qua non* with you for hospitals and other asylums.

A TRAVELLER.

I thank you much for your able leader on hospital ventilation. The introductory portion is very interesting, and may help to prove that modern doctors have something to learn from the Father of Medicine. We are to have a new infirmary soon at Ashton-under-Lyne, and I sincerely hope the good people will be so fortunate as to fall into proper hands as regards an architect. I was lately at Bristol, and went through the new hospital, which gave me a fit of melancholy. At Exeter, too, where the old hospital was really good, they have added a new wing (not yet finished) that matches, if it does not exceed, in bad points, the Bristol one. I am truly happy to perceive that this important subject—the right construction of hospitals for the sick and wounded—has so vigilant an expounder and advocate as the *Builder*. J. R.

CHURCH OF ST. NICHOLAS, HAMBURGH.

THIS church is one of those destroyed by the great fire of 1843, after which, measures were immediately taken for the rebuilding. The new site varies a little from the old one, and is in the open space called the "Hopfenmarkt (or hop-market). In 1845, the committee appointed by the Government to direct the rebuilding, applied to architects at home and abroad for designs in general competition; and, with the assistance of Herr Zwirner, the architect to Cologne cathedral, selected that sent by Mr. Scott.

The present design is greatly increased, both in length and height, as well as in dignity of form, from that at first proposed. The former was limited in length by the conditions of the competition, and was consequently without transepts.

The plan consists of a nave of five bays, with aisles, extending internally to a width of 83 (Hamburgh) feet; north and south transepts, each 36 feet 6 inches span; and a chancel, with aisles, each terminating in a polygonal apse. The tower is at the west end, 46 feet 6 inches square above the plinth, and, when the steeple is completed, will rise to a height of 460 Hamburgh feet. On the south side of the tower, approached by a passage, is the baptistery,—an octagonal building, with lofty pointed roof. Attached to the north aisle is a handsome porch, groined within in two bays. The total length may be stated in round numbers at 300 feet, and the height inside, from the pavement to the underside of the crown of the groining, at 100 feet (Hamburgh).

The materials of the walling are the yellow brick of Schleswick, with stone dressings and bands. The stone is of two kinds: that for the finer purposes is from Osterwald, near Hildesheim, in the kingdom of Hanover; and the rest is from Postlewitz, in the Saxon-Switzerland. Both are good grit stones.

The vaulting will be filled in with brick. The construction of the roofs is to be of Baltic timber, covered with either copper or zinc. (The building generally is now about up to the level of the wall plate; the tower somewhat higher.)

The style adopted in the design is that which was prevalent in Germany at the end of the thirteenth and beginning of the fourteenth century.

The funds for the erection are partly derived from public subscription, and partly from Government grants: the latter, however, did not commence till about two years ago. The subscriptions are of a singular nature, being collected at the rate of a penny a-week, from some thousands of the inhabitants, by volunteer collectors, called "schillingssammlers," who go round every Monday for the purpose.

The preparations below ground to receive the superstructure were unusually important and costly, owing to the nature of the soil, &c. The foundations consequently vary in depth from 24 feet to 30 feet, and they are wholly of concrete, which, being constantly immersed in water, required the greatest care in its composition. The component parts are as follow:—The solid material consists of equal parts of gravel (which contained no sand), and broken hard bricks. To twenty-one parts of the above mixture were added four of river (Elbe) sand, three of ground lime, and three of Tarras. The lime, sand, and Tarras were first separately and very gradually mixed, so as to form a perfect mortar, and subsequently mixed with the hard material;—a practice, the neglect of which is a great deterioration to most of our concrete in England.

The concrete to the tower forms a platform of 100 feet in diameter, and is 12 feet thick. The whole is now as firm as a solid rock.*

* In the accompanying view, the metal screen and the fittings generally have been omitted, so as to leave the architecture unincumbered. At the east end, the arcading should not appear as if attached to the walls, but as forming a detached reredos enclosing the altar-table, which will stand several feet from the wall.

CHURCH OF ST. NICHOLAS, HAMBURGH.— MR. G. G. SCOTT, A.R.A. ARCHITECT.

SOCIETY OF ARTS PRIZES.

THE following is a list of the candidates to whom money prizes have been awarded by the Examiners:—

EXAMINATIONS, 1858.

Arithmetic	1st Prize	£5	No. 29—George William Wicker, aged 18, of the Watt Institute, Portsea (Portsmouth). A working Engineer.
	2nd Prize	3	474—Frederick William Potter, aged 18, of the Crosby-hall Evening Classes, London. Clerk.
Book-keeping	1st Prizes	5	23—George Haines, aged 21, of the Young Men's Christian Institute, Leeds.—Book-keeper.
		5	57—George Edwards Skinner, aged 21, of the Literary Institution, Lymington. Attorney's Clerk.
	2nd Prizes	3	217—James Dowling Bennett, aged 18, of the Royal Polytechnic Institution, London.—Gas Engineer.
		3	474—Frederick William Potter, aged 18, of the Crosby-hall Evening Classes, London.—Clerk.
Algebra	1st Prize	5	29—George William Wicker, aged 18, of the Watt Institute, Portsea (Portsmouth). A working Engineer.
	2nd Prize	4	20—Alfred Pickard, aged 16, of the Young Men's Christian Institute, Leeds.—A Mechanic.
	3rd Prize	3	506—Francis Stone Evans, aged 18, of the Athenæum, Bristol.—Occupation not stated.
Geometry	1st Prize	5	16—William Wheeler, aged 17, of the Young Men's Christian Institute, Leeds.—Land Surveyor.
Mensuration	1st Prize	5	29—George William Wicker, aged 18, of the Watt Institute, Portsea (Portsmouth).—A working Engineer.
Conic Sections	1st Prize	5	302—Francis Stone Evans, aged 18, of the Athenæum, Bristol.
	1st Prize	5	496—George Warrington, aged 17, of the Crosby-hall Evening Classes, London.—Worker in a Chemical Laboratory.
Chemistry	2nd Prize	3	237—Frederick William Rudler, aged 17, Student of the Chemical Class, Royal Polytechnic, London.—A Solicitor's Clerk.
Botany	1st Prize	5	496—George Warrington, aged 17, of the Crosby-hall Evening Classes, London.—Worker in a Chemical Laboratory.
Political Economy	1st Prize	5	483—Robert James White, of the Crosby-hall Evening Classes, London.—Clerk.
Geography:—			
Descriptive	1st Prize	5	32—Richard Harper Stretch, aged 20, of the Banbury Mechanics' Institution.—Draper.
	2nd Prize	3	54—George Best, aged 21, of the Mechanics' Institution, Leeds.—Book-keeper.
Physical	1st Prize	5	32—Richard Harper Stretch, aged 21, of the Banbury Mechanics' Institution.—Draper.
English History	1st Prize	5	53—George Best, aged 21, of the Mechanics' Institution, Leeds.—Book-keeper.
	2nd Prize	3	295—Edward Burke, aged 20, of the People's College, Sheffield.—Bank Cashier.
English Literature	2nd Prize	4	258—Joseph Fox, aged 21, of the Mechanics' Institution, Halifax.—Timber Merchant.
	3rd Prize	3	205—Joseph Hopkins Davy, aged 21, of the People's College, Sheffield.—Grocer.
Latin and Roman History	1st Prize	5	264—William Thomas Hutchinson, of the People's College, Sheffield.—Butcher.
Latin	2nd Prize	3	474—James Brady, aged 19, of the Crosby-hall Evening Classes, London.—Carpenter.

No prizes were awarded in Trigonometry; Navigation and Nautical Astronomy; Statics, Dynamics, and Hydrostatics; Practical Mechanics; Magnetism, Electricity, and Heat; Astronomy; Animal Physiology; French; German; Free-hand Drawing; and Mechanical or Geometrical Drawing; as no candidate obtained a first-class certificate in any of these subjects.

PRIZES AWARDED TO LOCAL BOARDS.

To the Local Board at Crosby Hall Evening Classes, London, one prize of 10*l.*

To the Local Board at the London Mechanics' Institution, Southampton buildings, 4*l.*

SPECIAL PRIZES TO INSTITUTIONS.

The Council have awarded a special prize of 10*l.* to the Watt Institute, Portsea, the Institution in which candidate No. 29, George Wilham Wicker, is a student.

The Council have decided that 5*l.* be awarded to each Institution sending a candidate that has obtained a first prize. The following is a list of these Institutions:—

London, Crosby-hall, Evening Classes	£15
Portsea, Watt Institute	15
Banbury, Mechanics' Institution	10
Leeds Young Men's Christian Institute	10
Sheffield People's College	10
Bristol Athenæum	5
Leeds Mechanics' Institution	5
Lymington Literary Institution	5

PRIZES OF THE ARCHITECTURAL MUSEUM.

IN addition to the prizes already advertised by the committee of the Museum, a prize of five guineas is offered by the committee of the Ecclesiological Society of London, through the committee of the Architectural Museum, to the competitor who shall show himself most successful in colouring, according to his own judgment, a cast from that panel of Andrea Pisano's gates at Florence, which contains the figure of Faith, the quatre border of the cast being omitted. This being specifically a *colour prize*, the same cast for competitive colouration is proposed to all the competitors. The candidate may adopt that medium for applying his colours which he prefers, but he is expected to treat the panel as forming a portion of an architectural composition, and not as a cabinet piece; and although the original is of metal, he will deal with it as if carved in stone, a material to which it is equally applicable.

Casts from this panel may be supplied on application to the honorary secretary of the Architectural Museum, at a small cost. The casts in competition must be delivered in the Architectural Museum, on or before the 1st of December, 1858. The committee of the Ecclesiological Society will themselves adjudicate.

In addition to the prize for the most successful specimen, the committee of the Architectural Museum will award a testimonial of merit to such competitors as the judges may consider deserving.

PROVINCIAL NEWS.

Halsted.—A new lecture-room, recently erected at a detached district of Halsted, called Greenstead Green, has been inaugurated. The plans were furnished by Mr. Fenton, of Chelmsford. The style is Gothic. The dimensions of the room are 40 feet by 20 feet, with an average height of 20 feet, affording accommodation (with the gallery) for from 200 to 250 persons. The whole works have been executed by Mr. Thomas Porter, of High Garrett. The cost of the building, including fittings and furniture, has been about 250*l.*

Hertford.—Last week a meeting of the town-council was held, finally to determine on the plans present in for the new corn-exchange. One plan having been added to the several previously selected, a ballot took place, when the number was reduced to four; a second ballot reduced the number to two; and on a third, the choice of the council was found to have fallen, by a majority of one to one, on the plan with the motto "Fides." The successful competitor is Mr. Hill, of Leeds. The estimated cost of the erection, according to his plan, is 870*l.*

Dorking.—It having been resolved to erect new schoolrooms in connection with West-street Chapel, Mr. F. Muggeridge was employed to prepare plans and drawings for the new erection, and tenders for the works were advertised for. Four only were sent in. Messrs. Moore and Son tendered for 597*l.*; Messrs. Shearburn and Son, for 530*l.*; Mr. English, for 518*l.*; Messrs. Lynn and Dudley, for 500*l.* The tender of the last firm was accepted. The builders intend commencing operations forthwith, and the schoolrooms will be completed at Michaelmas next.

Kidderminster.—The contract for the erection of Messrs. Watson and Naylor's new spinning-mill, near Stour Vale mill, has been taken by Mr. S. Briggs, of Birmingham, who has now upwards of sixty men employed on the works. The building is to be 127 feet in length, 49 feet wide, and 54 feet high, and to contain five stories. It is to be finished by November.

Saddleworth.—The foundation-stone of a new mechanics' institution has been laid at Saddleworth. The new building will be in the Tudor style of architecture. It is estimated to cost 1,400*l.* and to afford provision for lecture-room, reading-room, library, classes for male and female members, and a house for the warden. The institution itself numbers at present 150 members, and possesses a library of 1,600 volumes.

Liverpool.—At a recent meeting of the Toxteth-park Board of Guardians, the law-clerk read a communication from the Poor-law Board stating that they had had under their consideration the reduced plans prepared by Mr. Culshaw, of the new workhouse for the township of Toxteth-park, in which he had since made several alterations of detail, and they had now affixed their seal to the plans; but suggesting that, as the funds which the guardians could now raise would in all probability not be adequate to carrying out the whole building at present, separate sums should be named in the tenders,—first, for the main building and out-offices connected therewith; secondly, for the infirmary; and, thirdly, for the receiving wards and porter's lodge. It was resolved that Mr. Culshaw should be instructed to carry out the suggestions.——The new police-courts and offices in Dale-street are advancing rapidly, according to the *Courier*, and one portion is now completed. A fire-station has been erected, with a frontage to Hatton-garden, and house for the superintendent. Attached are yards for fire-escapes, ladders, &c. and space for exercising the men. There are also engine-houses, stabling for nine horses, and a workshop and smithy. A number of sleeping-rooms are appropriated for the fire-brigade when on night duty. Adjoining the fire-station is a large building intended as a section-house or barracks for police officers. In this building about eighty men will be boarded and lodged. The next block comprises the warehouses or store-rooms. This building, and those previously mentioned, will be connected with the general police-stations throughout the town. They are nearly completed. The buildings to the front of Dale-street, which are not yet commenced, will include police-courts, magistrates'-rooms, a large waiting-hall, coroner's-court, and offices for the magistrates' clerks and other officials. There are to be two magistrates'-courts, each 33 feet square. A new main bridewell or lock-up is to be erected on that portion of the land fronting Cheapside. The design and general arrangements are to be similar to those of the model prison at Pentonville. The estimated cost of the buildings, including the value of the land, is about 50,000*l.* or 60,000*l.* The designs were furnished by Mr. J. Weightman, the corporation surveyor, and are being carried out under the superintendence of one of his officials, Mr. G. H. Rollett. There will be a stone frontage to Dale-street of 50 feet, the extent of land covered by the buildings being about 7,500 yards, or nearly two acres. Messrs. Mullen, of Liverpool, builders, are the principal contractors. The brickwork has been contracted for by Mr. Tomkinson; and the masonry by Mr. J. Garbett. Mr. Coulthart officiates as clerk of the works.——The foundation-stone of new schools, in connection with the church of St. George's-on-the-Hill, Everton, has been laid. The buildings will be of plain construction, brick-faced with stone finishings, and partake of the character of the Pointed architecture of the fourteenth century. The main building consists of a mass T-shaped on plan, the cross, or western portion, two stories in height, the other part one story. The former will comprise the boys'-school, class and cap rooms, committee-rooms, girls'-stairs, cloak-room, and lavatory, on the ground-floor, and the girls'-school class-rooms, work-room, stairs, &c. on the upper floor. The one-story portion contains the infant-school, class and cloak rooms, and adjoining each wing are separate yards for each school; and to the east of the building, play-grounds. The boys' and girls' schools are each 65 feet by 21 feet, and the infants', 45 feet by 25 feet. The boys'-school is 15 feet high, with a flat ceiling, broken by the girders carrying the floor above; the girls'-school, 27 feet 6 inches high to the ridge of the open-timber roof, and 12 feet to the eaves; and the infant-school, 16 feet high to the collar beam of the roof to which it is ceiled. The class-rooms throughout are 13 feet high. There is a bell gable on the north wing. The total area of the land occupied is about 3,400 square yards, of which 723 yards will be covered by the buildings. The architect is Mr. H. P. Horner; the contractor, Mr. James Burroughs.

Derby.—Baths and washhouses have now come into operation here, and have been well supported by the public.

Blackburn.—At a recent meeting of the Infirmary Committee, it was decided to erect the basement story of the new infirmary of stone, in place of bricks, as originally proposed. The difference in expense will be in favour of the use of stone. Messrs. Hacking and Abbott amended their tender in accordance with the change, and entered into the requisite sureties. The work will now be proceeded with immediately. The date fixed for the completion of the building is December 31, 1859. Out of the seven tenders sent in for the erection of the infirmary, all, says the *Preston Guardian*, except one, were from residents in Blackburn, that one was from Manchester.

Leeds.—A local paper states that there is no doubt whatever as to the completion of the works of the Townhall, with the exception of the tower, by the time announced for the Royal visit. The decorations of the large hall and vestibule, the chandeliers, and other work, have been let, the parties contracting undertaking to complete the whole by the last week in August. The decorations have been let to Mr. Crace.

SCOTLAND.

Edinburgh.—The money for the erection of the new fountain in front of Holyrood Palace having now been voted by Parliament, the work will be proceeded with immediately. A design of the fountain was shown in the last Exhibition of the Royal Academy. The plan is an octagon, surrounded by a basin of 25 feet diameter, from which it rises to a height of about 35 feet. The elevation is divided into three tiers, surmounted by figures. The supply of water is to be obtained from springs in the park at present running waste. Workmen are removing the circular kitchen offices that project beyond the north wall of the palace, and conceal the western entrance to the Chapel Royal.——We observe, in the *Labourer's Friend*, a prospectus of a society for the erection of workmen's houses in Edinburgh, on plans furnished by Mr. Moffat, architect, and comprising an oblong block, containing a quadrangle 143 feet by 125 feet, and three stories high, each story containing eight dwellings of three rooms, sixteen of two rooms, and four of one room each. Access is to be had by common stairs and outside galleries. The outlay will be about 6,500*l.*

Glasgow.—Another window has just been put into the crypt of the Glasgow Cathedral. It is

the work of Mr. Ballantine, of Edinburgh, and has been placed there by the Rev. J. H. Gray, of Carntyne. The subject portrayed is the meeting of Kentigern, or Mungo, the founder of the church of Glasgow, with Columba, the apostle of the Picts, at the court of Roderick the Bountiful, King of Strathclyde.

Aberdeen.—At a public meeting held in Aberdeen, it has been unanimously resolved to appoint a committee to inquire and report their opinion, as to the most eligible place for a park for the people, to a public meeting to be held within a reasonable time.

Jedburgh.—The Marquis of Lothian is erecting a bridge over the Teviot, near the mansion of Mounteviot House. It is to be an iron suspension bridge, and workmen are driving the piles for the abutments. The ironwork is to be supplied and fitted up by Mr. Wm. Veitch, millwright.

NEWS FROM IRELAND.

THE new church of St. Catherine, Meath-street, Dublin, is to be dedicated on the 30th June. It has been completed with the exception of the upper portion of the tower, and the spire, which is to attain an elevation of about 170 feet, surmounted by a cross and pierced with spire lights. This is one of the two most important Gothic edifices erected of late years in the Irish metropolis: it has great eastern and western windows, which, with all the others, are filled in with tracery; an open roof of stained, varnished, traceried, and chamfered timbers; a range of arches springing from octagonal piers separating the nave and aisles, and three confessionals constructed at each side of the aisle walls. Interiorly the church is 130 feet long in the clear by 53 feet in width, and in the chancel are one great and two smaller chapels. Mr. J. J. M'Carthy is the architect; Mr. Beardwood the builder.

The foundation-stone of the new church of St. Alphonsus, Limerick, has been laid by the Right Rev. Dr. Ryan.

The new church of the Assumption at Ballbohill has been dedicated. It is in the Gothic style, but of neat and plain character. Its front gable is pierced by three lancelated windows, and surmounted by a stone cross. The principal entrance doorway is a chief feature, and is flanked by two smaller doors. The flanks have three windows at each side, perforating main walls. The ceiling is flat, adorned by mullions and bosses of fruits and flowers in stucco. The altar-screen is ornamental, and has a series of Gothic niches of carved woodwork; and the high and side altars are of richly carved Caen stone, the tabernacles being of white marble.

Tenders are advertised for, for the Dundalk Corn Exchange, according to plans by Messrs. Bellamy and Hardy. Mr. Murray and Mr. Neville, of Dundalk, were the recipients of the prizes awarded in the recent competition.

Museum of Irish Industry, Dublin.—The distribution of prizes to successful competitors for the season 1857-8 has taken place in presence of a crowded assemblage. His Excellency the Lord Lieutenant and Sir Robert Kane, the president, addressed the meeting at considerable length.

Art-Union for Ireland.—The Committee of the Irish Institution have resolved to establish an Art-Union, upon the system of the London Art-Union. The prizes are to be selected out of the Annual Exhibition of the Royal Hibernian Academy, or such other exhibition as may be authorized. A number of influential gentlemen are favourable to the project, and amongst the noblemen we find the Earls of Charlemont and Meath, and Lord Massarene.

FOREIGN MEMS.

Paris.—The *Revue des Beaux Arts* speaks of the probable erection, forthwith, in the Champs Elysées, of a vast "Panorama-Diorama Imperial," by Col. Langlois, the proprietor of the Panorama which was destroyed to admit of the erection of the *Palais de l'Industrie.*——The School of the Fine Arts is to be enlarged on the side of the Quay Malaquais. M. Duban is the architect engaged.

Munich.—An equestrian statue of Bolivar has been completed in the Royal Foundry at Munich. It is intended for the *Grande Place*, at Lima. In September next Munich will celebrate the 709th anniversary of the foundation of the capital. There will be a symbolical procession.

UNITED SERVICE INSTITUTION.—A model of Sevastopol has been added to the museum of this institution, and is now open to inspection.

REFORMATORIES AND REFUGES.

AT the late meeting of the Reformatory and Refuge Union it was stated that 90 per cent. of those who have attended the reformatories have, so far as is known, given up their bad pursuits, and those who had the chance of emigrating to Canada have nearly all turned out well. Mr. Cave, one of the hon. secretaries, very truly observed that the provision of suitable employment for the class which supplies such a large per centage of our prisoners is a matter of great importance. This gentleman drew attention to the girls' laundry, and the school ship on the Thames, as institutions which were well worthy of support.

The Rev. Sidney Turner, formerly of the Red hill reformatory, mentioned that in 1856 there were 15,000 prisoners in custody whose ages were under sixteen years. In the succeeding year the number was reduced to 12,000; and in the present year there are 11,000 in prison under the age of sixteen years. The decrease of 4,000 youthful prisoners is a hopeful circumstance, and may be fairly attributed to the reformatories, ragged schools, and other means which are at work for the benefit of a too-long neglected part of our population. It appears that the new Act of Parliament has been the means of calling upon 600 parents who have neglected their children, and 300 children have been provided for, partly at the expense of the parents.

SELF-COILING CONVOLUTED SHUTTERS.

THE utility of revolving shutters for closing windows and other openings is universally acknowledged; but their cost has hitherto prevented the general adoption of them. Messrs. Clark and Co. have recently introduced a new self-coiling revolving shutter, which, in addition to being one-half the cost, has the advantage of being remarkably simple, and, consequently, less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The patent self coiling shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil or roll themselves up into a circular space provided for them. Above, below, or on either side of the window, grooves are formed on each side, in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutter. The shutters are opened and closed with the greatest facility. We are disposed to think they will be largely used both for shop fronts and private houses. Much of the difficulty now often found in providing shutters for large bow-windows may be obviated by their use, without extra cost.

THE WELLINGTON MONUMENT FOR ST. PAUL'S.

MR. STIRLING has been asking the Chief Commissioner, at the House of Commons, if any one of the prize designs now exhibiting in the Conference-room is to be executed. Mr. Stirling said those who had issued the conditions appeared to have forgotten the important fact that in these times sculptors were no longer architects, as was the case in the sixteenth and seventeenth centuries, when every great sculptor was also a great architect, and every eminent architect was a sculptor. He thought he might safely say that since those professions had been separated monumental art had declined, and very few good monuments had been erected in the churches. As for Poets'-corner, it represented an undertaker's shop, rather than a collection of works of art. A piece of sculpture placed in a building depended as much for the effect which it produced upon the architecture which surrounded it as upon its own intrinsic merits; for a work charming in the studio might be utterly destructive of effect if placed in an inappropriate situation. The fact was, that if anything really good were to be expected in this direction, the architect and the sculptor must work hand in hand, and the sculpture must be made subordinate to the architecture; for the latter was, as it were, the cloth, and the former was the mere trimming which adorned it. The monument should not only be worthy of the Great Duke of Wellington, but also a landmark of our national art. What had been done hitherto had been done extremely well. The sarcophagus in which rested the remains of the duke was one of the most beautiful ever erected in this country. It was made from a single block of granite, and altogether was one of the finest monoliths of modern times, and he saw no reason why the monument should not be as creditable a work of art.

Lord J. Manners said it was a habit with many hon. members, when talking on questions of art, to assume a tone of dogmatism which might very well suit a Spanish inquisitor dealing with a matter of faith, but was entirely misplaced in talking of what was after all to use the phrase of the hon. member for West Surrey—a mere matter of opinion. He thought that he should not be justified in saying that not one of the prize designs was worthy of being erected in St. Paul's, or that not one of them was capable of being adapted to the site. Having called in the professional aid of Mr. Penrose, he had gone over the designs with that gentleman, and they had decided in favour of the one marked No. 18. They then examined the area of St. Paul's to see whether the site indicated was the most worthy, and, after consulting with various high authorities, they had all come to the conclusion that the site indicated in the proposals for competition was not the best calculated for the erection of the monument. The site ultimately chosen was a side chapel at the west end of the cathedral, which had hitherto been used as a Consistory Court; and it had been willingly ceded by the dean and chapter for the purpose. In former times, as was well known, the aid of the sister arts of painting and architecture was called in for the erection of a monument worthy of a great man, and the selection of this site would allow of that principle being acted on in this instance. It was his intention, if this plan were adopted, to invite the aid of an eminent sculptor for the purpose of erecting figures in the chapel suitable to the monument; the general adaptation of the site and the ornamentation of the chapel he would confide to Mr. Penrose, and the assistance of some artist of eminence would also be called in, and he hoped in this way to erect a monument which should be worthy of the great duke, of the building in which it was placed, and of the state of English art in the nineteenth century.

The author of the design selected is Mr. Alfred Stevens.

AMERICAN INSTITUTE OF ARCHITECTS.

A MEETING was held on May 4th, when the committee appointed to furnish the new rooms of the Institute reported progress, and a committee on models and drawings was appointed by the chair.

Mr. Detlef Lienau then read a paper on "Romantic and Classic Architecture," in which he said the word "romantic" is a term often used in relation to art by modern continental writers. Its explanation may be found most easily by showing the true and the false relations of the terms Romantic and Classic to successive periods of art development.

For, following the history of the progress of art, especially of architecture, which has been called, so happily, by one of the greatest modern writers, "the King-Art," we find periods where, so to speak, the human mind reposes on its laurels—where the devotee to art seems so far lost in admiration of the achievements of a former period, that he actually becomes unable to create independently: he is only capable of composing works by using the ideas, systems, and forms of expression invented by preceding artists; works in which he strictly follows the traditions brought down to him from a former art. Works thus proceeding from an inspiration excited by old forms and ideas are what is called Classic art.

Romantic art is understood to be just the opposite: it invents, it creates new ideas, new systems, and expresses these ideas through new forms and new modes of construction. With the continually changing requirements of human society, with the progress of civilization, it advances step by step: Romantic architecture creates new structures, entirely adapted to the purposes for which they are intended, adapted to the climate of the country in which they are erected, and out of materials supplied by the locality: it gives to the materials the forms most expressive of their nature and the most expressive of the degree of perfection of taste and mechanical skill of the time; in short, structures reflecting like a mirror the people, the country, the climate, and the wants of the times for which they were erected.

Not so with Classic architecture, which had already been adapted to the different requirements of human society, different countries, and different times, as a whole system created for other purposes, another country and climate, and for a preceding age. While the feelings and emotions of living active humanity are truly and simply expressed in Romantic art, Classic art only pretends

to express them by mimicking what has been said and felt before.

Setting aside the first manifestations of art by nations not fully arrived at a perfection of civilization, he found in Egypt an art which, for its time, was entirely romantic.

Progress was impossible with the system of religion there: art being subject to the will of the theocracy, the artists were its slaves, and it was the policy of the priests to keep the people always in the same state of servitude.

Who fought the battle of affranchisement in matters of art? Long after the Egyptian art had arrived at the state of perfection beyond which it was not destined to advance, there began to be developed an art in another country under more favourable circumstances, which soon excelled all that had been achieved before, and which has not been surpassed in real artistic merit by any works that have been since produced.

The Greek nation, composed, as it was, out of small states, under a federative government, was the first of all nations to develop in its bosom that democratic liberty so necessary to destroy the bondage in which humanity had been held before by a despotic priestcraft, and at the same time to free art from the restraining and enervating servile influences under which it had been kept in its infancy. In the hands of the Greeks, art soon progressed and improved, till under Pericles it attained the highest point of excellence. While the Egyptian art might be called Classic to the Greek, the Grecian art was a romantic art: it was mighty creative, adapted to the country and climate, and expressive of the materials which were used for their works. Their buildings are so fully in harmony with the formations of the locality, that it may be said that they complete its landscape; and, besides all this, they were of forms of such beauty as have never since been surpassed or equalled. And still their forms and their whole system of architecture were so simple, their mode of construction so easily comprehended, that one cannot help asking the question, what is this beauty, what are the principles, and what is the law which regulates their art? The answer must be sought in the truthfulness with which their structures expressed the immutable laws of nature.

LAW NOTES.

Poor-rate.—A case was lately brought before the Court of Queen's Bench as to rateability of the Military Training School, Kneller Hall, near Twickenham. It appeared in the arguments that Kneller Hall and some adjacent lands had been rated for several years. The premises were for some time held by the Lords of the Committee of Council on Education. A few months ago they were conveyed to Sir Benjamin Hawes in trust for the public service, and they are now used as a training school for military bands, but there is no public grant for the school. The men and boys reside on the premises, and the expenses are paid out of a band-fund, to which all military officers subscribe. The masters are allowed to take private pupils and to receive fees. It was held that the premises are rateable, both because they were rateable when they were a normal school, and also because the masters who live there have a beneficial occupation.—*The Queen* v. *The Trustees and Occupiers of Kneller Hall.*

Policy of Insurance.—A point of considerable importance to traders, and respecting which great doubt existed, has lately been decided, viz. the liability of a person contracting to keep up a policy to continue to do so after bankruptcy or insolvency. It has been held that bankruptcy or insolvency does not discharge the contract, but that the bankrupt is still liable to pay the premiums as they fall due.—*Fussell* v. *Dunn.*

Liability of Railway Companies.—It has been lately decided, that to make a railway company liable for stolen property, it is not sufficient to show facts consistent with a felony having been committed by a servant of the company, but the evidence must be inconsistent with the presumption that the felony was committed by some other person.—*Re Metcalfe.*

Railway Company.—Another railway law point of general interest has lately been decided. It is that a company is bound to carry the packages as passengers under the ordinary responsibility of carriers; and although they may carry the packages in any part of the train they please, they cannot insist on the passenger taking charge of them.—*Munster* v. *The South-Eastern Railway Company.*

Liability of Pawnbrokers.—The house of a pawnbroker took fire accidentally, and some pledged goods were damaged. A magistrate made an order against the pawnbroker, but the Court of Queen's Bench reversed this decision on appeal, and held that a pawnbroker is not an insurer against accident, and is only obliged to make good any damage when it results from his neglect or wilful misconduct, or that of his servants.—*Syred* v. *Carruthers.*

Patent.—An action was brought to recover a sum of money (5,000*l.*) contracted to be paid for the use (not exclusive) of a patent. Leave was asked by defendant to plead that the patent was not new; that it was not of public utility; and that the plaintiff was not the first inventor. The Court of Queen's Bench has held that the licensee cannot take such a wide range in defence: having agreed to pay money rather than run the risk of an action for infringement, he is bound to confine his defence to matters relating to his contract.—*Bessemer* v. *Wright.*

Contract by Poor-Law Guardians. — The guardians of North Bierly Union, suspecting the accuracy of the accounts of their clerk, appointed an accountant to examine them, and he reported defalcations. A difference took place afterwards between the guardians and the accountant as to the amount to be paid for his services. Action was brought by him, and a verdict obtained for his demand in full. On motion afterwards it was argued for the guardians that the resolutions by virtue of which the accountant was employed were not under seal, and were, therefore, not binding. Mr. Justice Erle held that such a defence was not an answer to the action, and judgment was given for the accountant, though Mr. Justice Crompton had doubts.—*Haigh* v. *The Guardians of the North Bierly Union.*

Custom of Trade.—In an action by a seller against a purchaser, it was held lately, by the Court of Queen's Bench, that evidence of a custom in a trade is admissible to explain a contract, and that a verdict founded on some trade custom ought to stand, for there are many agreements which judges and jurymen could not construe except by the aid of the evidence of persons conversant with trade customs.—*Lucas* v. *Bristow.*

PER-CENTAGE TO ARCHITECTS.

IN the House of Commons, on Tuesday evening, Mr. Divett, the seconder of the Bill in reference to rewards to members, was pleased to illustrate his argument by the observation "that it is termed professional for an architect to receive a per-centage on the cost of the building, and another from the tradesmen for passing their bills." Such an assertion calls for a most unqualified denial, as to the existence of such a general practice. The hon. member may have fallen into unprincipled hands, or into the hands of auctioneering surveyors, who are fast bringing the profession into disrepute; but experience, if gained from such doubtful quarters, must not be accepted as a customary proceeding; and it is much to be regretted that Mr. Tite, who appears to have been in the House at the time, did not feel it incumbent upon him to refute so false a principle, and to maintain the general integrity of the profession.

AN ARCHITECT.

*** We have received, with pleasure, several other indignant denials of the practice.

THE OPENING OF ASTON HALL AND PARK AT BIRMINGHAM.

ALTHOUGH every paper has already been filled with details of her Majesty's progress to Birmingham, Coventry, Kenilworth, and Warwick, and of the opening of Aston Hall and Park, it is requisite that we, too, record the event. The affair is rather an extraordinary one in more than one respect. In this great centre of democracy the decorations and rejoicings in honour of the sovereign have been both profuse and gratifying in no ordinary degree. Such a gala-day as Tuesday the 15th of June, 1858, Brummagem never before saw. Moreover, not the least notable feature in the performance is the fact that the democratic operatives of Birmingham had purchased with their pence an ancient mansion of historical interest, with its glorious old avenue of chesnuts and elms, and the park surrounding it, and converted the whole into a people's palace and park. Honour to them for the deed!

On Her Majesty's way to the opening ceremonial she was serenaded by 40,000 children,—the young population of this great industrial hive. The mayor of Birmingham was knighted by Her Majesty at the opening, and a medal has been struck in honour of the visit. Surrounding the head of the Queen there is a bold and delicately-executed wreath of the Rose, Shamrock, and Thistle. The reverse gives a representation of the fine old mansion, very fairly executed. The medallist is Mr. Joseph Moore, of Birmingham.

SANITARY CONDITION OF PRINTING OFFICES.

AMONGST those trades and professions opposed to the duration of life which are followed in the metropolis by large numbers of persons, few are more fatal than that of the compositor and printer. The number of deaths from consumption amongst them is very large. In conversation lately with an individual connected with the army, he brought forward this fact for the purpose of proving that as printers were, in many instances, exposed to the evils of night-air and late work, the deaths in the army were rather to be traced to those causes than to the overcrowding and ill-ventilation of barracks. Those, however, who have visited some of the London printing-offices, which have been adapted for this purpose from old-fashioned dwelling-houses, will not for a moment doubt that the deaths and loss of health are to be attributed to the ill condition of the atmosphere, produced by overcrowding the space and setting at defiance all sanitary principles. In some establishments, which are situated in narrow lanes, where even under the best arrangements it is not easy to procure a sufficient supply of fresh air, the steam-engine and printing-presses are placed in an under-ground apartment. In one place we noticed that an opening railed round admitted the damp vapours and unpleasant smells to the upper part of the premises. No attempt was made to carry this away by a shaft towards the roof, or in any other direction. This cellar was totally without daylight, except the dim glimmering which was reflected down the opening just mentioned. The house extended some distance in length, and windows could be made on one side only, for the premises were built against the back of others. At the time of our visit—and, probably, matters still remain in the same condition,—there was only surface drainage, so there must have been the cesspools to add to the evil. The closets on the different landings were untrapped, and in rooms of not more than 8 feet in height, and of very limited length and breadth, eighteen, twenty, and sometimes more compositors would work, without coming into the outer air, for many hours.

No attempt was made to ventilate the staircase by an opening in the roof: there was no zinc or other perforation in the windows, which at night were mostly closed: the smells and blazing gas-lights served to destroy and render more unwholesome the already polluted air. To the top rooms the gases and vapours rose from below, and then became pent up, and those breathing in them were in still greater danger. The truthfulness of this unsanitary picture will be acknowledged by many compositors both in London and the large provincial towns. Those who visit a place of this description at two or three o'clock in the morning, will not feel so much surprise at the extra amount of deaths and sickness, as that any remain well.

Nor are the editors and correctors of the press in many cases better accommodated. Men well aware of the dangers which arise from such conditions as those above referred to, are shut into closets, partitioned off from the ill-ventilated space, and little larger than full-sized coffins! Sketches of some of these literary dens, in which are accommodated men who are earnestly working to elevate the taste and improve the condition of the community, would astonish many readers.

At the *Times'* printing-office ventilation and other sanitary improvements have been made, and the consequence, as a matter of course, is a marked benefit to all engaged in that establishment. Changes for the better have either been made or are in progress in other quarters. Much, however, that is bad remains to be altered; and, taking the whole of the sanitary arrangements that have been provided for those engaged in the printing profession in a mass, there remain defects sufficient to account as clearly for the loss of life in printing-offices as in the barracks of the metropolis.

MEMORIAL OF GOLDSMITH IN THE TEMPLE.—We are glad to hear that it is the intention of the Templars to place a memorial on the grave of Oliver Goldsmith. We some time since referred to the necessity there was for preserving a record burial-place of one of the most eminent lights of English literature of the past century. It is to be hoped that this memorial may be tasteful, appropriate, and durable.

Books Received.

Hygiene; or, Health as depending upon the Conditions of the Atmosphere, Food and Drinks, Motion and Rest, Sleep and Wakefulness, &c. &c. By JAMES H. PICKFORD, M.D. London: Churchill. 1858.

A WORK of easy reference in respect to all the various subjects involved in the great ideas of "Sanitary Reform" and "the Public Health," cannot but be of great utility and importance. Such a treatise was a desideratum, and it is to supply this requisite that the present work is being published. The volume now issued forms but the first of three parts, and embraces the physics of the atmosphere, the seasons, temperature, rain, winds, and pressure; the respiration of plants and animals, the circulation of the blood, the chemistry of respiration and animal heat; infection, contagion, malaria, sewerage, drainage, ventilation, and climate, in connection with disease.

In the course of his extended remarks on the atmosphere, the author gives a full account of ozone, and of carbonic acid gas. Ozone being a somewhat new subject, and one of very great importance, as Nature's grand scavenger and disinfectant, we shall quote the author's account of it at length; but previously to doing so, it may be useful to give a few of his remarks on a cognate subject, the electricity of the atmosphere:—

"The prevalence of epidemic or pestilential disease has been associated with the absence or deficiency of *positive* electricity in the atmosphere; and the mortality has been found to be in the inverse ratio of the amount of *positive* electricity with which the air is charged.

This was especially remarked during the last visitation of the Asiatic cholera.

In the 'non-electric' states of the air, or when the electricity is 'weak' or 'nothing,' diseases of a low type prevail, and the mortality increases. On the contrary, when the electricity is 'positive,' 'strongly positive,' and 'active throughout the day,' the number of deaths decreases."

These remarks we have thought fit to quote as a prelude to what is said on the subject of ozone; inasmuch as it will be seen, on perusal of the latter subject, that ozone has been defined by one chemist to be merely oxygen positively electrified, a definition which appears to agree with a very general idea of its actual nature since entertained; and to which idea, if we mistake not, Schönbein himself at length gave in his adhesion.

"*Ozone* from ὄζω, to *smell*. This is one of the ingredients of the atmosphere, the discovery of which was claimed in 1848 by Professor Schonbein, of Basle. A reference, however, to pages 342, 343, of Dr. Prout's 'Bridgewater Treatise,' published in 1834, and to pages 569, 570, of the 'Appendix' to the same, will show that he had already discovered the existence of this compound, which he believed to be 'analogous to, not identical with, the deutoxide of hydrogen.' Dr. Prout was of opinion, 'that the *excess* of oxygen above the amount of 20 per cent. which there ought to be in the atmosphere, if its composition were, as there can be little doubt that it is, determined by the laws of chemical proportions,' 'becomes associated with the vapour of the atmosphere, and forms a *deutoxide of hydrogen*.' 'The oxygen and vapour in this combination,' says Dr. Prout, 'are feebly associated, and appear to be separated by the slightest cause.'

Ozone is a peroxide of hydrogen, consisting of three atoms of oxygen = 16 × 3 = 48, and one of hydrogen = 1.

Schönbein believes ozone to be a regular constituent part of free atmospheric air, in appreciable, though varying quantity, and to be everywhere incessantly and naturally formed out of atmospheric oxygen, in consequence of electrical discharges constantly taking place in the air.

De la Rive and Berzelius consider ozone to be nothing but allotropised oxygen.

Scoutellen defines ozone to be oxygen positively electrified.

'Ozone,' says Schönbein, 'is the most powerful oxidising agent we yet know of, transforming, in the cold, even silver into the peroxide of that metal, iodine into iodic acid, nitrogen (a strong base being present) into nitric acid, the "-ous" acids into "-ic" acids, the "-ites" salts into "-ates" salts, the metallic sulphurets into sulphates.'

'Ozone destroys, instantaneously, sulphuretted, seleniuretted, phosphoretted, arseniuretted, and stibiuretted hydrogen, oxidising their constituent parts.'

Schönbein has demonstrated ozone to be one of the chemical antipodes and antidotes to all oxidable miasmatic and malarious gases and emanations disengaged from putrefying animal and vegetable substances, converting them into innocuous matter, and thus purifying and sustaining the entire salubrity of the atmosphere. In short, so hostile to organic miasmata, so incompatible with them, is ozone, that the presence of the latter enables us to affirm the absence of the former, and the healthiness of the locality in which it is found.

Ozone is produced in large quantities over lands covered with luxuriant vegetation, and over water.

Ozone is found in abundance on the sea-coast, and on mountains and elevated localities; yet, in reality, it does not progressively increase in quantity in the ratio of elevation, but its diminution or absence in the lower atmospheric strata depends on its destruction by miasmatic emanations with which it has come in contact, and which it has decomposed and rendered inert.

When the mean amount of ozone indicated by the ozonometer on the *sea-coast*, at an elevation of 85 feet, was 2·2, it amounted, *inland*, at the same elevation, to 0·6; at 170 feet to 1·3; and at 255 feet to 3·8.

Ozone, like the deutoxide of hydrogen, is remarkable for its bleaching properties. Its presence is more strongly marked during the night than in the day.

Pure ozone, perhaps on account of its exalted oxidising powers, is a most powerful poison, and when inhaled into the lungs, even in minute doses, produces deleterious effects, and in large doses, quickly destroys the strongest animal life.

The inhalation of ozone produces great acceleration of the respiration, a painful constriction of the chest not unlike asthma, spasm of the bronchial tubes, violent cough, irritation and inflammation of the mucous lining of the bronchiæ and air passages, catarrhs, coryza, possibly 'hay-fever,' intense pneumonia, &c.

MM. Schifferdecker and Bockel, probably on insufficient data, believe there is no connection between ozone and bronchitis, pneumonia, &c.

Drs. Moffatt, Schönbein, and Scoutellen are of opinion that a proper admixture of ozone and atmospheric air exercises an important influence on the animal economy, and is indispensably necessary to the due accomplishment of all the vital functions, and to the relief and modification of disorder and disease.

In confined places, where ozone cannot penetrate, plants and men become blanched, the skin grows pallid, the blood loses colour, lymph predominates, all the tissues soften, and serious diseases of the adynamic type break forth.

The presence of ozone in the atmosphere or water is readily detected by test paper prepared by saturating strips of white bibulous paper in a mixture made by boiling one drachm of *white* starch in an ounce of distilled water for three minutes, in which are to be dissolved, when cold, twelve grains of chemically pure iodide of potassium. The discoloration of paper, thus prepared, to *brown*, on exposure to the *atmosphere*, and to *purple*, when immersed in *water*, indicates the presence of ozone; the degree of discoloration, its intensity and amount. The change of colour is owing to the oxidation, by the ozone, of the potassium of the iodide, and by the combination of the iodine, thus set free, with the starch, to form an iodide of starch."

Under the head of "Drainage," we find an account of the mode in which ozone operates as a scavenging agent, which will complete our description of this important *power* in nature:—

"When we consider the amount of eremacausis, and of putrefaction of animal and vegetable matters, constantly taking place on almost every point of the habitable globe, the question naturally obtrudes itself, How comes it the whole atmosphere is not polluted by their miasmatic gases to an extent to render it poisonous and unfit for sustaining animal life?

Nature has mercifully supplied us with a natural and abundant disinfectant, *ozone*, the office and property of which appear to be to destroy all oxidisable mephitic emanations and miasmatic exhalations with which the atmosphere is constantly contaminated, and thus to preserve and sustain its purity unsullied.

The quantity of ozone necessary to purify miasmatised air is exceedingly minute.

From experiments instituted by Schonbein, it appears that atmospheric air, containing but $\frac{1}{2,000,000}$ of ozone, is capable of disinfecting its own volume of air loaded with the miasmata given off in one minute by 4 oz. of flesh in a high state of putrefaction.

Atmospheric ozone in destroying oxidisable miasmata suffers destruction in its turn. This is one of the reasons why ozone, though continually engendered, cannot accumulate in the atmosphere to an extent which would be prejudicial to animal life.

During the cholera visitations in 1849 and 1854, the absence of ozone on the water-level, and in low-lying districts, was constantly noticed and recorded. It must not, however, be supposed, because the presence of ozone was not evidenced by the ozonometer, that none was generated in these low situations equally with more elevated localities. The explanation is to be found in the fact, that in effecting the decomposition of the malarious emanations of these low districts, the ozone was expended and suffered destruction in its turn. As, however, malaria, in all its intensity, was rapidly and abundantly evolved, and as the electrical action of the atmosphere during these periods was comparatively feeble, not to say inert, it resulted that ozone was not generated in a corresponding degree, or in quantity sufficient to neutralise the fearfully large amount of miasmatic gases, of greater specific gravity than the atmosphere itself, constantly exhaled into it. This interpretation will also explain its presence, though in small quantity, on higher ground, and its greater abundance at considerable elevations, and will equally account for the greater virulence and mortality of the cholera in low districts, and its diminishing intensity in the ratio of elevation.

If, therefore, the quantity of miasmatic gases given off exceed the quantity and quality of the ozone formed at the same time, some kind of epidemic will, to a greater or less degree, prevail.

Of all seasons of the year winter is that in which the atmosphere abounds with ozone,* and is most free from oxidisable miasmatic matters.

The higher strata of the atmosphere are more ozoniferous than the lower, and contain less oxidisable miasmatic matter than those which are nearer the surface of the earth."

We may conclude our notice of Dr. Pickford's valuable work with the remark that as burning sulphur smells of ozone, and as the fumes of burning sulphur are held in great esteem throughout the world as a disinfectant, it may be that sulphur, which is a high electric, may, during combustion, actually produce ozone by electrifying positively the oxygen of the air with which it comes in contact; and, at all events that the burning of sulphur would seem to be one of the likeliest modes of imitating, in a small way, the grand operations of nature, by means of which she ozonifies the atmosphere, and disinfects and clears away all noxious matter. The power of electric storms to "clear the air" is now so far explained by the fact that in some thunder-storms much ozon is produced,—that is, the oxygen of the air is elec trified and made voraciously active, as it were, s as to induce it vigorously to attack and destro all decomposing organic matters, whether in th form of gases in the air itself, or in the liquid an solid forms.

But while indicating what appears to us to b a useful mode of obtaining a local substitute fo ozone, we would at the same time earnestly desir to draw the attention of electricians and others t the subject, with the view of inducing them to tr whether it were not possible so far to disinfect ou towns of noxious agencies, in seasons deficient i natural electricity, by means of electricity artifi cially evolved, in infected localities. Have we no here a hopeful use for that tremendous engine Armstrong's hydro-electric battery? "Steam a has been put to many uses; but if it were pos sible, by means of it, to electrify and disinfect th noxious slums and atmospheres of our great town in cholera and fever seasons, we should owe a new debt of gratitude to "the steam boiler," and a new glory would be added to its many triumphs.

The Book of Ornamental Alphabets, Ancient and Modern. Collected and designed by F. DELAMOTTE. London: E. and F. N. Spon. 1858.

As an available set of alphabets in a cheap form this little volume will be found useful by those who can discriminate; and Mr. Delamotte's name will induce them to receive without question some forms which might otherwise seem doubtful. I the sources had been named with more precision the book would have been more valuable. As it is the headings serve only to perplex. Over the first alphabet, for example, is written, "Ninth Century. *Norman.* Alfred." Over another "Twelfth Century. Date about 1340." And so on. Over three pages of the Arabic numerals is written, "Numerals from Ninth Century," whereas as is perfectly well known, the Arabians had not adopted the denary numerals before the thirteenth century, and none have been found in this country earlier than 1445, on a stone in the interior of the tower of Heathfield Church, Sussex.

VARIORUM.

THE second part of vol. i. of the "Collections of the Surrey Archæological Society" (London: Lovell Reeve, 1858), is a good part, well illustrated, and well printed. It includes Mr. Pocock's account of Chertsey Abbey, and the interesting and valuable paper "On the History of Horsleydown," by Mr. G. R. Corner, to which reference has already been made in our pages.——"The Journal of the Bath and West of England Society for 1858 (London: Ridgway. Vol. vi.) contains a prize essay on "Roofing of Farm Buildings," by Mr. S. W. P. Isaac, and a short account, by Mr. Robert Smith, with illustrations, of cottages on Exmoor, containing five rooms, and built for 60*l.* a-piece. The living-room is 15 feet by 13 feet.——"Poems. By an Architect" (Hardwick, Piccadilly), may claim a notice, *because* they are poems by an architect. If an architect be not something of a poet, he cannot be much of an architect. Not that he must necessarily tag verses, but he must have the inventive power, the creative faculty, though he may use the pencil as the means of utterance instead of the pen. The pleasant little volume before us (we hope we are not betraying confidence), is by Mr. I. B. Waring, who is creditably known to many of our readers by his published works as an artist, and his services at the Manchester Art Treasures Exhibition. The poems are on various topics, the first is called "the Picture Gallery," wherein the subjects of the various pictures mix themselves up in the mind of the observer, and the last is an "Ode to Fancy" ending,—

> "So bright-eyed Fancy, winged and free,
> Like a fair angel round me play;
> Thy presence as a sun to me,
> Shall lighten many a weary day."

——"Florine; a Dramatic Poem," by Alexander Kay (no publisher named), is sent to us as the production of a working upholsterer, and if it were tried with reference to the few advantages possessed by the writer, the difficulties under which it has been produced, would, doubtless, bring credit to the author. But the world cares nothing for this—it cares only for the result. The author has evidently natural gifts, but lacks knowledge of the poet's art; and as he himself says,—"The rank and file of words and sentences, unless well disciplined, are but a rude, disordered rabble." The poem contains some pretty thoughts nevertheless.——A tract titled "On the Reciprocal Action of Metals and the Constituents of Well and River Waters; by Henry Medlock, Esq." has

* It is remarkable, too, that ozone has been found to be more abundant in north winds than in south, and in west winds than in east; and that, as above said, it also abounds more by night than by day, and by winter than by summer. All this, if ozone be oxygen *positively* electrified, curiously corroborates the idea suggested in our columns, that *positive* electricity, as a force or power, is analogous to *cold*; the *negative* more analogous to *heat* and to the solar actinism.

been printed in a separate form, from the *Philosophical Magazine*, in which the matter was published in January last, as the second of a series. It relates to the action of iron, and elicits the very important fact that a large surface of iron put into Thames water precipitates and withdraws all its putrescible or organic matter, while leaving scarcely a trace of the iron itself in the water. Mr. Medlock has found the form of wire to be the best or most convenient in using the iron, and we would suggest that the openly woven wire-webs used for invisible fencing and other purposes in gardens and poultry-houses might be used with advantage, as it would afford the easy means, on a small scale at least, of spreading a considerable surface of iron throughout the mass of the water to be defecated. First the water becomes muddy, and then the precipitate settles to the bottom, leaving the water pure. Mr. Medlock speaks of iron also destroying the "poisonous gas," sulphuretted hydrogen, in the water; and doubtless this, too, is an advantage; but it should be recollected that sulphuretted hydrogen, which is so poisonous if it enter the lungs through the air, is by no means so much so,—if poisonous at all, indeed,—when it merely enters the stomach as an impregnation of water. In fact, some of our medicinal and "mineral waters," as they are called, owe their well-known beneficial qualities to sulphuretted hydrogen, to which, also, they owe their nauseous taste. Mr. Medlock is further experimenting on the malarious gases which spontaneously escape from Thames and other water.——"Sanitary Science; its Past and Present State;" by Tindal Robertson, M.D. Edinburgh, &c. (Walton and Maberly, Paternoster-row), is a pamphlet published at the special request of the British Medical Association, before whom it had been previously delivered, at their request, by the author. Dr. Robertson here gives an interesting and curious sketch of the history of Sanitary Science from the time of Moses, downwards, and of the state of this science in various countries at the present time. With the hope expressed at the conclusion of the lecture we cordially concur:—"All classes have been warned by the pestilence that the destroying angel has been amongst them. Had proper means been taken, many lives might have been saved, and much suffering prevented. Let us hope that all classes, thus warned, will unite to secure the great national object we should have in view,—that of raising up a healthy and a happy population. Science can have no higher aim; Government no loftier purpose; philanthropy no nobler pursuit."——Amongst publications now before us, we may allude to "The New Zealand Emigrant's Bradshaw" (Stanford, Charing-cross); 2) Questions on Subjects connected with the Marine Steam-engine, and Examination Papers, with Hints for their Solution; by T. J. Main, Mathematical Professor of the Royal Naval College, Portsmouth; and Thomas Brown, Chief Engineer, R.N. attached to the Royal Naval College" (Longman and Co.); and a "Description of a System of Railway Communication; by W. Bancroft, Patentee; with a few Observations on the Working of such Systems in general" (Newell, Mile-end-road). With reference to the last of these, we may remark that for communication between passengers and guards, and drivers, there is no need of new inventions. The changes have already been rung on the cord and tube systems *ad nauseam*. What is mainly wanted towards the realization of some one or other of the hosts of patented and other inventions is good-will and inclination on the part of the railway authorities. If their eyes could be made a little more *patent* to the necessity of looking to the public safety and convenience in respect to the trim of trains in transit, it would be well.

Miscellanea.

DEATH OF DR. SNOW.—The medical profession and all interested in sanitary reform have met with a serious loss by the death of Dr. Snow, who expired on the 16th inst. at the comparatively early age of forty-six. Dr. Snow devoted great attention to the investigation of cholera and its causes, and pointed out the important fact that the drinking of impure water had much to do with it. Next to Professor Simpson, of Edinburgh, too, the discoverer of chloroform, Dr. Snow had, perhaps, more skill in the administration of that entrancing agent than any one else in the country, and was regularly consulted on the subject by his English brethren of the medical profession. At the moment he was about to reap a pecuniary reward for his labours he has been taken away.

ACCIDENTS.—While digging for the foundation of the new Presbyterian chapel, in St. James's-parade, Bristol, last week, an adjoining house fell in. Fortunately no one was injured.——The whole of the centre part of the ceiling of the Stockport Court-house fell down after the magistrates retired, on the Monday before last. On examination it was found that there were no proper joints in the rafters for the support of the roof, and had the accident occurred a few minutes earlier, the consequences must have been serious.——Operations having been commenced by the Drainage Commissioners of Hull for lowering the Leedsbridge, which crosses the Sutton drain between Sutton and Stoneferry, a labourer was in the act of taking down the arch, when part of it suddenly gave way, and broke the scaffolding on which he was standing, precipitating him into the water, and covering him with bricks and earth. Another man had a very narrow escape by clinging to the projecting pole of another scaffolding. The injured man was speedily rescued. He had one arm broken in two places, an ankle bone broken, and some ribs fractured. On the same day, the son of this man, while taking the broken pieces of scaffolding out of the water, was killed on the spot by the remaining portion of the arch falling upon him. A coroner's inquest has returned a verdict of accidental death; but surely there was blameable carelessness in removing the scaffolding before pulling down the remainder of the arch.——Since the bursting of the embankment of the Preston and Lancaster Canal, active operations have been in progress towards completing the repairs of the broken embankment at Salwick Moss, and the works are now completed.

ELECTRO-TELEGRAPHIC PROGRESS.—The prospectus has been issued of a Great India Submarine Telegraph Company, with a capital of 1,000,000*l.* in 20*l.* shares. The proposal is to construct a line (on Mr. Allan's patent) from Falmouth to Bombay, *viâ* Gibraltar, Malta, and Alexandria, and thence by the Red Sea to Aden and Bombay. Mr Allan contends that his system confers the advantage of an economy of 40 per cent. in the first cost of construction, and of more than 50 per cent. in the working. One immense advantage of such a line of route would be that continental espionage and dependance on foreign officials would be at an end, the Falmouth and Malta portion of the line being substituted in place of the present continental route to Malta.——The prospectus has also been issued of the Channel Islands Telegraph Company, formed for the purpose of laying a submarine cable from Weymouth to Alderney, Jersey, and Guernsey. The capital is 30,000*l.* in 10*l.* shares, and the Government have consented to give a guarantee of 1,800*l.* per annum, or 6 per cent. for twenty-five years. A contract has been concluded with Messrs. Newall, who, for 25,000*l.* are to deliver the line in complete working order by the end of next month at the latest.——The *Melbourne Argus* (Victoria, in Australia) says,—"We are in correspondence, by the electric wire, with all our gold fields, and with all the principal towns in the interior. Our telegraphic system has penetrated the northern colony of New South Wales, and reached the boundary of South Australia. In the course of a few weeks the submarine cable will place us in communication with the neighbouring island of Tasmania."——M. Krziz, formerly a captain of artillery in the Austrian army, and now Colonel Instructor-in-Chief of Artillery in Persia, has established a line of electric telegraph from the palace of the Shah at Teheran to the Lulazar Garden, a distance of 1,110 mètres beyond the city. The line is to be continued to Tabriz.

OPENING OF THE SOLDIERS' DAUGHTERS' HOME BY THE PRINCE CONSORT.—On the 18th instant, his Royal Highness the Prince Consort opened the Soldiers' Daughters' Home at Hampstead. There was a numerous attendance of persons interested in the success of the undertaking. The buildings are placed in the midst of three or four acres of ground belonging to the institution. They comprise a school-house and residence for the governors and pupil-teachers, and a residential portion, comprising a dining-hall, 51 feet 6 inches by 27 feet 3 inches, and 21 feet high; a covered play-room, with matron's rooms, store rooms, &c. on the ground floor. Stone staircases and passages communicate with two floors of dormitories, 10 feet high, each to hold about fourteen girls, with 400 cubic feet of air per child, independent of ventilation. There are offices for industrial training, baths, and a detached infirmary, with covered communication with the Home. The whole of the works have been executed from the design and under the superintendence of Mr. Munt, the honorary architect.

SOCIETY FOR IMPROVING THE CONDITION OF THE LABOURING CLASSES.—The fourteenth annual meeting of this society was held at the St. James's Hall, Piccadilly, on the 18th inst. for the purpose of receiving the report of the committee for the past year. The Earl of Shaftesbury presided. The report congratulated the meeting on the progressive improvement of the society. The chief feature was the purchase of Tindal's-buildings, Gray's-inn-lane (to which we long since drew attention), and which was now completely metamorphosed, and, by sacrificing the end house, a means was opened of thorough ventilation for the whole court. Disease was thus lessened, and the claims on the parish were greatly diminished in that locality. They had effected all the improvements for 1,200*l.* and, after all deductions, a net revenue of five per cent. would be returned. The report concluded by asking the energetic co-operation of the public in prosecuting their work. The cash statement showed the gross receipts to be 10,163*l.* 17s. 4d. and the expenses were 10,006*l.* 0s. 11d.; leaving cash at the bank and in hand 157*l.* 16s. 5d. The abstract of the real property and its general liabilities showed the value of the property was 42,015*l.* 1s. 3d. and the liabilities were 26,758*l.*; leaving a balance of 15,257*l.* 1s. 3d. exclusive of the cash balance. The report was unanimously adopted, and other resolutions voted.

NETLEY HOSPITAL.—A few days ago Mr. Tite asked the Secretary of State for War when the report of the two commissioners on the hospital at Netley would be laid on the table, and whether steps had been taken to suspend the works, or any part thereof. The hon. gentleman said he did not think there was any objection to the site of the hospital, but that some modification of its construction might be desirable. Sir F. Smith hoped that this hospital would be erected as it was designed, upon the continuous plan, in order that we might have a fair opportunity of judging between that and the block system which was to be adopted at Aldershott. General Peel hoped that in ten days or a fortnight he should be able to lay the reports referred to upon the table of the House. He believed that the scientific and medical men who were sent down to Netley had reported in favour of the site. As, however, alterations might be proposed in the construction, directions had been given to the officers in charge of the works to arrange with the contractors not to proceed with those portions which might hereafter require alteration, but at the same time to do nothing which should vitiate the contract.

BARRACKS.—619,091*l.* is the sum which it is proposed to expend on barracks in the estimates of 1858-59, against 522,715*l.* last year, and 1,012,500*l.* in the preceding one. For the erection of new barracks this year 181,408*l.* are proposed, including 109,000*l.* for permanent barracks at Aldershott, and 41,000*l.* for new barracks at Gosport, Hants. During the last three years 26,801*l.* have been expended for supplying water to barracks, 18,537*l.* for improving the drainage, 1,177*l.* on ventilation, 13,126*l.* for sanitary purposes connected with barracks and hospitals, and 120,000*l.* for improvements to existing barracks (including provision of quarters for married sergeants and men). In the same three years, 1856-59, 602 officers and 12,441 men have been provided with quarters by new barracks, exclusive of the Royal Hospital at Netley, which, when completed, will accommodate 1,000 patients. The total amount of money expended on new barracks in the twenty years ended April, 1856, was 1,432,196*l.* and the accommodation provided was for 391 officers and 11,237 men. This is exclusive of 722,174*l.* expended in 1854, 1855, and 1856 for hutting accommodation for 2,100 officers and 40,296 men.

MR. FOLEY'S STATUE OF LORD HARDINGE.—From the interest with which all matters bearing upon art are treated in your columns, may I beg the publicity of the suggestion now under consideration, of obtaining by public subscription, for London, a duplicate of that noble statue of Lord Hardinge by Mr. Foley. This work, commissioned for Calcutta, will immediately leave England, becoming thereby lost to the arts of this country. Its qualities as an achievement of the highest order, and the position its execution confers upon the sculptor (whose fame is already European), call for its erection in the metropolis. We are too poor in national monuments to lose this,—one of the very finest works of modern times, and which more than deserves a place among our national art-treasures, if only to show to the world the capabilities of the English artist.—DELTA.

*** We urged this some time ago when first the model was completed, and hope to see it effected.

THE WHITTINGTON CLUB.—The provisional committee have arranged for the immediate completion of the new buildings of the Whittington Club and Metropolitan Athenæum, Arundel-street, Strand, and a meeting of the friends and supporters has been held in one of the rooms of the new club-house, "for the purpose of inspecting the building, and to decide upon the time and mode of re-opening." Mr. Alderman Mechi, who took the chair, informed them that 1,500*l.* were required, not to be given to the club, but to be invested; and if they found they could not get 1,000 members at two guineas a year, they had better at once let it at a profit rent. He then dwelt at some length on the merits of the institution, contending that it had always been conducted in that spirit which met a great social want.

BELFAST SCHOOL OF ART.—At a meeting held last week in Belfast, a resolution to close the School of Art, in consequence of lack of funds, was passed unanimously. An account was given of endeavours which had been made to obtain a grant from the Department of Art. A resolution was also passed to the effect that a committee be appointed to review the financial condition of the late School of Art, and to suggest such measures as it might think expedient for the disposal of the casts, furniture, &c. of the school. Thanks were voted to Mr. Vance, their secretary, for his gratuitous services to the committee during the last two or three years.

THE SWANSEA SEWERAGE. Mr. May, the contractor for the sewerage of the lower portion of the town, is proceeding with the work. At the last monthly meeting of the Local Board of Health Mr. E. M. Richards drew the attention of the owners of property to the desirability of having the drains of their respective houses carried into the main sewer, and observed that if such was done during the progress of the work, much expense would be saved, and the necessity of again opening the public roads obviated. Under the Public Health Act compulsory power is given the Board to compel all houses within 100 feet of a public sewer to have their drains carried into such main sewer.

FEVER NURSERIES: DUST AHOY! Permit me to remind house owners and occupants that *open* dustbins are a constant source of sickness. In too many instances the fronts of houses are clean and nicely painted, while the backyards are left in a dirty state, the dustbins without covers, and overflowing with steaming refuse. Do, Mr. *Builder*, again urge the parish authorities, and all who care for their health, to carry out sanitary measures in these hidden corners, which have already, since the hot weather, secured some victims in apparently clean districts. DUSTMAN.

INTRAMURAL BURIALS.—Thanks for your article on this subject. The question is, however, far from settled, and must be again dragged up *ad nauseam*. Lord Palmerston's government played with it, and scarcely touched the surface. An Act should at once be framed prohibiting under the severest penalties the burying in vaults under churches, or in connection with churches, and a convenient receptacle or tomb should be built in proximity to the church for existing coffins and remains at present mouldering away under our principal churches. The metropolitan grave-yards should be finally closed and planted, and no grave-yard allowed to be formed within a radius of thirty miles of St. Paul's cathedral. The Cemetery Acts should be overhauled, and an express stipulation and provision against overcrowding. In some cemeteries I could name they pack very closely. Compensation should be awarded to freeholders of their vaults and those purchased by the respective parishes.—A METROPOLITAN SURVEYOR.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The last meeting of the present session was held on Monday, the 14th inst. Mr. J. J. Scoles, vice-president, in the chair, when the discussion on the Rev. R. Burgess's paper on Egyptian Obelisks, printed in our present number, was resumed. A paper "On the Use of Chestnut in Old Buildings," was afterwards read.

FIRES SUPPOSED TO BE CAUSED BY SPONTANEOUS COMBUSTION.—On Tuesday evening before last, three fires occurred in Hull, all apparently from spontaneous combustion. In one case a bale of shoddy, under the Humber Dock sheds, took fire; in another some oily paper in a basket in the wood-turner's shop of Mr. Beale, west end of Queen's Dock; and in the third, some goods in a drawer of Captain Kelsey, in Redmond-terrace. All the fires were speedily suppressed. The day had been one of the hottest known in Hull (as well as in London), for many years.

NEW WING OF LICENSED VICTUALLERS' ASYLUM. We learn from the newspapers that the Prince Consort laid the first stone of an addition of fifteen houses to the Licensed Victuallers' Asylum, in the Kent-road, on Wednesday, the 23rd. Mr. C. B. Arding is the architect; Mr. J. Morter, the builder. Judging from a published lithograph, the edifice will have a very one-sided aspect.

NEW PUBLIC OFFICES, MELBOURNE.—We are told that the Royal Commissioners have awarded the first premium of 300*l.* for the design made by Mr. Ralph Wilson, late of Bath, brother of Mr. James Wilson, architect. Sixty designs from various architects, comprising 345 separate drawings, were submitted in competition. The buildings are to be on a very extensive and grand scale, and will vie with the public buildings of this country.

PARLIAMENTARY COMMITTEE ON PUBLIC OFFICES. The committee have been examining witnesses, and have elicited an interesting body of evidence. A paragraph in some of the papers to the effect that the Foreign Office is to be at once commenced, is, of course, erroneous.

THE POLYTECHNIC INSTITUTION.—This Institution was crowded on Wednesday evening last, on the occasion of a benefit to Mr. J. H. Pepper, who has ceased to be the lessee, much to the regret of all who have watched his efforts for several years past to provide instructive entertainment for the public. Mr. Henry Leslie and his choir, and Mr. Albert Smith lent their efficient aid in the amusements of the evening. We sincerely hope the public will not lose the advantages of Mr. Pepper's acquirements and ability, and that we may soon see him in a fresh and promising field.

THE NORLAND AND KENSINGTON POTTERIES INFANTS' AND RAGGED SCHOOLS.—These schools have at length been erected, and on the 10th inst. they were opened by the Earl of Shaftesbury, supported by a number of influential gentlemen. The plot of ground upon which the schools are built, is situated in St. James's-place, Prince's-road, contiguous to the Potteries, a locality still offering a wide field of operation for such schools. The buildings have been erected from the designs of Mr. William Sim, of Dane's-inn, Strand, the honorary architect. Mr. Cowland, of Nottinghill, was the builder. The schools are calculated to accommodate 450 children. The design is plain but substantial. The total outlay, irrespective of the fittings, will be about 650*l.*

THE ALBERT-BRIDGE.—The first tube of the Albert-bridge, which is to connect the counties of Devon and Cornwall, has been lifted to its required height. The tube weighs between 2,000 and 3,000 tons, and its centre is about 230 feet above the bed of the river. The other tube for the eastern side is rapidly progressing.

EFFECTS OF ILLUMINATING MATERIALS IN VITIATING THE AIR. It has been found by experiment, it is said, that lights of the same intensity from different substances take different periods to vitiate the same quantity of air, by converting it into carbonic acid. Rape oil, 71 minutes; olive oil, 72; Russian tallow, 75; common tallow, 76; sperm oil, 76; stearic acid, 77; wax candles, 79; spermaceti candles, 83; common coal gas, 98; cannel coal gas, 152.

LICHFIELD TOWER.—I thank your correspondent for his correction concerning the bells at Lichfield. I was informed, when there, that there were ten bells in the middle tower, besides the "Angelus;" and noticing the six ropes under the south-west tower, concluded there were two peals, as at Lincoln. (*) There is less excuse than I thought there was for blocking up the tower. With regard to clocks:—if they must be placed in the same tower with bells that are rung, it would be perhaps better if they could be made with "governors," to regulate the motion instead of pendulums. I have seen small clocks with governors: could not church clocks be similarly constructed?—S.

RAILWAY-CARRIAGE UMBRELLA-STANDS.—I am a daily traveller by railway. In wet seasons, some six or eight individuals get into a carriage with drenched umbrellas, and are much puzzled as to their disposal. They must either hold them or lay them at the foot of the carriage. Can no stand, to open with the door or otherwise, be constructed? Sitting in wet weather in damp clothes, with exceedingly moist neighbours on each side, and dripping umbrellas to hold at one's knee, or lay at one's feet, is bad enough for male passengers, but in the case of ladies becomes a "railway grievance." Some improvement of the same kind is much needed in omnibuses and cabs. —SPES.

TENDERS.

For rebuilding the Royal Pavilion Theatre, Whitechapel-road. Mr. G. H. Simmonds, architect:—

Perry	£5,580	0	0
Livermore	5,520	0	0
Brewster	5,438	0	0
Hill	5,377	0	0
Wood and Son	5,287	0	0
Read and Son	5,017	0	0
Hall and Son	4,979	0	0
Tilley	4,937	0	0

The building is 114 feet long, 64 feet wide, and 40 feet high, inside measure.

For building a house at Teddington. Mr. William Mumford, architect:—

Harrison	£1,840	0	0
Donally	1,815	0	0
Cliff and Marshall	1,800	0	0
Hane	1,755	0	0
Geen	1,698	0	0
Sherren	1,698	0	0
Palman	1,696	0	0
Adamson and Son	1,695	0	0
Cowland	1,679	0	0
Hawkins	1,650	0	0
Taylor	1,637	0	0
McLennan and Bird	1,574	0	0
Purkiss	1,569	0	0
Stevens	1,550	0	0
Rudkin	1,495	0	0
Barker	1,398	0	0
Harding	1,295	0	0

For the erection of a parsonage house and offices at Stockingford, near Nuneaton. Mr. Robert Jennings, architect, Atherstone:—

Harrison and Hill	£1,450	0	0
Haddon and Merideth	1,440	0	0
Thomas and George Harrold	1,335	0	0
Potter	1,265	0	0
T. and S. Orchard	1,225	0	0
H. Spencer	1,214	0	0
T. Hardy	1,200	0	0
W. G. and J. Fox	1,144	0	0

For the erection of dwelling-house and stables, Anerley, for Mr. Paul Margetson. Mr. Geo. Elkington, architect. Quantities not supplied:—

Thompson	£1,190	0	0
Wills	1,169	0	0
Coleman	1,150	0	0

For four additional almshouses, at Bow, Middlesex, for the Drapers' Company. Mr. Herbert Williams, architect. Quantities supplied by Mr. James Dudley:—

Winsland and Holland	1,050	0	0
Turner and Sons	971	0	0
Marsh	942	0	0
Ashby and Homer (accepted)	935	0	0

For a gas-holder and fittings for the County Lunatic Asylum at Sedgefield:—

Henry Watson, Newcastle	£845	0	0
Archibald Neill, Sedgefield	790	0	0
Holmes and Co. Huddersfield	725	0	0
Humble, Houghton-le-Spring	656	5	2
J. H. and J. H. Little, Newcastle	588	0	0
Knapton, York	575	0	0
Heron, Durham	560	0	0
Hebron, Newcastle (accepted)	557	6	8

For additions and alterations, St. John's National Schools, Waltham-green. Mr. A. Moseley, architect:—

Ritts, Waltham-green	£686	10	0
Todd, Chelsea	682	19	5
Dawson, Fulham	679	1	7
Rudkin	677	0	0
Bird and Co. Regent's-park	663	0	0
Jarvis	657	8	0
W. Strong, Wandsworth	615	16	0
Bray, Hammer-mith	599	0	0
Chandler, Hammersmith	595	0	0
Adamson and Son, Putney	587	0	0
Webster, Hammersmith	578	0	0
Moore, Bayswater	530	0	0

For building house and offices on the Thorpe-road, near Peterborough. Mr. Edward Browning, architect, Stamford:—

			Additional for ashlar front, instead of white face bricks.		
Bradshaw	£3,144	0	0	£300	0	0
Ellis	2,997	0	0	350	0	0
Ruddle	2,950	0	0	350	0	0
Wilson (accepted)	2,780	0	0	185	0	0

TO CORRESPONDENTS.

J. W. (take advice on the spot, where the words of the agreement may be seen.—W. L. (in Transactions of Manchester Statistical Society. Other Report at Housard's).—J. H.—S.—R. J.—Mr. C.—J. W. H. (the suggestion has been made by others).—S. R.—M. J. L.—J. H.—W. D. M.—H. N.—An Architect.—Mr. R.—F. C. P.—J. C.—C. H. D.—A. B. H. (thanks).

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

ADVERTISEMENTS.

"THE BUILDER."—Wanted, the Numbers for January 17, 24, and 31, 1857.—Apply at the Office of "The Builder."

PUPIL.—An ARCHITECT is desirous of obtaining a respectable Young Man as PUPIL for three or five years. No premium required.—Address by letter to J. W. J. 7, Dane's-inn, Strand.

AN ASSISTANT REQUIRED in a SURVEYOR'S OFFICE, thoroughly competent at abstracting all kinds of work, and writing bills in proper form. Also, an OFFICE BOY REQUIRED. Address, in either case, stating salary and references, to M. F. Mr. Hathaway's, Newsagent, Royal Exchange.

TEMPORARY ASSISTANCE.—An ARCHITECTURAL DRAUGHTSMAN, accustomed to prepare perspective, finished, working, and detail drawings, specifications, take off quantities, measure artificers' work, &c. is desirous of rendering temporary ASSISTANCE to Architects, either at their own Offices, or in Chambers. — Address R. B. 43, Southampton-row, Russell-square, W.C.

TO BELL-HANGERS.

A THOROUGH PRACTICAL BELL-HANGER WANTED. None need apply unless they can give good reference as to their practicability and integrity.—Address, by letter, to Mr. PARKES, 17, London-street, Paddington, stating where they have completed bell-works that may be viewed.

LONGTON GAS COMPANY (Limited). GAS ENGINEER WANTED, for the Construction of Gas Works at Longton Potteries. References, with terms and testimonials, to be sent to G. L. ROBINSON, Solicitor, Longton, on or before the 30th of JUNE, instant.

MILE-END OLD TOWN.—The Vestry of the Hamlet of Mile-end Old Town, in the County of Middlesex, will meet at the Town House, Mile end road, on WEDNESDAY evening, the 7th day of JULY next, at SEVEN o'clock, to appoint a CLERK to the Vestry, under the provision of the Metropolitan Local Management Act, 1855. Salary, 200l. per annum. Security required for 250l. Applications from candidates, accompanied with testimonials, and addressed to the Chairman of the Vestry, must be forwarded to this Office, by THREE o'clock in the afternoon of WEDNESDAY, the 7th JULY next.—Any further information may be obtained on application at this Office.

THOMAS PRICE, Clerk to the Vestry.
Town House, Mile-end road, June 24th, 1858.

TO GENERAL FOREMEN.—WANTED, a thoroughly practical GENERAL WALKING FOREMAN and MANAGER; by trade a Joiner, experienced in repairs and alterations, as well as new buildings.—Apply, personally, on MONDAY or TUESDAY EVENINGS, between the hours of SIX and NINE o'clock, to Messrs. PATRICK and SON, Builders, Westminster-road.

TO CARPENTERS AND JOINERS.

WANTED, by a young Man, aged 21, a SITUATION as IMPROVER.—Address, A. C. 72, Freeschool-street, Horsleydown, S.E.

PARTIAL OCCUPATION.

WANTED, in a Builder's Office, a Person acquainted with the duties required in office and yard, and having some time each day unemployed which he can devote to the above purpose. Salary, 1l. per week. References and security required.—Apply personally to Messrs. BALL and STEARMAN, next the Brecknock Arms, Camden-road Villas, on TUESDAY, 29th inst. between the hours of SIX and NINE p.m.

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WANTED, a good FIGURE PAINTER, &c.—For further particulars, apply to JOHN SCOTT, Glass Painter, &c. Carlisle.

TO PARENTS AND GUARDIANS.

WANTED, an APPRENTICE to the ORNAMENTAL WOOD CARVING business, in or out door. A premium required.—Address, J. G. 216, High-street, Hoxton, N.

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WANTED, a thoroughly competent, active Person, who has had considerable experience in interior decoration.—Address, stating particulars, age, and salary required, to Y. Y. Office of "The Builder." No anonymous communications will be attended to.

TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, an ASSISTANT, competent to make out fair, working, and detail drawings; to take out quantities and make and colour perspectives. Reference as to character and abilities required.—Address, stating salary, to J. M. at the Post-office, Tonbridge, Kent.

WANTED, a BUILDER'S CLERK, accustomed to estimating and measuring, who possesses a knowledge of the management of works. Apply by letter, stating references, and salary required, to A. B. Messrs. Field and Co. No 84, Fleet-street, E.C.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a Practical Hand, a SITUATION as PLUMBER, or good THREE BRANCH HAND. Satisfactory reference as to ability, honesty, sobriety, &c. from his last employer.—Address, J. Q. 5, Alhop-mews, Dorset-square, N.W.

TO ARCHITECTS AND SURVEYORS.

WANTED, by a Young Man, after the 14th of JULY, a SITUATION as IMPROVER. Salary moderate. Can design, prepare perspective and working drawings, take out quantities, &c. measure work, and is a neat draughtsman and tourist.—Address, A. Z. 5, High-street, Guildford.

WANTED, by a Mechanical Labourer or Handy Man, a SITUATION. Has a thorough knowledge of fixing pipes, for gas, steam, and hot water, coppersmithing and stove grating. Can make himself generally useful in general repair of gas fittings, &c.—Address, J. A. 1, Rhodeswell-road, two doors from the Town, Limehouse, E.

TO BUILDERS, PLUMBERS, AND OTHERS.

WANTED, a SITUATION, by a Respectable Young Man, as PLUMBER, PAINTER, and GLAZIER. Is a thorough tradesman, and is competent in measuring or estimating work. Good testimonials given.—Address, P.P. No. 2, King-street, Covent-garden.

WANTED, by a Married Man, aged 31, a RESPONSIBLE SITUATION. Has had experience in the timber trade, and partially acquainted with architectural drawing, measuring of artificers' work, &c. Can produce satisfactory testimonials of character and ability.—Address, Z. X. Y. 20, Barnsbury-grove, Islington, N.

TO LIME, TILE, BRICK, AND CEMENT MANUFACTURERS.

WANTED, by a Young Man, 28 years of age, a SITUATION as BOOK-KEEPER, or COLLECTOR. Has been accustomed to the above trades for nine years, and can give satisfactory references as to ability, integrity, &c. No objection to the country.—Address (pre-paid), Y. Z. X. 13, Swinton-street, Gray's-inn-road, W.C.

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WANTED, by a Young Man, a CONSTANT SITUATION as PLUMBER and GASFITTER. No objection to fill up the time with painting. No objection to town or country.—Address, J. T. 3, Rochester place, South Lambeth New-road.

WANTED, by a thoroughly practical Man, a SITUATION as MANAGER for a CONTRACTOR; or as inspector on a railway. Understands building in all its branches. Has for many years had the direction of railway works; namely, station and bridge building, construction of permanent way, &c. No objection to go to the colonies. Can have first rate testimonials.—Address, R. G. Messrs. Phillips and Brett, New Dock Saw-mills, Langdon place, Pontsanses, Glamorganshire

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WANTED, by a Young Man, a SITUATION in either of the above offices. Has had five years' experience. References given. N B Country not objected to. — Address, A. S. 48, No. 2, Clarendon-road, Notting hill, W.

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WANTED, by the Advertiser, a SITUATION to DRIVE an ENGINE (either high or low pressure). Is competent to do all repairs, and well acquainted with fixing steam or hot-water works. —Address, F. B. 3, George's-cottages, Holloway, London.

WANTED, a RE-ENGAGEMENT as SHOP or OUT-DOOR FOREMAN of CARPENTERS, JOINERS, &c.; is an efficient staircase hand, and has a good practical knowledge of all kinds of joiners' work. No objection to the country. Aged 36.—Address, A. O. Office of "The Builder."

TO PLUMBERS.

WANTED, by a respectable Young Man, a SITUATION in the above line, where he will have an opportunity of improving himself.—Address, E. N. 1, Winchester place, Kentish-town, N.W.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a respectable, experienced person, as CLERK or FOREMAN, to take the management of a Brickfield or Tile Manufactory. Has a thorough practical knowledge of the business in all its branches—white facing bricks, pipes, tiles, &c. First-rate reference will be given.—Address, W. A. Mr. Moore's, 108, Lower-marsh, Lambeth, Surrey.

TO BUILDERS AND CARPENTERS.

WANTED, by the Advertiser, who has just finished his apprenticeship, EMPLOYMENT for twelve months, where he could have experience at good work. Wages, 24s per week.—Address, B. 108, Mount-street, Berkeley-square, W.

TO PLUMBERS, BUILDERS, &c.

WANTED, by a practical PLUMBER, EMPLOYMENT. Can take charge of work. Locality no object. References given. Address, T. MILLS, Messrs. Clark's, Lead Works, Reading, Berks.

TO BUILDERS

WANTED, a RE-ENGAGEMENT, by an active, sober, industrious FOREMAN of BRICKLAYERS, aged 36, thoroughly acquainted with drawings. Has had considerable experience in moulded brick dressings. Unexceptionable references. Testimonials. — Address, W. X. 46, Lillington-street, Vauxhall-road, S.W.

TO CARPENTERS AND BUILDERS.

WANTED, by a respectable Young Man, in his 19th year, whose character will bear strict investigation, a SITUATION as an IMPROVER in the above line. He has been in the trade 2½ years, part of which time he has served as an indoor apprentice.—Address, A. D. Key's, Bookseller, Stationer, and News Agent, Westbourne place, Paddington.

TO ENGINEERS, ARCHITECTS, AND OTHERS.

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Sewers Office, Guildhall, May 26, 1858.

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All sawn goods delivered within three miles free of cartage.
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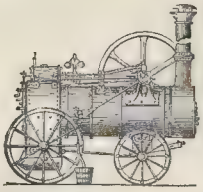

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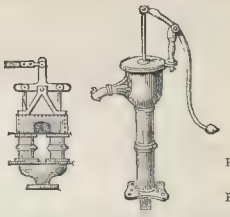

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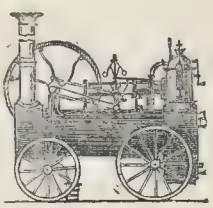

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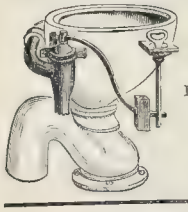

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BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

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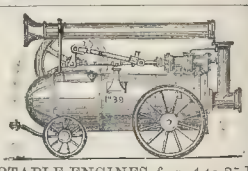

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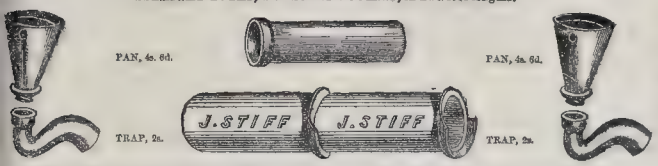
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Deavers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S. St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS S, Bowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 22, Brydges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

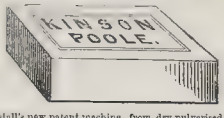
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.

WORKS: KINSON, near POOLE.

PATENT FIRE-BRICK MANUFACTURERS.

FIRE 

BRICKS.

The Fire-bricks are manufactured by Burstall's new patent machine, from dry pulverised clay, unrivalled for beauty of finish and fire-resisting properties, have been severely tested, and pronounced quite equal, if not superior, to any other fire-brick known. Furnace Blocks, Arches, Quarries, and all goods used for fire purposes. Fire-clay of the finest description. Glass house Pots, Furnace Brick, and Pot Clay. Sanitary Glazed Stoneware Pipes, approved by the Board of Health. Bends, Junctions, Closet pans and Traps, Invert Blocks, and every article for the first quality required for drainage purposes. There is an inexhaustible quantity of all descriptions of Dorsetshire Clay used for pottery purposes on their estate, which can be supplied on the most favorable terms.

List of prices, and all other information, will be furnished on application to

Mr. GILBERT E. MITCHELL, Manager, at the Works: Mr. JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth; or to Messrs. H. C. QUINTON and SON, Bristol.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe.

SALT GLAZED AND TERRA COTTA FLUE-PIPES,

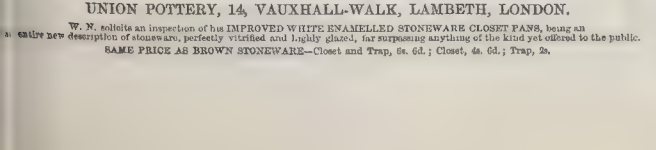
By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or of Mr. M'WILLIAM, at the Depôt, 8, Belmont-place.



WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 8s. 6d.; Closet, 4s. 6d.; Trap, 2s.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES are the strongest in the London Market.

CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	9-ft. 6 in. by 1 ft. 9 in.	
11s.	8s. 3d.	8s. 6d.	5s. 6d.	
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.	
5s.	4s. 3d.	3s.	2s per foot.	

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE. D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

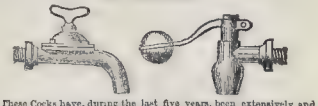
The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 350 feet, their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Sucker, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ ,, long	3 3	gutta percha	1 14 0
3 ,, ditto	3 6	or cast iron	2 8 0
3½ ,, ditto	3 6	flanged pipe	2 12 0
4 ,, ditto	3 6	as required.	3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 6
2½ in. long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses, they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

TO EMBARRASSED DEBTORS.—There are thousands of persons who have long struggled against the force of misfortune, but few are aware that under recent Protection and Arrangement Acts, debtors owing any amount, large or small, in town or country, clergymen, farmers, merchants, private and professional gentlemen (the latter for any amount and without any publicity), can be entirely raised from their difficulties at small expense and without imprisonment or bankruptcy. All such Mr. WELLS, Solicitor (since 1839), begs will apply to him at No 28, Moorgate-street, Bank.

N.B. Debtors sued on bills of exchange and by County Courts should come instanter. Money advanced on all good securities. Debts bought and collected. Divorce cases conducted.

SALES BY AUCTION.

SOUTHAMPTON.—Building Land of Fifty Acres.—Freehold Blocks, unrivalled in situation, near this growing Town.—TO BE SOLD BY AUCTION by

R. H. PERKINS and SONS, at the DOLPHIN HOTEL, Southampton, on the 29th of JUNE, 1858, unless an acceptable offer be made by private contract.—Plans and particulars of Messrs. SHARPE, HARRISON, and SHARPE, Solicitors; or of the Auctioneers, Southampton.

IN CHANCERY, "COTTAM v. HALLEN." To IRONMONGERS, BUILDERS, CARPENTERS, BROKERS, and OTHERS.

MR. GEORGE ROBINSON is instructed to SELL, on the PREMISES, Cornwall-road, Lambeth, on MONDAY, JUNE 28, and five following days, at TWELVE precisely each day, the whole of the very Extensive and Valuable MANUFACTURES, and partly manufactured STOCK of the Old-established and Respectable Firm of COTTAM and HALLEN, which comprises 700 iron bedsteads, of various sizes and patterns; 100 iron protean chairs; a very large quantity of parts of bedsteads and brass ornaments, [illegible] and gutters, handles, grates, stoves and stove metal, [illegible] traps and gratings, pumps, barrow wheels, doors and frames, [illegible], table fittings, lamp posts, [illegible] of bar iron, a 20-horse power Cornish boiler, girders and columns, [illegible] machine, rivets and nails, garden rollers, shovels, a small assortment of general ironmongery, &c.—May be viewed two days prior, and catalogues had on the Premises; of W. KINSEY, Esq. 9, Bloomsbury-place; of Messrs. DUNN and SURTEES, 2, Raymond's-buildings, Gray's-inn; of Messrs. HARDING, PULLEN, and CO. 5, Serle-street, Lincoln's-inn-fields, and 4, Lothbury; and at Mr. GEORGE ROBINSON'S Office, 21, Old Bond-street.

TO TIMBER MERCHANTS, CABINET MAKERS, PIANO-FORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS.

MESSRS. O'LEARY and CO. beg to an-nounce, that in consequence of the expiration of the lease of the Premises, 35, Sun-street, Bishopsgate-street, they will offer by PUBLIC AUCTION, on the PREMISES, on MONDAY, the 5th JULY, and two following days, a THIRD PORTION of Mr. H. Bateman's very superior and well-seasoned stock of WOOD, comprising prime dry wainscot in every thickness, Spanish and Honduras mahogany, rosewood and walnut wood in planks, boards, and veneers. And [illegible] veneers, dry pine plank, &c. &c. &c. To be viewed two days prior to and on the mornings of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, 25, Old Broad-street, City, E.C.

TO BUILDERS, CARPENTERS, PACKING-CASE MAKERS, and OTHERS.—No. 1, Atkinson-place, Brixton-road, corner of Acre-lane.

MR. PEAKE will SELL by AUCTION, on the PREMISES, on THURSDAY, JULY 1st, 1858, at TWELVE, by order of the Assignees for the benefit of creditors, 800 prime YELLOW DEALS, 800 spruce deals, 400 pine plank, 100 spruce plank, 50 squares prepared flooring, 100 squares prepared match lining, partition laths, slating, battens, quartering, &c., horse, spring cart, gig, timber carriage, two sets of harness, chaff-cutting machine, and stable utensils; also, by permission, about 500 pieces of paper hangings, [illegible] on the 8th instant. May be viewed the day preceding and morning of sale; and catalogues obtained on the Premises; of Mr. KINGDON, Solicitor, 3, Laurence-lane, Cheapside; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

TO RAILWAY CONTRACTORS AND OTHERS.—Park-street Station, on the St. Alban's and Watford Railway.—The Railway Plant used in the construction of the above Railway.

MESSRS. PAGE and CAMERON will SELL by AUCTION, on WEDNESDAY, JULY 7th, 1858, at TEN for ELEVEN o'clock punctually, by direction of Messrs. Goodison, Paris, and Brown, who have completed the contract, comprising 100 earth waggons, 200 tons of contractors' rails, cast iron crossings, 4,000 temporary sleepers, two brick carts, 100 navvy barrows, 200 barrow planks, two chaff-cutting machines, by Dray and Co., water cart, four sets of cart harness, the erection of a large stable, six valuable cart horses, and numerous miscellaneous items.—May be viewed on the morning of sale, and catalogues had one week previously, at the Inns in the neighbouring towns, and of Messrs. PAGE and CAMERON, Land Agents and Surveyors, 64, Old Broad-street, and St. Alban's.

POTTER'S-BAR, MIDDLESEX.

MESSRS. PAGE and CAMERON will SELL by AUCTION, at the MART, on FRIDAY, JULY 16th, at TWELVE for ONE, a valuable FREEHOLD ESTATE (land-tax redeemed), with possession, only a short distance from the Potter's-bar Station, on the Great Northern Railway, comprising a genteel and substantially built residence, with good stabling, coach-house, farm-yard, and other out-offices, lawn shrubberies, kitchen garden, orchard, and 16 acres of superior meadow land, beautifully timbered, the whole lying most compact in a ring fence, with important building frontages to two roads, and upon the formation of the Metropolitan Railway will be brought within half an hour's ride of town.—May be viewed on application to the Auctioneers, and particulars and conditions of sale had at the Mart; and of Messrs. PAGE and CAMERON, Land Agents and Surveyors, 64, Old Broad-street, and St. Alban's.

TO BUILDERS, CONTRACTORS, and OTHERS.—Unreserved Sale of about 170,000 Best Welsh Slates.

MR. ROBERT KENYON will SELL by AUCTION, on the PREMISES, Messrs. Burt and Co.'s Wharf, Trinity-street, Rotherhithe, on WEDNESDAY next, the 30th instant, at TWELVE for ONE o'clock precisely, about 170,000 BEST WELSH SLATES, arranged in Lots suited to all classes of buyers, and varying from 24 inches by 12 inches to 14 inches by 7 inches.—May be viewed on TUESDAY next and Morning of Sale. For catalogues, apply to Mr. ROBERT KENYON, Auctioneer, 1, Copthall Chambers, Copthall-court, near the Bank.

LEASEHOLD PROPERTIES.—Lewisham, Camden-town, King's-cross, and Fulham.

MESSRS. DEBENHAM, STORR, and SONS will SELL by AUCTION, at GARRAWAY'S, on WEDNESDAY, JULY 21, at TWELVE, in nine lots, TWELVE long leasehold HOUSES (seven rooms each) in Cedar-road, Fulham; a dwelling-house, No. 7, Perry-street, King's-cross; a butcher's shop and dwelling-house, No. 58, Park-street, Camden-town, term forty-nine years, improved rent on lease, 41*l.* 5s. per annum; and a semi-detached villa residence, No. 11, Lanes Villas, High-road, Lewisham, held for seventy-five and a half years at a ground-rent of 7*l.* per annum, and let at 60*l.* per annum. Particulars of the Auctioneers, King-street, Covent-garden; of J. JOHNSTON, Esq. Solicitor, 57, Chancery-lane; and of Messrs. STILEMAN and NEATE, Solicitors, 26, Orchard-street, Portman-square.

IN BANKRUPTCY.—Improving Leasehold House Property at Fulham, and Two large Plots of Building Ground.—Term, ninety-one years.

MESSRS. DEBENHAM, STORR, and SONS will SELL by AUCTION, at GARRAWAY'S, on WEDNESDAY, JULY 21, at TWELVE, in six lots (by order of Mr. Commissioner Goulburn, in the matters of Tingey, a bankrupt, and Rowland and Evans, bankrupts), SIX well-built HOUSES, Nos. 2, 4, 10, 12, 14, and 24, Cedar-road, close to the High-road, Fulham; SIX unfinished HOUSES, and TWO large PLOTS of BUILDING GROUND in the same road; and an improved GROUND RENT of 12*l.* per annum, amply secured on Nos. 25 and 27, Cedar-road. The whole held for about ninety-one years, unexpired.—Particulars of J. JOHNSTON, Esq. Solicitor, 57, Chancery-lane; of Messrs. RICHARDSON and SADLER, Solicitors, 28, Golden-square; at Garraway's; and of the Auctioneers, King-street, Covent-garden.

TO BARGE AND BOAT BUILDERS, FOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 6, 1858, at ELEVEN o'clock, on the PREMISES, Creek-bridge Wharf, Greenwich, [illegible] SURPLUS MATERIALS and STORES; 500 [illegible] oak slabs, [illegible] oak tops, fifty [illegible] mahogany slabs, three logs Honduras mahogany, [illegible]; ten loads oak timber, fifty tons No. 7 Calder pig iron, twenty tons broken machinery castings, a new four-ton post crane, set shear legs, and crab, ten tons rod and bar iron, ten tons wrought iron plate, and numerous other effects.—To be viewed on MONDAY previous to the sale, when catalogues may be had, on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

SALES BY AUCTION.

LONDON MARBLE AND STONE WORKS, ESHER STREET, S.W.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, July 7th, 1858, at ELEVEN o'clock, on the PREMISES, the spacious LEASEHOLD PREMISES, for many years occupied by the London Marble and Stone Working Company, situate in Esher-street, Millbank, Westminster, occupying a large area, and especially erected for the business. The buildings comprise a spacious manufactory, of two floors, handsome and lofty show room, 120 feet long, 30 feet wide, and 20 feet high, with workshops beneath, large yard, offices, and manager's dwelling, and are held on lease for a term, of which fifty-two years were unexpired at Lady-day last, subject to a ground rent of 73*l.* per annum. To be viewed till the sale. Printed particulars may be had on the Premises; of Messrs. WARRY, ROBINS, and BURGESS, Solicitors, Lincoln's-inn-fields; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Machinery of the London Marble and Stone Works, Esher-street, S.W.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, the 7th of JULY, 1858, at ELEVEN o'clock, on the PREMISES, Esher-street, Millbank, Westminster, in lots, the MACHINERY and IMPLEMENTS of the London Marble and Stone Working Company, including four steam sawing-frames, from 11 ft. by 1 ft. 10 in. to 16 ft. by 3 ft. [illegible]; two iron circular sawing frames for marble, two polishing machines, circle cutting machines, sanding table and bin, moulding bed for engine turning lathes, single saw-stone cutting frame, a steam-engine of 10-horse power, by Dryden, with tubular steam boiler; all the shafting, riggers, and gearing; two very powerful over-head travelling cranes, blocks and falls, leather bands, saws, metal dinner bell, and other effects. Also twenty marble chimney-pieces, Rouge Royale, [illegible]. To be viewed on [illegible] may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

LONDON WORKS, NEAR BIRMINGHAM.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupation of Messrs. Fox and Henderson, and situate at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, in the immediate vicinity, also, of the works of G. F. Muntz, Esq. Messrs. James Watt and Co. and the Birmingham Patent Tube Company. It is important to notice that the rates in the parish of Harborne are not more than one third the amount of those in the adjoining parish of Birmingham. The works occupy a site of 5a. 1r. 26p. 27 yards; they have a frontage of about 455 feet next Cranford-street and a frontage of 430 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and other canals, and thus affords facility for water carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding 50,000*l.* They were established in 1839 by Messrs. Bramah and Fox, and have been raised to their present importance by Messrs. Fox and Henderson, under whose practical judgment they have been arranged for carrying on the great undertakings in connection with which the name of that firm has been rendered famous. The buildings are arranged in a quadrangular form, and are most substantial erections. The entrance is through a gateway (on either side of which are offices and stores) to a spacious yard, in the centre of which is the boiler house and lofty chimney. To the left is a carriage-building shop, 201 feet by 108 feet, an iron store adjoining, 97 feet by 11 feet. The principal range of buildings include the smiths' shop, 119 feet by 102 feet; two anchor smiths' shops and turntable shop, a fitting shop, 119 feet by 114 feet, with galleries; a railway-wheel shop, the large foundry, 198 feet by 72 feet, two moulding shops adjoining, 119 feet by 64 feet, core stoves and brass foundry. On the right of the yard, are pattern makers' shops and pattern stores, painters' stores, a chain shop, stabling, foreman's apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the different purposes at prices ranging from 4s. 6d. to 11s. per ton, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road.—Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr. CHARLES CLARKE, Smethwick, who will show the property; to Mr. HORNBLOWER, Architect and Surveyor, Waterloo-street, Birmingham; to Messrs. SWIFT, WAGSTAFF, and BLENKINSOP, Solicitors, Liverpool, and 32, Great George-street, Westminster; to Messrs. BEALE and MARIGOLD, Solicitors, Waterloo-street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—A large proportion of the purchase money may remain on mortgage.

To Engineers, Founders, Railway Wheel-makers and Carriage-builders, Anchor-smiths, Chain-makers, and Others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN each day, in lots, at the LONDON WORKS, Smethwick, lately occupied by Messrs. Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Lewis, Collier, and other eminent makers, including, in the fitting shop and galleries; 11 self-acting screw-cutting lathes, 6 to 16g. and centre, 18 slide turning lathes, 14 railway wheel lathes, one very superior double action ditto; four axle lathes (self-acting), 19 vertical drilling and boring machines, many of them self-acting, three self-acting planing machines, six self-acting screwing machines, universal shaping machine, hydraulic machine for putting on railway wheels, axle-guard shaping machine, wheel cutting machine, two 35 horse power expansive condensing steam engines, 700 feet turned wrought iron shafting, 120 turned pulleys, 54 vices and benches, grindstones, a large assortment of steel tools for the various machines, &c. In the wheel shop: Five powerful hydraulic presses, one for pressing bridge links, nuts, &c.; one for spoke bending, one for Beattie's patent wheels, one for pressing axle-guards, and one for eyes, welding tires, with pumps and gearing worked by steam-power; tire furnaces and forges, smiths' forges, two 3-ton cranes, one small ditto, cast iron [illegible] feet diameter, drilling machines, &c. In the foundries:—Eight 5 ton cranes, each 16 feet sweep, 15 feet high, with racking-out gear, chains, and blocks, three 50 cwt. cranes (double purchase), one 28-ton traveller, 45 feet span; a very superior loam mill, two cupolas, four core stoves, 120 feet of black shafting, benches, one annealing furnace, small cupola, six pot furnaces, air furnaces, moulding boxes, &c. In the turntable shop:—Two very powerful surfacing lathes, with face plates 13 feet and 16 feet diameter, one facing and boring machine, capable of boring cylinders 72 inches diameter; three self-acting facing machines, one superior self-acting radial drilling machine, with 6 feet radius; one 12½ ton traveller, 38 feet span. In the anchor shops: Two Nasmyth's 50 cwt. steam hammers, with Cornish boilers; one tilt hammer, with 16-horse power horizontal steam engine and boiler; two powerful Hercules (one to work by steam-power), eight 5 tons and three 3 tons post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven anchor smiths' forges with water tuyeres, a chain proving machine, bed 106 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the rail shop:—Two self-acting planing-machines, to take in 15 feet by 4 feet 1 and 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, vices, benches, &c. In the carriage building shop:—Two large and five small [illegible] and shearing machines, one powerful lever ditto, set of plate-bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two pipe-bending machines, four sawing machines for iron, three drilling machines, circular saw bench, [illegible] machine, 50 feet black shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—46 forges, 4 anchor fires, fan blast, 5 feet, one [illegible] Nasmyth's hammer, lever punching machine, one corrugating machine with dies complete, one Hercules, one Ryder's patent forging machine, 5 wrought-iron cranes, one small traveller, 150 feet black shafting, pulleys, &c. In the boiler-house and yard: Four 25 horse power high pressure steam boilers, one very powerful punching and shearing machine, capable of punching 2½-inch hole in 1½-inch plate; two hydraulic proving machines, 15-ton weigh bridge, 20 cwt. weighing machine, two 5 ton iron post wharf cranes, one 10-ton derrick, Henderson's patent, 55 feet sweep; one 3-ton derrick, 35 feet sweep; two yard travellers, 21 feet 2 and 35 feet 3 span, with double-purchase gearing and rails; fittings in pattern makers' shops, pattern stores, paint store, and offices; a large assortment of wood patterns, the dies for the various sizes of Lieutenant Roger's patent anchors. Foundry:—Boxes and flasks, ladles, stores of various description and a large collection of other miscellaneous requisites for a first-class engineering establishment.—To be viewed three days prior to the sale.—Catalogues may be had, at 1s. each, of Mr. HORNBLOWER, Architect, Waterloo-street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the amount of 50*l.* and upwards.

SALES BY AUCTION.

WESTMINSTER.—BUILDING MATERIALS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, 35, Parliament-street, Westminster, on WEDNESDAY, JULY 7, at TEN for ELEVEN, the MATERIALS and FITTINGS of a large HOUSE and WAREHOUSE, of the usual description, and including a plate-glass shop-front, lead gutters and flats, brickwork, &c. May be viewed one day previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

ROYAL HOSPITAL, GREENWICH.—Clothing and other Stores.

MESSRS. EVERSFIELD and HORNE are honoured with instructions from the Commissioners of Greenwich Hospital to SELL by AUCTION, at the STEWARD'S DEPARTMENT, on TUESDAY, JULY 13, at TWELVE for ONE, a quantity of useful STORES; consisting of blue woollen coats, waistcoats, trowsers, drawers, stockings, linen rags, flannels, hats, frockings, rope, mats, mop sticks, old metal, gold lace, and numerous miscellaneous articles. Also a quantity of loose materials, pair of large wrought iron gates, ironwork, brass, copper, &c. belonging to the Works Department. May be viewed one day previous, and catalogues had at the Offices of the Steward and Inspectors of Works; and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

WARDOUR-STREET, SOHO.—The Genuine Manufactured and Unmanufactured Stock of a Cabinet maker.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, on the PREMISES, Ship-yard, Wardour-street, Soho, on WEDNESDAY, JULY 21st, and following day, at TWELVE for ONE, the very excellent Seasoned STOCK, consisting of [illegible] of Spanish and Honduras Mahogany, in planks and boards; a large variety of foreign Woods, both solid and in veneers, including satin wood, Italian and American walnut, wainscot, cedar, &c. and a quantity of dry pine. Also the superior Manufactured Stock, comprising sets of dining-tables, sideboards, loo, pedestal, and other tables; bookcases, Devonports, and other cabinet work of the first class; the whole being the genuine Stock of Mr. THOMAS BIRD, who has borne a high reputation for his goods for many years, and is now retiring from the London trade. At the same, time will be Sold the Household Furniture of a small Dwelling-house, 21 work benches, turner's lathe and tools, pit saws, and other effects. Approved bills of three months from purchasers to the amount of 30*l.*

May be viewed two days previous, and catalogues had upon the Premises, and will be sent, post free, on application to the Auctioneers, 40, Parliament-street or Coal Exchange.

N.B.—The Lease of the excellent Premises, with Yard, Stable, Workshops, Offices, and Dwelling-house, to be Disposed of.

TO BUILDERS AND CONTRACTORS.—TO BE SOLD by AUCTION, at the WHITE HART INN, Hexham, on TUESDAY, the 13th day of JULY next, at TWO o'clock in the afternoon. By

MESSRS. THOMAS BLANDFORD and SON, the GOOD-WILL and INTEREST in a LEASE of the WHITE FREESTONE QUARRIES, at Prudham, near Fourstones Station, on the Newcastle and Carlisle Railway, together with the Plant, Cottages, and Trade Utensils, on the Premises. These quarries contain the best white building stone in the district, and produce blocks of large dimensions, which can be shipped advantageously to the south. They are in working order, with sufficient plant to do a large trade, and may be entered upon immediately. The whole will be offered in one lot. The quarries, plant, &c. are on view, and catalogues or other information can be had of the Auctioneers, Corbridge; Messrs. T. and J. NELSON, Marble Works, Carlisle; or of Messrs. MYRES and VEEVERS, Surveyors, &c. Preston.

Theatre Royal, Adelphi, now being pulled down, together with several other Shop and House Property (the work of demolition has commenced in right good earnest), preparatory to rebuilding a magnificent theatre on the old site.

MESSRS. BARTON and SON have received instructions from the Contractors, who are now busily engaged in pulling down this theatre, and removing the whole of the MATERIALS, for convenience of sale, to the waste grounds of the Great Central Horse Repository, opposite the Elephant and Castle, Newington; they will consequently hold TWO DAYS' SALE there to the highest bidders, and not a lot will be reserved. The days of sale will be TUESDAY and WEDNESDAY, JUNE 29 and 30, at ELEVEN for TWELVE, on account of the large number of lots. The sale will comprehend the several tiers of boxes, saloons, refreshment rooms, upper and lower galleries, stage, pit, and dressing rooms, slips, and the whole of the Memel timbers of the main building and shop property contiguous thereto.—May be viewed, and catalogues had at all the Theatrical Houses; on the Grounds; and of the Auctioneers, at Lambeth.

ON the ISLE of WIGHT COAST, at SANDOWN BAY, distant five hours from London; six miles from Ryde, and seven miles from Ventnor.—TO BE SOLD, or LET on long leases, CLIFF PARK ESTATE, SANDOWN, containing about SIX ACRES of BUILDING LAND, in the most healthful situation in the Isle of Wight. The property is on the cliff, and extends to high-water mark. The sea-shore (which can be reached by a footpath from the grounds) affords the best bathing in the island, and the sands form a natural esplanade of several miles in length nowhere to be surpassed. The view towards the bay, from Culver Cliff to Dunnose Point, as also the inland prospect, can never be intercepted. The subsoil is a dry sand rock, and there is good spring water obtainable at a moderate depth. The church is 300 yards distant. Numerous public conveyances to and from Ryde and Ventnor, in connection with the South-Western and the Brighton Railway trains, pass through Sandown daily. The fee simple of the property can be purchased on reasonable terms. The land-tax is redeemed.—For a plan and further particulars apply to Mr. WOODMAN, Architect, Cliftonville, Brighton; or Mr. SEARLE, Grange-place, Sandown, Isle of Wight, who will show the land.

SPECIAL NOTICE.
BUILDERS' PERIODICAL SALES,
23, ST. MARYLEBONE-ROAD,
Adjoining the Workhouse.

MESSRS. BOOTH and CO. will submit to PUBLIC COMPETITION, on the PREMISES above, early in JULY, a VALUABLE COLLECTION of BUILDERS' STORES, TACKLE, and MATERIALS, the PROPERTY of VARIOUS OWNERS, REMOVED for CONVENIENCE of SALE. TO BE SOLD, WITHOUT RESERVE. FURTHER and FULL Particulars next week, with DATE, &c. &c.

FURTHER NOTICE.

THAT THESE SALES are EXPRESSLY for the CONVENIENCE of ALL BRANCHES of the BUILDING TRADES, and the PROPRIETORS wish it to be FULLY UNDERSTOOD that they are open to receive LARGE or SMALL lots of any class of goods suited to such sales, and that THEY ARE PREPARED with DEPOTS in all districts for THEIR RECEPTION, and that GOODS FOR THIS SALE CAN BE RECEIVED a FEW DAYS LONGER.

LOTTING FORMS FOR THIS AND OTHER SALES IN HAND, may be had, GRATIS, with full particulars, terms, &c. on application at the CITY OFFICE, TEN to FIVE, daily, or by post, on the receipt of one stamp.

13, EASTCHEAP, CITY, E.C.
ONE MINUTE'S WALK FROM THE MONUMENT,
LONDON-BRIDGE.

TO MECHANICAL ENGINEERS, MILL-WRIGHTS, and OTHERS.—TO BE DISPOSED OF, by PRIVATE CONTRACT, the PLANT, MACHINERY, STOCK-IN-TRADE, and WORKING TOOLS on the Premises in King's Lynn, late in the occupation of Mr. Alfred Dodman, Mechanical Engineer, consisting principally of a seven-horse power fixed steam-engine, self-acting screw-cutting lathes, planing, drilling, and punching machines; shafting and pulleys, forges, anvils, and bellows; foundry-boxes, and of the usual assortment of smiths' tools.—For particulars apply to Mr. T. G. ARCHER, Solicitor, King's Lynn.

N.B. The Premises wherein the business has been carried on are To Be Let.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent garden, both in the County of Middlesex.—Saturday, June 26, 1858.

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AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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THE NEW SOCIETY of PAINTERS in WATER COLOURS.—The Twenty-fourth ANNUAL EXHIBITION of this Society is NOW OPEN at their Gallery, Pall-mall, near Gallery, from Nine till Dusk daily. Admission, Season Tickets, 5s JAMES FAHEY, Secretary

THE OPERATIVE MASONS' BENEFIT SOCIETY, held at "The George," Great Chapel-street, Soho—Instituted 1810. Enrolled 10 Geo. IV., c. 56.—The FORTY-EIGHTH ANNIVERSARY of the above Society will be celebrated on MONDAY, JULY 5th, 1858, at Highbury-barn Tavern, Pinnicon, after which dinner on table at HALF PAST THREE o'clock. A. JOHNSON, Esq., in the chair.

HONORARY SUBSCRIBERS.

Mr. G. Baker and Son.	Mr. S. Hancock.
Canterbury, esq.	— Harris, esq.
Mr. McLennan and Bird.	W. Hardisty, esq.
Mr. Colshaw, esq.	G. H. Hemming, esq.
Messrs. W. Cubitt and Co.	T. Jackson, esq.
Cubitt, esq.	A. Johnson, esq.
Messrs. esq.	Mr. E. Keith,
Mr. Cooper, esq.	Mr. Scrivener,
Messrs. Chadwick and Ackroyd.	Messrs. Lucas, Brothers
Messrs. esq.	— Mallcott, esq.
Mr. Edmunds.	Messrs. Martin and Wood.
Mr. W. and J. Freeman.	G. Myers, esq.
Manchester, esq.	J. Mowlem, esq.
Mr. Crow, esq.	Messrs. Piper and Son.
Messrs. esq.	T. Stirling, esq.
Mr. Speake, esq.	G. Smith, esq. Pimlico.
Messrs. Greave and Grailer.	C. H. Smith, esq.
Mr. Snell, esq.	Messrs. Waller and Son.

Tickets to be obtained of the stewards, Mr R. HASSELL, 94, Tottenham-street, Belgrave-road, Pimlico; Mr. W. GOULD, 104, Green-street, New-street, Kennington-road; Mr. R. FAIRBAIRN, 7, Howley-place, Belvidere-road, Lambeth; and of Mr. W. TARRAN, Secretary, 2, Lamp-office-court, Lamb's Conduit-street.

THE ARCHITECTURAL MUSEUM, South Kensington Museum, W. The ECCLESIOLOGICAL SOCIETY of London Officers, through the Committee of the Architectural Museum, a PRIZE of FIVE GUINEAS for COLOURED DECORATION

Particulars may be had by written application to the Honorary Secretary of the Architectural Museum, at 13, Stratford place, W.

THE ANNUAL CONVERSAZIONE will be held on THURSDAY, July 15.

GEO. GILBERT SCOTT, R.A.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec

THE ARCHITECTS' BENEVOLENT SOCIETY

PATRON.
Robert Stirling, R.A George Stanley Repton, Esq.

PRESIDENT—Sydney Smirke, Esq., A.R.A.

VICE-PRESIDENTS.
Charles Barry, R.A. Charles Robert Cockerell, Esq.
Owen Jones, R.A. R.A.

TREASURERS—William Tite, Esq. F.R.S.

The Fifty-first Annual Report may be obtained of the Secretary on application, or will be forwarded on receipt of a stamped addressed envelope.

Subscriptions will be received by WILLIAM TITE, Esq., 42, St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 104, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

THE INSTITUTE of BRITISH ARCHITECTS hereby give Notice, that an EXAMINATION of persons desirous of obtaining Certificates of Competency to perform the duties of Architect and Surveyor, will take place at the Rooms of the Institute, No. 9, Conduit-street, Hanover-square, on TUESDAY, the 27th day of JULY, at TWELVE o'clock at noon. Persons desirous to be examined are required before FRIDAY, the 16th day of JULY, send an application for that purpose, which must be accompanied by a statement, according to a form previously obtained, at the Rooms of the Institute.

C. C. NELSON, } Hon.
M. DIGBY WYATT, } Secs.

July 1, 1858.

CONTRACTS.

BLUNSDON ABBEY, WILTS, four miles from Swindon.—Persons desirous of TENDERING for the EXECUTION of WORKS in CONTRACT A, which include Masons', Bricklayers', and Carpenter's Work to be done in alternate and enduring Bath stone, can see the plans and specification at my Office, No. 1, Bath terrace, between the hours of NINE and SIX, on and after MONDAY, JULY 5th.—Tenders to be forwarded to me on or before THURSDAY, the 15th. EDWARD W. MANTELL, Architect.

Swindon, June 21st, 1858.

Neither the lowest nor any Tender will necessarily be accepted.

TO BUILDERS.—The Guardians of the Bromley Union are desirous of receiving TENDERS for certain ALTERATIONS and ADDITIONS to the INFIRMARY BUILDING of the Bromley Union Workhouse, at Locksbottom, Farnborough, Kent. The drawings and specification, with conditions of contract and form of Tender for such works, may be seen at the Clerk's Office, at the above Union Workhouse; or at the Office of the Architect, Mr. FRANCIS F. THORNE, 7, Hoxton-terrace, Dacre-park, Lee, Blackheath, S.E. upon any day after FRIDAY, the 25th instant, between the hours of TEN o'clock in the morning and FOUR o'clock in the afternoon; and Bills of quantities may be obtained from the Architect on payment of 20s. for each set. All the Tenders are to be sealed up and endorsed, "Tender for Infirmary Building, Bromley Union, Kent," and delivered, free of expense, at the Clerk's Office at the above Union House, at or before TEN o'clock on the morning of FRIDAY, the 9th day of JULY next. The Guardians do not pledge themselves to accept the lowest or any Tender

RICHARD SCARR, Clerk to the said Guardians.

Bromley Union, Locksbottom, Farnborough, Kent,
June 18, 1858.

TO CONTRACTORS and OTHERS.—The Board of Works for the Wandsworth District, are desirous of receiving TENDERS for the PROVIDING and LAYING of about 1,850 feet of 12 inch STONEWARE PIPE, in Wix's lane, Battersea. The specifications and conditions may be seen at the Offices of the Board, as below. Tenders are to be sent in, under seal, on or before TUESDAY, the 6th JULY next, endorsed "Tender for New sewer, Wix's lane." Security will be required for the due performance of the contract. The Board do not pledge themselves to accept any Tender

By order of the Board of Works for the Wandsworth District,
ARTHUR ALEX. CORSELLIS, Clerk to the Board.

Bellingbroke-grove, Wandsworth-common, S.W., June 15, 1858.

TO BUILDERS. — Persons desirous of TENDERING for the REPAIRING of the PARISH CHURCH of ST STEPHEN'S, Norwich, can see the drawings and specifications on and after MONDAY next, the 5th of JULY, by applying to Mr. JOSEPH HOWSE, Red Lion street, Norwich; or to the Architects. The Tenders to be sent (to the Rev. EDWARD EVANS), on MONDAY, the 12th of JULY, at FOUR p.m. The quantities may be had, free of charge, on application to Mr. AUSTIN, 7, Duke street, Adelphi, London. The Committee do not pledge themselves to accept the lowest or any Tender. — GOODWIN and BUTCHER, Architects, 37, Bedford-row, London.

TO BUILDERS and CONTRACTORS. — The Committee appointed for the Restoration of the PARISH CHURCH of WINKFIELD, in the County of Berks, are prepared to receive TENDERS for the PARTIAL REBUILDING, and the RESEATING of the whole of the Church, according to plans and specifications, which may be seen between the hours of NINE and FOUR, at the Vestry room of the said Church, from MONDAY, the 5th of JULY, till FRIDAY, the 9th of JULY, inclusive.—Sealed Tenders to be addressed to J. D. KOHLER, Esq., Churchwarden, Winkfield, near Windsor, on or before WEDNESDAY, the 14th JULY.—The Committee do not pledge themselves to accept the lowest or any Tender

LEOMINSTER CORN EXCHANGE COMPANY (LIMITED).—To BUILDERS and OTHERS.—TENDERS are required (free of expense), for the ERECTION of the LEOMINSTER CORN EXCHANGE. The plans and specifications may be seen at the Company's Offices, Leominster, and printed bills of quantities, and all necessary information, may be obtained on application to Mr JAMES CRANSTON, Architect, 7, Bouverie-hall, Birmingham. Tenders to reach me not later than THURSDAY, the 15th day of JULY next. By order of the Directors,

Leominster, June 28, 1858. HENRY GAMBLE, Secretary.

TO BUILDERS and CONTRACTORS. — The Directors of the Dundalk Exchange and Market Company (Limited), will be prepared to receive TENDERS for the ERECTION of a CORN-EXCHANGE, READING-ROOMS, and other BUILDINGS connected therewith, in the Town of Dundalk, according to plans and specification which will be lodged at the Company's Office, 103, Clanbrassil street, Dundalk; and at the Office of the Architects, Messrs. BELLAMY and HARDY, Lincoln, on and after the 15th of JUNE. Tenders to be lodged at the Company's Office on or before the 1st of JULY. The Lowest Tender will not necessarily be accepted. Contractors to name two sufficient persons as securities.

JAMES SHEARSTON, Hon. Secretary.

Company's Office, 103, Clanbrassil-street, Dundalk, June 11, 1858.

Dundalk, June 23, 1858.

At a meeting of Directors of the Dundalk Exchange and Market Company (Limited), held this day, it was resolved,

"That in consequence of the plans having been delayed on their way from Lincoln to this country, the Directors have deemed it expedient to extend the time for the reception of Tenders to the 5th of JULY, 1858, at TWELVE o'clock, after which day and hour no Tenders will be received."

A. G. F. JOCELYN, Chairman.

ALL SAINTS, POPLAR.—To MASONS, IRONFOUNDERS, and OTHERS. The Vestrymen of this Parish will meet at the Poplar Hall, on the 12th day of JULY, at SEVEN o'clock in the evening, to receive TENDERS for RAISING the PLINTH and RAILING on the north side of their West End Burial-ground. All Tenders must be sent in before TWELVE o'clock, on the day of meeting. The Vestrymen do not hold themselves to accept the lowest or any Tender. Specifications and plans to be seen at my Office between the hours of TEN a.m. and TWO o'clock p.m.

W. G. CEELY, Clerk to the Vestrymen.

Townhall, June 22, 1858.

CONTRACTS.

GOVERNMENT CONTRACT. — WAR DEPARTMENT. The Director of Contracts will receive TENDERS for the RENEWAL of ROOFS and GALLERIES in the West Square of the Royal Artillery Barracks, Woolwich. Drawings and specification may be seen at the Royal Engineer Office, Woolwich Barracks, until MONDAY, the 5th JULY, 1858, between the hours of TEN a.m. and FOUR p.m. where forms of Tender and all other information may be obtained. The Tenders to be delivered or forwarded, post paid, to the Director of Contracts, War Office, Pall-mall, London, by noon of WEDNESDAY, 7th JULY, 1858, marked "Tender for Renewing Roofs, &c." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, June 16, 1858.

GOVERNMENT CONTRACT. — WAR DEPARTMENT.—The Director General of Contracts will receive TENDERS for REPAIRING and RENEWING STONE PLATFORMS, EMBRASURES, &c. at Fort Cumberland, near Portsmouth. Plans, drawings and specifications may be seen, and forms of Tender and all necessary information obtained, at the Royal Engineer Office, Portsmouth, between the hours of TEN and FOUR o'clock. Tenders to be delivered, or forwarded, post paid, to the Director General of Contracts, War-office, Pall-mall, London, on or before MONDAY, JULY 19th, next, at NOON, and endorsed on the outside, "Tender for Work at Fort Cumberland." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Portsmouth, June 23, 1858

TO BUILDERS. Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the Intended Advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Southampton. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858 between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the County of Hants, in the left hand corner of the envelope, and addressed to the Director General of Contracts.

N.B. The Secretary of State for War, reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, June 9, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the London District hereby gives Notice, that sealed TENDERS, addressed to the Director General of Contracts, will be received at the War Office, Pall-mall, on or before the 16th of JULY, 1858, for REPAVING a PORTION of the MAIN ROADWAY on the South Front of the Tower of London. Printed forms of Tender may be obtained at the Royal Engineers Office, Tower, between the hours of TEN and FOUR o'clock, from the 2nd to the 9th of JULY. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineers' Office, Buckingham-gate, S.W.
30th June, 1858.

TO BUILDERS and OTHERS.—NEW WORKHOUSE, Tooting-park.—The Guardians of the Poor of the Township of Tooting-park are desirous of receiving TENDERS for the ERECTION of the NEW WORKHOUSE, intended to be built on land adjoining the Cemetery in Smithdown-lane. Plans and specifications may be seen at the Office of Mr CHRISHAW, Architect, Rumford-place, Liverpool, on and after the 12th of JULY next, at the Board; copies of the quantities may also be obtained from Messrs. BENJAMIN and DAVID HOWARTH, Surveyors, No. 43, Lime street, where applications for the same are to be made. The Tenders are to include for the execution of the work in three portions, any or either of which the Guardians are to be at liberty to accept, viz.:—

1st. The main building and out offices.
2nd. The Infirmary.
3rd. The receiving wards and porter's lodge.

Sealed Tenders, addressed "To the Chairman of the Building Committee of the Guardians, Tooting-park," to be sent to my Office on or before the 16th of JULY next. The Guardians do not pledge themselves to accept the lowest or any Tender. Security will be required for the performance of the contract. By order of the Guardians

7, Elliot street, Liverpool. WILLIAM CLEAVER, Clerk.

TO BUILDERS.—CANTON CHURCH, near Cardiff. Plans and specifications for BUILDING the NORTH AISLE and a PORTION of the SOUTH AISLE of this Church, may be seen at our Offices, Landaff. Tenders to be sent to the same on or before the 17th of JULY. The lowest or any Tender not necessarily accepted. PRICHARD and SEDDON, Diocesan Architects, Landaff.

SEACOMBE CHAPEL, near Liverpool.—The TIME for receiving ESTIMATES for the ERECTION of this Chapel by EXTENDED to the 9th of JULY, up to which date estimates will be received, addressed as before, to H. POOLEY, Esq. The plans may be seen at the Offices of Messrs. HAY, Architects, from whom bills of quantities may also be obtained.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of the BLUE-COAT and NATIONAL SCHOOLS and RESIDENCES, to be built at Walsall, in the county of Stafford, can inspect the drawings and specifications, and obtain bills of quantities, on and after WEDNESDAY, the 7th of JULY next between the hours of NINE and SIX o'clock, at Mr. ROBINSON'S, The Bridge, Walsall; or at the Offices of the Architect, Mr HENRY COOPER, 7, south square, Gray's-inn, London, of whom any further particulars can be had. Sealed Tenders must be sent to Mr JESSON, Walsall, addressed to the Committee, on or before FRIDAY, the 16th of JULY inst. Two sufficient sureties may be required for the proper execution of the works. The committee do not bind themselves to accept the lowest Tender.

Walsall, July 1, 1858. FREDK. THURSTAN, Secretary.

[For remainder of Contracts see next page.

CONTRACTS.

TO BRICKMAKERS and OTHERS.—The Trustees of the intended Free Grammar School at [illegible] are prepared to receive TENDERS during the present month for the making of BRICKS to be delivered at the Station, in the Borough of Wolverhampton, on the Great Western Railway. Plans and Specifications may be seen at the Office of Messrs. [illegible], Solicitors, Wolverhampton, where Forms of Tender may be obtained. The Trustees do not bind themselves to accept the lowest or any Tender.—By order, [illegible], Solicitor to the Trustees. Wolverhampton, July 1, 1858.

TO GAS ENGINEERS and CONTRACTORS.—The Directors of the Reading Gas Company are desirous of receiving PLANS, SPECIFICATIONS, and ESTIMATES for the ERECTION of GAS WORKS, to contain a Retort House, Purifying House, Meter House, Engine House, Workshop, Gasholder Tank, and other Buildings, with Retorts, Purifiers, Apparatus, &c., sufficient for the production of 20,000 cubic feet of Gas per diem, and capable of being enlarged to double that quantity. Plans, Specifications, and Estimates must be delivered at the Office of the Company, Reading, on or before the 16th day of July, 1858.

AMERSHAM BURIAL GROUNDS.—To Builders and Others.—The Burial Board of Amersham, in the County of Buckingham, are ready to receive TENDERS for the ERECTION of the CHAPELS, PORCHES, and other Buildings, and for the FORMATION of the ROADS in the NEW BURIAL GROUNDS in the Parish of Amersham, according to Plans, Specifications, and Conditions of Contract prepared by Messrs. CHARSLEY and DAWSON, Architects, Amersham, on or before MONDAY, the 5th day of JULY next, at the Office of the Clerk to the Board, Mr. GEORGE HAWTREY, Solicitor, Amersham, from whom Forms of Tender may be obtained, and with whom the Plans, Specifications, and Conditions of Contract may be inspected at the Parochial Offices, Church-street, Amersham, on and after MONDAY, the 28th day of JUNE next. The lowest or any Tender will not necessarily be accepted, and the Board will require Security for the due performance of the Contract.

GEORGE HAWTREY, Clerk to the Amersham Burial Board.

Dated the 23rd day of June, 1858.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE CONTRACT No. 4.—TO CONTRACTORS and OTHERS.—The Local Board of Health, for the District of West Ham, hereby invite Tenders from persons willing to undertake the following-named CONTRACT:—

CONTRACT No. 4.—For the supply of materials and for the execution of the WORKS in BRICK, SEWERS and PARTHENWARE PIPE-SEWERS, and other Works, in the Streets and Private Roads and Premises hereinafter mentioned, viz.:—

Lineal yards of Brick Sewers, 2 feet 3 inches by 1 foot 6 inches; about 4,000 lineal yards of Pipe Sewers, of 9, 12, and 15 inches diameter.

The specification may be examined, and forms of Tender obtained, on and after WEDNESDAY, the 7th day of JULY instant, on payment of five shillings, on application at the Office of WILLIAM DAVIS BISHOP, Surveyor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 11, Parliament-street, Westminster, which Forms, at the option of the Board, are to be returned with the Tender, or a deposit to the Contract may be obtained.—Sealed Tenders to be addressed to the Clerk's Office, Stratford-green aforesaid, on or before MONDAY, the 26th day of JULY instant, endorsed "Tender for Sewers: Contract No. 4."

W. J. PARSHAM, Clerk to the Local Board

Stratford-green, 1st July, 1858.

TO BUILDERS, CONTRACTORS, and OTHERS.—The Warden and Society of Sutton Coldfield are prepared to receive TENDERS for the ERECTION of NEW TOWN HALL.—The plans and specification can be seen at the "Mort Hall," between the hours of TEN and FOUR o'clock, p.m. WEDNESDAY, the 14th day of JULY, and SATURDAY, the 17th day of JULY next. Each Tender must be sent in by TEN o'clock on the MONDAY following, the 19th day of JULY, after which no Tender will be received. The Board punctually at that hour.—The Board do not pledge themselves to accept the lowest or any Tender.

By order,
CHARLES BROWN, Clerk.

Paddington Workhouse, Harrow-road, July 1, 1858.

LONDON and NORTH-WESTERN RAILWAY.—SHROPSHIRE CANAL CONVERSION.—CONTRACT FOR WORKS.—The Directors are prepared to receive TENDERS for the CONVERSION of the RAILWAY, from the Junction with the Shrewsbury and Birmingham Railway, at Oxon, to the Coalport Branch, near Eaton, being a distance of two and a quarter miles, or thereabouts. The plans, sections, and general arrangement drawings, specification, forms, and Tenders, will be ready for inspection at the Offices of the Engineer, Mr. JOHN HUDSON, 1, Duke-street, Westminster, on and after MONDAY, the 26th of JULY, from which Tenders must be delivered not later than MONDAY, the 9th of AUGUST, addressed to the Secretary, at the Junction-street Station, Wolverhampton, and endorsed "Tender for Works." The Directors do not bind themselves to accept the lowest or any Tender.—By order,

(Signed) C. E. STEWART, Secretary.

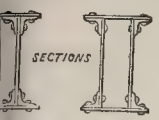
ARCHBISHOP HOLGATE'S HOSPITAL, York.—Builders, Joiners, Bricklayers, and BUILDERS.—Persons willing to TENDER for the EXECUTION of the several WORKS required by the Trustees of the above Charity, to consist of EFFECTING and COMPLETING, according to the several Plans, a PORTION of the NEW HOSPITAL, a CHAPEL, and MASTER'S HOUSE, &c. may see the plans and specification on and after TUESDAY, the 6th day of JULY, at the George and Dragon Inn, Hemsworth, between the hours of NINE and SIX o'clock. Any further particulars relating to the building, may be obtained by application to Mr. R. P. POPE, 21, Bedford-row, London. The Tenders are to be addressed to Mr. THOMAS PERCY, Surveyor, 1, Alfred place, Bedford square, W.C. Parties therefore proposing to Tender are requested to forward their names to him, in order that the bill may be sent. Tenders, endorsed "New Hospital Building," to be delivered at the Office, on or before the 14th [illegible] at which time the Tenders will be opened in the presence of the Trustees.

EDWARD NEWMAN, Clerk to the Trustees.

Bootham, York, July 1, 1858.

BOARD of WORKS for the HOLBORN DISTRICT.—CONTRACTORS for SEWERS, BUILDERS, and OTHERS.—The Board are about to let the Works now in hand, on MONDAY next, the 5th inst., in Lots, as follows, viz.:—Lot 1, Brick Sewers in the Eastern District. Lot 2, Pipe Sewers in the Western District. Lot 3, Pipe Sewers in the Eastern District. Lot 4, Pipe Sewers in the Central District. Lot 5, Pipe Sewers in the Central District. Lot 6, Pipe Sewers in the Central District. Lot 7, Pipe Sewers in the Central District. Lot 8, Pipe Sewers in the Central District. Lot

WROUGHT-IRON GIRDERS



For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

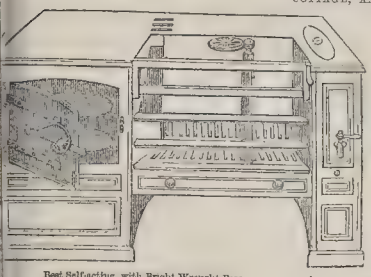
ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

CLARK AND HUNT,

IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,
159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Best Self-acting, with Bright Wrought Bars.
34 inches ..... 24s.
36 " ..... 56s.
38 " ..... 58s.
42 " ..... 60s.

Register Stoves, with Solid Bars, per inch, 5d.
Improved New Patent Circular Check Register, with strong Bars and Trivets, 3d per inch.
Best Solid Ditto, with Fire-brick Backs, per inch, 10d.
Bright Stoves, with Two Fires, 25s to 100s. each.

Best Cut Cleg. and Rose Nails.			
1½-inch.	1¾ inch.	2-in.	2½-inch. 3-in.
10s. 6d	12s.	14s	16s per cwt.

Best Sheet Cut Flour Brads, 12s 6d per cwt.
Best Cut Lath Nails, 12s. per cwt.

Cast Rain-water Pipe—	2-in.	2½-in.	3 in.
	1s	1s	1s 3d per yard.

Cast Gutters, 4 in 8d. per yard.

	4-in.	4½ in.
O G Gutters,—	1s	1s 2d. per yard.

Patent Lune,—	3s. 6d.	4s	5s	7s	9s per pair.

6-inch Rd Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 1½ 6d. per cwt.

Dr Arnott's Vent Doors, 4s each
Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 1½ PER CWT.

IMPROVED PATENT FINE-CAST SMOKELESS STOVE,
8d. per inch.

Self-acting Cottage, with Oven and Back Boiler.
30 inches ..... 25s.
32 " ..... 28s.
34 " ..... 29s.
36 " ..... 32s.

Best Japanned Registers, 40s; Berlin Black, with Bright Mouldings 60s.; Bright Fronts, with Ormolu Ornaments and Two Sets of Bars, 90s.; Improved Cast Mangers, with Wrought Hay rack and Water trough, fitted, 45s.

AN ILLUSTRATED BOOK OF PATTERNS WILL BE SENT ON RECEIPT OF POSTAGE STAMP.

POWIS, JAMES, AND CO. ENGINEERS AND MACHINISTS,

Also, PATENTEES and MANUFACTURERS of all kinds of MACHINERY for WORKING in WOOD,
26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of BUILDERS, CONTRACTORS, and PROPRIETORS OF SAW-MILLS to their much-improved BANDLESS BAND SAWING-MACHINES, which are well adapted for every variety of work—CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT—of any thickness, with Swinging Tables to CUT TO ANY ANGLE, for HAND or STEAM POWER.
Also, their improved HAND or STEAM-POWER RISING TABLE Circular Saw Bench, with Shifting Fence to cut to any Angle, and extra loose Guide, expressly for TENON CUTTING. This BENCH only requires to be SEEN to be APPRECIATED.
Also, their PATENT MORTISING, TENONING, and BORING MACHINE, of which upwards of a THOUSAND have been sold in ENGLAND and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE KINDS OF WORK by ONE MACHINE.
J. J. and Co. also invite inspection, at their Manufactory, of their Improved Patent Planing, Tongueing, Grooving, and MOULDING MACHINE, doing TWENTY FEET per minute, of board of any thickness, and GOOD WORK.

*** CONTRACTS FOR STEAM ENGINES, AND THE FITTING-UP OF SAW-MILLS, WITH DRAWINGS AND PRICES SUPPLIED ON APPLICATION.
POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.

JAMES HAYWOOD, Jun.

PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

STEVENS AND SON,

ENGINEERS,
IRON AND BRASS FOUNDERS AND MANUFACTURERS,
CONTRACTORS
FOR THE
ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,
With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;
WATERWORKS FOR THE SUPPLY OF TOWNS,
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.

Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all Kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
Gas Cooking Stoves on Rougeon's the most improved Principles.
GAS-FITTING IN ALL ITS BRANCHES.
GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
DEVICES FOR GAS ILLUMINATION.
IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.
These Turnstiles were selected for the Entrances of the Great Exhibition, New York.
PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.
Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.
DARLINGTON WORKS, 16 to 19, SOUTHWARK-BRIDGE-ROAD, LONDON.

HOBBS'S NEW MORTISE LOCK possesses the following advantages. The Plates are made of Numbe. "Twelve Lunge" Iron, and cannot be sawn thick, the parts cannot be loosened by the usual jars of the door. The security consists in four double acting levers. The PATENT FRICTIONLESS FOLLOVER prevents the wear of the parts, and gives unusual freedom of motion to the handle.
These Locks being manufactured by patent steam machinery, are offered as low as to defy competition in price. Also, every description of Locks required for house and cabinet work.
SHEET DOOR LATCHES, with Two Keys, 10s. Hobbs's new Mortise Latch for heavy doors. Milner's Fire and Burglar Proof Safes, Strong Room Doors, &c.
HOBBS, ASHLEY, and CO 76, Cheapside, E.C.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Iron, Brass, Bronze, Cabinet, and other description of locks, with patent Locks of all descriptions, Clock, Glass, and Wood Furniture of all kinds, with Patent Sliding Bolts; Dr. Arnott's Vent Door, 4s.; and the New Registered Venetian Ventilator, so much admired, 4s. 6d. each
J. H. BOOBBYER (late STURCH and BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
14, Stanhope street, Clare-market, London.

WOLVERHAMPTON LOCK DEPOT, OPPOSITE VINEGAR WORKS, CITY-ROAD, LONDON.
Manufactory, Worcester-street, Wolverhampton.—Manufacturer of Iron, Bronze, Cabinet, and other description of locks, with patent adjusting apparatus; bolts, screws, hinges, &c. and patentee of the Burglary Detector Alarm Light and Indicator

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES and BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Casing, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cellar-flap, Newel Bars, Water Closet Weights, Area Gratings, Fly and other Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST IRON PIPES, IRON WORK FOR OVENS, &c.

PATENT MACHINES for WORKING in WOOD.—These celebrated Machines have been awarded numerous prizes, and are used by many scientific institutions, and also by the Great Exhibition in London, and are now extensively used by all Railway Contractors, and all the principal Government in Europe, and by eminent Contractors, Builders, Shipwrights, Machine-makers, and others who work in wood. Their operations are in every respect perfect, either in hard or soft wood, for planing, squaring up, moulding, tenoning, mortising, grooving, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.
Sold only by WILLIAM FURNESS, Patentee, 26, Lawton-street, Liverpool, from whom full particulars may be obtained, and all the machines can be seen at work.

FIRE-PROOF CONSTRUCTION.—FOX and BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK-BUILDINGS, ADELPHI.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c. half-round and G-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other castings; Iron-work for Bakers' ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful crane.

COTTAGE RANGES.—Improved Self-acting, with Oven and Boiler, 27 inches, 18s. 6d.; 30 inches, 20s.; 33 inches, 22s.; 36 inches, 24s. With brass taps, 2s. 6d. extra. Prospectuses post free BROWN and GREEN, Luton, Bedfordshire.

BATHS and HOT-WATER APPARATUS.

J. TAYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application

Estimates and Plans for Fixing given.

J. TAYLOR and SONS, Manufacturers, Warwick lane, Newgate-street, London.

SHOWER and all DOMESTIC BATHS.—An extensive and complete Stock. The best manufacture and lowest prices. DEANE and CO.'s PAMPHLET on BATHS and BATHING may be had GRATUITOUSLY on application, and post free. It contains engravings, with prices, of Shower, Hip, Plunging, Sponging, and every description of Bath for family use. Shower Baths of improved construction. Patent Gas Baths, simple, efficient, and economical. Estimates given for fitting up Bath-rooms.—DEANE, and CO. (opening to the Monument), London Bridge. Established A.D. 1700.

HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER.—This apparatus forms a complete register stove, and may be fixed in the library or dining-room, the same fire heating a conservatory, greenhouse, or anywhere that heat is required, with out the expense of extra fuel. Also his improved VENTILATING GREENHOUSE, which can be erected at 1s. per foot.—Applications at the MANUFACTORY, 18, George-street, Portman-square.

J. RUNCIMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, Newcastle-on-Tyne, beg to call attention to their economical method of warming buildings with hot water. J. R. and Co. from their long and practical experience, are enabled to guarantee the efficiency of all apparatus they fix; and from being situated in the midst of a coal and iron district, can with confidence submit the terms of their contracts as the lowest ever offered. Workmen sent to all parts of the kingdom. All work warranted for thirty years.

HEATING BY HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's road, Chelsea.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to churches, schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Rose-place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 20, John-street, Adelphi.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a setting from fire, as they will continue burning with out attention for many hours, even during an entire night. They are also an effectual cure for smoky chimneys.

Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

IMPORTANT to GAS-FITTERS, LAMP MAKERS, &c.—HAWKINS'S REGISTERED CHAIN is universally approved for Lamps and Chandeliers, up to any weight. Sold by every respectable Ironmonger in the kingdom.

Manufactory, 27, Dale-end, Birmingham.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring a wholesome and uniform light, by sustaining the pressure and preventing any irregularity in the height of the flame.

D. HULETT and CO. 53, High Holborn, London.

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO., Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and Manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and price list, 10s.—Nos. 25 and 26, High Holborn.

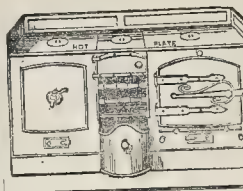
MORRIES STIRLING'S PATENT CAST and MALLEABLE IRON.—The toughened cast iron for girders, shafting, rods, pinions, toothed wheels, engine cylinders, hydraulic cylinders, and for all purposes where a strong, dense iron is required, can be obtained of the following firms:—

Dunlywan.	Lloyd, Foster, and Co.
Perry, Barr, and Co.	Lowndes, Hall, and Co.
Horsley Company.	

RAILS of (or surfaced with) Patent Hardened Iron can be ordered from the following firms:—

Fox and Co.	Ebw. Vale.
Hawks, Crawshay, and Co.	Tredegar.
Lewis, Wilson, and Bell.	Dowlais.
Perry, Barr, and Co.	Monmouth.

Specimens of the above Rails may be seen at the Offices of Messrs. CONNELL and HOPE, 3, Princes-street, Westminster; and of Mr. S. THORNTON, Bradford street, Birmingham, who also receives orders for Mr. MORRIES STIRLING'S Patent Iron and Rails.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,

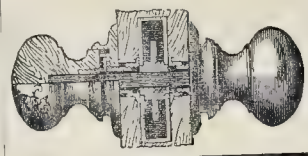
WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 65, York-street, Westminster.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, Rim and Mortise. It effects a most secure fastening without any screw in neck of the knob. Perfect action guaranteed in both. Locks and Furniture if the locks are of our own manufacture. It has been used extensively Large public and private works, in Her Majesty's Camp at Aldershott, &c. and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, in &c. &c. or to any design.

Hobbs and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

HART AND SON,

IRONMONGERS AND MANUFACTURERS,

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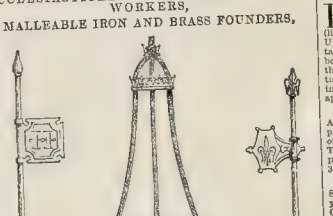

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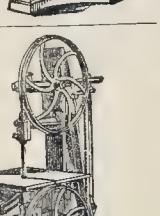

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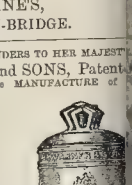

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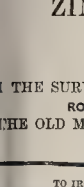

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CITY of LONDON. — Freehold Ground Rents—The Commissioners of Sewers of the City of London, t in the Guildhall of the said City, on TUESDAY, the 6th of next, at TWELVE o'clock at Noon precisely, to SELL by Certain FREEHOLD GROUND RENTS, on Premises let on aving about eighty years to run, situate in Chancery lane, ane, and Philpot-lane; particulars of which may be had on ion at this Office. Tenders for the said Ground Rents must be sealed addressed to the undersigned, before TWELVE o'clock said 6th of JULY; but the Commissioners do not bind them- o accept any Tender delivered, unless the same be deemed JOSEPH DAW, Principal Clerk.

Office, Guildhall, May 26, 1858.

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METROPOLITAN CATTLE MARKET.— AND TO BE LET on BUILDING LEASES.—The Market nant Committee will meet, at Guildhall, on WEDNESDAY, y JULY next, at ONE o'clock in the afternoon precisely, to TENDERS from parties willing to take BUILDING LEASES, ty Years, of GROUND at the north-west portion of the ton Cattle Market at Islington, with frontage to Maiden Declivity, and plans can be inspected at the Architect's Office, all. MERREWETHER.

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TO BUILDERS. — Eligible Plot of BUILDING GROUND TO BE LET, for five or six Villas, in the choicest part of Wimbledon common, embracing views of the most varied description, situate only 15 minutes' walk from the station. There is not a house to be let of the character proposed to be built, in any part of the common. The owner of the land would guarantee three tenants at Richmond, and would be glad to make an arrangement with a builder for erecting a residence of the value of about 70l. per annum, on lease, for his own occupation, to be completed by the 29th September next.—Further particulars of Messrs. LOCKWOOD, LOCKWOOD, and SYMES' Surveyors, &c. No. 1, Burwood place, Edgware-road, W.; or No. 44, Upper Baker-street, N.W.

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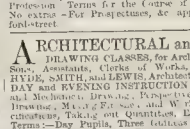

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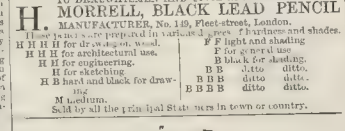

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The enclosures of meadow and pasture lie and beautifully undulate, and command views over the surrounding picturesque scenery, extending in the distance on one side over the metropolis, and on the other into Essex, over the Forest. The whole contains about 500 acres of which the residence, and about 70 acres adjoining, will form one lot; the remainder will be divided into plots, varying from 5 to 50 acres, for the erection of villas, each having extensive frontages to the proposed roads, which will be laid out with reference to the disposition of the grounds and the views therefrom, care being taken to preserve all the ornamental timber. Plat part of the property, the Muswell-hill road is immediately in front of several handsome villas, and contains the celebrated Muswell and other springs, which supply the residence and offices with the purest water, and easily to be conveyed to all the lots, the springs being on the highest point of the property. There is abundance of gravel, which will be valuable for forming the several roads. Many of the inclosures contain good brick earth; there is every facility for drainage. The property extends over a beautiful valley, with stream of water, and elevated lands afford the most delightful sites for residences, which in many will command extensive views of hill scenery and the sea.

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The Builder.

VOL. XVI.—No. 804.

The Condition of the Thames.

QUESTIONLESS the state of the Thames is worse this year than it ever was before. A glance at some of our back volumes will show there have often been similar complaints, loud as well as deep, at this time of the year. Nevertheless, the river is now worse than it ever was; and must necessarily become worse still. It is to be hoped no one drinks of it. If any do, we would shout with Buckstone, in "The Unequal Match,"—"Rash man, forbear!—it's *beastly!*" For years past the deterioration of the river has been noticed in this journal; and from time to time we have endeavoured to direct attention to the subject as one of great public interest. Every day will increase the evil. Without taking into consideration the immense annual growth of London, prevention of cesspools, and other sanitary which are in progress, will, before two are past, add 25 per cent. to the poiis matters which flow into the Thames.

must, too, be borne in mind, that other districts give their refuse to this river.* are also gas-works, the most unwholemanufactories, slaughter-houses, cowstables, breweries, and the drainage of y-filled graveyards, to aid the mischief; yet intelligent men can be found to maintthe *salubrity of the Thames*, though the it hot weather has worked a change in the ns of some of them. Even the medical of the *Dreadnought*,—the same gentlewho has been asserting over and over in all sorts of places, that "great exagn, if not total misapprehension prevails he subject of the pernicious influence of names upon the public health," and who one mischief by his previous statements, en forced to admit the injurious effects of names on the patients in that vessel, and ffered slightly himself. The health of nds must be affected by it, and what neur cannot be calmly contemplated.

w days ago the thermometer rose to the dinary height of 94·5 degrees in and on that day the neighbourhood of r was unbearable.

lst lately examining the north shore of ames from the Houses of Parliament to ba-bridge (a most unpleasant task), we rough measurement at about the time water, and are disposed to think that there verage breadth of 100 feet of the most soil skirting this edge of our great city he hours during each day. We were told ral persons who are employed in this ourhood, that in parts the deposit is an 6 feet deep: the whole of this soil kly impregnated with impure matter, the opening of such sewers as have not ssed into the river beyond low-water he condition is too bad for description.†

Many of our readers may have noticed the black, offensive, and dangerous matter which is taken from choked drains in the neighbourhood of cesspools. There are many thousands of tons of equally poisonous stuff on the shore of the Thames. A considerable quantity of such matter is kept in solution by the action of the tide and the steam-vessels, which adds materially to the ill condition of the water. The section we have engraved* will give some idea of a considerable extent of Thames bank.

While wandering along this putrid shore, which is both a shame and wonder in the nineteenth century, thoughts arose, in spite of some overpowering feelings, of other days, of processions of stately barges, full of the influential citizens in whose hands the well-being of Father Thames was placed. This body found the stream clean and wholesome; the apprentices and citizens came from long distances to avail themselves of this water-supply. For years festive bands of citizens, at stated intervals, mingling pleasure with business, went forth to survey the important charge, which was in a healthy condition, entrusted to their care: now Father Thames has become such a castaway that the Lord Mayor has declared that he cannot again venture on a visit. The days of "swan hopping" and river perambulation are at an end. Whatever excuse there may be as to the state of the river from the drainage, there is none to be found for the existence of encroachments and mud-banks, which are a disgrace and injury to the greatest commercial city in the world.

Besides the banks, on both sides, large islands are visible near Westminster and Waterloo bridges, and indications of others may be noticed. It is said that these accumulations have been rather encouraged for the purpose of preventing the wash against the foundations of the bridges; these islands are, however, evidently increasing in size, and without attention others will be formed. This should not be allowed; many instances might be mentioned of the great injury which has been caused to rivers, by allowing such elevations to occur. It is worth while to look at the clear yellow sand colour of these islands, over which the tide passes briskly, and compare it with the thick matter which is washed up, and left at the sides.

The appointment of the Metropolitan Board three years ago, was an acknowledgment of the necessity for immediate action; and yet all this time has passed, and this important affair is but little forwarded; and it has been lately mentioned that an inquiry was necessary to decide whether it was wholesome or not to pass the sewage of a population of about three millions of people to a river in the very centre of it!

The opinions of those who in various ways represent the metropolitan parishes, seem to have changed with this circumstance. Meanwhile matters have been getting serious, and as we will show by some further inquiry, vigorous action must now be used, and all the bearings of this case considered by Government and the Parliament.

Last Sunday evening, just after low-water, we passed along the shore, and those who would have an idea of the extent to which the Thames is used, should visit the landing-place, at Hungerford-bridge, on a fine Sunday evening. The day had been cooler than some days previously; nevertheless, the stench at different points was frightful, and produced a sickness which lasted till the next morning. Bad as was the state of affairs at the time referred to, the watermen at the landing-places said the air was "lavender" to what it had been. Early in the morning, they continued, when the first steam-packets begin to move about, the smell is enough to strike down strong men. During a few hours of the night, when there is but little traffic, the heavy matter sinks, and the renewed agitation in the morning causes an escape of pungent gases, of a most poisonous description. Even the dipping of the oars, at early hours, produces a sickening sensation. The weight of the impure portion of Thames water is a peculiarity which formerly caused it to be held in much favour by sailors for long foreign voyages. Large establishments were formed for the purpose of filtering it; but even so lately as 1840 and 1841, many ships took it without this process from the outside of the docks. A person who has sailed from the Thames, but who is now a waterman, described how that he had been twelve months and upwards on board ship with Thames water, obtained in the manner just mentioned, and that it remained good all the time—the heavy earthy matters settled firmly to the bottom of the casks; but on the bung being started, it was necessary to give the water "a wide berth," for the smell was almost unbearable sometimes the force of the gas burst out the bungs with a report like a pistol. A similar process, on a large scale, is going on daily on the Thames. The soil, put in motion by the action of the water, is now more considerable than formerly; and the amount of poisonous gases which is thrown off, is proportionate to the increase of the sewage which is passed into the stream. Fifteen or sixteen years ago the Thames water was not so bad, and persons on the river did not hesitate at dipping in a vessel and drinking the contents. Such a thing now would be like an act of insanity; and yet we are told, on good authority, that in a part of Rotherhithe, a number of poor persons have no proper water-supply, but are obliged to use for drinking and other purposes, the Thames water in its present abominable condition, unfiltered. This is a matter which should meet with immediate attention.

In order to form a proper notion of the condition of the Thames shore, it is necessary not to restrict the examination to the landing-places alone—for care is taken at these points to remove the slimy matter as much as possible;—but even here, as we found at one place by an excavation, there was a depth of over 4 feet of poisonous soil; and it is certain that a large portion of this is cesspool refuse. The surface left exposed at low tide on the Limehouse shore, is about 200 feet in width.

An individual who has been in the habit of crossing at this point, morning and evening, for several years past, has had painful experience of the yearly increase of the impurity of this stream. The increase complained of has been evidently corresponding with the extension of the sewerage; and, considering that the state was bad five or six years ago, and looking at it at the present time, it is serious to think of the dangers to which the metropolis is exposed. Not a week should now be wasted—for great works require to be executed—and the difference of a few weeks may cause the loss of thousands of valuable lives. While we write, information comes of the melancholy death of the wife of the Rev. Mr. Blackwell and four children, near Vauxhall bridge, the result, according to the family physician, of the noxious effluvia of the Thames water.

It would be useful to state the number of houses which have been drained into the Thames during the last five or six years. There seems, however, to be no mode of gathering this, but by applying to the several vestries

† "Memorials of Father Thames" in the *Builder*, [illegible].

* [illegible] must not have it supposed from this observation, [illegible] agree with the Board of Works in the determination they have come to, to spend some thousands of pounds in now extending the outlets of existing sewers further down into the river. The resolution is most unwise, and should be forthwith rescinded, as entailing waste of money, and worse.

* See p. 454.

and district boards of the metropolis—too troublesome a task to undertake.

In considering the effect of the condition of the Thames on the health of the metropolis, it must be borne in mind that the actual number of those who dwell on the shore is small in comparison with those who are all day in the neighbourhood. Thousands are employed during the day only, in the docks, the canal, and in the large manufactories, warehouses, and other establishments which line the river; most of these workmen travel long distances to closer neighbourhoods after the labours of the day are ended, so that there may be a difficulty in clearly tracing the amount of mischief which is actually caused by the pestilential condition of the Thames. During the present summer two of the fortunately few fatal cases of Asiatic cholera that have occurred have been with good reason attributed to the foul state of the river; one of the sufferers was a young man who worked near the outlet of one of the sewers in this neighbourhood, and died after a few hours' illness at a place at some distance; the other also worked here, and died at his home in Smithfield. Doubtless fever and other diseases have been caused by the condition of the Thames and the docks, which will, where fatal, be classed with the deaths of other localities. The docks especially are a fertile source of disease.

When in this district we glanced at the basin and other parts of the Regent's canal, and found that a large quantity of water is daily passed from this important work into the river. The water was very cloudy and of a brownish colour; but, compared with that of the Thames, its purity looked remarkable, and there is not a large amount of animal refuse in this tributary. Complaints are, however, made of certain offensive manufactures which drain into one of the branches. "But, in order to show you that we do good rather than harm," said a superintendent on duty, "please to look here where the Thames is just beginning to flow into the entrance lock of the canal." And truly the effect was a startling one. The stream of the Thames, of a sable hue, "thick and slab," could be seen meeting and invading the canal, presenting such an appearance as might be expected by the bursting close by of several hogsheads of Warren's blacking,—a much more obvious and less gratifying difference, we need not say, than is observable where the Rhine meets the Moselle.

> "Like the two lives that are blended
> When the loneliness is ended,
> The loneliness each heart hath known so well;
> Like the sun and moon together,
> In a sky of splendid weather,
> Is the marriage of the Rhine and the Moselle,"—

writes Mr. Arnold; and although it will not apply to the marriage of the Thames and the Regent's Canal, it will serve to sweeten our dirty subject. Our engraving* does not exaggerate the contrast. The sides and bottoms of boats become covered with solid matter; objects are not visible at even an inch below the surface; the reflection of ships is very faint, but shadows almost as strong as those on terra-firma are thrown on the face of the water by the sunshine. When gravely pondering these things, De Foe's description of the neglected condition of London at the time of the visit of the Great Plague of 1665 came to mind; and we think with Byron of "Ships rotting, sailorless," and other uncomfortable associations.

It is evident that when the river is in such a bad condition, places like the West India Docks, entirely dependent on the Thames for a supply, must in most respects be no better circumstanced; for although the water is not so much disturbed in these reservoirs, the West-India Docks are not supplied with water to any extent but at flood tides. No doubt there is here a large quantity of dangerous deposit; and the partial stagnation of such a body of water, impure in the first instance, cannot be good. The process of flushing, too, at the spring-tides, must be attended with very great danger.

In passing along the foul shore we came to one of the Thames tributaries, and the scene so clearly illustrates an existing evil, that we have engraved it for the benefit of many who cannot be expected to visit such a locality. This place is a creek which extends some distance inland, similar to that which has been so much complained of near Blackfriars-bridge. At the north end is a large sewer, which drains Bowcommon, and all buildings in that direction. The mouth is partly covered by a loose iron flap, which, when the tide is out, allows the sewage-water to flow in a rapid stream. Dwelling-houses are built on the sewer-wall, and around it. The people living about here have, in most instances, sickly children, who in a measure resemble the poor plants observable in some of the windows about. Everything around is bad. The bank, when the tide goes out, is covered with filth; and when the number of the similar tributaries which flow to Father Thames, both night and day, is recollected, his state is not to be wondered at. The people here are thankful that the refuse from the gas-works is no longer allowed to escape, for at times they were nearly suffocated.

Both Houses of Parliament are now loud in their condemnation of the existing state of things. They have the evil at their own door—a retribution,—for it is certain that the present conditions are in a great measure the result of want of forethought and consideration of the subject. Every one must now see the stern necessity for immediate action, and we trust that a spirit of co-operation will be shown by the Government and Parliament, and the representatives of the London parishes, and that satisfactory arrangements will at once be made for a proper and permanent remedy. This part of the subject we treat of in a separate article.

And let our provincial cities and towns take warning in time, and avoid the transformation of their rivers into reeking sewers and decomposing cess-banks.

* See p. 454.

THE POSITION OF THE DRAINAGE QUESTION.

LONDON is at length roused to the conviction that "something must be done" towards the dispossession of its sewage, and the liberation of the Thames from the pollution we have been illustrating. One misfortune, when a question gets into this position, is, that the *something* which is taken hold of rather than chosen, to make up for the loss of time and combat the evil accumulated, it is many chances to one, will not be either the proper thing or the due conclusion from evidence; or at least, that it will only stave off the difficulty for some few years, when it will again occur with re-duplicated force, and new and added conditions. The present state of the London street and railroad communications—more connected with the sanitary question, and the provision of dwellings, than is generally apprehended—would afford illustrations to the case in point; as possibly, even would the water-supply, so recently legislated on,—considering the tendency above Teddington Lock, towards that very state of things which now exists in the course of the Thames between Putney and Blackwall.

Time lost can never be regained, and there is really no means of summarily correcting an evil such as the especial one from which now London suffers, and which may in August, or earlier, repeat the horrors of the Great Plague. Tons of lime at an expenditure of 1,500*l.* per week may be used, as at present; but such measures are confessedly not justifiable for other circumstances, on grounds of economy, and may even increase the expense of permanent measures,—if not even conditions of the navigation, and others non-sanitary and proximate. Errors must have been committed some way, by the various commissions and the boards imperial and municipal and metropolitan,—delay which could have been avoided, as by the assumption of responsibility that the law actually gave to the First Commissioner, and by the earlier commencement of the investigation instituted by his direction, of the primary data; and by the formation from such data of more carefully considered conclusions,—London, however, is simply suffering the consequences of years, or rather the existence of towns; and to suppose that any remedy can be supplied positively next week, or this year, to the real evil of the state of the Thames and of the sewerage, is to assume reversal of the natural sequence of things, and that results can be made to follow without being brought from causes or by merely wishing for them. The first point is to get a clear knowledge of facts: without this it is idle to speak of what the engineering talent of this country can do, or has done.

Now, this primary knowledge is still very far from being existent. When we find the best chemists really ignorant of the nature and composition of the gaseous exhalation from the river, and the *Times* stating one week, that "at high water the river is comparatively sweet," that effluvia being assumed to arise "principally from the vast banks exposed at the ebb,"—whilst, as has appeared to all others, ourselves inclusive, the nuisance is most noticeable about the time of high water,—we have some indication of the state in which the subject is, and of the possibility that under the pressure of alarm, there may be based upon mere assumptions or fallacies, the undertaking and construction of works which haply might even aggravate the evils that all parties would remove.

We verily believe, whatever the impressions conveyed by the reports of meetings and conferences that the difficulty of the London sewerage question is not mainly a financial one. No Government could resist the claims of the Metropolitan Board, backed by a simple statement of the evil and of a lucid and workable scheme for the abatement of them. And whilst it is plain to us that the metropolis should bear one portion, and perhaps the bulk, of the outlay, it is clear that other towns benefited should contribute, and that there is a claim on the whole country to assist, and this disregarding the urgency of their own cases, is a subject which we have pressed on public attention. The point at issue is,—what principle of action offers a reasonable chance of freeing London from its district from a nuisance. Had we ourselves felt that either of the schemes for outfall for main intercepting sewers claimed the limited ground of recommendation adverted to, we should have supported such scheme even on the assumption of heavy expenditure, and even on that of experimental character to a certain extent, as an attribute of the scheme. But from those who are urging the adoption of one of these schemes or one of analogous kind, we ask for attention to the questions we were compelled to put last year, when the Report of the Referees on Metropolitan Drainage appeared, and which we have had to allude to since. We cannot overcome the difficulty in the prospect that all existing objections to use, within the metropolitan boundary, of the Thames as the outfall, would be intensified in the use of narrow channels for sewers, having the sewage in a more concentrated form, all along the line thereof. Assuming the sewers as wholly covered, it has yet to be shown that the evil would not prevail with fatal force at the outfall and other places, and whether the sewers, in the absence of a system of ventilation suitable to the exigency, would not vent themselves into the houses to a greater extent and with more serious evils than under the existing sewerage. And, as to the place of outfall, whether into the German Ocean, or into the river at the Reach, or at Barking Creek, we observe that the influences antagonistic to the final discharge of the sewage into the ocean have so much increased in their appearance of probability with the progress of the evidence during the last few years that it seems to be doubted equally by the general supporters of such schemes, whether any object of theirs could be gained lower down, as they would not equally well attain by outfall somewhere in the upper part of the river. Mr. Thompson, following upon Mr. Gurney's statement that sewage after disengagement of air-bubbles is slightly heavier than fresh water, has shown that it must be considered as lighter than salt water,—whereby it follows, he says, that there is a bar to its flow in the course of the Thames, below a certain point, and that it is in manner it is kept in suspension, till by the action of the tide meeting at so many points the river flow, and producing a fight or conflict, the matter is raised up and carried still further up the river. At the ebb-tide the tendency, on the other hand, is towards deposition. Dr. Thompson, before a committee, last week, produced a model, consisting of an elongated glass tank, with sloping bottom, at the lower end of which was a small chamber, having means of communication at pleasure. The former was filled with Thames water, and was intended to represent the bed of the river to the Nore, whilst the chamber was filled with sea-water, coloured pink, representing the ocean. Along the whole length of the former pipe was carried on the exterior to represent the proposed intercepting sewer, and communicated with both vessels at the lower end. H.

cred into the top of this pipe a blue fluid of s same specific gravity as sewage, which e reaching the outfall, instead of mixing h the sea-water in the chamber, the bottom which was lower than the tank, immediately mmenced a retrograde movement, and passed the shelving bottom of the tank until its top er line was level with the point of outfall. On oving a cock, and opening a communication ween the tank and the chamber, the sea-water led up the incline underneath the sewage; and n, on filling the tank so that it overflowed the chamber at the lower end, the river-water ained in a distinct body upon the surface of sea-water. The object was to show that with relative specific gravities of the fluids, Mr. ey was right in concluding that if an inter- ng sewer were carried down to Sea Reach, a s portion of the sewage there discharged would go out into the ocean, but would be brought , and by the agency of the tides would be ited on the banks, if left as they now are; the sewage might as well be discharged at don-bridge as at Sea Reach; and that the er you go down the river, the more does the fic gravity of the water and the disposition to n the sewage increase. We stated our appre- non long since that this would be found the

suming the facts proved, as above stated, it d seem that for the removal of the nuis- e according to any plans which are pro- tly before the public, we are left to the dis- n of means by deodorization or precipi- o, or by the agency assumed to be called into y the provision of embankments, or those ications in the bed of the river for a similar e, which Mr. Gurney first proposed, and to h he has lately added some further matters of istion. So long, however, as the first *data* uiries, are being now only brought out, any ission, it is sad to say, would be made under antages possibly fatal to every object. We s that the reason why London has not been out of the chance of suffering, from the rous exhalations of sewage is, that none of quiries have been brought to the position here d to, as to facts. The evidence, bulky as it in print, has been incomplete and partial; ject has been taken up with impetuosity, times, and reported upon, before there was undation for a report, when it happened that bject, political or otherwise, was to receive non rather than the all-important one of the . The result is, that every report is op- o its predecessor, instead of adding to it tation and conclusions at the point where mer broke off. It is little more than a cence the results of the first real inquiry into thods of deodorizing and utilizing the of towns, appeared in print; and up to me the question of the applicability of in irrigation as the means of affording the for the London sewage (on which lately, in g the preliminary report of the Royal ission, we offered some remarks), has had quate examination; though every view that n as to the existing evil in London, adds to uments for extending the inquiry in that n.

melancholy, considering the lives that may lved in the subject, if we have to confess orks cannot at once be undertaken on the ef either of the schemes which have received tention. But, can we say that either of h based on the knowledge of the primary ter the statements which the condition of the during the last fortnight has called forth? is that which causes, and what is the agency develops, the stench of the river? The is most conflicting. Sulphuretted hy- and supposed hydro-carbons, are each as the matter which is smelt. The heat mud-banks, and the mechanical agitation wawater by the steamers, have had their supporters, according as these have de- or the theory of the mud, or of the water, main agent. The stink, however, is simply ewage water—analyzed in whatsoever way, lly or by the nose; and it comes from the through the ordinary process of evapora- ing on, over a large exposed surface, in force during the season of hottest wea- Still, it is not easy to say why, as it has erted by Dr. Challice, the nuisance from emes should be greater at times than that en sewer like "The Earl," which has a pro- tely greater amount of concentrated sew- ingredient was discovered by Dr. Hofmann Witt, in their experiments for the Referees, o produce such exhalation, in particular excess in the water in the lower part of the river, as compared with that at Kew; and these authorities were obliged to assume that nuisance resulted from the peculiar *condition* which the water assumed. What is this condition? Mr. Gurney has noticed that there is a distinctive character in the water—which begins at a point a little above Putney, and terminates below Blackwall. In what respect is this appearance allied with the "putrefactive fermentation?" The latter is viewed as the agent of purification, at the expense of the air,—according with the process which goes on in the purification of Thames water, if it be stored as it was formerly, when used on board ship. The purification of a stream must, however, be a matter governed by distance and quantity of impregnation; and as the favourable circumstances in both these particulars, have been undergoing gradual reduction in the case of the Thames, as in all the other rivers of the country, it is possible that the point has at length been reached at which the contribution to the nuisance is in excess of the force of innoxious purification. There is this special circumstance in the case of London, that, owing to the length of the sewers and the extent of the area included in the system, there is time for decomposition to be effected next to our very habitations. The sewage is delivered under conditions different to those existing at Tottenham, where so little maceration takes place that pieces of soap are recovered at the outfall sufficient to pay for the wages of the boy engaged in a certain duty thereat; but under conditions which may at least need to be investigated ere it be said that the deodorization or precipitation which may answer in the case of some country town will be adapted to the case of London. And though it seems to have been forgotten by Mr. Tite and others that the river receives several tributaries below Teddington Lock, it is by no means obvious that the immense volume of water which is now taken from the river can be prevented from returning to it as at present, without apprehension of injury to the navigation.

Whilst evidence as to the facts and causes of the condition of the river is contradictory, the statements as to effects on the health of London bear probably only the appearance of being so. On the one hand we have had particulars of deaths or illness considered to be traceable to the river, besides the facts of the noxious effluvia in the Houses of Parliament and the courts of law; on the other hand, during that very time, we have had the reports of the Registrar-General and of the Medical Officer of the City, saying that the population of London then appeared to be "in a very healthy condition," or that the mortality returns were only "a little above the average." The inference should be merely that a little breathing time is allowed ere the evil at present localised, extends over a larger area, or transmits infection to the rest of London. We therefore trust that the inquiry by the committee of the House of Commons will be completed, and not cut short, and brought to a so-called conclusion, in deference to any unseemly haste on the part of Government or members of Parliament to close the session, and escape from the effluvia at Westminster. If the present chance be lost, we may go on for several more years reaping the effects of delay and ignorance of causes, or of some adopted expedient or hurriedly-devised plan. The committee have been paying somewhat too prominent attention just now, to the special case of their own quarters, as well as to the commercial question in sewage utilization; but they may come to the right conclusion if they will continue their labours, and hear all that ought to be heard on the difficult subject that is before them.

Mr. Gurney's proposal to dredge two deep channels in the bed of the river should be very carefully weighed by engineers ere any opinion is expressed in favour of it. And it should not be assumed in the present state of the inquiry that embankment will cure the main evil, even though found adapted to the other circumstances of the Thames, and of its utilization as a line of communication—greatly important as these objects are to the necessities of London. The question concerned is one into which we must shortly enter; but we may at present desire to know how, if the large docks are themselves the means of adding to the nuisance, the docks for barges, as proposed in different schemes, would be kept from contributing a new addition. The *rationale* of a cleansing operation in their case may be made apparent; we simply say that at present the demonstration of the mode has to be made.

Whether the plan of distant outfall and main intercepting sewers, that of deodorization or precipitation at the sewer mouths, or irrigation, or that of embankment or rectification of the banks of the river, be adopted as the main principle, confidence must be placed in some one authority. Under the system of check and counter-check, which has been lately in vogue in public works, no engineer or architect, with due regard for his reputation, would wisely be concerned in the design or management of such works. The Government of this country may do very much for the improvement of London: they may induce the first steps to action, as just now by aiding the elucidation of the *data* on which alone there can be any good result; and they can do something to stop the perpetuation of present evils by taking measures that we could readily indicate, to discourage the building on ground which no science or engineering skill can drain in the efficient manner that health requires. They will find in these steps, that they will be led to the consideration of the London street and railroad communications, and to many other matters that do not immediately appear connected with sewerage, but which, nevertheless, one and all, belong to the sanitary question, and are inseparable from it, as from the true duty of a Government.

THE CURRAGH CAMP.

A TRIP TO KILDARE.

A DESIRE to investigate still further "the condition of the soldier," having led us into the locality of Kildare, we shall, previously to proceeding on our special mission, stop to note a few particulars relative to the town, and the features of antiquarian interest in its vicinity.

Kildare, although it has now dwindled into comparative insignificance, was famous for centuries as the "Citie of Saints;" some remains of its former grandeur still existing,—its ruined cathedral retaining marks of its original beauty, extent, and magnificence; and its round tower, one of the loftiest in the kingdom, still attracting the attention of the antiquary. The bishopric of Kildare is said to have been founded in the fifth century, by St. Coulœth.

The tower is 132 feet in height, with a curiously crenellated top. In Harris's edition of Ware we find the following passage:—"The tower of Kildare having been pointed and repaired within these few years, had then a regular neat battlement raised on it, which before was only an irregular broken wall, as appears by the scheme given thereof by Sir Thomas Molyneux, and which I myself well remember."

This scheme or sketch is engraved in the "Natural History of Ireland," by Dr. Gerard Boate and Sir Thomas Molyneux, where it is shown without the battlement, and its height described as being at that time only 107 feet. Dr. Ledwich states it to be 110 feet in height. The ruins of the cathedral are well kept, and various relics of antiquity have been collected and preserved in the walls of the adjoining church. The sepulchral vault of the Geraldines is in this ruin, and here (it is popularly supposed) lie the remains of the gallant Lord Edward Fitzgerald; but, according to Mr. Sloane (author of the "Pencillings of Ancient Dublin"), that ill-fated nobleman sleeps in St. Werburgh's Church, Dublin, under the altar.

Between the Curragh and the ancient town of Naas are the ruins of Jigginstown Castle, an enormous building of brick, commenced by the Earl of Strafford but never completed. A person purchased it some years ago with the intention of selling the Dutch bricks of which it is composed, but failed to extract any of them, so compact is the mass.

Passing hence to the camp, which is situated from Kildare and Newbridge (both stations on the Great Southern and Western Railway) at a distance of about three Irish miles, we pass through the unrivalled and world-famed "Curragh of Kildare,"—a plain of about 4,500 acres, the property of the Crown, and presenting a velvet sward to the pedestrian and delicious pasture to the motley groups of sheep which, so irregularly distributed thereon, add to its artistic beauty. The new stand house, erected by the railway company, is a feature of interest, and commands a perfect view of the entire race-course.

The camp is situated on an eminence attained by a gentle ascent, and extends some two miles, being terminated at one end by the "Hare-park," in which are the hospital quarters of the second brigade; and nearly so at the other by the residence of the commander-in-chief of the district, Sir Richard England, which is detached, however, and situated in a valley at a short distance from

the other buildings. The huts are ranged parallel with, or at right angles to, each other, forming streets and squares, and are spaced at reasonable distances to guard against the spread of fire. With a similar object in view, screens have been provided, and a few times effectually brought into requisition.

Central, or nearly so, between each extremity of the camp, is a clock-tower, serving also as a cistern for the supply of water to the mains, which branch to the various squares and departments. This structure is some 65 feet in height, of brickwork with stone dressings; is of a permanent and substantial character; and, unlike many similarly intended buildings in Ireland, has some architectural pretensions. Water is pumped up to this level by a powerful engine, situated in a valley near the camp, with the requisite accommodation for parties to tend the same, and in proximity with a large reservoir, which is constantly full.

To the right and left of the clock-tower are two spacious edifices for religious purposes, appropriately fitted internally, one being for Roman Catholics, and the other for members of the Established and Dissenting Churches. These are certainly of a very unecclesiastical character, according to our notions now-a-days, and have huge projecting gables, supported by iron brackets, somewhat after the Swiss fashion, and for what apparent end it would be rather difficult to satisfy one's mind; however, they seem to answer their intended purposes, and we therefore pass on to other portions.

We should mention that all the structures in the camp, with exception of the clock-tower, engine-house (before alluded to), the tennis court, and the culinary offices attached to the messrooms, are of temporary character, with timber walls, partitions, and roofs covered with asphalted felt; the fire-breasts, chimneys, and foundation-walls only being of brick. Externally they are, or were, painted with what now presents a dirty reddish brown, and internally not at all. On the whole, then, it may be inferred that the appearance of the camp is by no means imposing; and the ordinary fever sheds erected through Ireland by the Poor Law Commissioners have a much cleaner and tidier appearance.

The huts vary in size,—those for the married officers and soldiers being generally larger, and containing apartments averaging 15 feet by 10 feet; the rafters springing at a height of 6 feet from the floor, and giving an additional height of about 2 feet to the sheeted ceiling, which, however is quite too low, both for health and comfort, and, combined with the closeness of the asphalted roof, producing a very generally complained-of oppression on the brain. There is one fact to which we would draw special attention, viz.—that frequently single officers are appropriated apartments in the same hut with the married, the bed-rooms only being separated by thinly-sheeted partitions, not only insufficient to preserve the privacy of each dwelling by preventing the transmission of sound, but the horizontal joints of the fresh wood opening fully half an inch or more, enabling the occupants of each to see into the apartments of the other, unless previous precaution of screening may have been adopted. In consideration of delicacy alone this state of things is very reprehensible, as ladies are frequently compelled to listen to conversations and expressions at unseasonable hours, not suited to ears polite. From defective materials above alluded to, and palpable want of care in making close joints to the sheeting of the outer walls, the cold of the huts in winter is, we are told, intolerable, and the occupants live in an incessant draught, which adds not a few to the cases of rheumatism and sciatica which come under the care of the medical officers. Some of the staff officers are allowed the luxury of canvassing and papering over the inner sheeting of their huts, while others, equal in position, are without it. If one, why not all? The windows and doors freely admit wind and rain, and damp is generally complained of; it being a matter of considerable difficulty to prevent wearing apparel and furniture from being mildewed. A little foresight in the beginning would have obviated this and other defects. Contiguous to the huts, but sufficiently distinct for sanitary considerations, are conveniences, from which the soil is abstracted by night, through trap-doors in the outer walls. These, however, are specially for the males, but none are provided for females, which is productive of much inconvenience. Some of the huts have kitchens, while others are without them, as also are found wanting in the ordinary requisites of a scullery and washhouse, and necessitating the occupants to send their meats to be baked in the general ovens.

In the hospital departments the huts are constructed of similar heights, but with wards capable of containing twelve and twenty-four patients respectively, and are warmed by stoves. In point of ventilation they are in the opposite extreme to that usually apparent, and are somewhat *too effective*; for some of the patients are kept shivering in their beds by the constant thorough draft, while others, near the stoves, are roasted at the feet by the scorching heat, while their faces and hands have a cold air playing over them. The desirability of using stoves in such instances appears very questionable. The chief staff and medical officers, quartermaster-general, &c. &c. are provided with huts having zinc roofing; and some of the stores are roofed with corrugated iron. The mess-room huts are commodious, and have offices attached, but are of the same height, and exhibit the same defective construction above described.

The stabling accommodation, though not exactly as complete as that in the out-offices of our metropolitan private dwellings, is nevertheless sufficiently good to keep the war-horses in excellent condition.

We cannot conclude our notice without remarking that the appearance of those huts having gardens attached would be considerably enhanced by a little more *care* being bestowed upon their cultivation,—they being in some instances much neglected. Civilians, pent up in the limits of their Babylon, and to whom even a green patch of ground, fresh air, and odours palatable to the nasal organs, are treats rarely within reach, may envy the soldier the healthy, fragrant, and delightful aspect of his home on "the Curragh."

PERAMBULATION OF ISLINGTON.*

YSELDON, anciently pronounced and even written Eyeseldon, appears to have been the original name of the modern vernacular "Islington." So early as the thirteenth century it was occasionally written Hyseldone, and subsequently Hisselton, as in the "Turnament of Tottenham,"—

> "Hither came all the men of that countray;
> Of Hisselton, of Highgate, and of Hackeney."

More commonly, however, it was rendered Iseldon and Iselden. The Saxon etymon of Iseldon, according to Sharon Turner, is Ysseldune the down of the Yssel,—probably of the river of Wells which joined or fell into the Fleet. Eysel or Ousel was the diminutive of Eyse and Ouse, a river or water. The Wells stream was fed by the springs which issued from the woods and flowed from the hills northward of the few solitary dwellings seated on the down or hilly pasture overlooking the north side of London. This "water," in its current towards the Fleet at Bagnigge Wash and Clerkenwell, was fed and increased by numerous land springs, associated with the famous ducking-ponds of Islington. Ben Jonson, in his comedy of "Every Man in his Humour," represents *Master Stephen* as saying of these ponds, "Because I dwell at Hogsden, I shall keep company with none but the archers of Finsbury, or the citizens that come a-ducking to Islington ponds!—a fine jest, i'faith!" These words introduce us to a local feature—an association of by-gone times, when the Londoners sought for amusement in the Islington-fields. Howell in his *Londinopolis*, published in 1657, speaking of the out-door relaxations of the Londoners, says, for "Healthful corporal recreations and harmless pastimes London may go in the van, to any place that ever I saw yet. Go and walk in her fields, you shall see some shooting at long marks, some at buts; some bowling upon dainty pleasant greens, some upon bares; some wrestling, some throwing the barre, some the stone; some jumping, some running, some with their dogs at ducking-ponds." Islington ponds, remarks Mr. Tomlins, seem to have been noted in the seventeenth century as affording the Londoners the sport of duck-hunting, for Davenant represents a London tradesman saying—

> "'Where's dame?' Quoth son of shop,
> 'She's gone her cake in milke to sop.'
> Ho! ho!—to Islington—enough—
> Fetch Jon my son, and our dog *Ruffe*;
> For there, in pond, through mire and muck,
> We'll cry, 'Hay, duck—there *Ruffe*—hay, duck!'"

These ponds mostly lay at the back of Islington, and were fed by the springs already alluded to, and which were plentiful in that locality: the ponds may be said to have extended almost continuously from the fields in the Back (or Liverpool) road, to the Lady Huntington's Chapel, in Exmouth-street, Spafields, on the site of which, more than a century since, stood a house of entertainment known as the *Ducking-pond House*; the pond occupying the greater part of that ground which for the last seventy years or more has been a burial-ground attached to the chapel.

Pepys, in his *Diary*, 27 March, 1664, notes as follows:—"Thence [from St. James's Chapel, Clerkenwell], walked through the Ducking-ponds fields; but they are so altered since my father used to carry us to Islington, to the old man's at the King's Head, to eat cakes and ale (his name was Pitts), that I did not know which was the Ducking-pond, nor where I was." Pepys's way was most probably by the pathway, northward from Clerkenwell to the back of Islington, to the Ducking-pond he mentions, was either in the Back-road, or was identical with the Wheel-pond.

The water that overflowed from those ponds that were deep, numerous, and almost continuous in former times, formed currents and watercourses both down the Back-road to St. John's street-road, and also over the fields to where the New River-head now is (which itself was anciently a large pool), and downwards to the Duck-pond-house, and thence to the river Fleet. Indeed this then watery or oozy district was the place from which constant supplies of water were obtained for the priory of St. John's and the Charter House, "sweet water," to use the words of Stow, being in former times as great a *desideratum* to our ancestors as it is now. These water supplies formed the Islington conduits, which have left their names inscribed in its modern heart of brick and mortar.

In the "Archers of Finsbury," of whom Ben Jonson speaks, we have an indirect allusion to the archery in the open level fields called "Finsbury Field," which extended from Peerless Pool, at the back of Old-street, to Islington Common, and was peculiarly distinguished in the annals of the manly and warlike exercise of archery, at a time when the strength of the nation was said to stand upon archers. In truth, the open ground throughout the suburbs, as well as to the north of London, were almost all devoted to the practice of archery, as the burlesque titles of "Prince of Shoreditch," "Marquis of Hogsden," "Marquis of Shacklewell," "Marquis of Islington," "Marquis of Clerkenwell," and "Earl of Pancridge" denote. Sir William Davenant, in one of his poems, viz.—the "Long Vacation in London," written about 1667, thus alludes to shooting matches between the attorneys and proctors of that date—

> "Each with solemn oath agree
> To meet in fields of Finsburie,
> With loynes in canvas bow-case tied,
> Where arrows stick with mickle pride,
> With hats pinn'd up and bow in hand,
> All day, most fiercely, there they stand,
> Like ghosts of Adam Bell and Clymme
> Sol sets for fear they'll shoot at him."

In the same ballad is the following verse:—

> "The king is into Finsbury Field,
> Marching in battle 'ray,
> And after follows Robin Hood
> And all his yeomen gay."

It was in commemoration of her narrow escape from the random shot of an archer while "milking" that Alice Owen built her almshouses, chapel, and school, at the south end of Islington, near St. John's-street-road and the Hermitage. The site of these has since been changed. An interesting memento of the archery butts still exists in the shape of two of the stone "rovers," or pillar marks of the shooting distances in archery practice: one of these stands at the end of Manchester-street, Hoxton, on the east side of the New North-road, near the canal bridge: the other is fixed and preserved in the brickwork of the canal bridge, above the towing path, on the London or south side of the canal, and bears the inscription, "Scarlet." On the Dorchester-rover, which was called "Whitehall" and "Whiteball," are the letters A. C. the date 1683, and the arms of the Artillery Company in iron let into the stone. Another stone of some celebrity exists in Islington, and may be here briefly alluded to, namely, the Whittington stone. It faces the high road at the foot of Highgate-hill, and marks the ancient site of Holloway Lazarhouse or Hospital with which the original stone is believed to have been connected, as a kind of cruciform signpost to attract attention to the charitable institution which it confronted. The Whittington stone has suffered various vicissitudes,—one stone, it is said, having been substituted for another which had been removed, and a third substituted for the second. It is Mr. Tomlin's opinion that the original stone was much more clearly connected with the Field Lazarette or Leper-house than

* A Perambulation of Islington. By Thomas Edlyne Tomlins, Esq. London: Hodson, Lincoln's-inn; and Ford, Barnsbury-place, Islington. 1858.

Whittington. But may it not have been legitimately associated with both? If Whittington ever sat on the stone of tradition, that stone must have previously existed there and been associated with other objects or purposes, probably before Whittington even was born. There is good reason at all events to believe that the original stone consisted of a cross, mounted on a broad, low, basement, on which people may have easily seated themselves.

From London to Highgate the high road was anciently called the Hollow Way. Thus the Hollow Way and the Highgate formed the main road leading from London countrywards to the north. It was thus that the district on either side of the Hollow Way got the name which it still retains of Holloway. More anciently the name was "Holwey beside London." It was at length distinguished as upper and nether or lower Holloway. Another spot in the Islington of old was long known by the name of Hollow, and Sadler's Hollow. This was at what we now call Sadler's Wells. In the seventeenth and eighteenth centuries that part of Islington which lay in or near to Clerkenwell parish, towards Goswell-street end, and near the New River at that place, presented a rude aspect, for the earth and soil had been dug for gravel for road-making purposes by one Sadler, a road-surveyor of those days, and his name has been preserved in that of Sadler's Wells and Sadler's Hollow: this spot indeed long retained the name of Hollow, being called "The Hollow in the City-road" till about 1803, when it was filled up, and "Dalby-place," as it was first called, built upon it. Over this "Hollow" the New River water was formerly conducted in a trough, as it was at the boarded river below Highbury and at Bush-hill, near Edmonton.

"Towards the close of the reign of Charles II. as Macaulay remarks, "Islington was almost a solitude; and poets loved to contrast its silence and repose with the din and turmoil of the monster London." Cowley, speaking of London, says,—

> E'en thou, who dost thy millions boast,
> A village less than Islington will grow,—
> A solitude almost.

On referring to the maps of London and its environs, made a century since, and, indeed, later, Islington is delineated as consisting of the High-street and the Green, continued at intervals by the Upper-street to the end of Wells-row, and the Lower-street as far as Thatched-house-row and the Thatched-house, at which point the houses on both sides terminated. The buildings in both Upper and Lower street stood unconnectedly, and in the Upper-street, beyond Cross-street, were built only on the west side of that street. A few buildings were erected at the end of the back road in 1771 and 1774, and some new buildings about 1767 (Cumberland-row), rose on the east side of the High-street, near the Green; but buildings at that time progressed slowly in comparison with more modern times, and Islington was then almost as solitary, and as much exposed to depredation and robbery, as it was certified to have been a century previous.

"Surrounded by the fields," says Mr. Tomlins, to whose work we have been indebted for most of the previous information, "although connected by the highway of St. John-street-road with London, the appearance of Islington was pleasant, nay, one topographer, not more than fifty years since, styled it picturesque. At the commencement of the present century the lanes that communicated with the back road from the Upper-street had scarcely been built upon, the houses in Barnsbury-street and those only on the north side, rose but slowly, about four or perhaps three, at one time: and in Steward's-row, now Park-street, there were not more than six houses. Aged people there are who recollect the High-street and lower-street lined on each side with trees; several large elms stood opposite the Angel, and Nelson, Vol. II, notices the rural aspect Islington presented in the breaking season. The ancient houses and inns, most of them in former times the residences of the nobility and gentry from the time of Henry VIII. to the end of the reign of Charles I. presented an antiquated appearance. The High-street, the Angel that, to borrow the words of Cromwell, retained the aspect of a large country inn, round of which the interior or courtyard as it existed more than a century, has been preserved by Hogarth in the print of 'A Stage Coach,' 1747: then the Peacock, a spacious and capacious building; the White Lion, of short celebrity, and the ancient range of buildings at the Upper Hats. In the Upper-street, there was the old Cottage House; the Pied Bull, formerly the abode of Sir John Miller in the time of James I.; and opposite Ruff. Old buildings there existed, previous to 1812, a large old-framed mansion. In the Lower-street also were numerous ancient buildings; indeed, that part of Islington now seems to have been far more ancient than the upper part of High-street, and continued what were once spacious mansions, afterwards converted into schools, inns, manufactories, and pauper farm-houses, all now taken down to make way for uniform rows of brick-built shops for the use of a trading population."

Stretching far away to the north are houses—houses—everywhere; and in a few years it will be difficult to find a green field in Islington. Several new structures are now rising,—the Post Office, the Police Station, and the Vestry Hall: whether or not these structures will be found to improve this large and important district to the extent that should be the case remains to be seen. Some general measures are much needed for the improvement of the High-street. It might be made one of the noblest roads in the neighbourhood of the metropolis.

Mr. Edlyne Tomlins's book is a very superior production, displaying industry, erudition, and a cultivated mind. He has sought to take a more enlarged view of the antiquities of Islington than that which has been presented by his predecessors, and has produced a book of much interest and value.

RAG FAIR, PETTICOAT-LANE,

THE DEBATABLE LANDS IN LONDON.

PETTICOAT-LANE has been figuring in Parliament. It has been shown that vast numbers of persons congregate here every Sunday morning, partly to traffic and partly for plunder. The Lord Mayor confirmed what had been stated, and said he had been astonished to find that this was the case. The readers of the *Builder* will not be astonished, because they were told something of the place years ago. The Lord Mayor said he had communicated with Sir R. Mayne upon the subject, with the view of seeing whether the evil could not be abated. But the House was probably not aware that Petticoat-lane was peculiarly situated. It was a very long street, one half of which was in Middlesex and the other half in London; and, unless the police on both sides agreed upon one plan of action, the nuisance could not be effectually dealt with. Booths of all descriptions were erected, and a complete fair was held in that locality regularly every Sunday, and attended by between 12,000 and 15,000 persons. It is another example of those debatable lands to which we have lately drawn attention.

Petticoat-lane, our readers will recollect, is famous for its market of second-hand clothes, from those of the richest in the land to the tattered garments of poverty. It must be seen in order to be properly understood. Such adventurous traveller as may wish to examine this large colony of an ancient and unchanged people, would do well to turn into Houndsditch from Bishopsgate-street, and then to the left along Cutler-street, and he will soon reach a large market, in which many of the most substantial of the dealers, male and female, have stalls and other accommodation. It is not a very easy matter, however, to reach this centre, for at certain times the approaches are densely crowded by Jew dealing with Jew, and the "tug of war," in the shape of loud words and energetic action, is startling. The contents of bags are turned out, and one piece of costume, after due eloquence has been used on each side, is exchanged for another, boots and shoes for hats, or coats for trowsers.

There are parts of this marvellous metropolis where no clothes' man would think it worth while to enter: even the exchangers of crockery and glass would not trouble themselves to call; but in these places "dolly shops" illegally advance money on such matters as pawnbrokers would not meddle with; and great is the interest paid for advances by the very poorest of the community. For the smallest sum up to one shilling, a halfpenny a month is charged, so that for the loan of sixpence they pay sixpence at the end of the year. From such shops as these, and from rag shops, "goods" are brought to Petticoat-lane: even the articles which have been thrown out as useless, and are gathered in the streets by the bone-seeker, find consideration in this neighbourhood: the upper parts of shoes, though the soles may be in a hopeless state; the soles or heels of others, from which the upper leathers have departed,—are sold to those who know how to dispose of them to skilful artists, who, by joining many parts together, will, if he may be believed, "make them better as new." Garments which, in the eyes of most persons, would seem to be quite useless, are eagerly purchased by other artists, who, with marvellous powers and chemical knowledge, turn, patch, and cleanse these cast-off habiliments, and put upon them a gloss which gives them a charm in the eyes of a future purchaser. Oh, strange and composite world!

In advancing to the central mart, the visitor will pass, as well as he can, through the crowd, without meeting with much notice, for all are too busy with their own pursuits. He will be surprised at the spirit of trading which is shown on all sides of him: an old hat is disputed about as if it were a matter of life and death. In the interior of the market a stranger attracts immediate attention; and if well dressed, has numerous communications made to him: the seemingly in want of a coat is, however, the most attractive; and those who have experienced the rush of touters and porters at some foreign steam-boat station, may form some idea of the manner in which his attention is divided by the numerous offers. A man must either have an empty purse or great firmness, to avoid making a purchase.

The immense quantities of goods here, suitable for markets at home and abroad, suggest that in London there is a greatness even in the sale of old clothes. The busiest time is in the afternoon, from two to five o'clock. Past this exchange, Petticoat-lane stretches in a long line, and this is generally thronged with dealers, some of whom carry on their business in shops, while in front of them others pitch their goods on the ground.

Being lately in this district on a Saturday evening, near the close of the Jews' Sabbath, we were tempted to another examination of the old houses which, on the east side of Houndsditch, differ so much from the more modern buildings, and mark the margin of the Great Fire. Looking up Cutler-street, the silence which prevailed, recollecting the place on other days, was striking. The shops were closed. Jewesses, many of them richly dressed, formed gossiping groups. In Petticoat-lane the same observance of the day was general, and shows, to some extent at least, the respect of this people for their Sabbath, in spite of their love of gain.

Although the places of business (even some of the public-houses) were nearly all closed, the place was thronged by such a multitude, all in their gala costume, that some idea might be formed of the dense population which occupies the surrounding neighbourhood. The artistic observer will notice amongst the young girls faces of great beauty, of that peculiar cast which has been transmitted from generation to generation since the days of Moses.

We have before referred to this neighbourhood, but may again mention that Petticoat-lane is a narrow thoroughfare, from which branch off numerous alleys and courts: most of the latter are reached by gateways, some of which are of very circumscribed width, and are generally built up at the extremity. The houses are small, the population is very large, and sanitary supervision is here required: some of the pavements are in a miserable condition, and the drainage seems to be very defective. Hebrew-court appears to be in as bad a condition in this respect as it was half-a-dozen years ago; and here in the summer-time the refuse water must remain in stagnant pools, much to the danger of the inhabitants. In addition to that, some of the trapped gully-holes in Petticoat-lane are stopped up. Mulberry-court is very badly situated: the entrance is dark and narrow: beyond are thirteen or fourteen houses, and narrow avenues pass here and there, not so regular, but in something of the same manner, as the cells of the honey-comb, and every part is swarming with life. There is a nuisance here of the most pestilential kind, but we prefer to pass it over. While examining these back places as the darkness began to close in, and the gaslight and the stars to glitter, the noise rapidly increased. A change had in the course of a few minutes come over Petticoat-lane: the shutters have been taken down, the windows lighted up, busy hands are at work displaying the merchandise: costermongers with fruit and fish bring in their barrows: from all sides throngs of working-men and others come in search of bargains; and until a late hour of the night the busy exchange goes on. The scene is marvellous, and it might be useful if those who have the making of laws would visit such places, to glance at the vast thousands who are crushed together, and study the circumstances under which they are placed. There is something in the sight which suggests the necessity of sanitary measures.

On the Sunday morning the market again opens, and, if anything, the confusion is greater: it reigns until the streets are forcibly cleared of dealers by the police; and it is the recent "discovery" of this fact by our legislators that has brought Petticoat-lane at this moment before the public.

VALUE OF LAND IN HERTS.—Last week, at the Mart, the "Almshoebury Estate" was put up. It lies altogether in the parishes of Ippolitts, Stevenage, and Hitchin, in one farm, adjoining "Knebworth," the estate of Sir E. B. Lytton, and consists of 666 acres, the whole of which is freehold, except a few acres, which are copyhold. After a spirited competition, Mr. Edward Roberts, the tenant of the farm, was declared as the purchaser at 25,700*l.* or nearly 39*l.* per acre, and 1,300*l.* for the timber.

THE THAMES AND ITS TRIBUTARIES.

The Wedding of the Waters at the Regent's Canal.

A Section of the Shore.

Sewer from Bow Common, at Limehouse.

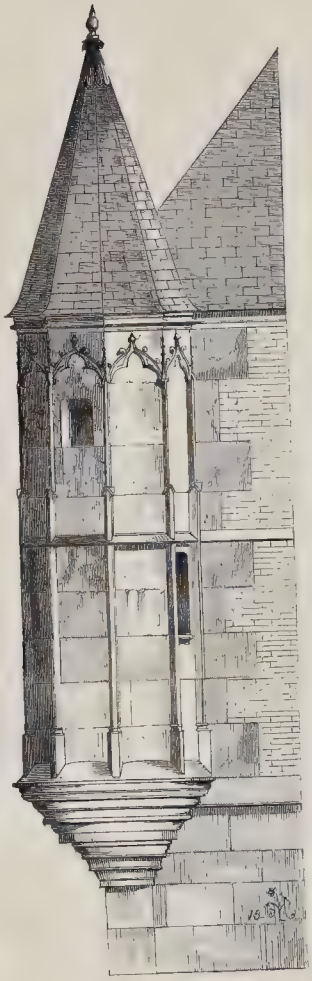
* See p. 449, *ante*.

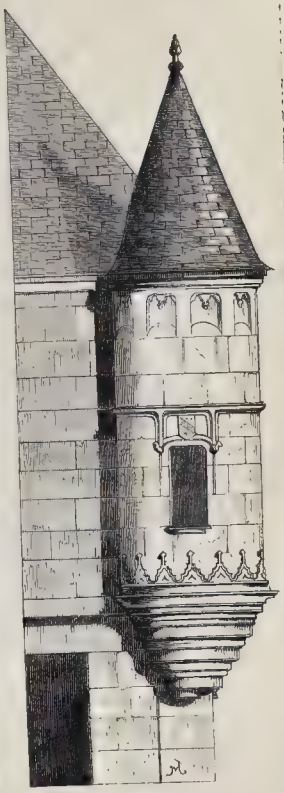
ANCIENT DOMESTIC ARCHITECTURE IN FRANCE.

ANGLE TURRETS.

THE early châteaux were ordinarily built on the summits of mountains, were fortified with crenellated and machicolated towers, and fur with a hundred ingenious obstacles to the progr of those who might desire to gain possession them by force or stratagem. At the end of t fifteenth century, however, residences ceased be fortified, they were embellished: their build gave up with joy the narrow and inconven stairs, formed, often, in the thickness of the w and to obtain more commodious and agreea staircases, erected elegant turrets, projecting yond the face of the building. This innovat had been commenced in the previous century, the turrets preserved something of the fort When ultimately the lordly population of châteaux moved into the towns, they bro with them their architectural baggage, and t first dwellings offered something agreeable to eye in the outline of the turrets, with poi roofs breaking the uniformity of the sky- These turrets were then for some time the tinctive mark of the nobles dwelling in the to but soon, as a matter of course, this feature adopted in public monuments, and in the dwel of the citizens. The position of the turrets wa but is ordinarily at the angles of the build In private dwellings the turrets are of two s those which commence from the ground en usually a staircase:—we see some beau examples of it at the Hôtel de Cluny, and the Hôtel de la Tremouille. When this l was demolished, the staircase was taken to court of the *Ecole des Beaux Arts*.

The other class of turrets, which are suspe serve usually for habitation. We have engr half-a-dozen specimens of these, of which we three on the opposite page.





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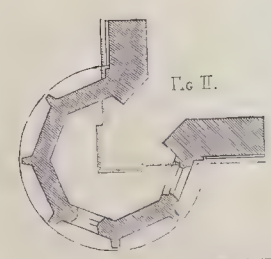

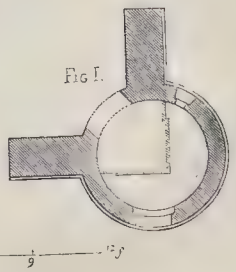

ANCIENT DOMESTIC ARCHITECTURE, PARIS.—ANGLE TURRETS.

CHURCH-BUILDING NEWS.

Lincoln. The Cathedral restorations on the south-east side above Russell's Chapel, says the local *Times*, are being proceeded with, necessarily slowly, from the minute delicacy of the work. For the present the dean and chapter, it is said, do not permit heads to be supplied to the remainder of the dilapidated niche statues.

Hawstead.—The nave of Hawstead Church has for several months been closed to admit of its repair and restoration, and has now been reopened. The exterior, besides receiving all the more obvious repairs and restorations which age or accidents had rendered necessary, is improved by the removal from the chancel of the plaster, which not only hid the cut flint walls, but also filled up the tracery of two of the windows blocked up on account of the monuments in the interior. Inside, the floor has been laid with coloured tiles; the roof appears as it did before the "axes and hammers" of the Round-heads touched it; old pews have been removed, and benches of oak with carved poppy-heads substituted. The chancel-screen has been renovated, the stone quoining scraped and mended, and the monuments on the walls cleaned. The timbers of the roof, which have long been deprived of their apparent support, now rest upon carved stone corbels. The whole of the works have been executed by Messrs. Rattee and Kett, of Cambridge.

Brighton.—A piece of granite, weighing 18 tons, prepared by the sculptor, and landed at Shoreham, has been thence drawn into Brighton by eighteen horses, and deposited in the New Cemetery, where it is to form a portion of the mausoleum intended to be erected for the family of the Marquis of Bristol.

Sherborne.—In the restoration of Sherborne church, which is being proceeded with at the sole cost of Geo. Wingfield Digby, esq. great progress has been made, and the opening of the chancel is spoken of for the 18th August. All the substantial stonework connected with the fabric of the building is completed: large portions of the stained-glass windows are already in the emblazoning of the chancel roof is nearly completed; and the floor, some screens, and the altar, are all the heavy works that remain to be done. The roof is enlivened with gold an brilliant colours: every rib is gilded, the bosses gilt and coloured, and panels emblazoned with the Digby crest, the arms of Sherborne Abbey, and those of old Sarum and the Bishop of Salisbury quartered. This work is proceeding under the direction of Mr. Crace. The large windows of the clerestory and the altar window are being fitted by Messrs. Clayton and Bell with stained glass, the upper rows being filled with figures of saints and learned men, such as St. Alban and the Venerable Bede, and the lower with Bishops of Schireburn. The altar will represent Scriptural scenes, types, and anti-types. The altar-piece will be nearly 19 feet high, of Caen stone, bearing subjects in bas reliefs,—"The Last Supper" and "The Ascension" under a heavy fretted canopy. The altar will be approached from the nave by twelve steps placed in flights, at intervals, and composed of Crackmore marble—a hard, boldly-marked stone, which is quarried on the estate of Mr. Digby, near Milborne. This marble, after exposure, is of a greyish blue, and it is said that, for columns, it will be found more effective than Purbeck marble.

Horfield.—The small memorial church erected by the incumbent of Horfield and his family, and offered gratuitously to the public as a place of worship, has been opened by licence from the bishop of the diocese. The building stands on sloping ground, about half way between the parish church and Bristol. It was intended at first for a chapel school, the plan being taken from one by Carpenter, furnished to the *Ecclesiological Instrumenta*, altered and carried out under the superintendence of Mr. Welsh, architect. It is a plain Gothic structure, consisting of nave, chancel, south porch, and vestry, with at the west end a bell turret, surmounted by a slated spire, 22 feet high: it is capable of accommodating from two hundred to three hundred people. The east window is filled with painted glass, representing, in three divisions, the Crucifixion, Resurrection, and Ascension, with three angels in the head lights. The chancel is fitted up choir-wise, with a lectern in the middle: it is paved with Minton's black, red, and purple tiles. On the south side of the chancel is a memorial window by Mr. O'Connor, illustrating the narrative of the Raising of Lazarus, Mary meeting Jesus, and Lazarus coming forth from the Tomb. The body of the church is fitted up with open seats, and the oak rafters of the roof shown. At the west end are three painted windows. That in the centre contains two figures, Faith and Hope, and emblems of the cross and anchor. The windows on either side contain, one the figure of St. Michael, to whom the church is dedicated, and the other the Angel Gabriel. The other windows of the church are filled in with ground glass. The builders employed in the work were,—carpenter, Lewis, St. Michael's-hill; mason, Wilkins; tiler and plasterer, Cantle, Stapleton; and smith, Edbrooke, and Co.

Middle (Shrewsbury).—The old parish church of Middle has been re-opened; the extensive alterations and improvements which the Rev. G. H. Egerton, the rector, has been carrying out, being now completed. The main entrance to the church is through a porch on the north side, near the west end, the doorway having moulded jambs, with shafts, and carved capitals. On each side of the porch is a trefoil light. The old Roman cornice, on the wall heads of the church, has been displaced, and substituted by a moulded Gothic cornice, in character with the general style of the old tower, which has been retained. The gables have been considerably elevated. The whole of the new stonework is executed in Grinshill white stone, which contrasts with the old sandstone, which is of a deep red colour. Several of the windows have been given by the following donors, viz. the west tower window, by Lady Marjoribanks, wife of the rev. rector; the west aisle window, by Mrs. Philip Egerton; the three windows on the north side by Sir John Marjoribanks, bart., Mr. Marjoribanks, and the Rev. Thomas Stanifrith; those on the south side, by the Dowager Lady Grey Egerton, Mr. and Mrs. Philips H. Egerton, Mr Cunningham, the architect, and Messrs Groves, the contractors. A trefoil light has been introduced in the chancel gable, over the east chancel window, filled in with stained glass. A vestry has been added to the south side of the chancel The roofs which formerly covered church and aisle were decayed and in a dangerous condition. They have been substituted by strongly framed principals, having arched ribs, supported on moulded stone corbels. All the timbers of the roofs are open, stained and varnished. The interior fittings of the chancel are of dark oak, carved. These were furnished by Mr. George Shaw, of Saddleworth. The pews, which have been constructed out of the old oak of the pew framings, are open. These have been executed under the personal superintendence of the Rev. Mr. Egerton, and according to his designs. The floors under the pews are elevated about 3 inches above the level of the passages, which, as well as the chancel and altar, are laid with Minton's tiles. The base of the tower which was formerly separated from the church by the arch, is now fitted up as a baptistery. The centre of the window is fitted up with stained glass, representing St. Peter. The cost of the improvements amounts to 2,000*l.* The architect is Mr. John Cunningham, of Liverpool, and the contractors are Messrs. T. and J. Groves, of Shrewsbury. Mr. Jarvis superintended the work.

Askerswell. -The new parish church of Askerswell, built in the Early Perpendicular style of architecture, was consecrated on the 16th ult. The new church occupies the same site as the original one, but is larger, the present dimensions being 98 feet long and 26 feet broad, and capable of containing about 200 persons. It has been restored by Mr. J. Chick, of Beaminster, builder; the architect being Mr. Talbot T. Bury, of London. Of the former structure nothing remains but the tower, a specimen of the Early Perpendicular style of architecture, which dates back as far as 1470, and a Norman font of uncertain date, in some parts defaced. The cost of the new edifice, exceeding 700*l.* has been defrayed, with the exception of a slight deficiency.

Liverpool.—The New Congregational Church, Oxton-road, has been dedicated by the ministers of that body. The edifice is of white Storton stone, the outside dimensions being—length, 91 feet; width, 47 feet: inside—length, 87 feet; width, 43 feet. The chancel is separated from the nave by three arches: the central arch is 35 feet high, and is appropriated to vestries, above which is a gallery, part of which may hereafter be appropriated for an organ. The roof is not entirely open, but flattened across with a panelled ceiling, the five principals being filled with carved tracery. The front gable contains a six-light window, 32 feet high by 18 feet wide, the polished head of which is filled with stained glass; the side windows being 16 feet 6 by 6 feet wide; and the south gable is lighted by four windows. The windows are filled with amber cathedral glass, with edgings of ruby and purple. The tower stands at the east end, and when completed, will be 120 feet high. The pinnacles at the corners of the church are crocketed, and 24 feet high. The church will hold 500 adults on the ground, and 100 in the gallery. The aisles are 4 feet 2 inches wide. The pews are open, and have foliated heads. Among the interior decorations is an ornamental panelled wainscoting extending round the church to the height of 7 feet. The principal entrance to the church is through the tower, which forms a lobby, 13 feet by 25 feet, in which the doorways are so arranged as to exclude draughts. A lecture or school room is provided beneath the church, 42 feet by 40 feet, and 13 feet high. The church occupies a position at the junction of the Woodchurch, Oxton, and Ball's roads, and is erected on a freehold of 1,800 square yards.

Ramsgate.—The contract for repairing the ancient church of St. Lawrence has been taken by Mr. W. E. Smith, who has commenced operations. The galleries will be removed, and there will be a stone pulpit in lieu of the present one.

Trusley.—The foundation-stone of a new church for Long-lane, in the parish of Trusley, has been laid by Mr. William Cox, of Brailsford.

PROVINCIAL NEWS.

Reading.—It will be seen from an advertisement in another column that new schools are about to be erected in the district of Saint John from the designs of Mr. Charles Smith, architect, of Reading. We understand the schools are to accommodate 100 boys and 100 girls. Each school is to have a class-room and gallery for 45 children.

Bristol.—The erection of the new quay in Hotwell-road is proceeding. About five hundred men are engaged on it.

Chew Stoke (Somerset).—The new parochial schools, lately erected in this parish, have been opened. The buildings, including residence, are from the designs of Mr. S. B. Gabriel, architect, of Bristol, and are of native stone, with freestone dressings, the timber stained, and the roof covered with dun and red coloured tiles.

Holyhead.—The new temporary pier, for which the House of Commons voted 21,000*l.* will be commenced immediately. Messrs. Rigby have taken the contract. The estimate for the construction of the two piers to be made from Salt Island for the new harbour is 600,000*l.* The plans of these have been decided upon.

Chester.—The local Archæological Society of Chester has done a great deal towards diffusing a taste for preserving much that remains in that city, and also in influencing the taste of new erections, so as to be in accordance with an old city like Chester. Messrs. Brown are at present engaged in erecting a pile of buildings adjoining their own shop, Mediæval in character. The style is Flemish Gothic. The front of the row is carried on a series of Gothic arches, the street line being broken by a tower. The whole is of Bath stone. This erection is intended for three shops, and the vaults underneath are for a wine-merchant's premises. Part of the latter will comprise a perfect ancient crypt of the thirteenth century, of which they are justly proud, and which of course they will preserve.

Derby.—On the day of opening of the Derby Baths and Washhouses, 659 persons paid for admission. An entrance in the centre of the building leads through the house to the men's baths, the whole of which have been attached to the original house, leaving the same entire. The baths are reached through a corridor lighted by skylights in an open roof supported on ornamental cast-iron principals, covered with boarding, finished with a cornice and brackets to support the principals. The women's baths are approached through a separate doorway from the street. The whole of the baths are lighted by skylights in boarded roof, supported by light wrought-iron principals, the boarding stained and varnished, and the iron-work painted light blue. The swimming-baths are lined with glazed bricks, the bottom being formed with hydraulic Portland cement, the whole curbed with rubbed stone and rounded edges. A separate entrance from the street is also provided for access to the washhouse, stokery, &c. The house will furnish accommodation for a superintendent's residence and stores, and the remainder will be occupied as offices, &c. by the Local Board of Health. The front of the house is now in progress of alteration. There is to be a portico, in which will be three distinct entrances to the men's and women's department and to the offices. The total cost, including fittings, &c. will amount to about 4,000*l.* The building contract and works connected therewith have been executed by Mr. Dusautoy; and the ironfounders', smiths', and engineers' works, by Mr. J. Haywood, jun. and

Mr. T. Crump; the bell-hanging by Mr. Haslam, all of Derby. The establishment has been fitted up with gas by Mr. T. Crump. The whole has been executed from designs, &c. and under the direction of Messrs. Giles and Brookhouse, architects. Mr. Jinks, of Leicester, was clerk of the works.

West Hartlepool.—An extensive foundry, which will give employment to upwards of 500 hands, is shortly to be erected on the Cliffe House estate, West Hartlepool. Mr. Suggitt, the builder, is putting in the foundations. The great bulk of the material used in the refreshment department of the recent Art-Treasures Exhibition at Manchester will be employed in the construction.

Morpeth.—One of the largest buildings (now nearly completed) in the north of England is the Northumberland Pauper Lunatic Asylum, which is situated in the immediate vicinity of the town of Morpeth. The edifice has been erected from the designs of Mr. Henry Welch. The contractors for the masonry, brickwork, carpentry, joiners' work, plastering, and plumbing, are Messrs. Wilson and Gibson, of Newcastle, their contract being nearly 39,000*l.*; which does not include the heating apparatus, furnaces for the hot-water supply, &c. which were furnished by Mr. Bennet, of Liverpool. The iron water-tanks were supplied from the works of Messrs. Hawks, Crawshay, and Co. Gateshead; and the hydrants, force engines, and cast-iron pipes, are from the manufactory of Messrs. Davies and Co. London.

ENGINEERING AND OTHER WORKS ABROAD.

The following statement of the works on the Austrian railway, *François-Joseph*, appears in the report of the first general meeting of shareholders, held at Vienna, May 22, 1858, according to the information laid before them by M. Etzel, head councillor of the kingdom of Wertemberg, their engineer, one of the most distinguished in his profession.

Four groups united under the name of the *Réseau de l'Orient* (Orient-bahn), from the system or net-work of the lines conceded to this company, and the engineer-in-chief, with his usual skill, has drawn up his portion of the general report, divided into four distinct heads.

I.—*Order of the execution of the different lines.* The first act of concession embodied four groups.

A. Vienna by Oedenburg-Gross-Kanisa to Esseg.
B. Neu Szony by Stuhlweissenburg to Esseg.
C. Ofen by Gross-Kanisa to the State South railway.

These were to be constructed in ten years, but on account of the monetary crisis, the company have been permitted to restrict themselves to the following groups, which are to form the Orient-bahn *réseau*:—

FIRST GROUP.	Miles.
1. Vienna, Oedenburg, Steinmanger to Kanisa	28
2. Pragerhof (formerly called Sottshach) to Kanisa	15
3. Uj, Szony (Comorn), Stuhlweissenburg, to Ofen	19
4. Kanisa to Stuhlweissenburg	19
	81
SECOND GROUP.	
5. Kanisa to Esseg	24
6. Stuhlweissenburg to Esseg	29
	134
THIRD GROUP.	
7. Esseg to Semlin	23
	157

In the case of *priority* of the above lines, should such be rendered necessary from financial motives, the following order has been recommended by the engineer-in-chief:—Ofen to Pragerhof to be commenced first; then the Szony-Stuhlweissenburg; afterwards the Vienna—Oedenburg—Steinmanger—Kanisa.

II. *Organization of the Service.*—Each inspecting engineer to have from 15 to 20 miles. Engineers of "section" (resident engineers) to have 5 to 7 miles to superintend directly. An administrative inspector, or "travelling director," is stationed with each inspecting engineer. The state of the staff at the end of 1857 was as follows:—

Travelling directors	13
Inspecting engineers	12
Ditto for surveys	7
Ten working "*sections*"	86
Five surveying ditto	22
Total	140

When the first group is in fair way of construction, the staff will be increased to 180, of whom 36 will belong to the secretary's department.

III. *Surveys.*—The only project completed for work has been that from the Southern Railway to Kanisa; and though this part of the group is not foremost in the above programme, the company have wisely entered upon 15 miles of that portion. Pollshack is fixed upon as the junction between the Orient-bahn and the South Austrian Railway by the concession; but the studies for the line have shown that it was not the most favourable point: so Pragerhof is to be the spot. Branch lines have been surveyed from Pettau to Marburg, and Marburg to Klagenfurth, to join the Corinthian line.

From Kanisa to Stuhlweisseinburg there were two lines surveyed for the portion between Kiskomarom and Stuhlweissenburg, one by the north of Lake Balaton and Vespaim, the other on the south side of the lake, which has been approved of on account of its being 2¼ miles shorter than the former, having better inclines, and being cheaper by 7,500,000 florins. From Stuhlweissenburg to Ofen and Uj-Szony the line traverses the Bakony hills, near Sarkany, on account of the important communications between Pragerhof and Ofen on the one hand, and between Vienna and Esseg on the other, thus rendering it advisable to adopt this *tracé* instead of that by crossing the mountains at Galla, and joining Ofen through Bicske. In September, 1857, the surveys between Vienna and Kanisa were commenced (twenty-eight miles), and are nearly finished. In all, 120 miles were surveyed last year on the Orient-bahn "*réseau.*" During the last month the surveys, plans, estimates, &c. have been completed for fifty-three miles. The details have all been studied most minutely, as to the difficulties both of construction and expenditure, and the result will be of great service to the company. The heaviest works are the earthworks between Kanisa and Komarvaros, across the Valley of the Drave, in the bason of the Ballaton Lake; those between Sio-Fok and Lepsény to pass from the basin of the Plaltensée to the "*plateau*" in the environs of Stuhlweissenburg; a tunnel of 1,000 feet at the foot of the Bloksberg, near Ofen; heavy retaining walls, &c. near Fridau, where the line passes alongside the river Drave and near Promolos, along the Danube; two bridges (over the Drave and the Mur) of 12 and 5 spans respectively, varying from 80 to 96 feet; iron lattice on stone piers. There are thirty large and intermediate stations on the whole series of the above lines.

IV. *State of the Works.*—From Pettau to Kanisa the first lot was contracted for on the 9th of December. Three other lots and the Drave bridge, the retaining walls near Fridau, and the bridge over the Mur, near Kollori, followed soon after. The other contracts will be put up for competition very shortly. The company treated with an English house for 650,000 cwt. of rails, at 6 florins 30 kreutzers per cwt.; and they attribute to the Indian war and the late crisis the low price, in spite of which the rails are proved to be of the best quality. They calculate that they have saved two million florins by this favourable bargain. Fifty locomotives are ordered at the Government workshops at Vienna, and thirty at Esslingen, at an average rate of 30,500 florins, duty included.

IRISH ANTIQUITIES.

MR. CHARLES BROWN, of Chester, in a communication to Professor Donaldson on the subject of his paper recently read at the Royal Institute of British Architects upon Irish Mediæval Antiquities, alludes to various other remains quite within reach of the tourist; and as the references may induce some professional wanderers in the sister isle to visit and describe the sites mentioned, we avail ourselves of the permission to make some extracts from the communication.

"Not far from Cashel is the abbey of Athasel, which is very fine and extensive, but sadly neglected,—in fact, almost the personification of desolation. It stands on the bank of the same river as Holy Cross, the Suire.

In the county of Meath, at the county-town of Trim, there is a very fine castle in good preservation, with curtain-walls entire to the bank of the river (the Boyne); on the opposite side extensive remains of an abbey, with a very lofty tower. About a mile below Trim, also on the Boyne, stands Newtown Abbey—a majestic pile; and about another mile still lower, the abbey of Bective, which is in good preservation. At both Newtown and Bective there are ancient bridges, with the remains of fortifications. From Trim I proceeded by way of Navan to Drogheda, and thence took a car to Monasterboice, to inspect the crosses in the lonely graveyard, and with which I was much pleased. In returning to Drogheda, I visited the site of the old abbey of Mellifont, where I was amply repaid by finding the remains of an octagonal building of the Norman period, which I presume to have been a baptistery. The half of it was entire, consisting of four open arches below, with four smaller openings above them. I have never yet met with a single English friend who has visited either Trim, Newtown, Bective, or Mellifont, although thousands pay their respects to William's Pillar on the Boyne, which is only two miles distant from the latter place. I need scarcely add how great a pleasure the lovers of antiquity lose by so doing."

SOME NOTES ON PAPER-STAINING.

WE have in former papers referred to the tapestry, embossed leather, and other wall hangings and coverings which were long used by our ancestors. In the reigns of Charles I. and II. and Queen Anne, the ceilings of the rooms in the better class of houses were remarkable for their elaborate and beautiful ornamentation. The fireplaces were also much enriched, and in most instances wooden panels, with bold mouldings, served to distribute the ornament, and produce a general harmony. As time passed on, the panelling and other enrichments went out of use, and flat tints of oil colour were used in the best houses, and washes of different tints in others. Sixty years ago paper printing for wall covers was but little in use, and the devices chiefly consisted of round spots, arranged in geometrical forms. Various improvements were rapidly made, and printing from several blocks, in two or three colours, came largely into use, and the paper-staining business became one of considerable importance. The process is similar to the oil-cloth printing described in another volume of the *Builder*,—except that sized water-colour is used instead of oil. At that time a large duty was charged on this manufacture, and a still greater on papers made in France, in order to protect the British trade against the superior design and colour of the French patterns. An intelligent person who has been for about forty years connected with the paper-staining business, says, that many of the common wall-papers were printed on old newspapers for the purpose of evading the duty. From time to time various improvements were introduced,—gilding, hand-shading, &c. Each new discovery was carefully kept secret from the general trade; and the hands which had most skill were kept in apartments where their operations could not be overlooked by others. When the papering of walls became to a considerable extent the fashion, an attempt was made to rival it in cheapness by an invention called "slab-dashing" or "stencilling." On the first introduction of this the most simple of the paper patterns were traced, and the necessary forms cut out of cardboard. Some of the diapers produced by this means have a very neat and clean appearance, and when the plaster of the walls was good, served in some respects a better purpose than paper. No duty having been laid on this branch by the Government, the manufacturers of stained paper grew jealous, and organised a society for the protection of their trade; a deputation from which proceeded in carriages to the Chancellor of the Exchequer, who remarked, that "when a deputation from the 'slabdashers' came up in carriages, he would consider about the duty."

At this time the best of the journeymen paper-stainers received large wages, some as much as from 4*l.* to 5*l.* a-week. The mere manual labour of printing the paper with the block patterns being a matter which did not require an extraordinary amount of either intellect or ingenuity, as a natural consequence, in spite of the restrictions and regulations made by workmen, who had also their associations, numbers flocked to the trade, and this and competition caused the wages to decline.

In one instance, a partner was taken into a large paper-staining manufactory, who had not been accustomed to the peculiar fashions of the trade. He was surprised to see the best workmen, who had some secret methods of shading, gilding, &c. shut up in their apartments. He had the barriers thrown down, and remarked, that the quality of the articles produced at the manufactory must be improved by the whole body of the workmen having an opportunity of seeing the operations of the best hands. The demand for paper for walls continued to increase, and to become cheaper in cost, and at length the large Government duty was repealed; and as,

by Sir Robert Peel's Act, the trade was thrown open to the world's competition, the price of ornamental paper became so low, that it has now nearly superseded wall-colouring and stencilling in even the poorest cottages. The alteration had a serious effect on the workmen engaged in this business. The price of work, which is chiefly done by piece, fell from 4s. 6d. to 1s. 6d. This was a great hardship for the men; but they rather made matters worse by a strike against the reduction of wages, which was the means of causing many to spend the money which had been saved during more prosperous times. One man who was looked up to in a certain establishment, for his ability, and who took a leading part in this losing game, had saved upwards of 300*l*. The masters, however, marked him for his opposition, and for three years he was unable to get any employment; at length he got work, but at very much reduced wages, for the enterprising men of Lancashire had set the steam-engine to work to print the paper, and compete in price with that produced by foreigners. The immediate effect of this to the hand paper printer was very disastrous: the workman just mentioned, who for years earned from 3*l*. to 4*l*. a week, cannot now get 15s. Notwithstanding the introduction of steam, a large quantity of paper is still stained in London by the hand; some in the manufactory, but, in many instances, such of the men as can rent a suitable workshop undertake to do a quantity of work, and employ others to complete it. This, however, has the unfortunate effect of still further reducing prices. The chief of the British paper-staining manufactories are in Manchester and the neighbourhood; there are, however, two or three firms in London in which steam power has been introduced.

"ANCIENT ROME."

MR. ASHPITEL has published a "Description and Key to the View of Ancient Rome, now in the Royal Academy" (Stanford, Charing-cross), showing the authorities for the various restorations introduced, namely, first,—

"Every accessible inscription, particularly the celebrated monumentum Ancyranum: those very valuable early manuscripts usually called the works of Regionaries, being short descriptions or rather catalogues of every edifice in every 'Regio,' or *ward* of the city; some very curious mediæval manuscripts describing the various buildings with the inscriptions then existing thereon, and intended as a sort of guide books for pilgrims, particularly the 'Ordo Romanus,' and what is called the 'Anonymus Einsiedlensis;'" and of course the numerous allusions in all classic authors, particularly the valuable, though imperfect, work of Varro de Linguâ Latinâ."

A curious and important monument has also been consulted, usually called the Lapides Capitolini. These are fragments of marble, formerly part of the pavement of the temple of Romulus and Remus, on which was inscribed a complete plan of Rome to a large scale, showing every house and almost every column.

We have already spoken of the Restoration in our notice of the Academy exhibition, and would recommend an examination of the drawing with the "Key" in the hand. Mr. Ashpitel's erudition and skill are well known. Those who would investigate the disputed points of Roman topography will find some elaborate papers on Rome in our volume for 1857.

METROPOLITAN BOARD OF WORKS AND THE MAIN DRAINAGE.

AT a meeting of the Board, on Tuesday, the 29th June, the following resolution, moved by Mr. A. Wright, and seconded by Mr. Carpmael, was carried by twenty-three to eight:—

"That the engineer having prepared a plan and estimate for the main drainage, in accordance with the recommendations in the report of Messrs. Bidder, Hawksley, and Bazalgette, which plan contains several alternatives, that the plan with the alternatives following be adopted

1. The engineers having given the Board the option of two schemes for the western district, first, carrying the western sewage into the general intercepting system, and, second, deodorizing the western sewage at its junction with the Thames, that the last alternative be adopted.

2. The engineers having recommended that the low level sewer upon the north side should be carried in a Thames embankment between Westminster and London bridges, to avoid the settlement of and damage to property in the Strand, Fleet-street, &c. that the Board is willing to pay for such part of a Thames embankment so required in such proportion as the drainage scheme may be fairly debited with, or to undertake the construction of the embankment of such part of the river for drainage and other purposes, upon a contribution being given by Government.

3. That the delivery of the sewage at the points named shall not be deemed a final measure; but when the main drainage is completed the sewage shall be delivered into the Thames direct, or deodorized before delivery, or used for irrigation and sewage manure, as experience may determine.

4. That this plan and estimate be submitted to her Majesty's Chief Commissioner for approval by the chairman, eight members of the Board, engineer, and clerk, and that his attention be at the same time directed to the letter of this Board of the 17th day of January, 1857, to her Majesty's then Chancellor of the Exchequer, setting forth grounds justifying the expectation that the Government will be prepared to assist the Board in obtaining the command of the funds required for their operations."

Amendments were previously proposed by Mr. Doulton and Alderman Cubitt, but were not carried.

A motion that it is desirable the Board should, pending the adjournment of the drainage question, obtain information on the expediency of connecting an embankment of the Thames with any plan for the drainage, was withdrawn. A motion by Mr. Leslie to "reject the report of Messrs. Bidder, Hawksley, and Bazalgette, on account of the engineering absurdities it proposes," fell to the ground, not being seconded.

THE LATE MR. P. F. ROBINSON, ARCHITECT.

WE have to record the death, at eighty-two, of Mr. Peter Frederick Robinson, late of Lower Brook-street, London, which took place a few days ago at Boulogne-sur-Mer. Mr. Robinson was brought up with Henry Holland, the architect, and at one time occupied a prominent place in the profession. Amongst other buildings executed from his designs may be mentioned the Egyptian Hall, Piccadilly, and a house for General Wallis. He had for pupils Mr. George Jackson, late of Leamington, Mr. Lansdown, and Mr. Taylor, afterwards the architectural publisher. Mr. Robinson was one of the first members of the Institute of British Architects, and published several works connected with the profession. Some pecuniary difficulties a few years ago led him to select Boulogne for his residence, where he remained until his death. His amiability and other social qualities will be recalled by many of our readers.

BOARD OF HEALTH ACTIONS.

In the Exchequer of Pleas, Heath v. *Pilbrow, June* 25, 1858, *before Mr. Justice Hill.*—The plaintiff was the clerk to the Tottenham Local Board of Health, and the defendant had been the engineer to the Board from its establishment in 1850, to September last. The plaintiff's case occupied the court three hours, from which it appeared that the defendant had in the year 1850, prepared for the Board the district plans, and had subsequently designed and superintended the general plans for supplying the district with water and an efficient sewerage; and still later had designed and superintended the execution of some additional water-works. The plaintiff brought this action to recover damages on three grounds. 1st. For an alleged breach of contract on the part of the defendant in the execution of his agreement, to supply certain sections in 1850, in connection with his plans of the district. 2nd. For the retention of certain drawings prepared by the defendant, in reference to the original and extended water-works; and, 3rd. For the retention by the defendant, of the field level books, and field note-books, used by him in his original survey of the district.

The defendant, on the other hand, alleged that he had faithfully fulfilled his contract with the Board; and that his reason for omitting to make the sections was, that they were not required by the general Board of Health, and that he furnished, at the desire of that Board, and in lieu of sections, a tabulated statement of information which rendered sections wholly unnecessary. And as to the retained drawings, the defendant claimed them as his own property, because he was paid a per-centage for designing and superintending the execution of the works to which they related, and because he had never bargained to part with the drawings; and as to the field level and note books, he claimed them as indisputably his own. It appeared that rather than contest the plaintiff's right to the drawings, which were of no value to the defendant, he delivered them to the plaintiff after the action had been brought; but the Board were not satisfied with this, and continued the action for damages and costs.

The defendant's case was opened by Mr. Macaulay; and Mr. Austin, from the Board of Health, was under examination for the defendant, when the judge interfered, and plaintiff's counsel intimated a wish to defendant's counsel to close the case, and a treaty ensued between the counsel and solicitors and some members of the Tottenham Board, which resulted in the plaintiff relinquishing all his complaints, and agreeing to pay the defendant 100*l*. for his field level and note books, and in full of all claims and demands, if he had any,—a settlement which met the entire approbation of the learned judge and the defendant, who had reason to feel that he had been very unjustly sued. The counsel for the plaintiff were Mr. Edwin James, Q.C. and Mr. Hawkins; and for the defendant, Mr. Macaulay, Q.C. and Mr. Laxton. Mr. Howard was his solicitor.

The counsel for the plaintiff bore witness to the efficiency of the defendant's services, and the judge showed unmistakably his opinion that such an action should not have been brought.

LAW NOTES.

Income-tax on Premises.—The Attorney-General filed an information to recover two penalties of 50*l*. each from a person who had refused to allow her tenant to deduct income-tax paid by him in respect of certain premises. The defendant submitted that there was an annuity of 100*l*. a year secured to her on the premises by a deed, which stated that she was to receive the 100*l*. "free and clear of and from all taxes whatsoever." The Court of Exchequer has held that she was still bound to allow the tenant who had paid in the first instance what was portion of her income-tax to deduct such payment from his rent. As there was no fraud, the Crown promised to be lenient respecting the penalties.—*Attorney-General* v. *Shield.*

Steamer—Accident to Passenger.—A passenger on board of a steamer which was hired for the day by the person with whom he contracted for his passage, sustained a personal injury through the breaking of a portion of the tackle. It has been held that he was right in bringing his action against the owners of the ship, and was not obliged to sue the person who had hired the ship for the day.—*Dalyell* v. *Tyrer.*

Metropolis Local Management Act.—An application was made the other day to the Court of Queen's Bench for a *mandamus* to cause a road, called Blenheim-road, in Islington, to be lighted with gas. The Court refused to grant the *mandamus*, being of opinion that Blenheim-road is not a street within the meaning of the Metropolis Local Management Act.—*The Queen* v. *The Vestry of St. Mary's, Islington.*

Timber—Wreck.—Some timber was imported into Yarmouth, and was moored in the river, two miles from the sea. By some accident the timber broke loose, and floated out to sea. The coast-guard secured it, and preferred a claim for salvage. The justices of Yarmouth awarded salvage, and costs. A special case was brought before the Court of Exchequer, which has held, that the timber, having only floated from its moorings, was not "wreck" according to the Merchant Shipping Act, and that the justices had, therefore, no jurisdiction to make an award of salvage.—*Palmer* v. *Rouse.*

ARCHITECTURE AT UNIVERSITY COLLEGE, LONDON.

THE annual distribution of prizes took place on Wednesday, the 30th of June, Sir George Cornewall Lewis, M.P. in the chair, supported by Lord Brougham, Mr. Grote, Mr. Goldsmidt, Mr. Kossuth, and other distinguished persons. Professor Donaldson announced the prizes as follows:—Architecture—Fine-Art: first year, prize and first certificate, Horace Gundry; second certificate, Louis Kossuth; third ditto, Francis Kossuth. Second year, prize and first certificate: — Babb; second certificate, No. 831; third ditto, Frederic Judge. Science—Construction: first year, prize and first certificate, Edw. Asher; second certificate, Francis Kossuth; third ditto, F. Hy. Johnson. Second year prize and first certificate: — Babb; second certificate, F. Judge; third ditto, No. 831.

PER-CENTAGE TO ARCHITECTS.

SIR,—As one of the unprofessional public I have read with some interest the letter of "An Architect" in the *Builder* of last week, denying the correctness of Mr. Devett's statement in the House of Commons, that "architects take fees from tradesmen for passing their bills." Now, however entitled to respect the opinion of "An Architect" may be, I think he will find it very difficult to remove the impression from the public mind, that Mr. Devett's charge is well founded. My own experience upon the subject leads me to a very decided opinion; but I had better give you facts. Thus,—I recently had occasion for the services of an architect, on rather an extensive job. I applied to one gentleman, highly recommended to me, having several noble patrons; and he, in reply to my inquiry, said his fees were "five per cent. from his client, and two per cent. from the builder employed." I declined the services of this gentleman, and went to another equally well recommended, who expressed great astonishment when I told him what I had heard about fees from builders. He said "How was it possible for an architect to be free from suspicion who accepted any kind of remuneration from the builder?" &c. &c. Well, this gentleman, whom I employed, I after-

wards found had, during the progress of my works (which were executed by the builder, under contract, in a most unsatisfactory manner), been employed by my builder to make drawings for some cottages which he intended to erect at some future time somewhere. Now, will your correspondent say whether this is permitted to an honourable architect to do? If it is professional, I can only say that it appears to me more objectionable than the first-named gentleman's "two per cent." openly avowed. I inclose my card for your private satisfaction only.

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OMNIBUS MONOPOLY.

GOOD MR. BUILDER,—Can you do anything to aid the transit of us poor Brompton people? When the great Plate Glass Company was talked about (by the way, what has become of it?), and with regard to gas, it was rightly said in your pages that the public should look jealously at those amalgamations, which mean monopoly; and if any instance be needed to prove the necessity, I would quote the proceedings of the General Omnibus Company on the Fulham-road. This dominant body run their vehicles not with the slightest regard to public convenience or the wants of the neighbourhood, but solely with reference to injuring the proprietors of another set of omnibuses on the road, to whom we have reason to be grateful, because until they came the General Company charged sixpence for a hundred yards. The system the latter pursue is to run two, three, and sometimes even four of their omnibuses with each one of the rival company's. It will be of no use their denying this: I have counted them myself over and over again. The road is thus turned into a race-ground at certain intervals. But then comes the chief annoyance of which the neighbourhood complains. In the evening, when the vehicles of the opposing company are not running, it is scarcely possible to get a seat in an omnibus. I have waited again and again for more than an hour, the one or two that passed being full; and, as to returning at night, there is scarcely a chance. For weeks, coming from Coventry-street, I have been forced either to get into a Chelsea omnibus, which puts me out at Sloane-street, or a cab. Do, then, beg the Company to run their vehicles a little more equably, and with *some* reference to the convenience of the public, and you will be entitled to the thanks of Brompton in general, and of me in particular.

ALEXANDER SQUARE.

THE BARRACKS AT GOSPORT.

SIR,—The construction of barracks under the Royal Engineers has lately attracted attention, and much of your space has been occupied by exposing the many errors, and the great waste of public money, by that arm of the public service. Something ought to be said of the way in which the works have been done in the erection of the new barracks, at Gosport, the designs for which were prepared under the surveyor to the War Department. I hear of all sorts of errors in the construction and arrangement of the buildings, and of the alterations which were necessary for the safety of those who may inhabit the barracks. There has been a shameful waste of public money on buildings which, when completed, will not be a credit to the country. Towards the end of last year, five arches, the erroneous construction of which was pointed out to the authorities, gave way, and killed one of the workmen.

Since that, the commanding officer's house gave way, under the enormous weight which was put over the arches (turned on iron girders, to make them bomb-proof), consisting of gravel and mould.

An inquiry into the arrangement and carrying out of the designs of Gosport Barracks, and the failures at Elson Fort, would be a very pretty thing on paper, and would, I think, convince the British public that it is high time some other method should be adopted in the erection of barracks.

ONE IN THE SECRET.

Books Received.

VARIORUM.

IN "Sanitary Reform; being the Substance of a Lecture prepared for delivery at the Mechanics' Institution, Winchester," by H. Newman, sanitary inspector to the corporation, and surveyor to the commissioners of pavements, of that city, the lecturer urges the advisability of getting rid of cesspools, and substituting a complete system of sewerage and drainage, of which Winchester is much in want. Mr. Newman has admittedly made good use of the *Builder's* sanitary efforts, and he appears to have a full and proper notion of the responsibilities of his position.——"Extracts from a large Pamphlet of Reports on Sir William Burnett's Disinfecting Fluid," though designed, doubtless, to promote the sale of this fluid, must be admitted to have the merit of recommending the use of a most useful article, -namely, chloride of zinc, which, while effectually destroying such poisonous agencies as sulphuretted hydrogen, is devoid of the powerful odour of chloride of lime, which is offensive to some, and injurious to everything metallic in and about a dwelling.——In a "Report on Patent Slip Dock Accommodation for the Harbour of Kingston, Jamaica;" Mr. Daniel Miller, of the firm of Bell and Miller, C.E. Glasgow, describes the most important harbour belonging to our West-Indian colonies, and points out several sites more or less fitting for patent slip dock accommodation, where large vessels can be hauled up and repaired. Mr. Miller estimates the cost of constructing there a slip dock of 3,000 tons register at 30,000*l.* or less. The stone of the neighbourhood is said to be a hard compact limestone.——"Principles of Animal Nutrition, particularly as regards the vigorous Condition of the Horse, and the fattening of Cattle, Swine, Sheep, &c." by G. H. Bolton, Liverpool, we had almost cast aside as obviously intended to push the sale of a particular sort of article called "Palatine foods" as special flesh, fat, or milk yielders; but there appears to be some force in the principles of nutrition advocated, and also some novelty; and although we have not time to give the subject such consideration as might enable us to express any decided opinion on it, still the arguments are suggestive, and remind us of certain views stated in our columns as to the connection of hydrogen and the liver with respiration and the oxygenation of the blood in the lungs.

Miscellanea.

HOSPITAL FOR CONSUMPTION, BROMPTON.—The chapel of the hospital, of which we gave an engraving some time ago, on its completion, was seen for the first time by many on Sunday last, when it was thrown open to the public on the occasion of a sermon by the Bishop of Limerick, in aid of the funds of the hospital. The preacher said "it was a matter of regret that the funds of the charity were inadequate to the wants of those already in the hospital, and prevented the possibility of admitting as many patients as the committee of the institution wished. There were eighty beds which could not now be filled owing to the want of funds, but it was trusted that those who were blessed with means would give what they could, and, in asking them to do so, it was only to give, as it were, the crumbs from their tables, so that it should not be said that any one of the portals of such a praiseworthy and beneficial institution should be kept closed to the numerous sufferers who were clamouring for admission and relief."

STONE CHURCH.—DEAR MR. EDITOR, — This week, while in the vicinty, I made a pilgrimage to the beautiful old church of Stone, in Kent, described by you recently. After sketching and measuring some windows externally, I thought I should like to take a glance at the interior, and accordingly sought the keys. To my astonishment I was directed to the rector's, Mr. King's, which, after toiling half a mile in the hot sun, I found, and leaving my name, was permitted to take the key, and requested to return it in the afternoon. On again arriving at the church, I in vain endeavoured to gain access, the door being bolted on the inside, and was at last obliged to return the key, after loss of time, three miles' walk, and only to be assured at the rector's, by the servant, that it was the right key, but a spring lock. Knowing the power of your paper to rectify these inconveniences and hinderances to the study of the art, allow me to claim a few lines of your valuable space for the insertion of the facts, hoping that should I again visit the church, I shall be admitted without disappointment. I was informed by some girls from the school adjoining, that mine was not a solitary case.—JAMES G. STAPELTON, JUN.

THE WORKSOP GAS COMPANY.—The directors of this company had the good sense to resolve, last year, in accordance with our well-known views, "to reduce the price of their gas, and thereby to induce a more extensive consumption." The result of a reduction from 5s. 10d. to 5s. per 1,000 cubic feet, has already, it appears, "been extremely gratifying." The revenue of the undertaking "has not only been kept up to the amount of former years, but it has exceeded that of any previous year," and has already yielded a satisfactory dividend. So says the present year's report, and we have not the least doubt that next year still greater profit will be reaped from the reduction already made. The increase for the year on 4,835,000 cubic feet has been 971,700 cubic feet. The surplus revenue has been 682*l.* 14s. 6d which has enabled the directors to pay a dividend of 5 per cent. besides laying aside 245*l.* 14s. 6d. (or not very far short of another 5 per cent.), to form the commencement of a contingent fund. It would be well if the affairs of every gas company were conducted on similar enlightened and liberal principles: both the shareholders and the public would be benefited.

JIB-DOORS.—A QUERY.—SIR,—Could you allow me, through the medium of your columns, to inquire if any of your readers could suggest a good method of covering a jib-door, which is not to be covered with paper in the ordinary fashion, but occurs in a wall which is to be finished in fine stucco, and in a situation where the non-appearance of the door is "*sine qua non*." Any hints on this subject from any of your readers who may have had to surmount a similar case, would oblige—E. C.

MILITARY MONUMENT. — Mr. Richardson is erecting, for the 23rd Royal Welsh Fusiliers, a Crimean memorial, about to be fixed at Carmarthen. It is of Portland stone, about 30 feet high, and the ironwork is appropriate. The details include an obelisk with bull-flowers on the shaft, and square patera; in the base, panels; in the quatrefoils are the regimental badges,—rising sun, red dragon, white horse, and sphinx, and Prince of Wales's plume and "*Ich dien*" on the cross surmounting the whole. The same sculptor has on view a large mural tablet to General the late Earl of Cork, to be erected in a few days in Frome Church, Somerset.

ST. ALBAN'S ARCHITECTURAL SOCIETY.—This Society held its thirteenth anniversary meeting in the Assembly-room at the Town-hall, on Thursday, the 17th inst. In the absence of the Earl of Verulam, the chair was taken by the Rev. Dr. Nicholson, who opened the proceedings in a brief address, and called upon the hon. secretary, the Rev. J. G. Hale, to read the report. The Rev. Henry Hall, M.A. read a paper "On the Names of Localities in Hertfordshire," and Mr. F. A. Skidmore read one "On the Metal Work of the Middle Ages." The lecturer called attention to the fact that, while the varied improvements from machinery and motive power in the manufacture of iron, and the discovery of fresh mines in other quarters of the globe of the precious metals, opened up new sources of metallic constructive and decorative skill, we were infinitely behind our forefathers in the application of metals to our churches and domestic uses; and drew a strong picture of the brilliancy and beauty of churches so enriched, contrasted with the cold effects of white stone and black oak.

CHATHAM BARRACKS: DEFICIENCY OF WATER. Much dissatisfaction, according to the *South Eastern Gazette*, has been occasioned amongst the troops at Chatham, in consequence of a garrison order, issued by the commandant, directing that the troops are to discontinue the use of the baths in the several ablution-rooms, owing to the scarcity of water. The military authorities persist, it is said, in refusing to avail themselves of the water-works recently established; and, besides, millions of gallons of pure water are daily pumped away into the Medway, at the dockyard, by the powerful steam engines which are draining off the land water to enable the large works, now in progress, to be proceeded with. During the past winter the troops at Chatham were deprived of their proper amount of fresh air from the very crowded state of the barracks, and the authorities at the War-office have only just got over the difficulty. Already there have been several cases of measles and small pox among the troops.

FOLDING-DOORS.—AN INQUIRY.—May I ask through you what is the best mode of keeping out noise where there is a folding-door separating two rooms, or other wooden partition? My reason for asking is that I have school-rooms so separated, and which I desire to make as impervious to sound as possible. Any one giving available information on this head will do a kindness to—A CLERGYMAN.

THE HACKNEY BROOK.—When lately in the neighbourhood of the Hackney-brook, which runs open in various parts of the neighbourhood of Hackney and Homerton, we could not fail to compare "small things with a greater." Viewing the discoloured condition of this brook, and its evident effect upon another sense, when we considered not only this, but that the new cattle-market and other districts drain into it, and that each month more drainage is passed into the stream, it did not require any nice scientific inquiry to convince us that the brook is at the present time the cause of (and must rapidly become more so) a much less healthy atmosphere than it was at the time it ran clearly and pleasantly along. And yet many are to be found who say that it is perfectly harmless; though most agree that the Hackney brook is already a dangerous nuisance.*

* Some of the houses built on the edge of the stream, near Burgess's Colour Works, are of a most unsatisfactory description. A man of moderate height cannot stand upright in the principal room, even in the highest part. In those which we looked at no water-butts were provided, and the people complained of the short time the supply ran in, and of the difficulty there was in keeping it fit for use. One tenant more ingenious than the rest, has sunk a hole in the garden, from which he can always have a supply, in consequence of its being rather below the level of the other pipes. "I don't do this for any wrong, you see, sir, but I can always have it fresh, and I am sure that we do not use near so much as if it was turned on in the usual way." No one thinks of using the brook water for any household purpose; and one man, a healthy-looking labouring man, who has lived a number of years in Homerton, said that he had had nineteen children, five only of whom were living: two died of cholera, some of small-pox.

THE CASTLE-ROCK ALTERATIONS AT EDINBURGH.—In consequence of General Peel's instructions to Colonel Moody to allow the citizens of Edinburgh to see his plans for new buildings and alterations at Edinburgh Castle, certain plans of works not yet done were exhibited for nine days, at the Architectural Institute in Edinburgh. This does not appear to have given much satisfaction, for complaint is still made, not only of the disfigurement of the rock, but that Colonel Moody has not thought proper to exhibit any plan whatever of the works done as those authorized by the Government. A correspondent of the *Scotsman*, under the signature of "Vindex Caledonius," insists that the colonel is merely mystifying the citizens, and urges, as does Professor Syme, that he should be obliged to exhibit his plans and his authority for what has been already done. A memorial, also, has been forwarded to General Peel.

PAINTERS' STRIKE AT BELFAST.—The operative painters of Belfast having struck work, on a refusal of their employers to increase their wages to the extent of ½d. per hour (or 2s. 6d. a week, when in full work), a deputation of the workmen requested an interview with the masters, but were refused, and a public meeting of the Belfast tradesmen was held in the Nelson-rooms last week, when it was resolved to support the painters on strike in their demand on their employers. A deputation from the Painters' Society of Glasgow attended the meeting, and subscribed 50*l.* on the part of their society in behalf of the workmen on strike.

THE COMPETITION SYSTEM.—Some correspondents complain of having received from Mr. Edwards, of Fixby Hall, near Halifax, the terms on which he offers 50*l.* for the best design sent in for the erection of premises at Castle Carr. It is a good illustration of the tendency of the system.

A FOUNTAIN FOR GLOUCESTER.—The *Gloucester Mercury* is advocating the execution of Mr. Burges's fountain, of which we gave an engraving a few weeks ago. It appears that the corporation have deprived the citizens of the Southgate-street conduit, which for hundreds of years had given forth a plentiful and gratuitous supply of water. The design, therefore, comes at the right moment.

THE SLATE TRADE.—At the present time, when commerce generally is suffering from depression, says the *Chester Chronicle*, it is a matter of surprise that so much steadiness prevails in the slate trade of this part of the principality. During the month of May, 1858, the quantity of slates exported at Carnarvon and Port Dinorwic was 7,723 tons 18 cwt. showing an increase of 555 tons 2 cwt. on the exports for the corresponding period last year. About 500 tons were conveyed by railway from the Carnarvon Station in May, and we may safely calculate at least four-fifths more despatched overland from Port Dinorwic. This estimate gives a total of upwards of 10,000 tons for the month—which is 120,000 tons per annum. The figures fairly represent the average trade.

NATIONAL GALLERY FOR IRELAND.—A large deputation of noblemen and gentlemen from Ireland, among whom were Lords Clancarty, Belmore, and Downes, and headed by Lord Talbot de Malahide, had an interview with the Chancellor of Exchequer, in Downing-street, last week, for the purpose of urging him to sanction an estimate for the erection of a National Gallery for Ireland, which had been refused by the late Government. Having heard the deputation, the Chancellor expressed the pleasure he felt at the difference between this and former deputations from Ireland, which always came to complain of grievances or troubles, and concluded by stating that he would propose such a sum in the estimates as might meet the case.

CEMENT FLOORS.—Sir: A writer under the title of "Traveller," in last week's *Builder*, referring to your article on Hospitals in the preceding number, recommends a mode of flooring similar to that which he had seen in Italy, viz. a species of concrete formed of broken marble, travertine, and other hard stone readily found in that country. Permit me to suggest, that we have in Keene's cement a material admirably adapted for such purpose, and which has been used to a considerable extent in this country. It is largely in use for hall flooring, skirtings, &c.; but the entire floors of many public buildings, such as Kirkdale gaol, Stafford Lunatic Asylum, the Consumption Hospital at Walton-on Thames, and many others, have been laid in it. At Greenwich Hospital, all the wainscot linings in the various wards have been removed, and Keene's cement substituted. It is extremely hard and durable, capable of a fair amount of polish, and may be laid in patterns if thought desirable.—J. H. H.

DIRTY WATER-CISTERNS.—At the risk of being considered a sanitary bore, I must again call attention to water-cisterns; for, within the last fortnight, I have seen two in a dreadful state. One of them was at a large hotel, and always in use. At the bottom of this cistern there were 2 or 3 inches of muddy sediment, which, every time the water came in, was disturbed, and mixed with the water. The other was at a private house; and, when I took off the cover of the cistern, the lady of the house was frightened at the state it was in, and beseeched me to clean it out directly; but it was not near so bad as one in the same house, and which she could not see, as it was built under the floor of the water-closet. It is almost useless for the water companies being compelled to cover their reservoirs, and get their supply from a pure source, if people allow the water to be polluted after they get it in their house, by having no covers to the cistern, and not having them cleaned out oftener; and there are hundreds of cisterns built in such out-of-the-way places, that many people live in the house for years without knowing where they get the water from: therefore illness often results. I think, if public attention were directed by the officers of health of the different parishes, by handbills, something like those in the hot season in reference to the muzzling of dogs, it would be of advantage to the public health.—A WORKMAN.

RAMSDEN'S PATENT SASH.—Amongst the arrangements for allowing sashes to be taken easily from their frames, for the purposes of cleaning, painting, and repairing windows,—an important matter,—that patented by S. Ramsden has the advantage of simplicity. The fittings are adapted for all kinds of sash-windows, either old or new, and may be had at a very trifling expense.

ACCIDENT AT SHREWSBURY. — On Saturday before last, two heavy coping stones at the corner of the Raven Hotel, Shrewsbury, gave way, and killed one man and seriously injured another in their fall. Great alterations are being made on the premises, from the plans and under the superintendence of Mr. J. L. Randal, architect. The stone cornice had been newly put up, but the whole length of it came down, carrying with it several courses of brick.

THE MODERN GAS TUBE.—We condense from a local paper the following particulars as to the gas tube trade in Wednesbury, where it is chiefly prosecuted:—About thirty-five years since, Mr. Cornelius Whitehouse, of Wednesbury, obtained a patent for an improved method of making gas tubes for the use of street lamps, &c. The old way of making gas tubes was by welding them with hand-hammers. Mr. Whitehouse's plan was as follows:—A long thin strip of iron was heated and bent in the shape of a tube, and was called a "skelp:" the instrument by which this was done was called the "crocodile." The skelps were taken to the "fire," a peculiar furnace, and there welded by being drawn by machinery through two or three pairs of iron tongues, in which bell-mouth holes had been bored, of a suitable size for the tube that was wanted. The tubes were then straightened, proved, cut into such lengths as were wanted, and screwed at the ends. About twenty hands would make upwards of 2,000 feet of tubing per day. The patent was granted for twenty years, and afterwards renewed for six years more. During the last fifteen years some factories have been established where tubes are made in the same manner as at Mr. Russell's manufactory, and others where only connecting pieces, called "elbows and tees," are made. Messrs. Elcock and Lowe have lately obtained a patent for the manufacture of "round wrought-iron elbows." The patent is dated 27th November, 1857, and has just received the great seal. The men and youths employed in the gas tube trade in Wednesbury are—Russell's factory, High Bullen, Church-hill, 315; Webb's, Wednesbury-bridge, 200; Smith's, Bridge-street, 36; Russell and Knowles's, Oakswell End, 35; Elcock and Lowe's, Holyhead-road, 41.

[ADVERTISEMENT.]

SIR, — Messrs. Clark and Co. of 15, Gate-street, Lincoln's-inn-fields, in 1854, put in a new front to our premises here, consisting of handsome brass sashes, brass stall-board plates, one of their patent revolving wood-shutters, 75 feet long, measuring 750 feet super. (which works admirably), and closes in the whole of our premises in two minutes.

The whole of the work was executed in the best possible manner, with rigid punctuality, and at a very moderate price, has given us great satisfaction and we feel it our duty strongly to recommend them to all requiring such work. We are, sir, your obedient servants,

PARKINS and GOTTO.

24 and 25, Oxford-street, June 1st, 1857.

TENDERS.

For a new workhouse, schools, and other buildings, for the hamlet of Mild-end Old-town. Mr. William Dobson, architect. Quantities furnished by Mr. W. F. Meakin:—

Maeers	£34,700	0	0
Palmer and Son	34,215	0	0
Todd	33,498	0	0
Moxon	32,190	0	0
Ennor	31,600	0	0
Hack and Son	30,500	0	0
Downes	29,860	0	0
Ashby and Sons	29,500	0	0
McLean and Bird	29,235	0	0
Hocken	29,160	0	0
Perkuss	28,824	0	0
Blackburn	28,000	0	0
Evans, Brothers	27,850	0	0
Perry	27,846	0	0
Rowe	27,698	0	0
Willson	27,629	0	0
Hill	27,580	0	0
Wood and Son	26,535	0	0
Ayers and Co. Dover	25,558	0	0

For 1st Royal Cheshire Militia Barracks. Mr. T. Mainwaring Penson, architect:—

Yates, Liverpool	£9,828	0	0
Kilpin and Montgomery, ditto	9,480	0	0
Halroyd, ditto	9,275	0	0
Hitchen, Chester	8,960	0	0
Hughes, Aldford	8,775	0	0
Lockwood and Co. Chester	8,555	0	0
Carter, ditto	8,499	0	0
Roberts, ditto	8,449	0	0
Wigginer, ditto	8,250	10	0
Stone, Newton (accepted)	7,937	0	0
Warburton, Manchester	7,720	0	0

For schools to be built for the parish of St. George the Martyr. Messrs. Wigg, Son, and Oliver, architects. Quantities supplied by Mr. John Williams:—

Ashby and Horner	£2,465	0	0
G. Mansfield and Son	2,390	0	0
Joshua Higgs	2,350	0	0
I'Anson	2,244	0	0
Holland	2,216	0	0
Pritchard, Warwick-lane	2,180	0	0

For stables to be built at Adbury Lodge, near Newbury, Berks, for Mr. W. Fox, Jun. Messrs. Wigg, Son, and Oliver, architects:—

Adey and Son, Newbury	£1,516	0	0
G. Mansfield and Son	1,365	0	0
Holland	1,330	0	0

For bridge over the Cam at Littlebury, Cambridgeshire. Iron-work only. Messrs. Allan, Snooke, and Stock, architects —

Headley and Manning, Cambridge	£399	5	0
Cottam and Cottam, St. Pancras Iron-works, London	379	0	0
H. and M. D. Grissell, London	378	0	0
Roberts and Co. London	373	0	0
Thames Iron-works, Blackwall	360	0	0
Coleman and Sons, Chelmsford	310	0	0

For farm-house and out-buildings at Cove Hythe, in Suffolk, for the trustees of the late Sir Edward Gooch, bart. Mr. George Glover, of Lowestoft, architect. Quantities not supplied:—

Woodroffe, Beccles	£899	0	0
Marsden, Wangford	777	17	0
Hilleary and Rix, Kessingland	767	14	0
Palmer, Southwold	765	10	0
Hilleary and Artis, Wrentham (accepted)	748	2	0

For dwelling-house at Seaham, near Sunderland. Mr. J. G. Brown, architect:—

Mich. F. Stonehouse, Sunderland	£485	0	0
Parkin Thornton, Jun. Seaham	453	0	0
Bailes and Conyers, Sunderland	450	0	0
John Campbell, Seaham	446	0	0
John Lee, Sunderland (accepted)	442	0	0
Samuel Hammond, Seaham	425	0	0

For additions to No. 59, Newington-causeway. Mr. Henry Jarvis, architect:—

Humphreys	£308	0	0
Thompson	308	0	0
Joseph Carter	269	0	0
Penlington (accepted)	266	0	0

For school adjoining Baptist Chapel, Crayford, Kent. Mr. Henry Jarvis, architect. Quantities supplied:—

W. Hill	£330	0	0
Moore	324	0	0
Ring and Stanger	302	0	0
Carter	298	0	0
Hart	297	16	0
Gumbrill	294	0	0
J. and G. Kemp (accepted)	290	0	0

For alterations to premises, 197, Bishopsgate-street Mr. Henry Jarvis, architect:—

Bowley, Brothers	£290	0	0
Joseph Carter	264	10	0
Downs (accepted)	263	0	0

For alterations and additions at Mr. Henley's public-house, St. George's-road, Southwark:—

Elston	£360	0	0
Farmer	359	13	0
Corbett	309	10	0
Saxby	259	0	0
Colls	150	0	0

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For Scarning Church roof. Mr. T. Jeckell, architect:—

	Roof.			Stonework.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.
Harrold, Dereham	586	0	0	42	0	0	628	0	0
Hubbard	564	0	0	19	0	0	583	10	0
Mundford and Jackson	496	0	0	24	0	0	520	10	0
Pile, Litcham	496	0	0	30	0	0	526	0	0
Perkins							508	0	0

For taking old lead, per ton :—

Brunton, Elmham	£16	0	0
Hubbard, Dereham	17	9	0½
Devereux, Norwich	18	0	0
Pile, Litcham	19	0	0

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H. C. C. (book has not reached us).—J. C.—G. R. B.—W. L. (we cannot further depart from our rule).—M. G. H.—Z. K.—W. D.—Philo.—T. W.—F. L. (in type).—Viator (in type).—M. H.—A Young Builder (ask the architect engaged).—C. S.—E. C.—J. B.—W. L. and Sons—C. B.

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Town House, Mile end-road, June 24th, 1858.

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JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire bricks, Lumps, and Tiles of every description (seventeen years with James Newton, of Falcon Dock, Bank side), beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5½d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.: ¾ ditto, 11s. 6d.; 1-inch Yellow, 16s. 6d., ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Cartage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 206, TOOLEY STREET, of the South Eastern Railway Company, adjoining their Terminal London-bridge, where, in connection with his old established premises in King street, Borough, he is prepared to supply, from a large and well assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.
P.S. Country orders executed with prompt attention, and all sawn goods (Bulk Timber excepted), delivered free of cartage within three miles.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany

4-inch Prepared Flooring, 12s 6d per square
4-inch ditto, 13s per square.
Yellow Battens, 11l 10s per 120, 12 by 2½.
Yellow Deals, from 3s 3d each.
Spruce Deals, from 2s 9d each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d each.
Honduras Mahogany, Plank and Board, from 6d per foot
Borough-road, Southwark, and Eun-street, Gray's-inn-lane.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark bridge Wharf, Bankside, S.E.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	½	¾	1	1½	
Spruce	12s.		13s.	15s.	per square
White	12s. 9d.		13s 6d.	15s 6d	18s ,,
Yellow	13s 6d		14s 6d	16s. 6d.	19s 6d. ,,

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0 11 6 per square.
1-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals.....	0 3 3 each.
Spruce Deals	0 3 0 each.
Pine Planks	0 2 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, in logs and planks, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

GEORGE NOKES and CO. Cambridge-street, Old St Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
Books of Designs of Mouldings forwarded on application.

A CORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET-RINGS, for Hot water Pipes. Vulcanized Rubber Beer rings, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.
Diving Dresses of superior make, and improved Vulcanized Rubber Supply pipes for ditto.
Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. CENTNOR, ISLE of WIGHT—Sir,—I shall feel obliged "March 10th, 1852—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many Builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Manufactures and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
115, Fore street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

PORTABLE STEAM ENGINES,

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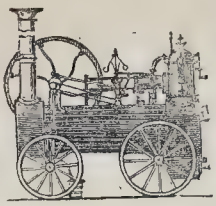
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



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OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

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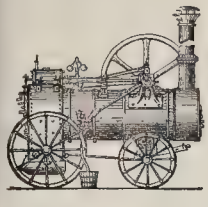
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.



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OF ALL SIZES, TO ANY DEPTH,

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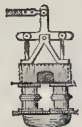

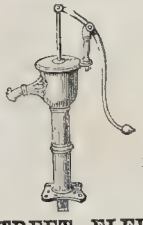

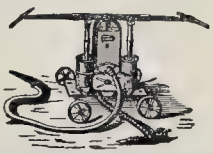

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CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
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PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

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Manufacturers of Ironwork for Drainage Purposes,

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N.B. Steam-power, with Workshops, to Let.

COLES, SHADBOLT, and CO.
CEMENT and PLASTER MANUFACTURERS,
LIME BURNERS,
Brick, Tile, Drain pipe, Hair, Lath, and Fire Goods Merchants,
ST. JAMES'S and THORNHILL WHARFS,
Caledonian-road, London.

ROMAN CEMENT, made at the above works, may be had fresh from the kilns daily—a great advantage to dealers and sewer contractors, especially in winter time.

PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent. This cement will carry more sand than any of the Lias Cements, so much of which is now brought into the market and sold as Portland.

PLASTER of PARIS, direct from the quarries, both coarse and fine, wholesale and retail.

LIME, Grey Stone, Chalk, and Blue Lias Lime, fresh and well burnt, a constant and regular supply of which may be had by the barge or yard.

A large assortment of Glazed Stoneware Drain-pipes, of the best Lambeth make; Yorkshire Plain, Pan, and Faience Tiles; Welsh Fire-bricks, Lumps, and Tiles; Hair and Laths always kept in stock.

These goods are of the best quality, and sold at the lowest possible prices.

N.B. Shipping orders promptly executed.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, and STURGE,
Manufacturers only of first-class quality, for the home and foreign trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE-ROAD, LAMBETH.

THE PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.—Messrs. ROBINS and CO. to WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to supply any quantity of the very best PORTLAND CEMENT, manufactured by them for all the purposes to which Cement is applicable.
Orders received at Great Scotland-yard, and at the Works.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 6, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.
N.B. These Cements supplied for shipment, on advantageous terms.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity, alongside the Thames.

PARIAN CEMENT.—This article is valuable for internal stucco instead of common plastering, and is especially adapted to skirtings, flooring on brick arches, &c. &c. It takes paint in a few hours after its application on walls or laths, is without efflorescence, and may be painted or papered forthwith. A finer quality forms a beautiful scagliola, and polishes with any admixture of colours.—Manufactured by the Patentee, FRANCIS, BROTHERS, and POTT, Cement Works, Nine-elms, London.

GEO. and THOMAS EARLE, CEMENT MANUFACTURERS, HULL.—Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates, and Slate Slabs, Fire-bricks, Grindstones, Cement Chimney-tops, ditto Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Pozzolano.

SCOTT'S PATENT CEMENT,
Manufactured only by
WILLIAM LEE, SON, and SMITH,
EARL-STREET, BLACKFRIARS.

This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

CHARLES RICHARDSON,
BRUNSWICK WHARF, VAUXHALL.
And 6, SOUTH WHARF, PADDINGTON BASIN.

COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from Wharfs.

SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door-Jambs, Coping Bricks, Stable Clinkers, &c.

DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c.

BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.

BLACK HEADERS, Glazed and Unglazed.

BEART'S PERFORATED BRICKS.

STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles. Plain, Flanged, Rolled-top, and Ornamental Grooved Ridging, &c. Broseley Tiles.

WHITE GLAZED BRICKS.

FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any Pattern Brick, &c. made to order

TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c.

SLATES, best quality from the Bangor Quarries.

YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c. Sawn Slab for Hearths, Jambs, &c.

TILES. Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Goods always kept in Stock.

GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c

GREY STONE and CHALK LIME.

BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.

CEMENTS. Roman, Portland, Parian, Lias, Bath, Keene's, &c.

PLASTER of PARIS, fine and coarse, of best quality, at reduced prices.

HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials sent by Rail the same day as ordered.

ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken.
Tenders given for any quantity.
N.B. Landing Wharf and Drawing Dock at Vauxhall.

GREAVES'S BLUE LIAS LIME.—Messrs. GREAVES and KERSHAW beg leave to inform the Trade that they are prepared to deliver GREAVES'S BLUE LIAS LIME, LUMP or GROUND, direct from their Works, to any part of London, and the neighbourhood, either by boats or Railway.

Since Mr. GREAVES introduced this LIME into the London Market it has been so extensively used in all the principal public and other works wherever strong hydraulic lime has been required, that its quality is well known. By the arrangements now made Messrs. GREAVES and KERSHAW will be enabled to deliver LIME direct, fresh from their Works, at such a price as will ensure its being used in all works where quality is considered, it being the best and strongest LIME in the London Market.

Works at Stockton near Rugby.
" Harbury near Southam.
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Offices at Warwick.
Portland, Lias, Bath, and Roman Cements.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no coal-burning. Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster; and Beel-street, Liverpool.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT.—CLARK and BENGOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

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LIME, CEMENT, and BRICK MERCHANTS.
LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
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Whereat can be obtained of the best quality:—
GREY-STONE, CHALK, and FLARE LIME
ROMAN, PORTLAND, KEENE'S, ATKINSON'S, MARTIN'S, and PARIAN CEMENTS.
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WHITE and RED SUFFOLK FACING BRICKS.
YELLOW and PALE MALM-CUTTERS, PICKINGS, PAVIORS, and SECONDS.
STAFFORDSHIRE ORNAMENTAL PAVEMENTS, in RED, BLUE, and BUFF; also GARDEN EDGINGS.
TERRO-METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS.
PLAIN and ORNAMENTAL ROOFING and RIDGE TILES.
WELSH, NEWCASTLE, and STOURBRIDGE FIRE-BRICKS, LUMPS, and TILES of every description and size.
RED and GLAZED STONEWARE DRAIN-PIPES, &c.
TERRA COTTA, CEMENT, and RED CHIMNEY-POTS.
HAIR, PLASTER, LATHS, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.

KINGSTON CEMENT WORKS,
WILMINGTON, HULL.
TAPP and ASTON, Manufacturers of PORTLAND and ROMAN CEMENTS for exportation or home consumption. Lias Lime, Plaster PARIS, White Mastic, &c.
Town Office, 208, High-street.

REEDHAM CEMENT WORKS.—PORTLAND CEMENT of the best quality, and adapted for all purposes, is now made at the above Works. Samples and testimonials sent on application. Orders received by Mr. JOHN GOFFIN, No. 13, Southtown, Great Yarmouth. Shipping orders supplied.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, Bath and Roman Cements, Blue and White Lias Lime, lump and ground. KIALLMARK and CO. Dunball, Bridgwater, and 9, North Wharf-road, Paddington.

KEENE'S and PARIAN CEMENTS for internal uses. These well-known hard Stuccoes dry quickly, and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different patch, and Grooved Ridging, with Cresting Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

J. and W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

WHITE and RED SUFFOLK FACING BRICKS,
by Messrs. Allen and Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs. Caleb Hitch and Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT-COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex

The EWELL deep BLACK RUBBING and BUILDING BRICKS, And the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, AND ESSEX BRICKS.
IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, SOLE CONSIGNEES.
WELLINGTON-WHARF, Belvidere-road, Lambeth, and Kent-road Bridge,

The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every description of the Building Goods of the Trade always in Stock.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage of being entirely free from them in its cementitious properties. It is not affected by frost, and does not expand in damp situations. A report (COMPARATIVE EXPERIMENTS on the strength of the Artificial Cements) from the Inspector (CAPTAIN Fraser), is forwarded from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare the qual ty only of Portland Cement.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin. N. Pelly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Jurors," in Class 10, of the late Exhibition, note the grant of a First-class Medal, and rank the Manufactures known as the "Terro-Metallic," Dunstall, Staffordshire, as the first of the kind in the world.

BUILDING and PAVING STONE.—The Advertiser requires a Party with a capital of 500l. to 1,000l. to JOIN in WORKING a Stone Quarry, and the Quarries WORK under Lord of Dean. It is a first-class contractor's stone, and the profits will be highly remunerative. The railway adjoins it, affording also water-carriage, and a ready communication with the metropolis for quick delivery. Trade should be given to a respectable and responsible party. Further particulars in detail can be given. Address, W. W. 6, Dover-road, Borough, S.

LIZARD SERPENTINE.—Notice is hereby given, that this Company has never been in any way connected with the late Lizard Serpentine Company, whose affairs are now being wound up by the Official Liquidator and Stock. The Lizard Serpentine Company are now working on its own account, exclusively, in its Quarries, Polishing Factory and Saleyard at Lizard, and Ecclesiastical Architecture, at the Offices, 29, Surrey-street, Strand, London; and at the Factory and Quarries, the Lizard, Cornwall.

TO SCULPTORS, MASONS, BUILDERS, &c.—B. FABBRICOTTI, of Carrara (Italy), Importer of all sorts of Marble, keeps a constant well-supplied Stock of Marble, in Blocks, at the under mentioned Wharf, comprising STATUARY, VEINED, VEINED BANNOZZO, BRIANS, DOVE, and the finest Statuary of his own Quarries of Carrara. Parcels, Blocks of Model, Statues, for the St. Anne's, Vert des Alpes, Breccia, &c. &c.; Vases, Garden and Gallery Statues, imported direct, and Chimney-pieces for all the above sorts of Marble to any extent, can be had with the Trade.

Carrara Wharf, Thames-bank, Pimlico; and 150, Leadenhall-street, City.

TO BUILDERS, MASONS, &c

ONE HUNDRED MARBLE and STONE CHIMNEY PIECES TO BE SOLD CHEAP

Marble, from 6s. upwards; stone, from 2s. upwards.

Monuments, Tombs, &c. executed on the shortest notice.

WM. WILLETT, Railway-terrace, Rugby

THE BRITISH and FOREIGN MARBLE GALLERIES, 17, Newman-street, Oxford-street.—EDWARDS, EDWARDS, and CO. Proprietors, the largest and finest exposition of Chimneypieces in Europe on view at the above-named establishment. Manufactories—Carrara, Pisa, Leghorn, and 17, Newman-street, London.—Estimates for every description of marble work.

TO BUILDERS and OTHERS.—ONE THOUSAND CHIMNEY PIECES kept in Stock, at prices from 6s. each. W. H. WILKINSON and CO. Manufacturers, Prudhoe-street, Newcastle-on-Tyne.

BATH STONE OF BEST QUALITY.

RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS, BATH

List of prices at the Quarries and depôts, also cost for transit to any part of the Kingdom, furnished on application to Bath Stone Office, Corsham, Wilts.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Superintendent from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices, new estimates for special quarries and other any part or the kingdom, forwarded on application.—Office, 27, Millbank street, London, S.W.

LITTLE CASTERTON FREESTONE.—Apply for prices, &c. to FRAS. and OCTS N SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER, SIMPSON, and SONS, 29, Strand-street, London.

GRANITE.—The Cheesewring Granite Company supplies PITCHING or PAVING SETS of this MATERIAL to order. The sets, which have for several years been extensively used in Manchester, Bristol, Leeds, and other large towns, combine in a higher degree than any others the hard and lasting roughness in wear and durability.—Address, Mr. JOHN HUTTON.

GRANITE.—King William and Nelson Monuments, Plinth and Steps of the Royal Exchange, and arches at the Crystal Palace. Supplied by the Quarry Company under Royal Charter.—For terms, apply to Mr. C. HOAR, Haytor Granite Office, 4, Millbank row, Westminster.

YORKSHIRE STONE.—THOMAS TILNEY, Stone Merchant, Tanfield-place, Leeds, begs to inform Builders, Surveyors, and Local Boards, that he can supply direct from his Quarries, by water or railway, paving, landings, steps, &c. cut to sizes, on the most advantageous terms.—Prices sent on application.

SAMUEL TRICKETT, VICTORIA WHARF, ISLE of DOGS, E. Merchant and Dealer in all kinds of Stone, Portland, Cube, Bath, Caen, Pyrassic, Ransomes, Harestone, Bramley-Fall, Pattersgate, and Whitby: Landings, Paving, and Steps from Bradford, Kyloe, and Scotch Random, Broad Edge, &c.; Sawn Slabs, Landings, &c.; Robin-hood, Hare-hill, Huddersfield, Parkensing, and Shipley. The Victoria Stone Co. opposite the wharf, and an omnibus to and from the wharf and Limehouse station every half-hour.

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DUNDRY STONE QUARRIES.—Dundry, near Bristol.—This valuable stone for the purposes of building may now be obtained in any quantities, as well as Landings, Steps, Copings, &c. Mr. A. H. Smith, of Bedminster, upon its application, has recently had it extensively used in the repairs at the Cathedral, Llandaff, and St. Mary Redcliffe Church, Bristol. The price at the Bristol Railway Termini is 1s. per foot cube, in block. The stone may be had worked at the quarries, if required upon application. All further particulars, certificates, and reports, may be obtained on application to GEO. ASHMEAD and SON, Surveyors and Agents, 19, Prince-street, Bristol.

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RANSOME'S SILICEOUS STONE. All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this newly-discovered indestructible material, at prices not exceeding the ordinary Cost of Stone.

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Small ditto	22 " 12	9	5	0	"
Marchioness	22 " 11	10	10	0	"
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Slate slabs, sawn all round and planed on one side, from 5 to 10 feet in each slab, at per foot, 1¼-in. 5d. 1½-in. 6d. 2-in. 8d. 2½-in. 9d. 3-in. 10d. 12 feet and over, 1¼-in. 7d. 2-in. 8d. 2½-in. 11d. 3-in. 12d.

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4, Tudor-street, Blackfriars, E.C., June, 1858.

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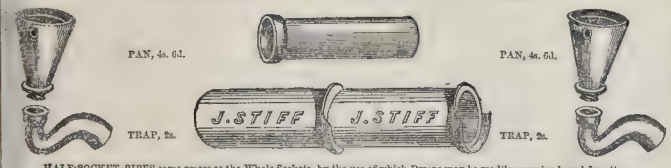

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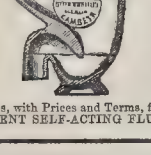
7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



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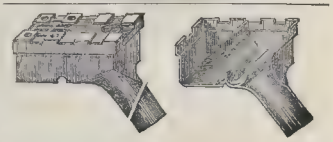

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Coach houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury lane, and Spa-road, Bermondsey.

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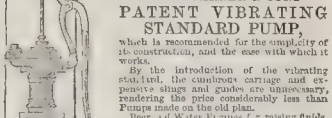

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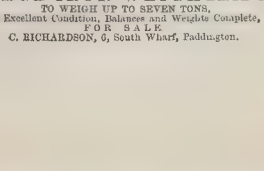

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TO WEIGH UP TO SEVEN TONS,
In Excellent Condition, Balances and Weights Complete,
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Superior Chimneypieces of Statuary Marble, some richly sculptured, and of Decimo Sexto Marble, in great variety, ready for fixing

MESSRS. ROBINS will SELL by AUCTION, at their ROOMS, Great Piazza, Covent-garden, on TUESDAY, JULY 13, at TWELVE, STATUARY MARBLE CHIMNEYPIECES, comprising richly sculptured, suitable for first-class drawing rooms; others of less expensive character, with trusses, one beautifully sculptured with Cupids in Landscape, of pleasure-stones, &c. from the Private Apartment of the Great Exhibition, 1851; black and Sicilian marble, for dining-room and library; several of dove and Sienna marble; and a great variety of veined marbles of smaller size.—On view three days prior at the Auction Rooms, Covent-garden

NOTICE. To MAHOGANY and TIMBER MERCHANTS, CABINET MAKERS, MACHINE-MAKERS, and OTHERS.—The next Liverpool Periodical AUCTION SALES, comprising Two Cargoes of City of St. Domingo MAHOGANY, also Cargoes of the Brigs Nora, and Cuba MAHOGANY, and other FURNITURE WOODS, will take place on THURSDAY and FRIDAY, the 15th and 16th JULY, 1858, at ELEVEN in the morning, precisely, in the Wood SALE SHEDS, Brunswick and Toxteth Docks, Liverpool.—Catalogues, containing full descriptive particulars, may be had on application to EDWARD CHALONER, Wood Broker and Measurer, No. 6, East Side, Queen's Dock, Liverpool.

CLAPHAM, SURREY.—GOOD INVESTMENT

MESSRS. NICHOLSON and SONS will submit to PUBLIC COMPETITION, on WEDNESDAY, JULY 14th, 1858, at the Mart, Tokenhouse-yard, Lothbury, at SIX for SEVEN o'clock, p.m. in one lot, a Capital LEASEHOLD PROPERTY, situate in Bromell's-road, and comprising a brick-built and slated house, together with a large carpenter's shop, counting-house, yard, &c. suitable for the carrying on of a snug builder's business, lately occupied by Mr Jemuel Muddle, deceased. Also a timber-built and slated Cottage adjoining, occupied by Mrs. Hannah Muddle; and one other in the rear, let to Mr J Youden, and capable of producing a rental of 75l. per annum. There are 36 years unexpired of the lease, and the whole property is subject to a Ground-rent of 30l.—May be viewed on application to Mr HENRY MEAD, on the Premises, of whom particulars and conditions of sale may be obtained; of Messrs. HAWKINS, Bird, and Co. 2, New Bank Buildings, Basinghall-street, Strand; at the Bowyer Hotel, Manor-street, Clapham; and at the Auctioneers' Offices, High-street, Wandsworth, S.W.

IN BANKRUPTCY.—Re Surrey Gardens Company

MR. ALFRED DAY will SELL by AUCTION, on the PREMISES, Royal Surrey Gardens, West-street entrance, Walworth road, on WEDNESDAY, JULY 7, 1858, and following day, at ELEVEN o'clock, without reserve, SURPLUS EFFECTS, comprising fire and garden engines, fixed and pipe head, sawdust bins, iron and wire, quantity of gas barrel and pipe fittings, force pumps, hose, reading and fancy lamps, fire extinguishers, standing and descending stairs, ironwork, iron grating, iron hurdles, seats, boarding fence, benches, carts, blocks and falls, tape, devices, lifting jacks, quantity of new rope, anvil, vices, carpenters' benches, bar, shelf and counter, stoves, mortars, Chinese lanterns, and numerous other effects.—May be viewed on Tuesday and morning of sale. Catalogues had of ALFRED DAY, Esq. 15, Size-lane, CANNON, Esq. Official Liquidator, Aldermanbury; or on the Premises; and of the Auctioneer, City terrace, City road.

POPLAR and BROMLEY, MIDDLESEX.—Important sale of about Two Acres of valuable Freehold Building Ground, land tax redeemed, which will be SOLD by AUCTION, by

MR. J.Y. GIBBS, at the GREEN DRAGON TAVERN, High-street, Poplar, on THURSDAY, JULY 15, 1858, at TWELVE for ONE o'clock, in 62 lots. The land is known as the "Brunswick Estate," and situate in Christchurch-road, Lodbrook-road, Lansdowne-street, Flint street, Blue-field-street, and Upper Wrights-street; the same being the whole of the property purchased by the Metropolitan Board of Works. A favourable opportunity is thus offered for a profitable investment. Particulars with plans may be had of GEORGE BEACH, Esq. 24, Surrey-street, Strand; Messrs. MORRIS and SON, Harlow Villas, East-India-road; Britannia Tavern, Limehouse; Guildford Arms, Chrisp-street; Place of Sale; and the Auction Offices, 12 and 83, High street, Poplar.

An Acre and a Half of Building Land, and various Freehold and Leasehold Property

MESSRS. HARDS and VAUGHAN will SELL by AUCTION, at the MART, on THURSDAY, JULY 15th, at TWELVE, a large PLOT of LEASEHOLD BUILDING LAND, having a frontage to Ebenezer-street, Depth 60 feet; and a Ground-rent of 12l. per annum, subject to no lease whatever. Also, Three Freehold Houses, Shops and Premises, Nos. 1, 2, and 3, Hollerin-place, Kingsland-road, let at 31l. per annum. No. 1, Lyall-place, Eaton-square, let to Mr. Hurst, Fruiterer, at a net rent of 45l.; and Three Private Dwelling houses at Greenwich.—Printed particulars of Messrs. HARDS and VAUGHAN, Auctioneers, Valuers, Estate, and Land Agents, Church street, Greenwich.

TO TIMBER MERCHANTS, CABINET MAKERS, PIANO FORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS.

MESSRS. C. LEARY and CO. beg to announce, that in consequence of the expiration of the lease of the Premises, they will SELL by AUCTION, on MONDAY, the 5th JULY, and two following days, a THIRD PORTION of Mr. H. Bateman's very valuable and well seasoned Stock of WOOD, comprising prime dry wainscot in every thickness, Spanish and Honduras mahogany, rosewood and walnut veneer, planks, boards, and scantlings, Amboyna veneers, dry pine DEALS, &c. &c.—Lots viewed two days prior to and on the mornings of sale. Catalogues to be had on the Premises, and at the office of the Auctioneers, 26, Old Broad-street, City, E.C.

TO BARGE AND BOAT BUILDERS, FOUNDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on TUESDAY, JULY 6, 1858, at ELEVEN o'clock, on the PREMISES, Creek-bridge Wharf, Greenwich, a quantity of USEFUL MATERIALS and STORES, 500 pads Honduras mahogany logs, 50 ton logs of oak timber, fifty tons fir logs, 1,000 cubic feet wrought timber, 1,000 feet fir boarding, 5,000 feet fir deal, as the Premises and of Messrs FULLER and HORSEY, Billiter street, London, E.C.

SALES BY AUCTION.

LONDON MARBLE AND STONE WORKS, ESHER-STREET, S.W.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, July 7th, 1858, at ELEVEN o'clock, in the PREMISES, the entire LEASEHOLD PREMISES, for many years occupied by the London Marble and Stone Working Company, situate in Esher-street Mill bank, Westminster, comprising a large workshop, and especially erected for the business. The buildings comprise a spacious manufactory, 112 feet by 45 feet, handsome and lofty show room, 120 feet long, 22 feet wide, and 20 feet high, with workshops beneath, large yard, offices, and manager's dwelling, and are held on lease for a term, of which fifty-two years were unexpired at Lady-day last, subject to a ground-rent of 73l. per annum. The valuable PLANT, which will be sold with the premises, may be had on the Premises; of Messrs. WARRY, ROBINS, and BURGESS, Solicitors, Lincoln's-inn-fields; and of Messrs FULLER and HORSEY, Billiter-street, E.C.

Machinery of the London Marble and Stone Works, Esher-street, S.W.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, the 7th of JULY, 1858, at ELEVEN o'clock, in the PREMISES, Esher-street, Millbank, Westminster, the valuable MACHINERY and IMPLEMENTS of the London Marble and Stone Working Company, including four steam sawing-frames, from 11 ft. by 1 ft. 10 in. to 16 ft. by 3 ft 4 in.; two iron circular sawing frames for marble, two polishing machines, circle cutting machine, sanding table and bed, moulding bed for engine turning lathes, single saw-stone cutting-frame, a steam-engine of 10 horse power, by Boulton, Watt, and Co. boiler; all the shafting, riggers, and gearing; two very powerful over-head travelling cranes, block and falls, leather bands, saws, metal dumper-bell, and other effects. Also the valuable PERMANENT PROPERTY, viz. Sicilian, and statuary marble, in slab and block.—To be viewed a Tuesday previous to the sale, when catalogues may be had, on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

LONDON WORKS, NEAR BIRMINGHAM

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the Soho Iron Works, lately in the occupancy of Messrs. Fox and Henderson, and situate at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, and in the immediate vicinity of the works of E. P. Muntz, Esq. Messrs. James Watt and Co. and the Birmingham Patent Tube Company. It is important to notice that the rates in the parish of Harborne are one-third the amount of the rates of those in the adjoining parish of Birmingham. The works occupy a site of 5a. 1r. 26p. 57 yards; they have a frontage of about 465 feet next Oldford-street, and a frontage of 490 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and other canals, and thus affords facility for water-carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding 40,000l. They were established in 1856 by Messrs. Bramah and Lee, and have been raised to their present importance by Messrs. Fox and Henderson, under whose personal guidance they have been arranged for carrying on the great undertakings in connection with which the name of the firm has been rendered famous. The buildings are arranged in a quadrangular form, and are most substantial erections. The entrance is through a gateway (on either side of which are offices and stores) to a spacious yard, in the centre of which is the boiler-house and lofty chimney. To the left is a carriage-building shop, 201 feet by 103 feet; an iron store adjoining, 97 feet by 51 feet. The principal range of buildings include the smiths' shops, 119 feet by 102 feet; two anchor smiths' shops and turntable shop, a fitting shop, 119 feet by 114 feet, with gallery in clerk of works' office; a large foundry, 108 feet by 52 feet; two moulding shops adjoining, 119 feet by 64 feet; core stoves and brass foundry. On the right of the yard, are pattern-makers' shops and pattern stores, carpenters' shops, a chain shop, stabling, matter's apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the various purposes at a low price, from 6s. to 8s. per ton, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from Oldford-road. Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr CHARLES CLARKE, Smethwick, who will show the property; to Mr HORN BLOWER, Architect and Surveyor, Waterloo-street, Birmingham; or to Messrs. SWIFT, WAUGTAFF, and BLENKINSOP, Solicitors, Liverpool, and 30, Great George-street, Westminster; to Messrs. BEALE and MARIGOLD, Solicitors, Waterloo-street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—A large proportion of the purchase-money may remain on mortgage.

To Engineers, Founders, Railway Wheel-makers and Carriage-builders, Anchor-smiths, Chain makers, and Others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN o'clock, on the PREMISES, the Soho WORKS, Smethwick, lately occupied by Messrs Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Fox, Henderson, and other eminent makers, including, in the fitting shop and galleries; 11 self-acting screw-cutting lathes, 6 to 16½ inch centre, 18 engine turning lathes, 14 railway wheel lathes, one very superior double-action ditto; four axle lathes (self-acting); 19 vertical drilling and boring machines, many of them self-acting, three self-acting plate machines, 4 self-acting screwing lathes, universal shaping machine, bit frame machine for cutting cast iron wheels, axle guard planing machine, wheel cutting machine, 20 feet turned wrought iron standing, 12 turned pulleys, 24 vices and benches, grindstones, a large assortment of steel tools for the various machines, &c. In the white smiths' shop: Five powerful hydraulic presses, one for pressing bridge links, nuts, &c.; one for spoke heading, one for flatting patent wheels, one for pressing axle guards, and one for expanding tires, with pumps and gearing worked by steam-power, tire furnaces, anchor forges, smiths' forges, two ton cranes, one shaft ditto, 16 feet and 12 feet diameter, including machines, &c. In the four lines: eight 5 ton cranes, each 16 feet span, 16 feet high, with racking outgear, irons, and blocks, three 20 cwt cranes should purchaser, one 36-ton traveller, 48 feet span; a very powerful foam mill, 12 feet of black shafting, brushes, one annealing furnace, small cupola, moulding bins, &c. In the turnable shop: Two very powerful surface planing machines, with face plates 18 feet and 12 feet diameter, one for planing the inside, capable of boring cylinders 72 inches diameter; three self-acting facing machines, one superior self-acting radial drilling machine, with 6 feet pillar; 22 feet, 15 feet, and 12 feet lathes, &c. In the anchor shops: Two Nasmyth's forge steam hammers, with Cornish boilers; one tilt hammer, with 16-horse power horizontal steam-engine and boiler; two powerful bench fans (to work by steam power), eight 5 tons and three 3 tons post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven anchor smiths' forges with exhaust fan, a patent-proving machine, a cylinder 106 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the mill shop: —Two self-acting planing-machines, to take up to 15 feet by 4 feet 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, vices, benches, &c. In the carriage building shop:—Two large and powerful eccentric planing machines, shearing machine, powerful lever ditto, set of plate bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two pipe-bending machines, four sawing benches for cutting three-inch planks in lengths, one cedar saw bench, tire-massing machine, 35cwt feet hammer, shafting, with twenty-eight turned pulleys; furnaces, vices, benches, patternmaker's lathe, &c. In the smiths' shop: A powerful 30 feet bed, one set Nasmyth's hammer, lever punching machine, one corrugating machine with dies complete, one Hercules, one Ryder's patent forging machine, 5 wrought-iron cranes, one small traveller, 250 feet lineal shafting, pulleys, &c. In the boiler-house and yard:—Four 23-horse power Hick's patent steam boilers, an very powerful blast-fan and blowing machine, capable of putting 72 inch bore of air, two 35 inch double-pressure machines, Lyon weigh bridge, 20 cwt weighing machine, 5 ton iron post wharf cranes, one 10-ton derrick, Henderson's patent, 55 feet sweep, two yard trawlers, 21 feet 6 and 35 feet 3 span, with double-purchase gearing and rails; fittings in pattern makers' shops, pattern stores, paint store, and offices; a large assortment of wood patterns, the dies for the various sizes of Lieutenant Roger's patent anchors. Foundry:—Boxes and flasks, ladles, stores of various description and a large collection of other miscellaneous requisites for a first-class engineering establishment.—To be viewed three days prior to the sale, and catalogues may be had, at the office of Mr. HORNBLOWER, Architect, Waterloo-street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved bills three months' date will be taken from purchasers to the amount of 25l. and upwards.

SALES BY AUCTION.

Four Steam-Engines, five Steam-Boilers, and Machinery.

MESSRS. FULLER and HORSEY will SELL by AUCTION, on TUESDAY, AUGUST 3rd, 1858, at TWELVE o'clock, at the PREMISES, No. 23, Gravel-lane, South-wark, FOUR STEAM ENGINES, BOILERS, and useful MACHINERY, including two horizontal high-pressure steam-engines, made in 1857, with cylinders 14 inches diameter, 18 and 22 inch stroke, by Clayton, Shuttleworth, and Co. and by Thompson, Hall, Cates, and Co.; one high pressure table steam-engine, 15-inch cylinder, 32 inch stroke; one condensing table steam-engine, of 8-horse power, cylinder 12 inches diameter, 24-inch stroke, by Maudsley, Son, and Field; two return flue-boilers, made in 1857, one 19 feet 6 inches long, 5 feet diameter, with 2 feet 6 inch fire-flue, low mace-plates, and return flue, 15 inches diameter, and chimney; one 16 feet long, 5 feet diameter, of a similar construction; one hemispherical-ended boiler, 24 feet long, 4 feet 6 inches diameter; one ditto, 19 feet 6 inches long, 5 feet 6 inches diameter, with 21-inch flue through, and steam-chest; one cylindrical boiler, 14 feet long, 3 feet 6 inches diameter, with 2 feet flue through; a 6-inch self-acting screw-cutting lathe, by Fox, of Derby; engineers' tools and foot lathe, four 4 feet 8 inch grooved cast-iron wheels, two 7 feet turned riggers, 113 inches wide, twenty large spur and pinion wheels, two single grooved line wheels, two break drums, eight cast iron girders, and other effects.—To be viewed on Monday previous, and morning of sale when catalogues may be had on the Premises, and of Messrs FULLER and HORSEY, Billiter street, E.C.

WESTMINSTER.—BUILDING MATERIALS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, 55, Parliament-street, Westminster, on WEDNESDAY, JULY 7, at TEN for ELEVEN, the MATERIALS and FITTINGS of a large HOUSE and WAREHOUSE, of the usual description, and including a late-close shop-front, lead gutters and flats, brickwork, &c.—May be viewed one day previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

ROYAL HOSPITAL, GREENWICH.—Clothing and other Stores

MESSRS. EVERSFIELD and HORNE are honoured with instructions from the Commissioners of Greenwich Hospital to SELL by AUCTION, at the STEWARD'S DEPARTMENT, on TUESDAY, JULY 13, at TWELVE for ONE, a quantity of useful STORES, consisting of blue serge coats, waistcoats, trowsers, drawers, stockings, linen rags, flannels, hats, fire hinge, rope, mats, mop sticks, lid metal, gold lace, and numerous miscellaneous articles. Also a quantity of loose materials, pair of large wrought-iron gates, ironwork, brass, copper, &c. belonging to the Works Department.—May be viewed one day previous, and catalogues had at the Office of the Steward and Inspectors of Works; and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

TO SCULPTORS, BUILDERS, MARBLE MASONS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE respectfully beg to announce, that they have received instructions to SELL by AUCTION, at Carnaby Wharf, Thames Bank, within twenty fire days from the day, about 190 Blocks of Sicilian, Vein, Statuary, Bastard ditto, Black and Gold, Sienna, and other coloured MARBLES; also about 6,000 feet of Slabs, of different kinds.

40, Parliament-street, Westminster, July 1, 1858.

WARDOUR STREET, SOHO.—The Genuine Manufactured and Unmanufactured Stock of a Cabinet maker.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, on the PREMISES, Shipp-am Warehouse, Soho, on WEDNESDAY, JULY 21st, and following days, at TWELVE for ONE, the very excellent Seasoned STOCK, consisting of 30,000 feet of Spanish and Honduras Mahogany, and the foreign Woods, in planks and boards, including satin wood, Italian and American walnut, wainscot, and cedar, in veneer, and a quantity of dry pine. Also the superior Manufactured Stock, consisting of sets of dining, pedestal, and other tables; sideboards, bookcases, davenports, and other cabinet work of the best class; the whole being the genuine Stock of Mr Thomas Bird, who has long a high reputation for the goods for many years, and is now retiring from the London trade. At the same time will be sold, the Household Furniture of a small Dwelling-house; 21 work-benches, turner's lathe and fixtures, Bird's patent steam-boiler. Approved bills of three months from purchasers to the amount of 30l.—May be viewed two days previous; and catalogues had upon the Premises, or will be forwarded, post free, on application to the Auctioneers, 40, Parliament street, Westminster, or Coal Exchange.

N.B. The Lease of the excellent Premises, with Yard, Stable, Workshops, Offices, and Dwelling house, to be Disposed of

TO BUILDERS AND CONTRACTORS. TO BE SOLD by AUCTION, at the WORKS, Herne Hill, on WEDNESDAY, the 14th day of JULY next, at TWO o'clock in the afternoon.—By

MESSRS. THOMAS BLANDFORD and SON, the GOOD-WILL and INTEREST in a LEASE of the WHITE FREESTONE QUARRIES, at Pradham, near Faversham, Kent, on the South Eastern Railway, together with the Plant, Cottages, and Trade Utensils, on the Premises. These quarries contain the best white building stone in the district, and produce blocks of any scantling which can be shipped advantageously to the south. They are now in good working order, with sufficient plant to do a large trade, and may be entered upon immediately. The whole will be offered in LOTS. The quarries, plant, &c. are on view, and catalogues or other information can be had of the Auctioneers, Corbridge; Messrs. T. and J. NELSON, Marble Works, Carlisle; or of Messrs. MYRES and COFFIN, surveyors, &c. Preston.

BUILDERS' PERIODICAL DISTRICT SALES.

IMPORTANT SPECIAL NOTICE

To Builders, Contractors, Carpenters, Fixture and Material Dealers, Farmers, Gentlemen Building, Shop Fitters, and Others.

MESSRS. ROTH and CO. will SELL by AUCTION, on the PREMISES, at their WEST END DEPOT, ST MARYLEBONE-ROAD, N.W. Adjoining the Workhouse, On MONDAY, the 12th day of JULY, 1858, at ELEVEN for TWELVE, precisely, The First Portion of A valuable collection of BUILDERS' STORES, TACKLE, and MATERIALS, the property of various Contractors, Comprising Well-built Stalls, Carpenters' Benches, Truck Bodies, Blocks and Falls, Bond Hooping, Bolts and Nuts, Quantity of useful Machinery, consisting of Locks, Bolts, Nails, Screws, Hinges, &c. A small PORTABLE STEAM-BOILER.

A few Engineers' and Cock Founders' Patterns, Tools, &c.; various Ironwork, consisting of Gates, Entwater Pipes, &c.

A Pit Saw, with Saw Bench, Carpenters', Engineers', and Mill Saw Files, two Officers' Campaign Chests, and a large Assortment of other Effects.

May be viewed on FRIDAY and SATURDAY PREVIOUS, and MORNING of SALE.

Catalogues may be had on the Premises:
At the Auctioneers' CITY OFFICE,
13, EASTCHEAP, E.C.
One Minute's Walk from the Monument, London bridge;
AND AT
MOLLAND HOUSE, HACKNEY ROAD,
Near Cambridge heath-gate, N.E.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields, and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 4, 1858.

The Builder.

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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WILL CLOSE ON SATURDAY, THE 24TH INST.

ROYAL ACADEMY of ARTS, Trafalgar-square The EXHIBITION of the ROYAL ACADEMY is NOW OPEN Admission (from Eight till Seven o'clock), One Shilling; Catalogues, One Shilling
JOHN PRESCOTT KNIGHT, R.A Secretary

THE NEW SOCIETY of PAINTERS in WATER COLOURS will shortly CLOSE their Twenty-fourth EXHIBITION, NOW OPEN at their Gallery, 53, Pall-mall, for St. James's Palace, daily, from Nine till Dusk. Admission, 1s Season Tickets, 5s.
JAMES FAHEY, Secretary

THE INSTITUTE of BRITISH ARCHITECTS hereby give Notice, that an EXAMINATION of persons desirous of obtaining a Certificate of Competency to perform the duties of District Surveyor, will take place at the Rooms of the Institute No. 9, Conduit-street, Grosvenor-square, on TUESDAY, the 27th day of JULY, at TWELVE o'clock at noon Persons desirous to be examined are, on or before FRIDAY, the 16th day of JULY, to send an application which must be accompanied by a statement, according to a form to be previously obtained, at the Rooms of the Institute.
C. C. NELSON, } Hon.
M. DIGBY WYATT, } Secs
July 2, 1858.

SURREY ARCHÆOLOGICAL SOCIETY. The FIFTH ANNUAL GENERAL MEETING will be held at FARNHAM, on TUESDAY, the 13th of JULY, 1858, under the Presidency of the Right Rev. the Lord Bishop of WINCHESTER, D.D. F.S.A. & Vice President, who has in a kindly manner invited the members and their friends with an invitation to visit Farnham Castle. The meeting will be held in the Castle, where the chair will be taken at TWELVE o'clock precisely. The annual report of the council and the balance sheet will be presented, and the office-bearers for the ensuing year will be elected. The following papers will be read:—
1. Farnham and its vicinity, previous to the Norman Conquest—The Rev. HENRY LAWES LONG, Esq.
2. Extracts from the Churchwardens' Accounts, and other Parochial Records relative to Elstead and Seale. By WILLIAM HENRY BLAKE, Esq. F.S.A.
3. Notices of Farnham Castle.—By the Rev. ROBERT NEWMAN HOLFORD, M.A.
On the excursion will afterwards be made to Waverley Abbey, an inspection of which will take place by the kind permission of Captain Nicholson. A brief discourse upon these interesting ruins will be delivered by R. A. C. GODWIN AUSTEN, Esq. A temporary museum of antiquities and works of art will be formed.—All communications with reference to the meeting, or admission to the Society, should be addressed either to the Honorary Secretary, or to ROBERT OKE PARK, Esq. Honorary Local Secretary, Farnham.—By order of the Council, GEO. RISH WEBB, Honorary Secretary.
Broomhill-Room, 6, Southampton-street, Covent garden, London, July 5, 1858.

THE ARCHITECTURAL MUSEUM, South Kensington Museum, W.—The ANNUAL CONVERSAZIONE will take place on THURSDAY next, JULY 15th. Tickets will be taken in the Theatre at Nine o'clock, punctually. The Female of the South Kensington Museum will be open exclusively to the Visitors.
GEO. GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.
Applications for tickets from members of the Society, should be forwarded at once to the Honorary Secretary, at 13, Stratford place, W

TO BUILDERS.—Plans and Specifications of a NEW VICARAGE-HOUSE, to be erected at Nantwich, Cheshire, for the Rev. Rhayader and Penybont, Radnorshire, may be inspected, by seven days' previous notice of submitting Tenders for the proposed Works, at the SCHOOL ROOM, Nantwich, until JULY 17th, upon which day the Sealed Tenders are to be sent to the Architect, JOHN NORTON, Esq. 3, Old Bond-street, London.—June 28th, 1858.

CONTRACTS.

GOVERNMENT CONTRACT. — WAR DEPARTMENT.—The Director-General of Contracts will receive TENDERS for REPAIRING and RENEWING STONE FLAT FORMS, EMBRASURES, &c. at Fort Cumberland, near Portsmouth; drawings and specifications may be seen, and forms of Tender and all necessary information obtained, at the Royal Engineer Office, Portsmouth, between the hours of TEN and FOUR o'clock. Tenders to be delivered, or forwarded, post-paid, to the Director-General of Contracts, War-office, Pall-mall, London, on or before MONDAY, JULY 26th next, at NOON, and endorsed on the outside, "Tender for Work at Fort Cumberland." The War Department reserves the right of rejecting any of the Tenders.
Royal Engineer Office, Portsmouth, June 24, 1858.

TO BUILDERS. Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the County of Hants, in the left-hand corner of the envelope, and addressed to the Director-General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Portsmouth, June 9, 1858

WEST HAM LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No. 3.—To CONTRACTORS and OTHERS. The Local Board of Health for the district of West Ham, in the county of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following-named CONTRACT:—
CONTRACT No. 3.—For the supply of materials, and for the execution of certain BRICK SEWERS and EARTHENWARE PIPE SEWERS, as under: About 1,670 lineal yards of Brick Sewers, 2 feet 3 inches by 1 foot 6 inches; about 4,000 lineal yards of Pipe Sewers, of 9, 12, and 15 inches diameter.
The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on and after WEDNESDAY, the 7th day of JULY instant, on payment of five shillings, on application at the Office of WILLIAM JAMES BARSHAM, Surveyor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster, where plans of the proposed Works may be seen, and any further information relative to the Contract may be obtained.—Sealed Tenders to be delivered at the Clerk's Office, Stratford-green aforesaid, on or before MONDAY, the 26th day of JULY instant, endorsed "Tender for Sewers; Contract No. 3."
(Signed) W. J. BARSHAM, Clerk to the Local Board.
Stratford-green, 1st July, 1858.

WORKSOP LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No. 1.—TO EARTHENWARE PIPE MAKERS and OTHERS.—The Local Board of Health for the District of Worksop, in the County of Nottingham, hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following-named Contract:—
CONTRACT No. 1.—For the supply of Earthenware Sewer and Drain Pipes, and other articles.
The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on payment of 5s. on application to ROBERT WHITE, Clerk to the Local Board, Worksop; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster.—Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before THURSDAY, the 22nd day of JULY instant, endorsed "Tender for Earthenware Sewer and Drain Pipes. Contract No. 1."
(Signed) ROBERT WHITE, Clerk to the Local Board.
Worksop, July 7, 1858

WORKSOP LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No. 2.—To CONTRACTORS and OTHERS.—The Local Board of Health for the district of Worksop, in the county of Nottingham, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following-named Contract:
CONTRACT No. 2.—For the supply of Materials and for the Completion of certain Brick Sewers, Earthenware Pipe Sewers, and other works.
The plans, drawings, and specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on payment of 5s. on application to ROBERT WHITE, Clerk to the Local Board, Worksop; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster.—Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before THURSDAY, the 22nd of JULY instant, endorsed "Tender for Sewers, Contract No. 2."
(Signed) ROBERT WHITE, Clerk to the Local Board
Worksop, July 7, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of NEW NATIONAL SCHOOLS at Bishop's Sutton, near Alresford, Hants, may see the drawings and specification at the Rev. CECIL B. CARTON'S, Bishop's Sutton, on the 14th inst. to whom sealed Tenders are to be sent on WEDNESDAY, the 28th day of JULY. Neither the lowest nor any Tender to be necessarily accepted.
Kensington, July 7, 1858. VERNON W. ARNOLD, Architect.

TO BUILDERS.—The Guardians of the Poor of Paddington require TENDERS for the ERECTION of FOUR ROOMS for INSANE PATIENTS, at Paddington Workhouse, in accordance with a plan and specification, &c. which may be seen at the Workhouse. The same to be sent in by TEN o'clock on WEDNESDAY, the 14th JULY instant, and parties Tendering must attend the Board punctually at that hour.—The Board do not pledge themselves to accept the lowest or any Tender.
CHARLES BROWN, Clerk.
Paddington Workhouse, Harrow-road, July 1, 1858.

CONTRACTS.

LONDON and NORTH-WESTERN RAILWAY.—SHROPSHIRE CANAL CONVERSION.—CONTRACT for WORKS.—The Directors are prepared to receive TENDERS for the CONSTRUCTION of the RAILWAY, from the line of the Shropshire Union Railways and Canal Company, at the new Basin in the parish of Wellington, to the Shrewsbury and Birmingham Railway near Preston Wealdmoors, in the parish of Wrockwardine, a distance of two and a quarter miles, or thereabouts. The principal existing locks will be required to be deepened, and the Contractor will be bound to execute the Works in accordance with the plans and specification of the Engineers, Messrs. LOCKE and ELLRINGTON, 16, Duke-street, Westminster, and generally with the Company's Standard Conditions, and Prices must be delivered not later than MONDAY, the 9th of AUGUST, addressed to the Secretary, at the Euston Station, London, and endorsed "Tender for Shropshire Canal Conversion." The Directors do not bind themselves to accept the lowest or any Tender.
(Signed) C. E. STEWART, Secretary.

PARISH of BRIGHTON.—To BUILDERS and OTHERS.—The Directors and Guardians of the Poor of the Parish of Brighton are desirous of receiving TENDERS from persons willing to CONTRACT for the ERECTION of INDUSTRIAL SCHOOLS, Infant Nurseries, and Infirmary, part of the Workhouse Warren Farm, in the parish of Rottingdean, agreeably to the drawings and plan of the same prepared for that purpose. The drawings, specification, and general terms of Contract may be inspected at the Parish Workhouse, Church-street, Brighton, on and after Wednesday next, the 14th inst. between the hours of TEN and FOUR p.m.; and all proper information may be obtained of Mr. GEORGE MAYNARD, Surveyor to the Board of Guardians. Tenders, endorsed, "Tender for Industrial School," to be delivered at the Office of the Clerk to the Directors and Guardians, Parochial Offices, Church-street, Brighton, on or before TUESDAY, the 10th day of AUGUST next, by TWO o'clock in the afternoon; each Tender to be accompanied by a separate sealed note, containing the names of two persons who are willing to become bound with the Contractor, in the penalty of £1,000 each, for the due performance of the Works. Forms of Tender, and of the Agreement to be entered into, may be obtained on application at the Clerk's Office. The Directors and Guardians shall not be bound to accept the lowest or any Tender, neither will they be responsible for any expenses incurred in any estimate or Tender by any person.
ALFRED MORRIS, Clerk.
Parochial Offices, Brighton, June 30, 1858.

PARISH of CHELSEA.—Notice is hereby given, that the Vestry of the Parish of Chelsea intend to meet, on TUESDAY, the 13th INSTANT, at ELEVEN o'clock in the forenoon precisely, for the purpose of receiving TENDERS for the SUPPLY of TEN ORDERS of the Parochial BREAD for SIX MONTHS, according to orders next, according to a sample to be seen at the Vestry Clerk's Office. The Tenders are to be in writing, sealed, and are to be delivered before TEN o'clock on the day appointed, TUESDAY, the 13th inst. At which time all the Board, or a Committee thereof, will attend the Board, or be represented—by order,
CHAS. LAMEE, Vestry Clerk.
Offices of the Vestry, Manor-House, King's road, Chelsea, July 1, 1858.

TO IRON SHIP-BUILDERS, CONTRACTORS, and OTHERS.—The Conservators of the River Thames are prepared to receive TENDERS for the CONSTRUCTION of TWO STEAMBOAT PIERS, one on the south side of Lombard-street, the other at Parliament-stairs. The plans and specifications may be seen on application at the Office of the Conservators, 11, Trinity-square, Tower hill. The Conservators do not bind themselves to accept the lowest or any Tender. Tenders to be addressed to the Secretary, and left before the 24th instant, and endorsed, "Tender for Piers."
E. BURSTAL, Secretary.
41, Trinity-square, Tower hill, July 7, 1858

TO SEWER CONTRACTORS.—The Vestry of Bethnal-green will meet at the TOWN HALL, Cheshire-road, Bethnal-green road, on THURSDAY, the 15th of JULY instant, at SEVEN o'clock precisely, to receive TENDERS, and enter into CONTRACT, for the CONSTRUCTION of certain BRICK SEWERS, and LAYING DOWN 12-inch and 6-inch GLAZED STONEWARE PIPES, agreeably with a written specification, which may be seen at the Office of the Board, Town Hall, Bethnal-green, and for any further information may be obtained daily, between the hours of Ten and Four. Tenders, addressed to the Clerks of the Vestry, must be delivered at their Office, at or before SEVEN o'clock on the day of JULY. The Vestry however, do not bind themselves to accept the lowest, or, indeed, any Tender.—By order,
R. BRUTTON, } Vestry Clerks.
R. JONES, }
Town Hall, Bethnal-green, July 5, 1858.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH.—THE WELL-BORING and PUMP-SINKING Works are prepared to receive TENDERS for BORING, COMPLETING, and MAINTAINING, a 14-inch BORE HOLE, to obtain Water, at the Works on Uxbridge-moor. The specification can be seen on application to Mr. JAMES, Surveyor, Uxbridge. Small Tenders, addressed "Tender for Bore-hole," are to be delivered at the Board room, Public-rooms, Uxbridge, by SIX o'clock on the evening of THURSDAY, the 22nd day of JULY, 1858. The Local Board do not themselves to accept the lowest or any Tender.
July 1, 1858. CHARLES WOODBRIDGE, Clerk.

TO GAS-FITTERS.—Sealed TENDERS, in one specification, will be received at the Board of Works, Westminster, by Public Competition, until FRIDAY, 23rd JULY inst. at NOON, for SUPPLY of PIPES and FITTINGS, and for LAYING and COMPLETING the LIGHT, in GAS—
The Entrance of Mount Wise Barracks,
The Entrance and Passages of Government House,
The Exterior and Area of Admiralty House,
at Devonport. Plans may be seen and specification had with every requisite information, and forms obtained at the Royal Engineer Office, Devonport, from TEN to FOUR o'clock. No Tender will be received after the 23rd inst. but 14 days will be allowed.
Royal Engineer Office, Devonport, July 2nd, 1858.

[For remainder of Contracts see next page.]

CONTRACTS.

NORTH EASTERN RAILWAY.—To IRONFOUNDERS and GAS ENGINEERS.—The Directors are [illegible] TENDERS for a GAS HOLDER and other GAS APPARATUS required for the Company's Works at Darlington. The Gas Holder to be 70 feet in diameter, and 20 feet in depth. Also for the following MAIN PIPES, viz.:

[illegible] yards, in [illegible] lbs. per yard	To be prepared		
1,0	6	80	" " for lead joints.
[illegible]	9	55	" "
500	5	33	" "
[illegible]	4	20	" "

For 4, 3, and 2 inch pipes to be all [illegible] per yard and turn. To the satisfaction of the Company's Engineer, with which he is to deliver at the Stores, Darlington. Three specimens of each description of pipe to be sent to Mr. JOHN BOURNE, Engineer, Central Station, Newcastle-upon-Tyne, on or after the 12th JULY next. Tenders to be made out on printed forms, which may be had at the Secretary's office in Darlington, and at Mr. Bourne's office in Newcastle, and must be sealed up and delivered at the Secretary's office, Darlington, on or before WEDNESDAY, the 28th day of JULY. The Company do not bind themselves to accept the lowest or any Tender.

JOHN CLEGHORN, Secretary.

York, 7th July, 1858.

LEOMINSTER CORN EXCHANGE COMPANY (LIMITED).—To BUILDERS and OTHERS.—The COMMITTEE are desirous of obtaining TENDERS for the ERECTION of the LEOMINSTER CORN EXCHANGE, in the said Borough, according to a plan and specification now to be seen at the Company's Offices, Leominster, and at the Office of the Architect, Mr. JAMES CRANSTON, Architect, 3, Bedford-row, Birmingham. Tenders to reach me not later than THURSDAY, the 15th day of JULY next, by order of the Directors.

HENRY GAMBLE, Secretary.

Leominster, 6th July, 1858.

TO SCAVENGERS and DUSTMEN.—The Vestry of Bethnal-green will meet at the Town Hall, Church-row, Bethnal-green, on THURSDAY, the 15th of JULY, at the hour of ELEVEN o'clock in the forenoon precisely, to receive TENDERS for the CONTRACT for COLLECTING and REMOVING the HOUSE, REFUSE, and ASHES from the several Dust and Ash Shops from and out of the various streets and Places within the Parish, for One Year, pursuant to certain specifications which lie for inspection at the Office of the Surveyor, Town Hall, aforesaid, from whom any further particulars required may be had; and sealed Tenders, sealed (with a 10l. note inclosed) but addressed to me, must be delivered at my office on or before WEDNESDAY, the 14th of JULY. The Vestry reserve to themselves the right to accept any or no Tender.

By order, R. BRUTTON, } Vestry Clerks.
R. YOSS, }

Town Hall, Bethnal-green-road, 5th July, 1858.

TO SEWER CONTRACTORS and OTHERS.—The Sewers Committee of the Vestry of St. Mary, Newington, will meet at the Vestry-Room of the Parish Church, on MONDAY, the 12th inst., at SEVEN o'clock in the evening, to receive TENDERS for the EXECUTION of JOBBING and MEASURED WORKS to be done with the brick sewers in the parish. Printed schedules and forms of Tender can be obtained at the Office of Mr. HENRY JARVIS, the Surveyor, 56, Trinity-square, Newington, on and after the 10th inst., on application as required by the Vestry, at the hour of the Tenders are opened. No other Tender will be received. Sureties will be required for the due performance of the contract, and the Committee do not bind themselves to accept the lowest or any other Tender.

H. and E. CHESTER, Joint Clerks to the Vestry.

1, Church-row, Newington-butts, July 2, 1858.

TO PAINTERS, &c.—The Board of Guardians of Bethnal green are desirous to receive TENDERS for PAINTING the INTERIOR of the UNION-HOUSE and OFFICES. Lists and specifications of items may be seen, on application to Mr. E. N. CLIFTON, No. 17, St. Helen's-place, Bishopsgate, City, between the hours of TWELVE and FIVE. Tenders to be delivered between the hours of TWELVE and FIVE at Bethnal-green Workhouse on MONDAY, the 19th inst., at FOUR o'clock precisely, when the Guardians, however, reserve to themselves the right of not accepting the lowest Tender. Security will be required for the work to be executed to the satisfaction of the Guardians, and duly certified by surveyor.—By order,

ROBERT BRUTTON, Clerk to the Board.

Bethnal green, 7th July, 1858.

ST. GABRIEL'S CHURCH, BRISTOL.—Notice to HEATING APPARATUS MANUFACTURERS, &c.—TENDERS for HEATING this CHURCH by hot-water, either with low pressure or hot water and hot air combined. Persons desirous of undertaking the work will receive every information from the Clerk of the Works, at the Church. The Tenders must include all Brickwork, setting, casing, complete fixing, sales, gratings, &c. to cover pipes. A heating vault and chimney have been constructed in the church. Tenders to be delivered to me, on or before the 19th inst., sealed and addressed [illegible] BUTTERS, Clerk of Works, St. Gabriel's Church, Cambridge-street, Bristol.

July 5, 1858.

TO BUILDERS.—TENDERS are required for [illegible] SHOPS and RE-BUILDING a HOUSE, situate in Market-street, St. Albans, Herts, for Messrs. Young, Brewers, in Market-street, St. Albans, Herts, for Messrs. Young, Brewers, in Market-street, St. Albans, Herts, for Messrs. Young, Brewers, [illegible] 120 feet in length, between the [illegible] Office, St. Andrew-street, Hart-street, where [illegible] be delivered by TWELVE o'clock on MONDAY, the 26th instant, sealed. Tenders not necessarily accepted.

WM. WILDS, Architect and Surveyor, Hertford.

July 5, 1858.

HERTFORD CORN EXCHANGE.—The Trustees of the Borough of Hertford are prepared to receive TENDERS for the different WORKS required to be done in the Building [illegible] Plans and specifications [illegible] Mr. WILLIAM HILL, [illegible] street, Leeds. Tenders to be delivered (sealed) to me before ELEVEN o'clock on WEDNESDAY, the 14th day of JULY. The Town Council do not bind themselves to accept the lowest or any Tender [illegible] to the Architect, [illegible]

By order, THEO. LONGMORE, Town Clerk.

Hertford, [illegible]

TO CONTRACTORS, STONEWARE MANUFACTURERS, IRONFOUNDERS, and OTHERS.—CHARLBURY (Oxon).—The Local Board of HEALTH.—The Board are prepared to receive TENDERS for [illegible] to manufacture either or both of the following ARTICLES, &c.

For the SUPPLY of [illegible] STONE WARE PIPES, and certain [illegible] CONTRACT No. 1.

CONTRACT No. 2.—For the EXCAVATION for, and the LAYING DOWN, and connecting of PIPES, and the Construction of Brick Gullies, &c.

The [illegible] Tenders [illegible] July next, and the Contracts [illegible] Tenders will [illegible] Plans and Specifications [illegible] Tender, [illegible] Contract, will [illegible] Mr. E. BARD GILES, Engineer and Surveyor to the Local Board, [illegible] Oxon. Tenders to be sent to the undersigned, under cover, addressed to "The Chairman of the [illegible] Local Board of Health, enclosed "Tender for Contract" (No 7 or 8, or both, as the case may be), on or before the 22nd day of JULY next, at [illegible]

By order of the Board,

HENRY GIBBINS, Clerk to the Local Board.

Stonefield, [illegible]

TO BUILDERS and CONTRACTORS.—[illegible] CONTRACT for the ERECTION of an [illegible] ITALIAN VILLA [illegible] Mr. ELLEN, [illegible] Tenders [illegible] Mr. ELLEN, endorsed "Tender for [illegible] House and Offices," to be delivered at [illegible] March, by [illegible] morning.

CONTRACTS.

TO BUILDERS.—DEPTFORD COUNTY BRIDGE.—Persons willing to CONTRACT for TAKING DOWN the OLD PARK of the COUNTY BRIDGE, in the High-street of Deptford, and RE-BUILDING a PORTION of the BRIDGE in the place of the part removed, by the Plans, specifications, and conditions of the said Contract to be seen, at the Office of the County Surveyor, in Maidstone, every day, between the hours of TEN and FIVE, on Mondays excepted, and also for inspection at the Office of the District Surveyor, in Deptford, on and after the 15th of JULY, and delivered at the County Surveyor's Office, in Maidstone, on or before SATURDAY, the 24th of JULY next. The Justices do not engage to accept the lowest or any Tender, unless approved in all particulars.

Maidstone, July 1st, 1858. H. A. WILDES, Clerk of the Peace.

LEEK SEWERAGE.—To CONTRACTORS.—The Commissioners acting under the Leek Improvement Act, 1855, hereby give Notice, that they will meet at their Offices, in Leek, on TUESDAY, the 27th day of JULY next for the purpose of receiving TENDERS for the CONSTRUCTION of the following WORKS, viz. about 1,200 lineal yards of Brick Sewers, from 18 inches to 2 feet 6 inches in diameter, and from 1,400 lineal yards of Pipe Sewers, of 12 inches and 9 inches in diameter, together with Street Gullers, and other Works connected with the said Sewerage. Plans, sections, and specifications may be seen at the Office of Mr. SLAGG, the Surveyor to the Improvement Commissioners, in Leek aforesaid, on and after MONDAY, the 12th inst. Tenders to be sent to Mr HAMMOND the Clerk to the said Commissioners, not later than MONDAY, the 26th inst. endorsed "Tender for Sewerage Works."

Leek, July 7, 18 8. HACKER and BOOTH, Law Clerks.

TO BUILDERS, CONTRACTORS, &c.—NEW WORKHOUSE SCHOOLS, for the Parish of Saint Marylebone, at Southall, Middlesex, June 18, 1858.—Notice is hereby given, that the Directors and Guardians of the Poor of the Parish of Saint Marylebone, in the County of Middlesex, will meet in the Board-room of the Workhouse of the said Parish, in Northumberland-street, on TUESDAY, the 20th day of JULY, 1858, at TEN o'clock in the forenoon, to receive TENDERS for the BUILDING of New WORKHOUSE SCHOOLS, at Southall, in the Parish of Norwood, in the County of Middlesex. Further particulars may be known, and plans and specifications seen, on application to the Surveyor of the said Direct rs and Guardians, at the said Marylebone Stone-yard, Richmond-street, London-street, Edgware-road, in the Parish of Paddington, and endorsed, "Tender for Building Schools at Southall," and addressed to the Schools Building Committee, on or before TEN o'clock in the forenoon of the said 20th JULY, and no extension of the time mentioned will be allowed. The Board will expect the parties tendering, or some persons on their behalf, to be in attendance at the time of opening the Tenders. The Contractor to pay the expenses of the Bond and Contract. The Board do not pledge themselves to accept the lowest or any of the Tenders.

By order, T. H. RAE, Secretary.

Secretary's Office, Maryl-bone Workhouse, July 2, 1858.

NEW WORKHOUSE, BOLTON UNION.—To BUILDERS and OTHERS. The Board of Guardians of the Bolton Union are desirous of receiving TENDERS for the various BUILDINGS intended to be ERECTED on the Fishpool Estate, near Bolton. The drawings and [illegible] with conditions of contract, may be seen, and every information obtained on application at the Office of Mr. LEIGH HALL, Architect, No. 4, Arcade, Town Hall Buildings, Manchester, on and after MONDAY, the 19th day of JULY next, until WEDNESDAY, JULY 28th, after which date they may be inspected at the Office of Mr. GEORGE WOODHOUSE, Architect, Silver-hill-yard, Bolton, until TUESDAY, the 10th day of AUGUST. The Tenders are to be made for the execution of the whole four Buildings, and, in the event of several Tenders, the amount of each trade is to be given separately, any or either of which the Guardians are to be at liberty to accept, viz.:—

No. 1. The Main Buildings, Kitchen, and Dining-hall.
2. The Lunatic Asylums.
3. The Hospitals.
4. The Entrance Offices.

All the Tenders are to be sealed, under cover, addressed to the Chairman, free of carriage, and endorsed "Tender for New Workhouse, Bolton," and to be sent to my Office not later than the 10th day of AUGUST next. The Guardians do not pledge themselves to accept the lowest or any Tender, but the Tender must be accepted by the Board for the due performance of the contract, by order of the Board of Guardians, JOHN WOODHOUSE, Clerk.

Union Offices, 11, Acres-field, Bolton, July 7th, 1858.

FRESCO.—Enamelled and Encaustic Painting for Walls and Ceilings.—Mr. FREDERICK SANG, DECORATIVE ARTIST, at 12, Charles-street, S.W. (late 7, St. Paul's), Illustrator of the leading West-end Clubs, the Royal Exchange, the Coal Exchange, &c. Mr. SANG begs to inform the nobility, gentry, and public, that he has returned from the Continent, and is prepared to execute commissions in Higher Decoration, and to convert in the most tasteful manner Halls, Staircases, Churches, Private Residences, &c. Keeping with the character of the architecture. Also at Mr. SANG'S STUDIO, 12, Charles-street, S.W.

ARCHITECTURAL DRAWINGS PREPARED, and LITHOGRAPHY (the largest in London), at the Lowest Possible Prices, by T. J. RAWLINS, formerly Lithographer to the Cambridge Quarterly Society, &c. &c., 18, University-street, W.C. Estimates.

MESSRS. BELLRINGER and PILBEAM, ARCHITECTS and SURVEYORS, offices, 2, Lonsdale-place, Notting-hill, W., continue to Prepare Plans, Specifications, &c. Tenders and Quantities taken.

THEODOLITES, LEVELS, CIRCUMFERENTERS, MATHEMATICAL DRAWING INSTRUMENTS, SCALES, RULES, TAPES, T-SQUARES, &c. &c.—JOHN ARCHER, 20, Westminster-bridge-road, Lambeth, near Astley's Theatre, respectfully calls attention to his stock of the above articles, manufactured by superior workmen. The prices will be found considerably lower than ever charged for articles of similar quality. An illustrated price-list forwarded free on application.—8-inch dumpy level, complete, six guineas; 10-inch ditto, eight guineas; 14 inch ditto, ten guineas; with compass, one guinea each extra. Best 5-inch theodolite, [illegible] guineas.

LITHOGRAPHY.—Quantities, Specifications, Schedules of Prices, Working Drawings, &c. Plans, Elevations, Drawings of Machinery copied, lithographed, or traced. DRAWING CARTRIDGE PAPERS for engineering purposes. Also TRACING PAPER and TRACING CLOTH. Students and Artists supplied with every requisite for getting up their own drawings on stone. Instructions afforded.—C. MOODY, 257, High Holborn.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION is given in Surveying, Levelling, Civil Engineering, &c. by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Surveyors, &c. of extensive practice, who give Instruction in every branch of the Profession.—Terms for the Course of Three Months, Two Guineas. No extras.—For Prospectuses, &c. apply at the Offices, 24, Guildford-street.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Pupils, Assistants, Clerks of Works, &c. Established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. during the Day and Evening.—INSTRUCTION in Architecture, Engineering, and Mechanical Drawing; Perspective, Isometrical, and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Building Bills, Working Sections.—Day Pupils, Three Guineas per Quarter. Evening Pupils, One Guinea per Quarter. There are no extras: the Terms include the whole of the above, with the use of Drawing Boards, T-squares, Plans, Drawings, Models, &c.—Prospectuses and full particulars may be had at the Offices, 24, Guildford-street, Russell-square, London.

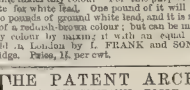
TO BUILDERS, PAINTERS, &c.

OAK GRAINING in OIL, 4½d. per yard, in quantities not less than sixty yards, or by contract; other [illegible] and wainscot at moderate prices. Apply to C. PETTET, 19, Malda-hill, Edgware-road.

A SUBSTITUTE for WHITE LEAD.—To BUILDERS, PAINTERS, and CONSUMERS of PAINT.—The CRAYTON MINERAL PAINT is the best and cheapest paint to produce any colour. For this purpose it may be used as a substitute for white lead. One pound of it will cover as much surface as two pounds of ground white lead, and it is more easily spread out. It is of a reddish-brown colour; but can be made a suitable ground for any colour by mixing it with an equal quantity of the colour.—Sold in London by I. FRANK and SON, 14, Borough, London-bridge. Price, 1l. per cwt.

THE PATENT ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of TILES, PATENT INLAID MOSAIC TILES; also superior ENCAUSTIC TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance-halls, corridors, conservatories, kitchens, vestibules, porticos, verandahs, &c., also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles, for baths, dairies, &c.—Various specimens of the above may be seen and every information obtained at the Offices of the Company, No. 9, Kingsman-street, Strand, from Messrs. WILLIAM W. BONNIN, and J. G. H. MACCOLLA, "Sole" Agents for London.

SOLID PARQUET FLOORS.



AREOWSMITH'S PATENTED, from [illegible] perfect. The "Wood Mosaic," 1 inch thick throughout (not veneered), for Halls and Reception-rooms, rendering them, if desired, available for dancing or otherwise. A beautiful and intrinsic border for Turkey and other carpets, staircases, panelling, &c.; also for round the ALTAR and FONT of Churches (being much warmer than stone) at Emrick Church, York; St. Gregory's, Cheltenham, &c.

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NOVEL and BEAUTIFUL WORKS of ART, ALTO-RELIEVOS, in copper, bronzed, and in gold and silver, by the electro process, forming elegant ornaments in frames or otherwise, for the drawing room, library, &c. A series of Battle, scriptural, and emblematical pieces, from works by the first masters, just completed, at a great expense, are NOW ON VIEW at 391, STRAND, where the Nobility, Gentry, and lovers of the Fine Arts are respectfully invited to inspect them.

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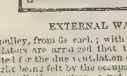
VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



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These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of an apartment without draught, and are adapted by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is admitted.—HAWYARD, BROTHERS, sole Manufacturers, 196, Bishopsgate-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Dealers, &c.

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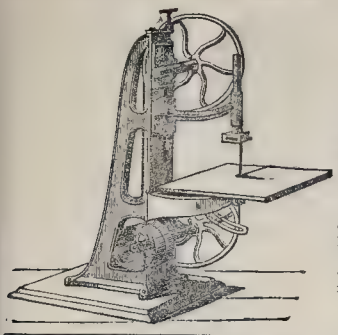

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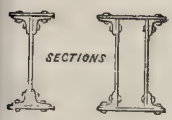

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CAST-IRON GIRDERS FOR BRIDGES.

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New and elegant designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

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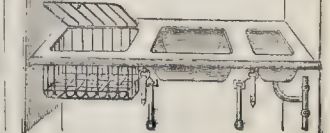

These Fittings are now made with the newly-invented Self-acting Hay Rack, which prevents waste of Hay or Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small it may eat the hay, positively an effect in connection with these fittings hitherto unaccomplished, with Patent Halter and Other Ring Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage-stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

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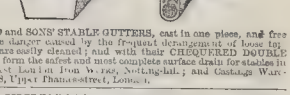
Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard rollers and seed box; and combine the most perfect safety with the greatest economy, both in cost and use.

MANGER, HAY-RACK BOX FITTINGS, with guard rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.



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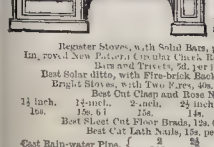

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30	32	34	36 inch
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Best Self-acting Range, with Oven and Lock Boiler, Bright Wrought Bars—

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Strong Blight Stoves, with Extra Back and Solid Bars, per inch, 2½d.

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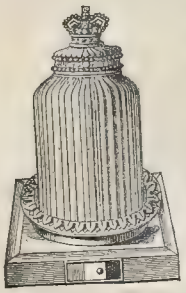

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By brief application to them

For durability these Rails have never been surpassed. They do not laminate, and wear out several sets of ordinary Rails.—Full information, and terms for use of patent right, can be obtained of Messrs. CONNELL and HOPE, 4, Princes-street, Westminster; and of Mr. S. THORNTON, Bradford street, Birmingham, who also receives orders for Mr. MORRIES STIRLING'S Patent Iron and Rails.

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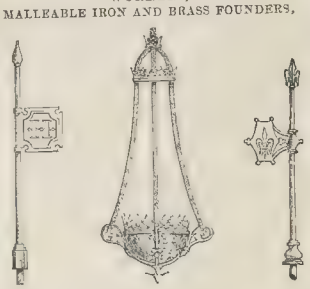

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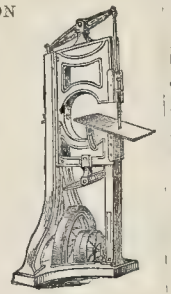

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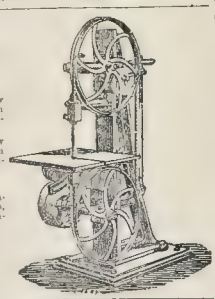

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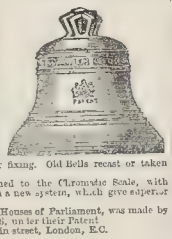

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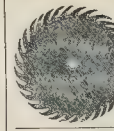

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FERDINAND BRAND, Comptroller.

GUILDHALL.—Lower Thames-street, adjoining the Coal Exchange.—The Coal and Corn and Finance Committee will meet at GUILDHALL, on TUESDAY, the 20th day of JULY instant, at ONE o'clock precisely, to receive PROPOSALS in writing for the LEASE of the PREMISES, No. 91, Lower Thames street, for a term of Thirty-one years.—A plan of the property, together with the conditions, may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.

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The Builder.

VOL. XVI.—No. 805.

Progress of the Drainage Inquiry.

DRAINAGE is the question of the day, and must still be dealt with. The progress in the question is not likely to relieve the inhabitants of London from the apprehension as to the coming months, which has been excited by the condition of the Thames. The Parliamentary Committee have sat twice during the week since our last articles went to press; and along with the House, talk of abandoning the metropolis, and the subject, within some few weeks, or rather days. The chairman feels it would be impossible to undergo the examining of all the persons about 100 per day—who have made application to be heard; puts forward the "pressure of time" in "the short period remaining," and the *exhaustion* of the "physical strength" of the committee, and hopes, therefore, "the public will think" that the best has been done, if such parties are heard as may seem best for selection in the judgment of the committee, although it should happen that the persons are not those "most able to give testimony." All credit be given to the chairman and those with him; but the public may well ask, what then is the use of a Parliamentary Committee? The inquiry commenced has been the forlorn hope of London, for offering some kind of front to the destruction impending; and, though it may be impossible to remedy long neglect in any such limit of time as the danger requires, the committee have advantages, if only by the publicity of proceedings and the present concentration of attention on the subject, which should be being worked upon to the furthest extent. As it is, the committee have gone little beyond the reception of evidence as to Mr. Gurney's proposals, or some points connected with the lime process of precipitation, or as to the possibility of innoxious ventilation, and appear likely to make a *Report* in which the "conclusions" will be as little *conclusive* as those of commissions, boards, and referees heretofore. London is to be left to the care of the Metropolitan Board of Works, or of the Government (it is not clear which of the two powers); something more may be done for the emergency, that will perhaps increase the evil immediate and prospective, whilst the primary *data* comparatively requiring investigation will not have been brought out into one sparkle of light.

Since our last notice, as we apprehend, further doubt has been thrown upon the success of Mr. Gurney's proposal for modifications in the banks and bed of the river, if not also upon embankment as the sole agency required towards purification. Mr. Bateman's evidence on Monday as to the Clyde, which he considered was more offensive than the Thames, tended to show that the banks of the latter, even where covered with the mud, were rather the *medium* of disseminating the nuisance than the cause of it, and he mentioned the Irwell, at Manchester, as having a very offensive smell, though that river had no mud-banks. In the present state of the question, there is every reason to see that the water, holding in suspension or solution the matter deposited with the mud, is the chief source or agent; and if so, effectual measures would involve the absolute prevention of the sewage from entering the river.

The Metropolitan Board, immediately after their meeting mentioned in our last, appear to have submitted to the First Commissioner their latest plan, or a portion of it, as modified according to the recommendations in the report of Messrs. Bidder, Hawksley, and Bazalgette. Thus the proposals at present in a prominent position, are those for deodorizing the western sewage at a junction with the Thames, and for constructing a low-level sewer on the north side between Westminster and London bridges in an embankment,—leaving, however, the general plan of metropolitan sewerage, as well as the questions of delivery into the Thames direct or deodorization before delivery, or of utilization in the forms of liquid sewage or sewage manure, still open,—and the scheme put forth by the Government Commission, which fully contemplates the reception of the sewage in elongated reservoirs in the embankment, the precipitation by lime, the delivery of the liquid into the Thames, and the removal of the sludge—by pumping to the country, or by barges, as might be found practicable. Either of these proposals would of course require the amendment of the Act of Parliament. Of the last scheme, we get some further particulars from the evidence of Mr. John Lawes, a member of the Commission, whereby it appears that two tunnels were proposed, one at low and the other at high level, the precipitation being carried on in the tunnels alternately, the sewage flowing into the lower tunnel by gravitation, and being raised into the other by pumping. Filtration as well as precipitation, it was thought, might ultimately be brought into use, and that land to receive the sludge could be found at about twenty miles' distance on the South-Western Railway. The Essex land was considered too rich for any such addition.

The arguments against the main intercepting sewers with distant outfalls, appear to us increased rather than diminished; and the principle, not followed out so long as a single town is allowed to eject refuse into the Thames, is virtually abandoned by the Metropolitan Board by one portion of their plan, which is referred to above, and by the intention which it may be presumed is adopted of leaving the sewage of Richmond to flow into the river. This latter idea is grounded upon the reasoning as to the purifying action in the course of the stream in the distance from Richmond to London, reasoning, however, which took shape prior to the recent experience, and which, in the best point of view, does not sufficiently regard the prospective increase of houses at Richmond and intermediate localities. It is true that the difficulty of ventilation for the sewers, or consumption of the gases, will have to be got over, whatever scheme may be adopted; but that difficulty would be great in proportion to the concentration in a system of outfall or main interception.

Whilst the steam-boats remove much of the mud, which would remain on the banks in greater accumulation even than at present, it is plain that the agitation of the water and sewage is an immediate cause of the noisome stench. To prevent this nuisance, interception of the sewage must be the object of any measure; but the ultimate question, we think, will be found to lie between—not gigantic sewers, but one or other of the operations classed somewhat loosely, under "deodorization," on the one side, and the application of the whole sewage to the land, on the other. Nothing else will solve the difficulty as to London, and as to Oxford, Reading, and Windsor, and the increasing population of the Thames valley; nothing else will meet the case of the Clyde and its towns, or of the manufacturing districts of Lancashire, Yorkshire, and Warwickshire. Now, besides the elucidation of many of the data which we alluded to as needed, there is greatly wanted some further succinct statement of what is known on this subject. Filtration, precipitation, solution, absorption, and simple deposition, appear to be all capable of being brought into play in the effort to obtain the solid manure; whilst results, as "deodorization" and disinfection, are not necessarily co-existent, though popularly assumed to be so. Is the precipitate, or sludge, from the lime process,—and likewise is the liquid,—innoxious? Questions are yet raised on these points, as well as on the point of success of the operation where decomposition has become advanced. May any higher agricultural value of other sewage manures be found, as asserted by some, along with complete disinfection, in contradistinction to the slight value of the lime precipitate, and so as to justify considerable expenditure, if only as means of meeting the difficulty, which will be found great, of getting rid of "sludge," whether by barges to carry it to sea, or by pumping? There are wanted also clear expositions of the chemistry of the discolouration and putrefaction in the river. And it ought to be so well known to all, whether a reservoir for sewage deposition, would really be "an intolerable nuisance," as to prevent need of any question by a writer in the *Times* on the subject, who quotes Mr. Gurney's statement that the sewage from the sewer "near Hungerford-market was quite clear, occasioned, he believed, by deep pits," "in which the sewage was precipitated," and argues therefrom that a large deep reservoir would have a corresponding effect in making the water at its surface pure and free from smell.

The subject is too gigantic for the present means taken for its solution. It comprehends many departments, which should be constituted questions for research by separate agencies, under one general commission, somewhat on the plan which was commenced rather than worked out by the Government Referees. The chemistry of the condition of the river; numerous questions as to means chemical and mechanical, for disinfectation of sewage, and ventilation or purification of the sewers; the large subject of sewage irrigation; and other points of inquiry, will have to be taken up with increased perseverance.

Mr. Haywood, whose able report on the ventilation question has been mentioned by us, and Mr. Bazalgette, were examined on Thursday, with reference to that part of the subject, and they are now associated with Mr. Gurney in an examination of the Victoria sewer, and sewers in the neighbourhood of the Houses of Parliament, to enable them, if possible, to assist the committee in an opinion as to the efficacy of the steam-jet. This, however—that is, the subject of ventilation—is but one branch of the comprehensive problem; and the evidence of Mr. Haywood, fortifying the conclusions of his report, and of Mr. Bazalgette, did not show that this important branch had yet approached near to the desired elucidation.

THE SEWERAGE OF HULL.—The reports of the surveyor, and the assistant surveyor, to the local "West District Drainage Committee," on the best plan for the west district drainage of Hull, have been published in the local papers. One of the main points in both reports appears to be the proposal to keep the river Hull clear, as far as possible, of the sewage, by sending it directly into the Humber estuary. The total estimated cost, according to one of the plans, is 23,082*l*.

SANITARY CONDITION OF RURAL NEIGHBOURHOODS.

A CORRESPONDENT, who commands a poetic pen as well as a feeling heart, writes us on the condition of dwellers in a rural location, and seems to feel it as rather surprising, if our statement be correct as to the value of pure air, that men and women and children fall victims to disease, and are constantly cut off prematurely, even in the country. "I went out last evening," says the writer, living in a retired part of a most healthful county, "mounted the high ground, and sat me down to see the sun set, to listen to the talk of the swans and the chatter of the frogs, and to hear the village church clock strike nine! It was such an evening; so, even, then I could not go home, but watched one star appear, and the night-hawks come swooping down on to—I suppose—a poor little frog, that had been croaking quite musically close beside me. Its song was suddenly stilled, and the hawks flew off, clapping their wings noisily, and I strolled homewards, counting the glow-worms by the way." The writer then goes on to describe the out-of-health condition of some cotters who were visited, on the road, and says the question then occurred to which we have already given expression. Now, so far from its being surprising that dwellers in some of the rural districts have unnecessary illness, and die before their time, it is extraordinary in many cases that they escape so well, when we know the effect of decomposing vegetable matter, stagnant horseponds, reeking ditches, ill-drained and undrained cow-sheds and stables. Locations which look perfectly healthy are often, through human mismanagement, mere pest-holes. Here is a sketch of a village on the Welsh borders, near Shrewsbury, as seen from a distance;—pleasantly placed, blown on by the pure fresh air, and a charming object to the passing tourist. Innocence and Health must be dwellers there, says the passer by. He comes to inquire, however, and he finds, to say nothing about Innocence, that Health, at any rate, is a stranger. Fever is a constant guest. Our second sketch shows some of the cottages when you are amongst them. The place is without drainage. Pigs and dogs are kept: the people are dirty in their habits, and allow all kinds of refuse to collect: water flows down the hill, and lodges in pools, which become stagnant; and the consequence is, that in this position, which would be perfectly healthy if effectually drained, fever is, as we have said, a frequent visitor. If the statistics of such neighbourhoods were given, the results would startle the most careless thinkers.

The first sanitary requirement is thorough drainage. When placing good drainage in the first place, we do not do so without considering the evil which is constantly arising from the unwholesome water of wells through the filtering of various kinds of refuse into the springs. Good paving is very desirable; for if this be not attended to, even with great care, the waste water sinks into the earth, which in time becomes a mass of putrid soil, and this in the summer time is attended with ill effects. Our third sketch shows how the well (with the luxury of a pump), to which many of the neighbours come for water, is situated. It adjoins a cesspool: the adjacent soil is saturated with the impurities of many years, and the nearest doctor has more patients than pay. Sometimes, too, we have found the water-tank close under the wall (A) of the village grave yard, as shown in the accompanying engraving.

When all has been done that drainage can effect, it is necessary to bear carefully in mind the effect produced on the mouse in the closed jar and the Englishmen in the Black-hole of Calcutta; for if we have a room or a house filled with even healthful atmosphere, it will soon be spoiled and rendered unwholesome if the air be not renewed. Look into the bedrooms of some of the cottages, and you will find them overcrowded to a most dangerous extent;—the man and his wife and five or six children, of all ages, sleeping in one apartment, in order to let the little room at the back to three or four farm labourers, or, when a railway is going on, to half a dozen navvies. In the first place, there must be a certain cubical area in a room for each person that is to occupy it, and then there should be the means of ventilating this area—renewing the air. In the bulk of even good dwellings the arrangements for this are most insufficient. Our fifth sketch, which represents the best bed-room in the best inn of the neighbourhood, will give an idea of the condition to which the majority of bed-rooms are reduced by the morning. The air is tolerably pure as high as the mantel-piece, supposing there *be* a fireplace in it, and above that is foul air incompetent to maintain healthful life;—and not merely that—not merely deprived of its life-sustaining principle, but impregnated with a death-giver,—foul gases and the emanations from decomposition.

But how can the atmosphere,—invisible, tasteless, convey these impurities, it has been asked. In the ordinary light which exists between the brightest sunshine and darkness, the atmosphere seems, so far as appearance goes, pure and harmless. When the sun shines, however, through narrow channels, into this seeming void, the motes in the sunbeam show that the atmosphere is anything but transparent: countless myriads of minute atoms of matter are constantly floating in the atmosphere, and entering the lungs of young and old. Here then is palpable evidence of the necessity for sanitary care. The semi-opaque nature of the air we breathe, is evident; and far smaller particles which the eye cannot see, are constantly rising from the surface and floating around.

In ill paved streets, and back yards in similar condition, on which waste-water is allowed to remain and saturate the soil, when the drainage from cesspools also further pollutes the earth, exhalations fill the air and poison the system of those who are unfortunately obliged to inhale this important necessary of life when so adulterated. Those who, in the cleanest and best ventilated houses of the metropolis, have noticed the thick layer of dust which in one day covers tables, books, and the surface of every other object, can form an idea of the large quantity of these floating atoms, which enters the mouth, both during day and night, at every respiration.

If the dust on the walls and floor of a room in which tobacco has been smoked be swept up, and then carefully packed away; on examination, after some time, it will be found that the tobacco fumes are still perceptible to the smell. Window hangings, carpets, and other fabrics, will absorb the gases thrown off by tobacco, sulphur, and similar matter. In the same way the bad gases arising from over-crowded sleeping-rooms, bad drains, &c. pervade and lodge themselves to a considerable extent on all surrounding objects, and poison those motes which are made evident to us by the sunbeam; and which, when the bright sunlight does not make them visible, are still surely performing the never ceasing work. Although in ships at sea, on mountain tops, on moors and marshes, the motes, showing the never-ceasing operations of nature, glisten in the sunshine, there is a difference between the wholesomeness of such dust and that which rises in the houses of polluted courts, in the neighbourhood of crowded graveyards, in ill-ventilated assembly-rooms, overcrowded barracks, and other places. The particles of dust loaded with fever and contagion are readily borne upon the breeze from ill-conditioned and hidden places to those adjoining, and, of course, to a certain extent adulterate the better conditions of the atmosphere. As an instance of the extent to which scents can be borne to a long distance, it may be mentioned that when the wind has been blowing gently in the right direction, we have often distinctly, in Holborn and in parts of the City, identified the pleasant smell of the new hay from the meadows on the north of London. In like manner dangerous nuisances are floated on the air; and this circumstance, together with the sight of the motes in the sunbeam, ought to be a lesson to us that large masses of the poor cannot be neglected with impunity, and should teach us that it is necessary to preserve the atmosphere from pollution. It is a ready medium for subtler matters than those we have been pointing to, whether in the country or the town.

It has been said that good health is a mark of respectability, and so it is; and, moreover, it shows good sense,—for it is not merely an evidence usually that vicious dissipation has been avoided, but that the laws of nature have been understood and attended to.

THE STATE OF THE THAMES, AND PROCEEDINGS IN CONSEQUENCE.

STRANGE to say, there are still persons who deny that the Thames is in an unwholesome state. In continuing our unpleasant wanderings along the Thames's bank, we notice that the condition of Puddle-dock, Blackfriars, is in a most dangerous condition. The surface of this creek at low water is a putrid mass. The cholera particularly affected this neighbourhood, and, in consequence, a sewer which used to run in here was discontinued, and the refuse conveyed a short distance eastward to Paul's Wharf,—a steam-packet landing-place where a very large number of passengers call daily!

It should be noticed, moreover, that the closing of the sewer at Puddle-dock has not improved its condition, for it is now a receptacle into which refuse is washed, and remains. At Paul's Wharf a waterman said, "The river does not smell anything like so bad just now, but wait for a few minutes, until the tide comes in. Look at that Gravesend steamer; there are not more than three people on deck. On such a bright sunny morning as this, but for the state of the Thames, the deck would be so much crowded that the people could scarcely move." Presently the tide came in, and dense heavy smells rose from the water. This effect shows to a certainty that the poisonous matters passed into the river are *returned with each tide, instead of being carried away to sea.*

At Paul's Wharf the pier is distant from the shore 175 feet, and the surface exposed on the south side, at low water, is rather more than this; so that in the case of embankment about 350 feet at least, must be taken from the river.

At some of the inlets, for instance that at Queenhithe, a sort of bar is formed of gravel, or some such matter, which increases in size, and shuts in at low water a considerable quantity of mud mixed with other refuse.

At low water, at this point, it should be remarked that, although such a large surface of shore is exposed, the smell was nothing to be compared with that which *arose from the water*, when the tide came in, and this seemed to increase as the steam vessels ploughed its miry way to Greenwich. At Rotherhithe it was horridly bad, and seemed to roll along in volumes of different strength: as the tide made the atmosphere at Greenwich gradually improved.

We are told that this poisonous atmosphere can be felt at Rosherville and Gravesend. A tributary of the Thames at Rotherhithe, called the "Black Ditch," is in such a state that men may be seen at work puddling with large spoon-shaped implements: the filth has become so thick, that it is necessary to resort to this method in order to get it to move on; and this on a small scale will give us some notion of the condition to which the Thames must, as a natural consequence, come, if the necessary measures are not taken.

The fishermen of Greenwich and others report that no fish, not even white bait, can be caught as at present on the London side of Gravesend; so now the fish is brought a distance of over thirty miles by railway. The application of an immense quantity of lime will be the means of either destroying the fish or driving them farther away: it will also be a likely means of partially choking up the streams, and adding to the already great amount of deposit.

Men of all classes and all pursuits have suggested numberless schemes. Members of Parliament have been inundated with plans from all parts of the country; and as the majority of these gentlemen must have felt it a duty to submit the same to Lord John Manners, that minister must have had a troubled time of it, without taking into thought the state of the river and the grave responsibility which exists in connection with it. Amongst the schemes and opinions which have been submitted through the public press, there has been little really new offered. It seems now generally agreed that a large amount of the heavier refuse from the sewers seldom gets farther than Greenwich or Chelsea. It would be a rarity if the body of a drowned animal which perished at London should be found at sea. It is knocked to and fro, as is a battledoor by a shuttlecock, by the tide and the water from Teddington lock, until, according to the strength of the contending means, it finds a lodgment, often not far from the place of death. On a much larger scale, but in a less substantial body, the sewage

SANITARY STATE OF RURAL DISTRICTS.

A Fever Village near Shrewsbury, from a distance.
"Who would think it?"

A Bedroom in a state of insalubrity.
"Poisonous Air."

Part of the same Village, close.
"Who would doubt it?"

The Position of the Pump.
"Poisonous Water."

of London is kept (at any rate, a large part) close at home. It seldom reaches Richmond on the West without getting a knock by the Teddington water, or Barking-creek, without having a knock from the coming tide; and it is worthy of thought that at spring tides the Thames is diluted with a certain amount of sea water at Greenwich, and at times as far up as Chelsea.

It is evident that if the sea refuses to receive the Thames when largely polluted by sewage, and that if the stream from the land is too strong above it to pass beyond a certain limit, the sewage into the Thames is increased, and of course it must become each month more dangerous, and, like the huge body of some decomposing and poisonous animal, it must pass to and fro, and at length leave its refuse on the shore. This fact is, we think, made evident by the circumstance that the smell from the river, even in the hottest day, at low tide, is nothing in comparison with that which is experienced at the return of the tide.

Amongst the numerous plans for the purification of the Thames, a chemist suggests that the whole of 80,000,000 or 90,000,000 gallons of sewage which leave the metropolis daily, should be deodorized and conveyed to above Chelsea for the purpose of flushing the river. Another person proposes to make it in linen bags, which might be towed to sea and emptied!

Amongst the means offered for the deodorizing of the Thames, that of Mr. Condy is worth attention: this is, by the use of a fluid which, it is stated, has the effect of completely neutralizing the most putrid water of ponds, wells, or cesspools. In the course of some experiments with this disinfectant, made recently at Mr. Condy's works, on some very ill-conditioned Thames water, drained from the outlet of the Pimlico sewer, which contained not only the sewage water, but also the deleterious fluid from the adjoining gas-works; in the first place portions of the foul water were put into glass vessels, and some, as proposed to be used in the Thames, was supplied, which almost immediately caused the solid matter to settle to the bottom of the vessel. On the application of the patent fluid an equally sudden result took place; but in filtering each, the water deodorized by means of the lime became a dingy brown; thus showing the presence of organic matter: that treated by means of the fluid, became perfectly pure. The patentee considered that his fluid would cost twice as much as lime used on the large scale proposed in the Thames.

Mr. John Leslie has published, in the shape of a "Letter to the Vestry of St. George's, Hanover-square," a protest against the adoption by the Metropolitan Board of Works of Messrs. Bidder, Hawksley, and Bazalgette's plan for the main drainage.* He says,—

"Sanitary reformers for years have been struggling to abolish cesspools from under our dwellings; to remove the excreta from each house as rapidly as it is generated; to lower the levels and the discharge of our sewers; and to set free for continuous discharge the tide-locked sewage of the metropolis; but the plans of Messrs. Bidder, Hawksley, and Bazalgette, and now adopted by the Metropolitan Board, actually propose to tide-lock the whole sewage of the metropolis for ten consecutive hours daily."

He very properly disagrees with them for their assertions that little injury is done by pouring the sewage matter into the Thames, and points out *seriatim* what he considers the weakness of the scheme:—

"The Great George-street engineers," Mr. Leslie continues, "have been attempting to work out a wrong problem! They have been engaged upon it for about eight years; the preceding pages show the miserable result. House sewage is a known daily quantity; rain is of very uncertain visitation and equally uncertain amount. The two cannot be united in one set of channels. The house sewage requires instantaneous removal to a very distant point from the metropolis. The rain requires immediate discharge all along the banks of the river. The legion of deodorizers must not be suffered to commence their operations with the house sewage in or near the metropolis. The river must not be made a river of lime-water, nor must any of the supernatant water results of the many deodorizing processes be poured into it. The river must be entirely purified from house sewage."

The rainfall for the river, and the sewage for the land, has always been our *theory*: though the means of efficiently and expediently carrying this out may not have been obvious.

We need scarcely say that we have received a large number of communications on the subject. Amongst them is one from Mr. Henry Wright, giving the result of his own experiments on the effect of *burnt clay* in deodorising sewage, by means of which he says the sewage is converted into a portable form, without detracting from its fertilizing properties. We may return to it.

As an immediate step, the desirability of causing the deposition of the solid part of the sewage at the mouth of the sewers, in such a way that it might be made use of, is obvious. A dozen correspondents make suggestions with that end in view.

Dr. Spurgin, to whom the public are indebted for several useful inventions, proposes, in a pamphlet on the "Drainage of Cities,"* in order to meet immediate exigencies, to form capacious and gradually deepening trenches, to the several outfall sewers, where they open into the river; that these trenches be arched over in line with the bed of the river, having openings beneath the surface of low-water, to admit of dredging machinery to lift the deposit. To this, however, we must also return, as we cannot possibly give more space to the subject in our present number.

* "Main Dramage of the Metropolis. Letter to the Vestry of the Parish of St. George, Hanover-square. By John Leslie, one of the representatives of the parish at the Metropolitan Board of Works. Charles Westerton, London."

* Drainage of Cities: reserving their Sewage for Use; and keeping their Rivers Clean, being especially applicable to the Thames. With an illustrating plan. By John Spurgin, esq. M.D. &c. &c. London: Hodson and Son. 1858.

ON THE REMAINS OF PROSCRIBED RACES IN MEDIEVAL AND MODERN SOCIETY,

AS EXPLAINING CERTAIN PECULIARITIES IN OLD CHURCHES.

A FEW weeks ago a valuable, because a very suggestive, paper, was read at the Ethnological Society by Dr. Latham, on "The Existence in the different Countries of Europe of Colonies of known Foreign Races among Peoples of a different Family." Dr. Latham treated only in general terms a question which admits of, and I may add requires, minute and extensive investigation in each particular country; and it would not only be interesting to trace the remains of colonies of this kind formed at different periods, but also to investigate the traces of fragments of races which are not to be in this way accounted for, and which are probably of much more remote antiquity. These two classes of questions we ourselves find at home. During the ages of feudalism, when a prince or great baron—for princes were then only superior barons—held territories in several different countries, and when wars and other causes led not unfrequently to the entire depopulation of a particular district, it was not unusual for the feudal lord to supply the exhausted population by bringing over a colony from his foreign feudal possessions, or from else-

where, to supply the deficiency. We have a remarkable instance of this practice in the colony of Flemings, planted by King Henry I. in Pembrokeshire, and which in the time of Giraldus Cambrensis, a good part of a century afterwards, remained perfectly distinct from the surrounding populations. That writer gives us one or two traits of their manners, among which was the practice of divination by the bladebone of a sheep (especially of a ram), a superstition which, as we learn from Guillaume de Rubruquis, existed among the Tartars in the thirteenth century. All memory of their Flemish extraction has, I believe, long disappeared among the population of the neighbourhoods of Tenby and Haverford, which was the country the Flemings occupied, and I am not aware that any one has investigated those physical characteristics of this population which might bear upon the ethnological question; but in revising lately some notes on the manners and popular superstitions of the peasantry of this district, I was surprised to find that the practice of divination by the bladebone of mutton still exists there, or at least existed there very recently,—as used by young girls to find out who are to be their husbands or sweethearts. I have understood that colonies of Germans in Ireland, of much less remote date, are similarly recognised by their popular superstitions. Of the second of these classes of ethnological facts, the traces are with us in general almost if not quite obliterated. We should be very much mistaken if we supposed that it was usual in the movements of races in ancient or mediæval times for the conquering and conquered peoples to amalgamate together. The latter became an inferior, a despised, and sometimes a hated class in the new society. They seem usually to have sunk into, and become amalgamated with, the mass of the servile population, but under certain circumstances portions of the older races which had succumbed before successful invasion preserved for a long period a distinct and independent existence in the midst of their conquerors. The Anglo-Saxon race appears to have possessed a peculiar aptitude for taking into its bosom these fragments of other peoples thrown into its way, and forgetting their difference of origin; and we lose all trace of them at a comparatively early period.

The case, however, was different on the continent of Europe, where, especially in Spain and France, fragments of distinct peoples have not only continued to exist through the Middle Ages, but actually remain in existence at the present day, and are known among the antiquaries and historians of the latter country by the general appellation of *races maudites*, accursed or proscribed races. The most remarkable and extensively spread of these proscribed races is that which is known in the dialects of the districts over which it is scattered by the various appellations, or rather different forms of one word, of Cagots or Capots, Caqueux, Gahets, or Agots. They were formerly scattered tolerable thickly, in France, throughout the provinces of Lower Navarre, the Basque Countries, Béarn, Gascony, Guienne, Lower Poitou, Brittany, and Maine; and, in Spain, in Upper Navarre, chiefly, and in Guipuzcoa: and at the present day there is scarcely a parish in these provinces in which we do not find, if not a few families or individuals of this race remaining, at least a vivid recollection of their former existence. They were under no sort of servitude to the other classes of society, but were regarded by all with a degree of contempt and hatred which we can hardly conceive, and which was in a manner consecrated by local laws and customs. They were obliged to live separately, or collectively, in small hamlets, at a distance from the habitations of the rest of the population, from intercourse with whom they were virtually cut off, even in the performance of religious worship. A corner of the church was usually set apart for them, to which they entered by a small door made expressly for them, which was known as the Cagot's door, and through which none but Cagots would pass for any consideration. These doors are now frequently found walled up, but they are still known universally as the *Cagots' doors*. They had a small holy-water stoup set apart for them in their own corner of the church, which nobody else would approach; and, where they were allowed to partake of the holy communion, the consecrated wafer was usually reached to them at the end of a cleft stick. They had, in the same manner, a separate patch of ground for burial, which none but persons of their own race would approach, for the mark of infamy they bore extended even to the grave. They were not allowed to enter the country towns except at particular times, and under various restrictions, and they were allowed to enter only by one door, and along one street, which were commonly known as the Cagots' gate and the Cagots' street. A decree of the Parliament of Toulouse, relating to the town of Lourdes, expressly forbade the Cagots to go into that town by any other way than a small street, there indicated, and they were allowed to march only under the eaves of the houses, or rather under the spouts which discharged the water from the roofs, evidently because this was exactly the place which everybody would avoid. They were further forbidden to enter the town before sunrise, or to remain in it after sunset, or to sit down anywhere while they remained within its limits. They were even obliged, in each particular district they inhabited, to take their water from one particular spring, which was known as the *Cagots' fountain*, and which no other people would use. After these statements, it is hardly necessary to remark that all intermarriage between them and the rest of the population was strictly proscribed.

The Cagots exercised almost universally either the craft of carpenters, or some of those which were closely connected with it, such as sawyers, joiners, cartwrights and wheelwrights, &c. This adoption of trades may have arisen chiefly from accidental circumstances, but it was so general that in some parts the name of Cagot was used commonly as synonymous with that of carpenter.

The history of these people, who have diminished greatly in numbers, is involved in the utmost security until a comparatively recent date, but their existence at a remote period is placed beyond dispute. Cagots are mentioned in a deed in the chartulary of the abbey of Luc as early as the year 1000. Gahets are spoken of in legal documents connected with Bordeaux during the thirteenth century. Records of their existence in the fourteenth century are more frequent, and show us that at that time they were neither serfs nor vassals of the lords of the land, but that they had an independent and rather anomalous existence. It is a curious circumstance, and one which adds still more to the mystery in which this question is shrouded, that these earlier documents designate the people of whom I am speaking by the distinctive appellation of *Christians*, which is certainly that of all others which we should least have expected to find applied to them. The light in which they were regarded is illustrated by some of the earlier municipal laws, of which the following, taken from the municipal laws of Bordeaux of the date of 1573, may serve as an example.

Of the Gahets.—"It is ordained, that none of those who are called Christiens or Christiennes, or otherwise Gahets, from whatever place they may be, shall go out of their houses or habitations, or enter into this town to go in the streets, without wearing a sign of red cloth sewn and attached in front of their breasts, in an uncovered and conspicuous place, and without having shoes on their feet, under pain of flogging or other arbitrary punishment. And the said Gahets shall not be allowed to enter into the butcheries, taverns, drinking-houses, or bread warehouses of this town, and participate with other people, under the same pain."

The popular prejudice continued in full force until late in the last century, and was kept up even by the teaching and practice of the clergy. At Lurbe, in the territory of Oloron, where the Cagots were very numerous, the curé, named D'Abidos, who lived at the time of the breaking out of the great revolution, had a great contempt for this portion of his flock, whom he kept strictly separated from the rest in the church. He took every opportunity of insulting them in public and spoke of them usually as devoted to perdition. It is still remembered that on one occasion, when a Cagote woman accidentally advanced beyond the limit during the performance of service, the curé shouted out in a brutal tone, "That is not your place, Cagote; and you must know that I, whether I am before you or behind you, am always your curé; but you others, whether you be before or behind, will never be anything else but low Cagots." The clergy, however, did not always act thus. At Guizerix, in the modern arrondissement of Bagnères-en-Bigorre, the Capots, as they were there called, had their separate place in the church and their door, though which none of the inhabitants would have passed, until one day the archdeacon of Magniac, Louis d'Aignan du Sendat, in the visitation of that church, in order to abolish the distinction, passed through the Capots' door, accompanied by the curé and other ecclesiastics; the people were constrained to follow them, and from that time they began to use both doors indiscriminately.

These old prejudices were first seriously broken down during the great political convulsions of the close of the last century, after which time, even mixed marriages between the Cagots and the rest of the population, became common; and the former lost, gradually, many of their older characteristics. In many districts, which were formerly inhabited by this then miserable class, people can only point out, by way of derision, families which are said to have been derived from such intermarriages; in others, one or two Cagots of pure blood are known to exist; but the districts are comparatively few in France, in which they still remain in any considerable number.

The natural consequences of these intermarriages, and the freer intercourse between the Cagots and the rest of the population, render it difficult now to speak with much certainty on the physical characteristics of this race, and our information on the subject is rather vague. They are said, however, to have been all distinguished by peculiarly white and transparent skins, by gray eyes, and by disproportionately large heads. According to some accounts, the lobe of the ear was either very small or altogether wanting. Such careful investigations, however, as have yet been made appear to have confirmed none of these statements, except the prevalence of white skins and gray eyes. In the commune of Came, canton of Bidache, arrondissement of Bayonne, there are, it appears, at present, nine families of Cagots of unmixed blood, and eleven families descended from the marriage of persons not Cagots with Cagot women. It is there asserted to have been the invariable result of these mixed marriages, that the men or women not Cagots, on their marriage with Cagot women or men, have been almost immediately attacked by severe illness, of which they either died or became ever afterwards remarkable for their robust health. It is added that cases were known of Cagots of either sex having, within a very brief period, thus sent to the grave as many as three successive wives or husbands.

The origin of a race thus mysteriously placed among a people from whom they are evidently quite distinct, and which has existed in that situation from a period far beyond any historical accounts, must naturally be a subject of mere conjectures, and these conjectures have been sufficiently various. Some have supposed that the Cagots are the descendants of the Visigoths, who occupied this part of Gaul at the close of the Roman empire. Others derive them from the northern invaders of a somewhat later period. Others again imagined them to be the remains of the Saracen settlers of the Carlovingia period; and this appears to have been the most popular notion. The opinion has also been held that the Cagots are remnants of the persecuted Albigeois of a still more recent date; and they have been supposed by some to be of Jewish origin, which does not appear very probable. There is still another notion as to the origin of the Cagots. It is the popular tradition in some of the districts they inhabit that all the Cagots were descended from the carpenters who made the cross upon which our Saviour was crucified, and that this was the reason why they were all condemned to exercise the craft of carpenters. It is not said how they found their way to France. This is a fair example of the value of the generality of ethnological traditions.

I have given but a very hasty and imperfect sketch of a race singular both in themselves and in the position they have so long held in the midst of another people, and I call attention more particularly to them, because they are the only one of the races known to exist under such circumstances, which has recently formed the subject of a distinct and elaborate work, at least as far as my present knowledge reaches. Those who wish for further information on the subject, may consult a very learned and laborious work, in two closely printed 8vo. volumes, published by a well-known French scholar, M. Michel, in 1847, under the title of "*Histoire des Races Maudites de la France et de l'Espagne*," where they will find a great mass of valuable materials. In the same work will be found notices of other proscribed races known to exist or to have existed, in those two countries.

Before concluding, however, I would put the question, have races similarly circumstanced ever existed in this country? I confess that I am inclined to suppose that such may have been the case, and I think we may trace the evidence of them where certainly it would hardly be sought by an ethnologist. It is well known to the architectural archæologist, that many of our older country churches present singular peculiarities—openings in the external walls, known by such technical names as squints, &c. which allowed a view of the altar from a corner of the church

separated from the part occupied by the body of the congregation;—sometimes openings in the external walls, as though to communicate from the interior with people standing without; and frequent instances of small doors in the walls, which have been built up evidently from a remote period,—all which peculiarities are only explained by conjecture, and the explanations are anything but satisfactory. It has often occurred to me that the real object of these openings and doors, in some cases at least, may have been to allow people to participate in the religious service, who were not permitted to intermix on an equality with the rest of the congregation, towards whom they held a similar position to that of the Cagots of France. In England, the last traces of such an intermixture with our population may have disappeared long from man's memory, as it is probable that it may now similarly disappear in France, in the course of a century, or a century and a half, except so far as the existence of them has been commemorated in the writers of our age. It is a hint which I would throw out as not unworthy of the attention of the English ethnologist, no less than the architectural antiquary, and which may, perhaps, admit of further investigation.

THOMAS WRIGHT, F.S.A.

LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.

A GENERAL meeting of this society was held on Wednesday, July 7th, at Middelton-hall, Islington. At the request of the committee, the chair was taken by Mr. Godwin, who briefly laid before the meeting the previous proceedings of the Society. Mr. Henry Sass, hon. secretary, having read the minutes, Mr. Deputy Lott read an interesting account of Sir Richard Whytington, and his good works, *apropos* of the stone in Islington, on which it is asserted he sat when the bells of Bow suggested his return. Mr. J. Gough Nichols and the chairman having made some observations, the Rev. Thomas Hugo laid before the meeting a fine collection of Pilgrim's signs, and read an essay on Mediæval Pilgrimages. Professor Tennent afterwards gave some particulars of the Crown Jewels in the Tower of London, seen by the Society on the occasion of their visit to the Tower, and a vote of thanks to the several readers and to the chairman terminated the proceedings.

ANNUAL EXCURSION OF THE LIVERPOOL ARCHITECTURAL SOCIETY.

ON Saturday, July 3rd, the members of the Liverpool Architectural Society, accompanied by several friends, made their annual excursion; the place selected for inspection being the town of Conway, in Carnarvonshire.

The majority of the party left Liverpool by the Birkenhead Railway at a quarter before eight, arriving at Conway at eleven o'clock, while some followed by a later train, arriving at half-past one o'clock. Those who arrived early ascended the hill known by the name of the Town Mountain, which, in conjunction with Penmaen Bach and Penmaen Mawr, form the sea-girt boundaries of one of the finest panoramas anywhere to be seen, while objects of high archæological interest exist on the summit, in the remains of an ancient encampment and supposed huts, believed to have been raised by the Irish on the occasion of their invading, in pre-historic times, the coast of Wales. The antiquarian knowledge of Mr. Picton enabled him to afford explanation on these points. On their return to Conway the party were met by those who arrived later, and also by Mr. Edmund Sharpe, of Lancaster, temporarily resident in the neighbourhood.

The town walls and castle having been explored, and their peculiar features examined and discussed, and the ancient house known as Plas Mawr cursorily inspected, the party met at dinner at the Castle Hotel, where about forty gentlemen sat down.

Mr. H. P. Horner, the president of the society, occupied the head of the table, and Mr. Chantrell filled the vice-chair. The usual loyal toasts having been honoured,

Mr. Sharpe proposed "Prosperity to the Liverpool Architectural and Archæological Society." He observed, that being connected with them as an honorary member, he was so situated that he could give the toast with all the impartiality of a visitor, and yet with the zeal of a member. That though the society could, perhaps, not be said to be the second to none in the kingdom, it was certainly second only to one, the Royal Institute of British Architects; and one only opinion, he believed, prevailed among all interested in architecture, as to the high value of the services rendered in that field by the Liverpool Architectural Society.

Mr. John Hay responded. He said as to the society, its best praise was its working, practical character, and the undiminished zeal and good-fellowship existing amongst its members; and he wished it might long continue to go on increasing as it had hitherto done.

The Chairman said, as a profession, they were all interested in the preservation of those records of talent and power of design in past ages, which modern civilization and the progress of commerce tended constantly to destroy; and a society formed for the preservation of those works, or as a recorder of them if they could not be preserved, had peculiar claims upon architects and archæologists. He, therefore, begged to propose "Prosperity to the Society of Antiquaries of Great Britain," and he coupled with it the name of Mr. Picton.

Mr. Picton having replied, "The health of Mr. Sharpe," "of the President" (proposed by Mr. Verelst), "The Strangers present," responded to by Mr. J. H. Worthington; "The Press," acknowledged by Mr. Harker; and "The Vice-President and other officers of the Society," replied to by Mr. Chantrell, concluded the programme.

SOCIETY OF ARTS' MEDALS.

Cutting and Dressing Stone.—The silver medal of the Society has been awarded to Mr. William Williams for his machine for cutting and dressing stones for building purposes.

Wood-shaping Machinery.—The silver medal of the Society has been awarded to Mr. T. W. Wilson for his combination of the tubular gouge and disc-paring tool for wood-shaping machinery.

ELECTRO-TELEGRAPHIC PROGRESS:

THE ATLANTIC SCHEMES.

AFTER the discovery of the apparent carelessness in the manufacture of one part of the Atlantic cable, where no less than six strands of wire, it may be recollected, were said to have been joined all within a few inches of each other, and which led to the breaking of the cable in the Bay of Biscay, few would be surprised to learn that it again broke in the middle of the Atlantic Ocean after a hundred miles or two only were laid. That so vast and important an experiment should thus fail from the mere scampish carelessness of some workman and overseer is most provoking; and the fellow who should be conscious of having so acted, ought to consider himself worthy of being hanged by the neck in something more trustworthy than his own workmanship, till the world be rid of so unworthy a denizen. Notwithstanding this misadventure, however, scientific men were perfectly right in declaring the experiments in the Bay of Biscay to have been "highly satisfactory," so far as regards the great purpose of these experiments, at least; namely, the paying out and taking up of submarine telegraphic cables. All that is now necessary is a cable faithfully manufactured, "in a workmanlike manner," even though it were still made upon the principle of that which has just failed. But other inventions are on the tapis for the Atlantic telegraph, as will appear from the following abbreviated extract from the *Galway Vindicator*, printed before the failure of the cable last week was known or announced:—

"*The Electric Telegraph between Galway and Halifax.*—This is a great project of Mr. Lever's, which in all probability will be crowned with success. Scientific men say that the Valentia wire is nearly certain to be a failure. Mr. Allen has invented a new kind of cable, which, when once seen, is, like breaking the egg, a wonderfully simple solution of the present difficulties. The lightness and comparative smallness of the cable make it appear but a slender thread by which to join distant climes; but experience has shown that, within certain limits as to durability, the cable cannot be too light. Mr. Lever's intention is to induce the [Great Ocean Telegraph] Company to sanction his getting the Allen's telegraphic principle tried between Galway and Halifax, and we are given to understand that they have partly consented to such an arrangement, by which a saving of 30,000*l.* could be effected to the company. The Great Ocean Telegraph Company's lines will be constructed so as to enable Great Britain to maintain direct and independent communication with America, her numerous colonies, and the principal seats of commerce on the Atlantic. The primary object of this company is to establish direct telegraphic communication between London and New York, the two great termini or centres of telegraphic communication in the Old and New World, by a line to Halifax, the great naval station of British North America, as well as the inlet to all the telegraphic lines of communication, not only of the Canadas, but likewise of the United States generally. By an independent and direct route, starting from Galway, the cost of a message between London and New York need not exceed 40*s.* Mr. Allen's patented systems of electro-telegraphic submarine communication give to this company the exclusive right to the most effective means at present known for producing an electric force capable of working a telegraph through so long a distance of submerged wire,—those hitherto attempted being infringements of patent rights. The conductor differs entirely from all other submarine ropes, as it combines considerably increased conductibility with such a diminution of weight that the entire extent of rope from England to America may be conveniently carried in one vessel, while its strength bears a very much greater proportion to its weight than is the case with ropes of the common construction. The cost of a single line between Galway and Halifax need not exceed 300,000*l.* Estimating the transmission at the low rate of twelve messages per hour, and assuming, from the difference of longitude, twenty hours as a working day,—an aggregate amount equal to twelve messages per hour, at 40*s.* would yield 175,000*l.* per annum. The working expenses of the line need not exceed 25,000*l.* a year."

PROVINCIAL NEWS.

Uxbridge.—The following tenders have been received for additions to the sewage works here, according to plans prepared by Mr. George Eves, surveyor. The lowest accepted.

Purkiss	£539
Kingsbury	470
Morten	428

The town pavement is being taken up and re-laid with York paving and granite curb, and channelling, and will add much to the appearance of the town when completed, as well as to the comfort and health of the inhabitants. All the house connections are completed, and water laid on to most of the houses.

Reading.—It has been resolved by the county magistrates to proceed with the erection of new assize courts, and Mr. Clacy, the county surveyor, has been appointed as architect. Plans have been reported on, and the courts ordered to be begun forthwith.

Hove (Brighton).—New National and Sunday Schools have been opened here. The building is from a design by Mr. Woodhams, architect. Its style is simple house Gothic; and it is built of flints with brick dressings. It has two floors, the lower one forming the boys' school, and that above being for girls. The school-room on each floor will accommodate about 100 scholars,—the entire number provided for being 220. The cost of the building has been 1,200*l.*

Bristol.—A committee, comprising deputations from the Bristol Docks Committee, the Society of Merchant Venturers, and the Chamber of Commerce, have decided, by a majority of twelve to four, that in the opinion of the committee dock accommodation for the port of Bristol would be largely promoted by converting the river Avon from its mouth into a floating harbour, and they commend this to the consideration of their fellow-citizens.

Upton-upon-Severn.—The chief stone of new National Schools has been laid here. They are being built from a design by Mr. G. R. Clarke, architect, at a cost of about 1,000*l.*

Willenhall.—Plans for schools and master's residence, in the parish of Holy Trinity, Willenhall, have been prepared by Messrs. Griffin and Weller, of Wolverhampton, architects.

Manchester.—The Manchester Town Council, at a special meeting, have decided, by a majority of twenty-seven to twenty-five, to reject both the two sites fixed upon by the Government as eligible for a new post-office. It is, therefore, expected the Government will proceed with the one last fixed upon—that in John Dalton-street.

Holmfirth.—The Holmfirth reservoir is now completed and filled with water. The work consists of an embankment 330 yards long, and 90 feet deep in the centre. The reservoir will contain 360,000,000 gallons; the contents of the embankment, including earthwork, puddle and stone, being 300,000 cubic yards. There is also in connection with the reservoir 1½ mile of watercourses, tunnels, aqueducts, &c. The drainage area to the works is 2,000 acres.

Bradford.—The works for the proposed new college at Rawden, near Bradford, have been contracted for as under:—

Thornton, masonry	£3,350	0	0
Illingworth, carpenter and joiner	1,468	0	0
Duckworth and Holroyd, plasterer and slater	669	10	0
Lawrence and Robinson, ironwork	452	0	0
Stead, plumber, glazier, and painter	810	0	0
Total	£6,719	10	0

The outlay originally contemplated was 6,000*l.*; but additions have been made to the design as first submitted in competition by the architect, Mr. H. J. Paull, of Cardiff. The building is to be pro-

ceeded with forthwith, and carried out under the architect's superintendence.

Wakefield.—The Wakefield Church Institution building, library, &c. have been entirely destroyed by fire; how originated, is not known.

Brinkburn Priory.—In a visit recently paid to Brinkburn Priory, says the *Gateshead Observer*, we were happy to see that the work of restoration had commenced, extensive scaffolding having been erected, both inside and outside the venerable pile. It has long been in ruins, but the area was used as a place of sepulture till near the close of last century. There are many interesting remains scattered about the interior.

Newcastle.—A commencement has been made with the excavations required in connection with the first of the new buildings intended to be erected on the Quayside, Newcastle, in accordance with the contract recently entered into by Mr. Ralph Walters with the corporation. It is designed, according to the local *Courant*, to erect a large, extensive, and commodious building for mercantile, banking, and other purposes. The site of the building is that which was formerly occupied by the buildings destroyed by the fire of October, 1854. The new building will occupy a frontage of 132 feet towards the river, and is to be in the Italian style of architecture. The area of the site, which is a parallelogram, is 132 feet by 176. The building is intended to comprise about 200 merchants' and brokers' offices. The central portion of the building, which is six stories in height, or one story higher than the other portions, which are in the form of wings at each side, is designed as a large and commodious hotel, the entrance to which from the Quayside will be a handsome portico, the upper portion of the building immediately over the portico being carried up in a manner in keeping with the portico. There will also be a front towards the Sandhill, and another towards Dog-bank, and the whole will be of polished stone. The offices will be in the side or wing portions, and the corner portions are designed for a bank and insurance offices. The whole is intended to be covered in by November, so as to be ready for occupation in February next. In connection with this building it is intended to proceed with fourteen new shops and houses on the west side, being a continuation of the Side to the Quay. It is also intended to commence immediately with the buildings to form the street of approach to the high level bridge. A bridge across the Broad Chare is comprised in the extensive plan, which would include a new street in a slanting direction from the Side, cutting off Amen-corner, and communicating with the high level bridge approach.

Berwick.—The new Corn-Exchange, Berwick, has now been formally opened, of course with a dinner, to which about 800 persons sat down. The building thus inaugurated is situated in Sandgate, at the confluence of four of the leading thoroughfares of the town. The designs of the architect, Mr. Johnston, of Newcastle, have been carried into execution by Mr. Matthew Reed, of Newcastle, the builder. The front of the edifice is two stories high, and is formed of freestone, the other portions being of unpolished sandstone. There are seventeen windows: those in the rear are glazed with plate-glass, the others with ground. In the middle of the structure is the central doorway. On either side two other entrances give admission to the building. The façade is crowned by a parapet of miniature pillars. On the right-hand corner, and rising above the roof, stands the clock tower, surmounted by a sitting figure of Ceres. The architecture of the building is described as of a Composite style, the Doric characteristics predominating. Internally, the large hall occupies the greater portion of the ground. This apartment is of semicircular shape, fluted at intervals with Corinthian pillars, and lighted from the dome. Its dimensions are 90 feet long by 70 feet broad. At one end is the gallery, calculated to hold about 300 persons, the hall itself accommodating 700, and to the right is situated the orchestra. Depending from the roof are twenty-six chandeliers. The hall is intended to serve the various uses of public meetings, concerts, lectures, dinners, and balls. On the lower basement, and branching off on either side of the principal entrance, are committee-rooms, from which, through the medium of a short corridor and green baize folding doors, access is obtained to the large hall. Ascending by stairs, the gallery is entered, which is fronted by a railing of trellis-work: behind it, but with a separate communication, are two rooms for a savings' bank: below are rooms for the keeper of the Exchange, a penny reading-room, &c.

Edinburgh.—The foundation-stone of the new Mason-hall, lately alluded to in our columns, has now been laid. There were about 4,000 masons present at the ceremonial. The Duke of Athol laid the stone, and Lord Panmure and Sir Archibald Alison, "assisted." Mr. David Bryce is the architect; and Mr. Robert Hutchison, the builder.

MONUMENTAL ITEMS.

Fowey.—Monument to the Queen.—Upon the occasion of the visit of her Majesty and the Prince Consort to this town, in 1846, says the *Cornish Telegraph*, it was determined to erect a suitable monument to commemorate the event. The Luxillian granite quarries on the Treffry estate furnished the ponderous blocks of stone, kindly given for the purpose by the late Mr. J. T. Treffry, and for a considerable time these materials have been lying at Broadslip, waiting to be properly cut. This matter, however, has been of late settled, and workmen have been employed to finish the stones. Suitable machinery having been obtained from the Par works, on Saturday last the obelisk was finally erected, the top stone weighing about fifteen tons, all without any accident. The largest block is 17½ feet long, by 4 feet 4 inches square at the base, and 2 feet 4 inches square at the top below the peak. Altogether the erection is 23 feet in height.

Statue of Wallace.—This statue, now at Stirling, is about 8 feet in height. The countenance, says the *Stirling Observer*, is expressive of serenity and trusting firmness. In the right hand is a psalter, which is lowered by the side, while in the left there is a hunting-horn or bugle, the forefinger touching the breast. The veins of the hands and sinews of the arms have been well brought out by the sculptor. A plaid is thrown over the left shoulder, the folds of which fall down nearly to the knee, whilst the kilt is supported by a belt placed around the waist. A clasp is attached to the plaid under the left elbow, bearing the motto which Wallace was in the habit of repeating:—"Libertas optima Rerum." A band encircles the forehead, with the Scotch thistle in front. On the pedestal is the following inscription:—Wallace, in Panoply of Light. Psalm xlvi. on Rock of Ages. Dawn of day, 10th September, 1297." Mr. Handyside Ritchie, of Edinburgh, was the artist. The statue is to be erected in the centre of the square called Spittal's-square, forming, it may be said, the new town of Stirling.

OFFICES OF LEEDS AND YORKSHIRE ASSURANCE COMPANY, LEEDS.

THE Leeds and Yorkshire Assurance Company was established in 1824, and until 1855 had their head offices in part of the Commercial Buildings in Leeds; but their increasing business rendered additional accommodation necessary, and the directors determined to erect a suite of offices that should be specially adapted to their requirements, and also an attractive addition to the architectural features of the town. They purchased a commanding site, with an area of 4,150 square feet, at the corner of Albion-street and Commercial-street, adjoining the Stock Exchange and the Old Library, and close to the Bank of England, the Leeds Club, the County Court, and the Music Hall.

Designs were then advertised for, and in April, 1852, fifty-four were sent in and submitted to a careful examination by the directors, who, having decided upon four out of the number, secured the assistance of Mr. John Dobson, of Newcastle, as to the adjudication of the prizes, and accorded the first premium, of 50*l.* to Mr. W. B. Gingell, appointing him the architect, with the amount of the premium in addition to his commission and travelling expenses.

The area of the site being more than necessary for the requirements of the Company, 1,860 feet were appropriated to the new offices, and 2,290 feet, fronting Commercial-street, to three houses with shops, and so arranged that the entire first floor could be let separately in suites of offices.

In September, 1852, tenders were accepted for the whole of the works, amounting to 6,640*l.* and the buildings were at once commenced. The Company's offices have three nearly uniform fronts, facing the north, south, and west. The plinth is of a massive character, executed with large blocks of Bramley Fall stone, rusticated and vermiculated.

The basement story presents three arched recesses on each front, and is of Pool Bank stone, rusticated, and with the quoins, jambs, and voussoirs moulded and vermiculated. The centre recess, in the west or Albion-street front, is the principal entrance, and has two engaged columns, carrying a denticulated entablature with carved frieze, and the space above the springing filled in with the badge of the Company,—a fleece with a wreath,—and scrolls of acanthus, and a riband bearing the name and date of founding the office. The centre recess in the north front is a similar doorway, but for private use only. Windows are formed in the other recesses, each having three lights, with two detached Ionic columns and pilasters, on pedestals, and carrying an entablature ranging with the impost on the piers, from which springs a moulded archivolt, the space between it and the soffit of the voussoirs having a sunk and moulded panel filled in with banded laurel-leaves. Iron shutters descend behind the columns, and so protect the glass without interfering with the architecture of the windows. The key-stones are all sculptured, those in the central recesses being rams' heads decorated with swags of fruit and flowers; and the others being crowned and wreathed masks.

The principal story is of Rawdon Hill stone, and presents engaged columns of the Corinthian order, coupled on the principal front, and supporting an entablature proportioned to the height of the building, and broken over the columns. The frieze is sculptured throughout with masks and festoons of fruit and flowers. Each window has architraves and panelled jamb pilasters, carrying enriched consoles, with dentilled cornice and segmental pediment, the frieze being enriched with laurel bands, and the key-stone bearing the badge of the Company.

The attic story, also of Rawdon Hill stone, has piers with raised and moulded panels thereon, ranging with the columns below, and terminates with a balustrade and pedestals, having octagonal vases with rams' heads thereon.

With reference to the plan,—the basement contains a retiring-room for clerks, with lavatories, &c.; porters' rooms, strong-room, apparatus-room, &c. The ground-plan consists of a public office, secretary's room, and strong-room. The public office is 35 feet by 25 feet, and 18 feet 6 inches in height, with a deeply coffered and enriched ceiling; the walls being finished with Parian cement, the entablature running round the room, and the windows corresponding with the stonework outside. A bold dado of Riga wainscot, 3 feet 6 inches in height, finishes the sides and ends of the room. A mezzanine floor is obtained over the secretary's room and the strong-room, on which are a stationery-room, and directors' lavatories, &c. On the first floor is the board-room, and two committee or ante-rooms. The board-room is 36 feet by 25 feet, and 17 feet high, with an elaborate coved and panelled ceiling, the walls, and the window and door dressings, being finished in Parian cement, and a handsome dado of Riga oak, stopped between the dressings, 3 feet 3 inches above the floor. The attic contains a complete dwelling for the resident clerk.

All the joinery of the two principal floors is executed with Riga oak.

The whole of the Company's office is made fireproof (except the roof), upon Messrs. Fox and Barrett's principle. All the floors are finished with White's Portland cement, and the chief rooms are warmed and ventilated on Messrs. Haden's system.

The whole of the carved and sculptured work was executed by the late Mr. Robert Mawer, of Leeds, and was almost his last work.

The contractors, all Leeds tradesmen, were,—Atack, mason; Winn and Pawson, joiners; Singleton and Tennant, founders, smiths, and bell-hangers; Webster and Sons, plumbers and glaziers; Fearnside, painter; and Croft, slater. The plasterer's work was executed by London workmen, under the direction of Mr. Robert Cairns, the general clerk of the works.

The premises were opened in March, 1855, the chairman, Alderman Maclea, giving a banquet to the directors upon the occasion, while all the clerks were appropriately entertained at the White Horse Hotel.

THE LATE MR. JAMES JARDINE, C.E.—Mr. James Jardine, civil engineer, died in Edinburgh, on Monday in week before last, in his 82nd year. Mr. Jardine introduced the Crawley water into Edinburgh, constructed the Union Canal, was the engineer of the Dalkeith Railway, and drained Loch Leven. He was born in 1786, at Applegarth, in Dumfriesshire. In youth he was befriended by Professor Playfair, was entrusted by Dugald Stewart with the instruction of his son, subsequently Colonel Stewart,—and had the honour of teaching two of Dugald Stewart's most eminent pupils, Lord John Russell and Lord Palmerston, the higher mathematics. It was by the recommendation of Playfair that he afterwards adopted the profession of an engineer.

OFFICES OF THE LEEDS AND YORKSHIRE ASSURANCE COMPANY.— Mr. Gingell, Architect.

CHURCH-BUILDING NEWS.

Sherborne.—In addition to what Mr. Digby is already doing for the Abbey Church, he has offered to re-arrange the churchyard, re-open the west-end door of the church, and put the bells and bell-tower in an efficient state. Mr. Slater, the architect, in making the offer to the vestry, also exhibited a plan for the removal at a future time of the town-hall and houses adjoining the almshouse, by which the Abbey Church would be thrown open to public view.

Bridport.—A meeting of the general committee for the restoration of the parish church was held in accordance with a resolution of the special committee to the effect "That after reading the tenders for the works, this committee are of opinion that the amount of the various tenders is so far beyond the sum they can reckon upon, they do not feel justified in recommending the commencement of the restoration." The minutes of previous meetings were read, stating that tenders had been received for the work of restoration on a plan suggested by the Diocesan and Church Building Societies, and which it was necessary to follow in order to secure their grants. The tenders ranged from 2,694*l.* to 3,964*l.* and the lowest being a much higher amount than could reasonably be expected to be collected, the present meeting was called to consider what was best to be done. It was at length deemed necessary to reject the plan proposed by the societies; and Mr. Hicks, of Dorchester, architect, was in attendance with another plan, which was said to require a much less outlay. This plan it was at length resolved to carry out.

Meifod.—There has been erected in the wall of the north-east aisle of the church here, a memorial window, of three openings, the production of Mr. D. Evans, of Shrewsbury. The centre opening contains a figure of our Saviour, with St. John and St. Peter on each side. Over the figures are decorated canopies. In the tracery are three quatrefoils with figures of angels, with scrolls.

Preston.—The new Baptist Chapel, in Fishergate, Preston, according to the *Guardian*, was opened on the 24th ult. the festival of St. John the Baptist. The ground-floor will seat 460 persons, the gallery fifty. The seats are open, and the roof is of open framing. The windows are glazed in figured enamelled glass, with coloured borders, and the wheel windows in plain enamelled glass, intersected with coloured glass in geometrical patterns. The baptistery and reading-desk are at the north end. Beneath the chapel are schools for boys and girls, 12 feet high, divided by a moveable screen, and with separate entrances from Charnley-street. The chapel and schools are heated with hot water. The upper part of the tower is at present used as an extraction shaft for the purposes of ventilation. The finishing of the tower is being proceeded with. The total cost of the building, complete in its internal arrangements, will be about 3,000*l.* The architects are Messrs. Hibbert and Rainford. The masons', flaggers', and slaters' work has been executed by Messrs. Cooper and Tullis; the joiners' and carpenters', plasterers', and ironfounders' work by Mr. R. Aughton; the plumbing, glazing, and staining by Messrs. J. Park and Co.; and the warming apparatus by Messrs. Seward, all of this town. The contract for the entrance gates and cast-iron palisading in Fishergate and Charnley-street, is in the hands of Mr. Whitehead, who has also executed the gas-fitting. The gas standards were provided by Mr. F. Mann. The design of the building, adds the *Guardian*, is, in point of style, of no recognised type: it will possibly be claimed as a step in the right direction by the advocates of the Neo-Gothic movement. The plan of the chapel was dictated by the nature of the irregularly formed site, under the stipulation that as much ground space should be occupied by the chapel as could actually be got. This is the reason why the windows on one side of the chapel are unlike in number and proportion to those on the other.

Aspull.—The foundation-stone of a new Wesleyan chapel has been laid at Aspull; the cost to be about 400*l.* and the accommodation for 200 persons.

Walton-le-Dale.—A new presbytery, in connection with St. Patrick's Catholic Chapel, Walton-le-Dale, is in course of erection, from the designs of Mr. E. W. Hughes, architect.

Kirkstall.—St. Stephen's Church, Kirkstall, has had a new east window, consisting of three lights, in the style of the thirteenth century. The centre opening contains, in a medallion of the vesica form, a representation of the proto-martyr St. Stephen. Above and below, in circles, are angels supporting a celestial crown and a scroll, with text. In the centre of the side openings are medallions containing the emblems of the sacrament of the Holy Communion, the whole surrounded with borders, diapers, and scroll-work. Messrs. R. and W. Pilkington, of St. Helens, were the artists.

Thornhill Lees.—The Church of the Holy Innocents, Thornhill Lees, on the banks of the river Calder, has been consecrated. Besides the church there are a parsonage-house, schools for upwards of 270 boys, girls, and infants, and schoolmaster's residence. The buildings have been erected at a cost of upwards of 8,000*l.* The church, says the *Leeds Intelligencer*, is built in the Geometrical Decorated style, and consists of a nave of five bays, with clerestory, north and south aisles, under lean-to roofs, with south porch, a tower and spire at the west end, opening by an arch into the nave, and at the east end a chancel of three bays, with a south aisle thereto, under a gabled roof, appropriated to the organ and vestry. The principal external feature is the tower, which is divided into three stages. The roofs are covered with green slate: the gables are coped with stone, and terminate with crosses. The porch is entered by a foliated arch. The nave is separated from the aisles by moulded pillars and arches of stone. The clerestory is lighted by a two-light window in each bay, and the aisles by three-light windows at the sides, two-light ones at the west, and circular lights at the east ends. All the windows have varied tracery in the heads. The chancel is separated by two arches from its south aisle. There are three two-light windows on the north side, and a five-light east window, all of which, as well as the tower-window, and those at the east end of the aisles, are adorned with Scriptural subjects in stained glass, by Mr. Wailes. Under the east window is a reredos, of Caen stone, with marble pillars, by Mawer, of Leeds, who also executed the front and the whole of the carving. The roofs are all open to the rafters, boarded, stained, and varnished. The seats, pulpit, and other internal fittings are of oak. The chancel is paved with Minton and Co.'s encaustic tiles, and the nave and aisle passages with plain black and red ones from the same firm. The whole is lighted by gas-coronæ, from Messrs. Skidmore, of Coventry, and heated by hot water. The church contains about 500 sittings, all free. The schools and parsonage-house are in a similar but plainer style of architecture. The works are from the designs of Messrs Mallinson and Healey, of Bradford, architects, and have been executed under their superintendence.

Carlisle.—In commemoration of the severe loss sustained by the very Rev. Dr. Tait, then dean of Carlisle, now bishop of London, who, in the space of a very few weeks, lost five young children from scarlatina, the inhabitants of Carlisle resolved to place a stained-glass window in the cathedral. The funds were soon raised. A committee was appointed, who received plans for the execution of the work, and the commission was, after some deliberation, given to Messrs. Hardman, of Birmingham, who received the order about six months ago, and have now completed their work. The window selected for the purpose is that at the north end of the transept, measuring about 40 feet by 18 feet, the largest in the building, except the east window. The tracery is in a geometrical design, divided into six perpendicular lights, surmounted by three circles or wheels—one large circle in the centre, supported by two smaller of similar design. In the large circle is a half-length figure of Christ. In the smaller circle to the left is the Greek monogram Alpha, and in the one to the right Omega,—symbolizing the beginning and the end. These designs are surrounded by the heads of cherubim. Below these circles, and immediately above the canopies which surmount the six principal lights of the window, are half-length figures of four prophets. In the six oblong lights is represented the principal design, which consists of four parts, illustrative of the life of Christ. At the top to the left there is a figure of Christ in the centre, and on each side parents bringing their children to him. Below this there is, in the centre, a figure of Christ in his infancy: above his head an angel holds a scroll, while on the right is his mother, the Virgin Mary, and on the left St. Joseph. These illustrations occupy one half of the principal lights. On the right at the top is a figure of the Good Shepherd, with a lamb in his arms, while to the right is the hireling shepherd, who is allowing a very savage-looking wolf, with enormous jaws, to devour his sheep; and to the left are angels at the fold, guarding the sheep. Below this design is Christ seated with a child on his knees, whilst on each side is a group of the apostles. The predominating colour in the upper portion is blue, relieved by the red and yellow of the canopies, while the draperies of the principal figures are varied. The only thing that mars the effect, says the local *Journal*, to which we are indebted for these particulars, is an iron bar which crosses one of the principal figures: this, however, will, if possible, be removed: the architect has been communicated with upon the subject. So far, then, it adds, have we advanced towards the entire restoration of our cathedral. The only thing that now remains to be done is filling the magnificent east window with stained glass. This we have every reason to believe will soon be done. Sufficient money for the purpose has been raised, and it now only remains for the dean and chapter to choose the design and give the commission.

ABUSES IN ARCHITECTURE.

THE principles of the fine arts are deduced from nature. Nature is the universal model to every artist. He who consults the works of nature and scrutinises the reasons, or the causes, of its effects, upon the mind and the soul, has the task imposed upon him of then reproducing the same impressions from similar combinations. As the artist has the same aim and the same intentions as nature, he must employ the same or similar means as she does. As she employs to reach her end means so exact and so just that it is impossible to imagine better, the artist ought to imitate her in this respect. In producing and in executing, the artist ought to have his eyes unceasingly fixed either upon the best works, which are impressed with the true and the beautiful, or upon the principles whence those laws are derived. The satisfaction arising from all the architectural works of renown, both ancient and modern, under whatever form of beauty they may appear, or whatever change of style they may exhibit, is to be sought in the faithfulness with which their structures have expressed the immutable laws of nature. Even the taste that has been exercised in their details and ornaments is not arbitrary, but is fixed also in its general principles. To alter the character of a style of building, or rather to adopt another in preference to one that has been long in vogue, in accordance with the changed condition of society and local circumstances, is not to infringe the rules of taste, or to forget the principal bases upon which universal truths are founded. Men who followed nature, and took a pleasure in doing so, found she did nothing in vain, nothing which belied its end, its destination: all they saw was truth and sincerity: the means were always proportioned to the accomplishment of the end; and they thence deduced this principle, that in architecture every work having a destination, every detail, ought to tend to be placed in connection with it, that is to say, *to be useful*. In studying nature, that unerring model, they were convinced that this *utility* to which it ought to tend is also accompanied with the *agreeable* or the *pleasant*, in such a manner that reflexion only can separate them in subordinating the second to the first. Thence this principle that the useful and the agreeable ought to be united, but in such a way that the last should be derived from the first. In the works of creation these two principles—the useful and the beautiful,—seem to be dominant, and always combined: we seldom see one without the other: mere decoration and ornament, colour, light, or shape, without any purpose or meaning, we seldom behold; while equally, on the other hand, we do not find things of practical usefulness left bare, cold, or meagre, unsightly to the eye, or painful to the touch; but on the contrary, as there is an object of usefulness in things the most beautiful, so there is a clothing of beauty upon things of the commonest use. Hence, in architecture, while use is one of the principal things to be considered, and the end for which every part of an edifice is made, so beauty must be superadded, in order to make it be regarded with pleasure and interest. Hence the necessity to artists referring constantly to the operations of nature to her works; and the utility of precepts and general principles derived from that source: in fact, there is no doing anything great,—no succeeding in any difficult project of design or construction without them: they teach us what we should do, and what we should avoid: they are a rampart to the artist, and guard him against the errors of imagination. The value of architectural criticism is to refute all those false principles which destroy the general integrity of a building, and at the same time destroy all true taste: it should denounce affectation, and abuse, and bad application of every kind, which tends to spoil purity of style—a corruption which springs from the desire of

producing some singularity, and some novelty before unseen. The business of criticism (first indebted to buildings for whatever discernment it possesses of elegance of form and disposition) is to call back the transgressor to first principles from which he has wandered; to show him the barriers placed by nature on the confines of each of the arts which are set up to prevent confusion taking place; just as the organs of the body have their proper position assigned them, and do not come short of, or go beyond them. We think that abuses, decided infringements of principles, should be exposed, lest they should be authorised even by great names in whose works they have appeared; that if vicious, if reversing the established order and system of architecture; if false, if exceeding just limits, they should not be allowed to pass as examples for imitation, but be censured at the tribunal of reason, sentiment, and taste; notwithstanding they may even be faults which do not injure or hinder us from admiring the general striking effect, and impression of a grand work in which they are found. The *tout ensemble* and integrity of many an otherwise noble monument have been too often sacrificed to the mere love of ostentation, or the peculiar crotchets of individuals: the works of their predecessors, which they had reason so much to esteem, counted as nothing, and which they were determined should not prevent them exhibiting their own innovations, which reason and common sense could not but condemn. It seemed their sole object was to produce uncommon and surprising effects, and to do so to the degradation of art by the practice of every kind of dissimulation and distortion of principle; to degrade the authority of ancient art, in order to raise up their own own idol. It is to be deplored that many in the profession of architecture have seemed to take a pleasure in perpetuating their caprices and phantoms of art against the good practice, against the approved precedents, and in contradiction to the sound maxims of art. *Bizarreries* may astonish for a moment the imagination, and please some, for no anomaly exists without some admirer for it; but the thought—the mind from its unity of action seeks repose, and finds it only in order, which gives to every part of a building its just size, its proper ornament convenient to its use and proportioned to the greatness of the whole. Yet an architect, without departing from principles, and without running into such extravagancies as those committed by Borromini and others like him, and indeed without having a model to follow at all, may produce a work which, dictated by the most severe taste, but by original views, may be approved by all competent judges and impartial critics. If there is that in it which fixes the attention and strikes the imagination, which speaks to the soul, which moves it, and carries to the understanding conviction and sentiment, it is beautiful, and the contemplation of it is to be enjoyed and profited from, because we welcome the power shown in the architect of withdrawing our mind from the number of servile copies and repetitions which so much and everywhere abound. The history of architecture in the most interesting epochs, and in the most rich and civilized parts of the globe, shows that it is hazardous to venture on a new conception, a novelty in the science of construction; there being such formulas received, that there is some danger even for men of great reputation to depart from them; that for the execution there is required, at all events, great prudence, great calculation, and most careful precaution of detail. But such great men as Bramante, Brunelleschi, and Michelangelo, who had profoundly reflected on the impressions that the greater part of men feel, and upon the proper means of producing them, in building their graceful cupolas and upheaving in air their lofty domes, added the noblest feature to architecture; gave a strong impulse to the further development of art and the faculties it exercised; and led to the glory for which it is so much distinguished in many of the edifices throughout Europe. The faults found in great works taken as models do some injury to students on account of always possessing the charm and respect that are always annexed to the great talents with which they are identified. Their examples are apt to be a pretext for these defects, and to authorize them. The clever but misguided men who are the authors of these perpetrate these vices often for a longer time than the age in which they live. Young men, as artists, travelling for their improvement on classic soil, too often, in copying the masterpieces of ancient art, have also copied their defects; and, though once confined to Rome and Italy, they are now seen in many of the buildings in different parts of Europe, and a great deal in Paris and in London. We will now descend into details for the better elucidation of the subject. As specimens of the treatment of ornament, intended as such, and which come under the category of abuses, witness some of the doorways designed by Michelangelo, *e. g.* the principal gate of the Capitol; Porta Pia, upon the Quirinal, Rome; Porta de la Vigna; where the ornament is ill-chosen, misplaced, and cumbersome. We see in his works, and in others who imitated him, consoles employed for supporting certain objects for which they are not suited; too great a projection of cornice; the habit of breaking the pediments and raking mouldings, and leaving them open in the centre for the purpose of admitting some bust or some armorial bearing. The employment of armouries has introduced many vices into architecture. The mixture of many orders is another abuse. There cannot be repose, there cannot be unity, there cannot be harmony where such exists: on the contrary, the building presents many incoherent wholes, which distract the attention; because the mind cannot receive a number of impressions at one and the same time; and this should establish the necessity of a unity or simplicity of means and effect in architectural composition, and in all works of imitation. The sacristy of S. Lorenzo, by Michelangelo, is by no means exempt from these defects of decoration. The cross-head to the architraves of the windows is an abuse rather than a beauty in architecture; though it is found in ancient examples. In the Temple of the Sybil at Tivoli, and in the Erectheium, this occurs. The consoles that are introduced to support these breaks was another error that originated in Italy among the painters and sculptors, and which passed into France, where we remark many buildings of good taste, whose regularity are very much injured by these incongruities, and which answer no useful end. Those who are not very fastidious in matters of art, may, by the habit of seeing them, grow accustomed, even fond of them, and come in time to think them beauties. One great abuse of a principal member in architecture is very obtrusive throughout the long ranges of the Tuileries, called the long galleries, which is not without remarkable merit; yet the windows between the great pilasters which support the alternate round and square pediments cut through the architrave and break through the lines of the entablature to a considerable height. Sauval, in his "History of Paris," in describing this part of the palace, thinks that it is one of the most beautiful, happiest thoughts in the Louvre. If it is so, as it often occurs in French buildings, there is frequent opportunity, for those who entertain an opinion of that kind, to gratify their taste.

The eye may get accustomed or grow indifferent to false ornaments, and even come to be pleased with them, but a true judgment can never convert that into a thing of taste which is not conformable to reason. Caryatides, twisted columns, rosettes merely stuck on a plain surface to break its uniformity, but which look as if they could easily be picked off or would drop off by the slightest friction; all ornaments, improperly called, which are made essential, or at least usurp an important position which does not belong to them, instead of being added only to render the necessary and useful work more rich and more beautiful;—all these, and many besides, are mistakes and abuses in any building where they are seen. It must have often been remarked, that in any ornamental railing, or any kind of external decoration to a house, where a part projects beyond its due limits, and is superfluous in any degree, mischievous street-boys are sure very soon to knock off the excrescence, feeling it was something very well to be spared. You may see the keystone to the arch of a coach-door, which stone ought to be plainly marked and boldly carved, entirely hid and monopolised by part of a figure of Victory which formed the subject of a compartment of sculpture above the *porte-cochère*. It is bad taste, also, to place modillions above the dentiles; or modillions in the pediments, not perpendicular to the horizon: the ancients omitted them in the pediments. What the French call *bossages*, and what we call rustic or basement work, spoil many buildings on the continent. This work spoilt Soane's designs. There evidently has been, and there is still at the present day a passion for it. They were very common towards the end of the Renaissance before the end of the sixteenth century. They were never found in either religious or civil edifices; but in the gates of castles there are some examples of this outwork: in military works they often occur. Their strong appearance and projecting surfaces in fortifications are admirable; but the extensive application of them to city buildings and to palaces is to be regretted: the Louvre is ornamented with them for many mètres of length and height; but this species of work for the basement and for giving strength to buildings is not always well treated, especially upon the pilasters or upon the columns, although seldom seen so in ancient edifices; but where they occur they resemble bread-baskets placed one upon another. When the horizontal lines or joints only are marked in these projecting and vermiculated masses of masonry, and the vertical ones are omitted, the effect is bad, and strikes us as if the building was composed of weatherboarding, as we see in some of Sir J. Vanbrugh's works. It has sometimes a beautiful appearance when the stones are marked with both horizontal and vertical joints. Sir William Chambers truly says,—"The rigid ancient artists introduced but few pediments into their buildings; usually contenting themselves with a single one,—to distinguish and adorn the centre or principal part of the structure; but in the more licentious times of antiquity, as well as in modern practice, and particularly amongst the Italians, such has been the rage after pediments that their buildings frequently consist of almost nothing else. At Rome, the fronts of most of their churches are covered with them,—as are likewise many of their palaces and private-houses, where they are seen of all sizes and figures. For, besides the triangular and round, they have some composed of both these forms; some of an undulated figure; some semi-hexagonal; some with the inclined cornice and tympan open in the middle, to receive a vase, a bust, a niche with a statue, or a tablet for an inscription; and others where the aperture is left void, and the two ends of the inclined cornice are finished with a couple of volutes, or fleurons. There is, likewise, a sort of pediment composed of two half-pediments which are not joined together to form a whole one, but reversed; the summits being turned outwards. Of this kind there is one under the porticoes of the gallery of Florence,—with a bust wedged in between the two sections. England is far from being free of these extravagances: the buildings of London exhibit many examples of each kind.

F. LUSH.

REPLY TO QUERIES AS TO DOORS.

Jib Doors.—I should edge the door and opening with brass-plate, the moulded part with annealed ditto, screwed on the edges. On the rough surface of the door framing attach laths, plaster, and finish as the other part. No woodwork will stand to bear out with the adjoining part. *To prevent Sounds through Folding-doors.*—Double doors are the best preventive; but as these will be expensive, introduce a roller-blind, same construction as ordinary blinds, cover the roller with Croggon's noiseless felt: the bottom slip should be covered inside with thin sheet lead; attach small rings to each side, to work over a vertical iron rod. This will not be expensive, and can be attached, detached, or drawn up or down in a few minutes.

THOS. GOODLIFFE.

Folding Doors.—The best alternative to intercept the sound and to keep out the noise where there are folding doors, separating two rooms, would be double curtains of some woollen texture, viz. one to each room.—OMEGA.

NEWS FROM IRELAND.

THE parish church of Clondalkin, near Dublin, has been recently enlarged and its interior reconstructed. To the chancel have been added some stained-glass windows, by Warrington, of London. The triplet window is of Early English character, and the pattern on the glass consists of geometrical forms and medallion subjects. The centre opening contains three subjects, viz. the lower one, "Our Lord bearing the Cross;" the centre one, "Mary at the Feet of Jesus;" the upper one, "The Ascension of our Lord;" each in medallions, interlacing each other. The general background has peculiar scroll-work of various half tints on a ruby ground; and the whole is enclosed by a mosaic border of like character, embodying the national emblem of the trefoil. The two side lunettes represent "The Raising of the Widow's Son," of "Jairus's Daughter," and of "Lazarus;" the other the scene where "Jesus wept," the colouring and effect being rich and quiet. A space at the bottom of each compartment is devoted to a dedicatory inscription to the memory of Hugh Wilson, esq.; the arms and motto being introduced in the centre. We believe the new arrangements have been carried out from the designs of the architect to the Ecclesiastical Commissioners.

The plans for the new National Gallery for Ireland, to be built on Leinster-lawn, at Dublin, and furnished by Messrs. Lanyon and Lynn, architects, Belfast, have been examined and reported upon by Captain Fowke, R.E. Inspector of Science and Art, with a view to reducing the expense materially.

The first stone of the new quay below the Steam Packet Company's offices at Drogheda has been laid by Alderman Boylan, and the proposed structure will be named Boylan's-quay. Mr. Donor, engineer.

The Tipperary Gas Company has agreed to lower the price of gas from 10s. to 8s. per 1,000 cubic feet from 1st September next. Is it not still *twice* too high? A new company has been started in Dublin under the auspices of Mr. Flintoff, which professes to supply gas at 3s. 10d. per 1,000, meter-rent included. Gas is now becoming pretty generally used in Ireland; but still some good towns are without it.

The first stone of a new Catholic chapel at Tyrrelspass, county Westmeath, has been laid. Mr. Charles B. Marley has granted a free site.

The church of Ardstraw, Newtownstewart, is to be refitted internally.

A new church is to be built at Croghan, county Roscommon, according to plans, &c. furnished by the architect to the Ecclesiastical Commissioners.

An office for the Royal Engineers is to be erected at Kilkenny barracks, by the Board of Ordnance.

Various building works are to be executed at Parsonstown Barracks. A new Wesleyan church is to be built in the town of Cavan.

The new Presbyterian church at the junction of Tritonville-avenue with Sandymount-road, near Dublin, has been completed in the Early English style, from the designs of Messrs. Hay, of Liverpool. The schools and minister's house, intended to adjoin the building, have not yet been commenced.

THE SEWAGE QUESTION.

SIR,—As it is the soil, not the water, that creates the mischief, it is obvious that attention must be directed to the best means of separating the two; and before an immense sum of money is spent to carry the sewage miles away,—before any attempt is made to do so, for no man would seriously think of throwing it into the sea who really knew its value or had seen the refuse mud and decayed vegetables so readily bought by the farmers at from four shillings to six shillings per ton at the London railway stations, exclusive of the cost of railway and other carriage to their farms,—are we satisfied that it cannot be accomplished under London, and the process commenced immediately it enters the sewer, by retaining the valuable (but dangerous in its wrong place) sediment, and allowing the purified water to flow again, after having cleansed our streets and houses, into its natural channel, the Thames? It is obvious that the food, &c. of London is carried to it by a daily supply. Cannot it also be as easily and regularly relieved of its refuse by an underground system of sewers, provided with screens, dams, filters, and other apparatus for separating and deodorising the soil, and an underground system of railways in the sewers to collect the soil, carry lime, &c. to and from the various railway stations? by which means only—namely, railways—can the soil be carried, in a compressed and deodorised state, effectually and cheaply to all parts of the kingdom, and freight the return coal and other empty trains and coasting vessels; while lime, the (at present) only effectual and plentiful material for the purpose of deodorising, is in the immediate vicinity of the metropolis. And the same means would effectually rid the suburbs of dust-heaps, often so productive of disease, which might be mixed with the lime, soil, &c., compressed by steam or hydraulic power, and rendered a valuable manure; while the expense of the necessary works would be partially, if not wholly, covered by the sale of the same. LONDONER

NOTES OF NEW WORKS IN THE UNITED STATES, &c.

A NEW church has been commenced at New Albany, Indiana. It is described as likely to be a handsome structure, 120 feet in length by 50 feet in breadth, and in the Byzantine style. It is intended for the German Catholics. The Bishop of Louisville laid the corner-stone.

Four new churches are in course of erection in the diocese of Burlington, and eighteen others have, within a comparatively limited time, been completed, besides an orphan asylum and other buildings.

The old buildings at the corner of Summer and Chauncy streets, Boston,—upon the site of which it is proposed to erect a new post-office,—have all been demolished, and the foundation is prepared for the commencement of the new structure.

The contract for constructing all the bridges along the line of railroad through the island of Cuba has been disposed of at 1,500,000 dollars to Mr. Ballman, road-master of the Baltimore and Ohio Railroad Company.

The work on the M. and H. Railroad, commenced on 1st June between Berlin and Stevens's Point. The locomotive is expected to be seen coming into Plover Town immediately.

Two new college buildings have been completed at Amherst, Mass. and they were formally dedicated about the middle of last month. Mr. Williston, of Easthampton (a great button manufacturer), gave the funds, viz. 15,000 dollars, for the construction of one, and also 2,500 dollars more to endow a chemical laboratory.

The new market in Thirteenth-street, Dubuque, is completed, and has been duly inaugurated. It is stated "to be a credit to the city."

An execution was issued against the Peoria and Oquawka Railway Company, at the suit of the engineer, Mr. Morgan, for 47,436 dollars.

We learn from the *Renosha Tribune* that about fifty buildings are now being erected there, and among them are some of importance, including a steam flour-mill, a brewery, and a Lutheran church.

A large four-story brick warehouse, containing Government provisions, in Kansas city, fell into a heap of ruins, owing to the quantity of goods stored interiorly.

HARPER'S NEW BOOK STORE, AND "TIMES" OFFICES, NEW YORK.

THE immense book establishment of the Harpers, said to be the largest of the kind in the world, is one of the sights of New York. There are four brothers proprietors. James and John first started a job and book-office in Dover-street, in 1817, and subsequently Joseph and Fletcher became partners in 1823 and 1826. From a small beginning they have rapidly risen to a position of great wealth and influence; and both the establishment and firm now greatly overshadow even the far-famed house of Brockhaus, at Leipzic. Unlike the European practice of bookbinding being regarded as a distinct business, every phase of binding is carried on here. The situation of the buildings is on Franklin-square, in Pearl-street, and also fronting Cliff-street. They cover half an acre of ground, and are arranged in the form of two immense blocks, separated by a court-yard. They are fire-proof. The building fronting Franklin-square presents an imposing appearance, with its iron front, six stories high, irrespective of basement; and is ornamented with a full length statue of Benjamin Franklin. Over the large front entrance-door, and between the windows of the fifth story, is a row of smaller statues of Washington, Jefferson, and others. Under the basement of the front building is a sub-cellar, making in all seven floors, and a subterranean railway runs from front to rear. Its extensive underground ramifications remind one of some inquisitorial institution. The building in the square is for sales-rooms, and storage of stock and materials, and that in Cliff-street is for manufacturing purposes. In the courtyard a stone tower rises up the whole height of the buildings, and circular stairs are constructed therein, with openings in each floor, and thence are iron bridges to each building. The floors are all laid in brick and mortar, upon wrought-iron beams, supported by wrought and cast iron columns. They are necessarily constructed very strong, as one of them has to wear a beight of 150 tons of presses; and they will resist a weight of 300 lbs. to 500 lbs. per square foot. The area of the floors throughout is between 2 and 3 acres. On the basement floor of Cliff-street building is an engine supplying power for all the operations of the establishment. On the next floor are twenty-eight Adams's presses, each attended by a girl, who feeds them with paper. The next room is the drying and pressing room, the next the sewing and stitching room, the finishing room, and the next the great composing room of the establishment. In the building are thirty-three presses, all driven by steam. Most of the work is done by girls, though a great many boys and men are employed. In good times there are 600 persons at work, but at other times the number is reduced to 400, or thereabouts. The doors, windows, sashes, &c. are of iron. The whole front of the building is 130 feet. The books are stored away in bins, and the number of these in the first floor is 1,000, each capable of holding 1,000 ordinary duodecimo volumes.

The new offices of the *Daily Times* are built on the site of the old brick church opposite the park, and form one of the handsomest structures in the city. The basement is occupied by a magnificent ten-cylinder press of Hoe's manufacture, and by folders, wrappers, news-boys, &c. It is lofty and lightsome, and extends out under the side walk and all about the building. The ground floor is for the counting room, and on the fourth floor are well-finished rooms for editors, reporters, and other assistants. The rooms are well furnished with good carpets, and are the finest suite of the kind in the city.

MASTER BUILDERS AND OPERATIVES.

SIR,—Will you oblige the trade by inserting this in your paper on Friday next?—Yours, respectfully, on behalf of delegates,—

GEORGE POTTER.

To the Master Builders and Employers of Carpenters and Joiners of London and its Vicinity.

GENTLEMEN, At an aggregate meeting of the trade, held in Exeter Hall, on June 3rd, 1858, it was unanimously resolved that a memorial should be presented to you, asking you to reduce the hours of labour from ten to nine hours per day, *with the present rate of wages.*

The reason why we ask this of you is, we believe the time has come when there must be a better equalization of the hours of labour in consequence of the great increase both of population and machinery. We are not opposed to machinery; but we are of opinion that the working classes ought to reap some benefit from its extensive introduction, and the benefit we wish is a mitigation of the hours of labour.

We also think that reducing our labour one hour per day would be a great boon to society in general, and would have a beneficial tendency to those employed in promoting their *moral and social condition.*

Gentlemen,—the object of this memorial is to respectfully request you to concede to us the privilege of working nine hours per day instead of ten (as at present). We wish this alteration to take place without any diminution in the present rate of wages. Should you grant us this boon, it will produce and promote a better feeling between employer and employed, for long hours of labour are detrimental to both. Hoping you will consider this question as employers of labour belonging to a great country, which is held up as a model for the admiration of the world,—We are, Gentlemen, yours respectfully, on behalf of the Trade Delegates,—

THE COMMITTEE.
C. TAPERELL.
ALEX MOLE.
C. HACKWORTH.
MATT. BENN, Chairman.
GEO. POTTER, Secretary.

LAW NOTES.

Agreement for a Lease.—A person agreed to let certain farms for ten years, which farms had for some time been in the occupation of the tenant with whom the agreement was made. It was agreed on that the leading of materials for building should be at the expense of the tenant, and that the landlord should have the liberty to plant and cut timber, and to search for and work mines. No mention was made of tithe rent-charge which had previously been paid by the tenant. A dispute arose, and it was held by Vice-Chancellor Stuart, that a covenant for the payment of rent-charge by tenant should be inserted in the lease. This has been overruled by the Court of Appeal, which has directed the lease to be framed in accordance with the terms of the preliminary agreement.—*Parker* v. *Taswell.*

Railway Company.—Parliamentary Opposition.—The chairman of the provisional board of a projected railway company agreed with a landed proprietor to withdraw his opposition to the bill for a sum of money, as compensation for damage to property, and he was also to be repaid the expense of his opposition. The contract was not kept to by the company, and the landowner filed a bill in Chancery to compel performance. It was contended for the company that an agreement to buy off parliamentary opposition was illegal. This precise point was not decided; but as the company had in legal proceedings adopted the agreement between the chairman and the landowner, it was held that the latter was entitled to payment of the sum agreed upon with interest.—*Williams* v. *The St. George's Harbour Company.*

Company.—Change of Name.—Where it is shown that a company is the same in fact, although it has changed its name and constitution, it will be held liable for debts existing prior to such change. *Re the Rhydwfel Colliery Company.*

Company.—Misrepresentation.—Where a person is induced by misrepresentation to become a shareholder in a company, he is not liable to be obliged to contribute in case of winding up. An officer cannot be considered as the agent of a company to commit a fraud unless he is directed by the company to make the particular statements which

constitute the fraudulent representation.—*Re the Deposit and General Assurance Company.*

Gift to a Public Library.—A testator left certain real property to the trustees of the Penzance Public Library, for the benefit of the library. The library is supported by private individuals, and maintained for subscribers only, and not the public generally. It was held that such an institution is not a "charitable institution" within the Mortmain Acts, and that the legacy was good against the heir-at-law.—*Carne* v. *Long.*

SARDINIAN PRISONS' COMPETITION.

SIR,—Perhaps some of your readers can inform me whether there is any connection between Mr. Barber, vice-consul for England, at Turin, and Mr. Barber, of the firm of Messrs. Jones and Barber, the gentlemen who are renowned as having obtained the first premium for the Sardinian Prisons at Turin, and the third for that at Genoa. It would also be curious to know how the names of the competitors have been allowed to transpire prior to the decision of the competition, and whether any reliance may be placed in the list of the premiated designs published in the *Builder*, no official information having as yet reached the competitors. I inclose my card.

A COMPETITOR.

DOUBLE COMMISSIONS.

SIR,—I am afraid it is but too true that a large class of so-called architects is open to the accusation of receiving commissions from builders,—at least, if builders themselves are to be believed; for I have often received intimations to this effect from builders; and, when I have deprecated the practice, and hinted that I could not *trust* a builder who fee'd or wished to fee an architect, I have been deliberately told that "it was commonly done;" that "it bore hard upon the builder, but he could not help himself," and so forth. A man once came and offered me 5 per cent. upon all that I would "put in his way." Another (in tendering for a work wherein he knew that the settlement was likely to be left entirely to myself) came to say, that he "was quite ready to do the usual thing." Another man would urge "O, sir! your conscience is too tender;" and another, "I wish others would say the same as you." These are facts to which I could testify, if called upon to do so; nor is it to be wondered at that enough of what goes on should sometimes reach the public ear to raise the suspicion of its being general. And then "indignant denials" go but a very little way.

But is it as a profession that we are guilty? I think not. It is simply a branch, although a most abominable one, of that all but universal system of commissions which pervades the commercial world. It is not upon "architects" that it is to be charged, but upon "individuals." Moreover, our profession is one that is now overrun by men who call themselves architects without a shadow of claim to that title; and numbers are ruined builders who know just enough to set up in a calling which is supposed to "raise them above suspicion." CORNER BRICK.

DECISION UNDER THE METROPOLITAN BUILDING ACT.

ON Saturday, the 3rd instant, Mr. Richard Wilson, of Mercers-terrace, Back-road, St. George's-in-the-East, builder, was summoned to the Thames Police-court, Stepney, by Mr. John Billing, the district surveyor of St. George's-in-the-East, and St. Botolph's Without, Aldgate, for declining to pay two fees of 15s. upon the re-erection of two waterclosets upon the premises in the rear of the houses Nos. 12 and 13, Richard-street, St. George's-in-the-East. The defence was, that no fee was payable upon waterclosets under the Act, and that the late surveyor had never required it. Upon the case being fully investigated, it appeared that the two closets are attached back to back, and, measured together, they form one building, of considerably less area than is included in the smallest fee, viz. 15s. The work was done for one owner, and by one contract. Mr. Selfe's decision (in which Mr. Billing concurred) was, that one fee of 15s. and the expenses, would meet the present case, and Mr. Wilson was ordered to pay the amount.

RECENT PATENTS.*

H. DOULTON.—*Improvements in the Manufacture of Earthenware Drain and other Pipes.* Dated July 22, 1857.—Here the dies through which the clay is expressed are formed with cutters or parts, so that in making cylindrical pipes they shall be grooved or cut longitudinally, both internally and externally, in an inclined direction to a radial line, so that each pipe may readily be divided into two parts longitudinally. It is preferred to give additional thickness on the sides of the pipe where such inclined grooves are produced.

J. A. BOSWORTH.—*Improvements in Machinery for Grinding and Crushing Clay and Brick Earth.* Dated August 13, 1857.—A circular track or platform is used, the circular iron frame of which is constructed in sections, fixed together by screw-bolts and nuts. On this circular frame, iron bars are placed side by side, and in radial directions, there being a space between each two neighbouring bars. On this circular track or platform edge-stones or runners roll, and they are caused to do so by an upright shaft, which receives a rotary motion from a steam-engine. The arms from the upright shaft are attached by pin-joints to the axes of the runners or edge-stones, in such manner that the outer side of such axes on which the runners or edge-stones revolve may rise and fall. Between the axis and the inner edge of the circular track or platform a conical incline is formed, on to which the clay or brick-earth is placed, and down which it slides to the circular track or platform.

THOMAS FREDERICK BRADSON, Birmingham, and GEORGE HUGHES, Yardley, Worcester. *Door Springs.* Dated November 19, 1857. — The patentees claim, firstly, the use of a helical or coiled spring or springs inserted in the door frame, and made to act on an arm or lever in the manner described and represented; secondly, the use of a flat, or nearly flat, spring, supported at both ends, and made to press at or near its middle upon the mechanism by which the door is closed.

CLEMENT LAWRENCE WEST, Rupert-street, Haymarket, London. — *Window Sashes.* Dated November 19, 1857. — This invention consists, first, in fixing the hinges of French casements to a piece or pieces of wood, which have liberty of sliding up and down the said framework, similarly to an ordinary sliding sash, and having sash-weights connected therewith; and, secondly, in combining a French casement thus constructed with a sliding sash placed above the aforesaid French casement. By thus combining these two descriptions of sashes in one, it enables sashes to be easily cleaned and repaired, and affords the advantge of being able to use the sash as a sliding sash only, or as a French casement, or both combined.

STEPHEN ORATOR MASON, Connecticut, United States. — *Door Hinges.* (A communication.) Dated April 8, 1858.—This invention consists in so constructing the joint parts or journals and bearings of the two leaves of a hinge, with one or more locking recesses and holding projections, or their equivalents, as to enable the two leaves to be connected or disconnected in a lateral direction, and to operate together.—*Complete specification.*

G. COLLIER, W. NOBLE, and W. HOLROYD.—*Improvements in Cutting, Shaping, and Planing Wood, and in the Tools and Apparatus employed therein.* Dated August 8, 1857.—These relate, 1st, to the production of imitation wicker or basket work for carriage or other uses in wood, by the use of a cutting tool of a peculiar construction operated by mechanical means. 2nd. To the production of rotary cutters for the formation of mouldings and other ornamental forms. 3rd. To cutting or planing boards or other plane surfaces. 4th. To employing elastic pressure to keep the wood under operation in contact with the planing tools. 5th. To forming cylindrical surfaces of wood, such as cornice-poles and the like. 6th. To the employment of rotating cutters for moulding and other figures when such are operated to have a to-and-fro motion as well as a rotary motion. 7th. To applying heat to the surface of the wood during the operation of cutting, better to prepare the surface for the action of the tools.

R. A. BROOMAN.—*Improvements in Circular Sawing Machinery.* (A communication.) Dated August 1, 1857.—This consists in fitting over a circular saw a semicircular metal envelope, held by a bar made to travel up and down in a standard upon motion being communicated by a screw, and having combined with it, just in front of the saw, a set of rods and levers connected and adjusted so as to allow of the passage of the wood to be cut, and to fall down upon the saw-bench or bed immediately after the wood has passed, and thereby prevent injury to the workman or attendant feeding the saw. It also consists of a regulating gauge for determining the breadth at which the wood is to be cut.

V. H. LAURENT.—*A new Improved Machine for Forging Nails and other similar articles.* Dated August 21, 1857.—This invention is intended to produce by machinery the same small objects as are obtained by hand-forging, by presenting the red-hot iron rod to the point of intersection of four sliding hammers, placed at right angles, and moving at a regular alternate motion, so that the rod to be forged is hammered on its four sides without an alternate rotating motion.

* Selected from the condensed lists published in the *Mechanics' Magazine* and *Engineer* journal.

Books Received.

The Combustion of Coal and the Prevention of Smoke Chemically and Practically Considered. By CHARLES WYE WILLIAMS, C. E. London: Weale. 1858.

THIS is a new and corrected edition of an important essay. The author, Mr. Williams, received the premium of 500*l.* offered by the Steam Coal Collieries' Association of Newcastle-upon-Tyne for the best plan of a furnace for the complete combustion of coal and the prevention of smoke. His system, as is now pretty well known, consists of the admission of air at the furnace door, or at the bridge, or both, by numerous small apertures, with the intention of diffusing it in streams and jets amongst the gases. The present treatise, however, is much more than a mere account of the author's own system: it is an elaborate elementary essay on the chemical, pneumatic, and general question of the combustion of coal and prevention of smoke, with numerous illustrations, and an appendix containing the report on the Newcastle steam coal question, to which we have just alluded. The essay now appears in the form of two volumes of Mr. Weale's cheap series of rudimentary treatises, and is published also bound up into one three-shilling volume of this very useful series.

Miscellanea.

INDIA AND THE "GREAT EASTERN."—A correspondent in Calcutta, inquiring of us the progress that is being made in fitting the *Leviathan* (now the *Great Eastern* again), for sea, says:—This is what we require for India, some means of speedy and cheap transit from the mother country to this. I feel it will do more towards the improvement of India, than all their schemes of colonization and improving the condition of the natives, which are so much talked of at present. If the passage-money could be reduced to about thirty or forty pounds from England to this country, we should soon have numbers of Europeans coming out to try what could be done in India; and there can be no doubt, the field for employment of European capital and settlers is very extensive, particularly since our tea-plantations are doing so well in the Hills. This will afford employment for thousands of Europeans in the course of time; but if we can only get the passage-money reduced, and the trip not to occupy more than forty-five days (which will be done by large steam-vessels), there will be no want of Europeans out here in the course of a few years.

OBELISKS IN ROME.—What a capital paper, Mr. Editor, is the Rev. Mr. Burgess's on Obelisks, printed in your columns. I could write about it for an hour, but will be merciful. What a spice of fun he has in him: the sun presiding over the races in Rome: this is more than we can say of Epsom, &c. &c. But he might as well have told us how the victors contrived to adorn the top of the obelisk with the palm-branches and crowns they had won. Did the Romans keep cords fastened on the pyramidion, as sailors do to the top of their masts, and run them up, as the latter do their signal flags? Nor does he comment on the frightful way in which the obelisk in the Piazza san Pietro is supported on its base, resting on four bronze animals—tortoises, I think, but I almost forget,—so that you see daylight through, which has a most unpleasant effect of insecurity, besides the apparent crushing of the creatures.—A TRAVELLER.

PETTICOAT-LANE: THE SUNDAY MART.—At a Court of Common Council of the City of London, held on the 1st inst. Mr. H. Hill moved, "That the demoralising effect produced to the surrounding neighbourhood by the Sunday mart, held in Houndsditch, calls for the serious attention of this court; and that, with a view to its suppression, it be referred to the police committee to inquire into the circumstances relating thereto, with instructions to call for the production of any papers in the hands of the commissioner of police connected therewith, and to report thereon to this court." After some remarks by other members of the council, Alderman Salomons said that, though he regretted the extent to which trading among the Jewish community on the Sunday was carried, it was scarcely fair to single out that community, when it was notorious that what was termed "Sunday trading," was carried on to so great an extent in other places with impunity. He would suggest the removal of the words, "demoralising effect," and "with a view to suppression." If the mover would agree to the obliteration of these words from his motion, he (Alderman Salomons) would support it. This was finally agreed to, and the motion, as amended, was carried.

THE IRON AND COAL TRADES.—At the preliminary meeting of the iron trade held last week, it was agreed that the prices of merchant iron should remain as they are, namely, bars, 8*l.*; hoops, 9*l.*; and sheets, 10*l.* per ton. The trade was represented as being in anything but a healthy state. The best qualities of mine iron realise 3*l.* 15s. per ton, except in some instances where sales are pressed: under these circumstances lower prices are accepted for cash payments or good "bills."

RAILWAY MATTERS.—The Commons committee on railway accidents has given in its report. These accidents, says the report, arise either from inattention of servants, or defective material, or excessive speed; and the committee recommends that the Board of Trade should be fully empowered to investigate all railway accidents, and report to Parliament; that, with a view of preventing excessive speed, easy remedies should be given to the public against railway companies who fail to secure punctuality in the arrival and departure of trains, the want of which is the main cause of excessive speed; and that means of communication between guards and drivers should be established, and a system of telegraphic communication between stations enforced.——A wooden bridge, called the Beavers-town or Rogers-town bridge, on the Dublin and Drogheda railway, caught fire last week, and was almost entirely consumed. Fortunately no other accident occurred. A temporary bridge was erected, so that the traffic was resumed.

THE METROPOLIS ROADS.—The Commissioners of the Metropolis roads north of the Thames have conveyed over, for one year, the collection of the tolls payable at the bars and gates within their district to the following lessees:—The Stamford-hill, Green-lanes, and Seven Sisters-roads, to Messrs. Ambler, Bolton, and Co. for the annual rent of 8,170*l.*; the Hackney and Lee-bridge-roads, to Mr. Bolton, for 4,410*l.*; the City-road, to Mr. Bolton, for 2,800*l.*; the Finchley-road to Mr. Bolton, for 1,510*l.*; the Highgate and Hampstead-roads to Messrs. Levy and Bolton, for 13,410*l.*; the Kensington, Brentford, and Isleworth roads, to Messrs. Macnamara and Co. for 14,960*l.*; the Tyburn and Uxbridge roads, to Mr. Morris, of Exeter, for 10,180*l.*; The Kilburn and Edgeware roads, to Mr. Kemshall, for 3,480*l.*; and the Harrow-roads to Mr. Bolton, for 1,150*l.* Last year the rents of the roads collectively produced 58,990*l.*; but this year they will realize only 58,560*l.* being a deficiency of 430*l.* The falling off was principally on the Highgate and Hampstead roads, which last year realised 13,700*l.* and this year 13,410*l.*; and on the Stamford-hill roads, which returned 8,170*l.* this, and 8,350*l.* last year.

PUBLIC DRINKING FOUNTAINS.—We have previously called attention to the munificence of a Liverpool merchant who has erected at his own expense a large number of public drinking fountains, thereby conferring upon his townsmen one of the greatest possible boons, and at the same time erecting a memorial which will cause his name to be honoured in generations to come. It is a pleasing fact that during one of the hot days of last summer upwards of 30,000 persons partook of the refreshing liquid at these Liverpool fountains. Who can estimate the evil prevented by Mr. Melly's benevolence? In the ancient city of Chester, Peter Eaton, esq. the late mayor, has presented to the public a beautiful granite fountain. If all our chief magistrates would leave behind them such valuable and enduring mayoralty ship memorials, the heartfelt thanks of tens of thousands of the working classes would be secured by them.—*The British Workman.*

SCULPTURE.—We understand that the committee at Halifax have selected Mr. MacDowell, Mr. Durham, and Mr. Milnes, to compete for the statue of Mr. F. Crossley, M.P. to be placed in the People's Park so generously given by him to that town.

SCHOOLS OF ART IN THE MIDLANDS.—The following table shows the number of persons receiving instruction in drawing in the Schools of Art in the Midlands, for the years ending June 30th, and also the amount received in fees from the students:—

	1856.	1857.	
Birmingham, with branches at Smethwick, Spon Lane), and Cape	1,451 ..	1,536 ..	£714
Burslem	167 ..	164 ..	53
Coventry	384 ..	554 ..	139
Dudley	752 ..	809 ..	106
Hanley	122 ..	259 ..	59
Newcastle-under-Lyne	195 ..	180 ..	29
Stoke-on-Trent	188 ..	293 ..	166
Stourbridge	542 ..	436 ..	115
Wolverhampton	250 ..	349 ..	247
Worcester	698 ..	730 ..	137

The results of the competition last year for the local and national medals were, that Birmingham carried off twenty-four local and three national medals; Burslem, thirteen local and four national; Coventry, eighteen local and three national; Dudley, five local; Hanley, seven local and four national; Newcastle-under-Lyne, six local and two national; Stoke, twenty-two local and seven national; Stourbridge, three local and one national; Wolverhampton, seven local; and Worcester, twenty-five local and three national.

REFUSING TO SUPPLY GAS.—The iniquitous practice of compelling incoming tenants to pay arrears due by outgoing tenants, came under consideration in the Court of Common Pleas on Thursday last, in the case of Bedding *v.* The Imperial Gas Company, when the defendants were found liable to the plaintiff in 25*l.* damages for refusal to supply him with gas, as demanded.

EMBANKMENT OF THE SEINE.—The Paris correspondent of the *Globe* writes:—"The energies of our engineers are now directed, not to the purification of the Seine, which is quite pellucid, but to the embankments on the lower portion of the stream between Rouen and Havre, for the purposes of improved navigation. 5,000 hectares of good land have been already reclaimed from the floodings of the stream, making an annual gain of twenty millions of francs. The work of narrowing the bed of the river has been productive of immense advantages to Rouen in affording access to heavy tonnage.

THE SEWERAGE OF GLASGOW.—The question of drainage at Glasgow is occupying anxiously the minds of those in that city who rightly feel its importance.

PRESERVATION OF STONEWORK.—The daily papers say that the Government have commissioned Mr. Szerelmy, the inventor and patentee of a composition for preserving stone and iron from injury by atmospheric agency, to apply his material to such portions of the walls of the new Houses of Parliament as may require it.

FALL OF A ROOF AT STOCKPORT.—The roof of an occupied house, near the "Black Lion," Middle Hillgate, fell down last week upon the chamber floor, and nearly suffocated a little child. An inspector has since examined the premises, and given notice to the landlord that the house is in a dangerous state and unfit for human habitation.

NORTHERN AND SCANDINAVIAN ANTIQUITIES.—The annual meeting of the Royal Society of Antiquaries of Denmark, was held at Copenhagen, on the 11th ult. The Secretary Councillor of State, C. C. Rafn, made a statement of the proceedings of the society during the past year, and said that two new volumes of the "Annals of Northern Archæology and History for 1856 and 1857" are in the press, and would be soon published. In the first volume is the History of Abrahamstrup, in the early and recent periods, by C. F. Wegner; 2nd, View of the Bronze period, in illustration of the "Atlas of Northern Antiquities," published by the society; with several other shorter papers. In the second volume are statements of the geographical information of the Iceland people, as to the northern and southern coasts of the inhabited parts of the earth, by A. F. Mehren. The king presided at the meeting.

SURREY ARCHÆOLOGICAL SOCIETY.—This society will hold their fifth annual meeting at Farnham, under the presidency of the Bishop of Winchester, on Tuesday, the 13th instant, when several interesting papers are to be read.

MADRID WATERWORKS.—The Madrid journals give long accounts of the works for distributing in the city the waters of the Lozoya. The canal which brings the waters to the capital is, it appears, about thirty-five miles in length, and the reservoirs contain about 75,000 cubic yards of water—a quantity sufficient to supply the population and for irrigation. The works were commenced in July, 1851.

BELGIAN CHURCH PORTRAITS. On removing some plaster from the walls of a chapel, in the church of Notre Dame, at Courtrai, in Belgium, some portraits of the old Counts of Flanders and Kings of Spain were found.

THE SEWERAGE OF LONDON. Provide floating reservoirs in the shape of barges at the *mouths* of the sewers, having a layer of several feet of garden mould, chalk, peat ashes, and sawdust at the *bottom*, to *absorb* the liquids and poisonous gases. When full, cover the whole with a mixture of powdered alum and chloride of lime to the depth of 2 or 3 inches. Replace the reservoir by another, and let the laden one be towed by a tug to some part of the coast to deposit its freight in pits for manure. Let *locks* be erected between the bridges, in order to clear away the mud, the accumulation of several years; for without this is done, the light carburetted hydrogen gas found so abundantly in stagnant pools when the mud is stirred up, will breed ague, dysentery, and cholera. This gas is the poisonous gas of the Thames, churned up by the steamers, and rendered doubly hurtful by sultry weather. Government can write up "No thoroughfare," when they erect the *locks* in the river, without having to compensate the steamboat companies for any losses on their part.

J. B. NEIL.

THE GROWTH OF AMERICAN CITIES.—Boston was trying to grow nearly 100 years before it attained a population of 10,000. Albany was 200 years. New York was 130 years. Philadelphia, settled 60 or 70 years later, grew much faster than the older cities, and arrived at the dignity of 10,000 in much less time—that is, in about 50 years. New Orleans was about 100 years old before she had that number: during the first hundred years after the settlement of Boston (1,630) this was the largest city of the colonies. New York became as populous as Boston just before the revolutionary war: about 1811, New York became as populous as Philadelphia, each containing 100,000 inhabitants. Baltimore overtook Boston about the year 1800. The principal new cities grew to the number of 10,000 nearly as follows:—Pittsburg in 65 years; Louisville, 50 years; Cincinnati, 22 years; Cleveland, 40 years; Detroit, 45 years (counting out its French and Indian period); New Albany, 35 years; Chicago, 12 years; and Milwaukie, 10 years. The above-named cities attained to 20,000, in the number of years from their birth, as follows:—Boston, 163; Albany, 220; New York, 150; Philadelphia, 80; New Orleans, 113; Baltimore, about 80; Pittsburgh, 75; Louisville, 41; Cincinnati, 30; Cleveland, 45; Detroit, 52; Chicago, 16; and Milwaukie, 17 years.

DEMOLITION OF THE SOHO WORKS, BIRMINGHAM.—Very shortly only a small vestige of what once constituted the far-famed Soho Works—the scene of the triumphs of the great Jas. Watt—will remain to indicate to the visitor the spot on which these extensive premises have stood. After remaining for some years untenanted, says the *Journal*, the works were taken by Messrs. Toy and Son, of London. But in the interim there had sprung up, in and around Soho-park, an abundance of superior and aristocratic looking dwellings: a new church had been erected in the vicinity; and the pool had become a popular resort for recreation and amusement. It was then discovered that the volumes of smoke, emanating from the works, were an intolerable nuisance, and Mr. Boulton and Messrs. Toy were speedily threatened with legal proceedings. By an amicable arrangement, however, they have undertaken to transfer their manufactory to Spring Hill. The materials will, as far as practicable, be used in the erection of the new works. A small vestige of the old Soho will remain. This will consist of the principal elevation of the well-known building, its front and wings. The internal walls only will be taken down, and the area thus obtained will be converted into four first-rate residences.

RUSSIAN DESIGNS ON PARIS.—Mr. Covas, principal architect of the Emperor of Russia, it is said, has submitted to M. Fould the model of a new grand opera-house.

TOWN-HALL FOR HOUNSLOW.—The Duke of Northumberland has given a donation of 100*l.* in aid of funds for erecting a town-hall at Hounslow.

CHURCH ORGANS.—Water-power has been applied to the bellows of Carlisle Cathedral organ. The water is collected in two cisterns or tanks, placed in the roof over the south aisle, and is drawn from the reservoir supplying the town. From these cisterns the water passes down a pipe into two cylinders, like those of a steam-engine, standing in a hole apparently dug to obtain a greater fall of the water. Exactly over these cylinders are two feeders made like the reservoirs of the organ-bellows, each having a diaphragm or middle leaf, which is moved up and down by means of the pistons. Attached to these leaves are two rods, which pass down to two large taps. The reciprocating motion is attained by one cylinder operating upon the tap of the other, and the blast of air attained by these feeders is continuous, but varied by a steam equilibrium throttle-valve, which the reservoir of the bellows closes as it becomes thoroughly inflated. The engine is under the immediate control of the organist by suitable gearing leading to valves in the cistern. Mr. H. Willis is the patentee.

TENDERS.

For alteration of, and additions to, the Manor House, Rotherby, Leicestershire. Mr. R. W. Johnson, Melton Mowbray, architect. Quantities supplied.

	Works generally.	Conservatory.
	£. s. d.	£. s. d.
Russell, Leicester	1,180 14 0	104 15 0
Do. do.	1,160 4 0	104 15 0
Osborne, do.	1,107 8 6	91 10 0
Neale, do.	1,093 14 0	98 0 0
Jarrom do. (accepted)	1,082 2 6	87 18 0

For rebuilding the Britannia Theatre, for Mr. Samuel Lane. Messrs. Finch Hill, and Paraire, architects. Quantities supplied by Messrs. S. B. Wilson and Son :—

Nixon	£14,770	0	0
Lawrence	14,340	0	0
Piper	13,420	0	0
Myers	12,900	0	0
Kelk	12,750	0	0
Hill	12,744	0	0
Patrick	12,240	0	0
Holland	12,120	0	0

For the Minton Testimonial, Stoke-on-Trent. Messrs. Pugin and Murray, architects :—

Gascoyne, Leamington	£3,319	0	0
Yates, Liverpool	3,089	0	0
Bryan, Stoke on-Trent	3,071	0	0
Steel, do.	3,045	0	0
T. and G. Harrold, Hinckley	3,028	0	0
Young, Lincoln	2,623	0	0

For erecting new galleries, and sundry alterations to Congregational Church, Pattle-bridge, King's-cross. Messrs. Habershon, architects :—

Evans, Brothers	£718	0	0
Raby	670	0	0
Seagrave and Biofield	668	0	0
Purkiss	577	0	0
Ring and Stanger	550	0	0
Patman (accepted)	535	0	0
Palmer	433	0	0

TO CORRESPONDENTS.

G. W. B.—H. W.—W. W.—J. B.—E. N.—J. D. W.—De. S.—E. W. (we have already given some particulars).—Mr. L.—J. M.—H. C.—D. A. R. (we are forced to decline recommending As to zinc paint, there are two opinions).—J. M. A.—A Clerk of Works.—H. P. H.—B. C. D. (the ground for refusing is not very obvious. We prefer to offer no opinion).—S. and R.—H. K.—T. H.—W. B.—T. R.—W. W. jun.—T. W.—F. A.—H. W.—G. and D.—G. B. W.—A. S. B.—T. L.—Pudor (Pottery Company, Poole, Dorset).

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and NOT to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

MINORIES.—Excellent Building Materials of several Houses, Premises, Street, and Goodman's-yard.

PULLEN and SON will SELL by AUCTION, on the PREMISES, on MONDAY, JULY 12, at TWELVE, in lots, by order of the Directors of the London and Blackwall Railway Company, all the valuable BUILDING MATERIALS of an excellent large residence and several houses and buildings adjoining Goodman's yard and Little Prescot street, Minories, consisting of large quantity of capital stock brickwork; 11m and pan tiles, oak and fir timber in roofs and floors, glazed sashes, doors, partitions, wainscot, marble and other chimney pieces, sound flooring boards, old oak panelling and heads on Elizabethan ceiling, several tons of lead in flats, gutters, cisterns, and pipes, stone paving, coping, and sills, slates, slab cisterns, and a variety of fixtures and fittings up-May be viewed on Saturday. Catalogues had at Mr. TITE'S Offices, 17, St Helen's-place; and of PULLEN and SON, 29, Fore-street, Cripplegate.

BAYSWATER.—Five Dwelling-houses and Seven Carcases, by order of the Mortgagee.

MR. MARSH has received instructions to SELL by AUCTION, at the MART, opposite the Bank of England, on THURSDAY, JULY 15th, at TWELVE, in eleven lots, a capital brick-built private RESIDENCE, being No. 27, Westbourne-gardens, let to Mr. Albuquerque, at 35l. per annum (in view only between TWO and FOUR o'clock); and Ten Carcases, planned for Residences, containing ten rooms each, very desirably situate on the east and west sides of Denbigh road, Westbourne-grove West, held for long terms, at moderate ground-rents.—May be viewed, and particulars, with conditions of sale, obtained, at the Mart; the Royal Oak, Bayswater; of Messrs. ALLEN and NICOLL, Solicitors, 88, Queen-street, Cheapside; and at Mr. MARSH'S Offices, Charlotte-row, Mansion House.

To BUILDERS, CONTRACTORS, MARBLE MERCHANTS, TIMBER MERCHANTS, and OTHERS.—The valuable Plant, Machinery, Tools, Utensils, &c. of the Improved Wood Moulding Mills and Marble Works, Harrow-road, Paddington.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, AUGUST 4th, at TWELVE o'clock, the whole of the excellent fixed PLANT, MACHINERY, and TOOLS, consisting of drilling, planing, and polishing machines, on plate, and in the best working order, including a capital 35-horse power engine, surfacing table 8 feet in diameter, with fittings; a wrought-iron shaft with fittings complete, a superior double moulding machine, patent saw-bench, patterns, marble in slabs, mantelpieces, and effects.—May be viewed the day prior, and catalogues obtained on the Premises; and at Mr. MARSH'S Offices, 3, Charlotte-row, Mansion house.

VALUABLE and EXTENSIVE ESTATE in the Carse of Falkirk and Shire of Stirling, FOR SALE. The Lands and Estates of Garduch, or Abbotshaugh, with the Lands of Stonehouse and Greendykes Mains and Muddleryg, lying in the Carse of Falkirk and Shire of Stirling, will be exposed to SALE by a PUBLIC ROUP, in STEVENSON and SONS' Rooms, No. 58, St. Andrew-square, Edinburgh, on WEDNESDAY, the 14th day of JULY, at TWO o'clock in the afternoon (if not previously sold by Private Bargain). The Estate of Garduch, all lying contiguous, contains upwards of 700 acres, imperial measure, and the Lands of Stonehouse and Greendyke Mains and Muddleryg, which lie about a mile to the north, contain about 200 acres, all imperial 500 acres imperial measure. The whole Lands are of excellent quality, capable of bearing every kind of crop. They are all let in grain rents to thriving and industrious tenants, and are partially drained on the most approved system for further improvement. They are intersected and partly bounded by the River Carron and Frith of Forth, the sea dykes of which are all substantial and in excellent order. The farm-steadings are adequate to the different farms, and all in good repair, some of them having been recently repaired. The mansion-house, although out of repair, is beautifully situate, and the garden, policy ground, and ornamental walks and plantations, well laid out, so that they could easily be put in order, and the house fitted up for a resident proprietor at a moderate expense. Minerals are wrought on the immediately adjoining lands, and will, without doubt, be found in the estate. The lands hold partly of the Crown and partly of the Earl of Zetland and others, at a moderate fee duty, and the fee is full.—For further particulars, apply to Messrs. H and S. R. LEWIN, No. 59, Southampton-street, Strand, London; or to Messrs. TAWSE and BONAR, W.S. Edinburgh, who are in possession of the title-deeds.

POPLAR and BROMLEY, MIDDLESEX.—Important sale of about Two Acres of valuable Freehold Building Ground, land-tax redeemed, which will be SOLD by AUCTION, by

MR. J. Y. GIBBS, at the GREEN DRAGON TAVERN, High-street, Poplar, on THURSDAY, JULY 15, 1858, at TWELVE for ONE o'clock, in 36 lots. The land is known as the "Brunswick Estate," and situate in Christ-street, Guildford-road, London-street, East-street, Brunswick-street, and Upper North-street; the roads being made and the sewers partly sanctioned by the Metropolitan Board of Works. A favourable opportunity is thus offered for a profitable investment. Particulars with plans may be had of GEORGE BEALE, Esq. 24, surrey street, strand; Messrs. MORRIS and SON, Harlow Villas, East-India-road; Britannia Tavern, Limehouse; Guildford Arms, Christ-street; Place of Sale; and the Auction Offices, 61 and 85, High street, Poplar.

An Acre and a Half of Building Land, and various Freehold and Leasehold Property.

MESSRS. HARDS and VAUGHAN will SELL by AUCTION at the MART, on THURSDAY, JULY 15th, at TWELVE, a large PLOT of LEASEHOLD BUILDING LAND, having a frontage to Florence street, Deptford, of 440 feet; and a Ground-rent of 12l. 10s. secured on six houses, already erected. Also, Three Freehold Houses, 36, Sewell, Holborn, producing 38l. per annum; No. 1, Lyall place, Eaton-square, let to Mr. Hurst, Fruiterer, at a net rent of 35l.; and Three Pair for Dwelling Houses at Greenwich.—Printed particulars of Messrs. HARDS and VAUGHAN, Auctioneers, Valuers, Estate, and Land Agents, Church street, Greenwich.

TWICKENHAM.—Freehold Building Land, close to the Station.

MR. PEISLEY begs to inform the public that he will SELL by AUCTION, at the RAILWAY INN, Twickenham, on THURSDAY, JULY 29th, 1858, at THREE for FOUR o'clock precisely, in lots, a most valuable Plot of FREEHOLD BUILDING LAND, eligibly situated within a few yards of the Railway station, partly walled in, with several fine fruit-trees growing thereon. The landlord at the Railway Inn, Twickenham, will point out the lots, and particulars may be had ten days prior to the sale, at the Auction Mart, London; Castle Inns, Windsor, Salisbury, Richmond, Brentford, and Hammersmith; the Place of Sale; and of the Auctioneer, Hunslow.

Valuable Freehold Estate, with commanding frontage to the high road between Denmark hill and Camberwell-green, offering a choice site for the erection of a terrace of first-class attractive shops, or for any public institution.

MR. SEARLE will SELL by AUCTION, at the MART, on WEDNESDAY, the 28th JULY, at TWELVE o'clock, an important FREEHOLD PROPERTY, comprising a commodious brick-built family residence with coach house, stabling, outbuildings, and extensive pleasure-garden, both highly eligible for building purposes, having a frontage of 150 feet to the high road, in a most favourable business position, and in the centre of an established and greatly increasing thoroughfare. Particulars may be had at the Mart; of Messrs. HOOK, STREET, and GUTTERES, Solicitors, Brabant-court, Philpot-lane, City; and at Mr. SEARLE'S Offices (where also a plan of the estate may be seen), Camberwell-green, S.

TO BUILDERS AND CONTRACTORS.—TO BE SOLD by AUCTION, at the WHITE HART INN, Hexham, on TUESDAY, the 20th day of JULY next, at TWO o'clock in the afternoon, By

MESSRS. THOMAS BLANDFORD and SON, the GOOD-WILL and INTEREST in a LEASE of the WHITE FREESTONE QUARRIES, at Prudhoe, near Fourstones Station, on the Newcastle and Carlisle Railway, together with the Plant, Cottages, and Trade Utensils, on the Premises. These quarries contain the best white building stone in the district, and produce blocks of large dimensions, which can be shipped almost entirely by the south. They are now in good working order, with a fine inclined plant to do a large trade, and may be entered upon immediately. The whole will be offered at one lot.—The quarries, plant, &c. can be viewed, and catalogues or other information can be had of the Auctioneers, Corbridge; Messrs. T. and J. NELSON, Marble Works, Carlisle; or of Messrs. MYLES and VEEVERS, Surveyors, &c. Prudhoe.

TEMPORARY ASSISTANCE.—An ARCHITECTURAL DRAUGHTSMAN, accustomed to prepare perspective, finished working, and detail drawings specially for cases, to take out quantities, measure artificers' work, &c. is desirous of rendering temporary ASSISTANCE to Architects, Surveyors, their Pupils, or Clerks, at his Chambers.—Address P. B. 43, Southampton-row, Russell-square, W.C.

TEMPORARY EMPLOYMENT.—WANTED, for a month or six weeks (while waiting for an engagement), EMPLOYMENT with an Architect, Surveyor, either in the office or measuring. Has had experience at both. Salary not an object.—Address, Y. Z. Mr. Neville's, Potteridge, Rickmansworth, Pinner, N.W.

CITY of COVENTRY. The SERVICES of an ASSISTANT are required by the Local Board of Health of the City of Coventry, to Superintend the Private Drainage and other Works under the direction of the Surveyor: one who has been accustomed to similar duties, and can level, survey, and plot accurately, will be preferred. Apply, with testimonials of terms, to J. R. GREATOREX, City Surveyor, Coventry.

TO GLASS PAINTERS.

GOOD GLASS PAINTERS WANTED, immediately.—Apply to H. H. 67, Frith street, Soho-square.

PHOTOGRAPHIC SOCIETY. The Joint Office of SECRETARY of the Photographic Society and EDITOR of its Journal will shortly be VACANT. Candidates may receive all particulars as to duties and salary on application at the Rooms of the Society, 1, New Ormond-street, E.C. Testimonials must be sent in on or before SATURDAY, the 17th instant.

By order of the Council, WILLIAM CROOKES, Secretary.

WANTED, immediately, in an Architect and Builder's Office, a Young Man, who, in addition to being a fair draughtsman, can take out quantities, and would undertake the superintendence of workmen, keeping time, measuring-up the work. A knowledge of book-keeping indispensable.—Address, stating lowest salary and references, to Y. Z. Post-office, Melton Mowbray.

WANTED, a CLERK, to undertake the Books and Management of a Brick-field, in the vicinity of London. A good accountant, and some knowledge of the business indispensable.—Apply to A. B. Messrs. Warrington's, 27, Strand.

TO ART-DRAUGHTSMEN.

WANTED, a good DESIGNER and DRAUGHTSMAN: must be competent to make details of mediæval metalwork, and other ornamental designs, and from work. Application to be made by letter, stating age and references, with amount of salary required, to LEWIS and HIBBERT, 52, Granby-row, Manchester.

WANTED, by a Surveyor and Builder, an ACCOUNTANT CLERK: one who thoroughly understands the routine of the office. A good arith. knows edge of double book-keeping indispensable. Security required. Apply, with testimonials or references, and stating terms, to A. C. Post-office, Leicester.

WANTED, a TIMEKEEPER.—Address, by letter only, to J. and W. BROWNE and ROBINSON, Builders, 8A, Wenlock street, Finsbury, E.C.

WANTED, a CABINET-MAKER, accustomed to work in oak. Address, inclosing reference and terms, to A. C. Office of "The Builder."

WANTED, by the Advertiser, a SITUATION, to DRIVE an ENGINE and STOKING. Well acquainted with condensing engine, pumping engine, or portable engine. Quite competent to do all repairs.—Address, J. B. 2, George's-place, George's cottages, Holloway, London.

TO LIME, TILE, BRICK, AND CEMENT MERCHANTS.

WANTED, by a Young Man, 28 years of age, a SITUATION as CLERK or COLLECTOR, or as both. Is capable of keeping a set of books, and has a good connection among builders on the north side of London. Salary moderate. Has no objection to the country. Can give satisfactory references as to ability, integrity, &c.—Address, W. H. Deacon's News-rooms, Leadenhall-street, E.C.

TO CARPENTERS, BUILDERS, AND CONTRACTORS.

WANTED, by the Advertiser, EMPLOYMENT, at a Carpenter's and Builder's, as an IMPROVER. Wages not so much an object as improvement.—Address, M. W. 3, Ely's-place, Holborn.

NOTICE TO BUILDERS AND OTHERS.

WANTED, by a Young Man, constant EMPLOYMENT as THREE-BRANCH HAND, Plumber, Painter, and Glazier; has a general knowledge of gas fitting and zinc working. Good reference. Wages, 27s. per week.—Direct to G. ROBERTS, care of Mrs. Watson, St. Aubin's House, Clapham, Old Town, S.

TO BUILDERS, LANDLORDS, &c.

WANTED, EMPLOYMENT, by a CARPENTER and JOINER, aged 39, of sober and industrious habits. Wages not so much an object as constant employment. Good references to last employer.—Address, W. S. 8, Blake's Coffee-house, No. 2, New Church-street, Paddington.

WANTED, by a Young Man, an ENGAGEMENT as PAPERHANGER, PAINTER, GLAZIER, and GLASS CUTTER. Can turn his hand to plumbing, if required. Wages, 24s. per week, if permanent.—Address, H. T. 34, Parker's row, Bermondsey.

TO PLUMBERS AND BUILDERS.

WANTED, by a respectable Young Man, a SITUATION as PLUMBER'S ASSISTANT. No objection to make himself useful in any way required.—Address, A. C. 41, Pulford-street, Lupus-street, Pimlico.

WANTS EMPLOYMENT.—A respectable Young Man, aged 23, wishes to ENGAGE himself to a Builder as an IMPROVER in PAINTING and PAPER HANGING. No objection to town or country. Wages not so much an object as constantly employed.—Address, T. J. 1, Little Park-street, Dorset-square.

TO BUILDERS AND CONTRACTORS.

WANTED, by a Young Man, an ENGAGEMENT as CARPENTER. Is capable of erecting and working saw frames or benches. Is a good saw sharpener. Four years' recommendation. Town or country. No objection to go abroad.—Address, J. E. at Fletcher's, Stationer, No. 2, Elizabeth-place, Asylum-road, Old Kent-road.

TO ARCHITECTS, ENGINEERS, AND OTHERS.

WANTED, a RE-ENGAGEMENT, as CLERK of WORKS, or as GENERAL FOREMAN, by a thoroughly practical Man, who has had the entire management of extensive buildings in London, Thames embankments, sewers, &c. and thoroughly understands levelling.—Address, A. J. 28, Newland-street, Pimlico, London.

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT, by a Young Man who is a good draughtsman and surveyor, with a moderate practical acquaintance of taking out quantities and engineering draughting. Satisfactory references can be given.—Address, A. S. Mr. W. H. Miller, 36, Ixell's, 6, Westminster-bridge-road, S.

WANTED, by an experienced Workman, a SITUATION as GRAINER. Will take a part in plain work if required.—Apply, T. L. No. 14, Ernest street, Albany-street, Regent's-park.

WANTED, by a respectable Young Man, of business habits and good address, a SITUATION as TRAVELLER, on commission or otherwise. Is fully conversant with the several branches of the building trade.—Address, Z. Post-office, Mount-street, Westminster-road.

TO LIME, TILE, AND CEMENT MERCHANTS.

WANTED, by a respectable Young Man, a few miles from London, a SITUATION in the above trade, to attend to the Wharf and go out Collecting. Has filled a similar situation, is acquainted with the principal builders of London. Good reference.—Please address, Y. X. Z. Office of "The Builder."

WANTED, by a respectable Young Man, aged 22, EMPLOYMENT in PAINTING, GLAZING, and PLUMBING in general. He is a good whitey-wher, and would make himself generally useful, and handy in anything required, and principally at jobbing. Wages, 21s. per week.—Address, S. H. 81, East-street, Manchester-square, Marylebone.

WANTED, by a YOUTH, aged 19, a permanent SITUATION, in the PLUMBING, PAINTING, and GLAZING line. Held his last situation for three years.—Address, S. T. 24, Lichfield-street, Soho, W.C.

WANTED, a constant SITUATION, by a thoroughly good PLUMBER. Has no objection to fill up time with painting and glazing.—Address, J. C. 2, Clarendon-place, Camberwell.

WANTED, by a respectable Man, a PERMANENT SITUATION as CARPENTER to an ESTATE, or houses of business. Has a good general knowledge of the trade, and good references.—Address, E. J. Church-end, Hendon, Middlesex.

N.B. In Town or Country.

WANTED, by a respectable, well-educated Youth, a SITUATION as JUNIOR CLERK in a Builder's or Architect's Office. Has a good knowledge of book-keeping, drawing, &c. and has been in one of the leading builders' offices in Town for the last two years. Undeniable references can be given.—Address, J. H. No. 11, Cloudesley-terrace, Liverpool-road, Islington, N.

WANTED, by a Practical Man, an ENGAGEMENT, as CLERK of WORKS, or BUILDERS' MANAGER. Is a good draughtsman, measurer, and accountant. Terms moderate.—Address, W. A. 4, Priory-place, New-road, Camberwell, S.

TO FREEMEN OF THE CITY, CARPENTERS, AND BUILDERS.

WANTED, to APPRENTICE a LAD. A premium will be given.—Address to J. P. 36, Milton-street, City.

TO BUILDERS AND HOUSE AGENTS.

WANTED, by a practical BRICKLAYER and PLASTERER, a SITUATION as JOBBING MAN; or to do the work upon an estate. Unexceptionable references from late employer. No objection to the country.—Address, by letter, to J. M. 6, Union-street, Cleveland-street, Mile-end, E.

TO CEMENT MERCHANTS, MILL OWNERS, &c.

WANTED, by a practical and experienced MILLWRIGHT, ENGINEER, and MACHINIST, a SITUATION, as FOREMAN, to superintend either in a manufactory or a mill. Satisfactory references can be given.—Address to C. T. C. 10, Pratt terrace, Old St. Pancras-road, King's cross, N.W.

TO BUILDERS AND PLUMBERS.

WANTED, EMPLOYMENT, by a PLUMBER. Can fill his time up in painting and glazing.—Address, T. P. No. 11, New-street, Covent-garden.

TO CARPENTERS, BUILDERS, AND OTHERS.

WANTED, by a practical middle-aged MAN, a SITUATION as WORKING FOREMAN, or otherwise to take the Management of a Jobbing Business, or Repairs of an Estate. No objection to the country, or go abroad. Reference as to ability, sobriety, &c.—Address, P. G. 9, Mintern-street, Hoxton, N.

N.B. The advertiser has been in business for himself some years.

TO BUILDERS AND CONTRACTORS.

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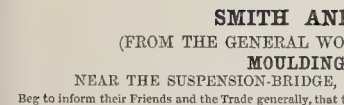

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CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW-GLASS WAREHOUSE.

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

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36, PRINCES-STREET, SOHO, LONDON, W.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot water Pipes. Vulcanized Rubber Door-springs, and Solid and Rolled Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the Houses that are being erected here."

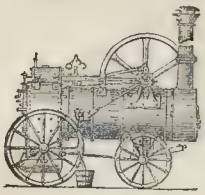
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

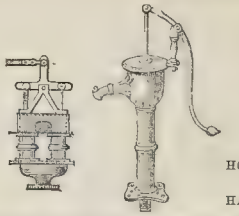
PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CROSS'S WHOLESALE WAREHOUSE, 29, GREAT PORTLAND STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

WHY PAY FOR A HOUSE, AND YET NEVER POSSESS IT?—THIRD BOW and BROMLEY BENEFIT BUILDING SOCIETY.—Office, Albert-terrace, Bow, E. Established, August, 1856. This Society, like its two predecessors, is succeeding most satisfactorily. About 600 shares have been registered, and between 2,000*l.* and 3,000*l.* advanced already. Sums of money from 50*l.* to 1,000*l.* and upwards may now be had on freehold, leasehold, or copyhold security.—For rules, prospectuses, and further information, apply at the Secretary's Residence, 3, Albert-terrace, Bow, E.

WILLIAM HARVEY, Secretary.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.



HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE
STEAM
ENGINES,
FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 15-inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.
WORKS: KINSON, near POOLE.
PATENT FIRE-BRICK MANUFACTURERS.

FIRE

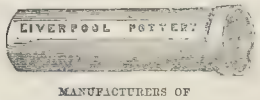
BRICKS.

The Fire-bricks are manufactured by Burstall's new patent machine, from dry pulverised clay, unrivalled for beauty of finish and fire-resisting properties, have been severely tested, and pronounced to be equal, if not superior, to any other fire-brick known. Furnace Blocks, Bars, Quarries, and to any moulded fire purpose. Retort or tile, Fire-Clay Retort, Glass House Pots, Fire-Clay Brick, and Tiles. Sanitary Glazed Stoneware Pipes, approved by the Board of Health. Bends, Junctions, Object pans and Traps, Invert Bricks, and every size of the first quality required for drainage purposes. Their present extensive quantity of all descriptions of Dorsetshire Clay used for pottery purposes on their estate, which can be supplied on the most favourable terms.

List of prices, and all other information, will be furnished on application to

Mr. GILBERT E. MITCHELL, Manager, at the Works: Mr. JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth; or to Messrs. H. C. QUINTON and SON, Bristol.

JOHN DOULTON, BROTHERS, AND CO.
LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.



MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.	DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S HALF-SOCKET PIPES.	DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS
WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.
MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.
DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.
HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It is readily applied by any inexperienced person.—5th. From its lightness, weighing only about 32 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is almost indestructible.—7th. It is
INODOROUS FELT, for lining walls, for damp floors, timber ends, and all decayable surfaces. Price ONE PENNY per S. foot.
CROGGON AND CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. &c.
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c., preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather. Prices 1s. per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 19, James-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

A SUBSTITUTE for PAINT and at HALF the COST.—STEPHENS' DYES or STAINS for WOOD.—Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. H. CHICHESTER, of Cuttlehanpton, near South Molton:—
"The effect produced by the Staining and Varnish has given such entire satisfaction, that the householders have requested me to procure five times the quantity now used for, in order to finish the church."
54, Stamford-street, London.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 3d.; Turpentine, 3s. 6d.; Boiled Oil, 2s.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s. for Cash, 14s. per gallon. Dry and Ground Colours, Brushes, &c. &c. for Cash.
F. LANGTON S, 141 and 144, Wardour-street, St. Luke's, E.C. and 159, Tottenham-court-road, W.

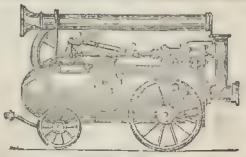
IMPORTANT to BUILDERS and PAINTERS. Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 9d. per gallon; Boiled Oil, 2s. per gallon; Turpentine, 2s. 8d. per gallon; Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Cheshill-street, Finsbury.
Every article for the Trade at the lowest price.

TO PAINTERS, BUILDERS, &c.—LIVETT, FRANK, and SON, 14, BOROUGH, London-bridge, quote their present prices:—Genuine White Lead, 32s.; Second, 30s. per cwt.; Linseed Oil, 3s. 10d.; Boiled ditto, 3s. 2d.; Turpentine, 3s. 9d.; Oak Varnish, 7s. 6d.; Pale ditto, 10s. per gallon.—A list of prices on application.

TO PAINTERS
GREENSLADE'S PATENT GROUND-PAINT, DUSTING, and VARNISH BRUSHES, are highly recommended, combining many important improvements, both in quality and durability. GREENSLADE'S Painters' Brushes of all descriptions, are made in two qualities, genuine and superlatively good. The latter are of the very best materials, and worthy of the attention of those who desire a really good Brush.—Manufacturers, E. A. and W. GREENSLADE, Thomas-street, Bristol.

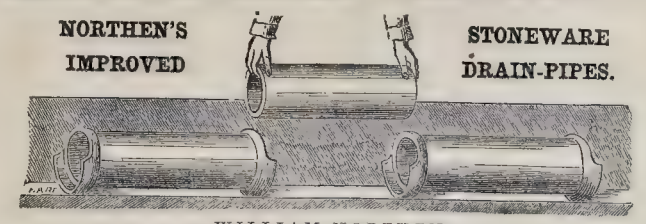
TO PAINTERS, BUILDERS, AND CONTRACTORS.
THE BEST MARKET on the south side of the River, for
GENUINE OLD GROUND WHITE LEAD,
LINSEED OIL, TURPS, VARNISH, and COLOURS of every description, is
SIMPSON and CO.'S,
53 and 54, London-road, Southwark.
A price list sent on application.

IMPROVED MINERAL OIL,
THE BEST FOR MACHINERY,
To be had at 3s. 9d. per gallon, at the
DEPOT FOR ENGINEERS' STORES,
No. 21, SUFFOLK-GROVE,
Great Suffolk-street, Southwark, S.E.



PORTABLE ENGINES, from 4 to 25 Horse Power, PUMPS, and SAW TABLES, to be LET on HIRE, with or with a right of purchase, on reasonable terms. Apply to T. CRESSWELL, Engineer, 92, Blackfriars-road, London.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect another drain, as every alternate pipe can be taken up without interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of easy access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations on his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

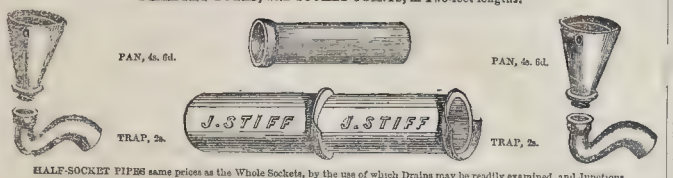
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz :—

Messrs. GLADDISH'S, Pedlar's-acre, Westminster Bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Bourers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.

Messrs. COLES, SHADBOLT, and CO.'s St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.

Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.

Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.

Messrs. COLWILL (BROTHERS), 32, Bryanston-street, Covent-garden.

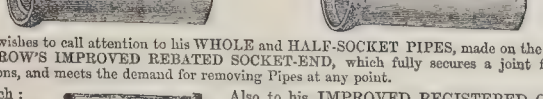
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

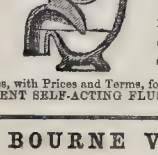
STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



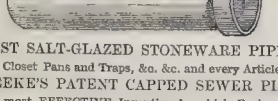
Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT-GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

SALT-GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

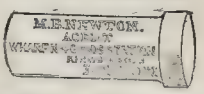
The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or at the Depôt, 8, Belmont-place.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

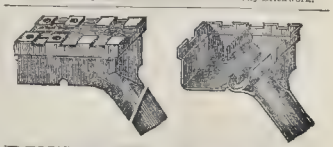
and a good article supplied. The largest Pipes in the kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
18-inch.	9s. 3d.	15-inch.	8s. 6d.	12-inch.	5s. 6d.
9-inch.	4s. 3d.	6-inch.	3s.	4-inch.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter.

Connection can be made with the same ready ease.

And the Pipes guaranteed to stand better than any Brickwork.



BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

UNGLAZED DRAIN-PIPES.—GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9 in.	12 in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s 3d. per foot.

Samples may be had at Fabian Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

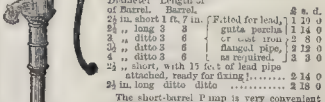
The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and climates. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.



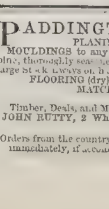
These Cocks have, during the last five years, been extensively and most successfully used in many towns where cocks of high pressure, varying from 100 to 300 feet; their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,

Brass and Iron Founders, Short-street, New-cut, Lambeth.



WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in.	short 1 ft. 7 in.	Fitted for lead,	1 10 0
2½ „	long 2 3	gutta percha	1 14 0
3 „	ditto 3 6	or cast iron	2 8 0
3½ „	ditto 3 6	flanged pipe,	2 12 0
4 „	ditto 3 6	as required.	3 3 0
2½ „	short, with 15 feet of lead pipe attached, ready for fixing		2 14 0
2½ in.	long ditto ditto		2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.

MOULDINGS to any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large stock always on hand, at 2s per Pattern list.

FLOORING (dry) in large Stock, of various description.

MATCH-BOARDING of any width.

Also,

Timber, Deals, and Mahogany, on either Wharf, or at the Docks.

JOHN RUTTY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.

Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference.

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CABINET AND PIANOFORTE MAKERS, AND OTHERS.

MR. LEREW will SELL by AUCTION, on the PREMISES, 42, Union-street, Somers-town, on MONDAY, JULY 12, at TWELVE, about 3,000 Yellow, White, Pine, and Spruce PLANKS, DEALS, and BATTENS, [illegible] feet of [illegible] board, 1000 squares of 1-inch, 3-inch, and 1-inch prepared [illegible] flooring, 400 cut deals, [illegible] feet [illegible], wainscot, doors, cleft pales, arris rails and posts, scaffold poles, ladders, workbenches, grindstone and frame, factory clock, two vices, portable forge, smiths' tools, old iron, cog-wheel, crab, jack, wheel block and fall, weighing-machine and weights, three cart [illegible], barrows, and miscellaneous stock.—May be viewed, and catalogues had on the Premises, and of the Auctioneer, Cardington-street, Hampstead-road, near the Euston Station.

CLAPHAM, SURREY.—GOOD INVESTMENT.

MESSRS. NICHOLSON and SONS will submit to PUBLIC COMPETITION, on WEDNESDAY, JULY 14th, 1858, at the Bowyer Hotel, Manor-street, Clapham, at SIX for SEVEN o'clock, p.m. in one lot, a Capital LEASEHOLD PROPERTY, situate in Bromell's-road, and comprising a brick-built and slated house, together with a good carpenter's shop, counting house, yard, &c. suitable for the carrying on of a snug builder's business, lately occupied by Mr. Jemuel Muddle, deceased. Also a timber-built and tiled Cottage adjoining, occupied by Mrs. Mary Muddle; and one other in the rear, let to Mr. J. Vousden, and capable of producing a rental of 75*l.* per annum. There are 36 years unexpired of the lease, and the whole property is subject to a ground-rent of [illegible].—May be viewed on application to Mr. HENRY MEAD, on the Premises, of whom particulars and conditions of sale may be obtained; of Messrs. HAWKINS, BLOXAM, and HAWKINS, 2, New Boswell-court, Strand; at the Bowyer Hotel, Manor street, Clapham; and at the Auctioneers' Offices, High street, Wandsworth, S.W.

LONDON WORKS, NEAR BIRMINGHAM.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupancy of Messrs. Fox and Henderson, and situate at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, in the immediate vicinity, also, of the works of G. F. Muntz, Esq. Messrs. James Watt and Co. and the Birmingham Patent Tube Company. It is important to notice that the rates in the parish of Harborne are not more than one third the amount of those in the adjoining parish of Birmingham. The works occupy a site of 5a. 1r. 26p. 27 yards; they have a frontage of about 455 feet next Cranford-street, and a frontage of 490 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and other canals, and thus affords facility for water carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding [illegible]. They were established in 1839 by Messrs. Bramah and Fox, and have been raised to their present importance by Messrs. Fox and Henderson, under whose practical judgment they have been arranged for carrying on the great undertakings in connection with which the name of that firm has been rendered famous. The buildings are arranged in a quadrangular form, and are most substantial erections. The entrance is through a gateway (on either side of which are offices and stores) to a spacious yard, in the centre of which is the boiler-house and lofty chimney. To the left is a carriage-building shop, 201 feet by 103 feet; an iron store adjoining, 97 feet by 11 feet. The principal range of buildings include the smiths' shop, 119 feet by 102 feet; two anchor smiths' shops and turntable shop, a fitting shop, 119 feet by 114 feet, with galleries; a railway-wheel shop, the large foundry, 198 feet by 52 feet; two moulding shops adjoining, 119 feet by 64 feet; core stoves and brass foundry. On the right of the yard, are pattern-makers' shops and pattern stores, painters' stores, a chain shop, stabling, ostler's apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the different purposes at prices ranging from 4s. 6d. to 11s. per ton, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road. Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr. CHARLES CLARKE, Smethwick, who will show the property; to Mr. HORNBLOWER, Architect and Surveyor, Waterloo-street, Birmingham; to Messrs. SWIFT, WAGSTAFF, and BLENKINSOP, Solicitors, Liverpool, and 32, Great George-street, Westminster; to Messrs. BEALE and MARIGOLD, Solicitors, Waterloo-street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—A large proportion of the purchase-money may remain on mortgage.

To Engineers, Founders, Railway Wheel-makers and Carriage-builders, Anchor-smiths, Chain-makers, and Others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN each day, in lots, at the LONDON WORKS, Smethwick, lately occupied by Messrs. Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Lewis, Collier, and other eminent makers, including, in the fitting shop and galleries; 11 self-acting screw-cutting lathes, 6 to 16½ inch centre, 18 engine turning lathes, 14 railway wheel lathes, one very superior double action ditto; four axle lathes (self-acting); 19 vertical drilling and boring machines, many of them self-acting, three self-acting planing machines, six self-acting screwing machines, universal shaping machine, hydraulic machine for putting on railway wheels, axle guard shaping machine, wheel cutting machine, 700 feet turned wrought-iron shafting, 120 turned pulleys, 54 vices and benches, grindstones, a large assortment of steel tools for the various machines, &c. In the wheel shop:—Five powerful hydraulic presses, one for pressing bridge links, nuts, &c.; one for spoke bending, one for Beattie's patent wheels, one for pressing axle guards, and one for expanding tires, with pumps and gearing worked by steam power; tire furnaces, anchor forges, smiths' forges, two 3-ton cranes, one smaller ditto, blast fan 6 feet diameter, drilling machines, &c. In the foundries:—Eight 5-ton cranes, each 16 feet sweep, 15 feet high, with racking outgear, chains, and blocks, three 5-ton cranes (double purchase), one 28-ton traveller, 48 feet span; a very superior loam mill, 120 feet of black shafting, benches, one annealing furnace, small cupola, moulding bins, &c. In the turntable shop:—Two very powerful surfacing lathes, with face plates 13 feet and 10 feet diameter; one facing and boring machine, capable of boring cylinders 72 inches diameter; three self-acting facing machines, one superior self-acting radial drilling machine, with 6 feet radius; one 12½ ton traveller, 38 feet span. In the anchor-shops:—Two Nasmyth's 50 cwt. steam hammers, with Cornish boilers; one tilt hammer, with 16-horse power horizontal steam-engine and boiler; two powerful Hercules (one to work by steam-power), eight 5 tons and three 3 tons post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven anchor-smiths' forges with water tuyeres, a chain-proving machine, bed 106 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the rail shop:—Two self-acting planing-machines, to take in 15 feet by 4 feet 1 and 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, vices, benches, &c. In the carriage-building shop:—Two large and five small eccentric punching and shearing machines, one powerful lever ditto, set of plate-bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two pipe-bending machines, four sawing machines for iron, three drilling machines, circular saw bench, thicknessing machine, 350 feet black shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—Fan blast (5 feet), one small Nasmyth's hammer, lever punching machine, one corrugating machine with tools complete, one Hercules, one Ryder's patent forging machine, 5 wrought-iron cranes, one small traveller, 150 feet black shafting, pulleys, &c. In the boiler-house and yard:—Four 23-horse power high pressure steam boilers, one very powerful punching and shearing machine, capable of punching [illegible] hole in 1½ in. plate; two hydraulic proving machines, 15-ton weigh bridge, 2[illegible] cwt. weighing machine, 5 ton iron post wharf cranes, one 10-ton derrick, Henderson's patent, 55 feet sweep; two yard travellers, 21 feet 2 and 35 feet 3 span, with double-purchase gearing and rails; fittings in pattern makers' shops, pattern stores, paint store, and offices; a large assortment of wood patterns, the dies for the various sizes of Lieutenant Rodger's patent anchors. Foundry Boxes and flasks, ladles, stores of various description and a large collection of other miscellaneous requisites for a first-class engineering establishment.—To be viewed three days prior to the sale.—Catalogues may be had, at [illegible] each, of Mr. HORNBLOWER, Architect, Waterloo-street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the amount of 50*l.* and upwards.

Four Steam-Engines, five Steam-Boilers, and Machinery.

MESSRS. FULLER and HORSEY will SELL by AUCTION, on TUESDAY, AUGUST 3rd, 1858, at TWELVE o'clock, on the PREMISES, No. 28, Gravel-lane, Southwark, FOUR STEAM ENGINES, BOILERS, and useful MACHINERY, [illegible] horizontal high pressure steam engine, made in 1857, with cylinders, 13 and 14 inches diameter, 18 and 22 inch stroke, by Clayton, Shuttleworth, and Co. and by Thompson, Hall, Catt, and Co.; one high pressure table steam engine, 15-inch cylinder, 32 inch stroke; one condensing table steam-engine, of 8 horse power, cylinder [illegible] inches diameter, 24 inch stroke, by Maudslay, Son, and Field; two return flue-boilers, made in 1857, one 19 feet 6 inches long, 5 feet diameter, with 2 feet 6 inch fire-flue, low moor-plates, and return flue, 15 inches diameter, and chimney; one 16 feet long, 5 feet diameter, of a similar construction; one hemispherical-ended boiler, 24 feet long, 4 feet 6 inches diameter; one ditto, 19 feet 6 inches long, 3 feet 6 inches diameter, with 21-inch flue through, and steam-chest; one cylindrical boiler, 14 feet long, 3 feet 6 inches diameter, with 2 feet flue through; a 6-inch self-acting screw-cutting lathe, by Fox, of Derby; engineers' tools and foot lathe, four 6 feet [illegible] wheels, two 7-feet turned [illegible], 11 inches wide, [illegible] spur and pinion wheels, ten single grooved [illegible] wheels, two [illegible], eight cast-iron girders, and other effects.—To be viewed on Monday previous, and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Superior Chimney-pieces of Statuary Marble, some richly sculptured, and of Dove and Vein Marble, in great variety, ready for fixing.

MESSRS. ROBINS will SELL by AUCTION, at their ROOMS, Great Piazza, Covent-garden, on TUESDAY, JULY 13, at TWELVE, STATUARY MARBLE CHIMNEYPIECES, some richly sculptured, suitable for first-class drawing-rooms; others of a less expensive character, with trusses, one beautifully inlaid in mosaic work, a Landscape, of precious stones, &c. from the Prussian department of the Great Exhibition, 1851; black and Sicilian marble, for dining-rooms and libraries; several of dove and Sienna marble; and a great variety of vein marbles of smaller size.—On view three days prior at the Auction Rooms, Covent garden.

BUILDING MATERIALS.—Queen-street, Southwark.

MESSRS. GLASIER and SON are favoured with instructions from the Guardians of the Poor of the Parish of St. George the Martyr, Southwark, to SELL by AUCTION, on the PREMISES on MONDAY, JULY 12th, at TWELVE for ONE o'clock, the BUILDING MATERIALS of FOUR HOUSES, WORKSHOPS, and PREMISES, situate at the corner of Queen street and Lombard-street, Southwark-bridge-road: comprising about 200,000 capital stock bricks, tiles, useful timber in roofs, floors, &c. iron columns, fittings, &c.—May be viewed on the morning of sale, and catalogues had of J. H. FITCH, Esq. Solicitor, 17, Union-street, Southwark; of Mr. JAMES MARSLAND, Surveyor, 64, Southwark-bridge-road; and of the Auctioneers, 41, Charing-cross.

ROYAL HOSPITAL, GREENWICH.—Clothing and other Stores.

MESSRS. EVERSFIELD and HORNE are honoured with instructions from the Commissioners of Greenwich Hospital to SELL by AUCTION, at the STEWARD'S DEPARTMENT, on TUESDAY, JULY 13, at TWELVE for ONE, a quantity of useful STORES, consisting of new woollen coats, waistcoats, trowsers, drawers, stockings, linen rugs, flannels, hats, frockings, rope, mats, mop sticks, old metal, gold lace, and numerous miscellaneous articles. Also a quantity of loose materials, pair of large wrought iron gates, steam boiler 21 feet long, iron work, brass, copper, &c. belonging to the Works department.—May be viewed one day previous, and catalogues had at the Offices of the Steward and Inspectors of Works; and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

CARRARA WHARF.—Second Annual Sale of Marble, suitable for Sculptors, Marble Masons, and Builders.

MESSRS. EVERSFIELD and HORNE are instructed by B. Fabbricotti, esq. to SELL by AUCTION, on the PREMISES, Carrara-wharf, near Vauxhall-bridge, Thames-bank, Pimlico, on TUESDAY, JULY 20, at TEN for ELEVEN, about 150 MARBLE BLOCKS, comprising Sicilian, vein, statuary, black and gold, Genoa green, Vert di Egypte, Levant green, Sienna, and other coloured marbles; also, about 6,000 feet of slabs of different kinds of the first quality. Approved bills at four and six months will be taken in payment.—May be viewed three days previous, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, or Coal Exchange.

WARDOUR STREET, SOHO.—The Genuine Manufactured and Unmanufactured Stock of a Cabinet-maker.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, on the PREMISES, Shipyard, Wardour-street, Soho, on WEDNESDAY, JULY 21st, and following days, at TWELVE for ONE, the very excellent Seasoned STOCK, consisting of [illegible] feet of Spanish and Honduras Mahogany and other foreign Woods, in planks and boards, including satin wood, Italian and American walnut, wainscot, and cedar, in veneer; and a quantity of dry pine. Also the superior Manufactured Stock, comprising sets of dining, loo, pedestal, and other tables; sideboards, bookcases, davenports, and other cabinet work of the best class; the whole being the genuine Stock of Mr. Thomas Lord, who has borne a high reputation for his goods for many years, and is now retiring from the London trade. At the same time will be Sold, the Household Furniture of a small Dwelling-house; 21 work-benches, turner's lathe and tools, pit-saws, and other effects. Approved bills of three months from purchasers to the amount of 50*l.*—May be viewed two days previous; and catalogues had upon the Premises, or will be forwarded, post free, on application to the Auctioneers, 40, Parliament street, Westminster, or Coal Exchange.

N.B.—The Lease of the excellent Premises, with Yard, Stable, Workshops, Offices, and Dwelling-house, to be Disposed of.

LLOYD'S WHARF, Thames-bank.—200 Marble Blocks, and 6,000 feet of Slab.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, Lloyd's Wharf, Thames-bank, Pimlico, on TUESDAY, JULY 27th, at TWELVE for ONE, by order of the Consignees, about 6,000 feet of SLAB of various thicknesses and dimensions, principally vein and Sicilian, and an assortment of Sicilian, vein, statuary, dove, Emperor's red, Sienna, black and gold, and other coloured marbles, in block.—May be viewed one day previous, and catalogues had on the Premises; and of the Auctioneers, 40, Parliament street, or Coal exchange.

N.B.—Approved bills at four or six months will be taken in payment.

To Engineers, Machinists, Iron and Brass Founders, Engine and other Smiths, Millwrights, Saw-mill Proprietors, and Others.

MESSRS. BOOTH and CO. have instructions to SELL by AUCTION, in lots, on the PREMISES, early in AUGUST, in consequence of the present proprietor relinquishing the business, various finished STEAM-ENGINES and other valuable MACHINERY, with the surplus STOCK and STORES of a [illegible] manufacturing engineering and foundry business. Further and full particulars next week.—BOOTH and CO. Auctioneers, 13, Eastcheap, City, E.C.

COMPACT FOUNDRY and ENGINEERING BUSINESS, for DISPOSAL.—To MECHANICAL ENGINEERS, IRON and BRASS FOUNDERS, Gentlemen wishing to enter into the above Business, and Others.—Extensive, convenient, and very desirable BUSINESS PREMISES, peculiarly well adapted for the above trades, with the PLANT, &c. in full work, and having various good and profitable orders now in hand.

MESSRS. BOOTH and CO. have for DISPOSAL, by PRIVATE TREATY, in consequence of the Proprietor being engaged in other heavy undertakings, the above lucrative concern, well worthy the consideration of the trade, as a long term of the lease at a low rental is yet unexpired. The highly-valuable plant, machinery, working tools, and fixtures, comprise all the requirements for carrying on a first-rate trade. The business has been for a number of years well and favourably known in both mechanical and mercantile circles, in consequence of the many important and useful Inventions which have been projected and perfected at the establishment. The situation of the Premises is most eligible in every point of view connected with trade.—For particulars and terms, apply to BOOTH and CO. Auctioneers, Valuers, and Negotiators, 13, Eastcheap, City, E.C.

BUILDERS' PERIODICAL DISTRICT SALES.
IMPORTANT SPECIAL NOTICE.
To Builders, Contractors, Carpenters, Fixture and Materials Dealers, Farmers, Gentlemen Building, Shop Fitters, and Others.

MESSRS. BOOTH and CO. will SELL by AUCTION, on the PREMISES, at their
WEST END DEPOT,
ST. MARYLEBONE-ROAD, N.W.
Adjoining the Workhouse,
On MONDAY, the 12th day of JULY, 1858, at ELEVEN for TWELVE precisely,
The First Portion of
A valuable collection of BUILDERS' STORES, TACKLE, and MATERIALS, the property of various Contractors,
Removed for convenience of Sale,
TO BE SOLD WITHOUT RESERVE:
COMPRISING

Plate-Glass Fronts, a Brass Sash, with Bunnett's Patent Revolving Shutter complete; Spanish Mahogany Sashes and Doors, Office Fittings, Framed Glazed, and other Partitions, Flat and Sky Lights, large quantity of Sashes, partly with frames, and of all kinds, mostly glazed complete, some with plate and ornamental glass; about 100 Pairs of capital, well made, and seasoned 1½ in. Ovolo Twelve-light Sashes, quite new, Drawing-room and other Stoves, an Office ditto, with Portland hearth and marble chimneypiece.

LARGE QUANTITY of DOORS of all dimensions, suitable for OUTER or INNER FITTINGS, and all purposes, some of a very EXPENSIVE DESCRIPTION, in MAHOGANY, OAK, and FIR; about 20 new four panel Doors, Cupboards, Counters, Cases with Shelves, Garden and other Gates, Stable Stalls, Carpenters' Benches, Truck Bodies, Blocks and Falls, Board Hoarding, Bolts and Nuts, Quantity of useful Ironmongery, consisting of Locks, Bolts, Nails, Screws, Hinges, &c. An ELEPHANT STEAM-BOILER.

A few Engineers' and Cock Founders' Patterns, Tools, &c.; various Ironwork, consisting of Gates, Rainwater Pipe, &c.

A Pit Saw, and a few Hand and Tenon Saws, Carpenters', Engineers', and Mill Saw Files, two Officers' Campaign Chests, about fifty capital Water-closets, with pans, &c. complete, and a large Assortment of other Effects.

May be viewed on FRIDAY and SATURDAY PREVIOUS, and MORNING of SALE.

Catalogues may be had on the Premises:
At the Proprietor's CITY OFFICE,
13, EASTCHEAP, E.C.
One Minute's Walk from the Monument, London-bridge;
AND AT
MOLLAND HOUSE, HACKNEY-ROAD,
Near Cambridge-heath-gate, N.E.

FURTHER NOTICE.—Sales are now preparing in other Districts, for which Letting Forms may be had at the City Office, from TEN to FIVE daily, or by post on receipt of one stamp, with address; and the Proprietors are prepared with space and convenience to receive Goods of any weight, bulk, or value, in any district, for the next and future Sales.

Desirable Freehold Building Land, free of land tax, and most advantageously situate at West-hill, Wandsworth, Surrey.

MESSRS. DEAN and HUDSON will SELL by AUCTION, at the AUCTION MART, London, on THURSDAY, JULY 1[illegible], at TWELVE, about FOURTEEN PLOTS of valuable FREEHOLD BUILDING GROUND most delightfully situate at the preferable part of West-hill, near Wandsworth. The lots have been so arranged as to adapt them for the erection of detached or semi-detached villas; the sites have frontages to Spencer-road, Melrose-road, and West Hill-road. The houses in the locality are of a superior description, and the neighbourhood is very select. The situation is on an eminence, commanding beautiful views, and is proverbially healthy, and, taking into consideration the advantages derived from the surrounding beautiful locality, the facilities of railway and other modes of travelling, it may fairly be submitted that no situation within a similar distance can be selected with equal advantages for a residence within an easy distance of London.—Printed particulars and conditions of sale, with lithographed plans, may be had at the Auction Mart, London; of Messrs. W. and H. P. SHARP, Solicitors, 150, Leadenhall-street, London; of Messrs. JEMMETT and SHARP, Solicitors, Kingston; at the Spread Eagle, Wandsworth; Eight Bells, Putney; and of the Auctioneers, 43, Fenchurch-street, London, E.C.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq., at Burham, on the Medway.

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq. within the last eight years. The Burham works and clay-fields occupy a site of about eighty-five acres, partly freehold and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London is about thirty-eight miles, and the Snodland or Aylesford stations of the North Kent Line are within two miles of the property. The surface of the land slopes at an inclination of about 1 in 80 towards the river, and the pits having been formed near the summit, but little haulage is requisite. The clay is known as the Gault Clay, and it extends beneath the entire surface to a depth of about 130 feet, affording a supply more than sufficient for the next century. The Gault clay requires a smaller quantity of ashes than any clay near London, and the Burham works are nearer to the London markets than any other where the Gault clay is found. The cost of carriage to London is only 3s. 6d. for 1,000. The works were established by Mr. Cubitt for his own requirements exclusively, and both money and skill have been unsparingly expended for the purpose of rendering them complete. The principal building is upwards of 300 feet in length, chiefly three stories high. There are four pottery kilns within the building, and also drying apparatus consisting of warm water pipes. Outside the building, and conveniently placed, are three Suffolk kilns (two for 80,000 each and one for 30,000); two waggon-top kilns, 50,000 each; twelve Scotch kilns, 90,000 each; and three ditto of 60,000 each; also, seventeen acres covered hack ground, in capital order.

The plant is capable of producing 20,000,000 bricks per annum, in addition to an almost unlimited quantity of drain-pipes, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, Ainsley's rollers, with Mr. Cubitt's improvements, and the requisite pug-mills, worked by a pair of condensing steam engines, by Maudslay, Sons, and Field, of 220 horse power, with boilers, wrought iron main shaft, 5[illegible] feet in length, and gearing. There are upwards of 100 different sorts of dies for tubes, pipes, and fancy goods, hollow tiles, tubes, splay bricks, paving bricks, socket and flue tiles. Near the clay-pit are two large wash mills, worked by two portable engines of 10-horse power, by Clayton and Shuttleworth, and connected by wooden troughs with four large malm backs, at the lower part of the field. A reservoir of three acres in surface has been formed, which is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the establishment. The works are intersected by upwards of two miles of iron railways, with turntables and weigh bridge, and there is a most substantially built wharf, with stone wall, having space of sufficient length for six barges to lie alongside.

The Cement Works comprise four well-built kilns for 60 yards each, three drying stoves, and nine coking ovens, wash mills, pumps, and pipes worked by a portable steam engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly erected residence for general manager, well placed, and surrounded by a large and productive garden. A newly erected house for foreman of cement works, three cottages, stabling, and a mess-room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-acre field of excellent sand for brick-making purposes, and a wharf for landing at. As before stated, these works were established to supply Mr. Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is acknowledged to be the best for brick-making purposes, that this field is the nearest yet in existence to the London market, that coals can be procured without being subject to City of London coal dues, that all other raw materials can be obtained on the very best terms, that the machinery is of the highest character, most [illegible] planned, and that for its working skilled labour is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, Billiter street.

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The Builder.

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WILL CLOSE ON SATURDAY, THE 24TH INST.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission (from Eight till Seven o'clock), One Shilling. Catalogues, One Shilling.

JOHN PRESCOTT KNIGHT, R.A. Secretary.

WILL SHORTLY CLOSE.

SOCIETY of PAINTERS in WATER-COLOURS.—The FIFTY-FOURTH ANNUAL EXHIBITION is NOW OPEN, at Pall-mall East (close to Trafalgar-square), open from Nine till Dusk. Admittance, 1s. Catalogue, 6d

JOSEPH J. JENKINS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER COLOURS will shortly CLOSE their Twenty-fourth ANNUAL EXHIBITION, NOW OPEN at their Gallery, 54, Pall-mall, near St. James's Palace, daily, from Nine till Dusk. Admission, 1s. Season Tickets, 5s.

JAMES FAHEY, Secretary.

ELLESMERE MEMORIAL.—The Committee give notice that the DESIGNS and MODELS will be OPEN for public inspection, on SATURDAY, the 17th inst. at the Royal Institution, Mosley-street, Manchester, between the hours of TEN and SIX, and will continue open until SATURDAY, the 24th inst. inclusive.

CONTRACTS.

IT is proposed to ERECT a FOUNTAIN in the market-place of a provincial town, at a cost of about 150*l*. Further particulars may be obtained by addressing to W. S. No. 4, Trafalgar-square, W.C. to whom designs, with cost, should be sent, before JULY 31st, and the material named.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a WESLEYAN CHAPEL, at Midsomer Norton, Somersetshire, may see the plans and specifications for the same on application to Mr. JOHN SMITH, Midsomer Norton; or at our Offices, 4, Park-street, Bristol, from the 12th instant to the 24th instant; on or before which, sealed Tenders, endorsed, "Tender for Midsomer Norton Chapel," must be sent to us. The Contractor who as Tender may be accepted will be required to find sole, unto sureties for the due performance of his Contract. The Trustees do not pledge themselves to accept the lowest or any Tender.

FOSTERS and WOOD, Architects.

FAVERSHAM, KENT.—BUILDERS wishing to CONTRACT with the Town Council of the Borough of Faversham for RE-CASING and RESTORING the WESTERN FRONT of the NORTH and SOUTH AISLES and the TOWER of the PARISH CHURCH, may see the Drawings and Specifications lying by applying to Mr PHILLIPS, Town Clerk, Faversham, and receive further particulars from GEORGE H. SCOTT, Esq. Architect, 20, Spring gardens, London, any day up to the 31st instant. The TENDERS to be delivered to Mr PHILLIPS on or before the 3rd AUGUST next, indorsed "Tender for Work, Faversham Church." The Town Council do not bind themselves to accept the lowest or any Tender.

Faversham, 8th July, 1858.

CONTRACTS.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the County of Hants, in the left-hand corner of the envelope, and addressed to the Director-General of Contracts.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, June 9, 1858.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE.—CONTRACT No. 3.—To CONTRACTORS and OTHERS.—The Local Board of Health for the district of West Ham, in the county of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following named CONTRACT

CONTRACT No. 3.—For the supply of materials, and for the execution of certain BRICK SEWERS and EARTHENWARE PIPE SEWERS, as under:—About 1,650 lineal yards of Brick Sewers, 2 feet 3 inches by 1 foot 6 inches; about 1,000 lineal yards of Pipe Sewers, of 9, 12, and 15 inches diameter.

The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on and after WEDNESDAY, the 7th day of JULY instant, on payment of five shillings, on application at the Office of WILLIAM JAMES BARSHAM, Solicitor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster, where plan of the proposed Works may be seen, and any further information relative to the Contract may be obtained.—Sealed Tenders to be delivered at the Clerk's Office, Stratford-green aforesaid, on or before MONDAY, the 26th day of JULY instant, endorsed "Tender for Sewers; Contract No. 4."

(Signed) W. J. BARSHAM, Clerk to the Local Board.

Stratford-green, 1st July, 1858.

WORKSOP LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No 1.—To EARTHENWARE PIPE MAKERS and OTHERS.—The Local Board of Health for the District of Worksop, in the County of Nottingham, hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following named Contract —

CONTRACT No. 1.—For the supply of Earthenware Sewer and Drain Pipes, and other articles.

The specification may be examined, and Forms of Tender, schedules of prices, &c. may be obtained, on payment of 5*s.* on application to ROBERT WHITE, Clerk to the Local Board, Worksop; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster. Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before THURSDAY, the 22nd day of JULY instant, endorsed "Tender for Earthenware Sewer and Drain Pipes, Contract No. 1."

(Signed) ROBERT WHITE, Clerk to the Local Board.

Worksop, July 7, 1858.

WORKSOP LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No. 2.—To CONTRACTORS and OTHERS.—The Local Board of Health for the district of Worksop, in the County of Nottingham, hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following named Contract —

CONTRACT No. 2.—For the supply of Materials and for the Completion of certain Brick Sewers, Earthenware Pipe Sewers, and other works.

The plans, drawings, and specifications may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on payment of 10*s.* on application to ROBERT WHITE, Clerk to the Local Board, Worksop; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster. Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before THURSDAY, the 22nd of JULY instant, endorsed "Tender for Sewers, Contract No. 2."

(Signed) ROBERT WHITE, Clerk to the Local Board.

Worksop, July 7, 1858.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH.—To WELL BORERS.—The Local Board are prepared to receive TENDERS for BORING, COMPLETING, and MAINTAINING, a 14 inch BORE-HOLE, and other Works, at their Works on Uxbridge-moor. The specification can be seen on application to Mr. EVES, Surveyor, Uxbridge. Sealed Tenders, endorsed, "Tender for Bore Hole, &c." to be delivered at the Board-room, Public rooms, Uxbridge, by SIX o'clock on the evening of THURSDAY, the 22nd day of JULY, 1858. The Local Board do not bind themselves to accept the lowest or any Tender.

July 3, 1858. CHARLES WOODBRIDGE, Clerk

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION of the new CONGREGATIONAL CHAPEL, Nashgrove-lane, Newport, Monmouth, may view the plans and specifications at the Office of the Architect, Mr. A. O. WATKINS, Surveyor, Dock-street, Newport. Sealed Tenders, addressed to the Building Committee, at the Office of the Architect, to be sent in not later than the 30th inst. Quantities supplied gratuitously. The Committee do not bind themselves to accept the lowest or any Tender on behalf of the Congregation.

JAMES EWINS, Secretary.

Newport, July 15th, 1858.

BUILDERS willing to TENDER for a pair of semi-detached VILLAS and STABLING, &c. to be erected at Leatherhead, for Mr Walter Ellerton, may inspect the plans and specification at No. 50, Old-street, London-wall, on MONDAY next, the 19th instant, from TEN till FOUR, and on each successive day thereafter in week. The Tenders, headed "Tenders for the above additions," are to be received on MONDAY, the 26th instant. The lowest or any Tender will not necessarily be accepted

ALFRED CROSS, Architect,
Blackheath road.

14th July, 1858.

CONTRACTS.

NORTH EASTERN RAILWAY.—To IRONFOUNDERS and GAS ENGINEERS. The Directors are prepared to receive TENDERS for a GAS HOLDER and other GAS APPARATUS required for the Company's Gas Works at Jarrow Docks. For the Gas Holder to be 70 feet in diameter, and 20 feet in depth. Also for the following MAIN PIPES, viz.:—

500 yards 7 inch 107 lbs. per yard } To be prepared
1,000 " 6 " 89 " " } for lead joints.
650 " 4 " 51 " "
700 " 3 " 36 " "
2,000 " 2 " 26 " "

The 4, 3, and 2 inch pipes to be all properly bored and turned to the satisfaction of the Company's engineer, and the whole to be delivered at the Gas Works, Gateshead. Plans and specifications may be seen at the office of Mr JOHN BOURNE, Engineer, Central Station, Newcastle-on-Tyne, on and after the 12th JULY instant. Tenders to be made out separately and sent to the Secretary, sealed and marked "Tender for Gas Holder, or "Gas Pipes" (as the case may be) not later than WEDNESDAY, the 28th instant. The Directors do not pledge themselves to accept the lowest or any Tender

JOHN CLEGHORN, Secretary.

York, 7th July, 1858.

TO CONTRACTORS, STONEWARE MANUFACTURERS, IRONFOUNDERS, and OTHERS.—STRATFORD-UPON-AVON LOCAL BOARD of HEALTH. The Board hereby give Notice, that they are prepared to receive TENDERS from parties who are willing to undertake either or both of the following CONTRACTS

CONTRACT No. 7.—For the SUPPLY of 2250 feet lineal of STONEWARE PIPES, and certain Iron Gully Grates, &c.

CONTRACT No. 8.—For the EXCAVATION FOR, and the LAYING OF, 2250 feet lineal of PIPES, and the Construction of Brick Gullies, &c.

The drawings may be examined on and after the 8th day of JULY next; and copies of the specification, schedules, and forms of Tender, (price 5*s.* each contract), may be had, together with further information required, at the Office of EDWARD GIBBS, Engineer and Surveyor to the Local Board, in Stratford-upon-Avon. Tenders must be sent to the undersigned, under cover, addressed to "The Chairman of the Stratford-upon-Avon Local Board of Health," endorsed, "Tender for Contract No. 7 or 8, or both, as the case may be), on or before the 27th day of JULY next. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

HENRY O. HUNT, Clerk to the said Local Board.

Stratford-upon-Avon, July 5, 1858.

MINCING-LANE, LONDON.—VALUABLE BUILDING GROUND.—The Court of Assistants of the Worshipful Company of Grocers are willing to receive TENDERS for TAKING, on a Building Lease, for a term (commencing Lady-day, 1859, and also ground rent to be agreed upon a PLOT of LAND, upon which are now erected two Houses, known as Nos. 8 and 9, Mincing-lane, in the City of London, and a range of warehouses in the yard in the rear, known as Warner's yard, and for the ERECTION thereon of Shop-fronts, Counting-houses, &c., in accordance with plans which have been prepared, if plans which may be agreed upon. The ground contains a frontage towards Mincing-lane of about 95 feet, and a width in the rear of about 74 feet, with an average depth of about 200 feet.—Further particulars may be obtained, and the plans already prepared may be inspected, at the Clerk's Office, Grocer's-hall, London, E.C. where Tenders are to be sent, not later than the last day of NOVEMBER next.—The Company are not bind themselves to accept any Tender.

WILLIAM RUCK, Clerk.

LEEK SEWERAGE.—To CONTRACTORS.—The Commissioners acting under the Leek Improvement Act, 1850, hereby give Notice, that they will meet at their Office, in Leek, on TUESDAY, the 27th day of JULY inst. for the purpose of receiving TENDERS for the CONSTRUCTION of the following WORKS, viz.:—About 1,800 lineal yards of Brick Sewers, from 15 inches to 2 feet 9 inches in diameter, and from 1,800 lineal yards of Pipe Sewers, of 12 inches and 9 inches diameter, together with Street Gratings, and other Works connected with the said Sewers.—Plans, sections, and specifications may be seen at the Office of Mr. SLAGO, the Surveyor to the Improvement Commissioners, in Leek aforesaid, on and after MONDAY, the 12th inst. Tenders to be sent in Mr. HAMMOND, the Clerk to the said Commissioners, not later than MONDAY, the 26th inst. endorsed "Tender for Sewerage Works."

Leek, July 7, 1858. HACKER and BLOORE, Law Clerks.

TO BUILDERS, CONTRACTORS, &c.—NEW WORKHOUSE SCHOOLS, for the Parish of Saint Marylebone, at Southall, Middlesex, June 18, 1858. Notice is hereby given, that the Directors and Guardians of the Poor of the Parish of Saint Marylebone, in the County of Middlesex, will meet at the Board-room of the Workhouse of the said Parish, in Northumberland-street, on TUESDAY, the 20th day of JULY, 1858, at TEN o'clock in the forenoon, to receive TENDERS for the BUILDING of New WORKHOUSE SCHOOLS, at Southall, in the Parish of Norwood, in the County of Middlesex. Further particulars may be known, and plans and specifications seen, on application to the Surveyor of the said Directors and Guardians, at the St. Marylebone Stone yard, Richmond-street, Lisson-grove. Tenders must be sent in, sealed and endorsed, "Tender for Building Schools at Southall," and addressed to the Schools Building Committee, on or before TEN o'clock in the forenoon of the said 20th JULY, and no extension of the time mentioned will be allowed. The Board will expect the parties tendering, or one persons on their behalf, to be in attendance at the time of opening the Tenders. The Contract to pay the expense of the Bond and Contract. The Board do not pledge themselves to accept the lowest or any of the Tenders.

By order,
Secretary's Office, Marylebone Workhouse, July 2, 1858. T. B. BAKER, Secretary.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a POLICE STATION and JUSTICE ROOM at Battisham, Cambridgeshire, may see the plans and specifications at the Office of Mr. J. F. CLARK, Architect, Newmarket, on and after JULY 15th next. The Tenders are to be delivered on the 26th of JULY. The Committee of Magistrates do not bind themselves to accept the lowest or any Tender

July 8th, 1858

[*For remainder of Contracts see next page.*

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CABINET AND PIANOFORTE MAKERS, AND OTHERS.

MR. LEREW will SELL by AUCTION, on the PREMISES, at Three-street, Somers-town, on MONDAY, JULY 12, at TWELVE, about 3,000 Yellow, White, Pine, and Spruce PLANKS, DEALS, and BATTENS, in convenient sized lots, comprising 1 inch, 1½ inch, and 2 inch boards, 6 inches wide and upwards, and 1 inch, 1½ inch, and 2 inch battens; also 2 inch and 3 inch planks, 9 inches wide and upwards; 3 inch and 4 inch scantlings, 9 inches wide and upwards; 4 inch and 5 inch scantlings, 6 inches wide and upwards; 6 inch and 7 inch scantlings, 6 inches wide and upwards; 8 inch and 9 inch scantlings, 6 inches wide and upwards; 10 inch and 12 inch scantlings, 6 inches wide and upwards; 3 inch and 4 inch quarters, 6 inches wide and upwards; 5 inch and 6 inch quarters, 6 inches wide and upwards; 7 inch and 8 inch quarters, 6 inches wide and upwards; 9 inch and 10 inch quarters, 6 inches wide and upwards; 12 inch and 14 inch quarters, 6 inches wide and upwards; 16 inch and 18 inch quarters, 6 inches wide and upwards; 20 inch and

The Builder.

AN ILLUSTRATED JOURNAL FOR THE Architect, Engineer, Operatives & Artist.

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WILL CLOSE ON SATURDAY, THE 24TH INST.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN Admission (from Eight till Seven o'clock), One Shilling; Catalogues, One Shilling.

JOHN PRESCOTT KNIGHT, R.A. Secretary.

WILL SHORTLY CLOSE.

SOCIETY of PAINTERS in WATER-COLOURS.—The FIFTY-FOURTH ANNUAL EXHIBITION is Pall-mall East (close to Trafalgar-square), open from Nine till Dusk. Admittance, 1s. Catalogue, 6d

JOSEPH J. JENKINS, Secretary.

THE NEW SOCIETY of PAINTERS in WATER COLOURS will shortly CLOSE their Twenty-fourth ANNUAL EXHIBITION, NOW OPEN at their Gallery, 53, Pall-mall, near St. James's Palace, daily, from Nine till Dusk. Admission, 1s. Season Tickets, 5s.

JAMES FAHEY, Secretary.

ELLESMERE MEMORIAL.—The Committee give notice that the DESIGNS and MODELS will be OPEN for public inspection, on SATURDAY, the 17th inst. at the Royal Institution, Moseley-street, Manchester, between the hours of TEN and SIX, and will continue open until SATURDAY, the 24th inst. inclusive.

CONTRACTS.

IT is proposed to ERECT a FOUNTAIN in the market-place of a provincial town, at a cost of about 150*l*. Further particulars may be obtained by addressing to W. S. No. 4, Trafalgar-square, W.C. to whom designs, with cost, should be sent, before JULY 31st, and the material named.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a WESLEYAN CHAPEL, at Midsomer Norton, Somersetshire, may see the plans and specifications for the same on application to Mr. JOHN SMITH, North-ville, Midsomer Norton; or at our Offices, 4, Park-street, Bristol, from the 12th instant to the 24th instant; on or before which, sealed Tenders, endorsed, "Tender for Midsomer Norton Chapel," must be sent to us. The Contractor whose Tender may be accepted will be required to find adequate sureties for the due performance of his Contract. The Trustees do not pledge themselves to accept the lowest or any Tender

FOSTERS and WOOD, Architects.

FAVERSHAM, KENT.—BUILDERS wishing to CONTRACT with the Town Council of the Borough of Faversham for REA SING and RESTORING the WESTERN FRONT of the NORTH and SOUTH AISLES and the TOWER of the PARISH CHURCH, may see the Drawings and Specifications by applying to Mr PHILLIPS, Town Clerk, Faversham, and receive further particulars from GEORGE G. SCOTT, Esq., Architect, 20, Spring gardens, London, any day up to the 31st instant. The TENDERS to be delivered to Mr PHILLIPS on or before the 3rd AUGUST next, and endorsed "Tender for Work, Faversham Church." The Town Council do not bind themselves to accept the lowest or any Tender.

Faversham, 8th July, 1858.

CONTRACTS.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director, General of Contracts, War Department, Pall-Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the County of Hants, in the left-hand corner of the envelope, and addressed to the Director-General of Contracts

N.B. The Secretary of State for War, reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, June 9, 1858.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE.—CONTRACT No. 3.—To CONTRACTORS and OTHERS.—The Local Board of Health for the district of West Ham, in the county of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following-named CONTRACT :—

CONTRACT No. 3.—For the supply of materials, and for the execution of certain BRICK SEWERS and EARTHENWARE PIPE SEWERS, as under. About 1,650 lineal yards of Brick Sewers, 2 feet 3 inches by 1 foot 6 inches; about 4,000 lineal yards of Pipe Sewers, of 9, 15, and 18 inches diameter.

The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on and after WEDNESDAY, the 7th day of JULY instant, on payment of five shillings, on application at the Office of WILLIAM JAMES BARSHAM, Solicitor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster, where plans of the proposed Works may be seen, and any further information relative to the Contract may be obtained. Sealed Tenders to be delivered at the Clerk's Office, Stratford-green aforesaid, on or before MONDAY, the 26th day of JULY instant, endorsed "Tender for Sewers; Contract No. 3."

(Signed) W. J. BARSHAM, Clerk to the Local Board.

Stratford-green, 1st July, 1858.

WORKSOP LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No. 1.—To EARTHENWARE PIPE MAKERS and OTHERS.—The Local Board of Health for the District of Worksop, in the County of Nottingham, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following-named Contract :—

CONTRACT No. 1.—For the supply of Earthenware Sewer and Drain Pipes, and other articles.

The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on payment of 5*s.* on application to ROBERT WHITE, Clerk to the Local Board, Worksop; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster. Sealed Tenders to be delivered at the Office of the Clerk, Worksop, on or before THURSDAY, the 22nd day of JULY, instant, endorsed "Tender for Earthenware Sewer and Drain Pipes, Contract No. 1."

(Signed) ROBERT WHITE, Clerk to the Local Board.

Worksop, July 7, 1858.

WORKSOP LOCAL BOARD of HEALTH SEWERAGE.—CONTRACT No. 2.—To CONTRACTORS and OTHERS.—The Local Board of Health for the district of Worksop, in the county of Nottingham, hereby give notice, that they are prepared to receive TENDERS from parties willing to undertake the following-named Contract :—

CONTRACT No. 2.—For the supply of Materials and for the Completion of certain Brick Sewers, Earthenware Pipe Sewers, and other works.

The plans, drawings, and specifications may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on payment of 5*s.* on application to ROBERT WHITE, Clerk to the Local Board, Worksop; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster. Sealed Tenders to be delivered at the Office of the Local Board, Worksop, on or before THURSDAY, the 22nd day of JULY, instant, endorsed "Tender for Sewers, Contract No. 2."

(Signed) ROBERT WHITE, Clerk to the Local Board

Worksop, July 7, 1858.

UXBRIDGE DISTRICT LOCAL BOARD of HEALTH.—To WELL-BORERS.—The Local Board are prepared to receive TENDERS for BORING, COMPLETING, and MAINTAINING, a 14 inch BORE-HOLE, and other Works, at their Works on Uxbridge-moor. The specification can be seen on application to Mr. EVES, Surveyor, Uxbridge. Sealed Tenders, endorsed, "Tender for Bore-hole," are to be delivered at the Board room, Public-rooms, Uxbridge, by SIX o'clock in the evening of THURSDAY, the 22nd day of JULY, 1858. The Local Board do not bind themselves to accept the lowest or any Tender.

July 1, 1858. CHARLES WOODBRIDGE, Clerk

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION of the new CONGREGATIONAL CHAPEL, Victoria-road, Newport, Monmouth, may see the plans and specifications at the Office of the Architect, Mr. A. O. WATKINS, Issued Buildings, Newport. Sealed Tenders, addressed to the Building Committee, at the Office of the Architect, to be sent in not later than the 20th inst. Quantities supplied gratuitously. The Committee do not bind themselves to accept the lowest or any Tender or to pay the Contractor.

JAMES EWENS, Secretary

Newport, July 14th, 1858.

BUILDERS willing to TENDER for a pair of semi-detached VILLAS and STABLING, &c. to be erected at Lewisham for Mr. Walter E. Jackson, may inspect the drawings and specifications at No. 20, Tooley-street, London-bridge, on MONDAY next, the 19th instant, from TEN till FOUR, and on each subsequent day of the week. The Tenders to be delivered at the above address, not exceeding ten, on MONDAY, the 26th instant. The lowest or any Tender will not necessarily be accepted.

ALFRED TOMES, Architect,

Tooley-street, July 14th, 1858. Blackheath-road.

CONTRACTS.

NORTH EASTERN RAILWAY.—To IRONFOUNDERS and GAS ENGINEERS.—The Directors are prepared to receive TENDERS for a GAS HOLDER and other GAS APPARATUS required for the Company's Gas Works at Jarrow Docks. The Gas Holder to be 50 feet in diameter, and 20 feet in depth. Also for the following MAIN PIPES, viz.:—

500 yards 7 inch 107 lbs. per yard	To be prepared			
1,000 " 6 " 80 " "	for lead joints.			
650 " 4 " 51 " "				
700 " 3 " 33 " "				
3,000 " 2 " 20 " "				

The 4, 3, and 2 inch pipes to be all properly bored and turned to the satisfaction of the Company's engineer, and the whole to be delivered at the Gas Works, Gateshead. Plans and specifications may be seen at the Office of Mr JOHN BOURNE, Engineer, Central Station, Newcastle-on-Tyne, on and after the 12th JULY instant. Tenders to be sent out separately on a sheet to the Secretary, sealed and marked "Tender for Gas-Holder," or "Main Pipes" (as the case may be) not later than WEDNESDAY, the 28th instant. The Directors do not pledge themselves to accept the lowest or any Tender

JOHN CLEGHORN, Secretary.

York, 7th July, 1858

TO CONTRACTORS, STONEWARE MANUFACTURERS, IRONFOUNDERS, and OTHERS.—STRATFORD UPON AVON LOCAL BOARD OF HEALTH. The Board hereby give Notice, that they are prepared to receive TENDERS from persons who are willing to undertake either or both of the following CONTRACTS :—

CONTRACT No. 7.—For the SUPPLY of 22,700 feet lineal of STONEWARE PIPES, and certain Iron Gully Grates, &c.

CONTRACT No. 8.—For the EXCAVATION FOR, and the LAYING OF, 22,850 feet lineal of PIPES, and the Construction of Brick Gullies, &c.

The drawings may be examined on and after the 8th day of JULY next, and copies of the specification, of Tender, and forms of Tender, (price 6*s.* each contract), may be had, together with any further information required, at the Office of EDWARD GIBBS, Engineer and Surveyor for the Local Board, in Stratford-upon-Avon. Tenders must be sent to the undersigned, under cover, addressed to "The Chairman of the Stratford-upon-Avon Local Board of Health," endorsed, "Tender for Contract No. 7 (or 8, or both, as the case may be), on or before the 27th day of JULY next. The Board do not bind themselves to accept the lowest or any Tender By order of the Board,

HENRY O. HUNT, Clerk to the said Local Board.

Stratford upon Avon, July 5, 1858.

MINCING-LANE, LONDON.—VALUABLE BUILDING GROUND. The Court of Assistants of the Worshipful Company of Grocers are willing to receive TENDERS for TAKING, on a Building Lease for a term (commencing Lady-day, 1859), and at a ground rent to be agreed upon, a PLOT of LAND, upon which are now erected two houses, known as Nos. 9 and 10, Mincing-lane, in the City of London, and a range of warehouses in the yard in the rear, known as Warnes's-yard, and for the ERECTION thereon of Shop rooms, Counting-houses, &c. on certain terms, and plans which have been prepared, or plans which may be agreed upon. The ground to be taken, at the Clerk's Office, Grocers'-hall, London, E.C. where Tenders are to be sent, not later than the 1st day of NOVEMBER next.—The Company do not bind themselves to accept any Tender

WILLIAM RUCK, Clerk.

LEEK SEWERAGE.—To CONTRACTORS.—The Commissioners acting under the Leek Improvement Act, 1855, hereby give Notice, that they will meet at their Offices, at Leek, on TUESDAY, the 27th day of JULY inst. for the purpose of receiving TENDERS for the CONSTRUCTION of the following WORKS, viz.: about 1,980 lineal yards of Brick Sewers, from 18 inch to 2 feet 9 inches in diameter, and for about 1,335 lineal yards of Pipe Sewers, of 12 inches and 9 inches diameter, together with Street Gullies, and other Works connected with the said Sewers.—Plans, sections, and specifications may be seen at the Office of Mr. SLAGG, the Surveyor to the Improvement Commissioners, Leek aforesaid, on and after MONDAY, the 12th inst. Tenders to be sent in to Mr. HAMMOND, the Clerk to the said Commissioners, not later than MONDAY, the 26th inst. and endorsed "Tender for Sewerage Works."

Leek, July 7, 1858 HACKER and BLOORE, Law Clerks.

TO BUILDERS, CONTRACTORS, &c.—NEW WORKHOUSE SCHOOLS, for the Parish of Saint Mary-le-bone, at Southall, Middlesex, June 18, 1858.—Notice is hereby given, that the Directors and Guardians of the Poor of the Parish of Saint Marylebone, in the County of Middlesex, will meet in the Board-room of the Workhouse of the said Parish, in Northumberland-street, on TUESDAY, the 20th day of JULY, 1858, at TEN o'clock in the forenoon, to receive TENDERS for the BUILDING of NEW WORKHOUSE SCHOOLS, at Southall, in the Parish of Norwood, in the County of Middlesex. Further particulars may be known, and plans and specifications seen, on application to the Surveyors of the said Directors and Guardians, at the St. Marylebone Stone-yard, Richmond-street, Lisson-grove. Tenders must be sent in, sealed and endorsed, "Tender for Building Schools at Southall," and addressed to the Schools Building Committee, on or before TEN o'clock in the forenoon of the said 20th JULY, and no extension of the time mentioned will be allowed. The Board will reject the parties tendering, or whose persons on their behalf, to be in attendance at the time of opening the Tenders. The Contractor to pay the expense of the Bond and Contract. The Board do not pledge themselves to accept the lowest or any of the Tenders

By order, T. B. BEE, Secretary.

Secretary's Office, Marylebone Workhouse, July 2, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a POLICE STATION and JUSTICE ROOM at Bottisham, Cambridgeshire, may see the plans and specifications at the Office of Mr. J. F. CLARK, Architect, Newmarket, on and after JULY 12th next. The Tenders are to be delivered on the 26th of JULY.—The Committee of Magistrates do not bind themselves to accept the lowest or any Tender

July 9th, 1858.

For remainder of Contracts see next page.

CONTRACTS.

CROYDON LOCAL BOARD of HEALTH.—The Board are prepared to receive TENDERS for the following ARTICLES, up to one o'clock on Tuesday, the 20th July:—

For the Year Ending 29th September, 1858.
- The best Oban Oil per gallon
- The best Rosendal Tallow, per cwt.
- Coloured Cotton Waste, per cwt.
- White Lead, per cwt.
- Red Lead, per cwt.

The above to be delivered at the Engine-house, by next 29th inst., during the above period, as may be ordered from time to time by the Engineer and Secretary, in such quantities and manner as with the respective Tenders. Tenders to be received at the Office of Mr. RICHARDS, Surveyor, before NOON on Monday, the 26th of July, 1858, endorsed, "Tender for Tallow, Waste, &c." The Board do not bind themselves to accept the lowest Tender or any Tender.

July 13, 1858.

TO BUILDERS and others.—Parties willing to CONTRACT for the several WORKS included in the Proposed DRAINAGE and ALTERATIONS of PECKHAM CHAPEL, St. Mary's-road, Peckham, are requested to attend the Vestry, on and after the 19th inst., when they will find Mr. Edmund Ford, the Engineer, ready to explain the Plans and Specifications. Tenders, addressed to Mr. Bowyer, Surveyor, 3, Hill-road, St. Mary's-road, Peckham, are to be delivered on or before MONDAY, the 26th of July, 1858. The Committee do not pledge themselves to accept the lowest or any other Tender. Further particulars may be known by applying to the Architect, Mr. B. THOMAS HELLIER, Carlton House, Ryde, Isle of Wight.

July, 1858.

HARROW LOCAL BOARD of HEALTH.—To BUILDERS, PIPE-LAYERS, and others.—The Harrow Local Board of Health are desirous of receiving TENDERS for the CONSTRUCTION of SEWAGE TANKS, FILTERERS, and other Works required in connection therewith, also Tenders for SUPPLYING and LAYING DOWN about one foot of STONEWARE PIPE SEWER. The plans, sections, and specification may be seen, and every information had, at the Board Room, Harrow, Mr. WM. SMITH, Assistant Surveyor, Harrow, N.W. Tenders to be sent to me on or before TWELVE at noon, on MONDAY, JULY 26th endorsed "Tender for Works," or "Tender for Sewers," as the case may be. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

Harrow, July 13, 1858. WILLIAM WINKLEY, Jun. Clerk.

TO BUILDERS.—DEPTFORD COUNTY BRIDGE.—Persons willing to CONTRACT for TAKING DOWN the OLD PART of the COUNTY BRIDGE, at the High-street of Deptford, and RE-BUILDING the PORTION of the BRIDGE in the place of the part to be taken down, specified in the plan and section of the work required to be done, at the Offices of the County Surveyor, in Maidstone, every day, between the hours of TEN and FIVE. Copies of the plans, &c., will be for inspection at the office of the District Surveyor, in Deptford, on and after the 12th of JULY. Tenders to be sealed up and endorsed, "Tender for Deptford Bridge," and delivered at the County Surveyor's Office, in Maidstone, on or before SATURDAY the 31st of JULY next. The Justices do not engage to accept the lowest or any Tender, unless approved of by them.

Maidstone, July 1st, 1858. B. A. WILDIS, Clerk to the Justices.

NEW WORKHOUSE, BOLTON UNION.—To BUILDERS and OTHERS.—The Board of Guardians of this Union are desirous of receiving TENDERS for re-BUILDING portions of, and ADDITIONS to, the WORKHOUSE, at Bolton. The drawings and specifications, with quantities of materials, may be seen and every information had, on application to the Architect, Mr. LEIGH HALL, Architect, Sun Buildings, Manchester, on and after MONDAY, the 19th day of JULY next, and WEDNESDAY, JULY 28th, after which day they will be produced at the Office of Mr. GEORGE WOODHOUSE, Architect, Ashworth-lane, Bolton, until TUESDAY, the 8th day of AUGUST. The Tenders are to be made for the several works as follows, viz.:—

1 The Main Buildings, Kitchen, and Dining-hall.
2 The Lunatic Asylums.
3 The Hospitals.
4 The Infirmary Offices.

All the Tenders are to be sealed, under cover, addressed to the Chairman, free of expense, and endorsed "Tender for New Workhouse, Bolton," and to be sent to the Office on or before the 9th day of AUGUST next. The Guardians do not pledge themselves to accept the lowest or any Tender sent. Two sufficient sureties will be required for the due performance of the contract. By order of the Board of Guardians,

JOHN WOODHOUSE, Clerk.

Union Offices, 11, Acresfield, Bolton, July 7th, 1858.

LESLIE RAILWAY.—To RAILWAY CONTRACTORS.—The Directors of the Leslie Railway are prepared to enter into CONTRACTS for the FORMATION of the MAIN LINE and BRANCHES. Drawings and specifications may be inspected at the Company's Office, No. 3, Hanover-street, Edinburgh, where Printed Tenders may be obtained. The Assistant Engineer, with the drawings and specifications, will meet the Markets at Leslie, at the Kirkcaldy, Perth, and Dundee Railway, on TUESDAY, the 27th of JULY, at TEN o'clock forenoon, for the purpose of conveying intending offerers over the ground. The Sealed Tenders are to contain the sums for which the several works will be executed, and, in the event of general Tenders, the amount for each trade is to be given separately, any or either of which the Guardians are to be at liberty to accept, viz.:—

1 The Main Buildings, Kitchen, and Dining-hall.
2 The Lunatic Asylums.
3 The Hospitals.
4 The Infirmary Offices.

All the Tenders are to be sealed, under cover, addressed to the Chairman, free of expense, and endorsed "Tender for New Workhouse, Bolton," and to be sent to the Office on or before the 9th day of AUGUST next. The Guardians do not pledge themselves to accept the lowest or any Tender sent. Two sufficient sureties will be required for the due performance of the contract. By order of the Board of Guardians,

JOHN WOODHOUSE, Clerk.

Union Offices, 11, Acresfield, Bolton, July 7th, 1858.

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1 The Main Line, with Stations, Bridges, Culverts, Fencing, Drains, Road Crossings, Turnpike Gates, and Dwelling-houses.
2 The Branch to Leslie, with Stations, Bridges, Culverts, Fencing, Drains, Road Crossings, Turnpike Gates, and Dwelling-houses.
3 The Branch to Markinch, with Stations, Bridges, Culverts, Fencing, Drains, Road Crossings, Turnpike Gates, and Dwelling-houses.

All the Tenders are to be sealed, under cover, addressed to the Chairman, free of expense, and endorsed "Tender for Leslie Railway," and to be sent to the Office on or before the 9th day of AUGUST next. The Directors do not pledge themselves to accept the lowest or any Tender sent. Two sufficient sureties will be required for the due performance of the contract. By order of the Board of Directors,

JOHN MORRISON, S.S.C. Solicitor, Edinburgh, the Secretary of the Company, pro tem.

Offices, 3, Hanover-street, Edinburgh, 13th July, 1858.

BARNSTAPLE WATER SUPPLY.—To IRONFOUNDERS, and MANUFACTURERS of STONEWARE PIPES.—The Directors of the Barnstaple Water Company are prepared to receive TENDERS for the SUPPLY and DELIVERY of the following IRON and STONEWARE PIPES

CONTRACT No. 1 ... Upwards of seven Miles of Cast-iron Socket-Pipes, of 10, 9, 8, 7, 6, 5, 4, and 3 inches diameter, together with other Castings.

CONTRACT No. 2 ... About Two Miles of 9-inch Half of straight Stoneware Socket Pipes, glazed, & 12, 11, and 10 inches diameter.

Drawings and specifications may be inspected, and any further information obtained on and after the 20th instant, at Mr. A. POWELL'S, 6, High-street, Barnstaple; from whom specimens, samples of the quantities and forms of Castings required, and also each contract, the time and the mode of supply and payment, and the general conditions, sealed and endorsed "Tender for Iron Pipes," or "Tender for Stoneware Pipes," respectively, delivered at the Office of the Company, on or before TUESDAY, the 3rd day of AUGUST next, addressed to the "Chairman of the Water Company, Barnstaple."

*** The Directors do not bind themselves to accept the lowest Tender.

By order of the Board,

Dated 13th July, 1858. R. HEARD, Secretary.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Vestry of the Parish of St. Luke, Chelsea, will meet on TUESDAY next, at 11 o'clock, at the Mayor House, Kings-road, Chelsea, at ELEVEN o'clock precisely, to receive TENDERS for the EXECUTION of GENERAL WORKS connected with the SEWERS and DRAINS, according to the plans, sections, and new levels of the district, and the conditions of the contract and form of Tender, which may be had on payment of 1s. 6d. for returning to parties sending for it. The Vestry do not bind themselves to accept the lowest or any Tender, or guarantee to the Builder a portion of the spoil or stone required. Each Tender must be delivered personally by a contractor, or by such person as the performance of the same is intended upon, at the Vestry Room, and must remain there until the Vestry Meeting, at ELEVEN o'clock on the aforesaid TUESDAY, when it will be opened.

By order of the Vestry,

CHARLES LAHEE, Vestry Clerk.

Offices, Mayor House, Kings-road, Chelsea, July 14, 1858.

TO BUILDERS.—The London General Omnibus Company (Limited) are prepared to receive TENDERS for ERECTING a STABLE on the BRUNSWICK STREET, Blackfriars-road, Boundaries are specified in the Agreement, which may be seen at the Offices of the Company, No. 21, Bishopsgate-street, Without. Written Tenders are to be addressed to Mr. A. G. CHURCH, Secretary, and delivered at the Offices, on WEDNESDAY, the 14th instant. Tenders received by Post cannot be accepted.

CONTRACTS.

TO STONE MERCHANTS.—The VESTRY of the Parish of St. Luke, Chelsea, will meet at the Board Room, Mayor House, Kings-road, on TUESDAY, the 27th inst. at ELEVEN o'clock in the forenoon precisely, to receive TENDERS for the following WORKS, viz.:—

For the supply of PAVING and MACADAMIZING MATERIALS, as mentioned and described in the Specification, during the ensuing year.

For the supply of Portland Stone, Granite, and Yorkshire paving, for the ensuing year, for Footpath Kerb, Angle and Quadrant Stones, necessary to extend, or repair, the same, with the Form of Tender, may be seen at the Office. Sealed Tenders, signed by the proposed sureties, with the price and description of the said sorts of Stones for the purposes, if this contract, to be left at the Office of Mr. ELLIN, on or before the forenoon of TUESDAY, the 27th inst. Separate Tenders of the said Materials are required. The Contractor, upon his entering into the same, will be required to enter into a Bond with sufficient sureties, for the due performance of his contract.

The Vestry do not bind themselves to accept the lowest or any Tender.

(Signed) CHARLES LAHEE, Vestry Clerk.

Office, Mayor House, Kings-road, Chelsea, July 14th, 1858.

TO BUILDERS and OTHERS.—The Guardians of the Poor of the Parish of St. George the Martyr, Southwark, will meet at the BOARD ROOM of the WORKHOUSE, Long-lane, Borough, on WEDNESDAY, the 28th day of JULY next, at FIVE o'clock in the afternoon precisely, to receive TENDERS for the following WORKS, viz.:—

ALTERATIONS and ADDITIONS to their WORKHOUSE in Mansell-street and Queen-street.

The plans, specification, &c., to be seen at the Board Room of the Workhouse, between the hours of TEN and FIVE, at which time and place a Form of Tender may be had.

Signed by M. J. MARSLAND, Surveyor, 20, Southwark Bridge-road.

The party contracting will be required to enter into a sufficient bond, with two sureties, for the due performance of the Works, under the terms, conditions, &c., specified and contained in the specification. Each Tender must state the names and residences of the proposed sureties, and be delivered at the Workhouse sealed and endorsed, "Tender for Works, Mansell-street," at or before the o'clock of the day of meeting, at the party Tendering, or some authorized person in his behalf, attending at the time of opening the same. The Guardians do not bind themselves to accept the lowest Tender.

J. H. FITCH, Clerk.

17, Union-street, Southwark, July 15, 1858.

WHITECHAPEL UNION WORKHOUSE.—To BUILDERS.—Persons willing to CONTRACT with the Board of Guardians of the Whitechapel Union for the SECOND PORTION of the new WORKHOUSE, about to be erected in Charles-street, Mile-end New Town, are requested to attend at the Board-room, adjoining the Workhouse, Mr. THOMAS D. BARRY, Jun., Architect, Lime-street-chambers, 17, Leadenhall-street, Liverpool, on WEDNESDAY, the 21st instant, at Twelve o'clock precisely, to receive Tenders.

By order of the Board,

G. ADAMS, Clerk to the Board.

July 13th, 1858.

TO CONTRACTORS for SEWERS and OTHERS.—The Board of Works for the Plumstead District are desirous of receiving TENDERS for the ALTERATION of the SEWER now in use, at the Entrance of the North Kent Railway, at Plumstead.

The specification of the work to be done at the Office of the Surveyor, Mr. H. A. FISHER, Rose-bank, Plumstead, from THURSDAY, the 22nd instant. Tenders, under seal, to be left at the above Office, on or before MONDAY, the 26th instant at TWELVE o'clock at noon, endorsed, "Tender for Alteration of Sewer at Plumstead." Security will be required for the due performance of the Contract. The Board do not bind themselves to accept the lowest or any Tender.

By order,

H. A. SMITH, Clerk to the Board.

VENTILATION—PURE AIR.

With angle pulley, from 4s. 6d. each; with leading pulley, from 6s. 6d.

These Ventilators are arranged that the requisite quantity of air may be admitted for the ventilation of an apartment with little or no draught, by opening the sash of a window, or door, placed in the external wall, the valve is shut instantly when the house is closed for the evening, at which time constant supply of fresh air is maintained.—SHENAGHAN BROTHERS, 208, Piccadilly-street, 194, Piccadilly-road, and 11, Thomas-street, Borough; and of all respectable Ironmongers, Builders, &c.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These pencils are prepared in various degrees of hardness and shade.

H H H for drawing in water-colours.	F For delicate shading.
H H H for engraving.	F for general use.
H for engraving.	P Black for shading.
H for shading.	B B after the ditto.
H B hard and black for drawing.	B B B ditto ditto.
B B B ditto ditto.	
B medium.	

Sold by all the principal Stationers in town or country.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CROSS'S WHOLESALE WAREHOUSE, 29, GREAT PORTLAND-STREET ONLY, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom. THIRTY PER CENT CHEAPER than any other House in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this select Establishment.

WINDOW BLINDS.—The Trade in London or the Country supplied with Venetian Blinds, Wire Blinds, Outside Blinds, of striped Holland, any spring rollers, of any size and strength, at reasonable prices, by HENRY JINKS, Thames-bank Blind Factory, 5, Caroline-street, Pimlico, S.W.

TO TIMBER MERCHANTS.—TO BE DISPOSED OF by PRIVATE CONTRACT, about 1,000 Loads of WILLOW and POPLAR TIMBER. For particulars address, post-paid, to A. Z. 142, Chesapside, London, E.C.

MORRIES STIRLING'S PATENT CAST and MALLEABLE IRON—The toughened cast iron for axles, shafting, rolls, pinions, railway waggon wheels, engine slides, bosomite plates, and for all purposes where strong, tenacious properties are essential. Full particulars of—

Dan Dixon	Lloyd, Peters, and Co.
Ford Company	Rosedale, Hull, and Co.
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Bars of the various kinds with Patent Hardened Iron can be delivered from the following Works:—

Parkside	Elsecar.
Hyde, Tinsley, and Co.	Tinsley.
Cort, Cleland, and Sons	Dalkeith.
Hawks, Crawshay, and Co.	Gateshead.
Lees, Wilson, and Bell	

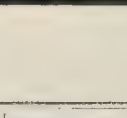
By the Patentees' Agents at Sheffield.

For charcoal bars, the Rails have been proved. They do not bend, but wear out, and all added value by rails. Full information, and Letters of use of patent rails, can be obtained of Messrs. CONNELL and HOPE, 3, Princes-street, Westminster, and I. M. S. THORNTON, Bar of Lloyd, Birmingham, who also receive orders of Mr. MORRIES STIRLING'S Patent Iron and Rails.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; galvanized ditto, for Water. High pressure cocks, &c. Manufactured for Arm's Improved Ventilators.

HULETT and Co. 85, High Holborn.



JOHN PARKIN (late Blake and Parkin), STEEL WORKS, HARVEST LANE, SHEFFIELD, Manufacturer of Circular Saws *machine-ground*, Mill Saws, Endless Band, or Belt Saws, of tough temper, without joints. Metal or Plate Frame Sawing, Moulding, and Planing Irons, Saw Files, &c.

Agent for London: Mr. CHAS. BADGER, 1, Stangate, Westminster-road.

AUSTIN'S IMPERIAL **PATENT SASH and BLIND LINE** can be obtained of all ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY. Established 1774.

JOHN HENDERSON PORTER, ENGINEER AND CONTRACTOR, IRON BUILDING AND ROOFING WORKS, GAS-STREET, BIRMINGHAM.

LONDON OFFICE—1, RICHES-COURT, LIME STREET.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited), HENRY PEARCE, Manager, Cook's Wharf, near Old Ferry Boat-road, Deptford. These Works possess the advantages of great strength with lightness and cheapness, and they have been very highly approved by many of the first Government architects of the day. They are peculiarly well adapted for factories, railway stations, churches, private asylums, and also for every situation, as it is impossible to make them of any means: lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE.—This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting a perfect combustion of fuel in all kinds of furnaces. Test-models, of the lightest possible character are gladly given by the parties who have them in operation. Price, No. 1, 5s.; No. 2, 4s. 6d.; or more according to size, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are now in various Government and private establishments, and having had a fair trial, are met with unqualified approval. These articles must be had of all Ironmongers, and of the General Iron Foundry Company (limited), 41, Upper Thames-street, Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Chemical and Soup pans, Furnace bars, and all other kinds of Castings, for manufacturing and building purposes.

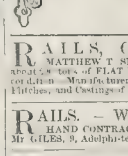
SAVING IN GAS.—D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring a wholesome and uniform lighting, under all the pressure and preventing any irregularity in the light of the flame.

D. HULETT and CO. 85, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO., Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and price-list, 10s.—Nos. 85 and 86, High Holborn.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIEVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished.

Architects' designs accurately executed.

MANUFACTORY, 109, HIGH HOLBORN, LONDON.

RAILS, Contractors' Second Hand.—MATTHEW T. SHAW, 64, Cannon-street, E.C. has for Sale about 15 tons of CONTRACTORS RAILS, in good condition. Manufacturer of Wrought-iron Girders, Rolled Girder Flitches, and Castings of every description.

RAILS.—WANTED, some SECOND-HAND CONTRACTORS' RAILS, 56 lbs per yard.—Address, Mr. GILES, 9, Adelphi-terrace, W.C.

HOBBS'S NEW MORTISE LOCK possesses the following advantages:—The Plates are made of Number "Twelve Gauge" Iron, and being so thick, the pins cannot be loosened by the constant jarring of the door. The security caused by four-and-seven-lever. The PATENT FRICTIONLESS FOLLOWER prevents the wear of the parts, and gives unusual freedom of motion to the handle.

These Locks being manufactured by patent steam machinery, are of a pattern more completed in price. Also, every description of Lock warranted to be as sound as new.

STREET-DOOR LATCHES, with Two Keys, 10s. Hobbs's new Mortise Latch for Entry doors. Miner's Fire and Burglar-Proof Safes, Strong-room Doors, &c.

HOBBS, ASHLEY, and CO. 76, Cheapside, E.C.

GAS CHANDELIERS, GAS-COOKING STOVES, GAS-BATHS, and DEANE'S, LONDON-BRIDGE. Estimates given.

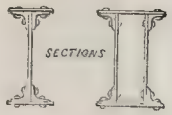
TO BE SOLD, a bargain, a high-pressure STEAM-ENGINE, 12-horse power, with double cylinder, boiler, &c. Is fully equal to new. For terms, apply to Mr. MILNER, Surveyor and Estate Agent, 18, Queen-street, Cheapside.

PORTABLE ENGINE and MORTAR-MILL TO BE SOLD. Apply to Mr. JOHN FRANCE, Kent's-place, North Wharf-road, Paddington, where they are to be seen. No reasonable offer refused.

STEAM POWER to LET, on the Banks of the Thames, near Waterloo-bridge, from five, ten, to twenty or more in requisite, on separate wharf, with convenience for landing. Also large and separate premises if required.—Apply at the OFFICE, LETT'S WHARF, Commercial-road, Lambeth.

N.B. Landing at Lett's Wharf Draw Dock 7s. 6d. per barge.

TO BE SOLD, standing within four miles of Charing-cross, a pair of handsome and substantial wrought-iron FOLDING PARK GATES, with massive Portland stone fluted piers, and quarter circle brick walls and piers.—For price and further particulars apply to Messrs. GLASIER and SON, Auctioneers, 41, Charing-cross.

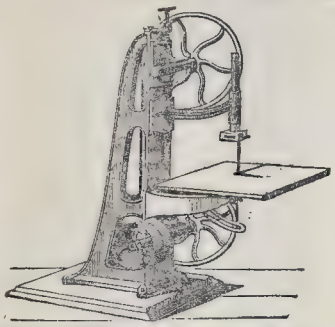


WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.



POWIS, JAMES, AND CO. ENGINEERS AND MACHINISTS,

Also, PATENTEES and MANUFACTURERS of all kinds of MACHINERY for WORKING in WOOD,

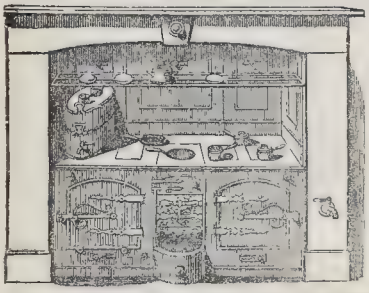
26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of BUILDERS, CONTRACTORS, and PROPRIETORS OF SAW-MILLS to their much-improved ENDLESS BAND SAWING-MACHINES, which are well adapted for every variety of work—CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT—of any thickness, with Swinging Tables to CUT TO ANY ANGLE, for HAND or STEAM POWER. Also, their improved HAND or STEAM-POWER RISING TABLE Circular Saw Bench, with Shifting Fence to cut to any Angle, and extra loose Guide, made expressly for TENON CUTTING. This BENCH only requires to be SEEN to be APPRECIATED.

Also, their PATENT MORTISING, TENONING, and BORING MACHINE, of which upwards of a THOUSAND have been sold in ENGLAND alone, and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE KINDS OF WORK by ONE MACHINE.

P. J. and Co. also invite inspection, at their Manufactory, of their Improved Patent Planing, Tongueing, Grooving, and MOULDING MACHINE, doing SEVENTY FEET per minute, of board of any thickness, and GOOD WORK.

POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.



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Having completed the Alterations and Enlargement of their Premises, invite attention to their extensive suite of SHOW-ROOMS.

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THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c. for Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.

FLAVEL'S PRIZE KITCHENER,

The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851.

FLAVEL'S PRIZE KITCHENER is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

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ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

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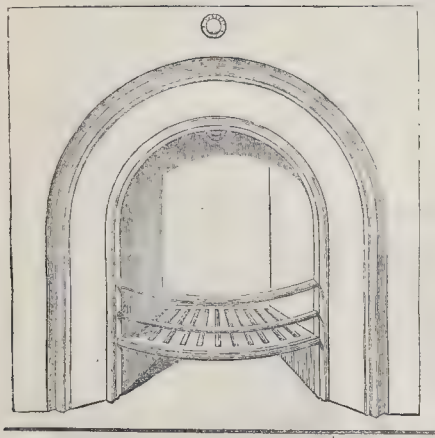
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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PRICES AND SIZES.

WIDTH OF STOVE.	WIDTH OF FIRE-BARS.	PRICES. £	s.	d.
18 in.	9 in.	1	4	0
20 in.	9 in.	1	5	0
22 in.	9 in.	1	6	0
24 in.	12 in.	1	7	0
26 in.	12 in.	1	8	0
28 in.	12 or 15 in.	1	9	0
30 in.	12 or 15 in.	1	10	0
32 in.	15 in.	1	11	0
34 in.	15 in.	1	12	0
36 in.	15 or 18 in.	1	13	0
38 in.	15 or 18 in.	1	14	0
40 in.	15 or 18 in.	1	15	0
42 in.	15 or 18 in.	1	16	0

With a Sliding Blower, 7s. 6d. extra.

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GENERAL STOVE AND KITCHEN RANGE MANUFACTURERS,
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MANUFACTURERS OF EDWARDS' SMOKE CONSUMING KITCHEN RANGE; DR. ARNOTT'S SMOKE-CONSUMING GRATE; EDWARDS' IMPROVED GRATES WITH PORCELAIN SIDES, &c. ILLUSTRATED PROSPECTUSES FORWARDED.

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RAIN PIPES, &c.—F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, Syphons, and Outlets, Gutters, Socket Pipes for Water or Gas, Lengths, Bends, Plain or Connecting, Soil, Waggon, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in sets or as pieces. Prices revised to the present time. Contracts taken to any extent. Goods landed. A powerful crane.

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Superior Rock Brass Cocks, Plug Valves, Stopcocks, and Fittings (Common Brass Goods Made to Pattern).

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NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders' Contractors, and Dealers supplied with Nails, Brads, and Ironmongery, Tower Chains, &c. &c.

LOWNDES' Illustrated Trade List,

A complete List of which will be forwarded upon application to

FRANCIS BRANCH, late Blythman, Bunn, and Nail Manufacturer and General Factor, BIRMINGHAM; and at 16, Gresham-street, London, E.C.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

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THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershott, &c. &c. and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design

Hotse and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
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EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

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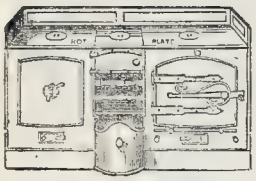

THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

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Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

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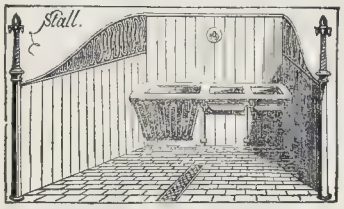

VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

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FOR THE
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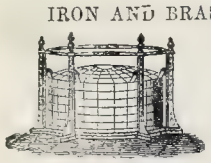
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
Gas Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.

DEVICES FOR GAS ILLUMINATION.

IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.

These Turnstiles were selected for the Entrances of the Great Exhibition, New York.

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Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.

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IRONMONGERS,
RANGE AND STOVE MAKERS,
20, CHISWELL-STREET, FINSBURY,

Beg to call the attention of the Building Trade to their extensive and varied Stock of IRONMONGERY AND BELL HANGING MATERIALS,
PIPES, GUTTERS, &c. &c.
At wholesale Prices,

A full List of which can be had on application by enclosing a card.

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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

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PATENT MACHINES for WORKING in WOOD.—These celebrated Machines have been awarded a number of prize medals by many scientific institutions, and also by the Great Exhibition in London, and are now extensively used by the Indian, American, and all the principal Governments in Europe; also by eminent Contractors, Builders, Shipwrights, Machine makers, and other workers in wood. Their operations are in every respect perfect, either in hard or soft wood, for planing, squaring up, moulding, tenoning, mortising, grooving, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.

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FIRE-PROOF CONSTRUCTION.—
FOX and BARRETT'S PATENT.

This improved system of fire-proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire-proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

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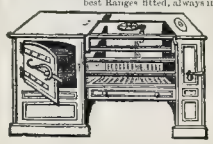
CLARK and HUNT'S IRONMONGERY,
STOVE, and METAL WAREHOUSE, 159, Shoreditch.
A great variety of Elliptic, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock



Improved Self-acting Cottage Ranges, with Large Oven and Boiler,
30 42 34 36-inch.
26s 28s 30s. 32s.
Best Self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars
34 36 38 42 inch.
54s. 56s. 58s 60s.
Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

Register Stoves, with Solid Bars, per inch, 5d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 5d. per inch.
Best Solar ditto, with Fire-brick Back, per inch, 10d.
Bright Stoves, with Two Fires, 40s. to 16os. each.
Best Cut Clasp and Rose Nails.

1½-inch	1¾-inch	2-inch.	2½-inch.	3 inch.
16s.	15s 6d.	15s	14s	13s per cwt.

Best Sheet Cut Floor Brads, 12s. 6d. per cwt.
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Cast Rain-water Pipe,	2	2½	3-inch.	
	10d.	1s	1s 3d. per yard.	
Cast Gutters, 4 inch, 8d per yard.				
O G Gutters	4	4½-inch.		
	1s.	1s. 2d. per yard.		
	2	3	4	5 6
Patent Line.	2s 6d	4s	5s	7s. 9s. per gross.

6-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s 9d each. Light Elliptic and Register Metal, 13s. 6d. per cwt.
Dr Arnott's Ventilators, 4s. each
Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12s. PER CWT.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, &c.; and the New Registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.

J. H. BOOBBYER (late STURCH and BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.
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OPPOSITE VINEGAR WORKS, CITY-ROAD, LONDON.
Manufactory, Worcester street, Wolverhampton.—Manufacturer of rim, mortise, cabinet, and other description of locks, with patent adjusting spindles; nails, screws, bolts, hinges, &c. and patentee of the Burglary Detector Alarm Light and Indicator.

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R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths-inch diameter	1s 0d. per foot.
Half-inch diameter	1s. 6d. "
Five-eighths-inch diameter	2s. 0d. "

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Offices—Gateshead on-Tyne.
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" Exchange buildings, Dundee.
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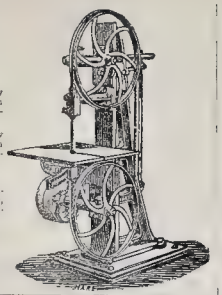
MACHINERY
FOR
SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55*l.*

Price of Band Saw Machine, with 24-inch pulleys and light framing, 32*l.*

A descriptive Catalogue, with Drawings, may be had on application to
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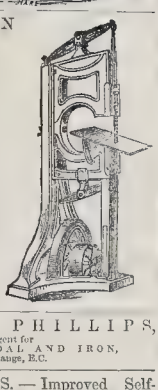
THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*
Drawing sent on application.



WILLIAM PHILLIPS,
London Agent for
LORD WARD'S COAL AND IRON,
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COTTAGE RANGES. — Improved Self-acting, with Oven and Boiler, 27 inches, 18*s.* 6*d.*; 30 inches, 20*s.*; 33 inches, 22*s.*; 36 inches, 24*s.* With brass taps, 2*s.* 6*d.* extra. Prospectuses post-free. BROWN and GREEN, Luton, Bedfordshire.

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BATHS and HOT-WATER APPARATUS.
J. TYLOR and SONS'
ILLUSTRATED CATALOGUE of BATH WORK, &c.
to be had on application.
Estimates and Plans for Fitting given.
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SHOWER and all DOMESTIC BATHS. — An extensive and complete Stock. The best manufacture and lowest prices. DEANE and CO.'s PAMPHLET on BATHS and BATHING may be had GRATUITOUSLY on application, and post free. It contains engravings, with prices, of Shower, Hip, Plunging, Sponging, and every description of Bath for family use. Shower Baths of improved construction. Patent Gas Baths, simple, efficient, and economical. Estimates given for fitting up Bath-rooms. DEANE and CO. (opening to the Monument), London Bridge. Established A.D. 1700.

HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER.—This apparatus forms a complete register stove, and may be fixed in the library or dining room, the same fire heating a conservatory, greenhouse, or anywhere that heat is required, without the expense of extra fuel. Also has improved VENTILATING GREENHOUSE, which can be erected at 1*s.* per foot. —Applications at the MANUFACTORY, 18, George-street, Portman-square.

J. RUNCIEMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, Newcastle-on-Tyne, beg to call attention to their economical method of warming buildings with hot water. J. R. and Co. from their long and practical experience, are enabled to guarantee the efficiency of all apparatus they fix; and from being situated in the midst of a coal and iron district, can with confidence submit the terms of their contracts as the lowest ever offered. Workmen sent to all parts of the kingdom. All work warranted for thirty years.

HEATING BY HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS. Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

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ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.
Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

IMPORTANT to GAS-FITTERS, LAMP MAKERS, &c.—HAWKINS'S REGISTERED CHAIN is universally approved for Lamps and Chandeliers, up to any weight. Sold by every respectable Ironmonger in the kingdom.
Manufactory, 27, Dale-end, Birmingham.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
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W. HARMER AND SON,
IRONMONGERS, SMITHS, BELL-HANGERS, AND GAS-FITTERS,
MANUFACTURERS OF CLOSE AND OPEN FIRE KITCHEN RANGES, including the BEST LEAMINGTON KITCHENER.
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The Builder.

VOL. XVI.—No. 806.

A Gossip.—Wren's Plan for London. Changes.

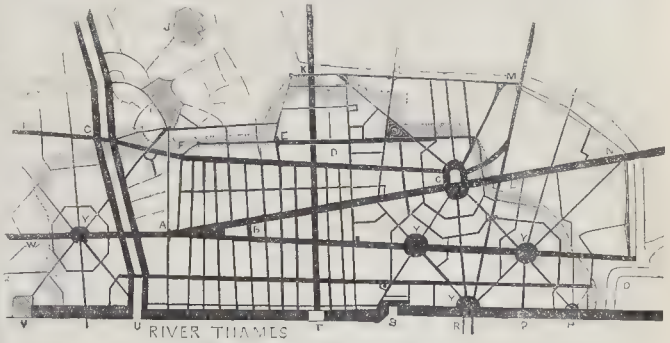
JUSTLY has it been lamented, that the plan prepared by Wren for rebuilding London after the Great Fire of 1666 was not adopted. It would have saved the corporation thousands spent since, would have given us a noble city, and we should not now be *talking* of embanking the Thames. Oh! what a fire that was! Wandering in the City a few nights ago, we made a circuit of the area which it desolated. It is only thus its magnitude can be completely appreciated. It commenced (say the histories) in Pudding Lane (the "Monument" stands a couple of hundred feet from the site of the house), and it ended at Pie-corner (most strange coincidence), at the entrance to Smithfield. These points, however, do not give any idea of the immense mass of buildings which was on this occasion laid in ruins. Far eastward of the Monument the fire extended along the shore of the river the whole length of Thames-street to within a few yards of the walls of the Tower; and from Pie-corner the conflagration extended upwards of half a mile westward, coming up to the Temple-gardens. To trace it from the south-eastern extremity, wander along to the west past Billingsgate, London-bridge, Queenhithe, to the mouth of the Fleet, now Blackfriars-bridge, and thence along the site on which stood the ancient and notorious Alsatia, to the Temple-gardens: on this line, which extends about a mile and a half, the buildings were burnt to the water's edge.

From this point northward, the ravages extended to the ancient house, wrongly called Cardinal Wolsey's Palace, which is partly above and partly adjoining the entrance to the Middle Temple in Fleet-street. The picturesque houses towards Temple-bar, which, although much altered, remain, and the examination of old prints, show that the north side of Fleet-street, from Chancery-lane to Temple-bar, was saved. Bell-yard still retains many ancient features; and the old houses at the bottom of Chancery-lane, one of which was occupied by Isaac Walton, and those which have been recently removed, indicate that this thoroughfare, too, escaped. The map of the fire shows that from opposite the entrance of the Temple just mentioned, the flames took a circular sweep towards Lincoln's-inn-fields, and bore round towards the top of Fetter-lane; the fire then passed on, leaving the whole frontage of Holborn, and then crossed that street at Holborn-bridge (near the bottom of Holborn-hill); here it leaped across the thoroughfare, and swept to Hosier-lane, and thence to Pie-corner, Smithfield. From Pie-corner it continued eastward, about fifty yards outside the City wall to Aldersgate; and from this spot still outside the wall in an angular line, which terminated at the bastion that remains in Cripplegate churchyard. It did not reach London-wall. Parts of Coleman-street, and Moorgate-street, were saved; and then the fire progressed in a south-eastern direction across to Leadenhall-street, close to the site of the market; and then the line of fire passed in a zigzag course to the corner of Great Tower-street, and thence to the point from which we started. Referring to the map it will be found that the greatest breadth of the fire, from the Thames to Cripplegate, is half a mile and 200 yards; the greatest length, a trifle more than a mile and a half; and the circuit of the fire about four miles. If we take into account the space north-west of the outside of the wall which was consumed, and compare it with that saved within the City wall at the north-eastern extremity of the fire, we shall see that a larger extent of building was destroyed than could have been enclosed within the boundary of the City walls!

It is frightful to think of the extent of this terrible fire, and how completely it removed the chief vestiges of former times—churches, dwellings, warehouses, hospitals, were swept away; and it is only by a diligent search over the ground, that a few imperfect fragments of buildings, mutilated monuments, crypts, and marks, can be found of a date older than the memorable year, 1666.

But the Londoners were not frightened: it is not their way. They went to work and built vigorously, and in a more substantial manner than had been previously practised, but, unluckily, on no good general plan.

Now what was it Wren proposed? Here is a rough outline of the scheme, where the black



Wren's Plan for Rebuilding London.

lines show the open street and spaces, and the quay along the river. The tinted space inside the dotted line marks the extent of the great fire. A shows Ludgate; B, St. Paul's Cathedral; C, the Royal Exchange, surrounded by the Bank, Mint, Post-office, Goldsmith's-hall, and other buildings; D, Guildhall; E, Aldersgate; F, Newgate; G, Holborn-bridge; H, Holborn; I, Smithfield; J, Charter-house-square. K shows Cripplegate; L, Moorgate; M, Bishopsgate; N, Aldgate; O, the Tower; P, the Custom-house; Q, Billingsgate; R, London-bridge; S, Dowgate; T, Queenhithe; U, the Fleet; V, the Temple-gardens; W, St. Dunstan's church; X, Temple-bar; and Y, a proposed piazza. From Tower-hill a wide street passes to Ludgate, in course of which are planned two open places. From Ludgate a perfectly straight street passes along, leaving an open space to the north of St. Paul's; by the south of the Royal Exchange, Leadenhall-street, to Aldgate. From Ludgate to the west of St. Paul's, and on the south of the cathedral, there is a clear area of considerable extent. The former of these streets would have been nearly two miles and a half in length; the latter nearly the same length, and might have extended in a direct line far to the eastward of Aldgate. From Ludgate a wide street is continued westward, at a slightly different angle from both those just mentioned, and passes about 150 yards to the north of Wych-street. About half way between St. Dunstan's church and Ludgate is a circular piazza—one in the centre in a straight line from the river to Hatton-street, another from the Temple crossing the Fleet to Smithfield, and one from Bridewell-dock to Cursitor-alley and Holborn.

From about the centre of the west walls of the Tower another street, nearly parallel with the shore of the river, runs two miles and a half westward. Then from the Tower a spacious quay stretches to the Temple-gardens, along which are ranged the companies' halls and other public buildings.

In passing the quay, amongst the numerous streets which run northwards, may be noticed one from Billingsgate, through the centre of the piazza, nearest to London-bridge, across Leadenhall-street to London-wall. At the north extremity of the quay, at London-bridge, is another piazza, from which branch four streets running straight,—the first, to Aldgate; second, to Bishop's-gate, and thence direct north; third, to Moorgate; fourth, to the main street, from Ludgate to Aldgate.

Running from the river the most important thoroughfare is a straight line from Queenhithe to Cripplegate, and thence to the north. Parallel with this are numerous streets leading to Cheapside. In addition to the piazza, at London-bridge, three others form centres, from which straight lines of streets radiate to various points. The most western of these is situated about the middle of the present Fleet-street, from the centre of which to the north is a thoroughfare crossing Holborn.

Round the Royal Exchange are public buildings, to which free communication can be made from all parts. The churches are placed at intersections of roads. A reference to the engraving, and a comparison between the plan and the present arrangements will lead all to regret that when so great an opportunity offered, the wise council of the great architect was not listened to by the citizens.

Very wonderful, indeed, are the improvements which have been made in the City within the last twenty years, and it is this fact which gives hopes for the future.

The changes which have taken place in the metropolis and the manners of the people within a very recent period are remarkable: things that seem to belong altogether to the past were current only a few years ago. Looking recently through a volume of a weekly London newspaper of no older date than 1822, this struck us very forcibly. Thus, amongst the improvements of the metropolis which were then attracting public attention, we find that "Pall Mall is to be carried to St. Martin's church, and that all persons possessing apart-

ments in King's Mews, or on the line of the intended improvements, are to remove immediately." Workmen are seen to be busy at Buckingham House—the palace was not begun—and we hear that the famous King's Library, which is now fortunately national property, was in some danger of being sold. George IV. rises early in the mornings, takes more care than usual with his toilet, and proceeds in a mysterious manner from Carlton to Buckingham House, where Sir Thomas Lawrence has fitted up a room, with top-light suitably softened, where he paints the well-known portrait of the king sitting on a sofa, which is remarkable for skill shown in the representation of shining hat, silk stockings, and other parts of the regal costume.

Vauxhall Gardens were sold for 28,000*l*. The anxiety of the public was so great that the largest room in the establishment could not contain half the audience that assembled. "Mr. George Robins, that celebrated ancient, stated that it was possible to realize a profit of 30,000*l*. in one year, while the greatest loss the property had experienced was 830*l*. in two rainy seasons." People have been selling and buying it ever since. It was about to be built on. It has seen its "last night" scores of times, yet the thousand tiny lamps are once more alight, the sea-horses of Neptune yet spout water, and a male "muse of comedy," according to the advertisement, is *singing* from the open air orchestra.

Much free criticism is bestowed on the colossal bronze statue near the Duke of Wellington's house in Hyde Park, which the workmen are fixing in its place. The *Times* says, respecting this statue of Achilles, which is dedicated to the Duke of Wellington and his brave companions in arms by their countrywomen: "A statue of Achilles? Was there ever such a man as Achilles? and if there was, who was the contemporary, Mr. Westmacott, to take the figure? But with respect to the application of such a figure to its present purpose, or indeed to any purpose, except simply that of exhibiting a fine form, we can say nothing. We have described the position of the marble statues and their horses. We are aware that it is doubtful whether they were originally so grouped, but still the action of the men is that of resisting as much possible an almost overwhelming force. Upon the arm, then (the left), which appears in the original with great difficulty to hold in the steed, there is in this new production simply placed a shield, which it requires no strength whatever to sustain, so that the body is, as it were, receding, while there is no external force to throw it into that position. Suppose an artist were to give us the colossal figure of Atlas as he is generally represented, but instead of the globe under which he labours, were merely to put on him the Lord Chancellor's wig, would not all ask why the hypocritical knave was thus crouching and pretending to be overwhelmed? Just so in the present instance we are presented with an action which there are no external circumstances, no adventitious incidents, to justify and render intelligible."

The great northern entrance to Hyde-park—Cumberland-gate—was about to undergo a very great improvement, at the sole expense, it is said, of Mr. Hope, whose classical taste and princely munificence are so well known in the fashionable world. "The present structure, with its single carriage way, has always been inconvenient and even dangerous, whenever the drive happened to be thronged with equipages. We have often on Sundays seen twenty or thirty carriages waiting to get in, with crowds of horsemen and *dennetians* in the same predicament, when clamorous altercations and deeds of audacious daring among the liveried heroes of the whip have at once disgraced the day and placed the lives of his Majesty's liege subjects in eminent jeopardy."

The editor is glad to find that a thoroughfare is once more to be established across the centre of the canal in St. James's-park, to supply the place of the "gew-gaw" pagoda bridge, which was destroyed at the exhibition of the three oaks in honour of the peace of 1814. "A carriage-road is, we understand, to diverge from the park between Marlborough-house and St. James's Palace, by the front of Queen Charlotte's German Chapel to Pall-mall."

The whole of the materials and fittings-up of the extensive stables known as the Queen's stables, adjoining the king's palace at Pimlico, are to be sold by auction forthwith, by order of the surveyor-general, to make room for the new mews, the building of which has already been begun. The alterations of the new library at Buckingham House are now completed. And then we get a notice of the neighbourhood of Lambeth:—"The road from the Waterloo-bridge to the Coburg is likely to be well provided with places of worship. A little way on one side of the New-cut stands a neat edifice, called the New Jerusalem Temple; within a few yards of that another building rears its head, which has received the name of Zion Chapel; and still nearer this way a church has to be built, for preparing the foundations of which labourers are now employed; but the work seems to proceed tardily owing to the excessive quantity of water with which they have to contend."

Amongst the art-notices we learn that "a very elegant little book has been published by Mr. Ackerman, which is likely to be a general favourite. The plan is an improvement on that of the pocket volumes annually published in Germany, in which Schiller, Göethe, Wieland, and so many other men of poetical eminence have published many of their finest productions, and it bears the title of the 'Forget me Not! a Christmas and New-year's Gift;' and its gay and brilliant appearance is not unworthy of the festivity of the season." It will thus be seen that it is but thirty-six years since this important herald of an improved description of illustrated literature first made its appearance. Then contrast the following with the extent of the calico printing of the present day: "During many years of the war with France, when England comparatively monopolized the manufactures and commerce of Europe, Sir Robert Peel had the calico-printing business so much to himself (indeed, it was then in its infancy in comparison to what it is now) [1822], that he printed as many as 100,000 pieces of calico, in the course of every year, for several years, on which he obtained, it is said, a clear profit of a guinea per piece, thus realizing for many years, for himself and partners, 100,000 guineas per annum. This particular species of goods at that period was so scarce, that the buyers used actually to scramble for it, even at the enormous profit Sir Robert and his partners were realising." The difference in the pursuits of the gentry is also remarkable. A battle between the lion Wallace and two sets of bull dogs draws crowds of fashionable men to Warwick; the roads to that town are described as being crowded like that to Epsom, on the Derby-day, before the railway carried so large a number of passengers. Dog-fighting, badger-baiting, cock-fighting, and other cruel sports might be attended by gentlemen without loss of character. The following, too, reads strangely enough now, and yet the people are living who were there:—"At the Cock-pit in Tufton-street, Westminster, was exhibited an unparalleled scene. The celebrated dog, Billy, for a bet of twenty sovereigns, was exhibited to a multitude of at least 2,000, the chief part of whom were amateurs well known in the sporting circles. There were no less than twenty carriages in Tufton-street. The match was that the dog should kill 100 rats in twelve minutes. * * The space where the dog had to exhibit was 12 square feet, and all the rats were let loose at once. The signal being given, he went to work—the slaughter was dreadful. In seven and-a-half minutes they were all slaughtered, amid loud cheers, and in nine minutes his mouth was washed with brandy. The dog was then decorated with ribbons, and 50*l*. were offered for him on the spot; the offer was, however, declined."

Men of the "Bob Logic," and "Tom-and-Jerry" school are troublesome to the venerable Charlies, and are often brought before the notice of Sir Richard Birnie. Resurrection men create alarm in both town and country; dead bodies are found packed and disguised in every imaginable manner. No note seems to have been taken of sanitary matters, and people die off faster than they do now. Thirty years hence they will die more slowly still. Old London-bridge and old Covent Garden-market had not been removed. The National Gallery was not opened; and the idea of the Thames Tunnel was scoffed at. The names of Canning, Burdett, Peel, Hume, and Brougham are scattered throughout the volume, and the latter is still working amongst us, with undiminished power and untiring energy.

And so, noting the great changes which have been effected in a few years, we look hopefully to the future, and get encouragement out of old newspapers.

PROGRESS OF THE SEWERAGE INQUIRY.

IT is difficult, if the very partial and sometimes inaccurate newspaper reports be alone looked to, to follow the drift of the inquiry as to London sewerage as now conducted by the Committee of the House of Commons, or to see in much of the evidence the exact relevancy to *conclusions* on the several points which are involved. Still we find every week, conflicting theories and opposite statements of facts, followed by a discovery that the subject has advanced. For, the exposure of an error, or a clearer view of an issue to be decided, is a step gained. Such ground of vantage, however, will be sacrificed, as the like has been before, should the Committee determine upon a report recommendatory of a particular scheme on evidence which as hitherto, has brought out only a portion of the case that they took up; and, to insure any good result from whatsoever scheme may be adopted, much more should be heard than they are likely to get hold of during the present session of Parliament. It has been said that the proposal of the Board of Works represents the conclusions of the best engineering talent of the day, after a succession of years devoted to the problem; but, excepting that there is required as a portion of every arrangement of London sewerage, some provision for interception of the drainage from the upland districts, and for its outfall without use of the outlets as at present—that is, to prevent the flooding of the low level districts, of which there is danger, or the actual occurrence, at every tide,—there is reason to question the existence of such unanimity; and the fact of the very different conclusions of the Commission on Sewage of Towns, which embraced the whole subject as connected with London, and had appended the names of Mr. Rawlinson and Mr. Henry Austin as engineers, backed by those of acknowledged authorities on the chemical questions, proves that the reverse is the case. The selection of any particular proposal can hardly alter the circumstances of the danger for London this year, or even next; but a decision which reflects the whole knowledge and skill of the day, alone will meet the requirements of the next few years, or those of the future growth of the inhabited area.

On Monday last, Mr. Hawksley was examined during four hours, chiefly in relation to the features and principles of the plan just referred to, put forward in the report by himself, Mr. Bidder, and Mr. Bazalgette;* and we should be doing wrong to omit our testimony to the care with which the inquiry was conducted on the part of every member of the committee present, and to the ability and the knowledge of the subject which became manifest as the answers were given. Our readers know that some portion, if not the whole of the scheme, has been brought under the consideration of the Government; and it is even reported that a decision has been arrived at favourable to the prosecution of the entire plan, which includes the delivery of a certain portion of the sewage within the thickly populated district, into the river direct, possibly without deodorization; and, for the drainage of the higher levels, and reception of the sewage of the chief portion of the lower levels, the intercepting sewers, with reservoirs and outfalls at Barking-creek and Crossness-point. If that be the case, it is very important to know whether all the doubts on chemical points relating to the condition of the sewage in the intercepting or arterial and outfall sewers, and in the reservoirs, and also to the state of the sewage in the river, are conclusively settled.

The question as regards the river seems to be this: would the sewage of the western district, of the Isle of Dogs, and some other localities,—of course making up a volume much below what is at

*See page 234, *ante*.

present delivered by the London sewers, but added to the sewage of the increasing population of Richmond and other places up the river,—continue to produce, or ultimately reproduce, the evil from which the metropolis has been suffering; and would the tendency of the sewage when emitted, be on the whole to pass downwards, and during its oscillation with the tide, to become largely diluted and deodorized; or would there be a positive tendency in the reverse direction, and one favourable to deposition in the stream, as on the other hand would seem to have been asserted? As to the reservoirs,—can they exist, without the dissemination of noxious vapours?—and, in like manner, can the intercepting sewers, and without the discharge of gases into houses? It may be quite true that the natural purifying action of streams deserves to be considered: but the recent condition of the Thames, as to the "black sewage" which appeared invested with a certain immobility in the river between Woolwich and Barnes, as deposed to by Mr. Gurney and others; and opposite opinions as to the development of sulphuretted hydrogen; do not satisfy us that the whole question is understood, particularly considering that there appears to be some discrepancy in the statements of Mr. Hawksley's authority, Dr. Letheby, on the last-named point. Dr. Letheby says in his report appended to that of Messrs. Bidder, Hawksley, and Bazalgette: "Now, experience has shown that whenever putrefying organic matter comes into contact with soluble sulphates, it decomposes them, and causes the evolution of sulphuretted hydrogen": from the diminished quantity of river water during the recent dry weather, the tidal wave has risen higher than usual, or, as Dr. Letheby says in his last quarterly report to the City Sewer's Cummission, — "as high as Wandsworth, and has thus contaminated the water with the saline and other impurities of the sea" to an extent which he shows to be very considerable: he proceeds,—"all experience proves that whenever such a mixture as this occurs at high temperature, putrefaction of a most offensive character is set up," and that the gases evolved from the water do "contain a stinking vapour, which is in the highest degree offensive, and which inhaled produces slight headache, giddiness, and nausea;" but adds that they "do not contain sulphuretted hydrogen," the latter being fixed by the iron of the clay, and having thus led to the inky appearance of the river. He states that the gases consist chiefly of carbonic acid, with ammonia, nitrogen, and a trace of oxygen. Mr. Maugham and Dr. Thompson, before the Parliamentary Committee, indeed, each appear to have hesitated to assert the escape of suphuretted hydrogen. The *Lancet*, however, of Saturday last, speaks of the "odour of sulphuretted hydrogen" as "clearly perceptible" in samples from various parts of the river, which were examined, and quotes Dr. Hassall's statement that the Thames water sometimes contained sulphuretted hydrogen, and that the *sewer-water* always contained that poisonous product of decomposition.* The table of results of the analyses in the same periodical shows a quantity of soluble salts, chiefly chloride of sodium, amounting at the lowest part of the river examined, namely, Blackwall, to 260·0 grains per gallon, whilst at Chelsea there were as much as 47·2 grains. The organic matter in solution, at the former place was 43·2 grains per gallon, the largest quantity; whilst at Chelsea it was found to be 15·7 grains,—the quantity at Vauxhall being 8·8 grains. Of both organic and earthy matter in suspension, there was the largest quantity at London Bridge. The *Lancet* expresses an opinion similar to that which we have given as to the water rather than the banks primarily being the cause of the stench:—

"The sewage, as it enters the river, always smells most abominably of sulphuretted hydrogen and other stinking gaseous products of decomposition, and this smell is frequently communicated to the whole mass of the water, quite independently of the sewage deposited in a form resembling black mud on the sides of the river. At high water, when the banks are covered, and the bed of the river is full, a smell which is almost unbearable is very frequently emitted."

With these views, the results of Dr. Odling's analyses given in the report would be consistent. They showed that the total amount of salts and organic matters in the waters of the Thames, off Greenwich, averaged at high tide no less than 191·23 grains per gallon; but that at low tide, whilst the sewage of London was passing seaward in greatest quantity, the amount was *reduced* to 45·91 grains per gallon. In the former case, the *organic matters* were 16·28 grains per gallon, and in the latter case only 6·13 grains per gallon. Hourly experiments showed similar results; and the decline from the maximum at high water to the minimum was extremely regular and constant. The circumstances of the proposed point of discharge are, therefore, in regard to the saline condition of the water, unfavourable; and they are favourable only in respect of the much larger volume of the water, which would receive the sewage and dilute it, and as it appears to be argued, would oxygenate it, and destroy the distinctive character of sewage at a greater rate than the force would operate for retention of such character.

The writer in the *Lancet* remarks on the circumstance that chemists and men of science, in spite of the evidence of the senses, should declare that the Thames water does not contain sulphuretted hydrogen, and that the sewage is not injurious, adding that "statements like these inflict the greatest injury on science, and produce in the mind of the public great mistrust of its professors."

Messrs. Bidder, Hawksley, and Bagalzette, it will be recollected, denied that the mechanical discolouration of the water was due to sewage matter, but considered it was due chiefly to inorganic substances, brought down by land floods, or washed up and kept in motion by the tide; that the chemical condition of the flowing water was not sensibly altered by the admission of sewage, because the organic matters became rapidly decomposed and disinfected by the action of the oxygen contained in the water through which they were diffused, and that though the condition of the stagnant mud was injurious to health, that of the flowing water of the river was not injurious. Such conclusions, our medical contemporary thinks, are wholly disproved by the results of the observations and analyses that he gives, and likewise all notions that the earthy matter in the water of the Thames deodorizes the sewage, or that "the sulphuretted hydrogen, sulphur, phosphorus, and ammonia," are "oxydized as soon as the sewage is discharged into the river, and converted into sulphuric, nitric and phosphoric acid:" and finally, the results of the observations are pointed to as disproving the "extraordinary discovery" of Dr. Hofmann and Mr. Witt, embodied in the Report of the Government Referees, that the water at Kew-bridge contained as much organic matter as that at London-bridge.

It is obvious that a peculiar state of the river, as to saline ingredients, which Dr. Letheby, in other cases, would seem to consider fraught with danger such as that of which the prospect prevented the adoption of the outfall at Sea Reach, by the Metropolitan Board, has existed during the present season: whenever there is any drought; or whenever the quantity of water taken above Teddington-lock, by the companies, diminishes the freshet in a considerable or a moderate degree,—an event to which some importance is to be attached, though perhaps not so much as considered by some persons,—the tidal flow will compensate the deficiency, and be productive of a certain degree of danger by chemical action,—and also of considerable discolouration and deposit, reasoning from the observations of Dr. Thompson, and Mr. Gurney, as to specific gravities and mechanical action. Mr. Hawksley is reported to have said on Monday, that in consequence of the reduction of the fresh water lately in the Thames, to six or seven times the quantity of the sewage, and the great heat of the water, which he stated was 73 deg. (hotter than he had ever found it), sulphuretted hydrogen was emitted.

Assuming the success of the system of intercepting sewerage, it is obvious that the quantity of sewage from the low level districts, allowed to go direct into the river, would be very small in proportion to the volume of river-water, or during some years at least; so that we are not disposed to press a question as to that portion of the scheme of the Metropolitan Board. As to the large intercepting sewers, however, it may be necessary to know what are the reasons for believing that these would not repeat the nuisance of the Thames in more concentrated shape, and how the apparent difficulty and necessity of ventilating them are proposed to be overcome. Mr. Hawksley was questioned on the point, but his answers have not been reported. Let us remind our readers, that "great importance" was attached to "the ventilation of all the sewers," by the Government Referees; and Mr. Haywood regards it as essential in the absence of any chemical means or contrivance, for purification or otherwise, by which the safety of the workmen in the sewers, and of the inhabitants of the houses draining into sewers, might be insured. We may, however, gather Mr. Hawksley's views from that section of the Report upon the Main Drainage, which goes into the question of the condition of the river. It is here said, pursuing the line of argument to which we have already adverted, that,—

"those organic matters which are commonly received from the domestic drains into the street sewers, and are there acted upon by water and air, undergo changes and decompositions not necessarily of a putrefactive character, but in the course of which they either become resolved into their original elements, or become combined into new forms, essentially different from those in which they had originally existed. These changes are effected with great rapidity, so much so, indeed, that it is rare to find in the waters discharged from the sewers of a large town, any of those rich, fertilizing agents, it has been the object of so many endeavours to obtain,—fertilizing agents of a class which, if they could continue to exist and act in combination with flowing water, as they observably exist under other circumstances, would engender nuisances of a character most prejudicial to health, and intolerable to the senses."

The Report then refers to the innocuous character of the *elements* of the organic compounds in the excreta of towns, as sulphur, hydrogen, and nitrogen, the first of which is inert, whilst the others are found in the compounds which are the common sustenance of life. It is only "the condition and proportion" in which such elements "become united in effete matter, that communicates to such matter its disagreeable, or it may be poisonous properties." Thus, the deadly gas, sulphuretted hydrogen, is largely evolved from excrementitious matter whilst passing through the process of putrefactive decomposition; ammonia formed of hydrogen and nitrogen is the pungent basis of many of our most valuable manures; and the combination of all these named elements, or hydro-sulphuret of ammonia, is a most noisome emanation from the fœcal matter transmitted to the sewers. It is argued, -

"If the excreta then could continue to exist as such, and could undergo the same process of putrefactive decomposition after being conveyed into the drains, as we know would otherwise result, our sewers and rivers would, on the one hand, have long since become cesspools of the most offensive and deadly description, while, on the other hand, the manufacturers of fertilizing compounds would have experienced no difficulty in recovering the rich products of animal existence for which they have hitherto sought in vain."

They feel assured, however, from facts,—

. . . . "that so soon as the refuse of life has become thoroughly blended with water, chemical changes of the most important character become gradually effected by the oxygenation (*without putrefaction*) of some, if not of all, the combustible elements, and the consequent decomposition and arrangement of the other elements into inorganic forms nowise injurious to the health of animated beings. Hence it is, that the substances which enter into a sewer are either not to be found at its mouth, or are only to be there obtained in a much altered and scarcely recognizable form. And hence, too, it is that the admission of foul organic matters into our streams and rivers fails to render them permanently impure, or sensibly injurious. This beneficent process of Nature is, indeed, gradual, and, to a certain extent, undoubtedly dependant on the volume and quality of the water into which the dejecta are received. Observation, however, has satisfied us, that when sewage water of ordinary strength becomes intermixed in a flowing stream with ten or twelve times its own volume of fresh, or freshened water, it ceases to have any tendency to run into putrefactive decomposition, and is finally 'consumed' by the oxygen with which one or more of its elements enter into purifying combination."

And then they refer to the remarkable purification of certain streams as alluded to in our first notice of the Report; quote Dr. Hofmann and Mr. Witt, as to the near accordance of the quantity of organic matter in all parts of the Thames; dispute the inference that the equal diffusion "*must* be accounted for by the fact that the whole of the sewage which flows into the river at low-water, and during the first hour of the flood, is carried up by the tide into the higher parts of the river;" and show from the independent Report of 1851, "On the Chemical Quality of the Supply of Water to the Metropolis," that the organic matter at Thames Ditton was 2·29 grains, or as much as was afterwards found by Dr. Hofmann and Mr. Witt at London-bridge, whilst the water of the Lambeth Company thus derived from the Thames, in London, contained, according to the same analysis, only 2·59 grains in a gallon. They also quote Dr. Taylor's evidence before the House of Commons Committee, on "The Metropolis Water Supply Bill," to show that sewage matter does not remain as sewage matter in well aërated water, that all phosphorus, sulphur, and nitrogen are got rid of by the oxygen in such water, exposing an enormous surface to the air in its daily motion,—the nitrogen being converted into nitric acid, and the sulphur into sulphuric acid,—so that the fœtid and putrid substances which go into the Thames, are all oxydized and destroyed with extraordinary rapidity.

In considering these statements, it is scarcely possible to avoid the suspicion of some imperfection in the method of analysis used where quan-

* See also some statements by Dr. Medlock in our present number.

tities of organic matter have to be determined. That question, however, would manifestly be beyond our province; but while we admit the accuracy of the analyses, it is impossible to avoid a conclusion, that if a small per-centage of impurity can cause so serious a nuisance as that which has lately existed under the favourable conditions, as they are here regarded, of the river, how enormous would be the nuisance in the proposed intercepting sewers, where the volumes of water and air available for defecation would be less; where the distance to be travelled would be the same; and where, although there might be no saline impregnation or opposing current of tide, there would unquestionably be the disadvantage of very large storage. Unless, therefore, we should understand that there will be provided the increased supply of water which the recent evidence of Mr. Bazalgette would show that he considers the only chance of doing away with the necessity and existing means of ventilation—and which quantity, on the reasoning of Mr. Hawksley, coupled with the experience of the last few weeks, should exceed the volume of the Thames—or unless means, mechanical or chemical, can be discovered of doing away with the noxious exhalations from which then there would be no alternative, we cannot see that the long intercepting sewers would be otherwise than receptacles and disseminators for a concentration of the same nuisance which we suffer from by the Thames. We may admit to the full extent everything that has been said of the impossibility of rendering the Thames, with its amount of impurity washed down from the country, ever a pellucid stream; we may admit the facts as to certain rivers, and as to the deodorizing effects of well-aërated water; we do not care to question that noisome effluvia might arise from exposed banks of any river at certain seasons, and that embankment may be the means of prevention for this, and essential whatever main principle is adopted; but the lesson which has been derived from the state of the river since the date of the Report does not seem to us altered, and whilst we are taught that all sewage must be intercepted from the river, and that sewers of low-level districts must not be allowed to become charged with the sewage, ordinary rain-fall, or storm-waters of the uplands, the object must be attained in a manner different to that shadowed forth in the particulars of the project which appears to have met with temporary approval.

Having adverted to embankment as the means proposed, wholly or in part, of correcting the evil, we may add to the former reference to the condition of the Clyde, that that river appears, from Mr. Bateman's evidence, to be now exactly in the condition in which works proposed, whether by Mr. Gurney or by others, would place the Thames. The sewage is carried backwards and forwards by the tide; the river is dredged to a depth of 13 feet at low water; the sides are embanked and walled for miles below Glasgow; there are no mud-banks, and nothing is exposed to the action of the sun but the water; yet the stench is abominable. Similar cases were those of the river and canal at Manchester, before mentioned by us. Mr. Bateman's object was to draw the attention of the committee to the possibility and desirableness of disinfecting the sewage *in transitu*, by chemical agents which would not precipitate matter held in solution, nor encourage the more rapid precipitation of that which was held in suspension. These views had been strengthened at Glasgow, by an accidental deodorization in one of the sewers, where it happened that certain refuse from a chemical work was ejected into the sewer. Similar suggestions made by others, are referred to by Mr. Haywood in his report; but mechanical difficulties in the application do not seem to have been surmounted. The subject, however, requires further attention. Several of the suggestions made of late were referred to by Mr. Hawksley on Monday. The idea of receiving the sewage into barges was put aside on the ground that a fleet of vessels would be required for the quantity of sewage. Many other suggestions could be referred to, which become disposed of the instant that the facts of the case,—for example, as to levels,—are looked into. The suggestion of the use of iron pipes for the outfall sewers, put forth in a very prominent manner, partly on the ground that "they won't collapse and become heaps of rubbish like the Victoria sewer," is met by Mr. Hawksley's statement from his own experience, that such pipes do collapse under a very moderate pressure of earth.

The reports of the health of London till last week, had shown what was called a satisfactory state of the public health, though at the same time a very rapid increase in the cases of choleraic diarrhœa; and it was admitted by Dr. Letheby that some exceptional circumstances, such as prevalent winds, or unusual amount of ozone in the atmosphere, had probably counteracted the injurious effects of poison of the river, whatever it might be named. For last week, however, the Registrar-General's Report showed that the mortality exceeded the average for the beginning of July by 117 deaths. Diarrhœa continued to make progress; the weekly deaths since it began to increase having been 31, 54, 94, and 129. Of the last number, all except ten were children; and nine deaths were in the sub-district of St. John, Westminster. The deodorization by lime in the sewers is represented by the Engineer of the Board of Works as having been attended with considerable success, and the appearance of the river lends support to the statement. Experiments are being made with reference to other methods of deodorization, and these may be the means of helping the solution of the general problem.

The inquiry before the Parliamentary Committee was proceeding on Thursday, with reference to the branch of the subject last referred to—Mr. Wicksteed being the principal witness. The results of the experiments on ventilation of sewers, also, were reported, and evidence was given on the subject by Mr. Gurney, Mr. Hawksley, Mr. Heywood, and others. During the progress of the experiments, an explosion had occurred, and the whole conclusion, as brought into evidence, was repudiated by Mr. Gurney, whilst taken by Mr. Heywood as confirmatory of his views as to the radical difficulty in the way of applying successfully a system such as that of the proposed use of the steam jet. Directly opposite statements and opinions were expressed as to the identity or non-identity of the case of the ventilating channels of coal-mines with that of the ducts of a system of sewerage. Nothing could more clearly show the necessity which exists for pursuing the general subject, and placing all essential *data* as far as possible beyond dispute.

The report of Captain Galton and Messrs. Simpson and Blackwell cost 8,886*l.*—perhaps even exclusive of printing. The vote in the Committee of the House was objected to, the other night; but, the fact is, mere preliminary investigation has yet hardly gone far enough, and some thousands may still be well spent on so vast and momentous a subject.

ON THE APPLICATION OF THE ENTASIS TO THE OBELISK.*

BEING a sculptor and not an architect, it is with some hesitation that I make any remarks in addition to what has been said on the subject of obelisks; but perhaps your kindness will receive the few words I have to say with indulgence, as it regards a subject which may be thought to possess some degree of novelty, viz.—the consideration whether the principle of the entasis may not be advantageously applied to the obelisk.

My attention about three years ago was drawn to the subject of obelisks by my having selected an obelisk as the principal feature in a design I made about that time for a memorial of the Great Exhibition of '51 in Hyde-park. It was not, however, until my attention had been for some time turned to this architectural feature, that it occurred to me that had the Greeks adopted it as they did various other component parts of architecture, for which I believe it is *en règle* to consider that they were indebted to the Egyptians, that there was at least a possibility that they would have modified it, in some degree, as they had done in regard to other architectural features—columns, for instance. I believe I am correct in saying, that in whatever the Greeks adopted from other nations, they made modifications, making it thus, as it were, their own; and that in passing through their hands the rough-hewn ideas of their neighbours became not unfrequently refined to a degree of perfection that later times have been able to do little more than repeat. If then they had adopted the obelisk, would they have left it as they received it from the Egyptians? I fancy not.

The tomb of Beni Hassan, in Nubia, presents pillars which have received the name of Proto-Doric, on account of the remarkable and close similarity which exists between them and those of the Greek Doric order; and perhaps the chief point in which they do not resemble each other is that the Egyptian type possesses no entasis, but that the shaft, although it tapers from base to summit, does so throughout equally and in straight lines, while the Greek Doric has an entasis. In some, however, of the Egyptian columns the shafts contract also at the base, but still, I believe, there is nothing like a scientific entasis, analogous to the Greek in principle, to be found in any of these cases. I shall be glad to be corrected if I am in error in my supposition that thus the scientific compensatory application of the entasis, so as to satisfy the eye thoroughly, was reserved for the Greeks to arrange on just principles and to carry out with exactitude and beauty; I say "compensatory," inasmuch as I presume that a just entasis, or any curve or modification applied on similar principles, is never intended to strike the eye separately, as a form of itself, but merely to be compensatory of some optical delusion by means of a delicate adjustment, by which fulness, harmony, and unity was restored to the whole effect. Mr. Penrose, in his remarkable work on the "Principles of Athenian Architecture," in his analysis of the entasis of the columns of the Parthenon, considers its curve to be hyperbolic, and computes its divergence from the straight line at about 1 in 550 of the height of the shaft. The entasis of the columns of the small and large order of the Propylæum he also considers to be hyperbolic, and computes their divergence as somewhat more, viz. respectively 1 in 500 and 1 in 400.

I did not attempt, of course, in my little sketch a nicety which my means and material would not afford me, but the idea of applying a somewhat similar divergence to the obelisk arose in my mind, from perceiving I fancied a certain crudeness and harshness, and a want of bulk in the centre portion to exist in the rectilinear obelisk as a form, and that the long lateral straight lines even possessed in appearance a somewhat concave character, which suggested compensation, as in a column; and thus it occurred to me to apply to my little model of an obelisk something of the same entasis which Mr. Penrose had recorded of the Athenian columns. I may here perhaps be allowed to suggest, in case the idea in question finds favour sufficient to encourage its being worked out as an architectural problem, that perhaps slate would be an appropriate material for a test model, which, for the better working out of the several delicate curves, should not, I think, be less than 5 or 6 feet high. I only say this to guard against its being thought necessary for the working out of the problem, that this should be done of large size, or in granite.

However, to return to what I was saying: the first thing I did after I had tried my hand roughly on the effect of the entasis so applied to the obelisk, was to find out, if I could, whether it had been done before, and the work I chiefly consulted on this point was Denon's large work on Egypt. I read a good deal of the letter-press, and examined the engravings of various of the most celebrated obelisks of Egypt, which are, as you know, there figured on a large scale, without, however, meeting with any instance of entasis applied to them. Nor have any inquiries I have made, nor any information which has been kindly afforded me since, indicated the existence of any divergence as regards the contours of the Egyptian obelisks, except in so far as the faces are found occasionally slightly horizontally rounded; for which perhaps a sufficient reason is perceptible in that this treatment equalized in some degree the width of the elevation and angle views, adding slightly to the former and taking away slightly from the latter. I have not met with any evidence of the Egyptians having gone any further than this in the modification of the rectilinear contours of the obelisk; and in this case it may be observed that the slight divergence is only applied to the sectional plan of the obelisk, and not to any of its upward contours. Neither have I been able to discover any modern instance of the entasis having been applied to the obelisk, although I can hardly fancy but what a similar idea must have occurred to others.

All rectilinear surfaces bounded by angles may be perceived, I think, when narrowly examined, to have a tendency towards looking concave, whether viewed in front or in profile. And, as I have just said, the contours of a rectilinear obelisk partake, to my eyes, strongly of this character, especially along the sides of the shaft in profile, indicating a yearning for some kind of compensatory addition and refinement analogous to that which the sensitive and subtle taste of the Greeks found requisite to satisfy their sense of proportion in the column. I am aware, however, that the problem of entasis, as applied to the obelisk, is less simple than as applied to a column, in that the first is four-sided, and the column is round. A column, from its cylindrical

* Read by Mr. John Bell, at the meeting of the Institute of Architects, held May 31, as already mentioned.

nature, presents a similar appearance in each view (flutes making but an unappreciable difference); whereas, the obelisk being four-sided and four-angled, the curve of entasis on the angles, although directly evolved from the meeting of the curves of entasis of the sides, would vary perceptibly from that of the latter. I have not, however, gone into the delicacies of this question, nor have I tried anything like an arithmetical calculation of the other curves consequent on the introduction of the entasis on the sides. I say consequent, because even on my little inadequate and insufficient model, as soon as I had applied the entasis to its sides, I directly felt that the other lines and surfaces required a similar treatment to make them harmonise with the entasis. Not only did I find that the surfaces of the shaft required rounding, but also that the surfaces of the culminating triangle at the apex, which thus (with a slight entasis on its upward contours, which became requisite as soon as the entasis was made on the shaft) came to assume the form of a triangle, not of straight lines but of three arcs all arching slightly upwards, thus in this acute-angled triangle partaking of a curvilinear modification in the same spirit as that applied to the obtuse-angled triangle of the pediment of the Parthenon. Thus in my experience, such as it was, did I find that the introduction of the entasis along the sides of the obelisk induced essentially, as a consequence, a further curvilinear treatment, and that its mission did not appear to end until all the surfaces and lines became also endued with the same principle; nor did the eye appear at all satisfied after the introduction of the entasis while a single straight line remained on any part of the obelisk. On contrasting the little obelisk thus treated with a little example of the same size I had by me in its original state, I must confess that the curvilinear obelisk appeared to me to possess a marked superiority. The rectilinear one, by the side of its companion, seemed to me in comparison to look crude and harsh, and to have a kind of cast-iron appearance; while on the other hand the one on which I had been trying my curvilinear experiment seemed to have gained in richness, mellowness, and completeness. I feel, of course, I may be all wrong; but yet at present I must acknowledge that the incomplete trial I have made does impress me with the belief that, if the proper curves for this feature were discovered and judiciously applied, the result might become in other hands an object of marked beauty. However, I have still a little more to say on this subject. I had in my little obelisk posed it on a base partaking of the forms of a cube and a pyramid, and I found that these surfaces also, when associated with the above treatment of the obelisk, in like manner demanded a similar treatment, so that I did not stop with my rasp and sand-paper until I had reduced all their surfaces and lines also to a similar curvilinear character; still, however, working on the same principle of emulating the precedent existing in the ruins of the Parthenon and other Greek temples, in which we are instructed that the base and foundation lines were slightly arched, as well as those of the column and the tympanum.

In regard to the importance of the obelisk in a monumental point of view, perhaps I may be allowed to say a few words. There is no doubt that in the decoration of a city or its entourage, as in landscape generally, it is desirable occasionally to have high objects of an agreeable form, not only as they affect the skyline and in a directly architectural point of view, and as a centre of roads and avenues, but as drawing attention to some public record erected "in memoriam" of some great man, or fact, or historical incident. Now a column has always been held, I believe, to be open to some objection when used for this purpose, inasmuch as it is a portion of a building removed from its legitimate office and original object, and in an isolated position set forth to do that for which it was not in the first instance designed. It cannot be denied, indeed, that a column used in this way is in some degree an adaptation.

Now, these observations do not apply to an obelisk, which was from the first a feature of itself, not of support but of record, which was set forth, not unfrequently in a twin arrangement, by the side and in advance of the entrances of Egyptian edifices; the obelisk from its inscribed surface being a sort of architectural open book. Thus we have very early authority for this feature being used as a record, for the inscription of which the plain obelistic surface affords a special and peculiar facility. Moreover, a column being designed originally to support something, it artistically demands a finial of some sort, and if erected in honour of any individual, this its quality has frequently led to the placing of his portrait statue on its summit. Now, I would be far from presuming to make any sweeping objection; but, at any rate, such a situation for a portrait statue is open to remark, as involving an undue distance at which to view a likeness.

Now an obelisk yearns for no such architectural addition. It requires no finial, and, indeed, in my idea, any supplemental finial stops its upwardness and destroys its effect. It is complete in itself as a feature of distinction without any addition breaking its line: its surfaces afford ample and appropriate spaces for inscription (of which I think we are much too chary in this country), and its plain and simple base forms an excellent background to a figure placed slightly in advance of it. It is in connection with these requirements of the day, and the qualities of the obelisk as a monumental feature, that it appears to me well worthy of consideration, as well as on more abstractedly artistic grounds, and especially so, if by treatment it can be made our own.

The pyramid and the obelisk, if not directly the remains of hill worship and mountain associations, appear to have been directly suggested by these objects of nature. A pyramid is a scarped hill: an obelisk is a splinter of rock fashioned on four sides. For the latter object in nature we have not to leave our own country: the Needles at the Isle of Wight and various other spicula of rock formation of still more suggestive contours, to be found in various parts of our islands, suggest the type which the Egyptian, in my idea, only carried out in art as it were half way; that is, to the point at which his architecture rested; and, during the ages that have elapsed since his time, the problem does not appear to have been carried any further. I am not aware that the Greek ever touched it. Now, the question I would submit is, Does there or does there not exist in the obelisk an interesting architectural problem yet unsolved? You are architects, and you know much better than I do—I am only an humble admirer of your art;—but perhaps, I may not be thought to show this humility in thus uttering my impression that the artistic problem of the obelisk remains still unsolved.

Perhaps I may be allowed to add, that having made inquiries as to the possibility of obtaining monolith obelisks of large size in British granite, I find nothing to prevent it; but that, on the contrary, our isles will afford them of as large a size as any of the Egyptian examples, and probably indeed larger. The quarries of Cheesewring and Lamorna, in Cornwall, seem especially able to supply such. The weight of such monoliths, if large, of course is great: one of 75 feet, for instance, would weigh about 250 tons. But the Egyptians quarried and moved and erected much greater masses, and they had neither gunpowder, steam, nor hydraulic rams. The age of Victoria is, in engineering, I should hope, at least equal to that of the Pharaohs. If I am right, the completing the problem of the obelisk left untouched since their time, and the executing and erecting it (in monolith) in polished British granite, of a size superior to any known example hitherto produced, would (if called for on any occasion) appear to be a triumph of architectural and engineering skill not unworthy of the age and country.

I have, however, but made a sketch and ventured a suggestion; and in this most incomplete and initiatory state, I beg to submit to the Institute of British Architects the problem of applying "Entasis and curvilinear treatment of a compensatory character to the obelisk."

OBELISKS AND MONOLITHS AS ORNAMENTS OF GREAT CITIES.

TAKING another view of this subject from that adopted by the Rev. R. Burgess, Sir Gardner Wilkinson wrote as follows to the Honorary Secretary:

It has been recommended that obelisks should be adopted in this country for monumental purposes, and the fact of our possessing granite quarries of sufficient size to furnish obelisks even larger, if required, than any erected in Egypt, shows that at least there is no objection to their use from the deficiency of proper materials.

But it may be asked what idea we associate with an obelisk, and what is our plea for adopting it as a monument? We have no feeling, no association, connected with an obelisk. The Egyptians *had* a reason for its invention and for its employment. And certainly, judging from the position and treatment of obelisks in modern as well as ancient Rome, in France, and in England, it is very evident that there has generally been a misunderstanding of their use and intention. In Italy the point of its *pyramidion*, one of its most beautiful features, has been so overloaded with crosses, rays, and various conceits, as to be deprived of its proper effect; while the lower part of the obelisk has been disfigured by being perched on an incongruous pedestal. Again, it has been generally put up in some open space, as if it were a gnomon; and, as its form has been spoilt by an unsuitable addition to its base and apex, so the choice of position has aided in its disfigurement. It is true *we* do not encumber the summit with monstrous excrescence; yet we generally spoil it by depressing the apex, and substituting for its graceful, acute point, a heavy obtuse one, showing how little we even care to copy correctly the ready-made model. So far from any Egyptian obelisk having that heavy character, its triangular pyramidion is at least $1\frac{1}{2}$ in height to a base of 1, which gives it that lightness for which it is so justly admired. Thus, in the obelisk at Heliopolis, the height of the pyramidion to its own base is as $1\frac{1}{2}$ to 1, which is the usual proportion of the perpendicular height to the length of the base of the pyramidion, in obelisks erected or represented by the Egyptians. But, besides a frequent disregard for the proportion and beauty of the apex, we show the same misappreciation of the purpose and character of an obelisk as the Italians and the French, by placing it alone in an open space, as if it was admirable only for its height. The Egyptians employed the obelisk as a contrast to the long horizontal lines of the cornice of their temples; and two obelisks were placed for this purpose in front of the towers of their propylæa. They well understood the value of this vertical line to relieve and contrast with the long horizontal line of the building; and by these means what would have had a monotonous, presented a pleasing effect. The Romans felt a similar want of the vertical line; but they managed it less adroitly: they merely took one member out of a building, and placed it by itself as a new and distinct monument; and the column, increased to an unreasonable size, was (with their usual poverty of inventive design and deficiency of taste) adopted by them for the purpose. We have not the same want of the vertical line; it abounds with us, and under much better conditions than in a Roman city; we have therefore no object in adopting either the obelisk or the column to supply that want.

Besides, to copy the obelisk, with which we have no association of ideas, gives the impression of inability to compose a monumental design. It is a mere repetition of a well-known form (even if correctly copied); and if men of talent are to do themselves credit by designing monuments displaying originality and some mental power, they should scarcely be satisfied with the copy of an object adapted neither to our wants nor to our ideas. An obelisk before an Egyptian temple is deserving of admiration, because it fulfils the purpose for which it was intended: its form is graceful; and the hieroglyphics also add to its beauty when well cut. These indeed are an important feature in the obelisk; it appears heavy without them, and never looks well, even in its proper place before an Egyptian temple, when unsculptured. But I do not suppose that any copier of an obelisk would advocate the addition of hieroglyphics in this country. If then it is not consistent to preserve this one of its peculiar and pleasing features, how can it be consistent to adopt the obelisk itself, which is injured by their omission? And I see no plea for its adoption as a monument, when neither its object nor its proper position is regarded.

THE INQUIRY AS TO NEW GOVERNMENT OFFICES.

MR. BERESFORD HOPE presented on Tuesday evening the report of the committee appointed on his motion "to consider the reconstruction of the Foreign Office in connection with the rebuilding of other offices on a uniform plan, due regard being had to public economy and convenience." We understand that the committee has recommended the employment of some prizeman out of the competition of last year for that office as the architect of the Foreign Office, and advised that whatever offices should be built hereafter, be carried out on a uniform plan. It also expresses the opinion, we are told, as collected from the evidence, that, apart from questions of taste, the practical advantages of Italian and Gothic are pretty equally balanced

The evidence before the committee as to the reconstruction of the Foreign Office, and generally the question of New Government Offices, is now

concluded, and the committee have made up their report. The inquiry has had much general interest to the profession, specially in connection with the whole subject and bearing of competition, the caprice and uncertainty of any principle by the judges in choosing in so many instances. This has been no exception to the rule. The inquiry has led to a statement in regard to one firm amongst the competitors to which you may feel inclined to give publicity. It has come out in evidence that Mr. Burn, the only professional man on the committee, gave much time to examining the drawings, and concluded by making out for himself a list of those he thought should receive the premium.

Messrs. Angell and Pownall being called in, were desired to examine some of the whole number sent in, with reference *only* to their compliance with the conditions or not. They accordingly reported in due time; and at the same time said that they had prepared a classified list, in order of merit of those designs referred to them which had complied. (I should mention that only sixty designs were referred to them, and that they added ten more on their own responsibility, as being worthy of detailed examination, and reported, as I have said, on seventy in all.) On hearing this, Mr. Burn moved that the list of the referees be laid on the table, saying that he was not aware they had done this, and that as he had also done so, the lists, taken together, would be some help to the committee in deciding, in case and so far as the said list might be found to agree. This suggestion was over-ruled by the committee, on the ground that if the lists happened to agree and be different from the feeling of the committee, they, the latter, would feel unable to put their choice against the judgment of the professional men!!! This being so, after the meeting, and before the final decision, Mr. Burn saw Messrs. Angell and Pownall, and asked them individually if they would help his judgment, at any rate, by showing him their list. They did so, and I append the lists for your information, as they came out in a *public* committee, wherein you will see the extraordinary coincidence of judgment between the professional men (who had no idea that each was doing the same thing, and had no previous concert with each other), and by looking at the list finally made out by the committee of judges you will see the way in which they went to work. What will come of the affair I don't know, and cannot guess,—such lotteries are these matters; but if you will insert the lists you will give to some of the competitors that honourable position amongst their brethren of the profession which the judgment of three of the leading members of it would have assigned to them. LOOKER-ON.

Final Choice by the Committee of Judges.	Messrs. Angell and Pownall's List.	Mr. Burn's List.
Foreign Office.		
94. Coe and Hofland.	58. Banks and Barry.	58. Banks and Barry.
58. Banks and Barry.	116a. Scott.	116a. Scott.
116a. Scott.	35. Deane and Woodward.	35. Deane.
35. Deane.	17. Bellamy.	75. D'Hazeville.
17. Bellamy.	119.	119.
54. Buxton.	94. Coe and Hofland.	94. Coe and Hofland.
129. Street.	128. Morgan.	17. Bellamy.
War Office.		
77. Garling.	77. Garling.	77. Garling.
75. D'Hazeville.	116. Scott.	116. Scott.
61. Rochead.	35. Deane.	35. Deane.
140. Prichard and Seddon.	75. D'Hazeville.	75. D'Hazeville.
30. Brodrick	25.	69. Banks and Barry.
54a. Habershon.	108. Humbert and Reeks.	25.
126. Dwyer.	123. Morgan.	108. Humbert and Reeks.

WHITYNGTON, LORD MAYOR OF LONDON.

LONDON AND MIDDLESEX ARCHITECTURAL SOCIETY.

WE make some extracts from the memoir of Whityngton, read by Mr. Deputy Lott, at the meeting in Myddelton-hall, Islington, mentioned in our last:—

Having been requested, said Mr. Lott, by the parish authorities of Islington some years since, to write an inscription to be placed, upon the renewal of the celebrated Whityngton's stone, upon the ascent of Highgate-hill, I have considered that upon the visit of the London and Middlesex Archæological Society to the merrie town of Islington, some account of the eminent merchant whose civic career this stone commemorates might be acceptable. I may here state that his name should be spelt "Whityngton." It is with deep regret that I shall have to destroy some of the romance with which the history of this City celebrity has always been connected.

So far from being of obscure or poor parentage, or a barelegged boy, Sir Richard's father was a man of title, an honour not so lavishly bestowed as in the present day. Sir Richard was the son of Sir William Whityngton and Dame Joan, his wife, as appears by the Charter of Foundation of Whityngton College, made by his executors in 1424. Two inquisitions were also taken in the 46th and 47th Edward III. after the death of Joan, wife of William de Whityngton, deceased. Various places and dates have been assigned as his birthplace, and time of birth, viz. Ellesmere, in Shropshire, 1354; Taunton, Somerset, 1340; also 1360, and Lancashire. It will be found that the person supposed to be Sir Richard's father, is called William de Whityngton—a surname, no doubt, taken from the name of the place they were born or lived in. Shropshire, said to be the native county of Sir Richard, contained a place named Whityngton: of the date of his birth, or the employment of his younger years, but little is known.

Having endeavoured to give some account as to the birth and marriage of Richard Whityngton, I will now state the successive civic honours which, at various times, were conferred upon him. That he arose early to wealth and civic honours is not to be doubted, for we find from the repertories of the Court of Aldermen, he was elected Alderman of Broad-street Ward, by the good men of that ward, 1393, 16 Richard II.; he served as Sheriff of London (on the feast of St. Matthias), together with Drew Barentyn, 1393; re-elected Alderman, 1394, 17 Richard II.; appointed by the king as mayor for part of the year, in the room of Adam Baume, 1397, 20 Richard II.; election as mayor, 1397, 21 Richard II.; ditto, 1406, 8 Henry IV.; ditto member of parliament, 1416, 4 Henry V.; ditto as mayor, 1419, 7 Henry V.; his last attendance at City meetings was, 1422, 1 Henry VI. So that, in fact, Richard Whityngton was indeed four times Lord Mayor of London.

When Whityngton was yet a boy, the burning of coal was considered such a public nuisance that it was prohibited by Act of Parliament under pain of death, but it is singular enough that by the time he had been thrice Lord Mayor of London, 1418, the importation of coal formed a considerable branch of the commerce of the Thames; and although a person was once executed for a breach of this law, it is supposed that a dispensation was made in Whityngton's favour; for from the first opening of the coal trade in England, and for ages after, it had a reputation for making fortunes only exceeded by that of the mines of Golconda and Peru. * * * * *

Whityngton died some time between the last of the above dates, and March following; his will, made Sept. 5, 1421, being proved in the Hustings, on the Monday after the feast of St. Perpetua and Felicitas, March 7, 1423. No other will of his is to be found on the Hustings Rolls, nor any will of any one of the same name, nor of his father-in-law Fitzwarren.

In a small court leading out of Grubb-street, called Sweeden's-passage, was a building traditionally said to be the residence of Sir Richard Whittington in the reign of Henry IV. and of Sir Thomas Gresham in that of Elizabeth. It was a curious building; and, with its projecting staircase, was pulled down in March, 1805, and three small houses occupy the site.

A life of Sir Richard Whityngton, published by North, 1828, and another by Horn, 1811, maintain the story of the cat.

Having traced the municipal career of Sir Richard Whityngton, I must now allude to his acts of benevolence and utility. Of the latter, he rebuilt the church of St. Michael Royal, in the City, and founded therein a college, in 26 Henry VIII.; benefactions valued at no more than 20*l.* 1s. 8d. per annum. The property must have much increased in value. The college was dissolved by Edward VI. but the almshouses remained. The almshouses, still under the direction of the Mercer's Company, were, about thirty-five years ago, removed from the close neighbourhood of College-hill to the vicinity of Highgate, and there reconstructed on an eminence beside the Archway turnpike,—twenty-eight in number,—inhabitants all women, under fifty-five on admission; each person has 12s. per week from the charity. They are very pretty edifices, of the Elizabethan order,—beautiful retreats for our poorer sisters, and monuments of the posthumous benevolence of one of those charitable men with whom our city has ever abounded.

In the year 1419, during Sir Richard's third mayoralty, he entertained Henry of Agincourt, and his bride, Catherine of France. It is stated that never before did a merchant display such magnificence as was then exhibited in the Guildhall, whether the account of precious stones to reflect the light of the chandeliers, choicest fish, exquisite birds, delicate meats, choirs of beautiful females, wine conduits, rare confections, and precious metals, be at all constrained, is problematical. "Surely," cried the amazed king, "never had a prince such a subject. Even the fires are filled with perfumes."

"If your highness," said Sir Richard, "inhibit me not, I will make these fires still more grateful." As he ceased speaking, and the king nodding, acquiesced, he drew forth a packet of bonds, and, advancing to the fire, resumed, "Thus do I acquit your highness of a debt of 60,000*l.*"

The year following the expiration of Whityngton's first mayoralty was pregnant with great events to London and England—the deposition of King Richard II. and the ascent to the throne of Henry IV. a measure in which the citizens concurred.

As alderman of the ward of Vintry he took an active part in each popular measure. In 1389 he superintended the festivities of a masked tournament in Smithfield, lately the scene of a rebel tumult. "Those who came in the king's party," says Fabian, "had their armour and apparel garnished with white harts, that had crowns of gold about their necks. Twenty-four thus apparelled led the horses of the same number of ladies by chains of gold. The jousts continued four days, in the presence of the king, the queen, and the whole court, his Majesty himself giving proofs of his skill and dexterity. During the whole time open house was kept, at the king's expense, at the Bishop of London's palace, for the entertainment of all persons of distinction."

There is still in the possession of the Mercers' Company, the original ordinances of Richard Whityngton's charity, headed by "a curious illumination, representing," says Pennant, "Whittington lying on his death-bed, a very lean, consumed, meagre body; and his three executors, with a priest and divers others standing by his bedside."

I now come to the celebrated portion of the history of Whityngton, namely, in connection with that respectable and useful domestic animal, the cat, without which our menage at home seems hardly complete; but I regret to have to demolish the celebrity of poor Puss in connection with Sir Richard Whittington; for historical research shows that he was not of poor origin, neither did he owe any of his riches to the prowess of the tiger's miniature. * * *

The clerk of the Mercers' Company has in his apartment at Mercers' Hall a portrait on canvas of a man about sixty years of age, in a fine livery gown and black cap of the time of Henry VIII. such as Yeomen of the Guard now wear. The figure reaches about half the length of the arms from the shoulders; on the left hand of the figure is a black and white cat, whose right ear reaches up to the band or broad turning-down of the skirt of the figure; on the left hand upper corner of the canvas is printed "R. Whittington, 1536." The size of the canvas of this portrait has for some reason been altered, and the inscription has evidently been painted since the alteration; yet it is hardly to be supposed it was then invented, and if not, it carries the vulgar opinion of some connection between Whityngton and a cat as far back as 1536. The romantic legend of the Cat, from "Keighley's Tales and Popular Fictions," will always continue to delight and stimulate the youthful fancy of every rising generation. Neither Grafton nor Holinshed says anything of the legendary history of Sir Richard Whityngton; but it must have been current in the reign of Elizabeth; for in the first scene of Beaumont and Fletcher's "Knight of the Burning Pestle" (1613), the citizen says to the prologue, "Why could you not be contented, as well as others, with the legend of Whittington?" The word "legend" in this place would seem to indicate the story of the cat. Cats, as we know, fetched a high price in America when it

was first colonised by the Spaniards. Two cats, we are told, were taken out as a speculation to Cuyaba, where there was a plague of rats, and they were sold for a pound of gold. Their first kittens fetched each thirty pieces of eight, the next generation not more than twenty, and the price gradually fell as the colony became stocked with these. The elder Almagro is said to have given 600 pieces of eight to the person who presented him with the first cat which was brought from South America.

It is strange what a propensity the vulgar have for applying some other cause than industry, frugality, and skill, seconded by good fortune (the usual and general road, I believe, to wealth), to the acquisition of riches. I hardly ever knew, in my own country, an instance of the attainment to opulence by a man who, as the phrase goes, had risen from nothing, that there was not some extraordinary mode of accounting for it circulated among the vulgar.

In an interesting work, entitled "Popular Music of the Olden Time; Illustration of the National Music of England," by W. Chappell, F.S.A. is the following:—"The earliest notice of 'Turn again, Whittington,' as a tune—if a mere change of bells may come under that denomination — is in Shirley's 'Constant Maid,' act ii. scene 2, 1640, where the niece says:—

> 'Faith, how many churches do you mean to build
> Before you die? Six bells in every steeple,
> And let them all go to the City tune,
> "Turn again, Whittington,"—who they say
> Grew rich, and let his land out for nine lives
> 'Cause all came in by a cat.'"

A ballad was entered at Stationers' Hall a few months later, then a drama on the same subject. The following extracts are from the registers of the company, on Feb. 8, 1604, to Thomas Pavior:—"The history of Richard Whityngton, of his low birthe, his great fortune, as that was played by the prince's servants;" and on July 6, 1605, to Jo. Wright, a ballad called "The wondrous Life and memorable Death of Sir Richard Whityngton, now some time Lord Mayor of the honourable City of London," and is contained in Johnson's "Crowne Garland of Golden Roses," 1612.

Whityngton's Stone.—The *Gentleman's Magazine* has many accounts of this stone—as also the interesting journal, *Notes and Queries*.

In September, 1824, it is stated that a stone, at the foot of Highgate-hill, was supposed to have been placed there by Whittington, on the spot where he heard Bow bells. It had a pavement round it, about 18 feet in circumference. From an old engraving of it, it appears that it was a small obelisk, or pyramid, standing on a square base, and surmounted by a cross, apparently of iron. This stone remained until 1795, when one S. who was a parish officer of Islington, had it removed and sawn in two, and placed the halves on each side of Queen's Head-lane, in the Lower-street, Islington. The pavement he converted to his own use, and with it paved the yard of the Blue Last public-house (now the Marlborough Head), Islington. The parishioners expressed great dissatisfaction; and, to make some amends, Mr. Finel, the mason, was employed to place another stone in its stead, and on which was marked "Whittington's Stone." Some land, it is stated, lying on the left hand side in ascending the hill, and probably just behind the stone, is held on the tenure of keeping the stone in repair, and on its removal a new one was immediately placed there, of smaller dimensions, though it was never known by whom. On this field, facing the road, there stood, in ancient times, a lazar-house, or hospital, for the reception of leprous persons, every vestige of which has long been destroyed. The references to this institution, as noticed in Tanner's "Notitia Monastica," are meagre and unsatisfactory.

It appears that this lazar-house was founded 12 Edward IV. 1473: and in 1653, the land, which belonged to Charles I. was sold to Ralph Harrison, of London, esq.

Whitynton's stone was replaced in the year 1795, by Mr. Charles Wilkinson, of 17, Highbury-place, and Mr. Horace Muckton, of Highbury-terrace. It remained until 1821, when another was put up, and which was replaced in 1851 by the present stone.

The disappearance of the stone in 1821 caused a great stir, and several letters appeared in the *Notes and Queries* and the *Gentleman's Magazine*, on the said subject.

The *Times* paper of September 12, 1854, gives the following description of the inscription:—"A plain stone, about 2 feet high, is now erected there, which has chiselled on it the following brief history of Whitynton's life.

> 'Whitynton Stone. Sir R. Whitynton, thrice Lord Mayor of London.
>
> 1397, Richard 2nd.
> 1406, Henry 4th.
> 1420, Henry 5th.
> Sheriff, 1395.'"

THE "DREADNOUGHT" HOSPITAL SHIP.

IN consequence of the evil effect produced upon the patients on board the *Dreadnought*, the vessel has been taken, or is to be taken, farther down the river. Circumstances having given a fresh notoriety to this institution, a few particulars may be found interesting. There has been an hospital for seamen on the Thames since March, 1821. During that time the number of cases which have been relieved amounts to 79,365; and it should be recorded that this noble charity is not confined to people of our country, but is open for the use of other nations. The following table shows the proportion of seamen belonging to different States who have been benefited at this hospital:—

Englishmen	44,697
Scotchmen	9,213
Irishmen	6,741
Frenchmen	353
Germans	1,199
Russians	959
Prussians	1,737
Dutchmen	377
Danes	1,147
Swedes and Norwegians	3,285
Italians	803
Portuguese	640
Spaniards	421
East-Indians	2,204
West-Indians	1,429
British Americans	1,084
United States	1,773
South Americans	220
Africans	470
Turks	17
Greeks	82
New Zealanders	50
New South Wales	41
South Sea Islanders	273
Chinese	47
Born at sea	148

Out of this large number of unfortunates who have found shelter and assistance, 56,371 have been discharged cured, and 10,747 convalescent. Some have been conveyed to their homes: 4,411 have died: 3,228 have been partially or wholly clothed; 3,388 supplied with shoes and stockings only.

A visit to this great ship, once the *Caledonia*, now the *Dreadnought*, shows what can be done, even under ill conditions, by the proper application of skill. The need of an establishment like this will be acknowledged, when we consider that 28,749 vessels, including repeated voyages, enter the Thames in each year, and that the number of men engaged in sailing this great fleet is about 58,307.

On the 17th of February last, the patients were brought on board the present vessel from the old *Dreadnought*. The difficult operation of removing such a large number of sick persons was safely and comfortably managed, and various means which have been suggested by an increased knowledge of the principles of ventilation were adopted to improve the state of the vessel. The cost of alterations amounted to about 15,000*l*. A staircase leads from the river to the main deck, and those visitors who are not familiar with great ships will feel surprise at the vast space which is presented to view, on reaching the deck. This being in parts covered with an awning, serves as a promenade for convalescent patients. The width of this ship is 4 feet greater than that of the old one, and the height between each deck considerably greater. On reaching the upper deck, the large area which, with the exception of the officers' apartments, chapel, &c. reaches the whole length of the ship, presents a striking appearance of cleanliness and order. The ports serve for the purposes of light and ventilation, and there are also spacious shafts, which communicate with the lower decks. The beds of the patients are placed at a fair distance from each other. Water for all the purposes of food, &c. is laid on from the water company's supply. The Thames water is only used in the iron pipes, for heating the wards. The bedclothes, &c. of the patients are frequently changed, and washed and aired at a long distance from the Thames. The port-holes are left open in different degrees, during both winter and summer. The wards are well lighted night and day.

The lower decks comprise convalescent, surgeon's, and physician's wards. Outside the ship is a platform, on which unfortunate seamen who have met with accidents can be taken from boats, placed on trestle beds, which can be readily moved to one of the shafts already mentioned, and hoisted, by means of pulleys and ropes, to any of the decks. Below the third deck all is darkness, but by the lantern's aid the apparatus for warming the different parts of the vessel may be seen. It is a difficult matter to ventilate this portion of the ship. Doubtless, care is taken to remove and deodorise the "bilge water," and get as much current as possible to remove the dense and unwholesome air which collects here. The massive timbers of this part of the ship show that many a sturdy English oak, the growth of centuries, has been here brought into use. Hose and other apparatus are kept in readiness in case of fire. A library has been formed which might be added to by well-disposed persons.

The medical officer here was too hasty in his conclusions as to the innocence of sewage in Thames water, and pressed them much too vehemently as reasons for leaving things as they are; but he deserves praise for not having allowed desire to maintain his opinions, when found unsound, endanger the lives of those under his care.

SULPHURETTED HYDROGEN IN THAMES WATER.

I WOULD beg permission to communicate through your columns the result of some experiments I have recently made with the view of deciding the much-vexed question regarding the existence or non-existence of sulphuretted hydrogen in the water of the Thames.

When we bear in mind the enormous quantity of sewage, rich in sulphur compounds, which daily flows into the river, it will be evident that much sulphuretted hydrogen must be present, although, strange to say, several eminent analysts have failed to detect it by chemical tests, and have consequently denied its existence.

Recently, I have collected several samples of Thames water from the pier of Hungerford-bridge. In each specimen I recognised sulphuretted hydrogen, but the quantity in the samples varied considerably. The method adopted for detecting this gas was as follows:—A pint of water was introduced into a glass flask, over the mouth of which was placed a piece of white blotting-paper, moistened with acetate of lead. On gently heating the water, the test-paper became in a few minutes discoloured by the sulphuretted hydrogen expelled, but the depth of colour imparted to the paper differed very remarkably; in some, the colour was a light brown; in others, almost black. This variation of colour was due, as subsequent experiments proved, to the degree of *agitation* to which the water was exposed previously to analysis. If a bottle was only *partially* filled, the shaking of the water in its carriage from the river to the laboratory expelled nearly every trace of gas, and on removing the stopper it escaped; but in bottles *quite* filled and well stoppered no agitation could take place, and consequently the gases remained in solution. This may perhaps explain why several chemists have recently failed to detect sulphuretted hydrogen in Thames water.

Having noticed this peculiar circumstance, it appeared important to determine the *rapidity* with which sulphuretted hydrogen is expelled from water by agitation. To this end I prepared a quantity of sulphuretted hydrogen water, containing in each imperial pint 14·72 cubic inches of gas, at 60 degrees Fahrenheit.

A pint of this solution gently stirred in an open glass beaker for five minutes lost 11·57 cubic inches, and retained 3·15 cubic inches.

A second pint, stirred for ten minutes, lost 13·95 cubic inches, and retained 0·77 cubic inch.

A third pint, stirred for twenty minutes, lost 14·29 cubic inches, and retained 0·43 cubic inch.

A fourth pint, stirred for half an hour, retained only sufficient sulphuretted hydrogen to impart, when heated, but a very slight colouration to lead paper. The above experiments were made in a room of a temperature of 63 deg. Fahrenheit. At a higher temperature, the escape of the gas is much more rapid and complete.

During the recent hot weather, the water of the Thames has attained a temperature of from 70 deg. to 75 deg.; and as the slightest agitation of the water at this temperature will cause the expulsion of nearly all the sulphuretted hydrogen it receives from the sewers, your readers may form some idea of the extent to which the atmosphere near the river has been recently contaminated.

I have made an extensive series of experiments with other gaseous products of the decomposition of animal matter; but as the details would occupy too much of your valuable space, I will confine myself to mentioning the important fact, that of all the gases which are soluble in water, more than nine-tenths of the quantity of gas held in solution is expelled by ten minutes' agitation.

At the present moment I am engaged studying the gases contained in Thames mud, and should you deem the results worthy of a place in your valuable journal, I shall feel much pleasure in communicating them to you.

HY. MEDLOCK.

Chemical Laboratory,
Great Marlborough-street.

THE STATE OF THE THAMES.

SIR,—Will you allow a working man to say a few words in reference to your article in last week's number, on the State of the Thames, &c. You say,—"The poisonous matters passed into the river are returned with each tide, instead of being carried out to sea." This is quite true at the *present time*, but it is not *always so*; and very few persons know the reason why it is not carried out to sea just now. Perhaps, sir, you are not aware that it *is*, and *has been*, the wind that prevents it. We have had the wind now, for upwards of two months, what we call *up the river*,—that is, varying from north to north-east and east. Now, when the wind is this way in dry weather, not a drop of sewage can get out of the Thames, and *it is, as you say*, in another part, "washing about between Greenwich and Chelsea, seldom reaching to Richmond on the flood, or Barking Creek on the ebb tide;" and it will continue to do so, till we have a change of wind. In the spring-tides it gets further up the river, and in the neap-tides it gets lower down. Another fact you mention is, "that the shores do not smell so bad as the water does when the tide is in." This is the honest truth, and those who say it is the mud on the banks are only misleading those who have to deal with this great question.

All the money in England, and all the science men can bring to bear on this sewerage, will not cleanse the river of *this* filthy water, without a change of wind or heavy rain. It is quite right for them to do all they can to prevent it from getting worse. A gale of wind *down* the river varying from south to south-west, or west, for one week, with the neap-tides, would blow all this dirty water out to sea, and *never to return again*. So would a week's heavy rain, that would make a head of water up the country that would force all the dirty out, and send the fresh water lower down every ebb. Many persons think the river has never been so bad before it has never smelt so bad I own, but that is through the hot weather. We have the river as bad almost every year, only it happens in February or March, when the weather is cold: it has been so for the last ten years, and always will, more or less, when the wind is up the river, in dry weather, until some better plan is adopted with the sewerage. The evil of the present day is, that all the sewers run into the Thames at *low water*, so that the flood-tide carries all the filth *up the river*. This is the wrong way,—it must go down the river. This must be put a stop to. If the sewage were *pumped* into the river at *high-water*, and the *first three or four hours' ebb*, and then all the sewers closed till the next tide, Old Father Thames would keep London clean and sweet for many years to come; we should never see the dirty water back to the place it started from, and we should have three hours' fresh water down out of the country every tide. This would give time to determine what shall be done for the future, and to pause before spending millions of money on the great trunk sewer. If the river can be kept sweet and clean for a few thousands, why tax ourselves more? T. S. H.

FATHER THAMES COMPLAINS!!

A FEW days since the authorities of St. Katharine's Dock were summoned before the magistrates of the Thames-street Police Office, charged with throwing offensive matter into the river Thames, by which they had rendered themselves liable to the penalty of 20*l*.

The solicitor for the Board of Conservators for the river Thames said that the real defendants were the St. Katharine's Dock Company, who had been in the habit of throwing the filth and refuse of their dock into the river, and it was determined that if possible the evil should be checked in future.

Those connected with the docks stated that when the lock gates were opened and ships admitted into the docks, all sorts of refuse floated in with them, and it was afterwards collected in the dock with nets and thrown into the Thames, *from which it came*. That course had been adopted for thirty years, ever since the docks were opened. The company could not prevent the refuse from floating into the dock with the tide.

Mr. Collett, the secretary of the St. Katharine's Dock Company, said, if he could find any place to deposit the stuff in, he would do so. The stuff that came into the dock came under his own knowledge. When he saw anything floating, he directed a man to collect it, put it into a punt, and throw it into the Thames, just outside the lock. It was not offensive matter, but consisted of hoops, sticks, chips, matting, and anything that floated upon the Thames. Sometimes there was a dead rat or cat amongst the stuff.

It was agreed that the practice of thirty years should be discontinued, and in case no further complaint was made within a month that nominal damages should be awarded. There is something exceedingly ludicrous in the idea of Father Thames repudiating and prosecuting others on account of his own filth: it reminds us somewhat of the fable of the Wolf and the Lamb.

ROYAL HIBERNIAN ACADEMY ART EXHIBITION.

THE old adage that "the house divided against itself cannot stand," is certainly not exemplified in the case of this institution, which, though still suffering from the effects of internal feuds during the last two years, has, nevertheless, through the exertions of a *portion* of its members, enthusiastic in the advancement of art, presented to the public, in at least one of the departments of this their *thirtieth* exhibition of painting, sculpture, and architecture, a good collection of works by modern masters. It is not our purpose to conjure up the shade of dissension which for some time has haunted this institution; but we cannot refrain from remarking that it is a lamentable circumstance that a body so eminently calculated to shed a lustre on the art of the present day, should even temporarily, owing to a dissension, have been forced to deviate from the path of progress. With great regret do we notice in the catalogue an absence of the names of some artists who for years have been the chief contributors to the exhibitions, but we abstain from mentioning names, in the sincere hope that they may hereafter be induced from a desire to serve the common cause — to bury a recollection of past differences in oblivion.

In August, 1823, the institution was incorporated, and awarded by Government a grant of 500*l*. per annum, for the purpose of presenting an annual exhibition of the fine arts, and sustaining the schools of the Academy, the purchase of casts, books, &c. The late eminent architect, Francis Johnston, presented the Academy with a suite of galleries admirably adapted for exhibitions, and in 1850 additional accommodation was provided by his widow. The grant above alluded to, notwithstanding the assistance obtained by the proceeds of the annual exhibition, proved inadequate to meet the actual expenses, and the salaries of the officers gradually dwindled down to mere nominal sums, and even these remained unpaid. The recent dissensions, however, resulted in an investigation by Mr. Norman McCleod, and we understand, without making allusion to the question as to *who* were the delinquents, new arrangements and an increased grant were recommended, as also that the working classes should be admitted at a reduced rate of *one penny*, which is now the case in the evenings, but which very laudable course the Academy had for some time previously discontinued. The attendances of pupils at the art schools of the Academy are limited in the extreme, but we attribute that fact to the advantages of the institution not being sufficiently brought before the public. In the department of painting the annual displays have been generally creditable, and occasionally so in that of sculpture, if the limited accommodation for that branch be considered. But the department of architecture might well be erased from the catalogue, and, in fact, is but a mockery. As no effect can be without a cause, we are told that exhibitors very generally complained of their drawings being placed in an ante or mere passage room to the gallery, entered from the large room after the eye had been feasted in beholding oil and water-colour paintings; and the rigidity of architectural sketches thereby made more apparent, and their comparatively sombre tones presenting an unfavourable contrast; also that favouritism was observed in the hanging of the drawings. These facts are worthy the consideration of the Academy; and certainly there is sufficient architectural talent in Ireland to make this department important and attractive, if the profession were induced to come forward.

The present exhibition is certainly not the most copiously filled of those we have witnessed, but it is nothing the worse for that. Central and conspicuous in the principal room is a full-length portrait of the Queen, taken by Mr. Catterson Smith, on the occasion of her Majesty's visit to Dublin, and of course the subject of much criticism. This artist contributes a number of excellent portraits, as also does Mr. G. F. Mulvany; and the painting by the latter, entitled "The Belgian Painter Ray and the Duke of Alva," is a work of considerable merit. Mr. Danby's petite sketches of Blackrock Castle, Ireland, and Loch Awe, Scotland, sustain the reputation of that eminent artist. Mr. Giles's (R.S.A.) picture of Loch-na-Gar, Balmoral; "An Interior," by A. Veerhoven; "The Surprise and Arrest of Sir Henry Slingsby for Complicity in the Ormond Conspiracy of 1658," by Mr. Bridgford, R.H.A. attract much attention. In the latter especially the effect of the moonlight on the crimson velvet jackets of the conspirators is peculiarly striking. Viscount Francia, of Brussels, displays several meritorious works, amongst which we may particularize his "Killarney, Scenery;" "Sheemingen at Sunset;" "Fisherman's Dwelling near Amsterdam;" and his water-colour view of "A Village in the Ardennes: a Winter Scene," by Schemeders and Bouchey; "Rustic Workshop in Bitchworth-park, Surrey," by Mr. Upton; Mr. Marquis's sketches on "The Tolka," "Near Malahide," and "Evening on the Liffey," deserve particular notice. "Queer Music," by Miss Boake; "Brig driving Ashore," by Edwin Hayes; "View of Amsterdam," by Mr. Springer; "Painter's Studio," by Mr. Wingfield; "Medmenham Abbey, on the Thames," by George Chester; "Bray Strand—Evening," by Edwin Hayes (a small picture, quoted at 50*l*.), and "The Forge," by W. Brocas, R.H.A. are amongst the chief works.

We also find contributions from Messrs. Crowley, Bond (Liverpool), Abbott, and Burkenshaw, besides those from London, by Mr. Cooper, R.A., Callow, Chase, Ambrose, Harwood, &c.

In the water-colour department are some very excellent pictures, though not quite up to the mark of previous exhibitions; and amongst the local contributors we find the names of Messrs. Englehcart, Watkins, Wakeman, Craig, Howis, &c.

The miniatures on ivory, by Mr. Mulrenin, R.H.A. excel the life-size portraits by that gentleman; and we should have expected better pictures from that eminent artist and antiquary, Dr. Petrie.

Passing to the Antique Academy, we find Mr. Christopher Moore a principal exhibitor, chiefly of busts, some of which we recognize as having been in previous exhibitions. Mr. Thomas Farrell's model from which the late Rev. Dr. Murray's statue in the Roman Catholic Metropolitan Cathedral was executed, is a feature of considerable interest, and an excellent likeness. The only architectural drawings of merit are "A Façade to the Hall of a City Company," designed by Mr. Wyatt Papworth, in accordance with the details of that of the Scuola di San Marco, at Venice, erected in 1485, from designs by Martino Lombardo; and a design for the Wellington testimonial at Liverpool, by Nr. John McCurdy; the others being poorly finished. Let us hope that our previous remarks respecting this department may not be lost, and that next year we shall have the pleasure of chronicling the particulars of its features more favourably. Four drawings constitute the present architectural exhibition!

ARCHITECTS AND BOARDS OF GUARDIANS.

THE *Engineer* mentions that, "the Bolton guardians, who have determined on building a new workhouse, have had a discussion whether the architects should not be bound *to furnish the quantities* of the various works to be performed by contractors, the architects having refused to do so. It was contended by several guardians that the Board ought to be furnished with the quantities, otherwise they would not know what they were contracting for; and it was understood by the Board when they elected the architects, that the sum of 500*l*. was to be paid them for the whole of their services in connection with the erection of the new workhouse. It was urged in reply that these discussions were only intended by the parties opposing, to throw obstacles in the way of the architects, and that it was not the inten-

tion of the architects to charge the guardians for getting out the quantities, but, if they were required to get them out for the contractors, it was the contractors who ought to pay for them. Mr. Skelton moved—'That the architects prepare the detail plans and specifications for the superstructure of the new workhouse as soon as possible, and that preparations be made for letting the building.' Mr. Latham moved, as an amendment:—'That the quantities be given to the Board, and the contract signed by the architects, before any more orders be given to the architects.' On a division, the motion was carried." If the Board take proper advice on the subject, they will find it is not the province of the architects, *quoad* architects, to take out the quantities, and that the Board cannot properly call upon the architects to supply them without extra charge.

BARRACKS, TOWER OF LONDON.

As you have lately taken up the subject of barracks, I wish to direct your attention to the last barracks erected in London by the royal engineers, viz. those in the Tower. The officers' quarters are for seven only, and the size of the rooms is so absurdly large, barrack furniture will not make them look comfortable, nor will a fire warm them. The mess-room will dine sixty, and in this room I believe the average daily diners do not exceed three. The kitchen, as it was originally built, was enormous, and the fireplace and chimney so badly constructed, that it was impossible to make the smoke ascend; and, after repeated trials and repeated failures, a reward of 10*l.* was offered to any one who could cause the smoke to follow its destined course. All appeared hopeless, till at last some one suggested to build a wall half way across the kitchen, and prevent so much cold air finding its way into the chimney. This has had the desired effect, but the kitchen might have been originally constructed half the size, and the present space has more accommodation than the usual dinner for three requires. I wish you would visit the spot, and verify these statements.

A. B.

"Tower, 19th April, 1752.

"I have surveyed and examined the Irish barracks in the Tower, and found the whole in very bad condition. It is an old building, framed with timber and weather-boarded in the front. All the principal timbers are much decayed: the roof is very defective, and lets in water. The whole building is out of level, and stands at present only by the upright posts which are put up to sustain it.

The bad condition of these barracks causes a very considerable expense yearly to keep them in repair, which I have occasion to know, by having the charge of the works in the Tower. It is also observed, that these barracks are more unhealthy than the others in the Tower, which is from their bad condition and the manner in which they are built. I am, therefore, of opinion, as they are past all manner of being repaired, the best and frugalist method is to take down the whole, and build the barracks after a regular and proper plan. "DUG. CAMPBELL."

"Having attended the above work survey, I am of the same opinion with Mr. Campbell.

"J. H. BASTIDE."

While looking for some other matters in the king's collection British Museum, we chanced to fall upon the above letter, which shows that a hundred years ago the barracks were as much a matter of complaint as at the present day.

PROSCRIBED CLASSES AND LOW SIDE WINDOWS.

I DARE say that you will allow me, in reply to Mr. Thos. Wright's communication in the last number of the *Builder*, to say that the use which he suggests for the low side windows in our old churches was suggested by myself as long ago as April 1848, in a letter to the *Ecclesiologist*. I collected further evidence in support of my view, which is embodied in other letters in the *Ecclesiologist*, for October 1848, and June 1849. The subject is one which has been constantly under discussion, and Mr. Wright will find letters from myself and two or three other correspondents so lately as in the *Ecclesiologist* for last June. He will find that I have adduced very many proofs of the existence of proscribed classes in this country, and of the religious disabilities under which they laboured. There were, for instance, converted Jews and lepers, besides, probably, other classes analogous to the Cagots, described by M. Michel, and referred to by me in the second of my letters; and I think he will find that though his suggestion had been anticipated so long ago, no sufficient answer has ever been given to it; nor has any other of the theories which have been broached, so completely met all the difficulties of the case. My suggestion was that these low side windows should be called "Eucharistic" windows.

GEORGE EDMUND STREET, F.S.A.

THE EDINBURGH CASTLE QUESTION.

THE citizens of Edinburgh appear to be still in a ferment, and apparently with reason, as to the alterations and "improvements" still in progress on the castle rock. So noble a site, indeed, well merits the watchful anxiety of all lovers of the picturesque; but, so far as regards ourselves, without a personal inspection we can scarcely enter into the question either on one side or the other, though urged by local correspondents to do so. One complains "how tamely the architects [at the Architectural Institute in Edinburgh] received the law from the lips of an officer of Engineers," namely, we presume, Colonel Moody, who planned and is carrying out the alterations so as to accommodate an increased number of troops. But may not this "tameness" have arisen from a feeling, on the part of the majority, that the alterations, past or prospective, were not so very serious or obnoxious after all as was believed or feared?

But, besides the objection to any improper tampering with the general aspect of the castle and its rock, there is another question that seems to be involved; and that is, the advisability of crowding more troops within the restricted limits of the castle area, already crowded with buildings at least, if not with men. Colonel Moody is urged on, it appears, according to his own admission, by a necessity for providing "a great deal more accommodation for the troops." In a time of peace would it not be much more advisable, for the sake of health to the troops, to extend the barrack accommodation at Piershill, or elsewhere in the outskirts of the city, where Colonel Moody, or, better still, some proper architect, might work away with his plans to any extent without exciting the least notice or objection? If "a great deal more accommodation" is of necessity to be crushed into the castle area, can there be a question that the aspect of this crowning feature of the city will be a very secondary consideration by comparison with such a self-imposed requirement?

A statement transmitted by the citizens to General Peel, as to the alterations already made, says,—

"During the last twelve months, Lieutenant-Colonel Moody, the commanding officer of Engineers stationed in Edinburgh, has carried on a series of works for altering the castle. He has cut away the bold summit of the rock he has built up an interesting geological section described and figured by Lord Cathcart in the 'Transactions of the Royal Society of Edinburgh;' he has constructed at the entrance a battery with the grotesque peculiarities of a smoking chimney and glazed embrasures; he has covered one of the outworks most conspicuous from Prince's street with a sloping roof of the most incongruous character; and, on the west side, he has reared an enormous mass of masonry, 30 or 40 feet in height, like some huge breakwater or overgrown limekiln, which effectually destroys the most picturesque aspect of the castle. When directed by the Secretary for War 'to exhibit plans of all the works that have been authorised,' Colonel Moody has failed to produce a single plan of the works just mentioned, which we therefore conclude have been executed without due authority, so that he is responsible for the injury which they have inflicted on the castle and city of Edinburgh."

THE METROPOLITAN PARISHES.

As regards St. George's, Southwark, Mr. Day, the assistant overseer of that parish, said, before the Committee of the House of Commons, who are at present engaged in an inquiry respecting the government and parochial assessment, that the present assessment of that parish was 120,500*l.*; the average yearly amount of poor-rate 4s. 4d. in the pound,—other rates made it an average of 7s. 3d. A large number of public establishments were exempt from rates, amongst them the Blind School, Bethlehem, Post Office, &c.

The Queen's Bench Prison was rated, but the Government declined to pay on an assessment, and now pay 800*l.* per annum in shape of composition.

Upwards of 6,000*l.* were lost by the non-rating of public establishments, which occupy the best sites. This is a considerable sum; but few persons would wish the poor-rates to be extended to charitable institutions. The most serious part of Mr. Day's evidence is the account of the large number of houses which, either owing to their dilapidated condition or inferior construction, produce an amount of rent which shows not only the great poverty of the tenants, but also the difficulty the landlords must have in defraying the necessary expenses of such property.

In the parish of St. George's, Southwark, 5,780 houses are assessed at or under 20*l.* a year; 4,510 at or under 10*l.*; and 2,220 at or under 5*l.* per annum. The amount of poor rates has gradually increased. This, Mr. Day considers, is caused in a great measure by the large number of small tenements, and by the alteration of the law, which now gives a settlement for five years' residence.

These rates were so high, that in many instances landlords had closed their houses. In order to make a new street in the adjoining parish of St. Saviour's, 450 small houses had been taken down, and the poor were consequently driven to St. George's; and Mr. Day believes it has been invariably the case in the metropolis, that when the dwellings of the poor have been removed, with the exception of one or two model buildings, no provision has been made.

It is serious to reflect on such conditions as the above account of affairs shadows forth districts in which the poor are in a manner eating off each other's heads. The system of rating some metropolitan parishes, at 7s. 6d. in the pound on the rental, and others at less than 2s. has a very bad effect on dwellings of the poorest class; and until the houses of the pent-up crowds in poor neighbourhoods are improved, we can look for no substantial change for the better.

If an average rate were established over the whole metropolis, it would, in comparison with that now paid in some parishes, amount to a comparatively small sum; and it is probable that the amount saved would be a means of leading speculating persons to erect suitable houses in places where they are so much needed, and also lead to the necessary repairs, alterations, and drainage of dwellings which need it.

Considering the condition of large districts, it is evident that care must be taken, and that for the general benefit of the community, fair measures must be offered by the affluent parishes. We have repeatedly endeavoured to give an idea of the extent of the evil which exists, and every day's experience will show that our statements are rather understated than otherwise. Not long since, a gentleman connected with a society which has been established in the east of London, came before Mr. Self, the Thames-street magistrate, and stated that to such an extent had open vice, immorality, obscenity, and drunkenness prevailed in the eastern part of the metropolis, particularly in Whitechapel, St. George's-in-the-East, Shadwell, and Radcliffe, that a society had been formed, called the East London Association, to endeavour to abate the evil.

WHITE ZINC PAINT.

SIR,—In last week's number, July 10, in reply to a correspondent, you say—"As to zinc paint there are two opinions."

So there are two opinions as to Bank Stock. Those who invested in *Bank of England*, and those who invested in *Royal British*, have two opinions on *bad investments*.

But what zinc paints have been examined as the basis of these two opinions?

In Paris it is found necessary, for outside work, to mix a cask of white lead with a cask of white zinc.

The English manufacture bears exposure for years better without white lead than with it. It was used by one of our best London painters in 1853, on the Suspension-bridge across the Thames, and is still efficient.

Foreign zinc paint was used on the large ship in 1857, and was condemned the same year. "As to zinc paint there are two opinions" by the two officials or these works.

But what zinc paint has been supplied to our painters? Not merely the confessed adulterated numbers two and three qualities. One of our paint grinders bought an article under the name of *oxide of barium*: notwithstanding the new name, and the monstrous price of 20*l.* per ton, on examination it proved to be our old enemy *sulphate of baryles*, extra washed. This he used half-and-half with zinc, to form his improved zinc paint.

Let painters only get really good zinc paint, not the adulterated; but that which requires mixing with white lead; but genuine sterling white zinc, which not one in four of the painters have ever seen, and it will no more be said, "As to zinc paint there are two opinions."

Let our surveyors examine Charing-cross-bridge; let them have one of the links scrubbed, and judge for themselves, and they will form but one opinion as to sterling zinc paint.

THOS. HUBBUCK AND SON.

BARRACKS.

WORN out as this subject is, its importance in the continued persistence of old abuses may excuse some further allusions to the military quarters of the metropolis.

It is hard to say whether those allotted to the cavalry or infantry are worse; all are defective in three grand essentials,—commodious distribution and arrangement of the chambers, provision of lavatories and water-closets, and stability of structure. Knightsbridge, already treated of, although wholly deficient as to parade or exercise ground, is the most permanent. Albany-street, possessing a large barrack-yard, affording space for the inspection of 400 in close file, is wretchedly designed, badly built, and almost as unhealthy from inadequate ventilation as Knightsbridge. The latrines of both are disgraceful in condition, and insufficient for the number, and they are placed together in nooks at a distance, without reference to the convenience of the inmates.

It is strange that the arrangements of modern architecture should not be applied to barracks as to private mansions, and above all, that we should persevere in forming large low chambers for the aggregation of from fifteen to twenty soldiers in one room!—that the comfort, cleanliness, and health derived from closets on every floor should be denied to them; and that a good system of ventilation is in no instance to be met with in London quarters. Although buildings may be old, shaky, or inconvenient, still they are susceptible of improvement in these respects. But, in fact, all our old barracks seem to have been built only for temporary use, and to have been constructed from time to time as cantonments, or encampments for new levies.

In the present increased value of building grounds within a radius of seven miles from Charing-cross, all private dwellings are raised to the elevation of four stories, and a basement. Many in the City have six stories; and even in the aristocratic districts of Belgravia and New Kensington, private and noble mansions tower to this height. Economy of space demands it; for structures of double value cover but the same ground-rent; while, at the same time, the more elevated chambers are decidedly the most wholesome sleeping quarters.

fWhy should not barracks be constructed with re erence to the same rules of economy and health?

We find in Albany-street the stables occupying the ground floor, separated only by *lath and plaster ceilings* from the dormitories above: the consequence is, that the vapours permeate the whole structure, and that noise and vapours disturb the repose of the men,—not, perhaps, in so pernicious a degree as at the old Kensington Guard-house, exposed lately by the *Builder*. All the floors of every barrack ought to be of brick, or tile arch framework: this would secure the occupants of the upper portions against annoyances of the ear or the nose; and it would also, if the chambers were built of a proper height, not only increase the comfort, but guard the health of the soldier.

No more than eight men should sleep in any one chamber: the married men should always have apartments allotted to each couple; and the cooking, the association of the men, and their pastime or amusement, ought to be provided for by living apartments, reading-rooms, school, canteen, &c. arranged on the *first-floor* throughout.

By building five stories, or even six, instead of three, all these requisites might be obtained, and that without any sacrifice of money, if the plan at first selected and adopted were properly carried out.

At Charing-cross the Foot Guards sleep seventeen in one room, the chambers being 10 feet high; in Albany-street and Knightsbridge, fifteen—the chambers being only 8 feet! and in all the men have, at all times of the day, in all states of the weather, and in every *condition of health*, to walk some 100 to 300 yards to the latrines!

What necessity there may be, in times of peace, when not forced to bivouac, nor to work in the trenches, for soldiers to undergo these inconveniences, is best known to those in authority. The Commander-in-chief knows, and has proved, the metal, courage, and endurance of our household troops: the country knows and appreciates them, and no citizen will say that rational treatment, and indulgences such as are here recommended, are less required by the guardsman at home, because he has shown himself heedless of every trial and every danger when upon actual service.

The camp is made temporarily a stage of trial and field practice. The men are there exposed to a few discomforts, such as—according to the season—sun baking, blast chilling, and stinted hutting; but these are only for a season of drill; and the Emperor of the French, who fancies that sort of regimental amusement, wisely *restricts it to the summer season*.

There is, however, one remaining postulate, which is of the first importance in the construction of barracks, whether they be intended for infantry or cavalry,—and that is, a *parade* or *exercise-ground*: there is but one in all London which is decently provided in this respect,—the Wellington Barracks, Birdcage-walk.

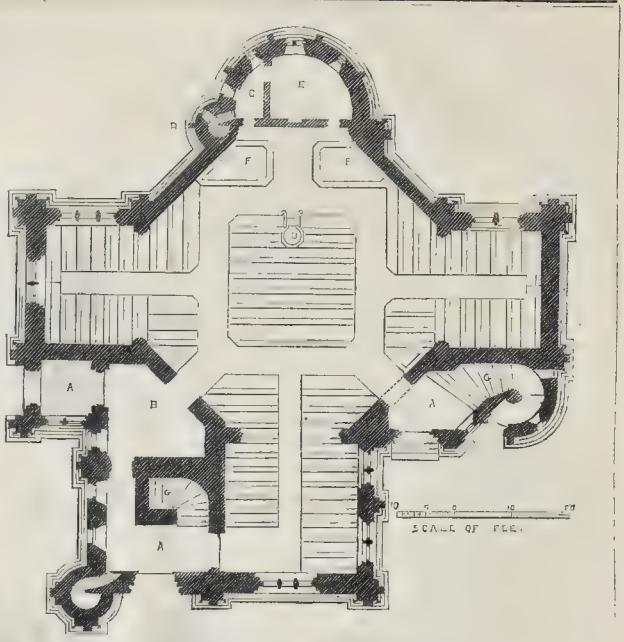
Kensington Barracks has barely space to muster its troops a-foot! Albany-street, only enough to inspect 400, in close order,—say about two and a half acres of yard.

What a deal of drill in Hyde-park might be saved if each location had only four acres of open space within its walls! for inspections, or platoon firing: that or Wormwood Scrubs, or Wimbledon, might still be resorted to; but the use of his arm should be taught the recruit in his own barrack-yard.

There has been great talk about improvement in barracks,—so there has been of the Thames, the sewers, and the smoke: things are long complained of before practical redress is arrived at. We are all nauseated, and almost sickened, with real bodily grievances: the Corporation meets, discusses, accuses, and litigates: the Commissioners of Health and of Sewers do likewise: the authorities are alarmed: Parliament and the judges immersed in the stagnant reek of pollution, discuss and condemn the evils; and yet nothing is done, save scattering a few cart-loads of lime to arrest putrefaction, and to increase the solid deposit of our uncommon river, but very common sewer: it is even so with the Barrack question.

There is an imperturbability in the English character that savours of obstination: we hold the handkerchief to our noses, we complain, but we endure what our forefathers have left of property or habit, we retain and practise.

CHERBOURG.—The magnificent dock, the climax of the works here, and which is to be inaugurated forthwith, is described as 400 mètres in length, 200 mètres in width; the height of the quay is 18 mètres, and the depth of water 9 mètres. It has been hollowed out, not merely of the rock, but of the granite itself, by a mining system not tried heretofore, or, at least, of which the prodigious results had not been tested. A statue of Napoleon I. will be inaugurated at the same time.



PLAN OF TRINITY COLLEGE CHURCH, EDINBURGH.

TRINITY COLLEGE CHURCH, EDINBURGH.

OUR readers are aware of the difference of opinion that has prevailed in Edinburgh for some time respecting the re-erection of Trinity College Church, taken down for the North British Railway. The sum of 17,671*l.* was paid by the company as compensation, and the stones were all marked and put away for re-use. A few months ago, that portion of the town council who were opposed to the restoration having prevailed, it was agreed to devote 7,000*l.* of this sum to the erection of a church for the parish without reference to the old structure, and designs were invited by advertisement. Fifty-eight were sent in from various parts of the kingdom, and from these three were selected,—one from Belfast, one from London, and the third from Southampton. That from Belfast, by Messrs. Lanyon and Lynn, was selected as No. 1, for execution, and this we have engraved, together with the plan of the building, which the following references will explain:—

A. Porches.
B. Vestibule.
C. Entrance for ministers and choir.
D. Pulpit.
E. Vestry.
F. Seats for minister and elders.
G. Stairs to galleries.
H. Stairs to choir, or singing-gallery over vestry.

It was proposed to have the whole of the interior finished with white Paisley fire-brick, with red brick patterns both walls and ceiling. The latter was to be groined, having stone ribs, with iron ribs on the main lines behind the stones, for the purpose of carrying roof timbers. The outside was to have been built in rubble, with stone dressings, the local stone, Binnie, being used.

Probably, however, the design will not be carried out, as the minority of the council, together with other of the citizens, considering that a question of honesty was involved, have subscribed to try the question whether the council are under a legal as well as moral obligation in the matter. The summons called upon the Court of Session to find and declare that the sum of 17,671*l.* obtained from the railway company by arbitration of the sheriff in 1848, with accruing interest, is held in trust for the purpose of building a new church within the parish, with equal convenience of access and accommodation to the old church, and on the same style and model, and that the defenders should be decerned and ordained to execute forthwith the purposes of the said trust.

TRINITY COLLEGE CHURCH, EDINBURGH.—MESSRS. LANYON AND LYNN, ARCHITECTS.

CHURCH-BUILDING NEWS.

Wisbech.—A new chapel of ease has been opened at Wisbech St. Mary. It is dedicated to "Corpus Christi," and stands near to the site of an ancient edifice which bore that title, and was demolished nearly two centuries ago. The new chapel is built in the Early English style, of bricks, with stone dressings, and is 45 feet in length and 23 in width, terminating in a semicircular apse. The architect is Mr. T. Jackson, of Bedford, and the cost of the building 600*l.*

Weethley.—The new church of St. James, erected at Weethley, in Worcestershire, by Mr. H. Miles, has been consecrated. The plan includes an apsidal chancel, nave, north porch (open timbered), a lean-to room on the south side of the nave, to be used as a school and vestry (underneath is the heating apparatus), and a bell turret, with shingled roof. The architect is Mr. Haycock, and the builder Mr. Mills, of Stratford-upon-Avon.

Llandwrog.—By the liberality of the Right Hon. Lord Newborough, of Glynllyfon, the parish church of Llandwrog, in the county of Carnarvon, is to be rebuilt. The following tenders for the works (exclusive of the internal fittings), have been received, viz.—Mr. Wm. Thomas, Carnarvon, 4,230*l.*; Mr. Richard Pavy, Menai-bridge, 4,196*l.*; and Mr. W. T. Rogers, Pen Pare, Beaumaris, 4,109*l.* This last was accepted, and the works have been commenced. The whole of the interior is to be lined with Bath stone. The plans, &c. were prepared by Mr. Henry Kennedy, of Bangor, architect.

Llanfair (near Harlech).—The parish church was reopened for Divine service on the 24th ult. after undergoing thorough repairs, which, during their progress, have been efficiently superintended by the Rev. J. C. Davies, the rector. The carving was executed by Mr. Rees Humphreys, joiner, of Llanfair; and the plans were prepared by Mr. Kennedy. There are some painted windows, with other appropriate ornaments. The dimensions of the church are, from north to south, 15 ft. 6 in.; and from east to west, 83 ft. 6 in.; internal dimension, divided into chancel, 27 ft. 3 in. by 15 ft. 6 in.; and nave, 56 ft. 3 in. by 15 ft. 6 in.

Melbourne.—A strenuous effort is at last being made to begin the restoration of the old church of Melbourne, in Derbyshire.

Rugby.—A window of stained glass, by Mr. Hardman, representing "The Good Centurion at the Foot of the Cross," has been placed in the chapel of Rugby School, to the memory of the thirty-three Rugbeians who fell in the Crimean war.

Sheffield.—St. Stephen's Church, Sheffield, has been consecrated by the Archbishop of York. It is situated in Fawcett-street, top of Bellfield-street, amongst the new streets which have lately sprung up in that locality. The church is in the Gothic style of architecture, of the geometrical period, and is in the form of a cross. A tower is placed at the intersection of the nave and the transepts, supported by four internal arches. There are no aisles, and the pews or stalls are ranged on each side of the nave and transept. There are three small galleries, one in each transept, and at the end of the nave. The chancel fittings are in carved oak, by Mr. Shaw, of Saddleworth. The roofs are of open timber, which, as well as the stalls and galleries, are stained oak and varnished. There is a vestry on the south side of the chancel, and also a small organ chapel opening into the chancel and transept by an arch. The whole fabric, with its organ (by Mr. Jones) and internal fittings, has cost about 4,500*l.* In addition to providing the fabric, Mr. H. Wilson, of Westbrook, has purchased the ground-rents of the whole of the houses in Fawcett-street, and endowed the church with them, the entire of which will amount to 180*l.* a year. The architect was Mr. Flockton, and the builders were Messrs. Dutton and Heald.

Eastwood.—The Bishop of Lincoln has consecrated the new church of Eastwood. It is built upon the site of a small brick building, erected in 1787, and enlarged in 1826. The style is that which prevailed from 1307 to 1370, and the edifice consists of a nave, 72 feet 6 inches by 24 feet 6 inches; north and south aisles, 72 feet 6 inches by 13 feet 3 inches; chancel, 31 feet 6 inches by 24 feet 6 inches; small chapel at the end of north aisle (in which it is intended to place the organ), 16 feet by 13 feet; with a small vestry under the same roof. The extreme length, internally, from east to west, is 123 feet, and the breadth, 55 feet 6 inches. The roofs are all open to the timbers, which are supported upon stone corbels, and the spandrils of trusses filled in with tracery. The height of the nave is 45 feet 6 inches from floor to ridge. The tower is at the west end: it is 21 feet square externally, with a turret stair, 111 feet in height, and furnished with a peal of six steel bells (one-third the cost of bronze, it is said) from Messrs. Naylor, Vickars, and Co. of Sheffield. The tower arch, which is 25 feet high, affords a view of the west window. The tracery of the windows in the aisles and clerestory is of a plainer character than that of the five-light window in the chancel. From the nave, the chancel is separated by an arch 31 feet high, springing from clustered columns, and each aisle by five arches, supported upon octagonal piers. There are two porches. The whole is built of stone from the quarries at Cromford, with Sydnope stone dressings. The architect was Mr. R. Barber, of Eastwood; and Mr. John Fisher, of Nottingham, the builder.

Theddingworth.—The parish church of Theddingworth has been reopened, after being repaired and restored. The roofs have been renewed, as well as the interior. In the chancel, and between that and the Othorpe chapelry, or extension of the north nave (which is divided from the church by a screen), there is an Anglo-Norman arch, which has been restored as much as possible. There is a new east window of stained glass, by Clayton and Bell, of London, representing the Saviour with the crook, and a lamb in His arms. On either side are the Apostles, and other figures, of which there are many in the window. The floor, within the communion rails, is of Minton's encaustic tiles, as well as the floor of the aisle. The floor of both chancel and church was designed by the Rev. Lord Alwyne Compton. The chancel is filled with Gothic stalls, and is divided from the church by a screen of oak, in the same style as the stalls. The pulpit is of alabaster, inlaid with Mosaic work. The seats of the church are open, and of oak. The roof of each nave is of oak,—that of the aisle, of deal, stained. The whole is open. The arch dividing the chancel from the church has been restored. A gallery at the west end has been removed, the arch at that end restored, and the belfry thrown open. The alterations, according to the *Northampton Herald*, from which we quote, will cost about 2,000*l.* and have been carried out under the direction of Mr. Scott. Mr. Ruddle, of Peterborough, was the contractor, and Mr. G. Clark, clerk of the works. Mr. R. Walpole, of Market Harborough, was the contractor for the stonework, roofing, &c.

Alderbury.—The new church here was consecrated on the 24th June. The edifice has been erected on the old site. It is built of flints, with free-stone dressings. The style of architecture is the Early Decorated. The building consists of a chancel and side-aisle; a nave and north aisle; north and south transepts; a tower at the north-western end, surmounted by a shingle spire, rising from the apices of four cardinal gables. The windows of the chancel are lancet in form, filled with light Decorated tracery, and the east window has three lights. The windows of the south side of the nave are of two lights, divided by a centre mullion. On the north side of the church the windows are rather late in style. The roof is of open timber work, the seats of stained wood, and the paving of Staffordshire tiles. The arches of the nave and archivolts of the doors and windows are ornamented with coloured brick arches, of yellow, black, and red. The large window in the Clarendon transept is filled with stained glass, by Clayton and Bell, of London. It consists of three lights, representing "Moses uplifting the Brazen Serpent in the Wilderness." There is another stained-glass window on the south side of the church, the subjects of which are "The Centurion" and "Christ Blessing Children." The erection of the edifice will cost 2,800*l.* a large proportion of which is borne by the vicar. The chancel was erected at the sole cost of Viscount Folkestone. The designs were furnished by Mr. Teulon; and the contract was executed by Messrs. Mills, of Egham, Surrey. The church will seat 475 persons.

Birkenhead.—The new Congregational Church, erected on the Oxton-road, Birkenhead, has been opened. The church is built of white Stourton stone. The outside length of the building is 94 feet, the width 47 feet: inside, the length is 87 feet, and the width 47 feet. The chancel is 12 feet deep, and is separated from the nave by three arches, the centre one being 35 feet high and 19 feet in the span. The glass in the windows is of the green cathedral kind, with an edging an inch wide around, the tracery, mullions, and jambs being of ruby, purple, or yellow. The steeple, which will not be completed for some time, will be at the east front. The tower, including pinnacles, will be 120 feet high: with the spire, the total height will be 200 feet. The church will accommodate 500 persons on the ground-floor, allowing 19 inches by 34 inches for each person, and 100 in the gallery. A lecture or school-room is provided beneath the church, 42 feet by 40 feet, and 13 feet high. The cost of the entire building will be about 5,000*l.* The architect was Mr. W. Cole, of Birkenhead; and the contractor for the stonework was Mr R. Routledge, of Tranmere; but, in consequence of that gentleman becoming embarrassed in business, the committee had to complete that portion of the work themselves, by which they sustained a loss of 500*l.* Mr. J. Hughes, of Liverpool, was the contractor for the joiners' work. Mr. Potter completed the slating and plastering; and Mr. Thomas Cunningham was the contractor for the plumbing, painting, and the tinted rolled cathedral glass windows. The east window has been filled in with ornamental stained lass, by Messrs. Forrest and Bromley, from the design of Mr. F. Howard.

COMPETITIONS.

Cuckfield, Sussex.—At a meeting of the Guardians at the Union Workhouse, on Friday, the 9th inst. the Board took into consideration the competition designs (eight in number) for the proposed new chapel, and adopted that sent in by Mr. G. W. Booth, of Gosport. The tender of Messrs. P. Ayers and Co. was also, at the same time, accepted, for the erection and completion of the building. The new building is designed to accommodate 120 adults and twenty-eight children, and is to be of red brick, with sandstone dressings and copings. The roof is to be covered with slates. The interior of the chapel will measure 33 feet by 21 feet 6 inches, exclusive of the chancel, 12 feet 6 inches by 10 feet. The passages and chancel are to be paved with red and black tiles, laid ornamentally, and the floor under the seats is to be boarded. The whole of the timber of the roof, &c. will be exposed to view, and will be stained and varnished. Divine service is now held in the large dining-hall of the Union. The new chapel will, therefore, be an addition of considerable advantage, both to the clergyman and to the congregation.

Nottingham.—Some time ago Messrs. Wright and Co. bankers, of this town, felt themselves under the necessity of increasing their bank accommodation. They accordingly invited architects to compete in producing the best plan on which their increased requirements might be met. Twenty-five competitors entered the lists, and on the 28th ult. Messrs. Wright issued a circular announcing their selection. Two of the plans, those of Messrs. Walker, of Nottingham, and Mr. C. H. Edwards, of London, are pronounced superior to the rest; but Messrs. Wright experienced great difficulty in determining which was the best. Under the circumstances, therefore, they awarded a premium of 20*l.* to each. The same difficulty was experienced with regard to the next best two, and on the same principle a second premium of 10*l.* was awarded to Messrs. Jackson and Heazel, of Nottingham, and to Mr. S. Peyton, of London.

Ellesmere Memorial.—Some of my fellow competitors for the Earl of Ellesmere's memorial urge me to write you relative to the strange delay, by the committee, in deciding upon our designs. Can you throw any light upon this subject?—for all the information we have been able to glean since we sent in our models, &c. (in April) is from an advertisement in your journal, stating it to be the committee's intention to exhibit them publicly in a short time in Manchester. Being in Manchester about six weeks after sending in my models, I applied at the Bridgewater offices for permission to see them, so as to ascertain if my own had arrived safely. In reply, I was told no such view could be granted, as not all the models were yet unpacked, and the committee had, therefore, made no selection. Will you also permit me to hint at the benefit accruing to competitors from the committee publishing a list of mottoes of designs received. It would set many anxieties as to safe arrival at rest, and at least assure us that our designs were *in competition*, and not still in their cases.

A COMPETITOR.

Sardinian Prisons.—Sir: I take an early opportunity of satisfying "A Competitor's" curiosity as regards any connection which may exist between myself and Mr. Barber, Vice-Consul at Turin. I beg to inform "A Competitor" that I have not even the honour of Mr. Barber's acquaintance.

W. SWINDEN BARBER.

Another correspondent on the same says,—As one of the readers of your paper, I can inform "A Competitor" that the names you have published as premiated are correct, or rather were at the

time you published them; whether they have been altered since I have not heard. And I can also state that a list will be published of several in the order of merit besides the premiated ones.—A. B.

PROVINCIAL NEWS.

Reading.—The borough surveyor, Mr. Woodman, has prepared plans for the new police-court and premises proposed to be erected on the site of High Bridge House. According to the plans, which have been exhibited at the *Reading Mercury* office, this improvement, it is said, could be carried out at a cost within that already sanctioned by the council.

Newbury.—A meeting has been held here to consider a scheme for the erection of a new bathing-house. An estimate of the probable cost, prepared by Mr. Wooldridge, of Hungerford, was approved of. The estimate is about 200*l.* to be raised in forty shares at 5*l.* each. The site selected is near Northcroft-lane. More than half the shares were at once taken.

Reigate.—The waterworks are now nearly completed.

Cowes.—It is in contemplation to run a bridge across the mouth of the Medina river, in the Isle of Wight, to connect East Cowes, where her Majesty resides, and West Cowes.

Bristol.—The Old Bank, in Corn-street, Bristol, is at present undergoing repairs and improvements; and, amongst other works, the proprietors have extended their premises subterraneously into the ancient crypt of the long-since removed church of St. Leonard, which (with a city gate under the tower, after the fashion of Saint John the Baptist) crossed the great central thoroughfare near the junction of Stephen-street and Nicholas-street. This cavernous apartment the bank is about to convert,—having cased and strengthened it,—into strong rooms for "buried treasures."

Taunton.—At the Somersetshire Sessions, the report of the Shire-hall Committee was presented It stated that the new county buildings were nearly completed; and the committee had prepared the accounts with the assistance of Mr. Carver. The original estimate was 16,000*l.*; extras sanctioned by orders of court, 3,434*l.*: total, 19,434*l.* To that must be added numerous other items incurred during the progress of the works, amounting to 787*l.* They recommended the court to order the payment of 583*l.* for these items, except a bill of 204*l.* in excess of the sum already voted in connection with the heating and ventilating apparatus. The total cost up to the present time would thus be 20,167*l.* The committee recommended payment of 1,300*l.* in part discharge of the balance due to the contractor. It was stated that, in round numbers, reckoning the furniture to cost 2,500*l.* and the land a similar sum, the architect's commission, &c. the cost might be put down at less than 27,000*l.* The original estimate was 16,000*l.*; but it was stated, in justice to Mr. Carver, the late county surveyor, that when Mr. Moffatt's plan was first placed in his hands, he told the committee he (Mr. Carver) was quite satisfied it could not be carried out for little short of 20,000*l.* It was agreed that Mr. Moffatt should receive five per cent. on the original estimate, and 50*l.* for journeys. The court granted 160*l.* for a record-room; and 100*l.* as in the estimate laid before the court. The vote of 1,300*l.* to the contractor was also agreed to.

Cardigan.—The foundation-stone of the new market and public buildings about to be erected from designs by Mr. Withers, was laid by the mayor on the 8th inst. the day being observed as a holiday. The new market will be a great boon to those frequenting it, as it is now held in the open streets.

Birmingham.—The committees for superintending the decorations of the streets on the Queen's visit, have determined to appropriate a surplus of 31*l.* towards the erection of a drinking fountain in Ann-street.

Burton-upon-Trent.—Messrs. Allsopp and Son are about to erect at Burton-upon-Trent the largest brewery, it is said, in the world. The tenders sent in were as follow:—

Holland, London	£97,914
Myers, ditto	96,813
Kelk, ditto	94,193
Jay, ditto	93,753
Cubitt and Co. ditto	92,520
Lucas, Brothers, ditto	90,944
Kirk and Parry, Sleaford	87,631
Lee and Son, London	86,100
Briggs, Birmingham	83,705
Baker and Son, London	83,100

The lowest tender, that of Messrs. Baker and Son, was accepted. Messrs. Ward, of Leicester, sent a tender, 81,447*l.* too late. The architects are Messrs. Hunt and Stephenson, of Westminster; the engineer is Mr. Davison.

Whitby.—The brethren of the Lion Lodge of Freemasons have made arrangements for the erection of a new Freemasons' Hall on the West Cliff, the foundation-stone of which will be laid on the 8th of September next, by the Earl of Zetland. The estimated cost of the building is 800*l.* which was raised in 5*l.* shares. Mr. John Dobson, of Newcastle, is the architect, and Mr. William Falkingbridge, of this place, the builder. It will be a stone building.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE fifteenth annual meeting will be held at Salisbury, from August 2nd to 7th inclusive. The proceedings already shadowed forth are as follow:—

Monday, August 2.—Reception of members and visitors. General meeting at two, P.M. The chair to be taken by the Marquis of Ailesbury, president. Paper on the Antiquities of Wiltshire, in reference to those selected for examination during the congress, by Mr. T. J. Pettigrew. Examination of the Hall of John Halle. Poultry Cross. The Churches of St. Thomas and St. Edmund. Porch at Mr. Wyndham's. St. Martin's Workhouse. George Inn Holstelry. Ancient Timber Houses, &c. Table d'Hôte at the White Hart, half-past six, A.M. Evening meetings at the Council Chamber, half-past eight, P.M. Mr. Planché on the Earls of Wiltshire. Mr. Black's examination of the Corporation Records.

Tuesday.—Visit to Old Sarum, under the guidance of Mr. H. J. F. Swayne, at ten, A.M. Mr. George Vere Irving's Discourse on the Earthworks, &c. Meeting in the Close at one, P.M. Mr. Davis's Discourse on the Cathedral. Chapter House. Service at the cathedral at three, P.M.; after which Mr. Planché's Discourse on the Monumental Sculpture; Visit to King's School, &c. Table d'Hôte at the White Hart, at half-past six, P.M. *Conversazione*, at half-past eight, P.M. at the Bishop's Palace.

Wednesday.—Examination of Muniments and the Library of the Cathedral, by Mr. Black, at ten, A.M. Excursion to Wilton House, at eleven, A.M. Examination of the Church. Description of, by Mr. Godwin. Visit to Bemerton Church. Ordinary at half-past six, P.M. Evening meeting at the Council Chamber. Reading of papers and discussion.

Thursday.—Visit to Burcombe Church, at ten A.M. Wardour Castle and House. Tisbury Church. Place House. Table d'Hôte, at half-six, P.M. *Conversazione* at the Deanery, at half-past eight, P.M.

Friday.—Excursion to Durnford Church at ten A.M. Stonehenge. Lake House. Amesbury. Table d'Hôte, at half-past six, P.M. Evening meeting at the Council Chamber. Mayor's *Conversazione*. Reports, &c.; and,

Saturday.—Closing meeting, at ten, A.M. St. Nicholas Hospital. Britford Church. Mote at Downton, and Clarendon.

The Wiltshire Archæological Society have resolved, "that the next general meeting, appointed to be held in Marlborough in August, should be postponed until the year 1859, in consequence of the intended meetings of the Archæological Institute at Bath in July, and of the British Archæological Association at Salisbury in August; a communication having been also received from the Marquis of Ailesbury that he has engaged to preside at the Salisbury meeting."

ARCHÆOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.

THE annual meeting of this body will be held at Bath, July 20 to 27. The programme of proceedings will comprise:—

Tuesday, July 20.—Opening meeting at the Guildhall, at one o'clock: the Museum of the Institute will be at the Assembly Rooms. Visits to objects of interest in Bath and the immediate vicinity. Evening meeting at eight o'clock.

Wednesday.—Meetings of Sections of History, Architecture, and Antiquities, at the Assembly Rooms. Visits to Hampton-down and Prior-park. The annual banquet of the Institute.

Thursday.—Excursion to Glastonbury. Evening meeting at the Assembly Rooms.

Friday.—Meeting of Sections of History, Architecture, and Antiquities, at the Assembly Rooms. Evening meeting.

Saturday.—Excursion to Castle Combe and Malmesbury, &c.

Monday.—Excursion: English Combe, Stanton Bury, Stanton Drew, Newton St. Loe. Evening meeting.

Tuesday.—Annual meeting of members for business of the Society, and general concluding meeting.

SPONTANEOUS COMBUSTION.

ASPHALTED FELT.

WE have at different times brought together incidents illustrating the fact that spontaneous combustion is a more general occurrence than some suppose. We hear that lately there was a fire in the yard of Messrs. Colls and Co. the contractors, originating from the spontaneous combustion of a crate of asphalted felt. It was put out without much trouble, and the felt was shifted to a part of the yard where it could do no damage if it ignited again. On Saturday morning last we hear it was found to be again on fire. This mention of the occurrence may serve to prevent disaster elsewhere.

DECISIONS UNDER METROPOLITAN BUILDINGS ACT.

WHAT IS "A BUILDING?"

AT Southwark Police Court, Mr. Thomas Norris, a photographic artist, was summoned before Mr. Combe by Mr. Hesketh, the district surveyor, for having a building constructed contrary to the Act of Parliament, the walls not being built of brick or other incombustible material.

It appeared from the evidence of Mr. Hesketh and his witnesses, that Mr. Norris occupied 23, Bermondsey New-road, and in the front garden he had erected a glass outhouse or shed, 14 feet by 9 feet, and 10 feet high, where he and his assistants took portraits. No fire was kept in this place, but Mr. Hesketh considered it a building within the meaning of the Act, and required his worship to make an order on Mr. Norris to pull it down and rebuild it with bricks or other incombustible material.

Mr. Combe proceeded to view the premises, and on his return to the police-court, said he did not think it could be called a building within the meaning of that Act. This place was composed of glass and wood. It was movable and not fixed in the ground, and there was no business carried on inside that placed the adjacent premises in jeopardy from fire. Under these circumstances he should dismiss the summons.

Mr. Edwin on part of defendant applied for costs, but Mr. Combe refused them, as the case turned on a point of law which it was of some importance to settle.

MEDALS AND PREMIUMS OF INSTITUTION OF CIVIL ENGINEERS.

THE Council of the Institution of Civil Engineers have just awarded the following premiums for papers read at the meetings during the past session:—

1. A Telford Medal, to J. A. Longridge, and a Council Premium of Books, to C. H. Brooks, for their paper "On Submerging Telegraphic Cables."

2. A Telford Medal, to G. Robertson, for his "Investigation into the Theory and Practice of Hydraulic Mortar."

3. A Telford Medal, to J. Henderson, for his paper "On the Methods generally employed in Cornwall, in dressing Tin and Copper Ores."

4. A Telford Medal, to R. Jacomb Hood, for his paper "On the Arrangement and Construction of Railway Stations."

5. A Telford Medal, to Major-General G. B. Tremenheere, for his paper "On Public Works in the Bengal Presidency."

6. A Telford Medal, to Alfred Giles, for his paper "On the Construction of the Southampton Docks."

7. A Watt Medal, and the Manby Premium, to G. Lindsay Molesworth, for his paper "On the Conversion of Wood by Machinery."

8. A Watt Medal, to T. Spencer Sawyer, for his paper "On the Principal Self-acting and other Tools employed in the Manufacture of Engines, Steam-boilers, &c."

9. A Council Premium of Books to F. C. Webb, for his paper "On the Practical Operations connected with Paying-out and Repairing Submarine Telegraph Cables."

10. A Council Premium of Books to H. Conybeare, for his "Description of Works recently executed for the Water Supply of Bombay."

11. A Council Premium of Books to S. A. Varley, for his paper "On the Qualifications requi-

site in a Submarine Cable, for most efficiently transmitting Messages between distant Stations."

12. A Council Premium of Books to R. C. Despard, for his "Description of Improvements on the Second Division of the River Lea."

13. A Council Premium of Books to A. Wright, for his paper "On Lighting Mines by Gas."

14. A Council Premium of Books to J. Brunlees, for his "Description of the Iron Viaducts erected across the Estuaries Leven and Kent, in Morecambe Bay."

Two of these awards, the Watt Medal and the Manby Premium, are now presented for the first time. The former originated with the Council, who were desirous of possessing some distinctive means of rewarding excellence in communications upon mechanical subjects. The Manby Premium is due to the liberality of Mr. Charles Manby, who, it will be recollected, on receiving a testimonial from the members of the Institution, requested that the Council would receive debenture stock of the value of 200*l.* bearing five per cent. interest, to be expended in an annual premium.

MUSIC AND THE STAGE.

Royal Italian Opera House. — The course here has been a very triumphant one. Grisi, Mario, Bosio, Ronconi, Didiée, and Graziani, have maintained their reputation, and have rendered in the most perfect manner a number of those operas in which their fame is wide. For "Lucretia Borgia," Messrs. Grieve and Telbin painted some good Italian scenery, all the better for having their hands in, in consequence of the preparation of "The Merchant of Venice," for the Princess's. For the other operas, Mr. Beverley has shown his skill. The novelty of the season, "Martha," by Flotow, gains in popularity, rendered as it is by consummate artists. The "Spinning Quartette," and Bosio's "Last Rose of Summer," "*Qui Sola, vergin rosa,*" are things not to be forgotten. For the last act there is an excellent set scene of a forest.

Haymarket Theatre. — Mr. Buckstone has closed an extraordinary season of five years for the purpose of repairing and decorating the house. Mr. Buckstone deserves well of the public for the manner in which his theatre is conducted, and his unremitting efforts to provide good entertainment; and if we may judge from his closing speech, he is not dissatisfied with the return he has experienced. We print a letter from a correspondent, on a subject which should have his attention, if he is about to make any alterations in the house.

THE ENTRANCE TO THE HAYMARKET THEATRE.

SIR,—As you occasionally offer strictures on theatrical architecture in your valuable journal, I take the liberty of calling to your attention the very faulty, if not dangerous, construction of the entrance leading to the pit of the Theatre Royal, Haymarket.

The pay-office is situated on the left-hand side immediately on passing through the pit door; and directly in front of the paying-place is a very steep flight of, I think, eight stone steps, descending into the lobby of the pit. When there is a great crowd, as was the case on Saturday last, the 10th July, on occasion of Mr. Buckstone's benefit, the inconvenience, I may safely add the danger, is considerable. On the occasion in question, I was driven by the pressure of the crowd completely past the paying-place, and almost headlong down the steep flight of steps, having the greatest difficulty to keep myself from falling: had I unfortunately lost my balance in coming down, I should, probably, not have survived to write this.

I believe there has been very little improvement effected in the pit-entrance since the days of the old theatre, regarding which, the *Morning Chronicle* of the 4th of February, 1794, says:—"In nothing was the house more disadvantageously constructed than in the entrances:" and a sad event is recorded as arising from this cause, which is thus mentioned by Brayley in his "Descriptive Accounts of the Theatres of London:"—

"A melancholy accident occurred on the occasion of a royal visit, on the 3rd of February, 1794, when fifteen persons lost their lives (being trampled upon and suffocated) in consequence of the rushing of the crowd to the pit-entrance, which was by a descent of several steps: many others were severely injured."

I must not take up your space with a longer extract, but those who are curious in such matters will find full details of this dreadful accident in the "Annual Register" for 1794, and in the *Morning Chronicle* of the 4th of February, 1794; and on the following day, in some comment on the melancholy event, by which "fifteen persons thus suddenly lost their lives," the editor remarks, "All descents are inconvenient, particularly in the approaches, and ought to be removed at any expense." This, perhaps, in the present instance, cannot be done; but surely something may be effected to improve the entrance.

Writing to a professional journal, it may seem presumptuous to offer any suggestions; but I confess it has occurred to me that if the present position of the pay-office (than which nothing can be worse) cannot be altered, greater security to the public would be afforded by putting a strong iron rail down the centre of the descending stairs, and by having two small turnstiles or revolving frames on each side of the rail, by which, after paying their admission, persons could pass through on either side of the rail, to the right and left entrances into the pit from the lobby. Nothing could exceed the attention and activity of the police on the night I have mentioned; and I am certain they would materially aid in directing the crowd to the right and left, so that the pressure on either side would be alleviated. I feel confident that, in its present state, the pit entrance cannot be considered safe; and that, as the theatre is now closed for the purpose of embellishment, a more favourable time to make some necessary alterations cannot be found.

The accident alluded to appears to have occasioned a great sensation in town, and probably, for a time, acted unfavourably to the interests of the theatre; for, on the following day, the proprietors issued an advertisement in the daily papers, of which the following is an extract:—

"Theatre Royal, Haymarket, 5th February, 1794.—To prevent all possibility of such an event occurring again, a bar will be fixed at the head of the stairs, and a servant appointed to attend, that persons may not press down them in crowds, but be regularly and gradually admitted with safety and convenience."

In conclusion, I hope nothing I have stated will be considered as casting any reflection on the present worthy lessee, who, I am sure, exerts himself to the utmost to promote the comfort and convenience of the parties frequenting his theatre. Indeed, there is no other theatre where one of our genuine good old comedies is so admirably represented and so handsomely put on the stage; but this very circumstance, and the well-deserved popularity of the lessee, are likely to attract crowded houses; and I am sure he will thank me for bringing to his notice a defect that is not only felt at all times, but will be more particularly so during the winter months, when, from damp and wet weather, the stairs will often be slippery, and thus increase the risk of accident. G. W.

THE IRON TRADE.

THE quarterly masters have been unable to sustain previous prices, notwithstanding their unwillingness to reduce the nominal prices of the previous quarter, as will appear from the following quotation from a Birmingham authority in the trade:—"The principal meeting took place on Thursday, in the Town-hall, Birmingham, when the attendance was much larger than at Wolverhampton. Many gentlemen were present from London, Liverpool, Hull, and other towns; but they held back from purchasing, under the impression that a reduction of 10s. per ton would be declared. Such, however, was not the case, although it was generally understood in the Hall that, with the exception of a few houses engaged in making best brands, nearly the whole of the masters were favourable to a reduction, not because the current rates were more than remunerative, but because the underselling had become so extensive as to render a change necessary in their own defence. The building trade was stated to be generally bad throughout the country, and to this cause may be attributed, in a great measure, the inactive state of the home market. Nor were the American merchants able to give a better account of the trade from the United States, and many of them urged the necessity of a reduction. So strongly, we believe, was the desirability of this course impressed upon the ironmasters, that although no formal declaration of a reduction was made, it was generally understood that circulars would be issued to the American houses, announcing a fall of 10s. per ton. It was stated in the Hall that Shropshire bars of good quality can be obtained from 7*l.* 2s. 6d. and 7*l.* 5s. per ton. Such, however, is the depressed state of the trade, that even lower prices have been accepted, and if some statements of purchasers are to be relied upon, good bars have been recently bought at 6*l.* 10s. per ton. As a consequence of this unfavourable state of things, very many of the works in the district are nearly standing still, and a great number of men are either entirely unemployed, or are working on very short time." It thus appears that what is absurdly called "underselling," is not only the rule, with "few" exceptions, even amongst the supporters of the quarterly meetings, but that *it*, in truth, is the only right and proper criterion for the announcement of the average or market prices. Why should "a few" houses have the power to dictate prices to the whole trade, and all else be stigmatized as "needy" undersellers?

SCHOOL-BUILDING NEWS.

Neath.—The inauguration of Alderman Davis's schools for the education of the working-classes took place, with great state and ceremonial, on the 5th instant. The site is in Orchard-street, and comprises about an acre of ground. The building is Early English Gothic. Mr E. Moxham, C.E. was the architect. It is of native stone, with Bath stone dressings, and covered with variegated tiles. The centre of the building forms the boys' school, and the wings the girls' and infants' school, each affording accommodation for 200 children. The total cost is 2,200*l.*

Wells.—The building of the new Central Schools for Wells and neighbourhood has been commenced by Mr. Bevan, the contractor. The Privy Council have promised a grant of 1,400*l.* on completion. The plans have been designed by the Government architect, Mr. Hawkins, and are on the same large scale as at first proposed. The buildings are to be roofed in by next December, and fit for use by March, 1859. Mr. Hippisley has been appointed by the committee to superintend the work.

Hanley.—The corner-stone of the National Schools now being erected at Northwood, a populous and rapidly increasing suburb of Hanley, has been laid. The building will consist of two school-rooms, 44 feet long by 18 feet wide each, to accommodate 100 scholars of each sex, with a class-room behind, 24 feet by 17 feet, to accommodate fifty children, and so constructed as to serve for the present Infants' School until the new Infants' School, for which space is provided on the ground, shall be erected. The master's house, which will be detached, will be in a side street, to be formed in a line with the churchyard wall into Keeling's-lane. Between the schools and the house, but attached to and forming part of the former, will ultimately be built the Infants' School, for which funds are at present wanting. The style of the buildings will be Early English, in keeping with the church, from which they are not far distant. The materials will be bricks in ornamented bands and diamond patterns, relieved by stone in the windows, gables, &c. Owing to the peculiar shape of the land the effect of the entrances will be peculiar, and the whole, though simple on account of the limited means at command, will be varied by gables, dormer windows, bell turret, &c.

Bishop Auckland.—The foundation-stone of new Wesleyan Day Schools has been laid at Bishop Auckland. The site is in Russell-street, adjoining Etherley-lane. The building was designed by Mr. W. Botterell, of Hull, architect. It will be in the Early English style, the stone being obtained from neighbouring quarries; and the walls will be in courses, presenting the face obtained by natural cleavage, with chiselled dressings to the quoins, &c. of stone of a light colour, producing a contrast. The entrance to the school will be by a projecting porch, facing Russell-street. The roofs will be high-pitched, covered with slates. Ventilation will be secured by a turret in the roof and apertures in the gables. The school will accommodate about 200 children. The walls will be 12 feet high, and all the woodwork is to be of deal, stained in imitation of oak, and varnished. There will also be a teacher's residence in connection with the school, and a playground. The contracts are let to Mr. John Watson and Messrs. Braithwaite, builders, Bishop Auckland.

Bradford.—St. Andrew's Church Schools have been completed and opened. The style of architecture corresponds with that of the adjoining church, which is the Decorated of about the time of Edward III. They are built from the designs of Messrs. Mallinson and Healey, and afford accommodation for 600 children and infants. There are three separate schools, with a class-room to each, and they are so arranged that the whole three may be formed into one large school-room. There are also two residences included in the group of buildings, one for the schoolmaster, and the other for the schoolmistress. The cost of the schools will be 2,700*l.*

THE SEPOMETER,—A TEST OF PURITY IN AIR.

DR. R. ANGUS SMITH announces a discovery which, if there be no fallacy in it, cannot but be of immense importance to the community as a guide to the comparative healthfulness of towns, districts, and dwellings. Heretofore, we have been dependent chiefly on the lists of mortality in all cases where the mere sense of smell or sight was not sufficient to indicate the unhealthiness of a locality; but by means of Dr. Smith's meter or test, the precise degree of organic and putrescible impregnation which contaminates the atmosphere of a town, a district, a dwelling, or its precincts and apartments, at any one time, or at all times, can now be ascertained to a degree of nicety which, if not fallacious, is both surprising and most satisfactory. Just as the thermometer indicates the precise degree of heat in any spot, so, it appears, does the sepometer, as Dr. Smith calls it, indicate the precise degree of organic putrescible and oxidizable matter with which the air in any spot may be infected or contaminated. From a number of experiments he finds that the air in places at Manchester is no less than twenty-two degrees or times less pure than that of the Lancashire hills. He has even ascertained to a nicety that the air in front of a house is generally, to a certain extent, more pure than that behind; that as he retreated countrywards from the centre of a town, the sepometer indicated a certain gradual diminution of impurity, except in such cases as those in which an infected streamlet or open sewer crossed his path; and so on. Of course the instrument or agent in question indicates degrees of impurity far beyond the reach of (human) nature's own sepometer, the nose—the sense of smell.

It is by chemical reaction that the sepometer works. The chemical agency employed is permanganate of potash or soda. Manganesium is a metalloid which naturally covers itself with unusually numerous coatings, or dozes, of oxygen, the overcoats, as it were, being very loosely attached, —the uppermost of these so much so, that it constitutes an acid quite ready to give off oxygen and so to oxidize with great delicacy organic and purtrescible taints in the adjoining air. So soon as it does so, the acid of course ceases to exist as such, and hence the salt or permanganate itself is also destroyed; and the extent or degree of this change is the obvious measure of the amount of the impurity in the air which has been oxidized by its means.

One cannot but see that it will require very close consideration and extensive experiment in order fully to obviate and satisfy all risks of fallacy or mistake as to the exclusive action of the sepometer as a test for organic and putrescible contaminations of the air alone; but the discovery already promises well, and Dr. Smith is himself a very reliable authority on the subject, however enthusiastic he may be in favour of his own discovery.

There is a subject connected with it, however, which seems scarcely so clear or understandable. Dr. Smith, in course of his researches, is said to have ascertained that blood is also a test of the purity of air; that blood is reddened more rapidly by the air of a great manufacturing city, such as Manchester, than by ordinary air, and also by a small quantity of such air. He speculates on this result, it seems, by maintaining that the air of such a city is more oxidizing to the blood than country air, from the acids with which it is impregnated. But, if this be so, how does it accord with the action of his sepometer, which seems to show that there is a deficiency of oxidating agency in the Manchester air compared with that of the country? for be it noted that his sepometer is presumed to act by oxidizing the still unoxidized and hence undestroyed organic and putrescible impurity in the Manchester or town air. True, permanganate of potash may be more highly capable of oxidizing that subtle aerial impurity than the blood-oxidizing acid vapours with which this very air is impregnated; but there are, at least here, something like difficulties to be cleared up and possible fallacies to be guarded against. And, moreover, it comes to be an important question *how far* such acid agency in the air of certain towns or districts may not be in itself healthful,* since it is plainly possible that it oxidizes not only the human blood there, but, to a certain extent, the organic and putrescible impurities with which the air containing the acid vapour is also contaminated; and, since it converts dark blood into red, that is in fact an invigorating operation,—so much so, indeed, that Dr. Smith himself ascribes to it, and to the rapid circulation which it produces in the blood course (otherwise, perhaps, too languid, in the typhus districts, at least, of towns), "that greater tear and wear of life which is so conspicuous in cities like Manchester."

Altogether this is a most important and interesting subject which Dr. Angus Smith has started.

* These very acid vapors (of sulphur chiefly), are used as disinfectants, and must, therefore, be essentially wholesome and purifying to the air, unless in excess either in degree or in continuance.

Books Received.

Memoir and Letters of the late Thomas Seddon, Artist. By his Brother. London: Nisbet and Co. 1858.

A VERY touching and interesting record is this, of a valuable life that was too short. Mr. Thomas Seddon was the son of Mr. George Seddon, the proprietor of a well-known cabinet manufactory, and for a time was with his father in the business. Although repugnant to his views, for he desired to become a painter, he threw himself into it heart and soul, and in 1848 obtained from the Society of Arts a silver medal and 20*l.* for a design for an ornamental sideboard. The daytime was passed in business, but the evenings he gave to the pursuit of his cherished object. In 1850 he exerted himself for the establishment of a school of art for workmen, in which he was warmly supported, as the memoir shows, by Mr. Donaldson, Mr. S. C. Hall, the Conductor of this journal, Mr. Cave Thomas, Mr. Neville Warren, and others, and in his efforts to arrange an exhibition of works of art remained the whole of one night at the rooms, sleeping on the floor, and contracted a rheumatic fever, which brought him to the brink of the grave, and changed the current of his future life. Arrangements were made to dispense with his services at the manufactory, and on his recovery he took steps to follow Art as his profession. He was now thirty,—too late, some would have thought; but he went to work in earnest, and exhibited a picture at the Academy in 1851. In 1853 he arranged for a visit to the East, with his friend Mr. Holman Hunt, and arrived at Alexandria on the 6th of December, 1853; and in the beginning of the following year, while in kindly attendance on a fellow countryman in the desert till he died, painted his most effective picture, "A Sun-set View of the Pyramids." He reached Jerusalem on the 3rd of June, 1854. He says:—

"We had been expecting for some time to come in sight of Jerusalem, when all at once, from the top of a hill, it came in view. I do not know how or why—for I hate romance, and always have thought that travellers put themselves into raptures when they came to Jerusalem—but I never was so affected in my life at the sight of any place, and could hardly help bursting into tears. It brought the life and death of Jesus Christ so vividly and really before me, that it almost seemed to destroy the eighteen hundred years which dim its force so much and make it appear as a story of bygone days; for in a few minutes I should be within the very walls where He endured so much suffering and agony for me: I felt that I stood on holy ground. It could not have been the aspect of the place; for, encased in its Saracenic walls, it reminded me of Avignon or Conway, and was quite different from what I had anticipated. From the west you see little but the embattled walls of a Mediæval fortress, on a very slight elevation: to the right the ground dips, but on the left it is level to the walls. Behind the city rose the Mount of Olives, with the grand range of the mountains of Moab, beyond the Dead Sea, half veiled by the mist, now rosy from the light of the setting sun. We went to the Casa Nova, a building intended for pilgrims, where the good monks made us very comfortable; and everything was very clean, though simple, as becomes a conventual building. They sent for meat for us Protestants, as it was Friday and the Padre seemed in a fever because we did not eat it all."

"After visiting every part of the city and surrounding country, to determine what I would do, I have encamped upon the hill to the south, looking up the Valley of Jehoshaphat: I have sketched the view which I see from the opening of my tent. I am painting from a hundred yards higher up, where I see more of the valley, with the Tombs of the Kings and Gethsemane. I have begun my picture two inches larger each way than that of Dinan, and also a smaller view of Mount Zion. I get up before five, break fast, and begin soon after six. I come in at twelve, and dine, and sleep for an hour; and then, about two, paint on my large picture until sunset."

Some of his letters while painting here in isolation are very interesting, as showing the current of his thoughts. In one to a reverend friend he says:—

"As long as I remained a single man, my professional prospects were amply sufficient for me; as I had quite renounced all wish, in fact, to live differently from my life of the last two years. But although I think I feel fully that God will provide all that is necessary for me, and that my success in money matters the last two years has been beyond my most sanguine hopes; yet I know that my past success has not been earned by merit. Two schoolfellows were good enough to give me commissions; but the public know nothing of me, and I have yet to learn how they will appreciate my works. I have also great doubts as to the motives which led me to give up business. I hated the drudgery of the one, and liked the freedom and the pursuit of the other: in fact, as far as my new occupation goes, it is almost unmixed pleasure; but I fear it was not a little selfish. I know, too, that I had no high motives of wishing to do good, but simply that of following a pursuit I delighted in; therefore, altogether, I feel that I do not deserve a blessing on it: though now I hope I look on it with other views, and think I see many ways in which it may be made subservient to good. . . . . I am sure that there is a great work to do, which wants every labourer—to show that Art's highest vocation is to be the handmaid to religion and purity, instead of to mere animal enjoyment and sensuality."

Returning to London in 1855 with a finished picture of Jerusalem, he exhibited it with others at his rooms, and gained fame and some pecuniary return. On the 30th of June in this year he was married. In 1856 he again made a private exhibition of his pictures; had a daughter born to him; and then in October made a second journey to the East with high purposes, and then, just as he had arranged to begin his work, he died at Cairo on Sunday, Nov. 23rd, most kindly attended by strangers, as he had himself watched by the bedside of Mr. Nicholson.

Our readers will recollect that a subscription was entered into in England to purchase for 400 guineas the picture of Jerusalem, and to offer it to the National Gallery. The result was very successful, the sum of nearly 600*l.* was raised, and the picture having been accepted for the nation, is now in Marlborough House.

The book is dedicated to the committee and subscribers of this fund, and we commend it to the attention of a wider circle.

VARIORUM.

The Engineers' Journal and Railway and Public Works Chronicle of India and the Colonies (Calcutta) is after the model of the English periodical whose name it bears. No. 10, now before us, is mainly occupied by a paper on the Bhore Ghaut Incline, by Mr. James Berkley, the chief engineer of the Great Indian Peninsular Railway.——*The Journal for the Evening Classes for Young Men*, Nos. 1 and 2, contains the courses of lectures which are delivered at Crosby-hall. In one we have a lecture on the Manchester Exhibition, by the Rev. Charles Mackenzie; and in the other a lecture on Gothic Ecclesiastical Architecture, by the Rev. Thomas Hugo.——Westbourne and Co. are republishing the late John Martin's illustrations of "Paradise Lost" in a cheaper form. No. 1 contains two, which, although worn, yet exhibit beauty enough to make them acceptable to many.——*The Stereoscopic Magazine* (Lovell Reeve, Covent-garden), conducted by Mr. Glaisher, is intended to circulate stereographs of valuable subjects, accompanied by intelligent descriptions. No. 1 contains Falaise Castle, the birth-place of William the Conqueror; the Hardinge statue; and the Observatory at Greenwich.——"Charles H. Roberts's Plan for the Embankment of the Thames," with accompanying letter-press, delineates a scheme to some extent like that drawn by the Royal Commissioners in their plan, but the wall, instead of being detached from the shore, is proposed to be filled up, and warehouses constructed along the outer edge, over which would run, on iron columns, brick arches, or otherwise, the main street from the City to Westminster. Although deodorizing reservoirs, as on the plan of the commissioners, might, as observed, be created, it is Mr. Roberts's opinion that these would be found unnecessary when the river is properly embanked.——"Workhouses and Women's Work" (Longman and Co.) is a reprint from the "Church of England Monthly Review," on an important, and indeed an urgent subject. The pamphlet also contains "A Paper on the Condition of Workhouses," read in the Social Economy department of the National Association for the Promotion of Social Science, at Birmingham, in October last. Something really must be done for the amendment of the present workhouse system: in these worse than prisons, the poor and the unfortunate have not even a chance of preserving self-respect, or of redeeming themselves from the incubus of helpless pauperism into which they find themselves ensloughed in these idle-houses. Prisons are but too frequently regarded by their frequenters as actually respectable by comparison. Paupers often commit petty crimes in order to obtain food and lodging in a prison to avoid going into the workhouse; and have even been known to allege that they did so to avoid "the disgrace" of going to the workhouse. Now, surely it is most impolitic to allow workhouses to be so conducted that the unfortunate are induced to look up to the prison as a preferable abode. This, in fact, is little less than the forcible inculcation of crime; and a heavy responsibility rests on the heads of our legislature for allowing even the most perverse and unreasonable to have any shadow of excuse or reason for not, at

all events, preferring the workhouse to the prison, at any time, or under any circumstances. An excellent spirit pervades the pamphlet under notice, and it has our earnest sympathies in its favour, as every feasible project for the amendment of the workhouse system cannot but have.——In "Telegraphic Communication with India" (Allen and Co. Leadenhall-street), we have a reprint of the recent discussion on the Red Sea and Persian Gulf projects in the *Times* and *Morning Chronicle*. One or other of these projects, it is to be hoped, if not both, will shortly be carried out. The Turkish Government appear to be more in earnest than our own on the subject; for they have actually ordered and obtained the materials for the line from Constantinople to that Persian Gulf, and are preparing to lay down the line. The distance from the Gulf to Kurrachee would only be 1,200 miles, in place of 5,000, *viâ* the Red Sea. —— In "Deane's Manual of the History and Science of Fire Arms" (Longman and Co.) there is much historical and curious matter, interesting to every one, as well as to sportsmen and military men. A chapter on explosive agents is also interesting and important. In speaking of archers and the bow and arrow, as almost obsolete in Britain, once so highly celebrated for them all over the Continent, the fact is not adverted to that, in Scotland, there is still a corps of gentlemen archers, who constitute the Sovereign's guard of honour, while in that part of Britain. It is not so *very* long, either, since the archers of Islington were still "men of note," as we had occasion recently to indicate. —— The last number of the Royal Gallery of Art (Colnaghi and Agnew), contains one of M. Plassan's elegant affectations, "The Foot-bath," a marvel of finish; "Crossing the Ford," by Berghem, engraved by J. Cousen; and "The Jäger's Wife," by F. Foltz. —— The *Illustrated News of the World* has the special feature of a series of portraits, engraved on steel, with memoirs. The likeness in the majority, Bishop of Oxford and Marquis of Salisbury, for example, is excellent.

Miscellanea.

EAST LONDON WATER-SUPPLY.—The supply of water from the East London Waterworks Company exceeds, it is said, upwards of 16,000,000 gallons per diem, at present obtained from the river Lea. The company has contracted with the West Ham Local Board of Health to supply small cottages with water at the rate of 2d. per week, or 8s. 8d. per annum. When the rental exceeds 13*l*. per annum, the minimum charge is 12s. a year for each house; the scale of charges being regulated according to the size and rental of the house. In most of the cottages erected within the last few years, the landlords have had the water laid on, it being found better for washing and domestic purposes than that usually obtained from wells in the neighbourhood.

METROPOLITAN BOARD OF WORKS.—The total balance paid over by (*i. e.* transferred from) the Metropolitan Commission of Sewers to the Metropolitan Board of Works amounts to 187,330*l*. The sums assessed upon the several parishes since the formation of the Board amount to 98,457*l*.; and the sums received up to the 31st of July, 1857, to 10,310*l*. The total expenditure in the various parishes between the 1st of January, 1856, and the 31st of July, 1857, was 200,618*l*. against 112,593*l*. for works of sewerage, 35,659*l*. for the "establishment," and 45,165*l*. for loans. The cost of constructing brick sewers and openings amounted to 40,491*l*.; the cost of repairs to sewers was 4,612*l*.; and the cost of flushing, cleansing, and cartage, 9,436*l*.; making a total of 55,019*l*.

PERMANENT OFFICES OF METROPOLITAN BOARD OF WORKS.—The Board have determined on the purchase of the premises known as Berkeley House, Spring-gardens, as site for their permanent offices. The terms are 500*l*. for an existing interest; and for a lease of years from Lady-day, 1859, 500*l*. per annum up to the 10th of October, 1871, and rent of 350*l*. per annum for the remainder of the term. This Board would be required within the first three years of the term to pull down the present house and expend a sum of not less than 15,000*l*. in erecting upon the site defined a building to be approved.

SURREY ARCHÆOLOGICAL SOCIETY.—The fifth annual general meeting was held at Farnham, on Tuesday, the 13th of July, under the presidency of the Bishop of Winchester, who had invited the members and their friends to visit Farnham Castle. Various papers were read, to which we may refer hereafter.

SOCIETY OF ANTIQUARIES, NEWCASTLE-UPON-TYNE.—The July meeting was held on Wednesday in last week, at the Castle of Newcastle, and is reported in the *Gateshead Observer*. Dr. Bruce referred to a communication from Mr. M'Lauchlan. The Duke of Northumberland had instructed him to make a survey of the Devil's-causeway, or Eastern Watling-street, and, as a preliminary step, he had succeeded in roughly tracing it, with more or less continuity, to within two miles of Berwick, making straight for the castle of that border town. Dr. Bruce said he had also received a letter from Mr. Albert Way, in which he informed him of his discovery of a Roman amphitheatre at Martigny (on the Simplon road, in Switzerland), the ancient Octodurus, and resembling, in position, &c. the amphitheatres of Silchester, Dorchester, and Borcovicus, or Housesteads. Arrangements were made for the annual archæological excursion. Mr. Hinde proposed to proceed to Cornhill by the mail train, and there breakfast; make for Ford *viâ* Flodden-field by omnibus; visit the castle and church at Ford, and then dine; drive to Roughting Linn, and see the inscribed stones (or visit Etal Castle); after which some could make for the rail at Alnwick; while others remaining all night at Wooler, would devote a second day to Yeavering Bell, Kirknewton, and the Cheviots. This programme was adopted, and the 27th and 28th inst. were appointed as the days. Mr. Hylton Longstaffe stated that he had lately met, in Alnwick Church, with a curious relic of antiquity connected with that semi-saint, Henry VI. in the form of a statue of some size.

DRAINAGE DIFFICULTIES AT HITCHIN.—An account of various unfortunate and annoying legal and other proceedings at Hitchin, chiefly between the Local Board and Mr. Ransome, who was also a member of the Board, as to his claims on the water of the local river, used from time immemorial by the inhabitants, has been published in the *Hertford Mercury*. These proceedings seem to have actually led to the dissolution of the Board altogether. A circular explanative of the circumstances thus concludes:—"These details may serve to give some little idea of the difficulties the town has been placed in, through endeavouring to carry out the provisions of a very incomplete Act of Parliament. For although in the opinion of the most respectable inhabitants, the river, which has always been a polluted stream, is now in a better state than formerly, and offers have been made to pay for the water which was previously used without stint by the inhabitants, the town seems likely to be subject to endless litigation with Mr. Ransome."

MOTION IN COMMONS AS TO PURIFICATION OF THAMES.—Mr. Cox moved last week,—"That this House is of opinion that the cost of the purification of the river Thames, in the vicinity of the metropolis, should be borne by the Consolidated Fund and the metropolitan ratepayers in equal proportions." He said he understood there was a strong feeling against his motion, but he thought he was justified in asking the country to bear one portion of the expense of the metropolitan drainage. Now, if the inhabitants of the metropolis had to bear the whole expense themselves, they ought to be left unfettered as to the mode and extent of the expenditure to which they would go. In any extraordinary outlay, they ought to be assisted out of the funds of the nation. After some discussion, Mr. Cox proposed to withdraw his motion, on the ground of irregularity and in consequence of some remarks by the Speaker on the subject; but the House refused to allow him, and negatived the motion without a division.

COURT OF QUEEN'S BENCH, JULY 10.—MYERS *v.* SARL.—The plaintiff was a builder, and the action was brought to recover the balance of his bill for erecting the house and premises of Mr. Sarl, the silversmith, in Cornhill. It being strictly a matter of account, the cause was referred to arbitration.

MEDALS TO SCHOOLS OF ART.—At the recent competition for nation medallions, held in London, as compared with the seventy schools which compete, Birmingham stands third, Hanley taking 8 awards, and Sheffield 7, with 3 money prizes; Burslem, with 5 awards, taking the fourth place, and Stoke following with 4. Thirty-four schools take no prizes, the remainder from 1 to 3. The total number of medallions awarded is 82 against 103 at the last examination, and the examiners (Sir C. Eastlake, D. Maclise, R.A. and Richard Redgrave, R.A.) from some remarks in their report, would seem to imply that the schools generally have not made the progress in the higher stages of instruction that is desirable, and should be attained.

THE DEPARTMENT OF SCIENCE AND ART.—On the 9th inst. in the House of Commons, on the motion in supply, that the vote to the Science and Art Department should be increased to 83,000*l*. some discussion took place, in course of which Mr. Wilson said he believed that no money had for a long period been spent so well as the grants for the schools of design. It was not that these schools taught the principles of a very high art, but they conferred a practical knowledge, and afforded information to those obliged to earn their bread, that were really invaluable. See what had been done of late years, and it would give hon. members an idea of what these schools had done. Their exports to France had risen from 400,000*l*. to two millions a year, principally of porcelain and articles of that description, of which the French had always the monopoly. The people of this country were now become their rivals: their whole exports of silk formerly to all parts of the world were not so great as those now sent to France alone; and he submitted that these facts showed the immense advantages conferred of late years by those schools of design on the manufactures of this country.—Mr. Williams made similar remarks, stating that upwards of sixty towns in England had schools of design, and instead of getting patterns from France, as they used to do in former times, they were now able to compete with that country.—The vote was agreed to.

A NEW SHEFFIELD MANUFACTURE.—The *Sheffield Independent* gives a report of a meeting at Messrs. W. Brookes and Sons', Howard Works, Carlisle-street, to witness the manufacture, by machinery, of the wood stocks of planes. Plane irons are very largely made in Sheffield, but it has been necessary to send them to London, Birmingham, &c. to be fitted with stocks, which have been made by hand. Messrs. Brookes and Sons have purchased an extensive set of machinery to manufacture them with greater rapidity, accuracy, and cheapness, than can be attained by hand labour. The series of machines consist of eight, arranged in one large room. The first machine cuts the blocks out of the plank. The second, by the action of two circular cutters, planes their sides. The third takes off the ends of the blocks. Then comes a curious machine for sinking the mortise. Two chisels, from opposite directions, work to and from a point in succession. The bed on which the block rests gradually rises, bringing it within reach of the chisels, which, by successive strokes, cut out the mortise to the required depth. The fifth is the mouth-cutting machine. Another circular cutter, of still smaller diameter, cuts a groove with two semi-circular ends for the toat. Then comes the abutment machine. The wedge is cut by a separate machine. The next is the bedding machine, which makes also the breast cut and the cut for the ware.

THE VACANT GROUND IN VICTORIA-STREET, CLERKENWELL.—The *Morning Advertiser* says,—"We have authority to state, that at the next ensuing meeting of the members of the Corporation 'in Common Council assembled,' a deed of agreement between that body and Mr. John Jay, in respect of the vacant ground in Clerkenwell, will be sealed with the City's seal. Immediately afterwards arrangements will be entered into with the railway companies interested in the North Metropolitan scheme, so that we may now look forward to active exertions in the appropriation and improvement of this waste site, so long unprofitable both to the City and the surrounding neighbourhood."

THEATRE AT DOUGLAS, ISLE OF MAN.—A new theatre has recently been opened at Douglas. The structure stands in Wellington-street. The entrance alone shows, the rest of the building being hid by shops. The interior is of the horse-shoe plan, on a circle of 20 feet diameter. The height from the pit to the ceiling is 37 feet: the opening of the stage is 22 feet by 18 feet; and the stage itself is 30 feet deep. The building is capable of holding upwards of 1,000 persons, and was erected for Mr. Jno. Moseley, the proprietor, at a cost, including the site, of above 2,000*l*. The architects were Messrs. Jackson and Casson, of Halifax; and the contractor, Mr. Richard Cowle, of Douglas.

MRS. LOUDON.—Many of our readers will participate in the sorrow with which we record the death of this amiable lady, at her residence in Bayswater, on Tuesday last. As the untiring assistant of her husband, the late J. C. Loudon, the author of the "Encyclopedia of Cottage Architecture," in the preparation of his works, Mrs. Loudon deserves a grateful record in an architectural publication. Her merits as an authoress will receive full recognition in other pages. Personally we lament a valued friend.

CONSECRATION OF ST. THOMAS'S CHURCH, MARYLEBONE.—The new church, dedicated to St. Thomas, in Orchard-street, Portman-square, Marylebone, was consecrated by the Bishop of London on the 7th inst. The site was formerly known as Calmell-buildings—a locality of, perhaps, the most filthy and miserably wretched description of any in London, next to the old Rookery of St. Giles's. By the exertions of the present Bishop of Norwich, then rector, and Lord Portman and the Duke of Portland, the latter of whom subscribed 2,000*l.* the site was acquired and the Rookery cleared out. The edifice, which is calculated to accommodate 1,500 persons, upwards of 500 seats being free, has been erected from plans prepared by Mr. Philip C. Hardwick, at a cost of 6,829*l.* Its style is plain Gothic.

WATER SUPPLY AT NEW SWINDON.—The Great Western Railway Company, at New Swindon, have discovered a fine spring by boring an Artesian well. The spring throws up through a 3½-inch tube eight gallons of water per minute. In boring it was found that upon reaching a depth of 130 feet—a work not accomplished without considerable difficulty, with so small an experimental bore as 3¾ inches—water began to rise; and at a depth of 141 feet below the surface, a copious stream was thrown up some feet above the ground. Workmen are now employed in sinking permanently, and walling in, a well of 6 feet in diameter. The undertaking is due, we understand, to Mr. William Gooch, the Company's resident engineer.

AGRICULTURAL OR FARM DRAINAGE AT HINXWORTH.—Some interesting particulars on this subject are given in the *Hertford Mercury*:—The extent of land drained is stated at 800 acres The total cost of the drainage is 3,357*l.* 10s.; or from 4*l.* 18s. 6d. to 6*l.* 13s. 6d. per acre, for the gault clay, which is drained by close parallel or gridiron drains, and of about 1*l.* 10s. for the mixed soils, by occasional drains, that is, drains few in number and at a considerable distance apart. The works are characterised as a *permanent* improvement. Besides the drainage works, two miles of farm roads have been constructed at a cost of 547*l.* 5s. and a covered yard and some buildings at a further cost of 985*l.* Before the land was drained, it was let with difficulty at 15s. per acre; and since it has been drained, more than 30s per acre has been offered for it. Regarded, therefore, as a commercial speculation, the drainage will *pay*. An increased rental of 15s. taking that as the maximum annual value of the improvements, is 600*l.* on the 800 acres, or 12 per cent. on an outlay of 4,889*l.* which sum represents the total expenditure for drainage, roads, and new buildings.

LAND SOCIETIES.—At the last quarterly meeting of the Conservative Land Society, it was stated that the committee having deemed it to be both prudent and expedient to contract the purchase and allotment of land this year, have not yet undertaken the enlargement of business in other directions; but, unless some decided improvement in the building trades should manifest itself, the committee feel that they must not trust for the future to land only as a permanent source of profit. The capital of the members, they remarked, can be adequately turned to advances on every description of security; but, to transact this new business to any extent, it may be found requisite, in addition to the taking of money on the general share system, to receive money on deposit accounts, allowing fixed rates of interest thereon.

CRYSTAL PALACE.—Under the new management considerable energy continues to be shown. The great musical demonstration preliminary to the Handel Festival was well managed, and passed off very satisfactorily. We will take the opportunity to acknowledge the good offices of Mr. Shenton, the manager of the Literary Department, on this and similar occasions. Long ago we suggested, and have since often urged, that the value of the art-collections and architectural illustrations here would be greatly increased by peripatetic lectures. This suggestion is now being carried out by the Rev. Chas. Boutell, and we hope with good effect.

SOMERSETSHIRE ANTIQUITIES.—The collection bequeathed to the county by the late Mr. John Hugh Smyth Pigott, of Weston-super-Mare, contains, it is stated, about 1,200 drawings of the most interesting churches, monuments, and specimens of ancient domestic architecture with which the county of Somerset abounds, executed by the Messrs. Buckler. The drawings are executed in sepia, or Indian ink, and occupied the artists from 1813 to 1817.

BELFRIES.—A correspondent, "H. W." suggests that instead of having the louvres of wood or stone, as now, they should be of glass, fixed in a framework.

THE LONDON MECHANICS' INSTITUTION.—A communication is being circulated on behalf of the management of this institution, in reference to the report of Dr. Lyon Playfair, printed by order of the House of Commons on 26th March last. From this communication we make the following extracts:—"The committee can scarcely agree, nor do they think the public will agree, with the opinion expressed in the doctor's report, that the classes of arithmetic, mathematics, book-keeping, chemistry, anatomy, landscape, architectural and mechanical drawing and human figure drawing, French, writing, and elocution, being all those mentioned in the report, except the music classes, 'show a proportion of light instruction to solid, rarely to be found.' On the contrary, they are of opinion that these classes are eminently solid, and more useful to those for whom they are designed than more difficult subjects, implying greater previous attainments; at the same time admitting, as they have done, that many useful studies might be added but for the present low income of the institute, and its heavy debt." "There is reason to believe, that with a removal of its debt [of 3,398*l.*] and its heavy rental [of 229*l.*], the institution would be rendered efficient, and at the same time solvent; and the committee appeal to all friends of education and kindred societies to assist their exertions to secure the help of the Government to prevent the parent institution of England from closing." The vitality of the institution is inferred from the fact that one of the two prizes given by the Society of Arts to local boards was secured for this institution, and that it was remarkably successful in the Society's competition for certificates and prizes.

SCAFFOLD ACCIDENT AT BATTERSEA.—On Tuesday afternoon an accident, which is likely to prove fatal in its consequences, occurred at the distillery of Messrs. Latchmore and Co. Battersea. For the last week the building has been undergoing repairs, under Mr. White, builder, of Wandsworth. About four o'clock on Tuesday afternoon, Mr. Thomas Snooks, the foreman of the works, was on the scaffolding, when a heavy piece of timber, which was being raised to the roof, gave way from the "tackle," and falling, struck him prostrate upon the scaffold. He was conveyed to St. George's Hospital, and scarcely a hope is entertained of his recovery.

MOTIVE POWER.—M. Montel, of Paris, states that he obtains an improved motive power from springs or blades of steel or iron, supported at their extremities by wheels, fixed on an axle, to which rotary motion is to be communicated, and also at their centre to a central wheel, also fixed on the same axle. The action of the springs puts the central wheel, and therefore the axle, in motion, which is kept up until breaks or other controlling agents are applied to stop or reduce its speed. This invention appears to be akin to one suggested in the *Builder* for working small locomotives or velocipedes, in shape of wheeled chairs, gigs, cabs, &c. by means of the power of steel or other springs, or india-rubber "accumulators."

GAS EXPLOSION AT CARDIFF.—The large gasometer of the Cardiff Gas Works—one of the largest in the kingdom, according to the local *Guardian*—has exploded, or, at least, been totally destroyed, by the sudden combustion of the whole mass of gas contained in it.

THE NORMAN CHAPEL IN THE TOWER.—In the Commons, last week, Mr. B. Hope asked the First Commissioner of Works what arrangements he proposed to make for the architectural restoration of the Norman Chapel and adjacent chambers in the White Tower of the Tower of London,—to which Lord J. Manners replied that he was fully alive to the historical and architectural interest attached to the building in question; but that, for the present, there was no intention to make any alterations whatever in the existing state of the structure.

THE HOUNE'S GILL VIADUCT, on the Stockton and Darlington Railway, has just been opened to the public for passenger traffic. A viaduct was a necessity, and the company paid a premium to Mr. Thomas Bouch, C.E. and Mr. John Anderson, the contractor, for their joint design. The materials used are fire-bricks manufactured at Pease's and Stobart's works, and stone of fine quality, hewn from an adjoining quarry, of which there are three and a half millions of the former, and one hundred thousand cubic feet of the latter. The entire length of the viaduct is 700 feet; its height 175 feet, with twelve arches of 50 feet span each. The piers taper, and their lightness, in comparison with the width of the arches, is remarkable. The viaduct has been completed in fifteen months, at a cost of 14,000*l.*

THE LETTER-CARRIERS OF LONDON.—There is no class of public servants who, taking them as a body, show more civility and do their duty more readily and efficiently, than the above-mentioned functionaries. Their wages range from 18s. to 23s. a week. Their business calls them to long distances at five o'clock in the morning, and in each day they walk many miles. During the last few years increased duties have been constantly laid on the London letter-carriers, and not an equivalent increase in the amount of wages. So great is the activity required by the postmen, that, as many of them say, they are obliged to "run all the flesh off their bones;" and they may often be seen, particularly in wide suburban districts, trotting along in the hot sunshine, in a manner which reminds us of the "running footmen" of ancient days. Considering the amount of pay, a very large amount of trust is reposed in these men, and the cases of default are not numerous. The revenue of the Post-office produces a large annual sum to the Exchequer, and it is to be hoped that the claims of the letter-carriers may be kindly considered. Many of them have been years in the service, and have families to support; and the public would not wish that those who are an important means of carrying out the intentions of a large and profitable establishment, should be under-paid or over-worked. It is understood, notwithstanding the large amount of labour endured by the letter-carriers, that it is to be still further increased, and the men protest against it.

THE DILAPIDATION OF THE WESTMINSTER PALACE.—Sir: It is stated that the Government have commissioned M. Szerelmy to apply his material, "a composition," he says, "for preserving stone and iron from injury by atmospheric agency," to such portions of the walls of the new Houses of Parliament as may require it. Now, I happen to know something of one of his inventions, for the manufacture of waterproof cloth, and would suggest that Englishmen of the profession may do a good service to the nation by analyzing his unpatented oil-paint, with which he has been making his trial above eighteen months on that national property.—AN INQUIRER.

THE ATLANTIC TELEGRAPH.—It is stated that there are still 2,500 miles of wire on board the two ships, and that it is intended to fill up with coal and fresh provisions, and start for a final attempt this day (Saturday). Surely it must be obvious, if the rest of the cable be similar in manufacture to that which has been tried, that the result will simply be depositing a further quantity of it at the bottom of the ocean.

KEW GARDENS.—Some of our readers may like to know that the waterlily of the Ganges, or sacred bean of India, will shortly produce its very beautiful flowers, in the centre tank of the tropical aquarium here.

WINCHESTER CATHEDRAL.—The Dean and Chapter of Winchester Cathedral have decided on restoring the three west porches and pinnacles, and the cement work will be removed and replaced with stone: the ground (which is now 2 or 3 feet above the floor of the nave) will be lowered, and the iron railing and steps placed farther from the building. The work is being carried out under the direction of Mr. John Colson, the cathedral architect.

EGYPTIAN HALL IN THE CITY MANSION HOUSE.—Is it not somewhat singular that in a room built for public congregation and resort, but one doorway,—or means of ingress and egress,—should be provided? Three might be placed in juxtaposition, and two others provided at other points, and thus reception or drawing room might be made available and communicate with it *en suite*. Double doors would obviate any difficulty as to sound. The doors might be used or not. Fancy the blockade from 900 people attempting to enter, and the same number of people attempting to leave the room at the same moment of time.—SCRUTATOR.

IRON COTTAGES AND BUILDINGS AT WARDSEND.—Sir Francis C. Knowles, the proprietor of the Wardsend Steel Works, is having erected at Wardsend, under the direction of Mr. Cashin, architect, several ranges of iron buildings, for the accommodation of his workmen. They consist of fifty cottages for the married men and their families, and a lodging-house for the single men, containing twenty apartments, with kitchen, private rooms, day rooms, and lavatories. A school-room is also being provided for the children of the workmen. The whole are to be warmed and lighted with gas, and are to be erected of corrugated iron, by Messrs. Charles Young and Co. Glasgow. —*Sheffield Mercury.*

FOUNTAINS AT LIVERPOOL. — A correspondent is anxious that the name of Mr. Melly should be connected with the fountains erected at his cost. We do not like his suggestion to call them "Mellys," or one of them "a Melly," but there is no reason why they should not be called the Melly Fountains. He who does better than Melly may be called *meilleur*.

JEWS' INFANT SCHOOL. —The opening of the new school, in Commercial-street, Spitalfields, is to take place on Friday, July 23; the Earl of Carlisle, K.G. in the chair.

[ADVERTISEMENT.]

STREET ARCHITECTURE.—We noticed the other day the gorgeous yet artistic effect produced by the judicious employment of colours in the *façade* of Messrs. Futvoye's establishment in Regent and Beak streets. This elegant museum of art has since been opened to the public, and the interior will be found equally worthy the admiration of the man of taste for the perfect bijou-like character of its design and decoration. But perhaps it is when lit up at night by numerous gas reflectors from the exterior that its exquisite display of art and *curio* attracts the greatest attention. It would seem that the whole of this vast frontage, which used to occupy more than an hour in closing, is now thoroughly secured by a patent iron shutter, the largest in the world, working horizontally and passing over an area of 378 feet in less than forty seconds.—Manufactured by CLARK and CO. 15, Gate-street, Lincoln's-inn-fields.—*Globe*.

TENDERS.

For making certain alterations and additions to the residence of Mr. H. E. Gurney, Nutfield, Surrey:—

Myers, London	£7,093	0	0
Holland, London	4,927	0	0
Barnes, Nutfield	4,764	0	0
Fisher, Reigate	4,560	0	0
Carruthers, Reigate (accepted)	4,319	0	0

Tenders for hospital, Gateshead Union Workhouse; Mr. J. E. Watson, architect. The quantities were supplied.—

Masonry.

James Hogg (and slating)	£961	0	0
D. Ferguson	897	0	0
Henderson	880	0	0
E. B. Reid	796	0	0
Gibson and Stewart	785	0	0
Scott and Reid	758	0	0
Foster and Lawton	752	10	0
Steel	751	14	0
T. G. Hunter	714	0	0
Lister	705	0	0
Wilson and Smith	651	13	6
Dickinson (Felling stones)	616	0	0
Ditto (Gateshead stones)	595	0	0
Thompson and Nixon	610	0	0
John Birtley and Son (accepted)	584	16	0

Carpentry.

E. B. Reid	£514	0	0
Waite and Howard	452	0	0
Foster and Lawton	442	10	0
James Dunlop	425	0	0
W. Dobson	429	0	0
Robert Curry	416	0	0
T. G. Hunter	404	0	0
John Mills	400	0	0
John Birtley and Son	399	0	0
Robert Whichello	390	0	0
Walker	386	0	0
Lowrey	384	16	0
Thompson and Nixon	340	0	0
Dodds	337	17	0
Sanderson	330	0	0
Davidson and Gowland (accepted)	310	0	0

For other trades the following were the accepted tenders:—

Slating.

Edward Beck	£45	0	0

Plumbing.

J. Glaholm and Son	£89	17	6

Plastering.

Charlton	£46	0	0

Painting and Glazing.

Firbank and Son	£37	0	0

Shaft.

John Knox and Co.	£2	15	0 per fathom.
John Birtley and Son	2	5	0 "
John Wheatley	1	10	0 a foot.
Scott and Reid	1	4	0 a yard.

For building a house for Mr. W. S. Covell, Sydenham; Mr. Edwin Nash, architect. Quantities not supplied:

Sewell	£1,290	0	0
Marsland	1,289	0	0
Colls and Co.	1,277	0	0
Patrick and Son	1,270	0	0
Wardle and Baker	1,257	0	0
Downs	1,239	0	0
Dennison	1,165	0	0
Ring and Stanger	1,138	0	0

For alterations of infirmary building, Bromley Union Workhouse, Farnborough, Kent; Mr. Francis F. Thorne, architect. Quantities by Messrs. Pearson and Doughney:—

Townsend	£1,653	0	0
Penny	957	0	0
Simpson	899	15	0
McLellan and Bird	895	0	0
Walburton	890	0	0
Thompson	877	0	0
Marsland (accepted)	876	0	0
Dove	869	0	0
Carter	835	0	0

For erecting a factory in George-street, Foley-place, for Mr. W. Heinke; Mr. F. Tyerman, architect.—

Macey	£1,555	0	0
Seagrave and Biofield	1,496	0	0
Fish	1,195	0	0

For works proposed to be done at No. 15, Great Bath-street, Clerkenwell. The quantities not supplied. Messrs. Tress and Chambers, architects:—

Hornchiffe	£631	0	0
Large	599	15	0
Patience	445	0	0
Fowler	437	0	0
Cooper	393	0	0

For works at stabling, Notting-hill, for the London General Omnibus Company; Mr. W. W. Scurry, architect:—

Cubitt, Kingsland	£435	0	0
Stevens, Notting-hill	385	0	0
Greig, Pimlico	313	0	0
Woodruffe, Pimlico	237	0	0
Hooper and Son, Islington (accepted)	207	8	0

TO CORRESPONDENTS.

Advocate.—F. W. S.—Messrs. C. and Co.—W. B.—H. B.—S. D. W. (glad to hear of Mr G. A. W.). T. R. N—H. and Co.—G. W. B. J. and C.—R. L. S.—E. P.—H. R. F.—General F.—J. M.—A. F. W.—T. J. P.—J. Z.—Culvert (the term, "culvert," applies only to an arched channel for water, and usually underground).—W. S. H.—S. and B.—H. H. (next week).—Clerk of Works, R. E. D. (ditto).—C. A. W. (ditto).—G. W. B. (notice only refers to the initials it immediately follows).—N. P. B. P.

"BOOKS AND ADDRESSES." We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

WATERLOO BRIDGE WHARF, COMMERCIAL-ROAD, LAMBETH.

NOTICE.—To BUILDERS, CONTRACTORS, CABINET and PIANOFORTE MAKERS, &c.—FOR SALE, by PUBLIC AUCTION, at the above PREMISES, on THURSDAY, JULY 29th instant (without reserve),

70,000 feet Crown Rigs Wainscot Oak, in Plank and Board.
34,000 " Honduras and Spanish Mahogany.
Birch, Beech, Baltic, and Yellow Pine; Deals, Plank and Battens, with Other Wood Goods, particulars of which will be specified in catalogues and may be had two days prior to Sale, at the Office of JAMES CONNELL, Wood Broker, 28, Clement's-lane, E.C.

BUILDERS' PERIODICAL DISTRICT SALES, WESTERN DEPOT, ST. MARYLEBONE ROAD, adjoining the Workhouse. The NEXT SALE at this Depot will take place on TUESDAY, the 27th of JULY, 1858. Full particulars next week. Goods can be received by returning lorries from the PREMISES, or at the CITY OFFICE, 13, Eastcheap, until SATURDAY, the 24th instant.—BOOTH and CO. Auctioneers' Negotiators and Valuers.

BUILDING MATERIALS, ST. JAMES'S WORKHOUSE, POLAND-STREET.

MR. JAMES SCOTT will SELL by AUCTION, on the PREMISES, on THURSDAY, 22nd JULY, at TWELVE o'clock, by order of the Governors and Directors of the Poor of the Parish of St. James, Westminster, the valuable BUILDING MATERIALS of the Workhouse, comprising about 150,000 stock bricks, 30,000 plain and pan tiles, lead gutters, useful timber, iron, boards, &c. sashes and frames, doors, stone paving, fixtures, &c.—May be viewed the day prior and morning of Sale. Catalogues may be had on the Premises; of CHARLES LEE, Esq. Architect, 20, Golden-square; and of Mr. JAMES SCOTT, 3, Warwick-street, Regent-street.

SUSSEX—Fourteen miles from Brighton, and a mile and a quarter from Haywards Heath Station.—Eligible and attractive Freehold Building Estate, including 13½ per annum in freehold ground-rents.

MR. DEBENHAM is instructed by the Mortgagee, to SELL, at the MART, on THURSDAY, JULY 29th, at TWELVE, in one lot, a valuable FREEHOLD ESTATE, situate at Wivelsfield, Sussex, comprising about 20 acres, lying on the southern slope of a hill commanding a panorama of richly-wooded scenery, with the South Down hills in the distance. A portion of the land, upon which several houses have been erected, is let on building leases for long terms, at ground rents amounting to 140 per annum. About 35 acres remain uncovered, affording delightful sites for the erection of detached villas, which are in road demand, the locality being particularly healthy, and much frequented by the inhabitants of Brighton during the summer months. The estate abounds in capital building stone. The subsoil is sandy, and there is fine spring water.—Particulars and plans (now ready), at the Mart; of Messrs. BENNETT, FIELD, and DAWSON, Solicitors, Lincoln's-inn; and at Mr. DEBENHAM's Offices, 80, Cheapside, of whom may be had, by post, on application.

WILLIAM MEREDITH. — Information Wanted of Mr. WILLIAM MEREDITH, living in London in 1851, and occupied as an Architect, Surveyor, or Builder.—Address, G. S. Office of "The Builder."

TEMPORARY ASSISTANCE.—An ARCHITECTURAL DRAUGHTSMAN, accustomed to prepare perspective, finished, working, and detail drawings, specifications, take out quantities, measure artificers' work, &c. is desirous of rendering temporary ASSISTANCE to Architects, either at their own Offices, or his Chambers.—Address R. B. 43, Southampton-row, Russell-square, W.C.

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TEMPORARY ASSISTANCE offered in Measuring up Works, Estimating, Taking off and Pricing Bills of Quantities, Making up Accounts, &c. upon reasonable terms, by a Builder's Surveyor and Accountant. Great experience. References given if required.—Address, R. A. Office of "The Builder."

AN ASSISTANT is required in the country, a short distance from town. He must have a general knowledge of construction, and the usual routine of an architect's office.—Address, stating age, qualifications, reference, and salary required, to A. Z. Office of "The Builder."

CLERK WANTED, in an Architect's Office. He will have to keep the accounts and books of a building estate, and perform other usual duties. Salary, 2 per week.—Address, stating age, where formerly employed, and full particulars, to F. A. Mr. Beck's, Stationer, 81, Cheapside.

MESSRS. CASENTINI and BARNARD, Figure and Architectural Modellers and Decorators, have an OPENING for a YOUTH as an APPRENTICE to the above business. They also require an IMPROVER, who has some experience in modelling and casting. For particulars, apply at their Offices, 21, Hercules buildings, Lambeth.

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PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield street North, City road Basin, N. 2ndly, that the trade term, "TERRO METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Juries," page 581 of the Great Exhibition, note the grant of a First-class Medal, and name the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

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TO BUILDERS and OTHERS.—DOVER-COURT NEW TOWN and SPA,—a short distance from the town and port of Harwich, and within a few minutes' walk of the Dovercourt station of the Eastern Counties railway, by which passengers are conveyed to most towns to the North and East of England, and to the Metropolis in about two hours by express and other trains several times in the day. This beautiful locality is situated on the shores of the German Ocean, on a plateau of the cliffs sixty feet above high water mark, and embracing other advantages sought for in a sea-side residence, including the close proximity to the celebrated Spa. The attention of builders and others is invited to an inspection of the sites offered in this rising place. Terms for building leases very moderate, materials and money advanced.—For particulars, apply to Mr. J. H. ROWLEY, Architect, No. 17, St. Helen's place, Bishopsgate street, City; or to Mr. H. DARKEN, Architect, Harwich and Dovercourt.

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BUILDING LAND TO BE LET or SOLD, in Mortimer road (out of Greville road), near Carlton-hill and Kilburn-gate, Edgeware road, 120 feet above the Thames, and commanding delightful views. Leases for 99 years at ...s. per foot frontages. Address, Mr. BALL, 44, Regent street, Piccadilly.

TO BE LET, convenient BUILDER'S PREMISES in the best part of the King's-road, Chelsea. Workshop for nine benches, stable, coach house, office, shed and saw-pit, and a good small dwelling house attached. Address, for further particulars, R. A. Office of "The Builder."

NORWOOD, within three minutes of the Station, to London-bridge and West-end.—GROUND TO BE LET, for building villas, from 50*l*. to 100*l*. per annum, which are in great request. There is not a house on the estate unlet, while numerous applications are daily made for residences. Private gentlemen requiring large plots, can secure them. Advances made. Apply to W. F. LOW, Esq. Solicitor, 67, Wimpole street, Cavendish square.

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TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham-common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq. 17, Serjeants inn, Fleet street, E.C.

GUILDHALL, 15th July, 1858.—The COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on WEDNESDAY, the 28th JULY instant, at ONE o'clock precisely, to receive PROPOSALS for BUILDING LEASES, for eighty years, of ground at the west side of Cheapside, in the City of London. Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.
FERDINAND BRAND, Comptroller.

GUILDHALL. — Lower Thames-street, adjoining the Coal Exchange.—The Coal and Corn and Finance Committee will meet at GUILDHALL, on TUESDAY, the 20th day of JULY instant, at ONE o'clock precisely, to receive PROPOSALS in writing for the LEASE of the PREMISES, No. 91, Lower Thames street, for a term of Thirty-one years.—A plan of the property, together with the conditions, may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall.
July, 1858. MEREWETHER.

EAST KENT.—BRICK EARTH for SALE.—To CONTRACTORS, BRICKMAKERS, BUILDERS, and OTHERS. TO BE SOLD, several Acres of LAND, containing first-rate brick earth, close to the Railway Station of a market town in East Kent, and convenient to water-carriage. A proposed tramway to a navigable creek bounds the land on one side, and there is a prospect of extensive building operations being carried on on land adjoining.—For particulars apply to MARTIN BULMER, Esq. Architect, Maidstone, where a sample of the earth may be seen.

AN OLD-ESTABLISHED BUSINESS of a Builder, Wheelwright, Charcoal Dealer, and Timber Merchant, in the neighbourhood of Bristol, which has been successfully carried on for nearly a century, and which is still flourishing, is TO BE DISPOSED OF on favourable terms, in consequence of the Proprietor leaving the country. The Premises are extensive and well adapted for the purpose; the locality favourable, and a considerable extension of trade may be realized by persons of energy, who may enter upon it with a moderate capital. Among the machinery are circular and vertical saws, driven by steam power. The Premises, which belong to the present Proprietor, will also be disposed of.—Application to be made by principals only, to Messrs. ABBOT, LUCAS, and LEONARD, Solicitors, Albion chambers, Bristol.

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44	34	41	33	40	29	38	30	Best Quality, per Case.		31s. 6d.
44	30	40	34	41	28	37	31	Seconds	,,	30s. 0d.
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42	32	39	30	40	28	39	27	Fourths	,,	26s. 6d.

Sizes of Squares usually in Stock, 16 oz. per Foot.

In by In.	In by In.	In by In.	In by In.	In by In.	PRICES PER 100 FEET. 1st.	2nds	3rds	4ths
6 — 4	9 — 7	12 — 9	14½ 10½	18 11	21s. 6d.	17s. 9d.	14s. 3d.	12s 6d
6½ — 4½	8½ — 7½	12½ 9½	14 13	13½—11½				
7 — 5	10 — 8	13 9	14½—13½	14 11		Per Foot		
7½ — 5½	10½ — 8½	12 10	14 10	..	2½d.	2¼d.	1¾d.	1½d.
8 — 6	11 — 9	12½—10½	12 —11	..				
8½ — 6½	11½ — 9½	13 — 10	12½—11½	.....				
14½—11½	14 — 12	22 12	18 14	24 —16	24s. 6d.	20s 10s 6d	16s 6d	14s.
15 11	14½ 12½	15 —14	19 14	18 —16		Per Foot		
15½—11½	15 — 12	16 13	20 —14	20 —16	3d.	2½d.	2d.	1½d.

In by In	In by In	In by In	In by In	In by In	PRICES PER 100 FEET. 1st	2nds	3rds	4ths
16 11	1.. —12½	17 14	22 16	24 —16	24s 6d	20s 0d	16s 6d	13s. 0d.
16½ —11½	16 12	18 14	20 —14	24 —16				
17 —11	16½ 12½	20 —13	24 —14	24 —17		Per Foot		
18 11	17 —13	21 —14	18 —13	22 —17	3d.	2½d	2d	1¾d.
13 12	18 12	13 —14	5 ..	20 18				
1.½—12½	20 12	17 —14	22 13	..	20s 6d.	24s. 0d.	18s. 0d	14s 0d.
24 17	20 —17	24 —18	24 —16	24 20		Per Foot		
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The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT-COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex.

The EWELL deep BLACK RUBBING and BUILDING BRICKS. And the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, AND ESSEX BRICKS, IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON-WHARF, Belvidere-road, Lambeth, and Kent-road Bridge, } SOLE CONSIGNEES.

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N.B. Every description of the Building Goods of the Trade always in Stock.

ST. JAMES'S MUSIC-HALL.—The whole interior of this noble Hall has been plastered with MARTIN'S PATENT CEMENT. The elaborate Ceiling, including the rich Gilding and Colouring of the principal and intermediate Ribs, Mouldings, Reeded Columns, &c as also the Groundwork, were all completed in less than a month on the SAME MATERIAL. Manufactured by STEVENS and SON, Drury-lane, and Derwent Mills, Derby.

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Supplied in any quantity fresh from the Mill, of a quality for which these works have been celebrated for upwards of thirty years.

PATENT PORTLAND CEMENT, proved by eminent engineers to be the strongest and most uniform in colour of any manufactured.

PLASTER OF PARIS of very superior quality, fresh from the ovens, daily.

GREY and CHALK LIME, by the yard or barge. Shipping orders executed upon liberal terms

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Whereat can be obtained of the best quality:—
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ROMAN, PORTLAND, KEENE'S, ATKINSON'S, MARTIN'S, and PARIAN CEMENTS.
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Goods forwarded by Railway with despatch.

PARIAN CEMENT. This article is valuable for internal stucco instead of common plastering, and is especially adapted to skirtings, flooring on brick arches, &c. &c. It takes paint in a few hours after its application on walls or laths, is without efflorescence, and may be painted or papered forthwith. A finer quality forms a beautiful scagliola, and polishes with any admixture of colours.—Manufactured by the Patentees, FRANCIS, BROTHERS, and POTT, Cement Works, Nine-elms, London.

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GEO. and THOMAS EARLE, CEMENT MANUFACTURERS, HULL—Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Paris White, Mastic, Hair, Lias Lime, Laths, Slates, and Slate Slabs, Fire-bricks, Grindstones, Cement Chimney-tops, ditto Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Pozzolano.

SCOTT'S PATENT CEMENT, Manufactured only by WILLIAM LEE, SON, and SMITH, EARL-STREET, BLACKFRIARS.

This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

THE GROVE TIMBER-YARD, 36, LISSON-GROVE NORTH.—T. TURNER, late foreman to E. Vigers, begs to inform his friends and the public generally, that he has opened the above premises with a well-selected STOCK of DRY PINE PLANK, White, Yellow, and Spruce Deals, and Mahogany, Prepared Flooring, Match Boarding, Mouldings, Veneers, Slate Battens, &c.; and hopes, by strict attention, combined with a very moderate profit on all goods sold, to obtain a share of their patronage and support.—Dry Pine Planks from 3s. 9d. each.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	1	1¼	1½	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 296, TOOLEY STREET, of the South Eastern Railway Company, adjoining their Termini, London-bridge, where, in conjunction with his old-established premises in King-street, Borough, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S. Country orders executed with prompt attention, and all sawn goods (Bulk Timber excepted), delivered free of cartage within three miles

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5½d.; 2½-inch White Battens, 9d. 10s.; Yellow, 11d. 10s.; 1-inch White Flooring, 10s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 10s. 6d.; ¾ ditto, 12s. Bird's-eye Maple Veneer, 2d. Cartage free to any part of town

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FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from ¼ inch to 1¼ inches thick, seasoned and ready for use. Also Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building Purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton-road, Pimlico

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0 11 6 per square.
¼-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals.....	0 3 3 each.
Spruce Deals	0 3 0 each.
Pine Planks	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, in logs and planks, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾ inch Prepared Flooring, 11s. 6d. per square.
1-inch ditto, 15s per square.
Yellow Battens, 11l 10s per 120, 12 by 2½.
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Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
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GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
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For DWELLINGS, SCHOOLS, ASYLUMS, BARRACKS, RAILWAYS, STREETS, &c.
URINALS, Single, Double, and in Ranges.
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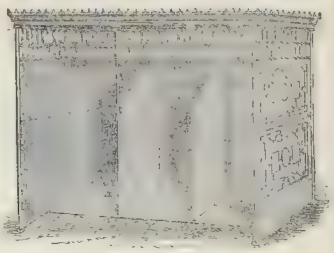

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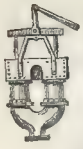

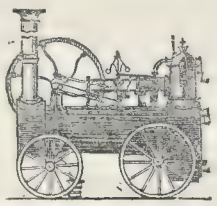

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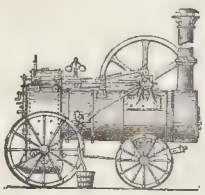

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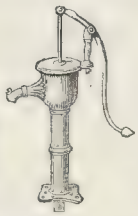

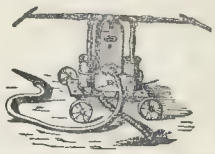

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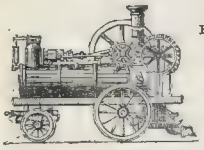

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CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

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F. McNEILL and CO. of LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON, Manufacturers and Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

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And by the most eminent manufacturers of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great annual Meetings it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and is unaffected by oil, acid, and soot. The Patentees are prepared to supply ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen who have used it, sent free to any part of the town or country. A Dry Hair Felt, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully informed that the PATENTEES, in consequence of infringements of their patent, have given the genuine article into the hands of their Solicitors, Messrs. [illegible], for the purpose of taking LEGAL PROCEEDINGS against all PARTIES INFRINGING THEIR PATENT RIGHTS, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and CO.'S Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW. Roofs covered with the Felt to be seen at the Factories. Also at the New Clarendon Court, Leicester-square, and Offices leading to Westminster Hall, and other buildings at the New Houses of Parliament. A liberal Discount allowed to the Trade.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 32s. per cwt.; Linseed Oil, 3s. 8d.; Turpentine, 3s. 6d.; Boiled Oil, 3s.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Copal, 14s. per gallon. Dry and Ground Colours, Brushes, &c. &c. for Cash.

F. LANGTON'S, 143 and 144, Whitecross street, St. Luke's, E.C. and 125, Tottenham-court-road, W.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 9d. per gallon; Boiled Oil, 3s. per gallon; Turpentine, 3s. 8d. per gallon; Pale Pale Oak Varnish, 7s. 6d. per gallon.

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THE BEST MARKET on the south side of the River, for GENUINE OLD GROUND WHITE LEAD, LINSEED-OIL, TURPS, VARNISH, and COLOURS of every description, is SIMPSON and CO.'S, 53 and 54, London road, Southwark.

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IMPROVED MINERAL OIL, THE BEST FOR MACHINERY, To be had at 3s. 9d. per gallon, at the DEPOT FOR ENGINEERS' STORES, No. 21, SUFFOLK-GROVE, Great Suffolk street, Southwark, S.E.

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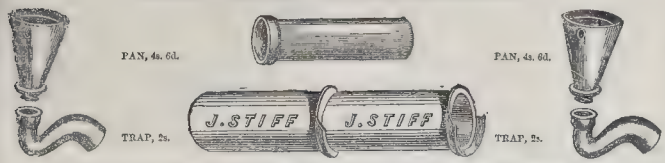
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



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7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

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W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET-PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Closet, 4s. 6d.; Trap, 2s.

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LIVERPOOL POTTERY,
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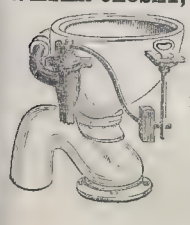
WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



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WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

BELL'S PATENT TRAPS, for Stables, Coach houses, Garden paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 108, Drury-lane, and Spa-road, Bermondsey.

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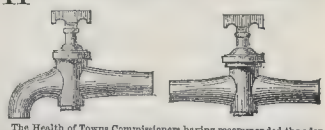
2-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3¾d.	5¼d.	9d.	1s. 2d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

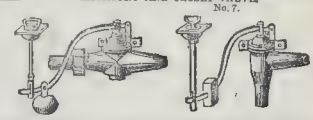
HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE, No. 7.

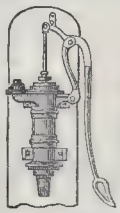


is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 13s. 6d. each.

TO BUILDERS AND PLUMBERS.



The attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET RINGS, for Hot-water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and Articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE OF WIGHT.—Second Testimonial.—"March 16th, 1852. In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer,
SUPPLIES COCOA-NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c.
of the best quality on the most reasonable terms.
Warehouse 42, Ludgate-hill E.C.

KAMPTULICON FLOOR-CLOTH, the Improved Patent Noiseless, Warm, Waterproof, Cleanly and Everlasting, NOW READY, Plain, and in a Variety of Elegant Designs, adapted for Churches, Halls, Public Buildings, and Rooms; subject to constant and indiscriminate wear.—Price 6d per square foot.—COBBETT and CO House Furnishers, Deptford-bridge, S.E.—Patterns may be seen at the Office of "The Builder."

SALES BY AUCTION.

WANDSWORTH-COMMON and BATTERSEA-RISE.—Freehold Estates, with possession, situate close to the Clapham-common and City-tal Palace Railway stations, on Wandsworth-common, having the advantage of railway communication with the City and the West end.

MESSRS. H. BROWN and T. A. ROBERTS will SELL by AUCTION, at the MART, on THURSDAY, JULY 29, at TWELVE, in Fourteen Lots (unless acceptable offers are previously made), valuable FREEHOLD ESTATES, land tax reduced, known as the Bolingbroke Grove Estate, having very considerable frontages to Wandsworth-common and Battersea-rise. Lot 1 comprises a detached family residence, in the occupation of Miss Champion, containing nine bed rooms, dressing, bath-room, capital drawing room, good domestic offices, three stall stable, coach house, walled garden, and several enclosures of meadow-land, in all nearly 12 acres. Lot 2 comprises a detached finished family residence, fronting to its own grounds, in the occupation of Henry Wheeler, containing eleven bed rooms, nurseries, bath-room, double suite of reception rooms, measuring lofty dining-room, nearly 23 feet by fifteen; drawing-room, about 30 feet; smaller drawing-room, library, conservatories, and excellent domestic offices; and all proper accommodation; a large establishment; standing for six horses, double coach-house, log house and numerous sheds, and several acres of excellent meadow-land, beautifully timbered, in all about 15½ acres. Lots 3 to 11 comprise choice detached and semi-detached, villa residences, fronting to and adapted for the erection of first class residences. Lot 12 comprises six brick built cottages, with gardens, and three enclosures of land, in all nearly 6 acres. Lot 13 comprises a lodge entrance, walled garden, farm-house, farm buildings, and two pieces of arable and pasture land, in all about 5½ acres. Lot 14 comprises a valuable plot of building ground, containing about 1½ acres. Possession of the whole will be given at Michaelmas. May be viewed with tickets, to be had of the Auctioneers, and (private particulars, with plans, to be had of Messrs. FEW and CO. Solicitors, Hereford-street, Conduit-garden; at the Estate Exchange, Chancery-alley; at the Mart; and of Messrs. HENRY BROWN and T. A. ROBERTS, 62, Throgmorton-street, Bank.

LONDON WORKS, NEAR BIRMINGHAM.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, by order of the Trustees, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupancy of Messrs Fox and Henderson, and situate at Smethwick, in the parish of Harborne and county of Stafford, adjoining the parish of Birmingham, in the immediate vicinity, also, of the works of C. F. Muntz, Esq., Messrs. James Watt and Co. and the Birmingham Patent Tube Company. It is important to notice that the works in the parish of Harborne exceed more than one-third the amount of rates in the adjoining parish of Birmingham. The works occupy a site of 1a. 3r. 39p. acres, and have a frontage of about 360 feet next the Crankford-street and a frontage of 200 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and their various basins, affording facility for water carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding 30,000*l*. They were established in 1849 by Messrs. Bramah and Fox, and have been added to then present importance by Messrs. Fox and Henderson, under whose guidance and judgment they have arranged for carrying on the great undertakings in connection with which the name of that firm has been rendered famous. The buildings are arranged in a quadrangular form, and there is an entrance from Crankford-yard, by a pattern-makers' shops and pattern stores, painters' stores, a chain shop, stabling, cattle's apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the different purposes at the smelting fire is said to be very low, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road:—Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr. CHARLES CLARK Smethwick, who will show the property; to Mr. HORNBLOWER, Architect and Surveyor, Waterloo-street, Birmingham; to Messrs. SWIFT, WADSWORTH, and BLENKINSOP, Solicitors, Liverpool; to Messrs. WOLSTENHOLME and WOLSTENHOLME, Messrs. BEALE and MARIGOLD, Solicitors, Waterloo-street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—A large proportion of the purchase money may remain on mortgage.

To Engineers, Founders, Railway Wheel makers and Carriage-builders, Anchor-smiths, Chain-makers, and Others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN each day, in lots, at the LONDON WORKS, Smethwick, (which occupied by Messrs. Fox and Henderson), the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Galloway, and other eminent makers, including, in the fitting shop and galleries; 11 self-acting new cutting lathes, 6 to 16ft inch centre, 18 engine turning lathes, 14 railway wheel lathes, very superior; double screw cutting dies; four axle lathes (self-acting); 19 vertical drilling and boring machines, many of them self-acting, three of them planing machines, self-acting screwing machine, universal drilling machine, 12 feet by 4 feet; a machine for putting on railway wheels, axle guard shaping machine, wheel-cutting machine, 700 feet turned wrought-iron shafting, 120 turned pulleys, 54 vices and benches, grindstones, large assortment of fine steel tools for the various machines, &c. In the wheel shop:—Five powerful hydraulic presses, one for pressing in tire bushes, nuts, &c., one for spoke bending, one for Bachelor's patent wheel-centre, for pressing axle stands, and one for welding tires, with pumps and moving wheel to work by steam-power; tire furnaces, anchor forges, smiths' forges, two 3 ton cranes, one smaller lifting, and four portable drilling machines, &c. In the foundry:—Eight 5 ton cranes, each 16 feet span, 25 feet high, with reaching outgear, chains, and blocks, three 50-cwt cranes to the furnaces, one 3 ton traveller, 48 feet span, a very superior loam mill, 10 feet 4 inch shaft by 3 inches, core smearing furnace, small cupola, moulding table, &c. In the turnstable shop:—Two very powerful self-acting lathes, with face plates 16 feet and 16 feet diameter; one facing and boring and axle-box spherical turning lathe, 72 inches diameter; three self-acting facing machines, one superior 4 foot self-acting chuck drilling and boring machine, 48 feet bed, one 12 ton traveller, 48 feet span. In the smiths' shops:—Two 6 cwt. double steam hammers, with Cornish boilers; one 1 cwt hammer, with 16-horse power horizontal steam-engine and blower; two powerful Hercules (one to work by steam power), eight 5 tons and three 3 tons post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven anchor-smiths' forges with water blowers, a chain-proving machine, bed 106 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the rail shop:—Two self-acting planing machines, to take in 18 feet by 4 feet 3 and 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, vices, benches, &c. In the carriage-building shop:—Two large and five small circular saws, one for sawing 28 inch boards, one powerful lever knife, set of plate bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two pipe-bending machines, four sash-making machines, one 4 feet planing machine, circular saw bench, thicknessing machine, set of tilt shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—Ten blasts, 21 feet 3 and 35 feet 4 span, with double purchase gearing and rails; fittings in pattern makers' and pattern stores, paint store, and offices; a large assortment of wood; upwards of 100 tons of the dies for the various sizes of Lieutenant Roger's patent anchors. Planing Boxes and Racks, tables, stores of various descriptions, and a large collection of other miscellaneous remnants for a first class engineering establishment.—To be viewed three days prior to the sale, catalogues to be had at each, of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved client three months' date will be taken from a few parties to the amount of 1,000*l*. and upwards.

SALES BY AUCTION.

Four Steam-Engines, five Steam Boilers, and Machinery.

MESSRS. FULLER and HORSEY will SELL by AUCTION, on TUESDAY, AUGUST 3rd, 1858, at TWELVE o'clock, on the PREMISES, No. 28, Gravel-lane, Southwark, FOUR STEAM ENGINES, BOILERS, and useful MACHINERY, including a two horse power high-pressure steam-engine, made in 1857, with cylinder 11 inches diameter, by one stroke, 22 inch stroke; by Clayton, Shuttleworth, and Co. and by Thompson, Hall, Catlin, and Co.; one high-pressure table steam-engine, 15-inch cylinder, 28-inch stroke; one condensing table steam-engine, of 6 horse power, cylinder 12 inches diameter, 24-inch stroke, by Maudsley, Son, and Field; two return flue-boilers, made in 1857, one 19 feet 6 inches long, 5 feet diameter, with 2 feet 6 inch fire-flue, low fire-plates, and return flue, 15 inches diameter, and chimney; one 16 feet long, 5 feet diameter, of a similar construction; one hemispherical-ended boiler, 24 feet long, 4 feet 6 inches diameter, one ditto, 19 feet 6 inches long, 3 feet 6 inches diameter, with 21-inch flue through, and steam-chest; one cylindrical boiler, 24 feet long, 3 feet 6 inches diameter, with 2 feet flue through; a 6-inch self-acting screw-cutting lathe, by Fox, of Derby; engineers' tools and foot lathe, four 6 feet Weldon cross-cut iron wheels, two 7 feet turned naves, 114 inches wide, nearly new spur and pin wheels, ten single chassis line wheels, two break drums, eight cast-iron girders, and other effects.—To be viewed on Monday previous, and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

WARDOUR-STREET, SOHO The Genuine Manufactured and Unmanufactured Stock of a Cabinet-maker.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, on the PREMISES, Ship-yard, Wardour-street, Soho, on WEDNESDAY, JULY 21st, and following days, at TWELVE for ONE, the very excellent Seasoned STOCK, consisting of 30,000 feet of Spanish and Honduras Mahogany and other foreign Woods, in planks and boards, including satin wood, Italian and American walnut, wainscot, and cedar, in veneer; and a quantity of dry pine. Also the superior Manufactured Stock, comprising sets of dining, loo, pedestal, and other tables; sideboards, bookcases, davenports, and other cabinet work of the best class; this also being the genuine Stock of Mr. Thomas Bird, who has borne a high reputation for his goods for many years, and is now retiring from the London trade. At the same time will be Sold, the Household Furniture of a small Dwelling-house; 21 work-benches, turner's lathe and bolt, pit-saws, and other effects. Approved bills of three months from purchasers to the amount of 30*l*. May be viewed two days previous; and catalogues had upon the Premises, or will be forwarded, post free, upon application to the Auctioneers, 46, Parliament street, Westminster, and 54, Exchange.

N.B.—The Lease of the excellent Premises, with Yard, Stable, Workshops, Offices, and Dwelling House, to be Disposed of.

SALE OF SHIP TIMBER Millwall, Poplar. To Contractors, Builders, Farmers, Barge Builders, and Others.

MR. SITGRAVE will SELL by AUCTION, on TUESDAY, JULY 20, at TWELVE, at the WHARF, next to Fenner's Tar Wharf (near the King's Arms) Millwall, Poplar, the FIRST PORTION of the MATERIALS of the HULL of the first-class ship ANNAMOOKA, comprising upwards of a thousand feet of prime 3½-inch, 2-inch, and 1¼-inch deck battens; thirty 25 feet beams, 12 inches square, 250 American fir knees, a large quantity of useful timber, quartering, &c. of various scantlings; stacks of fir firewood, ten tons of wrought-iron knees, two 12-inch chain cables, 60 fathoms each; and a variety of useful materials, suitable for building, repairing, fencing, &c.—May be viewed three days prior to the sale, and catalogues had at the Wharf; and at the Black Horse, Rotherhithe; Centurion, Deptford; Mitre, Greenwich; Star and Garter, Woolwich; Bull, at Barking; Bull, Ilford; Bull, Romford; Green Dragon, Stratford; Blue Last, Hackney; Angel, Islington; Red Lion, Paddington; Pigeon, Brentford; Windsor Castle, Hammersmith; Golden Lion, Camberwell; and of the Auctioneer, at his Rooms and Offices, 28, Leadenhall-street; or will be forwarded per post on application to the Auctioneer.

TO ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS, ENGINE and other SMITHS, MILLWRIGHTS, SAW MILL PROPRIETORS, BUILDERS, and Others.

MESSRS. BOOTH and CO. will SELL by AUCTION early in AUGUST, on the PREMISES near Southwark bridge, the STOCK of an EXTENSIVE MANUFACTURING ENGINEERING and IRON and BRASS FOUNDRY FIRM, comprising various steam engines, lathes, high-pressure pumps, brass work making machine, universal planing machine, &c. &c. Also the LEASE, PLANT, and GOODWILL (if sold by PRIVATE TREATY), on account of the present proprietor, quitting the business. BOOTH and CO. Auctioneers, Negociators, and Valuers, 13, Eastcheap, City, E.C.

COMPACT FOUNDRY and ENGINEERING BUSINESS, for DISPOSAL To MECHANICAL ENGINEERS, IRON and BRASS FOUNDERS, Gentlemen wishing to enter into the above Business, possessing Extensive, convenient, and very desirable BUSINESS PREMISES, in a first-rate position in the Midland Counties, and the PLANT, now in full work, and having various good and profitable orders now in hand.

MESSRS. BOOTH and CO. have for DISPOSAL, by PRIVATE TREATY, in consequence of the Principal's being engaged in other business, and wishing to limit the above extensive concern, well worthy the consideration of the trade, as a long term of the lease at a low rental is yet unexpired. The highly-valuable plant, machinery, working tools, and materials, comprise all the requirements for carrying on a first-rate trade. The business has been for a number of years well and favourably known in both mechanical and mercantile circles, in consequence of the many important and useful inventions which have been projected and perfected at the establishment. The situation of the Premises is most eligible in every point of view, connected with trade.—Particulars and terms, apply to BOOTH and CO. Auctioneers, Valuers, and Negotiators, 13, Eastcheap, City, E.C.

Valuable Freehold Estate, with commanding frontage to the high road between Bermondsey-hill and Camberwell-green, offering a choice site for the erection of terraces of first class detached villas, or for any public institution.

MR. SEARLE will SELL by AUCTION, at the MART, on WEDNESDAY, the 28th JULY, at TWELVE o'clock, an important FREEHOLD PROPERTY, comprising a commodious double-fronted family residence, with coach-house, stabling, out-buildings, and extensive pleasure garden, partly ripe for building purposes, having a frontage of 114 feet to the high road, and a most desirable depth, upon the entrance of an established and greatly increasing neighbourhood. Particulars may be had at the Mart, of Messrs. HOOKE, STREET, and GUTTERES, Solicitors, Bedford-row; of the Auctioneer, Cornhill, City; and of Mr. SEARLE's Offices (where also a plan of the estate may be seen), Camberwell-green, S.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM AT F. K. BARNES and SONS' TIMBER-YARD, Canon's Marsh, Bristol, on WEDNESDAY, the 28th of JULY, 1858, at TWELVE precisely,

FOR ACCOUNT OF IMPORTERS.

10,000 Feet Honduras Mahogany.		
4,000 Spars Deals and Battens, new importation.		
10,000 Quebec Pine Deals (now in port).		
5,000 St. Petersburg Red Deals		
5,000 New Brunswick Mixed Deals.		
1,000 Reds 90 long Deals		
1,000 Fresh Bright Swedish Red Deals		
400 Norway Red and White Deals and Battens		Being the Cargo per *Ejellestad*, now discharging.
2,500	ditto Boards	
2,500	ditto Sawn Scantling	
250 Pieces Hewn Fir Timber		
1,000 Spars (fresh)		
1,000 Loads Quebec Yellow Pine (new importation)		
	40 Loads Quebec Red ditto	
	300 Loads ditto White ditto	
	70 Loads ditto Birch ditto	
	40 Loads Red and White Pine Deals and Battens	
	60 Loads Mixed Deals	
	100 Loads Mixed Birch Fir Timber ditto	
	100 Loads Waney Birch Pine ditto	
	40 Loads Quebec Oak ditto	
50 Fathoms Dead Quebec Hemlock Lathwood		
5,000 Pretwood Flooring Boards,		
With other Goods.		

Catalogues may be had and the Goods viewed on the Week before the Sale.

F. K. BARNES and SONS, Brokers.

N.B. As these goods will be sold in the Sale room, the Brokers recommend buyers to look over the Lots the day previous to the Sale if possible, as all Warranting of the Sale day.

SALES BY AUCTION.

COULSDON, near CROYDON, SURREY.—To Contractors, Builders and others.

ROBERT W. FULLER has received instructions from the Contractor (having completed the building) to SELL by AUCTION, on the land adjoining the new Asylum for Fatherless Children, Coulsdon, near Croydon, about the Caterham Junction Station on the South Eastern Railway, on WEDNESDAY, JULY 21, at TWELVE for ONE o'clock, the very extensive and exceedingly VALUABLE SURPLUS BUILDERS' STOCK, capital erections, and handsome effects, comprising about 1,200 remarkably good and nearly new scaffold poles and boards (some of great length), with irons and cordage complete; 20 dozen pullogs, a large quantity of valuable Bath and Portland stone, capital one-horse whim, with chains, iron-work, and gear complete; two powerful crabs, with apparatus; stout chain falls, washing furnace, and iron work; grinding stones, carpenters' benches, barrows, blocks, pulleys; the substantial brick and other erections of workmen's cottages and stables, with fittings, composed of the best materials, and covered with Welch slate, together with a large quantity of excellent and useful building items and miscellaneous effects. There is every possible facility for removing the materials by siding on to the main line and road at Stock Nest, which the purchasers will have free privilege of using. May be viewed, and descriptive catalogues obtained at the Estate Exchange, Change Alley, E.C.; and at the Auctioneer's Offices, 101, High-street, Croydon.

To BUILDERS, CONTRACTORS, MARBLE MERCHANTS, TIMBER MERCHANTS, and OTHERS.—The valuable Plant, Machinery, Tools, Utensils, &c. of the Improved Wood Moulding Mills and Marble Works, Bridge-terrace, Harrow-road, Paddington.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY, AUGUST 4th, at TWELVE precisely, under circumstances that admit of no reserve (unless the whole be previously disposed of private contract), in one Lot, the whole of the excellent fixed STEAM POWER and TOOLS, consisting of drilling, planing, polishing machines, complete, and in the best working order, including a capital 36-horse power engine, surfacing table 8 feet in diameter, with fittings; a 30-feet-iron shaft with fittings complete, a superior double moulding machine, patent saw-bench, patterns, marble in slabs, mantelpieces, and effects.—May be viewed the day prior, and catalogues obtained on the Premises; and of Mr. MARSH, Charlotte-row, Mansion-house, who will receive offers for sale by private contract.

VALUABLE BUILDER'S STOCK, PIMLICO.—By order of the Proprietor, who has removed to more commodious Premises.

MR. FREDK. HALL will SELL by AUCTION, on the PREMISES (the corner of Hanover-street, near the Thames Bank Distillery, Pimlico), on TUESDAY, JULY 20, for TWO DAYS, The stock of upwards of 200 pieces of prepared flooring, 500 clear pine, yellow, and white planks, deals, and battens; 1,000 feet of dry wide pine boards, mahogany and oak doors, forty room doors, bed-room sashes, mantelpieces, and chimney-pots, slates, lintings, sounds, sashes and frames, quantity of new nail, gany, three excellent gas-cooking and steam-stoves, some plain and ridge tiles; also the implements of trade; twelve dozen scaffold-cords, poles, tubs, ladders, drain pipes, forty fathoms of firewood, &c. On view.—Catalogues had one day previous, and morning of sale; and of the Auctioneer, Chesterstreet, Kennington, S.

NEWGATE STREET.—Building Materials of three large Houses and Warehouses

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on MONDAY, JULY 26, at TWELVE, in lots, all the valuable BUILDING MATERIALS of three houses, Nos. 47, 48, and 49, Newgate-street, comprising about 250,000 sound stock bricks, several tons of lead in gutters, flats, coverings, and pipes; about fifty squares of tiles, pantiles, and slates, sound oak and fir timber in roofs, floors, and quarterings; glazed sashes, large skylights, fitted with plate glass; doors, wainscoting, partitions, closet fronts, marble slabs, chimney-pieces, sound flooring and lining boards, shop fronts, iron columns, stone paving, copings, and sills; stoves, and other useful fixtures and fittings in.—May be viewed on SATURDAY. Catalogues had at the Architect's Office, Guildhall; and of PULLEN and SON, 30, Fore street, Cripplegate.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq. at Burham, on the Medway

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq. within the last eight years. The Burham works and clay-fields occupy a site of about eighty-five acres, partly freehold and partly leasehold, on the banks of the River Medway, and three from Maidstone. The distance from London is about thirty-eight miles, and the Snodland or Aylesford stations of the North Kent line are within two miles of the property. The surface of the land slopes from the river, and rises rapidly towards the river, and the pits having been formed near the summit, but little haulage is required. The clay is known as the Gault Clay, and it extends beneath the entire surface to a depth of about 120 feet, affording a supply more than sufficient for the next century. The Gault clay requires a smaller quantity of admixture than any clay near London, and the Burham works are the only ones in the London markets from any other where the Gault clay is found. The cost of carriage to London is only 3s. 6d. per load. The works were established by Mr Cubitt for his own requirements only, and both money and skill have been unsparingly expended for the purpose of rendering them complete. The principal building is upwards of 300 feet in length, chiefly three stories high. There are four potters' kilns within the building, and also drying apparatus consisting of warm water pipes. Outside the building, and conveniently placed, are three Suffolk kilns (two for 80,000 and one for 90,000); two wagon-top kilns, 50,000 each; twelve Scotch kilns, 90,000 each; and three ditto of 60,000 each; also, seventeen acres covered back ground, in capital order.

The Works are capable of producing 25 millions bricks per annum, in addition to an almost unlimited quantity of ironstone, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, by Whitehead, Hall, and Mr Cubitt, with requisite pug mills, wedge pug mills, &c. A pair of condensing steam engines, by Maudsley, Sons, and Field, of 50-horse power, with boilers, wrought iron shafting, 350 feet in length, and gearing. There are upwards of 14 different sorts of tubes for pipes, and fancy goods, blow pits, clamps, &c. for burning bricks, second fire tubs. Near the clay pit are two large wash mills, worked by two portable engines of 10 horse power, by Clayton and Shuttleworth, and connected by a tramway to the four large brick-barks, at the lower part of the field. A series of three cement kilns has been formed, which is filled from the Medway every tide, and at all times a sufficient supply of water for the cement and the general purposes of the establishment. The works are intersected by upwards of two miles of iron railways, with turntables and weigh-bridge, and there is a most substantially-built wharf, with crane wall, having space of sufficient length for six barges to lie alongside.

The Cement Works comprise four well-built kilns for 60 yards each, three drying sheds, two pans of king covers, two basalt pumps, and pipes worked by a portable steam engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly-erected residence for general manager, well placed, substantially built, and surrounded by large gardens. A newly erected house for foreman, of cement work, three cottages, stabling, and a mess-room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-acre field of excellent sand for brick-making purposes, and a wharf for loading it. As before stated, these works were established to supply Mr. Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is acknowledged to be the best for brick-making purposes, and that the cement is of the highest quality, and in the London market, that can be proved, with not being subject to duty of London or dock dues, that all other raw materials can be obtained on the very best terms, that the machinery is of the highest character, and capable of being altered to suit its work, that skilled labour is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

Further particulars apply to Messrs. FULLER and HORSEY, Billiter-street.

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The Builder.

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Architect, Engineer, Operative & Artist.

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WILL CLOSE ON SATURDAY NEXT, THE 31ST.

SOCIETY OF PAINTERS in WATER-COLOURS.—The FIFTY-FOURTH ANNUAL EXHIBITION is NOW OPEN, at their Gallery, 5, Pall-mall East (close to Trafalgar square), from Nine till Dusk. Admittance, 1s. Catalogue, 6d.

JOSEPH J. JENKINS, Secretary.

LONDON and MIDDLESEX ARCHÆOLOGICAL SOCIETY.—The Annual General Meeting of the Society was held July 13th, 1858, at Three p.m. at the rooms of the Society of Arts, John-street, Adelphi.

JOSEPH ARDEN, Esq. F.S.A. one of the Trustees of the Society, in the Chair

The Honorary Secretary, Henry William Sass, Esq. read the minutes of the last general meeting, which were confirmed.

The following resolution was proposed and carried:—"That the words 'in the month of July in the year 1858, and on the first Thursday in May in every future year, at Three o'clock, p.m.' be added after the word 'held,' in No. 12 of the Society's rules."

Several gentlemen having been elected members of the Society, the Honorary Secretary read the Report of the Council and the Auditors, and a financial statement of the affairs of the Society.

It was proposed and carried, "That for the prevention of mistake, the name of the Rev. Charles Boutell be introduced in the report, whenever he was alluded to, as the late Honorary Secretary."

It was proposed and carried, "That the attention of the Council be directed to the resolution of November 27th, 1857, in the case of the Rev. Charles Boutell, and the claims of the Society upon him for certain moneys unaccounted for, but received by him in the character of Honorary Secretary, and that the Council do take such measures as may seem to them necessary for the recovery of the same."

It was proposed and carried, "That the report of the proceedings of the meeting this day, with the Report of the Council and Auditors, and the financial statement of the affairs, together with an amended list of the members and rules of the Society, be printed and sent to every member, and that the annual balance-sheet, and an amended list of members, be printed and circulated in future as early as possible after the annual general meeting in the month of May."

The officers for the ensuing year were proposed and elected, and the thanks of the meeting were given to the officers of the past year.

The thanks of the meeting were voted to the officials of Hampton Court Palace, to the Committee of the Architectural Exhibition, to Mr. C. H. Ely, and to the Council of the Society of Arts, for the use of rooms on several occasions during the past year for the meetings of the Society.

A vote of thanks to the worthy Chairman terminated the proceedings.

By order,

Signed) HENRY W. SASS, Honorary Secretary.

Council Room, 32, Fleet street, E.C. July 15, 1858.

BUILDERS' BENEVOLENT INSTITUTION.—The ELEVENTH ANNUAL GENERAL MEETING will be held at the London Tavern, on THURSDAY, 29th inst. at THREE o'clock p.m. Mr. Alderman W. A. ROSE, President, in the chair, to receive the Report for the past year, and elect the Treasurer, Directors, and Auditors for the year ensuing.

NOTICE OF MOTION.—That the following words in Rule 1, Sec. 1, be expunged, viz. Candidates under sixty years of age cannot be admitted total incapacity only excepted).

And that Rule 3, Sec. 1, be altered to read thus:—That no person can be admitted a candidate for the benefits of this Institution under sixty-five years of age (total incapacity only excepted), &c.

And that the following words in Rule 3, Sec. 3, be expunged, viz. Signifying the same to the recommending subscribers, with their reasons for so doing.

And other matters connected with the welfare of the Institution.

July, 1858. A. G. HARRIS, Sec.

IT is proposed to ERECT a FOUNTAIN in the market-place of a provincial town, at a cost of about 150*l*. Further particulars may be obtained by addressing to W. S. No 4, Trafalgar square, W.C. to whom designs, with cost, should be sent, before JULY 31st, and the material named.

HAVELOCK MEMORIAL, to be erected in Trafalgar-square.—Artists desirous of submitting DESIGNS for this memorial will receive specifications on application to the Secretary of the Fund, at 3, Pall mall East, London, on and after July 17, 1858.

CONTRACTS.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS, and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the County of Hants, in the left hand corner of the envelope, and addressed to the Director General of Contracts

N.B. The Secretary of State for War, reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, June 9, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-mall, London, on FRIDAY, the 6th AUGUST, 1858, for RENDERING the SCHOOL-ROOM at Chichester Barracks, in the county of Sussex, more SUITABLE for DIVINE SERVICE. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 26th JULY, 1858, between the hours of TEN and FOUR each day, Sundays excepted, until the 5th AUGUST, 1858. Tenders to be endorsed, "Tender for Alterations, &c. to the School-room, at Chichester Barracks, in the County of Sussex," on the left hand corner of the envelope, and addressed to the Director-General of Contracts.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Portsmouth, July 20, 1858.

TO BUILDERS.—TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on MONDAY, the 2nd of AUGUST, 1858, for RE-CONSTRUCTING a RANGE of OUTBUILDINGS at Colewort Barracks, Portsmouth. The plans, specification, and conditions of Contract may be seen, and every information obtained, on application at this Office between the hours of TEN and FOUR of each day. Tenders to be endorsed, "Tender for Re-constructing a Range of Out buildings at Colewort Barracks, Portsmouth."

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Portsmouth, July 17, 1858.

MINCING-LANE, LONDON.—VALUABLE BUILDING GROUND.—The Court of Assistants of the Worshipful Company of Grocers are willing to receive TENDERS for TAKING, upon Building Lease for a term (commencing Lady-day, 1859), and at a ground-rent to be agreed upon, a PLOT of LAND, upon which are now erected two houses, known as Nos. 8 and 9, Mincing-lane, in the City of London, and a range of warehouses in the yard in the rear, known as Warner's-yard, and for the ERECTION thereon of Six rooms Counting houses, &c. in accordance with plans which have been prepared, plans which may be agreed upon. The ground contains a frontage towards Mincing-lane of about 50 feet, and a width in the rear of about 70 feet, with an average depth of about 240 feet. Further particulars may be obtained, and the plans already prepared may be inspected, at the Clerk's Office, Grocers'-hall, London, E.C. where Tenders are to be sent, not later than the 1st day of NOVEMBER next. The Company do not bind themselves to accept any Tender.

WILLIAM RUCK, Clerk

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS.—To WELL-SINKERS.—ERECTION of NEW BATHS, BIRMINGHAM. The Baths and Parks Committee are prepared to receive ESTIMATES from persons willing to Contract for the SINKING of an ARTESIAN WELL for the supply of water for the above Baths. The particulars, specification, with the conditions for regulating the contract, may be inspected at the Office of the Architect, Mr. EDWARD HOLMES, 25, Temple row, Birmingham. Estimates are required to be sent by post to the undersigned, on or before the 30th of AUGUST, 1858, endorsed "Tender for Artesian Well Baths, Birmingham." The Committee do not bind themselves to accept the lowest or any Tender.

THOMAS MANDBRIDGE, Town Clerk

Town Clerk's Office, Birmingham, June 15, 1858

TO BUILDERS.—Parties desirous of CONTRACTING for the ERECTION of the new CONGREGATIONAL CHAPEL, Victoria road, Newport, Monmouthshire, may view the plans and specifications at the Office of the Architect, Mr. A. O. WATKINS, Great Dock-street, Newport. Sealed Tenders, addressed to the Building Committee, at the Office of the Architect, to be sent in not later than the 16th inst. Quantities supplied gratuitously. The Committee do not bind themselves to accept the lowest or any Tender

On behalf of the Committee, JAMES EWINS, Secretary.

Newport, July 15th, 1858.

NORTH-EASTERN RAILWAY.—To BUILDERS.—The Directors are prepared to receive TENDERS for the ERECTION of a GAS-HOUSE and GAS-TANK at Jarrow Docks. Plans and specifications may be seen and altered any day, on application to Mr. PROSSER, Architect's Office, Central Station, Newcastle-on-Tyne. Quantities will be supplied, but application must be made for them not later than MONDAY, the 19th instant. Sealed Tenders, addressed to the Secretary as below, and marked, "Tenders for the Works, &c. at Jarrow Docks," to be delivered at York not later than THURSDAY, the 29th instant. The Directors do not pledge themselves to accept the lowest or any Tender

York, 20th July, 1858. J. CLEGHORN, Secretary.

CONTRACTS.

NEW WORKHOUSE, BOLTON UNION.—To BUILDERS and OTHERS. The Board of Guardians of this Union are desirous of receiving TENDERS for the various BUILDINGS intended to be ERECTED on the Fishpool Estate, near Bolton. The drawings and specifications, with conditions of contract, may be seen and every information obtained on application at the Office of Mr. LEIGH HALL, Architect, No. 4, Arcade, Town-hall-buildings, Manchester, on and after MONDAY, the 19th day of JULY next, until WEDNESDAY, JULY 28th; after which date they may be inspected at the Office of Mr. GEORGE WOODHOUSE, Architect, Silver-well-yard, Bolton, until TUESDAY, the 14th day of AUGUST. The Tenders are to be made for the execution of the works in four portions, and, in the event of general Tenders, the amount of each trade is to be given separately, any or either of which the Guardians are to be at liberty to accept, viz.:—

No. 1. The Main Buildings, Kitchen, and Dining Hall.
2. The Lunatic Asylum.
3. The Hospitals.
4. The Entrance Offices.

All the Tenders are to be sealed, under cover, addressed to the Chairman, free of expense, and endorsed "Tender for New Workhouse, Bolton," and to be sent to my Office on or before the 10th day of AUGUST next. The Guardians do not pledge themselves to accept the lowest or any Tender sent. Two sufficient sureties will be required for the due performance of the contract.—By order of the Board of Guardians, JOHN WOODHOUSE, Clerk.

Union Offices, 11, Acres-field, Bolton, July 7th, 1858.

BARNSTAPLE WATER SUPPLY.—To IRONFOUNDERS, and MANUFACTURERS of STONEWARE PIPES.—The Directors of the Barnstaple Water Company are prepared to receive TENDERS for the SUPPLY and DELIVERY of the following IRON and STONEWARE PIPES

CONTRACT No. 1.—For 14 yards of Seven Miles of Cast iron Socket-Pipes, of 16, 9, 7, 6, 5, 4, and 3 inches diameter, together with other Castings.

CONTRACT No. 2.—About Two Miles and a Half of straight Stoneware Socket-Pipes, glazed, of 12, 11, and 10 inches diameter.

Drawings and specifications may be inspected, and any further information obtained, on and after the 24th instant, at Mr. A. BOWES, 6, High street, Barnstaple, from whom specifications, schedules of the quantities, and forms of Tender may be obtained, at 5*s* each contract, the drawings of the iron pipes and pieces, on the payment of 5*s*. Tenders, sealed and endorsed "Tender for Iron Pipes," or "Tender for Stoneware Pipes," to be sent on or before the 12th day of AUGUST next, addressed to the "Chairman of the Water Company, Barnstaple."

The Directors do not bind themselves to accept the lowest Tender. By order of the Board,

Dated 13th July, 1858 R. HEARD, Secretary.

TO BRICKMAKERS, BUILDERS, &c.—WANTED, immediately, SEVERAL THOUSAND RED FACING BRICKS.—Tenders, stating price per Thousand, delivered at Regent's Canal, London, endorsed "Tender for Bricks," to be addressed to T. P. at G. Earle's Library, 67, Castle-street East, Oxford-street, London, W.

TO IRON BEDSTEAD-MAKERS and OTHERS.—TENDERS are invited for the SUPPLY of about EIGHTY-FOUR IRON BEDSTEADS, 6 feet long, 2 feet 6 inches wide, with Sacking Bottoms complete. Samples to be forwarded, free of charge, to the East London Chambers, Commercial-street, Whitechapel, care of Mr. Pope, superintendent, on or before TUESDAY, AUGUST 3rd.—Further information may be obtained of Mr. J. BANDELL, Architect, 12, Grosvenor-street, Camberwell, S.E. to whom all Tenders are to be sent, on or before the above-mentioned date. The lowest or any of the Tenders will not necessarily be accepted. The samples, except those approved, to be removed from the premises (free of expense) within seven days after notice to that effect shall have been given to the respective parties.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS. The Vestry of the Parish of St. Luke, Chelsea, will meet on TUESDAY, the 27th inst. in the Manor House, King's-road, Chelsea, at ELEVEN o'clock in the forenoon, to receive TENDERS from persons willing to CONTRACT, for twelve months, for the EXECUTION of GENERAL WORKS connected with the SEWERS and DRAINS, according to a schedule of prices now lying at the Office. Copies of the Agreement, and of the contract and form of Tender, may be had upon payment of 10*s* to be returned to parties tendering. The Vestry do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right of making special contracts, if they shall see fit. Parties tendering must be prepared to execute and pay for a contract, and to provide sureties for the performance of the same, if called upon, to the Vestry. Tenders must be upon the printed forms, and be left at this Office before TEN o'clock on the aforesaid TUESDAY, the 27th inst.—By order,

CHAS. LAHEE, Vestry clerk.

Offices, Manor House, King's-road, Chelsea, July 15, 1858.

TO STONE MERCHANTS.—The VESTRY of the Parish of St. LUKE, Chelsea, will meet in the Boardroom, Manor House, King's-road, on TUESDAY, the 27th instant, at ELEVEN o'clock in the aforesaid forenoon, to receive TENDERS from persons willing to contract for SUPPLYING the following MATERIALS, viz. Aberdeen and Mount Sorrel granite, channel stones, dressed Devonshire, Aberdeen, and Portland granite kerb, and Yorkshire paving, to be delivered within the parish at such times and in such proportions as may be directed. Further particulars, with the form of Tender, may be had on application at this Office. Sealed Tenders, signed by the proposed contractor, with the name and description of two sufficient sureties for the performance of his contract, to be left at this Office before TEN o'clock on the aforesaid TUESDAY, the 27th inst. The legal charges of the contract to be paid by the contractor, upon the execution of the same. No Tender will be received or accepted unless made on the printed forms.—By order,

CHAS. LAHEE, Vestry Clerk.

Offices, Manor House, King's road, Chelsea, July 15th, 1858.

[*For remainder of Contracts see next page.*

CONTRACTS.

TO BUILDERS.—The Guardians of the Basford Union are desirous of receiving TENDERS for the ERECTION of a CHAPEL, BOARD ROOM, RELIEVING OFFICERS ROOM, and other OFFICES, together with sundry ALTERATIONS and ADDITIONS to the Basford Union Workhouse. The drawings, specifications, and conditions may be seen at the Union Workhouse, at Basford; and at Bolton Street, Nottingham, of which Tenders may be had. Tenders to be sent to this Office not later than MONDAY, the 2nd of AUGUST. To bear the usual pledge that the lowest or any Tender will not be accepted. By order, R. B. SPENCER, Clerk.

Basford Union Offices, July 20th, 1858.

PERSONS desirous of TENDERING for the ERECTION of a New-roomed Detached VILLA and OFFICES, after plans, &c., prepared by Mr. BARBER, Architect, may see the same at the Office of the Architect, 16, Queen-square, Bloomsbury, and Bolton Street-st Beds., Mr. WILKINSON, the 24th of JULY, to which DAY AUGUST the 2nd, a meeting of the Tenders are to be delivered to the Architect.

TO BUILDERS. Persons desirous of TENDERING for the ERECTION of a DWELLING HOUSE and JOINER'S SHOP, at Bletchley, Bucks, may see the plans and specification at the Office of Mr. CLARK, Architect, Newmarket, and after JULY 24th next. The Tenders are to be delivered at the Shop, Bletchley, after WEDNESDAY, the 28th of JULY, to which DAY AUGUST the 2nd, a meeting of the Tenders are to be delivered to the Architect.

TO BUILDERS. Persons desirous of CONTRACTING for the RESTORATION of BEDWELTHY CHURCH, Monmouth, may see the drawings, &c., at the Offices of the Architects, Messrs. WOOD & HABERSHON, 28, Bloomsbury-square, London, where Bills of Quantities may be obtained. Sealed Tenders to be delivered at Cardiff on SATURDAY, the 24th inst. at ELEVEN o'clock precisely. The Architects do not hold themselves bound to take the lowest Tender.

July 8th, 1858.

TO BUILDERS. — Persons desirous of CONTRACTING for the RESTORATION of BEDWELTHY CHURCH, Monmouth, may see the drawings, &c., at the Offices of the Architects, Messrs. WOOD & HABERSHON, 28, Bloomsbury-square, London, where Bills of Quantities may be obtained. Sealed Tenders to be delivered at Cardiff on SATURDAY, the 24th inst. at ELEVEN o'clock precisely. The Architects do not hold themselves bound to take the lowest Tender.

TO DUST CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Board of Works for the Pimlico District are prepared to receive TENDERS for the REMOVAL of DUST, ASHES, and other REFUSE from the Houses of the Inhabitants of the District, for a period of TWELVE MONTHS, from the 29th of AUGUST, 1858. The same to be done according to the specifications, which may be seen at this Office. Tenders must be in a separate form for each of the Parishes of Pimlico, comprising the Hamlet of Hanover-square, to be sent in sealed and marked "Tenders for Dust and Ashes," in the envelope, and to arrive at this Office on WEDNESDAY morning, the 4th of AUGUST, 1858, at the Office, Broadway House, Hanover-square, addressed, "The Chairman of the Board of Works for the Pimlico District." Each Tender must be accompanied by the required London reference, with two approved sureties, for the due performance of the same. The Board does not bind itself to accept of any Tender.—By order, W. LOVELY, Clerk.

TO BUILDERS and FOUNDERS.—SEALED TENDERS, in the specific Sum, will be received by the Director of Contracts, War Department, Pall Mall, London, on or before FRIDAY, 24th inst., at NOON, for BUILDING a RESERVOIR, SUPPLYING and LAYING NEW PIPES and FITMENTS to the Water Works of the Barracks and War Department Premises at Devonport, Plymouth, &c., and specifications, with every necessary information, may be obtained at the Royal Engineer Office, Devonport, on TEN DAYS' notice (or a week days, from the 26th instant to the 30th AUGUST next) of which due acknowledgment is requested. Tenders must be addressed to "The Director of Contracts, War Department, Pall Mall," and delivered at the Royal Engineer Office, Devonport, by TWELVE o'clock, at noon, on MONDAY, JULY 26th instant.—By order of the Board,

Horse, July 14, 1858. W. WINKLEY, Jun. Clerk

SAINT MARYLEBONE.—SOUTHALL SCHOOLS.—EXTENSION of TIME.—JULY 20th, 1858.—Notice is hereby given that the time for the reception of TENDERS for the BUILDING of the new SCHOOLS at Southall is EXTENDED to the 31st day of JULY next, the 27th of JULY, as before stated, being in the forenoon, after which time no Tenders will be received. By order, THOS. D. RAE, Secretary.

Secretary's Office, St. Marylebone Workhouse.

TO BUILDERS.—Parties willing to CONTRACT for the ERECTION of the CATHOLIC CHURCH at St. Mary's Alley, East Retford, Notts, may see the plans and specifications at the Office of Messrs. HADFIELD & GOLDICUTT, 60, Parliament-street, Westminster, from MONDAY, the 26th inst. to MONDAY, the 9th of AUGUST next.—A further particulars, apply to the Architects, as above.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY
May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY.

A special Act was obtained in 1849 empowering persons to assure with this Company against all harm thereby from the consequences of accidents from the party causing the injury, an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by accident yearly. This Company has already paid as compensation for accidents 27,000l.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway stations, where, also, Railway Accidental Insurance can be effected for a Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,
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VENTILATION—PURE AIR.

Sheringham's Ventilator for admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

These Ventilators are arranged that the requisite quantity of air may be admitted for the ventilation of an apartment without the slightest current, and by the opening of the valve, when placed in the external wall, their action is not impeded when the house is closed; for warming, with the least consistent supply of fresh air is most required.—HALL BROTHERS, sole Manufacturers, 19a, Blackfriars road, and 127, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

KAMPTULICON FLOOR-CLOTH, the Improved Patent Noiseless, Warm, Waterproof, Cleanly and Everlasting, NOW READY, Plain, and in a Variety of Elegant Designs, adapted for Churches, Halls, Public Buildings, and Rooms; subject to constant and unlimited use.—Prepared per square yard.—CORBETT and CO. House Furnishers, Deptford-bridge, S.E.—Patterns may be seen at the Office of "The Builder."

FREDERICK DENT, Chronometer, Watch, and Clock Maker to the Queen and Prince Consort, and maker of the great clock for the Houses of Parliament, 61, Strand, and 34, Royal Exchange.

No connection with 33, Cockspur-street.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer, SUPPLIES COCOA NUT FIBRE MATTING, DOOR-MATS, and HASSOCKS, &c. of the best quality on the most reasonable terms. Warehouse 42, Ludgate-hill E.C.

CARTS, VANS, WAGGONS, LADDERS, BARROWS, &c. GEORGE ELL, Cart Wheelwright, Ladder, and Barrow Maker, has constantly on hand Carts, Ladders, and other Carts, spring vans and above large stock of ladders, barrows, trucks, drays, and other trade implements of the best description, on the most reasonable terms. Orders punctually attended to.

Scaffolding Ladders Barrows, Steps, Trestles, &c. Lent on Hire.

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THE CONSERVATIVE BENEFIT BUILDING SOCIETY.—Established under 6 and 7 Will. IV. cap. 32.

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ST. MARTIN'S HALL.—GREAT FEAT of MEMORY.—Mr. ABEL MATTHEWS will RECITE (without book, from memory) over the Twelve Books of MILTON'S PARADISE LOST, comprising 10,565 lines.—In commence on TUESDAY Evening, the 27th JULY, at Eight o'clock precisely, and to be continued weekly. Stalls, numbered and reserved, 3s. and calleries, 2s. 6d.; unreserved seats, 1s. Tickets to be had at Mr. Mitchell's Library, Old Bond-street; and at St. Martin's Hall, Long-acre.

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq. within the last eight years. The Barnard works and estate, capable of supplying a site of about eighty-five acres, partly freehold and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London is about thirty miles, and the Swallow, or Aylesford stations of the North Kent Line are within two miles of the property. The surface of the land slopes at an inclination of about 1 in 80 towards the river, and the pier, having been formed near the summit, for little haulage is required. The clay is known as the Gault clay, and it extends beneath the entire surface to a depth of about 150 feet, affording a supply more than sufficient for the next century. The Gault clay requires a smaller quantity of ashes than any clay near London, and the Portland works are nearer to the London markets than any other where the Gault clay is found. The cost of carriage to London is only 4s. 6d. per 1,000. The works were established by Mr. Cubitt for his own requirements exclusively, and both machine and hand bricks are most highly esteemed for the purpose of rebuilding the Houses of Parliament. The principal building is upwards of 300 feet in length, chiefly three stories high. There are four pottery kilns within the building, and also drying apparatus consisting of warm-water pipes. Outside the building, and at convenient places, are three Scotch kilns for the burning and making of bricks; two waggon-top kilns, 30 yards each; twelve clamp kilns for burning bricks, and three others, each 100 yards; also, seventeen acres covered brick ground, in capital order.

The plant is capable of producing 20,000 per hour, or 200,000 per annum, in addition to an almost unlimited quantity of clay-pipes, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, Ainsley's rollers, with Mr. Cubitt's improvements, and the requisite gearing, worked by a pair of condensing steam-engines, by Messrs. Sims, and Field, of 220 horse power, with cylinders, wrought iron coal shaft, 350 feet in length, and gearing. There are upwards of fourteen sets of dies for pipes, pipes, and fancy goods, hollow tiles, tubes, splay bricks, paving bricks, sole and tile tiles. Near the clay pit are two large wash-mills, worked by two portable engines of 10 horse power, with Cubitt's improved patent, and connected by several troughs, with four large malm backs, at the lower part of the site. A reservoir of three acres in surface has been formed, which is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the established. The works are intersected by upwards of two miles of railways, with turntables and weigh-bridges, and there is a most substantially-built wharf, with stone wall, having space of sufficient length for barges to be moored.

The Cement Works comprise four well-built kilns for 60 yards each, three drying stoves, and nine coking ovens, with mills, pumps, and pipes worked by a portable steam-engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly erected residence for general manager, well placed, and surrounded by a large and productive garden. A newly erected house for foreman of cement works, three cottages, stabling, and a mess-room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 16-acre field of excellent sand for brick-making purposes, and a wharf for loading it. As before stated, these works were established to supply Mr. Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is acknowledged to be the best for brick-making purposes, that this field is the nearest yet in existence to the London market, that only can be procured without being subject to City of London brick duty, that all other raw materials can be obtained on the very best terms, that the machinery is of the highest character, most judiciously placed, and that for a working skilled hands is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, Billiter-street.

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GAS CHANDELIERS.—FOR SALE, THREE LARGE GAS CHANDELIERS. One 12 lights (with pendant apparatus), and Two 6-light, suitable for a Church or other Public Building. An inspection may be had on application to the Schoolkeeper, at the Episcopal Chapel, Gray's-inn-road. Tenders for purchase to be addressed by letter to A. P. BOWEN, Esq. at the Chapel.

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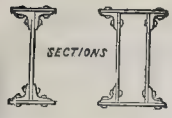

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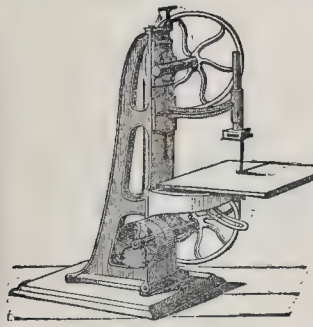
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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Also, their CIRCULAR SAW-BENCHES, for HAND or STEAM POWER. The HAND POWER one will RIP UP 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and it is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.
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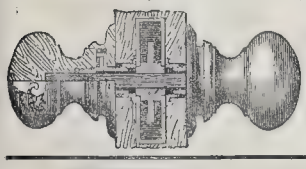

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New Patterns, in brass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.
Hobbs and Company's Patent Locks.
A most complete and extensive stock of every description of locks, latches, brass-foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.
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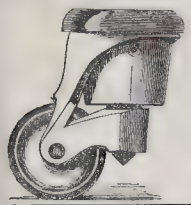

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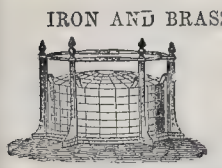

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GAS-FITTING IN ALL ITS BRANCHES.
GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
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These Turnstiles were selected for the Entrances of the Great Exhibition, New York.
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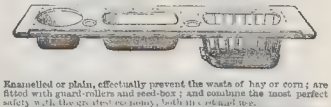
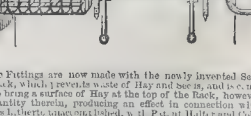


Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed-box; and combine the most perfect safety with the greatest economy, both in use and price.
ANGLE LOOSE-BOX FITTINGS, with guard rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.



HOOD and SONS' STABLE GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of close top-plates; are easily cleaned; and with their CHEQUERED DOUBLE TRAPS, form the safest and most economical surface drain for stables in use. West London Iron Works, Notting-hill; and Castings Warehouse, 98, Upper Thames-street, London.

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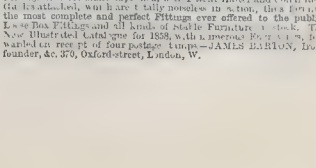

These Fittings are now made with the newly invented Self-acting Hay Rack, which prevents waste of Hay and seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar for Gas (established, and have totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

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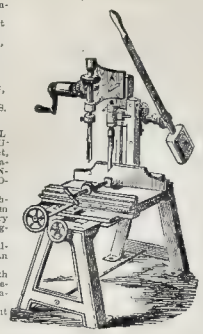

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Price 18*l.* complete, with a set of eight chisels, screwdriver, and Boring Apparatus

15*l.* ditto, ditto, without the Boring Apparatus.

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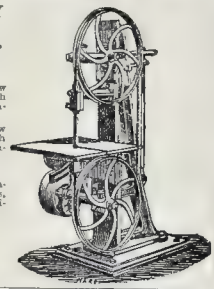

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IMPROVED VERTICAL SAW,
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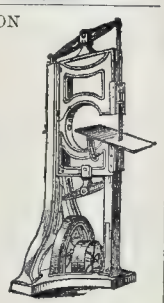

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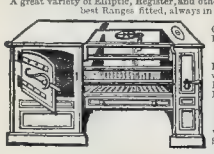
A great variety of Elliptic, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.



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30 32 34 36-inch.
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Best Self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars—
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1¼-inch. 1½-inch. 2-inch. 2½-inch. 3-inch.
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6 inch Rd Ward Mortise, with best Furniture and Patent Spindles, 3*s.* 9*d.* each. Light Elliptic and Register Metal, 13*s.* 6*d.* per cwt.
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Three-eighths-inch diameter ..... 1*s.* 0*d.* per foot.
Half-inch diameter ..... 1*s.* 6*d.* „
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R. S. Newall and Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men in all parts of the world.
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These Locks being manufactured by patent steam machinery, are offered so low as to defy competition in price. Also, every description of Lock required for house and cabinet work.
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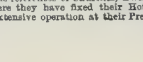
HEATING BY  HOT WATER.
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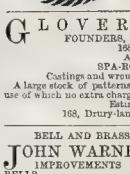

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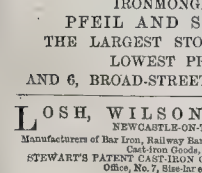

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The Builder.

VOL. XVI.—No. 807.

Hospital Construction.—Netley Hospital.—The Pavilion Principle.

IN the discharge of our duty we are forced at times, against our will, to say what may be considered injurious to individuals. Our consolation is to find the correctness of the views we have advocated generally admitted, and to witness the advantages following their adoption. As soon as the plans of the Royal Victoria Hospital, at Netley, were known, we directed attention to their defects, and pointed out the great improvements which have of late years been introduced into hospital architecture, with the desire of leading to an alteration of the plans, before it was too late. At the same time, we directed attention to the exertions of Mr. Roberton, of Manchester, in spreading views on the subject in accordance with our own.

As usually happens under similar circumstances, the plans were proceeded with, although their defects were very evident. After the foundations of the building were all in, the medical officers of Middlesex Hospital, with an enlightened zeal which does them honour, memorialized the Minister of War against the plans, taking the same view of the defects we had done. This memorial led to some improvements in the plans; but any essential alterations in structure had become impossible by that time.

In consequence of public dissatisfaction, the matter was referred anew, by Lord Panmure, to a Commission, of which Mr. Sidney Herbert is chairman; and this Commission, resting its decision apparently on the evidence and conclusions of the Royal Commission on the Sanitary State of the Army, condemned the plan *in toto*, as inapplicable and expensive.

In their report these gentlemen, also, advocate the same principles of hospital construction that we had formerly advocated against the Netley plans.

General Peel then referred this report to a committee which had by a majority defended the original Netley plans, partly, apparently, because the members, or some of them, were personally responsible for these plans, and partly because of opinions of certain medical men who ought to have known better. Nobody seems disposed to advocate bad principles, but everybody seems disposed in the report to defend bad principles. Netley construction is condemned and defended in a breath.

Seeing that so much uncertainty appears to exist on the subject, and that even amongst men from whom we had a right to expect better things (two of the referees are officials of the General Board of Health), it may not be out of place to recall briefly what are the principles of hospital construction.

The site should be, geologically, unexceptionable, having a pure atmosphere, a dry subsoil, and good and *soft* water at command.

The hospital buildings should be on the pavilion principle, and should be so arranged with windows on both sides, as to give facilities for sun-light, ventilation, and prospect.

The whole of the sewers and soil-pans should be external to the main buildings, near to the wards, but under detached roofs.

The offices should be central, so as to facilitate administration, and save cost.

The wards should be lofty and spacious. The floors and walls should be of materials capable of being easily cleaned by washing, and not retaining moisture.

The ventilation should be, for the most part, by natural means, as, by doors, windows, and open fires. Fixed means of ventilation should be arranged so as neither to be seen nor to be capable of being tampered with.

The windows should be of thick plate-glass, or be double glazed, to prevent undue loss of heat.

Convalescent wards should have windows opening to the floor, and outside verandah-seats. Some of the beds should be on castors, that patients may be placed in the open air during suitable temperatures.

The wards, rooms, and offices should be so connected as not to allow of the possibility of mutual atmospheric contamination.

These are some of the canons of hospital construction which ought always to be attended to or be adopted in practice; and yet not one of them, we fear, has been followed in Netley Hospital. We have, on the contrary, a building 1,400 feet long, with two sets of offices and kitchens, and, in fact, two administrations, built on the muddy banks of a tidal estuary, in a relaxing climate, when invalids require a bracing one. Most of the wards have windows on one side only. Everybody is agreed that the Netley Hospital cannot be ventilated by doors, windows, and fireplaces; and plans of artificial ventilation are recommended to obviate this defect. The wards are so small that to nurse sick in them efficiently, as Mr. Sidney Herbert's Commission has shown, will cost as much money to the country as has already been spent on the site and works; while, instead of dividing the patients among a number of separate buildings, no fewer than 500 sick are to be placed under one roof.

Our objections to the hospital plans are all adopted and reproduced by this Commission, which to us is a matter of satisfaction; but we are sorry to find that, notwithstanding the discussions that have taken place, and the spread of sound views, there are medical men to be found to sustain the old exploded ideas of hospital construction, which appear to have guided the Netley committee and their medical advisers.

An examination of the London hospitals might have taught them better principles. A comparison between the old wards of Guy's Hospital, with their two rows of beds and windows on opposite sides, and the new wards at Guy's and the wards at King's College Hospital, might have taught a useful lesson on hospital construction. In the latter cases the wards are back to back, with openings in the walls, so that there are really four rows of beds between the two ranges of windows,—about as bad an arrangement as could be adopted. It is to be hoped that the very objectionable form of wards at King's College Hospital will not be followed in the projected extension of the building.

The "*pavilion principle*," which we hold to be the only safe one for hospitals, has, we are glad to state, made great advances in public estimation since we advocated it. The Royal Commission on the Sanitary State of the Army has adopted it; and on this Commission were the late and present Directors-General of the Army Medical Department.

We observe by a recent parliamentary paper that it is about to be carried out at Aldershot, in plans prepared by Mr. Stent, and already mentioned by us, after having received the earnest approval of Inspectors and Deputy Inspectors-General.

The navy have adopted it for the new Marine Hospital now in course of construction at Woolwich. It is to be adopted for the new hospital at Blackburn, and we beg emphatically to recommend it for all new hospitals and for extensions of hospitals to be made in future.

Its adoption will, we trust, not be delayed by these ill-advised reports of the Netley committee, which mainly serve to show great want of acquaintance with the subject.

THE AMENDED LOCAL MANAGEMENT ACT FOR THE PURIFICATION OF THE THAMES.

THE Government Bill for the amendment of the Metropolis Local Management Act for the purification of the Thames consists of thirty clauses, and is intituled "A Bill to Alter and Amend the Metropolis Local Management Act (1855), and to Extend the Powers of the Metropolitan Board of Works for the Purification of the Thames and the Main Drainage of the Metropolis." Its preamble sets forth, "That whereas it is necessary, with a view to the health of the metropolis, that works should be speedily undertaken and completed for the purification of the Thames, and for the improvement of the main drainage of the metropolis," &c. It then enacts that the Metropolitan Board shall cause to be commenced and carried on with all convenient speed, according to such plan as to them may seem proper, the necessary sewers and works for preventing the sewage of the metropolis from passing into the river Thames within the metropolis.

Clause 2 gives power to the Board to fix the point of outfall at any place on the left bank of the river not higher than the west bank of Barking Creek, and any place on the right bank not higher than Crossness Point in Erith Marshes, provided that the Board in every year, from the beginning of May to the end of October, effectually deodorise such sewage before its discharge at the points of outfall indicated; and if the Board effectually deodorise such sewage throughout the whole year, so as to prevent the discharge into the river of any noxious or offensive sewage matter, then the points of outfall may be higher up the said river than the places mentioned.

Clause 3 empowers the Board to construct works on the shores or under the bed and banks of the Thames, and to grant compensation to persons having their property injured thereby; and Clause 4 empowers the taking of land for the erection of such deodorising works as may be necessary.

Clauses 5 and 6 give power to the Metropolitan Board to appoint a committee of *six*, the chairman of the Board being one, three to have power to act,* and invest it with powers to carry out the works without their acts being submitted for the approval of the Board. The monetary clauses of the Bill are five in number.

Clause 7 gives the Metropolitan Board power, with the consent of the Treasury, from time to time, before 1865, to borrow and raise three millions of money by bonds, debentures, or other securities.

Clause 9 empowers the Treasury to guarantee the payment of moneys so borrowed, and the interest thereon; and, by the 10th, all bonds, debentures, and securities issued under the authority of the Act are rendered transferable.

The board are compelled by the 11th clause to keep a separate account of this money, and apply it in payment of expenses of constructing the works to be executed under this Act, and to no other purpose.

Clause 12 empowers the Treasury to appoint one or more engineers to inspect and report on the works constructed, and to inspect the accounts and report to the Treasury thereon; and 13 empowers the Metropolitan Board for forty years to levy a rate of threepence in the pound upon the city of London and other parts of the metropolis to be assessed in each year at one time, or several times in each year, as the Board may think fit, and such rate is to be called "The Metropolis Main Drainage Rate."

By the 15th, 16th, and 17th clauses, all parts of the metropolis are to be deemed to be equally benefited. The provisions applicable to other

* Too small a number.

assessments of the Board are to be extended to assessments under this Act, and rates are empowered to be made by the Metropolitan Board in default of vestries doing so, or in the payment of precepts.

The 23rd clause, for the purpose of giving effect to the guarantee of the three millions of money by the Government, empowers the Treasury to issue the same out of the Consolidated Fund, and to cause the moneys received for repayment of principal and interest to be repaid from the rates levied back to the said fund. If the whole money raised shall have been paid with interest within the forty years, then, with consent, the "Metropolis Main Drainage Rate" is to be discontinued.

Power is given by the 25th clause to deodorise the sewage until the works are completed, and they may defray the expenses thereof as they would do under the existing Act; but in carrying out deodorising or other works, the Board are prohibited from creating a nuisance.

Clause 27 entirely repeals the 136th and 144th sections of Sir B. Hall's Act, which give the Chief Commissioner of Public Works a veto on the works to be carried out, and that which has hitherto required his approbation before they could be carried out.

The 28th clause extends the time for the completion of the main drainage works to the 31st day of December, 1863.

The 29th clause explains that the term to "deodorise" shall include any process whereby the noxious or offensive properties of sewage may be neutralised; and the expression "sewage," is to mean the contents of the sewers before the employment of such process; and

The 30th clause enacts, that the Metropolis Local Management Act and this Act shall be read together as one Act.

In the course of the discussion on this Bill, when it was brought in by the Chancellor of the Exchequer, Mr. Ayrton remarked upon the large amount of taxation that goes into the Imperial Exchequer which is raised by the inhabitants of the metropolis; for instance, the amount of hackney-coach tax raised in the metropolis in 1851, was 95,000*l.* per annum; and in 1855, after its reduction, was 73,000*l.*: this was entirely a local tax. The amount of this tax raised in all parts of England is only 52,000*l.* The city of London, which forms so small a portion of the metropolitan district, raises a tax on coals which amounts to 250,000*l.* per annum. The police rates come to 280,000*l.* per annum; and the Exchequer did not condescend to render any account of the expenditure of the money. These, with other contingencies, brought up the amount levied annually to the sum of 700,000*l.* a year. The addition, 140,000*l.* for drainage, will increase the taxation to 840,000*l.*

Sir B. Hall repeated the explanations which he has before given as to his share in the transactions which have led to the present position of the drainage question.

He then said,—"The real question was, What was the nearest point of discharge at which the sewage might be put into the Thames, without detriment to the metropolitan area? He would not go into details of the plans submitted, but he would say that he approved entirely of the principle of the plan, setting aside the absurd proposition which had been made to the Committee of Inquiry. The real question was, What was the nearest point at which the outfall should be? and if it was the intention to alter the Act, he should like to know what safeguards the Government proposed so that the area of the metropolis might not be polluted. And, although the principle of intercepting sewers was one that, above all others, ought to be adopted in connection with the main drainage of the metropolis, he was nevertheless bound to express an opinion that mere interception would not carry out all that was absolutely necessary to accomplish. And, in addition to intercepting sewers, they must some day or other provide greater works in connection with the sewage of the metropolis, in the shape of an embankment of the Thames, so as to prevent exhalations and other annoyances,—an opinion that was shared in by every eminent member of the engineering profession.

Lord J. Manners remarked, that the general principles, he begged the House again to understand, were that those who had to pay for the works should have the liberty of deciding what those works were to be, and he did not know that he could put it in more terse and appropriate terms than those of the old proverb, which said "that he who pays the fiddler has a right to call the tune." The condition of the Clyde at Glasgow was almost as bad as that of the Thames, and yet no one had ever thought of advising the Government to interfere respecting the purification of that river.

Mr. Tite said that one thing had been clearly established before the committee, which was, that if they deodorised the sewage matter, it was of no consequence when it entered the Thames. He confessed he felt some apprehension that the first effect sought could not be obtained under the measure, but, at all events, it was a step in the right direction.

Sir J. Shelley denied that any express opinion had been come to by the committee with reference to the efficacy of deodorisation, which he very much needed, and he viewed with alarm the proposition that if the outfall was to be at Barking-creek, such deodorisation was to be only for half a year, but for a whole year if the sewage was carried farther. Such a scheme might do for Leicester, where the process was carried on in an open space without the town; but there was no such space available in London, and if attempted in the metropolis, would become one of the greatest of nuisances. He approved very much of the Commissioners of Sewers having struggled against the adoption of Mr. Bazalgette's original plan, which, he believed, would have turned out a complete failure, and considered that, above all things, it was necessary to carry the sewage to such a point of the river as would prevent it from being brought back by the tide to the metropolis. There was nothing in the plan now proposed to prevent its being carried to Sea Reach.

Mr. Stephenson said he was intimately acquainted with Mr. Bazalgette's original plan, which, on account of the expense of intercepting sewers, was not adopted. If it had been, it would have saved a great deal of alteration in the internal drainage of London. He thought that a great error had been made with respect to the question of outfall. If they had intercepting sewers, it was alike indifferent whether the outfall were in Barking Creek or Sea Reach. The money, however, would not be expended in vain, because, if carried to Barking Creek, it might afterwards be extended to Sea Reach, if necessary. He hoped, however, that the intercepting sewers would be insisted on, because he was quite sure that it would produce the most important results. The real difficulty under which they had hitherto been placed was that which was caused by the storm waters, the rain-fall in the surrounding country, which, flowing into the sewers, forced the sewage into the Thames in a mass. With respect to a large portion of the sewage, London was really undrained for eleven hours a day, because the sewage brought down by the ordinary sewerage was deposited on the banks of the river above low water-mark, but when the storm floods came all that sewage was forced in a mass to the stream, and the consequence was an almost unbearable stench. Few people would believe that there were upwards of fourteen square miles of the metropolis under high water-mark. That would be prevented by intercepting sewers near the Thames.

Sir W. Codrington thought that the question of outfall was the most important, and doubted whether carrying it a little beyond Woolwich would be effective: it was only removing the nuisance from one place to another, and, as the representative of 100,000 rate-payers, he should object to its being retailed out into their district.

THE DRAINAGE OF LONDON.

HARDLY had the ink dried, with which we announced the rumoured decision of the Government, and deprecated the adoption of a certain plan where the evidence for it had been proved insufficient, than the Chancellor of the Exchequer introduced a measure, the effect of which is to sanction, and even to recommend, the prosecution of the plan,—all defective *data* for it, and all plausible reasoning to the contrary, and some admitted facts, notwithstanding. The Bill has already passed the second reading, and has come into committee, after long debates wherein the views expressed will be found to justify all that we have recently said, but of which the whole does not produce an opinion favourable to what Mr. Gladstone called the *deliberative character* of the House. On the same day, Monday last, as that on which the Bill was read a second time, the select committee met to consider, and they afterwards presented, their report,—which, however, is remarkable for little beyond the rejection of Mr. Gurney's scheme for treatment of the river banks, on the ground of the inapplicability to removal of the nuisance from its chief source as now admitted—the sewage in the water; their unfavourable conclusion as to the furnace system of ventilation; a recognition of the "lime-process" as successful at Leicester, and the cautious opinion that "if the sewage of London could be so treated, and the solid precipitate could be got rid of in a satisfactory manner, the liquid might be discharged into the Thames without injury or inconvenience, provided that no nuisance arose during the process of deodorization;" and allusions to the growth of London, as accompanied by increasing quantity of sewage at the same time that quantity of the water in the lower part of the stream, to dilute such sewage, was progressively diminished with the growth and the improving habits of the population: whilst "in conclusion," they state their "decided opinion that no plan ought to be adopted in regard to the sewage of the metropolis, that does not provide for one of two things—either that the sewage shall be carried down to some point in the river sufficiently far from the metropolis to prevent the sewage from being brought back in an offensive state by the flowing tide, or else that the sewage shall be deodorized, and that only the purified liquid part of it shall be discharged into the river." A little further consideration would probably have led to use of a word of more comprehensive meaning as well as philosophical origin, in place of "deodorized," and would have shown that also "no plan ought to be adopted" which does not ensure the innoxious condition of the sewage everywhere down to the point or points at which the conclusion assumes it may be, or will be made, innoxious.

The Government, however, taking no cognizance of what really was apparent from the partial inquiry before the committee—the incompleteness of primary data,—proceed to legislate, in spite of such opinions as those of Mr. Kendall, the chairman of the committee; of Mr. Locke, the engineer; and others, that the question was not one in the position stated—where "every man's mind was made up;" and in spite of the inconsistencies of the supporters of the rival interception-schemes—casting doubt on the reasoning of both. It was less "the perfect hopelessness of going through all the plans" about to be submitted to it, that, as stated by Lord John Manners, made the committee close its labours, than it was, as every one sees, the political convenience to the Ministry, that took advantage of the state of the Thames to bring the session to a close with a measure which might have an aspect of "liberalism," and would cost little mental exertion. Even in the applicability of the principle of local self-government, there is not the analogy stated between the position of the people of London and those of provincial towns. We retain our opinion that after an estimate of respective claims, the balance would show in favour of *some* contribution from the national resources, to the sanitary and architectural works of the metropolis. And we are not sure that as regards any duty of a government relative to such subjects, that duty could be at present delegated with the same propriety to London boards, as it can to provincial corporations,—the members of which, in the large towns, belong to a class higher in position, socially or educationally, than the delegates in the metropolis, and now produce a contrast in regard to management of internal affairs.

The Government are furnishing with the power at least, to execute a particular scheme, a board which cannot be deemed representative of interests, or of information, in the metropolis, on the subjects with which it has to deal; which has neither pretence to engineering skill, nor particular aptitude in directing or deriving the advantage from such skill; which generally by its proceedings, has given too much justification for its unpopularity; which is urged from without to "do something," and may not have the moral courage to find what is right to be done; and more, whose actual scheme referred to, has professional prejudice and pique seemingly holding by it, and confronting with it the real arguments for further inquiry which have risen up, and the grounds for believing the scheme defective in design for existing circumstances or those of the future.

Viewing the recent progress of the sewerage question and the present state of London, this at least is apparent, —that the matter of principles is not settled, and that no costly experiment should be tried, unless beyond all doubt such as will not aggravate the evil. It is one thing, and quite consistent with propriety of intention on the part of the Government, to leave the decision of such a question to a board or municipality properly constituted; but it is a very different or a blameable thing, where the interests of the

whole country are concerned, to leave the performance of their injunction for dispassionate inquiry, to any board which has a pronounced view, or rather prejudice, opposed to such inquiry.

The subject of investigation is divisible into two heads,—namely, 1. Place and means of outfall, or for disposal of the sewage; 2. Mode of conveyance or conduction of the sewage thereto. The first has been the subject of attention; the latter has been very partially referred to, if at all, in the reports, debates, and controversies, though its difficulties have to be surmounted in all the schemes of main intercepting sewerage with whatever distant outfalls. When Mr. Stephenson calls it (provided the "intercepting system" be adopted) a matter of perfect indifference whether Barking Creek or Sea Reach be the point of outfall, suggesting that the "system" should be made imperative, he not only differs with others, but seems to us to overlook one of the elements of the question as to such system. Authorities differ as much in their reasons as in their conclusions, for the selection of stated points: according to some, the case as to nuisance will be worse at Sea Reach than at Barking Creek; whilst some say that arguments given for Barking Creek show that there is no necessity for going even so far. It is clear, we say, that a vital question is that of the innocuous conduction of the sewage to the outfall, and that unless some means of disinfection can be discovered and used to arrest decomposition nearer to the head of the sewerage system, than a point proposed, at Barking Creek, for actual outfall, each intercepting sewer will be the Thames sewage as at present, but in a more dangerous form and condition. The principle of interception of the rainfall of the uplands to prevent its entrance into low-level sewers, and that of interception of sewage to prevent its outlet into the river, are good principles: but we apprehend that the idea of a great *cloaca* for sewage or sewage water is wrong. True, were the noxious gases got rid of *in transitu* by means chemical or mechanical, one ground of objection to such a sewer would be obviated: that subject is one that must claim our attention; but, as we have said before, the means have to be demonstrated, and, we add, that the *onus* is on those who support either of the schemes of intercepting sewerage, to show how the thing will be done. But otherwise as a *principle* of sewerage, such proposals must be defective; for, their principle would require the provision of enormous rivers of sewage from all inland districts; the system for London must be merely one part of a gigantic scheme for many towns; and we see not what is gained thereby, in place of that bad tendency at present existing, of the conversion of all natural water-courses into sewer-rivers. In fact, we could even suppose eventual arguments, that we had as well have saved the expense of works, and continued the use of rivers.

Mr. Stephenson seems to intend to anticipate this objection, in holding that the present schemes would provide for the wants during many years to come; and that any ultimate great increase of London would merely require that new intercepting sewers should be added for the new out-districts, proceeding to the same point, or by parallel lines to some other point, on the river. But putting aside the question that no man can calculate the future growth of London, for any number of years—looking to what has occurred, and to that increase of population which should be the result itself of sanitary improvement; would not this increased emission of sewage,—still into the river, the river's mouth, or on to the coast,—have the same tendency to repeat a radical defect of the system, ever pressing upon us in advance of our efforts, and never answering the original demands, or supplying the first deficiency in contrivance? If so, we should seek other means of *intercepting* the sewage — means which may allow of dispossessing ourselves of the nuisance, and also, perhaps, of utilizing it,—disinfecting it, as by the aid of what is the only real *solution of the difficulty* — as most consistent with the economy of nature, and with the teaching of science,—in short, by the aid of nature's disinfectant, the soil,—arresting if required, the progress of putrefaction during the transit.

It is obvious that the separation of the sewage and rainfall, as early contended for by ourselves, by Mr. Leslie, Mr. F. O. Ward, mentioned elsewhere in our present number, and by others, if it could be effected in London structurally, and so as to allow a pure liquid to be passed into the river, would get rid of what seems to be one defect of our present system, and one main difficulty in devising a new one. The manner of effecting this, however, with our system of gas-pipes, water-pipes, and telegraph-tubes, would be difficult; and, from what is known of the present character of that sewage which, under the proposal referred to, would be taken off by road-drains, and from Professor Way's analysis showing that the ordinary street waters would be as valuable "in a manuring point of view as the ordinary contents of the sewers," the real separation contemplated would not be possible for the case of London under its present circumstances and habits.

But there is no reason why the mere expedients now necessary, yet defective and erroneous were the case that of a new town,—why these should for ever remain, a heart-disease of the metropolis, and a permanent ailment never checked from spreading with each growth of the extremities. The analogy between London and the human body is not such that we need assume an incurable constitutional taint, and much less an impossibility of insulating, and applying the best regimen and development to, the new members. Yet this error, confessed or existing, seems to cling to the schemes which have been put forth most prominently, as to all the late "conclusions" of the legislature, the Government, and the Board of Works. The sewerage system of Richmond, indeed, now is insulated from the metropolitan system, and advantage was taken in the works there, to try applications of some of the principles which we have been adverting to—assumed to be impossible of application in the metropolis itself. The sewage, however, is still ejected there into the river, and it is quite obvious that the particular question of innoxious dispossession of sewage, which now concerns one part of London, will shortly be the question for Richmond. Suburbs of London on every side, absorbed as parts of the thickly populated metropolis, nay towns beyond, are entering into the like relative position to London and to the general sewerage question,—the position which we have taken so much pains to illustrate by the case of the manufacturing towns, and which is not met by any scheme of great conduits or *cloacæ*. We may spend millions on an expedient or an experiment, and possibly wisely; but, all this time, be it recollected, that the real evil cannot be met unless by some treatment of the sewage,—innocuously, of course, and without the great evils of the "cesspool system,"—leaving for the purpose interspaces, square feet or square miles, as large as may be necessary, for apparatus or for grass land, just as the scientific knowledge and resources on the one hand, or the alternative of natural disinfection on the other, may permit. It is the duty of Government not to shrink from the real vastness of this sewerage question, but rather to try to regulate the growth of London and assort the use and occupation of ground, so that the space which from its relative level is fitted for one sort of use, whilst it is most difficult of adaptation to the other by known contrivances, may be employed in the manner which nature and science at once indicate as right. We want, indeed, an expedient for some ten or twenty years; but London needs also a radical cure; and, at the present moment, we want to know that attention is not drawn away from the real question; that the millions, three, six, or twelve, will answer their, assuredly temporary, purpose; and that the works which we may get out of them will not place us in a worse position.

Now, there is no reason to spend time, as Lord Palmerston (whose ability was so remarkable in the committee) did on Monday, in urging the lamentable condition of the inhabitants of London by reason of defective sewerage: we will not grudge any number of millions; but we want to be satisfied that the particular plans, whether for outfalls at Barking Creek and Crossness Point, or lower down at Sea Reach and Higham Creek, either of them will be the right expedient. Mr. Kendall, who is probably better able to judge than any other individual of non-professional experience,—and it is lamentable to have to confess that one in such a position, may have advantages as to judgment from his non-professional character,—objecting to the Government guaranteeing 3,000,000*l.* before any specific plan had been agreed on, and having referred to "deodorization," was of opinion that the question might be still further considered ere any legislation on it took place. Mr. Tite wished to remind the House that the evidence before the committee, clearly showed that if they deodorized the sewage, it mattered little at what part, the sewage water was turned into the river; whilst Mr. Joseph Locke, as reported,—

> . . . "bore testimony to the fact, that there were many engineers of eminence who maintained that the scheme to which the House was virtually asked to give its assent, was not that which it was most expedient to carry into effect. With respect to the system of deodorization, which the right hon. baronet the member for Marylebone seemed to think was not calculated to work well, he could only say that some most important witnesses who had been examined before the committee had given it as their opinion, that places where such a process might be put in operation might, without causing inconvenience to the inhabitants of the metropolis, be erected anywhere upon the banks of the Thames. Would it not, then, he would ask, if that were so, be better, instead of expending 3,000,000*l.* in taking down the sewage to Barking-creek, deodorizing it there, and thus abstracting a large quantity of water from that portion of the river which flowed by the metropolis, be better to subject it to the process of deodorization upon the spot? He threw out that suggestion, not so much upon the faith of his own opinion upon the subject, as upon that of the evidence which had been laid before the committee."

Even admitting Mr. Stephenson's statements, that whether the outfall be about Barking Creek or Sea Reach, you improve the "*river*;" what can be the value of such improvement if you create new rivers of sewage, worse than the river as at present existing, whilst also concentrated reservoirs worse than the present tide-locked "elongated cesspools?"

We have but to look back to the recent progress of the question, to see that the subject never has been in the position to permit of its being intrusted to individuals, although men of great attainments and experience. We mean no disrespect to Mr. Bazalgette, or his coadjutors; we will admit them to be the best of all men qualified for the superintendence, and for great part of the design of London sewerage; but their grasp of the subject has been from very human limitations, what we may call a narrow-minded one. We could multiply evidence of this: we are content to advert to the obvious defect in their reasoning as to the condition of the river, as to which the Referees have been able to show by a recent Parliamentary paper, that *they* were somewhat nearer to the truth. Action requires that there should be a single mind; research, that many minds should be devoted to it, each gifted with the virtue of humility. A single individual with human powers, cannot bring to a solution the question of London sewerage: he cannot get all the evidence,—cannot be at once engineer, mechanician, chemist, and agriculturist. If he had the personal qualifications, he has not the means. Never, it appears to us, have there been such opportunities for getting at facts as there have been during a very recent period, that is those which were used to a considerable extent by the Referees, and were open to the late committee. Let these be further developed.

Parliament passed an Act to free the Thames from pollution, and has to amend it; the Referees were hurried to their "conclusions," and now can only try to justify them: the Board of Works have never placed themselves or their engineer in the position for being able to form an opinion; and thus, beyond the magnitude of the question, the subject is made more complicated, because the inquiry is not conducted as all investigations must be conducted for any end, or rather because every disadvantage of position is brought to bear against progress to the truth. We verily believe that with a plan of inquiry, well drawn out, and allocating to each branch of it, its consecutive order, the difficulties might be all arranged in far less time than that during which the subject has been agitated since the passing of the Metropolitan Local Management Act. What has been collected by the Referees and others in the shape of evidence, even, tells what might be done; and every consideration that we can give to the question of disinfection and sewage utilization, shows us that these are not in the hopeless state for future, or even immediate use, that seems to be assumed.

Parliament is empowering the Board of Works to spend 3,000,000*l.* on an experiment. Costly experiment may be necessary: but there is no assurance that the experiment likely to be made will be a judicious one; and a case has been made out for experiments in other directions. These, if successful, would cost less than the *interest* of the sum proposed by Parliament to be now guaranteed. Surely before committing us to works that are not the permanent remedy, and are in every view experimental, other works might be tried as experiments, on portions of London, or on provincial towns which would be only anxious to be made the sphere of them, and on the evidence of other towns at which works have been completed, would be certainly benefited by the result. An effort will, we know, be made to introduce some clause with such an object, in the Bill whilst in committee.

GAS.—The Banff Gas Company have reduced the rate of their gas per 1,000 feet from 10*s.* to 9*s.*

NOTES ON THE ASSUMED USE OF CHESTNUT TIMBER IN THE CARPENTRY OF OLD BUILDINGS.*

THE reason for my troubling you with the following remarks is two-fold—first, that in the course of writing the paper on fir, which you kindly received at the commencement of this session, the controversy on chestnut and oak woods was continually brought before my attention in the works which there was occasion to consult; and, secondly, that the timber of edifices, mentioned in several articles of the Dictionary prepared for the Architectural Publication Society, was often stated by the writers to be that of chestnut,—the sweet or Spanish chestnut,—the *castanea vesca* of botanists. Having made several inquiries, and having heard the result of others, I am inclined to believe that chestnut was *never used for timber*, at least in the large works in which it is generally attributed to have been employed. This may appear a bold assertion to those who have taken notice of the constant repetition of the word chestnut; but if you will listen to the grounds for my opinion, probably the subject will appear an interesting one in itself; and such statements as I have been able to collect may suggest other conclusions than those usually received upon the use of this wood.

Harrison, writing in the time of Queen Elizabeth, only mentions the use, in times past, of sallow, willow, plum-tree, hardbeam,† elm, and oak. Yet writers,‡ for a long succession of years, even whilst quoting the above passage, and others from this author, declare that chestnut timber was largely used in earlier times for building.

The confusion appears to have commenced with Evelyn, or about his time. In the "Sylva"§ he states that "The chestnut is, next the oak, one of the most sought after by the carpenter and joiner. It hath formerly built a good part of our ancient houses in the City of London, as does yet appear. I had once a very large barn near the city, framed entirely of this timber; and certainly the trees grew not far off, probably in some woods near the town; for in that description of London, written by Fitz-Stephens, in the reign of Henry II. he speaks of a very noble and large forest which grew on the boreal [north] part of it." "If the timber be dipped in scalding oil, and well pitched, it becomes extremely durable, but otherwise I cannot celebrate the tree for its sincerity, it being found that, contrary to the oak, it will make a fair show outwardly when it is all decayed and rotten within; but this is in some sort recompensed, if it be true that the beams of chestnut trees have this property, that, being somewhat brittle, they give warning and premonish the danger by a certain crackling." Many writers, copying each other, have misquoted the above-cited passage in Fitz-Stephen, and declare that he states that the Spanish chestnut grew in great profusion in the forests near London.

The point at issue, the use of chestnut timber, was mooted so early as the years 1769 and 1771, in the pages of the "Philosophical Transactions,"‖ when the Hon. Daines Barrington took up the question. He also writes, "Since you sent me the specimen of supposed chestnut, which was taken from the old hall of Clifford's-inn, I have been at some pains to examine into the authorities for the prevailing notion with regard to this being an indigenous tree. I remember having once been present myself when a wager on this head was won; it being supposed that a small specimen of a beam, from a very ancient house in Chancery-lane, was of this wood, which turned out to be nothing but common oak. When you placed your specimen from Clifford's-inn in my hands, I knew it immediately to be only the common oak." "Though so much hath been said of late with regard to the excellence of this wood for building, I cannot, upon inquiry, find that it is greatly prized for this purpose, either in Spain, Italy, or the south of France; but it is chiefly valued for the fruit."

"Ducarel," he continues, "in his 'Anglo-Norman Antiquities," p. 96, endeavours to prove that Old London was not only built with chestnut timber, but that there still continues a large tract of chestnut woods near Sittingbourne, in Kent. I found, on examination of these woods, that the chestnuts are planted in rows, about five yards distant from each other, without any trees scattered about, proving that they are not of natural growth. They are probably of the time of James or Charles I.

We are told that the roofs of Westminster-hall, Boston church, and many others, consist of this wood; not because any one hath found it to be so on examination, but because there are no cobwebs upon such roofs. Sometimes, also, to account for spiders not harbouring in them, it is supposed that the timber is not English but Irish oak. As this insect is known to subsist chiefly on the small flies which it surprises in its nets, the consequence is that it will no more be at the trouble of spreading its web where flies cannot be expected, than a fowler will lay his nets in a place where there is no resort of birds. No fly is scarcely ever to be seen but where there is a good deal of light and sunshine; consequently, a wide wooden roof is the most improper places that a spider can lay its snares in: a whitewashed place would be selected by them in preference to a wainscoted one."

Ducarel, in reply,* says, "In my 'Anglo-Norman Antiquities' I had observed that many old houses in Normandy, when pulled down, are found to have a great deal of chestnut timber about them: as there are not any forests of chestnut trees in Normandy, the inhabitants have a tradition that this timber was brought from England. Rudhall, near Ross, in Herefordshire, is built with chestnut, which probably grew on the estate, although no tree of the kind is now to be found growing wild in that part of the country. * * * The old houses in the city of Gloucester (as the Rev. Mr. Crawley informs me that he has often been assured) [!] are constructed of chestnut, derived assuredly from the chestnut trees in the forest of Dean. In some of the oldest houses of Faversham much genuine chestnut as well as oak is employed. In the nunnery of Davington, near Faversham (now entire), the timber consists of oak, intermingled with chestnut; and the great beam of chestnut which supported the leads of the church tower at Faversham, when it was lately pulled down, was found rotted for many feet at the extremity, and had, as it were, a mere shell of sound timber remaining about it."

Another writer, Mr. J. Thorpe, follows, and declares that during the repairs of "the old house at Nettlested, in Stockbury [near Maidstone, in Kent], a main girder, besides other timbers, were pronounced by the surveyor and the builder to be chestnut. Cowsted, in the same parish, is entirely of the same wood. The curious roof of the large hall of the mansion-house at Lesnes [near Erith, in Kent], is of chestnut, which, no doubt, was felled in the abbey wood there"†

Hasted follows to the assistance of Ducarel, and states, "The ancient Norman buildings [he means buildings in Normandy] are mostly of this wood, which in all probability was fetched from this country. Most of the stone wherewith our monasteries and buildings of such sort were erected came from Normandy. This seems to have been a mutual traffic for some centuries between the two countries." "Oak timber is so entirely different from chestnut in the rings and spaces, which appear when cut transversely, that *it is impossible to mistake the one from the other*." Barrington, in replying to the three objectors to his views, says, "I have already said that I am willing to leave the point in controversy, upon what hath been advanced on the one side and on the other." It is curious that excepting the one observation about "the impossibility of mistaking the one wood for the other," these *four* writers do not attempt to describe the two woods.

In a work of a later date,‡ it is stated that "many pieces of wood found in the old buildings of London, and supposed to be Spanish chestnut, were examined by Mr. Knight and found to be *forest oak*." Yet still the assertion is made of the use of chestnut.

Before I attempt to describe the difference between the two woods, reference should be made to some of the other buildings in which it is commonly reported that chestnut is used. The most important of these is the roof of Westminster-hall, which, as you are aware, was put up between 1395 and 1399, time of Richard II. It is reported that about the year 1560, and for a century before, the English had exported vast quantities of oak from Ireland; and from a statement given in some of the scientific journals for 1856,§ it would appear that Irish oak was appreciated at a still earlier epoch, for "A Record in St. Michan's Church, Dublin, which is verified by 'Hanmer's Chronicle,' in the library of Trinity College, states that the faire greene or commune, now called Ostomontowne-green (now Oxmonton), was all wood, and hee that diggeth at this day to any depth shall finde the grounde full of great rootes. From thence, anno 1098, King William Rufus, by license of Murchard, had that frame which made up the roofes of Westminster-hall, where no English spider webbeth or breedeth to this day." In a treatise on Naval Architecture, by Nicholas Witsen, a Dutchman, in 1671, it is stated that the Hollanders were plentifully supplied from Ireland with oak, for the best and toughest of their work in shipbuilding. Of course the above extract does not allude to the *present roof* of the hall; but in support of the probability of its being of oak as now generally asserted, and not chestnut, "Tradition," says Hayes,* "gives the Shillela oak [a district in the county Wicklow], the honour of roofing Westminster-hall and other buildings of that age: the timbers which support the leads of the magnificent chapel of King's College, Cambridge, which was built in 1411 [begun, he should have said, as it was not vaulted till about 1515], as also the roof of Henry VIII.'s [VII.'s?] Chapel in Westminster Abbey, are said to be of oak brought from these woods, and I think it by no means improbable that the superior density and closeness of grain which is the character of the Irish oak, particularly in high situations and a dry soil, as may appear by comparing its specific gravity with that of other oak, added to the inattention of the Irish at that time to the article of bark, which permitted their oak to be felled in winter, when *free from sap*, might have induced the English architects to give it the preference in such material works; and it must be allowed that the present unimpaired state of these roofs, after so many centuries, seems very well to warrant this conjecture. It is generally understood that a sale was made of the finest timber of Shillela which remained in Charles II.'s time, into Holland, for the use of the Stadthouse and other buildings, constructed on piles driven close together, to the number of several hundred thousand. In 1669, William Earl of Stafford furnished Laurence Wood, of London, with such pipe staves, to a great amount, at 10*l.* per thousand, as are now sold for 50*l.* and are only to be had from America. The year 1692 introduced into Shillela that bane of all our timber, iron forges, and furnaces * * * and it is inconceivable what destruction they must have made in the course of twenty years, which was the term of their contract."

Another authority for the present roof being of Irish oak is Barclay,† who, in his "Icon Animorum," published in 1614, and dedicated to Louis XIII. of France, mentions that the timber of Westminster Hall was brought from Ireland. Rees's Cyclopædia, article "Westminster," contradicts its being of Irish oak, but states it to be of chestnut from Normandy; and Mr. Nightingale, in the "Beauties of England and Wales," declares that it is built of chestnut, supported by ribs of oak. The Irish oak, however, was employed by Charles V. (who reigned in France as contemporary with our Richard II.) for the roof of the library of the Louvre; and it is so stated by L'Abbé Sallier, in the Introduction to the great catalogue of the "Bibliothèque du Roi" (of which the Louvre library was the commencement), and this observation has been copied by later writers. Consequently it may be inferred that Irish oak may have been used at Westminster. Of course I do not claim the merit of first making these historical facts known, but as they have laid dormant for the last twenty years at least, their revival may perhaps assist in preventing the future repetition of the common assertion of the "chestnut roof," even without the authority of Britton and Brayley,‡ who state that "the entire roof is of oak;" and Tredgold, in the first (1820) edition of his "Carpentry," informs us "that the roof of King's College Chapel, at Cambridge, may be cited as an example of the durability of chestnut in a dry state: also the roof of the church at Notre Dame, at Paris. Rondelet, however, observes, that several old buildings near Paris, of which the timbers were supposed to be chestnut, were examined by Buffon and D'Aubenton, who found the pretended chestnut to be a variety of oak; and it is probable that a closer examination will prove the roof of Westminster Hall to be of oak." In the second, or 1828 edition, is added in

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* Read by Mr. Wyatt Papworth, architect, at the ordinary general meeting of the Institute of Architects, June 14.

† The hornbeam, or hardbeam.—Miller: "Gardener's Dict."

‡ Hunt, "Tudor Arch," p. 89; Hunter's edit. of "Evelyn's Sylva," 1776, p. 159; and others.

§ P. 166-8 of Hunter's edit. 1776.

‖ Vol. 59, p. 23, *et seq.*

* Vol. lxi. p. 136.

† A description of Lesnes is given in the "Archæologia," i. p. 44.

‡ Transactions of the Highland Society, v. 256.

§ *Builder*, xiv. p. 53.

* Practical Treatise on Planting, &c. 1794, p. 110.

† *Gentleman's Magazine* June, 1837, p. 570, 583.

‡ "Westminster Palace," 1836, &c. p. 441.

a note,—"After the first edition was published, the author examined some specimens of the rafters, &c. and found it to be of oak, with a fine kind of *sepia*: December, 1820." It is only this year that I was strongly assured that the whole roof was of chestnut. The box which I am able to exhibit by the kindness of Mr. J. W. Hiort, is made out of this supposed chestnut; as is also the set square lent to me by Mr. Rowe, of Cambridge.*

CONVERSAZIONE AT THE ARCHITECTURAL MUSEUM.

THE annual meeting and *conversazione* of the friends and supporters of the Architectural Museum took place on the evening of Thursday, the 15th inst. in the theatre of the South Kensington Museum, under the presidency of the Earl de Grey. The audience was the most numerous that has ever attended the *conversazione*, including a large number of ladies. After the meeting the whole of the museum was open to the inspection of the visitors, from whom its varied and instructive contents received due attention.

The chairman said, though some would think it but mock modesty on his part, he could not refrain from expressing the diffidence he felt in appearing before such an audience as that; but at the same time, he received great confidence and courage from the proof which such a meeting as that afforded of the wide-spreading interest that the institution, in connection with which they were assembled, was awakening in the public mind. Last year they had a meeting at the same period, and with a similar object. They met, on that occasion, upstairs, in the portion of the building appropriated to their purposes, and he was very much struck at that time by the improvement upon what had formerly been their position. In the infancy of the institution they had to meet in the best place they could,—that place being, what he used to call, when at school,—a cock-loft. It was a very inferior place; but they did the best they could, which is the utmost that man can do. This year he might say they had nearly come of age. He was happy to say that the prospects of the institution were wonderfully better than they were in the early stages of its career. They had received letters expressing inability to attend and the interest they felt in the institution, from a number of gentlemen, whose public or private duties, or circumstances of health or other things, would not permit of their being present. He would not take up the time of the meeting by reading these letters; but amongst those from whom they had been received were the president of that department to which they did not belong, but with which they were associated (Lord Salisbury); Lord John Manners; Lord Derby, the head of her Majesty's Government; and Lord Malmesbury, another cabinet minister. He only mentioned these names as proving that the institution was not lost sight of, but that the performance of other duties prevented these personages from attending and taking part in the proceedings of that evening. There might perhaps be a little error in the public mind with regard to the position of that institution. They were at present assembled under the roof of a building belonging to the Government: they held their own special department there under the Government; but many people were under the mistaken supposition that they were more or less belonging to the Government, and associated with the Government officers at the public expense. That, however, was not the case. The Government had granted them, it was perfectly true, very liberally and very generously,—and they were deeply grateful to them for it,—permission to occupy a place such as they could not from their own funds by any possibility have been enabled to establish, and they were deeply sensible of the advantage they were deriving from it. But the idea must not be entertained that they were independent of the good will, the generosity, the active and liberal support of those who took an interest in the welfare of the institution. The object of that particular institution was to give information and instruction to a class of their fellow-countrymen who might not otherwise have an opportunity of obtaining such information and instruction,—the class of artisans who are so essential in every branch connected with architecture; and great success had certainly attended the efforts of the promoters of the institution in this respect. An architect might have the best possible ideas in his own head, and the best feeling of what was appropriate for the carrying out the purpose intrusted to him; but if he could not rely upon the judicious execution of what he designed, the object must fall to the ground. On a former occasion the advantages the class of artisans derived from that institution had been dwelt upon. It was then shown that workmen came up even from the country in order to see and investigate the best specimens in the style of work they are required to execute, and of which no drawing, however accurate, could convey an adequate idea. They came there in their working clothes without difficulty and without obstruction: they stayed as long as they pleased: they saw the objects they want to copy, and in many instances immense advantages are thereby derived. That was the object for which that institution was founded. During the past year, amongst other things, a series of lectures had been delivered, and had been well attended by the class of persons for whom they were intended, and it was believed they had derived great advantages from them. It was intended during the ensuing year to institute another course of lectures upon the same principle and in the same way, and he had not the least doubt whatever that they would be attended with similar success. He had explained as far as he could the general objects and the motives that influenced the promoters of the institution, and he would now call upon Mr. Scott, their treasurer, to report in a more official way than he (the chairman) could undertake to do what had been the progress of the institution during the past year.

Mr. G. G. Scott then read the following report:—

MY LORD, LADIES, AND GENTLEMEN,—When I last year (according to an annual custom of accidental origin, but now, it would seem, grown into an institution), read before you a report (if so it may be called) of the progress of our Museum up to that time, we had just taken up our abode under the dignified shadow of a Governmental roof. My chief duty then was to explain what had led to our quitting our rude and lowly crib in Cannon-row, and taking our place among those adult and acknowledged institutions which, without losing their individuality and independence of action, and (what is more important) without losing their dependence upon their individual supporters, receive, as an acknowledgment of the fact that they are doing public work with private funds and by private effort, the privilege of being housed within a public building. I will not interrupt the consideration of our great cause and our high aim by troubling you at present with these mere accidents of our history. We have now completed the first year of our more publicly acknowledged existence, and it is time that we should look forward,—that we should consider well our future course,—that we should form a just estimate of the magnitude, importance, and nobleness of our aim, and come to a just appreciation of the extent of the efforts which will be essential to its realization.

You are all aware of our great object,—the collection, into an accessible focus, of casts, &c. &c. of the best specimens of the carving, sculpture, and other arts connected with architecture; so that the art-workman, to whom we must of necessity, in great measure, trust for the execution of such works in our own buildings, may be able to study the best examples of former works, and, under the guidance of the architects by whom they are employed, may make themselves masters of so much as is to be learned from the works of their predecessors. It is, in fact, an educational establishment for architectural art-workmen,—a class of men on whose skill the beauty of a building greatly depends, but whose education and improvement had been utterly neglected. Our other great object is to supply an hiatus in our public museums, in which the collection of objects of mediæval architectural art had till then been almost entirely overlooked.

If you look round our Museum, you will judge for yourselves how far we have succeeded in these objects. Our gallery of specimens of the carvings and sculpture of the Middle Ages contains such a collection as has never before been brought together, and such as, under proper guidance, cannot fail to be of the highest service to the arts on which it bears.

On the ground, then, of what we have already effected, we flatter ourselves that we are not undeserving of your continued support.

It is less, however, on this ground than for the sake of what we have yet to do that I wish to press upon you the claims of our institution. What we have done is as nothing compared with what we have before us, and what we must, and, by some means or other, are determined to do. We have a truly magnificent prospect before us, had we but funds to realise it. No one but those who visit and carefully examine our ancient remains can form the slightest idea of the immense mass of noble art which ought to be represented in such a collection as this, and be thus brought within the easy reach of the student and the art-workman. I by no means advocate an indiscriminate imitation of representations of such works into our Museum; but, even after the most scrupulous selection, the mass is enormous,—not only in our cathedrals, but in buildings of a far humbler class all over the kingdom. It is manifest that we ought to have a force of workmen always employed in preparing casts, &c. from these, and a permanent committee for making a rigorous selection of the finest specimens, and of those alone.

There is, however, a branch of our duties yet more important: I mean the preservation, by casts, of those invaluable specimens which are every day perishing in our ruined abbeys, &c. and of which the art that they contain must otherwise be irrecoverably lost. Our country is studded with these melancholy, though lovely, relics,—more valuable by far to us than the Classic remnants of the ancient world; yet how little is done for their preservation, and for the perpetuation of their designs by means of measured drawings and casts: they will probably perish before anything is done to render their noble designs the permanent possession of future ages. It is a work of such magnitude as can only be met by public funds, though such a museum as ours is the most fitting depository for such records, and our committee could be of the utmost service in directing the work.

Our collection, in its Mediæval branch, would, moreover, be most imperfect if it represented only the arts of our own country. If Gothic architecture is to be thoroughly studied, it must be viewed as a whole, and its productions in other countries demand equal attention with those of our own.

Such has been the spirit in which we have from the first carried on our work. We have been the first to collect, on any great scale, casts from the magnificent works of the thirteenth century in France. But even we make our architectural tours, such as they are, what inexhaustible riches do we find! France was, in a certain sense, the birthplace and the central focus of Gothic architecture. She was the very heart and lifespring of the arts and energies of Mediæval Europe, and in this land which we can labour in so gloriously, so astoundingly rich in objects of the very highest importance to the architectural student. This, then, should be, next to, or equally with, our own country, the great seat of our labours. No one can conceive of the exhaustless treasures to be procured from this source; and if this alone were to be our field of operations, we should claim all the support which all the promoters of our art could afford. Here, too, our facilities are even greater than at home, for, through the kindness of the architects in charge of French cathedrals, we have every possible opportunity of carrying out our objects.

Why, then, it may be asked, do we not follow up an object so magnificent, and avail ourselves of such rich treasures of art, and of such facilities for procuring them? Why, for the very unfortunate but very obvious reason that we cannot afford to do so.

Our first endeavours paralysed us and saddled us with a debt which, though slowly diminishing, we have never been able to get rid of. While the expense of our necessary machinery nearly exhausts our annual income.

We wish to bring this fact in the strongest manner before our supporters. It has often been objected on former occasions, when we have modestly and tenderly touched upon our pecuniary needs, that we are acting the part of most discourteous and inhospitable hosts, in inviting our friends to an evening party, and when we have got them together, going round, hat in hand, to beg for contributions. What, however, I would ask, is the nature of this evening party? It is the annual meeting of a great and important public institution. What, I would ask again, is the object of this meeting? The carrying out of a most noble and arduous public work; and who are those whom we have invited to attend, but those who have either already shown their sympathy in our great work, or whom we have reason, from their tastes, feelings, and conduct, to believe to be interested in such objects as that which we have in hand?

Why, then, I would ask, is this an unfitting occasion, and why is this an unfitting company, on which, and before whom, to state the magnitude of our objects, the earnestness of our desires, and the urgency of our pecuniary wants?

I wish, then, to state broadly and decidedly that the magnificent work before us cannot be carried out except by greatly increased pecuniary means, both in the way of annual subscriptions and donations. If any large proportion of our annual subscribers would come forward with an increased subscription for one year, it would free us from the burden of our original debt, which has been weighing upon us ever since the formation of our Museum. This would at once set us free for active operations. We should then at once endeavour to raise, independently of annual subscriptions, a good fund for the increase of our collection, and especially in the department of the finest French works of the thirteenth century. If we can show ourselves active and in earnest in pressing forward with our great work, I feel not the slightest doubt that we shall be met by corresponding aid on the part of the Department of Fine Arts. They have already deposited in our Museum several very valuable and costly objects, and they have formally consented to our making periodical recommendations to them of what objects we would advise them to procure. It is of little use our applying to them *in formâ pauperis*. If we do so, we can expect nothing. To be treated in a corresponding spirit, we must increase our own exertions and our own funds, and then we may treat on independent terms and as worthy co-operators—not as their humble petitioners or would-be pensioners.

It may, however, be asked why we should not make over our work wholly to the Government. I would reply that, though it is a work which, beyond all doubt, *they ought to have initiated*, we hold that, excepting only in the item of funds, it is better in the hands of those who, from actually themselves feeling the want, come forward voluntarily to supply it. We feel that it is a work which requires such a knowledge of architecture as none but practical architects are likely to possess, and that the selection of objects to be collected should be made by those who, not only from their study of the subject and from their practical knowledge of what is wanted, know what are the right specimens to collect, but who, from their constant habit of making architectural tours both at home and abroad, and from their professional connection with ancient monuments, know where those specimens are to be found. We feel that there is a *life* and *reality* in a movement originated and followed up by those who practically, in their every-day engagements, see and feel its necessity,—which could never be instilled into a *mere* Government movement; and we feel that it is necessary to this *life* that we should be dependent for our success, in a great degree, on our own exertions, though I do not see that this need prevent our co-operating with the Government authorities in carrying out our common object, provided that the relinquishment of our independency of action were not a condition of such co-operation; and I am of opinion that the most healthful form of such co-operation would be the expenditure of sums by the Government, but under our advice, proportioned to those which each year we ourselves raise, by which arrangement our own incentives to exertion would be at once *doubled*.

My present object, however, is to urge our friends to renewed exertions in carrying out this noble project, and to beg those who agree with me to give their names, as they leave the building, to our collector (who has a book to receive them at the door), for annual subscriptions, a temporary increase or their present amount, or to the special fund for the increase of our collection.

I will now do no more than state a few of the transactions of our society during the past year.

First, the numerous attendance of students during the year. I may next mention that the following gentlemen have allowed us to add their names to our committee:—John Ruskin, esq.; Edmund Beckett Denison, esq.; C. C. Nelson, esq. Hon. Secretary to the Royal Institute of British Architects; T. A. Tefft, esq. of New York, as corresponding member; Alfred Stevens, esq.; and T. G. Hubbard, esq.

* To be continued.

In the Museum itself the principal work going on has been the re-arrangement of the specimens, which will be followed by a new edition of the catalogue.

The additions made to our collection have been as follow —

1st. The depositing in our Museum of complete casts of the magnificent monument of Archbishop Grey, from York Minster, and of several architectural specimens of great interest from the same cathedral, which have all been prepared, expressly for the purpose, at the cost of the Fine Arts Department.

2ndly. A considerable collection of photographs, illustrative of the buildings from which our specimens are obtained, and deposited with us also by the Fine Arts Department.

3rdly. The placing in our Museum of several of the collections of objects belonging to the Department.

4thly. A magnificent collection of encaustic tiles from the site of Chertsey Abbey. These are (with the single exception of the tiles in the Chapter-house at Westminster, and those are not superior) the finest specimens of that art which have yet been found in England, and contain a greater amount of figure drawing than any known specimens; they are, in fact, a perfectly unique collection. They were preserved from oblivion, and the design of the pavements recovered, through the indefatigable zeal of a medical gentleman residing at Chertsey—M. Shurlock, esq. Through his kindness we have been enabled to purchase the entire collection; and we owe the warmest thanks both to him and to our talented coadjutor, Mr. Burges, for their most valuable aid in managing the transfer to our Museum, and their arrangement when brought here.* We have received from Walter Hawkins, esq. F.S.A. a present of "Sharpe's Architectural Parallels," handsomely bound, for which we owe him our very best thanks.

We have, during the present season, had a series of lectures at our Museum, by Mr. Ruskin, Mr. Seddon, Mr. Street, Mr. Brandon, Mr. Parker, and myself. These have been exceedingly well attended. We hope, during the autumn, to have a second series of lectures, which will, I believe, be opened by our highly valued and talented trustee, Mr. Beresford Hope.

We have, during the present year, taken the important step of requesting architects and other gentlemen residing in the provinces to act as local secretaries for the promotion of the objects of the Museum in their several districts.

This invitation has been very kindly responded to, and we have now a numerous list of local secretaries, from whose kind aid we anticipate very decided practical results.

We have directly and indirectly offered five prizes for specimens of art-workmanship during the present year.

First. A prize of 10*l.* for the best specimen of ornamental wrought-iron work -offered by the Committee.

Secondly. A prize of five guineas for the best specimen of wood-carving, offered by Mr. Beresford Hope, M.P.

Thirdly. A prize of five guineas for a series of four full-sized studies from objects in the Museum—offered by Mr. Godwin.

Fourthly. A prize of five guineas to the competitor who shall show himself most successful in colouring, according to his own judgment, a cast of a panel from Andrea Pisano's Gate of the Baptistery at Florence—offered by the Ecclesiological Society.

Fifthly. A prize of two guineas for the best specimen of modelling in plaster from natural foliage—offered by our valued honorary secretary, Mr. Clarke.

Mr. Beresford Hope, in moving the adoption of the report, said the meeting of that evening might well be reckoned an epoch in their history. They had now broken out of a chrysalis shape, and were come boldly forward to the world,—not fluttering like the butterfly, for he hoped their existence would be less ephemeral and less flighty than that interesting "animal's." They were now come forward boldly to grapple with the world, and, on their own merits, to demand its support; because, as their noble chairman had so clearly pointed out, though they met there under the kind and liberal hospitality of the Government, they were yet that same Architectural Museum which used to greet those he saw before him under the lowly rafters of the picturesque cockloft in Cannon-row. The hospitality that the Government had given them was that hospitality which, without loss of dignity, a State department could offer, and, without loss of dignity, a private institution could receive,—leaning one towards the other. That hospitality which, without loss of dignity, two such bodies could offer and receive was one in which the element of independence runs predominant. Instituted as we were under the strong conviction that a school of art such as theirs was imperatively needed; growing up, as they had done, from the strong craving which existed everywhere for such an institution; having founded that school of theirs without the encouragement of that brilliant patronage which they now had; they received the support of all lovers of architecture, and they looked to all present that evening to help them in that work. Every one must have welcomed the manly boldness with which Mr. Scott had spoken to them on this subject; for how much better it was to come forward and speak the truth plainly than to have wrapped it up in mild phrases,—with hopes of future patronage, and so forth, which might mean a good deal, or might mean nothing. What they wanted was absolutely money. They had attempted a good deal, they had carried out a good deal, and they wanted to carry out a great deal more; but they must have money. They none of them blushed there at becoming beggars. Their chairman had for once kindly taken the part of a mendicant,—Mr. Scott had become a beggar,—and he (Mr. Hope) was a beggar; and he hoped those present would testify the interest they took in the Museum, and their desire that it might go on and prosper, by the amount of their subscriptions or donations,—but particularly by their subscriptions, unless, indeed, their donations should amount to ten years' purchase, —in which latter case they might, according to the usage of the money market, be considered as equivalent. One way or the other, they must and they would have their money; and the solid satisfaction they would enjoy for their money would be to know that a very useful institution had prospered, thanks to them; and when they saw the great improvement which would take place in art designs with reference to articles of furniture,—every fender, every poker, every knocker, and every door-handle, in their houses showing a degree of artistic cultivation which they and their knockers were innocent of before,—they would be aware that it was greatly owing to that encouragement which they had so kindly afforded to that very Museum. Those he saw before him must know that those connected with the institution were not that night in their working dress, though, as Lord de Grey had said, they had really a collection of models before them. In their working dress their object was not to make speeches: it was not even to collect money: collecting money was the means to the end. The end was to lift the art-workmen of England to their proper position as citizens and as men. They felt that the love of beauty, which Providence has implanted in the hearts of all, is a gift of which every class of society is equally the inheritor: they felt that every class of society had an equal right to the enjoyment of that sense of beauty: they felt that every class of society had an equal capacity of enjoying it; and they felt in one respect that the art-workman had even a greater claim than any one else to that great inheritance: because, while to the more opulent classes it was an indulgence, to the working-man it might be the means of gaining bread for him and his. They called on the opulent classes, therefore, to encourage that love of the beautiful, not only for its own sake, but for the love of art; and they also called on the operative classes for their co-operation in that great work. As in science and in literature, so in art,—the door was thrown open wide: they acknowledged no aristocracy but the aristocracy of merit. In order to foster that spirit—to make it tend to the adornment of our native land, to the adornment of the city, to the adornment of the palace, and, equally, to the adornment of the cottage, that museum and their schools were established, and God helping them, they meant to continue their work. Their collection, as would be seen, was mainly confined to one branch of art, and in that branch of art particularly they saw infinite and great perfections. They believed they had good reason for making these collections the main portion of their museum; but they did so in no exclusive spirit; they did so in no way denying that Heaven sent the beauty, the grace, and the elegance of all other schools. In the exquisite sculpture of the Greeks they recognised the one great type of beauty to which all schools of art, step by step, inevitably lead. If they did not tend to imitation, they tended to that idea. In the particular school of art which the friends of that museum had set up, their way had been chalked out before them towards that idea, and therefore they did not shrink from specially adhering to that school; but they did so in the spirit of humble recognition of all beauty. Therefore they called upon all lovers of art, and who desired its development, to go with them, to sink differences, and to wish them "God speed." To any other school of art which might have been set up on a different basis, they wished "God speed" too; believing that all students of art look to one great idea, and only differ as to the way in which to approach it; and it was only by each man following out his own conviction that they would at length attain the desired consummation. There were so many more able than himself to address them, that he would not detain the meeting any longer. He had endeavoured to point out some of the conditions on which they had existed; but towards attaining those high ideal objects to which he had referred, there were certain small material helps which were very serviceable and very acceptable, and he would conclude by again pressing them upon their serious and their purse-opened consideration.

Mr. Denison, Q.C. said he must also follow the example of the preceding speakers, and become a mendicant; but unlike those who usually encourage or practise mendicancy, he could assure them that they would really get something for their money. Let them assume for a moment that the object of that museum would be successful, and that its effect would be to improve architecture · let them confine themselves if they would to that particular branch of architecture of which Mr. Hope had just spoken—what was called Mediæval, or Gothic architecture. Now, he supposed that there were few people there, or in England, who had not had occasion to feel great interest in the improvement of that art, for there could be hardly anybody who had not occasion to pass by specimens of that art, and he believed they must confess that in all the grandest modern specimens they had yet seen, they had not seen one that had been successful in exciting those emotions of pleasure and satisfaction, and those desires to see it again, which they generally found to be the case with the very humblest of the old and real Mediæval works. The object of that Museum was to put an end to the distinction between real and sham Mediæval works. The difference was not so much in the general design as in the execution of the work; and he was convinced that if the very best design—Lincoln Cathedral, if they would—were handed over to modern workmen to be executed, an effect would be produced totally disappointing, in consequence of the total and complete ignorance on the part of the workmen—an ignorance not to be wondered at, however—of the manner in which the work used to be executed in former times. The mode of executing the work in olden times was to be learned more in that museum than anywhere else. They could not, it was true, bring York Minster into that museum, but they could take casts from portions of it, and bring them there, which would show the kind of work and even the tools employed in the execution of it in former times; and the modern artisan could see the spirit which animated the old workmen in executing them. If that can only be represented, and we can only get workmen to execute works in the same way they were executed in old times, a greater step would be taken towards restoring the old Mediæval art than would be achieved by all the architects. There were multitudes of old buildings of no pretension in point of design, with no particular beauty of proportion; yet nevertheless they produce on all who look at them an effect which it was perfectly hopeless, he was afraid, to get at present in the very best designs of modern times. That is why, he said, the effect of the whole work depended a very great deal upon the execution of the details, more perhaps than upon the design. In that museum there were the means afforded (and probably that museum was the only place in which the means were or could be afforded) for enabling workmen to see with their own eyes the manner in which their work was executed in old times. If, then, this was done, there was no reason why modern buildings should not excite the same feelings of pleasure and satisfaction as the ancient ones. They were, therefore, all interested in that institution. Architecture, especially ecclesiastical architecture, which was essentially Mediæval architecture revived, interested everybody, because everybody was within reach of it; and therefore he said they all had an interest in supporting that museum, if they were satisfied that it did afford to workmen the means of reviving that most important branch of all the arts which have ever existed in the world. He did not, therefore, come there as a mendicant, but to offer them something for their money to tell them that they would enable workmen to become, as Mr. Ruskin called it, "free workmen," instead of servile ones. The effect would re-act upon them, and they would be amply repaid for the small sum which they may have been induced to subscribe towards the support of the Kensington Architectural Museum. Therefore, he hoped that all of them, either themselves, or through those with whom they had some influence, would determine to do something in support of that museum, and they would feel, he was sure, when they saw the results, that they had not done so in vain.

The Chairman said he had stated in the outset that they were connected with, and deriving great advantage and great assistance from, the Department of Science and Art connected with the Government; and he certainly felt deeply indebted to them for the advantage they had given us. There were, however, individuals present who knew more about the particulars and the details than he could pretend to do, and he would ask his friend Professor Donaldson to be kind enough to advert to that subject, and to bring before the meeting the actual position in which they stood in that respect.

Professor Donaldson then moved "That the

* Illustrations of these tiles and a memoir will be found in our present number. - ED.

thanks of this meeting be presented to the Department of Science and Art for their attention to the interests of the Architectural Museum during the past year." He had said when they last met that the difference between their former lodgment and their then position was that of a barn and a palace, and that he hoped the advantages they derived from being so placed would not influence the student in art and the art-workman, so that they would fall short of taking full advantage of the opportunities of study which were laid before them, and which, through the Department of Science and Art, the promoters of that measure had the opportunity of offering them. He did not wish that that should be a mere barren vote of thanks, but that it should be accompanied with a full appreciation of what had been done for their institution, and with a record of their sense of the advantages they had derived from the assistance which had been so given. The department had expended a considerable sum upon their Museum. He had made himself master of some details, and found that in various ways a sum of 1,200*l.* had been expended, in addition to the expenses they had been at themselves, and the mention of these facts would be sufficient to urge the claims they had upon the public for support in carrying out the objects of their department. Those objects had been so admirably dwelt upon by preceding speakers, that he need not further allude to them. He felt that unless they did derive considerable support from the public generally, it was impossible to carry out adequately the objects of the Museum. As the Department of Science and Art had taken so large a part in their operations during the past year, the cordial thanks of all present who took an interest in the promotion of the highest class of art, were due to that Department, and he was sure would be unhesitatingly awarded. He felt compelled to make a few observations on what had been said by Mr. Denison. He must maintain that the work of the architect was the first work in the design of any great and magnificent building; that the productions of the workman were inferior, and subordinate to the architect; and although it was very true that there might be great skill in the workman in carrying out the design, still that the ingeniousness of the idea—that sublime inspiration which ought to pervade every building,—was due to the architect, and not simply to the carrying out of the work. He wished to enter his protest against the sentiment which had been uttered in the course of the proceedings that evening; for he could not, on the part of his profession, suffer that the honour should be taken away from them in all great works of art.

Mr. Godwin said he had been requested to second the motion of Professor Donaldson, and he found, on the corner of the resolution handed to him, the words,—"Be short," evidently with a view to their convenience and comfort; and with the knowledge that the collections of that noble museum were thrown open that night, and that there would be very much to look at and to talk about, when they had finished their meeting of business, he would confine himself simply to seconding the motion. He might be permitted, however, to say that, being in the neighbourhood, he had the best possible opportunity of seeing how laboriously the heads of that Department carried out their work; and in connection with their especial Museum, he would take that opportunity of mentioning what had not before been mentioned, as showing the importance that the Government attach to an architectural collection, —that some time ago the committee of the Privy Council named three architects, including his friends, Mr. Donaldson and Mr. Penrose, to examine and report upon the casts belonging to the Government, which were in that establishment, a most important nucleus of a collection of casts in illustration of classic architecture; and it was not necessary for him to say that no national museum of architecture could be formed without beginning at the beginning, and exhibiting to the student specimens, at all events, of the ornamentation, the mouldings, and the peculiarities of every style of art. The Government named these three gentlemen to report upon the best mode of perfecting that collection, and making it operate one of those days in connection with the casts in the "Architectural Museum" proper, upstairs, which were more especially of Mediæval works. In doing that, the heads of the departments displayed the most friendly spirit, and the greatest anxiety to achieve that which he hoped to see effected on that site, if not under that roof (for his impression was that they would one day want a much larger area than what they at present occupied); and he hoped the Government and the committee of that Institution would coalesce, in order to produce that result. Their thanks were due to Mr. Cole, Mr. Redgrave, Captain Fowke, Mr. Owen, and all the heads of that Department, in connection with Lord Salisbury and others, for the assistance they had afforded in carrying out the objects of the Institution, and he had much pleasure in seconding the vote of thanks proposed by Professor Donaldson.

Mr. Scott moved a vote of thanks to the chairman for presiding on that occasion. That was the sixth occasion on which his lordship had taken the chair at their annual meeting. He had always come forward most kindly: what he said was always to the purpose, and on each occasion of his being present he gave an additional interest to their proceedings.

Professor Westmacott seconded the motion, and, in doing so, took occasion to express his disapproval of the workman being made to supersede the architect. He denied that, as had been stated, the Mediæval architecture of the present day was a sham, and thought the observation ungracious in presence of so many eminent men who had distinguished themselves in that branch of art. The reason why modern Mediæval architecture did not strike us so forcibly as ancient Mediæval architecture was, because we are not a Mediæval people, and because that style of art was not sufficiently associated with our feelings, which must be the case if we were to pretend to encourage and continue it in our day. He contended that if Mediæval architecture were applied to Ecclesiastical purposes, which were those for which it was adapted, in a true and devoted spirit, it would be found to be no sham. Let them believe in the directing head of the architect, and give him the hands—they were not asked to furnish him with head, brains, or thought—he would scheme the whole thing, as a general does a battle; and what he wanted was, the cavalry and the infantry, the drummers and fifers, and so on, to carry on the work. He quite concurred in the obligation they were under to their president for the interest he had evinced in that institution and in the advancement of architecture; and he could only express a wish to see other noblemen coming forward like Earl De Grey, and lending, as he did, their time as well as their accomplishments in furtherance of that great object.

Mr. Scott expressed his belief that there was not much difference between what was meant by Mr. Denison and Professor Westmacott: they were merely taking different views of the same subject. What Mr. Denison had said, if he (Mr. Scott) understood him rightly, had no tendency to depreciate the importance of the architect's work, but rather to raise in their minds the importance of improving those hands which they were obliged to employ in carrying out their works. There was an immense distinction between a painter and an architect. The former has not only to conceive his design, but he has with his own hands to realize his conceptions. The arhitect, on the contrary, has only to conceive his design, and must trust to another, and a very different class of persons, to carry out his work. It had been too much the custom to think that everything depended upon the architect: a great deal certainly did depend upon him, but if his designs could not be carried out in the proper spirit by workmen, he was placed at a great disadvantage.

The Chairman in acknowledging the vote of thanks, said he candidly confessed he had from the first taken an interest in that institution, and he had the greatest possible pride and pleasure in saying, that every time he had attended he had found an increasing interest manifested, not only amongst the profession, but amongst the community at large. When he saw around him a number of ladies—who had, no doubt, plans of their own, and in these days they occupied, certainly, a good deal of ground—he felt that it was a good sign. They would prove very essential artificers in prosecuting the very art advocated by the friends of that institution. If a woman takes a fancy to see a thing well done, they might depend upon it that the man who has any thing to do with her, will have a sort of inclination for gratifying that fancy. When he saw such a large number of persons assembled on that occasion, he hailed it as a sign that the interest taken generally in the institution was increasing; and in conclusion he assured them, that he would never cease to give it the utmost support it was in his power to afford.

GOOD POLICY, *re* THE SEWAGE QUESTION.—Sir Culling Eardley has thrown open his park at Belvedere, near Erith, to the Londoners.

THE ELLESMERE MEMORIAL COMPETITION.

WE were able to announce, in *part* of our impression last week, the names of the authors of the selected designs in this competition. It will be remembered that in February and March, 1858, the committee advertised for designs, specifying the conditions, amongst which were the following:—That the design should not be a statue, it being considered that its elevated position on the high land near Wrens Wood, to the westward of Worsley Hall, rendered such a design inadmissible. The monument was to be completed by the successful designer for 1,800*l.* The committee desired that the monument should be "substantial and durable rather than elaborate and ornamental, and that it should be easily seen from a distance." It was stated by the committee that the 1,800*l.* included the designer's commission and expenses, but that they would provide their own clerk of the works. The committee further supplied a series of memoranda to intending designers, stating some particulars respecting the site, means of access, building materials, &c. for their guidance. They stated that the proposed monument was to be placed in a district where tall chimneys abounded. The committee added that "the climate is humid, and the atmosphere is sometimes contaminated slightly with smoke."

It was also mentioned that "the monument will stand on a gentle rising ridge, and be seen from a considerable distance. It will be a conspicuous object from the Liverpool and Manchester Railway, from which it will be distant a mile and a half to the northward, the surface of the site being at an elevation of 130 feet above the level of the line. It will not be in a part of the country very much traversed by road, but a vista will be cut in the belt of wood that lies immediately to the north of the site, so as to enable the structure to be seen from the higher land beyond. Worsley Church is situated about half a mile to the east of the proposed site, Worsley Hall lying between, and equidistant from each. The architecture of the hall is Elizabethan, with a large square tower; and that of the church is Early English, of the later or transition style, with a beautiful spire. Both of these edifices are situated on the ridge selected for the monument, though on a little lower level. The local building materials consist of bricks and sandstone; but it is thought that the latter, which is part of the coal series, is of a questionable quality for external work. The ridge is composed of rock, covered by a not very thick layer of rubble and soil, and runs from east to west." The invitation of the committee was answered by 161 architects and designers, who sent in their drawings and models before the end of April last. The committee selected six designs, and submitted them to Mr. Edward Barry, who adjudged the first prize to No. 125, by Messrs. Driver and Webber, architects, London. The second prize of forty guineas was awarded to No. 27, by Mr. John Lowe, of Manchester; and the third prize, of twenty guineas, was given to No. 37, by Mr. Edward Bassett Keeling, of London.

In choosing one of the six, Mr. Barry stated that he was not to be understood as giving any opinion upon the superiority of these six to the remainder of the designs.

The selected design is Gothic, and consists of a square base and an octagon shaft, with a spirelet termination. At the base of the spire is a small gallery, approached by a winding iron staircase inside the shaft. The composition is simple in outline, and the detail well worked out. The shaft is decorated with spiral bands, formed of coloured tiles, and the sculptured decoration will display the armorial bearings and badges of the Ellesmere family.

The expense, as we have said, is to be 1,800*l.* including architect's commission, and the funds have been raised by subscription, chiefly among the Ellesmere tenants, by whom the late lord was most justly esteemed and respected.

The second prize design by Mr. Lowe, is thus described: "Square tower of Early English character, with short angular pierced buttresses at the base, and terminated by a corbelled battlement with round angle turrets, enclosing a gallery and louvre roof. Height 113" feet. The third design is briefly described as "a columnar composition in three stages, of the Doric and Tuscan orders. Height 90 feet." In a pamphlet Mr. Keeling tells why he rejected Gothic in favour of Classic models for his design. The chief novelty about this design is a silvered glass dome at the top of the Doric column. The following is the architect's description of the uses of this silvered dome:—"This large Doric column is surmounted

by a glass dome, about 3 feet 6 inches in diameter, and an inch thick, silvered inside like a looking-glass. The recommendations to be urged in favour of this novel auxiliary to my design, are as follow:—First. It is a purpose for the column. Secondly. Its thorough uniqueness answers more ends than one. The fact of this monument being viewed from a distance, precluding the use of statuary or allegoric sculpture, and also pre-supposing that even an inscription could be read only by the few who may make a close inspection, renders it desirable that the monument, either in itself or in its parts, should be calculated to excite curiosity and provoke inquiry; and as one means of obtaining this object, I have adopted the expedient of the glass dome, and calculate upon its acting thus:—A glass dome 3 feet 6 inches in diameter, and silvered inside, so as to reflect like a mirror, at an elevation of 90 feet above the very high ground upon which the monument is to stand, cannot but attract attention, even if foliage intervene; for even in ordinary daylight or moonlight it could not be other than a very bright object; and whenever the sun or moon shines upon it, its dazzling brightness will make it visible at many miles' distance, and would at least provoke inquiry."

The other three designs submitted by the committee to their referee were No. 12, by Messrs. Mee and Ridley, London,—an obelisk: No. 102, by Mr. J. T. Welch, jun., London, described as a square tower of castellated Elizabethan style, with heraldic figures at base, and finished at top with corbelled battlements, with round angle turrets and conical terminal; height, 136 feet: and No. 114, by Mr. H. Fuller, of Manchester, described as a square channelled shaft, with square set angle buttresses at base, supporting corbelled out gallery, terminating in a highly enriched spirelet, with pinnacles and flying buttresses; style, Transition Gothic; height, 159 feet.

DRAINAGE AND HEALTH.

DRAINAGE LITERATURE.

IT is to be feared that, in consequence of the panic which the condition of the Thames has caused, attempts will be made to stop the progress which has been with great difficulty effected in getting rid of cesspools from the dwellings of the great population of this metropolis. After a contest of years against prejudices, interests, and ignorance, it has become an acknowledged fact, that imperfect drainage, the retention and overflow of cesspools, &c. are the sure means of destroying a large amount of valuable life;—that thorough drainage, which consists in the removal of all animal and vegetable refuse, is the first principle of sanitary law. In nine cases out of ten, fever and cholera may be distinctly traced to the want of sufficient drainage.

During the last few years this principle has been acknowledged, and the natural result has been a great salvation of life. In districts which, in times of pestilence, have been ravaged, the sewer-maker has been set to work; and, when the necessary improvements have been made, these places stand in the Registrar General's reports amongst the most healthy in London.

While we strongly advocate the necessity of drainage as a first principle, we do not overlook the benefits of pure water for household use, nor what is done by the skill of the physician; but it seems certain that, even if good water be provided and the advice of the ablest physicians,—if the atmosphere of a house is polluted with the gases from cesspools, or surrounded by the effluvia which arises from earth impregnated with the waste water in which vegetables have been boiled, or by the accumulation of such matters in pools, the pure water and excellent remedies will be of but little avail.

An imminent danger hangs over the metropolis, and the only wisdom is at once to resort to the means of purification common sense dictates, and remove this evil from the dwellings of so many people; and when this has been effected, let the men of science go to work, and make a profit of what is at present a poison. We must acknowledge feeling a dread of such arrangements being carried on near at home, lest the reservoirs should have a similar effect to that caused by the temporary accumulations in the days of the Great Plague.

The "lay stalls," or places for the reception of the refuse of the City, were close to the City; and we learn that, when plagues broke out, or as the population increased, these extensive nuisances were removed a short distance by trimming measures.

The keepers of lay-stalls had their interests, so had those who managed the sanitary condition of wards; and a constant battle was kept up between the army which advocated the principle of health, and the other, which, it is to be hoped in ignorance, considered the lay stalls salubrious.

These ancient institutions, after a long and vigorous defence have retreated from the shores of the Thames at Blackfriars, &c. by slow marches, to Maiden-lane, Bethnal-green, and elsewhere, and measures, which still require increased force, are now in operation to prevent the gathering of dust-heaps, by the removal of this waste to country places, where it will be useful.

In order to improve the condition of the Thames, it has been suggested that no more sewage should be passed into it until the plans (which are not yet decided upon) are completed; and a motion to that effect has even been proposed to, but very properly rejected by, the Metropolitan Board of Works. It will never do to stop those improvements which have produced such evident good. During no time in the history of London have so many houses been drained as during the last six years, and the good effect is evident on the public health. If a feeling should go abroad that the proper drainage of houses is to be stopped, those who have the sanitary care of neighbourhoods will have obstacles of various kinds thrown in their way, and many will relax and grow lukewarm in this useful work. The years of delay have produced a dangerous condition of the Thames, and that must be remedied. Still, of the two dangers, that of the Thames is less than that of the revival of the cesspool system in dwellings.

A portion of the Parisian press point with pride to the cleanness of the river which flows through their capital, and remark upon the benefits which arise from the application of the sewage of Paris as manure over the surrounding district. It must not be forgotten, however, that the cesspools of the capital have a most serious effect, and that the per-centage of deaths in Paris is far greater than in London, and agrees with that of other places where the refuse is retained.

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We have received letters enough on the all-absorbing question of town drainage to fill a number of the *Builder*, but they mostly repeat views which have been expressed again and again. Of pamphlets, too, there is a tolerable crop. To some of these we will briefly refer.

"The Sewage Question and State of the River Thames," by B. Young and P. Brown, urges that the solid matters may be separated from the liquid by simple subsidence. The sewers are to be of strong iron pipes, embedded in the bed or bank of the river, and are to discharge into covered "sumps," where the deposit is to take place. Authorities, we may note here, including Mr. Hawksley, consider that iron pipes would prove unequal to the purpose,—would fracture under the pressure of surrounding earth.

"The Thames" is a vigorously-written letter of eight pages, by Robert Kemp, calling for the formation of a Great Sanitary League, to embank the Thames on both sides, and construct a sewer in each embankment to convey the sewage into reservoirs below Gravesend, where it may be made into an article of commerce. He would further have a dam across the Thames below Gravesend, to secure high water for all business hours. Fine warehouses and other buildings are to line the banks of the Thames, and railways to give accommodation. Money is no object.

Mr. W. Coningham, M.P. has printed for circulation, under the title, "Purification of the Thames," a letter from Mr. F. O. Ward, reiterating the principle that the whole of the rainfall is due to the river, the whole of the sewage to the soil.

"The proper outfall for the London sewage," says Mr. Ward, "is not this or that point of the river or of the sea, but a suitable tract of land growing exhausting crops. Fifty farms of 1,000 acres each, might be raised in value, at least 10*l.* per acre per annum, by irrigation with the London sewage. This would produce 500,000*l.* per annum, equivalent at 5 per cent. to 10,000,000*l.* of capital. This ought not to be thrown into the sea.

In the next place I would point out that just as, on the one hand, the sewage proper should be carefully diverted *from* the Thames, just so, on the other hand, should the rainfall be carefully directed *to* the Thames, to aid its scour; which suffers by every drop withdrawn. To divert a rain-brook is to mutilate a river. And every extension of an intercepting system having the amputation of tributaries for its object and effect, must progressively impoverish the main stream."

The London sewage proper is manageable; the sewage and rainfall together too vast and variable for economical distribution. "The London sewage proper," the writer continues, "consists of the (say) 50,000,000 gallons which the water companies pump daily into the town, enriched with the residuary matter which this water takes up in its passage through the dwellings of the population. The average weight of residuum (excluding moisture) yielded to the sewage by each man, woman, and child, is two ounces per diem; or, for the 2½ million inhabitants of London, 139 tons per diem, containing, at 17 per cent. 23½ tons of nitrogen, equal to 28½ tons of ammonia; which ammonia, at 6*d.* per lb. is worth 1,597*l.* The weight of the pipe-water thus enriched,—in other words, of the daily sewage proper, is, in round numbers, only 223,000 tons; about as much as a heavy shower of rain throws down on 2,000 acres of land. This small and uniform daily sewage-flow would require only a couple of moderate-sized sewers (instead of several colossal tunnels) to convey it away; and, if necessary, it could be pumped this way or that by steam power, as easily as a lady pours tea into this or that cup at her pleasure."

Deodorization he considers at best a costly and imperfect palliative, and quite impracticable, precisely when most needed,—*i. e.* "when heavy showers are sweeping from the sewers the largest masses of putrescent filth." The battle of interception is to be fought not on the banks of the river, but in the basements of houses, not with monstrous tunnels, but with modest tubes. The rain and sewage tunnels of the Metropolitan Board he maintains would be a costly and colossal blunder; but he is disposed to believe they will be obsolete before they are begun.

"A Letter to the Right Hon. Lord John Manners, M.P." by Mr. Hitchman, of Leamington (Glover, Leamington), proposes to render the *line of a canal a conduit*, to convey sewage in iron tubes along or under it, so as to render sewage matter available for the improvement of the land.

The sewage is to be intercepted and pumped up continuously "by a few 200-horse power steam-engines, placed at certain distances along the banks of the Thames." The line of canal he suggests is that from London to Birmingham. In a second letter the author offers prizes for the best two essays on the most approved method of consolidating sewage and irrigating the land.

In "Unpolluted Streams," a letter to the Chief Commissioner, by George Coode (Ridgway), we get an approach to what Mr. Hitchman wants, namely,—a description of an ingenious apparatus for distributing sewer water over land with evenness and without damage to the crops. Mr. Coode assumes that all sewage can be profitably placed upon cultivable ground, nearest adjacent to the place where it is produced, and that no such sewage need run any farther than to the nearest cultivable ground upon which it can be spread. Further, that every sewer should therefore be made to landward. A belt of 30,000 acres would take all the sewage of the metropolis, and 1,300 of his implements, working twelve hours a day, would distribute it. We are not yet in a position to recommend the adoption of the scheme, however useful the apparatus may be in special cases.

THE ROYAL ENGINEER DEPARTMENT.

BARRACKS.

SIR,—Unfortunately the "evil effects of an existing system," have alienated me for a time from my native land, and I now, for convenience of transmission, receive my welcome monthly part of the *Builder*, late in the month after publication, instead of the weekly number every Saturday as formerly. This will account for my delay in answering "C. E.'s" attacks;—not on the "palpable blunders of an establishment:" let *them* be well ventilated, if he wills it, for every thinking man must be aware that no establishment, however well adapted to the purpose, is free from defects which might be remedied by a just and liberal criticism;—but "C. E." descends to impugn the moral character of the department in several points.

1. In stating that contractors are paid higher than their contract prices.

2. Implying that measurements are unfairly taken.

3. Stating that the estimates are necessarily excessive, and that the expenditure *must* correspond with the estimates.

To all these I say, if "C. E." knows of any contractor being paid too highly, or of any collusion between the department and the contractor, let

the facts be stated in the proper quarter for the public benefit.

I have been in the service for some years, and have been connected with works large and small, but never knew of any such practices as your correspondent shadows forth from the prominence of his superior moral elevation.

I will endeavour to answer a few of "C. E.'s" vapourings, hoping he is not a man on whom disappointment has left its mark. But before entering on the questions affecting the moral status of the department, will you permit me to mention other places which require ventilation as well as barracks. Has "C. E." forgotten the Palace at Westminster, and the conflicting opinions on the ventilation of that noble pile? Have not other structures been equally objectionable? My experience of barracks, and of soldiers using them, leads me to conclude that all ventilation must be secured from the control of the occupants of the rooms, for the British brave is not very calculating as to consequences, and will always stop a vent if there is the slightest change of temperature.

One plan of ventilation which was submitted by me in the barrack competition (and if "C. E." knows a better let him adopt the same way of promulgating it), is to introduce cold air through a perforated skirting by means of pipes of sufficient capacity (or longitudinal openings in the walls, if hollow brick), a little above the floor, and cove the walls over the heads of the men with perforated zinc or other metal connected with the flues in the chimney shafts for the winter, and to open a larger space or pipe for cold air, and additional vents, say carried under slate roofs, or opening into the external atmosphere, for the vitiated air in summer.

As to the *means*, it is a very necessary word to hungry place-hunters, and is equally necessary to the place-keepers, for that the civil branch of the Engineer Department is not too well paid, I think even our enemies will confess. For as the *Builder* has very truly observed, we are named clerks of works (and paid as such), but are actually architects and civil engineers. Therefore, I sincerely hope Parliament will look to the means. But if the hon. members of the House of Commons are to be the judges of the means of ventilation and drainage, will they do better for the soldier than they did for themselves?

"C. E." may call for inquiry. I retort the call on "C. E.":—

1. To explain how contractors are paid above the schedule prices, and more than the measured value of the work.

2. If he ever knew measurements to be unfairly taken? And if he is aware that all measurements are so taken that (excepting buried work) every dimension can be checked and identified on the work?

3. If he is a professional man, whether, in preparing an estimate (particularly for alterations, as the majority of barrack services are) he would not allow a sum for contingencies? And whether, in his experience, he has not often found, with all his foresight, so much unseen work necessary in making the alterations required as only not to expend the contingent sum, but actually to exceed the estimate? I have known architects in civil practice more than double their estimate, and cause woful faces to their employers, and very reluctant cheques on their bankers.

4. Where he picked up that monstrous idea that the sum voted for a service must be spent; and that the contractor's bill must tally with the original estimate. There certainly must be floating in "C. E.'s" mind some vision of per-centage which only induces prodigality in a person of a low moral standing in civil practice, but could be of no avail to a paid civil servant of the Crown. On the contrary, my endeavour has been to spend the public money as I spend my own—sparingly; and I have effected a saving of some thousands of pounds, which commanding royal engineers always applaud instead of condemn.

As to inquiry into organization and working of the Royal Engineer Department, if inquiry will prevent a man from having to pay a hundred or two in taking his family abroad, from extra expenses in arresting the destructive tendencies of heat under a burning sun, from a like heat in returning home, and every few years removing from John O'Groat's to Land's End, pray inquire and re-inquire; but let such inquiries be in consonance with the ninth command. Let "C. E." either prove the department swindlers, or rob them not of that moral right which is their glory and only pride. The country take pretty sure caution that they should not be wealthy: the military take the credit of their work; and if "C. E." takes our characters, we must quote Shakspeare, and say, "He that steals my purse, steals trash," &c. Set inquiries afloat, and, to quote another of your correspondents, "Don't be afraid of draughts: give us plenty of air, plenty of the press, plenty of open, manly straightforwardness, and contempt of all holes and corners: don't even be afraid of a breeze,—it will do good." I would suggest a few points of consideration when the committee of inquiry assemble, viz.—comparison of the following:—Barracks *versus* public buildings and private houses, in ventilation, drainage, agreement of estimate with execution; cost per head of successful ventilation; ditto drainage; cost of failures in each; cost of superintendence; sanitary state as to mortality, &c. &c.

A CLERK OF WORKS, R. E. D.

ADVANCE OF BROMPTON.

THE suburb, so recently a rural and sylvan retreat, is progressing by rapid strides to a position of primary importance. The magnificent new roads lately formed around the grounds of the National Exhibition, together with the collections of art enshrined in their present temporary constructions, gave the first great stimulus to improvements: these arise every year, and seem to crowd in upon the quarter consecutively; so that the whole south-western limb is destined to become, perhaps, the most valuable and remarkable portion of the outlying metropolis.

The Grand Central Junction Railroad, with its station at the Pimlico Basin, its projected hotels and amended causeways, must clear away many of the clustered and obscene masses that defile most of the approaches to the modernized creations of wealth on the Grosvenor estate. These, with their wide thoroughfares, were the wonder of oppidans, until the Cromwell, the Princes, and the Exhibition roads were laid out; but these, even with the long parallelogram yclept Eaton-square, have sunk in estimation since the Great Exhibition has given expression to the public taste; encouraging at the same time the genius of speculators and great contractors, who view the aggregate millions, as to the increased requirements for streets and lines of intercommunication expanded to 100 feet.

The new and beautiful bridge at Battersea is finished. At present it is but the beginning of the end. On one side there is a railway terminus: on the other it is blocked by a toll, and actually has no leading duct! Close to good and leading routes, it has no thoroughfare! The new railway and its approaches will soon change this state of things. Private enterprise will effectuate that which officials acting for the public behoof can never realize. Before the lapse of two years there must be a way both to and from the great central station; and that way must be free, to be remunerative. The prosperity of the company depends upon the accessibility of their stations and ducts, and therefore roads must be practicable from the great leading thoroughfares to the grand central terminus at Pimlico.

At present the whole south-western suburbs of Chelsea, New and Old Brompton, Kensington, Fulham, and Hammersmith, have but two tortuous roads, leading by mazy windings to Piccadilly. The main thoroughfares are those conducting from Kensington, from Earl's-court, and from Brompton to a common point of junction at Knightsbridge; and one other, leading from Battersea, by the King's-road to Buckingham Palace.

There is one point at, or close to, Pelham-crescent, whence two great principal thoroughfares ought to branch off; the first, in a direct line, through the Pavilion grounds to Eaton-square and Buckingham Palace (by the end of Sloane-street); the other, straight to Chelsea-bridge: the latter would be but a short mile to the railway terminus at the new bridge; the former, little more than one mile and a quarter to Buckingham Palace, or to the Grand Central Terminus; besides, at this point (Pelham-crescent), the leading roads from Kensington, and from the princely quarter of Hyde-park gate, S.W. would strike in upon the new roads here suggested, just at the Crescent, from which they are but a short distance removed.

There may, and probably will be, a continuation also made of Sloane-street, which, running south from the concentric point at Knightsbridge, would lead, with a very slight deviation, towards the south-east, almost direct to Chelsea New Railway-bridge. These changes would induce an immediate improvement of the whole district as a business quarter, but not by a continued affectation of the style of Belgravian terraces.

That there should to this day exist on the flats of Chelsea a nursery-ground of some 30 acres, where plants cannot grow, and a park with plantations, trees, and a lake, where game cannot be preserved, is altogether owing to the deficiency of leading roads: nevertheless, Brompton and Kensington are rapidly advancing, and must join hands with Pimlico.

Standing 30 feet above tidal level, upon a dry sandy-gravel subsoil, Brompton is permanently a residential neighbourhood, skirting the town: its temperature is mild, and for winter quarters there is no vicinal suburb so desirable; whilst its proximity to the Park and Gardens, and its great population, prove that in summer there is none better, nor more salubrious. New buildings are in progress in various quarters.

On a plot of about 3½ to 4 acres, between the Exhibition and Brompton Church, the *Oratory*, founded only four years back, is now rising into large proportions. The church, which, like the Exhibition, was intended to be only temporary, extended some 100 feet from the road. Without any external pretensions, it appeared like an elongated store, or barn: when, just four weeks back, the roof was suddenly elevated, by poles, tackle, and crabs, to a height of 42 feet, the walls were then raised in solid plain brickwork, and now, in the fifth week, the whole is covered in, and the ceilings, together with the interior, are being pushed forward by some 150 workmen towards completion.

Some additions have been made to the building, which is in the form of a Greek cross: it has been elongated to 140 feet, and a transept also erected, the portion on the east, or rather north-east, side being furnished with an organ, by Bishop, of colossal size, which is the third in power and quality erected in England, the first being that in St. George's Hall, Liverpool, and the second that in the Crystal Palace. The western transept consists of two chapels, which are open to the main aisle through arches, and will be finished in sumptuous style.

The order adopted throughout the interior is Corinthian. The grand altar, elevated upon a stadium some three feet above the floor level, will be adorned with stone columns thirty feet high, surmounted by an entablature and open dome, the finish whereof will be elaborate. The ceiling throughout the whole length is divided by beams resting upon wrought stone corbels, into squares of about six feet, and ready to receive the enrichments in conformity with the general design. There are spaces left open for the arrangement of "sun-lights," such as produce, by means of gas burning in the space above the ceiling, magical effects in the Law Institution and most of the club-houses.

Whatever may be the result in hearing the preacher, or what the acoustic properties of the edifice may turn out, from an organ encased in the extended transept, cannot be predicated; but as to ventilation, and the supply of heat throughout the church, endeavour has been made to secure a genial temperature. This extensive undertaking is to be finished for Divine Service by the 16th of September next. Mr. J. J. Scoles is the architect.

The massive building occupied by the brotherhood is not yet complete as to externals: it accommodates not fewer than 100, including the domestics; and the grounds, about an acre, are charmingly laid out and planted; the view towards Hyde Park (not as yet wholly cut off) being sylvan and even rural. It is not intended that the church now in progress shall be ornamented on the exterior; as it is anticipated that upon this very site, and around the existing building itself, a vast cathedral will be erected.

Whilst on this subject, and to close allusions not altogether impertinent to Brompton, I must note down a position which, whether viewed as a matter of importance to the well-being of society, or only as a grand feature of civic ornamentation, may be worthy of a thought:—There is a point of junction at Knightsbridge where the Great Western routes meet, near the top of Sloane Street. The property in houses there, from the gusset or point of triangle between the Kensington and Fulham roads, is of the meanest character: it is close to all that is lordly and aristocratic. There is already a piazza of unusual width, say 120 feet, showing forth to Piccadilly and close to Albert Gate. Why is not this selected for the erection of a church? QUONDAM.

A STATUE FOR LEICESTER MUSEUM.—Earl Howe has presented to the Leicester Town Museum a statue of Religion, by Roubilliac, valued at 1,000 guineas. The work was executed for Admiral Penn.

MEDIÆVAL TILES FROM CHERTSEY ABBEY. —NOW IN THE ARCHITECTURAL MUSEUM.

WHAT WE LEARN FROM THE CHERTSEY TILES.

AMONG the various objects of art displayed at the recent *conversazione* of the Architectural Museum, the Chertsey tiles naturally attracted a very considerable amount of attention, not only as being the most recent acquisition made by the council, but also on account of their own claims to be considered as the very finest specimens yet brought to notice of what are commonly called encaustic tiles. Perhaps a few notes on their history, on their value as works of art, and on the nature of the instruction we might gain from them, may not be out of place at the present time, when they are now happily within the reach of every body. For it is only just to the committee of the Architectural Museum to observe, that had they not had the courage to make the purchase in the face of very slender funds, and with a somewhat heavy debt impending over them, the tiles would have become the property of the Surrey Archæological Society, and the student would in all probability have had to make a pilgrimage to Guilford, or elsewhere, whenever he wished to consult or copy them. It is perfectly needless to observe that the British Museum, as usual, had declined to make the acquisition.*

Very little is known of the history of the Abbey of Chertsey, beyond that it was founded in 666, and rebuilt in 1110; that Henry VI. was buried there after his assassination in the tower; and that his body was afterwards removed to Windsor by Henry VII. who endeavoured to get him canonized, but was deterred by the enormous expenses demanded by the Papal court; and that the Abbey was surrendered (1537) with the others, and was pulled down and the materials used up at various periods, but principally to build a house for Sir Nicholas Carew, in the time of Charles II.* Since then the remains have been the stone quarry for the neighbourhood; and it was during the grubbing up of the foundations for this purpose in 1853, by Mr. Grumbridge, the present possessor of the site, that the bulk of the tiles were discovered. Afterwards (1855) a subscription was entered into, and further excavations made, under the superintendence of Dr. Shurlock, who classified and reunited the various fragments as they were discovered, and to whom indeed the general preservation of any considerable portion of the tiles is entirely owing. Now, fragments had been frequently found during the last century, whenever any excavations were made for agricultural purposes. Other pieces had been fished up from out of the river. A summer-house at St. Ann's-hill, near Chertsey, had been paved with a sort of "opus incertum," composed of pieces of tiles, put together without any regard to their original pattern.

One or two tiles are said to be preserved in the Soane Museum, and others have been published in the "Archæologia;" but it remained for Dr. Shurlock to collect and arrange the largest collection yet made of them, and the only one which gives us an idea (although a very faint one) of their original appearance. Now it should be observed that hardly any of the larger tiles were found unbroken; so much so is this the case, that some have imagined that the destruction was intentional; and others, with more show of reason, that the more perfect ones were removed at the time of the destruction of the abbey. I think, however, that their bad condition may easily be accounted for if the demolition of the abbey was effected by removing the lower part of the pillars and supplying the place of the stone with wood, which, when burnt, would cause the destruction of the whole building. Now a number of very heavy stones falling from a height would be ample cause for the broken state of the tiles upon which they fell, to say nothing of the completion of the work by the wheels of the carts afterwards employed to remove the various materials. It should be mentioned that a good number of the tiles were found close by several stone coffins, in what Mr. Pocock, in his account of the abbey, supposes to have been the south transept, a situation by no means improbable when we consider that tile pavements were generally restricted to choirs and ends of aisles and of transepts, in fact, round and about altars, and where there was little danger of their being worn away by much traffic; but still it is a difficult matter to explain how tiles containing secular subjects for the most part (for those, thought to be religious are very doubtful), came to be placed in a consecrated part of the church, as the juxtaposition of the coffins proves they must have been. I can only suggest one explanation, and that rather an improbable one, namely, that the wooden moulds from which the impressions have been produced, had been made for some other building, most probably a secular one, and that after doing duty they had been purchased by, or given to, the abbey at Chertsey, and that the authorities, wanting to pave their church, and unwilling to go to the expense of new moulds, or perhaps appreciating the excellence of the art displayed in the moulds under consideration, used them, and had the tiles made from the Chertsey clay; and from these said moulds laid down. It is by no means improbable that they even re-cut some moulds, perhaps, in after times, in order to keep a stock in hand for repairs, when the originals had been lost, for one pattern, consisting of circles, placed at some little distance from each other, with filling-in pieces between; all of which

* I think a good deal is to be alleged on the part of the trustees when they are blamed for not purchasing this or that object or collection. They and the elder officers regard the functions of the Museum in a very different light to what the rising generation do. With us the Museum is a depository of things for the purposes of study: with them it is simply a collection of curiosities, such as stuffed birds, beasts, and fishes; Elgin marbles, and New Zealand coalscuttle bonnets made out of tortoise-shell. The consequence was, that having got some few specimens of the Chertsey tiles presented to them, enough was done to satisfy curiosity, and they very consistently declined to purchase the collection.

* "Collections of the Surrey Archæological Society," vol. i. p. 97. "Chertsey Abbey," by W. W. Pocock, Esq. "Some Account of the Encaustic Tiles and Stone Coffins excavated on the Site of Chertsey Abbey," by W. W. Pocock; assisted by the notes of Dr. Shurlock.

MEDIÆVAL TILES FROM CHERTSEY ABBEY.—Now in the Architectural Museum.

had been made separately in the original; was in the copy made altogether in one large square tile.

The material of these tiles is a reddish clay, with the indented patterns filled in with a white clay, a gold-coloured varnish being spread over the whole upper surface. The red ground also frequently becomes black, but I am unable to say whether it is owing to a metallic oxide being mixed with the clay, or to some arrangement in the baking; however this may be, the tiles with the black ground formed a very pleasing contrast with those with a red ground, and of course were counterchanged with them. Thus a medallion would have a black ground; the letters round it would have a red ground; the filling-in pieces would again have the black ground, while the red would reappear in the little circles at the angles. Sometimes, indeed, the white clay would be the ground, and the red would form the pattern; but, even in this case, the body of the tile would be red, and the white a mere layer of nearly less than one-sixteenth of an inch. The forms of these tiles are very various, and several of the patterns are formed of exceedingly small pieces; others again are very large. Thus the small circles above mentioned are not above one inch and a half in diameter. A common pattern was a diaper of the heraldic mullet, each limb of the star being a separate tile, and counterchanged in colour with its neighbour. Another is shown in No. XI.; but the most common was the historiated circular medallion, made in four pieces. No. XIII. surrounded by a border. This border is sometimes homogeneous, with the filling-in pieces as No. VIII. but more often it consists of an inscription in short pieces, of which three generally go round the greater medallion, but occasionally each letter was separate, and indeed the very great number of these latter which have been found would induce the supposition that they obtained more generally than the others. The spaces between the medallions were occupied by filling-in pieces. No. XIII. containing conventional foliage. The engraving contains three specimens of this. No. IX. probably the best, can hardly be called conventional beyond the fact of the exaggeration of the stalk; but it is precisely this exaggeration which gives it its stern and strong look, and fits it for its place. Observe also another thing: how well and firmly every member is made to separate itself from its neighbour,—the lobes of the leaves, for instance, in No. IX. The reason is, that as these patterns would be some little distance from the eye, and for the most part so viewed that the visual rays would strike them at an angle; and so foreshorten the whole that if the pattern were not made out with great distinctness, the yellow would run into the red, and the whole would be a jumble. A curious instance of his talent of the Mediæval artist occurs in the rendering of the spine of the lion in No. III. Generally speaking, the spines of the vertebræ as they project below the skin would be represented by circles; but had this obtained in the present case, the spaces of red between the circles and the straight line which bounds them would have been so small that at a little distance they would have run into the yellow of the body, and the only effect would have been a slight orange tint down the middle of the back. This was not the object of the designer,—he wanted to make the vertebræ into an ornament to cut up the mass of yellow in the body,—so what did he do? Why he rendered the vertebræ by lozenges instead of circles, and so got a sufficiency of red between them, which he could not do by means of the circle, and he was thus enabled to define his pattern at the proper distance. The angles of the filling-in pieces are occupied by circular pieces, which contain patterns of almost Classic simplicity, and the same may be observed of the small square tiles which occur at the ends of the filling-in pieces, No. XIII^c, as well as of the borders which doubtless separated the pavement into longitudinal strips, Nos. VI. and VII.

Whoever may have been the original designer of this pavement, or to whatever nation he may have belonged, he most certainly had Classic models before his eyes, and, like a sensible man, took advantage of their better features and incorporated them into his own work, and did not try and copy an ancient pavement *en masse*, merely because it was ancient. As a proof of his acquaintance I might refer not only to the frets Nos. I. and II. because the fret in its simplest form, called the Fylfot, was a most common ornament up to the end of the thirteenth century. Indeed, the Middle Ages produced frets even more intricate than the Greeks did. But I would point out the roses, Nos. VI. and VII. and perhaps the scroll, No. XII.; but more especially the medallion, No. III. of the man on horseback fighting the lion. Now, several circumstances tend to make us suspect that the composition was copied directly from some antique original, perhaps a painting, but more probably a tesselated pavement. It is true that the vitta round the head had its representative in the Mediæval chaplet, and that the cut of the thirteenth-century surcoat worn over the armour, only differed from the ancient tunic in being longer. Still if we admit in the present case that we really do see the chaplet and surcoat, there remains the difficulty of the bare legs and arms. If we may believe the works left us by the middle ages, the poorest always had their legs covered, because it was a condition of the climate that they should be so. Another noticeable point is the horses' hoofs, which in this instance have no shoes, while in the other medallions, the nails of the horses' hoofs are exceedingly prominent.

Piranesi, in the second volume of his "Antichità Romane," gives representations of two paintings found in a sepulchre, opposite the church of St. Sebastian.* They both represent hunters attacked by wild beasts. One in particular resembles the present medallion, except that the horse has fallen on his knees, and that the lion does not show his back. The whole three, *i.e.* the two pictures found in Rome, and the Chertsey medallion, have so much resemblance between each other, that I am inclined to think that they all had a mutual origin, perhaps some celebrated series of hunters, painted or sculptured by some great Greek artist, and that the Chertsey medallion is a copy of one of the series now lost. Thus the pictures of the female dancers at Pompei, have a certain resemblance to each other, *i.e.* one can easily see that they form the same set, and they probably had some original, which was just as carefully preserved, and as well known, anciently as the Last Supper of Leonardo da Vinci is at the present day. The want of stirrups is another proof of the antique origin of the Chertsey tile. I am not quite certain about the saddle, for that particular part of the tile was exceedingly defaced in both the specimens I had to draw from; but, perhaps, some day a third example may enlighten us upon that point. It is only fair to Mr. Shaw,† to state, that when his drawing was made, one example only of this medallion had been found. Since then another has come to light, supplying many parts deficient in the first; for instance, in the first tile the eye of the horseman was wanting, while the face was nearly perfect, while in No. 2, the face was destroyed, and only the eye remained; and I now dismiss the medallion with only one observation, viz. how admirably the mediæval artist managed to arrange the group (and not only this one but almost all of the others), so that every part of the figure should have the red ground running round it, in order to detach and bring it out. Mr. Shaw supposes that the object of the artist was to imitate the stained glass. The fact is, that the same great principle, viz. that of making the figures as distinct as possible from the ground, was common to both.

Another curious point is the various employments of the same figures and patterns: thus some of the medallions are formed on square tiles, and the straight border, No. XII. is made into an outer border of a very large circle. Another border is composed of castles and *fleurs-de-lys*, alternately, a circumstance which would rather point to a French origin. Another series has attracted great attention, as many antiquaries have believed them to be dossel tiles, *i.e.* put at the back of an altar to form a reredos. Now, I really do not see any reason why they should have this distinction, for they exactly agree in width with the other square tiles, and were most probably used as borders. Besides, tiles were not exactly the sort of material likely to be used for a dossel—an article of church furniture usually made in the most costly manner. Again, the figures, of which there are three varieties and many repetitions, have no nimbs, and are clearly not saints, more especially the queen, who carries a squirrel. The art, too, is later, and inferior to that of the others: the features are ill drawn; there are lots of pinnacles and crockets, and the foliage is naturalistic. Another set of tiles represented the zodiac and the labours of the year. Of the signs the most noticeable are—1. The Sagittarius, who has no fore-legs; 2. Cancer; and, 3. Scorpio: the latter is a most wonderful perversion of nature. Drawings of all these may be seen in Mr. Shaw's work. I should mention that the signs occur equally in square and circular tiles. As might be expected, the major part of the collection has been very much worn away and defaced; one tile, however, remains in a most perfect state, having been found within in a stone-coffin, and used to support the head of the body: the minuteness and finish of the execution are truly wonderful. As might be expected, from the scattered and disjointed state of the inscriptions, little or nothing can be learnt concerning the subjects of the medallions. Various pieces have been arranged together in one of the plates of Mr. Shaw's work, but we have no guarantee that these exact words came together. Mr. Way has, however, pointed out that the words, "Morgan e se gent tourne en Engleterre," may be read on one of the tiles where the inscription is homogeneous with the filling-in pieces. The same distinguished antiquary has also detected the name of Tristram. The subjects themselves are very unintelligible as a whole, but in all probability refer to some of the romances so popular in the first half of the thirteenth century, for to that date the armour and the ornament would induce us to assign them. Some of the subjects represent knights fighting with wild beasts, or with other knights. One represents a youth on a lion's back, putting his hand into the animal's mouth. This might refer to the story of Richard Cœur de Lion tearing out the lion's heart, when in the dungeon of the Duke of Austria; indeed, some of the disjointed fragments of the inscription, which contain three letters, if put together, would read "Regi Ricardo;" another tile represents a lady lying down in a boat, and playing the harp; another, two men quarrelling over a game of chess, which incident, Mr. Shaw suggests, is the commencement of the romance of "Les Quatre Fils de Haymon;" while the subject of another is a representation of the wager by battle between two of the common people. In conclusion, these tiles are deserving of the most careful study, both by the manufacturer and the artist. The former may learn to give us tiles of other shapes than the eternally recurring rectangle, and to get brightness, by employing white clay glazed with gold colour, instead of a miserable unglazed buff, a colour which Mr. Ruskin very truly says is not to be found in nature, and consequently ought to be avoided as much as possible. The artist may learn that figure subjects of the highest class can be successfully adapted to tiles, although no one would ever dream of preferring them to pavements incised in stone: still, if we are to have tiles with these repetitions, let us at least vary their shapes, and have as much art in them as possible.*

W. BURGES.

* A copy of one of these paintings is to be found in the third volume of the "Pictorial Bible;" but not very correctly copied.

† Tile Pavements from Chertsey Abbey, by Henry Shaw, F.S.A. London: Pickering. 1857.

* Since their arrival at the Architectural Museum, the various tiles have been properly cemented together under the direction of the curator, Mr. C. B. Allen. The purchase of these tiles is a good proof of the utility of the Museum.

THE DEODORIZATION QUESTION.

TOTTENHAM.

A CORRESPONDENT, a few days ago, asked the question in a contemporary journal, whether, if the sewage of the populous district of Tottenham be deodorized and discharged into the river Lee, so as not to injure the water for supply of one of the Waterworks Companies, the sewage of London could not be also deodorized in like manner, so as not to be a nuisance to the passengers by the various steam-boats, &c. on the Thames. The first part of the inquiry was replied to by the engineer of the company, viz. truly stating that the whole of their supply is taken far above the outfall of the Tottenham works; but as the other portion of the inquiry is still unanswered, I think the subject of sufficient interest just now, and my latter observation especially of sufficient importance, to ask you for a corner of your widely-circulated journal, and, therefore, as the engineer who carried out the drainage and water supply of Tottenham, as well as of the other towns referred to below, may I be allowed to make an observation or two upon the *second* question. Although it may fairly be felt that however effectually the sewage of Tottenham (from so large a population), may be precipitated and deodorized, it would not be either pleasant or proper to use it, however diluted by other waters, as part of the supply of the metropolis; yet, undoubtedly, it is sufficiently purified to render it perfectly inoffensive and harmless to passengers in boats, or the residents on the banks of a river; and not only is the sewage of Tottenham thus rendered harmless, but that also of Watford, Uxbridge, Enfield, and Bridgnorth, by the use of lime as a precipitant, or other means. My experience, therefore, enables me to say that, where

the expense of sewage works or precipitating tanks is the least evil of two, town sewage may be rendered inoffensive, if not useful or valuable. This I consider, however, to apply to towns of ordinary population only, and where the storm waters are separated (if the area of the water-shed be large), from the sulliage or excrements of the inhabitants, and the common water supply, as is the case in the places I refer to, or the magnitude of the sewage works and expenses will be out of all proportion. And hence it is my opinion that, except as a temporary palliation for a local nuisance, the attempt to deodorize the whole of the sewage waters of the metropolis, though not an impossibility, yet will prove too costly, not so much in the material and attendance as in the large works and area of reservoirs required; for in this respect a mistake is generally made, in not allowing storage room enough, and therefore not time enough for the precipitation to become complete.

While on the subject of the all-absorbing proposition of the main drainage of this great metropolis, I would be allowed to make the following remark, that although the abstraction of 80,000,000 of gallons of water from the Thames, at points some miles up the river, for the supply of the metropolis, has been suggested as one of the probable causes of the present evil, and possibly of some permanent alteration in the river for the worse, I have not observed that the far more serious change and infringement on the river's "rights" has been considered at all, or taken into account by any of the engineers or commissioners reporting on the subject, or any thought given as to its future consequences, especially in relation to how it may influence or neutralize the theory of the future reflux of the sewage water itself. I allude to the proposition of taking and conveying, by the main drainage scheme and intercepting sewers, the whole drainage of not only the metropolis but the watershed of an area of some 200 square miles, to points far down the river, which now and hitherto has found its way thither at various points miles above. That this change will have a very sensible effect, cannot be doubted, and should be duly considered now, not only as regards the sanitary interests of London, but its trades, its prosperity, and navigation.

JAMES PILBROW, Civil Engineer.

HEAPING-UP DANGER.

THE explosion in the Borough, which has caused loss of life and been the means of disfiguring and laming about 200 persons, is another instance of that strange neglect which, in defiance of repeated warnings, allows the continuance of arrangements which are so evidently wrong, that if experience did not show the contrary, one would fancy it was only necessary to mention the circumstance in order to find immediate remedy.

During the last twenty years several fatal accidents have occurred from the explosion of firework manufactories, and on each occasion the greatest surprise has been felt at such dangerous works being allowed in any populous city, and exertions were made, on the occurrence of each accident, to put a stop to such practices. Time has, however, passed on, and nothing effectual been done, or much thought of, until a fresh calamity again startles the public. It is said of some other dangerous materials, that it is necessary to keep them at hand; but in the case of fireworks, no such excuse can be made, and the difference of a small additional cost for carriage from a safe distance can be a matter of little consequence.

This accident naturally leads us to think of other arrangements, which seem almost as reprehensible as the mismanagement which allows the firework manufactories to be carried on in populous neighbourhoods.

The great fires which have recently occurred in the dock warehouses, show a most dangerous arrangement of various goods. Substances seem to be placed with others likely to cause spontaneous combustion, and saltpetre and similar matters to be so stored as to add to the effect of the flames. In some of the great city storehouses, naphtha, turpentine, resin, and other inflammable commodities are kept in immense quantities, and are, in some instances, so arranged that Guy Fawkes would have been quite satisfied if he could have removed a similar mass of materials to below the old Houses of Parliament. These articles are undoubtedly necessary in such communities as this; but they should be kept in buildings suitable for the purpose, and the stores so arranged as to lessen the amount of danger. Near the Monument the same extensive premises have been destroyed, causing great damage to others, we think three times within the last twenty years.

Wharfs which have been destroyed two or three times have been rebuilt on each occasion in the same place, and filled in the same manner. Several times in each year human life is sacrificed by fires in dwelling-houses, and yet hundreds of houses are built in each month in the metropolis alone, without any attempt being made to afford escape from this furious element. We have, at an enormous expense, erected a building as a museum for the reception of relics more valuable than gold, and are told that it cannot be lighted in the evening and made accessible to the large number who have only that time available for the use of it without the risk of fire.

It is said that there is a store of gunpowder in the White Tower, enough to blow that valuable antiquity to pieces. In case of need, it would be an easy matter to remove the powder-bin, and avoid continual danger. Fifty other arrangements might be mentioned which may be classed amongst the curiosities of the present age, and are each in its particular way as remarkable as the circumstance mentioned lately in the House of Lords, that when a large supply of wheelbarrows was required at Aldershott, the bodies of the barrows came without the wheels; and on inquiry, it turned out that, while the former had been sent from the ordnance stores, the latter came from the engineering department; and when they did arrive, they were rendered nearly useless from there being no proper persons under whose eyes they could be put together.

Although, under the present circumstances, the most sanguine can scarcely expect that all will be done that is necessary, it is to be hoped, at any rate, that means will be used to remove the fireworks, and, at the same time, there are other dangerous and unwholesome manufactories which should be considered.

THE CAGOT'S DOOR.

HAVING read with great pleasure (doubtless shared by many other archæologists) Mr. Wright's interesting letter in your impression of the 10th, and feeling anxious that the hints thrown out in the last paragraph should not be lost sight of, allow me to say I have a sketch of what might very possibly have been a Cagot's door. It occurs in the north wall of the church of Little Hampston, near Totness. My attention was drawn to it in 1856, by the rector, the Rev. Mr. Hill, who, if I remember rightly, informed me that it always went by the name of "the Devil's door," a cognomen not at all unlikely to have arisen from the popular prejudice against the Cagots.

The doorway is small, and appears to have been blocked up at a remote period.

I hope this short notice will not be the only one you will receive in illustration of the *races maudites*.

EDWARD W. GODWIN.

LOW SIDE WINDOWS AND PROSCRIBED CLASSES.

ALLOW me to advance publicly a theory on this subject, which I have often advanced privately.

I must begin by laying down two postulates:—

1. The openings are only found in chancels which possess no original priests' door.

2. They are so often found with shutters, or, at least, hinges, that it must be allowed that they were always made with a view to receive shutters.

Reasoning from these two postulates, I conclude that they were intended merely for the purpose of ventilation.

If I have no right to lay down these postulates, —that is, if the openings were made in conjunction with chancel doors and without a view to shutters, my theory of course falls to the ground.

J. V.

Proscribed Races and Old Churches.—In reply to Mr. Street, I am ashamed to say that I had not had the pleasure of seeing his letters in the *Ecclesiologist*, or I should undoubtedly have given him the full credit of what he has said on the subject. The views stated in the little paper you were good enough to print a fortnight ago, I have held and talked of for some years, but it was rather by accident than otherwise that I put them down in writing, and I am very glad to hear that they have been entertained by others as well as by myself. I think there may still be found records to throw some light on the history of the proscribed races in this country (I do not mean here Jews or lepers), but I suspect they must be sought locally. We should expect to find notices of them in the earlier municipal records, and, perhaps, in some deeds of estates. Unfortunately, there are very few municipal records of the dates when they would be valuable for this purpose preserved in this country; and, as these classes of the population appear not to have been legally attached to the land, or to have been otherwise acknowledged by the law, they would only be accidentally mentioned in the other class of records alluded to.

THOMAS WRIGHT.

FOREIGN OFFICE RE-CONSTRUCTION.

REPORT OF PARLIAMENTARY COMMITTEE.

WE referred last week to the Report of Mr. B. Hope's committee on the reconstruction of the Foreign Office. The report, after setting forth the circumstances of the competition, proceeds as follows:—

6. IN order to attain a just conclusion upon the question of re-constructing the Foreign Office, your Committee have examined Mr. Hammond, the permanent under secretary for that department; Mr. Hunt, the surveyor of the Board of Works; Mr. Pennethorne, Mr. Coe (representing Messrs. Coe and Hofland), Mr. C. Barry (representing Messrs. Banks and Barry), and Mr. Scott, the three first prizemen; Mr. Burn, the only one of the judges who belonged to the architectural profession; and Messrs. Angell and Pownall, the professional assessors. Your Committee have also examined Sir Charles Barry, as the architect of the Houses of Parliament, and of several public offices in their present form, and as one who has directed much thought to the subject under consideration. The other witnesses who have been examined only gave evidence on points incidentally arising in the course of the investigation.

7. Your Committee, having duly considered all the circumstances connected with the recent competition for the Public Offices, and satisfied themselves as to the degree of talent displayed in the three designs which have been under their consideration, and having also considered the plans which had been previously prepared by Mr. Pennethorne, have come to the conclusion that, in the erection of a new Foreign Office, a preference should be given to the successful competitors. But, at the same time, your Committee feel bound to express their opinion that there is nothing in the terms of the competition which necessarily binds the Government to select the architect of the Foreign Office or of the other public buildings from the successful competitors, and that it would be contrary to the interests of the public, where the principle of unlimited competition has been adopted, that the choice of the Government should be thus restricted.

8. Public competitions must necessarily be either limited or unlimited. In the case of limited competitions a selection is made from men of known ability and competence, who are invited to send in designs, and thus security is given to the public that whatever difference there may be in their comparative merit, they will all be the designs of men of acknowledged talent, and the execution of the work may then be safely entrusted to one of the competitors. No such security can, however, be given when the principle of unlimited competition is adopted; for until the designs are actually sent in, it is impossible to form any idea as to the amount of talent which the competition is likely to call forth, and it would therefore be most impolitic to enter into any previous agreement or understanding which would confine the execution of the work to the competitors in an unlimited competition. All that can in such a case be said in support of the claim of the competitors is, that when they come forward, they do so with the reasonable expectation that one of the successful competitors will be employed, provided the result of the competition leads to the belief that the execution of the work may as safely and advantageously be entrusted to one of their number as to any other person. It is only upon these conditions that it would be either safe or desirable to throw open any great public work to unlimited competition; and in the interests of the public the claims for employment of the successful competitors must always be limited by and dependent upon the degree of talent shown in their works, and by the confidence felt in their power to execute them. Unlimited competitions are, moreover, open to the objection that some of the most distinguished men may occasionally decline to compete; and it is therefore the more necessary that the Government should not be precluded under special circumstances on their own responsibility from employing the person whom they may think most capable of executing the work, whether he be or be not to be found amongst the competitors: at the same time the principle of unlimited competition has the advantage of giving an opening for the recognition of real, though unknown talent, which patronage, however wisely exercised, or even limited competition, may fail to call forth.

9. These, it appears to your committee, are sound general principles applicable to competition, so far as regards the employment of the competitors; and in now recommending that a preference should be given to the successful competitors in the erection of the new Foreign Office, your Committee have been induced to do so from a conviction that the talent displayed in their designs, and in most cases their known practical experience in the construction of buildings, afford to the public all needful security for the successful and proper execution of the work.

10. Some of the prize designs being in Italian architecture and some in Gothic, your Committee particularly directed its inquiries to the question whether (apart from considerations of taste), either style had the advantage as to cheapness, commodiousness of arrangement, or facilities for light and ventilation. The result of these inquiries is, that in those respects no material preference exists on either side. As to the three first designs, it must be recollected that while the first prize for the Foreign Office was awarded to Messrs. Coe and Hofland, yet they did not compete for the War Office again; while, in the opinion of Mr. Burn and that of the assessors, Messrs. Banks and Barry stood first in merit for the Foreign Office; yet, according to the same opinion, they were unsuccessful for the War Office, while Mr. Scott stood second both for one and the other.*

* This statement seems scarcely correct, inasmuch as Messrs. Banks and Barry stood fifth for the War Office in Mr. Burn's list, as well as first for the Foreign Office. We simply speak as to correctness, and not in the interest of any design or desired inference.

11. Your Committee have heard much evidence for and against treating the various offices which may be built as one architectural mass, "a Palace of Administration," as it has been designated; but, without dwelling upon this question, they are of opinion, as the very terms of their reference indicate, that it is most desirable that the new buildings should in themselves be so constructed as to admit of the juxtaposition upon a uniform plan (well considered beforehand) of such other offices as may, from time to time, become requisite. The very able and magnificent block plan, by M. Crepinet, may furnish valuable hints towards preserving the desired unity.

12. Your Committee are of opinion that whoever may be the architect ultimately selected, he ought to be allowed the fullest liberty in the modification and improvement of his original design. With reference to one detail, it appears that the official residence for the Foreign Secretary demanded in the competition designs, however convenient, is not absolutely requisite for the public service; while the series of reception-rooms also demanded, ought, if they are built at all, to be constructed for the occasional use of every minister.

13. Your Committee now approach the subject of the acquisition of additional ground. The State is already in possession (besides the actual area of the existing offices) of the long, but narrow, block lying east and west between St. James's Park, Downing-street, Crown and Upper Crown-street, and King-street. It might be barely possible to place a new Foreign Office on this ground without interfering, during the course of building, with the actual office (a condition which the exigencies of the daily public service renders a *sine qud non*), and yet so as to keep the office towards St. James's Park, a condition upon which the authorities at that office likewise insist; but the process of so building the new office would be attended with great inconvenience. It appears that if the block plan to which the first premium was awarded is carried out, so far as regards the exact site of the Foreign Office, a small portion of the St. James's Park will be built upon. This portion contains about 1,800 square yards. But it also appears that if the triangular piece now enclosed is thrown open to the public, the space given to the use of the public will be much greater than that which would be covered by the proposed Foreign Office, and the acquisition of this piece of ground would render the space to be built upon much more convenient than it otherwise would be, by squaring off the area upon which a building could be erected.

14. Your committee do not, therefore, hesitate to recommend the immediate acquisition of the block of houses lying between Duke-street on the west, King-street on the east, Crown and Upper Crown-street on the north, and Charles-street on the south. The purchase of this block, including all interests, is reckoned at 100,000*l*. In making this recommendation, your committee desire it to be distinctly understood that they are advising the smallest purchase consistent with the object in view. The acquisition of the wedge-shaped block between Parliament-street and King-street, reaching from the Irish Office to Charles-street, would have the advantage of opening out the new offices; and it might be obtained, with immediate possession, for about 150,000*l*.; nearly the whole of which property belongs to the Government as commissioners of Westminster-bridge. The committee are of opinion that it would be the truest economy in the long run, for the State to acquire, at the earliest opportunity, at least the freehold of such adjacent property as will from time to time be required for the public use. The system of bit by bit purchase is always the most expensive, as each successive acquisition materially raises the value of the residue. Moreover, the money so invested need not all lie idle; for while in many cases it might not be desirable to acquire more than the fee-simple, in others tenants-at-will would never be wanting for tenements situated in a quarter of the metropolis where so much business is concentrated.

15. Your committee have, in the course of their inquiry, been led into the history of the projects for re-building the War Department, in Pall-Mall; but your committee are not prepared to express any opinion upon any of the questions connected with the reconstruction of that office.

PROVINCIAL NEWS.

Hastings.—The foundation-stone of a building has been laid at Hastings, for an assembly-room and arcade, and mechanics' institution. The building will consist of extensive cellarage in the basement. On the ground-floor there will be an arcade, with shops on each side, running from the Bohemia-road to the Station-road; a reading-room, 30 feet by 20 feet, and class-rooms for mechanics' institution, and two separate entrances to the assembly-room above. On the one-pair floor there will be an assembly-room, 75 feet long by 45 feet wide, and capable of accommodating 1,000 people, to which there will be two separate staircases: there will also be spacious ante-rooms adjoining. The building will be in the Italian style of architecture, and the contract is 4,870*l*. The architect is Mr. Henry Carpenter, of Hastings; and Mr. John Howell, of Hastings, is the contractor.

Coulsdon.—The opening of the new Asylum for Fatherless Children, at Coulsdon, according to the *Surrey Standard*, was celebrated by a public breakfast last week, at which the Earl of Carlisle presided. The building is one which arrests the eye of the traveller by the Brighton line, from its bold situation on "Reedham-hill," as it is now called. The structure is in the broken style of Italian architecture, the materials used in its construction being the Devonshire marble, with an exterior ornamentation of freestone. The front extends to 400 feet, surmounted by a central tower of 90 feet elevation, and two towers to the extremities in the same style, but of lesser elevation. The depth is about 200 feet. The entrance-hall is laid with Minton's encaustic tiles. The institution is intended to accommodate 300 children. Refectories, dormitories, school-rooms, class-rooms, playgrounds for summer and winter, plunging baths, and sick rooms, compose the interior. The estimated cost of the whole is 20,000*l*. The architect was Mr. Moffatt, who designed the Idiot Asylum, at Redhill. The object of the charity is to receive the fatherless child at any period of infancy or childhood, and to care for and protect him till he is competent to enter on the duties of life. There are no restrictions as to age, place, sex, or denomination; but the most active promoters of the institution are Dissenters.

Ironbridge (*Shropshire*). — The ceremony of laying the foundation-stone of the memorial building about to be erected to the memory of the Rev. John Fletcher, many years vicar of Madeley, took place on Wednesday in last week, Sir John Ratcliffe, Bart. Mayor of Birmingham, taking principal part in the proceedings. The new building will be in close proximity with the juvenile school, and will consist of a school-house and master's residence. The edifice will be in the Early English style, decorated with red and blue bricks, relieved with Bath stone dressings, and ornamented with a turret and spire. The dimensions of the school-room will be 40 feet by 20 feet; the class-room 18 feet by 24 feet. The residence will be three stories high, with an oval window. The fund for raising the building, which will cost 1,000*l*. has been obtained chiefly through private subscriptions, and a part from the Government Council on Education.

Willenhall,—says the *Birmingham Journal*, is rapidly assuming great importance. Within the last few years the town has doubled itself in size and population; its market has risen to one of some magnitude, and new shops have sprung up in all directions, some of them with great pretensions to architectural display. A plan has, within the last few weeks, been prepared, for a townsman, of a new market-place, and an arcade leading to the same. Over the latter will be offices, and a large assembly-room. In the centre of the market will stand an elegant fountain. It is now believed that the streets will be lighted with gas this next winter, which will materially add to the appearance and comfort of the town.

Leeds.—The grand organ for the new town-hall is making rapid progress. There will be four rows of keys, compass from C C to C, the great organ containing twenty-six stops; the swell twenty; the choir sixteen; and the solo nine. The pedal contains sixteen stops, and the number of stops in the solo organ may be considered as sixteen, since, by mechanical contrivances, seven various combinations of stops in octaves are obtained. There will be fourteen coupling movements, and ten composition pedals. The pedal organ will extend from CCC to F, with 32-feet metal pipes. The pneumatic apparatus has been adopted throughout, at the expense of the builders. The designers are Messrs. Smart and Spark, and Messrs. Gray and Davison are carrying out their plans. A portion of the instrument has reached Leeds, and is about to be set up in the large hall.

Edinburgh.—The monument to Dugald Stuart, at Edinburgh, has been struck by lightning, and slightly injured.

CHURCH BUILDING NEWS.

Ingoldesthorpe (*Norfolk.*)—The four-light window at the east end of the chancel of Ingoldesthorpe church has lately been filled with stained glass by Messrs. O'Connor. New Testament subjects having been selected, the two centre lights represent the Crucifixion and Ascension, and the two side lights the Nativity and Descent or the Holy Ghost, which have been executed with great care and taste. The openings in the tracery being large, have been filled in with much skill. Our Lord is represented seated in an attitude of invitation, with attendant angels, while groups of "the just" are ascending, borne upwards, as it were, by guardian angels, to the Throne of Grace. The glass has been presented by the Rev. W. T. Bakett, and is in memory of his father, the late patron. The window was executed under the superintendence of Mr. G. E. Pritchett, architect.

Lansford (*Herts*).—The new district of St. John at Lansford has lately been formed, and comprehends a portion of the extensive parish of Hatfield and of the parish adjoining. The first stone of a new church has been laid there by the Hon. and Rev. W. C. Talbot, the rector of Hatfield, for the advantage of a population of about five hundred persons. The evening was chosen for the performance of the ceremony, to allow of as large an attendance as possible, and the subject being one of great interest in the neighbourhood, there was a large assemblage of persons to witness it. The church, with a parsonage house, are to be erected at the cost of the Countess Cowper, who has also liberally endowed the living, upon a site given by Lord and Lady Palmerston, opposite the entrance to Brocket Hall. The edifices, from the designs of Mr. D. Brandon, are to be built by Mr. Foster, of Whitefriars, London, and they will be completed, it is expected, in the course of the summer of next year.

Clewer.—On the 1st of July the south wing and chapel of the House of Mercy, at Clewer, were solemnly opened and dedicated by the bishop of the diocese. The general plan comprises a large quadrangle with wings extending to the east. The second contract (carried out by Messrs. Wheeler, of Reading) included the erection of the chapel and apartment for the ladies who so nobly devoted their lives to the reformation of their fallen sisters. The entire building is of red brick. The interior of the chapel displays a considerable amount of polychromatic treatment, entirely produced by red and black brick. The pavements, by Messrs. Minton, are composed of small tesseræ. The oak fittings, not yet completed, are being wrought out by Mr. Luker, of Reading. A wooden bay, projected into the chapel, has been erected for the inmates of the infirmary adjoining. A simple canopy, supported on alabaster shafts, surmounts the Caen stone reredos at the back of the altar table. But little colour other than the materials of the walls themselves furnish has been applied. The ornamental ironwork is by Messrs. Filmer and Masons, of Guildford. Some glass has been supplied by Messrs. Hardman, of Birmingham, and more will follow. Mr. Edgington was the clerk of the works, under Mr. Woodyer, the architect.

Bristol.—The foundation-stone of a Presbyterian Church was laid on Thursday in last week, by Mr. H. E. Crum Ewing, of Strath Lever, M.P. for Paisley. The three large doorways by which the church, when erected, will be entered, will have moulded jambs, foliated capitals, polished Purbeck marble columns, and enriched archivolts. These doors will open into a lobby—30 feet by 10 feet—at one side of which is a door leading to the gallery stairs. In the wall of the lobby facing the entrance will be an arcade of lancet-headed lights, separated by polished blue Pennant columns. The church will have nave and side aisles, the latter being kept narrow, as there will be no windows in the aisle walls, the principal light being obtained from the clerestory, the roof of the nave having been so designed that a large amount of window surface will be obtained without making the building too high for speaking and hearing. A wheel window, 17 feet in diameter, and filled with tracery, will be placed in the end wall of the nave over the pulpit. The school-room, which fronts Cannon-street, will accommodate about 200 children. The building will be heated by hot water, the stove-room being under the tower. The style is Early Decorated. The dimensions of the building will be as follows:—Extreme length of church, 106 feet; width, 48 feet; in clear of walls, 97 feet; height to top of front gable, 62 feet; height to top of spire, 130 feet.

Frampton Cotterell (*Gloucestershire*). — The parish church of this village having been rebuilt, was publicly consecrated by the Bishop of Gloucester and Bristol on the 29th ult. The tower is the only feature of the old church retained. Although late of its kind, it is a fair specimen of those late Tudor towers for which the counties of Gloucester and Somerset are noted. The tower has been restored and thrown open to the new nave. There is accommodation in the new church for upwards of 500. The new plan consists of a nave, 63 feet by 19 feet; north and south aisle the same length, and each 13 feet wide; a south porch, 10 feet by 9 feet 6 inches; a chancel, 28 feet 6 inches by 18 feet; and an attached chapel on the south side, 23 feet 6 inches by 11 feet 6 inches, opening into the chancel and south aisle by three ornamental arches. The nave is fitted up with stained deal benches. The flooring of the passages is paved with Peake's Staffordshire tiles. The porch is laid with encaustic tiles. The chancel is fitted up with oak stalls, with carved ends and elbows. The chancel is laid with Minton's encaustic tiles, containing emblems of St. Peter, the patron saint of the church, &c. The style adopted is the Perpendicular. The nave, which is 42 feet high, is supported by ten arches, resting on lofty columns. The roofs are carved throughout. The nave has a hammer-beam roof springing from carved corbels. The roofs of the aisles and chapel are covered with lead. The walls, which are built of a local Pennant stone, are cased internally with Bath ashlar stone. There is a clerestory with two-light windows. The windows of the aisles

and chapel are of three lights, traceried, and the great east window is of five lights. The architect was Mr. Norton; the contractor, Mr. Brooks, of Bristol. Mr. Wilkinson was the clerk of works. The carved stone work has been executed by Mr. Farmer, of London. The warming of the church was entrusted to Messrs. Haden, of Trowbridge.

Laverstock.—The new church at Laverstock has been consecrated. This new edifice is dedicated to St. Andrew, and is from one of Mr. Wyatt's designs. The Norman porch, which formed a prominent feature in the old building, has been worked into the new edifice. The new church is in the Early Decorated style, and consists of a nave, south aisle, and chancel. The roof is open, and the seats are of stained deal, and of a uniform height. The pulpit is carved freestone, by Mr. Howitt, of Wilton, with texts in old English characters, and supported by polished marble pillars. The chancel is raised by three steps, and the altar is also raised on three steps, and a dais: the rails are of blue and gold. The windows are all of early style, slightly decorated. Those in the south aisle, which are enriched by old stained glass, are the gift of Mr. G. B. Townsend, of Salisbury, brother of the curate. The east window, the gift of three members of the same family, is formed of old glass collected from various parts of the continent. It represents the Crucifixion, the Virgin, and St. John, with the monograms of the Evangelists. These windows were erected by Messrs. Ward and Co. of London. The chancel is paved with Minton's encaustic tiles, and the nave and aisle with freestone. The building is about 80 feet long and 30 feet in width, and the builder is Mr. Pedley, of Highworth. The church is fitted with a heating apparatus, laid down by Mr. J. Wilton, of Salisbury. It was originally contemplated to add a spire to the building, but the funds proved insufficient. It has, therefore, only a bell-turret at the west end.

Charlton (near Pewsey).—The church of Charlton has been restored, under the superintendence of Mr. Pearson, of London. The total expense of the restorations which have been carried out (exclusive of special gifts) has been upwards of 1,200*l.* towards which 1,069*l.* have been raised by voluntary contributions.

Wednesfield.—It is in contemplation to erect a Wesleyan chapel for the accommodation of at least 700 persons, and with space to put up a gallery at some future time, rendering the chapel capable of seating 1,000 persons. The estimated cost of the building is 1,300*l.* The proposed chapel will be of an octagonal form, with pews rising one above the other on all sides except the east, that side being occupied by the pulpit and communion pew. The centre part of the chapel has a level floor, upon which are placed free benches, and the aisles on either side of the same communicate with all parts of the interior, passing direct from the western or principal entrance porch to the doors of the vestries. At the east end are three galleries, intended for the boys, girls, and singers, having separate staircases out of the schoolyard. There is also a gallery over the western entrance. The plan of the building is so arranged that every sitting commands an unobstructed view of the pulpit. The main part of the building is lighted by large ornamental windows, the roof being of an octagonal form, the principal timbers converging to the centre, intersected by a portion of flat groined ceiling in the apex of the roof, the whole being ornamented with panels, pendants, &c. The style of architecture chosen is that of the latter part of the thirteenth century. The design is by Mr. Manton, of Wolverhampton.

Birmingham.—The foundation stone has been laid of a new Wesleyan Chapel. The building now commenced is a part of a larger structure which is to be erected in a plain Italian style, and externally of white Leicester brick, with blue and red bricks for dressings to the openings, &c. The interior will have an open timbered roof, of plain character: the woodwork to the pews and other fittings will be of fir, stained and varnished. There will be accommodation at present for about 300 persons. The architect is Mr. Yeoville Thomason, and the builder, Mr. Bennett.

Bishop Eton.—The new church of the Roman Catholic Redemptorist Fathers, at Bishop Eton, in honour of "Our Lady of the Annunciation," has been opened. Pontificial high mass was celebrated on the occasion by the Roman Catholic Bishop of Liverpool. The architect was Mr. E. W. Pugin. The edifice is in the Early Decorated style, and consists of a nave, central and western transepts, sanctuary, two lateral chapels, aisles, and two oratories,—one for the community, the other for clergy who may be staying in the house for the purpose of "making retreats." It measures 96 feet in length by 56 feet in breadth, and 48 feet in height to the under side of the roof, which is divided by arched principals, and subdivided by wrought moulded ribs into square panels. This arrangement is continued through out the building for the purpose of keeping an even temperature.

Didsbury.—In consequence of many of the parishioners of the chapelry of Didsbury residing at an inconvenient distance from the parish church, a new church has been erected at Barlow Moor, and a new parish is to be formed under the Manchester Rectory Division Act, 1850. The church, which is built of stone, is in the Early Decorated style, 70 yards long by 45 yards wide, has nave and side aisles, the nave supported by stone columns, and the roof is an open timber one. The chancel at the east end is 36 yards long by 18 yards wide; and on the north side is an organ chapel and vestry. The principal entrance is by a porch on the south side; and at the west end there is a turret surmounted by a spiret. The church will accommodate 594 persons, 230 free. Messrs. Starkey and Cuffly, of Manchester, have been the architects; and Messrs. Boden and Edwards, the builders. The consecration of the church took place on Wednesday in week before last.

Preston.—Considerable alarm, says the *Guardian*, having been caused by a report that the dry rot had shown itself in the parish church, a number of practical and scientific gentlemen, at the request of the churchwardens, have made an examination of the timbers beneath the floor, and from their report it would appear that the rot has made considerable progress, owing to insufficient ventilation, with excess of moisture in the foundation of the building, and other causes. A large portion of the pews and floor will have to be taken up, and the infected timber removed before this unpleasant and destructive cause of decay can be got rid of. It will be necessary to take immediate steps to arrest its progress, or the whole of the timber in this part of the church will be affected.

Milport.—The new Free Church at Milport, says the *Edinburgh Witness*. has been opened for public worship. It is in the Early Gothic style, from plans by Mr. Campbell Douglas, architect.

IRELAND.

Royal Bank, Foster place, Dublin.—Operations have been commenced for the erection of a new bank, affording increased accommodation for the officials and the public. The contract for the same, taken by Messrs. Crowe and Sons, amounts to 4,786*l.* 10s. The site selected is situate in immediate connection with present cash-office. Mr. Charles Geoghegan is the architect.

St. Stanislaus College, Tullabeg, King's County.—Under the last-mentioned architect, extensive additions and alterations are in progress in connection with this institution. The new buildings consist of an ample refectory, class-rooms, dormitories, recreation-rooms, ambulatories, &c. covering a space measuring 120 feet by 60 feet, forming part of a comprehensive plan embracing the present old buildings, with new erections and future extensions,—the entire completing a bold Italian composition. The walls are of limestone rubble, with quoins and window dressings, vermiculated, which, with the stringcourses, sills, copings, &c. are of dressed limestone, from the quarries situate on the property.

ST. DIONIS BACK CHURCH, FENCHURCH-STREET.

THE Mediæval remains in the City of London are so very inconsiderable, that I am sure I need make no excuse for informing you of a discovery which I have just made in the church of St. Dionis Back Church, Fenchurch-street.

I was requested last week by the parochial authorities to meet Dr. Letheby, in order to examine the state of the vaults under the church; and, to my great surprise, on descending into the rector's vault, under the chancel, I found myself in an unaltered crypt of fifteenth century date. This crypt is a parallelogram 9 feet 6 inches from north to south, and 13 feet from east to west, internally. It is covered in with a quadripartite vault: the vault has diagonal ribs, but neither wall nor ridge ribs. The ribs are of the simplest kind, but spring from good corbels in the angles of the crypt, and at their intersections there is carved a bold and effective rose. The height from the floor to the springing of the vault is only 4 feet, and the vault rises a similar height, its arches being everywhere four-centred.

The filling-in of the vault is chalk, whilst the ribs are, I think, executed in Calverley stone. There is no mark of a window, unless an opening on the south side, now walled up, was one; but I am inclined to think it more probable that this was the door, as the present entrance to the crypt, through an opening close to the south-west angle, has no trace of being ancient. Close to the modern entrance to the crypt, which is through a vault in the south aisle, there still remain some traces of the ancient entrance. This seems to have been a staircase, entered at the west, and descending to the east, roofed with a succession of segmental pointed arches. Both the crypt and the ancient staircase are now full of a decaying mass of coffins and bones; and as it is possible that no architect or archæologist will again have an opportunity of seeing it, I have given you this particular description of what remains, for two reasons; first, that some record of its existence may be preserved; and, secondly, with a view to calling attention to the possibility of making similar discoveries in others of the City churches. St. Dionis was destroyed in the Great Fire; and I believe that in many other churches, as in it, if any underground erections existed, they would not have been destroyed in the rebuilding. The walls of St. Dionis are built chiefly with Kentish rag, and I am inclined to suspect that this was the material of the Mediæval church used again.

GEORGE EDMUND STREET.

THE PROJECTED DRAMATIC COLLEGE.

THE public meeting in the Princess's Theatre, on Wednesday last, presided over by Mr. Charles Kean, for the promotion of this most desirable object, was highly successful. The report stated that the first two dwellings of the new Dramatic College would probably be erected by the Coventgarden and Drury-lane Theatrical Funds. The chairman, at the close of an effective and eloquent speech, stated that he had received from the manager of the General Theatrical Fund, Mr. Buckstone, a letter stating his anxiety to assist in the realization of the college; that in this they were agreed,—to commence with three houses at once; and that he would hold himself responsible for a fourth. Mr. Webster, in proposing a subscription, and offering stone to face the new buildings from a quarry of his own, read a communication from Colonel Sir C. B. Phipps, expressive of her Majesty's interest in the project, and her gracious permission to apply for her patronage when a fair prospect of fully realizing the Dramatic College had been derived from the patronage of the public. Five acres of land in Berkshire have been offered by Mr. Henry Dodd, as a site for the institution, together with 100 guineas towards the erection of the houses. Indeed, it was this, apparently, which led to the movement. We are glad to find Mr. Kean taking his proper place in the good work, and earnestly wish it success.

LAW NOTES.

Burial Ground.—Under the Burial Act of 1852, it is sufficient to mark off the consecrated from the unconsecrated portion of the burial ground, by a wall of the height of 12 inches from the ground.—*The Queen* v. *The Tiverton Burial Board.*

Duties of Highway Surveyor.—Under the Highway Act, there was a Board for the repair of the highways of the parish of Brixham, and a Mr. Adams was appointed assistant-surveyor to the Board. A complaint was made that he had not laid accounts before justices in petty sessions, and he was fined sixpence in order to have a case for the opinion of the Court above. The conviction has been quashed by the Court of Queen's Bench, on the ground that an assistant-surveyor to a highway board is not liable to penalties for not making up the accounts and laying them before the justices, as his duties merely refer to the management of the roads, and not to receiving or paying the moneys collected.—*Adams* v. *Lakeman.*

Goods Lost by Railway Company.—A person bought goods at Exeter, and directed the vendor to send them to Bristol by railway. The goods were lost in transit, and the purchaser sued the company. It has been held by the Court of Exchequer that the action does not lie, as the goods being of greater value than 10*l.* there should have been by the Statute of Frauds, in order to change the ownership, an acceptance of the goods, or part payment, or written contract; and as not one of these circumstances existed in the present case, the vendor is still the owner in law, and he alone has the right to sue.—*Coombs* v. *Bristol and Exeter Railway Company.*

Company.—Transactions between Director and Company.—Where a director avails himself of his position to make a private advantage out of transactions with his company, such transactions cannot be repudiated by the company after they have availed themselves of that portion of the transaction which is useful to the Company; for they thus put it out of their power to restore matters to their original position.—*Great Luxembourg Railway Company* v. *Magnay.*

Transfer of Shares.—A company being embarrassed, the directors came to an arrangement with an actuary to endeavour to resuscitate it. One of the directors who differed from the others transferred his shares. The company was soon afterwards wound up, and it was sought to make the director referred to a contributory, but it was held (on appeal) that the transfer was valid, as it was *bonâ fide*, and that the transferor was not liable to be placed on the list of contributories.—*Jessop* v. *The London and County Assurance Company.*

Copyright in Designs.—A bill was filed to restrain the sale of the "Mantilla Shawl" with a certain registered design on it. A question arose whether it was sufficient to lodge with the registrar one of the shawls instead of a drawing showing the portions in respect of which originality was claimed. The court held that it was a compliance with the Act. The registrar might decline to receive a railway-carriage, or anything else large, but a shawl or some paper-hangings were small, and to lodge such was a good deposit. —*Norton* v. *Nicholls.*

Insolvency.—Debts in the schedules of insolvents cease to carry interest after the date of the insolvency; therefore when all debts are paid the surplus must be handed over to the insolvent, or his personal representative, without any deductions for interest.—*Re Rochfort.*

Clerk of Works.—A person was engaged as managing clerk at a salary of £150 a year, payable weekly, with house, coals, and gas. His duty was to superintend the business, engage and pay the men, and to discharge them when necessary. On the bankruptcy of his employer he applied for three months' salary out of the estate, and was opposed on the ground that he was a workman and not a clerk. The court said that there was a difficulty, but that he might be called a trade-servant, and so his claim was allowed.—*Ex parte Driver, re Eastham.*

Nuisance.—*Brickburning.*—An action was brought against defendant for burning bricks in the neighbourhood of plaintiff's house, and it was not proved whether the smell was very offensive or not. It was held, however, that the reasonable use of a lawful trade, even if it rendered the lives of others somewhat less comfortable, was not actionable. This late case is rather opposed to some of the older decisions.—*Holl* v. *Barlow.*

DAMP WALLS.

EFFECT OF COLOUR.

SIR,—No. 790, page 214, of the *Builder*, gave my humble opinion and experiences on the subject, and in No. 792, p. 248, followed a thoroughly practical letter from Mr. Solomon, coinciding with me as to the general cause; and as in the last week I have had ample reason to be thoroughly convinced of the correctness of what I then advanced, it may not be amiss that you kindly give me space again in your world-wide pages. The external walls of the humble cottage in which I make life endurable, are entirely composed of oolitic stone: the hall and staircase occupy a square projection from the main building, and thus a more exposed surface renders three out of four walls cold; and, as a consequence, the condensed vapour from within has mildewed the paperhanging to a much greater extent than in the rooms where good fires have raised the temperature. It will be remembered by your readers that my former letter stated that in my ordinary sitting-room I had, a year back, hung a dark chocolate-grounded paper, having on it a small buff pattern; that I found more light was required at night; but that the hitherto damp, mildewed, and discoloured walls were now free from those annoyances, and that imagining the same property which absorbed light absorbed also heat, to prevent the condensation of vapour on the cold walls (as on windows in cold weather), I made up my mind to try the colour on the exposed walls of my staircase, and promised to tell you my further experience.

I have been thus prolix, that your readers may be fully acquainted with the whole bearings, and now for my thoroughly corroborative proof. The part now in question had been hung with paper of the white ground Mr. Solomon describes as more likely to feel the effect of damp. A green "creeper" formed a running "pattern" over it. The wall had been whitewashed until four years since, when I hung it with the same paper. On tearing it down every part of the pattern of the paper was clearly defined in the original clear whitewash, while the whole of the white ground was unmistakably marked by a dark (almost black) filthy mildew.

The paper-hanger had often noticed similar signs; but they had never struck him as from what it was evident they resulted. I was the same day passing the house of my painter, and naming it to him he took me immediately indoors, and showed me a wall on which the dark chocolate pattern of his paper had been preserved on the wall dry and white; while under all the paler parts the destructive damp had left its unerring mildew.

A. B. SORBENT.

HARBOURS OF REFUGE.

THE report of the select committee has been published by order of the House of Commons. The committee have come to the "practical conclusion," that how much soever such harbours are now required, the want of them must become more urgent from year to year. The committee enumerate as works needful, purely or mainly for harbours of refuge, to be executed as national public works;—1. A harbour of refuge on the north-east coast of Scotland, to cost from 80,000*l.* to 335,000*l.* according to the site selected; 2. One on the north-east coast of England, at an estimated cost of 800,000*l.* to 860,000*l.*; 3. An extension of the harbour of St. Ives, at a cost of 174,000*l.* or, if Padstow be adopted, at a cost of 35,000*l.* only; 4. One at the Mumbles, or some place in the Bristol Channel, at a cost of 300,000*l.*; 5. An improvement of the harbour of Carlingford, at a cost of 20,000*l.*; 6. An improvement of the one at Waterford, at 20,000*l.*; 7. The construction of a harbour of refuge at the Skerries, Portrush, at a cost of 100,000*l.*; and 8. A pier in the Isle of Man, at a cost of 40,000*l.*; making a grand aggregate sum of 2,000,000*l.* or, if spread over ten years, at the rate of 200,000*l.* a-year. The committee recommend the levy of a uniform charge on all ships passing such harbours in their course as right in the abstract, and it is urged, with regard to passing tolls, that the greatest care should be taken (if the principle on which light dues are levied be adopted with respect to harbours of refuge) to impose the dues only on such ships as would pass the harbours in their course, and therefore benefit by them.

IMPROVEMENTS IN LOCK FURNITURE.

THROUGHOUT the lock controversy, it is remarkable that nothing was said about the furniture (or knobs), and the methods for fixing it, which, for buildings in general, is of as much importance as the locks, the lock-bolt frequently not being used from one year's end to another: in fact, in many houses, not one-third of the keys are to be found; showing that what is required is not so much security in the lock, as it is to have good action in the spring-bolt and furniture. Persons, without thinking what is the cause, find the knobs come off, or they have too much play; and the spring-bolts do not act, or the screws stick up in the necks of the knobs, often tearing the hand, which frequently gets both architect and builder into trouble, and they are censured for putting on bad locks, at the same time they may be patent ones, Hobbs's or any other, and not have the slightest fault in them. Many attempts have been made to improve upon the old methods of fixing knobs, and some of them with considerable success. The principal improvements have been to make them self-adjusting, so as to avoid the necessity of having each knob fitted to the door; to accomplish which many ingenious contrivances have been resorted to, more or less efficient.

We have just had before us a new method, brought out by Messrs. Thos. Pugh and Co. of King-street, Snow-hill, wherein the principle is to attach the knobs to the door, which is accomplished in a most simple and effectual manner by introducing a brass nut into the inside of the mortise (before the lock is put in), the rose having a corresponding screw attached to it, so that by screwing up the rose it is, as it were, secured by a bolt and nut, instead of with small screws in the necks of the knobs, or through the roses; and by a clever mechanical arrangement the knobs work perfectly free and firm in their roses. Precaution appears to have been taken to avoid friction, and the working parts are brass against steel, thereby ensuring their wearing well, and leaving as little as possible for the spring of the lock to do.

This method is applicable to all descriptions of locks and latches, either rim or mortise, and from the construction strengthens the knobs; moreover, the strain is taken entirely off the roses, thereby preventing their liability to break, which is frequently the case with other furniture; and as the cost is said to be not much over the price of ordinary furniture, it seems properly entitled to attention.

CORRESPONDENCE AS TO THE ARCHITECTURAL MUSEUM.

SIR,—I should be glad to know why the committee did not notice in their report the offer of the Department to make this now private society a national institution, and their refusal of the offer of which they were at first not a little proud. If you say anything about the Museum *conversazione*, I hope you will mention, as Mr. Donaldson did, the great liberality and fairness the officers of the Department have shown from the first, and repeat what Mr. Godwin said as to the desirability of uniting, by a public act, the collections of the "Architectural Museum" and that of the Department, to form together a National Collection. You will be doing a good turn to art, and be remembered when all little personal differences are blown away with the rest of the dust of to-day.

The interests of the Museum, as a great future institution, depend, as far as the present generation is concerned, on the Department and Mr. Cole, to whom the public owe not a little.

A SUBSCRIBER.

*** We will take an early opportunity to allude to the proposition of which our correspondent speaks. Several of our readers complain that they were unable to get admission into the lecture theatre on the occasion of the recent *conversazione*; but this simply shows that the accommodation at the disposal of the committee, large as it is, was insufficient for the occasion. We incline to the feeling that the meeting would have been more interesting if it had been held in the gallery containing the collection, although, probably, fewer persons would have heard what was said. "A West-ender" objects that the Gallery was not made sufficiently prominent; asserts that he did not find it; and asks "if it were shut up for the evening." We suspect he knows it was not, but chooses thus to state his opinion that the *locus* was not made sufficiently obvious.

PRESERVATION OF STONE.

SIR,—Permit me to direct your attention to a paragraph in the *Builder* of the 10th instant, containing the substance of a report which has been widely circulated by the daily papers, that Mr. Szerelmy has been commissioned to apply his material to preserve the stone of the Houses of Parliament. I desire to inform you that I possess the best of authority for contradicting that statement,—no decision having yet been made as to the merits of the two or more processes now under consideration.

HENRY HODGE,
Secretary of the Patent Siliceous Stone Company.

Books Received.

A Manual of British Archæology. By CHARLES BOUTELL, M.A. London: Reeve, Henrietta-street, Covent-garden. 1858.

AN elementary work on Archæology,—an Archæological Grammar, if we may so call it,—was very much wanted, notwithstanding the publication of many books on this science; and it is to supply this desideratum that the Rev. Mr. Boutell has prepared the present little volume. As its title implies, it is a manual of British Archæology alone, but to a Briton this is a most fitting introduction to the science, and the most likely enticement to its study. A goodly number of lively-looking coloured illustrations forms an additional attraction and enticement to the study.

Chapter first treats of Architecture,—Roman, Anglo-Saxon, Anglo-Norman, and English, Scottish, and Irish Gothic. This is followed up by a chapter on architectural accessories, including sculpture, wood-carving, fresco, wall-painting, and polychrome; mosaic, coloured glass, inlaid tiles, ironwork, bronze-work, lead-work, the precious metals, and bells, and summing up with some remarks on nomenclature. Chapter third relates to sepulchral monuments,—British, before the Roman period, Anglo-Roman and Anglo-Saxon, Anglo-Norman with the stone coffin, monumental slabs, effigies, and brasses; tombs, canopies, and chantries; late monuments, and those of the church-yard. The fourth chapter is devoted to heraldry; the fifth to seals, including the great seals of England; the sixth to coins. Chapter seventh treats of palæo-

graphy, illuminations and inscriptions, and more particularly of early Byzantine and Roman, early Irish and Anglo-Saxon, illuminations of various epochs. Arms and armour are discussed in the following chapter, and then costumes and personal ornaments. The tenth chapter is on pottery, porcelain, and glass, including ancient British, Roman British, and Anglo-Saxon pottery; Italian and French Keramic manufactures, Flemish and German stoneware, English pottery and porcelain, glass, &c. The concluding chapter is a miscellaneous one, on decorative processes in metals, clocks and watches, locks and keys, ivory carvings, &c.; mosaics, paintings in oil, embroidery, furniture, wood-engraving and typography, English shipping of the middle ages, the nimbus and emblems of saints, British, Roman, and Saxon earthworks and encampments, and other subjects. There are appended a glossary of architectural terms, and indexes of buildings and places, besides a general index.

Ventilation in American Dwellings, with Diagrams. By D. B. REID, M.D. F.R.S.E. *To which is added an Introductory Outline of the Progress of Improvement in Ventilation.* By ELISHA HARRIS, M.D. late Physician-in Chief to the N. Y. Quarantine Hospitals. New York: Wiley and Halsted, Broadway, 1858. (Trubner and Co. Paternoster-row, London.)

OUR old fellow countryman, Dr. Reid, now a citizen of New York, or at least a denizen of the United States of America, still appears to give attention to the important subject of ventilation, to which so much of his time was devoted while in London. The work under notice is a new one, written with especial reference to the requirements of his new compatriots, as at once appears from a glance at the titles of many of its subdivisions; such, for example, as—Ventilation of bed-rooms in cases of yellow fever,—The log-hut,—Ventilation of hotels, with note in reference to the National hotel disease at Washington,—Ventilation through the mosquito net, in cases of sickness, and great irritability,—excessive use of gas in numerous habitations, and means of ventilation not previously indicated, &c. And in the first few lines of the preface, we are told that one main object of the work, in presenting a series of examples of ventilation applied to American habitations, is to assist in the introduction of more extended measures for meeting cases of extreme temperature, whether of heat or cold. The attention now given to the subject of ventilation in the States is attested by the public works in progress, or lately completed, more especially at Washington, New York, and Philadelphia; and the general interest taken in it is also shown by the nature of the public proceedings in reference to it at numerous medical associations, at the Smithsonian Institution at Washington, the Lowell Institute at Boston, and the Boards of Health in New York and other cities. Works on education, too, the *Educational Journal* of Hartford, and the report to the Academy of Medicine on the National hotel disease at Washington, about which we have all heard, afford recent proofs of the interest with which it is regarded, and the importance ascribed to it. Thus it is that the labours of the pioneer in one country show their fruits in another; for there can be little doubt that the agitation of sanitary questions in America was at first but a reflex of the sanitary movement in this country; and here we find a countryman of our own looked up to as a chief authority, on one of the most important questions connected with the subject of sanitary reform.

In America, as with ourselves, however, this very question comprehends a great work still to be done, as observed in the preface, for "the practice of ventilation requires to be brought home to the habitations of masses of the population, and their sympathies enlisted in its principles, and extended to all classes of buildings." The propensity of many amongst the lower and even the middle classes to guard much more against draughts than against foul air from want of ventilation, and to close up every crevice much rather than to throw open their apartments to the air so fully as *thus* to obviate even draughts, is doubtless a fruit of knowledge instilled into them of old by minds more observant than the average. Just so must newer ideas, as to the paramount importance of ventilation and fresh air, be made to supersede, to a certain extent, excessive, and in many cases mistaken, fears of evil to themselves unless fresh air be carefully excluded. Nevertheless, the fear in question is but too often a well-founded one; for draughts *are* an evil, and a serious one; but want of a perpetual flow of fresh air is a still greater evil, which must be at least *as* carefully guarded against. And this is a great work which requires to be done,—to instill into the minds of the people, both on this side the Atlantic and the other, this great truth, and to qualify at least the force of its adversary,—their undue fear of draughts. We are glad to know that the subject of ventilation is exciting so much interest in America; and, as the present publication is written expressly for the use of the public or the general reader, we hope—and, indeed, do not doubt—it will popularize the subject, and tend very much to the promotion of the public health of our cousins across the Atlantic.

The volume is fully illustrated by diagrams, many of which aim at showing, by divers colours, how pure air, and impure, distribute themselves in apartments, ventilated and unventilated.

Our present remarks are merely intended to aid in bringing the work into notice amongst our own people: we may take another opportunity of looking professionally into its merits.

Miscellanea.

SUNDERLAND SEWERAGE.—Out of the eight miles of brick sewers and forty-six miles of pipes, originally proposed for the drainage of the borough, eight miles of brick sewers and thirty-two of pipes have been carried out, many of them at a great depth as well as in drifting. The extent yet to be completed is fourteen miles, the principal part of which is in very light cutting and easy of execution: in fact, it may be said that all the difficulties of the works are overcome. To the main drains have been joined, voluntarily, 3,055 house drains, and about 100 water-closets. 150 cellars have been drained of their water, many of which had from two to three feet of water on the floor, and had been in that condition for the last twenty years; while others had to be pumped night and morning to keep them dry. About 450 house drains have been joined compulsorily, and as soon as the public drains are completed, the private ones will be carried on with greater vigour, the present small staff of officers being too limited to proceed at a greater rate till the public works are finished. According to the local *Herald* the work has been completed in about eighteen months, at a cost considerably below the estimates. The whole of these works have been laid and carried out by Mr. William Crozier, the borough engineer. The whole of the pipes, invert, blocks, &c. have been supplied by Messrs. Doulton and Co. of Lambeth; the iron and metal work by Messrs. Stainton, of South Shields, and Mr. Jopling, of Sunderland, and the bricks by Mr. R. Cail, of Gateshead.

THE ROYAL ALBERT BRIDGE AT SALTASH.—The second tube for carrying the Cornwall Railway across the Tamar, at Saltash, which, as we have already noted, has been safely lodged on the river piers, under the superintendence of Mr. Brereton (in Mr. Brunel's absence from illness), assisted by Mr. Gainsford, is, like the first, 455 feet long, 17 feet wide, and 12 feet deep, and is estimated to weigh about 1,200 tons. The camper, or rise, is 28 feet. It was sustained at each end by a heavy framing of timber on pontoons, in charge of Mr. Whitting, the resident engineer. The process was similar to that of last year. The first tube was floated off in September last, and raised to its proper height during the interval. When the second is level with it all the engineering difficulties which have prevented the railway junction of Cornwall with the South Devon and Great Western lines will be overcome.

WALL PAINTING: CLAVERTON CHURCH.—During the restoration of Claverton Church (two miles from Bath), there was discovered a wall painting of remarkable beauty, the main feature of which represents the Archangel Michael—a figure said to be grand in manner and bold in execution. There are—or were, for the wall on which it was painted is now demolished—other figures and many beautiful borders. The compartments have been surrounded by emblematic designs, of high excellence. In the background of the tableau of St. Michael, there is a most singular figure. At a first glance this figure is taken for a dwarf human being, fantastically attired, but on a closer inspection it is manifestly one of the monkey tribe—a large ape, or baboon. An effort was made to arrest the progress of demolition until this week, that the Archæological Institute might have the opportunity of elucidating it; but it was found impossible to keep the wall standing so long. The family of the rector have made drawings of the principal figures: others have made tracings.

BIRMINGHAM SCHOOL OF ART.—A special meeting of the subscribers to the local Society of Arts and School of Art, was held at the Institution, New-street, on Tuesday, the Hon. and Rev. G. M. Yorke, in the chair, to consider the desirability of incorporating the Society under the Joint-Stock Companies' Limited Liability Act, and also to sanction the Society entering into agreements for tenancy with the Midland Institute and the Society of Artists. The agreement with the Midland Institute provides that the body is to find accommodation for the School of Art free of rent or taxes. Resolutions authorising the Society to enter into these agreements having been adopted, the proceedings terminated.

WOLVERHAMPTON SCHOOL OF ART.—The annual meeting of the subscribers to this institution was held on Wednesday week. From the financial statement it appeared that the income of the institution during the past year, including 160*l.* 13s. 6d. from students' fees, and 120*l.* 14s. from annual subscriptions and donations, amounted to 317*l.* 4s. 6d.; and the expenses, inclusive of salaries, interest on mortgage, &c. to 372*l.* 18s. 8d. leaving a balance against the treasurer of 55*l.* 14s. 2d. So far as the working of the institution was concerned, the financial position of the school was considered satisfactory. The report of the council stated that Mr. Chittenden, the head master, had resigned, and that Mr. W. J. Mackley, late head master of the Bilston School of Art, had accepted of the office.

MASTERS AND MEN.—On Monday last, the workmen employed by Mr. Stiff, of the London Pottery, Lambeth, numbering about 140, accompanied by their wives, spent a very pleasant day at Hampton Court. This is not the first time Mr. Stiff has given his men an opportunity of contrasting the fresh country air with that of Lambeth. On former occasions he has hired a steamboat, and taken them to spend the day in Rosherville Gardens; but for the sake of variety, and also to escape the odour of the Thames, eight vans were hired, and filled by a well-conducted and merry company. At nine o'clock they left Lambeth, and reached Hampton at about one. A dinner was provided by Mr. Luce, of the King's Arms Hotel. After appropriate speeches from Mr. Stiff and his eldest son, which were loudly responded to by the men, all dispersed, some to view the palace and grounds, others to the green, where cricket and dancing were going forward, a band having been engaged to accompany them. Nothing occurred to damp the pleasure of any of the party.

SOUTH ESSEX GAS-WORKS, LEA-BRIDGE.—These works were sold, under the Winding-up Act, by the Master in Chancery, Sir W. P. Wood, on the 1st of July, 1858, by tender. The terms were, that one-half payment was to be made in cash on that day, and the balance in fourteen days from that time. The successful parties were Mr. Lynch White, of Upper Ground-street, London; and Mr. David Hulett, of 55, High Holborn, London, these gentlemen having tendered conjointly; and, under their management, these works may now become a more valuable property.

THE CRYSTAL PALACE.—M. Benedict's festival concert, on the 16th, was so successful in every respect, that a second on the same scale, with 1,000 performers, is to be given on Friday, the 30th instant. Beethoven's Grand March and Chorus from "The Ruins of Athens," "Come if you dare," sung by Mr. Sims Reeves and the chorus, and Miss Arabella Goddard's pianoforte playing, were amongst the gems of the concert. A motion, that it is desirable to open the Palace and grounds to shareholders on Sunday afternoons, has been carried by 43,480, to 19,405. Mr. Reginald Read has been elected a director of the company.

THE BRITANNIA PIER OPENED AT YARMOUTH.—The new pier which has just been opened at Yarmouth, was commenced about the end of September, 1857. The structure is not yet quite completed. It will be 753 feet in length, 650 in the water at high tide. The width of the pier is 24 feet, its height (from the sand beneath) about 15 feet or 16 feet, while the depth of water at the extreme end (pier-head) will be 28 feet. Eleven of the bays (or arches) are of 20 feet clear width. The pier-head will be 60 feet in diameter, while the total cost of the erection (including Act of Parliament and other expenses), is about 5,000*l.* The lodges, at the entrance, contain offices suitable to visitors: they were built by Mr. R. Bullimore, of Yarmouth. The railing was furnished by Mr. R. Steward, and the approaches and entrance-gates, by Messrs. Thompson and Sons, of Norwich, iron-founders. The engineer is Mr. A. W. Morant; and the builder, Mr. George Allen, of Lowestoft. The pier is constructed of Memel timber.

SCOTLAND.—At Stirling, a large and influential committee has been lately appointed to take steps for the removal of the incongruous modern piece of architecture between the ancient edifices of the East and West Churches, and to have substituted a design more in keeping with the architecture of the building. A plan of the proposed improvement, by Mr. J. T. Rochead, of Glasgow, architect, has been procured, and arrangements have been made to obtain subscriptions for the carrying out of the object.——St. Peter's New Chapel, at Montrose, has been completed, so far as the exterior is concerned, the spire having been finished and gilt vane fixed. The design was furnished by Mr. Henderson, of Edinburgh. The style is Decorated Gothic. The church is 79 feet in length by 59½ feet in width; and the spire is 86 feet in height, without the vane, which is 5 or 6 feet more. It has four gables, two of which are fronts with large arched windows, each fitted with stone tracery. The west door has an ornamental archway. The interior will have a chancel and two transepts, with three galleries, and will be seated to hold 600 worshippers. The builder was Mr. Scott. The *Review* hopes the screen wall around the church will be remodelled before the chapel is opened.

IRELAND.—The suite of apartments which have been added to the County Down Court-house are nigh completion. The whole building is prepared for warming in winter with hot-water apparatus, and for being lighted with gas. The architect employed is Mr. Henry Smyth, and Messrs. Martin and Stockdale are carrying out the plans.

ACCIDENTS.—At Wolverhampton, a wall bounding the vitriol works of Dr. Mannix, in Wallsall-street, 9 inches thick and 6 feet high, but known to be shaky, suddenly fell on a number of children, killing one and seriously injuring many others. ——At Liverpool, a bricklayer's labourer was employed in pointing the brickwork of a new gable in Scotland-road. He had a strong scaffolding to work upon, but, wishing to stretch a little further, got a piece of board 5 feet long, 1 foot wide, and only an inch thick, which he placed 8½ feet above the ground, from the scaffold to the roof of the building, and, although warned not to do so and to wait while a thicker plank was procured, stepped on it. The moment he did so it gave way, and he fell to the ground, was carried home, and died in half an hour. He had previously been "treated" once or twice during the afternoon. At the inquest the jury returned a verdict to the effect that deceased had died through his own negligence. —— At Preston a singular accident happened at a house in a yard behind Willow-street. The house only comprises two rooms—a basement and an upper story. The basement story floor suddenly gave way, and two females, with washing utensils, household furniture, fire-grate, &c. were precipitated into a cellar, about 8 feet below. The staircase and a small partition wall also fell in. A sprained wrist was the only personal damage received. A portion of the flooring was composed of large flag-stones. The beams which supported the floor are supposed to have become rotten.

DRINKING FOUNTAINS IN BATH.—We rejoice to hear that, taking a lesson from Liverpool and Birmingham, cisterns and fountains are to be provided in Bath, that both man and beast may refresh themselves with facility at the numerous springs of pure and sparkling water, of which there are so many now gushing and bubbling to waste.

FILTRATION OF SEWAGE.—Experiments were tried on Monday, on the terrace of the House of Commons, with reference to a scheme for filtration of the sewage of the Thames, by means of a filter composed of a number of charcoal balls, for the manufacture of which Mr. Carl Buhring has taken out a patent. The sewage is permitted to run into barges placed at the mouth of each sewer: the filter is introduced; and the aqueous portions of the sewage are then drawn through the filter by means of a pump, thus leaving the solid portions of it in the barges, to be carried to any places up or down the river, while the liquid are poured in a pure state into the river, free from smell or taste.

ARROWSMITH'S PARQUET FLOORS.—At the *conversazione* of the Architectural Association, reported in our present number, fifteen large specimens of solid parquet floors (Arrowsmith's) for halls and reception-rooms, or as borders for carpets, chancels of churches, staircases, and panelling, were exhibited with several drawings of works executed and in progress. We have already expressed a very favourable opinion of this manufacture, and shall be surprised if it be not even more extensively adopted than it has been.

MESSRS. MORANT.—On Friday evening, the 16th instant, a meeting took place in Willis's Rooms, St. James's, to celebrate the admission of Mr. Robert Morant, the second son of Mr. Morant, of New Bond-street, whose taste as a decorator has been long known, as a junior partner in the firm of Morant and Boyd, now Morant, Boyd, and Morant. Supper was provided at eight o'clock, to which about one hundred of the men employed in the establishment, with the assistant tradesmen and a few old friends, sat down. Mr. Robert Morant presided, supported by his brother and Mr. Lockyer, the architect, who had been for forty-two years connected with the house. Some speeches were made, in which the common interests of the employer and employed were recognized; and, after many kind expressions and a gratifying speech from Mr. Tudor, who has been an assistant in the establishment for more than thirty years, the party broke up, pleased with this entertainment and the bond of union which had drawn them all closer together.

THE NATIONAL GALLERY.—The *Observer* says, "We believe there is no longer any doubt respecting the appropriation of the entire building in Trafalgar-square to the purposes of a National Gallery. The present Government have resolved to bring forward a full and comprehensive plan next year for the purpose of providing in this site a building worthy of the nation, and of the purposes for which it will be designed."

THE DISTRICT OF ST. GEORGE'S, HANOVER SQUARE.—On Mr. Foxhall's resignation, the Metropolitan Board of Works united the three districts held by Mr. Porter, Mr. Legg, and Mr. E. C. Hakewill, and dividing Mr. Foxhall's into two, appointed Messrs. Porter, Legg, and Hakewill to the three districts so formed, giving priority of choice according to seniority; upon which Mr. Hakewill took the northern part of Mr. Foxhall's, which retains the old name, St. George's, Hanover Square, and is that portion of the parish north of Piccadilly with the small portion running down the west side of St. James-street. Mr. Legg took the southern portion to be called the Belgrave and Pimlico district; and Mr. Porter took the united districts.

TRAFALGAR-SQUARE.—A vote of 6,000*l.* has been granted by the House of Commons for the works at the Nelson column, Trafalgar-square.

VISIT OF EARL FITZWILLIAM TO MESSRS. ROBINSON'S TIMBER WORKS.—Earl Fitzwilliam paid a visit to the works of Messrs. Thomas Robinson and Son, timber merchants, Oldham-road, Rochdale, on Tuesday, for the purpose of witnessing the various processes connected with the working of wood by machinery. The firm are sending several of their patented machines to his lordship's estates in Ireland, to work up timber for agricultural purposes.

TENDERS.

For Walsall Blue Coat and National Schools. Mr. Henry E. Cooper, architect:—

Ward, Ansell, and Co. Notting-ham	£4,088	4	2
Rowley, Walsall	3,278	19	0
Highway, Walsall	3,249	0	0
Pooley, Peterborough	3,075	0	0

For villa at West-hill, Wandsworth. Mr. Charles Lee, architect:—

Nicholson and Sons	£2,640	0	0
Aviss and Sons	2,596	0	0
Patrick and Son	2,544	0	0
Faulkner	2,381	0	0

For building house for Mr. J. Lloyd, at Sydenham. Mr. Henry Jarvis, architect. Quantities supplied:—

Evans, Brothers	£1,750	0	0
Harrison	1,720	0	0
Crawley	1,680	0	0
Taylor	1,640	0	0
Patman	1,546	0	0
Rider	1,490	0	0
Willson	1,446	0	0
Ring and Stanger	1,435	0	0
Peake	1,429	0	0
Thompson	1,414	0	0
Joseph Carter	1,398	0	0
W. Downs	1,363	0	0

For building a rectory at Trimley St. Mary's, near Ipswich. Mr. Frederick Barnes, architect:—

Luff	£1,369	0	0
Ormon	1,193	0	0
Cornish	1,133	0	0

For building station-house at Ipswich, for county police. Mr. F. Barnes, architect:—

Luff	£715	0	0
Mason	710	0	0
Gibbons	636	16	0
Girling	628	10	0
Cornish	618	0	0
Baldiston	599	10	0
Whight	597	0	0

For erection of shop, Warwick Town, Redhill. Mr. T. Muggeridge, architect, Dorking:—

Holdsworth	£1,055	10	0
Thornton	1,035	0	0
Fisher (accepted)	959	0	0

For additions and alterations to premises in Newgate-street, for Messrs. Kulp and Co. Messrs. Tillott and Chamberlain, architects. The quantities not supplied:—

Brown and Robinson	£857	0	0
Hawtry and Son	849	10	0
Hocken	828	0	0
Calow	819	0	0
Wills (accepted)	693	0	0

For the aisles of Canton church, near Cardiff. Prichard and Seddon, architects.—

Stone, Cardiff	£409	8	0
Less old materials	10	0	0
	£399	8	0
Williams, Canton	£402	5	0
Less old materials	7	5	0
	£395	0	0

The latter accepted.

For the erection of new almshouses for Wall's Charity, Rochester, Kent. Mr. Charles Foord, architect:—

	Centre Building.		Wings.		Total.	
	£	s.	£	s.	£	s.
Wilkins, Chatham	1,000	0	3,560	0	4,560	0
Kirk and Parry, Chatham	492	0	3,079	0	3,571	0
Lilley, Strood	597	0	2,900	10	3,497	10
Naylar, Rochester (accepted)	570	0	2,879	0	3,449	0

TO CORRESPONDENTS.

J. B. D.—E. W. T.—H. M.—Rev. J. J. V.—Mr. C.—G. F. P.—H. C.—West-ender—Arch Sewer.—B.—S. V. J. G. N. J. R.—Grants (to act as clerk of works for a certain time is a useful stage in the education of an architect).—J. L.—C. B.—J. E.—C. G.—R. C. (registration simply applies to *design*, and not to *principle*).—J. J. L. (we can scarcely form an opinion: probably not).

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

BUILDERS' PERIODICAL DISTRICT SALES.—Western Depôt, St. Marylebone-road, adjoining the Workhouse.—The NEXT SALE at this Depôt will take place on TUESDAY, JULY 27, 1858, at ELEVEN for TWELVE o'clock precisely; comprising, with a few uncleared lots of last sale, a very large assortment of LEADING, valuable and generally useful fittings; also, plate-glass fronts and doors, a brass sash, fitted with Bunnett's patent revolving shutter; framed and other partitions, fan and sky lights, publichouse circular doors and lifting shutters, a varied assortment of prime sashes, with and without frames, partly with ornamental glass; boxing shutters of various dimensions, a large assortment of doors in mahogany, oak, and fir, new doors and sashes, waterclosets, stoves, steam boilers, blocks and falls, tools, files and ironmongery, and a great assortment of prime materials.—May be viewed on the Monday previous to and on the morning of sale. Catalogues may be had at the Place of Sale; and at the Auctioneer's Offices, 13, Eastcheap, City, E.C.

BUILDING MATERIALS.

MR. ELLIS is directed to SELL by AUCTION, in lots, the MATERIALS of 64, GREAT TOWER-STREET, on FRIDAY, the 30th inst. comprising 20,000 sound stocks, pan and plain tiles, about 8 tons of lead, sound timbers and flooring, marble and other mantelpieces, framed and glazed partitioning, shop-front, and other fittings.—May be viewed day preceding and morning of Sale.—Catalogues had of RICHARD BELL, Esq. Architect, No. 17, Gracechurch-street; and of Mr. ELLIS, Mark-lane Chambers.

An important Freehold Building Estate, near Highgate, in plots suited for genteel villas.

MESSRS. EDWIN FOX and BOUSFIELD will SELL by AUCTION, at the MART, on WEDNESDAY, JULY 28th, at TWELVE, in 50 lots, a very eligible ESTATE of FREEHOLD LAND, most advantageously situate between Kentish town and Holloway, and admirably adapted for the erection of villas and cottage residences, having good frontages to well-made roads, communicating with the leading thoroughfare from King's-cross to Highgate, a beautiful position, where genteel houses are much sought after and would readily let.—May be viewed, and particulars had of Messrs. HARRISON and LEWIS, Solicitors, Old Jewry, and 14, New Boswell-court, of GEORGE MORGAN, Esq. 3, Dane's-inn, at the Mart; and at Messrs. EDWIN FOX and BOUSFIELD'S Offices, 41, Coleman-street, Bank.

NUTFIELD, near Reigate, within one mile of the Junction Railway Station, and only half an hour by rail from town. Valuable Freehold Estate, offering an enviable site for the erection of a gentleman's villa, or for several detached residences.

MESSRS. EDWIN FOX and BOUSFIELD are directed to SELL by AUCTION, at the MART, on WEDNESDAY, JULY 28, at TWELVE, in one lot, an exceedingly attractive FREEHOLD ESTATE, delightfully situate, at Nutfield, near Reigate, on the Blechingly road, adjoining the estates of Lord Monson and Norman Wilkinson, esq. and comprising eight acres of land, offering a charming site for the erection of a villa or villas, being a fine elevated position, embracing an extensive and beautiful view of the rich and varied scenery for which this delightful spot is so justly celebrated; or equally adapted for several first-class detached residences, having ample space for large gardens to each, and which in such a favourite and admired locale, would readily let at highly remunerative rents.—May be viewed, and particulars had, of GEO. MORGAN, Esq. 3, Dane's-inn; of Messrs. HARRISON and LEWIS, Solicitors, 6, Old Jewry, and 14, New Boswell-court; at the Mart; at the Inns in the vicinity; and at Messrs. EDWIN FOX and BOUSFIELD'S Offices, 41, Coleman-street, Bank.

LOWER WANDSWORTH ROAD, BATTERSEA. Valuable Freehold Building Estate

MESSRS. EDWIN FOX and BOUSFIELD are directed to SELL by AUCTION, at the MART, on WEDNESDAY, JULY 28, at TWELVE, in twenty-one lots, a very valuable FREEHOLD ESTATE of BUILDING LAND, suitable for the erection of small houses, which are much in demand; most advantageously situate, abutting on the York road, Lower Wandsworth road, opposite Grove Chapel, and near the New Church, Battersea, in immediate contiguity to several large and important factories.—May be viewed, and particulars had of Messrs. HARRISON and LEWIS, Solicitors, Old Jewry, and 14, New Boswell-court; of GEORGE MORGAN, Esq. 3, Dane's-inn; at the Mart; and at Messrs. EDWIN FOX and BOUSFIELD'S Offices, 41, Coleman-street, Bank.

TO TIMBER MERCHANTS, CABINETMAKERS, PIANOFORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS

MESSRS. C. LEARY and CO. beg to intimate that, in consequence of the expiration of the lease of the premises, 65, Shoreditch, Bird's-garden-side, they will offer, by PUBLIC AUCTION, on the PREMISES, on MONDAY, the 23rd AUGUST, and the following days, the REMAINING PORTION of Mr. H. Betchan's very superior and well-seasoned STOCK of WOOD, comprising price dry Wainscot, Spanish and Honduras mahogany, seasoned and waved wood, in planks, boards, and logs, Australian veneers, &c. The stock may be viewed two days prior to and on the mornings of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, 26, Old Broad-street, City, E.C.

NOTICE.—To MAHOGANY and TIMBER MERCHANTS, CABINET-MAKERS, MACHINE-MAKERS, and OTHERS.—The next Important PUBLIC AUCTION SALES of MAHOGANY and other TIMBER Woods, &c., will take place in MONDAY, the 2nd AUGUST, and TUESDAY following, precisely, at the WOOD SALE SHEDS, Prince's and Queen's Docks, Liverpool.—Catalogues, containing full descriptive particulars, may be obtained on application to EDWARD CHALONER, Wood Broker and Measurer, No. 6, East Side, Queen's Dock, Liverpool.

To BUILDERS, CONTRACTORS, MARBLE MERCHANTS, TIMBER MERCHANTS, and OTHERS.—To valuable Plant, Machinery, Tools, &c.—The Improved Wood Moulding Mills and Marble Works, Battle-bridge, Harrow-road, Paddington.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, as above, on WEDNESDAY next, 4th inst., and on several of the following days, at half-past 10 precisely each day, the whole of the excellent PLANT, MACHINERY, and TOOLS, comprising a 10-horse power steam-engine, with 8 feet in diameter, with fittings; a wrought iron shaft with 12 feet complete, a superior double moulding machine, patent saw-bench, patterns, mantle pieces, and chimney-pieces, and effects. May be viewed the day prior, and catalogues obtained on the Premises; and of Mr. MARSH, Charlotte-row, Mansion-house, who will receive offers for sale by private contract.

TO ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS, ENGINE and OTHER SMITHS, MILLWRIGHTS, PLANT-BROKERS, and others.—Very Valuable MACHINERY, Powerful and Steam Engines, Superior Engineers' Tools, Implements, Fittings, &c.—The entire Plant, &c., of the well-known Iron Works, Iron and Brass Foundry, Smiths' Shop, Smithy, and Sawpit Buildings, with the very valuable Lease of the extensive, convenient, and well-arranged Premises, forthwith.

MESSRS. BOOTH and CO. are instructed to SELL by AUCTION, in lots, on WEDNESDAY, the 11th day of AUGUST, 1858, and following day, at ELEVEN for TWELVE o'clock precisely each day, on the PREMISES as above, the whole of the highly valuable PLANT, MACHINERY, &c., comprising, with the usual good descriptions of working tools, utensils, and implements required in the engineering and foundry business, very powerful and highly-finished machines, as also others of a lighter and remarkably unique description, principally by Smith, Peacock and Tannett, S. W. Saunders, and the Reynolds' Brothers, and including large self-acting planing, boring, and slotting machines, with quick return motion, self-acting screw-cutting lathe, a peculiarly compact and elaborately finished shaping and planing machine, radial shearing machine, upright machine, vertical and other drilling-machines, various self-acting screw-cutting lathes, and foot ditto, &c. In the Foundry is a brick-built iron-bound cupola blast-furnace of 5 feet diameter, with massive foundation, a portable cupola blast furnace on four wheels, various iron stages for core furnaces as imported by iron channels, small transfer frames, three portable ladles, travelling jib-slag crane, iron frame 4 single purchase crane, with four and five sheaves, with iron chain fall, box weights, rakes, tapping bars, crane, shank and hand ladles, &c., and about 500 boxes and flasks in the usual variety of size. In the Smithing Department are comprised a double brick built forge, with forge backs, tew-irons, hood and screens, 36-inch bellows, large forge rings, anvil, &c., and a large assortment of tools. In Pattern Shop, an 18-foot lathe, with mortising and other machines, and an assortment of benches, with vice and driving riggers, circular pegged and inserted toothed saws, a 6-in. centre foot lathe, double and single bench lathes. With the exception of the premises mentioned two commodious dwelling houses, Nos. 8 and 9 Sumner street. The ground floor of No. 9 being used for offices, and commands a clear view of the yard entrance, the works, and the whole of the roadway, and adjacent to wharf, a very facility for loading and unloading. The situation being but a short distance from the river, and opposite to the City, with the G.E.R. close at hand, renders it peculiarly eligible for carrying on a heavy business. The entire premises (except dwelling-houses) are held at very extremely low rent for unexpired term of years, under the Estate. Plant, Machinery, &c. can be examined at the Auctioneers' Office. The Premises, Plant, &c. can be viewed on the Monday and Tuesday preceding the sale, and Catalogues will be ready three days prior to the sale, to be obtained on the Premises, near the Cambridge Heath Gate; the Red Lion, Red Lion-street, Clerkenwell; and of the Auctioneers, Messrs. BOOTH and CO., 13, Eastcheap, City, E.C.

TO IRON STEAM-BOAT BUILDERS, NOBLEMEN, YACHT PROPRIETORS, and OTHERS.—A Unique Model or Experimental Steam-boat for disposal

MESSRS. BOOTH and CO. have instructions to SELL by AUCTION, on WEDNESDAY, the 11th day of AUGUST, 1858, at the SOUTHWARK IRON WORKS, Sumner street, Southwark-bridge road, at ELEVEN for TWELVE o'clock precisely, A specimen of the celebrated model and practical experimental architecture, known and described as the STEAM BOAT "RACER," now lying in the West India Docks, and may be viewed by an order from the Auctioneers. Her dimensions are: length over all, 46 feet; breadth, 1 foot 6 inch; depth, 1 foot 6 inch; fitted with vertical direct-acting engines of 36-horse power, and with every requisite, complete gear, work, and boiler to suit.—Further particulars can be obtained at the offices of BOOTH and CO. Auctioneers, &c. 13, Eastcheap, City, E.C.

Six Steam-engines, varying from 4 to 10-horse power, Seven Lithographic Printing presses, Two steam Boilers, and Two very strong Spur-wheels, 7 ft. 6 in. diameter, 9 in. broad on the teeth, fitted together on shafts, and horse or power to suit.

MESSRS. BOOTH and CO. will SELL by AUCTION, on the PREMISES, the SOUTHWARK IRON WORKS, Sumner street, Southwark-bridge road, on WEDNESDAY, AUGUST 11, 1858, at ELEVEN for TWELVE o'clock precisely. The above property, included in the sale with plant, &c.—For further particulars see other advertisement.—BOOTH and CO. Auctioneers, 13, Eastcheap, City, E.C.

COMPACT FOUNDRY and ENGINEERING BUSINESS, for DISPOSAL.—To MECHANICAL ENGINEERS, IRON and BRASS FOUNDERS, Gentlemen connected with the above Businesses, and others.—Extensive, convenient and very desirable BUSINESS PREMISES, peculiarly well adapted for the above trades, with the PLANT, &c. in full work, and having various good and profitable orders now in hand.

MESSRS. BOOTH and CO. have for DISPOSAL, by PRIVATE TREATY, in consequence of the Proprietor being engaged in other heavy undertakings, the above lucrative concern, well worthy the consideration of the trade, and a long term of the same at a low rental as yet unexpired. The highly valuable steam machinery, working tools, and utensils, comprise all the requirements for carrying on a first-rate trade. The premises have been for a number of years well and favourably known in both mechanical and engineering circles, in consequence of the many important and useful inventions which have been projected and perfected at the establishment. The situation of the Premises is most eligible for carrying on any extensive trade.—For particulars and terms, apply to BOOTH and CO. Auctioneers, Valuers, and Negotiators, 13, Eastcheap, City, E.C.

WANTED, a thoroughly practical Man, as WORKING SHOP FOREMAN in a Builder's Establishment. He must have good staircase knowledge, capable of making working drawings, keeping men in order, and measuring up materials. One who has filled a similar situation will be preferred.—Address, stating full particulars as to age, salary required, and where last employed, to Z. General Post-office, Birmingham.

WANTED, a TIMEKEEPER, by a Builder.—Apply by letter, stating particulars, to L. T. 116, Grove street, Camden-town, N.W.

THE Board of Works for the Wandsworth District are desirous of receiving APPLICATIONS from skilful and competent Surveyors who are willing to become Candidates for the APPOINTMENT of SURVEYOR for the several districts in their District, which is about to be subdivided for the purpose, as follows:—

For the Parish of Battersea, at a salary of 250l. per annum.
For the Parish of Clapham, at a salary of 200l. per annum.
For the Parishes of Putney, at a salary of 200l. per annum,
and a suitable House to live in.
For the Parishes of Streatham and Tooting Graveney, at a salary of [illegible] per annum.

For the Parish of Wandsworth, at a salary of 200l. per annum.

Each Surveyor will have to act as Inspector of Nuisances for the Parish, and Persons to whom he may be appointed, and will, when he will be required to reside. His duties will be to superintend personally all works to be executed in his sub-district in connection with the formation, repairing and watering of roads and footpaths; the construction, repairing, and cleansing of sewers; the preparing of specifications, plans, surveys, and estimates, and the taking of levels, to obtain the fixing of the Parish, and of the Committee of the Parish for which he may be appointed, and generally to advise the Board and the Parish Committee as to any works necessary to be executed in his district, under the provisions of the Metropolis Local Management Act, and to perform all such duties connected with his office as the Board may direct. Each surveyor will be required to devote his whole time to the duties of his office, and will therefore be [illegible] from private practice. Each applicant must state the sum [illegible] for which he will undertake the duties. The Board will require security to the amount of 500l. from each of the successful candidates. Applications are to be sent in under seal, endorsed "Application for the Appointment of Surveyor of the Parish of ——," and to be delivered at the Office of the Board, at the latest, on or before the 11th day of AUGUST next. By order of the Board of Works for Wandsworth District.

ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. July 22, 1858.

TO ARCHITECTS AND OTHERS REQUIRING THE SERVICES OF A THOROUGHLY PRACTICAL MAN.

THE Advertiser, who is a first-rate draughtsman, can take out quantities, survey, &c. and has had the management of a builder's yard and several slate and stone quarries, manages the ENGAGEMENT [illegible] the MANAGEMENT of an OFFICE, or CLERK [illegible] WORKS.—First-rate testimonials, &c. address Mr. RUSSEL, Oldfield House, Chapel-in.

TO BUILDERS, &c.

PLASTERING (Town or Country).—An experienced practical Hand requires WORK, either as FOREMAN or PIECE WORK.—Address, X. O. Cranes Coffee House, 71, St. Paul's-street, Pentonville.

TO ARCHITECTS

OCCASIONAL ASSISTANCE offered in Taking-off Quantities, Measuring up Works, Obtaining Bills, or at Quarter's notice terms, by a gentleman of twenty years' experience in the building profession.—References given to architects.—Address, SURVEYOR, Office of "The Builder."

TO ARCHITECTS AND OTHERS

CLERK of WORKS, or GENERAL FOREMAN. A thorough practical man seeks EMPLOYMENT.—Address, FELIX, 271, Bethnal-green-road.

TO ARCHITECTS AND CONTRACTORS

CLERK of WORKS, or to Superintend a Large Job in town or country.—A thoroughly experienced Person is able for a SITUATION as above, or to take any sheet of Work by Contract.—A Z, Florence Cottage, Hunwell, Mortlake.

AN Architect and Surveyor is in want of an ASSISTANT. He must be a good draughtsman, well acquainted with Ordnance and Land Surveying, levelling, and the general practice of a thriving office. Apply by letter, stating terms, to Z. X. Y. at Messrs. Whitbread's, Chiswell-street.

AS CLERK, a business-like Young Man, well [illegible] and [illegible] in measuring, drawing, and [illegible] and [illegible] Measurements required and no objection to the country. Good testimonials as to ability.—Address, X. Y. Z. Leaverington, Cockerington, Lincolnshire, S.O.

TO WOOD CARVERS.

A YOUNG MAN, having served his time to the WOOD CARVING, wishes for a SITUATION as an IMPROVER.—Address, C. A. C. 19, St. Alban's-terrace, Vauxhall-bridge-road, Pimlico.

TO ARCHITECTS AND CONTRACTORS, OR NOBLEMEN AND GENTLEMEN HAVING ESTATES

A PRACTICAL PERSON, being about to leave present situation, where he has been ASSISTANT CLERK of WORKS, on the Estate of Lord [illegible], is desirous of SITUATION or [illegible] Architect or Contractor's Office. Can prepare working and working drawings and specifications, measure up works, &c. Has [illegible] a good builder's [illegible] and can undertake [illegible] of [illegible] buildings, villas, and drainage works, &c. Is well acquainted with Ordnance and Admiralty works by schedule; has had personal experience in carpentry and other building trades. The highest testimonials given. Apply to F. D. CUFF, Bristol-cottage, Bristol-road, Manchester.

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A YOUNG MAN would be happy to SERVE either of the above as WRITER and DESIGNER of ORNAMENTAL PAINTER, as [illegible] Wire Hall Writer and Grainer. Terms moderate. A first-class reference from a tradesman of forty years' standing in Greenwich, where last employed.—Address, T. D. ROGERS, 8, Ashburnham, Deptford.

TO ARCHITECTS, BUILDERS, LAND SURVEYORS, &c.

A PRACTICAL SURVEYOR, of many years' experience, OFFERS his SERVICES to Persons in the Building, Building Expectancy, and Agricultural Districts. Draughting, Measuring, Valuing, Taking off Quantities, Colouring, making up Building Accounts, Valuations, &c., at a moderate Per-centage. First-rate references.—Apply, by letter, T. A. Z. Office of "The Builder."

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AN ASSISTANT is open to an ENGAGEMENT. He has been accustomed to prepare finished working drawings and perspective views, and [illegible] the routine of an architect's office. Good references; terms moderate.—Address, L. S. Office of "The Builder."

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TO BUILDERS AND CONTRACTORS

A PRACTICAL BRICKLAYER is in want of a SITUATION as FOREMAN, or by the rod; is well acquainted with building of every description, has had forty-six years' experience in it, and is well acquainted with plans, &c.—Direct, J. H. 12, Broadley-terrace, Blandford-square, N.W.

A GENTLEMAN, aged 23, who has had considerable experience in a first-class survey, is open to an ENGAGEMENT. He is a neat and expeditious draughtsman. Terms moderate; excellent references.—Address, C. L. Post-office, Derby.

TO ARCHITECTS, &c.

A FIRST-RATE DRAUGHTSMAN, accustomed to prepare finished, working, and detail drawings, write specifications, and superintend works, wishes for a RE-ENGAGEMENT, either temporarily or permanently. Is well up in construction, and will be found a thoroughly efficient assistant. Terms moderate.—Address, ARCHITECT, 55, Fleet-street.

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WANTED, a respectable MAN and his WIFE, without incumbrance. The man to act as Shopman, Time and Store Keeper, and to make himself generally useful, wife, to clean Rooms, &c. and wash the painters. Good references in every way required. Apply by letter, pre paid, stating full particulars and wages, to Messrs. T. SUFFIELD and CO. 12 and 13, Bermondsey-wall.

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WANTED, by the Advertiser, a middle-aged Man, a Carpenter and Joiner by trade, a SITUATION as FOREMAN; has a practical knowledge of the building trade in all its branches. Can give satisfactory references, if required. No objection to country.—Address, R. E. No. 44, Upper Seymour-street, St. Pancras.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

WANTED a good Three-branch hand; constant employment. Also a good MASON and LETTER-CUTTER.—Apply to [illegible] wages, with reference to H. YATES, Builder, Shrifhal, Salop.

CARMAN.

WANTED, by the Advertiser, a SITUATION in the above capacity. Unexceptionable reference can be given.—Address, W. ANSELL, 85, Fenchurch-street, City, E.C.

WANTED, by a steady respectable Man, constant EMPLOYMENT. Is a first-rate Plumber, but has no objection to fill up the time with painting and glazing. Town or country.—Address, B. T. 18, Lillington-street, Vauxhall-bridge-road, Pimlico.

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WANTED, by a respectable, trustworthy Young Man, a SITUATION as CLERK. He has been accustomed to take out [illegible] and working parties, &c. and understands the set [illegible] of office duties. The most satisfactory references can be given.—Address, A. B. 7, Pickard-street, City-road, E.C.

TO CIVIL ENGINEERS, SURVEYORS, AND LAND AGENTS.

WANTED, a SITUATION as CLERK or ASSISTANT in either of the above offices. Abroad not objected to. Five years' experience.—Address, E. R. H. GROOME, Market-place, Bungay.

WANTED, by a thoroughly qualified Man, who has had considerable experience in the superintendence of works, measuring, and estimating, and who is a good draughtsman and accountant, an ENGAGEMENT, at home or abroad. Good testimonials.—Address, M. M. 1, Great Ormond-street, London, W.C.

TO PARENTS AND GUARDIANS.

WANTED, by a Grainer and Interior Decorator, a respectable Lad, from 15 to 17 years of age, as an APPRENTICE, either for Three, Four, or Five Years. As there will be great advantage [illegible], if necessary, an insight into the management of the three branches, a premium will be required.—Address, A. D. Office of "The Builder."

TO GENTLEMEN, ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, by the Advertiser, who is a thorough practical Carpenter and Joiner, a situation as FOREMAN or in Estate; [illegible] take charge of a job. Can take out the quantities, measuring, and estimating, and would be willing to go into the country. First-rate references can be given.—Address, M. A. W. 21, Mount Gardens, Westminster-road, Lambeth, London.

WANTED, by a young Man (a neat DRAUGHTSMAN), DRAWINGS to COPY or TRACE. Terms moderate.—Address, C. S. J. 3, Churton-place, Pimlico.

TO UPHOLSTERERS, DECORATORS, AND BUILDERS.

WANTED, by the Advertiser, CONSTANT EMPLOYMENT at the PAPER HANGING. Used to the best work, and thoroughly acquainted with decorations in paper and distemper; or to superintend that department where a thorough knowledge of interior decoration is essential.—Address, pre paid, H. E. C. Scholar's Coffee-house, 77, Charlotte-street, Portland-place.

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WANTED, by a Young Man, EMPLOYMENT as BUILDER'S FOREMAN or TWELVE MONTHS. Has been at the trade seven years, and could render himself useful in the office, if required. Is a [illegible]. Moderate wages only required.—Address, WILLIAMS, 81, Milton-street, Dorset-square, N.W.

WANTED, by a practical CLERK of WORKS, a RE-ENGAGEMENT. Good reference given.—Address, P. R. N. 34, Wenlock-street, Finsbury-square.

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WANTED, by a Young Man from the country, a good workman, constant employment as PLUMBER. Good reference.—Address, JOHN BATES, 6, Fred-street, Paddington, London.

WANTED, EMPLOYMENT as PLASTERER, PAINTER, and PAPER-HANGER, or as Handy Man in the general repairing of houses. References if required.—Address, P. A. D. 31, Denton-street, Kingscross.

TO ARCHITECTS

WANTED, by a Builder's Son (who possesses a good knowledge of making plans, specifications, and taking out quantities), a RE-ENGAGEMENT. A small salary required.—Address, J. B. W. Post-office, Loughboro.

TO STONE, LIME, CEMENT, AND SLATE MERCHANTS.

WANTED, by a Young Gentleman of business habits and good address, who has been for the last seven years in the above trade, a SITUATION either a TRAVELLER on commission or otherwise, or as Manager. The advertiser has a first-rate connection among builders and the trade generally in London and the suburbs. Unexceptionable references from present employer. Country not objected to.—Address, L. A. I, Grenville-street, Brunswick-square, London, W.C.

TO BUILDERS, &c.

TEMPORARY ASSISTANCE offered in Measuring up Works, Estimating, Taking off and Pricing Bills of Quantities, Making up Accounts, &c. upon reasonable terms, by a Builder's surveyor and Accountant, of great experience. References given if required.—Address, R. A. Office of "The Builder."

TO BUILDERS.—LONDON PREFERRED.

THE Advertiser, a Tradesman, with an established business of twenty years' standing in Portsmouth, wishes to place his Son, a well-educated, intelligent Lad, 16 years of age, as an APPRENTICE for five years, on the following mutual terms:—To take in house, as one of the family, the son of a builder, to board, lodge, and clothe, for five years, and teach him the art of a general house decorator, painting, [illegible], glazing, paper-hanging, and gilding. The most respectable references in London given and required.—Apply, personally or by letter, to Mr. JOSEPH BARNES, Landport, Portsmouth.

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THE Advertiser (a capital penman) is desirous of obtaining EMPLOYMENT in COPYING QUANTITIES, SPECIFICATIONS, &c. with which occupation he is well acquainted.—Address, P. B. 17, Percy-street, Bedford New Town, N.W.

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TO ARCHITECTS, &c.

A CLERK of WORKS, a thoroughly practical man, well versed in construction and Gothic details, and a good Draughtsman, is open for a RE-ENGAGEMENT. Unexceptional testimonials. Address BETA, 12, Eastcoad, City-road, Hoxton.

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A GENTLEMAN, having finished his engagement with an eminent architect in town, wishes to meet with a RE-ENGAGEMENT as DRAUGHTSMAN in an Architect's offices, either in town or country, and is thoroughly conversant with the routine of an Architect's office.—Address, A. A. 85, Albert street, Mornington-crescent, N.W.

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AN ARCHITECT, a good Draughtsman, and expeditious Quantity Surveyor, thoroughly acquainted with details as to construction, surveying dilapidations, and estimating, desires an ENGAGEMENT, either temporary or otherwise. Terms moderate.—Address, E. J. F. 1, Banner-street, E.C.

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A YOUNG married Man, who has had fourteen years' experience in the trade, and has lately had the conduct of the accounts and men in an ironworks in the country, is desirous of a RE-ENGAGEMENT in either or both of the above capacities. First-rate references. Address, R. H. 6, Green's-row, Smith-street, Chelsea.

TO ARCHITECTS

AN ASSISTANT, accustomed to all Branches of the Profession, desires an ENGAGEMENT.—Address, F.S.A. Great Church street, Winlaton.

UPPER TOOTING.—BALHAM RAILWAY STATION.—To BUILDERS and OTHERS.—The construction of the railway to the City and Westend, and the high and highly respectable character of the neighbourhood of Balham hill and Upper Tooting, renders building in this locality secure as an investment and profitable as a speculation. TO BE LET, for a long lease, several acres of FREEHOLD LAND, for the erection of detached and semi-detached villas. The estate is well drained, has a gravelly subsoil, and is within a few minutes' walk of Balham Railway station, from whence the Crystal Palace may be reached in a few minutes. The new church recently erected stands on the estate, and for the erection of villas of moderate pretensions a more eligible site is not to be obtained in the locality. Plans may be inspected, and particulars obtained, at the Offices of Mr. LAMBERT, Surveyor, 4, New Basinghall-street.

TO BUILDERS.—Eligible Plot of BUILDING GROUND TO BE LET, for five or six Villas, in the choicest part of Wimbledon common, embracing views of the most varied description, situate only 10 minutes' walk from the Station. There is not a house to be let of the character proposed to be built in any part of the common. The owner of the land would guarantee three tenants of Noblemen, and would be glad to make an arrangement with a builder for erecting a residence of the value of about 70*l.* per annum, on lease, for his own occupation; to be completed by the 29th September next.—Further particulars of Messrs. LOCKWOOD, LOCKWOOD, and SYMES, Surveyors, &c. No. 1, Barwood-place, Edgware-road, W.; or No. 44, Upper Baker-street, N.W.

CANADA WHARF, ROTHERHITHE.—TO BE LET on Lease, or SOLD, the FREEHOLD PROPERTY and SUFFERANCE WHARF, known as CANADA WHARF, on the banks of the Thames at Rotherhithe, having a river frontage of 287 feet, and occupying a site of about 3*a.* 3*r.* The premises have been arranged as a timber-yard, wharf, and saw-mills. The buildings, newly-erected in the most substantial manner, comprise—the sawmill, about 70 feet by 64 feet, with steam-engine and boiler-house; offices for clerks and principals, stabling, and carriage-house; also, a dwelling-house, with private entrance, suitable for a manager. The distance of this property by carriage road, from the City, is about three miles, but, by the Blackwall Railway to Limehouse and the ferry-boat across, it may be reached from the City in about twenty minutes. A large outlay has been made in fitting machinery of the most modern and approved description for sawing and planing, worked by a highly-finished double-cylinder steam-engine of 40-horse power, by Hall, of Dartford. The several machines and planing tackle may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the mills. The arrangement of the buildings and situation of the property for the purposes intended by the present occupiers is most desirable in every respect, or the site is equally available for the establishment of erection of any large manufactory requiring waterside premises.—The property may be viewed by cards only, which may be had of Messrs. FULLER and HORSEY, Billiter-street, City, E.C.

TO CEMENT and PLASTER MANUFACTURERS, POTTERS, &c.—TO BE SOLD or LET, with immediate possession, the whole of the valuable PLANT and MACHINERY known as "BLASHFIELD'S CEMENT and TERRA COTTA WORKS," situate at Millwall, Isle of Dogs (nearly opposite the East Country Docks). The works have a river frontage of 150 feet, and a depth of 680 feet, with a back frontage to the West Ferry-road. The quay has a depth of water in front of 9 feet at ordinary tides, upon which is a crane, worked by steam, capable of lifting and landing half a ton in one minute from shipping or craft. The cement and plaster works consist of two Roman cement and two Portland cement kilns, seven plaster cement kilns, one oven with large drying floor over for cement slip, four large blocks of reservoirs, with connected wash-mill for washing and mixing clay and chalk for Portland cement, mill-house, with four floors and two pair of horizontal stones for grinding cement or coprolites, large vertical grinding mill, with sifting machinery for grinding and sifting plaster, a 20-horse high-pressure steam-engine, with boiler, supply-pumps, and well, and also tank for a supply of fresh water for engine from the Thames. The whole complete, and in good working order. There are five large dry store vaults, capable of storing 5*a.* tons of ground material. The chimney-shaft is about 100 feet above ground, and is well executed in brickwork. The terra-cotta works consist of three large pottery kilns for burning terra cotta (or, if required, stone-ware); two pug-mills and sifting machinery, clay baths and bins, slip kiln, ten large workshops fitted with shelves and benches, large warehouse room, drying floor, and experimental kiln, &c. There is a cooperage and carpenter's shop, lime shed, and stable, a dwelling-house, with five rooms, kitchen, and water-closet, counting-house, with three rooms and four dwelling-rooms for clerk or foreman above; smith's shop and forge, coal vaults, &c. The whole of the premises are in good condition, and securely enclosed, and are capable of being adapted to any large general business, in connection with the above an inland wharf and warehouse in the north-west part of London can be had at a moderate rent.—For further information, apply to Mr. J. M. BLASHFIELD, Pmed-street, Paddington; or to Messrs. WORDSWORTH, GREATHEAD, and BLAKE, Solicitors, South Sea House, Threadneedle-street.

TO BUILDERS.—BELVEDERE, ERITH, KENT, the Seat of Sir Culling Eardley, Bart.—BUILDING GROUND TO BE LET, for ninety-nine years, with extensive choice of sites.—The estate is beautifully situate on the banks of the Thames, twelve miles from London and the North Kent Railway. A new station, to be called Belvedere Station, is in course of erection between Abbey Wood and Erith, omitting upon the estate. Bricks, lime, and sand may be obtained on the property, and money will be advanced to builders.—For further particulars apply to Messrs. W. G. and E. HABERSHON, Architects, 26, Bloomsbury-square, London. Mr. Stickland, Bailiff, on the Estate, will show the plans and sites.

TO WHARFINGERS and OTHERS.—TO BE LET, on LEASE, a valuable WHARF, on the Regent's canal, near the Kings-road, St. Pancras, together with four large dry arches, stabling, and vaults; counting-house, &c. lay-by timber stage and trawelling crane for landing goods.—For particulars, apply to Messrs. R. J. and H. CLUTTON, 9, Whitehall-place, Westminster.

TO BUILDERS and OTHERS. Hargraue Park Estate, Upper Holloway.—The Trustees of this highly eligible FREEHOLD PROPERTY are prepared to entertain offers for the SALE or LEASE of BUILDING PLOTS on liberal terms. Houses built according to recent PROPOSALS for BUILDING LEASES, for eighty years, of ground at the west end of Cheapside, in the City of London. Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's office, Guildhall.

FERDINAND BRAND, Comptroller.

GUILDHALL, 15th July, 1858.—The COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on WEDNESDAY, the 28th JULY instant, at ONE o'clock precisely, to receive PROPOSALS for BUILDING LEASES, for eighty years, of ground at the west end of Cheapside, in the City of London. Plans of the property may be seen, and forms of Tender obtained, upon application at the Architect's office, Guildhall.

FERDINAND BRAND, Comptroller.

WEST HAM, ESSEX.—TO BE LET, on building lease, for the term of ninety-nine years, either in one lot or in smaller lots suitable for the erection of semi-detached villas, a most delightful and eligible piece of LAND, in the high road from West Ham to Plaistow, containing four and a half acres, or thereabouts, situate within one hundred yards of the new Station, at Plaistow, on the Tilbury line, and about four miles from Fenchurch-street Terminus. Two-thirds of the money will be advanced, and the new road and sewers will be constructed by the lessee, on easy terms. Full particulars may be obtained, and the plan exhibited, upon application to Mr. R. CARTER, Surveyor, 49, Fish-street-hill, London; and 1, Langthorne-place, Stratford.

WEST HAM, ESSEX.—To Manufacturers and Others requiring most eligible Plots of Land (large or small).—TO BE LET, on Building Leases for Ninety-nine Years, suitable for the erection of factories, mills, builder's premises, &c. with every facility of approach. This land is situated half a mile from Stratford bridge and Plaistow stations,—thus being in easy and rapid communication with the Fenchurch street and Bow, Tilbury, and Tottenham Railways. Full particulars, application, to be made to Mr. R. CARTER, Architect, Surveyor, and Land Agent, 42, Fish-street-hill, London; and 1, Langthorne-place, Stratford.

N.B. A compact estate of Seven newly and well built Dwelling Houses, fit for an investment, to be Sold, for the term of ninety-seven years at a low ground-rent of 17*l.* 10*s.* Price 1,2*5l.*

MANUFACTURING PREMISES, Belvedere-road, Lambeth.—TO BE LET, or LEASE, with immediate possession, the extensive MANUFACTURING PREMISES known as Jordan's Patent Wood-carving Works: comprising several ranges of light and lofty workshops, a noble show-room, capital offices for clerks and principals, dwelling-house, engine and boiler-house, smith's shop and large yard. Apply to Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

TO BUILDERS and OTHERS.—DOVER-COURT NEW TOWN and SPA.—A short distance from the town and port of Harwich, and within a few minutes' walk of the Dover court station of the Eastern Counties railway, by which passengers are conveyed to most towns to the North and East of England, and to the Metropolis in about two hours by express and other trains several times in the day. This beautiful locality is situated on the shore of the German Ocean, on a plateau of the cliffs sixty feet above high-water mark, and embracing other advantages sought for in a seaside residence, including the close proximity to the celebrated Spa. The Directors of Dovercourt Estate are invited to an inspection of the sites offered in this rising place. Terms for building leases very moderate; materials at the very advanced.—For particulars, apply to Mr. J. H. BROWNE, Architect, No. 17, St. Helen's-place, Bishopsgate-street, City; or to Mr. H. DARKEN, Architect, Harwich and Dovercourt.

BUILDING GROUND at BROMLEY, KENT, TO LET on LEASE, for 99 years, with the option of BUYING the FREEHOLD. The estate is within five minutes' walk of the Station of the S.E. Kent Railway, which, when open, will give access to the London bridge Terminus and the West End. It commands a picturesque view of the beautiful district of Mid Kent, has a dry and gravelly soil, and is acknowledged to be one of the most healthy and salubrious spots near London. There is a great and increasing demand for first-class residences in this locality. The requisite funds for building will advance to the amount of 2,000*l.* if required. Cost of agreement, &c.; ditto lease, 5*l.*; ditto conveyance, 5*l.*; exclusive of stamps.—Apply to Mr. J. BROWNING, Widmore, near Bromley, Kent.

NORWOOD, within three minutes of the Station, to London-bridge and West-end.—GROUND TO BE LET, for building villas, from 50*l.* to 100*l.* per annum, which are of great request. There is not a house on the estate unlet, while numerous applications are daily made for residences. Private gentlemen requiring large plots can secure them. Advances made.—Apply to W. F. LOW, Esq. Solicitor, 67, Wimpole-street, Cavendish-square.

BUILDING LAND.—A Beautiful Rural SITE for EIGHT VILLAS, or less, TO BE LET, at the corner of Mornington-park, within a few minutes' walk of the Forest-gate and Bourne-brook Stations; including walking and railway, three-quarters of an hour only from the Bank Fare, 8*d.* per day. Advances if required. Apply at the Offices of Messrs. EDWIN FOX and BOUSFIELD, 41, Coleman street, City.

LIMESTONE QUARRY and MASON'S YARD and WORKS TO BE LET, with possession at Michaelmas next, situate in Ufiworth, Northamptonshire, with tramway to, and private wharf on, the Grand Junction Canal. There are attached a convenient dwelling, workshops, cottages, stables, and other outbuildings; and thirty to forty acres of land can be had if desired. Apply by letter, in the first instance, to Mr. SIMPSON, Potterspury, Stony Stratford.

MORTLAKE.—TO BE LET, on Building Leases, for eighty years, several PLOTS of FREEHOLD BUILDING LAND, in close proximity to the Railway Station.—For terms and particulars apply to Mr. ATTWOOD, Mortlake; Mr. E. N. CLIFTON, 17, St. Helen's-place, Bishopsgate; or to Messrs. TAQUERAY, WILLAUME, PARNELL, and HANBURY, 34, New Broad-street, City.

CHEAPSIDE.—TO BE LET, on Building Lease, a PLOT of FREEHOLD GROUND, having a frontage of about 28 feet.—For terms and particulars apply to Mr. E. N. CLIFTON, 17, St. Helen's-place, Bishopsgate, E.C.

TO BE LET, a capital FAMILY HOUSE, containing dining and drawing-room, library, breakfast-room, butler's pantry, seven bed-rooms, two dressing-rooms, good water, gas laid on to all parts of the house, situate in the best part of Lewisham, and but a minute's walk from the station. Also BUILDING LAND TO BE LET.—Apply to Mr. W. WALKER, Architect, Lewisham

MANUFACTURING PREMISES, SOHO. TO BE SOLD, the LEASE of excellent MANUFACTURING PREMISES, comprising yard, stabling, workshops, offices, and dwelling houses, situated in Ship-yard, Wardour-street, Soho.—For cards to view, and particulars, apply to Messrs. EVERSFIELD and HORNE, Auctioneers, 40, Parliament street, Westminster

CROWN LANDS, RICHMOND, SURREY. TO BE LET for BUILDING, by order of the Hon. Charles Gore, the Commissioner of Woods, Forests, &c. in charge of her Majesty's Land Revenue in England, the whole or part of MARSH GATE FARM, situate within a short distance of Kew Gardens and the railway station. For further particulars apply to Mr. JOHN CLUTTON, 9, Whitehall place, Westminster, S.W.

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In. by In.	In by In.	In. by In.	In by In	In by In	1sts	2nds	3rds	4ths	In by In	In by In.	In by In.	In by In	PRICES PER 100 FEET.			
6 — 4	9 — 7	12 — 9	13½—10½	13 — 11	21s. 6d.	17s. 9d.	14s. 9d.	12s. 6d.	16 — 11	15½ — 12½	17 —13	21 — 14	1sts.	2nds	3rds.	4ths.
6½— 4½	9½— 7½	12½— 9½	14 — 11	14½—11½					16½—11½	16 — 12	18 —14	22 — 14	24s. 6d.	20s. 0d.	16s. 6d	14s. 0d.
7 — 5	10 — 8	13 — 9	14½—10½	14 —11					17 — 11	16½—12½	20 13	24 —14				
7½— 5½	10½ 8½	13½ —10	15 — 10	.....		Per Foot			18 —11	17 —12	21 —14	18 —15		Per Foot		
8 — 6	11 — 9	13½—10½	15 —11	....	22 l.	2½d.	1½d.	1½d.	18 —12	18 —12	19 14	20 —15	3d.	2½d.	2d.	1½ l.
8½— 6½	11½ —9½	14 — 10	15½ —11½	....					18½—12½	20 —12	17 14	22 —15				
14½—12½	14 —12	22 —12	18 —14	24 —15	24s 6d	20s	16s 6d	14s.	21 —17	20 —17	24 18	24 —19	24s. 6d.	21s. 6d	18s 0d.	15s. 6d.
15 — 11	14½ 12½	17 —14	19 14	18 —16		Per Foot			24 17	22 —18	22 —19	22 —20		Per Foot		
15½—11½	15 — 12	16 14	20 —14	20 —16	3d.	2½d.	2d.	1½d.				26 —20	3½ l	3d.	2½d.	1½d.

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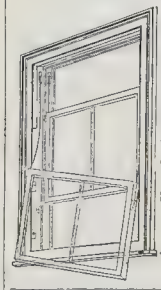
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

GEORGE JENNINGS,

Sanitary and Engineering Depot, Holland-street, Blackfriars-road.



HALF the EXPENSE SAVED in CLEANING, PAINTING, and REPAIRING SASHES, by the use of "RAMSDEN'S PATENT SASH."

Both outer and inner sashes can be detached from the frame and lines in one minute, by removing part of the inner and parting beads. The lines are simply slotted into a groove, at the side of the sash

Old Windows fitted, complete, at 5s. each, or materials supplied, from 3s. 6d

A Model can be seen at the Office of "The Builder."

SAMUEL RAMSDEN,

BOND-TERRACE, HUNSLET, LEEDS.

J. JENKINSON, AGENT,

1, ALBERT-TERRACE, BROOKS, CHATHAM, KENT.

WEST'S PATENT WINDOW

COMBINED SLIDING and FOLDING SASH.

LONDON MANUFACTURERS:

Messrs. WATERLOW, DRAPER, and WEBB, Tredegar Works, Bow, E.; and Warehouse, 121, Bunhill-row, Finsbury, E.C.

JOHN EMERY, 14, Gray's-inn-lane, W.C.

Country orders promptly attended to.

Sheet of details furnished.

CLEMENT L. WEST and CO 25, Rupert street, Haymarket, London, W.

WHITE and MITCHELL,

JOINERS

AND SASH-MAKERS TO THE TRADE,

No. 11, Commercial road, Lambeth.

Staircases, Shop-fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp.—Workshops, 3, Commercial-road, Lambeth.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

JEFFS, BROTHERS,

48 and 49, Cornwall-road, and 72, Stamford street, Lambeth, S.

N.B. Price-list on application.

JOINERY of EVERY DESCRIPTION.

STAIRCASES,

SHOP-FRONTS, SASHES AND FRAMES, DOORS, &c

Of well-seasoned materials and superior workmanship, supplied at the lowest possible prices, by

J. MILLS,

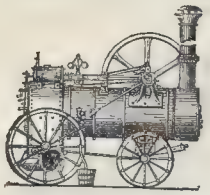
110, Broadwall, and 7, Princes street, Stamford-street, Lambeth;

Late Shop-foreman to Messrs. Lawrence and Sons.

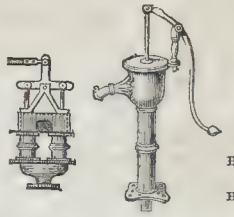
By enclosing a postage-stamp, a full list of prices will be returned.

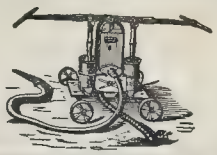
TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 206, TOOLEY-STREET, of the South Eastern Railway Company, adjoining their Terminl, London-bridge, where, in conjunction with his old-established premises in King-street, Borough, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S. Country orders executed with prompt attention, and all sawn goods (Bulk Timber excepted), delivered free of cartage within three miles.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.

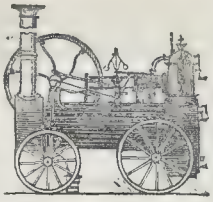




HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE
STEAM
ENGINES,
FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

ANOTHER GREAT REDUCTION. Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and Walnut, 5d.; 2½-inch White Battens, 9d. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ ditto, 12s. Bird's-eye Maple Veneer, 3d. Cartage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	⅞	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s 6d.	13s 6d.	15s 6d	18s.	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d	,,

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned and ready for use. Also Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building Purposes.—Address R. SLADE (late E. Sutton), Flooring Manufactory, Wilton-road, Pimlico.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are entitled to a further Discount of 15 per cent. on their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful goods:—

¾-inch Prepared Flooring	£0 11	6 per square.
⅞-inch Prepared Flooring	0 13	0 per square.
Inch Prepared Flooring	0 15	0 per square.
Good Yellow Deals	0 3	3 each.
Spruce Deals	0 3	0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3	6 each.
Yellow Battens	11 10	0 per 120.

Mahogany, Planks and boards, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green road, N.E.

BOARDS, RIGA PLANK, 10½ to 11 inches wide.

¾ inch Boarding	¾	per foot run.	1¼ inch Boarding	2	per foot run.
⅞ ,,	1	,,	2 ,,	2½	,,
1 ,,	1¼	,,	2½ ,,	2¾	,,
1¼ ,,	1½	,,	2¾ ,,	3	,,
1½ ,,	1¾	,,	3 ,,	3¼	,,

Quartering 2¼ by 3 inches ¾ per foot run.
,, 3 by 3 ,, 1 ,,
,, 3 by 3¼ ,, 1¼ ,,
,, 3 by 4¼ ,, 1⅝ ,,
Other Boards and quartering at same rate. Some job lots of short lengths very cheap. EDWARD SPENCER and Co. Contractors, 18, Billiter-street, London, E.C.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mouldings.

¾-inch Prepared Flooring, 11s. 6d. per square.
1-inch ditto, 15s. per square
Yellow Battens, 11l. 1s. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Boards, from 4d. per foot.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

TO MILLWRIGHTS, ENGINEERS, and OTHERS.—DRY HORNBEAN, in all thicknesses, about TEN LOADS, of first quality, very dry.—Apply to Mr. H. HAYNE, No. 129, Old-street, Shoreditch.

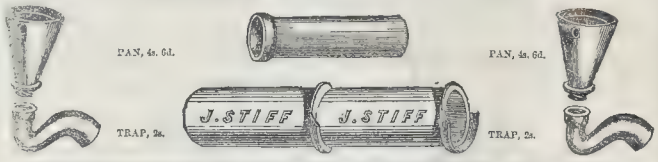
TO RAILWAY and SEWER CONTRACTORS.—4-inch Poling Board, at 9s. per 100 feet, at THOMAS PYE'S Timber Yard, 98, Queen street, Kingsland, Chelsea.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
Books of Designs of Mouldings forwarded on application.

ACORN TIMBER WHARF and SAW MILLS
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS
WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.
MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.
DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.
HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

GREAT REDUCTION IN PRICES.
JAMES STIFF,
MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.
May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Fedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Horton.
Messrs. COLWILL (BROTHERS), 36, Bridges street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

KINSON CLAY POTTERY AND BRICK COMPANY, LIMITED.
WORKS: KINSON, near POOLE.
PATENT FIRE-BRICK MANUFACTURERS.

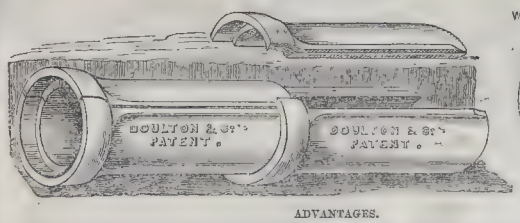
FIRE BRICKS.

The Fire-bricks are manufactured by Burstall's new patent machine, from dry pulverised clay, unrivalled for beauty of finish and fire-resisting properties, have been severely tested, and pronounced quite equal, if not superior, to any other Fire-brick known. Furnace Backs, Bars, Quarries, and all goods made for same purposes. Fire-clay of the finest description. Glass House Pots, Furnace Backs, and Pot Clay. Sanitary Glazed Stoneware Pipes, approved by the Board of Health. Bends, Junction, Chest pans and Traps, Invert Blocks, and every article of the first quality required for drainage purposes. There is an inexhaustible quantity of all descriptions of Dorsetshire Clay used for pottery purposes on their estate, which can be supplied on the most favourable terms.
List of prices, and all other information, will be furnished on application to
Mr. GILBERT E. MITCHELL, Manager, at the Works: Mr. JOSEPH COX, Nos. 1, 2, and 3, High-street, Lambeth; or to Messrs. H. C. QUINTON and SON, Bristol.

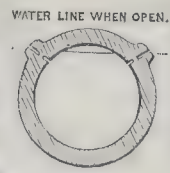
DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain, or Lessening its Capacity.

SOCKET JOINTS.



WATER LINE WHEN OPEN.



ADVANTAGES.

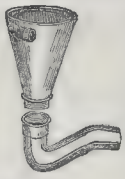
I. The Pipes may be laid whole as ordinary Socket Pipes, and the Covers need only be removed should necessity arise.
II. On the removal of the lids the drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the Invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complication, which would allow either the escape of the liquid contents of the Drain, or the entry of the surrounding soil.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part or cover being fired in one piece with the Pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. Perfect truth of form is secured, and increased strength obtained.
VIII. Simplicity of construction, and consequent cheapness.
IX. They may be laid alternately, or at any intervals, with ordinary Socket Pipes.

Manufactured by HENRY DOULTON and CO.

Offices—HIGH-STREET, LAMBETH, LONDON. Manufactories—HIGH-STREET, LAMBETH; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.



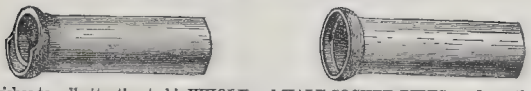
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

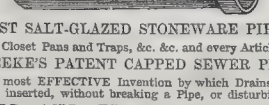
Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

SALT-GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

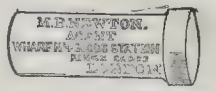
The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or at the Depôt, 8, Belmont-place.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
18s.	9s. 9d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18 inch.	15-inch.
8s.	4s. 6d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter.
Connection can be made with the sewer at any time.
And the Pipes guaranteed to stand better than any Brickwork.

BELL'S PATENT TRAPS, for Stables,

Coach houses, Garden-baths, Yards, &c. Prices each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 108, Drury-lane, and Spa-road, Bermondsey.

UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s. 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

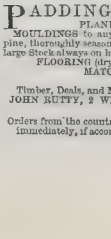
LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 450 feet; their efficiency and durability as by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, short-street, New-cut, Lambeth.



WARNER'S PATENT

VIBRATING STANDARD PUMPS.—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in.	short 1 ft. 7 in.	fitted for lead,	1 10 0
2½ „	long 3 3	gutta percha	1 14 0
3 „	ditto 3 6	or cast iron	2 2 0
3½ „	ditto 3 6	if forged pipe	2 12 0
4 „	ditto 3 6	as required.	3 3 0

2½ „ short, with 15 feet of lead pipe attached, ready for fixing 2 14 0
2½ in. long ditto ditto 2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

PADDINGTON STEAM SAWING,

PLANING, and MOULDING MILLS.

MOULDINGS to any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Pattern-list.

FLOORING (dry) a large Stock, of various description.

MATCH-BOARDING of any width.

Also,

Timber, Deals, and Mahogany, on either Wharf, or at the Docks.

JOHN RUTTY, 2 Wharf, Pread-street, and 3, Irongate Wharf, Paddington.

Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference.

SALES BY AUCTION.

BUILDERS' STOCK.

MR. LEREW will SELL by AUCTION, on the PREMISES, 42, Union-street, Somers Town, on MONDAY, AUGUST 2, 1858, at TWELVE for ONE o'clock precisely, about 1,000 Yellow, White, Pine, and Spruce PLANKS, Deals and Battens; 8,000 feet of wide Pine Board, 100 squares of 1 inch, ½ inch, and ¾ inch prepared yellow and white Flooring; 8,000 feet of Quartering, 10,000 feet of Mouldings, 50 four panel and other Doors, Lobbers, Sash Lights, Barrows, old materials, &c.—May be viewed, and catalogues had on the Premises, and of the Auctioneer, Carlington-street, Hampstead-road, near the Euston Station.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in a cause of Denham v. Wilson, with the approbation of the Vice-Chancellor Wood, in one lot, by

MESSRS. PRICKETT and SONS (the persons appointed by the said order), at the AUCTION MART, opposite the Bank of England, on THURSDAY, the 19th day of AUGUST 1858, at TWELVE for ONE o'clock precisely, a PLOT of FREEHOLD BUILDING LAND, situate at Wandsworth, in the parish of Barnes, containing 2 acres 2 roods 25 perches, more or less, adjoining the grounds of the Vicarage House, and mostly facing St. Ann's Church, with the frontage of 311 feet upon St. Ann's-lane, with the Carriage, coach-house, and outbuildings thereon. Particulars whereof, with plans, may be had, gratis, of Messrs. LUDLOW, TOBB, JANAWAY, and TAGART, 38, Bedford-row, London, Solicitors; of Mr HENRY DUPLEIX, 61, Lincoln's-inn-fields, London, Solicitor, and of Messrs. AVISON and WILLIAM RADCLIFFE, Cook-street, Liverpool, Solicitors; and of the said Messrs. PRICKETT and SONS, 34, Southampton-buildings, Chancery-lane, London

Dated this 15th day of July, 1858.

EDWARD WEATHERALL, Chief Clerk.
LUDLOW, TOBB, JANAWAY, and TAGART,
38, Bedford-row, London Solicitors.

LONDON WORKS, NEAR BIRMINGHAM

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupancy of Messrs. Fox and Henderson, as I situated at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, in the immediate vicinity, also, of the works of G. F. Muntz, Esq., Messrs. James Watt and Co. and the Birmingham Patent Tube Company. It is important to notice that the rates in the parish of Harborne are not more than one third the amount of those in the adjoining parish of Birmingham. The works occupy a site of 5a. 1r. 26p. 27 yards; they have a frontage of about 455 feet next Oxford-street, and a frontage of 490 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and other canals, and thus affords facility for water carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding 20,000*l*. They were established in 1849 by Messrs. Bramah and Fox, and have been, next to their personal influence the Messrs. Fox and Henderson, under whose practical judgment they have been arranged for carrying on the great undertakings in connection with which the names of that firm has been rendered famous. The buildings are arranged in a quadrangular form, and are most substantial erections. The entrance is through a gateway (on either side of which are offices and stores to a spacious yard, in the centre of which is the boiler house and lofty chimney. To the left is a carriage-building shop, 201 feet by 103 feet, an iron store adjoining, 97 feet by 21 feet. The principal range of buildings forms the "finishing" shop, 119 feet by 103 feet; two anchor smiths' shops and turntable shop, a fitting shop, 219 feet by 114 feet, with galleries; a railway-wheel shop, the large foundry, 198 feet by 66 feet; iron-moulding shop adjoining, 115 feet by 66 feet; core stoves and brass foundry. On the right of the yard are pattern-makers' shops and pattern stores, painters' stores, a chain shop, bobbing, cutter's shop, stores, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the different purposes at prices ranging from 1s. 6d. to 11s. per ton, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road.—Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr CHARLES CLARKE, Smethwick, who will show the property; to Mr. HORNBLOWER, Architect and Surveyor, Waterloo-street, Birmingham; to MESSRS. WILKINSON and WILKINSON, Solicitors, Liverpool, and 32, Great George-street, Westminster; to Messrs BEALE and MARIGOLD, Solicitors, Waterloo street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C

Note.—A large proportion of the purchase-money may remain on mortgage.

To Engineers, Founders, Railway Wheel-makers and Carriage-builders, Anchor-smiths, Chain-makers, and Others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN each day, in lots, at the LONDON WORKS, lately occupied by Messrs Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Kirk, Collier, and other eminent makers, including, in the fitting shop and galleries, 11 self-acting screw-cutting lathes, 6 to 16 in. in centre, 18-inch screw-turning lathe, 11 radial wheel lathes, one very superior double action ditto; four axle lathes (self-acting); 19 vertical drilling and boring machines, many of them self-acting, three self-acting planing machines, 4 self-acting screwing machines, universal shaping machine, 3 vertical mandrel-facing and parting wheels and guard plate, a machine wheel-cutting machine, 20 feet traverse, wrought iron shafting, 100 turned pulleys, 50 vices and benches, grindstones, a large assortment of steel tools for the various machines, &c. In the wheel shop:—Five powerful hydraulic presses, one for pressing bridge links, nuts, &c.; one for spoke bending, one for Beattie's patent wheel, one for pressing axle guards, and one for expanding tires, with pumps and gearing worked by steam-power; two furnaces, anchor forges, smiths' forges, two 3-ton cranes, one similar ditto, 30 feet, 40 feet diameter, drilling machines, &c. In the foundries:—Eight 5-ton cranes, each 1 feet swee p, 15 feet high, with racking cutgear, chains, and blocks, three 50 cwt. cranes (double purchase), one 28-ton traveller, 48 feet span; a very superior loam mill, 120 feet of black shafting, benches, one annealing furnace, small cupola, moulding bins, &c. In the turntable shop:—Two very powerful surfacing machines, with face plates 12 feet and 16 feet diameter; one facing and boring machine, capable of boring cylinders 72 inches diameter, three self-acting facing machines, one superior self-acting radial drilling machine, up to 7 feet radius; one 12½ ton traveller, 38 feet span. In the anchor-shops:—Two Nasmyth's 50 cwt. steam hammers, with Cornish boilers; one 4-ton hammer, with 16-horse power horizontal steam-engine, and blast; two powerful Hercules tongs for working by steam power, eight 5 hundred three 3 tons post cranes, 14 cwt to 22 feet in the centre, seven rasp and forging fires, seven with 3 smiths' fires and 3 anchor-proving machine, bed 1 by 6 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the railshop:—Two self-acting planing machines, 14 feet in 15 feet by 4 feet 1 and 11 feet by 2 feet 8; one drilling machine, sawing machine, shafting, young benches, &c. In the carriage-building shop:—Two large and five small overlaying bending and shearing machines, very powerful lever ditto, set of plate-bending rolls 12 feet 4 wide, two machines for straightening 1 inch and 2 iron, two pipe-bending machines, four sawing machines for iron, three drilling machines, circular saw bench, thicknessing machine, 350 feet black shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—Four blast fires, one small Nasmyth's hammer, lever punching machine, one corrugating machine, with dies complete, one Herodites, or Bessemer patent furnace machine, 5 straight dies, one small steam hammer, 3 cwt, power crank of three pulleys, &c. In the boiler house and yard:—Four 24-horse power tubular steam boilers, one very powerful punching and shearing machine, capable of punching and shearing 1 inch plate; two 3-inch gearing machines 15 feet weight, 2 cwt wood and iron crabs, 3-ton gun and chart cranes, one 10-ton derrick, Henderson's patent 45 feet span, 15 feet 6 travelling, 21 feet 2 and 3 feet 3 span, with test 3 ton gun, gear for and rails, fittings in pattern makers' shops, pattern stores, paint shops, and offices; a large assortment of wood patterns, the dies for the various sizes of Lieutenant Ericsson's patent anchors, 10 dry boxes and flasks, ladles, stores of every description and a large collection of other miscellaneous requisites for a first-class engineering establishment.—To be viewed three days prior to the sale. Catalogues may be had, at the Auction Mart; of Mr. HORNBLOWER, Architect, Waterloo-street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the amount of 5*l*. and upwards.

SALES BY AUCTION.

Four Steam Engines, five Steam Boilers, and Machinery.

MESSRS. FULLER and HORSEY will SELL by AUCTION, on TUESDAY, AUGUST 3rd, at TWELVE precisely, on the PREMISES, No. 26, Gravel-lane, Southwark, FOUR STEAM ENGINES, BOILERS, and useful MACHINERY, including:—1 fine table steam-engine, by Tennant, Hull, Cutts, and Co., the last 2 inches stroke; 1 ditto, by Tennant, Hull, Cutts, and Co., the last 2 inches stroke; 1 ditto, by Thompson, Hull, Cutts, and Co., the last 2 inches stroke; 1 ditto, by Thompson, Hull, Cutts, and Co., the last 2 inches stroke; one condensing table steam-engine, 15 inch cylinder, 2 inch stroke; one condensing table steam-engine, of 8-horse power, cylinder 12 inches diameter, 24-inch stroke, by Maudsley, Son, and Field; two return flue-boilers, made in 1857, one 19 feet 6 inches long, 6 feet diameter, with 2 feet 6 inch fire-flue, low mean-plates, and return flue, 15 inches diameter, and chimney; one 16 feet long, 5 feet diameter, of a similar construction; one hemispherical-ended boiler, 24 feet long, 4 feet 6 inches diameter; one ditto, 19 feet 6 inches long, 3 feet 8 inches diameter, with 21-inch flue through, and steam-chest; one cylindrical boiler, 14 feet long, 3 feet 6 inches diameter, with 3 feet flue through; a 6-inch self-acting screw-cutting lathe, by Fox, of Derby; engineers' tools and foot lathe, four 4-feet 3-inch grooved flue wheels, two 7 feet turned riggers, 114 inches wide, two 6 inch large spur and pinion wheels, two single-grooved axle wheels, two brick arches, eight cast iron girders, and other effects.—To be viewed on Monday previous, and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

FOR OCCUPATION or INVESTMENT—Leasehold Wharf, on the Ravensbourne, or Creek, at Greenwich, with Dwelling-house, building, offices, and large Plot of Ground, together with the 10-ton Wharf Crane.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on FRIDAY, AUGUST 6, at TWELVE, at the MART, a desirable LEASEHOLD ESTATE, comprising a large plot of ground containing an area of about 1,800 square feet, in the south side of Bridge-street, Greenwich, with frontage of 190 feet next the Ravensbourne or Deptford-creek, with a substantially built landing-wharf, fitted with a 10-ton crane, two brick vault stables, with lofts; an open workshop, offices, carpenters' shop, lodge, and comfortable dwelling-house, with stuccoed front. The whole held on lease for a term of which twenty-seven years will be unexpired at Christmas next, subject to the ground-rent of 55*l*. per annum. The dwelling-house and a portion of the wharf to frontage are let off at 36*l*. per annum. The remainder is on hand, and immediate possession may be had. To be viewed till the sale.—Particulars may be had on the Premises; of Messrs. A. and W. BRISTOW, Solicitors, Greenwich; at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NEWGATE-STREET.—Building Materials of three large Houses and Warehouses.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on MONDAY, JULY 26, at TWELVE, in lots, all the valuable BUILDING MATERIALS of three large HOUSES, with spacious WAREHOUSES in the rear, being Nos. 14, 15, and 16, on the south side of Newgate-street, comprising about 250,000 sound stock bricks, several tons of lead in gutters, flats, cisterns, and pipes; 40,000 plain tiles, pantiles, and slates; sound oak and fir timber in roofs, floors, and quarterings; glazed sashes, large skylights, fitted with plate glass; doors, wainscoting, partitions, closet fronts, marble and other chimney pieces, sound flooring and joining boards, shop fronts, iron columns, stone paving, coping, and sills; stoves, and other fixtures and fittings up. May be viewed on SATURDAY. Catalogues had at the Auctioneer's Office, Guildhall; and of PULLEN and SON, 80, Fore-street, Cripplegate.

ROTHERHITHE.—Extensive Sale of Building Materials, to clear the Ground for the Enlargement of the Grand Surrey Docks.

PULLEN and SON are favoured with instructions from the Directors of the Grand Surrey Dock Company to SELL by AUCTION, on the PREMISES, on MONDAY, AUGUST 2nd, at TWELVE, in lots, the whole of the valuable BUILDING MATERIALS of several houses, extensive ranges of sheds, granaries, boat-builders' houses, in Rotherhithe-street, including the capital materials of the Waterman's Arms Public-house, opposite the entrance of the Docks, comprising about 300,000 stock bricks, slate counters, plain tiles, slates, partial oak and fir timber, in stout rafters, joists, girders, and upright supports, glazed sashes, doors, part Lime, chimney pieces, sound floor boards, iron columns, fittings, and fixtures, bar counter, shop front, stone paving, several tons of lead in gutters and pipes; the fixtures and fittings up of the Waterman's Arms Public-house, two powerful wharf cranes, and various useful materials. Catalogues may be had, and the premises viewed on Saturday previous. Catalogues had of JOSEPH JENNINGS, Esq. Architect, 3, Foley-place; and of PULLEN and SON, 80, Fore-street, Cripplegate.

DEPTFORD LOWER-ROAD.—Building Materials of Three Houses.

PULLEN and SON will SELL by AUCTION, on MONDAY, the 23rd of AUGUST, by order of the Directors of the Grand Surrey Dock Company, the BUILDING MATERIALS of THREE HOUSES, and of the Back Horse bridge, Lower-road, Deptford, of the materials of which they may be viewed, and catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

LUDGATE HILL.—Building Materials of Six Houses.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, the 4th of AUGUST, at TWELVE, in lots, all the valuable BUILDING MATERIALS of SIX large HOUSES, in Stationers' Hall-court, Ludgate-hill, comprising about 60 tons of Yorkstone paving and landing, 80,000 fine stock bricks, fire bricks, tiles, gutters, and pipes, a large quantity of plain tiled and slated roofing and fir timber in roofs and floors, glazed sashes, doors, wainscoting, fixtures and fittings, chimney pieces, cisterns and plate glass and other shop fronts, iron columns, stone paving, coping, and sills; ranges of book-shelves and cases, counters and presses, stoves, and useful fixtures and fittings.—May be viewed the day previous. Catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

FREEHOLD.—The Lock-house at Sunbury, on the banks of the Thames, with a valuable Plot of Land adjoining, having a Frontage of 1,500 feet to the river, and adapted for a Gentleman's Fishing-Box.

PULLEN and SON are favoured with instructions from the Conservators of the River Thames, to SELL by AUCTION, at the Mart, on THURSDAY, AUGUST 12, at TWELVE, a substantially built FREEHOLD COTTAGE, with Garden and Land (altogether about one acre and a half), known as the Lock-house, and lately occupied by the Lock Keeper, situated in the opposite Sunbury Church and the ferry on the Surrey side, in the parish of Walton, facing the river, to which it has an important frontage of upwards of 1,500 feet. The cottage is delightfully situate, and, as a small expense, might be converted into an attractive residence or gentleman's fishing-box.—May be viewed by applying to the Lock-keeper, at Sunbury Lock, and particulars had at the Offices of the Conservators of the River Thames, 41, Trinity-square; of CHARLES PEARSON, Esq. Guildhall; at the Mart, and of PULLEN and SON, 80, Fore-street, Cripplegate.

WATERLOO BRIDGE WHARF, COMMERCIAL ROAD.

NOTICE.—To BUILDERS, CONTRACTORS, CABINET and PIANOFORTE MAKERS, &c.—FOR SALE, by PUBLIC AUCTION, at the above PREMISES, on THURSDAY, JULY 29th instant (without reserve),

70,000 feet Crown Rigs Wainscot Boards, in Plank and Board.
33,000 „ Honduras and Spanish Mahogany.
Birch, Beech, Baltic, and Yellow Pine; Deals, Plank and Battens, with 18 well-seasoned Cedar Logs, Veneers, Mouldings, Scantlings, &c. Catalogues had at the Auctioneer's, at the Office of JAMES CONNELL, Wood Broker, 28, Clement's-lane, E.C.

LLOYD'S WHARF, THAMES-BANK.—200 Marble Blocks, and 6,000 feet of Slabs.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, Lloyd's Wharf, Thames bank, Pimlico, on TUESDAY, JULY 27, at TWELVE for ONE (by order of the consignees), about 6,000 feet of SLAB, of various thicknesses and dimensions, principally vein and Sicilian, and an assortment of Sicilian, vein, statuary, dove, Emperor's, red, Sienna, black, and gold, and other coloured marbles, in block.—May be viewed the day previous, and catalogues had on the Premises, and of the Auctioneers, 30, Parliament-street, or Coal Exchange.

N.B. Approved bills at four or six months will be taken in payment

SALES BY AUCTION.

Capital Freehold Family Residence and 8 Acres of Land, situate near the Manor village and station on the Great Northern Railway.

MESSRS. FAREBROTHER, CLARK, and LYE are instructed to SELL, at GARRAWAY'S, on THURSDAY, AUGUST 5, at TWELVE, a desirable FREEHOLD ESTATE, situate between Muswell-hill and Wood green, and near the Hornsey and Colney-hatch railway stations, known as the Lodge, a handsome Suffolk brick, partly stuccoed, and finished with stone window sills and copings; containing on the upper floor, three servants' rooms; on the first floor, a front bed-room, dressing-room, and four principal bed chambers, another principal bed chamber, small bed-room, and water-closet; ground floor, entrance-hall, approached by steps with stone portico and columns, 2 principal and secondary staircase, well-proportioned and lofty drawing-room, the windows overlooking lawn and pleasure-grounds, capital dining-room with two windows, library and study's basement, lofty kitchen, scullery, pantry, footman's bedroom, knife room, dark-room, servants' hall, two beer-cellars, binned wine-cellar, meat-larder, store-room, &c. In the area is a well of excellent water (always overflowing), two detached outer, dairy, wash-houses with laundry over. The outbuildings consist of a range of brick-built premises, comprising a good four-stall stable, with loft over, carriage-yard, brick-built and slated chaise-house, double coach-house, large poultry house, with meat-safe and feed-room over. The residence is surrounded by ornamental grounds and lawn, planted with flowering shrubs and studded with choice and other trees. A serpentine sheet of water runs through the grounds, along which is a gravelled walk leading to a fruit-garden and conservatory, a walled-in kitchen garden of tried soil and of three, an enclosed melon ground and a smaller garden. The farm premises comprise a brick-built bailiff's cottage, extensive stabling, barns, cattle-sheds, cow houses, granary, and other buildings, in about 10 acres of meadow and pasture land, partly undulated. The whole is in hand, early possession may be had. The estate may be viewed, and particulars, with plans, had of Mr. SOMES, on the estate; at the Inns in the neighbourhood; of HARRISON RHODES, Esq., Solicitor, 2, Bedford-row, Holborn; of Messrs. BURLEY and CARLISLE, Solicitors, 8, New-square, Lincoln's-inn; at Garraway's; and at the Offices of Messrs. FAREBROTHER, CLARK, and LYE, 6, Lancaster place, Strand.

ADJOINING the WOOD GREEN STATION, now in the course of erection on the Great Northern Railway, between Hornsey and Colney-hatch.—The Tottenham-wood Estate, situate between Muswell-hill and Wood green, comprising about 40 acres of freehold, called the Park Land, Meadow Land, and Wood green, in the parish of Tottenham, bounded on one side by the main road, and on the other by the Great Northern Railway and the New River, with a Station in the course of erection by the Great Northern Railway Company on the property, comprising the Tottenham-wood Estate, with numerous eligible sites for meadow and park-like land beautifully undulated, possessing fine views over the surrounding picturesque scenery, extending in the distance on one side over the metropolis, and on the other into Essex, to the Forest. The whole contains about 500 acres, and is divided, if desired, into lots, varying from 1 to 12 acres, for the erection of villas, each having extensive frontages to the proposed roads, which will be laid out with reference to the disposition of the grounds and the trees therefrom, care being taken to preserve all the ornamental timber. That part of the property next the Muswell-hill road is immediately in front of several handsome villas, and contains the celebrated Muswell and other springs, which supply the residences and mills with the purest water, and might easily be conveyed to all the lots, the springs being on the highest portion of the property. The Great Northern Railway, which will be valuable for forming the several roads. Many of the residences contain good brick earth; there is every facility for drainage. The property is watered over a beautiful valley, with a stream of water, and the elevated land affords the most beautiful sites for the erection of villas, without in any way interfering with the lovely views of hill scenery embraced from each lot.

The locality is remarkably healthy and the neighbourhood select, abutting on several gentlemen's seats, both with church lands not likely to be built upon. The Great Northern Railway passes through a cutting on the Wood-green side of the estate, and is crossed by a good private bridge and two road bridges, the former leading to the station, and the latter upon the main road. A communication with a present carriage drive through the estate, which will be formed to the extent required, and will not interfere with the estate in any way. It is said that the unparalleled low rate of fare to the City of London is brought into the market, affording such beautiful sites for the erection of first-class villa residences, it being intended to limit the buildings to some extent, so as to prevent a small class of property being introduced in any part of the estate, where a new station in the immediate neighbourhood of the above-named Railways and the Metropolitan Extension to the Post-office, making the whole journey probably half an hour, it may be safely urged that this estate is unrivalled. Particulars, with plans showing the frontages and acreage of each lot, may now be had at the Mart; at the Farm; at the Inns in the neighbourhood; and of HARRISON RHODES, Esq., Solicitor, Bedford-row, Holborn; of Messrs. BURLEY and CARLISLE, Solicitors, 8, New-square, Lincoln's-inn; and at GARRAWAY'S, Change alley, Cornhill.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM AT F. K. BARNES and SONS' TIMBER-YARD, Canon's Marsh, Bristol, on WEDNESDAY, the 28th of JULY, 1858, at TWELVE o'clock precisely.

FIRST PORTION OF THE IMPORTERS

1,000	Feet Honduras Mahogany.	
9,000	Spruce Deals and Battens (new imp. ration).	
20,000	Spruce Deals and Battens (2nd imp. ration).	
5,000	St Petersburg Red Deals.	
5,000	New Brig'd Redwood Mould Deals.	
1,000	Reds (mould).	
1,000	Fresh Brandt Swedish Red Deals	Being the
4,000	Norway Red and White Wood Deals and Battens	Large per
2,500	ditto Sawn Scantling	*Ecclesfield*,
500	Pieces Head Fir Timber	now
1,000	Spars (mixed)	discharging.
1,000	Loads Quebec Yellow Pine (new importation)	
50	Loads Quebec Birch (ditto)	
50	Loads St John's Pine (ditto)	
40	Loads ditto Birch (ditto)	
200	Loads Best sound & Sandwood Fir (ditto)	
200	Loads Mixed Quebec Timber (ditto)	
100	Loads Swedish Pitch Pine (ditto)	
40	Loads Quebec Oak Timber	
50	Fathoms Fresh Spruce Hemlock Lathwood.	
3,000	Prepared Fir Pile Boards.	

With other Goods

Catalogues will be issued on the Week of Sale

F. K. BARNES and SONS, Brokers.

N.B. As these goods will be sold in the Sale room, the Brokers recommend buyers to look over the same day previous to the Sale if possible, or on the Morning of the Sale day

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Valuable Freehold Estate, with commanding frontage to the high road between Denmark-hill and Camberwell-green, offering a choice site for the erection of a terrace of first-class attractive shops, or for any public institution.

MR. SEARLE will SELL by AUCTION, at the MART, on WEDNESDAY, the 28th JULY, at TWELVE o'clock, an ample and FREEHOLD PROPERTY, comprising a commodious brick built family residence, with coach-house, stabling, outbuildings, and extensive pleasure garden, particularly eligible for building purposes, having a frontage of 134 feet to the high road, in a most favourable business position, and in the centre of an undulated and greatly increasing neighbourhood.—Cards may also be had at the Mart; of Messrs. HOOKE, STREET, and GUTTERES, Solicitors, Brabant-court, Philpot-lane, City, and at Mr. SEARLE'S Offices (where also a plan of the estate may be seen), Camberwell-green, S

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The Builder.

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ROYAL MANCHESTER INSTITUTION.
The EXHIBITION of MODERN PICTURES in OIL and WATER COLOURS, specimens of Sculpture and Casts, and Architectural Designs, will be OPENED as soon as practicable, after the closing of the Royal Academy. All works must be sent so as to arrive not later than the 4th AUGUST. Pictures, &c. from London, will be forwarded by Mr JOSEPH GREEN, 14, Charles-street, Middlesex Hospital, but no carriage expenses will be paid except from artists to whom the exhibition circular has been forwarded. Works from the Royal Academy must be delivered to Mr. GREEN, immediately on the closing of that Exhibition.
EDWARD SALOMONS, Hon. Sec.

THE LONDON and MIDDLESEX ARCHÆOLOGICAL CLUB, in connection with the LONDON and MIDDLESEX ARCHÆOLOGICAL SOCIETY.—The First ANNUAL DINNER of the Club will take place at the STAR and GARTER HOTEL, at Richmond, on TUESDAY, the 10th day of AUGUST, 1858, on which occasion the Club would wish to meet as many of the members and friends of the Society as possible. The Tickets are 21s. each, and can be obtained of the Secretary.—By order of the Committee,
JAMES G. SMITHER, Honorary Secretary and Treasurer.
32, Fleet-street, E.C. 29th July, 1858.

COMPETITIONS.

HOUNSLOW TOWN-HALL COMPANY (Limited).—The Directors are prepared to receive PLANS and SPECIFICATIONS for the proposed BUILDING. The site contains an area of 58 feet × 12[illegible], and the contemplated extent of building, say 40 by 60, to comprise basement and suitable rooms on ground floor for a commodious reading-room, banking and other offices; and on first floor, spacious hall, adapted to hold 500 or 600 persons, with appropriate retiring-rooms. The estimated cost not to exceed 1,800*l*. Plans and specifications may be sent to the Hon. Sec. before the 12th of AUGUST next, to whom applications for further particulars are to be made. The Directors will incur no expense or liability on account of plans or specifications submitted, nor do they bind themselves or shareholders to accept any of the plans or specifications that may be presented.
(Signed) H. BULLOCK, Hon. Sec.
Offices, Red Lion Inn, Hounslow, W. July 27, 1858.

CONTRACTS.

TO BUILDERS and FOUNDERS.—SEALED TENDERS, in one Specific Sum, will be received by the Director of Contracts, War Department, Pall Mall, London, on or before FRIDAY, 20th AUGUST next, at Noon, for BUILDING a RESERVOIR, SUPPLYING and LAYING NEW PIPES and FITMENTS to the Water Works of the Barracks and War Department Premises, at Devonport. Plans may be seen, and specifications, with every requisite information, may be obtained at the Royal Engineer Office, Devonport, from TEN to FOUR o'clock on week days, from the 26th instant to the 18th AUGUST next, both days inclusive.
Royal Engineer Office, Devonport, 2[illegible]th July, 1858.

TO BUILDERS. Notice is hereby given, that TENDERS will be received at the Office of the Director General of Contracts, War Department, Pall Mall, London, on FRIDAY, the 6th AUGUST, 1858, for RENDERING the SCHOOL-ROOM at Chichester Barracks, in the county of Sussex, more SUITABLE for DIVINE SERVICE. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the [illegible] JULY, 1858, between the hours of TEN and FOUR each day, Sundays excepted, until the 5th AUGUST, 1858. Tenders to be endorsed, "Tender for Alterations, &c. to the School-room, at Chichester Barracks, in the County of Sussex," on the left-hand corner of the envelope, and addressed to the Director-General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Portsmouth, July 20, 1858.

CONTRACTS.

TO BUILDERS.—Sealed TENDERS, in specific sums, will be received by the Director of Contracts, War Department, Pall Mall, London, on or before FRIDAY, the 20th of AUGUST next, at Noon, for BUILDING a GUARD HOUSE at the MILITARY HOSPITAL, Stoke, Devonport; and for ASPHALTE WORK for same. Plans may be seen, and specifications, with every requisite information, may be obtained at the Royal Engineer Office, Devonport, from TEN to FOUR o'clock on Week Days, from the 4th to 18th AUGUST next, both days inclusive.
Royal Engineer Office, Devonport, 28th July, 1858.

TO BUILDERS.—TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on MONDAY, the 2nd of AUGUST, 1858, for RE-CONSTRUCTING a RANGE of OUTBUILDINGS at Colewort Barracks, Portsmouth. The plans, specification, and conditions of Contract may be seen, and every information obtained, on application at this Office between the hours of TEN and FOUR o'clock. Tenders to be endorsed, "Tender for Re-constructing a Range of Outbuildings at Colewort Barracks, Portsmouth."
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Portsmouth, July 17, 1858.

TO BUILDERS. Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on MONDAY, the 2nd day of AUGUST, 1858, for LEVELLING certain portions of existing EARTH WORKS and for the CONSTRUCTION of SIX CASEMATED BUILDINGS, forming a part of the intended advanced Works of Defence, at Hilsea, near Portsmouth, in the County of Hants. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after MONDAY, the 21st day of JUNE, 1858, between the hours of TEN and FOUR each day, Sundays excepted, until the 31st JULY, 1858. Tenders to be endorsed, "Tender for the Construction of Casemated Buildings," &c. at Hilsea, near Portsmouth, in the County of Hants, in the left hand corner of the envelope, and addressed to the Director-General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Portsmouth, June 9, 1858.

TO BUILDERS and CONTRACTORS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall-Mall, London, on or before WEDNESDAY, the 11th of AUGUST, 1858, from persons desirous of contracting with the Secretary of State for War, for IMPROVING the DRAINAGE, and RE-FORMING PRIVIES, at the General Hospital, Fort Pitt, Chatham. Plans of the work are to be seen, and specifications and forms of Tender obtained, on application at the Royal Engineer Office, Chatham Lines, between the hours of TEN and FOUR, till the 10th of AUGUST, 1858, Sundays excepted. The person whose Tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of £300, for the due performance of the contract. Tenders to be addressed to "The Director of Contracts War Office, Pall Mall London, S.W." and to be delivered free, endorsed, "Tender for Drainage, &c at Fort Pitt, Chatham." No Tender can be admitted after the said 11th day of AUGUST, 1858.
N.B. The Secretary of State for War reserves to himself the right to reject the whole or any of the Tenders.
Royal Engineer Office, Chatham, July 27th, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director General of Contracts, War Department, Pall-mall, London, on the 11th day of AUGUST, 1858, for REPAIRS and FORESHORE to SEA-WALL westward of South-west Bastion, Re-constructing Foreshore to South east Bastion, and for substituting Cast-iron Pipes for a portion of brick drain leading from the soldiers' privy to the beach at Fort Monckton, near Gosport, in the county of Hants.—The plans, specifications, and conditions of contract may be seen, and every information obtained, on application at the Royal Engineer Office, Gosport, on and after the 2nd AUGUST, 1858 between the hours of TEN and FOUR each day, Sundays excepted, until the 10th of AUGUST, 1858. Tenders to be endorsed, "Tender for Repairs and Foreshore to Sea wall, Re-constructing Foreshore to S.E. Bastion, and substituting Cast iron Pipe for brick drain from privy to the beach, at Fort Monckton, near Gosport, Hants," in the left hand corner of the envelope, and addressed to the Director General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Gosport, 26th July, 1858.

MINCING-LANE, LONDON. VALUABLE BUILDING GROUND.—The Court of Assistants of the Worshipful Company of Grocers are willing to receive TENDERS for TAKING, on a Building Lease for a term (commencing Lady-day, 1859), and at a ground-rent to be agreed upon, a PLOT of LAND, upon which are now erected two houses, known as Nos. 8 and 9, Mincing-lane, in the City of London, and a range of warehouses in the yard in the rear, known as W[illegible]-yard, and for the ERECTION thereon of Show rooms, Counting houses, &c. in accordance with plans which have been prepared, or plans which may be agreed upon. The ground contains a frontage towards Mincing-lane of about 9[illegible] feet, and a width in the rear of about 70 feet, with an average depth of [illegible]. Further particulars [illegible] may be inspected, at the Clerk's Office, [illegible] where Tenders to be sent [illegible] next. The Company do not bind themselves to accept [illegible].
WILLIAM [illegible], Clerk.

TO BUILDERS.—TENDERS are required for MAKING and ERECTING certain new SEATS and EXECUTING other WORK in the nave and aisles of the Parish Church of East Brent, in accordance with plans and specification, which may be seen at the Vicarage House, between the hours of NINE and SIX o'clock, on any day from the 2nd to the 14th of AUGUST, both inclusive. The works to be commenced at once. Tenders to be delivered, sealed and addressed, to the Archdeacon of Taunton, East Brent, Weston-super-Mare, on or before the 14th of AUGUST. The committee will not bind themselves to accept the lowest or any Tender.
East Brent, July 28th, 1858.

CONTRACTS.

TO BUILDERS.—TENDERS are required for certain WORKS to be done in making sundry ALTERATIONS and ADDITIONS to the Premises, corner of Judd-street and Euston road, St. Pancras, for the purpose of converting the same into a Tavern and Coffee-house. The plans and specification may be seen at the Office of Mr GEORGE TURNER, Architect, 60, Charles street, City road, to whom Tenders are to be delivered on or before SATURDAY, the 14th AUGUST. The lowest Tender will not necessarily be accepted.

BUILDERS desirous of TENDERING for the ERECTION of Messrs CROLL, RAIT, and CO.'S PATENT GAS METER MANUFACTORY, Experimenting Rooms, Stores, Offices, Entrance gates, Enclosure walls, &c. can see the plans and specifications at the Office of the Architect, Mr WILLIAM LEE, St Michael's House, Cornhill, E.C.—The lowest Tender will not necessarily be accepted.

TO BUILDERS.—Persons desirous of TENDERING for a NEW ROOF over the SOUTH AISLE of ST MARY'S CHURCH, Whittlesea, may see the plans and specifications at my Office, from THURSDAY, AUGUST 5 to 14, and at Mr. FEVERS, of Whittlesea, from AUGUST 15 to 20. Sealed Tenders to be sent to the Churchwardens on SATURDAY, AUGUST 21, by TWELVE o'clock.—EDWARD BROWNING, Architect, Stamford.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of BLETSOE CHURCH, Bedfordshire, may see the plans and specifications at my Office, on and after the 6th of AUGUST. Sealed Tenders to be sent to the Rector of Bletsoe, on AUGUST 24, by TWELVE o'clock.
EDWARD BROWNING, Architect, Stamford.

TO ENGINEERS and MILLWRIGHTS.—The Belfast Harbour Commissioners are willing to receive TENDERS for CONSTRUCTING and ERECTING a CRANE, exclusive of foundations, on their Quays at Belfast, capable of lifting fifty tons. The plans and other particulars, with the form of Tender, may be seen at the Engineer's Office, between the hours of NINE and FOUR o'clock. Sealed Tenders, endorsed "Tender for Crane," will be received up to ELEVEN o'clock on TUESDAY, the 17th AUGUST next. The lowest Tender not necessarily accepted.
WILLIAM THOMPSON, Secretary.
Harbour Office, Belfast, July 2[illegible], 1858.

TO ZINC WORKERS.—TENDERS are required on or before 6th AUGUST, for MAKING (in the best workmanlike manner for the ensuing season) PILBEAM'S PATENT DOUBLE CHAMBERED CHIMNEY POTS. The chimney pot can be seen and information obtained on application at my Office, 2, Lonsdale-place, Notting hill. The lowest or any Tender not necessarily accepted.
ALEX PILBEAM.
Offices, 2, Lonsdale-place, Notting-hill, July 26, 1858.

NEW WORKHOUSE, BOLTON UNION.—To BUILDERS and OTHERS. The Board of Guardians of this Union are desirous of receiving TENDERS for the various BUILDINGS intended to be ERECTED on the Fishpool Estate, near Bolton. The drawings and specifications, with conditions of contract, may be seen and every information obtained on application at the Office of Mr LEIGH HALL, Architect, No. 4, Arcade, Town hall buildings, Manchester on and after MONDAY, the 19th day of JULY next, until WEDNESDAY, JULY 28th, after which date they may be inspected at the Office of Mr GEORGE WOODHOUSE, Architect, Silverwell yard, Bolton, until TUESDAY, the 10th day of AUGUST. The Tenders are to be made for the execution of the works in four portions, and, in the event of general Tenders, the amount of each trade is to be given separately, any or either of which the Guardians are to be at liberty to accept, viz.:—
No. 1. The Main Buildings, Kitchen, and Dining hall,
2. The Lunatic Asylums.
3. The Hospitals.
4. The Entrance Offices.
All the Tenders are to be sealed, under cover, addressed to the Chairman, free of expense, and endorsed "Tender for New Workhouse, Bolton," and to be sent to my Office on or before the 10th day of AUGUST next. The Guardians do not pledge themselves to accept the lowest or any Tender sent. Two sufficient sureties will be required for the due performance of the contract.—By order of the Board of Guardians,
JOHN WOODHOUSE, Clerk.
Union Offices, 11, Acres field, Bolton, July 7th, 1858.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS.—To WELL SINKERS.—ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Parks Committee are prepared to receive ESTIMATES from persons willing to Contract for the SINKING of an ARTESIAN WELL for the supply of water for the above Baths. The plans and specification, with the conditions for regulating the contract, may be inspected at the Office of the Architect, Mr. EDWARD HOLMES, 25, Temple-row, Birmingham. Estimates are to be delivered post to the undersigned, on or before the 16th of AUGUST, 1858, endorsed "Tender for Artesian Well Baths, Birmingham." The Committee do not bind themselves to accept the lowest or any Tender.
THOMAS MANDBRIDGE, Town Clerk.
Town Clerk's Office, Birmingham, June 15, 1858.

TO IRON BEDSTEAD MAKERS and OTHERS.—TENDERS are invited for the SUPPLY of about EIGHTY-FOUR IRON BEDSTEADS, 6 feet long, 2 feet 6 inches wide, with Sacking [illegible] Samples to be forwarded, free of charge, to the East London [illegible] Chambers, Commercial street, Whitechapel, [illegible] Mr P[illegible], Superintendent, on or before TUESDAY, AUGUST 3rd. Further information may be obtained of Mr E. BANENTELL, Architect, [illegible] Buildings, Strand, W.C. and 12, Grosvenor street, Camberwell, to whom all Tenders are to be sent, on or before the above-mentioned date. The lowest or any of the Tenders will not necessarily be accepted. The samples, except those approved, to be removed from the premises (free of expense) within seven days after notice to that effect shall have been given to the respective parties.

[For remainder of Contracts see next page.

CONTRACTS.

TO DUST CONTRACTORS, SCAVENGERS, and OTHERS.—Notice is hereby given, that the Board of Works for the Fulham District are prepared to receive TENDERS for the REMOVAL of DUST and ASHES from the Houses of the Inhabitants of the District, for a period of TWELVE MONTHS, from the 6th of AUGUST, 1858. The work to be done according to the Specification which may be seen at the Office. Tenders must be in a separate form, viz. one for the Parish of Fulham, and one for the Parish of Hammersmith, to be sent in sealed, and marked "Tender for Dust and Ashes" on the outside, on or before TEN o'clock of WEDNESDAY morning the 4th of AUGUST next, to the Office, Broadway House, Hammersmith, addressed to "The Chairman of the Board of Works for the Fulham District." No Contractor shall be required to attend, and all the aspects of tenders, for the due performance of his contract.—The Board does not pledge itself to accept of any Tender.—By order,

W. LOVELY, Clerk.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS and BUILDERS' ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Wash-house Committee are desirous of receiving TENDERS for the ERECTION of BATHS, Wood-cocks-street, Birmingham, in accordance with the Plans, Specifications, and Conditions which may be seen at the Office of Mr. EDWARD HOLDEN, 20, Temple-row, Birmingham, on and after the 20th of AUGUST next. Builders wishing to tender are requested to send in their names to the Architect on or before such date. Sealed Tenders in writing, endorsed "Tender for New Baths, Birmingham," together with the Forms of Acceptance of the respective parts which will become queries for the proper performance of the contract, in a sum equal to one-third of the total sum of each Tender, to be sent by post to the undersigned on or before the 20th of SEPTEMBER, 1858. The Committee do not bind themselves to accept the lowest or any Tender.—By order, THOMAS STANBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 19th, 1858.

METROPOLIS LOCAL MANAGEMENT ACT.—HACKNEY DISTRICT BOARD of WORKS, Comprising the Parishes of Hackney and Stoke Newington.—CONTRACT for SEWERS.—The Board of Works for the District of Hackney are prepared to receive TENDERS for the EXECUTION of the WORKS required in the Contract for the Construction of Sewers and Appurtenances in the Parish of Stoke Newington, and in certain Streets in the Parish of Hackney, according to the Plans, Sections, and Specifications prepared by the Surveyor to the Board, and which may be seen at the Office of the Board, No. 2, Mare-street, Hackney, on and after MONDAY, the 2nd of AUGUST next, between the hours of Ten and Four o'clock. Persons desirous of tendering are required to make their Tenders in accordance with the Printed Forms, which may be obtained at the Office of the Board, on payment of the sum of Two Shillings and Sixpence each. The Tenders are to be sealed up, and delivered at the Office of the Board, addressed to the Clerk, not later than Twelve o'clock at noon on MONDAY, the 9th of AUGUST next, and marked "Tender for Sewers." The Board do not bind themselves to accept the lowest or any Tender. Each Tender must be accompanied by a Deposit of Ten Pounds per Cent. on the amount of the Tender, which will be returned to the successful Tenderer on the completion of the Contract to the satisfaction of the Surveyor to the Board. Each Tender must be signed by the party or parties tendering, and the names of two sureties must be inserted in the Tender, who will be required to enter into a Bond in the penal sum of Fifty Pounds each for the due performance of the Contract.—By order of the Board,

RICHARD ELLIS, Clerk.

Town Hall, Hackney, July 22nd, 1858.

ALDERSHOT.—CONTRACT for SEWAGE WORKS.—The Local Board of Health for the district of Aldershot, in the county of Southampton, are prepared to receive TENDERS at the Board Room, THIRD MONDAY in AUGUST next, from such persons as may be desirous of undertaking the Works required in the Contract for the Construction of the WORKS at Aldershot, in the county of Hants. Local Board of Health, and their Surveyor's Office, Hut No. 1, Aldershot; and also at the Office of Mr. C. MARSHALL, Surveyor to the Board, Borough, Farnham, between the hours of TEN and FOUR o'clock, and on MONDAY, the 2nd inst. The Tenders are to be sealed up, and addressed to "The Sewage Works." The Board reserve to themselves the right of rejecting any or the whole of the Tenders. No notice will be taken of any Tender which is not in the prescribed form.

TO BUILDERS and CONTRACTORS.—The Committee for the Enlargement of the Churchyard at Harrow-on-the-Hill, in the county of Middlesex, are prepared to receive TENDERS for LAYING OUT, INCLOSING, and PLANTING a PIECE of GROUND adjoining the present churchyard. Plans and specifications can be seen, and bills of quantities obtained, on payment of half a guinea, at the Offices of the Architect, CHARLES LAWS, Esq., 12, Duke-street, Adelphi, London; and of Mr. W. WYNKLEY, junior, Vestry Clerk, Harrow, to whom Tenders are to be delivered on or before THURSDAY, the 26th day of AUGUST next at FIVE o'clock in the evening. The Committee do not bind themselves to accept the lowest or any tender.—By order of the Committee,

July 24, 1858. WILLIAM WINKLEY, Junior, Vestry Clerk.

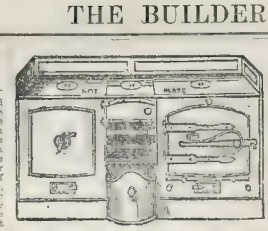
PERSONS desirous of CONTRACTING for FIVE HOUSES at Lee, Kent, may see the drawings and specification at J. LIDDIARD'S, Esq. Architect, 5, Kent-terrace, Deptford, S.E.; or for quantities of same at Mr. BROADBRIDGE'S, Surveyor, 10, Essex-street, Strand, W.C. Tenders received at Deptford on MONDAY, the 9th of AUGUST next, at SIX o'clock in the evening, the lowest will not necessarily be accepted.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—JOBBING CONTRACT for WORKS to SEWERS.—Notice is hereby given, that the Sewers Committee will meet on TUESDAY, the 24th day of AUGUST next, to receive TENDERS from persons willing to CONTRACT for the JOBBING WORKS and REPAIRS to the SEWERS, DRAINS, &c. under the Jurisdiction of the Board, to the 25th March, 1859. Further particulars may be known, and printed additional schedules of works, the forms of Tender obtained, on application to Tenders for the Works, next, application at the Board's Offices, Grove-street, Commercial Road East, between the hours of TEN and FOUR, each payment of the which will be returned to each person sending in a Tender. Tenders, sealed up, and addressed to the Chairman of the Sewers Committee, must be delivered at the Offices not later than THREE o'clock, on the 3rd day of AUGUST next. The Board do not bind themselves to accept the lowest Tender. The security required from the parties to whom the contract may be given will be required. No Tender will be received after the time specified for the receipt of the same, or with printed additions or alterations.

By order, THOS. W. RATCLIFF, Clerk of the Board.

July 22, 1858.

CANADA WHARF, ROTHERHITHE.—TO BE LET on Lease, or SOLD, the FREEHOLD PROPERTY and SUBSTANTIAL WHARF, known as CANADA WHARF, on the banks of the Thames at Rotherhithe, having a river frontage of 267 feet, and occupying a site of about 2a. 3r. The premises have been arranged as a timber-yard, wharf, and saw mills. The buildings, newly erected of the most substantial manner, comprise the saw mill, about 70 feet by 60 feet, two-story house, planing-shed, offices for clerks and principals, stabling, and carriage house; also, a dwelling-house, with private entrance, suitable for a manager. The distance of the property from the London Bridge Station is about three miles, by the Blackwall Railway to Limehouse and the ferry-boat across, it may be reached from the City in about twenty minutes. A large outlay has been made in fitting machinery of the most improved description, consisting of planing, &c. &c. &c. by a highly-finished double cylinder steam-engine of 40-horse power, by Hall, of Dartford. The sawing and planing business may be taken or not, at the option of the purchaser. There are two wells, affording a sufficient supply of water for the purposes of the mills. The arrangement of the buildings and situation of the property for the purposes contemplated by the present occupiers render it one of very respect, or the site is equally available for the establishment or erection of any large business of the above description.—The property may be viewed by order only, who may be had of Messrs. FULLER and HORSEY, Bullter-street, City, E.C.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and level Plate, with a Bright Open Fire, removes all the objections of a Close Fire Range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles

BURT AND POTTS,

WHOLESALE AND MANUFACTURING IRONMONGERS.

38 and 39, York-street, Westminster.

W. HARMER AND SON,

IRONMONGERS, SMITHS, BELL-HANGERS, AND GAS-FITTERS,

MANUFACTURERS OF CLOSE AND OPEN FIRE KITCHEN RANGES, including the BEST LEAMINGTON KITCHENER.

REGISTER STOVES, 5d. per inch and upwards; ELLIPTIC STOVES, from 23d. per inch.; SELF-ACTING COTTAGE RANGES, from 2ls. each; BEST SELF-ACTING OVEN and BOILER RANGES, with Wright Bars and Bright Fittings, from 5l. 5s. each

CAST RAIN-PIPES—2-in. 10d.; 2½-in. 12d.; 3-in. 1s. 2d.; 3½-in. 1s. 6d.; 4-in. 1s. 10d.; 5-in. 2s. 3d. per yard.
Ditto HALF-ROUND GUTTERS—3-in. 7½d.; 3½-in. 8d.; 4-in. 8½d.; O. G. GUTTERS—3-in. 11d.; 4-in. 1s.; 4½-in. 1s. 1d.; 5 in 1s. 4d. per yard

BEST CUT CLASP—2-in. 14s.; 2½-in. 13s. 6d.; 3 to 6 inch, 13s.; BEST CUT LATH, 15s.; BEST SHEET FLOOR BRADS, 12s. 6d. per cwt.

19, HORSEFERRY-ROAD, and1, NEW PETER-STREET, WESTMINSTER, S.W.

ESTABLISHED 1817.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, Esq. at Burham, on the Medway

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, Esq. within the last eight years. The Burham works and clay-fields occupy a site of about eighty-five acres, partly freehold and partly leasehold, on the south side of the River Medway, and five miles from Rochester Bridge. The distance in London is about thirty-eight miles, and the Snodland or Aylesford stations of the North Kent Line are within two miles of the property. The surface of the land slopes at an inclination of about 1 in 80 towards the river, and the pits already formed near the canal, but little further in, are dry. The way to know is the Gault clay, and it extends beneath the entire surface to a depth of about 130 feet, affording a supply more than sufficient for the next century. The Gault clay requires a smaller quantity of ashes than any clay near London, and the Burham works are nearer to the London markets than any other which the Gault clay is found. The cost of carriage to London is only 6s. 6d. per ton. The works were established by Mr. Cubitt for his own requirements as a builder, and both the brick and cement have been largely exported for the purpose of rendering the complete. The principal building is upwards of 300 feet in length, chiefly three stories high. There are four pottery kilns within the building, and also drying apparatus consisting of warm-water pipes. Outside the building, and contiguous to it, are three Suffolk kilns (two of 80,000 each and one for 30,000); two waggon-top kilns, 50,000 each; twelve Scotch kilns, 90,000 each; and three ditto of 60,000 each; also, sundry sheds, several lark greens, in open field.

The plant is capable of producing 20,000,000 bricks per annum, in addition to an almost unlimited quantity of drain-pipes, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, Ainsley's rollers, with Mr. Cubitt's improvements, and the requisite pug mills, worked by a pair of condensing steam engines, by Maudsley, Sons, and Field, of 220 horse power, with boilers, wrought iron shafting, spur wheels, &c. &c. The cement works consist of a range of kilns, each 30 feet in length, for burning the chalk, with the necessary adjuncts for lifting, pipes, and lime sheds, hollow floor, stone engine, &c. &c. The chalk is raised from the pits by a steam power 20 cranes, and shipped by two portable engines of 10 horse power by Clayton and Shuttleworth, and conducted by wooden troughs with four gradients to the mill-house, at the lower part of the field. A reservoir of three acres in surface has been formed, which is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the establishment. The wharf, which is very extensive, has a face of 600 feet, and is capable of receiving barges two and a half deep, with turntables and weigh-bridge, and there is a most substantially-built wharf-shed, with lockers, &c. of sufficient length for four barges to lie alongside.

The Cement Works comprise four well-built kilns for 80 yards each, three dry-grinders, and the requisite working gear, with ball mills, and pipes worked by a portable steam-engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the wharf is a newly-erected residence of general character, well placed, and surrounded by a large and productive garden. A newly erected house for a foreman of cement works, three cottages, stabling, and a mess-room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-acre field of excellent sand for brick-making purposes, and a wharf for landing it. As before-stated, these works were established to supply Mr. Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character, but it may be believed that the result of the trials will be the best for brick-making purposes that this field is the raised yet, as, since the London market, that could can be procured without being subject to Gulf of London or Hackney, the material either now manufactured or obtained on the very best terms, that the machinery is of the highest character, most judiciously planned, and that for its working skilled labour is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, Bullter-street.

UPPER TOOTING.—BALHAM RAILWAY STATION.—To BUILDERS and OTHERS.—The construction of the new line of railway between Wandsworth, combined with the highly respectable character of the neighbourhood of Balham-hill and Upper Tooting, renders building on that locality a most desirable investment and profitable as a speculation.—TO BE LET, for building, several acres of FREEHOLD LAND, for the term of about twenty years, in detached villas. The estate is well timbered, and is situate on a subsoil, and is within a few minutes' walk of Balham Railway Station, from whence the Crystal Palace may be reached in a few minutes. The new church recently erected stands on the estate, and the Parish Schools are also conveniently situated. Plans may be inspected, and particulars obtained, at the Offices of Mr. LAMBERT, Surveyor, 4, New Basinghall-street.

TO BUILDERS.—BELVEDERE, ERITH, KENT, the Seat of Sir Culling Eardley, Bart.—BUILDING GROUND To BE LET, for ninety nine years, with extensive choice of sites.—The estate is beautifully situate on the banks of the Thames, twelve miles from London by the North Kent Railway. A new station, to be called Belvedere Station, is in course of erection between Abbey Wood and Erith, abutting upon the estate. Bricks, lime, and sand may be obtained on the property, and money will be advanced to builders. For further particulars apply to Messrs. W. G. and F. HABERSHON, Architects, 48, Bloomsbury-square, London. Mr. Stickland, Bailiff, on the Estate, will show the plans and sites.

TO BUILDERS and OTHERS.—Hargraue Park Estate, Upper Holloway. The Trustees of the highly eligible FREEHOLD PROPERTY are prepared to grant advantageous terms for SALE or LEASE of BUILDING PLOTS on liberal terms. Houses built on adjacent property contain both town residents and parliamentary F.2 particulars apply to R. J. ROUMIEU, Esq. 10, Lancaster-place, Strand; or to P. A. HANBURY, Esq. 36, Southampton-row, Russell-square.

MANUFACTURING PREMISES, Belvidere road, Lambeth.—TO BE LET on LEASE, with immediate possession, the extensive MANUFACTURING PREMISES known as Jordan's Patent Wood-carving Works; comprising several ranges of light and lofty workshops, a noble show-room, capital offices for clerks and principals, dwelling house, engine and boiler house, smith's shop and large yard.—Apply to Messrs. FULLER and HORSEY, 13, Bullter-street, E.C.

WEST HAM, ESSEX.—TO BE LET, on building lease, for the term of ninety-nine years, either in one lot or in small lots, suitable for the erection of semi-detached villas, a most delightful and eligible piece of LAND, in the high road, from West Ham to Plaistow, containing four and a half acres, or thereabouts, situate within one hundred yards of the new Station, at Plaistow, on the Tilbury line, and about four miles from Fenchurch-street Terminus.—Two-thirds of the money will be advanced, and the new road makers will be constructed by the lessee on easy terms. Full particulars may be obtained, and the plan exhibited, upon application to Mr. R. CARTER, Surveyor, 42, Fleet-street hill, London; and I. Langtree place, Stratford.

WEST HAM, ESSEX.—To Manufacturers and others requiring most eligible Plots of Land large or small.—TO BE LET, on Building Leases for Ninety nine Years, suitable for the erection of factories, mills, builder's premises, &c. with every facility of approach. This land is situated half a mile from Stratford-bridge and Plaistow Stations, thus ensuring economical and rapid communication with the Fenchurch-street and Bishopsgate-street Termini.—For full particulars application to be made to Mr. R. CARTER, Architect, Surveyor, and Land Agent, 42, Fleet-street hill, London, and I. Langtree place, Stratford.

N.B. A compact estate of Seven newly and well built Dwelling Houses, fit for occupation, to be Sold, for the term of ninety-seven years at a low ground-rent of 17l. 10s. Price 1,200l.

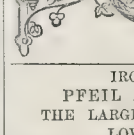
SALE OF BUILDING LAND, TWICKENHAM.

MR. PEISLEY begs to inform the public that the SALE of the FREEHOLD BUILDING LAND, by the Rolls of Station, at Twickenham, advertised to take place on the 29th instant, is POSTPONED until the 26th of AUGUST next, in order that arrangements may be made for the sale of the adjoining land on the same day, and a thoroughfare made through to Grosvenor-road, Upper Mount Bowyer's

Estate Agency Offices, Heunslow, July 24, 1858.

FULBRIDGE WHARF, MALDON, ESSEX. WATERSIDE PREMISES, comprising large Brick-built Granary, Stabling, and Offices, doing a trade in English and Foreign Timber, Deal, &c. TO BE DISPOSED OF. The Proprietor, about to retire to a distance.—Enquire of MESSRS. Maldon.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished.

Architects' designs accurately executed.

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THE LARGEST STOCK AT THE LOWEST PRICE,
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TO BE SOLD, a Bargain, a PLANING MACHINE, quite new, with all the recent Improvements.—Apply at Cuddonian Saw mills, New Wharf-road, Caledonian-road.

NORTHUMBERLAND DOCK, on the TYNE.—To CONTRACTORS of PUBLIC WORKS.—TO BE SOLD by PRIVATE CONTRACT, in consequence of the completion of the above work, a large quantity of PLANT and MATERIAL, of every description, requisite for Contractors, consisting of steam engines, boil, portable and fixed, pumps, gantry cranes and crabs, railway metals, sleepers, waggons, barges and keels, a quantity of iron, bolts, &c. A large quantity of fir timber, various lengths. Also, a number of quarry cranes and tools.—Application to be made at the Works. Contractor's Office, Northumberland Dock, near North Shields.

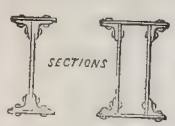
TWO-INCH wrought-iron GAS PIPE, about 9,000 feet, FOR SALE, as a whole or in smaller quantities.—Tenders to be addressed, E. C. P. Office of "The Builder."

TO BE SOLD, by PRIVATE CONTRACT, a five-horse power high-pressure CYLINDRICAL STEAM-BOILER, with hemispherical ends, water-gauge, &c. &c.—For price and particulars apply to H. HOLYOAK, Architect and Surveyor, 21, Castle-street, Luton, Beds.

TO BE SOLD, by TENDER, a capital three-throw ENGINE-PUMP, with three 4-inch brass cylinders, cast-iron plunger frame, and 70 feet of 9-inch wrought iron shafting, couplings, pedestals, and spur wheels, &c. complete for working the same. The same is now standing in the premises at the Leicester Union Workhouse, and may be viewed on application. The expenses of the removal to be borne by the purchaser, and it must be cleared off the premises by the 21st of SEPTEMBER next. Sealed Tenders, endorsed "Tender for Engine Pump," may be sent to my Office, on or before TUESDAY, the 24th of AUGUST next. The Guardians do not bind themselves to accept any Tender.—By order,

E. G. CHAMBERLAIN, Clerk.

Leicester, July 27th, 1858.



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POWIS, JAMES, and CO. beg to call the attention of BUILDERS, CONTRACTORS, and PROPRIETORS of SAW-MILLS to their much-improved ENDLESS BAND SAWING-MACHINES, which are well adapted for every variety of work—CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT of any thickness, with Swinging Tables to CUT TO ANY ANGLE, for HAND or STEAM POWER.
Also, their improved HAND or STEAM-POWER RISING TABLE Circular Saw Bench, with Shifting Fence to cut to any Angle, and extra loose Guide, made expressly for TENON CUTTING. This BENCH only requires to be SEEN to be APPRECIATED.
Also, their PATENT MORTISING, TENONING, and BORING MACHINE, of which upwards of a THOUSAND have been sold in ENGLAND alone, and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE KINDS OF WORK by ONE MACHINE.
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Will burn (according to size and the heat required) from Fifteen to Thirty Hours without attention, and at a cost in fuel, of from 1½d. to 3d. for twenty hours.
Fitted with COOKE'S Patent Self-Acting Regulator and Apparatus.
The Regulators being made on the principle of expansion of Metals by Heat, are both CERTAIN, DURABLE, and SIMPLE in their ACTION.
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WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
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The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron, the structure possessing great strength, and rigidity, and forming a fire proof foundation adapted to receive a finished surface, either of the ordinary flooring boards, tessellated asphalte, tiles, slate, or other material.
Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as forming the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.
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Price of Band Saw Machine, with 40-inch pulleys and heavy framing, 75*l*.

Price of Band Saw Machine, with 24-inch pulleys and light framing, 28*l*.

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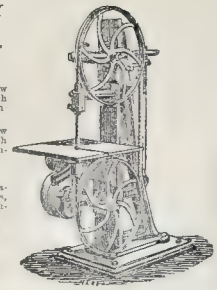

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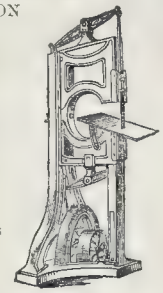
Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l*.

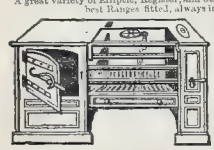
Drawing sent on application



CLARK and HUNTS IRONMONGERY,

STOVE, and METAL WAREHOUSE, 150, Shoreditch

A great variety of Elliptic, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.



Improved Self acting Cottage Ranges, with Large Oven and Boiler,

30	32	34	36 inch
26s	28s	30s	42s

Best self acting Ranges, with Oven and Back Boiler, Bright Wrought Bars

34	36	38	42 inch
54s	56s	58s	66s

Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

Register Stoves, with Solid Bars, per inch, 5d.

Improved New Pattern Circular Cheek Register, with strong Bars and Trivets, 8d. per inch.

Best Solar ditto, with Fire Brick Back, per inch, 10d.

Bright Stoves, with Two Fires 40s to 168s each.

Best Cut Clasp and Rose Nails

14-inch.	12 inch	2-inch	2½ in	3 inch.
16s.	15s 6d.	15s.	14s.	14s per cwt

Best Sheet Cut Floor Brads, 12s. 6d. per cwt

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Cast Rain-water Pipe, { 2 | 2½ | 3 inch
10d. | 1s. | 1s. 3d. per yard.

Cast Gutters, 4 inch, 5d. per yard

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1s. | 1s. 2d. per yard.

2	3	4	5	6
Patent Line.....3s. 6d.	4s.	5s.	7s.	9s. per gross.

6 inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 13s. 6d. per cwt.

Dr Arnott's Ventilators, 4s each.

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BLACK ANNEALED FENCING WIRE, 12s. PER CWT

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IRONMONGERS, &c. &c.—The Trade supplied on the best terms with House Bells, Zinc Tube, and Copper Wire. Gas Pendants, Brackets, and Joints of all descriptions for Gas-fitting, in Brass and Iron; Tin, Composition, Iron, and Brass Tubing; Cornice-poles, Rings, and Lacquered Case-tube for Picture-rods, Desk rails, &c. &c.

Superior Rolled Brass for Engravers, Castings in Pins and Common Brass, Gun Metal, &c. &c.

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HOBBS'S NEW MORTISE LOCK possesses

the following advantages:—The Plates are made of Number "Twelve Gauge" Iron, and being so thick, the pins cannot be loosened by the constant jarring of the door. The security consists in four double-acting levers. The PATENT FRICTIONLESS FOLLOVER prevents the wear of the parts, and gives unusual freedom of motion to the handle.

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STREET-DOOR LATCHES, with Two Keys, 10s. Hobbs's new Mortise Latch for heavy doors. Milner's Fire and Burglar-proof Safes, Strong-room Doors, &c.

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A PRIZE MEDAL for SUPERIOR LOCKS

was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furnitures of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, 4s.; and the New Registered Venetian Ventilator, so much admired, &c 6s 6d. each

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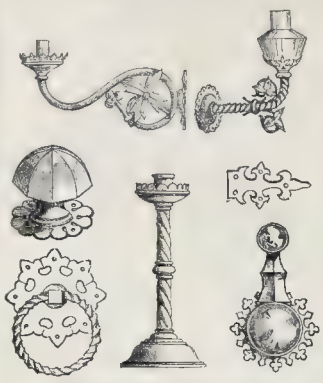

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At wholesale Prices.

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INSTITUTIONS.—The Patentee, who has had twenty-five years' practical experience in Bath work, can with confidence recommend these VALVES, as being superior to any now in use. Specimens may be seen at Mr. MAY'S Manufactory, Dean-street, High Holborn.

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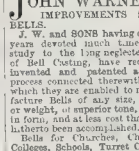

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Manufacturer of Circular Saws *machine-turned*, Mill-Saws, Endless Band, or Ribbon Saws, of tough temper, without joints. Machine Plane, Grooving, Moulding, and Mortising Irons; Saw Files, &c.

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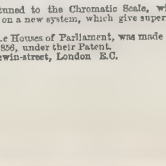

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Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

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W. TEMPLE and CO. beg to inform the public and the trade that they are prepared to supply CORRUGATED SHEET IRON, Galvanized, Painted or Black, of the best quality, at the most reasonable terms. By their new arrangements they can Galvanize heavier coatings than have hitherto ever been attempted. Ship and Wire Work of every description. Estimates given for Houses, Roofs, Stores, &c.

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PLAIN or CORRUGATED, and CURVED, of all Gauges
Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c.
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By direct application to them.

For durability these Rails have never been surpassed. They do not laminate, and wear out several sets of ordinary rails.—Full information, and terms for use of patent right, can be obtained of Messrs. CONNELL and HOPE, 3, Princes-street, Westminster; and of Mr. S. THORNTON, Bradford street, Birmingham, who also receives orders for Mr. MORRIES STIRLING'S Patent Iron and Rails.

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TUBE for GAS; Galvanized ditto, for Water; High-pressure cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
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proved by eminent engineers to be the strongest and most uniform in colour of any manufactured.

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SUPERIOR WHITE SUFFOLK FACINGS, Splays, Dog-Jambs, Coping Bricks, Stable Clinkers, &c.
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Manufacturers only of first class quality, for the home and foreign trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise
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The usual commission allowed to merchants of the trade from the monthly price-lists.
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This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

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ONE HUNDRED MARBLE and STONE CHIMNEY PIECES TO BE SOLD CHEAP
Marble, from 35s. upwards; stone, from 6s. upwards.
Monuments, Tombs, &c. executed on the shortest notice
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The Builder.

VOL. XVI.—No. 808.

A National Museum of Architecture.

REQUESTED to state the particulars of the offer made by the Government to the Committee of the Architectural Museum, referred to by a correspondent in our last (p. 509), we give place, in the first instance, to the following communication from the Treasurer, in reply to the letter in question, which will serve to introduce the subject. Mr. Scott says:

"Whatever may have been the omissions in my report read at the *conversazione* last week, I beg that they may be laid to my individual charge. The committee had nothing to do with my report, nor even heard a word of it till it was publicly read.

The offer which I presume to be alluded to by your correspondent was not distinctly reported, because I saw no occasion to recall any feelings of irritation which may have arisen from its refusal. I have not a copy of that offer, and having been absent when it came before the committee, I am not aware of its exact wording; but its general purport was, if I recollect aright, that if the committee would 'loan' the museum to the Department, they would take upon themselves the salary of the curator—or to that effect.

I do not know what is included in the term 'loan;' but the committee, fearing that it might compromise the independent action of the institution, thought it right to decline it. It may be that 'loaning,' if rightly explained, may be found an unobjectionable thing; but I certainly cannot see how it can be defined as a means of converting a private society into a national institution; nor have I seen any symptom of pride at having refused it, but, on the contrary, much concern at the reply to their memorial not having been such as they felt it due to the independence of the museum to comply with.

We all feel that we are doing a great public work, and desire greatly to unite with those in authority in the carrying of it out; yet cannot do so unless it be on terms which secure the full power of the committee over their collection and their curator, though they would wish to accede to any reasonable conditions in carrying out the joint work. GEO. GILBERT SCOTT, Treasurer.

P.S.—I highly appreciate the aid the Department have given us by depositing very valuable specimens in our gallery. All this was put forward strongly at our meeting.

I agree with you that the *conversazione* would have been better in the museum itself. It would have been so, had not the recent re-arrangements been unfavourable to it."

Thus far Mr. Scott. To put the subject a little more precisely, the income of the Museum has never been sufficient to meet the expenses, liquidate the debt incurred earlier, and make those purchases which the committee saw were necessary. Nor is it so, now that a locality is provided in the Government building at Brompton. The committee, in consequence, not long ago, petitioned for an annual grant of 100*l.* towards the expenses of the Museum management.

In reply to this, if we are rightly informed, the Government, with the advice of Lord Salisbury, said that they could not entertain the petition of the committee in the form in which they had put it, but, on condition of the Architectural Museum committee depositing the collection on loan to the Department of Science and Art, so as to bring it within Government jurisdiction, they would relieve the committee of the Museum of the charge of a keeper, and would do all the work of the Museum, as far as adding to the collection is concerned; properly housing it, and cataloguing it. This would have left all its funds for the *working* of the Museum.

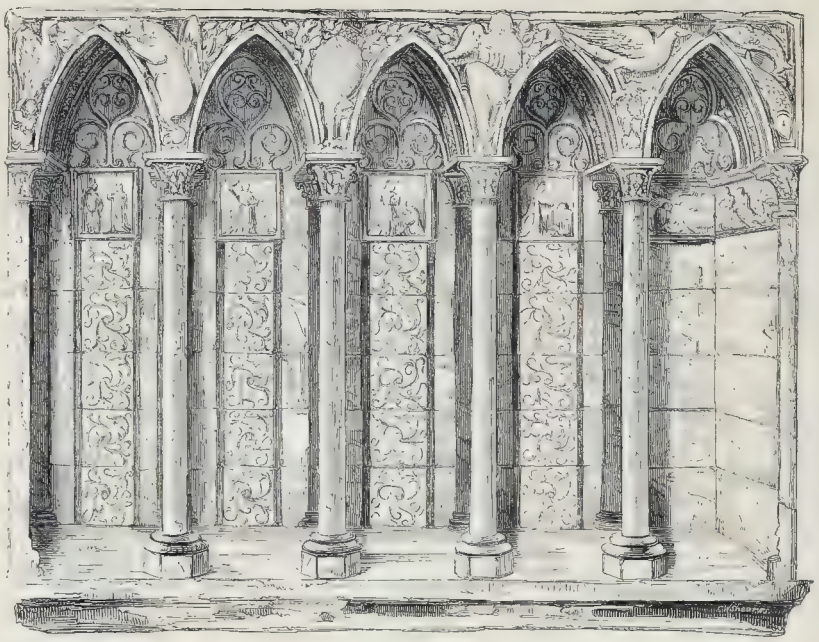
In money this was offering more than was asked for, and we are disposed to think that the Government did not contemplate or desire any interference with the plans of the committee of the Museum as to lectures, prizes, meetings, or the uses to which the collection should be applied for the education of the public, and the advancement of architecture. The present curator, who, although deferring of course to his committee, viewed the reply of the Government as promising a great future for the Museum, says,—"If I understand the Government response right, it is intended only that in order to make of our collection a really *national* collection, and gallery of architectural art, it should, as a public act, be *lent* to the nation in order that the authorities, with whom such matters lie, shall have such control over it, and have such responsibility in it as shall justify and render possible—which it is not now—its being named a national institution, and that it shall also *be capable of receiving public aid as one.* No alteration whatever is involved in this as to the *property* of the Museum collection as vested in trustees, or as to the power of any one of those who have contributed specimens reclaiming—if they desire it—any one or all of the objects they have lent. No difference either in any other way, as I read the letter, is thought of; the lectures, public meetings, prizes to art-workmen, action of the committee and officers of the Museum in the management of its affairs, all remaining just as they now are."

The committee, however, thought differently, and rejected the proposal of the Government; and, moreover, some of the members are said to view it rather in the light of an attempted injury, and to resent it accordingly. We shall be glad to assist in removing this feeling, and in arriving at a right conclusion. Others besides the curator think that the offer of the Government thus to increase the scale and efficiency of the Museum was very fair and liberal, and that the desire of the Government authorities to form, out of a museum now carried on by a *private society*, a *public institution*, should be met by the committee, not by opposition, but welcome. They adduce, as evidence of the advantage it will be to work with the Art Department as the organ of the Government, the large sum which has been expended on the Museum since it has been located under the Government roof, and think that those who have looked forward to a *National Gallery of Architecture* have now the opportunity of founding one in reality, and beyond the possibility of failure.

After carefully considering the question, and with a full appreciation of the value of independence and of the observations touching this point in the Treasurer's Report, printed in our last number, we agree with those who think the Government offer should not have been rejected, and that reconsideration of it is desirable. It was the privilege of the Conductor of this journal to be one of the first who sought, through the late Marquis of Northampton and other channels, to induce the Government to form a National Museum of Architecture. The committee who, when these isolated endeavours failed, associated themselves together and sought to effect for themselves what the Government refused to do, have worked well and successfully, and have brought together a collection illustrative of Mediæval architecture, which, so far as it goes, is unrivalled; but this is but a section of the desired national museum of architecture, not complete even in that section;—it is but a fragment of the desired whole; nor is there ground to hope that the committee, aided only by voluntary subscriptions, will be able within any reasonable time to effect the desired object. When, then, we find the Government at this juncture convinced of the importance of such a collection, and expressing their willingness, although late in the day, to give it a national character, and yet leave its management as an educational instrument in the hands of those who commenced its formation,—of those who, feeling the want, have come forward voluntarily to supply it, who know what are the right specimens to collect, and where those specimens are to be found,—it does seem to us that we are approaching what is desired, and that so far from meeting the offer with hostility, it should be viewed in the most friendly manner, and be discussed with the utmost consideration. There is already in the possession of the Department a considerable number of casts of architectural members and ornament, Greek, Roman, and Renaissance, which, if arranged in sequence, and in connection with the Mediæval collection of the Architectural Museum, would make the whole more useful for public instruction, and might be gradually made to approximate to a satisfactory and satisfying national museum of architecture. It might be desirable that trustees should be appointed, and the list could include the present office-bearers of the Architectural Museum.

We will not say more on the subject now beyond repeating the expression of our hope that no personal or party feelings will be imported into the discussion, but that a clear view will be taken of the offer made by the Government, and such an arrangement effected as may soonest lead to what all anxiously desire. There can be no occasion for irritation, and we sincerely hope that whatever is likely to produce it will be avoided.

To the annexed engraving of a coffin-stone from Penshurst, attributed to the twelfth century, which may serve to emphasize our closing request, we add, on the next page, a sketch of a fine cast in the Museum from the north west doorway of the Cathedral of Notre Dame, Paris, dated from the year 1200 to 1210, and we do so with the view of directing attention to it.



FROM NORTH-WEST DOORWAY OF CATHEDRAL OF NOTRE DAME, PARIS. - THIRTEENTH CENTURY.

DUDLEY GALLERY.

THE collection of paintings and sculpture known as the Dudley Gallery, which is one of the most interesting in the metropolis, has been, for several years past, gratuitously opened to the public by Lord Ward, in the Egyptian Hall, Piccadilly, and a selection from it was contributed to the late exhibition at Manchester. The exhibition is now closed, and the pictures, together with the sculpture, have been removed to his lordship's residence, Dudley House, Park-lane, and, having been carefully selected and cleaned by Mr. Henry Cook, and reframed, have been hung in a new gallery which has been prepared for them.

The new rooms at Dudley House consist of a ball-room and picture-gallery, which form two sides of a quadrangle, on the same level and *en suite* with the other reception-rooms of the mansion. The ball-room is of good proportions, being 50 feet long by 24 feet wide, and 27 feet high. The limited width is compensated in effect by the introduction of a central recess 18 feet by 7 feet on one side, forming an orchestra for thirteen musicians. The interior presents a series of arched panels and fluted pilasters, rising from a surbase or dado, and surmounted by an entablature, from which springs a coved and coffered ceiling, in the corners of which are *alto rilievo* ornaments (emblematical of music).

The picture-gallery, which is entered directly from the ball-room, through a spacious arch, is 82 feet long by 21 feet wide (the limited space afforded by the site), and 33 feet high, having the same architectural lines as the ball-room. Its narrowness suggested the arrangement, which consists in forming it into three rooms or spaces, separated by double columns projecting 4 feet from the side walls, the two ends being square, surmounted by a circular domed light, and the centre space oblong, also similarly domed. Each space has four arches springing from the angles, from which a domed ceiling rises, diapered, and enriched in the spandrils with *alto rilievo* ornaments emblematical of the fine arts, and from which the domed lights spring.

This subdivision prevents the ill appearance of narrowness, and produces the effect of a more capacious gallery. The introduction of the light through the three large domes, which are considerably above the top of the pictures or entablature, affords a diffused light, although ample, which is very effective. Horizontal blinds, worked by machinery, are introduced above the cornice from which the domed lights spring, to subdue the sun glare. The mode of lighting by night is by three gas sun-lights, lowered to the level most suited to the effect of the pictures, the glare being subdued by cut-glass dishes concealing the gas, and the shadow on the ceiling is said to be removed by the introduction of a circle of gas-jets on the top of the conic reflector, but invisible, and within the action of the ventilating tube. The effect in the experimental trial by Messrs. Hancock, Rixon, and Co. was thought satisfactory, presenting externally a rich crystal chandelier.

The floors of these rooms are to be of parquetterie of most elaborate design, executing by Messrs. Laurent, of Paris. The mode adopted for ventilating the building, and the ball-room and gallery in particular, is by warming at a low temperature the air admitted and extracting the vitiated by a hot water extracting shaft by Messrs. Price and Co. of Derby-street.

The gallery is successfully constructed for acoustics, and Lord Ward has given a series of concerts to inaugurate his new rooms.

The surbase columns and pilasters in both rooms are of white Parian marble or scagliola. The whole architectural ornamentation is highly enriched, in the style of Louis XV., and was executed in carton pierre by Messrs. Haber, of Paris.

The walls are painted in a subdued green and gold diapered pattern, extremely harmonious with the pictures and frames. The ceilings, cornices, capitals, &c. in both rooms, are delicately ornamented in white and gold, colours having been purposely avoided, as tending, in the opinion of those concerned, to detract from the effect of the paintings. Messrs. Moxon, of Brook-street, have executed this decoration with their well-known ability under the direction of Mr. Samuel Whitfield Daukes, from whose designs the whole of the works have been carried out.

THE ROYAL ACADEMY.-The exhibition was closed by a *conversazione* on Wednesday evening last, which was very fully attended. The number of visitors during the season was the largest known. The sales, we believe, do not equal in amount those of last year.

THE SEWERAGE QUESTION: VENTILATION AND DISINFECTION.

OUR recent articles will be accepted as establishing the conclusion that great intercepting sewers merely, would not remove evils from which London suffers by the state of the drainage, though the operation of causes might be modified. It is possible that the river would be purified within the metropolitan district: it is not quite evident, as it should be, that the concentrated sewage in the new *cloacæ* and the reservoirs, would not involve evils equal to what exist. However, in any view of the matter, means of removing, or of arresting, at the points of dejection or heads of the system, or in the course of sewers themselves, the noxious exhalations, will be seen to be of primary importance. We have always urged this, and the reasoning is uncontroverted. The like, in effect, was admitted by the Government Referees, -who, with questionable soundness, believing that the "Main Drainage Works," "by ensuring a continuous flow in the sewers," would relieve many districts from "the effects of the alternate compression and dilation of the air in the sewers;" yet attach "great importance to the ventilation of all the sewers," and because it is necessary to provide for the safety of sewermen, as well as to avoid that forcing of the effluvia into the houses, which would be the effect of extending (as means of prevention of effluvia in the streets) trapping, as adopted in the case of the gullies, or of closing the openings now left for ventilation. The Metropolis Local Management Act requires that "Every district board and vestry shall, by providing proper traps or other coverings, or by ventilation, or by such other ways and means as shall be practicable for that purpose, prevent the effluvia of sewers from exhaling through gully-holes, *gratings*, or *other openings*," &c.; whilst it is apparent to the Referees, as to others, that where gullies have been trapped, the untrapped openings in the middle of the street must be at present endured, and "until a better mode of ventilation shall be adopted, although the foul smells they emit are frequently great nuisances." The expression of regret here and elsewhere in the blue book, that the time allotted to the whole inquiry was too short to permit of a full investigation of particular branches of it, was the reason for the complaint which we first made as to the conclusions, and is

the justification for our pressing our present subject on public attention.

Now, what are the proposals for meeting the object, thus shown to be essential to the successful issue of any scheme, which possibly, if attained, would render unnecessary any elaborate works of the character of those just now under the consideration of the Board of Works? We cannot help the conclusion to which we come, if it be one showing that the subject of sewerage is in a comparatively infantine stage. For removal of the gases, no contrivances have yet been suggested that will clearly meet the object, though experiments at whatever cost may have been shown to be advisable. As regards *prevention*, by means chemical chiefly, rather than mechanical, we are met at the outset of any investigation by the defects of our knowledge as to putrefaction; and, if we assume the scientific foundation of processes which have claims to attention, mechanical contrivances are still required to allow of the application. At this juncture, then, it may be well if we look to what has been done towards elucidation of our branch of the subject. We may set some of our readers thinking; and we are by no means disposed to believe that the all-important point we are adverting to is in the hopeless state that might be supposed.

Mr. Haywood's Report to the Commissioners of Sewers of the City of London upon the Ventilation of Sewers (dated March 16, 1858), of which we gave a summary of the contents when issued, and his evidence with that of others on the same subject before the recent Committee of the House of Commons, are deserving of particular attention, —though the Report, as admitted,—

. . . . "seems to be but a recital of difficulties, which combat every suggested improvement, all seemingly insignificant, if not actually contemptible at first sight; but upon investigation found to be, from their peculiarity, formidable, if not practically invincible, and from which the only deduction must be, that there is but little hope of obtaining a thoroughly good uniform system of sewer ventilation at all, and, certainly not without great difficulty, and a large cost."

Far from believing that the "proposed Main Drainage Works," by insuring a continuous flow, would relieve many districts from effects of alternate compression and dilation of air, Mr. Haywood holds that only those large sewers which are now tide-locked would be at all benefited; whilst the mass of the sewers which are but little affected by the tides, would have their ventilation in no way improved by "the intercepting system." But he even questions whether the present tide-locked sewers would be improved to an appreciable extent; because, as he says, if the views referred to were correct,—

. . . . "the quantity of vapour displaced each day could only be equal to the quantity of sewage-water which accumulates between each period of the closing of the outlet valves; and if the expulsion of smell is largely due to that cause, it would appear to follow, that, during all the intervening periods when the valves were opened, a precisely opposite condition would ensue, and the issue of effluvium would, for the time being, be entirely prevented; but such is not the case: the issue of effluvium, although it may possibly be increased in a trifling degree, by the cause alluded to, is at all times the result of the general law which governs the diffusion of gases, which is most actively in operation when the gullies are the most offensive, and not of any cause so purely mechanical as the displacement, bulk for bulk, of different fluids; and I venture the opinion, that it is this law of diffusion which will render the complete prevention of smell from street gullies a matter of almost impossibility, whatever may be the ventilating system adopted, *unless chemistry come to its aid.*"

To the words which we have placed in italics, we would direct special attention.

It is true that we discover in Mr. Haywood's Report an apparent disposition to rate the importance of the exhalations as they are at present, lower than has been the habit of late to consider them, and only to admit their inconvenience as exceptional, and occurring at intervals; but he alludes to "instances" of illness and death as having resulted from exposure to the same emanations in a less concentrated state than when in the sewers, and is content to take the importance of combatting them as admitted. It is not necessary for us to say that sulphuretted-hydrogen gas, when respired in its pure state, is almost instantaneously fatal, or that the gases of decomposition let loose suddenly, have been known to kill like a cannon-ball. But we are told by Dr. Alfred Taylor, in his "Treatise on Poisons," that sulphuretted-hydrogen is found to destroy life even when it is allowed to remain in contact with the skin, though the animal may be breathing wholesome air, and that respiration of an atmosphere only slightly impregnated, may, if long continued, seriously affect an individual, and even cause death. This was clearly shown during the progress of the works at the Thames Tunnel; the gas there sometimes issued in sudden bursts, and was found generally both in the air and the water. By respiring that atmosphere, the strongest men were in a few months reduced to extreme exhaustion, and several died. The symptoms with which they were first affected were giddiness, sickness, and general debility; they became emaciated, and fell into a state of low fever, accompanied by delirium. In one case which Dr. Taylor saw, "the face of the man was pale, the lips of a violet hue, the eyes sunk, with dark *areolas* round them, and the whole muscular system flabby and emaciated." The ventilation, which was difficult in the case of the Tunnel, until a free communication throughout had been established, could more easily be managed in the "intercepting sewers," so as to ensure the safety of workmen, except under extraordinary circumstances, both during the formation of the sewers, and subsequently; but if we mistake not, the importance of preventing exhalation of even largely diluted gas is proved—on the mere balance of probabilities in the case of the proposed large sewage accumulation.

The conclusion to which Mr. Haywood came was, that "if" there was no doubt as to the injury resulting from the present system of required sewer ventilation; "if" the proof was so ample of the danger of respiring air into which the emanations had been diffused, even though no trace of them could be perceived by smell,—that is to say, "if the demand for complete removal were imperative;" and "*if*" *it could be proved that draught would do this*, "then by furnace ventilation alone could the purification be obtained. We gather, however, that there are several modes, mechanical and chemical, which might be used in combination, though dependance could be placed on no *one*. As to the furnace ventilation, the Report shows that experiments should be made to get at "the perfect *data*" wanted to determine expense and the best arrangements; and probably an outlay of one or two thousand pounds or more and a year's time would be requisite to the expectation of results of practical value. These experiments should include trials of the efficacy of the steam-jet more conclusive than those made for the Parliamentary Committee; and inquiry should also be extended regarding what has been done by furnace ventilation at Carlisle, and by other methods, to a greater length than the opportunities perhaps of any individual admit of.

The grand conclusion, however, conveyed to our mind, more forcibly we think than the Report intended, and aided by other evidence which is before us, is that to the chemical means primarily, rather than to the mechanical, must we look for the prevention of evils from the exhalations of sewage,—for the consummation of the efficacy of structural works of whatever sort; whilst with the chemical appliances, elaborate works may be even better omitted, and also the problem of utilization may perchance be found solved.

The point of commercial value we have been hitherto anxious to keep out of view, as we saw it was allowed to complicate the urgent question—the removal of the sewage on any terms, so that that be complete. The agricultural value, however, is important, not merely nationally, but to insure the efficient removal of the sewage, in whatever form, from London, to that which we may be assured is its proper destination, considering the economy of nature,—and its best disinfectant, considering the immediate objects,—namely, the soil. Once get the farmers to allow London sewage to be put on their land in the form and manner in which it may be possible to deliver it to them; we shall next find them anxious for it, and, if required, to fetch it; and payment for it and the commercial value will come at last. A writer in "Household Words" humorously puts this aspect of the matter through the medium of a story about the grass from a certain college lawn, first cropped by the sheep of a farmer at a charge to the authorities, but which it was slowly discovered might be eaten gratuitously, and for which eventually from the same farmer a high price was obtained.

Mr. Haywood winds up his report by setting forth the very point which we wished to advance; for, after having dealt with the question of prevention of effluvium by draught, and with the mechanical difficulties in the way of curing the evil by chemical agents, he plainly admits that—

. . . . "upon the threshold of the whole consideration lies that of the conditions under which effluvium arises from the sewers, and is one of the earliest in importance to have investigated and determined: it is a matter for the professional chemist, whose opinion will alone, upon such a point, be accepted as of value."

And he strongly inclines to the opinion,

. . . . "that the feeble circulation caused by the existing air-shafts, but little if at all, increases the actual quantity of offensive gas which is given off,"—

but that it is evolved according to some known chemical law,—

. . . . "a law so powerful that even were the whole of the street-openings acting as down-cast shafts, nothing but an unattainable velocity would prevent its issue in some degree, so long as those openings existed, and if this be so, the sanitary benefit likely to arise from any of the systems of ventilation alluded to, can be but slight, unless coupled with the application of chemical agents, more sure in their action, less objectionable in their collateral effects, and, from their nature, more capable of being practically adopted, than those which have hitherto been suggested."

Chemical means chiefly, at least, being those which will effect what is wanted in a system of sewerage, the question is,—What are these means, and how are they to be applied? At the outfalls, as in the process now proposed as an auxiliary in London sewerage, they could effect much; but, apart from certain drawbacks and short-comings of the use of lime, application of some process *in* the sewers, would, it may at once be seen, be the only effectual means adapted to the case of the metropolis. We will shortly look at what has been proposed,—based on this view of the sewerage question which we have been referring to.

THE ARCHÆOLOGICAL INSTITUTE AT BATH.

AT the opening meeting on Tuesday, the 20th, inst. the Institute were warmly welcomed by the mayor, the bishop, and the heads of some of the local institutions. Mr. Davis conveyed the party over the Abbey, and made some general remarks upon the structure. Mr. E. A. Freeman, who followed him, made some observations, comparing the architecture of Bath Abbey with that of other churches in Somersetshire. It was essentially a local style of architecture, not confined to parochial churches, but carried out in several churches of great size. The local style of Somersetshire was distinguished from the Perpendicular by the greater purity and beauty of its detail. The mouldings of the Bath Abbey were nearly the same in section as those in the churches in Somersetshire; but, to his mind, they were not very agreeable. From the extreme narrowness of the transepts, he was of opinion that the architect of the Bath Abbey imitated the example of St. Mary Redcliff, at Bristol.

Sir J. Awdry thought there could be no doubt that the original form of the tower must have been what it was now, and that the structure was a close imitation of St. Mary Redcliff.

The members, on leaving the Abbey, proceeded to inspect other buildings in the city. At the evening meeting the Rev. F. Kilvert, read a paper on "Ralph Allen and Prior Park." After the paper a discussion ensued, in the course of which Mr. Tite, M.P. said he did not think that Allen's commercial speculations in the stone quarries were intended as a cover to the great wealth which he derived from the Post-office contract. There was, however, one fact connected with these quarries of a remarkable character, namely, that he was the originator of railways. He (Mr. Tite) had seen plans of a railway which Allen constructed from his quarries down to the river Avon. It was a perfectly parallel line, enclosed within walls, and was worked exactly as some railways are worked at the present day, on an incline, the loaded waggons as they descended drawing up the empty ones. He could scarcely conceive that Allen would originate so important a work as a cover to some other speculation. He did not think that the stone used in the construction of St. Bartholomew's Hospital came from Allen's quarries, because that stone had entirely failed, and had been refaced. During an attempt made to improve the navigation of the Avon, Allen is said to have remarked to one of the workmen, "You may go on with that work as long as you please; but the time will come when roads such as I have made from my quarries will supersede all the roads in England, and all the canals too." He (Mr. Tite) was also reading, the other day, a letter by Southey, written in 1802, in which, on seeing an ordinary tramway in the North, he said, "I cannot see why, some day, this should not supersede the ordinary roads in England."

On Wednesday a paper was read by Dr. Markland, "On an Anglo-Saxon Guild at Bath."

"These guilds, according to Lingard, existed in every populous district, in numerous ramifications; some restricted to the performance of religious duties; all solicitous to provide for the spiritual welfare of the departed brethren. In some places each member paid a sum for the good of the soul of a deceased brother. If one fell sick at a distance, certain of his brethren brought him home, and attended his funeral."

The date of the record read was about A.D. 1080,

or rather 1075, as Queen Matilda, who is mentioned, died in 1077.

"These institutions must have been very popular with our ancestors. Mr. Jeffery has pointed out to me, from 'Rudder's Gloucestershire,' an instance in the church of Dyrham, in this neighbourhood, dated nearly 500 years after the period of which we have been speaking. A guild was founded by Sir Wm. Dennys and Lady Anne his wife, daughter of Maurice Lord Berkeley."

"Whilst we mark, as we must with pleasure, the great and extensive benefits imparted by our County Clubs and Friendly Societies, let us remember that our forefathers, eight or nine centuries ago, had carried into effect the very same good work which we now seek to accomplish with the same spirit, and under the same Christian influence."

Mr. Edwin Guest, D.C.L. then delivered a lecture on "The Boundary Lines which separated the Welsh and English Race in the neighbourhood of Bath during the Seventy-five Years which followed the capture of that City, A.D. 577, with speculations as to the Welsh Princes, who, during that period, were reigning in Somersetshire." Speaking of Devizes, he said, he had never yet seen any account of the meaning of the word which appeared to him to be at all credible. The first mention of this word was to be found in Florence of Worcester, who called it Devitio, which up to the eleventh century was the technical term for a boundary. After that time it was called Device, and Devizes appeared to him to be nothing more than a barbarous Anglo-Saxonism of the term. It was in fact the boundary of the country, one side of which was in the possession of our ancestors, and the other in the possession of the Welsh.

The Rev. F. Kilvert remarked, that additional probability was given to the solution suggested by Dr. Guest by the fact that Devizes had been called, till of late years, *The* Devizes.

In the section of antiquities, Mr. Octavius Morgan, M.P. presided; and the only paper read was by Mr. J. Teries, on "Lansdown," which had been read before the members of the Bath Literary and Philosophical Association. In the course of it he said,—In Gough's "Camden" it is stated, that "the old chapel is on the site of an hospital erected for pilgrims to Glaston." I do not coincide with this statement, because I recollect perfectly well that an old mediæval building, with pointed arched doorways, stood on the right hand side of the entrance, just within the present gateway. This building has been taken down within the last ten years, and I have no hesitation in believing that it was devoted to the purposes of a *hospitium*. I need scarcely inform the audience I have the honour of addressing, that the term hospital did not formerly convey the exact meaning we attach to it in the present day, but was used to signify a place where rest, food, and shelter were provided for short intervals of time for the wayfarers. Their spiritual wants were supplied by the offices of this chapel, which was one of a class that existed in large numbers anterior to the Reformation. Their remains are frequently found near the boundaries of large conventual houses, at the foot of bridges, and at the entrance of towns and cities. They rarely had walled enclosures, as it was not usual for the right of burial to take place within the precincts. Their architectural features were generally plain and simple, of equal breadth throughout, and no distinct chancel. The duties prescribed for these edifices did not include the rites of marriage or baptism, as was sometimes the case, in prairied instances, in assistant chapels belonging to districts at a distance from the Mother Church.

The ruins of these wayside chapels may now be traced along the various roads that led to celebrated shrines, and, with few exceptions, the structures are desolate and dreary, which once afforded consolation to the pious traveller, and rest to the sole of his foot, and a pittance to him if distressed or forlorn.

The dinner, which took place in the afternoon, was presided over by Lord Talbot de Malahide. The Mayor of Bath, Lord Auckland, Mr. Beresford Hope, Mr. Joseph Hunter, and others spoke.

On the 22nd, in the historical section, Mr. Russell read a paper "On the Growth of Bath, with reference to its Buildings and Population," which was illustrated with a collection of maps and plans. Mr. Markland read a paper "On the Domestic Architecture of Bath at Different Periods," and Mr. Lansdown read a paper "On the Houses in Bath formerly inhabited by Men of Eminence."

In the meanwhile a party visited the remains of the ancient abbey at Glastonbury, the Rev. J. L. Petit acting as cicerone.

On the 23rd, Mr. Tite read a paper "On the Antiquities recently discovered at Halicarnassus, now in the British Museum," and on the 24th an excursion was made to Malmesbury, Mr. Freeman being the guide.

PROGRESS OF FOREIGN RAILWAYS.

THE works on the Caen and Cherbourg line are drawing to a close. At present the permanent way is laid, and engines run from one end of the line to the other, distributing ballast and other materials. As to the masonry, it is receiving the last touch in the shape of dressing off and pointing the ashlar: in the earthworks they are busy putting in sidings and sowing the slopes. The stations are very forward.

At Caen, the magnificent wrought-iron bridge over the Orne is entirely terminated. At Carenton, the station and accessories, stationary engine, and sheds are built: the interior arrangements are being carried out. The stations, &c. are in the same forward state at Chef-du-Pont and Ham; and those of Valogne, Sottevast, Conville, and Martinvast will shortly be finished. All the works have been constructed by Mr. Thomas Brassey, under the able direction of Mr. William Locke, principal engineer.

The section from Palisse to Roanne was opened on the 7th inst. without any noisy display whatever: it is 49 kilomètres long, and completes the line from Paris to Lyons by the Bourbon Province, with the exception of the passage over the Loire, for which bridge the piers are 3 mètres out of the water, and the abutments in a forward state.

In Algeria, the Philippeville and Constantine Railway has been approved of by the council-general of the "*Ponts et Chaussées*," who have signed the plans submitted by the company. Other formalities have been got through, so that the works will be shortly commenced.

There is a small railway in active construction in Paris at the present moment; and during the last few days a considerable number of hands have been occupied at the Faubourg St. Antoine and the Bastille. We allude to the line from the Bastille to Varenne-St.-Maur, on which the "*Compagnie de l'Est*" are concentrating their forces, now that the Paris and Mulhouse line is terminated. The portion of this branch, near Paris, is all in embankment, 12 to 15 mètres high, and in the vicinity of the terminus it will be on arches. The bridges over the Boulevard Mazas, and the Rue des Charbonniers and Rue de Moreau will be bold pieces of work.

The works on the St. Dizier and Gray line are sufficiently advanced to enable this branch to be opened for traffic on the 1st of July next.

M. Doyat, inspector-general of railways, visited the Burgundy and Lyons section a few days ago, and approved of its being opened at once for public traffic. The regular service was expected to commence on the 23rd inst.

The Great Luxembourg Railway Company, on the opening of the Namur and Ciney section, made a request to the Government to be allowed to carry on the passenger traffic from the latter town to Gruponi, and the permission was to have been given on the 20th inst. As to the completion of the line from Gruponi to Arlon, and the "inauguration" of the whole line, it is expected that the 1st of August next will be the day of opening for public traffic.

The principal artery of the south of France group of Lines (Chemins de Fer du Midi) may be said to be finished. Open for some time from Bordeaux to Cette, in a few days it will join the Mediterranean group, which reaches Paris through Lyons. With its branch lines it reaches Arcachon, Mont-de-Marsan, and Vernet, 3 kilomètres from Perpignan on the one hand, and is in a forward state from Montauban to Aubin. The junction between this line and that of Orleans is to be effected at Bordeaux by an enormous wrought-iron bridge over the Garonne. This structure, contracted for by the "Compagnie Générale des Matériels de Chemins de Fer," is to be executed according to plans which have lately received Government sanction. The length of the superstructure is 506 mètres, in seven spans: the first and seventh are 56½ mètres in the clear, and the intermediate spans 74½ mètres, the former being constructed of fifteen open panels, cross-braced, and the latter of twenty panels. On the piers and abutments the panels are filled in. As soon as some modifications are completed in the arrangement of the plates, we shall present our readers with a full description.

On the "Chemin de Fer de l'Est" the new section of line from Chalindrey to Gray was received by the Government engineers on the 6th instant, and is to be opened to the public on the 12th.

The last portion of the Saint-Rambert railway, between Pique-Pierre and the Grenoble station, was inspected on the 2nd of June by M. Doyat, inspector-general of railways in France, and he was so satisfied with the execution of the works, that he congratulated M. Tony Fontenay, engineer-in-chief, and M. Clet, the contractor, on their successful termination of the section. The viaduct over the Isere particularly attracted his attention.

The opening of the Lisieux and Pont-l'Evêque railway took place on the 1st instant with great ceremony. The localities were represented by the prefect, sub-prefect, and mayor, and other functionaries, and the *Chemin de Fer de l'Ouest* was represented by a collection of its highest employés. This line leaves Lisieux in a tunnel which passes under the town: it is 800 mètres long, and took two years to get through. Hence towards Pont-l'Evêque it follows the valley of La Touque, one of the richest in Normandy, having only one station, that of Breuil.

The Lyons and Geneva Railway Company have sold to the Swiss company of the Lausanne to Fribourg and the Bernese frontier the section of line from Geneva to Versoix, added in 1855 to the primitive concession of the Lyons and Geneva line. This transaction, authorized by the general assemblies of the two companies, has been lately ratified by the grand council of the canton of Geneva.

The Lausanne and Fribourg company opened this portion on the 21st ult., having its junction with the West Swiss Railway at Coppet. Thus we have Geneva now placed in direct communication with Lausanne and Yverdon, and this important gap has been filled up just as the season is most favourable. This is a step towards the completion of the great line from Lake Léman to Lake Constance, which will be accomplished by the opening (a few years hence) of the Lausanne, Fribourg, and Berne Railway.

The works of the Victor Emmanuel Railway, destined to unite it with the Lyons and Geneva line, are pushed forward with the greatest activity. The several tunnels from "*Les Innocents*," to the banks of the Rhone, opposite Culoz, are nearly finished, and all the piers of the bridge over the Rhone are terminated. The superstructure (of riveted plates), is already commenced, and will be finished in less than six weeks, so the *Gazette de Savoie* says.

On the Madrid and Saragossa Railway, the land has been settled for as far as Guadalaxara, and the remaining portion is in hand. The earthworks are in progress, and the materials for the masonry work are being brought on the ground in large quantities. The Abronigal, Jarama, and Torote bridges continue with the same activity.

Great preparations are being made for the works of the Bilboa and Tudela Railway. In the section between the former town and Arrancudiage, Mr. Vignoles has suppressed twelve bridges, indicated on the original plans, and has shortened the line 3 kilomètres, still leaving the 700 mètre tunnel, and the 125 mètre viaduct, 19 mètres high, to be carried out. There is only one heavy gradient, that of 14 millimètres per mètre (1 in 71 4): the rest are very easy, as are also all the curves. After mounting the above incline, the line is nearly on a level with the narrow gorge between Miravelles and Areta, where it traverses the line of the Avenidas. The commission of roads, canals, and ports of Spain, after a very attentive examination of the definitive project of this first section, have approved of the plans proposed by Mr. Vignoles.

In the month of May last, six kilomètres of earthworks were terminated on the Seville and Cordova line: there remain still 37½ kilomètres to be completed. The works are being pushed forward actively, the number of labourers being 2,131.

The earthworks of the Santander Railway progress favourably. The iron for the bridges, and the pine sleepers, have arrived during the last few days.

THE AMERICAN INSTITUTE OF ARCHITECTS.

AT a meeting held June 1, Mr. C. Babcock offered a few remarks upon the architecture of our times. He began by quoting the saying of an English writer, "Architecture is history in stone"—that is to say, it, more than any other art, marks, and is marked by, the character, habits, knowledge, and resources of a people. The illustrations of this fact are familiar to all who have given the subject of art any study.

We can readily see how imperfect would be our knowledge of any of the great nations of past times, if their buildings were entirely swept away; for in their buildings they stamped their images—in them they gave expression to their thoughts, their habits of life, their resources, mechanical and artistic.

How different is the state of things with us. We practise all styles with equal facility, and no style thoroughly well. We do not know what style is best adapted to any particular purpose, or for general use; although it can hardly be possible but that we have sometimes thought that all styles cannot be equally good, or equally fit for our wants. There is apparently a general ignorance of the laws of art, a confusion of ideas in regard to it, and an uncertainty as to what its true principles are. We are addicted to the most slavish copyism in our ornamentation. For instance, in designing leaf-work, we have never thought of the propriety of studying from nature. We use acanthus leaves, which probably no one of us ever saw growing: we copy from books, and study the designs of famous masters; but we forget that these masters worked upon principles which we ignore. Is there a piece of ornament in any building of New York, which the architect has himself "designed"—which he has studied from nature, or devised upon the principles of nature? Again, the art of architectural sculpture seems to be entirely lost, and it is now doubtful whether it can ever be revived. Of its power and value it is needless to speak.

In the matter of ornamental colouring, too, we are entirely afloat. We feel that it is an element necessary to beauty in our works, and accordingly attempt to use it, but, for the most part, unsuccessfully. We know of no "laws" by which to regulate it, and books give us very little help, for there is not much in them that is adapted to our purposes. In fact, it is a troublesome subject altogether, and we quietly turn it over to "fresco-painters," whereas we ought to be able to "direct" that worthy class of men, instead of looking to them to direct us, as to what is best to be done. Now, on the whole, does it not appear that our profession is in a state of chaos, quite afloat, and at the mercy of every breeze of caprice or gale of prejudice? And does not the architecture of our times bear witness to this? The philosophic historian, whose task it shall be to illustrate the condition of society in our day by its architectural monuments, will certainly give us a very sorry character. The fault, however, is not ours: we were born into this state of things. But still we feel the evils of it, and it is a serious question for us to consider how they can be remedied. We have yet to define to ourselves the true principles of our art—yet to learn the laws that govern it. It will not do to say of disputed points that they are *mere matters of taste*. If two men differ upon a question of art, both may easily be *wrong*, but it is very rarely that both are *right*. And it becomes us to find out the *right* of the many disputed and unsettled questions of the day. One, and perhaps the greatest, object of this Institute, is to discuss such questions, and to set ourselves to thinking about them. In concluding his remarks, Mr. Babcock asked of the meeting, and of the individuals present, what answer they would give if the question were put to them, "What is the best style for a City-hall in New York." He assumed that there must be a *best* style for the purpose, but thought that the gentlemen present would find it difficult to agree upon one. For himself, he should say, decidedly, that the Gothic was to be preferred, as he thought it the most capable of expressing the character of such a building, or any other. (In the subsequent debate he limited his choice to Italian Gothic.)

Mr. Detlef Lienau raised the following objections to the adoption of the Gothic style for that or any other public building. 1st. That the Gothic style was the exponent of a state of society eminently aristocratic and feudal, consequently not fitted for a democracy. 2nd. That the construction of Gothic architecture was based upon materials limited in size, and as they had an abundance of stones of large dimensions, it would be absurd to break them up into smaller stones, to suit any particular style of architecture. And, moreover, that the beauty of Gothic buildings depended so much upon a material of lesser size, that all attempts at using large stone had been unsuccessful. 3rd. The cost of a structure must be unnecessarily enhanced by cutting arches where lintels are sufficient. 4th. That there was an organic defect in Gothic structures, which fact was evident from the repeated and extensive repairs required in the monuments of the Middle Ages, while those of antiquity are hardly ever injured, except when wantonly mutilated by the hands of men.

Mr. Leopold Eidlitz denied that Gothic architecture was the exponent of an aristocratic and feudal state of society. He said it was a popular error that the Middle Ages were times of political oppression. When France, England, Germany, and Spain built their proudest monuments of Gothic art, these countries enjoyed constitutional governments, where the people were represented in their legislatures. There was no doubt that if improvements in architecture are to be accomplished, they cannot be done by a single individual; but by the united efforts of all, starting from a given stand-point; that this stand-point is to be sought in Gothic architecture, is equally illustrated by its excellency of construction and its power of expression.

Mr. C. Vaux had nothing to offer in opposition to Gothic architecture as a basis of a school of art, or as a fit style for public buildings. But he thought the people of America entirely unprepared for it. He insisted that the only way to improve the people was to be found in the establishment of a sort of freemasonry, by gradually connecting all artists, mechanics, amateurs, and private individuals interested in building, with architects.

AMERICAN NEWS.

THE laying of the corner-stone of the monument ordered by the State to be erected at Burlington, viz. over the grave and to the memory of General Elham Allen, has been deferred, owing to the remains having been abstracted, and no tidings of them discovered!

There are in the United States 174 railroads, of which twenty-two are in progress of construction. Fifty-eight only pay dividends from 2 to 7½ per cent. per annum. The longest road is the New York Central, 557 miles; total cost and equipment, 35,000,000 of dollars, and last dividend 8 per cent. The shortest is the Erie and Northeast, twenty miles; cost 750,000 dollars, and dividend 10 per cent. The largest dividend is made by the Galena and Chicago road, and the smallest by the Raleigh and Gaston.

On a railroad surmounting the rugged and stupendous barriers of the Alleghanies, 20,000 feet above tide water, is the largest iron bridge in the country,—650 feet long. The road cost 30,000,000 dollars in its construction, and the engines alone cost 2,000,000.

The first contract of the Transit Railroad, running from the Mississippi through Minnesota, has been awarded to Mr. A. De Graff, and the commencement was duly inaugurated in presence of 2,000 persons. 1,500 men are at work on the line.

Leavenworth City is said to be prosperous, and the value of property enormous. A shed, 18 by 40, finished with cloth ceiling, and put up in four days, brought 1,000 dollars per annum. Brick stores, which would rent elsewhere at 1,000, let for 3,000 dollars here. Lots on business streets, 25 by 110, are selling at 5,000 dollars. Farm lands, contiguous to the town, bring from 50 to 100 dollars per acre. Timber is scarce, and pine lumber from Chicago sells at 50 dollars a M. for good qualities.

The Mammoth Furnishing Warehouse, recently erected by Messrs. Seaman and Wing, on Huron-street, Milwaukee, has 100 feet frontage, 60 feet depth, is six stories in height, built of brick, and has a handsome *façade*, which, with the internal arrangements, were designed by Mr. G. W. Mygatt, architect. The ground floor has five roomy stores, and all the upper lofts are spacious and well lighted. There is room and facility for the employment of 125 workmen. Messrs. Richardson and Grey, of same city, furnace manufacturers, &c. have also built a new store under the architectural superintendence of Mr. Nash.

The new post-office and custom-house approach completion, and new stores are rapidly springing up around it. The number of buildings in progress and under contract in the Fifth Ward, is 65, at an aggregate cost of 88,000 dollars.

An accident occurred at a Masonic celebration at Wellesville, New Jersey, by the falling of a hall floor, which buried upwards of 700 persons in the ruins.

Power's colossal statue of Daniel Webster, recently lost on the voyage to Boston, is now in course of reproduction from the original model. The process will require another twelve months. Mr. Hart's marble memorial of Mr. Clay, for the ladies of Virginia, is in progress, and will be completed during the year. The same artist is occupied on a model for a colossal bronze figure of Mr. Clay, for the city of New Orleans. Mr. Jefferson is also being commemorated in marble for the State of Virginia, by a young sculptor, Mr. Galt. Harvard University has secured another of Power's busts, that of Jared Sparks, late president, nearly ready for delivery. His California, his latest effort in art, is completed, and will be immediately shipped to New York, for Mr. Astor.

PROVINCIAL NEWS.

Great Burstead.—A new Sunday schoolroom has been opened here. The building is of corrugated iron, with interior wood lining to the walls, canvassed and papered: the inside roof is lined with wood, stained and varnished, the roof being supported by iron columns in a triangular form, painted. There is a space of several inches between the inside lining and the iron, which gives a free circulation of air: the floor is of yellow deals, laid with joists on brick. There are four windows in iron casements; a stove, with iron flue; and a belfry. The building was erected by Messrs. Samuel Hemming and Co. of London. The dimensions of the room are 25 feet by 13 feet, and estimated to hold eighty children. The total cost will be about 100*l.*

Bristol.—At a meeting last week of the Bristol Town Council, acting as the Local Board of Health, the following estimates were read and adopted:—26,000*l.* for constructing, making, enlarging, and altering the sewers and drains, and executing works for effectually draining, the St. Philip's sewer district; 15,000*l.* for sewers and drains for the low level sewer district; and 34,000*l.* for draining and sewering the high level sewer district.

Plymouth.—The foundation-stone of the West Hoe baths has been laid by the Mayor of Plymouth. Provision is made for shower, vapour, plunge, douche, and hot and cold baths, and the entrance to each department is distinct. A residence is provided for a manager. The approaches from the main road under the Hoe are by a carriage road, 25 feet wide at the eastern end, and by a flight of steps at the western extremity of the site. Waiting rooms are provided to each department. The material used in the building is the limestone of the neighbourhood, with Portland stone columns and dressings to the principal entrances facing the sea. The remaining portions of the building are of worked limestone, with Portland cement dressings to quoins, &c. The roof is constructed of iron girders, with rough slate forming and Portland cement covering. A balustrade surrounds the building. A sea wall fronts the whole of the site. The total cost of the building will be about 2,400*l.* exclusive of apparatus or bath fittings. The architects are Messrs. Damant and Reid, of Plymouth.

Gloucester.—Mr. Austin, consulting engineer of the General Board of Health, has examined and approved the site of the proposed reservoirs, &c. at Witcomb, and also the plans of the contemplated works of the Local Board of Health for supplying the city with water.

Stourbridge. The rector of Kingswinford, the Rev. W. Girdlestone, has offered 10*l.* for a public drinking fountain in Stourbridge, and it is anticipated that if the rev. gentleman's offer be accepted other public fountains will soon also be provided. It is amazing that no metropolitan has yet thought proper to follow Mr. Melly's excellent example.

Stoke-upon-Trent.—The first stone of the Minton testimonial has been laid by Earl Granville. The ceremonial passed off with *éclat*.

Wolverhampton.—The Guardians of Seisdon Union have selected the plans of Messrs. Billake and Lovatt, architects, for the new workhouse to be erected at Trysull. The amount to be expended, including cost of land, is 3,000*l.*

Eccleshill.—The foundation-stone of a new school in connection with the Methodist Free Church at Eccleshill, has been laid by Mrs. D. Yewdall, of Calverley Grange. The outlay which will be incurred in the school and the enlargement of the old chapel in Town-street, will be about 550*l.*; and 22*l.* of this sum has been already subscribed. The architect is Mr. Simpson, of Leeds.

Scarborough.—The improvements by the Cliff-bridge Company, at Spa-terrace, including the new music saloon, with colonnade, carriage-drive, and extension of the south end of the terrace from 200 to 300 yards, are all nearly completed, at a cost, it is said, of 17,000*l.* The new building, which was opened to the public for the first time on Tuesday before last, was erected from the designs of Sir Joseph Paxton and Mr. George Henry Stokes. The new saloon occupies a position at the south end of the old building, which is approached from the north end by a broad

colonnade, 188 feet long, formed with a corrugated iron roof, supported on ornamental iron columns and brackets. The site of the building involved the extension of the sea wall, by which means an esplanade has been formed. The plan of the building externally is that of a parallelogram, with projections at the angles to break the outlines. The sides towards the sea and the south end are surrounded by a colonnade, which is raised so as to form a terrace, 4 feet above the ground-line of the esplanade: it will be approached by a flight of stone steps, running the entire length of the new and old building and the colonnade at the north end. This colonnade forms a promenade at the gallery level, about 320 feet in length, and is supported on cast-iron columns and ornamental brackets: the columns are hollow, and are made to conduct the water from the roof. The ends of the building, internally, are nearly octagonal, the angles or towers being occupied by the circular stone staircase to the gallery, orchestra, and promenade. The south end of the saloon is occupied by an orchestra for fifty performers. The exterior walls are built of Whitby stone, lined on the inside with brick, and inclosing an area that will accommodate, with the galleries, 2,000 persons when seated. The internal dimensions of the building are 98 feet 6 inches long, 57 feet wide, and 44 feet high. The interior galleries are supported on cast-iron columns, cased with wood and cement. The whole of the walls internally are lined with wood, to assist the sound, and the entire surface of which, together with the ceilings, is to be decorated next year by Mr. Crace. The means of communication between the new saloon and the old building is by a vestibule, lighted by a glass roof, on the ridge-and-furrow principle. The contractor for the foundations was Mr. Shaftoe, of York: the gas-fittings and warming apparatus were executed by Mr. May, of London; and the contractors for the whole of the other works were Messrs. Smith and Cawood, of Scarborough, in connection with Messrs. Kirby, Tindall, Gibson, and Parker, of that place. The whole has been carried out under the superintendence of Mr. Bulmer, the clerk of the works. The carriage-road and the extension of the promenade were designed and carried out under the inspection of Messrs. John Barry and Son, of Scarborough. The area of the promenade has been increased 2,800 superficial yards, which, together with the old promenade and the carriage road, gives a sea-frontage of 1,600 feet in length. The greater portion of the stone for the outer face of the walls was obtained from the cliffs of Stainton Dale. The whole of these works were performed under a contract by Mr. John Shaftoe, of York.

Sunderland.—The iron bridge at Sunderland is undergoing considerable improvements, in the strengthening and widening of the structure, from designs by Mr. R. Stephenson, C.E. The works, according to the *Gateshead Observer*, have made considerable progress, under Mr. Lawton, the contractor. The ironwork is constructed by Messrs. Hawks, Crawshay, and Sons, of Gateshead. The central tubular arch is 5 feet 2 inches in height by 6 feet in breadth, and extends the whole length of the bridge. It is formed of boiler-plate, and is upwards of 66 tons in weight.

Alderney.—The works at the breakwater, during the last nine months, have been stationary, so far as the masonry is in question; but the quarries, engines, waggons, steam-tugs, and barges, have been kept in constant operation, laying in the sea the deposit which is to form the foundation of what remains to be accomplished of the western arm of the breakwater. The quantity thus sunk amounts to from 1,500 to 2,000 tons daily; thereby laying a solid foundation whereon to continue what has already been so successfully carried out. A rumour is prevalent that the eastern arm of this extensive work is shortly to be commenced, and carried on with as much activity as the nature of the undertaking will admit. Some building and paving-work is going on in the town also; and the fort now in course of construction at Mount Touraille, by Messrs. Le Gros and Le Sueur, of Jersey, is the most important in the island. Fifty-four heavy guns will be mounted upon its ramparts, commanding a sweep of both sea and land; and barrack-accommodation will be provided for about six hundred men. The powder-magazine affords sufficient room for all the ammunition that may be required to supply the different forts which extend from the Clonque, at the entrance of the Swinge, to Longy Lines, on the eastern side of the island. The place looks like a small town. The whole is bomb-proof. The arches have consumed *three millions* of bricks in their construction.

RAILWAY MATTERS.

AN improvement has just been made on the North Pennsylvania Railway in the shape of a station indicator, which informs the passenger of the name of the station or place which the train may be approaching. A cylinder, placed in a conspicuous part of each car, contains the names of all the stopping-places on the line of the road. As the train reaches or leaves one station, the breaksman turns out and exposes to view the name of the next.——The traffic returns of railways in the United Kingdom for the week ending July 17, amounted to 487,470*l.*; and for the corresponding week of 1857, to 501,310*l.*; showing a decrease of 13,840*l.* The gross receipts of the eight railways having their termini in the metropolis amounted to 202,777*l.*; and in 1857, to 208,390*l.*; showing a decrease of 5,613*l.* The decrease on the Eastern Counties amounted to 1,540*l.*; on the Great Western, to 410*l.*; on the London and North-western, to 4,488*l.*; on the London and Blackwall, to 57*l.*; on the London and South-western, to 507*l.*; and on the South-eastern, to 267*l.*—total, 7,269*l.* But from this must be deducted 1,112*l.* the increase on the Great Northern, and 544*l.* on the London Brighton and South Coast: leaving the decrease as above, 5,613*l.* The receipts on the other lines in the United Kingdom amounted to 284,693*l.*; and last year to 292,920*l.*; showing a decrease of 8,227*l.*——Mr. Furness, one of the contractors on the Caterham Railway, holding unsatisfied debentures to the amount of 3,000*l.* and finding the tolls insufficient to satisfy his claim, applied to the Master of the Rolls, praying that the lands of the company might be sold, and the proceeds appropriated in payment of encumbrancers. An order was accordingly made for an inquiry as to available means, and the plaintiff was appointed receiver without salary. —— One section of the North-eastern Railway Company's extensive improvements at their goods station in Hull, has just been brought into operation, namely, one fourth part of their new goods warehouse, now in course of erection at the corner of Railway and Wellington streets, together with three of the sixteen hydraulic cranes by which it is to be worked. The warehouse, when completed, will comprise within its four brick walls two acres of ground. Upon this warehouse and its working machinery, together with other improvements adjoining—all within the station, or upon the quay of the dock close by the Company are expending from 60,000*l.* to 80,000*l.* The new warehouse will have a frontage of 270 feet 6 inches towards Railway-street, and 296 feet towards Wellington-street.

FARNHAM CASTLE.

SURREY ARCHÆOLOGICAL SOCIETY.

AT the annual meeting of this society, already briefly mentioned, the Rev. R. N. Milford read a paper on Farnham Castle, where the members were assembled. From this it appeared that the castle was built in the year 1136, in the reign of Stephen, by his brother, Henry de Blois, Bishop of Winchester, and Abbot of Glastonbury. Stephen, to strengthen himself against Matilda, granted license to all men to build either castle, town, or other hold for defence of themselves upon their own grounds. In consequence, the number of fortifications were largely increased, 1,200 having been said to have been built in Stephen's reign; and Henry de Blois built at the same time castles on his manors of Farnham, Taunton, Waltham, and Downton. It did not appear to have been fortified till the year 1142. In the summer of 1216, it was taken on the same day as Guildford Castle, by Louis the Dauphin, of France, who had landed at Sandwich, in Kent. From Farnham he passed on to Winchester, where the city was yielded to him, with all the old castles and holds thereabouts. It was restored early in the following year, but was again in the hands of the enemy until the year 1218, when Louis being suddenly called to France to prevent the sentence of execution proceeding against him, was deserted by the insurgent barons, who, to show their zeal in the cause, had lately joined and besieged and took Marlborough, Farnham, Winchester, Chichester, and other castles, which they overthrew and ravaged that they might not be taken and kept again by the enemy. Peter Rock, de la Roche, was at this time bishop (a man of great ability) during the reign of John, appointed Chief Justice of England, and Protector during the minority of Henry III. The writer went on to trace the possession of the castle to Richard Fox, the founder of Corpus College, Oxford. It is supposed the keep of the castle was restored or rebuilt by him, as the initials of his name, "R. F." are still to be seen on the chimney-pieces which remain there: he died at Farnham Castle, 1528. The next mention of interest was found in the Privy Purse of Henry VIII. August, 1531, in which some entries had been made, which the rev. speaker enumerated. Farnham Castle was several times visited by Queen Elizabeth, during her summer progresses. Farnham Castle was a place of much importance in the civil wars, and for some time the head-quarters of the Parliamentary army. Between the years 1642 and 1648, the newspapers of that day were full of the doings at and near Farnham Castle. From that time until now, the defences, the town, and the moat have been used for more peaceable purposes. Bishop Duppa at length succeeded to the see, and Farnham Castle as he found it was described as most dilapidated and ruinous, although not quite demolished. During the time of his holding office (1660-62) he laid out 2,400*l.* making the castle partially habitable. In alluding to the walks, gardens, and shrubs, &c. he stated that the cedars under which they were then assembled were not more than seventy-seven years old. He next stated the alterations that had taken place in the castle by the present Lord Bishop of Winchester. The entrance gateway was altered (1831) so as to harmonize with the massive brick tower. In the front of the castle there was but very little lawn, the east having been shut in by a shrubbery, as well as the north. The whole of the moat was used as a kitchen garden. The whole of the keep was a wilderness of fruit trees: the *débris* had fallen on all sides into the moat, so as in a great measure to fill it up. This the bishop excavated so as to open the original shape of the keep: he also made the present beautiful entrance on to that place from the lawn: he laid out the keep as a garden, and covered the whole moat with greensward.

The meeting was a very successful one, and appears to have satisfied all who were present.

THE PROPOSED CONVALESCENT HOSPITAL.

SIR,—Many thanks for last week's leader on Hospital Construction, replete with principles which well deserve the study of the architect. You will have noticed that the late Mr. Morley has left 100,000*l.* for the erection of "a Convalescent Hospital," in connection with St. George's—that is, I presume, a salubrious hospital, whither patients, who don't go on well in St. George's, may be removed. In plain terms, a new general hospital, outside of London, is to be built; and I do trust that you will keep your eye on the plans, lest we should incur the disgrace of rearing another Netley: the stock of human stupidity in the world is very great, and a piece of bungling is quite likely to be perpetuated with reference to this projected hospital, should the thing get into the hands of some worthy routinest of the old school.

M. D.

PARIS ARCHITECTURE.

HOUSE OF A SCULPTOR, RUE FONTAINE, ST. GEORGE.

IT was a happy notion of M. Luchesne to dedicate to the memory of the master whose works had initiated him into the mysteries of his art the house he has erected. Happy the artist who is able to fulfil so pleasant a duty; more happy if, like M. Luchesne, he can himself execute with grace and taste this homage of his gratitude. The little house we illustrate, dedicated to Jean Goujon, is adorned with his portrait in relief, and presents a happy agreement between the plan and elevation. The ground-floor is appropriated to the *atelier*, well lighted, and has two entrances, one for the private part of the house, and terminating in the staircase, at foot of which is the kitchen, and the other leading to the library and to the *atelier*.

On the one pair, the principal floor, the *salon* is indicated externally by a balcony canopied by bringing out the upper cornice on two caryatides. Further, M. Luchesne has covered the face of the building with a crowd of arabesques and fancies skilfully executed.

The details below show —

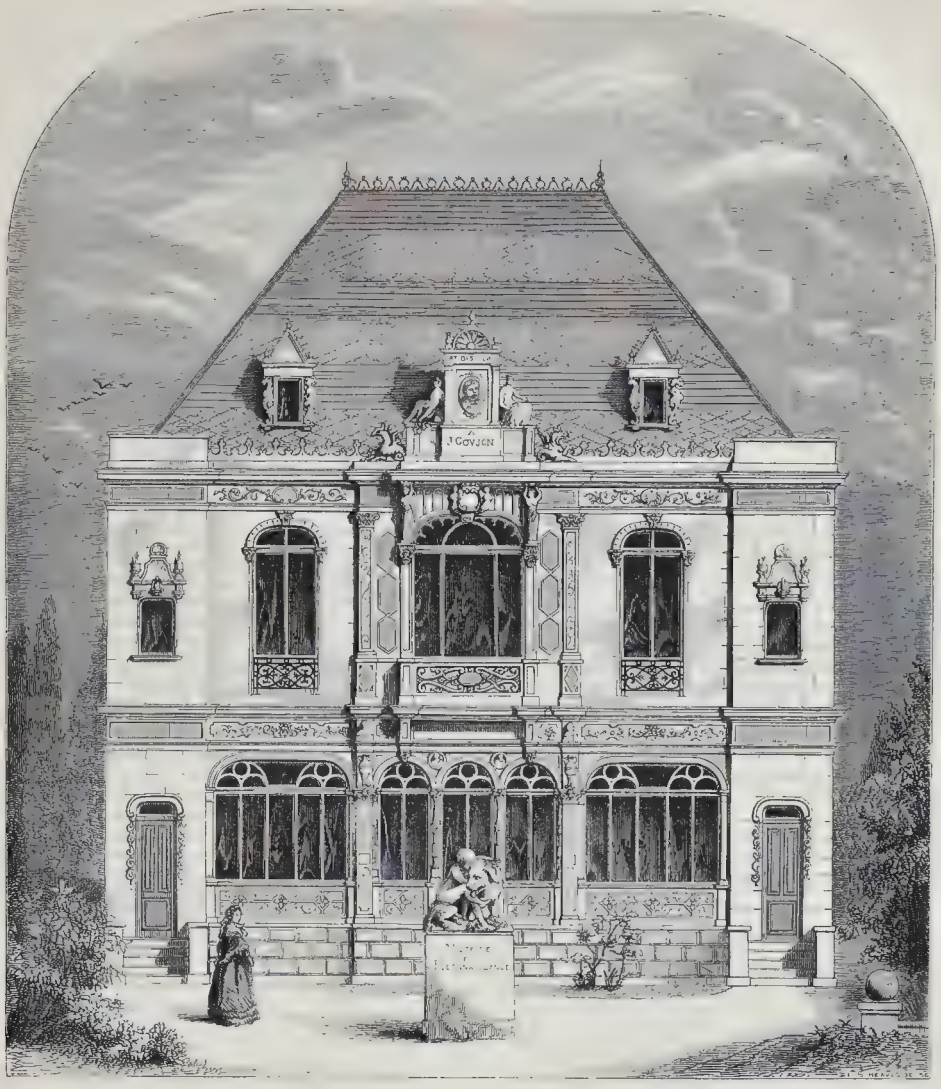
A. The capital of the pilasters on the ground-floor.

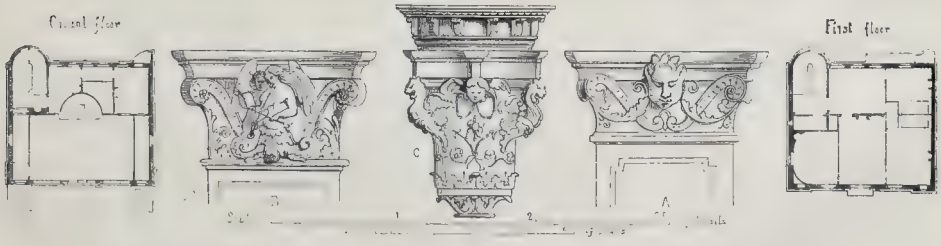
B. Capital of the pilasters on the first-floor.

C. Corbel beneath the caryatides.

M. Reynaud was the architect.

METROPOLIS LOCAL MANAGEMENT ACT AMENDMENT BILL.—This Bill, with some amendments, has passed the Commons, and is now going through the House of Lords.





PARIS ARCHITECTURE: HOUSE OF A SCULPTOR, RUE FONTAINE, ST. GEORGE.

M. REYNAUD, ARCHITECT.

EXAMINATION ON ELEMENTARY ARCHITECTURE.

DEPARTMENT OF SCIENCE AND ART.

SIR,—The following is a list of the questions in the examination paper on "Elementary Architecture" for July, 1858, at the Department of Science and Art. Those for the February examination were of the same class. Is it not requiring too much from the candidates for masterships of Schools of Art? In the various schools throughout the kingdom, there are students connected with all the different manufactures and trades; then why not also make it necessary for a master to understand carpet weaving, coach building, smiths' work, plumbing, piano-forte making, &c.? The gradual increase of subjects for a candidate to understand before being appointed, puts one in mind of John Parry's famous song of "Wanted a Governess." Your opinion on the matter will be considered valuable. X. V.

LIST OF QUESTIONS.

"1. Draw a vertical section through one outside wall of a house with a basement and four stories, showing the different offsets.

2. Draw a plan of part of a floor, showing a pair of trimming joists with a trimmer and trimmer arch between them, supporting a hearth-stone, and give a vertical section through trimmer and trimmer arch.

3. Explain by sketches what different methods are employed for preventing sound from passing through a floor.

4. Draw a plan and section of the lower six steps of a stone stair, 4 feet 6 inches wide, with 7-inch risers and 12 inch treads, dotting in the plan the parts concealed by being built into the wall.

5. Draw a horizontal section through a stack of chimneys, in brickwork, containing eight flues in one row, showing the dimensions of each flue, and the thickness of brickwork around them

Two hours allowed for this paper."

COMPETITIONS.

Selly Oak, near Birmingham.—We are informed that the committee appointed to carry out the erection of the above church have selected the plans of Mr. Edward Holmes, of Birmingham, which were submitted in limited competition. Mr. Ledsam has offered land for church, schools, parsonage, and cemetery, and subscriptions on account have been published by the bishop of the diocese and the rector and landowners of the parish of Northfield.

Taff Vale Railway.—The design of Mr. H. J. Paull has been selected for the intended building for the Taff Vale Railway,—a complete set of offices for all the departments. There were ten competitors, mostly Bristol architects. The design selected is said to be in the spirit of the Mediæval structures, with Italian details. The materials will be Newbridge stone, or brick walls, and white brick facings, with dressings of Bath stone. Colour is to be introduced into the elevations. All the buildings will be constructed fire-proof. The proposed cost, if the design be carried out fully, is about 4,000*l.*, and the works are to be executed forthwith under the superintendence of the architect.

THE BRIGHTON BUILDING CASE.

THE case of Benjamin Stone, of Brighton, prosecuted by the trustees of the Conservative Land Society, for obtaining, as alleged, by false pretences, the sum of 30*l.* from the London and County Bank, with intent to defraud the Society, has been already reported in the *Builder*. The defendant had agreed with the Society for obtaining a lease of certain houses on the Round-hill Park estate at Brighton, which were then in a skeleton state. The terms were, that from time to time the Society was to advance him money upon the faith that the work had attained a certain completion, and the surveyor was to give a certificate as to whether it had arrived at that point, and it was the defendant's duty to have brought the work to a point of perfection before he applied at all to the surveyor. It appeared also that he was under a forfeit of the whole of his interest unless the work was done within a particular period. It was the duty of the defendant to put in proper pipes into all the houses, and he had no right to obtain any sum of money until the pipes had been properly putin. But he falsely represented that the works were completed, and obtained the advance. It was subsequently discovered that a quantity of piping had not been put in at all. At the assizes, on the 15th instant, when the case was called on, Mr. Serjeant Ballantine, for the prosecution, in addressing the jury, observed that this case appeared to be one of great impropriety on the part of the defendant, but it was not of that character which they could find to be an actual criminal offence. The course pursued by the defendant was a gross violation of the agreement, but, considering that it was alleged to be the defendant's intention to finish the houses in a proper manner, and that the declaration he made was possibly to avoid the forfeiture consequent on the work not being done within a certain time, with the permission of his lordship he would withdraw the prosecution. He repeated that it was a case of great impropriety; and while he did not put it before the jury as a conclusive criminal intention, it was one calculated to injure the prosecutors very materially indeed. It was one of a highly improper character, and must never be attempted by any other person.

Mr. Serjt Parry, for the defendant, said, though he believed that in the course taken by his learned friend he had only anticipated what must have been the result had the case gone to trial, still he was sensible that in making the representation Stone had acted with great impropriety, though eventually he would have completed the work. Since that time defendant had become insolvent, and the houses had been handed over to the trustees of the Conservative Land Society, who are a highly respectable body of gentlemen, and carry on a work of great usefulness. He (the learned Serjeant) should be sorry to be supposed to have any wish to relieve the defendant from the responsibility of making the statement he did, but he did not believe that it was made under the representation of fraud.

Mr. Justice Willes hoped that no one would suppose, from the result of this case, that if a builder who is to be paid upon the completion of a house, for the purpose of obtaining the value of the completed house should conceal such a defect as the want of pipes, as in this case, or other such-like defect, with the intention of defrauding his employer, he would fail to come within the law of false pretences, and subject himself to the punishment for such offence. But there was another matter which might be imputed to the defendant in this case, and that was to prevent the forfeiture of the penalties. However one might admit that the prosecution had, as it was admitted, good grounds to institute this prosecution, one was bound equally, in laying down the law, to say that they could not sustain it, and they were right to withdraw from the prosecution. The defendant was then formally acquitted.

We understand that Serjt Ballantine has suggested a simple alteration in the specification for the future, which will sufficiently protect the society from such "improprieties" as Mr. Stone appears to have committed.

BOARD OF HEALTH ACTIONS.

GRAY *v.* ELLIOTT, CLERK TO THE BOARD.

A DISPUTE having arisen between Messrs. Gray and Son, the contractors, for the execution of certain works appertaining to the Marcl. Local Board of Health and that body, an action was commenced by the contractors, and the same was referred to Mr. R. R. Rowe, surveyor, who had been the engineer of the works, for arbitration. At the hearing at the Red Lion Hotel, Cambridge, Mr. Couch and Mr. Kayler appeared for the plaintiffs, and Mr. Keene for the defendants, who were represented by Mr. T. T. Elliott, their clerk.

The contract was for the execution of works, and amounted to 944*l.*, of which 850*l.* had been paid. The plaintiffs then sued for the remaining 270*l.* on which the defendants paid into court 246*l.* 10*s.*, a few days before the reference, leaving a claim of 27*l.* 10*s.* as first inscribed. The plaintiffs then obtained a judge's order for leave to put in an additional claim for 30*l.* for works forgotten to be charged. As a set-off to the 27*l.* 10*s.* it was alleged on the part of the defendants, that the plaintiffs had incurred certain penalties for the non-completion of the works within the period specified in the contract; to which the plaintiffs replied that it was owing to the neglect, indecision, and delays of the Board that the works were not finished when required by the contract.

To the 30*l.* Mr. Keene pleaded never indebted; to the 27*l.* 10*s.* special set-off for penalties; to the 342*l.* 10*s.* money paid into court.

Mr. Couch said, as regarded the 27*l.* 10*s.* the only question was, whether they could charge the plaintiffs with penalties equal to that amount, that sum being admitted to be due, but penalties being pleaded as a set-off. When the plaintiffs found that the Board were going to treat them in this unhandsome manner, they considered whether there were not further claims upon the Board which they had not charged, and found that they were entitled to 30*l.* which they now claimed under the powers given them in the judge's order.

Mr. Gray, being sworn, proved the items for which no charge was originally made: the omission, he believed, was an oversight on his part. In cross-examination, he said his reason for putting forward the additional claim was because of the attempt on the part of the Board to impose penalties. Knew of no delay in the execution of the works: there was none on his part. If there was any, it was the fault of the defendants. The works were not commenced at the time specified, the 31st of March, on account of the bricks not having been delivered. The works, however, would have been completed by the 29th of June, as specified in the contract, had it not been for the alteration and extension of the works, and the delay created by the Board, who never gave an order to enter on the Bell-metal-lane sewer until the 11th of September. A letter to this effect was produced.

A consultation here ensued as to the terms of an amicable settlement, at the termination of which

Mr. Keene said he confessed that it was his opinion that the Board had acted under a mistake in regard to the deductions for penalties. But when the claim for 30*l.* was put in, they considered it advisable that the matter should be inquired into. They were now willing to admit the plaintiffs' claim to the 27*l.* 10*s.* on their consenting to forego the claim to the 30*l.* the defendants paying the costs of the action and arbitration.

Mr. Couch consented, and the case was thus concluded.

AN INSTITUTION FOR ISLINGTON.

AT a preliminary meeting held recently at Barnsbury-Hall, Islington, for the purpose of founding a literary and scientific institution, it was stated by Mr. Macarthur, that it was proposed to give lectures on literary and scientific subjects by popular lecturers. Essays on questions which admit of debate would be delivered by members of the institute, and discussed. Other evenings would be devoted to readings and recitations, also by members of the institute. Each reading or recitation to be open to criticism.

The marked improvement plainly perceptible in some members of similar institutions, such as the St. Bartholomew's Institution in Gray's-inn-road, testifies to the value of such a mode of development. Another means of improving time was offered by the library; and the infant society has, by the kindness of a member, the germ of a library to commence with. This consists of 200 volumes, 50 of which are presented to the institution on a condition easily fulfilled, and 150 taken from the same gentleman's own book shelves, and placed on those belonging to the institution as a loan, until the liberality of other members should enable him to reclaim them.

In order to make the institution as useful as possible to those of moderate means, quarterly tickets are to be issued at the following rate:—For men, 2s. 6d.; ladies, 1s. 6d.; young persons (under sixteen), 1s.

DRAINAGE CORRESPONDENCE.

SIR,—Much has been said of late years, and much more is now being said and written, upon the supposed value of the sewage of London. Many attempts have been made to prove its value, and many are the suggestions made to render it available; yet, for all these attempts, I am inclined to hold to the belief which I have had for the last fifteen years, that there is nothing to be got out of the sewage of London sufficiently beneficial for agricultural purposes, and remunerative for the trouble. Writers on this subject in general, either are not aware, or forget, that the sewage of London is not in a corresponding state to that which renders the sewage of Paris, Edinburgh, and some few other towns, so valuable for agricultural purposes. It is in fact so diluted by the water-supply of the metropolis, and by the rain-water, that its strength as a manure is brought down to something very little better than common water. It is true, it is water in a very dirty state; but that any material put into it to cause a deposit will be productive of a large quantity of valuable manure I have long held to be a wild idea. To get any good result out of London sewage, we should have either to return to the cesspool system, managed under a proper supervision, or there must be two lines of drains, one for rain and sink water, and the other for the contents of the closet; the former to flow into the Thames, and the latter into reservoirs, in which it can be deodorized, taken out, and transported into the country. All such plans as putting barges at the mouths of the sewers, will not pay, at present. I am also very doubtful whether those learned men who write about the value of the deposit of the sewers really mean what they state, because there is a large amount of deposit at present at Hungerford and that neighbourhood, which nicely requires to be carted away; for I am sure we shall only be too glad to get rid of it, and not charge anything for it. Now this is real good solid stuff, the results of the sewage, and so heavy that it will not wash away by the action of the steamers. Yet no one appears as yet to have thought how easily a fortune might be made by carting this stuff into the country. If any one says this mud is not of value, I shall feel additionally confident that nothing will be got out of the sewer water.

With respect to "main lines" of drainage, I am adverse to one great sewer taking off all that London can supply. I consider that there should be at least two lines north of the Thames, and one on the south side. We seem to be afraid of building such things, even with all the years that we have been trying to purify the city; yet, if you will turn to last year's volume, p. 377, there is mention made of a Mr. Brooks, at Manchester, who, to render some few acres of his own more valuable, appears to think nothing of spending 30,000*l.* in building a sewer four miles long; not a 9 or 12 inch affair, but one 3 feet wide and 5 feet 6 inches high, inside, and at 30 feet deep, too. These intercepting lines should not cut into the existing sewers, but be so connected with them that the sewage could be turned on or off as occasions required, for flushing the old lines or other purposes. I sincerely hope that "reservoirs of sewage" will not be carried out, at least until it has been *very satisfactorily proved* that manure is to be obtained from the London sewage at a remunerative return. We should not create a nuisance, if nothing but a nuisance is to be the result of it. The suggestion of carrying out the mouths of the sewers into the middle of the river would be, I consider, mere waste of money. ARCH SEWER.

A Temporary Expedient.—I remember about seven years ago reading of the deodorizing properties of charcoal manufactured from peat, and it was further stated that the bogs of Ireland were invaluable as an unfailing source of a material so important to the public health. It was calculated, as well as I recollect, that peat charcoal would cost 8*l.* a ton, while the charcoal in general use cost 20*l.* Could not the experiment at least be made of the alleged excellence of this charcoal in relation to the sewage of the Thames? Could not

caissons be placed at the mouths of the principal sewers, with certain arrangements in them permitting the water to pass through the charcoal, and intercepting the heavy matter, to be removed at every low tide, in vessels prepared also with peat charcoal, for the purposes of manure? Employment is often required for our poorer classes shut up in workhouses or pining in beggary in the streets: why not afford these involuntary idlers an opportunity of obtaining their livelihood? But let them be paid a proper rate of wages for such trying labour. Again, under certain restrictions, and attended with certain promises of recompense, could not able-bodied criminals be employed in the emptying of such caissons. Many are kept in prison for two and three years for thefts, and during this period they must be fed and clothed: a choice might be made by the warders of those who were most trustworthy, and who, after labouring for a certain fixed period, if they performed their work well, should be entitled to a sum of money, and should also receive a certificate of character. Many who by the pressure of want have been led to commit petty larcenies, might thus be restored to liberty and to comparative usefulness. I trust I shall not be considered presumptuous in offering these few hints, for I remember that it was through the energy of a woman the British army was said to have been saved from much suffering; and the suggestion I here make will not it is trusted be despised because it proceeds from one of the same sex.

S. E. M.

CHARING-CROSS AND THE PARKS.

SIR,—Berkeley House has been obtained (as you stated in your last number) for the Board of Works. However convenient this arrangement may be to the members of our Urban Parliament, it is not my purpose now to congratulate them on their improved position, but simply to address a few words through you to the public, on what may prove a very serious infringement on the comforts of hundreds of persons of all classes; for by the plan contemplated by the *two* Boards of Works (although evidently without the concurrence of the Treasury), it is purposed to give up 5 feet of the Berkeley House premises, and to take down the house of Messrs. Lyon, Barnes, and Ellis, and thus get a roadway 40 feet wide between the Park and Trafalgar-square.

But, unfortunately, this is the very direction in which a roadway should not be made, for much I fear that this will involve the construction of a public carriage-road through the only quiet place now left in the Park; and across the Parade, even, to Storey's-gate, causing annoyance and danger to pedestrians and poor children, whose only safe place for recreation and exercise is on this side of the Park.

The proper communication from Charing-cross to the Park, should be made by pulling down two houses in Spring-gardens, now in Government possession, and the shoemaker's shop at the corner opposite Drummond's. The astonished eye would then perceive an uninterrupted view from the centre of the Strand direct to Buckingham-palace a most beautiful vista perfectly unmatched by any other in the metropolis, and decidedly one of the finest improvements yet to be carried out.

WILLIAM BARDWELL.

ARCHITECTURAL CHARGES.

SIR,—Through the medium of your valuable journal, I would ask for information upon the following points, viz.:—

1st. Is it the ordinary practice of architects, in carrying out a design, to charge the person or persons by whom they are employed a per-centage of five per cent. upon the amount of the contract, and also two, or two and a half, additional, upon the contractors, upon the like amount, such additional per-centage being specified for in the specifications,—thus making a charge upon the amount of seven or seven and a half per cent?

2ndly. Is it customary, upon any extra work that may have been executed beyond the first contract, to charge the proprietor or proprietors five per cent. and also the contractors five per cent.—thus making ten per cent. upon the amount of the extra work?

3rdly. Having made these full per centages upon the employers and the employed, is it usual to charge the contractors sundry sums additional; such as, for instance, 7*l.* 10*s.* for "calculating quantities," &c.?

Having been recently connected with a building contracted for to be completed according to the architect's design for 1,500*l.* and finding that the architectural expenses upon the building (including the sum of about 90*l.* for the architect's clerk acting as clerk of the works) amount to the sum of about 270*l.* I am desirous of knowing whether the per-centages charged are those usually allowed in the profession, and, if so, whether the sum of 180*l.* for architectural expenses alone is a fair proportion upon a contract amounting in the first instance to 1,500*l.* and, with extras, about 90*l.* more.

A MEMBER OF THE COMMITTEE.

*** We should not be disposed to endorse such a bill; although explanation might modify the opinion.

THE NELSON COLUMN.

A SUM having been voted by the House for the completion of the Nelson column, and mention having been made of four colossal lions, in bronze, at the base, may it not be a question whether so excellent a material for sculpture as bronze might not be more advantageously employed towards four colossal recumbent statues emblematic of Nelson's four principal achievements of St. Vincent, Copenhagen, the Nile, and Trafalgar?

The British lion (alone), is an accepted emblem; but when there were four, the question might arise, "Are they all to be understood as British lions?" and close by, too, is what will be a fifth, viz. that on Northumberland House. I do not pretend to say that there will be any real objection to so many lions near at hand, but it appears to me open to consideration whether the four statues above mentioned would not afford more subject for art.

EPSILON.

BUILDERS' BENEVOLENT INSTITUTION.

YESTERDAY afternoon (Thursday) the eleventh annual meeting of the supporters of this valuable Institution was held at the London Tavern, Bishopsgate-street, for the purpose of receiving the Report for the past year, and for the election of treasurer, directors, and auditors for the year ensuing. Mr. Alderman W. A. Rose, president, occupied the chair.

The secretary read the Report, of which the following is an abstract:—

"The funds of the Institution have been maintained without diminution.

The subscriptions and donations received during the past year amount to 1,185*l.* 15*s.* and the stock purchased is 300*l.* three per cent. Consols, 250*l.* to the Relief Fund, and 50*l.* to the Building Fund, making the total sum now invested, 6,100*l.* (stock), 4,100*l.* for the Relief Fund, and 2,000*l.* for the Building Fund.

The tenth annual ball, held in February last, produced a profit of 93*l.* 10*s.* and new subscriptions and donations, to the amount of 19*l.* 19*s.* making a total of 112*l.* 19*s.*

An election of pensioners took place in May last, when two were elected, one male and one female, from fourteen candidates; and during the past year six pensioners have died, and one withdrawn from the funds of the Institution by his relatives in March last.

The income of the Institution is now about equal to its expenditure, and considering the nature of the struggle all commercial classes have had to maintain during many past years, a fair inference may be deduced that the Builders' Benevolent Institution has realised to its founders and supporters all the benefits they might reasonably have expected; and your directors conclude, by earnestly imploring the continued aid of the wealthy and benevolent to enable them to respond to the appeal of all—those aged and poverty-stricken applicants who are now seeking their aid and assistance.

The directors have the pleasure of announcing that Thomas Piper, jun. esq. has consented to become the President for the ensuing year."

The Chairman having moved the reception of the Report, it was unanimously carried.

The election of the officers for the ensuing year was then completed, with a unanimous vote of thanks to the gentlemen respectively who had kindly consented to undertake the duties for another year.

Mr. T. Cozens then rose, in conformity with a notice of motion respecting the admission of a candidate for the benefits of the institution under sixty-five years of age (total incapacity only excepted), according to their existing rule, and said that he thought that all purposes would be answered by the exercise of a discretionary power, supposing the candidate to be only sixty instead of the extended age of sixty-five, as in two or three instances he knew persons at the age of sixty well capable of doing something for a living. He thought that under such circumstances, that portion of the rule should be expunged. He (Mr. Cozens) then moved that the former part of Rule 3, sec. 1, should be altered, and read thus,—"That persons are eligible to be admitted as candidates for the benefits of this institution from sixty to sixty-five years of age."

Mr. Stirling having seconded the motion, it was unanimously carried.

Other resolutions having been carried,

Mr. G. Bird (treasurer), in accepting the office for another year, regretted exceedingly the small attendance of supporters at the annual meeting of a charitable institution. He thought they could not be so flourishing as they ought, or, if they were, he felt that there must be something wrong, and was surprised at not seeing some of what might be considered the large builders present on this occasion. He hoped to have seen more supporters of the influential building trade present at this meeting.

Mr. Cozens thought that the leading men of the trade were satisfied with the ability and conduct of the institution. However, as their worthy Treasurer desired full meetings, he could only say, "it was a long lane that had no turnings," and while they continued to do good to their fellow-creatures with their humble means, he had no doubt others would come forward and assist them in the undertaking.

Mr. Harris (the secretary) said he must remind the Treasurer and the meeting what they had done during the past year, which he did not believe any other charitable institution had done,—viz. maintained their funds without any diminution; and he was glad to say that this year was not worse than the last.

The Chairman said the Treasurer must forgive him for saying that he thought it unwise to despond. He (the chairman) believed that this remark of the Treasurer was only a whip to rally them. He thought there were no grounds for complaint, and that the present condition of the institution was a subject of congratulation.

Mr. G. Bird said he should take the advice of the worthy alderman, and would not grumble any more.

On the motion of Mr. Richardson, a vote of thanks was accorded to the chairman, and the meeting separated.

Books Received.

VARIORUM.

"REPORT of the Works executed by the Hon the Commissioners of Sewers of the City of London during the Year 1857. By William Heywood, C.E. Engineer and Surveyor to the Commissioners." No year passes over without many important improvements having been effected by the active engineer to the City Sewers Commission. Since 1851, improvements in the widening of streets and thoroughfares, by setting back houses and otherwise, have been effected in twenty different localities and fourteen different wards. Amongst the last reported on as completed are the rounding of the corner of Mincing-lane; setting back a portion of the churchyard in Bread-street-hill; the improvement at Tudor-street, costing 4,000*l.*; setting back the premises of Messrs. Jones, Lloyd, and Co. in Lothbury; pulling down and setting back houses in Threadneedle-street; destroying dilapidated houses in Maidenhead-court, Aldersgate-street; and purchasing and pulling down houses in Chancery-lane. Other and similar improvements are in progress or in contemplation. The works for carrying the Paul's-wharf sewer outlet into the bed of the river are nearly completed; and of the eleven main outlets now remaining within the City, three discharge by culverts below the low-water line. The approximate number of premises known to be drained at the end of 1856 was 12,396, and the total number drained in 1857 was 184. The number of premises set down as still undrained is about 3,420, but even these are believed to be mostly drained in some way. The number of dangerous structures reported on by the surveyor in 1856 was 286, and in 1857, 448. The number of slaughter-houses within the city (now 74) is on the decrease.——"Metropolis Local Management Act,—Vestry of St. Leonard's, Shoreditch,—Quarterly Report (Ninth) of the Medical Officer of Health,"—Dr. R. Barnes, Senior Physician to the *Dreadnought* Hospital; contains observations on the state of the Thames; its influence upon public health; on the safe disposal of the London sewage; on the purification of the Thames; and a suggestion of a plan for mitigating the noxious emanations from sewer-gratings or gullies. As our readers know, we are not precisely at one with Dr. Barnes in all his opinions; but his report is a suggestive one, and contains remarks pretty much in harmony with some of those to be found in the *Builder*. He thinks it "almost a matter of certainty that the connection of the existing sewers with gigantic main-drains of small inclination, and in which, consequently, the sewage in summer time could have but a sluggish flow, would be attended by an enormous aggravation of the nuisance we now experience from the reflux of sewage gases in a concentrated form into our streets and houses: it may well be that the remedy would prove more than the disease." Dr. Barnes's project for clearing the

river of its sewage comprises, as a first necessity, a compensation for impoverished freshet in seasons when the emergency is felt; and this he proposes to effect by storing up in reservoirs or by locks above Battersea-bridge the fresh water in times of abundance, to be used for flushing the river at low water, the sectional area and incline of the banks being regulated throughout the London course of the river. The ornamental waters in Hyde-park, St. James's, Regent's, and Victoria parks, he thinks, might be turned also to account; and so, we may add, might that of Battersea-park, which might be enlarged for the purpose. The suggestion as to sewer gratings is to the effect that noxious odours might be prevented from emanation into the streets by passing them through charcoal at these gratings.——In "The Fourth Annual Report of the London Diocesan Church Building Society and Metropolis Churches Fund, instituted to promote the building, enlargement, and endowment of churches," &c. complaint is made that the year has been in some respects of an unsatisfactory character as far as church extension in the diocese of London is concerned: there has been but one church consecrated in the diocese from May 1st, 1857, to April 30th, 1858, the Society's financial year. A comparatively small number of applications for aid, too, have lately been made to the committee. Commercial embarrassments and Indian missions and relief fund are suggested as the cause.——"On the Construction and Principle of a Wave Screen, designed for the Formation of Harbours of Refuge. By E. K. Calver, R.N. Admiralty Surveyor" (Weale, High Holborn). This pamphlet treats of,—1st. Waves and the powers exerted by them. 2nd. Breakwaters — long slope, upright wall, and floating. 3rd. Refuge harbours, with some of the leading principles of construction and projection, to be kept in view in harbour-designing. 4th. The wave screen and its effects. The proposed wave screen is composed not of a solid wall, but of a series of pine logs, scuppernailed, pine cased in green heart, or wrought-iron cylinders, with ties, flanges, link bars, stay chains, and shoes of wrought iron. So long as the British coast is the disgrace of the British nation, and the grave of the British seaman, every attempt to increase its security merits respectful consideration, and the pamphlet under notice seems to be especially deserving of such consideration.——"A Proposed New Method of Constructing Cannon; with Remarks on the objections raised by the Government Officials. By T. A. Blakely, Captain H. P. Royal Artillery, M.R.I.A." &c. (Ridgway, Piccadilly.) The author of this tract hopes to aid in hastening an amelioration in the mode of conducting business in Woolwich Arsenal; and from General Peel's assurance, given in the House of Commons last week, to the effect that he hoped for the future they would get on swimmingly under a new system of management, it would appear to be admitted that something has been radically wrong in its past management, especially as regards cannon founding, which was said to be not only most costly, but utterly futile.——A second edition is before us of Mr. John Reid's "Young Surveyor's Preceptor; a clear and comprehensive Analysis of the Art of Architectural Measuration, with Instructions for making out Bills of Quantities, &c." (Thompson, Strand). It is an exceedingly useful work.——The current number of the *Quarterly* contains an interesting article on *iron bridges*, and an article on the *British Museum*, advocating the removal of the natural history department, to form an independent institution.——The *Edinburgh* treats, amongst other things, of *the health of the army*.

Miscellanea.

A ROYAL FOUNTAIN FOR WARWICK.—In commemoration of the Queen's visit, the mayor has suggested the erection of an ornamental fountain in the Market-square. The proposition has been well received, and the surveyor has been directed to prepare designs and estimates for the intended memorial, and submit the same to the next meeting of the local Board of Health. The cost is estimated at 150*l.* and is to be defrayed by voluntary subscriptions.

THE SARCOPHAGUS OF THE LATE DUKE OF WELLINGTON.—Next week the chapel in St. Paul's Cathedral in which the sarcophagus is placed will be open from eleven o'clock to six (except the hour of afternoon service, from three to four), on Mondays, Thursdays, and Saturdays, free; on other days on the payment of 6d. to defray the expense of lights and attendants.

SANITARY IMPROVEMENT OF ST. MARY'S, ISLINGTON.—The following report shows that the health officers of this important metropolitan district have been at work:—1. Number of houses in respect of which the medical officer of health for Islington has recommended the issue of orders for sanitary improvement since January 1st, 1856 (including 100 slaughter-houses, and 30 premises in which noxious trades were carried on), 4,073. 2. Number of houses in which sanitary improvements have been obtained by the vestry, including 100 slaughter-houses, 32 premises on which noxious trades are carried on, and 1,675 on which other nuisances existed, 5,648. 3. Number of houses in which sanitary improvements have been ordered and afterwards certified by the officer of the vestry to have been satisfactorily executed, including 100 slaughter-houses, 3,132. 4. Number of other nuisances injurious to health similarly certified to have been remedied, including 32 premises in which noxious trades were carried on, 1,705.

SOUTH WALES INSTITUTE OF ENGINEERS.—The second annual meeting of members was held at Merthyr Tydvil on Wednesday in last week, and largely attended. The president (Mr. Menelaus) congratulated the meeting on the increased number of efficient members. The secretary and treasurer, in submitting their accounts to the meeting, showed the financial position of the institute to be in a satisfactory state. Mr. Ebenezer Rogers was unanimously elected as president for the ensuing year. A paper, "On the Manufacture and Use of Coke in the Blast Furnace," was given by Mr. J. Cox, and one by Mr. Charles C. Alger, of Newburgh, New York, United States, "On a Blast Furnace having an Elliptical Horizontal Section."

BREACH OF CONTRACT. — LIVERSIDGE AND OTHERS *v.* MITCHELL.—The plaintiffs are timber merchants, at Selby, and in February, of last year, they purchased a quantity of oak and ash timber of Sir W. Milner, bart. of Nun Appleton. The defendant, who is also a timber merchant, resides at Sheffield, and he bought of the plaintiffs a portion of this timber, growing in the New Close Wood and in the hedge-rows, the price being Is. 4d. per foot. The contract was that defendant should pay for one-half of the timber in October, 1857, and for the remaining half in February last. The defendant took 226 tons of the timber, which he alleged was the whole quantity that he had purchased, and he refused to take any more. The plaintiffs contended that he had violated the contract, as the timber disposed of was to the extent of 316 tons, and their claim was 239*l.* odd. The case had proceeded a short time, when it was agreed to take a verdict for the plaintiffs.—*Yorkshire Assizes—Nisi Prius.*

ASSOCIATION FOR THE PROMOTION OF THE FINE ARTS, EDINBURGH.—At the annual general meeting of the Royal Association for the Promotion of the Fine Arts in Scotland, the Dean of Faculty in the chair, the report showed that the amount of subscriptions for the year was 5,444*l.* which is larger than that of last year by 40*l.* The committee had purchased at a cost of 2,680*l.* (being 271*l.* beyond the amount so expended last year) seventy-one works of art, recently exhibited by the Royal Scottish Academy—namely, fifty-nine paintings, eleven water-colour drawings, and one piece of sculpture. The committee are given to understand that the paintings which have been acquired by the Association for the National Gallery, at a cost of 1,575*l.* and which are at present provisionally placed in the galleries of the Royal Institution, will speedily be permanently deposited in the National Gallery under the provisions of the royal charter of incorporation, and the rules of the association, approved by the Board of Trade.

MIDLAND COUNTIES ARCHÆOLOGICAL SOCIETY AND BIRMINGHAM ARCHITECTURAL SOCIETY.—A joint meeting of the above societies will take place at Birmingham on the 2nd and 3rd of August next. The programme includes an Archæological and Architectural Exhibition, a *conversazione*, and an archæological excursion to Coleshill, Castle Bromwich, and Maxtoke Castle and Priory.

CROWLAND.—The walls of the Abbey still continue (says the report of the committee of the Lincoln Diocesan Architectural Society) in that dangerous condition to which we have before alluded more than once. The question has been entertained of repairing this venerable fabric, and of rescuing its noble remains from the imminent danger to which they are at present exposed; but it is hoped that should such a praiseworthy design be carried out none but an architect of first-rate ability may be consulted as to the treatment he may consider necessary to ensure its preservation.

THE WELLINGTON MONUMENT IN ST. PAUL'S. On the 27th inst. Mr. Stuart Wortley moved, in the House of Commons, a resolution to the effect that it is expedient a limited number of distinguished artists should be further employed by the Government, to furnish models with special reference to the new site and altered circumstances, and that these artists should be remunerated for their labour and their models purchased for the country. After a long discussion, however, the resolution was negatived, thus confirming the resolution of the Government to employ Mr. Stephens, assisted by Mr. Marshall, if we rightly understand the arrangement, and the architect of the Dean and Chapter. A model is to be first erected on the site.

MASTER BUILDERS OF BIRMINGHAM. — The National Association of Master Builders held its second annual meeting at the Hen and Chickens Hotel, Birmingham, on the 14th instant, which was attended by most of the influential builders of the neighbourhood, as well as many delegates from towns where the association has a branch. The local *Journal* says, "Matters of importance in connection with the trade were brought before the meeting and fully discussed, and from the spirit and unanimity of the society, it bids fair to take a most prominent position in the building trade. Having been established little more than twelve months, it numbers upwards of 250 members. It is intended to establish branches at all the important towns, as it is deemed important to make the association as national as possible. The next annual meeting will be held at Nottingham in July next."

INCREASE OF THE METROPOLIS.—At a meeting of the magistrates of Middlesex, held lately, the committee appointed to prepare "a basis, or standard, for a fair and equal county-rate," having prepared and finally corrected a basis or standard accordingly, and approved the same, after hearing objections against it on behalf of several parishes and places in the county, submitted it to the court in a special report. The effect will be, that the county-rate will be assessed upon a rental increased from 8,427,336*l.* to 9,166,827*l.* being an increase of 739,491*l.* The assessment of the Holborn division contains the parishes of St. Giles and St. George, St. Andrew and St. George Saffron-hill, &c.; the Rolls, St. Pancras (which of itself is increased 94,256*l.*); Marylebone decreased 22,551*l.*; Paddington, St. Clement's Danes, Mary-le-Strand, and the Savoy, increased 222,434*l.*; Westminster is increased 105,616*l.*; Finsbury, 153,365*l.*; the Tower division, 156,770*l.*; Kensington, 124,365*l.*; Edmonton hundred, 8,994*l.*; Gore, 2,945*l.*; Elthorne, 786*l.*; Spelthorn, 10,692*l.*; Isleworth, 5,725*l.*; extra parochial places, 4,318*l.* These items give a gross increase of 796,410*l.* from which a decrease of 56,919*l.* has to be deducted, leaving a net increase of 739,491*l.*

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—DISTRICT SURVEYORS.—It will be recommended by the Board of Examiners under Metropolitan Building Act, 1855, that certificates of competency be granted to Mr. Robert Kerr, of Coleman-street, City; and to Mr. Alfred Williams, of Pelham-street, Brompton. At the quarterly meeting of the Board, applicants are required to attend one hour previously to the Board meeting, during which time they prepare sketches for inspection—a proceeding which much facilitates the progress of the subsequent examination, and economizes the time of all engaged in the business.

THE DIGGING MACHINE.—Mr. Rickett's machine is a locomotive engine, with flue-and-tube boiler, propelling itself slowly by means of pinions, spur-wheels, and cog-teeth on the inside of one of the broad-bellied travelling wheels; and, at the same time, driving, with pitch-chains from pinions on each end of the engine crank-shaft, a revolving digger hung transversely behind. This digger consists of a strong shaft of 2¼ inches square and about 7 feet long, on which are slided a number of curved arms, carrying prongs or spade-shaped cutters or shares of chilled cast-iron. The circle described by the cutters is 2 feet in diameter, and the digger rotates in the opposite direction to that of the carriage-wheels, so that the blades enter the hard ground from below, carry over the loosened soil, and deposit the pieces mostly in an inverted position. The digger makes, say, about sixty revolutions per minute, while the engine advances 45 feet in the same time; and, as there are two cutters in one ring (at opposite diameters), each cutter takes 1¼ inches "bite." Three men are required to work the machine. Going 5 inches and sometimes 7 inches or 8 inches deep, it made very fair work, according to the *Mark-lane Express*, good enough to show that on light land in dry weather it might be a valuable tool.

SERIOUS ACCIDENT IN THE SOUTHAMPTON DOCKS.—An accident has occurred which will retard the progress of the works for enlarging and walling in on all sides the inner dock. This dock was built in 1851, at a cost of 18,000*l.* being walled in on two sides only; but recently it was determined to complete it by building a wall on the two remaining sides, at the same time enlarging its area and deepening it. The work of enlargement has been in operation during the last three or four months. The dock has been pumped dry about a couple of months. Last week, however, it was observed that the ground behind the north wall began to sink, and the floor of the dock to rise, carrying the wall forward for a length of 200 to 300 feet, the extreme point being 4 feet 6 inches beyond the straight line. The wall has sunk with the movement 2 feet 6 inches, but the ground behind the wall has sunk 10 feet, the floor of the dock being raised from 4 to 5 feet. The appearance presented somewhat resembles that produced by an earthquake, the surface of the ground being cracked and broken in all directions, and the quay-paving and tramway having changed their position from a level to a series of inclined planes. Under ordinary circumstances any dock-wall would have been completely upset, but the great width of the base of this wall (24 feet) has as yet saved it from such a catastrophe. Mr. A. Giles, the engineer, has ordered the floor of the dock to be weighted by soil removed from behind the wall, so as to prevent further movement, until he has had time to ascertain the cause of the accident.

WORCESTER ARCHITECTURAL SOCIETY. — The second meeting for this season of this society, took place last week at Stratford-on-Avon. They visited the churches, Shakspeare's house, &c. The restoration of this house is nearly completed. The surrounding buildings have been taken down, and means adopted to isolate and render the edifice secure, but objection was taken by some of the members to the manner in which the restoration has been carried out. After a collation at the hotel, the party proceeded to Welcombe. A conversazione was held in the evening at the Townhall, at which were exhibited drawings, photographs, MSS. relics of Shakspeare, including the desk at which it is said he sat when at school, the registers of his baptism and burial, a sword-stick once belonging to John O'Coombe, corporation gear, a Bible from which the lesson was read to Charles I. on the morning of his execution, &c. Mr. Hopkins, of Worcester, made some suggestions on the proposed restoration of the parish church, and Mr. Bloxam and others also spoke on the subject. On Thursday the members and friends visited Charlecote, Hampton Lucy, Wasperton, Wellesbourne, and Lower Eatington-park.

INDUSTRIAL MUSEUM AT EDINBURGH.—The Industrial Museum about to be erected at Edinburgh is to contain a large part of the Natural History collections of the University, as well as the whole of those belonging to the Industrial Museum, besides lecture-rooms, laboratories, &c. The estimated cost is 40,000*l.* of which the 10,000*l.* voted by Parliament last week is the first instalment.

BLIND BUILDERS. — SIR: We are inclined to think that some of the builders termed "Blind," are not so blind as they are reported to be; here is a case in point. The enclosure cast-iron railing of the parish church of All Saints, Poplar, which is about six feet high, upon a bold granite plinth, having to be raised for a length of 100 feet and four ramps formed, the following tenders were received:—

Holl.....	£100
Salt.....	95
Jarvis.....	55
Hack and Son	42

The method adopted by Messrs. Hack and Son is this: instead of taking the whole to pieces, and removing and refixing the plinth stones, they first cut the rails where required, then fix two horizontal planks, the length of two bays, under the top rail; from these they suspend the plinth stones by means of rods attached to iron bars placed transversely under them; they then place a chain round the two bays well tightened up, to prevent any part from moving. Over the railing they strut up a piece of timber longitudinally, through which pass screws which are secured to the upper planks. By these screws they raise the whole bodily to the height required, underpin and reset; this is repeated for every two bays, and not a joint or joggle has moved. We take the liberty of bringing this under your notice to show that some supposed "blind builders" are wide awake: doubtless there are some exceptions.

JNO. MORRIS AND SON.

THE FREE LIBRARY AND SCHOOL OF ART BUILDING AT NORWICH.—At a meeting of the Norwich corporation last week, the report of the Free Library, having been printed and circulated, was taken as read. In the report the committee state that, notwithstanding the large sum of money expended on the building, they regret to find the additional sum recommended by Mr. Brodrick is still necessary to be laid out, in order to render the floors sufficiently secure for the purposes for which they were originally intended. An explanation is appended by the city surveyor to the report, to account for the outlay of 1,521*l.* 16s. 2d. above the contemplated expenditure. Three items are given, viz., 1,109*l.* 11s. 10d. "extra cost of building;" 138*l.* 3s. 4d. "cost of arbitration and Mr. Brodrick's survey;" and 274*l.* still necessary in consequence of that survey." "The first item, says Mr. Benest, "arises in part from various alterations made throughout the building in the course of the works, and such as any architect who had the superintendence of a building would feel called upon to make: the greater number of these arose from the plans not being sufficiently complete when the contract for the building was taken. Another portion of this first item arises from the expensive roof that it was found necessary to adopt, so as to provide the height of room and nature of light required by the school of art." The actual cost of the building is shown to be (including site and conveyance) 7,428*l.* 5s. There have been received from seven rates of one halfpenny in the pound 1,750*l.*: a loan of 6,000*l.* at 5 per cent. still remains due to the Norwich Union Life Office. There is a balance of 1,303*l.* 3s. 6d. in hand. The report, after some discussion, was adopted by the council, and the committee authorised to carry out Mr. Brodrick's plan for additional girders, and for pugging the floor over the Literary Institution reading-room.

UNSAFE BUILDINGS AT DEPTFORD CONDEMNED. —Several summonses having been issued at the instance of the commissioners of police, the respective owners of houses in Deptford, situate in Flagon-buildings, Griffin-street, New-street, and Hughes's-fields, appeared before Mr. Traill, at the Greenwich Police Court, on the 25th inst. to answer a complaint charging them with allowing houses to be occupied while in a dangerous condition, in violation of the Act of Parliament. Mr. F. H. Caiger, surveyor, attended on the part of the police, and described the first-named buildings, though not old, to be dangerous structures, inasmuch as the front walls were not let into the party-walls. The others were in a dilapidated condition. The magistrate accordingly ordered all the houses to be pulled down, and notice to quit to be immediately given to the occupiers, allowing a period from seven to twenty-eight days for the complete fulfilment of his order. The house in Hughes's-fields was at one time occupied by Peter the Great.

MORRELL'S DISINFECTING FLUID.—This very useful disinfecting and deodorizing fluid is a highly concentrated solution of chloride of zinc, which is certainly preferable to chloride of lime in all cases where the corrosive power or strong odour of the latter are objectionable, as in sick rooms, or indeed in dwellings generally. The chloride of zinc is comparatively inoffensive as regards smell or corrosive vapours, and has been proved at the same time to act as a powerful disinfectant. It appears to be now in very general use in her Majesty's service, and in passenger and merchant ships, &c.

WORCESTER ASSOCIATION FOR BUILDING LABOURING CLASS DWELLINGS.—The fourth anniversary meeting of the shareholders in this Association has been held at Worcester; Col. Rushout, M.P. in the chair. The Report, which was read and adopted, stated that the Society's property now consists of:—

	Annual rental if filled.		
28 Model Dwellings, covering the area above alluded to.....	£171	7	8
5 Tenements in Little Fish-street ...	35	2	0
2 Tenements in Copenhagen-street...	7	3	0
1 Public-house called Glo'ster Arms	24	10	0
1 Messuage, late Plume of Feathers	15	12	0
37	252	14	8

The cost is put down at 8,000*l.* The governors state that they are satisfied that model dwellings, with all the necessary appliances which their name indicates, cannot be built in the heart of a city, like Worcester, where land is so valuable, to be financially successful; but that the remodelling of old houses will pay five or six per cent. to the purchasers. Those shareholders, however, continues the report, who looked for results of a higher character have not been disappointed.

DECISION AFFECTING COTTAGE OWNERS.—The Liverpool stipendiary, Mr. Mansfield, has, after a week's consideration, given judgment in a case, in which a Mr. Henry Rooke, the owner of a considerable amount of cottage property, is defendant, and the Liverpool Corporation plaintiffs. Mr. Rooke seeks exemption from the payment of water-rate on certain weekly rentals of 4s. 6d. (though willing to pay the rate upon 5s.), on the ground that though he receives 4s. 6d. the odd sixpence is absorbed by other rate charges, and that 4s. is the net weekly value of the property to him. Mr. Mansfield decided in favour of the claim of the Corporation, observing that the Act recognised the "annual value" as the basis of assessment, and that the actual rent paid must be considered as the only true and legal measure of such annual value. This decision, by consent, was applied to other cases. The plaintiff's solicitor announced his intention of appealing against the decision to a superior court.

FATAL ACCIDENT BY FALL OF PART OF A HOUSE. At Brighton, last week, according to the local *Herald*, some workmen in the employ of Mr. Winn, builder, were putting in a new brest-summer at a house in Cavendish-street. The walls were shored up. A bricklayer was sitting on the window of the first floor, knocking away the flint work. A large aperture had been made in the wall beneath him. Suddenly a large piece of wall fell, and slewing round, knocked him to the ground, a distance of 8 or 9 feet. In less than a minute another piece fell on him. He only lived a few hours. It was shown at the inquest that the wall was composed of chalk and boulders, and that deceased was deceived in supposing that he should find a quoin on the next house, for which he was cutting, but which did not exist. He could not tell that, as the wall was plastered over. The jury found a verdict of "accidental death."

CHINA GOODS AT LIMOGES.—In the course of the proceedings at the recent Industrial Art Exhibition at Limoges, Prince Napoleon visited the porcelain factory of M. Alluaud, who is regarded as the founder of that branch in Limoges. This gentleman's grandfather was an Expert du Roi, who was originally sent there to set up a Royal factory; but the attempt to produce china goods commercially was not successful until the present Alluaud, who is now upwards of eighty years of age, set up his factory, in 1816. He is the chief proprietor of the celebrated sources of Kaolin at St. Yrieix, which were discovered in 1779, by M. Darnet, and is regarded by his fellow-townsmen as one to whom the population of Limoges and surrounding districts are indebted for the major part of their prosperity. He has 400 workmen in his employ here, besides others employed at St. Yrieix. In placing the insignia of Officer of the Legion of Honour upon the breast of M. Alluaud, the Prince said,—"You have united to a distinguished mind the nobility of labour, and your life has been passed in doing good. You have served your country: you have honoured and enriched it. For these reasons you were entitled long since to the insignia of honour which I have now the happiness to hand you in the name of the Emperor."

GAS.—A gas company is being formed to supply Uckfield with gas.——Notwithstanding the cheapness of coal in Wrexham, says the *Shrewsbury Chronicle*, the charge for gas is excessive, and much grumbling in respect of it has been indulged in for several years past. With the best coal selling at 8*s.* 4*d.* per ton, and close to the town, 6*s.* 8*d.* per 1,000 cubic feet is considered a rather high figure to pay, which indeed cannot be denied. The town council has now taken the matter up, and on Monday last a special committee was held to take the matter into consideration. Returns were received from Mold, Holywell, and other towns similarly circumstanced with Wrexham, giving the price paid for coal, and the charge for gas.——The quantity of gas indicated at the Elgin Company's station meter for 1849, was 2,200,000 feet; since which time the consumption has been going on steadily increasing, and is now 6,035,400 per annum.

COST OF METROPOLITAN BOARD OF WORKS.—Sir: Amongst the various sewers' rates charged upon me for this year is one of one penny in the pound for the expenses of the Metropolitan Board of Works. Now, I believe the assessed rental of London is about fourteen millions, which, at the above rate, would give between 50,000*l.* and 60,000*l.* as its produce. 60,000*l.* for the expenses of the Metropolitan Board of Works — office expenses remember! Talk about the doings of the "bloated haristocracy," why, the democrats of London beat them all to nothing!

Conservative Club. A RATEPAYER.

DIRTY WATER BUTTS, &c.—In a late impression of the *Builder* "A Workman" called attention to the filthy state of water-butts and cisterns in private houses through the negligence of persons, and the non-provision of lids or covers for them. Not only should cisterns and butts be covered, but the covers should be constructed with rims, so as to prevent dust, &c. from entering, yet not to fit tight, so as to allow for the expansion of the wood, from the influence of wet weather. In some instances, where there are many children, it might be advisable to have them made to fasten by a padlock, or bolt, &c. so as not to be interfered with, care being taken that ready access can be had thereto in cases of emergency, such as the discovery of a fire soon after its commencement. Probably the best preservative for the inside of wooden butts would be boiled oil applied with a brush (as in the case of paint): this would be far better than either tar or paint, the former being liable to flavour the water, and the latter to peel off from the action of the water upon it, and recommends itself equally on the score of economy.—WRINKLER.

CUMBERLAND FARMERS, through whose land the main sewers of Carlisle run, have been asking themselves why the liquid manure of the district should be studiously withheld from their crops; and the result of their self-questioning has been an application for leave to pump it up to the surface, and turn it to profitable account.—*Gateshead Observer*

BUILDING BEFORE THE LINE OF FRONTS, WESTMINSTER.—We have received some strong statements respecting the proposed demolition of a building erected by Mr. Hartley, in Earl-street, said to be beyond the regular line of fronts in the street, but we prefer not to speak *ex parte*, and therefore postpone reference to them.

SUBWAYS WITH INTERCEPTING SEWERS.—If it be finally determined to drain the metropolis by aid of intercepting sewers, it would be well to keep in view the immense advantages of having, along with such sewers, subways for water and gas-pipes, telegraphic wires, and even railway lines, for relieving the traffic in the thoroughfares above ground. Such subways have at various times been suggested in our columns; and we may refer to Mr. C. Baylis's scheme, already described in the *Builder*, inasmuch as this particular plan is now being reurged by its projector, who has addressed Lord John Manners on the subject, and been referred by his lordship to the Metropolitan Board of Works, with whom accordingly Mr. Baylis has put himself in communication. In connection with his scheme, Mr. Baylis advises the laying down of a sewer along the Tilbury line to Southsea, with reservoirs in the low marsh lands, in which the sewage in dry weather, when not too much diluted by storm water, could be stored for agricultural purposes.

ST. ALBAN'S ABBEY. It is delightful to cherish a hope that the fine old abbey of this ancient town will eventually be restored to its former beauty and dignity; not to become the seat of monasticism, indeed, but as an ancient school of the art of all arts,—architecture. I have heard since my brief sojourn here, that 18,000*l.* would have been subscribed for the restoration of the building if the government would have erected the county into a bishopric, and have called it the bishopric of St. Alban's. Surely the hallowed spot where the proto-martyr of Britain suffered deserves such a distinction,—and it would not be difficult to prove that the assistance of a bishop so conveniently near the diocese of London would be very important,—taking a part of the onerous duty of the vast metropolis and its suburbs. An exceedingly pleasing description, and no doubt correct statement of the historical facts connected with the abbey, has been published by the rector, the Rev. Dr. Nicholson, as mentioned by you. Do we not need guides as carefully compiled for our world-renowned Westminster? All the moneys received at St. Alban's from visitors are dedicated to the restoration of the structure. No verger hurries him on: it is, therefore, desirable that the stranger should purchase the pamphlet, and (if he can) study its pages before he makes his visit. He may thus avoid omissions which afterwards he will feel to be vexatious. In conclusion, I would say,—

"Honour be thine, Oh, venerable pile!
May peace and truth within thee ever smile.
Conflict in ages past thy walls have known,
But now those guardian powers for all atone.
Long mayst thou stand, and with increasing grace
Be deck'd in love by each succeeding race.
Not only Hertford's generous sons should feel
Their happiness exalted by thy weal;
But every Englishman should use his might,
To reinstate thee in thy ancient right."

S. E. M.

THE DUTY ON PAPER.—A meeting has recently been held to agitate for the repeal of this absurd tax; but the daily papers have already so fully reported the forcible statements of the various speakers that we need only say, that in the next generation, our descendants will scarcely credit the fact that such arguments required to be adduced, or such meetings to be held, in the midst of the boasted enlightenment of this far-advanced nineteenth century. Being compelled by historical evidence, however, to admit the fact, may *it* not in its turn be adduced as evidence, that our vaunted enlightenment is no better than a mere empty boast, and that in truth ours is but the fag end of the "dark ages" after all. We talk of desiring to spread knowledge, and we inflict a heavy tax on the means of effecting it.

ROYAL ITALIAN OPERA HOUSE.—Mozart's masterpiece, *Don Giovanni*, was produced here on Thursday evening, with rare completeness and a cast of extraordinary strength. We must take another opportunity to speak of it. *Zampa* is "underlined."

[ADVERTISEMENT.]

SELF-COILING CONVOLUTED SHUTTERS.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. CLARK and CO. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.—*From the Builder, June 26th, 1858.*

TENDERS.

For building the Westminster Palace Hotel, Victoria-street. Messrs. W. and A. Moseley, architects. Quantities supplied by Mr. Hook:—

Lee and Son	£81,600	0	0
Holland and Co.	81,550	0	0
Piper and Son	81,335	0	0
Trollope and Son	80,400	0	0
Cubitt and Co.	79,896	0	0
Wm. Higgs	74,500	0	0
McLennan and Bird	73,959	0	0
Aldin	71,053	0	0
Moxon	70,462	1	2
Jno. Wilson	69,897	0	0
Greig and Son	69,777	0	0
Geo. Myers	68,966	0	0

For the New Wesleyan Chapel, Midsomer Norton:—

May and Son	£2,995	0	0
Davis and Son	2,180	0	0
Cook	2,092	0	0
Morris	1,997	0	0
Thorne	1,958	0	0
Denicot	1,858	0	0
Hill and Harris	1,848	0	0
Catley (accepted)	1,825	0	0

For a pair of semi-detached Villas, at Merton, Surrey, for J. Lockton, esq. Mr. T. J. Hill, Architect. Quantities supplied by Mr. Elliott:—

Laurence and Sons	£1,742	0	0
Brown and Robinson	1,727	0	0
Parsons and Townsend	1,665	0	0
H. W. Cooper	1,498	0	0
Timewell	1,187	0	0

For building Two Houses, Reading. Mr. Charles Smith, Architect:—

Dunn, Reading	£1,748	0	0
Leach, do.	1,704	17	4
Matthews, do.	1,665	15	0
Sheppard, do.	1,647	0	0
Woodroffe, do.	1,628	0	0
Bartlett, Witney	1,545	0	0

For building House, No. 110, High-street, Camden-town, for Mr. Jos. Blackstone. Quantities supplied by Mr. Broadbridge:—

Rowe	£1,993	0	0
Fish	1,925	0	0
Cowland	1,816	0	0
Richards	1,798	0	0
Purkiss (accepted)	1,757	0	0

For rebuilding No. 26, Leadenhall-street, for Louis Nathan, esq. Mr. D. A. Cobbett, Architect. Quantities supplied by Mr. W. F. Meakin:—

Hill	£1,558	0	0
Hedges	1,519	0	0
Wilson	1,485	0	0
Rivett	1,402	0	0
Laurance and Son	1,422	0	0
Brown and Robinson	1,417	0	0
King	1,411	0	0
Ashby and Horner	1,370	0	0
Newman and Mann	1,366	0	0
Reed and Son	1,350	0	0

For alterations, &c. to new Warehouses, Fish-street-hill. Mr. William Nunn, Architect:—

Turner	£1,538	10	0
Hawk	1,490	0	0
Wales	1,477	0	0
Day	1,260	0	0
G. Todd, jun.	1,227	0	0
Notley	1,187	15	0

For Warehouse buildings, at Messrs. Owst and Peacock's premises, Jacob-street, Bermondsey. Mr. George Elkington, architect —

John Harrison	£1,268	0	0
John Lugg	1,250	0	0
J. J. and F. Coleman	1,220	0	0
Joseph Thompson	1,188	0	0
Benj. Wells (accepted)	930	0	0

For Fittings and Shop Front, for Mr. L. Hyam, 189 and 190, Tottenham-court-road. Mr. Belcher, architect. Quantities not supplied:—

W. Laurence and Sons	£1,287	0	0
Browne and Robinson	1,220	0	0
Rawlins	933	0	0
Jno. Drew	790	0	0

For certain Farm Buildings, on the estate of Mrs. Williams, at North Crawley Grange, Buckinghamshire. Mr. Belcher, architect:—

Wooding, North Crawly	£606	4	0
Brinley	503	0	0
Cave	460	0	0

For refitting the Stable, and building new Coachman's House, at Shirley, near Croydon. Mr. John Belcher, architect. Quantities not supplied —

S. Fox, Hackney	£750	0	0
M. Dearne, Rotherhithe	723	0	0
J. Holldge, Norwood	697	17	0

For repairs and painting to Bethnal-green Union, near Victoria-park. Mr. E. N. Clifton, Architect:—

Cubitt	£305	0	0
Anderson	295	0	0
Holden	280	0	0
Colls and Co.	262	0	0
Eastham	260	0	0
Prescott	257	0	0
Thurston	248	0	0
Lidstone	229	0	0
Thomas	219	0	0
Lott	208	0	0
Thorpe	199	0	0
Thornhill	199	0	0
Dullam	197	0	0
Healing	195	0	0
Ludlow	157	0	0
Whitehouse	135	0	0
Surridge	130	0	0

For taking down and rebuilding a House, in the Market-place, St. Alban's, for Messrs. Young, brewers, Hertford. Mr. W. Wilds, architect.—

Bigg and Son	£483	0	0
Rayment, Hertford	477	11	0
C. Collins, do.	462	15	0
Webb, St. Alban's	394	0	0
Savage, do.	390	0	0
Vass	371	14	0
J. Dunham (accepted)	335	17	0

The contractor takes the old materials.

For St. John's Schools, Reading. Mr. Charles Smith, of Reading, Architect.

	General Estimate.	The Walls faced with Swindon Stone and BathStone Dressings	If Walls are faced with Flint, Deduct.	Separate Estimate for Desks, &c. &c.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Matthews	959 3 0	60 0 0	87 17 0	
Woodroffe	996 10 0	60 0 0	84 0 0	
Sheppard	968 0 0	60 0 0	64 0 0	
Dunn (accepted)	858 15 0	37 0 0	79 0 0	
Button (tender afterwards withdrawn)	782 0 0	37 0 0	70 0 0	

TO CORRESPONDENTS.

FUNGUS ON TIMBER.—In a cellar, about 24 feet by 20 feet, with a moderate ventilation, there are about twenty-six pieces of Memel timber, 11 inches square, laid across to carry beer stands, the timbers get coated in a short time with a sort of fungus, which at different times has been cleared off (coal tar, &c. in minute quantities suggest anything that could be applied to the timbers for their preservation? In this situation would paint be good, or injurious to the timber? SUBSCRIBER.

*** A wash of diluted corrosive sublimate, would probably answer the purpose used judiciously.

T. G.—J. B. E.—C. T. T. jun.—T. M.—W. H. G.—T. W. M.—R. W. W. (particulars have been given in earlier volumes. Weak gum-water forms a good preparation for colouring on parchment).—C. L.—A Subscriber.—A. M. (R. C. churches are constantly built in this country with towers attached).—M. and Sons.—E. H.—One from the Country.—Ratepayer.—G. E.—W. R.—P.—H. and A. A.—Mr. A.—A. G.—J. J. C.—H. J. P.—W. S.—W. W.—E. R. R.

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

PURSUANT to a DECREE of the HIGH COURT of CHANCERY, made in a Cause JOHN MORGAN *against* HARRIET AGNES BRODER, and Others, the CREDITORS of WILLIAM BRODER, late of No. 1, St. James's-terrace, Regent's-park, in the county of Middlesex, esquire, who died in or about the month of March, 1858, are, by their Solicitors, on or before the 5th day of NOVEMBER, 1858, to come in and PROVE their DEBTS, at the Chambers of the Vice-Chancellor, SIR WILLIAM PAGE WOOD, at No. 11, New-square, Lincoln's-inn, Middlesex, or in default thereof, they will be peremptorily excluded from the benefit of the said Decree. THURSDAY, the 11th day of NOVEMBER, 1858, at TWELVE o'clock at Noon, at the said Chambers, is appointed for hearing and adjudicating upon the Claims.—Dated this 26th day of July, 1858.
HY. LEMAN, Chief Clerk.
J. and J. H. LINKLATER and HACKWOOD,
7, Walbrook, London, Plaintiff's Solicitors.

ROTHERHITHE.—Extensive Sale of Building Materials, to clear the Ground for the Enlargement of the Grand Surrey Docks.

PULLEN and SON are favoured with instructions from the Directors of the Grand Surrey Dock Company to SELL by AUCTION, on the PREMISES, on MONDAY, AUGUST 2nd, at TWELVE, in lots, the whole of the valuable BUILDING MATERIALS of several houses, extensive ranges of sheds, granaries, boat builders' and other premises, in Rotherhithe-street, including the capital modern-built Watermen's Arms Public-house, opposite the entrance of the Docks, comprising about 200,000 stock bricks, 15,000 pantiles, plain tiles, and slates, capital oak and fir timber, in stout rafters, joists, girders, and upright supports, glazed sashes, doors, partitions, luthern pieces, sound floor boards, iron columns, folding gates, weather boarding and cleansing, stone paving, several tons of lead in gutters and pipes, the fixtures and fittings-up of the Watermen's Arms Public-house, two powerful wharf cranes, an iron crab, a timber steaming kiln, 25 feet long, erection of saw pits, a quantity of stage boards and quartering, and remaining stock and utensils of a large builder.—May be viewed on Saturday previous. Catalogues had of JOSEPH JENNINGS, Esq. Architect, 3, Foley-place; and of PULLEN and SON, 80, Fore-street, Cripplegate.

DEPTFORD LOWER ROAD.—Building Materials of Three Houses.

PULLEN and SON will SELL by AUCTION, on MONDAY, the 2nd of AUGUST (by order of the Directors of the Grand Surrey Dock Company), the BUILDING MATERIALS of THREE HOUSES adjoining the Brick House Tavern, Lower-road, Deptford, of the usual description.—May be viewed, and catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

LUDGATE HILL.—Building Materials of Six Houses.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on WEDNESDAY, the 4th of AUGUST, at TWELVE, in lots, the valuable BUILDING MATERIALS of SIX large HOUSES, in Stationers' Hall-court, Ludgate-hill, opposite Stationers' Hall, adjoining the Sun Tavern; comprising good sound brickwork, five tons of lead in flats, gutters, and pipes, a large quantity of plain tiles and slates, sound oak and fir timber in roofs and floors, glazed sashes, doors, wainscoting, partitions, lining and flooring boards, handsome plate-glass and other shop fronts, iron columns, stone paving, coping, and sills; ranges of book-shelves and cases, counters and presses, stoves, and useful fixtures and fittings.—May be viewed the day previous. Catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

In Chancery.—"Cottam v. Hallen."

MR. GEO. ROBINSON respectfully notifies that he is instructed by the Receiver appointed by the Court to SELL on the PREMISES, 76, Oxford-street, and 2, Winsley-street, on MONDAY, AUGUST 2, and following days (Thursday excepted), at TWELVE precisely each day, the whole of the large and valuable STOCK of that old-established and respectable firm, Messrs. COTTAM and HALLEN, whose fame, both in reference to design and execution, is not confined to England alone, but is world-wide. The stock comprises 100 stoves (suited to the different apartments), and fenders and fire-irons en suite; capital ranges, and every article suited to the kitchen; sets of dish-covers, tea-urns, and kettles; paper and japanned trays; cutlery, lamps, iron and brass bedsteads, garden implements, pumps, chaff-cutters, bath-brushes, spades, rakes, stable-fittings, a lathe, a two-horse high-pressure steam engine, an eight-horse cross-head engine, a pair of very beautiful prize gates (Paris Exhibition), twenty tons sash iron, guttering, rain water pipe, &c. The stock may be viewed the Friday and Saturday prior, and catalogues had, at 6d. each, of W. KINSEY, Esq. 9, Bloomsbury-place, W.C.; of Messrs. DUNN and SURTEES, 2, Raymond's-buildings, Gray's-inn; of Messrs. HARDING, PULLEIN, and CO. 5, Serle-street, Lincoln's-inn-fields, and 4, Lothbury; and at Mr. GEO. ROBINSON'S Offices, 21, Old Bond-street.

N.B. The sale of the valuable leases, together with the fittings and plant, will take place almost immediately after this sale, as also the sale of the leases and plant of the manufactory, in the Cornwall-road.

TO SHIP BUILDERS, TIMBER-MERCHANTS, AND OTHERS.—Greenhithe, near Dartford and Gravesend, Kent.

MR. WILLIAM HODSOLL is directed by Thos. Colyer, esq. to SELL by AUCTION, at the WHITE HART INN, Greenhithe, on FRIDAY, AUGUST 6th, 1858, at THREE o'clock, 379 superior OAK TIMBER TREES, 43 OAK TELLERS, and 2 SERVICE TREES, lying on the wharf at Greenhithe, being most advantageously situate for road, railway, and water carriage. The timber may be viewed at any time previous to the sale, on application to GEORGE DURLING, at Greenhithe.—Catalogues may be had one week previously, at the Inns in the neighbourhood; at the Place of Sale; and of the Auctioneer, &c. Farningham, Kent.

EARLSWOOD, REIGATE.—Valuable and attractive Freehold Building Sites, eligible for the erection of detached villas, with ample space for gardens and ornamental grounds, abutting upon that eminently picturesque and beautiful common, Earlswood, and within about one mile of the Redhill Junction and Reigate Town Stations; together with various smaller Plots, adapted for cottage dwellings; and a substantial brick-built Cottage of Five Rooms, with good garden.

MR. W. THORNTON will SELL by AUCTION, at the WHITE HART INN, in Reigate, on WEDNESDAY, AUGUST 11, at TWO for THREE precisely, FREEHOLD BUILDING PLOTS, forming a portion of the Earlswood Lodge Estate, apportioned so as to give each a desirable frontage, with good garden in the rear, and approached on all sides by good roads, in a locality proverbially healthy, and free from land tax and tithe rent charge. The sand is of excellent quality, and good building materials are manufactured a short distance from the spot. Excellent water is obtained at a trifling depth. The purchasers of the larger lots will have to covenant to erect only one house only, of a certain value; the smaller lots will not be restricted.—Particulars, with lithographic plans, are preparing, and may be obtained, in due time, at the usual Inns in the neighbourhood; of Messrs. RIDSDALE and CRADDOCK, Solicitors, 5, Gray's-inn-square; and at the Office of Mr. WM. THORNTON, Land Agent, Surveyor, and Auctioneer, Old Bank, Reigate.

Important Sale of Freehold Building Ground, Land-tax redeemed.

JOHN T. FISHER is instructed by the trustees of the late Richard Hudson, esq. to submit to PUBLIC AUCTION, in plots, early in the ensuing spring, of which due notice will be given (unless previously disposed of by private contract), the first portion of a very valuable and desirable ESTATE, of about 40 acres, having frontages on both sides of the high road, from Barking to London, of about 2,000 feet, and several thousand feet of frontages, on new wide and well constructed roads, some of which will be leading and direct thoroughfares to the docks. This land is only four miles from the City, within five minutes' walk of the Barking-road Station, on the Eastern Counties Railway, one mile from the Tilbury and Southend Station, a short distance from the Victoria Docks, the Thames Iron Works, and several other large mercantile establishments. Its general level is several feet above Hallsville, and the surrounding neighbourhood. Sites are purchased for the erection of a Church in north-east of road, and national schools opposite. There are abundant gas and water supplies, and altogether this estate offers most unusual opportunities for safe and profitable investments. Particulars and lithographed plans will be ready in due time, and may be had of Messrs. KINGSFORD and DORMAN, Solicitors, 23, Essex-street, Strand; and of the Auctioneer, Barking-road, Plaistow, who are also instructed to treat for the sale of any portions of the land by private contract.

PIMLICO IMPROVEMENT.—FIFTH SALE.—BUILDING MATERIALS.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 10, at TWELVE for ONE, the valuable BUILDING MATERIALS of EIGHT HOUSES, being Nos. 46, 47, 48, 49, 50, 51, and 52, Stafford place, and the Stafford Arms, Stafford place, Pimlico; comprising about 250,000 capital stock bricks, slates, and pantiles; several tons of lead, in gutters, pipes, cisterns, flats, &c.; sound timber, in roofs, floors, &c.; wainscoting, sashes and frames, doors and frames, capital York steps, paving, coping, &c.; iron railings, coppers, and the usual fixtures and fittings.—May be viewed the day prior and morning of sale, and catalogues had at the Office of Works, 12, Whitehall-place; of JAMES PENNETHORNE, Esq. 7, Whitehall-yard; on the Premises; at GARRAWAY'S; and of the Auctioneers, 41, Charing-cross.

Freehold Building Land, Battersea.

MESSRS. GLASIER and SON will SELL by AUCTION, at GARRAWAY'S, on TUESDAY, AUGUST 24th, at TWELVE for ONE, in lots, THIRTY-SEVEN PLOTS of valuable FREEHOLD BUILDING LAND (land-tax redeemed), most eligibly situate on the south side of the Lower Wandsworth-road, close to the Eagle, opposite the Royal Park, and near the Chelsea bridge and Crystal Palace Railway Terminus, exceedingly well adapted for the erection of shops and fourth-rate houses.—May be viewed, and particulars with plans had of Messrs. PRICE, BOLTON, and FILDER, Solicitors, 1, New-square, Lincoln's-inn; at Garraway's; and of the Auctioneers, 41, Charing-cross.

NORWAY WHARF, THAMES-STREET, GREENWICH.—To Ship-builders, Stone, Timber, and Coal Merchants, Chemical Soap and Manure Manufacturers, Tool Makers, and Others.

MESSRS. HUMPHREYS and ROBINSON are instructed to SELL by AUCTION, on the above PREMISES, on THURSDAY, AUGUST 5, 1858, commencing at TWELVE for ONE o'clock precisely, unless previously disposed of by private contract, the EFFECTS, now in and upon the above premises, comprising three large melting pans, vertical crushing machine, complete, pressing machine, a large quantity of timber used in ship-building, several tons of iron, boat ropes, tarpaulings, carpenters' benches, smiths' and ship builders' tools, carts, waggons, five tons of rivets, 5,000 feet of Portland, free, and Forest stone, in slabs and blocks; pile-driving machine, and numerous other effects.

N.B. The valuable Waterside Premises to be Let, with powerful crane, sheers, overhead traveller, two steam engines, well-drained saw-pits, two houses, and every convenience for carrying on a large and heavy trade.—For catalogues and further particulars, apply to Messrs. WITHALL and FULLER, 21, Parliament-street, and 16, Cornhill, London; and of the Auctioneers, 10, London-street, Greenwich.

In Bankruptcy, *Re* G. GARLICK, Guildford, Surrey.—The important and extensive Stock-in-Trade of an Ironmonger. Absolute Sale, by order of the Assignees.

MESSRS. GREEN and SON will SELL by AUCTION, on the PREMISES, High-street, Guildford, on WEDNESDAY, AUGUST 4th, 1858, and two following days, at ELEVEN for TWELVE o'clock each day, the extensive and well-selected STOCK of an IRONMONGER, comprising a large quantity of stamped and cast brasswork, Sheffield tools, several hundred brass taps and cocks, garden tools, twenty gross mortise, tumbler, and other locks, moderator lamps, a large assortment of copper and brass goods, several gross of cutlery, single and double-barrelled percussion guns, pistols, shot pouches, powder-flasks, best electro plated ware household and japanned goods, elliptic and register stoves, coppers, superior self-acting and other ranges, wrought and cast iron; and a general assortment of useful ironmongery; also the capital fixtures, fittings and tools. May be viewed day prior and morning of sale. Catalogues 6d. each, had on the Premises; of E. NICHOLSON, Esq. Official Assignee, Basinghall-street; of J. D. ROBERTS, Esq. Solicitor, 8, Barge-yard Chambers, Bucklersbury; and of Messrs. GREEN and SON, Auctioneers and Valuers, St. Michael's-house, St. Michael's-alley, Cornhill.

RICHMOND ROAD, Dalston.—SURPLUS BUILDER'S STOCK.—By

MR. A. RICHARDS, on the PREMISES, on FRIDAY, AUGUST 6, at ONE o'clock, by direction of the Proprietor, who has completed the erection of ten large houses. The materials comprise 10,000 feet of seasoned 1½-inch floor battens, pine plank and boards, quantity of quartering, timber, doors, sashes, stacks of timber and firewood, 400 feet run of capital boarded fence, screws, nails, work benches, slate slabs, quantity of stone or blocks, steps, &c. and a variety of materials.—View the day prior and morning of Sale. Catalogues obtained on the Premises; and of the Auctioneer, Tottenham.

TO CABINET-MAKERS, FURNITURE WOOD DEALERS, AND OTHERS.

FOR SALE BY PUBLIC AUCTION, IN THE SALE ROOM AT F. K. BARNES and SONS' TIMBER-YARD, Canon's Marsh, Bristol, on THURSDAY, the 5th of AUGUST, 1858, at TWELVE o'clock precisely.

212	Planks very fine Italian Walnut, being the entire parcel just landed, ex "Favzia," at Ancona
10,000	Feet prime Honduras Mahogany, in Logs.
10,000	Feet Cuba and Honduras Mahogany, Boards and Planks.
100	Logs very prime Quebec Birch.
20	Logs very fine Quebec Ash.
100	Crown Wainscot Oak Logs.
2,700	Memel Pipe Staves
100	Logs prime Quebec Yellow Pine Board Timber.
5,000	Dry wide Quebec Plank

With other Goods, in Lots to suit Buyers.
Catalogues will be issued on the Week of Sale.
F. K. BARNES and SONS, Brokers.
Canon's Marsh, Bristol, July 24th, 1858.

TO TIMBER MERCHANTS, CABINETMAKERS, PIANOFORTE MANUFACTURERS, COACH BUILDERS, AND OTHERS.

MESSRS. C. LEARY and CO. beg to announce, that in consequence of the expiration of the lease of the premises, 35, Sun-street, Bishopsgate-street, they will offer, by PUBLIC AUCTION, on the PREMISES, on MONDAY, the 2nd AUGUST, and two following days, the REMAINING PORTION of Mr. H. Bateman's very superior and well seasoned STOCK of WOOD, comprising prime dry wainscot, Spanish and Honduras mahogany, rosewood and walnut wood, in planks, boards, and veneers, Alabama veneers, dry pine planks, &c. To be viewed two days previous to, and on the mornings of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, 26, Old Broad-street, City, E.C.

THE Board of Works for the Wandsworth District are desirous of receiving APPLICATIONS from skilful and competent Surveyors who are willing to become Candidates for the APPOINTMENT of SURVEYOR for the several Parishes in their District, which is about to be subdivided for the purpose, as follows:—

For the Parish of Battersea, at a salary of 200*l*. per annum.
For the Parish of Clapham, at a salary of 200*l*. per annum.
For the Parish of Putney, at a salary of 100*l*. per annum, and a suitable House to live in.
For the Parishes of Streatham and Tooting Graveney, at a salary of 150*l*. per annum.
For the Parish of Wandsworth, at a salary of 200*l*. per annum.

Each Surveyor will have to act as Inspector of Nuisances for the Parish or Parishes to which he may be appointed, and within which he will be required to reside. His duties will be to superintend personally all works to be executed in his sub-district in connection with the formation, repairing, and watering of roads and footpaths; the construction, repairing, and cleansing of sewers; the preparing of specifications, plans, surveys, and estimates, and the taking of levels; to attend all meetings of the Board, and of the Committee of the Parish for which he may be appointed, and generally to advise the Board and the Parish Committee as to any works necessary to be executed in his district, under the provisions of the Metropolis Local Management Act, and to perform all such duties connected with his office as the Board may direct. Each surveyor will be required to devote his whole time to the duties of his office, and will therefore be debarred from private practice. Each applicant must state the sub-district for which he intends to become a candidate. The Board will require security to the amount of 300*l*. from each of the successful candidates. Applications are to be sent in under seal, endorsed, "Application for the Appointment of Surveyor for the Parish of ——," and to be delivered at the Offices of the Board, as below, on or before the 17th day of AUGUST next.—By order of the Board of Works for Wandsworth District.
ARTHUR ALEXANDER CORSELLIS, Clerk to the Board.
Battersea Rise, Wandsworth, S.W. July 22, 1858.

TO PLUMBERS.

THE CITY of NORWICH WATERWORKS COMPANY require the SERVICES of a first-rate PLUMBER, one who has had considerable experience in fixing self-acting and other water-closets. Candidates must forward testimonials as to qualification and habits of honesty, sobriety, and regular attention to work.—Applications, stating age and salary required, to be addressed to the Manager, at the Company's Office, in Redwell-street, Norwich, on or before THURSDAY, the 5th AUGUST.
JOHN AYRES, Manager.

CARDIFF GAS LIGHT AND COKE COMPANY.

WANTED, a FOREMAN capable of undertaking the management of the works under the direction of the engineer. He must be practically acquainted with the manufacture of gas, the working of clay retorts, purification, &c. Applications with testimonials to be forwarded to the undersigned, on or before the 10th day of AUGUST next, stating salary required. House on the works with coals and gas free.—By order,
HENRY BOWLER, Engineer and Manager.
Gas Works, Cardiff, July 21st, 1858.

TO FOREMEN JOINERS.

WANTED, in a Builder's Establishment near London, a competent FOREMAN, to superintend a number of men working piece-work, in conjunction with machinery.—Apply, in first instance, by letter only, to A. W. Office of "The Builder," stating age, where last engaged, and wages expected.

TO ARCHITECTS AND SURVEYORS.

WANTED, an ENGAGEMENT, by a Young Man, who is a good draughtsman and surveyor, with a moderate practical acquaintance of taking out quantities and engineering draughting. Satisfactory references can be given.—Address, A. S. Mr. W. H. Miller, Bookseller, 6, Westminster-bridge road, S.

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WANTED, a SITUATION, as FOREMAN or CLERK of WORKS. Has a good knowledge of builders' work in all its details. Can make working and finished drawings, and measure work.—Address, M. N. 5, Hawley place, Kentish town, N.W. The advertiser has had experience at the bench.

TO BUILDERS, ARCHITECTS, &c.

WANTED, an ENGAGEMENT, as Setting-out, Measuring-up, and General CLERK, by a good draughtsman and practical man. Good reference to either of the above.—Address, A. H. care of Mr. E. Wright, 5, Juxon-street, Lambeth-road.

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WANTED, by a respectable Young Man, a SITUATION, a few miles from London, to ATTEND to a WHARF and COLLECT. Has filled similar situations, and is acquainted with the principal builders in and about London. Can be highly recommended.—Address, M. R. C. Office of "The Builder."

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WANTED, a RE-ENGAGEMENT, by a SURVEYOR and LEVELLER. Has had considerable experience in railway work; is also a good accountant. Testimonials and references.—Address, X. A. 13, Rathbone place.

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WANTED, by the Advertiser, a SITUATION as SAW SHARPENER, or to work Sawing Machinery, or a Planing Machine. Can have a good reference if required.—Address, C. B. Mad-beach, Staines, Middlesex.

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TO PLUMBERS AND BUILDERS.

WANTED, EMPLOYMENT, as PLUMBER, by a Young Man; is a good workman. Town or country. Good reference can be given.—Address, H. SMITH, No. 50, Praed street, Paddington, London.

TO BUILDERS AND OTHERS.

WANTED, by a respectable, steady Man, a RE-ENGAGEMENT, as SHOP or OUT-DOOR FOREMAN of JOINERS. Good reference.—Address, M. S. 12, Henrietta-street, Brunswick-square.

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TO MASTER SMITHS, BUILDERS, AND OTHERS.

WANTED, by a middle-aged Man, a SITUATION as LOCKSMITH and BELL-HANGER, and GENERAL JOBBING, or as a SUPERINTENDENT. No objection to town or country.—Address to G. H. 66, Great Titchfield-street, Portland-place, W.

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LONDON HOSPITAL, 27th JULY, 1858.
A SPECIAL GENERAL COURT of GOVERNORS having this day decided to transfer to the House Committee the appointment in future of the Surveyor to the Hospital, notice is hereby given that the OFFICE of SURVEYOR is now VACANT, and that written applications from candidates, with testimonials, are to be sent in, addressed to the House Committee, at the Hospital, on or before SATURDAY, the 7th day of AUGUST next. Candidates will be required to attend personally on TUESDAY, the 10th day of AUGUST next, at half-past TWO o'clock, when the election will take place.—Full particulars of the duties and emoluments connected with the appointment may be obtained on personal application to the Secretary, at the Hospital.
WM. J. NIXON, Secretary.

TO ARCHITECTS, SURVEYORS, BUILDERS.
OCCASIONAL ASSISTANCE offered by a good DRAUGHTSMAN (accustomed to prepare perspective, finished, working, and detail drawings, specifications, taking out quantities, measuring up work, land surveying, &c.) either at their offices or his chambers.—Address, R. B. 43, Southampton-row, Russell-square, W.C.

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A GENTLEMAN is desirous of obtaining a thorough KNOWLEDGE of ENGINEERING, LEVELLING, &c. Has been of late engaged in architectural practice. Address, stating terms, to ARCHITECT, 21, Holloway-street, Exeter.

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A GOOD GRAINER (oil or spirit) is in WANT of a SITUATION in or near London preferred.—Address, C. D. 3, Belitha Terrace, Barnsbury.

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AN ASSISTANT ENGINEER, who has had considerable experience in the practical management of works, measuring, and getting out quantities, &c. is open to an ENGAGEMENT. Has no objection to go abroad for a few years.—Address, BETA, Post-office, Cardiff.

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TO ARCHITECTS AND SURVEYORS.
A GENTLEMAN, disengaged after Twelve o'clock, would be glad to undertake WORK at HOME, or, if convenient, an ENGAGEMENT could be made. Every reference can be given.—Address, C. L. E. Office of "The Builder."

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AN ASSISTANT is open to an ENGAGEMENT. He has had great experience in superintending building operations, can make fair and working drawings, write specifications, and take out quantities. He is also accustomed with surveying and levelling.—Address, B. Z. B. Mr. Kinloch's, 48, Jermyn-street, St. James's.

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Delivered within three miles free of charge.
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¾ inch Boarding	¾ per foot run.	1¼ inch Boarding	⅝	per foot run.
1 ,,	1 ,,	2 ,,	⅝	,,
1 ,,	1½ ,,	2½ ,,	⅞	,,
1½ ,,	1½ ,,	2½ ,,	⅞	,,
1½ ,,	1¾ ,,	3 ,,	1	,,

Quartering 2¼ by 3 inches ¾ per foot run.
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21st July 1858.

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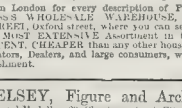

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These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed in the evening, but which causes a constant supply of fresh air in most required. HAYWARD, BROTHERS, sole Manufacturers, 186, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

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Inches by Inches.	Inches by Inches.	Inches by Inches.	Inches by Inches.		
44 — 34	41 — 33	40 — 29	38 — 30	Best Quality, per Case.	80s. 0d.
41 — 30	40 — 34	41 — 28	37 — 31	Seconds ,,	60s. 0d.
43 — 31	38 — 31	40 — 30	40 — 26	Thirds ,,	34s. 6d.
42 — 32	39 — 30	40 — 28	39 — 27	Fourths ,,	26s. 6d.

Sizes of Squares usually in Stock, 16 oz. per Foot.

In. by In.	In. by In.	In. by In.	In. by In.	In. by In.
6 — 4	9 — 7	12 — 9	14 — 11	
6¾ — 4¾	9½ — 7¾	12½ — 9½	14½ — 11½	
7 — 5	10 — 8	13 — 10	14 — 11	
7¼ — 5¼	10½ — 8½	12½ — 10	13 — 10	
8 — 6	11 — 9	13½ — 10½	12 — 11	
8¼ — 6¼	11¾ — 9¼	14 — 10	12½ — 11½	
14½ — 11½	11 — 12	22 — 12	18 — 14	24 — 15
15 — 11	14½ — 12½	15 — 13	19 — 14	18 — 16
15½ — 11½	15 — 12	16 — 13	20 — 14	20 — 16

PRICES PER 100 FEET

1st	2nd & 3rd	3rd & 4th	4th & 5th
24s. 6d.	17s. 0d.	13s. 6d.	12s. 6d.

Per Foot

2½d.	2¼d.	1¾d.	1½d.

In. by In.	In. by In.	In. by In.	In. by In.	In. by In.
16 — 11	15 — 12½	17 — 14	21 — 14	21 — 15
16¾ — 11¾	16 — 13	18 — 13	22 — 14	21 — 16
17 — 11	16¾ — 13½	20 — 13	24 — 14	24 — 17
18 — 11	17 — 12	22 — 13	18 — 15	22 — 17
19 — 12	18 — 12	16 — 14	20 — 15	20 — 18
14½ — 12½	20 — 12	17 — 14	22 — 15	
23 — 17	20 — 17	24 — 18	24 — 19	24 — 20
21 — 17	22 — 18	22 — 19	22 — 20	26 — 20

PRICES PER 100 FEET

1st	2nds	3rds	4th's
24s. 6d.	20s. 0s.	15s. 6d.	13s. 6d.

Per Foot

2½d.	2¼d.	2d.	1¾d.

29s. 6d.	24s. 6d.	18s. 0.	15s. 6d.
3½d.	3d.	2½d.	1¾d.

COLOURED GLASS.

	s. d.		s. d.		s. d.
Ruby, in Sheets, per foot	0 10	Blue, in Sheets, per foot	0 6	Purple, in Sheets, per foot	0 6
Green, in Sheets ,,	1 0	Orange, in Sheets ,,	0 6	Yellow, in Sheets ,,	0 6

Ground or obscured, in Sheets, 16 oz. 3d. per foot. Ditto, in 21 oz. Sheets, 4½d. per foot. Matted Glass, in a variety of Pattern, 6d. per foot.

PATENT PLATE AND PLATE GLASS AS PER LIST.

HARTLEY'S ROUGH PLATE.

PAINTS, COLOURS, VARNISH, &c. FOR EXPORTATION.

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ESTABLISHED 1750.

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FRANCIS & CO.'S

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BRASS SASH-BARS, AND STALL-BOARD PLATES, AT A GREAT REDUCTION IN PRICE.

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THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

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And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

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SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

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TREDEGAR MOULDING MILLS, BOW, E.

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But still greater prejudice is excited by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns lighted by gas. It first loses the gloss, and ultimately mixes up with the water and washes off.

Hubbuck's Patent Process completely resists London atmosphere, bilge water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

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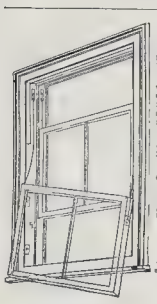

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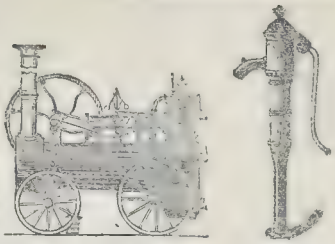

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Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.

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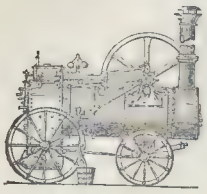

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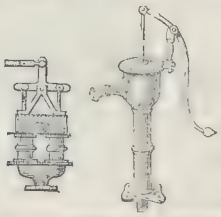

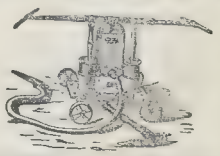

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Place from	15s to 17s. "
Bright Stocks	28s. "
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P.S. Upads of the Canal on payment of Dues extra.

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IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 9d. per gallon; Boiled Oil, 3s. per gallon; Turpentine, 3s. 6d. per gallon.; Fine Pale Drying Varnish, 7s. 6d. per gallon.
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Every article for the Trade at the lowest price.

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LINSEED-OIL, TURPS, VARNISH, and COLOURS
of every description, is
SIMPSON and CO.'S,
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ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

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DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
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TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

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IMPERIAL POTTERIES, LAMBETH.

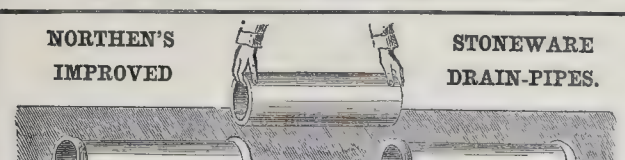
S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle o PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN's PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



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Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect another drain, as every alternate pipe can be taken up without interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of easy access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

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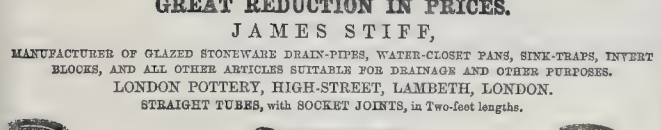
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
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Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs RITCHIE and SMITH'S, Ratcheobourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Prince-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.
N.B. Steam-power, with Workshops, to Let.

MERRY'S
REGISTERED TRIPLE EFFLUVIA-TRAP
IS ADAPTED FOR
STREETS AND STABLE DRAINS,
ALSO FOR AREA, SINK, AND SCULLERY DRAINS OF DWELLING-HOUSES.

It is compact in form, simple in construction, not liable to derangement, and is decidedly (WITH OR WITHOUT WATER) the most perfect Trap of the day.

Price 8s. and 10s. each.

MANUFACTURED BY H. MILLICHAMP,
Princes-street, Lambeth.

UNGLAZED DRAIN-PIPES. — GREAT REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

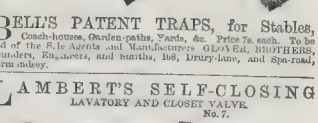
3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	2½d.	3½d.	5½d.	9d.	1s 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

LAMBERT'S SELF-CLOSING
LAVATORY AND CLOSET VALVE.
No. 7.



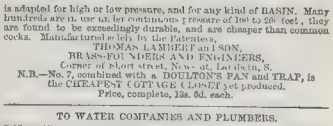
is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured only by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-st., Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 13s. 6d. each.

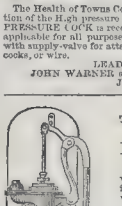
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to
JOHN WARNER & SONS'
PATENT VIBRATING
STANDARD PUMP,
which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

PORTABLE ENGINE and MORTAR-MILL TO BE SOLD.—Apply to Mr. JOHN FRANCE, Kent's-place, North wharf road, Paddington, where they are to be seen. No reasonable offer refused.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY

May be secured by an Annual Payment of 1l. for a Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents 27,988l.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.

NO CHARGE FOR STAMP DUTY
WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London E.C.

SALES BY AUCTION.

BUILDERS' STOCK.

MR. LEREW will SELL by AUCTION, on the PREMISES, 40, Union-street, Somers Town, on MONDAY, AUGUST 2, 1858, at TWELVE for ONE o'clock, about 2,000 Yellow, White, Pine and Spruce PLANKS, Deals, and Battens; 8,000 feet of wainscot Boards; 160 squares of 1½ inch, 1 inch, ⅞ inch, and ¾ inch prepared yellow and white Flooring; 15,000 feet of Quartering, 3,000 feet of Mouldings, 50 four panel and other Doors, dry cut stuff, Builders' Scaffolding, Barrows, old materials, &c.—May be viewed, and catalogues had on the Premises, and of the Auctioneer, Cardington-street, Hampstead-road, near the Euston Station.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in a cause of Denison v. Avison, with the approbation of the Vice-Chancellor Wood, [illegible] by

MESSRS. PRICKETT and SONS (the persons appointed by the said Judge), at the AUCTION MART, opposite the Bank of England, on WEDNESDAY, the 11th day of AUGUST, 1858, at TWELVE for ONE o'clock precisely, a PLOT of FREEHOLD BUILDING LAND, situate at Wandsworth, in the county of Surrey, containing 2 acres 35 perches, more or less, adjoining the grounds of the Vicarage-house, and nearly facing St. Ann's Church, with a frontage of [illegible] feet upon St. Ann's-lane, with the cottage, cow-sheds, and outbuildings thereon.—Particulars whereof, with plans, may be had, gratis, of Messrs. LUDLOW, TORR, JANAWAY, and TAGART, 38, Bedford-row, London, Solicitors; of Mr. HENRY BULLEN, 61, Lincoln's-inn-fields, London, Solicitor; of Messrs. AVISON and WILLIAM RADCLIFFE, Cook-street, Liverpool, Solicitors; and of the said Messrs. PRICKETT and SONS, 34, Southampton-buildings, Chancery-lane, London.

Dated this 15th day of July, 1858.

EDWARD WEATHERALL, Chief Clerk.
SUDLOW, TORR, JANEWAY, and TAGART,
38, Bedford-row, London.

LONDON WORKS, NEAR BIRMINGHAM.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the 9th of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupation of Messrs. Fox and Henderson, and situate at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, in the immediate vicinity, also, of the works of G. F. Muntz, Esq., Messrs. James Watt and Co., and the Birmingham Patent Tube Company. It is important to notice that the rates in the parish of Harborne are not more than one-third the amount of those in the adjoining parish of Birmingham. The works occupy a site of 5a. 1r. 26p. 27 yards; they have a frontage of about 455 feet next Cranford-street, and a frontage of 490 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and other canals, and thus affords facility for water carriage direct from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. The construction of these works has involved an outlay exceeding 30,000l. They were established in 1839 by Messrs. Bramah and Fox, and have been raised to their present importance by Messrs. Fox and Henderson, under whose practical judgment they have been arranged for carrying on the great undertakings in connection with which the name of that firm has been rendered famous. The buildings are arranged in a quadrangular form, and are most substantial erections. The entrance is through a gateway (on either side of which are offices and stores) to a spacious yard, in the centre of which is the boiler-house and lofty chimney. To the left is a carriage building shop, 201 feet by 103 feet; an iron store adjoining, 97 feet by 11 feet. The principal range of buildings include the smiths' shop, 119 feet by 102 feet; two anchor smiths' shops and turntable shop, a fitting shop, 119 feet by 114 feet, with galleries; a railway-wheel shop, the large foundry, 198 feet by 52 feet; two moulding shops adjoining, 119 feet by 64 feet; core stoves and brass foundry. On the right of the yard, are pattern-makers' shops and pattern stores, painters' stores, a chain shop, stabling, ostler's apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the different purposes at prices ranging from 4s. 6d. to 11s. per ton, and labour is also abundant and moderate. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road. Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr. CHARLES CLARKE, Smethwick, who will show the property; to Mr. HORNBLOWER, Architect and Surveyor, Waterloo-street, Birmingham; to Messrs. SWIFT, WAGSTAFF, and BLENKINSOP, Solicitors, Liverpool, and 32, Great George-street, Westminster; to Messrs. BEALE and MARIGOLD, Solicitors, Waterloo-street, Birmingham; or to Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—A large proportion of the purchase-money may remain on mortgage.

To Engineers, Founders, Railway Wheel makers and Carriage builders, Anchor smiths, Chain makers, and Others.—London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST 9, and following days, at ELEVEN each day, in lots, at the LONDON WORKS, Smethwick, lately occupied by Messrs. Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, Fairbairn, Lewis, Collier, and other eminent makers, including, in the fitting shop and galleries; 11 self-acting screw-cutting lathes, 6 to 16½ inch centre, 18 engine turning lathes, 14 railway wheel lathes, one very superior double action ditto; four axle lathes (self-acting); 19 vertical drilling and boring machines, many of them self-acting, three self-acting planing machines, six self-acting screwing machines, universal shaping machine, hydraulic machine for putting on railway wheels, axle guard shaping machine, wheel-cutting machine, 700 feet turned wrought iron shafting, 120 turned pulleys, 54 vices and benches, grindstones, a large assortment of steel tools for the various machines, &c. In the wheel shop:—Five powerful hydraulic presses, one for pressing bridge links, nuts, &c.; one for spoke bending, one for Beattie's patent wheels, one for pressing axle guards, and one for expanding tires, with pumps and gearing worked by steam power; tire furnaces, anchor forges, smiths' forges, two 3-ton cranes, one smaller ditto, blast fan 6 feet diameter, drilling machines, &c. In the foundries:—Eight 5-ton cranes, each 16 feet sweep, 15 feet high, with racking gear, chains, and blocks, three 5-cwt. cranes (double purchase), one 28-ton traveller, 48 feet span; a very superior loam mill, 1[illegible] feet of black shafting, benches, one annealing furnace, small cupola, moulding bins, &c. In the turntable shop:—Two very powerful surfacing lathes, with face plates 13 feet and 16 feet diameter; one facing and boring machine, capable of boring cylinders 72 inches diameter, three self-acting boring machines, one superior self-acting radial drilling machine, with 6 feet radius; one 12½ ton traveller, 38 feet span. In the anchor shops:—Two Nasmyth's 50-cwt. steam hammers, with Cornish boilers; one tilt hammer, with 16-horse power horizontal steam-engine and boiler; two powerful Hercules (one to work by steam power), eight 5 tons and three 3 tons post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven anchor smith's forges with water tuyeres, a chain proving machine, bed 106 feet long, with hydraulic cylinder 6 feet 2 long, 9 inch ram, and set of three pumps worked by power; chain forges, &c. In the rail shop.—Two self-acting planing-machines, to take in 15 feet by 4 feet 1 and 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, vices, benches, &c. In the carriage building shop:—Two large and five small eccentric punching and shearing machines, one powerful lever ditto, set of plate bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two pipe-bending machines, four sawing machines for iron, three drilling machines, circular saw bench, tin kneading machine, 500 feet black shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—Fan blast (5 feet), one small Nasmyth's hammer, lever punching machine, one corrugating machine with dies complete, one Hercules, one Ryder's patent forging machine, 5 wrought-iron cranes, one small traveller, 150 feet black shafting, pulleys, &c. In the boiler house and yard:—Four 25-horse power high-pressure steam boilers, one very powerful punching and shearing machine, capable of punching 2½ inch hole in 1¼ inch plate, two hydraulic proving machines, 15 ton weigh bridge, 20 cwt. weighing machine, [illegible] iron post wharf cranes, one 10 ton derrick, Henderson's patent, 55 feet sweep; two yard travellers, 21 feet 2 and 35 feet 3 span, with double-purchase gearing and rails; fittings in pattern makers' shops, pattern stores, paint store, and offices; a large assortment of wood patterns, the dies for the various sizes of Lieutenant Roger's patent anchors. Foundry:—Boxes and flasks, ladles, stores of various description and a large collection of other miscellaneous requisites for a first-class engineering establishment.—To be viewed three days prior to the sale. Catalogues may be had, at 1s. each, of Mr. HORNBLOWER, Architect, Waterloo-street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the amount of 50l. and upwards.

SALES BY AUCTION.

Four Steam-Engines, five Steam Boilers, and Machinery.

MESSRS. FULLER and HORSEY will SELL by AUCTION, on TUESDAY, AUGUST 3rd, 1858, at TWELVE o'clock, on the PREMISES, No. 28, Gravel-lane, Southwark, FOUR STEAM ENGINES, BOILERS, and useful MACHINERY, including two horizontal high-pressure steam-engines, made in 1857, with cylinders, 13 and 14 inches diameter, 18 and 22 inch stroke, by Clayton, Shuttleworth, and Co., and by Thompson, Hill, Catto, and Co.; one high pressure table steam-engine, 15 inch cylinder, 30 inch stroke; one condensing table steam-engine, of 8-horse power, cylinder 12 inches diameter, 24 inch stroke, by Maudsley, Son, and Field; two return flue-boilers, made in 1857, one 19 feet 6 inches long, 5 feet diameter, with 2 feet 6 inch fire-flue, low moor-plates, and return flue, 15 inches diameter, and chimney; one 16 feet long, 5 feet diameter, of a similar construction; one hemispherical-ended boiler, 24 feet long, 4 feet 6 inches diameter; one ditto, 19 feet 6 inches long, 4 feet 6 inches diameter, with 21 inch flue through, and steam-chest; one cylindrical boiler, 14 feet long, 3 feet 6 inches diameter, with 2 feet flue through; a 6-inch self-acting screw-cutting lathe, by Fox, of Derby; engineers' tools and foot lathe, four 6-feet cast-iron grooved fly-wheels, two 7 feet turned riggers, 15 inches wide, twenty-four spur and pinion wheels, ten single groove lathe wheels, two crank [illegible], eight cast-iron girders, and other effects.—To be viewed on Monday previous, and morning of sale, when catalogues may be had on the Premises, and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

For OCCUPATION or INVESTMENT.—Leasehold Wharf, on the Ravensbourne, or Creek, at Greenwich, with Dwelling-house, Stabling, Offices, and large Plot of Ground, together with the 10-ton Wharf-Crane.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on FRIDAY, AUGUST 6, at TWELVE, at the MART, a desirable LEASEHOLD ESTATE, comprising a large plot of ground, occupying an area of about 16,000 square feet, on the south side of Bridge-street, Greenwich, with frontage of 190 feet next the Ravensbourne or Deptford-creek, with a substantially built landing wharf, fitted with a 10-ton crane, two brick-built stables, with lofts, an open workshop, offices, carpenters' shop, lodge, and comfortable dwelling-house, with stuccoed front. The whole held on lease for a term of which twenty-five years will be unexpired at Christmas next, subject to the ground rent of 55l. per annum. The dwelling-house and a portion of the waterside frontage are let off at 32l. per annum. The remainder is on hand, and immediate possession may be had. To be viewed till the sale.—Particulars may be had on the Premises; of Messrs. A. and W. BRISTOW, Solicitors, Greenwich; at the Mart; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

Capital Freehold Family Residence and 95 Acres of Land, situate near Hornsey village and station on the Great Northern Railway.

MESSRS. FAREBROTHER, CLARK, and LYE are instructed to SELL, at GARRAWAY'S, on THURSDAY, AUGUST 5, at TWELVE, a desirable FREEHOLD ESTATE, situate between Muswell-hill and Wood-green, and near the Hornsey station, comprising a capital freehold family residence, built of white Suffolk brick, partly stuccoed, and finished with stone window sills and copings; comprising, on the upper floor, three servants' rooms; on the first floor, a front bed-room, dressing-room, and four principal bed-chambers, another principal bed-chamber, small bed-room, and water-closet; ground floor, entrance-hall, approached by steps with stone portico and columns, principal and secondary staircase, well proportioned and lofty drawing-room, the windows overlooking lawn and pleasure grounds, capital dining room with bow window, library and study; basement, lofty kitchen, scullery, pantry, footman's bed-room, knife room, dark room, servants' hall, two beer-cellars, binned wine-cellar, meat-larder, store-room, &c. In the area is a well of excellent and never-failing spring water, two coal vaults, dairy, wash house with laundry over. The outbuildings consist of a range of brick-built premises, comprising a good four-stall stable, with loft over, a two-stall stable and hay-room, a brewhouse and malt-floor over, carriage yard, brick built and slated chaise house, double coach-house, large poultry-house, with men servants' bed room over. The residence is surrounded by ornamental grounds and lawn, planted with flowering shrubs and studded with cedar and other trees. A serpentine sheet of water runs through the grounds, along which is a gravelled walk leading to a fruit-garden and conservatory, a walled-in kitchen garden clothed with fruit-trees, an enclosed melon ground and smaller garden. The farm premises comprise a brick-built bailiff's cottage, extensive stabling, barns, cattle-sheds, cow houses, granary, and other buildings, and about 95 acres of meadow land, beautifully undulated. The whole is in hand; early possession may be had. The estate may be viewed, and particulars, with plans, had of Mr. SOMES, on the estate; at the Inns in the neighbourhood; of HARRISON RHODES, Esq., Solicitor, Davies-street, Berkeley-square; of Messrs. BURLEY and CARLISLE, Solicitors, 8, New-square, Lincoln's-inn; at Garraway's; and at the Offices of Messrs. FAREBROTHER, CLARK, and LYE, 6, Lancaster-place, Strand.

ADJOINING the WOOD GREEN STATION, now in the course of erection on the Great Northern Railway, between Hornsey and Colney-hatch.—The Tottenham-wood Estate, situate between Muswell-hill and Wood-green, comprising about 500 acres of beautifully undulated Park-like Meadow Land, the whole admirably adapted for the erection of first class villas, being within 20 minutes of London.

MESSRS. FAREBROTHER, CLARK, and LYE are instructed to SELL by AUCTION, at Garraway's, on WEDNESDAY and THURSDAY, AUGUST 4th and 5th, at TWELVE, instead of Wednesday, July 28th, in ninety-three lots, a most desirable FREEHOLD PROPERTY, land-tax redeemed, situate between Muswell-hill, in the parish of Clerkenwell, and Wood-green, in the parish of Tottenham, bounded on one side by the main road, and on the other by the Great Northern Railway and the New River, with a Station in the course of erection by the Great Northern Railway Company on the property, comprising the Tottenham-wood Estate, with numerous enclosures of meadow and park-like land beautifully undulated, possessing charming views over the surrounding picturesque scenery, extending in the distance on one side over the metropolis, and on the other into Essex, over the Forest. The whole contains about 500 acres, divided into plots, varying from 1 to 15 acres, for the erection of villas, each having extensive frontages to the proposed roads, which will be laid out with reference to the disposition of the grounds and the views therefrom, care being taken to preserve all the ornamental timber. That part of the property next the Muswell-hill road is immediately in front of several handsome villas, and contains the celebrated Muswell and other springs, which supply the residence and offices with the purest water, and might easily be conveyed to all the lots, the springs being on the highest point of the property. There is abundance of gravel, which will be valuable for forming the several roads. Many of the inclosures contain good brick earth; there is every facility for drainage. The property extends over a beautiful valley, with stream of water, and the elevated lands afford the most beautiful sites for residences without in any way interfering with the lovely views of hill scenery embraced from each lot.

The locality is remarkably healthy, and the neighbourhood select, abutting on several gentlemen's seats, together with church lands not likely to be built upon. The Great Northern Railway passes through a cutting on the Wood-green side of the estate, and is crossed by a good private bridge and new road, giving the various lots easy access to the station, and the principal road will be in connection with a present carriage drive through the estate, which will be widened to the extent of 40 feet, and with a slight incline falls into the station. It is seldom that so important an estate in the immediate vicinity of London is brought into the market, affording such beautiful sites for the erection of first-class villa residences, it being intended to limit the buildings to some extent so as to prevent a small class of property springing up on any portion of the estate, with a railway station on the property, bringing it within twenty minutes of King's-cross, and the Metropolitan Extension to the Post-office making the whole journey probably half an hour, it may be safely urged that this estate is unrivalled.—Particulars, with plans showing the frontages and acreage of each lot, may now be had of Mr. SOMES, at the Farm; at the Inns in the neighbourhood; of HARRISON RHODES, Esq., Solicitor, Davies-street, Berkeley-square; of Messrs. BURLEY and CARLISLE, Solicitors, 8, New-square, Lincoln's-inn; and at GARRAWAY'S, Change-alley, Cornhill.

TO NOBLEMEN AND GENTLEMEN.

MESSRS. KING and SON are directed to SELL by AUCTION, on the PREMISES, Park-place, Hammersmith, on MONDAY, AUGUST 9, at TWELVE, FIFTY highly finished PORTLAND STONE FIGURES, suitable for the decoration of lawns and pleasure grounds, including Lazarus, on pedestal, 10 feet high; Mercury, Cupids, Hebe, Fidelity, and other classical figures and ornamental plasterings. Many of the figures were exhibited at the Crystal Palace, 1851.—Catalogue had on the Premises; and at the Office of Messrs. KING and SON, Auctioneers, Land, and Estate Agents, Brentford.

SALES BY AUCTION.

TO ENGINEERS, MACHINISTS, IRON and BRASS FOUNDERS, ENGINE and OTHER SMITHS, MILLWRIGHTS, PLANT-BROKERS, BUILDERS, and all requiring first class Machinery or powerful Steam Engines, superior Engineers' Tools, Implements, Fittings, &c.—The entire Plant, &c., of the Southwark Iron Works and Iron and Brass Foundry, Sumner-street, Southwark Bridge-road, with the very valuable Lease of the extensive, commanding, and well arranged Premises, is for disposal.

MESSRS. BOOTH and CO. are instructed to SELL by AUCTION, in lots, on WEDNESDAY, the 11th day of AUGUST, 1858, and following day, at ELEVEN for TWELVE o'clock precisely on each day, on the PREMISES as above, the whole of the highly valuable PLANT, MACHINERY, &c., comprising, with the usual descriptions of working tools, utensils, and implements, required in the engineering and foundry business, various powerful and highly finished machines, and others of a lighter and remarkably [illegible] description, principally by Smith, Peacock, and Tannett, S. W. Saunders, and the Reynolds, Brothers, and include large lifting planing machine, very powerful boring mill, lathes, [illegible] self-acting screw-cutting lathe, a peculiarly compact and elaborately finished shaping and planing machine, [illegible] punching machine, vertical and other drilling machines, various self-acting screw-cutting lathes, and foot ditto, &c. In the foundry is a brick-built iron bound cupola blast-furnace of 5 feet diameter, with massive foundation; a portable iron blast furnace on four wheel carriage, iron stages to large furnace supported by iron columns, small furnace for brass, large blast fan by Lloyd, travelling hoisting crane, iron framed single purchase crab, four and three sheave blocks, with iron chain fall, box weights, rakes, tapping bars, crane shank and hand ladles, &c., and above 200 boxes and flasks in the usual variety of size. In the Smithing Department are comprised a large forge crane, anvil, &c., and a superior assortment of tools. In Pattern Shop, a 16 foot bed pattern makers' turning lathe with every appointment, saw bench with saw spindle and driving riggers, circular saws, a 6-in. centre foot lathe, double and single work benches. With the lease of the premises are included two commodious dwelling-houses, Nos. 8 and 9, Sumner-street. The ground floor of No. 9 being used for offices, and commands a clear view of the yard. The entrance to the works is by a wide gateway, and adjacent to which is every facility for loading and unloading. The situation being but a short distance from the river, and opposite to the heart of the City, with other conveniences, renders it peculiarly eligible for carrying on a heavy business. The entire premises, factory and dwelling houses, are held at an extremely low rental. Further information respecting either the Estate, Plant, Machinery, &c. can be obtained at the Auctioneers' Office. The Premises, Plant, &c. can be viewed on the Monday and Tuesday preceding the sale. Catalogues will be ready three days prior to the sale, to be obtained on the Premises; of the Auctioneers, Messrs. BOOTH and CO., 13, Eastcheap, City, E.C.; and Midland House, Hackney-road, N.E.

TO IRON STEAM BOAT BUILDERS, NOBLEMEN, YACHT PROPRIETORS, and OTHERS.—A Unique Model or Experimental Steam Boat for disposal.

MESSRS. BOOTH and CO. have instructions to SELL by AUCTION, on WEDNESDAY, the 11th day of AUGUST, 1858, at the SOUTHWARK IRON WORKS, Sumner-street, Southwark Bridge-road, at ELEVEN for TWELVE o'clock precisely, a specimen of the application of an original principle in marine architecture, known and described as the STEAM-BOAT "RACER," now lying in the West-India Docks, and may be viewed by an order from the Auctioneers. Her dimensions are: length over all, 46 feet; breadth of beam, 8 feet 6 inches; fitted with vertical slot-link condensing engines of 26-horse power, and with screw propeller, intermediate gear, with tubular boiler to suit.—Further particulars can be obtained at the Offices of BOOTH and CO., Auctioneers, &c., 13, Eastcheap, City, E.C.

Six Steam-engines, varying from 4 to 100 horse-power; Seven Lithographic Printing-presses, Two Steam Boilers, and Two very strong Spur-wheels, 7 ft. 6 in. diameter, 8 in. broad on the teeth, fitted together in halves, and bored for immediate use.

MESSRS. BOOTH and CO. will SELL by AUCTION, on the PREMISES, the SOUTHWARK IRON WORKS, Sumner-street, Southwark bridge-road, on WEDNESDAY, AUGUST 11, 1858, at ELEVEN for TWELVE o'clock precisely. The above property included in the sale with plant, &c.—For further particulars see other advertisement. BOOTH and CO., Auctioneers, 13, Eastcheap, City, E.C.

COMPACT FOUNDRY and ENGINEERING BUSINESS, for DISPOSAL.—To MECHANICAL ENGINEERS, IRON and BRASS FOUNDERS, Gentlemen wishing to enter into the above Businesses, and Others.—Extensive, convenient, and very desirable BUSINESS PREMISES, peculiarly well adapted for the above trade, with the PLANT, &c. in full work, and having various good and profitable orders now in hand.

MESSRS. BOOTH and CO. have for DISPOSAL, by PRIVATE TREATY, in consequence of the Proprietor being engaged in other heavy undertakings, the above lucrative concern, well worthy the consideration of the trade, as a long term of the lease at a low rental is yet unexpired. The highly-valuable plant, machinery, working tools, and utensils, comprise all the requirements for carrying on a first-rate trade. The business has been for a number of years well and favourably known in both mechanical and mercantile circles, in consequence of the many important and useful inventions which have been projected and perfected at the establishment. The situation of the Premises is most eligible in every point of view connected with trade.—For particulars and terms, apply to BOOTH and CO., Auctioneers, Valuers, and Negotiators, 13, Eastcheap, City, E.C.

WEST LONDON IRON FOUNDRY.—Latymer-road, Notting-hill, at the back of Royal-crescent.—To Iron Founders and Merchants, Plant Brokers, and Others.—Absolute and Unreserved Sale.

MESSRS. PETER BROAD and PRITCHARD will SELL by AUCTION, on the PREMISES, on THURSDAY, AUGUST 5, at ONE o'clock, the valuable PLANT, comprising a new six-horse power steam-engine and boiler, shafting, and other gear; a patent noiseless fan, wrought-iron cupola, large quantity casting-boxes, forge, smiths' tools, valuable travelling crane, crab, cast and wrought iron, two pumps, foundry tools and utensils, counting-house furniture, and various effects.—On view morning of Sale.—Catalogues on the Premises; or of the Auctioneers, 28, Poultry.

TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE will SELL by AUCTION, without reserve, at his ROOMS, 12, Holborn-bars, opposite Furnival's-inn, on TUESDAY, 3rd AUGUST, at ONE for TWO o'clock, punctually, about 80 MARBLE CHIMNEY-PIECES, comprising neat veined for bed-rooms, breakfast-rooms, &c.; scroll and drop ditto, for parlours; black, for dining-rooms; and beautifully sculptured statuary for drawing-rooms, of qualities suitable for the mansion and cottage. Also about 100 lots of good modern Paper-hangings, in greens, flocks, satins, marbles, &c.—View day prior and morning of sale, when catalogues may be had.

TO CONTRACTORS, CAPITALISTS, BRICKMAKERS, AND BUILDERS.

MESSRS. COOPER will OFFER for SALE by AUCTION, in the month of AUGUST next, in lots, unless previously disposed of, the following valuable FREEHOLD PROPERTY:—A modern and substantial Residence, containing nine rooms, with complete stabling, chaise-house, and walled-in garden, situate at Vauxhall, near Canterbury, on the turnpike road leading to Ramsgate and Margate; a piece or parcel of highly-productive Garden and Orchard Ground, walled in, having a considerable building frontage to the said turnpike-road; also, 12 acres of superior Pasture-land, a portion of which is an old-established brick-field, where a considerable trade has been carried on, and which has now two kilns, and the other usual fixed and rolling stock in full working condition, stabling for six horses, carriage and drying-sheds, and six cottages, with gardens for labourers, the whole situate in the rear of the above lots; also, Nine Cottages, with stable, lodges, and yard, with a building frontage of [illegible] feet in Ruttington-lane, Canterbury; Four Messuages, and the Public-house called The Grenadiers, situate in Military-road, Canterbury, with Six small Tenements at the back.—Further detailed advertisements will shortly appear; in the meantime, further information may be had of Messrs. COOPER, Land Agents; or of Messrs. FURLEY and CALLAWAY, Solicitors, Canterbury.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, July 31, 1858.

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 809. AUGUST 7, 1858. PRICE FOURPENCE. Stamped, 5d.

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ARCHITECTS' BENEVOLENT SOCIETY.

PATRONS.

Sir Robert Smirke, R.A. | George Stanley Repton, Esq.
Edward Sydney Hawkins, Esq., A.R.A.

PRESIDENT.

Sir Charles Barry, R.A. | Charles Robert Cockerell, Esq. Philip Hardwick, Esq., R.A.

TREASURER.—William Tite, Esq., F.R.S.

The Last Election will take place on Wednesday, the 11th of the Month, when the Votes collected on will be received by WILLIAM TITE, Esq., M.P., Treasurer, at the Society's Office, No. 32, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

NATIONAL ASSOCIATION of MASTER BUILDERS.

—The SECOND ANNUAL MEETING of the Association was held at the Hotel de Commerce, New Broad-street, E.C., on the 12th inst., when the following gentlemen were elected as a Committee of Management for the ensuing year:—

P. GRAY.—Mr. E. GWYTHER.
Treasurer—Mr. S. BRIGGS.
Secretary—Mr. J. HARDWICK.

COMMITTEE.

Messrs. R. Bartsley; Bennett, Jun.; J. Wilkinson; S. Peabody; J. Newell; C. Jones; W. Smith; W. Graves; J. Heywood; W. Matthews; E. Warden; and Horsley.

COMPETITIONS.

TO ENGINEERS and OTHERS.—The Commissioners of Sewers for the Level of Tendring, in the county of Essex, are desirous of receiving PLANS, SPECIFICATIONS, and ESTIMATES for the DRAINAGE of that LEVEL by STEAM POWER. Three sets of plans to be sent to the Clerk, Mr. INGLIS, Solicitor, Colchester, on or before the 1st SEPTEMBER next. They do not bind themselves to accept any of the plans, specifications, or estimates, nor do they offer any remuneration for those which may not be accepted. In the event of any being accepted, the author of them will be employed at the usual commission of five per cent. upon the outlay, for all the works of the Commissioners, he will receive a Premium of Twenty Guineas, in which case the plans, specifications, and estimates shall be considered the sole property of the Commissioners. The level contains about 700 acres, is in Great and Little Bromley, Ardleigh, Wrabness, and Harwich, all within the Sea Bank, except five inches from Walton on the Naze, and about fifteen inches from the railway station at Manningtree. Further particulars may be obtained as above; or on application to the Engineer employed under the Commissioners, Mr THOMAS NICHOLSON, Great Clacton, Essex, who will show the level.

TO ARCHITECTS and OTHERS.—CAMBRIDGE ROYAL ALBERT BENEVOLENT ASYLUM. The Committee of the Cambridge Royal Albert Benevolent Society are desirous of receiving PLANS, ELEVATIONS, and detailed SPECIFICATIONS for the ERECTION of a BUILDING, to contain separate residences for twelve inmates, and a committee room, at a cost not exceeding £600. A premium of £10 will be given for the design approved by the Committee, which design is to become the property of the Society, who will not consider themselves bound to carry out the application to the Secretary. All designs are to be sent in, addressed, without name, and with a private mark or motto thereon, accompanied by a letter under cover, and sealed, containing a corresponding mark or motto, and the designer's name and address, on or before the 20th day of SEPTEMBER next, to

THOS. P. CLAYTON, Secretary,
23, Trumpington-street, Cambridge.

Cambridge, August 2, 1858.

COMPETITIONS.

BATTERSEA LAMMAS HALL.—The Trustees require PLAN and SPECIFICATION for the BUILDING of this HALL. A Premium of Five Pounds will be given for the plan and specification approved of, and accepted by them. Further particulars obtained on application to the Clerk of the Trustees, Mr FINCH, Oak House, Bridge road, Battersea.

CONTRACTS.

TO BUILDERS and FOUNDERS.—SEALED TENDERS in one Special Sum, will be received by the Director of Contracts, War Department, Pall Mall, London, on or before FRIDAY, 13th AUGUST next, at Noon, for BUILDING A RIG-HAVOR, SLIPWAYS, and LAYING NEW PIPES and HYDRANTS in the Water Works of the Barracks and War Department Property at Dover. Plans may be seen, and specifications, with all requisite information, may be obtained at the Royal Engineer Office, Dover, of Mr TENT POPE, Clerk of the works, up to the 10th, and the 11th AUGUST next, both days inclusive.

Royal Engineer Office, Dover, 27th July, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of BLETSOE CHURCH, Bedfordshire, may see the plans and specifications at my Office, on and after the 9th of AUGUST. Sealed Tenders to be sent to the Rev. [illegible] Blisset, at AUGUSTUS, a TWELVE o'clock, on Wednesday, the 18th AUGUST next, both days inclusive.

EDWARD BROWNING, Architect Stamford.

TO ENGINEERS and MILLWRIGHTS.—The Belfast Harbour Commissioners are willing to receive TENDERS for CONSTRUCTING and ERECTING [illegible] Crane [illegible] Belfast. Plans and specifications may be seen at the Engineer's Office, [illegible] Belfast, on and after MONDAY next, and Tenders must be delivered at the Office of the Harbour Commissioners, at Belfast, before FOUR o'clock. Sealed Tenders, endorsed "Tender for Crane," will be received up to ELEVEN o'clock on TUESDAY, the 17th AUGUST next. The lowest Tender not necessarily accepted.

WILLIAM THOMPSON, secretary.

Harbour Office, Belfast, July 27, 1858.

NEW WORKHOUSE, BOLTON UNION.—TO BUILDERS and OTHERS.—The Board of Guardians of the Bolton Union are desirous of receiving TENDERS for the ERECTION of a NEW WORKHOUSE, to be erected on a piece of land adjoining the Bolton and Manchester Old Road, in the township of Halliwell, in the said Union. The drawings and specifications, with conditions of contract, may be seen at the Board Room, Bolton, on and after MONDAY, the 26th day of JULY next, and Tenders must be delivered at the Office of Mr. GEORGE WOODHOUSE, Architect, Bolton, on or before TUESDAY, the 10th day of AUGUST next, at which time they will be opened in the presence of such of the Contractors as may attend. The accommodation of the new workhouse is intended to be for [illegible] inmates, and the Guardians do not bind themselves to accept the lowest or any tender. Each Tender must be accompanied by a sum of money, or the names of sufficient sureties, for the due performance of the contract, which sum or sureties will be required to be given before the execution of the contract.

No. 1. The Main Buildings, Kitchen, and Dining-hall
2. The Lunatic Asylums
3. The Infirmary
4. The Chapel and Offices

All the Tenders are to be sealed, under cover, addressed to the Chairman, free of expense, and endorsed "Tender for New Workhouse," and are to be delivered at the Office of the Board of Guardians, Bolton, on or before the 10th day of AUGUST next. The Guardians do not bind themselves to accept the lowest or any Tender. Two sufficient sureties will be required for the due performance of the contract.

By order of the Board of Guardians,
JOHN WOODHOUSE, Clerk.

Union Offices, Bolton-le-Moors, July 21, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the PARTIAL REBUILDING and REPAIR of GREAT WALTHAM (FIELD) RECTORY, near Chelmsford, are informed that the plans, specifications, and quantities may be seen at Rectory-house, on and after MONDAY, August the 9th, on application at the old Rectory-house; and any further information needed may be obtained from the Architect, Mr. CHRISTIAN, 10, Whitehall-place, London, S.W. Tenders must be sent to the Rector before the 21st instant. The Rector does not bind himself to accept the lowest Tender.

BOROUGH of WAKEFIELD.—The Burial Board Committee of the Corporation of the Borough of Wakefield are prepared to receive TENDERS from competent builders, architects, or others for the whole or separate parts of the work required in the ERECTION and COMPLETION of TWO SEPULCHRAL CEMETERY CHAPELS, &c., with walls, fences, masonry, woodwork, drains, &c., in the Belle Vue Cemetery, Wakefield. The plans, and specifications may be seen, and all information relative to the above obtained, at my Offices, on and after MONDAY, AUGUST 9, and sealed and endorsed Tenders, addressed to the Burial Board Committee of the Wakefield Corporation, must be delivered at the Town-clerk's Offices, on or before MONDAY, AUGUST 23. The Committee do not hold themselves to accept the lowest Tender.

MARRIOTT O. TARBOTTON, C.E. Borough Surveyor.

Borough Surveyor's Office, Bridge-square, Wakefield,
August 5, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a SMALL FARM-HOUSE, at [illegible] Wilsden, are requested to send their Tenders to Mr. WM. ADAMS, Wilsden, sealed Tenders for executing the work on or before the 18th AUGUST next at whose office the plans and specification may be seen. The Tenders to be endorsed "Tender for Farm-house." The proprietor is not pledged to accept the lowest or any Tender.

Wilsden, August 1, 1858.

TO BUILDERS.—ESTIMATES WANTED for the FINISHING of FOUR of HOUSES in St. Leonard's road, Surbiton, close to the Grove Tan, and near the Kingston station. The specification may be seen by applying to Mr. NIX, on the Premises, on the 7th, 9th, 11th, and 13th inst. Estimates to be sent to JOHN GALSBY, Esq., 23, John-street, Bedford Row, W.C., not later than the 12th.

CONTRACTS.

TO BUILDERS.—PETWORTH, SUSSEX. The Trustees of the late Mr Tyler's Estate are prepared to receive TENDERS for the EXECUTION of the necessary REPAIRS to be done to several Houses at Petworth, Sussex. The Specifications may be seen, and information obtained, at the Office of A. B. FRIEND, Esq. Architect, 41, Bedford-row, London, W.C. Tenders to be delivered on or before TUESDAY, the 17th day of AUGUST, 1858.—The Trustees do not bind themselves to accept the lowest or any Tender.

PERSONS desirous of CONTRACTING for FIVE HOUSES at Lee, Kent, may see the drawings and specifications at J. TIDDYARDS, Esq. Architect, 5, Knightrider-street, Doctors' Commons, E.C.; or for quantities of same at Mr. HY. W. BROADBRIDGE'S, Surveyor, 16, Essex-street, Strand, W.C. Tenders received at Deptford on MONDAY, the 9th of AUGUST next, at SIX o'clock in the evening, the lowest will not necessarily be accepted.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS.—To WELL-SINKERS.—ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Parks Committee are prepared to receive ESTIMATES from persons willing to Contract for Sinking a Well, on the ARTESIAN WELL for the supply of water for the above baths. The Engineer, specifications, with the conditions for executing the work, may be inspected at the Office of the Architect, Mr. EDWARD HOLMES, 25, Temple-row, Birmingham. Estimates must be sent to the undersigned, on or before the 20th of AUGUST, 1858, endorsed "Tender for Artesian Well for Baths, Birmingham." The Committee do not hold themselves to accept the lowest or any Tender.

THOMAS STANDERBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 15, 1858.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS.—To BUILDERS.—ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Parks Committee are prepared to receive TENDERS for the ERECTION of NEW BATHS, Birmingham, and the Contract for the same will be entered into with the party whose Tender is accepted by them. The drawings and specifications may be seen, and quantities obtained, on and after the 20th of AUGUST next, at the Office of Mr. EDWARD HOLMES, 25, Temple-row, Birmingham, on and after the 20th AUGUST next, by applying there. Sealed Tenders are to be delivered at the Office of the Town Clerk, Birmingham, on or before the 6th of SEPTEMBER, 1858, endorsed "Tender for New Baths, Birmingham," together with the names and description of two responsible persons as sureties for the due performance of such Tender, the sufficiency of such sureties to be certified by some Magistrate for the borough, or county in which they may reside. The Committee do not hold themselves bound to accept the lowest Tender.

THOMAS STANDERBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 15, 1858.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS.—TO PLUMBERS, GLAZIERS, and PAINTERS.—ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Parks Committee are prepared to receive TENDERS for the PLUMBING, GLAZING, and PAINTING required in the erection of the new Baths, Woodcock-street, Birmingham. The Tenders must be sent to the undersigned, on or before the 20th of AUGUST, 1858, endorsed "Tender for Plumber's, Glazier's, and Painter's work for New Baths, Birmingham," and after the 20th AUGUST next. Persons wishing to tender are required to call at the Office of Mr. EDWARD HOLMES, 25, Temple-row, Birmingham, on and after the 20th AUGUST next, to see the plans, specifications, and quantities, and to obtain forms of tender. The Committee do not hold themselves bound to accept the lowest Tender, or any Tender. Each Tender must be accompanied by a sum of money, or the names of sufficient sureties, for the due performance of the contract, which sum or sureties will be required to be given before the execution of the contract.

THOMAS STANDERBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 15, 1858.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—LOAN.—The Board of Works for this District are desirous of receiving TENDERS for the [illegible] required to ADVANCE the sum of £[illegible] on the security of the Rates of the said District, with interest half-yearly in the meantime. The said sum is required to be borrowed under the provisions of the Metropolis Local Management Act. The said loan will be repaid by fifteen annual instalments, with interest half-yearly in the meantime. Tenders, stating the sum required, and the rate of interest per cent. per annum, to be delivered at the Office of the Board, Church House, White Horse-street, Commercial-road East, on or before TWELVE o'clock at Noon on WEDNESDAY, the 18th AUGUST, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

HANDRAIL of WAINSCOT.—WANTED, a TENDER for to EXECUTE the above in a first-rate manner.—Direct, P. Z. at Messrs. Beddings's, Stationers, Cornhill, London.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a PARSONAGE HOUSE, for the Parish of [illegible], in the parish of Radipole, near Weymouth, Dorsetshire, may see the plans and specifications at the Office of the Architect, Mr. G. R. CRICKMAY, St. Thomas-street, Weymouth, on and after the 9th inst. Sealed Tenders to be sent to the Rev. JOHN STEPHENSON, near before MONDAY, the 23rd inst., by TWELVE o'clock, at [illegible]. The Building Committee do not hold themselves to accept the lowest or any Tender.

TO BRICKLAYERS and PLASTERERS.—TENDERS required for ALTERATIONS to PREMISES, No. 18, Salisbury-street, Strand. Specification may be seen on application on WEDNESDAY, AUGUST 11th, at FOUR o'clock; and Tenders to be delivered on SATURDAY, AUGUST 14th, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

LONDON and NORTH-WESTERN RAILWAY.—To CONTRACTORS and BUILDERS. The Directors are desirous of receiving TENDERS for ADDITIONS to the ENGINE SHED, at Willesden Station, including excavation for site. Parties desirous of Tendering may inspect the drawings and specification, and obtain a statement of the quantities, at the Engineer's Office, Euston Station, on MONDAY, the 9th inst., between the hours of TEN and FOUR o'clock. Tenders addressed to the Secretary, at this Office, to be sent in on or before THURSDAY, the 19th of AUGUST, at TEN o'clock a.m. The Directors do not bind themselves to accept the lowest Tender.—By order,

CHAS. E. STEWART, Secretary.

Secretary's Office, Euston Station, August 4, 1858.

SPECIAL INSTRUCTIVE LECTURES TO THE INDUSTRIAL CLASSES ON MONDAY AND SATURDAY EVENINGS.

ROYAL POLYTECHNIC INSTITUTION. The first whole will admit the Industrial Classes and their Families, on MONDAY and SATURDAY EVENINGS, at HALF-PRICE, when ordered by the Governors of the Establishment to which they belong. Lectures and Music as usual.

ROYAL POLYTECHNIC INSTITUTION. Patron H.R. Highness the Prince Consort.—New Dissolving Views.—View of Cherbourg, its Docks, Fortifications, &c. commencing with pictures of the Original Entrance.—Chemistry—its Mysteries experimentally unravelled.—Is smoke Economy?—Coal, its Adulterations.—Lecture on English Ballad Music, by T. Pead, esq., assisted by Miss Freeman.—Demonstrations of Inventions.—Principles of Diving and Diving Bell explained.—Hydro-Oxygen Microscope, with its aquatic Monsters.—Admission, One Guinea.

FREDERICK DENT, Chronometer, Watch, and Clock Maker to the Queen and Prince Consort, and maker of the great clock for the Houses of Parliament, 61, Strand, and 34, Royal Exchange.

No connection with 33, Cockspur street.

NOTICE.—ELLIOTT, BROTHERS, Opticians to the Admiralty, Ordnance, and East India Company, and Successors to Watkins and Hill, beg respectfully to give notice that they have REMOVED from 56, Strand, and 5, Charing-cross, to more Extensive Premises, No. 30, STRAND, formerly Warren's.—Illustrated Catalogues by post for 18 stamps.

STEAM BOILERS. — 150 Tons Cornish Tubular and Egg End, new and second-hand, from one to 30-horse power Steam Engines, Sawing Machinery, Hydraulic and Screw Presses, Lathes, Drilling Machines, Builders' Cranes, with other useful Machinery, including Portable Steam Engines, on SALE or HIRE.—T. TAYLOR, 197, Southwark Bridge-road, Newington-causeway.—N.B. Plant and Machinery Purchased.

MORRIES STIRLING'S PATENT CAST and MALLEABLE IRON.—The toughened cast iron for girders, shafting, toothed gearing, railway-waggon wheels, engine cylinders, hydraulic cylinders, and for all purposes where a strong, dense iron is required, can be obtained of the following brands:—

Dundyvan	Lloyd, Foulers, and Co.
Forth Company.	Russells, Hall, and Co.
	Wrigley Company

RAILS of the surfaced with Patent Hardened Iron can be ordered from the following works:

Parkgate.	Ebbw Vale.
Lloyds, Foster, and Co.	Tredegar.
Cwm Celyn and Blaina.	Dundyvan.
Hawks, Crawshay, and Co.	Mohkland.
Losh, Wilson, and Bell	

By direct application to them.

For durability these Rails have never been surpassed. They do not laminate, and wear out several sets of ordinary rails.—Full information, and terms for use of patent right, can be obtained of Messrs. CONNELL and HOPE, 3, Princes-street, Westminster; and of Mr. S. THORNTON, Bradford-street, Birmingham, who also receives orders for Mr. MORRIES STIRLING'S Patent Iron and Rails.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT and CO. 55, High Holborn.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (limited). HENRY FOGERS, Manager. Lion's Wharf, and No. 43, Upper Thames-street, London. These Windows combine the advantages of great strength with lightness and cheapness, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, &c. Estimates, plans, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE. This Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials of the highest possible character are daily given by the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 3l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with universal approval. These traps may be had of all Ironmongers, also of the Patentee, Iron Foundry Company, limited, 43, Upper Thames-street, Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Cheesmail and Soap pans, Furnace Bars, and all other kinds of Castings, for manufacturing and building purposes.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Meter and Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure and preventing any irregularity in the height of the flame.

D. HULETT and CO. 55, High Holborn, London,
Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

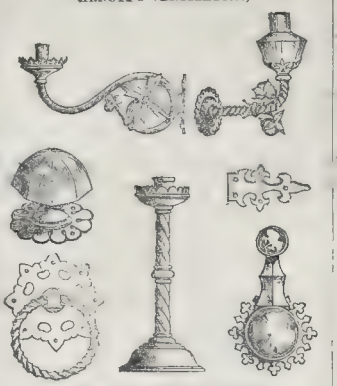
TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO., Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article being of the best description. Patentees and manufacturers of the Metallic Packing for Pistons. Complete Pattern-book and price-list, 10s.—Nos. 55 and 56, High Holborn.

NAILS and IRONMONGERY, from BIRMINGHAM direct. Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery of every description, at the LOWEST BIRMINGHAM PRICES. A complete List of which will be forwarded upon application to FRANCIS PIANCHI (late Blythe) and Ryan, Nail Manufacturer and General Factor, BIRMINGHAM; and at 16, Gresham street, London, E.C.

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Castings, &c. STEWART'S PATENT CAST IRON GAS and WATER-PIPES. Office, No. 7, Size-lane, London.

HART AND SON, IRONMONGERS AND MANUFACTURERS OF ARNOTT'S VENTILATORS,



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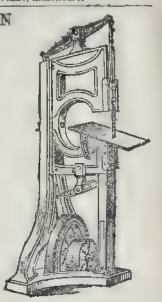

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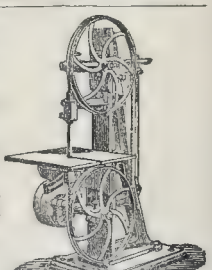

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E. G. CHAMBERLAIN, Clerk.

Leicester, July 27th, 1858.

IRON FOUNDRY, Harrow-street, Lant-street, Southwark, S.E.—W. R. BARTLETT, Manufacturer of Girders, Columns, Gallows, Railings, Balustrade and Newel Bars, Iron Copings, Panels, Trade Lettering, Area Gratings, &c. Also Fly and other Wheels, Riggers, Lineman and Machinery Castings, Forge Backs, Furnace Bars, Kilns, Pipes, Tank Plates, Soap Frames, and other Castings, to patterns or drawings.

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CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

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SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
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CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

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Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

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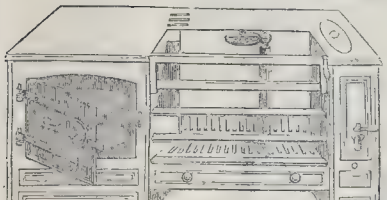

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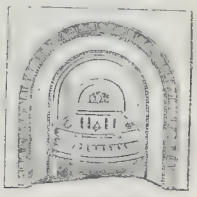

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22 in.	9 in.	1 6 0
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26 in.	12 in.	1 8 0
28 in.	12 or 15 in.	1 9 0
30 in.	12 or 15 in.	1 10 0
32 in.	15 in.	1 11 0
34 in.	15 in.	1 12 0
36 in.	15 or 18 in.	1 13 0
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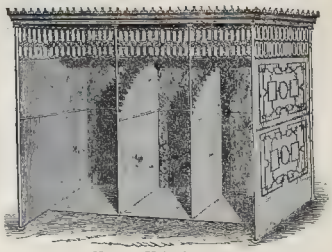

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
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THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

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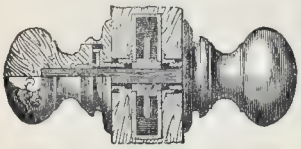

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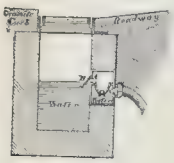
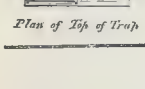


Sectional Elevation of Street Gully & Trap



Plan of Top of Trap

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IS ADAPTED FOR

STREETS AND STABLE DRAINS,

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AREA, SINK, AND SCULLERY DRAINS OF DWELLING-HOUSES.

It is compact in form, simple in construction, not liable to derangement, and is decidedly (WITH OR WITHOUT WATER) the most perfect Trap of the day.

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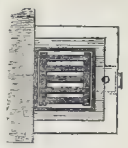
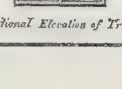


Plan of Street Gully & Trap



Sectional Elevation of Trap

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With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;

WATERWORKS FOR THE SUPPLY OF TOWNS, WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.

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Specimens can be seen on application. They are only one-third the price of bronze ones, hitherto used, and are superior in the purity and melody of their tone, and in their not liability to break.

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Weight about 2,15c lbs.		3,160 lbs	5,560 lbs
The Tenor 36 in. Key B flat.		42 in. Key G.	52 in. Key E.
Price about 90l.		120l	220l
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Weight about 2,500 lbs.	3,500 lbs.	4,800 lbs.	7,000 lbs.
Tenor 42 in. Key B.	42 in. Key G.	48 in. Key F.	54 in Key E.
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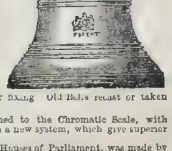

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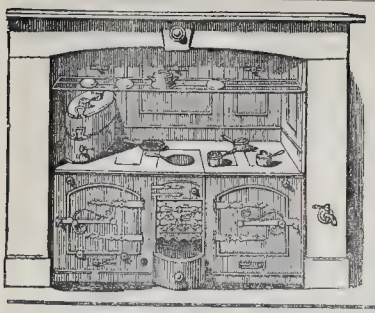

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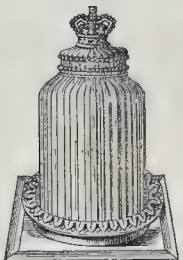

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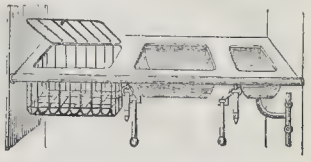

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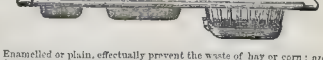

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The Builder.

Vol. XVI.—No. 809.

Ventilation of Sewers.—The Drainage Question.

VENTILATION, or otherwise the prevention of effluvia, as we have often said, is a very important point in the sewerage question. The Report to which we referred last week, as previously, is the result of a reference of the City Commissioners to their Engineer and their Medical Officer of Health, to consider the question of sewer ventilation generally. The report of the latter, which has yet to appear, it is expected will give the results of an extensive series of chemical investigations into the composition of sewage waters, and the gases in sewers; and if it should suggest use of any chemical agents, the question of the practical application of them will probably be dealt with in a supplementary report by the engineer,—who may effect more than he at present thinks, with the means already open to him.

The older sewers had no ventilating shafts, other than the gullies, which of course had no traps. On the increased consumption of water, its discharge into cesspools became inconvenient; and by progressive stages, that and the whole of the sewage came to be ejected into sewers originally devised for the rain-water and street-drainage merely. The reception of house-sewage by the sewers, first interdicted, came to be enjoined. Thus, prior to the year 1830, complaints of effluvium from the gullies commenced; in 1834, a gully-trap was designed by the surveyor to the City Commissioners of the time, and was applied in the Pavement, Finsbury: in consequence of the great complaints in the Holborn and Finsbury division of sewers, traps shortly afterwards were applied there: in 1840, nine hundred of the gullies in the City had traps; and in 1848 all the gullies were so provided. But even when a small number were fixed, it was apparent that the sewers were becoming dangerous for workmen, as well as that the gases found vent by the drains, and through the closets, into houses. The ventilating-shafts connected with small iron gratings in the centres of the carriageways, were then adopted; and this system of ventilating and trapping extended from the City of London throughout England, and continued to be general till the recent attempts by other methods.

The subject of sewer ventilation has been very imperfectly understood, and amongst the unlearned we may place the Board of Health, and their followers, who having a compact to rate down architects and engineers, at all times and seasons, as obstructives, themselves fall into errors of serious character. Amongst the "Elementary Maxims for Town Drainage," 1852, issued by the Board, is this one:—"Make proper provision for the ventilation of all sewers and drains, in such manner that there may be a free current of air through them in the direction of the sewage-flow." At Croydon this idea was acted upon: no provision was made for ventilation at the higher levels of the sewers; but a furnace was kept burning at the outfall, with the view of aiding the exhaustion and consuming the gases. The result, however, during the action of the furnace, was that (though it was believed that all inlets had been securely trapped, and the system almost hermetically closed, excepting at the outlet) the draught was frequently up the sewer, and not down it: the sewers, in short, ventilated themselves by the closet-traps; and the disastrous results of this and other cognate events are well known. Far from finding any regular influence from the water-current, on the course of the air, Mr. Haywood by repeated experiments has found that the air-current can be in an opposite direction; and this, he says, is its natural tendency. The newspapers have been very ready to admit complaints of the escape of effluvium from sewers, but it is clear that had the remedy been applied as suggested by the writers, more serious evils would have resulted.

Accidents in sewers through defective ventilation, appear to have arisen chiefly by the explosion of coal gas. The escape of this gas from the pipes is, without reference to the sewers, an evil of serious character, affecting the health of the metropolis: some attention has been given to it, and much more will be required. We refer to it here, to say that the results can hardly be warded off, except by the use of sub-ways, themselves ventilated, so as to prevent the unequal pressure of earth, and to allow of the escape, should leakage take place; and that such sub-ways, at all events, allow of some means of treating chemically the sewage in the sewers without the difficulties now considered to be insurmountable, though, as we think, erroneously so. The gas just mentioned, or carburetted hydrogen, is supposed, however, to arise, at times, from decomposition of the sewage. Sulphuretted hydrogen, the chief gaseous product of putrid decomposition, is found in nearly all sewers, and more or less in combination with other gases; it is slightly inflammable, but serious accidents have rarely occurred from that circumstance. It has greater specific gravity than the air. Carbonic acid, uninflammable, is also deadly and heavier than the air; but it is not found in the present sewers, at least not generally.

The remedies proposed to obviate the necessity for a better method of ventilation, include improvement in the mode of constructing sewers and drains, and keeping the channels in a high condition of cleanliness; disinfection of fæcal and other matters before passing them into the sewers; disinfection with chemical agents applied in the sewers; neutralization of the emanations by chlorine or other gases, similarly applied; and a copious dilution with water. The mechanical means include the existing method of ventilation; the use of the rain-water pipes; the provision of pipes or tubes carried up the fronts of houses to the tops of the chimney-shafts; shafts or chimneys erected at suitable spots; use of the lamp columns and jets of gas; and furnaces and shafts specially erected, or the application of those in works and factories which may be the property of private individuals. The mechanical contrivances include the various pumps and fans for effecting *plenum* or *vacuum* ventilation, and the use of the steam jet. Mr. Gurney claims a special merit as attached to the combination of the furnace and steam jet, and in comparison with simple furnace ventilation: he has stated, we believe, that merely passing sewer-air through the fire would not decompose the effluvia, as generally supposed; and in the Report of the superintending engineer, on the successful ventilation of the Friar-street sewer, in 1849, "the practicability of depriving the gases of their noxious smell and character, as rapidly as they were drawn out, by passing the jet through a coke fire" (we quote from Mr. Haywood), was considered by Mr. Grant as proved. Mr. Haywood, however, does not think there is conclusive evidence as to this special merit; and in its absence, his "impression is that simple ventilation by furnace would be found the best and cheapest." Sufficient extractive power might, of course, be applied to the sewers by either method.

The late experiments did not satisfy the City engineer as to the easy application of such methods, any more than as to the special merit just referred to. Mr. Gurney's argument before the committee, we believe, will be correctly stated here; that inasmuch as gas for illumination is pressed from works through an immense number of ramifications and orifices, so air may be drawn from similar points in a reverse direction,—the greater friction in the tubes of small diameter, which would seem unfavourable to the latter operation, being, in opposition to Mr. Stephenson, considered of no importance. Mr. Gurney, as we have before mentioned, seemed to accord with the view of the analogy between the ventilation of sewers and the ventilation of mines,—though a mine has but one inlet and outlet, whilst a system of sewerage has an immense number of inlets and unavoidable leakage. It is this last circumstance that occasions the difficulty. If the supply of air answering the demand could be brought through inlets lying near to the position of the extracting power, the distant portions of the system would of course remain unventilated. It would be necessary to provide a very large number of the furnaces or other appliances, or to maintain an exhausting current at a cost which would seem excessive, even considering the objects, as well as a current which would render it impossible to carry on requisite works within the sewers. The total of inlets to the drainage-channels in the City of London is estimated at the number 47,819, or at one opening or inlet to every 23·84 feet of channel. The uncertainty of the operation, considering imperfections of traps and valves, and occasional openings for repairs, is therefore evident. With these ideas of the difficulties in the way of sewer-ventilation, the opinions of Mr. Faraday accord.

Notwithstanding these discouraging arguments, our information as to the experiments at Carlisle shows us that the system of ventilation by chimneys and furnaces deserves to be further considered, with a view to dependence upon it, if not wholly, occasionally, or in part. If we are rightly informed, some, if not all of the four chimneys used at Carlisle as auxiliary to the general system designed, have not been erected for the purpose, but are attached to steam-engines or factories which are private property. Adoption of such a system exclusively, would involve several obvious questions of arrangement with owners, and as to modifications in chimneys themselves. We are told, however, that at Carlisle the exhaustion of a certain length of sewer is managed by one of the shafts without difficulty.

It should not be forgotten that the gases are not readily destroyed, but that they have a tendency to descend from great heights, and diffuse themselves over wide districts. This was admitted by the Metropolitan Sanitary Commission in 1847, and by the General Board of Health in 1850.

As to the proposition to use the lamp pillars, aided by jets of gas burning night and day, it is doubtful whether offensiveness would be materially destroyed by the flame; and thus, issue of sewer gas would take place at a level where injury to public health would be nearly as great as under the present system. It is doubtful whether the currents would be sufficiently strong; and we gather from the

statements, that the cost to the City alone would be 23,500*l.* per annum. As regards unaided natural ventilation, it does not seem that this could be relied on. The rain-water pipes, tubes for the special purpose attached to houses, and separate shafts at suitable localities, have been tried, — the first-mentioned in several cases; but no one method is certain in action. In two of the methods, the advantage seems doubtful just where prevention of effluvium is most needed, and the gases, as we can testify, and as was stated in evidence the other day, are as great an annoyance in the upper rooms of houses as they would be in the street. The shafts without furnaces do not, from causes of temperature, seem to be efficient just when they are most needed.

Therefore, while admitting that cases like that of Carlisle, where several of the methods mentioned are in operation, deserve further consideration; and also admitting that in London, use might be made of other expedients, as shafts in the towers of churches; we are brought back to the question whether the real evil must not be combated at its origin, and by means the efficiency of which is not controverted, though the method of mechanical application may have to be shown. To such means, or other than improved ventilation, important, as we believe, under any system of metropolitan main sewerage, we must give attention in another article.

EARLY CHRISTIAN BUILDINGS AND THEIR DECORATIONS;

ILLUSTRATED BY WILTON CHURCH, NEAR SALISBURY.*

I have been asked to give you some particulars of Wilton Church, and to explain what class of buildings this edifice illustrates, what particular period in that continuous history which architecture has written. To do this I must rehearse briefly a portion of that history, and tell a twice-told tale to many who are here. I might fear, therefore, to be considered impertinent were it not known that on these occasions some are present who have not given attention to the subject previously; and to these, carrying out the popular character of an architectural and archæological congress, I venture to address myself. What I have to say, and much more, will be found in the pages of the late Thomas Hope† and Gally Knight,‡ and if our visit to-day should lead any who have hitherto disregarded the subject, to look to these authors, if no further, one of the objects of the Congress will be attained. They will see how important to the history of the world are the buildings which the peoples have left, how interesting is the story they tell.

The Greeks improved on the architecture of Egypt and Assyria, and the Romans borrowed and altered the architecture of the Greeks.

In Rome, prior to the time of Constantine, the first Christian emperor, there were buildings of a particular sort, known as *Basilicæ*, which, as their name shows, were connected with the sovereigns, or the kingly office of dispensing justice, which was then chiefly made of them.

[The reader then described an ancient basilica, —the narthex, nave, bema, and absis.]

When churches were needed for the offices of the Christian religion, these buildings were found suitable, and were so appropriated; and were, further, followed as models when the erection of other churches was necessary. The single porch of the basilica was elaborated in time to a court, with colonnades, similar to the court or atrium, which preceded many of the heathen temples. The clergy sat in the absis; a portion of the nave was railed off for the singers, and became the choir or chancel; and the *ambones*, or pulpits, were formed in it. After the removal, in the fourth century, of the seat of empire by Constantine to Byzantium, afterwards called Constantinople, other basilicæ were erected. The style followed in their erection was Roman, but art in Rome at that time had declined, and other circumstances were in operation to render these Christian buildings different from the Classic temples. In times of danger, the early Christians had been compelled to resort to the catacombs of Rome for the celebration of their rites. Here the martyrs were buried, and the walls and ceilings were adorned with pictures, and with Christian emblems. In the erection of new basilicæ, this connection between places of worship and the burial of saintly persons was continued, and crypts were constructed to receive the bodies of holy personages. Some of the churches built received the form of catacombs, and others were erected over existing tombs.

San Clemente, originally erected, perhaps, in the fourth or fifth century, rebuilt 790, but with little departure from original, and so remaining, affords a specimen of a primitive church, including the atrium for the excluded class of penitents.

In later times, when the number of altars was increased, an additional apse was introduced at the end of each aisle; later still at east side of transept, &c.; and lastly came side chapels.

"It is not certain," says Gally Knight, "at what time, or by whom, the form of the basilica was so far altered as to impart to churches the symbolical shape of the cross. That this alteration was not adopted in the first instance, may be inferred from the fact mentioned by Cedrenus, that Justin II. [580], altered a church at Constantinople, into the shape of the cross. Had the alteration been made, in the first instance, in the churches which Constantine built at Rome, it would, in all probability, have been equally adopted in the first churches that were erected in the new capital." The alteration, whenever it was introduced, would be easily effected by throwing out additional wings, on either side of the basilica, near the upper end, or the form might have been obtained internally by the disposition of the columns at the end next the absis. The roofs were of timber, and with the large extent of flat wall surface, afforded a good field for coloured decoration. Formed though these buildings were in many cases of parts taken from earlier structures, with their long ranges of columns, wide flights of steps over the crypt, leading up to the table of communion, with, behind this, the bishop's throne, and seats for the clergy around the absis, a noble effect was produced.

In Constantinople, changes in the form of churches were soon made. Skill in the art of vaulting, which enabled them to cover in large areas with domes, led to the substitution of a square for the oblong, and thus came into use what is known as the Greek cross (a cross with arms of equal length), in opposition to the Latin cross, whereof one arm is much longer than any of the others.

[Santa Sophia, completed in 548 Justinian, and San Vitale 530, were described as examples of Byzantine architecture.]

The schism which took place between the Patriarch of Constantinople and the Pope led the Byzantine artists to maintain their own way of building in opposition to that of the Latin church. In the eighth century, to prevent a return to idolatry, all sculptured images were condemned by the Greek Church, and disappeared from their sacred buildings. Numbers of Greek artists were driven abroad, and the very steps taken to prevent the use of certain styles of ornamentation led to their introduction in various parts of the world. The way to make an opinion spread is to persecute it.

The use of mosaic work, colours, and gilding was very general in Rome when taste in architecture was declining: and the Greeks of Byzantium, taking up the manufacture of mosaics, became so celebrated as to give their name to some varieties of it. They attained peculiar excellence in giving to glass a variety of hues, and applying it to the adornment of walls and ceilings. The prohibition of sculpture in relief rendered this the more valuable.

In the sixth century, Ravenna became the seat of government of the Greeks, and numerous buildings being erected there, under Justinian, the Byzantine style was first seen in Italy. There were great convulsions at this time, and at the end of the century the Lombards were rulers in Italy, and, adopting the Romanesque manner with some new features which they introduced, built churches in every direction, and gave to architecture a distinctive character which prevailed wherever the Latin Church ruled. San Michele at Lucca, and San Michele at Pavia, of the seventh and eighth centuries, are the earliest churches attributed to them. Charlemagne put an end to the rule of the Lombards in 774, but adopted and naturalized on this side of the Alps their style of building, modified by Byzantine artists, by whom, indeed, the Lombards themselves had been influenced. In the eleventh century Lombard architecture received a fresh impulse, and was exhibited especially at Pisa, in the group of well-known edifices there. What we call Saxon and Norman architecture are shoots from the same root, influenced in their course by local circumstances.

Returning to the Lombard buildings of Italy we find the plan is that of the Roman basilica, with the Latin cross; slender projections rise from the ground to the roof line, arcades or corbelled strings follow the line of the gable, the surfaces are enriched with coloured materials, and over the central doorway there is frequently a wheel-of-fortune window. There is much variety shown in the capitals of the columns; vaulting shafts were introduced, with a large amount of sculpture, including Christian symbols. It was in this sculpture that the Lombard energy was especially shown. In some instances it covered the buildings with figures,—animals, and men,—from top to bottom. Some of the sculpture from Scandinavia.

The early churches had no tower. The year 772 is given as the date of the first, built in Rome. Intended simply to carry the bells, the tower had no necessary connection with the church, and always stood by itself. In countries where the weather was more inclement, this may have been found inconvenient; at any rate, the belfry was soon made, beyond the Alps, to form part of the building. In the eleventh century, as I have already said, the Lombard style had made an advance; the pillars were more lofty, the carving was less redundant. Then, too, appeared a new feature in the shape of large projecting porches, sometimes in two stories, the roof supported by pillars, which often rested on the backs of lions, intended, it has been suggested, to represent the strength and vigilance of the church. Sometimes, later, the animals were from the arms of the state to which the building belonged.

Those who have been so good as to follow me will step without difficulty from Northern Italy to the church in which we are assembled, in Wilton, once the most important city in the county of Wilts. The old church at Wilton had fallen into a very bad condition, and it became necessary to rebuild it. It was proposed at first to pull down the old church (the photograph before you shows its present condition) and build on the same site a Gothic church of moderate size and pretensions; but instead of allowing the parish to be at any expense, the Hon. Sidney Herbert took upon himself the cost of a new church on a new site. It is supposed that on the spot chosen stood originally a church dedicated to St. Mary and St. Nicholas. At any rate, they found many bones, which were disposed of as I will presently mention. At one time, Mr. Herbert intended bringing to England the principal portions of an old Lombard church near Florence. But as there was some difficulty in getting possession and permission to ship the remains, Mr. Herbert determined to build a new church instead, and adopt the style of the building in question. Messrs. Wyatt and Brandon, his architects, fell into his views, and the church in which we are now assembled is the successful result.

The date of the west front of Santa Maria at Toscanella, one of the works which served as a type for Wilton Church, is supposed to be 1206. It is Lombard in style, but displays so many innovations as to lead to the impression that a northern architect influenced it. Nevertheless, there is the wheel-of-fortune window, with the four beasts of the Apocalypse, and the pillars of the central entrance rest on animals.

San Pietro at Toscanella has a west front of the same character,—pediment, wheel window with the evangelistic symbols, arcade beneath it, great central doorway, and smaller entrance on each side to the aisles. The date of this is supposed to be the first half of the eleventh century. The body of the church belongs to the middle of the seventh century, and is a studious imitation of Roman architecture.

These two fronts, then, afford the type which the architects of Wilton Church followed; but the result is by no means a slavish appropriation, and may be taken to embody the characteristics of Lombard churches of the eleventh and twelfth centuries, exhibiting the effects of Byzantine influences.

[The building was then described. The campanile is about 100 feet in heighth, and is detached, connected by open covered way.]

Against the south wall of the church, outside, is a sarcophagus on cantalivers, surmounted by a roof supported on columns. In this were deposited bones, found on the site when preparing the foundations for the new church, thus preserving the connection which used to exist between the early churches of this character and sepulchral memorials. On a plate beneath the

* Read by Mr. Godwin, at the Salisbury Congress of the British Archæological Association, elsewhere mentioned.

† "Historical Essay on Architecture."

‡ "The Ecclesiastical Architecture of Italy, from the Time of Constantine to the Fifteenth Century."

sarcophagus is the following inscription:—"*Intus reponuntur ossa ovæ hoc sacrosancto loco olim humata hujusce ecclesiæ renovatæ substructiones inter faciundas effossa sunt. Anno Domini Nostri* 1815."

Entering the church you will find the plan coincide with that of the early basilican churches, already mentioned.

Made to form part of the north doorway is an Elizabethan monument, dated 1626, to William Sharpe and his wife, which was brought from the old church, and affords an example of the ease with which the architecture of the Renaissance may be made to assimilate with that of the Lombards.

Notice the diaper of west screen, and the mode in which the parapet is made to run round the columns. In it appear the words—"All things come of thee, and of thine own have we given thee." The ceiling over chancel is decorated with symbols of the Evangelists, and "*Satus Mundi.*" The capital of the last column on the north side also has the evangelistic symbols. In another appears the crowned cross, with the sacred monogram. Amongst the Christian emblems these were the most common, together with the dove with the olive-branch, the scape-goat typical of the atonement, the fish, and the vine.

"A priest transfixing a dragon with a spear, represented the destruction of Paganism. Angels on one side of the portal and devils on the other, reminded the faithful as they entered of the joys of Paradise and the torments of Hell."*

Amongst the Pagan symbols, the one the most frequently introduced was the Zodiac, and sometimes the Sagittarius appears by himself as the representative of the Zodiac. A Syren is not unfrequent, and probably was meant as a warning against the enticements of the world. The zodiac will be seen on the soffit of the arch, next the apse.

The font is of varied marbles, and does not at first sight suggest to us ecclesiastical uses; even the adornment on the foot of it—the vine-stem and grapes in *niello*, on white marble,—tends to prevent this. In truth, however, as you know, the vine has been a Christian symbol from the earliest time,—a symbol of the labours in the vineyard of the faith, or of the assertion, "I am the Vine." The early Christians, as Hope pointed out, adopted the Pagan emblems and customs, giving to them different associations. The vine of Bacchus and the corn of Ceres served to suggest to those who held by the new faith the Last Supper of their heavenly Master.

Let us pass now to other decorations. Without referring to antique mosaics, it will suffice to speak of the three varieties of Christian mosaics which were employed between the fourth century and the thirteenth century, mainly the work, as we have already seen, of the Greeks of Constantinople. The art was taken from Rome to Byzantium, where the Greeks made it their own.

This *opus Grecanicum* was glass tesselation, used chiefly in church furniture, and of which there are many specimens in Wilton Church, especially in the pulpit, the apse, and the small twisted columns supporting marble balls. These mosaics originally formed a shrine or tomb in the Church of Santa Maria Maggiore, I believe, and were brought to this country from Rome by Sir W. Hamilton, having been removed from the church during some alterations there. They found their way to Strawberry-hill (that curious first step to the study of Mediæval art in England), and when the collection there was dispersed, came into the possession of Mr. Herbert. Some of the other twisted columns and the balls came, I am told, from Palermo. The balls afford an interesting set of specimens of Italian marbles. This *opus Græcum*, or *Grecanicum* as it has been called, consists in the insertion into grooves, cut in white marble to the depth of about half an inch, of coloured or gilded *smalto*, as the material is termed, in such combination as to compose geometrical patterns. You may see other specimens of it around the north doorway. These forms were combined with slabs of porphyry, serpentine, and other marbles. The work prevailed during several centuries, but was probably not practised earlier than the sixth. The Saracenic workmen improved on the forms used. There is a specimen of this glass tesselation, you will remember, in the shrine of Edward the Confessor, in Westminster Abbey, executed in 1270.

An earlier kind of glass mosaic is that called *Opus Musivum*, which was used for walls and vaults, and in which were produced many glorious decorations, including full-sized figures of the Saviour, the apostles, and martyrs. The pieces of glass used in this are of irregular shapes, and the ground tint is almost invariably gold. Of the third and last variety, the *Opus Alexandrinum*, which is of considerable antiquity, there is a small specimen from Italy in the entrance porch here, which, like all the Italian examples, is composed of the three materials—porphyry, serpentine, and a white or slightly coloured marble. In this work geometrical patterns are produced by the arrangement of small cubes. The Byzantine Greeks carried the manufacture of this to a great extent, even if they did not originate it. What is known as "Florentine mosaic" grew out of it in later times.* There is a large piece of the *Opus Alexandrinum* of modern workmanship at the foot of the steps leading to the chancel. This was made for Mr. Herbert, in Rome.

Some small additions to the old glass tesselation in the pulpit, in the shape of pilasters, &c. are noticeable as specimens of modern English work. The pavement in the chancel was made by Mr. Singer, who strove to imitate the ancient Roman *Opus Tesselatum*. To get the tesseræ of uniform size, good and permanent colour, and sufficient hardness, requires elaborate and ingenious arrangements. The pavement before us is in some respects very good, but the colour in parts has faded; a fact to make us admire the more the perfect condition and excellence of pavements say sixteen hundred years old, which are ever and anon exhumed, to remind us that the Romans were once in this country.

The modern monuments have much artistic excellence. The bust of Henry Earl of Pembroke, who died January 9, 1749, is inscribed "*Ung ge serveray.*" The tablet to Elizabeth Countess of Pembroke, March 25th, 1793, is by Rossi. The marble sarcophagus, in memory of another Earl of Pembroke, was executed by the late Sir R. Westmacott from the design of James Wyatt, the architect. The same sculptor executed the fine monument near it to the last earl, George Augustus Herbert, who died Oct. 26, 1827.

Let us now glance at the glass in the windows. The window on east side of north door is apparently Flemish, Cinque-Cento. There is a "pieta" at bottom of earlier date.. The second window from east end on same side, by Messrs. O'Connor, is inscribed to the memory of Jane Merrick Chermside, by her children, August, 1852,—"Sorrowing not as without hope." It includes groups—Raising of Lazarus, Widow's Son, and others. The window next to it eastward contains some old glass mixed up, including groups illustrative of the Life of the Saviour.

Some of the glass in the north apse is very fine. The date is various, from the thirteenth century upwards. The drawing of the female martyr holding her head in her hand (Ste. Regula) is good. The figure of a Bishop, on the south side of this apse, is also excellent: the Saviour, admirable.

The windows in the chancel apse, given by Lord Bruce, Lord Melbourne, and others, include some thirteenth-century glass of fine colour made up with modern glass. Each groups is within a *vesica piscis*, Driving out the Money-changers, Flight into Egypt, and others.

There is some remarkable glass in the south apse: notice the head of the kneeling ecclesiastic; while in the vestry are some small subjects in circles of the sixteenth century.†

There is no doubt whatever of the use of coloured glass in windows as early as the sixth century, and every reason to believe that it was so in the fourth, if not earlier. Two verses of a description left by Prudentius, of *San Paolo-fuori-le-mura*, built by Constantine, are translated,—"In the rounded windows are displayed panes of glass of various colours; thus do the windows shine when decorated with the flowers of spring."‡ In these early times the windows were made simply of pieces of glass of various colours, arranged to form a design,—glass mosaics in fact. When the art of actually painting glass was first practised is a subject of controversy. Some of those who have looked into the evidence believe that it was unknown in the ninth century, and there are no examples known to which an earlier date than the eleventh can be assigned with certainty.

The painted glass of the twelfth and thirteenth centuries differs little, and of the glass of this latter period we have some good specimens in the church under consideration.

The glass of the thirteenth century often displays mosaic grounds, with small medallions of figures, symmetrically distributed, the whole surrounded by borders of conventional foliage and interlacings. The Old and New Testament, and the Lives of the Saints, give the subjects for the medallions. The colours are rich: there is rarely any white glass in picture windows, and what is principally sought is the harmonious effect of the whole as a portion of the building. The foliage is conventional: the figure drawing rude. In the glass of the succeeding centuries, skill in design and drawing having increased, the windows become more individual works, the figures are larger, one sometimes occupying a whole window, and are placed under more elaborate canopies. In this century, too, is seen for the first time the lemon-yellow stain. The foliage has a more natural form. In the windows of the fifteenth century, with even greater tendency to make a picture, we get rich hangings behind the figures, and in the latter part of it first see buildings and landscapes introduced. Much less use is made of pot-metal (glass coloured in the making), more white and light yellow glass is introduced, and the forms are produced by shading in colours. In later times glass came to be regarded simply as a material to be painted on; pictures by Raffaelle and others were copied upon it, and the ruin of the art followed,—not, however, without a brilliant period intervening. In modern times successful endeavours have been made to revive it.

It is to be hoped that we are gradually arriving at correct opinions in respect of painted glass, and that it will be treated more as an art and less as a manufacture than has been the case. The amount of bad glass, with much good also, that has been put up in England during the last twenty years is enormous. We want the best glass, the best colours, and the best drawing employed on right principles under artist minds, to produce windows, not pictures painted on glass, which shall be worthy of the age, awakeners of sentiment, and sources of delight.

The lecturer then alluded to the various carvings in the church, especially those in the west door inside; the old alms chest adorned with wrought iron-work; and a brass to John Coffer, gentleman, "servant to Sir William Herbert," 1585; and said:—

Without stint, and yet not wastefully, Mr. Sidney Herbert has thus employed various arts to perfect the structure due to his piety and munificence. Such works have a wide influence and effect much good. They quietly elevate the character of a neighbourhood, which reacts elsewhere. They tend to the improvement of the arts that refine, develop, and adorn, and serve as points of 'vantage whence others may proceed further. Man is not to live "by bread alone." The body must be cared for: but the heart and the mind also need cultivation and support.

SOME REMARKS ON THE APPEARANCE OF STRAIGHT LINES IN WORKS OF ART.

A DESIRE to improve our architectural taste, or to discover the best mode of doing anything, is not only natural, but laudable: it is only when this desire is indulged to excess, that it becomes dangerous. In every age and community, some particular theory of taste, or peculiar idea of perfection in the Fine Arts, operates for a time on the public mind, to which all must, more or less, conform, who aspire to please, or hope to be received in good company. Never having seen a specimen of Greek Architecture, except in museums, it is not without considerable hesitation that I venture to offer a few sentiments upon this abstruse subject. I have carefully perused the various writings which bear upon it, especially that very learned volume, in which Mr Penrose gives us the result of his investigation of the various delicate curves which form the principal lines of certain Greek buildings, erected during the most refined period: he states that "the amount of curvature is so exquisitely managed, that it is not perceptible to a spectator, or at least not until the eye has been educated by considerable study founded on knowledge of the fact." In another part of his work, he informs us that "in some Greek temples, although erected during the very best period of Greek art, the columns have no entasis whatever:" on the authority of Mr. Penrose, therefore, it appears pretty certain that Greek architects did not invariably bend long lines that were intended to appear straight.

In this country, thirty or forty years ago, when scarcely any but Grecian buildings were tolerated, it would have been deemed *barbarism* to have curved a line in a purely Greek edifice. At that

* Gally Knight.

* Those who would study the subject should consult Mr. Digby Wyatt's "Geometrical Mosaic of the Middle Ages."

† Several portions of the glass in this church are figured in Mr. Winston's valuable "Inquiry into the Difference of styles observable in Ancient Glass Paintings."

‡ Quoted by Labarte.

period, a celebrated architect gave his mason the drawings of a Doric portico, to be executed during his absence on the continent: no intimation was given that the columns were either to be "swelled" or straight, and they were consequently executed with a *very slight* entasis; so slight, that it was not observed by the architect when he returned, until he had inspected the work several times; but when discovered, it was pronounced to be vulgar, unarchitectural, and the sight even of anything so monstrous could not be endured; and notwithstanding the building was finished, the mason was obliged, at his own expense, to re-work the columns and their flutings, to make them perfectly straight from top to bottom.

As soon as Mr. Inwood had made out the necessary working drawings for the lower portion of St. Pancras Church, he left the work in charge of his two brothers, and proceeded to Athens, in order to ascertain many details of the Erectheum, more correctly than were given in Stuart's work, or to be found in the Elgin collection at the British Museum. When he returned the building had reached the height of the entablature, and, on the authority of Stuart, the Ionic antæ were made parallel and upright: that is, without either diminution or entasis. The architect having ascertained that this was not in accordance with the antique example, had the antæ all re-worked after they were fixed, to diminish the upper part, and give them the proper entasis.

The outer lines of a swelled column represent the frustrum of a parabolic or hyperbolic curve, which is amongst the most perfect of the geometric forms, and may be an improvement upon the straight-lined column; but in constructing a large obelisk, much consideration is required before we depart from the simple straight-lined form, under the idea of improvement. I am aware of the difficulty of overcoming prejudices in favour of long-established practice, in matters relating to art or science; nevertheless, optical effects are now well understood, although some of them may not be easily explained; and the rules of perspective are proved to be perfectly in accordance with nature, and founded upon the strictest mathematical principles: with such aid, we may arrive at far more satisfactory conclusions respecting the appearance of lines variously situated, than can be adduced from opinions founded on some preconceived notions of right or wrong, and which are generally problematic statements without proof.

In constructing an obelisk, is it advisable to make its outlines positively crooked, under the idea that they will then, and only then, appear straight? Or can an object that is decidedly right, true, and correct, under any circumstances look wrong, false, or incorrect? Is it not probable that our sense of vision may be deceptive; that we may receive impressions on the imagination that are not real, and such as may require very attentive consideration; or we may fall into erroneous conclusions. A line that is to represent straightness, or the shortest distance between two points, being intentionally curved, cannot, under any circumstances, represent to the eye correctly that which is intended. Whoever trusts unnecessarily to the accuracy of his eye, and sets positive rules of art at defiance, will, at all times, be liable to make great mistakes. Vision, optical effects, and especially the true principles of perspective, judiciously applied to works of art, tend invariably to perfection. To deviate from them, in ever so slight a degree, is to depart from truth; to pass by the substance and follow the shadow. It is like attempting to improve the multiplication table; or to depress or swell some portion of a circular object, with the view of making it look rounder.

By a similar mode of fallacious reasoning, a long architectural elevation, such as one side of a street, viewed from the opposite houses, ought to be made hollow on the top of the parapet, that is, a little higher at each end, without the least symptom of an angle, just opposite the observer, where it appears to be the highest part. As far as appearances are concerned, this apparent declination towards each end is not altogether fictitious, although, in some respects, it may be termed delusive, for if a straight ruler or string be held up, stretched between the two hands, so as to form a right line, the tops of the houses will exactly coincide with the edge of the ruler or tightened string. Thus, the string being held horizontally, or parallel to the tops of the houses, will affect the eye of the observer precisely in the same way; and the string itself will appear to bend downwards at the ends. This may be demonstrated with mathematical precision, by the doctrine of similar triangles. The same train of argument applies equally to a pilaster built with parallel and perpendicular sides; as we frequently find in Roman and revived classical works, which is generally considered to appear broader at the top than at the bottom. In this case the spectator allows his imagination (not his eye) to deceive him: the actual appearance (not the measurement) of the breadth of the pilaster at top is smaller than the bottom. Every portion of the pilaster upwards is seen within a smaller visual angle than an equal portion level with the eye; therefore the higher we look, the narrower will be its appearance, until ultimately the parallel lines will altogether disappear and vanish in the zenith, or point precisely over our heads.

Artists may possess much practical knowledge of perspective, and be capable of drawing very clever architectural subjects, either views from nature or imaginary designs, and yet be unacquainted with the true principles of the science. Such artists assert that the rules of perspective are not to be depended upon, and that if strictly followed they occasionally produce unnatural representations: as an instance, they adduce the case of a very high, straight-lined parallel tower, which will, unquestionably, appear in nature to diminish upwards, in every respect the same as a perpendicular pilaster: to represent this object, according to the rules of perspective, we have to make the tower as broad at top as at bottom, and this will be strictly correct. A photograph, if properly taken, would be the same; but if the photographic apparatus be left to one ignorant of the correct mode of placing the instrument, the lines, which are perfectly upright in the real object, will be represented in the photograph converging upwards or downwards; and such defects are ignorantly attributed to faults of the lens, or of the process generally. Upright lines in a building will all correspond with the plumb-line, whereas, if such lines are made to converge in a picture, they will not bear the test of the plumb-line; consequently, such a mode of representing the outlines of perpendicular edifices must be false, and unlike the real object.

C. H. Smith.

NOTES ON THE ASSUMED USE OF CHESTNUT TIMBER IN THE CARPENTRY OF OLD BUILDINGS.*

The roof of St. Nicholas' Church, Great Yarmouth, is stated to be of chestnut. I had hoped to have been able to have ascertained this satisfactorily last year, whilst staying in that town, but having left the examination of the church until the last day of my stay, I found, when arrived in the belfry, that lights, as well as much courage, were wanting to grope amongst the old timbers, where shortly before a lad had stumbled and been precipitated through the boarded ceiling on to the floor of the church. Whilst there I obtained a piece of what all the local carpenters call chestnut: it formed part of a standard to a former gallery, put up in 1610. The grain is very peculiar; but it is oak, not chestnut, and closely resembles a panel I have seen labelled as "English oak."

Brandon, in his valuable work on "Timber Roofs of the Middle Ages," says, "they are all of oak or chestnut." The roof of Chartres Cathedral, burnt in 1836, was said to have been of oak chestnut.† In the description in the "Monasticon"‡ of Castel Hymel, of Finished Priory, in Northamptonshire, there is an improvement on the misunderstanding: "In the granary lately taken down, the beams were of *horse chestnut*."

Of another well-known structure, still said to be roofed with chestnut, § it is reported "that the timber used for the scaffolding, &c. and for the upper roof of the chapel [of King's College], seems to have been given to the college by Henry VII. and his executors, over and above the 1,000*l.* before mentioned, for the college paid only for felling and carriage: it was brought from the Wethersfield park, Poule-park, Walden park, Ashden Halys, Bardefield-park, Broxstey park, all which are in Essex, and some from Cartlyng (Catlige), in Cambridgeshire; the timber of the roofs, I believe, was chiefly from Wethersfield." If this be correct, Hales, before quoted, is wrong in stating that it was obtained from Ireland, and tradition is again worthless; but did the county of Essex ever grow chestnut trees for timber? I must regret that I have had no opportunity of inspecting the roof timbers of this chapel so as to satisfy myself.

Two pieces of wood called chestnut have been kindly forwarded by Mr. Rowe, taken out of old buildings at Cambridge, both of which I submit are oak; as well as another piece sent by him from an old house at King's Stanley, near Stroud, lately pulled down: it is a fine specimen of an oaken beam between 250 and 300 years old. Also another piece of a moulded beam, taken out of the principal gateway of Trinity College, Cambridge: it was situated in Sir Isaac Newton's study, being the first-floor room over the gateway. This is also oak.

Besides having been used for beams, it is stated,* that at the end of the sixteenth century *wainscot floors* were much in use, and in some manor houses, *chestnut floors*, as at Cotele, in Cornwall, an ancient house; and also at Mount Edgecumbe, in Devonshire.†

I will now submit some specimens of the actual woods under discussion. The first is a veneer of chestnut, as sold by the fancy wood-merchants. Mr. Ashpital kindly obtained for me specimens of oak and of chestnut, *both grown in the same wood*, in Kent, which suffice not only to show how close is the resemblance between the two woods when young, but also how the difference between them is to be observed. As these small pieces, however, could hardly be considered sufficient, I inquired for some larger specimen amongst the timber-yards of the metropolis, and when about giving up the search in despair, obtained a board, which, being 21 inches in width, will show the grain clearly. There are also some specimens to which I will refer presently.

How is chestnut, then, to be distinguished from oak, and is it at all serviceable as a timber?

One of the practical suggestions that has been made for the discovery of the difference is given in Nicholson's "Dictionary of Architecture," who states that it may be found by driving an iron pin or nail into the woods while fresh: in the oak a black stain will be produced, but not so in the chestnut. This observation is repeated in another work; and they are the only two in which I have seen it named. I tried the experiment with the two fresh pieces sent me by Mr. Ashpitel, and you will perceive that both of them have the stains: the two in the oak showed in two days, and of those in the chestnut, one showed in two, and the other in four days' time. Another suggestion is to weigh a portion of the wood in question. Dry chestnut, according to Tredgold, "weighs from 34 to 38 lbs. per cubic foot, whereas dry English oak weighs generally from about 50 to 55 lbs. One dry specimen from an old oak tree weighed 39 lbs. or about the same as chestnut." On weighing the piece of wood from King's Stanley, above mentioned, I found a cubic foot of it would weigh 53 lbs.

A third idea is rather more laughable than serious, and has already been adverted to: it is one, however, which, from its being "a wise saw," ought not to be neglected, especially as the "spiders" are so often put forward as better authorities than ourselves in the settlement of what is oak or chestnut. In addition to what has been said in the earlier portion of this paper, you will find several remarks under the heading of "Spiders and Irish Oak," in "Notes and Queries" for last year (p. 208, &c.) "thus, in 'Pointer's Oxoniensis Academia,' 1749, is the following, in his account of the curiosities of Christ Church College:—The roof of the aforesaid hall is remarkable on this account, that, tho' it be made of Irish oak, yet it harbours spiders, in contradiction to the vulgar saying. Tho' I am apt to think that there may be some pieces of English oak amongst the Irish; or else probably that particular smell that proceeds from that sort of oak, and is perhaps so distasteful to that sort of vermin, may be spent through age, or disguised by smoak, and so that common saying may stand good still." It is also shown, p. 293, that the spider "has *no dislike* to fixing its web on Irish oak;" also that "no spider will hang its web on the roof of Irish oak in the chapel or cloisters at Winchester;" and "chestnut is said to possess the same virtue. "The cloisters of New College, roofed with chestnut," are free from spiders; "the choir of St. David's Cathedral is stated to be roofed with Irish oak, and there are no cobwebs, although they are plentiful enough in other parts of the cathedral:" and lastly, that "a fine old roof at

* Read by Mr. W. Papworth, at Institute of Architects. See p. 497, *ante*.

† *Builder*, xi. p. 693.

‡ Vol. vi. Part I. p. 419.

§ Le Keux, "Memorials of Cambridge, ii, 43.

* Brown's "Domestic Architecture," p. 156.

† Since reading these "Notes," my friend, Mr. W. Damant, of Plymouth, accompanied by a gentleman well versed in the nature of timber, has kindly examined for me the presumed chestnut floors at Mount Edgcumbe. They pronounce them to be "of what at the time of laying was young oak—excepting that in two or three small window recesses, and in the margins to the hearths, chestnut had been employed. There were also two or three short pieces of chestnut in the floor of the drawing-room, but they appeared to have been used in repairs. The floor certainly was not chestnut, nor was that wood employed at all in the other joinery of the house."

Turner's-court, in the parish of Cold Ashton, Gloucestershire, four miles from Bath, is perfectly free from cobwebs, and is said to be of chestnut."

The qualities of chestnut wood, as required to be known to us, are thus admirably described by Selby, in his "History of British Forest Trees," 1842:—"The only particular in which the chestnut exhibits a decided inferiority (to the oak), is in the quality of its timber, which, unlike that of the oak, which gains strength and durability by age, begins to deteriorate at heart ere the tree has passed much beyond the first half century of its growth." "By some the chestnut has been considered as indigenous to England—the more general opinion, however, is that it is not a native, but was introduced at a very distant period, probably by the Romans. The belief which so long and so generally prevailed, and indeed, we may add, still partially exists, that the roofing and main beams of many of our ancient buildings and houses were framed of the chestnut, naturally gave rise to the idea that a tree so abundant and generally distributed as it must have been in former ages, must also have been of indigenous growth; for this supposed chestnut timber, we may remark, is not confined to buildings in the southern and midland districts of the kingdom, but is also found in the northern counties, and even in Scotland, for Sir T. Dick Lauder, apparently not aware of the discoveries of D'Aubenton and others, instances the roof of the Parliament house at Edinburgh as constructed of chestnut:" and in a note, "It is remarkable that the same belief of the use of chestnut-wood in ancient buildings also prevailed in France. Buffon, however, and afterwards D'Aubenton, showed that the timber taken for that of the chestnut was in fact that of quercus sessiliflora. The examination, however, and the repeated experiments of late years which have been made upon this wood, have satisfactorily proved that, in all such instances, the timber of the oak, and chiefly of the sessile fruited kind, have been mistaken for chestnut: and this fact, in a great measure, does away with any argument that might otherwise have been adduced in favour of the chestnut's indigenous origin, had the application of its timber in reality been as extensive as these ancient buildings seemed to indicate. It is also more in accordance with what we collect from the *earliest* of our arboricultural writers, viz.—that the chestnut in their time was by no means of common occurrence or widely distributed." "The fact is, as Buffon first observed, the wood of the oak, more particularly that of the sessile fruited variety, assumes in course of time a near resemblance in colour to that of the chestnut in its best condition, or when young and untainted at heart; and, as few chestnuts could have acquired the scantling frequently observed in the timbers of these ancient buildings at the age dialing or decay almost invariably commences; this in itself furnishes a strong argument against the use of chestnut timbers and beams by our ancestors, inasmuch as the trees must have *become unfit for the purpose* long before they had attained the necessary dimensions." "In appearance and colour, the wood bears a resemblance to that of the oak, but may always be distinguished by its want of the large lamine (flash) or transverse fibres which are seen in the oak, particularly when cut perpendicularly on the outside, in the plane of these lamine." For gate and other posts, railing, spars for building, piles, and various other purposes not requiring wood of large size, it is well adapted, and perhaps as durable as and other timber we possess."

Sir H. Davy* also says, "It may easily be known by its want of the lamine, as also from the pores in the alburnum of the oak being much larger and more thickly set than those in the chestnut, which cannot be distinctly seen without the aid of glasses."

The difference between the woods of the two oaks commonly seen in England, is that the grain of the wood of quercus sessiliflora is generally less varied and of a more uniform and deeper colour than that of quercus pedunculata, and with less of that laminated appearance which is called the flash or silver grain. The trees are said to be known by the sessiliflora having the acorn stalks short or seated, with the leaves long; while the pedunculata is the reverse, having the acorn stalks long and the leaves short. The acorns of the former grow in clusters of two or three close to the stem of the branch: those of the latter grow singly, or seldom two on the same footstalk. The quercus pedunculata, or robur, as it is more generally called, is the true old English oak, the sessiliflora being supposed to have been introduced some two or three ages ago from the continent. There appears to be much diversity of opinion among botanists and planters on the value of the timbers of these two oaks, to the same extent at least as that already shown to have existed on the use of chestnut; and some authors deny the botanical difference of the trees.

Chesnut timber has been often urged as a material for ship-building. One apparently qualified writer, Monteath, says,* "Notwithstanding the excellent quality of the Spanish chestnut timber, which is equal to the oak in ship-building, and also for any machinery, yet it has not been generally used; but this tree should be both more planted and more used as timber." Also, "Spanish chestnut is used by cabinet-makers for boxing, at 2s. 6d. per foot, though it is of much more value when suitable for ship-building, as it is often used for that purpose." While Matthews, in a much commended work on Naval Timber (1831), says, "There is one circumstance connected with this timber in this country, at least in Scotland, which must prevent its general use in shipplank, and be of material injury to it for ship timbers; this is, that few trees of it of size are found without the timber being shaky or split, some to such a degree that the annual rings or concentric growths have separated from each other." "From the use of the Spanish chestnut in the Spanish navy, both in planking and timbering, and from the roofing-beams and ornamental work of Westminster Hall being also of this wood, we should suppose it was not so liable to this defect of rents in the timber in milder climates. It is, we should think, as capable of supporting weight, when stretched as a beam, as the oak. Having much less proportion of sap-wood, and from the matured wood containing much less sap or moisture, we should suppose it not so liable to dry-rot, or that more simple means, or a shorter period, would suffice for seasoning it, so as to be proof against this evil." According to Belidor, chestnut soon rots when built in a wall, therefore the ends of joists of this wood should have a free space left around them.†

In the 10th volume of the Transactions of the Society of Arts,‡ the writer urges that "for most purposes except shipbuilding, chestnut will be found equal to oak; and in buildings and outdoor work, much superior. In 1726 a piece 13 inches square was used as a hanging-post to a gate, and being found, after fifty-two years' use, perfectly sound, was again put down for a clapping-post. In 1743 a large barn was built with some of this timber, and is now sound in every part, as well as several chestnut posts and rails, after standing thirty or forty years. And a fencing made of oak and chestnut posts, being removed after twenty years' standing, the chestnut was found perfect, while the oak posts could not be used again without a spur to support them. The writer accounts for Evelyn's assertion of the decaying nature of chestnut, by stating that it is the case with old chestnut, that has been suffered to stand beyond the time of its attaining its full growth; it is then the worst of all timber, being more brittle and more apt to crack and fly into splinters than any other; but he adds, I have never known this to be the case with young chestnut. If it be cut when it squares only 6 inches, it will be as durable as an oak of six times its size and age."

From all these varied statements, then, we may conclude, that the absence of spiders is not sufficient evidence to determine whether the woodwork under inspection is oak or chestnut, or even whether it be either of these timbers.

That when the outside of timber presents that rotten dusty appearance generally seen in old roofs, it will be next to impossible to decide whether it be of oak or not; and that the only way to discover the fact will be by obtaining a well-smoothed portion of it, or, if possible, a sight of the ends of some of the pieces, from which to ascertain whether there are any laminæ—the absence of them being the distinguishing mark of chestnut.

That taking into consideration all the evidence collected, there is no proof of chestnut timber having been used in Mediæval buildings: therefore all results which have been promulgated upon the efficiency of a so-called chestnut timber must be valueless as regards that timber

That certain experiments would appear to decide that small scantlings of chestnut are quite equal, if not superior, to oak for several purposes, "but the wood of old trees is unfit for any situation where an uncertain load is to be borne, as it is brittle." "It bends more than oak at the time of fracture, and therefore is tougher. Its toughness seems to permit it to yield insensibly till every particle exerts its utmost force, and then it gives way at once, more in the manner of metals than in that of woods."* This well-known circumstance alone should have raised a doubt in the minds of some of our instructors, before they affirmed so strongly that chestnut timber had been largely used in our Mediæval buildings.

* Agricultural Chemistry, p. 222, 4to. edition.

* The Forester's Guide, 1824, p. 194.
† Tredgold's Carpentry, p. 225.
‡ 1792, p. 27.

* Tredgold, 227; and Evelyn.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION IN SALISBURY.

THE Salisbury congress of the British Archæological Association is proceeding most satisfactorily. The attendance is very large. Some very good papers have been read, and the reception on the part of the Salisbury people has been hearty in the extreme. The opening meeting was held on Monday, at the Council-house.

The Mayor, Mr. Squarey, who took the chair in the first instance, made a very good speech. Having offered a welcome on the part of the authorities, he said,—He thought they must all feel deep sympathy and great respect for the pursuit to which this Association was devoted. That pursuit was doubtless capable of yielding the highest gratification; but still he thought that if archæological investigations were restricted to that which was ancient, simply on the ground of its antiquity, it would be a barren science and one unworthy of being followed. If he rightly interpreted the scope and object of archæological inquiry, it was for improving and benefiting mankind, by rescuing and preserving all that was beautiful or true in art, all that was valuable or interesting in science or literature, which our forefathers produced or discovered. He might add, perhaps, that the true secret of that fascination which attached to archæological pursuits was due in a large measure to the sympathy they engendered between ourselves and those who had long ended that pilgrimage of life which we were now performing. The city and district which had on this occasion been honoured by the presence of the British Archæological Association was peculiarly rich in objects worthy of the closest attention. The remains of the Celt, the Roman, the Dane, the Saxon, and the Norman lay scattered profusely around. Beginning with Old Sarum, once a remarkable city fortress, nearly every hill-top in the neighbourhood bore traces of human occupation for defensive purposes.

The Marquis of Ailesbury having then taken the chair, and the Dean of Salisbury having expressed the good feeling of the bishop and chapter,

Mr. Pettigrew read a paper on

The Antiquities of Wiltshire, in reference to those selected for Examination.

We must confine ourselves to a portion of it. . . With regard to primeval antiquities, he said, the field open was of the most interesting character; and prominent in this class must be mentioned Stonehenge mysterious monuments maintaining the secrets of their origin with indomitable pertinacity, resisting the inquiries of ages, and all efforts satisfactorily to solve the origin of their erection and the purposes to which they were dedicated. The traditions respecting them were too obscure to assist in the solution of the difficulty. Well, therefore, might they have been assigned by the unlettered and the superstitious to the giants of old, and be even conjectured to be but the transformation of their individual bodies into material of such durable and imperishable nature. Diodorus was esteemed the first author to whom we could apply for information. Stukely made excavations in the neighbourhood, and bones of animals, oxen, deer, and other beasts had been found, but no human remains. These were only to be obtained from the circumjacent barrows, which had been rendered so familiar to us by the labours of Cunnington, Hatcher, Hoare, Duke, and others. The connection of the pillars of stone with the astronomical and mythological notions of the ancients had led most authors to connect them with oriental architecture and science, and hence to derive the form and arrangement of the Druidical temple—a temple not enclosed and covered over, but, in conformity with the idea of the power and influence of the Deity, bounded by no limits, enclosed within no scanty shrine, but open to the heavens, realizing the well known and admired lines of Pope, as expressed in his "Universal Prayer:"—

> "Whose Temple is all space,
> Whose altar, earth, sea, skies!"

That which had been handed down to us, or recorded as belonging to the sacerdotal order in

Druidism, was so closely allied to Oriental customs that we could not be surprised at the conclusion derived from such considerations in regard to those monuments which it would be their good fortune to examine during this congress. The various theories relating to Stonehenge were referred to at some length; but Mr. Pettigrew said he should not attempt to trace the history of Druidism, or to consider whether the Phœnicians were tinctured with its doctrines, or whether they were transmitted to or from the Celts by them. Druidism had generally been regarded as indigenous to the Celtic race: it was probably, also, ubiquitous, and must have come hither with the first stock of that wide-spread family. Circles of stones, varying in magnitude, had been met with in different parts of England, occasionally connected with an interment in their centre, but frequently without signs of burial. When interment had been found, it had been of the class known by the appellation of cromlechs. As he had mentioned, around Stonehenge, but not within it, numerous barrows, presenting interments, had been found. This might account for various legends in relation to its bearing a sepulchral reference. Many, if not all of those accounts were to be looked upon as fabulous, and the statement of Geoffrey of Monmouth, who described the stones as having been brought from Ireland to form a monument to the memory of British princes murdered by Hengist and the Saxons, was not entitled to any credit. Abury, or Avebury, was unfortunately at too great a distance from Salisbury to be embraced among the objects for inspection during this congress. On this subject, however, reference might be made to the valuable researches of their associate, Mr. W. Long, of Bath, in his work entitled "Abury Illustrated." The finest example of earthworks in the county was offered in the remains of Old Sarum. Various were the periods embraced by this most valuable relic. They had ancient British, Roman, Saxon, and Danish, all before their eyes, and they could not too gladly avail themselves of the opportunity afforded them to contemplate its various peculiarities. Old Sarum was known to have been an ancient British fortress—a city of the Belgæ. Alfred made entrenchments and palisades in A.D. 872. It was the seat of a National Council in 960, when King Edgar repulsed the Danes. In 1066, the Conqueror here established the principle of the feudal system. It was at that time a stately fortress, and held in Royal possession. Other councils were held by William Rufus, in 1096 and by Henry I. in 1116. Herman, bishop of Wilton, chaplain to Edward the Confessor, removed from Sherborne, a see united with that of Wilton, and took up his residence at Sarum about the year 1076 or 77. He died in 1078, and could, therefore, have done little, or perhaps nothing, in regard to the building of the cathedral here, which was generally attributed to Bishop Osmund, who, with the assistance of Walkeline, bishop of Winchester, and John of Bath, consecrated it on the 5th of April, 1092, the charter of its foundation being dated one year preceding. The change of church from Old to New Sarum was effected by Richard Pauper or Poore, and of this event Dean William de Wanda had given a particular account. A wooden chapel was begun in 1219. The foundation of the cathedral was laid in 1220. Reference was then made to the churches of St. Thomas, St. Edmund, and St. Martin, in this city, and the general characteristics of the city pointed out. Its aspect was now very different to that which it presented when it was visited by Samuel Pepys, in 1668. Some good specimens of domestic architecture were still to be found, but the greater part had disappeared, to suit the progress of society, and remedy the effects of time.

The party then proceeded to view the various churches and other ancient buildings in the city; and afterwards dined together, Lord Ailesbury presiding. The bishop, the mayor, and others, spoke. The bishop referred especially to an endeavour he is making towards obtaining a county history, and dwelt on the value of archæological research in inducing a love for truth.

At the evening meeting, Lord Aislesbury in the chair,

Mr. J. R. Planché read an elaborate paper "On the Earls of Wiltshire," displaying his usual acuteness, research, and pleasant writing.

Mr. W. H. Black then went through some of the ancient records of the Corporation, and read to the meeting, in English, such parts as seemed valuable. In the course of the examination he read a charter of the eleventh year of Henry III. wherein the king says, referring to the cathedral, "In the foundation of which church we have laid the first stone. This is contrary to the received account of the ceremony.

On Tuesday morning a party visited Old Sarum, under the guidance of Mr. Swayne and Mr. Irving, and then, at one o'clock, met the remainder of the body at the cathedral, where Mr. C. E. Davis accompanied them round the structure with a running commentary. Of this we will give some notes hereafter.

The members attended service (the choir sang very badly by the way), and then

Mr. J. R. Planché described the tombs in the cathedral, commencing with the flat coffin-shaped stone, of Purbeck marble, which is generally considered the oldest monument in the church, and which is conjectured to have been brought from Old Sarum, with the bones of Bishop Herman, who died in 1078. He then noticed the tomb of Bishop Roger, who died in 1139, stating that he concurred with Mr. Gough in assigning the tomb to this bishop. In noticing the next tomb, that of Joceline, at the west end of nave on the south side, he pointed out that the head had been added to the original figure, as was evident from the nature of the stone of which it was composed, and also from the shape of the mitre. The slab is of the twelfth century, the mitre a century later. He then noticed the plain slab alleged to have covered the remains of Osmund, and the effigy ascribed to Bishop Poore, who was buried at Durham. From the fact of a skeleton having been found some years ago beneath this tomb, he was not inclined to ascribe this monument to that prelate. He next described the monument of Giles de Bridport, who was bishop from 1256 to 1262. He then noticed the other monuments, including the brass to the memory of Robert de Wyville, the tombs of Bishop Beauchamp, Robert Lord Hungerford, William de Longespee, Lord John Cheyney, Sir John de Montacute, William Longespee, son of the Earl of Salisbury, and the Somerset monuments. His attention was, however, more particularly directed to the Boy Bishop, on which he remarked as follows:—"I have purposely left to the last the effigy so well known as the Boy or Chorister Bishop, as I am not quite satisfied with its appropriation. There is no doubt that it was the ancient custom here, as well as in other cathedrals, for one of the boys of the choir to be elected on St. Nicholas's day (Dec. 6th) a bishop; and from that period to the 28th of December, the day of Holy Innocents, to be apparelled in the episcopal vestments, and with mitre and pastoral staff perform all the ceremonies and duties of a bishop, excepting mass, and it has been asserted by Mr. Gregorie that if the boy chanced to die during that period, he was buried with all the state and reverence due to a bishop. Of this latter circumstance I desire some evidence: such an occurrence would naturally be rare, and I think could hardly have escaped being specially chronicled in the records of this cathedral. If it be not, I shall continue to believe that this effigy, like that of the knight at Horsted Keynes,* and other examples, represents a person of full age, and has been executed on a smaller scale only in compliance with the desire of the deceased or his family, or the fancy of the sculptor. I am inclined to consider it as commemorating one of the bishops of Salisbury, who died somewhere about the close of the thirteenth century—Robert de Wickhampton, or one of his successors probably, who are known to have been buried in this cathedral, but whose tombs have not been identified. Had the figure under consideration been intended to represent a boy, it would surely have been of life size; but it is too small to be considered the portrait of any chorister boy, and if it be a miniature effigy, what argument is there that will hold against its being a man's? The error evidently arose in the first impression that it was that of a boy, and the discovery by Gregorie of the ceremonial of the chorister bishop in the statutes of the cathedral, led him at once to jump at his conclusion. I may add that it was not originally a recumbent effigy, but evidently, from the canopy over it, had occupied an upright position against some work or column."

A *conversazione* at the Bishop's Palace wound up a long day.

On Wednesday the Association went to Wilton, examining Wilton House and Mr. Sidney Herbert's church. Touching the latter, a paper was read by Mr. Godwin, the substance of which will be found on another page.

Cement for Stopping Leaks.—A composition of 4lbs. of rosin, one pint of linseed oil, and 1 oz. of red lead, applied hot with a brush, it is said, will stop leaks in roofs, water-butts, &c.

* Of which we gave an account not long ago.

THE LONG-LANE DISTRICT OF BERMONDSEY.

Every street has a story, and a ramble in any part of London, amidst the throng of men, each pursuing eagerly his particular object, has powerful interest to those who rightly view it. Our readers have walked with us through many parts of it. Let them now go with us to where once stood the famous Abbey of Bermondsey. In starting from the granite statue of William IV. notwithstanding that all vestiges of the market of "Cheap," and the old houses, shops, and taverns of Shakspeare's time have vanished, and buildings less picturesque, but more suitable to present conditions, have taken their place, the London antiquary will remember the "Boar" which once stood close by this spot, the dark portcullis'd gateway of the old bridge, fitted with the stocks, whipping-post, and pillory, and the view rendered more impressive by the grim and weather-beaten heads of traitors which were exhibited on its summit.

The roadway of the new bridge which, notwithstanding its great width and level roadway, is barely sufficient for the increased traffic, forms a curious contrast with the narrow passage between the rows of shops and dwellings which occupied such a large portion of the old structure. The Thames no longer roars and dashes through narrow arches, but glides smoothly along, the water-way below the modern bridge being as great an improvement as is the clear passage above. The crowds of shipping, the steamers for home and foreign trade or pleasure, the crowds and seeming confusion at the railway terminus, and the new fashion of many of the shops in the Borough High-street, all indicate the onward progress of this great capital. Although so many house fronts have presented a new face, there are several bits of Old London remaining in the inns and other yards, the sight of which will repay the trouble of a visit to those who are curious in such matters. Passing the church on the south side, and along White-street to Long-lane, we reach the site of the ancient abbey. As regards sanitary condition, this district has for long had a bad reputation, and although much has been done to improve the health of the inhabitants by drainage, and the supply of a better description of water, the neighbourhood still requires very great care. Many of the courts which run from the main street are thickly inhabited by very poor tenants. The water supply of some of these places seems very uncertain, and needs improvement. In Newcourt, which is chiefly inhabited by Irish families, the water was running from a tap connected with the main, and the people were busily engaged in filling the tubs and other vessels in their possession. On inquiring if they had sufficient water, some of the women said that they had enough for every purpose; but others said, "Why, you know that by to-morrow afternoon there will not be a drop of water in the court." At the time of our visit it was five o'clock on the Saturday afternoon, and no more water would be turned on until the *following Monday, at about five o'clock in the afternoon.* In this case the poor people are left for forty-eight hours without any fresh supply of water, and our readers know that few of them have vessels of sufficient size for the purpose of keeping water to last a family for two days; and even if the case were different, the water kept for so long, in a close and impure atmosphere, could not be wholesome. On making inquiry at other places near, we were told that the water was supplied on Sundays. Some thought that it depended on the turncocks, and remarked that it was very hard to be left without water on the Sundays, and also on such holidays as Good Friday and Christmas-day. The officers of health should look to this, and no doubt the Lambeth Water Company would endeavour to remedy an evil which is suffered only by the very poorest of their customers.

Long-lane is a wide and straight road which leads to Abbey-street and George-street: many of the houses are of considerable antiquity, and have been built at intervals along what, at the beginning of the present century, was a country highway: some brick dwellings, with richly carved doors of Charles I.'s reign, and a clump of timber houses much older, are still visible. The road has risen two or three feet since these were built. The gaps which formerly existed in Long-lane, and which were occupied by gardens, &c. now form a continued line, except where broken by the entrances to the large tan-yards, which are considered by some to be beneficial to the health of those who dwell near. A person engaged in one of these works said that he had known people, when very ill, brought there for two or three hours

SOUTHWARK: LONG-LANE, BERMONDSEY.

to have the "benefit of the air." It is asserted too that no tanners died of the great plague in London in 1665. We have doubt on the matter, however, and know that, without great care and excellent drainage, such works cannot be safely carried on in crowded neighbourhoods. We remember some years ago being told by a celebrated horse-slaughterer on the banks of the Fleet, that people visited his yard when ill of consumption. Horse slaughterers and butchers boast that the pursuit of these businesses leads to the duration of life: statistics, however, show that the lives of the London butchers are not longer than those of the publicans, who, with the exception of the compositors and a few other trades, are the most remarkable for living less than the average number of years. Some of the courts in Long-lane have very narrow entrances, but generally the ground is not overcrowded with houses, and most of them are in tolerable condition, and, where the drainage has been attended to, are comfortable dwelling-places for families. Some of the small houses, with three rooms, wash-house, &c. let for 5s. 6d. a week, and others, with four rooms, 6s. 6d. a week. In many of the courts and squares new cisterns and dust-bins have been put up, and, where houses have not separate accommodation, closets have been erected, one for each house: in some instances the doors are fitted with locks, and key supplied to each family. Some spots were neglected and dirty, with stagnant water in pools,* but in most instances a most praiseworthy attention is shown to cleanliness. Sad tales are told of the sufferings of large numbers during the past winter, and many of the little children look very sickly. We have now, however, arrived at the end of Long-lane, and, crossing over Bermondsey-street, come to Abbey-street. At a short distance along this is a modern hostelry, called the "King John's Head." This house was erected on the site of the northern gate of the abbey precincts.

An opening here leads to Bermondsey-square, and at the north-eastern corner is Long-walk, in which the portion of ancient work shown in the engraving is situated. The basement of the building is evidently older than the upper portion. The square, of which the old houses form one side, is chiefly inhabited by Irish. Comparing the place with what it was six or seven years ago, it is gratifying to notice a marked improvement in the cleanliness and other sanitary arrangements of the place. The people themselves are also evidently improved: the interior of the dwellings is more carefully kept, and the dresses of the girls and women form a marked contrast to those worn by the same class of persons who were in a multitude driven over by the Irish famine.

Having already noticed the difficulty in connection with the water supply at New-court and elsewhere, and feeling both that cisterns and sunk reservoirs are insufficient for poor districts, and that the supply of water from the main at intervals does not answer a useful purpose, we were glad to meet with the application of an invention which consists of a communication with the main water-pipe, whereby, on the movement of a handle, a certain quantity of water is poured out. By this contrivance the inhabitants of any court can have a supply of water at all hours of the night or day.

Mr. Payne, the proprietor of some house property in this neighbourhood, says that he finds this to answer well, and believes that they must come into general use. At any rate, the invention deserves examination.

* Victoria Court and Place are much neglected.

ON THE STRENGTH OF CAST-IRON PILLARS.

Mr. Eaton Hodgkinson having sent to the Royal Society, of which he is a fellow, a paper on his experimental researches on the strength of pillars of cast-iron, the following abstract has appeared in the printed proceedings of the Society (No. 24, vol. viii.):—

In a previous paper on this subject (Philosophical Transactions, 1840), I had shown,—1st, that a long circular pillar with its ends flat was about three times as strong as a pillar of the same length and diameter with its ends rounded in such a manner that the pressure would pass through the axis, the ends being made to turn easily, but not so small as to be crushed by the weight; 2nd, that if a pillar of the same length and diameter as the preceding had one end rounded and one flat, the strength would be twice as great as that of one with both ends rounded; 3rd, if, therefore, three pillars be taken, differing only in the form of their ends, the first having both ends rounded, the second one end rounded and one flat, and the third both ends flat, the strength of these pillars will be as 1—2—3 nearly.

The preceding properties having been arrived at experimentally, are here attempted to be demonstrated, at least approximately.

The pillars referred to in my former paper were cast from Low Moor iron No. 3; they were very numerous, but usually much smaller than those used in the present trials. I felt desirous, too, of using the Low Moor iron in the *hollow* pillars employed on this occasion, not on account of its superior strength, but its other good qualities. The pillars from this iron were cast 10 feet long, and from 2½ to 4 inches diameter, approaching in some degree, as to size, to the smaller ones used in practice. The results from the breaking weights of these were moderately consistent with the formulæ in the former paper, with a slight alteration of the constants, rendered necessary by the castings being of a larger size, and therefore softer than before, a matter which will be adverted to further on.

The formulæ for the strength of a hollow pillar of Low Moor iron No. 2,—where w is the breaking weight, in tons, of a pillar whose length is l in feet, and the external and internal diameters D and d in inches, the ends being flat and well bedded—are as below:—

$$w = 46{\cdot}65 \times \frac{D^{3\cdot55} - d^{3\cdot55}}{l^{1\cdot7}},$$

from formula in Phil. Trans. 1840:

$$w = 42{\cdot}347 \times \frac{D^{3\cdot5} - d^{3\cdot5}}{l^{1\cdot53}},$$

from formula in present paper.

To obtain some idea of the relative strengths of pillars of different British irons, I applied, at Mr. Stephenson's suggestion, to Messrs. Easton and Amos, who procured for me twenty-two solid pillars, each 10 feet long and 2½ inches diameter, cast out of eleven kinds of iron (nine simple irons and two mixtures). The pillars were all from the same model, and were cast vertically in dry sand, and turned flat at the ends, as the hollow ones had been; two being cast from the same kind of iron in each case. The simple unmixed irons tried were as below, and all of No. 1.

		Mean breaking weight.
Old Park iron ...	Stourbridge.....	29·50 tons.
Derwent iron ...	Durham	28·03 „
Portland iron ...	Tovine, Scotland...	27·30 „
Calder iron	Lanarkshire	27·09 „
Level iron.....	Staffordshire	24·67 „
Coltness iron ...	Edinburgh	23·52 „
Carron iron	Stirlingshire	23·52 „
Blaenavon iron...	South Wales	22·05 „
Old Hill iron ...	Staffordshire	20·05 „

The mean strength of the pillars from the irons above varies from 20·05 to 29·50 tons; or as 2 to 3 nearly.

The pillars formed of mixed irons were found to be weaker than the three strongest of the unmixed series.

From many experiments, it was shown that the weight which would crush the pillars, if they were very short, would vary as 5 to 9 nearly.

The pillars in general were broken of four different lengths, 10 feet, 7 feet 6 inches, 6 feet 3 inches, and 5 feet, the ends of all being turned

flat, and perpendicular to the axis. It was found that when the length was the same, the strength varied as the 3·5 power of the diameter; and when the diameter was the same and the length varied, the strength was inversely as the 1·03 power of the length. Both of these were obtained from the mean results of many experiments.

The formula for the strength of a solid pillar would therefore be

$$w = m \times \frac{d^{3\cdot5}}{l^{1\cdot03}},$$

where w is the breaking weight, d the diameter in inches, l the length in feet, and m a weight which varied from 4934 tons in the strongest iron we tried, to 3360 tons in the weakest.

The ultimate decrement of length, in pillars of various lengths but of the same diameter, varies inversely as the length nearly. Thus the ultimate decrements of pillars 10 feet, 7 feet 6 inches, 6 feet 3 inches, and 5 feet, vary as 2, 3, 3½, and 4 nearly, according to the experiments, from which it appeared that the mean decrement of a 10-feet pillar was ·176 inch.

Irregularity in Cast Iron.—The formulæ arrived at in this paper are on the supposition that the iron of which the pillars are composed is uniform throughout the whole section in every part; but this was not strictly the case in any of the solid pillars experimented upon. They were always found to be softer in the centre than in other parts. To ascertain the difference of strength in the sections of the pillars used, small cylinders ½ inch diameter and 1½ inch high, were cut from the centre, and from the part between the centre and the circumference, and there was always found to be a difference in the crushing strength of the metal from the two parts, amounting perhaps to about one-sixth. The thin rings of hollow cylinders resisted in a much higher degree than the iron from solid cylinders. As an example, the central part of a solid cylinder of Low Moor iron No. 2, was crushed with 29·65 tons per square inch, and the part nearer to the circumference required 31·50 tons per square inch: cylinders out of a thin shell half an inch thick, of the same iron, required 39·66 tons per square inch, and other cylinders, from still thinner shells of the same metal, required 50 tons per square inch, or upwards, to crush them.

As these variations in cast iron have been little inquired into, except by myself, and have never, so far as I know, been subjected to computation, I have bestowed considerable trouble upon the matter, in an experimental point of view, and endeavoured to introduce into the formulæ previously given, changes which will in some degree include the irregularities observed.

USE AND ABUSE OF RED BRICKS.

THE LEICESTER HISTORICAL SOCIETY.

The annual meeting of this society was held at Market Harborough, on Wednesday, the 28th ult. when several papers were read, including one "On the Use and Abuse of Red Bricks," by the Rev. E. Trollope, of which we give a portion:—

"Bricks are not only a necessity, but a building material for which a deep debt of gratitude has been justly due from a very remote period to the present time: moreover, it will be my endeavour to demonstrate how they may be made to please the eye of him whose apprehension of colour is most complete by their judicious use combined with a tasteful distribution of other tints, serving to relieve the monotony of their usual hue. . . . Red brick was a favourite building material in the reigns of Henry VIII. Elizabeth, and James I. as instanced by the many beautiful buildings existing throughout the country belonging to that date . . . During the reigns of the two Charleses, brick was not much in vogue for building purposes, but it again strongly prevailed in the reign of William III. who, fresh from his beloved Holland, hastened to raise up reminiscences of his native land, in the brick additions with which he entirely spoiled the previous beauty of Hampton Court Palace, and has transmitted to us a specimen of his taste in the so-called Palace at Kensington, in which the red masses to be seen at Amsterdam have been repeated, but without any of the picturesque gables and stone dressings which there tone down this somewhat difficult hue to deal with. Unfortunately, the Georgian era possessed no architectural life, and London, content to pursue the Kensington style, has become a brick monster which may well cause metropolitan artists and architects to shudder at the very name of brick, although it need not, I think, drive them into the arms of Mr. Stucco as the only means of escape from the dingy yellow or dull red series of façades surrounding them on every side: neither would it by any means be hopeless to throw a beautiful shadow over the town of Harborough, although at present its street architecture cannot boast of any attractions. Here, as in London, a child could in three minutes represent the appearance of hundreds of houses: he has nothing to do but to take an oblong piece of dull or bright red paper, to cut out of it from five to eight smaller oblongs, placed at regular intervals in three rows one above another, and to fill these in with bits of glass, in order to present us with a correct model of London or Harborough street architecture. But is there any positive necessity for repeating such productions? Why should modern brick houses always be so ugly when old edifices of the same material are often esteemed so beautiful that gentlemen of acknowledged talent and taste, and still better architects with a true love for their art, will travel many miles to see such an edifice as that of Tattershall or Torksey castles. And lest it should be said, 'Here you are comparing small things with great,' I will observe that several of the beautiful specimens of brickwork I have before alluded to are by no means large, and that with a few modifications they would be readily divisible, and adapted to form portions of streets, whether of shops or of private residences."

After alluding to the beauties of Italian brick architecture, which he said we should do well to copy in the building of our churches, he passed on to the consideration of the use of bricks in the construction of dwelling-houses.

"A first-class shop would have you suppose that its two or three uppermost stories were supported by the very fragile foundation of glass, although we know perfectly well that a couple of mean-looking cast-iron pillars behind this screen are really doing all its work—are the domestic Atlas the Birmingham penates of the establishment; but granted, that this expanse of exhibitionary power is needful, it might be secured equally well by a large flat-headed arch thrown over the whole ground-floor front, and the house would gain much as to architectural appearance by the substitution of so natural a constructional feature. Two or three small specimens of ancient arched shop-fronts still exist at Lincoln, and many fine examples in some continental towns. A variation in the size of the upper windows would be a great relief to the eye externally, and would enable them to be better adapted to the proportions of the several rooms internally. Their shape also would be greatly improved by finishing them above with flat, round, or pointed arches, according to the style of architecture adopted, instead of with the horizontal brickwork now usually seen, and not unfrequently aggravated by the application of sham keystones in cement, which, after a time, begin to flake off, from their impatience at having been pressed into so ridiculous and so false a position! Next, the removal of ugly and useless parapets, and the application of stepped gables, such as abound in Holland, Belgium, and parts of Germany, and the adoption of shadow-catching octagonal chimney-shafts, instead of the present meaningless masses of brickwork usually erected, would substitute lightness and comeliness of outline for dull monotonous horizontal lines. Lastly, we would recommend an attack upon the flatness of surface now almost always prevalent in brick buildings. Even where space is of great value, and porches, buttresses, or other bold projections are not admissible, base-mouldings of stone or brick, and elevation breaks of even a few inches are of much value, and with a string-course or two of moulded bricks, or even of rubbed ones, any tradesman could possess a shop of which he might be justly proud, without having recours to show and wearisome ornaments of stucco, and with but little need of the painter's brush."

A paper was read by Mr. Wing, "On Gothic Architecture and English Churches," the bearing of which will be understood from the following extract:—

"Out of its proper sphere, the employment of the Gothic, notwithstanding ancient precedent, is detrimental to it, and its inferiority in such cases may be more than questionable. At all events, we protest against the invitations to Gothicise our streets and lanes. This would produce a surfeit, and take away the background required to give due effect to our public buildings by way of contrast. In our attachment to a style, and in our attempts to do it homage, let us not profane or overlay it. In recovering what is valuable, we must not retrograde. We would appreciate the treasures of Mediæval art, but we would not be Mediævalized.

If we make a sacred appropriation of this precious legacy of our forefathers, it is especially incumbent upon us to secure its integrity and freedom from debasement. It has been seductively held forth, that with the Mediæval artists all was progression, and that we should follow their example by endeavouring to work into a new phase, that we may obtain improvement upon the past. But did not Gothic architecture exhaust itself in its various stages of introduction, maturity, and decline? Did the latter half of the fourteenth century, with all its effort, effect advancement? Or did the fifteenth, with its extraordinary elaborations, equal the preceding periods? Certainly not. And we apprehend that the attempt to infuse new elements, and to produce a new composition that can be consistently called Gothic, and be worthy of church appropriation, will be equally fruitless. It is from within, rather than from without, we are of opinion, that improvement will be derived; by diving into the spirit, and mastering the principles of this natural art; not by launching into another sea."

THE WORKS AT CHERBOURG.

The works at Cherbourg are of a gigantic description, and have been carried on during seventy years. The principal works, so far as the marine engineers are concerned, were completed by 1854, at a cost of nearly three millions sterling. Mr. G. R Burnell gives the following interesting information concerning the works. He says, in general terms, the Cherbourg breakwater may be described as presenting a mass of rubble stone, having a slope, from the bed of the sea to the level of nearly 22 feet below high water line of spring tides, towards the roads in the ratio of one base to one in height (1 to 1). The top of the mass then has a much more gentle inclination; for in the width of 19½ feet its inner summit attains the level of 15 feet below high water line, and there it stops against a wall, almost vertical, rising 7 feet above the same high water line or datum. There is a level platform at this height, of 20½ feet wide, on the eastern arm, and 21 feet wide on the western arm; and beyond it there is a solid masonry parapet (about 5 feet high, and rather more than 8 feet wide) towards the sea. The outer line of this parapet is, in fact, in the continuation of the sea face of the wall, and the latter has been built of coursed and dressed masonry, laid with the greatest care, and composed of the very best materials, upon a general bed of hydraulic concrete 5 feet thick, laid over the loose rubble hearting. The bottom of the concrete is about 20 feet below datum. Beyond the edge of the masonry which protects the foot of the vertical wall, the top of the rubble hearting of the breakwater has assumed a slope of 1 in 10 towards the open sea under the influence of storms. This slope continues until the top line has descended to 47 feet below datum, and thence it continues to the bottom at the rate of 1½ to 1.

The small materials used in the hearting of the breakwater are naturally exposed to be displaced by storms. Of late, however, a very effectual mode of protecting the sea slope has been adopted, consisting of huge artificial blocks, cubing not less than 26 yards, placed upon those portions of the breakwater which are most exposed to the effects of the sea. These blocks are composed of rubble masonry and of Portland cement mortar, the cement being English, of the manufactory of White and Sons, Westminster.

Returning, however, to the consideration of the general plan of these offensive and defensive works, we find that there is at the apex of the angle formed by the meeting of the two branches of the breakwater a large central fort having a total development of about 500 feet, measured on the inner line of the parapet, which forms a very flat semi-ellipse. Behind this battery there is to be raised an elliptical central tower, measuring 225 feet on the major, and 125 feet on the minor axis. A casemated fort, of about 190 feet front, is to be formed on the western or longer branch, and two large circular forts are placed at the extremities of the breakwater; that of the eastern end being 100 feet in diameter, and that of the western end about 133 feet in diameter.

The military port of Cherbourg consists of an outer harbour, 776½ feet long by 662½ feet wide, with a *minimum* depth of water of 58½ feet. The channel at the entrance is 206 feet wide at the narrowest point, and is usually 530 feet wide. The cost of this outer harbour was estimated at nearly 680,000*l*. Beyond it, and communicating with it by means of a lock of about 130 feet long and 58 feet 7 inches wide, is a floating basin 957 feet long by 712 feet 9 inches wide. There are on the opposite side of the outer harbour to this

floating basin, four fine covered building slips for 120-gun ships, and a graving dock close by a caisson, besides some uncovered slips for building smaller classes of ships. The building slips for vessels of the line are 383 feet long by 78 feet 8 inches wide. The graving dock is 245 feet long by about 78 feet wide, with a depth of water over the sill of about 27 feet 6 inches.

The inner floating harbour has been inaugurated. It is parallel to the first floating basin, and will communicate both with the outer harbour and the basin. It is about 2,788 feet long by about 1,312 feet, and is entirely excavated out of the solid rock—a member of the transition series, extremely hard and tough. All round this marvellous sheet of water are a series of graving docks and building slips of remarkable beauty, so far as we may judge of them by their present state, at least; and immediately beyond the quays are the various magazines, storehouses, sail lofts, shops, &c. which, when complete, will render Cherbourg one of the most complete arsenals in Europe. There is still much to be done, and a very great additional outlay must be incurred before this port can be considered to be complete; but, unquestionably, when the works still unfinished shall have been executed, Cherbourg will constitute one of the most formidable military and naval posts in the world. The tales we hear of its quays being adapted for the embarkation at one time of 100,000 men are of course absurd; but, even when all allowances are made for the terror and excitement of the moment, it must be a matter not only for admiration of the skill and energy of the French Government and of the French engineers in effecting the great things they have done, but, also, it must be a matter of importance to us, to inquire whether we at home have a military and naval harbour so well and so conveniently arranged as is the one at Cherbourg. It is very difficult to ascertain the precise cost of such mighty operations as those above mentioned; but it is certain that the harbour works and breakwater of Cherbourg must have cost at least between 6,000,000*l.* and 7,000,000*l.* sterling. Costly as they have been, however, they appear to answer the purpose for which they were designed.

THE TOWER OF ST. MARY'S, TAUNTON.

I UNDERSTAND the Taunton tower is now down; and, therefore, now or never is the time for the good people of that place to consider seriously whether they are wise in requiring or allowing Messrs. Scott and Ferrey to build up again as close a copy of the old tower as they can. We had exactly the same question to consider at Doncaster. During the first three years of the rebuilding of the church, nobody ventured to propose openly any deviation from the old model of the tower, although the rest of the old church was not thought worth copying, and the style was changed in Mr. Scott's first designs. By degrees, however, as I had always expected, as the body of the church rose to the height at which the tower springs from the roof, the conviction rose with it that the style of the best period of architecture ought to be capable of furnishing better towers as well as better naves than the declining period of the Perpendicular style. And when the critical moment of beginning to build the tower came, and Mr. Scott produced the drawing I had requested him to make of a tower with the same outline and general arrangement, but designed on the principles of the thirteenth century instead of the fifteenth, the question seemed to answer itself, and the warmest admirers of the old tower acquiesced in the alteration. It is now finished; and if there are any persons at Taunton enthusiastic enough about their own building to come and see this, and compare it with the pictures of the old church, or with Mr. Scott's first picture of the new church with a copy of the old tower attached to it, I believe they will go home convinced that they ought to do as we have done.

I am by no means insensible to a few mistakes which have been made in this tower; but it is very remarkable, and I beg the attention of the Taunton people to it, that the most serious mistake has occurred at the point where the old arrangement was professed to be copied most exactly. Notwithstanding this, however, the new tower is unquestionably very superior to the old, as a whole, and especially in those parts which are really and entirely new, and have no pretence of imitating the old—I mean the windows; and as a whole, there is no town in England of any age for which I, or I believe any one here, would like to exchange it.

The Taunton people must remember, notwithstanding their natural prejudice in favour of their old tower, that it is gone irrevocably. This is no question of partial restoration, where of course the old pattern should be adhered to; but the new tower will not be the old, nor be in the smallest degree, or by the least experienced eye, mistakable for it. Everybody who has paid attention to the very best "restorations" will confirm that. They will find, too, in such books as Britton's "Antiquities," that, famous as their tower was among those of its class, it was considered by no means free from the defects of its class and period of architecture, which was almost, if not quite, the expiring period of Gothic architecture. The monotonousness of its four-and-twenty windows, all alike as four-and-twenty blackbirds, and with not the slightest variety, even in the position of the three stories of them, was a defect of the first magnitude. In that respect it contrasted lamentably with the old tower here, which was built about half a century earlier, and was remarkable for the elegant and skilful variation in the position and size of the upper and lower windows. The elaborate and spiritless repetition of rectangular panelling and piercing at the top of the Taunton tower—of course the latest part of the work—was not even one degree removed from baseness.

No such defects could have occurred in a tower of the thirteenth or the earlier part of the fourteenth century; and I am persuaded that none such would be found in a tower designed now in the style of that period by architects such as those engaged on this work. The people of Taunton have an opportunity, which will very soon be gone for ever, of doing with a west or disengaged tower of the first magnitude among parish church towers what we have done with a central one; and, after the experience of one of their architects at Doncaster, they ought to do it still better than we have. At any rate, they should make their architects try, not necessarily in stone until they are satisfied on paper. This loss of a few weeks' time in such a matter is not to be thought of, and a decorated tower need not cost a penny more than a copy of their old perpendicular one. As for the architects, no doubt it would be less trouble to let their clerks make working drawings from the old measurements; but even if they were disposed to take that low and mercenary view of their art (which is not likely with either of them), they must remember that of a tower built in that way they will have no claim to be considered "architects," but merely a sort of head clerks of the works; whereas, if they design such a building as I know may be designed for that place, they will have the glory of doing, and Taunton of possessing, such a tower as has not been built in the world since Gothic architecture began to fall, four hundred years ago. E. B. DENISON.

THE ARCHITECTURAL MUSEUM AND THE GOVERNMENT.

PERMIT me to trouble you with a few remarks on your recent article on the position of the Architectural Museum with reference to the Department of Art.

I think that there can be but one opinion as to the fact that the work we have for the last six years been carrying on with very great personal exertion is not a *private* but a *public* work. We undertook it simply because the Government refused to do so, though so manifestly their duty: but it is clear that it is too great a work to be carried on wholly by private means, and that it is in every way desirable that the Government should afford to it their powerful aid. Had they been the first to undertake it, no one would have thought of objecting to their having its entire management; but as they, by so long refusing to do so, compelled others to originate the work, the question is now, how far those who have so successfully launched the undertaking shall continue to direct it if Government aid be afforded.

The Government have already given us house-room, as they have to many other Societies: they have also deposited in our Museum many valuable objects of study.

The objects of our recent memorial to the Government were two-fold:—First, That as the students in their Schools of Art have free admission to our Museum and to our lectures, the Department should become annual subscribers to our funds to the extent of 100*l.* per annum; and, secondly, That the system already commenced by them of depositing objects of study with us should be systematized, and that we should be allowed, as an acknowledged custom, to recommend from time to time for their consideration such objects as we might think suitable.

The following is their reply to these two proposals:—

"My lords desire me to express their regret that they do not feel justified in entertaining the application of your committee in the form in which it is proposed in the memorial; but at the same time, if the committee are willing to deposit the collection on loan, and entrust it to the Department on the same terms as other exhibitors, they would be prepared to meet the wishes of the committee by providing for the custody of the collection, and relieving them of the charge of the keeper.

With reference to the proposal of the memorial regarding the purchase from time to time of additional casts, I am to say that their lordships will be happy at all times to receive any suggestions of the kind, and to give them their best consideration."

Now, whatever may be the merits of the counter proposal contained in the first paragraph, I am, I confess, at a loss to discover in it even the faintest foreshadowing of the magnificent offer which our curator seems to have discovered in it. It expresses to my apprehension nothing but the bare fact that if we will place ourselves precisely on the same footing with the exhibitors of raw material and manufactures, we shall be treated as they are; or, in other words, if we relinquish the control of our Museum and our curator, we shall be saved his salary. This was the interpretation which I, in my simplicity, put upon the proposal, and, as I believe, which the Committee, without any communication with me, put upon it, and which, I take the liberty of saying, is the only one the words will bear, and which I am inclined to think was the only meaning they were intended at the time to convey.

We may be very much in the wrong, but,—so understanding the proposal,—I beg to assert my opinion that they were right in refusing any such offer. If, on the other hand, it meant all which our curator says it meant, and all which you seem to think it meant, I am free to admit that (though the words convey to my mind no hint, even, of such a meaning) there is nevertheless room for negotiation; which, so far as I am concerned, and I think I may speak for the committee, would be conducted in a perfectly friendly and liberal spirit.

G. GILBERT SCOTT.

SIR,—The committee cannot entirely pass over the leading article in last week's *Builder*, relating to the offer made by the Department of Science and Art for "loaning" the Architectural Museum, without some reply. Whilst we are sure our own subscribers and well-wishers will give us credit for having, by their help, made the collection what it is—and a good way towards being a *national* one—there are *those* who ought to help us by good word and in pocket, who might otherwise consider our silence as an excuse for not giving us their future assistance, or indeed thinking there is want of assistance at all.

The committee fully and carefully considered the offer made by the Department,—though it seemed a little out of place, in reply to an application for the renewal of the grant made in 1856, to receive as an answer that "if the committee are willing to deposit the collection on *loan*, and intrust it to the Department on the same terms as other exhibitors, they would be prepared to meet the wishes of the committee, by providing for the custody of the collection and relieving them of the charge of the keeper."

It was certainly not very clear what was meant, but finding Capt. Fowke, R.E. had been deputed to explain more fully the intentions of the Department, an interview took place, and at a full meeting of the committee, Mr. Beresford Hope being in the chair, the explanation appeared so clearly to show what would be our future position, and also being reminded that beggars must not be choosers, it was at once decided the "loan" would not secure the independent position guaranteed when we left Canon-row and took up our present quarters at Brompton. The committee have all along desired to maintain the most friendly relations with the Department, and by every means to acknowledge the assistance rendered them; but it is now still more obvious than ever that the private influence which brought the Museum into existence must still maintain it. As an independent body it will always, so long as it is rightly managed, have the support of those interested in art education; but if once absorbed into a mere Government collection, it will no longer fulfil its object. It is true the control of the Museum was said to remain with the committee, but it must have been a mere nominal authority over its direction, with none over its custodian. Beyond the recent letters in the *Builder* and the article now alluded to, no other intimation has reached the committee that their decision has not met with the approval of our supporters; on the contrary, apart from the success of the recent *conversazione*, with the increasing sphere of its usefulness, the subscription-list of the Museum continues to increase, and the

committee trust that ere long the present debt will be cleared off, and that then, being no longer beggars, we may walk in sunshine.

Joseph Clarke, Hon. Sec.

PROVINCIAL NEWS.

Lynn.—The new Savings' Bank building in St. James's-street, according to the *Norfolk Chronicle*, is now rising into view. The style adopted is the Tudor, and the material employed is red brick, chequered here and there with black, and faced with stone. The front is set back a few feet from the footway.

Wisbech.—The Wisbech new Corn Exchange has been inaugurated. After public competition in tenders, the committee appointed for the purpose accepted that of Messrs. Sharman and Son, of Spalding, who undertook to carry out the design of Messrs. Bellamy and Hardy, the architects, for the sum of 2,750*l.* This amount was raised by 800 shares of 5*l.* each, and the money being forthcoming, the present building gradually rose, under the direction of Mr. Yeoman, as clerk of the works, the commencement having been made in October last. The dimensions of the Exchange are 109 feet long by 49 feet wide. The style (if any) is Italian, with an arched glass roof: convenience and applicability to uses have, however, been studied rather than appearance.

Hertford. — A special meeting of the town council was held on the 17th ult. to decide upon the tenders received for the proposed alterations and improvements of the Corn Exchange, so as to combine a public reading-room in connection with the free library. The following tenders were received:—Messrs. Patnam, Enfield, 943*l.*; Messrs. Benton and Co. Leeds, 942*l.*; Mr. Thomas Lawrance, Hertford, 929*l.*; Mr. Henry Norris, Hertford, 907*l.*; Mr. George Ekins, Ware, 903*l.*; Messrs. Woolley and Co. Leeds, 894*l.* There were three other tenders; but, as the amount considerably exceeded the sum mentioned in the advertisement, they were not taken into consideration. The tender of Mr. Henry Norris was accepted, amounting to 907*l.* exclusive of the proposed statue vases, arms of the borough, and other carved work, to be provided by the architect, Mr. William Hill, of Leeds, for 109*l.* 10s. The work of pulling down the old corn exchange has since, according to the local *Mercury*, been commenced by Mr. Norris, and the roof is already removed.

Wokingham. — The committee appointed to carry out the Town Hall and County Police Station scheme have obtained plans for the building from seven architects who were invited to send in designs. The following are the names of the competitors: Mr. J. B. Clacy, Mr. W. Brown, and Messrs. Poulton and Woodman, of Reading; Mr. Horace Jones, Mr. C. Fowler, jun. Mr. J. Turner, and Messrs. Judge and Winstanley, of London. The designs were arranged in the Town Hall for the inspection of the subscribers. The committee have selected Messrs. Poulton and Woodman's plan, provisionally on its meeting with the sanction of the police committee, and that it can be carried out for the limited sum (3,500*l.*) in hand. The design presents a Gothic exterior, with a light clock-tower.

Plymouth.—Plans, it is said, have been approved of for the better fortification of the entrance to this port, including the erection of a powerful fort on the Breakwater, the inner portion of which, near the centre, will be extended considerably northward.

Liverpool.—The Town Council, says the *Albion*, intends to carry a semicircular sweep of boulevards round Liverpool, starting from a point about Bootle, and, after forming the segment of a circle, ending at the Dingle. It is proposed that the boulevards shall be of a uniform width of 100 yards, and there shall be a central carriage-drive of 20 yards, flanked on each side by rows of trees; that beyond the trees shall be roads for pedestrians and equestrians; and the land outside the boulevards shall be available only for villa residences.

Sheffield.—The ceremony of laying the first stone of the new Hospital in connection with the Sheffield Dispensary, took place on Monday in last week. The principal part in the ceremony was taken by Earl Fitzwilliam.

Leeds.—The foundation-stone of a new Independent School-room has been laid at Sheepscar, near Leeds. The proposed school (which is also to be used as a chapel), will be built upon a plot of ground at the bottom of Barrack-street, adjoining Sheepscar-bridge, and will accommodate about 300 children. In addition to the general school-room there are two class-rooms, and underneath the former building there is an area for a play-ground, but hereafter to be divided into class-rooms. There will also be a play-ground on each side of the school. The building will be erected in the Early Decorative style of architecture. The cost of the school, &c. exclusive of the land, is estimated at 250*l.* and the principal portion of this sum has already been subscribed.

Stockton.—The alterations of Stockton-bridge have been commenced. Mr. Knapton, of York, is the contractor, and Mr. William Bulmer, stone-mason, Stockton, is sub-contractor for the masonry. The bridge will be widened by a 4-feet path on each side, supported by projecting iron bars on girders springing from the arches. Iron supporters will cross the bridge from side to side, bolted together to give stability to the projecting iron work. The works will cost about 1,200*l.* towards which Stockton contributes 100*l.* and the district of Cleveland a like sum.

Penrith.—The following buildings are now in progress in Penrith:—The Church of England Girls' School, or School of Industry; St. George's School (Ragged); New House of Detention, and court-house adjoining, wherein the magistrates will hold their petty sessions.

TABLE OF LEVELS.

The following Table is compiled from the formula—

$$f = d \,.\, tan\ a,$$

where f is the fall of a piece of ground for the horizontal distance d, and a is the inclination of the ground to the horizon.

By reference to this table the amount of fall in any length can be seen for any angle of inclination.

Value of a.	Fall of Ground for each Value of a.		
1° ...	17·5 in 1,000, or about		1 in 57
2° ...	34·9	,, ,,	1 in 29
3° ...	52·4	,, ,,	1 in 19
4° ...	69·9	,, ,,	1 in 14
5° ...	87·5	,, ,,	1 in 11½
10° ...	176	,, ,,	1 in 6
15° ...	268	,, ,,	1 in 3¾
20° ...	364	,, ,,	1 in 2¾
25° ...	466	,, ,,	1 in 2¼
30° ...	577	,, ,,	10 in 17
35° ...	700	,, ,,	7 in 10
40° ...	839	,, ,,	21 in 25
45° ...1000		,, ,,	1 in 1

E. W. Tarn.

THE TOLL ON CHELSEA-BRIDGE.

After severe and earnest efforts a park has been made for the people at Battersea, but with that ill management which so often renders useless, to a considerable extent, matters of advantage, a toll has been placed upon the bridge leading to this park, which almost closes it to those who have families, and have small means to rear them: such are the persons who most need access to places of this description. Vigorous efforts have been made to remove this tax. It has been stated by good authority that the sale of the surplus land will defray the 80,000*l.* which the bridge over the Thames has cost, and also a considerable amount of the sum expended on the park. The management of such matters in Government hands seems strange. After large majorities against the opening of the Chelsea-bridge leading to the Battersea-park free to foot-passengers, Major Sibthorp seemed to take the House of Commons by surprise, and succeeded in passing the following resolution—"Nor at any time previous to the said sum of 80,000*l.* being paid off as aforesaid, shall any toll be demanded or paid for, or in respect of, foot-passengers passing over or on the said bridge on Sundays." The inhabitants of this district of the metropolis will feel grateful to Major Sibthorp for having been the instrument of doing a certain amount of good. Some holidays were afterwards also exempted.

Considering the great difficulty there is in forming parks where they are really necessary, care should be taken that land which is at present the property of the nation, near large populations, should not be disposed of and rendered unavailable for the purposes of health. Epping Forest has now almost become a suburb of London, and Mr. Hanbury very properly called the attention of her Majesty's Government to this important locality. Mr. Hanbury said he understood that part of the forest which was nearest to the east end of London had been sold within the last twelve months, and that the Crown had disposed of the soil to which he referred, leaving the interest of the lord of the manor confined to the growing timber. Large numbers of persons living at Whitechapel, and the adjacent districts in the east end of London, who were in the habit of going down in vans in the summer season for recreation in the forest, were deprived of that enjoyment. He therefore begged to ask the First Commissioner of Works whether he was aware that some of the Crown rights of Epping Forest which are nearest to London, and most frequented, had been sold by the Government during the last few months, and to call the attention of the House to the importance of securing the yet enclosed portions of Epping Forest for the recreation of the inhabitants of the metropolis.

Mr. Hamilton, in reply, said her Majesty's Government had given notice to the First Commissioner of Works on the subject, and he would make inquiry into the matter.

NELSON'S MONUMENT.

The idea broached by "Epsilon" closely resembles one long entertained by me, and may also, perhaps, be more artistically correct than mine, which is as follows: Instead of allegorical figures relating to the scenes of Nelson's victories, I would have statues of his lieutenants. At Copenhagen, his next in command was Lord Graves; at the Nile, Lord Saumarez; and at Trafalgar, Lords Collingwood and Northesk. To the penultimate admiral I would assign the post of honour, as I consider him to be the greatest-minded man that the navy has produced since the days of Blake, whom he much resembled, both in self-denying zeal, the circumstances of his death, and ungrateful treatment subsequently. To him, I would give the angle looking down on the official quarter: Lord Northesk's statue could occupy the south-west angle; and Lords Saumarez and Graves the two on the northern side.

I fear that there is no authority for me to quote in support of my proposition, but I cannot imagine that the effect would be inferior to that produced by the contemplated lions. Whether the base be completed with statues of men or animals is of no consequence as regards the figure of our naval hero, as the eye could never take the subjects both of the base and capital. To see Nelson at all, the visitor must stand a hundred yards off at the least (and little he gets for his pains); but to inspect his followers, one must approach near enough to lose sight of the chieftain. Phi.

NEW CHURCH AT RICHMOND.

This edifice, erected from the designs of Mr. Scott, was to be consecrated on the 7th instant. The situation is a good one, as it is not as yet hemmed in by buildings; indeed, it is quite in a suburban district, where villa residences are the only intruders.

The style adopted in the new church is the Geometrical Pointed, but it is by no means lavish in ornament, for, with the exception of the west front, the effect of the design depends chiefly upon the boldness of its parts. The plan consists of a well-proportioned nave, separated from the aisle on each side by circular columns, and at the western end of the north aisle is commenced a lofty tower with spire: this, although only roof-high as yet, is expected to be completed without interruption. Beyond the nave is, of course, the chancel, which is 24 feet wide, and finishes in a semicircular end. To the north and south of the chancel are aisles, agreeing with those of the nave, and which are appropriated for a vestry, organ-room, &c.

The general appearance of the exterior will be best understood by reference to the accompanying view, which shows the whole complete. Internally, the sittings are of deal, as is also the roofing: the former are bold in their design. The roof is open, and the way in which the rafters are framed produces a novel look: in the chancel they are all curved, and in the apse meet in a central boss. The pulpit is of oak, upon a stone base: its form is octagonal, and the sides have carved panels. The font is placed near the entrance: it is circular, and comparatively plain. Some of the windows, we observe, are filled with stained glass.

The builders are Messrs. Piper and Son; and the cost, up to the present time, has been about 7,000*l.* We shall have another opportunity to speak of the details.

Arches Falling, on the Striking of Centres.—One method to prevent this (provided the work is good) is to place two moderately tapered wedges under each support; remove them partially, and let them remain for awhile. This simple precaution will save many an arch from falling.—T. G.

THE NEW CHURCH OF ST. MATTHIAS, RICHMOND, SURREY.
Mr. G. G. Scott, Architect.

CHURCH-BUILDING NEWS.

Winchester.—The dean and chapter, it appears are about to restore the entire west front of Winchester cathedral, and workmen are already engaged in the restoration of the porch of the south aisle.

Clifton.—It is proposed to erect a new church near Buckingham-villas. A gentleman of Clifton, who has purchased some land in that neighbourhood, has offered to give the site, subject to the following conditions:—That the building shall be sufficiently spacious for a congregation of 800 or 1,000 persons; that the entire area shall be without pews or reserved seats of any description. Should any public expression of opinion be made on this subject, the owner, it is said, will at once hand over the land.

Chard.—The old church at Chaffcombe having become very dilapidated, has just been taken down to be rebuilt, and the foundation stone of the new has been laid by Mrs. Vincent, of Chaffcombe-gate. The tower, being sound and good, will not be altered.

Newnham.—The foundation stone of a new Wesleyan chapel, according to the *Gloucester Chronicle*, has been laid at Broadoak. Mr. Coleman, of Chaxhill, is the builder.

Llandaff.—The following notice of the progress of the work of restoration in Llandaff Cathedral is now in course of circulation, dated from the deanery, Llandaff:—Directions were given to Messrs. Prichard and Seddon to consider and report upon the proper method and order of proceeding; and with their advice contracts have been entered into for the following objects:—1. For the repair of the arcade, 700*l.* 2. For the reconstruction of the clerestory, 950*l.* 3. For rebuilding the walls of the side aisles, and for inserting therein the windows, and constructing the necessary buttresses, 165*l.* 4. For rebuilding a portion of the southern tower, 425*l.* 5. For the timberwork of the roof of the nave, 885*l.* These works are all now in course of execution, and will, it is confidently expected, be completed during the present year: their cost is 3,425*l.*

Llanmartin.—The new church erected at Llanmartin was consecrated by the Bishop of Llandaff on the 15th ult. The edifice consists of chancel, vestry, nave, porch, and tower. Underneath the vestry there is a chamber for a heating apparatus. The roof is open and the seats, and there are five stalls in the chancel. The edifice will accommodate about 100. The old monument, which is supposed to belong to the Morgan or Montague family, who once resided at Penycoed Castle, has been preserved and cleared from whitewash. The church has been re-built in accordance with the original style. Mr. Seddon was the architect, and Mr. Williams the builder.

Aberdare.—A new church has been opened at Hirwain, in this parish. The design was furnished by Mr. Roose, architect to Lord Bute. The edifice is built of the common stone of the county, with Bath stone dressings. It has a belfry, or spire, at the west end, and is surmounted by Bath stone crosses at each of the gables. The order is German-Gothic. This church has been built by subscription. The ladies of Hirwain, headed by Mrs. Francis Crawshay, have set up a painted window in the east end of the chancel. This window was executed by Mr. Gibbs, and the subject is "The Crucifixion," in the centre light, and St. Paul and St. Peter occupying the other two lights.

Thornbury.—The little church of Elberton, about three miles from Thornbury, having become dilapidated by age, it was agreed that the building should be restored and repewed, and the work is progressing. Mr. Norman Brown, mason, of Bristol, and Mr. Grosvenor, carpenter, of Elberton, are the contractors. The costs, including repewing the church, will be upwards of 800*l.* and will be defrayed by Sir Harry Lippincott, of Over Court.

Hatfield.—The first stone of a new church has been laid at Lemsford Mills, in the parish of Hatfield. The church is to be dedicated to St. John, and is being erected by the Countess Cowper and her children as a memorial of George, sixth Earl Cowper, in pursuance of a wish often expressed by him. The designs for the church and parsonage-house have been prepared by Mr. D. Brandon, and the building will be carried on by Mr. Foster, of London.

Warwick.—A subscription has been commenced for the restoration of the pinnacles of the tower of St. Mary's church, and amongst the names already on the list are those of the Earl of Warwick, Lord Leigh, Lord C. Pattet, and others

Walsall.—St. John's church, at the Pleck, has been consecrated. The Pleck is now a thriving suburb of the borough. The new edifice has been erected almost entirely by voluntary effort. The Lord of the Manor, the Earl of Bradford, in addition to the site, has subscribed 500*l.* The church, which contains sittings for about 600 people, is built in the Gothic style, of the Decorated period. Externally, the walls are of the limestone of the district, with dressings of red sandstone from Codsall, and the fabric is surmounted by a belfry. The stone of Codsall has also been used in the interior as pillars, which have capitals of sculptured foliage. The seat accommodation and the timbers of the roof, which are open, are of red deal, slightly stained and varnished. The architects were Messrs. Griffin and Weller, of Wolverhampton. The oriel window over the altar is of stained glass, the gift of a lady, and represents the Nativity, the Crucifixion, and the emblem of the patron saint of the edifice, St. John. The builder was Mr. Isaac Highway, of Walsall.

West Smethwick.—The church of St. Paul, West Smethwick, was consecrated, on Monday before last, by the Bishop of Lichfield. It is in the Early English style, remarkably plain, faced with white bricks, with Bath stone dressings, the roofs covered with slates, in bands of red and green. It consists of nave, north and south transepts, and octagonal chancel, with galleries at the west end, and transepts approached by octagon turrets, and tower, with lofty spire at the north-west angle. The roofs are open-timbered, stained and varnished. The sittings are all open, stained and varnished, of a light shade, giving a pleasing effect to the darker shade of the roof timbers. The windows are glazed with cathedral glass; the chancel with stained glass, presented by Miss Chance. The chancel is paved with encaustic tiles, from the works of Messrs. Maw and Co. The works have been carried out by Mr. Parnell, of Rugby, from the designs of Mr. G. B. Nichols, of the firm of Nichols and Morgan, at a cost of 2,500*l.* giving accommodation for 800 adults and 150 children.

West Bromwich.—The new church dedicated to St. Peter, recently erected at Greet's-green, West Bromwich, has been consecrated. The architecture of the new edifice, according to the *Birmingham Journal*, is Early English, very plain, but massive. It contains 834 sittings, and has cost in its erection 4,000*l.* The architect was Mr. Johnson, of Lichfield; and the builder, Mr. Robinson, of Redditch. A considerable sum is yet owing on the building.

Altrincham.—Considerable progress has been made in the demolition of the walls of the old fabric of Bowden parish church. A portion of the north wall near the tower had been renovated within a comparatively recent period, and is consequently kept standing; but the *Manchester Courier* fears that this will be penny wise and pound foolish. The tower at present remains intact, it being the intention to build it up higher on the old walls.

Blackburn.—At a meeting held in St. Peter's church, Mr. W. Stones exhibited plans of proposed alterations in the galleries, and in the area of the church. By the proposed alterations there would be 800 sittings in pews, 500 free seats, and 468 seats for children, making a total of 1,848. It is also proposed that the church shall be heated with hot-water pipes, and lighted with gas. The edifice is also to be re-painted and thoroughly cleansed, the total cost of which is estimated at 1,000*l.* The owners of the pews in the galleries are to be consulted, and they will be canvassed for subscriptions.——Resolutions have been unanimously passed by the congregation of St. Anne's chapel for the accommodation of about 200 more persons in that edifice by the erection of a new transept and chancel. The proposed extensions will cost about 300*l.*

Walton-le-Dale.—Two stained glass windows have been placed in the church at Walton-le-Dale, near Preston, in memory of the Rev. John Brooks, late rector of the parish. The money has been subscribed by the parishioners, most of it in small sums. The glass is by Mr. Wailes, of Newcastle-upon-Tyne. In one window are subjects typical of the Sacrament of Baptism, in the other of the Lord's Supper.

Greetland (near Halifax).—A fair prospect is presented for the erection of a new church in this rapidly rising district. Greetland forms part of the extensive township of Elland-cum-Greetland, and only one church exists in it, and that is the very ancient church at Elland. About 1,000*l.* have been promised towards the erection, and ecclesiastical grants to the amount of about 900*l.* are talked of.

Martham.—The church of the village of Martham, in Norfolk, is being restored, at the expense of Mrs. Dawson, daughter of the vicar. Most of the restorations are being carried out so as to approximate to the original style of the erection. The expense hitherto has been several thousands of pounds. The cusped chancel arch is enriched with foliage and two corbels, with angels bearing the sacramental emblems, the paten and chalice. The hammer-beam roof is decorated with angels and enriched with spandrils; while the arches are in the Perpendicular style, and surmounting them, either in the roof or on the arches, are various emblems representing "The Passion," and other Scriptural subjects. As the entrance to the chancel is in the Decorated style, that portion of the edifice which is not yet commenced will also be decorated. Peake's Staffordshire tiles, laid in variegated patterns, form the pavement of the passages. The east window is to be filled in with stained glass. The tower is to be restored by the parishioners.

Wigan.—The foundation-stone of a new Wesleyan chapel has been laid on Lamberhead-green, near Wigan. The building is to be Gothic, with a clock tower on the south side, and is to accommodate 500. The cost, including the day and Sunday school in course of erection, will be 2,600*l.*, towards which Government have granted 684*l.*, and Mr. Atherton, M.P. has given 200 guineas. Nearly 2,000*l.* have been already raised.

Morpeth.—The Presbyterians of Morpeth (under the pastoral charge of the Rev. James Anderson) having determined upon the erection of a new church, invited Mr. Matthew Thompson and Messrs. Oliver and Lamb, architects, to send designs in competition for the same, when those of Mr. Thompson were chosen, and the works are to be proceeded with under his superintendence.

Newcastle-upon-Tyne.—St. Nicholas' cemetery, situated at North Elswick, between the Union Workhouse and the edge of the Town Moor, and consisting of six acres of land, purchased from the Board of Guardians, is now finished and ready for burials. It is completely walled round, having two entrance gates—one towards the north turnpike, and the other towards Elswick. Just within the latter are two chapels, of Gothic architecture, separated by the keeper's residence, &c. The grounds have been laid out in walks, and planted with trees, shrubs, and flowers.

Hexham.—The abbey church in this ancient town is about to undergo restoration at the hands of Mr. Salvin. The present modern galleries are to be cleared away, the mutilation of the choir piers caused by them to be repaired, and the ancient stalls placed in new positions farther to the east. The east end was altered and almost wholly renewed about thirty years ago, and as it is what might be expected from the limited knowledge of that period, it will now be rebuilt. The Lady Chapel, which has been in a ruinous state for a considerable time, will be removed altogether, but a memento of it will, in all probability, be preserved in a work on the church which has been undertaken by Messrs. Haswell and Johnson, architects, of North Shields. Part of the restoration, we understand, will be effected by means of subscriptions, and the remainder through Mr. Beaumont, M.P. the lay rector.

Mountblairy.—The private burial place provided by Mr. Morison, of Bognie, on his estate at Mountblairy, was consecrated by the Right Rev. Dr. Suther, bishop of Aberdeen, on the 7th ult. It consists, says the *Banffshire Journal*, of a large vault, over which has been built a small Gothic edifice, from designs by Mr. Wm. Ramage, of Aberdeen, architect. It is large enough to be at any time converted into a private chapel, but at present it is unfurnished, and has not been dedicated to this use It is situated about three quarters of a mile from the mansion-house, not far from the river side, on sloping ground, inclosed and tastefully laid out. No wood is used about the building, except in the door inserted in the east end, in a doorway ornamented by pilasters and rolls of fluted work. The walls are surrounded by buttresses of Morayshire stone, of which material the whole of the dressed work is composed. At the south-west corner is a circular column, surrounded by a crocketed pinnacle, giving it the appearance of a miniature tower. Carved crosses adorn both east and west gables. The roof is supported by stone ribs, pierced. Instead of slates, immense Forfarshire slabs are used in three tiers. There is a window, in keeping with the building, in the west end, filled with stained glass, and a small trefoil over the door. The walls, internally, are covered with Roman cement, and ornamented on both sides with scrolls and shields, inscribed with suitable texts.

Antwerp Bourse.—We hear with regret of the destruction of this interesting building, the type of our first 'Change.

THE "PUBLIC HEALTH ACT" IN ROTHERHAM AND WORKSOP.

Sir,—At Worksop, where a large sum has been expended in *law*, little or no sanitary improvement has been carried out, unless the making of a brick culvert down the Carlton-road, which empties itself into the Chesterfield Canal, can be called such a work; and this has been the subject of a contest with the Manchester, Sheffield, and Lincolnshire Railway Company, (to which company such canal belongs), in the Court of Chancery; the result of which has been, that the Worksop Board of Health has been obliged to cut off all house drainage from the aforesaid sewers, so that merely surface drainage, or rain-water, now flows into the canal. How any sane men could carry out such a work, and call themselves a Board of Health, I cannot imagine: to turn sewage into a canal, where it must necessarily lie stagnant, fostering and spreading miasma and disease along its banks, as the filth is stirred up by the traffic of the boats—instead of the cognomen of the "Board of Health" being applicable to them, it should rather be called a Board of *Disease!*

A memorial was presented to the Local Board some time ago, to request them to dismiss their staff, and resolve themselves into a new Highway Board. So these sagacious men have the presumption to imagine, that they can give the Public Health Act the go-by; and, it seems, carry out only so many Acts of the Legislature as suits their pleasure or caprice. Do, Mr. Editor, enlighten a few of these obstreperous and refractory Boards; convince them, if you can, that Acts that are passed for the benefit of the masses are not to be subverted or construed for the benefit of the few, and in most instances those few that ought to have the least forbearance shown them, namely—the owners of cottage property, who exact a large, and, in most instances, an enormous rent from their poor tenants, without giving them the *quid pro quo*, in the shape of well-built houses, thoroughly drained and supplied with water. This is the self-interested source from whence springs all the opposition to the Public Health Act, and one that requires the serious attention of the Legislature.

If, with the laudable example set them by her Majesty, his Royal Highness Prince Albert, the Duke of Bedford, and others of our eminent, enlightened, and philanthropic aristocracy and gentry, these obstinate men cannot be induced to do their duty to their poor tenants, then, I say, it becomes a question that ought to be taken up by the Legislature; and what is now a crying evil, a deadly wrong, may be amended, and the dirty "borough interest" swept clean with the besom of reform.

The water supply of Rotherham is derived from wells and springs, some of them in one of the streets: so in the very first act of this Board they violate one of the general principles laid down by the General Board, that wells or springs within a town are not proper sources of supply for the inhabitants, as they are liable to be impregnated with drainage and other matter injurious to health. And if we are to judge of the health of that place by the Registrar-general's Return, it is evident that the works of the Board of Health have had a tendency to increase its mortality, which is at variance with the intentions of the Legislature, and contrary to the spirit and preamble of the Act "To amend the Public Health," &c.

The first act of the Local Board was to purchase the old waterworks and plant situated within the town, for the goodly sum of 2,464*l.*; and, having purchased that interest rather dearly, they proceed to lay out a new scheme for the supply of the town. After examining various sources of supply,—more eligible I think—they revert to the old sources, although the quantity of the water stated the works would yield was 180,000 gallons daily; and after the drainage works had been carried out, where the pipes of water and sewage run a considerable distance parallel with each other, *some of the water pipes being perforated*, the quantity fell off to less than 100,000 gallons, so that upwards of 80,000 gallons were lost by the springs being injudiciously tapped when the sewage works were carried out. Borings were made, to see if an increased supply could be obtained from other parts, and either from that failing or the money that had been borrowed (34,000*l.*) running short, the scheme for a time was abandoned. The estimated supply of water for Rotherham was 600,000 gallons per day, and engines in duplicate of forty-horse power each were erected, and mains laid for this large supply, and for the first twelve months not *one-sixth* of that quantity had been realized. A great deal of money has been spent in building an ornamental engine-house of mediæval character, and a huge, top-heavy, disproportioned chimney, the cost of which I believe was about 460*l.*; so the rate-payers cannot say they have not something to show for their money, if they have little or no water. Subsequently other springs were collected in the Wellgate Valley, that are now said to produce 100,000 gallons daily, making something like 200,000 gallons; and this supply is intended for about 2,000 houses (the number stated to be laid on); but either this quantity must be exaggerated, or there must be great waste, that it should be rendered necessary to distribute so extensive a supply. It will rather astonish you, Mr. Editor, when I state that these extensive and hitherto unsuccessful works have cost upwards of 26,000*l.*, so that for the supply of 2,000 houses (which is not likely at present to be greatly increased) to distribute less than 200,000 gallons of water daily, these costly and extravagant works have been carried out. The increased supply of the Wellgate Valley is rather of a questionable character: it collects, I believe, a great deal of surface water, as well as the springs, which they profess to filter; but the filter is of such a character as would excite the risible faculties of hydraulic engineers. It is a small filter, 4 feet square, and the water filters down on one side and up on the other, the division being made with a flag-stone (like an old-fashioned street trap), and this filtering medium is never changed. This is the foolish thing the simple men have made to filter 100,000 gallons of water daily, and they lay the flattering unction to their souls that it is perfectly successful. But it is evident from what I hear that diarrhœa and fever are prevalent at frequent periods, which has been traced, no doubt most correctly, to the impurity of the source of the supply of water. The inhabitants generally complain that the quality of the water is not so good as it used to be formerly from the wells.

They have three reservoirs,—one at the pumping station, capable of holding 200,000 gallons when full; another at Boston, holding 600,000 gallons; and another at Kimberworth, of 37,500 gallons. These reservoirs are so badly constructed that they leak; and, if they had a sufficient quantity of water to fill them, they could not be used to the full extent on that account. They have attempted to make them water-tight by rendering them over inside with cement.

One peculiarity attending the Rotherham works is, although the Public Health Act provides that water-closets shall be erected to every house, they have hitherto avoided or evaded this wholesome provision of the Act, and water-closets in that pseudo-drained place are the exception, not the rule. In fact, instead of having water-closets erected to new houses, they are perpetuating that barbarous and unhealthy practice of erecting privies to each house, which, in comparison with the former system of having one to five or six houses, is absolutely increasing those horrid nuisances of cesspools five or six fold. So much for the Public Health Act, as administered by some of those eccentric and irresponsible Boards, the Local Boards of Health.

Rotherham, although it has no outfall except the River Don, has not committed the egregious error of Worksop, by carrying the sewage into the canal, but has conveyed it a short distance down the river below the town; but this is complained of as a nuisance by an owner of landed property, who has threatened to bring an action against the Board in consequence; and the result will be, no doubt, that the Board will be compelled to erect works to deodorize the sewage. The works are a combined system of brick sewers and pipe drains, pipes considerably predominating. They have three outlets, two in Rotherham and one in Masborough: the second outfall on the Rotherham side was an evident oversight, as one judiciously laid out ought to have sufficed.

The inclination of many of the sewers is very defective: in one instance, a pipe sewer has only a fall of 1 in 578, and no system of flushing adopted. How they are to expect pipe sewers to act with such a fall I am at a loss to imagine, but many of these good easy souls fancy they will. If we are to judge by the lengthened experience of London and other places, they will be doomed to bitter disappointment.

The cost of the sewerage works of Rotherham amounts to 7,991*l.* 4s. 3d.; the waterworks, 24,438*l.* 15s. 6d.; engineering expenses, 1,660*l.* 18s. 4d.; clerk of works, &c. 343*l.* 13s.; survey, &c. 492*l.* 14s. 3d.; and other expenses, making the total of 39,700*l.* 11s. 3d. an amount of expenditure I will venture to say unparalleled in any sanitary works carried out in this country for so small a place. The preliminary estimates for these works (see report) were, for the waterworks, 9,843*l.* including service pipes and taps to houses (which have been paid for by the owners of property as a separate and distinct charge); and for the sewers, 4,521*l.*; the house-drainage works, 4,615*l.*; making a total for public waterworks and sewers, of 14,364*l.* and showing an excess of expenditure over the estimate of 25,336*l.* 11s. 3d. or nearly 200 per cent.

An Old Correspondent.

KENT ARCHÆOLOGICAL ASSOCIATION.

On Friday in last week the first annual meeting of this Association was held in Canterbury, under favourable circumstances. The opening meeting, for the election of members and the reading of the report, took place at the Guildhall, under the presidency of the Marquis Camden.

A number of Saxon relics of an interesting character were exhibited.

The president, on taking the chair, read letters of excuse from various gentlemen; and the hon. secretary (the Rev. L. B. Larking) then read the report, of which the following is an abstract:—

Three months only having elapsed since the last general meeting, there must necessarily be very little to report of the society's proceedings; yet the report, such as it is, is indicative of successful progress. The South Kensington Architectural Museum, and the Kilkenny Archæological Society have been taken into union. We have at present the names of forty-one candidates for admission on our books. Should they be elected, the numbers will then have reached 600, all elected in less than a single year. With regard to our funds, we have 212*l.* 2s. 10d. New Three per Cent. Annuities, and our bankers' books show a balance of 140*l.* The printer is fast progressing with our first volume, which we hope to have ready for delivery in a very few weeks. Contributions to the amount of 60*l.* have been made to the fund for providing illustrations for the volume.

The President announced eighteen papers which had been communicated, but time only allowed one to be read, viz. that by Mr. C. R. Smith, on "Saxon Relics recently discovered at Faversham," when, after a vote of thanks to the president, the meeting adjourned to the cathedral, where Professor Stanley, followed by at least 500 listeners, gave an exposition of its various historical reminiscences.

At the close, Mr. Beresford Hope, M.P. performed the same kindly office to the audience at St. Augustine's.

St. Martin's Church, the city walls, gates, castle, and the Pilgrims' Inn were also visited.

The members met at dinner, provided by Mr. Usher, at the Music Hall, when 300 were accommodated.

In the evening a *réunion* took place.

ANCIENT AND MODERN FINE-ART EXHIBITION.

IRISH INSTITUTION, DUBLIN.

We have the pleasure of noticing the fifth annual exhibition of this institution, which many of our readers are aware was founded in 1853, with a view of securing a collection of pictures for, and promoting the establishment of, a National Gallery for Ireland. It is, however, to be regretted that the apartments at the command of the committee are not of a more comprehensive character than those in their building in Baggot-street, as the limited space must certainly militate against the financial interests of the undertaking. If, however, we may judge from the recent promise of the Chancellor of the Exchequer, that 5,000*l.* should be passed into the supplemental estimates for the erection of the proposed building on Leinster-lawn, we presume that its purposes are but temporary, and that within a reasonable time we shall see an extensive and beautiful collection of works of art appropriately housed in a permanent building, serving as a corresponding wing to the new Museum of the Royal Dublin Society. We hear that independent of the sum above alluded to, as also the previous Parliamentary grants of 6,000*l.* and the 5,000*l.* collected for the Dargan Fund, donations to an extent of about 900*l.* have been received towards the purchase of works of art. The present exhibition is in every way worthy of the objects in view; and considering the collection at the Royal Hibernian Academy, also open, illustrates a fact, that Ireland, in matters of art, sustains her position creditably. There are about 150 pictures displayed, some of them the property of the institution; others lent by the proprietors. Amongst the works of ancient artists we find the productions of A. Caracci, Rembrandt, Rubens, &c. The "Three Marys"

of the former, and the "Lion-hunt" of the latter, deserve special admiration. "The Jewish Rabbi," by Rembrandt; "Landscape with Cattle," by Rosa de Tivoli; "The Mountain Torrent," by Everdinger; "The Horse Fair," by Tschaggeny; and "Sportsmen returning from the Chase," by Herrara, are amongst the other principal objects of attraction. The pictures by O'Connor, Newton, Bossuet, Zuccherelli, Canaletti, J. De Baan, Muttoni, &c. &c. deserve particular notice.

NOTES IN IRELAND.

A new school-house of unpretending character is being erected at Mecklenburgh-street, Dublin.

A line of railway from Clonmel to Dungarvan is projected.

The new iron-bridge, conveying the Limerick and Ennis Railway across the Shannon, has been tested by Colonel Yolland, Government inspector, who not being satisfied at the lateral rigidity of the structure, the contractor, Mr. Kinnaird, at once undertook to add more piles. The work will be completed in about a week.

The Irish railway companies seem to be peculiarly liberal this summer, in providing excursion trains. Trips from Dublin to Galway and back, for 7s. 6d.; to Belfast and back, for 6s.; to Carlow and Kilkenny and back, for 3s.; and to Waterford and back, for 4s. 6d. have been announced.

The church of Clones, county Monaghan, is to be enlarged.

A new chancel in the Gothic style, and from the designs of the architect to Ecclesiastical Commissioners, has been added to the parish church at Kells.

The new church of Ballylongford, erected after designs by Mr. Nagle, C.E. of Limerick, was recently struck by lightning, and the roof seriously damaged.

The new Catholic Church at Ballinasloe is to be consecrated on the 25th August. Cardinal Wiseman is to attend.

It is in contemplation to erect a new church at Bray, county Wicklow, the present one being found inadequate to the accommodation of the congregation; and the school-house being used as an auxiliary place of worship. A new Presbyterian church has been recently commenced; Mr. Barre, architect.

Two new fifty troop-horse stables, and one infirmary ditto, are to be built at the temporary barracks on the Curragh of Kildare.

It is proposed to construct a new pier and breakwater for Galway harbour, at an estimated cost of 150,000*l*. The Lord Lieutenant has signified his intention of recommending the Government to render every assistance.

The new Catholic Church of St. Mary's, Athlone, is rapidly approaching completion. Mr. John Burke is the architect.

We hear of a new Roman Catholic Church being intended to be built at Headford, in the county Mayo. The service is now being performed in a barn 18 feet by 13 feet.

The construction of the Tullamore and Athlone Railway is being proceeded with rapidly. The rails for one track have been laid down for some miles near the town. Mr. Dargan, contractor.

Harbours of refuge at Portrush, Carlingford, and Waterford, are projected.

New police barracks, offices, &c. are to be built at Kill, near Naas.

The church of Mucknoe, Castleblaney, is to be rebuilt; the churches of St. Luke, city of Cork, and Bective, county Meath, are to be enlarged; and sundry works are to be executed at the church of Toomna, county Roscommon, all according to designs by the architect to the Ecclesiastical Commissioners.

THE PURIFICATION OF THE TAME.

INJUNCTION TO RESTRAIN THE BIRMINGHAM CORPORATION FROM INTRODUCING SEWAGE INTO THE RIVER.

Shortly after the passing of the Birmingham Improvement Act (1851) the council of the borough, in pursuance of the powers given to them by that Act, proceeded to construct a new system of sewerage for the town; and in 1854 completed a large main sewer, which discharged the sewage of the whole town and its vicinity, in a single stream, into the river Tame, the previous drainage having been effected by means of various small sewers flowing into a stream called the Rea, which falls into the Tame at a short distance below Birmingham.

At a distance of some seven miles below the junction of the Rea and the Tame, the estates of the informant, the Right. Hon. C. B. Adderley, extended on both sides of the Tame for about three and a half miles. In consequence of the discharge of the sewage of Birmingham into the Tame from the new main sewer, the river, which, under the previous system, had not been perceptibly affected, had become so foul and polluted that the fish had all died, cattle would no longer drink, and the houses on its banks became unhealthy, even at the distance at which the plaintiff's property was situated, while in the immediate neighbourhood of the town some fatal cases of diphtheria had occurred at a mill on the banks of the river.

In October, 1851, the plaintiff, together with certain noblemen and gentlemen, also riverain proprietors, joined in a memorial to the town-council of Birmingham, remonstrating on the state to which the Tame had been reduced, and calling upon them to take immediate steps towards purifying the river and abating the nuisance. In answer to this memorial it was stated that a new system of sewers was being constructed, and that it was intended to deodorize the sewage and render it available for agricultural purposes, so that the fluid would pass into the river in a comparatively pure state. Mr. Adderley was induced to believe from this answer that some efficient steps would be taken; but, after some correspondence and negotiation, which had not resulted in any definite course of action, the nuisance, instead of being mitigated, had continued to increase. Under these circumstances, an information had been filed at the instance of Mr. Adderley, for the purpose of restraining the town-council from causing or permitting the sewage of the town to drain into the river so as to pollute it, or become a nuisance or injurious to public health.

After the hearing of the cause, in the Vice-Chancellor's Court, Vice-Chancellor Wood said, it had been contended that he had to balance the health of the 250,000 inhabitants of Birmingham as against the legal rights of the plaintiff, a single individual. As to the right, however, of any individual to be protected against an infringement of the law, and as to the equitable discretion of this Court to interfere at all, it was a matter of the utmost indifference whether 250,000 or only one individual was concerned. The rights of Mr. Adderley were to be measured according to the provisions of the Legislature, nor did this Court sit as a Committee of Public Safety, but simply to interpret what had been prescribed by the Legislature for the town of Birmingham, and to give neither more nor less on either side. The plaintiff was clearly entitled to this,—that the river, which formerly passed through his property unpolluted to such an extent that fish would live in and cattle would drink of it, should be left in the same condition. He was entitled to all the use, enjoyment, and benefit of the river that he had formerly had, unless there was something in the Birmingham Act to limit that right. If they could not drain the town without polluting the river and infringing Mr. Adderley's legal rights, let them go to Parliament for power to enable them to commit the nuisance. It was said that the inhabitants had a right to drain the town into the river, and that this right had been always exercised. But under this right, as formerly exercised, the river did not become unfit for use. Cause and effect were clearly shown in this as in the Luton case. The nuisance was not perceived until the whole sewage was poured into the stream in an undiluted form through one outfall, whereas it had come before by driblets through various channels. The defendants were compelled by the Legislature to drain their town, and it was their business to find out how it was to be done properly: if they did not, the Court would do so by stopping it altogether!

WORKMEN AND TOBACCO.

Sir,—It is remarked that, according to a parliamentary report recently received, the duty on tobacco for one year, in the United Kingdom, amounts to 5,201,104*l*. In London alone the receipt was 2,171,665*l*.

If the duty amounts to the above enormous sum, the amount paid for tobacco must be enormous.

It is curious to remark that London, which contains about a tenth part of the population, consumes nearly one-half of the quantity used by the whole kingdom. The sum (even of the interest) consumed by the smoking of this weed in three years, would be more than sufficient to take the drainage of London to the sea. What famous hospitals and schools might be raised by the cost of the tobacco used in the metropolis in one year? However, people will have their smoke, and yet, notwithstanding the praises of Byron, Charles Lamb, and others, I cannot help feeling something in the vein of King James at the time of writing his famous counterblast, when I see the great increase of the use of the weed amongst the young. In bad neighbourhoods, the rising rough of ten years of age may be seen gravely smoking his pipe; and in the early morning young workmen, from fourteen to sixteen years of age, may be seen taking their pipes with all the vigour of manhood. Admitting that the use of tobacco may be harmless when used in moderation, I cannot but look with dread at its effects on the youth of England; and if the same increase continues, it will not be a matter of surprise to see our school-boys looking upon the tobacco-pipe to be as necessary as the slate-pencil.

A London Wayfarer.

RECENT PATENTS.*

B. Shaw, Wellington, Shropshire. — *Windows.* Dated December 8, 1857.—This invention consists in fixing a window upon an axis, or upon centres, in such a manner that the window, on being made to perform a semi-revolution upon the axis or centres, will present to the inside of the room the side which was previously outside.

H. Wetherell.—*Patent Apparatus for preventing Down-Draughts in Chimneys.*—Mr. H. Wetherell, of Upper Chapman-street, St. George's East, fits a seat in metal, or other suitable material, at any desired height in a chimney or flue, and above the seat suspends a ball filled with some gas lighter than atmospheric air. The ball offers no impediment to the passage upwards of smoke, vitiated air, or any other ascending current; but any descending current is effectually stopped by the valve, which is thereby forced down on to its seat.

T. Macauley. — *Improvements in Apparatus for Condensing the Noxious Vapours arising from Varnish making and other like Manufactures.*— In one arrangement of the melting or running pots, a close-fitting lid is required, in the centre of which is an aperture coned inwards, through which passes the stirrer. The cone has at bottom a plug, moveable upwards out of its socket. In the top of the lid is also fitted a trial or gauge aperture, having a socket and a perforated plug, through which passes, and to which is fixed, the gauge rod terminating in a small basket or short cupped tube. The lid and head are furnished with inner channels to convey off condensed vapour, and the lid has an aperture to which is connected a wide bent tube supplied with a socket; so that it can be attached to a refrigeratory worm, set in a water vessel, and the liquid resulting from the condensed vapour in the refrigerator can run from it into a common receiver.

W. E. Newton.— *Improved Machinery for Cutting Files.* (A communication.) Dated Aug. 13, 1857.—This consists—1st, in constructing and operating the bed on which the file is cut so as to have a forward feed motion, and at the time of the blow of the hammer a slightly independent forward motion of the upper half of a compound bed (or united bed, as the case may be) caused by the percussion of the hammer on the chisel, in upsetting the burr or teeth of the file against the back edge of the chisel, in consequence of its angle of cut wedging it forward at the time of cutting the teeth in the file blank, and the difference of resisting surfaces of metal. 2. In constructing and operating the cutter or chisel holder and stock, so as to cause the chisel to find its own level upon the file blank at all times under the stroke of the hammer, so as to make the cut uniformly across the face of the blank. 3. In actuating the hammer by cams, the hammer shaft being provided with a regulator, ratchet wheels, and springs, whereby the force of the hammer may be varied at pleasure. 4. In effecting the feed motion by an intermittent worm on the main driving shaft operating on a male and female screw or rack and pinion, for working an inclined plane, whereby the bed on which the file blank is cut is moved forward. 5. In a mode of operating the inclined plane. 6. In a mode of constructing the tang holder.

Charles Westendarp, Jun. Mincing-lane.— *Preparing a Material as a Substitute for Ivory, which he proposes calling Artificial Ivory.* Dated 9th December, 1857.—The patentee takes a quantity of small particles of ivory, bone, wood, glass, cotton, wool, or any other similar articles, either in a coarse or fine powder, or in shavings, according to the imitation which is intended, and combines them, or any of them, according to the purpose required, with gums or other resinous ma-

* Selected from the condensed lists published in the *Engineer* and the *Mechanics' Magazine*.

terials, such as gum dammar, gum copal, resin gum shellac, gum sandrac, wax, or other glutinous or resinous materials, using which of the said gums he may see fit for the purpose the material is required for. These ingredients he combines by pressure or heat, or both, or with spirit, oils, or any similar vehicle or solvent, forming a mixture of the whole or any of them by mollifying, dissolving, or compressing the said small particles with the said glutinous or resinous materials, thereby producing a substance of an ivory or wood-like appearance, which may be coloured, dyed, or stained during the process of manufacture, or afterwards. By the combination of the articles aforesaid a paste will be obtained, which may be immediately moulded and become solidified in a short space of time by means of heat or pressure, or both, or it may be so manufactured as to remain in a pasty condition for a considerable time, in order to allow it to be carried to any distance or worked into any form; for instance, such as decorating in buildings for mouldings, scrolls, or similar ornamental work, the drying materials being added at pleasure, according to the requirements of the work which is being performed.

Samuel Barlow Wright and Henry Thomas Green, Rugby.—*Apparatus used in the Manufacture of Bricks, Pipes, and Tiles.* Dated, 27th of November, 1857.—This invention has for its object improvements in those classes of machines used in the manufacture of bricks, pipes, and tiles, where clay in a plastic state is expressed through orifices of a pug-mill, or other expressive machinery, and consists, first, in an improved manner of driving and regulating the speed of the cutter which cuts the clay into lengths. Second: in an improved instrument for dividing a stream of clay from a pug-mill, or other expressive machinery, into lengths.

Joseph Eccles, Blackburn, Lancashire.—*Drying and Colouring, or Ornamenting Bricks, &c.* Dated, 2nd December, 1857.—These improvements relate, Firstly, to drying bricks, tiles, pipes, and other articles, preparatory to burning. Secondly: to colouring or ornamenting bricks, tiles, pipes, and other articles made of plastic earths.

Riggs.—*Patent Improvements in Preparing, Sawing, Planing, and Grooving Wood, &c.*—Messrs. A. Rigg, sen. and A. Rigg, jun. of Chester, have patented the following: For preparing wood for purposes where dry and well-seasoned timber is required, close chambers are formed, and provision made so that the wood may be arranged with open spaces between the pieces: one or more inlets and outlets are provided in these chambers for the admission and exit of steam or heated air, which are to be admitted alternately or together. They prefer the admission of them alternately, so that, after the timber has been partially dried, they expose it to an atmosphere of steam, and then to currents of heated air, caused to enter by a fan or other means. It is well known that timber dried when exposed to the alternate action of wind with heat and showers, is most valued: the patentees by this mode of action adopt as nearly as may be a similar process. In the case of some timber it may be desirable to utilize the product by the condensation of such of the volatile products as may be extracted. In such cases they arrange any ordinary means for the condensation of the vapours as they pass out from the chamber.

George Walker Muir, Manchester.—*Warming and Ventilating.* Dated 13th January, 1858.—These improvements relate—first, to forming the pipes through which hot water is made to circulate with flanges; secondly, to constructing ventilators or ventilating shafts in such a manner that inward and outward currents are produced and maintained. Adaptations of the invention are applicable when what are known as stoves are used.

Runcorn Cemetery Competition.—The Burial Board have received designs from 35 architects for the building. The Board, after consideration, thought that five plans deserved to stand upon their merits after personal interviews with the respective architects. These gentlemen, accordingly, attended the Board, viz.—Mr. E. Trevor Owen, Liverpool; Messrs. Pritchett and Sons, Sunderland: Mr. William Gay, Bradford; Mr. Thomas D. Barry, Liverpool, Mr. Henry Fuller, Manchester: and after inquiry the Board awarded the first prize, 30*l.* to Mr. T. D. Barry, whose plans they adopted; and the second prize, 10*l.* to Mr. William Gay.

Miscellanea.

Mahogany Ships.—In consequence of the increasing scarcity of good oak timber for shipbuilding, the use of Honduras mahogany as a substitute has lately very much increased, both in England and other parts of Europe. M. Arman, the well-known shipbuilder at Bordeaux, last year made some experiments to ascertain the strength of mahogany as compared with French oak and teak. A piece of each kind of wood, about 4 inches square, was placed across the machine used for proving chain cable, and a piece of chain was attached to a ring fixed in the centre of it. A strain being laid on, the oak broke under a force of 1,800 kilogrammes; the teak with that of 3,300; and the Honduras mahogany of 3,400. The oak and teak appeared as if crushed, but without a complete disjunction of the fibres: the mahogany showed long splinters, indicating a much longer grain or fibre than the others. M. Arman considers this result as a conclusive proof that mahogany is superior for many kinds of shipbuilding purposes, though it is less flexible than good French oak. MM. le Mire and Son, builders at Rouen, give the result of using mahogany in a vessel which they had built, the *Adèle*, just returned from a long voyage. The captain, in a letter to the builders, gives a most satisfactory account of the state of the vessel, and expresses his decided opinion that the use of oak in shipbuilding may be advantageously replaced by mahogany.

Artificial Stone.—A new combination of mineral substances for the production of artificial stone has been provisionally specified by Mr. F. Puls, of Haverstock-hill. The invention has reference to the production of artificial stone for ornamental and other purposes, and consists in the combination of powdered emery, flint glass, ruby, diamond, melted alumina, oxide of iron, or similar hard mineral substances, with proportionate quantities of lime, barytes, plaster of Paris, or chalk, and silicate of potash or soda, or potash and soda powdered in solution, or in a semi-fluid state. For the production of stone for lithographic or ornamental purposes, he combines lime or chalk powder with silicate of potash or soda, or otherwise, to which colouring matter may be added as required; and for meerschaum mixes carbonate of magnesia or oxide of magnesia, or a mixture of both, with silicate of potash, soda, or otherwise, to which may be added small proportions of slaked lime, chalk, or clay. Either of the above compositions may be pressed into moulds, warm or cold, to give it the required shape, and render it close and compact.

The United Society of Ironmongers.—The annual dinner of the members and friends of this society was held on Wednesday in last week at the Freemasons' Tavern, Great Queen-street, Lincoln's-inn-fields. Between seventy and eighty sat down to the repast, with Mr. W. Gould, of the firm of Miles, Gould, and Co. of London, in the chair, supported by Mr. H. E. Hoole, of Sheffield, as Vice-Chairman. Mr S. Crowther, from the firm of Messrs. R. W. Kennard and Co. addressed the meeting, amongst other speakers, and stated that the society is now in the thirty-fourth year of its existence, during which the yearly receipts have risen from 65*l.* to between 300*l.* and 400*l.* It was very desirable, however, he remarked, to sustain the vigour of the society by an accession of young members. The donations received at the meeting, independently of annual subscriptions, amounted to about 20*l.*

The Westminster Palace Hotel.—The excavations are now being made for the foundation of the Westminster Palace Hotel, on the triangular plot of ground at the end of Victoria-street nearest the Houses of Parliament, and bounded on one side by the new thoroughfare, and on the other by Tothill-street. Some human remains were found by the workmen while digging in the centre of the ground where formerly stood some very old structures, which constituted a part of a district notorious for ages as the abode of thieves, highway robbers, and the very lowest courtezans. The workmen have received instructions to observe the greatest care in digging the remainder of the ground, especially the spot whereon the house of Caxton the printer stood, where it has been supposed some relics of bygone times may be found.

Inventors and Steam in Siberia.—Letters from St. Petersburg state that a Polish exile has invented a means of applying steam-power to the traction of sledges, by which journeys may be rapidly made on the frozen rivers and in the steppes covered with frozen snow, which abound in the Russian dominions.

Victoria Provident Dispensaries.—At Leamington, in Warwickshire, a county meeting, called by the Lord Lieutenant, was lately held "to consider the best means of forming a Society for the Midland Counties in furtherance of the London Society for extending a knowledge of Royal Victoria or Self-supporting Dispensaries, and introducing them into those towns where the inhabitants will find the outfit, and the working people will unite and contribute proportionably for their support." Lord Leigh was called to the chair, and there were present Lord Willoughby de Broke; O. Pell, esq, High Sheriff; E. Greaves, esq.; M.P.; Mr. H. L. Smith, of Southam, the originator of the movement; and various other gentlemen. The meeting was addressed by the Lord Lieutenant, Leigh, and at considerable length by Mr. Smith in explanation. Mr. Townsend, son of a weaver of Coventry, urged the advantages of such institutions generally, and in particular referred to the one at Coventry. That dispensary, he said, had been established twenty-five years, and last year there were 4,500 members, whose contributions—a penny a week each for adults, and a half-penny each for children—amounted to 749*l.* 3s. 6d. Of the contributors, 2,927 had received medical attendance and medicines during the past year, of whom 2,522 were cured, 244 relieved, 63 died, and 98 were left under treatment. As some of the benefits conferred on the poor by self-supporting dispensaries, he instanced the small amount (4s. 1d. per annum) at which medical aid was thereby secured to each individual; the amount of suffering which would be saved by at once resorting to a medical man on the first appearance of disease, as the indigent contributors would be enabled to do, without fear of incurring expense; and the composure of mind to the patient from the knowledge that he would not have to overtax his energies to pay a doctor's bill, or, in case of death, leave it to others to pay. Mr. Bicknell, one of the surgeons to the Coventry dispensary, bore testimony to the value of that institution to the poor, and stated that the system was beneficial rather than otherwise to the medical men. Two-thirds of the amount contributed by the poor went to pay the medical men, amongst whom it was equally divided, and the remaining third went in aid of the honorary fund, to pay the establishment expenses. The meeting passed various resolutions, originative of a Victoria Self-supporting Dispensary, in commemoration of her Majesty's visit to Warwickshire, and a committee was formed to procure subscriptions, &c.

Ely Cathedral and King's School.—Monday, the 26th ult. was observed as a day of festivity at the King's School, Ely, on the occasion of the opening for Divine worship of Prior Crauden's Chapel, within the cathedral precincts, which the dean and chapter, on the petition of the boys, have recently assigned to the school. Until the appointment of the present dean, the chapel was used as bed-rooms by one of the canons, its sculpture being barbarously disfigured to admit of a staircase, chimneys, floor, and partitions. Much remains to be done in the way of restoration—an object which the dean and chapter are desirous of effecting as soon as possible. The internal fittings are also far from complete. If any members of the Church should be disposed to assist the boys in completing the fittings of this interesting chapel, their contributions would be gladly received by the prefects of the school.

House Flies: a Sanitary Hint.—These troublesome summer visitors are not without their use, for they serve to indicate certain impure conditions which require care: it may be, that they also have the effect, to some extent, of purifying the atmosphere. Where flies abound, it shows to a certainty that there is something which should be removed. When visiting the dwellings of the poor, great difference in the number of flies in some rooms, in comparison with others, may be noticed, and it will be found that those apartments which are most dirty and neglected have the greater number of flies. At this season of the year all dust and refuse should be kept carefully covered and closed, both for the purpose of preventing an escape of effluvia, and preventing the mixture of moisture, which causes fermentation. In houses of the better kind, if flies are troublesome, a careful inspection of the neighbourhood would show some offensive refuse of stables and cow-sheds close by; and in cases where this cannot be obviated, extra care should be taken to wash all areas and use extraordinary cleanliness; and it would not be amiss if those who have charge of children were to descend to the lower regions for the purpose of sanitary inspection. Instead of catching the flies, remove the cause of their presence.

Monumental.—The monument to Mr. Frank Crossly, M.P. who gave the Halifax people their park, is to be a standing figure in marble, executed by Mr. Durham.——A freestone erection is about to be put up against the wall at the head of the grave of the late Hugh Miller, the geological and learned quarryman, author, and newspaper editor. It will have inserted in it a tablet of polished Peterhead granite, resembling the tablet erected to the grave of Dr. Chalmers in the immediate vicinity.——The *Scotsman* announces the opening of a subscription for a monument to James Hogg, the Ettrick Shepherd, to be erected in the romantic vale of Ettrick.——The Brotherton memorial in Peel-park, Salford, was to be inaugurated on the 5th inst. by the Bishop of Manchester. The appendage "Esq." to his name, which was intended to be inscribed on it, has with good taste been omitted.——The Empress Josephine's bronze statue, 10 feet high, to be erected by her grandson's orders, at St. Martinque, her native town, has arrived at Havre, *en route* for its destination.——The memory of the late Mr. Richard Cutting has been perpetuated by a monument, which has during the last week been placed over his grave in the churchyard of Leek. The monument, which is in the Decorated style, has been erected from the designs of Mr. Sugden, architect, of Leek. It is about 20 feet high, and in three stages. On the stepped and moulded base, 5 feet square, rests a panelled dado, ornamented with diaper work, and the panels bear the inscriptions. Above this is a recessed and buttressed set-off, surmounted by arcaded and carved canopies, with clustered columns, and cusped and enriched panels and arches, and flanked by buttresses with carved pinnacles. From the canopies rises an octagonal spire, enriched with carved crochets and finial, and terminated by a gilded vane bearing the initial letter C. The whole has been executed in Burnley stone, and will be surrounded by a low iron railing. The work has been performed by Mr. Matthew Barlow, of Leek, who was assisted in the carving by Mr. Williams, of Manchester.

Piggeries and Disease in Towns: Diphtheria.—At an inquest, held on the body of a child that had died in a court in Aston-road, Birmingham, of an ulcerated throat, Mr. Keyworth, surgeon, gave it as his opinion that the disease was caused by the exhalation from putrid animal matter from pigs and piggeries, of which there are a great number in the court in question. No fewer than seven children, it appears, have died in the same neighbourhood since the 18th of June, and their disorder presented similar symptoms to those of the child upon which the inquest was held. This must be the dreaded diphtheria, or Boulogne sore throat, about which (as we see from the *Lancet*) doctors differ, as usual, very much; some even maintaining that it has not yet reached this country at all. In France it has been attributed to cesspool and sewer emanations. The peculiarity of it is said to consist in a fungus or mould which sloughs over the throat and fauces. It is surprising that essential oils, such as oil of cloves, which kill such vegetable moulds, do not seem to be thought of as a highly probable cure for this still incurable disease. That a most malignant species of sore throat exists in London, the writer of this has reason to know; and, moreover, that it appears to be infectious. There seems good ground to believe that essential oils would be beneficial both as a cure and a preventive.

Smoke-Consuming Fires. — Amongst those who have been striving for some time to effect such an arrangement of ordinary house fires as may serve to produce a consumption of the smoke produced, is Mr. Leighton, sen. of Brewer-street. His contrivance consists of a chamber at the back and sides of the fire, for making coke and giving support to the fire, by passing the gas and bituminous vapours into it, and in such proportions that the coals shall fuse and give out a sufficient quantity without excess: thus in general terms the coals of to-day will form coke for to-morrow. Mr. Leighton says, "If coals are cooked at the top of a fire, the gas and vapours fly off; if under, the draught is shut off, and consequently the means of cheering the fire is lost: if the fire is fed from the back and sides, you may still retain the grating under the quick fire, according to old usage. There are other minor advantages, as the light and warmth downwards, the lasting warmth, &c.; also the probability of being left longer than any other without being extinguished. An old stove could be modified for the purpose, by any moderately skilled workman."

The Atlantic Cable. — Information has arrived that the cable has been safely laid between Valentia, in Ireland, and St. John's, Newfoundland; in other words, that the work is done.

The Embassy-house in Paris.—Some correspondence referring to the vote of 19,269*l.* recently proposed for the expenses of the English Embassy-house in Paris, was yesterday given to the public by order of the House of Commons. The (then) Lords of the Treasury, on the 17th of July, 1857, intimated to Mr. Hammond that they thought 20,000*l.* to be an excessive charge for the "repairs" of a house, how large soever, and they ordered the Earl of Clarendon to take measures for the survey of the house by a French builder, who was to make his own estimate. The estimate of Mr. Henry A. Hunt, of the Office of Works, was 18,000*l.* exclusive of the new chapel. M. Raveaux, architect to the city of Paris, on being consulted, sent in a report to the effect that for 12,000*l.* the Embassy-house might be "completed and repaired in a fitting manner." This was handed over to Mr. Hunt, for his "observations." He appeared at first to doubt the accuracy of M. Raveaux's calculations, expressing an opinion that 12,000*l.* was insufficient to render the house "a fit residence for the ambassador." A more detailed report and estimate from the French architect, however, recently supplied at the request of the Government, fixed the total expenditure at 19,295*l.* and the accuracy of this sum Mr. Hunt saw no reason to doubt, although he says that M. Raveaux made a larger allowance than himself for decorative works, while he omitted some necessary structural improvements. It was determined by the Lords of the Treasury, on the 8th ult., at the request of Lord Cowley, to complete the works of the embassy without interruption, and an estimate for the whole amount was accordingly submitted to Parliament.

Proposed New Town-hall, Bridgwater.—At a meeting held on Tuesday last, at the Town-hall, plans for the proposed New Town-hall and Public Rooms, were presented. According to the *Bridgwater Times*, "Mr. Knowles's plans were, one for the alteration of the present Town-hall into a large public room (estimate 1,500*l.*), and another for the alteration of the Market-place into a reading room (estimate 500*l.*). The one plan shown by Mr. Paull, for the alteration of the Town-hall, gave the estimate at 1,200*l.* We believe that we are correct in saying that the plans exhibited by Mr. Knowles were generally approved of."

The Artesian Well at New Swindon.—Since our former notice of this undertaking, the labour of sinking the larger well has progressed satisfactorily, although somewhat slowly, in consequence of the continual flowing of the water. A powerful lift-pump at the mouth of the well is kept going day and night by four men, and by its agency about ten gallons of water every minute are drawn from the well; but on several occasions the rush of water has been so great as to suspend all excavation. The large well has now been excavated to the depth of 45 feet, through one solid bed of clay. This bed of clay extends to the depth of 60 feet from the surface or mouth of the well. A layer of rock, 2 feet 6 inches thick, then follows. The first rock is succeeded by another bed of clay, 7 feet thick, and then again by a rock, 4 feet 6 inches thick; and from thence to the bottom of the boring, 141 feet from the surface, nothing but clay is met with.

Opening of the Jews' Infant New School.—The new school of this institution, which had recently been erected in Commercial-street, Spitalfields, was inaugurated on Friday in last week, in the presence of a large assemblage of the Jewish persuasion, under the presidency of the Earl of Carlisle. The new school is erected on the western side of Commercial-street, about midway between Shoreditch and Whitechapel, upon an eligible site, under a long lease from the Crown, and notwithstanding the great difficulty of obtaining open spaces in the heart of the metropolis, an ample playground, partly covered in, has been secured. The building is calculated to accommodate 500 children, with rooms, &c. all lofty and well ventilated. It is in the Italian style of architecture, from the design of Messrs. Tillott and Chamberlain, architects. The external facing is of light-coloured brick, relieved with stone quoins and dressings, and the summit is decorated with an ornamental balustrade. The expense of erecting the building will exceed 1,000*l.*

Elder-bushes on a Church.—Will some of your correspondents be good enough to give their advice as to eradicating, or otherwise destroying some elder-bushes of some twenty years' growth. They have been cut off repeatedly, and *twice picked out* as deep as could be got, and the joints well pointed up with cement, but are now growing luxuriantly, at least 50 feet from the ground.

J. B. D.

Gas.—At a recent meeting of the Romsey Gas Company it was resolved to reduce the price of gas 10d. 1,000 feet: it is now charged to consumers at 7s. 6d. per 1,000. A dividend of 5 per per cent. to shareholders was declared.——At the half-yearly meeting of the Gainsborough Gas Company, a dividend at the rate of 6 per cent. per annum was declared, and a considerable amount appropriated to the extension of their works.——A Manchester gas consumer complains in the local *Courier* that the corporation should realise as it does, for public improvements in the town, a profit from the supply of gas of no less than 40,000*l.* a year; while at Liverpool the gas consumers obtain their gas for 3s. 9d. in place of 5s. per 1,000 cubic feet. And doubtless the Manchester gas consumers are entitled to a reduction of the price of their gas. But how would they like to pay 5s. with the consoling assurance that the 40,000*l.* a year of profit went into the private pockets of some gas company? We suspect the London gas consumers would very willingly exchange places with them, were they assured that the immense profits realized were expended on public improvements, in which they still had some interest, and were likely still to derive some benefit. For the local and public improvement of a town, the devotion of surplus profits arising from an article of such public and general use as gas appears to be a very fair arrangement, were the price not much in excess, compared with what a private company would charge. Indeed, were the price less, the profit would probably be still greater.

Navvies wanted for Melbourne. One of the contractors of the Melbourne and Sandhurst Railway, in a letter to a relative, states, that all able-bodied labourers, and especially those accustomed to railway work, such as navvies, blacksmiths, masons, bricklayers, &c. &c will be in great request on account of the Victoria Railways. It is impossible to say what rates will require to be given, as the particular line must, in terms of the contract, be completed by the end of 1861, and the enormous sum of the tender, amounting to 3,356,937*l.* will of course principally be expended on wages.

Southampton School of Art.—At a meeting of the committee of this school, the annual report of the master (Mr. Baker), which was read, showed a steady increase in the number of the pupils, and a marked improvement in the works executed: 144 pupils had been instructed in the school at the Victoria-rooms, being an increase of twenty-six on the previous year: 470 pupils had been instructed at the public schools—namely, 230 in St. Mary's, 40 in St. Luke's, 120 in the Peninsular and Oriental Company's school, and 60 at the British School. A successful branch school had been opened at Romsey, with 41 in regular attendance. This school included, 655 pupils have been more or less instructed in drawing during the past year, and this chiefly from those classes who would not have been taught drawing but for this school.

Royal Italian Opera-house. — There is nothing more remarkable in the proceedings at the new Opera-house than the large quantity of fine scenery which has been produced for the various operas brought forward in a comparatively short space of time. Had not Mr. Gye called in to his aid Messrs. Grieve and Telbin with their staff, in addition to Mr. Beverley and his staff, it could not possibly have been done. For "Don Giovanni" some very brilliant scenes have been painted, especially the statue scene, though the horse is a little deformed. Every lover of fine singing should hear this opera as at present cast. The season is nearly at an end, and we sincerely hope the result has been such as to reward properly the energy and perseverance of the lessee.

Uniting Metals.—As an improvement upon the existing mode of joining metals, Mr. A. Parkes, of Birmingham, proposes that zinc, or zinc and mercury, should be used, instead of the ordinary solders. The zinc may be used in strips, with a flux placed between the edges or surfaces of the metal to be joined, or the zinc or zinc and mercury may be used in a granular state with a flux. The surfaces are heated with gas or otherwise until the zinc or zinc amalgam flows, when the surfaces are subjected to a higher heat for a short time, by which process the joining will then be accomplished.

Chinese and Indian Road Material in Middlesex.—The first mile of roadway from Shoreditch to Stoke Newington has been kept in substantial repair with what is termed the "best of road materials," the black porphyry stones from China, brought to England as ballast in the tea ships, and the next half mile has recently been repaved with broken granite from Bombay.

Soane.—A correspondent of the *Literary Gazette* writes,—"I overlooked until to-day a query which I am able to answer. The querist is 'An Architect,' who desires to learn the authorship of an 'Ode to Dulwich College,' in which Sir John Soane is satirised. There is rather a curious history connected with the composition, which was written by Mr. Charles Knight, and published in his *European Magazine* in 1824. At that time there lived an architect named Stedman Whitwell, who possessed great talent as an architect, though his prospects were clouded by an unfortunate event. He was the architect of the Brunswick Theatre, which fell down after it had been opened three or four nights, burying many persons in its ruins. It was proved upon the inquest that, against his remonstrance, the carpenters' shops were hung up to the roof, and hence the catastrophe. He never again could command professional employment, and he died a disappointed man, though well known in the scientific world for his various acquirements. He was a severe critic of his professional brethren, and his notebook was filled with materials for a pamphlet on 'Architectural Absurdities.' At that time Sir John Soane was employed upon most public works. Whitwell had a profound contempt for his style, and had made a large catalogue of his faults. An article, of which Mr. Whitwell furnished the facts, and Mr. Knight the arguments, appeared in the magazine, and the Ode referred to was appended as a tailpiece to the criticisms. Soane was silly enough to bring an action against Mr. Knight for libel. The case excited a great deal of notice, for it involved the great question whether criticism on art and literature, even when avowedly satirical, was libellous. Soane had five counsel, of whom Brougham was one. Mr. Knight was fortunate enough to secure Scarlett, who convulsed the Court with laughter by reading portions of the verses, especially those which touched upon the new law courts, just then opened. The poor defendant was triumphantly saved from the heavy damages which the great architect demanded for his wounded reputation."

The Stage-coach a recent Novelty in Orkney.—The stage which has been driven from the south by the railway, has only just appeared in Orkney. For the first time, as we learn from the *John o' Groat Journal*, a coach has just rolled over the streets of Kirkwall. The formation of roads has led to this public conveyance. Captain Burt mentions that when the roads were made in the Highlands, about 1730, the people ran from their huts close to any coach that passed, looking up and bowing to the coachman, little regarding those who were inside. They looked upon the coachman as a kind of Prime Minister with the reins of Government in his hands.

Australian Strikes.—In the *South Australian Register*, of May 6, published in Adelaide, we find the following public notice:—"Wanted to be made known, that the mechanics of the Burra Mine will strike for wages on the 8th of this month, in consequence of their wages having been lowered 1s. per day.—Mechanics take notice."

Southampton Docks.—A recent report of the dock superintendent says,—The ground behind the north ward of the inner dock began to sink this morning, and the floor of the dock to rise. The movement has carried the whole forward for 250 feet, the extreme point being 4 feet 6 inches beyond the straight line. The whole has sunk 2 feet 6 inches, and the ground behind 10 feet. The bottom of the dock is raised 4 feet to 5 feet. The warehouse and vault are considered safe, the latter containing a valuable stock of wine in bottle, value 10,000*l*. The engineer estimates the cost of repairs will be from 2,000*l*. to 3,000*l*.

Public Works in Ireland.—A blue-book of eighty pages contains the twenty-sixth report of the Board of Public Works in Ireland. The total amount of sanctions up to the end of last year appears to have been 10,746,838*l*. and the issues 9,834,413*l*. The total repayments to the Exchequer, up to the 31st of December last, were 3,061,972*l*. The details of various public works in progress fill the bulk of the volume. Kingstown harbour works will be entirely finished by October. The general works there have been maintained as usual, and the sea-slopes strengthened.

Bedminster New Church, near Bristol.—We have received some (what we hope may prove) exaggerated particulars of the fall of a portion of this building, consisting of about 20 feet of the parapet of south aisle, at the west end, carrying away with it the lead gutter, and in its fall injuring the buttresses under. It appears to have been put up with cast-iron cramps, bedded in cement.

Consumption Hospital, Victoria-park.—The foundation stone of a new chapel, now in course of erection in the grounds of the City of London Hospital for Diseases of the Chest, in Victoria-park, was laid last week. The chapel is being erected at the private cost of an unknown friend to the Institution.

The Vacant Ground in Cheapside.—The City Lands Committee of the corporation of London, in conjunction with the Postmaster-General, have sealed an agreement with Messrs. Faudel and Co. of Newgate-street, for the entire plot of ground at the top of Cheapside for eighty years. Ground-rent, 610*l*. per annum.

Brick-making Machine.—At the Royal Agricultural Society's Chester meeting, a brick-making machine by Mr. Chamberlain, professing to turn out some 15,000 daily, was exhibited. It consists of a revolving horizontal circular disc, in which, arranged near to one another as dies in its surface, are eight brick moulds, with movable bottoms, traversing the moulds as pistons. This disc passes in one part of its course under a pugging mill, and the bottom of each mould being then at its full depth, it is filled with tempered clay. No sooner does it escape on the other side of this pugging hopper, than the bottom gradually rises, pushing up the brick, until before it reaches the store of clay again, it has risen its full height, and the brick, there passing the hands of the attendant, is lifted off, and taken away to the drying-ground. The bottom then falls again, and the mould is filled as it passes under the clay. The rising and falling of the sliding piston are provided for by a gradually-inclined plane upon a horizontal plane immediately beneath the revolving table, which, acting as a cam, pushes up and down the piston rod descending from each of them. The disc revolves once in about a quarter of a minute, and thus 30 bricks or thereabouts are turned out each minute.

Aluminium.—It has been proposed by M. Corbelli, of Florence, to obtain aluminium by a simpler and more economical process than heretofore. The metal is first well washed and cleansed from extraneous matters. Then he takes 100 grammes of clay, dries it, dissolves it in six times its weight of sulphuric acid, or very strong muriatic acid, dries the clay again, and heats it in an earthen vessel to 450 or 500 degrees C.; after which he mixes with it 200 grammes of yellow prussiate of potash, which should be quite dry and pulverized. To this mixture he adds 150 grammes of common salt, and places the whole, when intimately mixed, in a crucible. He then heats them to a white heat, and after the mass is cool the aluminium will be found at the bottom of the crucible.

Villas at Merton. Sir,—Having some considerable interest in the character and position of several reputable builders, may I inquire of you, how it happens that one firm tenders for a sum of 1,742*l*. and another for a sum of 1,187*l*.? Surely there must be some mistake when so great a difference exists in the calculations of respectable firms.—E. S.

[Advertisement.]

Self-coiling Convoluted Shutters.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. CLARK and CO of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.—*From the Builder, June 26th*, 1858.

TENDERS.

For the Toxteth-park Workhouse. Mr. W. Culshaw, architect. Quantities supplied by Messrs. B. and D. Howorth:—

W. Tyson	£24,114	0	0
H. Yates	21,577	0	0
R. Wells	21,382	0	0
Holme and Nicol	21,312	0	0
R. Anderson	21,265	0	0
G. Rome	21,198	0	0
Jones and Jump	21,140	0	0
J. Burroughs	21,042	0	0
G. Thompson and Co.	20,970	0	0
Kilpin and Mongomery (accepted)	20,216	0	0

For additions to the Wandsworth House of Correction. Messrs. Hill and Martin, architects:—

Colls and Co.	£18,987	0	0
Lavers	18,898	0	0
Hardwick	17,535	0	0
Trollope and Son	17,500	0	0
Smith	17,440	0	0
Webb	17,432	0	0
Winter	17,405	0	0
Mixon	17,400	0	0
Myers	17,150	0	0
Nicholson	16,675	0	0
Adamson	16,311	0	0
Rowe	15,573	0	0
Moxon	15,890	0	0
M'Lennon and Bird	15,572	0	0
Reeves	15,500	0	0
Stiff and Richardson	15,400	0	0
Downs (accepted)	15,360	0	0

For building four houses at Forest-hill, Sydenham, Kent, for Mr. H. B. Turnbull. Mr. W. Hey, architect:—

Gammon	£3,333	0	0
Downs	3,296	0	0
Tarrant	3,200	0	0
Matthews	3,010	0	0
Beckit	2,849	0	0
Powley	2,590	0	0

For Congregational Church, Victoria-road, Newport, Monmouthshire. Mr. A. O. Watkins, architect:—

Robbins, Newport	£3,230	0	0
Griffiths, Newport	3,040	0	0
Moore, Newport	3,025	0	0
Lockier	3,009	0	0
Williams, Newport	2,850	0	0
Bolt, Newport	2,813	0	0
Cowlin, Bristol	2,803	0	0
Jackson, Monmouth (accepted)	2,584	0	0

For enlarging the "New Christian Church," Argyle-square, King's-cross. Mr. B. A. C. Herring, architect. Quantities supplied by Mr. J. A. Bunker:—

Turner and Sons	£2,577	0	0
I'Anson	2,435	0	0
Macey	2,396	0	0
Brown and Robinson	2,390	0	0
Dove	1,997	0	0

For additional building to workhouse, St. George-the-Martyr, Southwark. Mr. James Marsland, architect:—

Keats and Moor	£2,398	0	0
Roper	2,395	0	0
Hill	2,317	0	0
Rider	2,310	0	0
Marsland	2,296	0	0
M'Lennon and Bird	2,094	0	0
Cook	2,288	0	0
Pickford	2,279	0	0
Crawley	2,250	0	0
Thompson	2,044	0	0
Perry	2,025	0	0
Mares	1,945	0	0
Moxon	1,911	0	0
Downs (accepted)	1,796	0	0

For building three houses, Stonecutter-street, Farringdon-market, for Mr. Thellussen and Mrs. Theobald. Mr. Meaken, architect:—

Axford and Co.	£1,680	0	0
Downes	1,630	0	0
Chapman and Parsons	1,590	0	0
Patient	1,455	0	0

For two houses at Talfourd-road, Camberwell, for Messrs. Wilson. Mr. Bremman, architect.

Crawley	£1,678	0	0
Henshaw	1,620	0	0
Colls and Co.	1,588	0	0
Wardle and Baker	1,523	0	0
Fisher	1,467	0	0
Thompson	1,463	0	0
Cook	1,382	0	0
Wells	1,380	0	0
Tarn	1,311	0	0
Thornhill	1,121	0	0

For building the National School (exclusive of fittings) at Bishop's Sutton, near Alresford. Mr. Vernon W. Arnold, architect:—

Loe	£583	0	0
Caley and Boardman	565	0	0
Hall	541	2	0
Gover	537	0	0
Cooper	535	0	0

For house at Twickenham, for Mr. E. Minister. Mr. W. White, architect. Quantities supplied by Mr. Field:—

Houghton, Richmond	£1,125	15	0
Nicholson & Sons, Wandsworth	1,087	0	0
Dawson and Son, Fulham	1,035	0	0

For alterations and repairs at 5, Bloomsbury-square:—

Kebbell	£438	0	0
Cheeseman	406	0	0
Maeers	405	0	0
Walton	398	0	0
Perry	395	0	0
Case	337	0	0

For repairs, &c. at Gower-street Chapel:—

Clark	£322	5	0
Walton	285	0	0
Bennett	239	5	0
Williams	235	10	0
Hammond	217	16	8

For stables, &c. at Long-cross, Surrey. Mr. T. C. Clarke, architect:—

Oades and Son	£283	0	0
Noble	260	0	0

For lodge, entrance-gates, &c. at Hoebridge, Surrey. r. T. C. Clarke, architect. Quantities not supplied :—

M. and T. Smith	£272 1 6
Oades and Son	245 15 0
Loe and Sons	240 18 0

For alterations and additions at Messrs. Garrard's, Haymarket. Mr. C. Mayhew, architect. Quantities supplied y Mr. T. Nicholls :—

	Re-building No. 25, Haymarket.	Total, with other Works.
ncas, Brothers	£2,438 0 0	£2,916 0 0
Iolland	2,397 0 0	2,852 0 0
Kelk	2,460 0 0	2,847 0 0
Mansfield	2,235 0 0	2,780 0 0
Nicholson and Sons	2,268 0 0	2,750 0 0
Saward	2,258 0 0	2,695 0 0
Subitt and Co.	2,075 0 0	2,490 0 0

For erecting stabling in Brunswick-street, Blackwall, or the London General Omnibus Company. Mr. Scurry, rchitect :—

	Old Materials.
Bill	£718 17 0 £20 0 0
Walker and Neave	693 0 0 20 0 0
Hooper and Son	599 15 0 10 0 0
Richards	597 0 0 15 0 0
Warner	575 19 8 8 0 0
Watts	560 0 0 18 0 0
Dave	560 0 0 10 0 0
Greig	557 0 0 10 0 0
Woods	547 0 0 —
Slack and Son	547 0 0 7 0 0
Raby	547 0 0 12 0 0
Woodruff	500 0 0 5 0 0
S. Todd, jun. (accepted)	494 0 0 7 0 0

Delivered to the Harrow Local Board of Health for erecting sewage-tanks, filtering-beds, &c. to take up and re-lay 225 feet of 12-inch stoneware pipes; also 1,080 feet of 15-inch ditto, 400 feet of 12-inch ditto, 200 feet of 6-inch ditto, 90 feet of 9 inch ditto, with junctions, bends, manholes, &c. at Greenford-green and Greenhill, within the district of the said Board. Mr. William Smith, surveyor —

	Filtering Tanks, &c.	Sewers.
Kearley	£270 0 0	£340 0 0
Gibson	161 0 0	276 0 0
Pound	—	246 0 0
Houghton and Ley	—	242 1 7
Cole	150 0 0	233 0 0
Boulton (accepted)	176 0 0	242 0 0
Dowell	—	225 0 0

TO CORRESPONDENTS.

J. G. (thanks).—J. W. N.—G. G.—F. B. P.—S. I. M. R. - W. H. W. P.—A.—H. R. J.—F. C.—W. F. S.—C. and P.—J. Eh—Erratum (next week).—R. B. E.—D. W. R.—Constant Reader (the open money deducted).—J. C.—E. S.—Young Architect.—E. S. T.—C. A. — Mr. P.—S. J. N.—J. H.—(such an arrangement for ventilation was erected some years ago in the *Builder*, and has been found effective) —W. H.—E. B. (we have no additional information).

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

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74 & 75, GREAT QUEEN STREET, LINCOLN'S INN FIELDS, LONDON, W.C.

ABERDARE, GLAMORGANSHIRE.—SURVEYOR WANTED. The Local Board of Health of the Parish of Aberdare are prepared to receive APPLICATIONS from CANDIDATES for the OFFICE of SURVEYOR for the above parish. He must be competent to prepare plans, drawings, estimates, and specifications of all works connected with the sewerage, draining, making, and repairing of the streets, as well as the surveying, and to superintend the execution thereof, test the materials, and keep the Minutes of the Board, and of the contracts or working each works. He will also be required to report upon all new buildings with their sites, as to their drainage, levels, and their communications; and also upon cases of nuisance having relation thereto. Applications for the above, stating the amount of salary required, addressed to me, indorsed "Application for Surveyor," must be before MONDAY, the 9th day of SEPTEMBER next. The Board do not engage to accept the lowest or any offer. By order of the Board,

H. J. HOLLIER, Clerk.

Aberdare, July 27, 1858.

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WANTED, in a BUILDER'S OFFICE, a respectable YOUTH accustomed to copying, preparing dimensions, &c. Address, stating age, salary required, and where employed, to X Y 116, Grove-street, Camden town, N.W.

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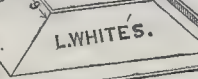

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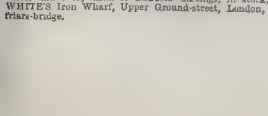

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Fine Pale Oak Varnish, 7s. 6d. per gallon.
For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill-street, Pimlico.
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MESSRS. FREEN and CO. CEMENT and PLASTER MANUFACTURERS, LIME MERCHANTS, WORKS, CANAL ROAD, KINGSLAND ROAD, BRIDGE.
ROMAN CEMENT
Supplied in any quantity fresh from the Mill, of a quality for which the works have been celebrated for upwards of thirty years.
PATENT PORTLAND CEMENT, proved by eminent engineers to be the strongest and most uniform in colour of any now manufactured
PLASTER OF PARIS of very superior quality, fresh from the ovens, daily.
GREY and CHALK LIME, by the yard or barge. Shipping orders executed upon liberal terms.

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COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from Wharfs.
SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door-Jambs, Coping Bricks, Stable Clinkers, &c.
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BRIGHT YELLOW MALM FACINGS, and Cutters of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.
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BEART'S PERFORATED BRICKS.
STAFFORDSHIRE BLUE VITRIFIED BRICKS, all Channelled Stable Bricks. Red, Blue, and Buff Terro Metallic Paving Tiles, Plain, Panelled, Bevelled-top, and Ornamental Grooved Ridging, &c. Broseley Tiles
WHITE GLAZED BRICKS.
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SLATES, best quality from the Bangor Quarries.
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BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw
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ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken.
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GREAVES'S BLUE LIAS LIME.—Messrs. GREAVES and KERSHAW beg leave to inform the Trade that they are prepared to deliver GREAVES'S BLUE LIAS LIME, LUMP or GROUND, direct from their Works, to any part of London, and to any station on either Railway.
Sold by Mr. GREAVES introduced this LIME into the London Market when it was so extensively used in all the principal public and other works where strength was required, that its quality as well known. By the arrangements now made Messrs. GREAVES and KERSHAW will be enabled to deliver LIME direct, fresh from their Works, at such a price as will ensure its being used in all works where quality is considered, it being the best and strongest LIME in the London Market
Works at Stockton near Rugby.
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Office, 1, Warwick Portland, Lias, Bath, and Roman Cements.

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PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, REEVES, and STURGE, Manufacturers only of first class quality, for the home and foreign trade.
Portland Cement is manufactured at these Works with especial reference to its last action, whether for staining, brickwork, blocks for breakwaters, tidal work, or otherwise
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WOOD OR IRON REVOLVING SHUTTERS ARE EQUAL TO THOSE OF ANY OTHER MAKER, AND MUCH CHEAPER.

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ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

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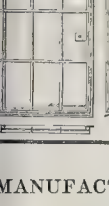
Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.



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SHEET GLASS, fourths, in 200 feet cases, at 25s. per case.
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" best, " 48s. "
Boxes of 100 feet each, at 10s. 12s. 14s. or 16s. according to size
Plate, Best 32oz and 42oz in various qualities.
Also, CRYSTAL SHEET GLASS.

16oz and 21oz Ground, Matted Glass of various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

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Genuine White Lead, 32s. 6d.; seconds ditto, 30s. 6d. per cwt. Linseed Oil, 2s. 6d.; Boiled ditto, 2s. 10d.; Turpentine, 2s. 8d. per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c.

The above prices subject to the fluctuation of the markets.

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LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND BUNK HANDLE WATER-CLOSETS

Cocks and Valves of every description.

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ARTISTIC TABLE GLASS, in any style, plain, cut, or engraved.
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Of a superior Quality and Colour,
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P.S. Orders under £20 will not receive prompt attention, and all sawn goods (Bulk Timber excepted), delivered free of carriage within three miles.

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	¼	½	1	1¼	
Spruce	12s.	13s.	13s.	—	per square
White	12s. 6d.	13s. 6d.	14s. 6d.	18s.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within three miles free of charge.

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¾-inch Prepared Flooring	£0 11	6 per square.
¾-inch Prepared Flooring	0 13	0 per square.
Inch Prepared Flooring	0 15	0 per square.
Good Yellow Deals	0 3	3 each.
Spruce Deals	0 3	0 each.
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Yellow Battens	11 10	0 per 120.

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1-inch ditto, 17s. per square.
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Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Pine Planks (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d per foot.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

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MOULDINGS to any design, manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large stock always on hand, as per Pattern list

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THE PATENT ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset, Manufacturers of BALE'S PATENT INLAID MOSAIC TILES; also superior TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, hearths, verandahs, &c.; as also for external decoration, for walls, friezes, string courses, pilasters, &c. and white glazed tiles, for baths, dairies, &c. Various specimens of the above may be seen, and every information obtained, at the Office of the Company, No. 5, Buckingham-street, Strand, from Messrs. WILLIAM W. BONNIN, and J. G. H. MACCOLLA, "Sole" Agents for London

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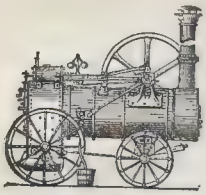

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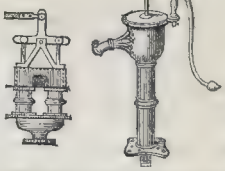

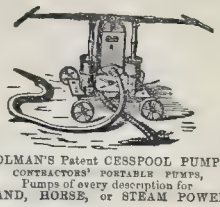

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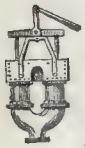

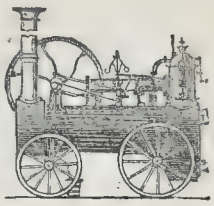

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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

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BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

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The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

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1st. It is a non-conductor—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required. It can be laid on a rafter by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of roofing, no extra scantling is required.—6th. Unbeatable, under slates, tiles, or felt. The most effective damp course under

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MANY Painters and Decorators have never had really good Zinc Paint. Base adulterations so generally sold to them as Zinc Paint have no comparison with the pure Leviathan.

But a few years experience have fully proved that by having been supplied with the paint manufactured in France and in America, Paints were made by the Practical Painter, which does not resist the atmosphere of towns lighted by gas. It first loses the gloss, and immediately mixes up with the water and wears off.

Hubbuck's Patent process completely resists London atmosphere, bilge water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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PORTABLE ENGINE and MORTAR-MILL TO BE SOLD.—Apply to Mr JOHN FRANCE, Kent's-place, North Shalford, Guildford, where they are to be seen. No reasonable offer refused

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PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive stays and guides are unnecessary, rendering the pump equally as handy as Pumps in the old plan.

Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

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WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Stickers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.			£ s. d.
2½ in.	short	1 ft. 7 in.	Fitted for lead,	1 10 0
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3 „	ditto	3 6	or cast iron	2 8 0
3½ „	ditto	3 6	flanged pipe,	2 12 0
4 „	ditto	3 6	as required.	3 3 0
5½ „	short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in.	long ditto	ditto	.....	2 18 0

The short-barrel Pump is very convenient for raising a small quantity of limited height and space, for the supply of copper and sinks in warehouses with soft water from underground tanks, or in hot houses, and plant houses, tanks may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Pump Maker in the country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London. Every description of Machinery for raising Water, to Baths, Tanks, deep well pumps, &c. &c., Fire and Garden Engines, &c. &c. Engravings sent on application.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, cloth bound and plain SOLID RINGS, for Hot Water Pipes. Vulcanized Rubber Door Springs, and Solid Round Rubber Cord of all sizes of any length. Buffers, Cushions and Rubber Strips, to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply pipes for ditto.

Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All commissions and orders punctually attended to, addressed to the Manufactory, JAMES LANE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have been favoured by the following letter from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 15th, 1852.—In reply to your letter, I have much pleasure in stating respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many artists and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I can confidently say that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY ROAD, LONDON.

WINDOW-BLINDS. The Trade in London or the Country supplied with Venetian Blinds, Wire Blinds, Outside Blinds of striped cloth, and spring rollers, of any size and strength, at reasonable prices, by HENRY JINKS, Thames-bank Blind Factory, 4, Caledonia street, Pimlico, S.W.

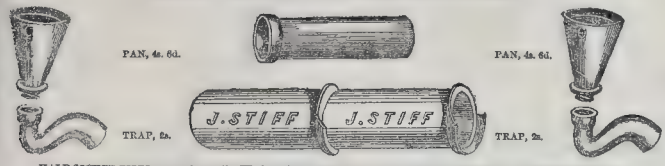
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westm inster-bridge-road, City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 3, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle o PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S,
STORES—70, SOHO-STREET, LIVERPOOL.

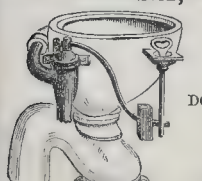
MANUFACTURERS OF

DOULTON'S STONEWARE PIPES.
DOULTON'S HALF-SOCKET PIPES.
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS.
DOULTON'S PATENT JUNCTION BLOCKS.

TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE and PAVING TILES, &c.

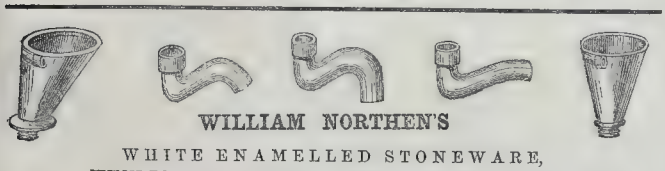
WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

DOULTON & WATTS,
LAMBETH POTTERY, LONDON.



DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,
AND
LAMBERT'S HIGH-PRESSURE VALVE-COCK.
WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.



WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

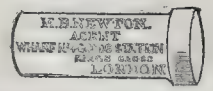
W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET-PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Close 4s. 6d.; Trap, 2s.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



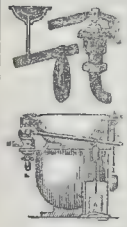
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.



UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispense with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fixing, and a better flush of water obtained in use.

Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed. 3,000 of them have been sold, and no instance of failure has occurred.

These Stool valves are cheaper, stronger and more ornamental, than any other Many thousands are in use, and greatly approved of.

Manufactured by
CHARLES BOTTLN and SON,
Brass Founders, Crawford-passage, Clerkenwell, London.

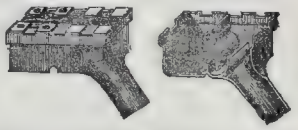
UNGLAZED DRAIN-PIPES. — GREAT

REDUCTION in PRICE.—D. MOUNTAGUE, Leigh, near Southend, Essex, is now making superior RED PIPES, by pressure, in Burton's Machine, warranted to bear a pressure equal to any Red Pipes.

3-in.	4-in.	6-in.	9-in.	12-in.	15-in.
2d.	3d.	3d.	5d.	9d.	1s 3d. per foot.

Samples may be had at Falcon Wharf, Bankside, and at Harrow Bridge Wharf, Stratford, Essex.

Stoneware Pipes, Cement, &c. as usual. Purchasers of Drain-pipes to any extent are recommended to have the strength tested, as it must materially affect the durability.



BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers OLIVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury lane, and Spa-road, Bermondsey.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Cresent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 50 to 350 feet; their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

CARTS, VANS, WAGGONS, LADDERS, BARROWS, &c.

GEORGE ELL, Cart Wheelwright, Ladder,

and Barrow Maker, has constantly on hand brick, dobbin, and other carts, spring vans, and also a large stock of ladders, barrows, trestles, steps, and other trade implements for builders, contractors, and decorators, on the most improved principles and low prices.

Scaffolding, Ladders, Barrows, Steps, Trestles, &c. Lent on Hire.

The new Price Lists are now ready, and will be forwarded on application.

G. ELL, 279 and 280, EUSTON-ROAD, N.W.

KAMPTULICON FLOOR-CLOTH, the

Improved Patent Noiseless, Warm, Waterproof, Cleanly and Everlasting, NOW READY, Plain, and in a Variety of Elegant Designs, adapted for Churches, Halls, Public Buildings, and Rooms; subject to constant and unlimited wear.—Price 6d per square foot.—FORBETT and CO. House Furnishers, Deptford bridge, S.E.—Patterns may be seen at the Office of "The Builder."

SALES BY AUCTION.

ANERLEY, SURREY.—TO BUILDERS.

MR. MARSH has received instructions to SELL by AUCTION, at the MART, on THURSDAY, AUGUST 12, at TWELVE, in three lots, SIX substantial well built CARCASES situate in the Palace road, Weston hill, Norwood, within a few minutes walk of the Crystal Palace. Leases of each lot will be granted direct from the freeholder, for a term of ninety-nine years, at moderate ground rents.—May be viewed, and particulars of sale obtained on the Premises, at the Pixt n Arms, of Messrs SPYER and SON, Solicitors, 30, Broad street buildings, at the Mart, and at Mr MARSH'S Offices, Charlotte-row, Mansion-house.

TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in a cause of Derisine v. Avison, with the approbation of the Vice Chancellor Wood, in one lot, by

MESSRS. PRICKETT and SONS the persons appointed by the said Judge, at the AUCTION MART, opposite the Bank of England, on WEDNESDAY the 11th day of AUGUST, 1858, at TWELVE for ONE o'clock precisely, a PLOT of FREEHOLD BUILDING LAND, situate at Wandsworth, in the county of Surrey, [illegible] grounds of the Victoria house, [illegible] St. Ann's Church, with the frontage of [illegible], with the cottage, cow sheds and outbuildings thereon.—Particulars whereof, with plans, may be had gratis, of Messrs LUDLOW, TORR, JANEWAY, and TAGART, 38, Bedford row, London, Solicitors of Mr HENRY DUPLEIX, 61, Lincoln's-inn fields, London, Solicitor of Messrs AVISON and WILLIAM RADCLIFFE, [illegible] street, Liverpool, Solicitors; and of the said Messrs PRICKETT and SONS, 34, Southampton buildings, Chancery lane, London.

Dated this 15th day of July, 1858.

EDWARD WEATHERALL, Chief Clerk.
LUDLOW, TORR, JANEWAY, and TAGART,
38, Bedford row, London.

LONDON WORKS, NEAR BIRMINGHAM.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, the [illegible] of AUGUST, at ELEVEN, on the PREMISES, in two lots, the extensive FREEHOLD PROPERTY known as the London Works, lately in the occupancy of Messrs Fox and Henderson, and situate at Smethwick, in the parish of Harborne, county of Stafford, adjoining the parish of Birmingham, in the immediate vicinity, also, of the works of [illegible], Messrs James Watt and Co., and the Birmingham Patent Tube Company. [illegible] The works [illegible] they have a frontage of about [illegible] feet, and a frontage of 490 feet next the private branch of the Birmingham Canal, which communicates with the Grand Junction and other canals, and thus affords facility for water carriage from the works to the principal cities and towns in England. The Stour Valley Railway runs past the property. [illegible] of these works has involved an outlay exceeding [illegible]. They were established in 18[illegible] by Messrs Bramah and Fox, and have been raised to their present importance by Messrs Fox and Henderson, under whose [illegible] they have been arranged for carrying on the great undertakings in connection with which the name of the firm has been rendered famous. The buildings are arranged in [illegible] and are most substantial erections. The entrance [illegible] gateway, on either side of which are offices, [illegible] to a spacious yard, in the centre of which is the [illegible] and lofty chimney. To the left is a carriage building shop, [illegible] feet, an iron store adjoining, [illegible] feet by 11 feet. The [illegible] buildings include the smiths shop, [illegible] turntable shop, [illegible] 114 feet, with galleries, a railway wheel shop, the large foundry, [illegible] feet by 52 feet, two moulding shops, [illegible] feet by [illegible] feet, core stoves and brass foundry. On the right of the yard, the pattern makers' shops and pattern stores, painters' stores, [illegible] shop, [illegible] apartments, and other buildings. The supply of water is unlimited, and free of cost. Coals can be procured for the [illegible] at prices ranging from [illegible] per ton [illegible]. It is proposed to sell the freehold in two lots, giving to each a share of the wharf frontage and a distinct carriage entrance from the road.—Detailed particulars and plans will shortly be ready, and may be obtained by application to Mr. CHARLES CLARKE, Smethwick, who will show the property; to Mr. HORNBLOWER, Architect and Surveyor, Waterloo street, Birmingham, to Messrs SWIFT, WAGSTAFF, and BLENKINSOP, [illegible], Liverpool, and 49, Great George street, Westminster; to Messrs BEALE and MARIGOLD, Solicitors, Waterloo street, Birmingham; or to Messrs FULLER and HORSEY, Billiter street, London, E.C.

Note.—A large proportion of the purchase-money may remain on mortgage.

To Engineers, Founders, Railway Wheel makers and Carriage builders, Anchorsmiths, Chainmakers, and Others. London Works, Smethwick, near Birmingham.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, AUGUST [illegible], [illegible] following days, at ELEVEN [illegible], in lots, at the LONDON WORKS, Smethwick, lately occupied by Messrs. Fox and Henderson, the valuable MACHINERY and TOOLS, principally by Whitworth, Nasmyth, [illegible], and other eminent makers, [illegible] in the fitting shop and galleries; 11 self-acting screw-cutting lathes [illegible]; [illegible] turning lathes, [illegible] lathes, [illegible] ditto; four axle lathes (self-acting); 19 vertical drilling and boring machines, [illegible] 700 feet turned wrought iron shafting, 120 turned pulleys, 54 vices and benches, grindstones, a large assortment of steel [illegible] for the various machines, &c. In the wheel shop:—Five powerful hydraulic presses, [illegible] power; tire furnaces, anchor forges, smiths' forges, two 3-ton cranes, one smaller ditto, blast fan 6 feet diameter, drilling machine, &c. In the foundries:—Eight [illegible] cranes, [illegible], with racking outgear, chains, and blocks, three 50 cwt. cranes (double purchase), one 28-ton traveller, 48 feet span; a very superior [illegible], 120 feet [illegible] shafting, [illegible], small cupola, moulding bins, &c. In the turntable shop:—Two very powerful [illegible] lathes, with face plates [illegible] feet diameter; one facing and boring machine, capable of boring cylinders 72 inches diameter, three self-acting [illegible], [illegible] self acting radial drilling machine, with 6 feet radius; one 12½ ton traveller, 38 feet span. In the [illegible]:—Two Nasmyth's patent steam hammers, with Cornish boilers; one tilt hammer, with 16-horse power horizontal steam-engine and boiler; two powerful Hercules (one to work by steam power), eight 5 tons and three 3 tons post cranes, 14 feet to 22 feet in the sweeps; seven scrap and finishing forges, seven [illegible] smiths' forges, [illegible] 1[illegible] feet long, with hydraulic cylinder [illegible], and set of three pumps worked by power; chain forges, &c. In the rail shop—Two self-acting planing-machines, to take in 15 feet by 4 feet 1 and 11 feet by 2 feet 6; one drilling machine, sawing machine, shafting, vices, benches, &c. In the carriage building shop:—Two large and five small eccentric punching and shearing machines, one powerful lever ditto, set of plate-bending rolls 12 feet 4 wide, two machines for straightening L and T iron, two pipe-bending machines, four sawing machines for iron, three drilling machines, circular saw bench, thicknessing machine, 350 feet black shafting, with twenty-eight turned pulleys; furnaces, vices, benches, pattern-maker's lathe, &c. In the smith's shop:—Fan blast (5 feet), one small Nasmyth's hammer, lever punching machine, one corrugating machine with dies complete, one Hercules, one Ryder's patent forging machine, 5 wrought-iron cranes, one small traveller, 150 feet black shafting, pulleys, &c. In the boiler-house and yard:—Four 23-horse power high pressure steam boilers, one very powerful punching and shearing machine, capable of punching 2½-inch hole in 1½-inch plate; two hydraulic proving machines, 15-ton weigh bridge, 20 cwt. weighing machine, 5 ton iron post wharf cranes, one 10 ton derrick, Henderson's patent, 55 feet sweep; two yard travellers, 21 feet 2 and [illegible] feet 3 span, with double purchase gearing and rails; fittings in pattern makers' shops, pattern stores, paint store, and others. A large assortment of wood patterns, the dies for the various sizes of Lenton [illegible] Roger's patent anchors. Foundry:—Boxes and flasks, ladles [illegible] of various description and a large collection of other miscellaneous requisites for a first class engineering establishment. To be viewed three days prior to the sale.—Catalogues may be had at 1s. each, of Mr. HORNBLOWER, Architect, Waterloo street, Birmingham; and of Messrs. FULLER and HORSEY, Billiter-street, London E.C.

Note.—Approved bills at three months' date will be taken from purchasers to the amount of 50l. and upwards.

SALES BY AUCTION.

FREEHOLD.—The Lock house at Sunbury, on the banks of the Thames, with a valuable Plot of Land adjoining, having a Frontage of 1,500 feet to the river, and adapted for a Gentleman's Fishing-Box.

PULLEN and SON are favoured with instructions from the Conservators of the River Thames, to SELL by AUCTION, at the MART, on TUESDAY, AUGUST 17, at TWELVE, a substantially built FREEHOLD COTTAGE, with Garden and Land (altogether about one acre and a half), known as the Lock house, and lately occupied by the Lock-keeper, immediately opposite Sunbury Church and the ferry on the Surrey side, in the parish of Walton, facing the river, to which it has an important frontage of upwards of 1,500 feet. The cottage is delightfully situate, and, at a small expense, might be converted into an attractive residence or gentleman's fishing box. May be viewed by applying to the Lock-keeper, at Sunbury Lock, and particulars had at the Offices of the Conservators of the River Thames, 41, Trinity-square; of CHARLES PEARSON, Esq. Guildhall, at the Mart, and of PULLEN and SON, 8, Fore street, Cripplegate.

PIMLICO IMPROVEMENT.—FIFTH SALE.—BUILDING MATERIALS.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on TUESDAY, AUGUST 1[illegible], at TWELVE for ONE, the valuable BUILDING MATERIALS of EIGHT HOUSES, being Nos. 46, 47, [illegible] Stafford place, and the Stafford Arms, Stafford place, Pimlico, comprising about [illegible] capital stock bricks, slates, [illegible] tiles; several tons of lead, in gutters, pipes, cisterns, flats, &c.; sound timber, in roofs, floors, &c.; wainscoting, [illegible] and frames, [illegible], railings, [illegible] fixtures and fittings.—May be viewed [illegible], of [illegible] Works, 12, Whitehall place, of JAMES PENNETHORNE, Esq., 7, Whitehall-yard; on the Premises; at GARRAWAY'S; and of the Auctioneers, 41, Charing cross.

Freehold Building Land, Battersea.

MESSRS. GLASIER and SON will SELL by AUCTION, at GARRAWAY'S, on TUESDAY, AUGUST 24th, at TWELVE for ONE, in lots, THIRTY-SEVEN PLOTS of valuable FREEHOLD BUILDING LAND, [illegible] on the [illegible] side the [illegible] Park, [illegible] Crystal Palace Railway [illegible], well adapted for the erection of shop and third-rate [illegible].—May be viewed, [illegible] with plans had of Messrs PRICE, BOLTON, and HILDER, Solicitors, 1, New square, Lincoln's inn, at Garraway's, and of the Auctioneers, 41, Charing cross.

EARLSWOOD, REIGATE.—Valuable and attractive Freehold Building Sites, [illegible] for the erection of detached villas, with ample space [illegible] grounds, abutting upon that eminently [illegible] and beautiful common, Earlswood, and within about one mile of the Reigate [illegible] Town Stations, together with various [illegible] Plots, [illegible] dwellings, and a [illegible] built Cottage of [illegible] Rooms, with [illegible] garden.

MR. W. THORNTON will SELL by AUCTION, at the WHITE HART INN, Reigate, on WEDNESDAY, AUGUST 1[illegible], at TWO for THREE [illegible] FREEHOLD BUILDING PLOTS, [illegible] will not be restricted.—Particulars, with lithograph [illegible] in the neighbourhood; of Messrs. RIDSDALE and CRADDOCK, [illegible]; and at the Office of Mr. WM. THORNTON, Land Agent, Surveyor, and Auctioneer, Old Bank, Reigate.

GROSVENOR SQUARE.—Valuable Building Materials, Fittings, &c.

MR GEO. HAINES announces for SALE by AUCTION, on the PREMISES, on MONDAY, AUGUST [illegible], at ELEVEN [illegible] the [illegible] MATERIALS of [illegible] MANSIONS [illegible] wrought iron room with folding [illegible]. May be viewed [illegible] on the Premises; at Messrs. HAINES', Auctioneers, [illegible]; and at Mr. G. HAINES' Offices, 12, High-street, Kensington, and Grosvenor street West, Eaton square.

SECOND SALE of SHIP TIMBER.—Millwall, Poplar.—To Contractors, Builders, Farmers, Barge Builders, and Others.

MR. SITGRAVE will SELL by AUCTION, on TUESDAY, AUGUST the 10th, at TWELVE, on the PREMISES, next Fenner's Tar Wharf (near the [illegible] Arms), Millwall, Poplar, the SECOND PORTION of the MATERIALS of the HULL of the FIRST CLASS SHIP "ANNAM[illegible]," comprising several thousand feet of prime 2½, 2 inch, and 1[illegible] inch [illegible], a large quantity of useful timber, quartering, &c., for [illegible] feet [illegible] 12 inches square, [illegible] &c. May be viewed three days prior to the sale [illegible] at the Black Horse, Rotherhithe; Centurion, Deptford; Mitre, Greenwich; Star and Garter, Woolwich; Bull Inn, Barking; Red Lion, Ilford; Bell, Romford; Castle, Woodford; Mermaid, Hackney; Angel, Islington; Red Lion, Paddington; Pigeons, Brentford; Windsor Castle, Hammersmith; Tiger, Camberwell; and of the Auctioneer [illegible].

TO BE SOLD, pursuant to a decree of the High Court of Chancery, made in a cause of Smith v. Tagg, with the approbation of the Master of the Rolls, in eight lots, by

MR. THOMAS HEWS, the person ap- pointed by the said Judge, at the CATHERINE WHEEL INN, Henley-upon-Thames, in the County of Oxford, on THURSDAY, the [illegible] day of SEPTEMBER 1858, at TWO o'clock, the following valuable FREEHOLD PROPERTIES [illegible], with gardens, in Duke street, Henley; [illegible] on the north side of the Market place, Henley, [illegible] and yard, and another house, shop, and premises adjoining, in Bell street, Henley; together with the GOODWILL and STOCK IN TRADE of the late Mr Frederick Tagg, ironmonger, deceased; a dwelling-house and premises, with stable, coachhouse, garden, and small paddock, also in Bell-street, Henley; two cottages, with gardens, situate at Skirmett, in the Parish of Hambledon, Bucks; and an enclosed piece of Meadow Land, containing about six acres, called Toovey's and Pope's Meads, situate in the Parish of Remenham, Berkshire, all late the property of the said Mr. Frederick Tagg, deceased.—Printed particulars and conditions of sale may be had (gratis), in London, of Messrs KINGSFORD and DORMAN, Solicitors, 23, Essex street, Strand, W.C.; Messrs. MEWBURN and JARVIS, Solicitors, 23, Chancery-lane, W.C.; and Mr. CHARLES BERKELEY, Solicitor, 52, Lincoln's-inn-fields, W.C., and in the Country, of Mr. THOMAS LEDIARD, Solicitor, Bell-street, Henley; Messrs. COOPER, Solicitors, Henley; and of the Auctioneer, Henley; and at the Place of Sale.—Dated this 29th day of July, 1858.

GEO. HUME, Chief Clerk.

13, HIGH HOLBORN.—Various Builders' Effects.—Absolute Sale.

MR. HOLLINGSWORTH will SELL by AUCTION, at his Rooms, 13, High Holborn, on TUESDAY next, AUGUST 1[illegible], various BUILDERS' EFFECTS, comprising [illegible] dozen butt and other hinges, 100,000 [illegible] nails, 15 cwt. spikes, bolts, nuts, and lath nails; two tons of cast spring steel; carpenters' and joiners' tools; six sets of stocks and dies; handsome register and elliptic stoves; 15 patent valve closets; 200 lengths of rain water piping; French paper-hangings, a weighing machine, and various effects.—Auction Mart, 13, High Holborn.

SALES BY AUCTION.

TO ENGINEERS, MILLWRIGHTS, IRON and BRASS FOUNDERS, and OTHERS.—The entire Plant, &c. of the Southwark Iron Works and Iron and Brass Foundry, Sumner street, Southwark bridge road, with the very valuable Lease of the extensive, commanding, and well arranged Premises, is for disposal.

MESSRS. BOOTH and CO. are instructed to SELL by AUCTION, in lots, without reserve, on WEDNESDAY, the 11th of AUGUST, 1858, and following day, at ELEVEN for TWELVE o'clock precisely on each day, on the PREMISES as above, the whole of the highly valuable PLANT, MACHINERY, &c. comprising, with the usual descriptions of working tools, utensils, and implements, required in the engineering and foundry business, various powerful and highly-finished machines, as also others of a lighter and remarkably unique description, principally by Smith, Peacock and Tannett, S. W. Saunders, and the Reynolds, Brothers and [illegible] large SELF-ACTING PLANING MACHINE, VERY POWERFUL BORING-MILL, THIRTEEN INCH CENTRE SELF-ACTING SCREW CUTTING LATHE, a particularly compact and elaborately finished SHAPING and PLANING MACHINE, useful SHEARING and PUNCHING MACHINE, vertical and other drilling machines, various self-acting screw cutting lathes, and foot lathes, &c. In the Foundry is a brick-built iron foundry [illegible] blast furnace of [illegible] feet diameter, with massive foundation, a portable iron blast furnace on four wheel carriage, iron stages to large furnace supported by iron columns, small furnace for brass, large blast fan by [illegible], travelling hoisting crane, iron-framed single purchase crab, four and three sheave blocks, with about 200 boxes and flasks, and every other requisite for the carrying on of a large business. In the Smithy [illegible] crane, anvils, swage blocks, &c. &c. with a superior assortment of smiths' tools. And in Pattern-shop, a 16-feet bed pattern-maker's turning lathe, circular saw bench, with spindle riggers; a 6-inch centre [illegible] lathe, [illegible] &c. Also in the same sale an important STOCK of STEAM ENGINES, MACHINES, and GENERAL STORES, in which are included an HORIZONTAL CONDENSING MARINE ENGINE on the slot-link principle, and [illegible]-horse-power, a steeple engine, and four others, varying in power from 4 to 1[illegible] horse, two steam boilers, two very strong spurring wheels, 7 feet 6 inches in diameter, [illegible], together in halves and bored for use; a cylindrical brick and tile making machine; an [illegible] making machine, [illegible] lithographic printing presses, various [illegible] lathes; lathe [illegible], [illegible] and lathe wheels, a great variety, flat [illegible] round, and square iron, bar, [illegible], and [illegible], with a large assortment of hard tools and [illegible] to the engineering business.

With the lease of the premises are included two commodious dwelling houses, Nos. 8 and [illegible], Sumner street. The ground floor of [illegible] for offices, and [illegible] view of the yard. The entrance to the works by a wide gateway, [illegible] every facility for loading and unloading. The situation [illegible] but a short distance from the river, and [illegible] to the heart of the City, with other conveniences, renders it peculiarly eligible for carrying on [illegible] business. The entire premises [illegible] dwelling house are held at an extremely low rental. Further information in respect to either the Estate, Plant, Machinery, &c. can be obtained at the Auctioneers' Office. The Premises, Plant, &c. can be viewed on the Monday and Tuesday preceding the sale. Catalogues will be ready three days prior to the sale, to be obtained on the Premises; of J. T. VINING, Esq., Solicitor, 2, Moorgate street, City, E.C.; and of the Auctioneers, Messrs BOOTH and CO. 13, Eastcheap, City, E.C., and Mermaid House, Hackney road, N.E.

TO IRON STEAM BOAT BUILDERS, NOBLEMEN, YACHT PROPRIETORS, and OTHERS.—A Unique Model or Experimental Steamboat for disposal.

MESSRS. BOOTH and CO. have instructions to SELL by AUCTION, on WEDNESDAY, the 11th day of AUGUST, 1858, at the SOUTHWARK IRON WORKS, Sumner street, Southwark bridge road, at ELEVEN for TWELVE o'clock precisely, [illegible] "STEAM BOAT RACER," [illegible] densing engines of 26-horse power, and with screw propeller, [illegible] three days prior to the Sale, and can be obtained at the Place of Sale; of J. T. VINING, Esq. Solicitor, 2, Moorgate, E.C.; and of Messrs BOOTH and CO. Auctioneers, 13, Eastcheap, E.C., and Mermaid House, Hackney road, N.E.

CHISLEHURST COMMON, KENT.—To BUILDERS, WHEELWRIGHTS, FARMERS, DEALERS, and Others.

MESSRS. BOOTH and CO. will SELL by AUCTION, on the PREMISES, as above, on THURSDAY, the [illegible]th day of AUGUST, 1858, at TWELVE for ONE o'clock, the STOCK of a BUILDER [illegible] BOOTH and CO. Auctioneers, 13, Eastcheap, City, E.C. and Mermaid House, H[illegible].

TO CONTRACTORS, CAPITALISTS, BRICKMAKERS, AND BUILDERS.

MESSRS. COOPER will OFFER for SALE by AUCTION, in the month of AUGUST next, in lots, unless previously disposed of, the following valuable FREEHOLD PROPERTY [illegible] to Ramsgate and Margate; a piece or parcel of highly productive Garden and Orchard Ground, walled in, having a considerable building frontage to the said turnpike road [illegible] for [illegible] gardens [illegible] ters, the whole situate in [illegible] in Ruttington lane, Canterbury [illegible] of Messrs. COOPER [illegible] of Messrs. FURLEY and CALLAWAY, Solicitors [illegible].

BUILDING GROUND at BROMLEY, KENT, TO LET on LEASE, for 99 years, with the option of BUYING the FREEHOLD.—The estate is within five minutes' walk of the station on the Mid Kent Railway, [illegible] West End. It [illegible] Market, [illegible] Apply to Mr. T. BROWNING, Widmore, near Bromley, Kent.

TO BUILDERS.—Some LAND, already partially covered, TO BE LET, close to the Crystal Palace. [illegible] 5s. per foot. As [illegible] apply. Inquire at First-floor, 1[illegible], Carter lane, Doctors' Commons.

WEYBRIDGE, SURREY.—TO BE SOLD, a PLOT of FREEHOLD GROUND, [illegible] feet frontage and [illegible] feet deep, situate in the [illegible] road leading to Walton. For particulars, apply to L. WALLADEN, Builder, Weybridge, Surrey.

TO BUILDERS. — Eligible BUILDING LAND TO BE LET, with advances, adjoining St. Jude's Church, Old Bethnal-green-road, suitable for the erection of Six-roomed Houses, which are in great request, at [illegible]. For further particulars apply to Mr. CLARKSON, [illegible], Chancery-lane, W.C.

London: Printed by Charles Wyman, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn fields, in the Parish of St. Giles in the Fields; and published by the said Charles Wyman, at the Office of "The Builder," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, August 7, 1858.

The Builder.

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COMPETITIONS.

TO ARCHITECTS and OTHERS.—CAMBRIDGE ROYAL ALBERT BENEVOLENT ASYLUM. The Committee of the Cambridge Royal Albert Benevolent Society are desirous of receiving PLANS, ELEVATIONS, and general SPECIFICATIONS for the ERECTION of a BUILDING, to contain separate residences for twelve inmates, and a committee-room, at a cost not exceeding 1,800*l*. A premium of 10*l*. will be given for the design approved by the Committee, which design is to become the property of the Society, who will not consider themselves bound to carry out the design selected. Printed copies of further particulars may be had on application to the Secretary. All designs are to be sent under seal, without name, and with a private mark or motto thereon, accompanied by a letter under cover, and sealed, containing a corresponding mark or motto, and the designer's name and address, on or before the 25th day of SEPTEMBER next, to

THOS. P. CLAYTON, Secretary, 23, Trumpington street, Cambridge.

Cambridge, August 2, 1858.

CONTRACTS.

TO BUILDERS and OTHERS.—Any Persons willing to CONTRACT for EXCAVATING FOR and LAYING a CULVERT, 3 feet by 3 feet 6 inches, near Waddon Marshlane, may see the plans and specification, at this Office, on and after TUESDAY, the 17th inst. Tenders to be delivered on or before the 23rd of AUGUST, at the Office of HENRY RICHARDS, Esq. High-street, Croydon. The Board do not pledge themselves to accept the lowest Tender.—Also, under the same conditions, 1,700 feet of SEWER, 2 feet by 1 foot 9 inches, in Dagnall's Park road and meadow.

Croydon Local Board of Health, Surveyor's Office, Town hall, August 11, 1858.

TO PIPE MAKERS.—Any persons willing to CONTRACT for the SUPPLY of the undermentioned, glazed stoneware SOCKET PIPES, may see the specification and conditions at this Office, on and after the 17th instant. Tenders to be delivered by the 23rd of AUGUST, at the Office of HENRY RICHARDS, Esq. High-street, Croydon. The Board do not pledge themselves to accept the lowest Tender.

600 6-inch Pipes	2,500 12-inch Pipes
4,700 9-inch Pipes	1,000 15-inch Pipes.

To be delivered within 1½ miles of the Norwood or Croydon Stations.

Croydon Local Board of Health, Surveyor's Office, Town hall, August 11, 1858.

TO BUILDERS.—PETWORTH, SUSSEX. The Trustees of the late Mr. Tyler's Estate are prepared to receive TENDERS for the EXECUTION of the necessary REPAIRS to be done to several Houses at Petworth, Sussex. The Specifications may be seen, and information obtained, at the Office of A. B. FREND, Esq. Architect, 44, Bedford row, London, W.C. Tenders to be delivered on or before TUESDAY, the 17th day of AUGUST, 1858. The Trustees do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

BOROUGH of WAKEFIELD.—The Burial Board Committee of the Corporation of the Borough of Wakefield are prepared to receive TENDERS from contractors, builders, and artificers, for the whole or any part or parts of the work required in the ERECTION and COMPLETION of TWO SEMI-DETACHED CEMETERY CHAPELS, together with all other masonry, woodwork, &c. connected therewith, at the Belle Vue Cemetery, Wakefield.—The drawings and specifications may be seen, and all information relative to the above obtained, at my Offices, on and after MONDAY, AUGUST 9. Sealed and endorsed Tenders, addressed to the Burial Board Committee of the Wakefield Corporation, must be delivered at the Town Clerk's Offices, on or before MONDAY, AUGUST 23. The Committee do not pledge themselves to accept the lowest Tenders. By order,

MARRIOTT O. TARBOTTON, C.E. Borough Surveyor.

Borough Surveyor's Office, Barstow-square, Wakefield, August 5, 1858.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS. To BUILDERS.—ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Park Committee are desirous of receiving TENDERS for the ERECTION of BATHS, Woodcock street, Birmingham. The drawings and specification, with the conditions regulating the contract and form of Tender for such works, may be seen at the Architect's Office, Mr. EDWARD HOLMES, 25, Temple-row, Birmingham, on and after the 20th of AUGUST next. Builders wishing to compete, are requested to send in their names to the Architect on or before such date. Sealed Tenders in writing, endorsed "Tender for New Baths, Birmingham," together with the names and description of two responsible persons who will become sureties for the proper performance of the contract, in a sum equal to one fourth the total amount of such Tender, to be sent by post to the undersigned, on or before the 20th of SEPTEMBER, 1858. The Committee do not pledge themselves to accept the lowest or any Estimate.

THOMAS STANDBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 14th, 1858.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS. To ENGINEERS. ERECTION of NEW BATHS, BIRMINGHAM. The Baths and Parks Committee give Notice, that all persons who may wish to contract for the ENGINEERS' WORK to be done in the erection of the above Baths, are required to send by post to the undersigned, on or before MONDAY, the 20th of SEPTEMBER, 1858, sealed TENDERS in writing, endorsed "Tender for Engineers' Work, Baths, Birmingham," together with the names, addresses, and descriptions of two responsible persons who will become sureties for the proper performance of the works, in a sum equal to one fourth of the total amount of such Tender. The particulars of the Engineers' Work required, the plans, drawings, and specification for the said Baths, with the conditions regulating the contract, may be inspected, on and after the 20th AUGUST next, at the Office of the Architect, Mr. EDWARD HOLMES, 25, Temple row, Birmingham. The Committee do not bind themselves to accept the lowest or any Tender.

THOMAS STANDBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 14th, 1858.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—LOAN.—The Board of Works for this District are desirous of receiving TENDERS from persons willing to ADVANCE 4,000*l*. (in one sum, or in sums of not less than 500*l*.) upon the security of the general purposes rates authorised to be raised in the parish of Limehouse, in the said district, under the Metropolis Local Management Act. The said loan will be repaid by fifteen annual instalments, with interest half yearly in the mean time. Tenders specifying the amount to be advanced and the rate of interest required, to be delivered, under cover, endorsed "Tender for Loan," at my Office, Dean Court House, White Horse street, Commercial road East, on or before TWELVE o'clock at Noon on WEDNESDAY, the 25th AUGUST, 1858.

THOS. W. RATCLIFF, Clerk of the Board.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a PARSONAGE HOUSE, for the district of St. John, in the parish of Radipole near Weymouth, Dorsetshire, may see the plans and specification at the Office of the Architect, Mr. G. R. CRICKMAY, St. Thomas street, Weymouth, on and after the 9th inst. Sealed Tenders to be sent to the Rev. JOHN STEPHENSON, on or before MONDAY, the 30th inst. by TWELVE o'clock, a.m. The Building Committee do not pledge themselves to accept the lowest or any Tender.

BOURN and ESSENDINE RAILWAY COMPANY.—CONTRACT for SLEEPERS.—The Directors are prepared to receive TENDERS for the SUPPLY of ELEVEN THOUSAND RECTANGULAR SLEEPERS. Parties disposed to Tender may obtain the specification and forms of Tender (on which forms only Tenders will be received) at this Office on or after WEDNESDAY, the 11th AUGUST instant. Tenders, sealed up and marked "Tender for Sleepers," must be lodged at this Office before TWELVE o'clock at Noon on SATURDAY, 21st AUGUST, 1858.

N.B. The Directors do not bind themselves to accept the lowest or any Tender. By order,

J. L. BELL, Secretary.

Secretary's Office, Bourn, 7th August, 1858.

SAINT MARY, ISLINGTON, MIDDLESEX.—Metropolis Local Management Act. The Vestry of this Parish hereby give Notice, that a Committee will meet at the Offices, 21, Milner square, Islington, on WEDNESDAY, the 8th day of SEPTEMBER next, at TEN o'clock in the morning precisely, to receive TENDERS for the CONSTRUCTION of about 2,400 FEET of SEWER, 3 feet 9 inches high, and 2 feet 6 inches wide, and other works connected therewith, in and along the Holloway road, between the Liverpool road and the entrance to Highbury place, in the said parish. The form of Tender on which alone will be received may be obtained, and the specification and plans seen, at the Vestry Offices (Surveyor's Department), between the hours of TEN and FOUR o'clock. Persons desirous of Contracting must attend at the time and place above stated, with sealed Tenders, endorsed "Tender for Sewer Works." The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.

JOHN LAYTON, Vestry Clerk.

21, Milner-square, August 10, 1858.

CONTRACTS.

WAR DEPARTMENT CONTRACT.—To BUILDERS and CONTRACTORS. The Commanding Royal Engineer of the Aldershot District hereby gives Notice, that Sealed TENDERS will be received by the Director of Contracts, War Department, Pall Mall, London, S.W. until TWELVE o'clock on MONDAY, the 30th instant, from such persons as may be desirous of CONTRACTING for the WORK required to be performed in making a NEW ROAD from Sandy pit-lane to the Farnham Turnpike road, in front of the South Cavalry Barracks, at Aldershot, in the county of Hants: the plans of which may be seen, and specifications and forms of Tender obtained, on application at the Royal Engineer Office, Aldershot, on and after TUESDAY next, the 17th instant. The Tenders to be endorsed, "Barracks' Tender for New Road at Aldershot." The War Department reserves the right of rejecting the whole or any of the Tenders. No notice will be taken of any Tender which is not upon the prescribed printed form alluded to.

Royal Engineer Office, Aldershot, August 11, 1858.

TO BUILDERS.—Sealed TENDERS, in one specific sum, will be received by the Director of Contracts, Pall Mall, London, on or before the 24th of AUGUST, 1858, at NOON, for BUILDING a SHELL FILLING HOUSE, at Bull-point, near Devonport. Drawings and specifications may be seen at the Royal Engineer Office, Bull point, daily (Sundays excepted), between the hours of TEN and FOUR o'clock, from the 16th to the 21st instant, both days inclusive.

Royal Engineer Office, Devonport, August 10th, 1858.

TO CONTRACTORS.—RAILWAY WORKS in SPAIN. TUDELA and BILBAO RAILWAY.—The Council of Administration duly give notice to parties desirous of proposing for the EXECUTION of the WORKS of the first section of the above RAILWAY, comprising sixteen kilometers, from Bilbao to Arrancudiaga, that on the 20th of AUGUST next, the plans, sections, specification, &c. of the same will be ready for their inspection at the Company's Offices, Calle de Santa Maria, No. 8, Bilbao, where from that date every necessary information will be afforded to contractors who may apply. Sealed proposals, presented in conformity with the conditions, which all parties interested may consult at the same time, will be received up to TWELVE o'clock noon, on the 15th day of SEPTEMBER, and the Council will decide the contract at the same hour the following day. The Council do not bind themselves to accept the lowest or any Tender. Parties making proposals must present proper securities for the due performance of the contract, and be prepared to satisfy the Council that they have the command of, and will have at the works on the day stipulated for beginning the same, sufficient plant to insure the completion of the contract on the day to be appointed.—On and after the 20th of AUGUST, general information as to the character of the works will be furnished on application at the Office of CHARLES VIGNOLES, Esq. the Engineer-in-Chief of the Company, No. 21, Duke-street, Westminster, London, S.W.

CIPRIANO SEGUNDO MONTESINO, Managing Director.

Bilbao, August 3, 1858.

TO BUILDERS.—Persons desirous of offering TENDERS for the REPEWING and RESTORATION of the PARISH CHURCH of BECCLES, Suffolk, can see the plans and specification upon application at W. E. CROWFOOT, esq. Beccles. The Tenders are to be sent in by TWELVE o'clock, on MONDAY, the 23rd AUGUST, under cover, to W. E. CROWFOOT, esq. The Committee do not engage to accept the lowest or any Tender.

JOHN HENRY HAKEWILL, Architect, 50, Maddox street, London, W.

TO BUILDERS.—TENDERS are required for ERECTING SCHOOLS, with Teacher's Residence, at Eastington, near Stonehouse, Gloucestershire. Plans and specifications may be seen at the Union Workhouse, on application to the Governor, any day during the ENSUING WEEK but FRIDAY next. Tenders to be sent to the Rev. A. KENWIN, Eastington, on or before the 25th of AUGUST.

TO BUILDERS.—The Directors of the City of Norwich Waterworks Company are desirous to receive TENDERS for the ERECTION of an ENGINE HOUSE, at Heigham, near Norwich. Drawings and specifications may be seen at the Office of the Company, in Redwell street, Norwich, or at the Office of Mr. HAWKSLEY, 30, Great George-street, Westminster, on and after MONDAY, the 16th inst. and bills of quantities will be provided on payment of 5s. each. Tenders must be delivered on or before TUESDAY, the 24th of AUGUST inst.; but the directors do not bind themselves to accept the lowest or other offers.—By order,

JOHN SULTZER, Chairman.

Norwich Waterworks Office, August 6, 1858.

TO BUILDERS.—TENDERS are invited for REBUILDING ALDERMASTON MILL, on the Kennet and Avon Canal, and near to the Aldermaston station, Great Western Railway. Plans and specification can be seen at my Office, on and after MONDAY, the 16th of AUGUST, between the hours of TEN and FOUR. Tenders to be delivered to me on or before WEDNESDAY, the 25th inst. The lowest or any Tender is not necessarily to be accepted.

164, Friar street, Reading. CHARLES SMITH, Architect.

BOROUGH of PRESTON.—SEWERAGE WORKS.—To CONTRACTORS.—The Local Board of Health for the Borough of Preston will receive TENDERS from parties who may be willing to undertake the following works, namely, the CONSTRUCTION of about 1,370 lineal yards of BRICK SEWERS, varying from 3 feet by 2 feet to 4 feet 6 inches by 3 feet, and other works incident thereto; the Laying and Jointing of about 1,600 lineal yards of Pipe Sewers, varying from 9 inches to 15 inches in diameter, and other works incident thereto. Plans and specifications may be seen at the Offices of the Local Board, 16, Church street, Preston, and any further information may be obtained from Mr. JOHN NEWTON, C.E. Surveyor to the Board. Sealed Tenders, addressed to the Chairman of the Sewers Committee, must be deposited with the Surveyor by TWELVE o'clock on WEDNESDAY, the 18th instant.

ROBERT ASCROFT, Town clerk.

Preston, August 5, 1858.

[*For remainder of Contracts see next page.*

CONTRACTS.

STRATFORD-UPON-AVON RAILWAY COMPANY.—The Directors [illegible] TENDERS for MAKING the LINE of RAILWAY and completion of the works (except rails) [illegible] from the [illegible] station of the Great Western Railway to Stratford-on-Avon. Plans, specifications, [illegible] may be seen at the offices of CHARLES SANDERSON, [illegible], Westminster, from the 16th [illegible] of SEPTEMBER next. Tenders [illegible] to "The [illegible] Stratford-on-Avon Railway Company," [illegible] SEPTEMBER next. The Directors [illegible] the lowest or any Tender.

[illegible] KERSHAW, Secretary.

Stratford-upon-Avon, August 9th, 1858.

HAMPSTEAD JUNCTION RAILWAY. TO CONTRACTORS and BUILDERS.—The Directors are prepared to [illegible] for the ERECTION of PASSENGER STATIONS [illegible] Mr. [illegible] Tenders [illegible] Station, [illegible] SEPTEMBER [illegible]

By Order,

[illegible] EARLEY, Secretary.

Offices, [illegible]

TO BUILDERS.—The Board of Governors and Directors of the Poor of St. James's, Westminster, are prepared to receive TENDERS for [illegible] of the WORKHOUSE [illegible] Poland-street, Oxford-street, of which the [illegible] and draft Contract may be seen at the [illegible] Mr. CHARLES LEE, [illegible] square [illegible] Tenders [illegible] the place [illegible] the Board [illegible] "Tender for Workhouse Building." The party whose Tender is accepted will be required with two sufficient securities, to be approved by the Board, [illegible] for the due performance of the Contract [illegible] at the expense of the Poor. The Governors and Directors will not bind themselves to accept the lowest Tender.—By order of the Board,

GEORGE [illegible]ZZARD, Clerk.

BUILDERS willing to CONTRACT for BUILDING TWO or THREE VILLAS [illegible] to [illegible] Mr. ROBERT HARRIS, 147, High Holborn.

TO BUILDERS.—Persons desirous of TENDERING for the ENLARGEMENT of the NEW CHRISTIAN CHURCH, Argyle [illegible] may see the plans and obtain quantities at the Office of the Architect, Mr. B. [illegible] HERRING, [illegible] after SATURDAY, the 14th instant. The Tenders [illegible] on MONDAY, the 23rd inst. The Committee do not bind themselves to accept the lowest or any Tender.

FIRE-PROOF CONSTRUCTION.—FOX and BARRETT'S PATENT.

This improved [illegible] of fire-proof construction has been most extensively adopted, [illegible] has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system [illegible] ECONOMY, with great simplicity of construction, [illegible] increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength [illegible] adapted to receive a finished surface, either of the ordinary flooring-boards [illegible]

[illegible] are now in course of erection upon this principle, [illegible] bringing the great [illegible] of fire-proof construction, even for ordinary [illegible] buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT,

12, YORK BUILDINGS, ADELPHI.

HOBBS'S NEW MORTISE LOCK possesses the following advantages [illegible] "Twelve [illegible] THE PATENT FRICTIONLESS [illegible] LEVER prevents [illegible]

These Locks [illegible] manufactured by patent steam machinery, are offered [illegible] Also, every description of Lock [illegible] work.

[illegible] Mortise Latch [illegible] Fire and Burglar Proof Safes, Strong-room Doors, &c.

HOBBS, ASHLEY, and CO. 76, Cheapside, E.C.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, [illegible] Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furnitures of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, &c.; and the New Registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.

J. H. BOOBBYER, late STURCH and BOOBBYER, established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE at the LOWEST PRICE.

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IMPORTANT TO ALL. THE TRADE SUPPLIED.

G. J. FELLOWS, [illegible] AND LAMP MANUFACTORY, 111, GRAY'S-INN-LANE, [illegible] ESTIMATES SUBMITTED FREE OF CHARGE.

FOR SALE, a SECOND-HAND EIGHT-DAY TURRET-CLOCK, 18 inch main brass wheels, in strong [illegible] Warranted [illegible] Apply to [illegible] HALE and SONS, [illegible] Works, Bristol.

TO ARCHITECTS AND OTHERS.

PATENT BATH VALVES for PUBLIC INSTITUTIONS.—The Architects [illegible] Bath-works, &c. [illegible] VALVES [illegible] seen at Mr. MAY'S Manufactory, Dean-street, High Holborn.

BRIDGES, AUBURY, AND CO.'S PATENT PORTABLE COAL GAS APPARATUS

(FREE FROM NUISANCE).

The Patentees have now been manufacturing the above [illegible] particularly adapted [illegible] they [illegible] Private Residences, Factories, Churches, Chapels, Railway Stations, Workshops, [illegible] and can be had in various sizes, from 7 to 200 lights.

[illegible] Works, TOWER [illegible] LANE, NEWINGTON BUTTS, S. [illegible]

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PFEIL AND STEDALL.

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MIRAMS, COWELL, and CO. [illegible] IRONMONGERS, RANGE AND STOVE MAKERS, 20, CHISWELL-STREET, FINSBURY.

Beg to call the attention of the Building Trade [illegible] IRONMONGERY AND BELL HANGING MATERIALS, PIPES, GUTTERS, &c. &c. [illegible]

A full List of which can be had on application by enclosing a card.

N.B. A LIBERAL DISCOUNT TO THE TRADE.

MORRIES STIRLING'S PATENT CAST and MALLEABLE IRON.—The toughened cast iron for girders, shaftings, rolls, pinions, railway waggon wheels, engine cylinders, hydraulic cylinders, and for all purposes where a strong, [illegible]

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[illegible] 1s. 3d. per foot.
Half-inch diameter .... 1s. 6d. „
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TUPPER and COMPANY, Manufacturers of GALVANIZED IRON, and GALVANIZED TINNED IRON, In Sheets, Tiles, Iron Roofs, Houses, Cisterns, Tanks, Iron Fences, Telegraph Wire, and Stores. Offices—61, Moorgate-street, E.C. London. Works: LIMEHOUSE, LONDON. BERKELEY STREET, BIRMINGHAM. Merchants and Shippers supplied. Iron of every description galvanized.

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TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c.—The Trade supplied on the best terms with [illegible] Brackets, and [illegible] Iron; Tin, Composition, Iron, and Brass Tubing; Cornice-poles, Rings, and [illegible]

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Also, their **PATENT MORTISING, TENONING,** and **BORING MACHINE,** of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone, and is the **ONLY MACHINE** which is **SELF-FEEDING,** and doing the **THREE KINDS OF WORK** by **ONE MACHINE.**

P. J. and Co. also invite inspection, at their Manufactory, of their Improved Patent Planing, Tonguing, Grooving, and **MOULDING MACHINE,** doing **SEVENTY FEET** per minute, of board of any thickness, and **GOOD WORK.**

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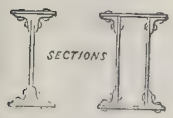

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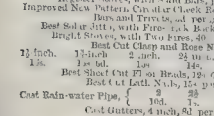
A great variety of Elliptic, Register, and other Stoves, Cottage and best Range always in Stock.



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Best 8 Heating Ranges, with Oven and Back Boiler, Bright Wrought Bars,

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Strong Ellipts. Stoves, with Extra Back and Solid Bars, per inch, 2½d

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1½ inch. 1¾-inch 2 inch. 2½ to 4. 3-inch.

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Smooth R.I. Ward Mortise, with best Furniture and Patent spindles, 2s. 6d. each. Light Ellipts and Register Metal, 1s. 6d. per cwt.

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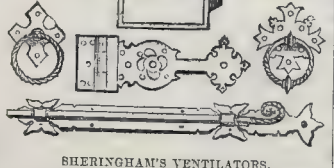

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NAILS and IRONMONGERY,

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AIR WARMER.—Every information may be obtained, and [illegible] given to [illegible] Stoves, Chimney-pieces, and Grates, upon which the Gill Air Warmer can be applied, by applying to Messrs. Stuart and Smith, Rosse-place, Shirtfield; or to their London Agent, Mr. B. BARBER, No. 30, John street, Adelphi.

ARNOTT'S SMOKELESS GRATES, with

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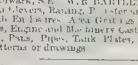

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Buildings of every description and size of the most extensive [illegible] Conservatories, Vineries, Pineries, Peach Houses, Forcing Pits, Pine Stoves, &c. &c. [illegible] can give innumerable references of Churches, Dwelling Houses, Warehouses, &c. &c. where they have fixed their Hot Water Apparatus.

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SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

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THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the neck of the knob. Perfect action is guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershott, &c &c., and is universally approved.

New and rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

Holtzapffel's and Chubb's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass furniture, and ironmongery required for buildings, of the best quality manufactured, at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

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IMPROVED SELF-REGULATING STOVES:

Will burn (according to size and the heat required) from Fifteen to Thirty Hours without attention, and at a cost in fuel, of from 1½d. to 3d. for twenty hours.

Fitted with COOKE'S Patent Self-Acting Regulator and Apparatus.

The Regulators being made on the principle of expansion of Metals by Heat, are both CERTAIN, DURABLE, and SIMPLE in their ACTION.

MANUFACTURED ONLY BY THE PROPRIETORS OF THE PATENT,

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Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at 57, ST. PAUL'S CHURCHYARD.

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ENGINEERS,

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FOR THE

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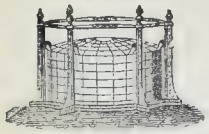
With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;



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WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.

Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
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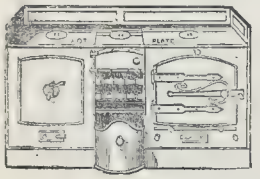

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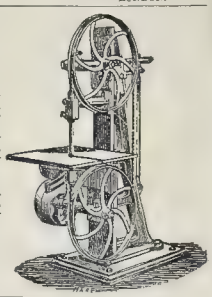

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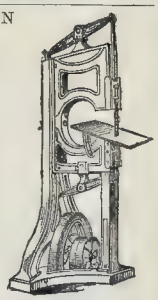

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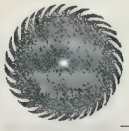

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Vital Statistics.—The Board of Health: Blue Book.

MURDER done here" should be written up in many districts of England. Of the people who live in Eastbourne, in Sussex, 15 of every 1,000 die during the year. Of the people who live in Liverpool 36 of every 1,000 die in the same time. And to take two places that are closer together: while of every 1,000 persons in Kensington 19 persons die every year; of those who live in St. Saviour's, Southwark, 33 of every 1,000 die in the same period. And we know why. And much of the evil could be prevented, and it is not. Surely, then, we should not be going beyond the truth in writing up in that parish "Murder done here." The medical officer of the General Board of Health has just now issued an important paper, communicated by Dr. E. H. Greenhow, on the different proportions of death-rate in different districts of England. To those who have long laboured to show the dangers of sanitary neglect, it is satisfactory to find that statistical inquiry and the evidence of the best medical authorities confirm statements which were made when these important matters were less considered and less understood than they are now. In connection with sanitary affairs, there is danger in the circumstance that those who have given attention to the subject are liable to think that in consequence of the information which has been spread abroad, the evils of unsanitary conditions are well understood. This, however, is not the case, otherwise we should not have need to lament the immense number of valuable lives which are annually lost by diseases which can with certainty be prevented.

Reports of the Registrar General show that at least one-fourth of the annual mortality of England is of artificial production, and that of the 628 registration districts, in sixty-four (containing a population of about 1,000,000 inhabitants), the death-rate ranges from 1,500 to 1,700 in each 100,000; but the average death-rate of all England is about 2,266; and nearly nine-tenths of the registration districts of England show death-rates which are in excess of 1,700, and which, in some notorious cases, run up to 3,100, 3,300, and 3,600, the latter being an excess of deaths over the most healthy districts of 2,100 in the 100,000!

The above figures show that in 564 districts life is artificially shortened to a considerable extent beyond the average of 1,500 deaths in the most healthy neighbourhoods.

Death by old age is, physiologically speaking, the only normal death of men. There are, however, differences of longevity; some men are so constitutionally weak, that they virtually die of old age before their sixtieth year; but it cannot, says Mr. Simon, "be far from the truth to assume that were there no artificial interference with the duration of life, death by natural decay would, in this country, under its present circumstances, usually happen about eighty years of age." In the Faro Islands, with a population of 8,000, the period for death by old age is between eighty and ninety years. But this physiological fact must be guarded from misapplication, for an amount of premature deaths is a certainty, quite irrespective of the immediate influence of exterior circumstances.

"Children come into the world sometimes with malformations, which render healthy life impossible; sometimes with inherited disease, or inherited morbid predisposition; sometimes with various ill-defined weaknesses of vitality, which render them unable to struggle onward, even for a single year, or dispose them more readily to sink under the ordinary trials of infancy."

Families in which gout, rheumatism, tubercular, and other diseases are hereditary, have not the average expectation of healthy life, and a certain share of every generation has in it from these sources the seeds of premature death. It is to be noted, however, that even in the worst of these conditions, much good is effected by properly-directed efforts.

The average number of those deaths which, in our present condition of society, must be considered as unpreventable, may be gathered from the equality of deaths from peculiar complaints in all the districts of England. Some contagious diseases, such as small-pox, hooping-cough, measles, and scarlatina, are never long absent from large communities. The first of these has, however, been rendered less fatal by Jenner's discovery. Notwithstanding, these diseases must be classed amongst the inevitable causes of premature death; yet, says Mr. Simon:

"The fatality of these diseases is greatly and evidently proportioned to exterior conditions, and the poor suffer much more from them than the rich, partly from possessing less ample means of treatment; but mainly because of the impure atmosphere which commonly surrounds the patient in his overcrowded and unventilated dwelling.

In respect then of these diseases (as of those previously spoken of) it may fairly be supposed that their natural tendency is to prevail with equal severity or equal mildness in all districts of England; and any disproportionate fatality of these in certain districts, as compared with their habitual fatality in other districts, is a fact which requires to be accounted for by the operation of local causes."

Notwithstanding our system of poor-law and other means of relief, privation must be classed amongst the unpreventable diseases.

"Children especially suffer from this cause, and many of their so-called scrofulous ailments are in fact mere starvation disorders, which a few weeks of better feeding would cure. And besides the direct stint of food, and that indirect stint which consists in the use of damaged and adulterated provisions, there are other kinds of privation inseparable from poverty. It must have scanty house-room; and this—at least till the means of properly ventilating poor dwellings are thoroughly popularized—is an increased liability to disease."

If all men lived to their full term of eighty years, the death-rates in 100,000 would be about 1,250; and experience seems to show that there are populations in which there are only 1,500, 1,600, and 1,700 deaths per annum in the 100,000, and that a million of the inhabitants of England are living in these comparatively favourable districts; and fixing then 1,250 as the theoretical standard of pure health, we find that in the best circumstances in England, 250, 350, and 450 extra deaths are to be attributed to diseases—some, it is true, not now preventable—which have caused premature death. We must add to what the Reporter says, that many of the causes which he classes as now unpreventable might have been prevented, and should have been.

That some districts of England are greatly more fatal than others, affords strong *prima-facie* grounds for believing that the local excesses of fatality are due to local circumstances of aggravation, and that these aggravating local circumstances are such as it is fully possible to counteract; and that, consequently, of the total mortality ascribed to these influences in England, a very large share is preventable.

"Thousand of deaths annually arise from such diseases as are in the most absolute sense preventable,—diseases which either will not arise, or will not spread, in communities which follow certain well-known sanitary laws. For, first, there are certain diseases, of which it is hardly a metaphor to say, that they consist in the extension of a putrefactive process from matters outside the body to matters inside the body, diseases of which the very essence is filth,—diseases which have no real habitation except where putrefiable air or putrefiable water furnishes means for their rise or propagation,—diseases against which there may be found a complete security in the cultivation of public and private cleanliness. Yet some tens of thousands of deaths annually arise in England from these diseases!"

Surely, then, we may write up, "Murder done here!"

And again, there are diseases of other kinds, which annually kill some thousands more of our population, though the approved preventives are so definite and so accessible that scarcely a death from such causes ought to occur in any civilised country. The preventable diseases, cholera, diarrhœa, and dysentery, during nine years, 1848-56, have been fatal to 237,498 persons. In two years (1849 and 1854), when cholera was epidemic, there died from the above causes 116,248 persons. (If in warfare such a multitude should meet their death, it would be considered a dire calamity.) A large proportion of the excess of deaths in those years occurred during a few summer weeks, when the epidemic influence was at its height.

Mr. Simon remarks that diarrhœal diseases, for two reasons, claim particular attention. In the first place, these are increasing in this country; during the years 1838-42 the deaths occasioned by them were only 13 per 1,000 of the deaths from all causes; during the years 1847-55 their proportion was five times as great. And in the second place, their epidemic aggravations are sometimes of appalling severity. These things are almost forgotten when they are past, but probably, since the days of the Great Plague, death has never so scared an English population as in the cholera epidemic at Newcastle in 1853, and in the Golden-square outbreak of 1854.

Dr. Greenhow's paper shows that the average death-rate from cholera (epidemic and otherwise) varies in a remarkable manner in different districts. The average death-rates of conjoined diarrhœal diseases have ranged from 4, 8, 10, 14, 17 in some, to 463, 493, 519, 568, and 663 in others. This variation is remarkable, and although places under bad sanitary conditions have escaped, in no case have large numbers perished in towns or districts except in those which have been ill-drained, or in other ways neglected. "Nothing," says the health officer, "in medicine is more certain than the general meaning of high diarrhœal death-rates. The mucous membrane of the intestinal canal is the excreting surface to which nature directs all the accidental putridities which enter us: whether they have been breathed, or drunk, or eaten, or sucked up into the blood from the surfaces of foul sores, or directly injected into blood-vessels by the physiological experimentor, there it is they settle and act. As wine "gets into the head," so these agents get into the bowels; then, as their universal result, they tend to produce diarrhœa; simple diarrhœa, in the absence of specific infections; specific diarrhœa, when the ferments of cholera and typhoid fever are in operation. And any such distribution of diarrhœal disease as has just been noticed warrants a presumption,—indeed,

so far as I know, a practical certainty,—that in the districts which suffer the high diarrhœal death-rates, the population either breathes or drinks a large amount of putrefying animal refuse."

A certain amount of diarrhœa depends no doubt on other causes than putrefactive pollution of the system, but the fullest allowance for these causes cannot sensibly affect the general conclusion which has been stated. In proof of this, many instances might be given. Mr. Simons refers to only two of these: the first relates to the exemption of Tynemouth, in 1853, from an epidemic which prevailed in its neighbourhood. Newcastle and Gateshead (about seven miles distant) suffered on that occasion the most terrible outbreak yet experienced in England, and lost within a few weeks nearly 2,000 of their population. In the borough of Tynemouth is included the chief portion of North Shields, a place remarkable a few years ago for its unsanitary condition, and the population is connected with Newcastle both by railway and the river Tyne, and yet in Tynemouth there occurred during that epidemic period only four fatal indigenous cases. This escape was not due to an entire non-participation in the epidemic influence, for diarrhœa was generally prevalent in Tynemouth while cholera was in Newcastle; nor did it depend upon the absence of opportunities for contagion, for many thousands of persons from Newcastle and Gateshead fled to Tynemouth, and many continued to pass daily between the two towns.

This contrast is remarkable, when we consider the heavy mortality caused by cholera at Tynemouth in 1848-9, when 463 deaths were caused by this disease. The cause of the escape of Tynemouth from the cholera attack of 1853 is evident: Dr. Greenhow states that in 1851 the Public Health Act was applied to Tynemouth, the provisions of the Act relative to the registration and regulation of common lodging-houses and slaughter-houses, and the construction of new streets and houses, were immediately put in force; care was taken to prevent the erection of houses without proper conveniences, and provisions for ventilation; no ash-pits were allowed to be made against the main walls of dwelling-houses, or without proper doors or covers. Wherever sewers existed, drains from the houses were insisted upon, and all persons laying out new streets were compelled to have back entrances into their houses, and to provide for the construction of drains from the backs of the houses, instead of carrying them through the basement story, as was previously usual.*

"In the autumn of 1852, when the reappearance of cholera in this country was considered probable, an active inspection of the town was instituted by the Public Health Act Committee; the by-courts and lanes were thoroughly cleansed, the gully-holes trapped, the foul open ditch behind the North-street was cleansed and filled in, and many local nuisances throughout the borough were removed. On the report of the first death from cholera in Newcastle, in 1853, like measures were resorted to. The courts, lanes, and common lodging-houses were inspected by the health committee, aided by other members of the town council. Every common lodging house in the town was peremptorily ordered to be lime-washed and cleansed within forty-eight hours, an order which was strictly obeyed; a large staff of carts and men were at once employed to cleanse all the courts, lanes, and back passages of the town, which, after the rough dirt was removed, were sluiced with water thrown into them by a powerful fire-engine afloat on the river. All the courts and smaller streets were lime-washed, depôts of quick lime for the use of the poor were placed in convenient places throughout the borough, at the expense of the board of health, and, to induce them to make free use of it, the local authorities personally visited the inhabitants of the localities in which cholera formerly prevailed. Ruinous channels were repaired, and, where the gullies were imperfectly trapped, this was rectified; and chloride of lime, of which a ton was speedily consumed, was profusely used for the purpose of disinfecting them. In the course of fourteen days the town was brought into as good a sanitary state as possible under existing circumstances; 1,500 cart-loads of manure having been removed in that short time from the vicinity of human habitations.

The entire expense incurred by these operations amounted to 230*l.* which was afterwards reduced to less than 200*l.* by the sale of manure."

Without taking into consideration the salvation of life, it is worth while to contrast the cost of the cholera visit to Newcastle and Gateshead with the above trifling sum, which was the means of rendering this terrible disease harmless in the borough of Tynemouth. The contingent expenses of these last-named towns in connection with the four months' cholera visitation amounted in four years, for the maintenance of widows and orphans alone, to 7,500*l.* and the cost, direct and indirect, of the epidemic in Newcastle and Gateshead, in connection with that visitation, amounted to about 40,000*l.* a sum which, properly used, would have given the means of permanently improving the sanitary condition of those towns, and rendering them safe from future attacks of this description.

The second case mentioned refers to the distribution of cholera deaths during two epidemics in the southern districts of London. These districts, which comprise nearly one-fifth of the population of the metropolis, have been visited with great severity by cholera on each occasion of its prevalence in England. During the last invasion these districts were accidentally the seat of a gigantic sanitary experiment, and a difference in one sanitary condition was seen to influence most remarkably the cholera mortality, for throughout those districts, during the epidemic of 1853-4, there were distributed two different qualities of water, so that one large population were drinking a tolerably good water, and another large population an exceedingly foul description of water, and it was found that the deaths in the houses supplied by the bad water were three and a half times as great as in those supplied with good water. In 1848-9, there died of cholera in the most fatal district, 1,925. Between the above date and the next visitation the water was improved, and other sanitary changes made; and in 1853-4, although the cholera was so fierce in its attacks in some other parts of London, only 611 died in the district we are speaking of: whereas, the water of the once favourable district having become worse instead of better, the deaths which were, in 1848-9, 2,880, had, in 1853-4, increased to 3,476.

Under the Registrar-General's head of typhus (which does not include infantile fever or remittent fever), there were recorded, during the nine years 1848-56, as many as 156,340 deaths, being at the rate of 17,371 deaths per annum. "This fatal disease," says Mr. Simon, "is essentially a disease of filth. When the unventilated atmosphere of habitually overcrowded places reeks with a stagnant steam from the breathing and sweating of its inhabitants,—a steam which condenses in fœtid drops on the window-panes, or soaks and rots in the papered or plastered walls, or where putrefying fæces are accumulated in cesspools or ill-conditioned drains to taint the air or leak into the drinking water of a population, then this disease prevails in one or other of its forms."

Among the 105 registration districts into which Dr. Greenhow has inquired, there is none but has suffered deaths from fever. The death-rates from this cause have ranged from 21 in one district to 33 in a second, and under 50 in five others to 204, 207, and 209.

The introduction of fever into places of good condition is considered exceptional; but it is admitted that it may be carried to such places from some neighbouring filthy hovel which breeds it. But, generally speaking, the contagion has little tendency to multiply itself, except where the same conditions exist as those under which it began. Oftenest of all, therefore, it is from hovel to hovel, from crowded lodging-house to crowded lodging-house, that the infection of fever spreads. The specific existing cause of continued fever cannot, perhaps, be utterly expelled or precluded, but when present in a community, it may be rendered comparatively harmless by taking away the main conditions of its morbiferous efficacy and of its faculty of propagation.

"Every collection of medical experience teems with instances which illustrate what are these *main conditions* on which the fatality of fever depends. Such instances are of every degree of magnitude; but in substance they all agree. The experience of common lodging-houses, the experience of single courts in a town, the experience of hospitals and workhouses, the experience of barracks, the experience of the navy, the experience of prisons, are all to the same effect. Every history of the worst prevalence of fever, when it has existed independently of famine, has connected its ravages with overcrowding and filth."

Mr. Simon refers to the prisons of the present day in comparison with their condition in John Howard's time (not a century ago).

It is truly remarked that if a single felon were known to die in England at the present day, under circumstances which, eighty-five years ago, were the rule and habit of prison-life, the whole strength of public opinion would express itself as against a murder. Yet outside the privileged area fever continues its ravages:—

"It continues them under circumstances which, except for the mere bars and bolts of the prison-house, are identical with those which Howard described; and if his language seems familiar to the eye, it is not that his work has of late years often been consciously quoted: it is because the same close dark cells, the same damp floor, the same fœtid atmosphere, have had to be again and again described by officers of health and parochial medical officers; no longer, indeed, as scandals of prison discipline, but as constituting the too frequent household circumstances of the poor."

17,000 or 18,000 victims of fever are annually slain,—the chief part from our labouring population,—and many more are laid prostrate by this cause for weeks and months, their families impoverished, and often brought to ruin and pauperism.

Howard closed his memorable appeal by suggesting that "if no mercy were due to prisoners, the gaol distemper is a national concern of no small importance."

"Its claims to this rank of importance are surely not yet at an end, while its causes remain virulent in the houses of our working population, while its cruel contagion is maintained at their cost, and while so many thousand lives are yearly sacrificed to the negligence which lets it continue."

We have said for years all that is to be deduced from Dr. Greenhow's valuable statement; but it produces comparatively little effect. Coming, as this report does, with official warranty, and a blue cover, it will, perhaps, be listened to by a larger number. Until what it teaches be widely understood and acted on, there will still be many places where we may with truth write up,—"*Murder done here!*"

* Some account of the sanitary condition of Newcastle, Gateshead, and Shields will be found in a previous volume of the *Builder*.

THE TOMB OF WELLINGTON IN ST. PAUL'S CATHEDRAL.

In the crypt beneath the glorious dome of St. Paul's, in London, repose the remains of our great commander. The coffin, which was laid upon the tomb of Nelson, immediately under the centre of the dome, on the day of the funeral, is now placed in a massive sarcophagus, on a white granite basement. It appears that there was some difficulty in obtaining a suitable block of stone for the sarcophagus, either on the continent or in this country. At length one was hit on in a huge boulder of porphyry, lying in the parish of Luxulion, near St. Blazey, on the southern coast of Cornwall. The stone was so hard that tools had to be constructed specially for the purpose of cutting it; and as only one man could work there at the same time the carving of the inside took nearly two years to complete. The sarcophagus was hewn into form *in situ*. The cutting was done by hand; the polishing, for the sake of expedition, by steam-power. The mass was sawn in two to form the sarcophagus, the larger portion being hollowed out to provide a receptacle for the coffin, the smaller forming the lid. The porphyry, of which it is composed, is of a deep chocolate colour, crystals varying its surface with splashes of a yellowish red. On one side of the sarcophagus is inscribed, in gold letters, "Arthur, Duke

of Wellington," on the other are the dates of his birth and death. At each end, on a plain circular boss, is a Greek cross, having a gilt outline. The granite pedestal on which the sarcophagus rests is from the Cheesewring quarry, Cornwall.

The sarcophagus is supported at each end on a parallelogram of granite, which is higher than the top of the pedestal, so that light is seen through; and against each end of these parallelograms are sculptured the head and paws of a sleeping lion, giving two therefore on each side of the sarcophagus. The lower part of the walls of the chamber is also lined with rough white granite, with a moulding of polished red granite on the top; and there are four large polished granite candelabra, of baluster shape, which stand at the four corners of the apartment. From a sphere which surmounts each of these candelabra, rise four small jets of gas. The floor is paved with tiles, and this pavement has been extended to that part of the crypt in which stands Nelson's sarcophagus. The whole was arranged under the direction of Mr. Penrose.

We are unfortunate in not being able to express the same unqualified admiration in all respects as some of our contemporaries. With much that is noble about the mass, the lions' heads give one very much the notion of animals creeping out of a hutch. The form of the candelabra, too, is somewhat common, but was doubtless controlled by the material employed and the funds at command. An aspect of durability is the virtue of the whole, and this is not a slight one.

Those who visit the tomb, and seek the new site which has been named for the proposed monument in honour of Wellington, the Consistory Court, will find it on the south side of the nave, at the extreme west end, enclosed within an oak screen. The present intention is to place the monument designed by Mr. Stevens about the centre of this compartment, in face of the window, and to employ marbles, mosaic work, and colour, in the decoration of the vaulting, walls, and floor. The panels which probably exist behind the present wainscoting are to be filled, if present views prevail, with bas-reliefs, on which other sculptors would probably be employed. A model of the full size is to be first erected, but as the proper preparation of this will involve nearly all the head-work required for the monument itself, it will be some time before anything be done. We shall have something to say on the subject before long.

ON ANCIENT MASONS' MARKS AT YOUGHAL AND ELSEWHERE;

AND THE SECRET LANGUAGE OF THE CRAFTSMEN OF THE MIDDLE AGES IN IRELAND.*

It is now pretty well known that our Mediæval architectural remains bear an undoubted impress of the age in which they were erected, independent even of tradition or history, —as, to the practised eye, the tapered window ope, inclining doorjamb, and massive wall of well or ill wrought masonry, the form, style, and construction of arches, workmanship of sculpture, and section of mouldings, &c. each and all contribute in forming unerring clues to the date and period when erected.

But that the early builders incised secret marks on the products of their heads and hands may not be generally known, yet is a fact well worth our attention.

That the craftsmen and masons of the Middle Ages, in Ireland, not only had private marks, but also a dialect called "Bearlagairna-sair," which was unknown to any but the initiated of their own callings, is also a fact worth our particular attention.

This dialect has been preserved to our own times, and is still used among masons (though not exclusively confined to them) in the counties of Limerick, Clare, Waterford, and Cork: to the two latter counties it is chiefly confined in the present day. The writer made it an amusement, during part of the last year, to jot down, from among his masons, every word of "bearlagair" he could get an inkling of, until he conceived the subject was exhausted; and indeed, it is but fair to say, when the men found it was an amusement "to book their slang," they gave every facility in the collection, in general, except an odd, crusty old craftsman, who thought it "very wrong to let out their secrets;" but, when hinted, from mischief, that it was *only* for "prenting" they were being collected, the old *Arrick*† was well inclined to draw the *Limeen** from his *Rochawn-thour*† on his more communicative comrade, and swearing "it was 3 inches of his *Gladeen*‡ he'd get if such a thing was done when *he* was a boy."

The words are now thrown into something of order, and a glance will show they are more than mere slang, or a dialect got together by an ignorant set of unlearned operatives. This will at once be seen, as Hebrew, Greek, and Latin enter often into their construction,—the Irish always predominating. From this fact, the language and mason-marks are here placed together, the writer believing them to belong to the same body of craftsmen.

Numbers of our ancient architectural remains are dotted over with mason-marks, hitherto scarcely noticed, for want of attention being called to them. The writer is informed that Holy Cross, Askeaton, and Hoare Abbey, Rock of Cashel, are among the marked. Mr. Wakeman, writing on Leighlin Cathedral, in the *Irish Ecclesiastical Journal* for July, 1851, says, "The southern transept no longer exists, and its archway, which is as old as any portion of the building, and exhibits upon several of its well-chiselled stones the singular incuttings known as masons' marks, is now used as the doorway of the church. The curious characters, which are supposed to indicate the work of the bands of Freemasons, who, during a considerable period of the Middle Ages, wandered from place to place, as their services were required, occur on many edifices of Early Pointed work in Ireland, but have never, as far as we know, been collected or properly examined. This is greatly to be regretted, as by a careful examination and comparison of the so-called masons' marks, as they occur in this country, with those which in England and upon the Continent have excited the attention of ecclesiologists, some additional light might be thrown upon the architectural history of Europe during a period most remarkable for the grandeur and excellence of the monuments which it has bequeathed to us." Thus we have an additional interest thrown around our old Irish architectural remains, which the members of the Kilkenny Archæological Society may well turn to account; as, if each member copied the marks in his own vicinity, a collection might, without much difficulty, at once be effected, and the desired comparison at once drawn. Towards effecting this purpose, specimens are given from two celebrated ancient continental cathedrals, some from Scotland, and others from the ancient remains at Youghal.

This comparison would be the more interesting, as it may also substantiate the opinion which seems so generally received, concerning the migration of the itinerant Freemasons during the Middle Ages; but on what authority this opinion is founded has not been given or satisfactorily settled. Brewer, in his "Beauties of Ireland," also touches on the subject, alluding to the similarity of features existing between the Irish and English edifices, during the period under consideration. He says, in vol. ii. page 116, of the Introduction, "That the religious edifices of Ireland should display a sympathy in fashion with those of England will, indeed, be esteemed highly probable, when we remember that such structures were rarely, in either country, the works of native artists. It appears that bands of architects and workmen, of different nations, who had been long in the habit of travelling over Europe in search of employment from the princes, nobles, and clergy, in the erection of churches, castles, and bridges, were incorporated by the Pope towards the close of the twelfth century, and were, at the same time, endowed with various other important privileges. Under the name of Free and Accepted Masons, this fraternity was well known in Ireland and Britain, and erected the principal churches of both countries." Now, as to Brewer's assertions relative to these structures, both in England and Ireland, being rarely the work of native artists, it seems to me to have been far from the fact, for the reverse, as far as Ireland is concerned, is certainly nearer the truth, which any one may prove for himself by looking into Petrie's work on our ancient Irish Architecture; as it will be there seen that the Hibernian works of the ninth, tenth, and eleventh centuries are far more artistic and important than any works of the same era on the Continent or in England, and which, doubtless, must have been the work of native architects and artists. Therefore, if the Irish took precedence in their architecture in those early ages, it is not to be supposed for a moment that they lacked architects and craftsmen in the latter part of the twelfth and beginning of the thirteenth century; and, from the advanced position in learning and architecture at the time in Ireland, there is good reason to conclude it was she supplied other nations with the materials now said to have been borrowed from them by her. The mason-marks gleaned even from the old buildings at Youghal nearly prove this, as they are identical, in many instances, with those of Scotland and the Continent. Two marks, in particular, from the Round Tower at Brechin, a structure Dr. Petrie says he will prove to have been built by *Irish churchmen* about the year 1020, are identical with two we have at Youghal; and others from the Cathedral at Presburg, a much later building than the Round Tower—a clue which, coupled with other proofs, to the writer's mind, shows that the Irish of the twelfth and thirteenth centuries were the identical itinerant architects and building Freemasons of the times in question. Our Irish precedence in learning and architecture, before the English invasion, is an interesting subject, well worthy the attention of Irish archæologists.

The marks in the interior of St. Mary's Church, Youghal, are several times repeated through the church, some being from 30 to 40 feet from the ground. The marks are confined to the wrought stones of piers, quoins, and arches, and exclusively to the thirteenth-century work; there being earlier and later works in this structure, but no masons' marks have been yet discovered on them. Indeed, the writer has examined several eleventh and twelfth century Irish buildings, and as yet has not discovered any mason-marks on them; but does not, on this account, consider other buildings of the same date, in other parts of the country, exempt from them. One mark, a fern, is taken from a tomb-flag or stone coffin-lid of the thirteenth century, inscribed with ROGER DEIVIL . E. This mark is not used in any other part of the building, but is among the mason-marks of St. Ninian's Lodge of Freemasons, Brechin. Roger Deivil's name appears on the Battle Abbey Roll; so that it would appear that he, though by descent a soldier, was one of the "craft." The triangular marks are from the Dominican Friary at Youghal, a building founded in the middle of the thirteenth century: three marks are all that could be found on it; but very little of the abbey is there to be examined, as the destructives of Cromwell's time nearly demolished it. These marks are much used in St. Mary's, and among my collection from Scotland also. Similar marks are also used in the continental cathedrals. The two marks in the form of crosses, are from the Round Tower at Brechin, which the late lamented Patrick Chalmers, Esq. F.S.A. published, with a number of others from Brechin, in the *Archæologia* for 1852, and to the kindness of whose brother, John J. Chalmers, Esq. of Aldbar Castle, Brechin, the writer is indebted for a copy of Mr. Chalmers's paper and plates, which are here referred to. Mr. Chalmers mentions that "but two distinct mason-marks are on this tower, but they are frequently repeated; so that it may be inferred that only two masons were employed in preparing stones for the building; a supposition probable enough in itself." He also says that they "are generally cut along the whole length and depth of the stone," and that "Dr. Petrie says that he is to prove it [the tower] to have been built by Irish churchmen about the year of our Lord 1020." * * *

Mr. Chalmers, in writing on the use and origin of mason-marks, says: "These marks, in all probability, had their origin before the Christian era; and this would indeed be placed beyond all doubt if the marks observed by Colonel Howard Vyse and others, on stones in the pyramids of Egypt, were mason-marks, and not quarry-marks, as in some instances he has proved them to be; or if he could identify the secret societies of Egypt with those of Freemasonry, as has been attempted. It is only reasonable to suppose that mason-marks have been modified by and added to symbols connected with, or illustrative of, facts and doctrines of the Christian faith. A quarter of a century has barely elapsed since the rule that each mason should have his distinctive mark, and should affix it to every stone hewn by him, was strictly enforced in the district I have referred to (Scotland); and even now, when many men are collected together on a work, the rule is observed, though not with so much strictness. It was a law in St. Ninian's Lodge, at Brechin, that every mason should register his mark in a book, and he could not change that mark at pleasure." The rule given by the craft for the formation of the

* Read by Mr. E. Fitzgerald, architect, at a meeting of the Kilkenny Archæological Society.

† *Arrick*, a mason or artificer.

* *Limeen*, a trowel, worn in the breeches-belt by the side, and, in fights, becoming in a mason's hand a very formidable weapon.

† *Rochawn-thour*, the breeches.

‡ *Gladeen*, the knife.

marks is, that they shall have at least one angle; that the circle must be avoided, and cannot be a true mason's mark unless in combination with some line that shall form an angle with it; that there is no distinction of ranks; that is, that there is no particular class of marks set apart for and assigned to master-masons as distinguished from their workmen. If it should happen that two masons, meeting at the same work from distant parts, should have the same mark, then one must for a time assume a different distinction, or, as heralds say, "a difference."

Mr. Chalmers, speaking on the introduction of Freemasonry, mentions:—"It is said to have been introduced into Scotland A.D. 1140, at the building of the Abbey of *Kilwinning*. By the way, a very Irish name, and significant of what has been already advanced, and to have been preserved in greater purity in that country than in any other in Europe; but, be that as it may, it was probably brought in at the first employment of foreign masons. The continued purity of Freemasonry in Scotland may have contributed to the longer use of the mason-marks in that country." Probably Mr. Chalmers was not aware that the system is *still* carried out in several parts of England, among the operative stone cutters, though not in connection with the "Free and Accepted Masons." The writer was shown last year, at Lismore, by Mr. Brown, architect to the Duke of Devonshire, several stones which were imported for the "Carlisle Tower," then erecting as an addition to the castle, cut with mason-marks. And Mr. Brown said, that when he was at Chatsworth, he had a book with hundreds of marks in it, and with the masons' and stone-cutters' names attached to them; and that, as a new hand or craftsman was put on a job, he added an additional nick or score to his master's or foreman's; so that at once every man's work was known by his mark.

There can be little doubt that the marks and secret language were the origin of the marks, signs, and passwords of our "Free and Accepted Masons" of the present day; but a fact worthy of notice is, that the operative masons of the present generation look on the theoretic brethren of the ancient craft not with the most benignant feeling of brotherhood, as a verse or two from one of their old dogrel songs may plainly show, which the writer has occasionally heard hoarsely trolled forth among his men, not in the most finished harmony, but not yet the less lustily, when they were in what they called "their glory" over their beer at a foundation or finishing pot. A principal man among them would then very politely say,—"Now, boys, let us have a few verses of—

"THE LADS WITH THEIR APRONS ON."*

"You masons brave, that courage have
To execute each artist's plan,
I pray give ear to what you hear,
And that from a mason's son.†
Let Freemasons go to you or not,
Or the Tyler shut the doors or no,
That pay of state was made complete,
And built by lads with their aprons on.

Our Eight-Hour men took great pains
To have it like a square large,
Who had them made it is not said,
Nor can they tell the reason why,
How they had stood before the Flood,
If to do it a man can,
Let us hear you presently say,
They were but lads with their aprons on.

And you masons bright, take no delight
In what they call Freemasonry,
For with their mock signs, their squares and levels,
Or any of their doomed mystery,
For it is well-known it was by you
That all their wondrous works were done:
They pleased the fools to steal our tools,
And mock us with their silk aprons on."

Thus we have leather aprons, silk aprons, the modern mock in leather by king in derision of the theoretic or speculative men in silk.

The part of our subject on mason-marks has so extended, that the secret language must be deferred for a future paper.

SALISBURY CONGRESS OF BRITISH ARCHÆOLOGICAL ASSOCIATION.

In the evening of the 4th, after the return from Wilton,

Mr. Gordon Hills read a paper on the "Round Towers of Ireland," and exhibited his sections and drawings of them. Our readers are acquainted with Mr. Hills' views on this subject.

Mr. Vere Irving afterwards read a paper on the "Earthworks of Old Sarum," mentioning such evidence as we have of its occupations by the Romans. At the close, he observed that the central earthwork was not British, but Saxon, and was later than the exterior ones. He could not reduce the earthworks of Old Sarum to any of the Roman types. Mr. Swayne had pointed out that on the hill opposite there were two terraces, and it was contrary to the custom of the Romans to establish a camp when it was commanded by an opposite height. If ever it was held by the Romans, it was only as an occupation camp. He had recently observed that the hill had been scarped below the ditch, and it appeared to him that originally the hill was only scarped, and that the ditch was subsequently dug. In this form it exactly corresponded with Salisbury, there being only one gate to both. The E gate at Old Sarum was no doubt coeval with the ditch. He very much questioned whether this was the ditch excavated by Alfred. The ditch was probably coeval with the central work, which, being of the crater form, was later than some other examples of the type.

Mr. Bergne pointed out that coins had been discovered at Old Sarum, the most important of which were in the British Museum. Coins had been found there of the Constantine type. He understood that the general outline of Roman camps was square and not round: and until he saw proof offered to the contrary, he should conjecture these round camps to be aboriginal British remains. It was not to be supposed that the Romans would reject an advantageous site, simply because of its form, and of its previous occupation by the aborigines of the country.

On Thursday the members visited Burcombe Church, Wardour House and Castle, Tisbury Church, and Place House. Wardour Castle, the seat of the family of Arundell, is a very large mansion, erected between the years 1776 and 1781, from the designs of Mr. Paine, architect. The entrance, looking towards the north, opens into a spacious hall, 30 feet in length and 24 feet in breadth. The hall conducts to the rotunda staircase, where a double flight of steps leads to a peristyle of the Corinthian order 111 feet in circumference. Eight fluted columns, with proper frieze and cornice, support a lofty cupola, richly ornamented with trophies. The apartments contain numerous pictures. Tisbury (afterwards visited) is known for its quarries of building stone, and for its manor-house, of the fourteenth century, called the Grange, or Place Farm.

In the evening there was a *conversazione* at the Deanery, when Mr. Black gave some further information respecting the manuscripts in the Cathedral Library, and Mr. Pettigrew read a paper, by Mr. H. Syer Cuming, on "Memorials of Charles II. connected with Wiltshire."

Stonehenge, Amesbury, Lake House, and Durnford Church, pleasantly and profitably occupied Friday. At the first Dr. Thurnham, who is well acquainted with ancient British temples, acted as guide to the party. He expressed the opinion that Stonehenge belongs to a later period than Avebury, as metallic tools must have been used in shaping the stones, and placed its date in the first century before Christ. Among the archæologists some difference of opinion existed as to the object for which the stones were erected, and each of the theories which have been broached in modern times had its advocate; but those who held, with Stukeley and Hoare, that Stonehenge may be regarded as the remains of a Druidical temple were the more numerous. Such was the opinion of Dr. Thurnham himself, although he dissents from the notions commonly entertained respecting the uses of different parts of the building. For example, he inclines to the belief that what is popularly known as the "altar stone" is the stone of astronomical observation, or the spot from which the Druids watched the motions of the sun; and that the flat stone lying midway between the outside circle and what is called the "gnomon-stone," was more probably used as the stone of sacrifice.

At Amesbury Sir Edmund Antrobus entertained the party, which was very large, magnificently; and at night, on their return to Salisbury, there was a *conversazione* given by the mayor, where, amongst other proceedings,

Mr. Gilbert J. French read a paper

On the Origin of Interlaced Ornamentation.

Mr. French observed that the style of interlaced ornament to which he referred was found in an infinite variety of devices on the earliest sculpture, whether of stone or metal, and in the oldest manuscripts and illuminations of Britain and Ireland. It retained its peculiar distinctive character throughout the Roman occupation of Britain, slightly modified by, and often mixed with, classical ornaments. These, however, in a great measure, disappeared during the Saxon period, a circumstance which induces the belief that, whatever its origin and purpose, interlaced ornamentation was equally familiar to the Saxon invaders and to the British aborigines. It entered largely into Norman architecture; but from the time of the Conquest it gradually became less used, though the traces of it are to be met with at nearly every period in the history of British art. Thus it was revived with the introduction of printing, when many beautiful capital letters, copied from ancient manuscripts, were reproduced as woodcuts. It reappeared in the strapwork peculiar to the architecture and ornamentation of the Elizabethan and Jacobean eras. It is found in the bone-lace patterns of this country and of Northern Europe in the sixteenth and seventeenth centuries, and was retained in almost its original purity for the decoration of the dirks, targets, brooches, and powder-horns of the Scottish Highlanders within the last hundred years. The idea of this interlaced work was ascribed to the basket-making and wicker-work of the aborigines, which was the first natural step in the path of civilization. Mr. French concluded his paper as follows:—I have made careful copies of very numerous examples of ancient interlaced ornaments, and placed them in the hands of various artisans, particularly basket-makers, straw-plaiters, wire-workers, and plaiters of ornamental hair. They all inform me that, with a few exceptions, the devices may be worked out in their respective materials, and severally thanked me for putting new patterns before them, which they said would be useful in their business. Some of these drawings I gave to my own workpeople, who reproduced the devices very effectively in braid-work and embroidery. They tell me they could, with time and patience, copy many of the most elaborate devices. I must guard myself, however, against being supposed to assert that *all* the interlaced devices found on the old crosses may be reproduced in modern plait-work: such is not the case. Many of them may claim some other and very different origin, and there are others which the sculptor has doubtless modified and altered. The first Corinthian capital is said to have been modelled from a flower-pot covered with a tile between which the leaves of an acanthus had forced themselves, an arrangement which skilful architects have varied a hundred different ways, though retaining still the expression of the original idea. In the same spirit the ancient Briton treated the panels of basket-work, when he reproduced them on his crosses of stone.

Afterwards Mr. Horman Fisher read a paper on "The Proceedings in the Star Chamber against the Recorder of Salisbury in 1632;" and Mr. Black described the documents connected with Trinity Hospital.

On Saturday a meeting was held, in the morning, to pass well-deserved votes of thanks to all the authorities, whereat Mr. Pettigrew, Mr. Black, Mr. N. Gould, the Rev. Sub-Dean Eyre, Mr. Bergne, the Rev. E. Kell, Mr. Geo. Wright, and others, took part. After the meeting, the members proceeded to St. Nicholas' Hospital, where Mr. Black's skill in reading ancient documents was once more called into requisition, and then they went on to Britford, with its ancient church, and to Clarendon, famous in history, where a most successful and agreeable meeting was gracefully ended with an elegant entertainment given by Lady Bathurst, who had energetically worked with the party during the whole week.*

SALISBURY CATHEDRAL.

We mentioned in our last, when reporting the early proceedings of the British Archæological Association in Salisbury, that Mr. C. E. Davis delivered a discourse on the cathedral. We proceed to give those portions of it which involve new views:—

"The thirty-eight years during which this cathedral was erected mark a period of our history peculiarly interesting to the architect, for from this resting-place in the progress of styles branched out, as from a tree, those that developed themselves into the Decorated and Perpendicular, as the wall sprang from this Early English style, which may with justice be called the youth or 'Spring Season of Architecture.'

The time occupied in building Salisbury Cathedral was singularly short: in fact, with all our modern appliances, we could not materially reduce it. Great efforts must have been made in its

* It is not an unusual saying among those "lads," when they see a horse the worse for wear, and his owner over partial to him, "Ah, he's off his corn;" "He can't work for nothing and find himself," and "You can't have the like."

† The son of a mason was always a privileged man among them.

* It may be useful to note that a full report of the proceedings will be found in the *Salisbury Journal* of the 7th inst.

erection, and I cannot but think somewhat indiscreetly, for, with greater care, the settlement that unfortunately throws this most beautiful of all spires out of the perpendicular would not have taken place.

Upon examining the mouldings in the interior, a careful student would at once discover that the capitals have never been adjusted to their columns sufficiently carefully to carry out the design in its integrity; and I cannot but help thinking that the exterior as we now see it, beautiful—inexpressibly beautiful—as it is, is not so glorious as originally designed; for much, I feel, has been marred and curtailed; indeed, I am sure the plan, even for the sake of speed, has been materially reduced.

The plan at present consists chiefly of a double cross, or, a nave, choir, presbytery, and two transepts.

The nave is of ten bays, the western transepts four, at the junction with which is the spire, the choir of three, the eastern transepts three, and the presbytery, if I may call it so, of three. Now I cannot help thinking, and my views are strongly borne out on examination of the interior, that although never otherwise built, it was orginally intended to have made the presbytery of five bays instead of three,—in fact, of the same length as the aisles, or possibly to have built the eastern end as an apse.

The aisle, although occupying eastward nearly the length, I imagine, the presbytery might possibly have done, is not in construction like the three more western bays, but its buttresses and piers adapt themselves to the vaulting of the Lady Chapel on either side. This vaulting from its form does not require so great an amount of counterpoise as is distributed on the other buttresses: they are therefore slightly less in plan: but that buttress marking the termination of the presbytery, should, from the thrust required upon the eastern wall, be much larger even than those of the western bays, which it *scarcely* exceeds in plan. This surely would not have been the case had the matter been carefully considered, as most certainly was the general design.

The consequence of this thrust not being satisfactorily arranged was a settlement of the eastern end, which appears to have alarmed those to whom the care of the cathedral was committed, at a date subsequent to the building of the spire, probably during the bishopric of Metford, whose monument is in the south aisle of the choir, or perhaps even twenty years earlier. At this time they removed the coping and cross to the gable, together with the angular pinnacles, replacing the whole in harmony with the older portion, but employing a late Decorated style common to the age. The only marked difference, perhaps, perceptible is the increased ornamentation and the height of the pinnacles, so built to throw the thrust of the three eastern arches in a more perpendicular direction. In addition to this reparation, these pinnacles, or rather the turrets on which they stand, were propped by flying buttresses spanning the side aisles, but springing from the buttress of the aisle I before spoke of.

It is difficult for me to suggest, supposing my idea of the original design to have been carried out, what would probably have been the form of the Lady Chapel, which may be built precisely as first intended, although certainly now more westward, at any rate, whatever may have been proposed to have been done. I am not competent to conceive a more beautiful construction of lines than the group of gables with the lancet windows running so high into the roof, varied only by the width of the wall space. The three eastern gables originally formed the termination of three roofs which butted against the main east gable, through which there were two arches communicating with the arcade on a line with the triforium, giving thus in the interior, looking east, a distant prospect of the triplet windows in the gables, or at all events an effect of light which would be most brilliant.

It is much to be regretted that the spectator is unable to obtain a view of the east end, except at a point almost too close to embrace the whole of the elevation at one glance, as the beauty of the pyramidical form is here almost successfully achieved in the lines of the composition without even the addition of the spire.

It is in this elevation that the refinement of the Early English style is carried out to its culminating point, for though we have all the simplicity of the great western façade, we have none of its crudeness, and have in every particular no moulding without a purpose, and no enrichment without a cause. The simple lower windows, which in some parts of the cathedral are perhaps gauntly large from a want of the later tracery, are here so beautifully proportioned and so admirably disposed, that the critical eye seeks in vain for a suggestion to improve this most exquisite façade, that most certainly is without an equal in the country, and even feels it a matter of doubt whether the again filling the six tabernacles in the gables with the displaced statues would materially assist this carefully-designed masterpiece.

* * * * *

Here I would first beg to draw your attention to the spire, a portion of the fabric that has been the source of constant care, and I may say trial, from almost its very foundation, and which has engrossed the attention of the learned in architecture from the Middle Ages down to the present day, and is alike the admiration of the antiquary, and the pride of all Englishmen; for let me say that in visiting the finest buildings in Europe, you must go far indeed before you see so great a masterpiece of skill as that now before you. It is, in the present day, the fashion to admire the cathedrals of the Continent, and there is much to admire in them; but nowhere, and I say nowhere with great confidence, will you find anything to compare with this, either in form or purity of detail.

The spire, although most necessary to the *coup-d'œil* of the cathedral, is not in any way the original design; but I cannot but feel persuaded that a spire must have been contemplated, at the same time that it is very possible its erection other than in timber was not proposed.

The spire and tower, within a short distance of the ridge of the roof, is said to have been built by Bishop Wyvill, between the years 1329 and 1375, and as it is in the very best period of the Decorated style, when the roundings, and bold recessing of the mouldings had not disappeared, or were in part supplied by the sharp and harsh lines of shadows, showing the transition of the later style, I should say that the erection may very probably have taken place even thirty years earlier than the first-named date.

The octagonal portion is varied by a series of ornaments in bands, and the angles are enriched with the ball-flower ornament, that gives a slightly broken outline by its beading to the sky. This ornament (a peculiar type of the style) is carved throughout all the ornamentation of the tower, and adds much to the richness of the general effect. I need scarcely point out to you the very graceful way in which the junction of the octagon with the square is managed: so beautifully, indeed, is it arranged, that I am sure the casual observer of this building can scarcely fail to understand that the clusterings of the angular pinnacles and buttresses, so exquisitely beautiful in themselves, are erected to hide what would otherwise be the most objectionable form.

Between this and the apex of the roof the two stories are covered by clustering pinnacles, windows, buttresses, and tracery, the absolute wall decorations so beautifully designed, that it is difficult at first to ascertain what is constructively necessary, and what mere ornamentation. The lower portion of the tower is of a piece with the earlier part of the cathedral, that is, as far as the crenellated battlement, which was originally free from the beautiful flying buttresses, whose ambition it seems to be considered part and parcel of the spire itself.

These buttresses, I conceive, might be made the subject of a most interesting history, for in them we have not only the history of the progressive and increasing abilities of our forefathers, but also the history of the continual subsidence of the spire, which I am able in part to assert has long since ceased.

I will give you a short epitome of the history I read from the erection of these buttresses, which I will continue in the interior of the cathedral.

Shortly after the building of the spire, the columns that support the four internal arches must have given way: it therefore became necessary to throw a portion of the support, if possible, upon four other additional points. To effect this, four simple flying buttresses were thrown into the internal angles. These, I am inclined to think, were at first for practical purposes almost wholly similar: not having the desired effect, they were shortly (omitting the north-eastern) still further strengthened by the erection of a strut, starting from the flying buttresses, butting against the octagonal turrets, and capped by pinnacles. Still, these did not seem to avail, and after another period, longer than the first, it became necessary to erect the other flying buttresses, which spring in a direct line from the lower buttresses against the side walls of the nave, of choir, and transepts. In the south side especially the buttresses were erected of enormous strength, giving an exceeding beauty to the building from the palace gardens. When these last buttresses were erected, I cannot help fancying the spire took a direction in its settlement towards the south, although in the first case, I should gather from the precautions taken, the piers had generally given way; but these buttresses, having been so completely built to the eastern aisle of the south transept, it offering greater capabilities than that afforded on the opposite side, where there was no aisle; the settlement, therefore, instead of being entirely south, was thrown slightly to the west, when it became still further necessary to strengthen the south-western corner, where a most elegant and aspiring flying buttress was built, that unites most beautifully with the tower, and preparations were made also in the angle by strengthening the turrets, and building abutments to those flying buttresses from the upper parapet of nave and transept, but these were never carried into execution. I am therefore of opinion that at this time the buttresses I will describe to you in the interior, and the stopping up of windows, were completed, and that this, with the last angular buttress, was found to have entirely stopped the settlement, and therefore the erection of these contemplated flying buttresses was thought unnecessary, as their building might probably overweight an already much-loaded corner. This work, I am led to fancy from the style and the exceeding cleverness of the design, was executed by Bishop Beauchamp, between the years 1450 and 1481, as he was a skilful architect and master of the works at St. George's Chapel, at Windsor; since which time I do not think there can have been any material settlement, as I will presently more fully explain in the interior.

* * * * * *

The interior, although in itself containing the framework of the beautiful, still could never have been so grand as the exterior; but if you can imagine it with the walls and piers exhibiting strong contrasts of colour in the dark and polished Purbeck, and the lighter freestone, the arches picked out with colours, the groining elaborately decorated, and the whole lighted by brilliantly painted windows, with a preponderance of dark blue and ruby, together with a flood of white light shining through the lantern in the centre, I think we may be allowed a doubt whether Tintern or even York could have been compared with it.

* * * * * *

East of the western transept commences the ancient choir, which I suppose to have occupied the three next bays, with the bay at the intersection of the eastern transept, the three bays farther east being apparently occupied by the Presbytery.

All these arches are as in the transept, but the piers have eight detached columns round the central shafts that vary in form. The seats and elbows to the stalls are generally those that must have been first put into the cathedral. The poppy heads, if I may so call the *fleur-de-lis* termination to the benchends, are of the date of Henry VII. or VIII. an evidence of the newly introduced Italian form of ornament, but the canopies to the stalls are the sad work of Wyatt; but, bad as they are, it is but due to his memory to state that they exhibit much more knowledge of Gothic than could have been expected from the generally limited learning displayed by the architects of a period when art and taste seem to have been swallowed up by the angry passions that overspread Europe.

I could wish that I possessed sufficient eloquence and power of persuasion to induce the dean and chapter to remove this screen of woodwork that so sadly destroys the beauty of the cathedral, and if, with its removal, the organ could be placed in a transept, and the gallery removed, the groundwork of a choir would be disclosed which, unadorned, would be much better than at present; but if again partially enclosed by work similar to the screen now in the north-eastern transept, this choir would be fitted to its cathedral, which cannot certainly be said of it at present. East of the transept was, I believe, the high altar: the mark of a raised step certainly exists, and this portion is particularly marked as a part more especially holy from the representation of our Lord in a vesica piscis in the groin immediately above.

I imagine that had the east end been finished more eastward the high altar would have been one bay more east, and on a line with the chapels of the eastern transept, in each of which there are two chapels.

We now arrive at the eastern end of the church, and you will here see what I described to you on the exterior, namely, the arrangement of the arches from the most eastern columns: this, although arranged with consummate skill, is, from

the nature inseparable from its construction, certainly most awkward.

The three arches, too, are, most unusually, not enriched, as to the aisles, although, from their filling the place of honour, we might easily expect that they would be still more adorned. This and the peculiar construction on the angle piers which I before spoke of, leads me very much to believe that this termination was not first intended, but that it was proposed to build as I mentioned on the exterior.

The Lady Chapel we now visit, and I will here particularly draw your attention to the extreme beauty of the shafts and the elegance of the groining, which, to my mind, is not out-done by that even of the chapter-house. Beautiful although it is, it seems to want something to give it dignity and repose, for we hardly estimate its design so much when we consider that the object of its erection was to embue the beholder with the strictest reverence. This building (I may be considered, I fear, heretical for saying so) would be far preferable as a palatial hall or chapter-house, rather than a chapel dedicated to God's service.

Here let me pause, and before examining the peculiarities of the construction of the internal abutments of the tower, call your attention to the sad want of taste exhibited in throwing open this latter portion of the cathedral: it gives nothing of dignity by the change, and an altar screen, backed by the distant chapel, would be far preferable to the open and comfortless appearance that the original architects never could have contemplated, and to which the whole arrangements of this building are in direct opposition.

To continue the history of the propping of the tower.

In the best Decorated period, about the time of the strutting the flying buttresses of the spire, or perhaps when the buttresses to the clerestory were erected across the eastern transept, were built these peculiar but beautiful arches, acting as braces in precisely a similar way to those of the same form at Wells, but which want the beauty that these exhibit.

They are contrived in a most scientific manner, by forming, in the height of the original arch of the transept, an arch, the apex of which is on a level with the floor of the triforium, and an inverted arch upon this again, the curve of whose lines must resist the thrust of the tower in a great degree. The curve of this arch appears to me to partake somewhat of the Catenarian curve, the properties of which, I believe, were not discovered until the sixteenth century.

From the mouldings of the inverted arch being pointed at the junction with the lower arch, you will not at first see that the point is rounded in execution within the lines of the mouldings, but, if you carefully examine it, you will find this is the case.

I will now, if you please, take you beneath the tower, that you may observe the four main arches that support it, enriched with pateras. You will find that these pateras do not exist close to the capitals, but at that point a different moulding occurs. I gather from this, that only a portion of the first-built arches remains, that is to say, the upper of the three recesses, the lower ones being removed and enriched ones substituted to correspond more with the richer work of the newer tower and spire. These arches support an arcade, not now seen from the nave, that was formerly a series of detached Purbeck columns round the whole of the interior of the tower, but these have since been incorporated with the wall-work by the addition of extra masonry. Above this would have been the roof, supported on knee-pieces and corbels, but as there is no mark left of their existence, I think it doubtful whether the work at this point was permanently completed, although I have little doubt that this story was to have been open to the church. I, therefore, fancy a spire above was always contemplated: the roof was only erected in a temporary manner until the work should be re-commenced, which was not done, as we have seen before, until the existence of another style, which completed what a preceding generation commenced.

I described to you the various settlements in the tower on the exterior, and their lengthened continuance, but as a last resource it was determined to block up windows and again buttress the interior of the clerestory, which is most singularly and cleverly accomplished, in addition to building two four-centred arches across the western transepts. These latter proved highly successful, but their erection rendered it unnecessary to complete the flying buttresses I before pointed out to you at the south-western angle; and so fearless were they of the security of their precautions and the stability of the structure, that in 1480, some time after, they loaded the building with the groining now beneath the tower.

From this I am led to infer that there can be no chance of a further settlement of this far-famed spire, and that if any slight depression has taken place since 1480, it cannot be from the original cause, but simply from the decay of the materials, as in our labours, however lasting, and however worthy the assistance and the admiration of age after age, there is no disobeying the Divine precept, that everything is but dust.

PROGRESS OF BATH.

ARCHÆOLOGICAL INSTITUTE.

At the recent congress Mr. Russell, of the Literary Institute, read a long paper on "The Growth of Bath with reference to its Buildings and its Population." We take from it the following particulars: —

Mr. Wood, who may justly be considered as the founder of modern Bath, published his "Essay towards a Description of Bath" in 1749, in which he has given a very precise account of the number of the streets and houses at the time he wrote. From this we learn that, at that time, the total number of houses amounted to 1,362, and, if we adopt the average proportion of the number of houses to the amount of population, we shall arrive at a total of about 9,000 as the probable number of the inhabitants of this city a century ago.

Dr. Stukely published his "Itinerarium Curiosum" in 1724: in it he has given a plan of Bath, dated 1723, which is interesting from its being the first which exhibits any extension of the city beyond its walls, the building of Trim-street being all that had been effected towards the enlargement of the city during the first quarter of the eighteenth century. With this plan is also given a sketch of the city from Beechin Cliff, of the same date, which is, I believe, with one exception, the earliest view at present known, and forms a striking contrast to those of the present day.

The grand era of improvement in Bath, was the period when Mr. Wood commenced his labours. Possessed with talents as an architect of no ordinary kind, and actuated by a spirit of energy and enterprise, which neither the magnitude of his conceptions and speculations, nor the difficulties and oppositions he met with, could in any way daunt, he commenced his operations in the year 1727, and such was his perseverance that, before his death in 1754, he had actually built, or entered into engagements for building, over a tract of ground three times the extent of the original city. The se elegant piles of buildings, Queen-square, the North and South Parades, the Circus, and Prior Park, are sufficient evidence of his taste and talents. He was greatly assisted in his efforts by the philanthropic and public-spirited Ralph Allen, who, having purchased the Priors' Park Estate, commenced quarrying the stone; and, being desirous of proving its superior qualities for building purposes, engaged Wood to enlarge and new-front his house in the alley leading to the Abbey Green, the Duke of Chandos having previously engaged him for the erection of a court of houses near the Cross Bath (now Chapel-court and Chandos-buildings), consisting of six of the first-rate city lodging-houses. In 1727, Wood, meeting with some discouragement in his scheme for building over the Berton to north-west of the city, drew up a plan for rebuilding the whole of the old town, which having been submitted to the corporation, he complains that "they thought proper to treat all his schemes as chimerical." The encouragement, however, he subsequently met with in his speculations induced others to follow his example, and Bath now increased in extent and magnificence with astonishing rapidity: the rage for building increased in the same ratio, and, as a natural consequence, many of the builders and architects soon had the distinguished honour of a short notice in the "London Gazette."

In the year 1739 Mr. Wood commenced his operations in the Abbey Orchard, south-east of the old city, and had he been enabled to have carried out his original design, the *tout ensemble* would probably have far exceeded all his other works. As an erroneous idea seems to have prevailed with regard to his design, I may, perhaps, be allowed to read the following description, taken from De Foe's "Tour of Great Britain," which, while it agrees with Wood's own statement, enters somewhat more fully into detail. The account appears to have been taken from the public papers, and is as follows: —

"On the 10th of March, 1739-40, the first stone of a new square was laid in the gardens adjoining the public walks. The principal side of this square is to have the appearance of one house, 520 feet in front, and 260 feet in depth, but is to be divided into 40 houses: each front is to have 63 windows, and each end 31. Two of the other sides are to serve as wings to the principal side: each wing is to contain 24 houses upon a perfect square of 210 feet, and the fronts of these wings are every one to have 25 windows, so that, when the whole building is viewed in front, it will show 113 windows, extend 1,040 feet, and from the distant hills look like one grand palace. The three piles of buildings will be adorned with above 300 columns and pilasters of the Corinthian order. Upon the corner of every pile there will be a tower, and in every front there will be a centre house and a pediment."

Wood died in May, 1754. Gay-street and the Circus were completed by his son, who, on the 13th of May, 1767, laid the first stone of the Royal Crescent, and, two years afterwards, that of the new Assembly Rooms. Bath continued to be the resort of most of the rank, fashion, and beauty of the day, together with their usual concomitants, sharpers and fortune-hunters.

The practice of numbering the houses does not appear to have been adopted in Bath until about 1768 or 1769. Prior to that date the houses in the trading portion of the town were distinguished by signs attached to the shops. Some of these are rather remarkable. Thus, in High-street, the following were exhibited: "The Golden Cup," "The Royal Bed," "The Golden Knife and Fork and Stocking Legs," "The Hat and Beaver," "The Buck and Breeches," and "The Leg of Mutton and Cauliflower." "The Duke's Head," on the Borough Walls, "The Crown and Shuttle," near the Cross Bath, "The Civet Cat and the Rasp," in Wade's Passage, "The Iron Gates," in Walcot-street, and many others. In other parts of the town the houses were usually described either by their position in the street, or their proximity to the residence of some persons of distinction. Thus, a house in the Circus is described as three doors from the Duke of Bedford's; another in Gay-street, two doors from the Carved House. We sometimes find a house described as on the right-hand side of the street, without any intimation which way the inquirer is to stand; or, again, the *eighth* house on the east side of Gay-street, but whether from the top or bottom of the street is left for further inquiry. From the somewhat antiquated character of the figures, I am inclined to think that Paragon-buildings may have been one of the first rows of houses to which numbers were affixed.

Before the conclusion of the third quarter of the eighteenth century the city had extended itself very considerably to the north, south, and west. The ancient ambry of the Monastery, lying between the southern wall of the city and the river was now covered with houses; and extensive buildings had been erected in the King's Mead. Dr. Milsom's garden had given way to an elegant street, which bears his name. The Town Acre, Warborough Mead, and the Vineyards, had lost their verdure, and stately mansions had taken the place of luxuriant orchards and gardens. Walcot Church, which, a few years previous, had been surrounded with a grove of trees, now stood in the midst of a grove of chimneys. The road over Lansdown to Oxford, lately skirted on either side by the blackberry-hedge and green field, now passed, for a considerable distance, between long rows of houses; and Gay-street, the Circus, Brock-street, and the Royal Crescent, occupied the once rural Barton-fields.

The bridge erected by the trustees of Sir Wm. Pulteney was no sooner completed, than a new town quickly sprang up in the parish of Bathwick. Laura-place and Great Pulteney-street (long considered as one of the finest streets in Europe), together with the streets contiguous, soon occupied the ground where late the flocks and herds of the village farm grazed in the open meadow, or sheltered themselves beneath the hawthorn hedge; and so greatly has this parish increased in population, that, when the last census was taken in 1851, the total number of inhabitants was 5,161, and there is no doubt that, at the present time, it greatly exceeds that number.

The large influx of company to Bath, and the rapid extension of the town to the north, led to the erection of the magnificent rooms in which we are now assembled, the first stone of which was laid the 24th of May, 1769. A scheme had been set on foot, in 1764, for erecting a large building at the north-east of Queen-square, to consist of a tavern, a coffee-room, and a complete set of assembly-rooms. This project, however, being considered too extravagant, a new subscription-list was opened in November, 1768, for erecting

assembly-rooms only in a garden on the east side of the Circus, and John Wood, jun. was engaged as the architect. One hundred and forty shares, of 100*l.* each, were quickly taken, the building finished and opened October 1771.

The Pump-room, erected in 1706, having been found too small for the increasing numbers who frequented the city, it was enlarged in 1751, adorned with a new portico in 1786, and an entire new frontage in 1791. But the company still increasing, the old room was found to be of too contracted dimensions, and the present noble saloon was erected in 1796. It was in digging for the foundation of this building that the valuable and interesting remains of the Roman Temple of of Minerva were discovered.

LANDLORD AND TENANT.

SMALL HOUSES IN LONDON.

The high rent of houses in London has long been a subject of general remark, and those who have not inquired into the subject fancy that the owners of this description of property must gain a large profit from it. This, however, is not generally the case; for several charges of one kind and another leave only a moderate percentage; and it may be worth while, for the information of some to mention the manner in which ground in the London district is generally let for building purposes.

As London grows, the fortunate freeholder of a tract of green land in the suburbs receives from some speculative man an offer of a certain annual sum for lease of the land for a term of years. It is then plotted out with streets, squares, &c. and portions are sub-let at an increased price to others, who in their turn speculate and let portions also at a profit: then some of the latter dispose of smaller parts—some not large enough to hold a dozen houses. The law expenses of these operations are considerable, and these are increased when some of the builders are obliged to mortgage as they proceed with their work.

In a square of small houses which has been recently erected in the north of London, and which houses let, including taxes, for 32*l.* 10*s.* a year each, the ground-rent is 10*l.* a year for each house: the taxes amount to about 4*l.* 10*s.* a year. The person who holds a lease of several of these houses pays to a mortgagee 16*l.* a year, and has himself, for the risk of losses and repairs, only 2*l.* 10*s.* a year for each house. In poorer neighbourhoods, this system of sub-letting is carried to a much greater extent, and it is evident that under such circumstances it is difficult to get the most necessary repairs done.

In many instances houses of this description are imperfectly finished. The drains are not properly trapped, and often getting stopped and out of order; and the profit of the actual holder of the property is so small that it is most difficult at times to get alterations made which are actually needed for the preservation of health.

The consequence of the method of sub-letting here referred to is that property to a large extent falls into the hands of persons who have much difficulty to pay the ground-rent; or, in cases where they have undertaken it, the rates and taxes. Hundreds of houses in London which are situated in the manner mentioned are let in tenements, and by that means a larger amount is received from each house. These things are, however, not likely to find a remedy, as what is complained of is the natural result of causes not likely to be obviated. It is desirable to direct attention to a matter arising from this, which is the cause of much trouble, and which requires consideration, and, if possible, change: we refer to the ill consequences which happen to tenants when the leaseholder neglects, or is unable to pay, the ground-rent or taxes. According to the present state of the law, the ground landlord, in case of arrear, can, without notice, put an execution into each house for the sum owing, although the tenants may have handed over the whole amount of rent due from them. In a case lately, the ground-rent was over due to the extent of 15*l.* or 16*l.* The costs doubled this sum forthwith. The landlord, on this occasion, was enabled to settle, otherwise this amount and costs would have been added to by expense of executions, and the whole paid by the sale of the goods of the tenants.

Respectable agents generally deal as leniently as possible with the poorer class of tenants, but there are others who make a harvest of such misfortunes. Suppose a dozen houses are each indebted for ground-rent to the extent of 2*l.*: a man is left in possession, and in a few days an expense of upwards of 1*l.* is incurred in each house; and if the amount is not settled, furniture is taken until all is paid; and in houses which are let in tenements, this may be the means of stripping two or three families of their homes; for it is surprising how little articles are valued at, by the auctioneer, which in the houses of the poor look comfortable, are useful, and most difficult to replace; and it is seldom that they can, when thus unexpectedly called upon, raise the money in time to prevent the officer from proceeding to extremity. They are also in the same danger from arrears of taxes.

A very large number of houses in the metropolis are rented by persons of a limited income, who depend in a great measure for the means of paying the chief part of the rent by letting off apartments unfurnished. In these instances the lodgers are exposed to still further risk; for, if the rent is not paid, it often happens that the goods of the lodger are taken away.

It is a common practice with respectable landlords or agents who are obliged to distrain for rent in houses which are circumstanced in this manner, to allow the under tenants to leave with their effects if they have paid their rent, and are willing to give up possession, and take only the property of the person to whom the house is let. Several cases have, however, come to our knowledge in which the property of persons who have rented parts of houses has either been taken away, or else they have been obliged to raise money and pay the amount, although they had weekly paid their rent to their "landlord."

Considering the immense number of persons in London who are obliged, as houses are at present arranged, to submit to the risks above mentioned, it seems desirable that some protection should be given in the first instance to tenants who are free from arrears. In the case of non-payment of ground-rent, the law should be, that the leaseholder should be responsible to the full extent of his means, and in case of these failing, the property should be made to pay the remainder.

As regards taxes, it is evidently unjust that those who have paid their rents should be held responsible. It is a breach of trust, and obtaining money under a false pretence, for those who have the charge of house property to receive rent and then leave the tenants to the mercy of the bailiff. These rates, &c. must be gathered in; but it might be worth consideration if it would be just and advisable to inflict a fine or some other punishment on those who, having received the rent from lodgers, have not applied it to those purposes which the tenants have a right to expect.

A Sufferer.

THE PROGRESS OF PUBLIC EDUCATION IN THE METROPOLIS.

From the report of the London Diocesan Board on Education, we learn some facts which are encouraging in showing progress. It also gives an idea of the difficulty which exists in founding new schools when necessary, and in improving others; and, when this is done, getting the attendance of a sufficient number of scholars at a price to make the schools self-supporting.

The national schools connected with the church, which have become absolutely necessary by the great increase of the population, depend for support on three sources,—namely, a grant from the Government, voluntary contributions, and the money of the scholars. When we consider that 200 boys and 200 girls are a large average attendance for say fifty weeks in the year at one of the Metropolitan National Schools, and that school-money at 3d. a week will come only to 250*l.* it is evident that a large amount of help must come from other quarters to pay the cost of teachers, the cost of building, and other necessary expenses. In poor neighbourhoods the difficulty of establishing and keeping up their schools is very great and in some places neither the clergy nor parishioners are able to afford much assistance.

The society above referred to, although its means are very limited, endeavours to afford help in cases of need; and we find it reported that 10*l.* are sent to Plaistow Hallsville for fittings; 10*l.* a year to Shoreditch, on condition of the teachers being certificated; 5*l.* to Bethnall-green, towards a certificated mistress; Clerkenwell St. Mark's boys' school, for improved fittings, &c. &c.

Much is being done by the national schools; but it is to be regretted that the attendance of children is very irregular, and that the chief part of the scholars are of the ages of from five to ten. The number who continue regularly at school until fourteen years old is very limited. Considering the imperfect kind of education which is thus obtained, it is to be wished that some means could be devised to establish, in connection with the national schools, a proper system of evening education. There are evidently difficulties, for the day teaching of a large school is hard work to both male and female conductors, and unfits them for the task of a similar kind at night, and it is to be feared that in few instances the evening schools will pay for separate teachers. A pay for surmounting this difficulty is to be proposed.

It is to be regretted that although a large number of teachers of a better class have been introduced, and the school-rooms, &c. improved, the influence on the masses of the untaught has scarcely been so great as might have been expected.

In 1846-7 there were 80,977 receiving instruction in the church schools in Middlesex, or one in every 19½ persons. In the decennial inquiry which has been just terminated, the numbers appear to have increased to 122,695, or 1 in 15.

The following figures show the great neglect of education in those districts which are largely populated by the working classes. In Kensington and Chelsea the inhabitants generally are in a better position than in Bethnall-green and Shoreditch.

At Kensington the population is ...	43,984
Number of children in the National Day Schools	3,253
At Chelsea the population is	57,872
Number of children in the National Day Schools	4,819
At Bethnal-green the population is	90,193
Number of children in the National Day Schools	3,971

In Shoreditch, with a population of 112,455, the number of children in the National Day Schools is only 3,207.

The above figures show that, with a population nearly three times as great as Kensington, the number of National School day scholars at Shoreditch is actually less than at the former place.

REFORMATORIES.

The last Report of the Great Smith-street Reformatory will cause regret to many who earnestly wish for the reformation of, at any rate, a large part of the formidable number of adult criminals who in so many instances have again resorted to crime after passing through our prisons. It is not a pleasant duty to notice failures in any well-intentioned plan for the improvement of any class of our fellow creatures.

The operations of the year ending March 31, 1858, it appears, were as follows:—

Number of inmates on March 31, 1857	79
Number of applications for admission during the year, 182: of these were—too old, 5; too young, 29; ineligible for medical reasons, 9; refused for want of funds, 39; refused for want of room, 5; and there went away of their own accord, after inquiry, 20. These figures show that, out of 182 applications, there were only admitted	71
	150

Of the above number there left during probation, 7, and after probation, at their own request, 8; were dismissed, 16; absconded, 7; sent to hospitals, 3; died, 1; emigrated, 39; enlisted, 8; found other employment, 12: remaining in the Institution, 39.

It thus seems that out of the above number 59 were, by means of this Institution, put in the way of obtaining honest employment.

"Deducting, as before, those now in the Institution and those who have been sent to hospitals, the total of those who have passed through the Institution amount to 231. Out of these, 150 have left without obtaining employment, or have absconded, or been discharged for various reasons,—being 65 per cent.; and 81 have found employment, or emigrated. These results are not so favourable as the Committee had hoped; and it is desirable that the subject should be further investigated, to show the operations of this Institution, and its effect in reforming criminals."

The Institution was re-opened in February, 1856, and the full number of 80 inmates made up. During the next six months, the number of inmates was between 70 and 80. In April, the Institution was indebted upwards of 500*l.* to the treasurer, and it was determined that no more inmates should be admitted during the next six months, and the number in consequence dwindled to 34; and during that period, 39 eligible applications for admission were made. In August, the Committee determined to increase the number of

inmates to 45, and that number was attained in September; but the average number since September has not exceeded 40. The applications of late for admission have been very few. The governor states that sometimes ten days have passed without a single application. The expenses of the staff of the establishment continue nearly the same, being as necessary for 40 as for 80 inmates. The consequence has been, that the cost of each inmate, including emigration, has amounted to 57*l.* a-head,—a charge so large that it requires serious consideration. If the 80 inmates were present, the cost of each would amount to 36*l.* a-year. The Committee, with regret, are obliged to come to the following conclusions:—

"That the number of applications for some time past has been so limited, that even the reduced number of forty-five inmates is not likely to be maintained, and the consequence of the reduction is, that the reduced number costs 57*l.* instead of 36*l.*

2. That 35 per cent. only of the inmates are ultimately reformed, the remaining 65 per cent. declining to continue the efforts for reformation, or by their own conduct showing themselves incapable of it."

If the number admitted continues to decrease, the cost of reforming each criminal will amount to over 100*l.*—a considerable sum, but not so much as the average cost of criminals when convicted, not to take into account the large losses caused by their plunder of the public.

A test of ten days' solitary confinement on admission and a course of good conduct during a residence of twelve months, entitle the inmate to free emigration; and it is felt that these restrictions cannot be changed, except to grant the means of emigration in cases of very good conduct at the expiration of six months' residence.

The expenses of this establishment are considerable, amounting to about 3,000*l.* or 4,000*l.* a year; and it is to be feared that without the assistance of the public the committee, who have so well and under great difficulties striven to test a difficult social problem, and also to produce a national benefit, will be obliged ere long to suspend their proceedings.

We trust that notwithstanding the present unfortunate aspect of the affairs of this institution, a large amount of good has been effected, and that as it is the only one to which adult criminals have the chance of admission, means will be raised to prevent its close. We are however, of opinion, that the great good is to be effected with those of tender years; and, to use the words of a well-known custodian of a city prison, who at the portal of Newgate said, "The good is to be effected before people come here."

ST. MARY'S TOWER, TAUNTON.

The proposition of Mr. E. B. Denison to rebuild the tower of St. Mary's, Taunton, upon a new design, of the transcendental period of the thirteenth century, is one of the most bold and startling suggestions that could possibly have emanated from any one professing himself a lover of antiquity and medievalism. Cart away this rubbish, says Mr. Denison; let us disregard history, associations, and all commonplace and vulgar proprieties, and let us have a spick-and-span new tower, upon fully æsthetical principles. The old tower was the crowning pinnacle of the style it represented. Never mind, the style was of the expiring period of Gothic architecture, then becoming effete. Twenty-four windows all alike. Was ever anything so monotonous? Let us have new windows, all dissimilar, and thus get rid of this defect of the first magnitude; and cure defect of the second magnitude, "not even *one* degree removed from baseness," the panelling and piercing at the top of Taunton Tower. Alas! poor structure! the pride of Somersetshire, the glory of the Perpendicular style. Thou art doomed! The fiat of Mr. Denison is gone forth: thou art sharn of thine honour!

If there be one merit in antiquaries and archæologists, it is the dogged regard they entertain for ancient remains: mistaken as they sometimes are in opposing every, the smallest, attempt at restoration, even by the aldest and most competent hands, this arises from their ignorance, and one respects from its very motive this clinging to things as they are, from the fear of their losing their identity. But here is one of the devoted admirers of Gothic, and he proposes to annihilate at once what has hitherto been considered the culminating example of the Tudor style of tower secular in somersetshire.

But, sir, I rejoice to think that the work is in the care of architects who would rather cut off their right hands than commit such a sacrilege. They know how out of place would be at Taunton a tower of the period named, when the whole county is an illustration of one special style; —its incongruity with the church, its very falsehood, its desuetude of old associations in the minds of the inhabitants, not of the town only, but of the whole county; nay, of all England; —and to make place for what? an ideal standard, possessing no identity; a work of a period, when the leading taste is that of pips and quirks, of capricious exceptional parts.

We have already had, "*usque ad nauseam*," too many repetitions, with slight variations, of the existing works of the thirteenth century forced upon the architect by the self-constituted critics, amateurs, and clergy, who rule the architect, instead of being guided by him. It is for the professional men—and I speak even to those of the highest class—to consider whether that position is very creditable which places them under the "*sic volo, sic jubeo*," of men, who assume to themselves the absolute right to direct their taste, and make them subservient to their will.

Do our leading Gothic architects fight the battle of independence as they ought? or do they subserve as bondsmen to their masters.

M. I. B. A.

THE SEWAGE OF TOWNS.

The following letter represents more than a dozen advocating a return in one shape or other to the cesspool system:—

Sir,—The all-absorbing topic of the day is how to get rid of the sewage of our towns without detriment to our health or that of our neighbours. Another not unimportant question is, how to attain this object and at the same time utilize the refuse matter by retaining it and applying it to agricultural purposes. I think I shall be able to show that both of these desirable ends may be attained. I propose to carry out my suggestion on the principle of interception, which has been so highly commended by scientific men both in and out of Parliament, and for the interception to commence at the starting point. The proposition is to be carried out as follows:—Each owner or occupier of a dwelling, or number of dwellings, to be required to construct in the course of the soil pipe or drain from the water-closet, a *drained* dumb well, or "interceptory reservoir." The reservoir may be made with blue bricks and cement, or it may be a cast-iron tank, or a dilated tube, but in either case it must be quite impervious to air or fluid, except through the soil pipe from the closet, and the drain leading to the sewer. The entrance to the sewer-drain from the "interceptory reservoir," will be by means of a hole bored in the bottom of the reservoir immediately over the drain, and which must be covered over with a colander, or to use a more explanatory term, a perforated chimney fixed firmly over it, and extending, vertically, to the top of the reservoir. This would effectually carry off the *fluid* from the reservoir, while it would prevent any escape of the *solid* from it. It would so prevent, by keeping the reservoir dry, any percolation of the fluid. The "interceptory reservoirs," taking an average, would not require emptying more than once in twenty years, when the contents would be found perfectly deodorised. These reservoirs would not have the slightest ill effect in a sanitary point of view, as, being quite air-tight, there could be no escape of the foul gases, on the contrary, the plan would be of the greatest importance as a sanitary measure. I estimate that upwards of one hundred and fifty thousand tons of solid night-soil are annually wasted by being thrown into the Thames, to say nothing of the intolerable stench and nuisance as it passes along the *sewers* and the *river*. The plan would purify the Thames *and the sewers* without waiting as proposed by the Board of Works, five years for its accomplishment, during which time an incalculable amount of injury would be done to the health of the inhabitants of London: moreover, any scheme that proposes to intercept the sewage beyond the sewers would be attended with such innumerable difficulties in the shape of blowing up of works, nuisance to the neighbourhood, and consequent injunctions, that it appears too doubtful to attempt it.

Edwin Chesshire, F.R.C.S.

We have inserted this in order that both sides may be heard, and that we may reiterate our opinion that no scheme that contemplates the retention of refuse and excreta in their ordinary state in and about human dwellings should be listened to. Away with it;—to the best place and in the most efficient and profitable manner if you can: but, at any rate, away with it. Better even have the Thames in its present filthy and evil-working state than return to the use of cesspools, however well constructed, however air-tight. We are glad to find this opinion, which we have often expressed, is being echoed in various quarters. Dr. Gibbon, the medical officer of health, has presented a report to the Board of Works for the Holborn district, in which, after referring to the proposition of one of the members, that the abolition of cesspools should be arrested until the plans for intercepting the sewage from the Thames are completed, he says:—

"There can be no doubt that the evils arising from the Thames must and must be remedied. On the other hand we can have no misgiving as to the good effects of thorough drainage, which is the entire removal of all animal excreta and vegetable refuse. During the past two years a vast amount of house drainage has been constructed, and the effect on the public health is manifest. The Registrar General's returns show that an immense amount of disease and death has been prevented. House drainage is the first principle of sanitary science. It will surely not do to stop improvements which have been attended with such good results. If you desire to view the two evils I have alluded to actually at work, I would ask you to look at Paris with its unpolluted river as clear as crystal, and at its reeking cesspools, the contents of which are applied to fertilize the lands around the city. In London we have a converse state of things. What is the effect of these two systems on the public health? Why the per-centage of deaths in London is one-third less than it is in Paris."

From time to time the patient researches of the chemists discover means which aid materially the progress of sanitary science, and keep up a hope that before long some material will be found which will neutralize the offensive and dangerous matters which abound in all populations, and, at the same time, render them useful in raising the food required for the increasing numbers of the people. Lord Palmerston remarked that a nuisance was "only matter in a wrong place," and it will be a national advantage if the time should come when we can with safety and sufficient cheapness convey the matter to the right place. A step has been made by M. Falcony, chemist, who has prepared a powder composed of various chemical constituents, of which the sulphate of zinc is the base, that, applied to human or other bodies, has the effect of preventing decomposition for a considerable period, and even of neutralizing the effect of decomposition after it has commenced. The plan adopted by M. Falcony is to mix the powder in sawdust, and place it under and around the corpse, leaving the face bare, and by this means a dead body can be kept without change for several weeks.

Our readers know the manner in which the dead bodies of the poor are kept, mostly for a week, in the tenements of the living: the effects are often most serious. This means of disinfection might be usefully employed in such cases, if sufficiently cheap: although the keeping of the dead any longer than necessary in the presence of the living is not to be advocated under any circumstances.*

THE BIRMINGHAM ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETIES.

KNOT-WORK.

The joint meeting of the Birmingham Architectural Society, and the Midland Counties Archæological Association was opened on Monday in last week, at the Queen's College, Paradise-street, Birmingham, in the chief rooms of which an exhibition, illustrative of the objects and pursuits of the two societies, had been hastily got up.

A *conversazione* was held in these Rooms, followed by the reading and delivery of addresses on subjects bearing on the objects of the two societies. The chair was taken by Lord Lyttelton.

The President having spoken, The Rev. J. G. Cumming read a paper "On Development of Knot-work." He observed that knot-work is a term given to a species of ornament of great variety and beauty, which is met with in MSS. and articles of attire, and on monuments and architecture of the middle ages. But it is on monumental crosses—British, Anglo-Saxon, Irish, Scotch, Manx, and Norse—of the earliest date, that this kind of decoration most largely prevails. There is probably no species of decoration which admits of greater variety, and hardly any which adapts itself so readily to any kind of work. It was, however, Mr. Cumming remarked, to the method of development from the more simple to the most complicated forms that he was anxious to direct attention. He only professed to claim the allowance of the probability that such a development may have taken place, without putting himself in antagonism to those who were disposed to believe that artists of different ages and countries worked altogether independently of each other, and that the higher forms of ornamentation were the immediate productions of each one's own genius. This method of proceeding would free him from the suspicion of attempting to settle the dispute as to whether Britons, Anglo-Saxons, Northmen, Irish, or Scotch should lay claim to priority in the adoption of this kind of decoration. He held that each of these nations, starting from the simplest form common to them, might develop it according to the character of the national tastes, so that even if it could be determined that one of these races had adopted such ornamentation at an earlier period than the other, it would not follow necessarily that those who more recently adopted it

* One correspondent on the subject of drainage suggests that, as the most important doubts connected with the metropolitan drainage are as to the practicability of deodorizing the sewage before entering the river, and whether the performance of such work will not become intolerable to the neighbourhood, the Hoff Dutch should be interrogated, and that in New Farringdon-street such works should first be attempted. We cannot advocate such an experiment.

were mere copyists of the earlier work. A simple straight cord or a ribbon would present itself at once to any one as a border or edge to any device or inscription upon which he might be engaged. Whilst both these might be employed in stone-work, the latter would most readily be adopted in the illumination of MSS. The rope or cord was the most familiar object amongst a seafaring people, as all nations were amongst whom the knot-work prevailed. Such a style of ornamentation is seen in many crosses in the Isle of Man. The straight cord would next become waved; and then, by causing the cord or ribbon to return at regular intervals upon itself, the Tau pattern was obtained, which was copiously used on crosses, and in the ornamentation of MSS. In the same manner the ornament known as the fret would be originated. Again a spiral appearance was presented, and the C pattern produced, by a slight involution of the simple cord. The next stage was to cause the cord to lap over on itself, forming the simplest example of interlacement, or the well-known guilloche pattern, very largely used in architecture. The guilloche may be considered as marking the more distinct separation of the two strands of which the simple rope was formed. When once this interlacement or knot-work was effected, either by the overlap or splitting of a ribbon or cord, an endless variety of devices was originated by the further splitting up of the end of the cord or ribbon, or the application of a number of cords or ribbons intertwining; and we thus arrived at the highest development of the simple cord knot-work which is found on any monument or work of art, British, Anglo-Saxon, Irish, Scotch, or Norse. On Irish monuments this knot-work generally runs into the form of panels. On the genuine Manx specimens, however, of the earliest type, the original idea of lengthened and continuous chains is more sedulously continued. Where there are compartments, they are rather long than broad or square. This had led to a further development, which he (Mr. C.) had hardly noticed on any but Manx monuments, and which he termed ring-work. The ring once adopted, wide scope was afforded for ingenuity, and it passed into various shapes—among others, chain-work. The intersection of the strands of the rope originated on the Manx crosses the notion of lozenge-shaped pellets, ultimately assuming the form of round pellets on the surface of the cord. A pelleted cord, intertwined with a simple one, produces a very fine effect, and distinctly indicates the existence of two cords in the same interlacement. To a single row of pellets running down the centre of the cords others were subsequently added. By fashioning one end of the pelleted ribbon into a head, and sharpening off the other into a tail, the serpent or scaly fish was produced, presenting so remarkable a feature on some of the Manx and Norse monuments. The Zoomorphic pattern being thus assumed, the interlacing of monstrous lengthened figures of dogs, birds, and even men might follow. He (Mr. C.) did not say that this was the course of development, but he thought it at least probable and worthy of consideration. The paper was illustrated by a profusion of illustrations ranged along the walls, and also by plaster casts of Kirkbraddon Cross.

Mr. George Dawson next addressed the assembly on the relation which a minute study of archæology bears to history, literature, and the use of books.

The concluding paper of the evening was read by the Rev. C. Boutell, on the Gothic revival.

An excursion took place on Tuesday to Castle Bromwich Hall, Coleshill Church, and Maxtoke Castle and Priory, about 120 members and friends of the association being present. At the Priory a paper, prepared by Mr. Alfred Davidson, was read by Mr. G. Jabet, on that building.

FOREIGN RAILWAYS, AND OTHER WORKS.

The traffic on the "Chemin-de-fer du Nord" has so far exceeded its bounds that the stations of Paris, La Chapelle, and St. Denis are to be enlarged at once. The permanent-way between the metropolis and St. Denis having been trebled, the company are commencing to enlarge all their bridges on that portion. A "short-cut" line from La Briche to St. Denis is finished, and to be inaugurated on the 15th inst. It passes by Pierrefitte, Gonesse, and Chantilly.

The works on the Nantes and Châteaulin Railway, with a branch to Napoléonville are carried on with such ardour that they are expected to reach as far as Lorient in 1861, when a thorough communication will be established.

The Belgian Government resumed the working of the Mons and Manage line on the 1st ult.

Part of a railway in Prussia, leading towards the Russian frontier, has been conceded to the Russian consul-general at Königsburg.

The proposed measure of the junction of all the Swiss railways has been approved of at their general meeting, and is to be submitted to the Federal Assembly.

The municipal council of Turin has confirmed the subscription of 2,000 shares to the Savona Railway, and a subsidy of 400,000 francs (16,000*l.*) to the firm of Gombart and Co. on the condition that the concession will be obtained before 1859.

A royal order, dated the 17th July, authorises surveys to be made from Cuenca to Siguenza, in Spain, passing by Molina and Arragon.

The *Revista de Caminos de Hierro*, or Spanish *Railway Review*, announces that its chief manager, M. Arthur de Marcoartu, engineer of the Ponts et Chaussées of Spain, has started to commence the surveys for a line destined to unite the rich coal-mines of the Orbo basin, with the Alar, Santandu, and Madrid railways, not far from the town of Aguilar de Campoo, the mines being only 21 leagues from the latter place.

The following information has just been received as to the state of the works on the Valencia and Almansa Railway:—

The tunnels of Mariaga (1,517 mètres) and Santa Barbara (300 mètres) are terminated, as far as boring is concerned: the arching is progressing. Between Valencia and Jativa the wooden bridges, which were either destroyed lately by fire or floated away by inundations, are being very actively replaced by a more indestructible material, iron. Over the Turia river communication is kept up by a temporary bridge, beside which stand the magnificent piers in cut stone, filled in with red brick, waiting for the superstructure from England, where it was ordered. Unfortunately, the *Bahiana*, with this superstructure on board, was lost, so the company had to order another. They very wisely had insured their precious cargo at Barcelona for 58,000 piastres, so they cannot lose much, except from delay in the completion of the bridge. Between Benfayo and Silla a similar bridge is being constructed at the Tramuser iron-works. The abutments and piers are half built, and the superstructure is being put together to be ready for placing as soon as the masonry is completed. Without interrupting for a moment the traffic of this railway, a great number of small bridges and drains have been constructed lately in places where heavy floods alone pointed out where they were necessary. Thanks to these precautions, the Valencia Railway did not suffer in the least from the heavy rains and extraordinary floods of the first week in July.

On the 6th ult. took place the ceremony of opening the first tunnel on the Northern Spanish Railway. M. Duclere, director of the company, with the engineers and many distinguished personages, assisted at the *fête*, during which the interior was brilliantly illuminated by torches on each side. This tunnel is at Torrelodones, twenty-eight miles from Madrid: its length is only 250 mètres, in a straight line, but through *loose rock*, which compelled the contractor to timber it all through. Last August, before the open cuttings at each end were commenced, shafts were sunk close to the entrances, and headings driven to meet each other. They met well on the 22nd June last, and as it is the nearest tunnel to Madrid of all the lines projected, it was regarded as a great feat of engineering by the people.

The Alexandria and Suez line is to be opened in September. Only five kilomètres remain to be completed.

On the Paris and Mulhouse Railway the heavy viaduct of Chaumont attracted the attention of the Emperor on his late visit to the works. One of the directors of the company presented to his majesty M. Gourdin, the engineer of the works, to whose exertions and personal superintendence the solidity and finish of the details of the work are owing. Having no decorations at hand, the Emperor detached one from the officer next him, and with a flattering speech handed to the engineer the cross of Chevalier of the Legion of Honour. Then borrowing the Prefect's cross, he gave that of "Officer of the Legion" to the captain from whom he had taken that of Chevalier. So both the engineer and the aide-de-camp were promoted simultaneously.

On the 31st ult. a preparatory trial took place on the Paris and Cherbourg Railway, of the imperial train, constructed by the Orleans Railway Company, and sent to the former line at their St. Lazare terminus. It was feared that the train was too lofty to pass under some of the bridges, so that a templet had to be constructed, some days ago, representing the contour of the surface presented by the carriages, and the road was lowered in several places to give headway. There are four carriages, decorated with all Parisian magnificence,—saloon, dining-room, bed-room, toilet-chamber, and terrace. This last, adorned with the richest draperies, is like the quarter-deck of a ship. The wheels are solid, to avoid vibration.

A considerable portion of the Chiaja tunnel, at Naples, has given way, carrying with it part of the Duke de San-Felice's palace. A prolonged crackling warned the inhabitants, who had time to escape.

In Venice the Bishop Canova, brother of the illustrious sculptor, has just died.

PLANS OF TOWNS.

Sir,—I was rather late in reading your disinterment of Wren's plan for re-building London, in a recent number of the *Builder*. But the perusal of that article has revived an old notion I once had on the subject of general plans of towns. As it has a remote connection with the subject you lately handled, I beg to be spared, with your approval, a brief space in your journal, with a view of obtaining the opinions of the experienced and the learned.

Two geometrical forms have been proposed on which to lay out the streets, houses, and public buildings of towns, namely, the square and the circle. I am not aware that any one has pointed out the advantages of the triangle.

The square is the simplest and most ancient form of constructed cities. Nineveh, whose mystery and magnitude give it interest, was a mighty city: its streets were all in right lines and at right angles. But a person desirous of passing from one angle to its diagonal angle, must have proceeded by a number of zigzag lines, so that, by the time he had reached his destination, he must have traversed a distance equal in amount to two sides of the square. If you come up Southampton-row in a great hurry, desirous of reaching Woburn-square, you will find the form of Russell-square a great detriment and hinderance. If that fine square were divided into two triangles, your way is open and straight. Applying the principle on an extensive scale to a whole city, there are obvious advantages in facility of communication consequent on the disposition of the houses in blocks, inclosed by lines of streets forming equilateral triangles. The importance of ready access to the various parts of a town can never be exaggerated, and it increases with the bulk of the town.

If London were straightened into rectangular forms, it seems to me that, for foot passengers if not for carriages, there would be a great loss of convenience. The "short cuts" of London, familiar to most cockney pedestrians, are wonderful to the uninitiated. But then lie amongst "queer" places, such as your sanitary articles sometimes describe, and are full of turns and tortuous windings.

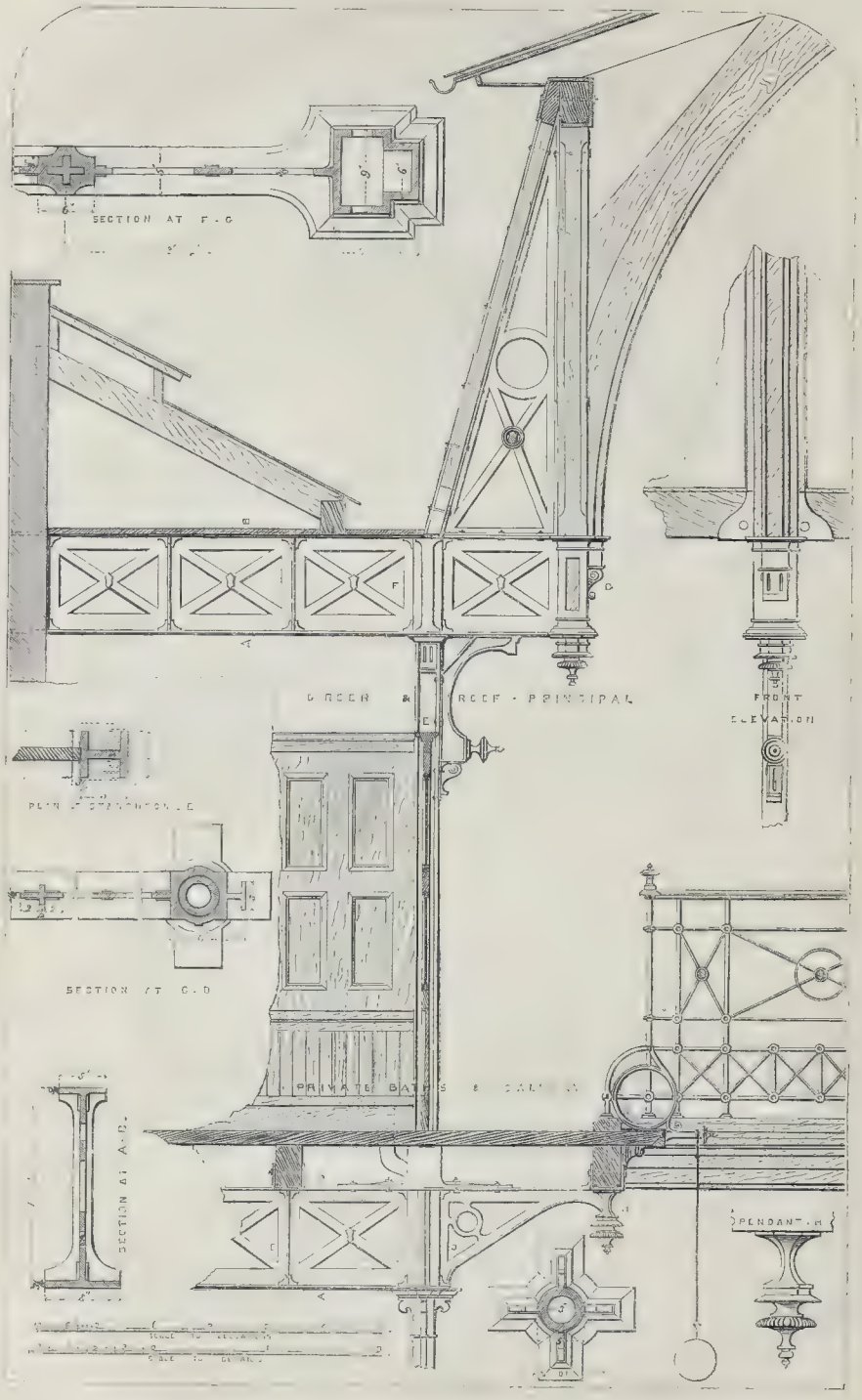
In planning a town, these windings must be avoided, and the problem lies in preserving direct and rapid communications, without violating the rectitude of the street-lines. It is suggested that the solution of that problem lies in the equilateral triangle.

Truly there would be, if the buildings were carried up to the completion of the angle, an awkward corner—a corner, in fact, unavailable for any ordinary purposes. By cutting these angles short, a series of hexagonal piazzas is obtained, of greater or less extent as may be desired, on which churches, libraries, scientific institutions, exchanges, baths, markets, and, indeed, all buildings requiring to stand alone, exposed to view on all sides, might be located; and fountains, statues, and public monuments, might adorn some of them.

Regarding the circle, it is, I think, in a great measure an impracticable figure for the purpose, and certainly can never be used alone. And the cramped views it produces are destructive of all architectural effect. Regent's-quadrant, though large, is one of the most depressing sights in London from this reason.

Comparison, then, it seems to me, lies between the square and the triangle. On facility of transit, enough has been said, and I have not the means of calculating the relative extent left available for building purposes. Probably, however, the number of main roads which require great width might be diminished; and, by a graduated subdivision of the triangle, streets of various widths, for houses of proportionate elevation, might be formed in a symmetrical and artistic manner.

F. B. P.



BATHS AND LAUNDRIES; MAYFIELD, MANCHESTER.

First-class Plunge Bath,—Details of the Roof, and of the Gallery, with Private Baths.

MAYFIELD BATHS AND LAUNDRIES, MANCHESTER.—Mr. Thomas Worthington, Architect.

BATHS AND WASH-HOUSES IN MANCHESTER AND SALFORD.

The baths and wash-houses now in operation in Manchester and Salford, appear to be successful works of the kind. The first establishment with the improved arrangements and modified charges, was opened in Miller-street in 1845. In 1850, a small building was opened at Miles Platting, a poor quarter of the town,—the site being presented, with 2,000*l.* by Sir Benjamin Haywood, bart. The fittings here are of inexpensive character, and were it not for the interest taken by the superintendent, and tact in management, the place could hardly be kept open. In this particular case, wood for the private baths (the bottom of red deal and the sides of pine), has answered as a material. Slate has been found to crack. Zinc is deemed objectionable. The best material is the glazed or enamelled fire-clay; but many baths of that kind are cracked when delivered, though still fit for use.

The Manchester and Salford Baths and Laundries Company, however, have made the important step to the desired provision of these excellent institutions. The company consists of about fifty of the leading men of the town, and they have already in operation two establishments —at Greengate, Salford; and Mayfield, Ardwick, Manchester—and plans are prepared for a third building on ground near to Stretford New-road. Mr. Thomas Worthington was chosen as architect to the first of the establishments, out of three competitors, and has acted for the company. For the Greengate Baths and Wash-houses tenders were accepted amounting to 4,943*l.* for the general works (from Mr. R. Neill), and to 1,820*l.* 8*s.* for the boilers, pipes, and similar ironwork (from Messrs. Melling and Son, of Rainhill); the ultimate cost, perhaps, reaching to 8,000*l.*; and arrangements were made for the supply of water at the rate of 3d. per 1,000 gallons. The establishment was opened in the summer of 1856; and the receipts immediately exceeded the most sanguine expectations. Before the end of the year, 18,500 bathers and 7,700 washers had availed themselves of the establishment.

The Mayfield Baths and Wash-houses, opened in the beginning of last year, were tendered for by Mr. Neill at the sum of 6,407*l.* exclusive of ironwork; but an additional outlay of 940*l.* occurred unexpectedly in the foundations, half of which, as well as the cost of a bridge over the Medlock, was defrayed by the vendors of the land. The actual cost may have been 10,000*l.* inclusive of the engineering work by Messrs. Melling, which cost about 2,500*l.* The ground here, 1,641 square yards, cost 9d. per yard.

It has been expected that the revenue from these two concerns will amount to 1,400*l.* a year; and fulfil the object of their promoters, by demonstrating the capability of such undertakings to return at least 5 per cent. In every point of view, the circumstances of the success of the two establishments have been remarkable.

The washing department in Greengate, which, it had been anticipated, could hardly pay expenses, has turned out to be not only self-supporting, but interest-paying. The scene in the plunge-baths, on the occasion of the opening of Mayfield, must have been as remarkable, almost, as could be witnessed. Lamp-glasses were broken; other damage was done to fittings; and some persons, we may suppose, charged the class for whose benefit the place was intended, with being unable to appreciate and use it. The fact, however, was the reverse. The attendants themselves believe that any damage was the result of the exuberant delight of the people—in number 2,000 most of them lads, and of the novelty to them of means of ablution. Both establishments are now working well: the only difficulty is to provide for the members that come at certain times—as on Saturday nights—and to get the people out. Mr. Wm. Fairbairn is reported as giving the opinion at the first meeting of the shareholders, that the London establishments were not to be compared with the Greengate Baths and Wash-houses then opened.

The Mayfield Baths and Wash-houses certainly deserve particular commendation. The contrivances in all previous places of the kind have been carefully studied; the best details of arrangement have been chosen or designed, and architectural effect is obtained inexpensively. The main front, in red brick and stone, has some novelty in the treatment of the window-heads and consoles, and in the adaptation of the wide double-bracket cornices of Florentine buildings. The chimney-shaft (illustrated in the *Builder*, vol. xv. 1857, p. 215) which serves both for a smoke-flue and a vapour-shaft, also belongs to the Florentine school of art. The plunge-bath, first-class (the second-class is similar), is remarkable for general effect, and for the manner of the combination of the wood and iron-work of its construction. The architect evidently understands the use of iron, and the proper methods of joining castings together; and by allowing each material and member to express its structural office, and adding a few bold but simple decorative features, as pendants, railings, and lamp-brackets, he has succeeded in producing a happy effect. Two tiers of columns carry transverse girders, which are formed in the manner of diagonal bracing, and project, supported by brackets, in one case to carry the gallery, and in the other, the arched timber principals of the roof. The ordinary and ornamental ironwork at Mayfield was executed by Messrs. E. T. Bellhouse and Co. and that at Greengate by Mr. Kitchen. The light at Mayfield is admitted through sloping sides occupying the space above, in the transverse section, corresponding with the overhanging of the bracket and girder beyond the line of columns, and 6 or 7 feet in height up to the slope of the ordinary roof covering. In the Greengate Baths, skylights in the roof are used. Opinions vary as to the relative advantages of the methods. The private baths are on the upper level, reached from the gallery; the dressing boxes for the bathers in the plunge bath, being below. For ventilation there are four small louvres in the roof, and an opening in the wall at each end. These are not found sufficient. The sides of the bath are covered with blue and white tiles, finished with an ornamental border. The bottom is laid with Yorkshire flags, an arrangement which appears to be the best that has been suggested, tiles there being liable to get loose and cut the feet; and glazed bricks, if cheap enough, it is thought would be too white for water which, as at present supplied, is said to deposit a small amount of vegetable matter. The appearance of discoloration in the water which there is now—from whatever cause arising —is to be regretted. Some little difficulty, we believe, is found in the action of the water on the iron-work. The drying apparatus in the washing department, appears to act efficiently. Small articles are dried in fifteen minutes, and half an hour serves for almost anything.

The length of the plunge-bath at Mayfield is 63 feet, and that of the bath at Greengate is 53 feet; and in each case the width is 25 feet.

The architect of these buildings has lately prepared drawings for an establishment about being commenced in the public gardens at Gothenburg.

Facts within our knowledge, but which it is scarcely possible to place before our readers, have impressed us, even more strongly than before, with the feeling of the value and imperative necessity for a very large provision of baths for the use of the class of operatives in such a town as Manchester. The wants of any class in London would seem to be even small in comparison.

THE VENTILATION OF SEWERS.

GLASGOW.

The Clyde at Glasgow has been repeatedly referred to by speakers and writers on the drainage question, as being in much the same state as the Thames at London. This, however, is very far from being the case. Indeed, during this season, scarcely any annoyance has been caused by offensive smells rising from the water. But, then, the northern river is in more favourable circumstances than the other for acting as grand scavenger to a large population. It is a larger stream in proportion to the quantity of sewage it is required to carry away: it is also deeper in proportion to its width. It is, moreover, confined to a narrow channel by artificial embankments, and runs between well-built walls for a distance of about ten miles from the city. Besides, there is little or no tidal scour; and after a heavy fall of rain (rather a common occurrence at Glasgow) the current is downwards at all stages of the tide; and thus, occasionally at least, the channel is thoroughly cleaned out. Notwithstanding these many important advantages, however, it would appear, from recent experiments, that a floating body cast into the river at Glasgow-bridge gets tossed about for eight days before it reaches Bowling, a distance of only twelve miles. And so it happens that at all times, except when flooded, the Clyde, within the limits of Glasgow, is defiled with indiscribable pollution; and sometimes, after a long period of dry weather, its condition becomes exceedingly abominable.

In these circumstances we should naturally expect the lower parts of the city to be unhealthy, or at least more so than those which are more favourably situated for efficient drainage, and beyond the influence of the "pestilential effluvium" from the river, as it is called. But it is a remarkable fact, that the very reverse is the case.

If the two districts inhabited by the more opulent citizens be left out of consideration—as they must be in such an inquiry, for very obvious reasons,—it will be found, by reference to the official report on the sanitary condition of the City, that, of the eight remaining districts, those nearest the river are the most healthy, and those at the greatest distance from it the most unhealthy. For instance, in the Clyde district, extending along the north bank of the river, and exposed far more than any other to exhalations from that source,—embracing, too, localities of the very worst description, inhabited by the most depraved dregs of the population, the rate of mortality is only 2·7 per cent of the population of the district; whereas, in the High Church district, which seems most admirably situated for efficient drainage, the rate is 3·8, or, deducting the deaths at the Infirmary, 3·2.—(Dr. Strang's Report, Feb. 1858.)

Now, at first sight, it seems a most extraordinary circumstance that the Clyde district is not merely as salubrious as the other, but actually more so. People will not believe that the river is innoxious, and that its abominable odours are merely disagreeable, and not injurious; and perhaps people are perfectly right in their scepticism,—I believe they are; but I think such facts as the above lead us irresistibly to this, to my mind satisfactory, explanation of the phenomenon, that however injurious the emanations from the river may actually be, they are altogether harmless compared with the poisonous effluvium which rolls in a concentrated form up the sewers to the higher districts, even pervading their close and dismal courts, and carrying death and disease to their unsuspecting inhabitants.

I am glad to observe that, in recent numbers of the *Builder*, you have brought prominently forward the importance of ventilating sewers,—a subject which, I think, has received far too little attention. I trust you may succeed in convincing others of its paramount necessity, and then we may perhaps indulge more hope that the mechanical difficulties will be overcome. J. H. Jun.

THE ANCIENT CORPORATE GUILDS AND COMPANIES.

In the olden time of England, the guilds of the various trades were the means, not only of advancing the condition of our manufactures, but also of adding to the prosperity and progress of the country. In these guilds or brotherhoods of workmen, merchants, and others, an honest and worthy rivalry was felt, merit in different crafts appreciated, and an opportunity afforded for the employer and the employed meeting together on an equal ground for the purpose of advancing the interests of their business, friendly festivity, or devising means of helping those in need.

As regards the citizens of London, the history of the companies shows to what a great extent they have been instrumental in procuring the large amount of political liberty which we now enjoy and so much value. Besides, in connection with the old guilds, we look back with pleasure to the kindly feeling which seems to have existed; the observances at marriages; christenings; the attendance, and rich palls and other furnishings at deaths; the feasts in honour of the patrons of their crafts; the hospitals, schools, and other means of providing for the sick and poor of their fraternities.

The workmen's guilds in England did not, however, advance with the age, and the system of exclusiveness led to the circumstance that the corporate companies, both in the metropolis and some of the towns, having become rich, did not employ their wealth and energies for the advantage of those populations which had sprung up, and of which the members of the corporations were but a tithe. Corruptions of various kinds crept in, and (particularly in the provinces) many of the freemen exerted themselves to a different purpose than promoting the well-being of either their particular towns or the country at large.

In considering this subject, it must not be forgotten that in our own days splendid charities have been reared and endowed by bodies of tradesmen, for the benefit of those who have been unfortunate, and the Asylum and Schools of the Licensed Victuallers of the metropolis, the Commercial Travellers' Schools, and some other establishments may be referred to as examples of what can be done by united efforts and constant and well-directed exertions. In looking, however, at these

and some other trade combinations for praiseworthy objects, it will be seen that they are chiefly directed to charitable purposes rather than to the improvement of the trades, the intellectual culture of the members, or providing the means of masters and men meeting together at stated intervals in the manner of the old guilds.

Medicine, architecture, and engineering have, under other names, each their guilds. Literature is, however, in this respect unprovided; so are painting and sculpture, for the Royal Academy cannot be said to be formed as the Colleges of Surgeons and Physicians and the Institutes of Civil Engineers and Architecture are, of all the worthy members of those professions.

The clock and watchmmakers of Clerkenwell, finding that by individual exertion they were unable to compete in taste and price with foreign countries, have proposed to found a description of guild of the workers at that old English manufacture; and great advantage would, no doubt, arise from institutions formed by other trades, having for their objects the admission and enrolment as members of all of proper ability in distinct companies, formed of those belonging to each craft;—in the case of carpenters, bricklayers, workers in metals, &c. the teaching of geometry and art, to encourage talent by prizes and honourable notice, to found libraries and schools, and to arrange on wide and comprehensive plans the means of saving, the erection of suitable dwellings, and the making provision for sickness, old age, or distress.

In shadowing out an idea, such as for concentrating the strength of different bodies for useful purposes, it will be said, that considering the wide extent of the Metropolis, Manchester, Liverpool, Birmingham, &c. and the immense number who compose the different trades, to form anything like an effective combination would be difficult, if not impossible.

It should, however, be considered, that we live in wonderful times. Monster companies, with capitals which would have been considered fabulous by our grandfathers, have sprung up: meetings are now held numbering 20,000 in a single building: the facilities of conveyance and gathering together in towns are still rapidly increasing; and the very fact of our large populations shows the necessity of schemes proportionate to the existing and advancing position of our affairs. If other things, which were not long since looked upon with incredulity, have become realities, why should it be impossible to form, even in the metropolis, great guilds, from which wonderful results might arise?

As it is, the power which would arise from the association of those having the same interests and pursuits in the metropolis is wasted or diluted in the general mass of the various callings which give employment to nearly three millions of people. By the proper management of the associated contributions of such large numbers, noble halls might be erected on such a scale, that those of old would seem insignificant in comparison; and who can say but that in the changes of time the guilds of workmen (with another name), as much improved as the locomotive is as contrasted with the "pack-horse," may again arise and work a beneficial effect on the civilized world?

THE ART-UNION OF LONDON PRIZES.

The works of art selected by the prizeholders of 1858, in the Art-Union of London, are now on view in the Suffolk-street Galleries, together with the important series of bronzes, figures in statuary-porcelain, and other materials produced for the Association, and various paintings from which engravings have been made. The works selected by the prizeholders are 110 in number,—viz. 86 in oil, and 24 in water-colours: the latter include some charming specimens by Rowbotham, Callow, S. Rayner, D. Cox, Richardson, Dodgson, Davidson, and W. Goodall. The two principal oil paintings are Mr. Calderon's very clever scene from the French Revolution, "The Gaoler's Daughter" (No. 3), and Mr. Brooks' touching "Early Struggles" (38), for the purchase of which the prizeholder, Mr. J. Johnstone, appears to have added a considerable sum of money. Mr. C. Pettitt's "Derwentwater" (2); "A Quiet Evening," by G. A. Williams (6); "Faith," by G. D. Leslie (14); Dickse's "Kate" (18); S. R. Percy's "Bright Day" (21); J. B. Pyne's "Lyme Cob" (44); "Waiting for Fish," by Underhill (56); T. F. Marshall's "Tibbie Inglis" (65); and G. Stanfield's "At Trarbach, on the Moselle," are amongst the most interesting of the selections. The engraving of the year, after Frith's "Ramsgate Sands," will doubtless command a large subscription.

What could have induced the Society of British Artists, who own these galleries, to apply such a colour to the walls as that which they bear? It operates most injuriously on all pictures hung against it.

PROPOSED MUSEUM OF ANTIQUITIES AT ATHENS.

COMPETITION.

The King of Greece, led by the generous offer of an individual, proposes to erect, in Athens, a museum for the preservation and exhibition of the collections of antiquities existing in that country, and has invited designs from architects of all countries. One year is given for their preparation from the 30th of June last. Each design, including sections and elevations, is to be accompanied by an estimate.

The architect whose design is selected may claim as a matter of right to see it carried into execution if he desire to do so. The instructions, which are simply suggestive, say that an edifice destined to contain the *objets d'art* of antiquity ought to be artistically worthy of its office; but under the actual circumstances of Greece, the beauty of the edifice must be made to result less from the costliness of execution than from the happy disposition of the plan and the harmony of the proportions.

The Museum will be divided by epochs, and subdivided by classes. The main distribution will comprise—

1. The works of the Heroic times, and Archaic epoch.

The periods when the arts flourished.

2. Epoch of Phidias.
3. Epoch of Praxiteles.

Decadence.

4. The Macedonian epoch.
5. The Roman epoch.
6. The Byzantine epoch; and,
7. A division reserved for objects of foreign art which may be in Greece.

Apartments are to be provided for the reception of models and casts, including those of architectural monuments of the various periods. Provision is also to be made for an archæological library. An Englishman ought to do it.

NEW GOVERNMENT OFFICES COMPETITION.

BLOCK PLANS.

It appears by the recent Parliamentary inquiry that according to the judgment of the assessors, Messrs. Angell and Pownall, the following should have been the prize block plans:—

First Prize.—No. 12, "A. C." by Crepinet.

Second Prize.—No. 166, "Paritur pax bello," by Watt.

Third Prize.—No. 24, "Baphea," by Albert P. Howell and Charles B. Arding.

Messrs. Angell and Pownall's lists for the Foreign and War Offices were given in your number for July 17th. A. B.

STONE CHURCH, KENT.

Sir,—It was only yesterday that a friend gave me a copy of Mr Stapleton's letter, which was published in your paper of the 3rd of July, otherwise I should not have allowed so long a time to have elapsed before I answered it. Mr. S. wished for the key of the church, and was "astonished to hear it was at the rectory." Why should he be astonished at this? What more fitting place for the key to be kept in? But let his astonishment cease, for it was not at the rector's, but at my house.

He complains of the "hot sun and the half-mile between my house and the church." The first I cannot remedy, but the next time he honours us with a visit, he may, if he prefers it, apply to the sexton for his key, and he will find he has to walk two miles for it

Having accomplished his half-mile, he returned to the church with the key, but could not get in, "the door being bolted on the east." Now, did he suppose I kept the key, knew that it was bolted on the east, and that he got in, he would have seen that there were no bolts. All, therefore, that he had to do to gain an entrance, was simply to turn the key; but this, it seems, is a process that Mr. S. has yet to learn.

He returned with the key, making, as he says—but I confess I cannot understand—"a three-mile walk" out of three half miles; threatening me, as my servant told me, with all sorts of exposure; blaming every one except the proper person, viz. himself.

In conclusion, he appeals to you, sir, to "rectify these hinderances and inconveniences" which attend a visit to our church, and says that he learnt from the "school children that his was not a solitary case." Now, sir, in self-justification, let me assure you that I do not remember a single instance when persons have been disappointed in this way, and that when I am at liberty, I generally, taking a just pride in our old church, take the trouble to accompany visitors myself, and point out to them, to the best of my knowledge, its justly praised beauties.

W. King, Curate of Stone.

PROVINCIAL NEWS.

Coggeshall.—The following is a list of tenders, given by the *Chelmsford Chronicle*, for a new school at Coggeshall, under Sir Robert Hitcham's charity, the erection of which is commenced; the lowest tender, viz. that by Mr. Brown, of Bocking, being the one accepted by the authorities of Pembroke College—the trustees:—

	Schools.	Walls and Fence.
Carruthers	£1,087 0 0 ..	£157 0 0
Pullen	1,017 0 0 ..	145 10 0
Cawston, Coggeshall	978 0 0 ..	163 0 0
Watson	951 0 0 ..	126 0 0
Rayner and Romacles, Halsted	928 14 4 ..	144 10 2
Gardner, Coggeshall	898 12 0 ..	139 19 8
Turner, Coggeshall	858 15 2 ..	139 19 8
Brown, Bocking	800 0 0 ..	130 0 0

West Ham.—The tender of Mr. Joseph Matter, West Ham, for a portion of the local sewerage works extending over three miles, has been accepted by the local board of health. The cost for the entire completion of that portion of the works, it is estimated, will exceed 3,000*l.*

Brentwood.—On the 26th ult. an influential meeting of the inhabitants of this town was held, to consider a plan for the erection of a town-hall. After discussion, an adjournment took place to obtain other plans. It is expected that the cost will be about 2,000*l.* which it is proposed to raise by shares.

Godalming.—The newly-erected National schools at Farncombe have been inaugurated by the Bishop of Winchester. The length of the school is 51 feet, by 17 feet; and it is built of Bargate stone. There are two schoolrooms, with the usual accessories. The schoolmaster's residence is attached to the building. Mr. James Moon, of Godalming, was the builder of the schools, and Mr. C. Howell, of Guildford, the architect.

Winchester.—Instructed by the trustees of St. Cross Hospital, says the *Hampshire Advertiser*, the contractor, Mr. W. Coles (city surveyor), has commenced the erection of a strong room in the eastern corner of the large apartment in Beaufort's tower, known as Beaufort's room. It will be formed of massive iron plates, and will be rendered fireproof. It is to be 6 feet square, and will be devoted to the custody of the documents of the trustees. The remodelling of one of the sets of apartments used by the brethren is also commenced by Mr. Coles, the expense thereof being about 100*l.* The trustees intend ultimately to alter all the apartments.——The trustees of St John's Hospital have determined to build four more houses on the northern side, of the same design as those already built there by Mr. H. C. Brown, the surveyor to the charity.

Chester.—Glan Aber, the residence of Mr. E. G. Salisbury, M.P. on Hough-green, in this borough, was commenced nine months ago, and is now partly occupied. It is in the Gothic style of the fourteenth century, and is an example of domestic Mediæval architecture, without any church-like appearance. Mr. James Harrison was the architect employed, and Messrs. Royle were the builders, Chester tradesmen and workmen being engaged by the direction of the proprietor in every department.

Leicester.—A marble drinking-fountain has been erected on the up-platform of the Leicester railway station, at the cost of a temperance member of the Midland Directory.

Birmingham.—Mr. John Pigott Smith, late borough surveyor of Birmingham, recently brought an action against the corporation of Birmingham for wrongful dismissal from office, and for libelling his character. A compromise has been effected by which the corporation are to pay Mr. Smith 250*l.*

Stockport.—The public baths building, erected by the council at a cost of 1,200*l.* for the working-classes, has been completed. At present, the accommodation is confined to a swimming-bath (warm), of considerable dimensions, for the use of which (including a towel) one penny is charged; but additional baths are about to be provided.

Preston.—A new bank for the Lancaster Banking Company has of late been in course of erection, adjoining the present offices, on the south side of Fishergate. The designs are by Mr. J. H. Park, of this town.

Sheffield.—Of the plan of the Sheffield Public Hospital and Dispensary, the laying of the foundation-stone of which was noticed here last week, Dr. J. C. Hall, the honorary secretary said, at the ceremony:—"Of the plan selected I will only speak as a physician: as such, I feel that it reflects the greatest possible credit on our architect, Mr. Manning. It has received the approbation of the *Lancet*. It is so contrived as to place at the disposal of your medical officers every

appliance as regards the building, and more especially in cases of accident, that modern science can afford for the treatment of disease, and that, too, at a very moderate outlay, when the advantages which it affords are taken into consideration."

Halifax.—The Halifax Town Council have decided on the erection of a new town-hall, at the cost of about 17,000*l.* The site selected is on the White Swan estate, in the centre of the town. It embraces an area of about 1,670 square yards, and has been offered by Mr. John Crossley, for 5,000*l.*

Edinburgh.—At a recent meeting of the city Council the Lord Provost read a letter from the War Office in reference to the works at present being carried out at the Castle. The following is an extract:—"I am to request that you will be good enough to point out to the gentlemen who signed the memorial, that as the works in question have been actually completed prior to the receipt of instructions for the exhibition to the public of works that have been authorised, it does not appear to be necessary that plans of them should be shown, as the public could of course arrive at a more accurate judgment in the matter by the inspection of the works themselves. I am to state that these works were not executed by Colonel Moody without due authority, and that Secretary Major-General Peel, although he regrets to find that they do not coincide with the views of the memorialists, still has reason to believe that others in Edinburgh are favourable to them. He trusts that, as the works that are contemplated at the Castle progress, hereafter, the gentlemen signing the memorial may see grounds to modify their opinion. I am to add, that no further works will be undertaken without ample opportunity being afforded to the public to inspect the plans prior to the commencement of the works themselves.—
(Signed) HARDINGE."

Glasgow.—An enlargement of the Corn Exchange, in Hope-street, is in progress. The western wall has been pulled down, and the building is in course of extension along Waterloo-street.

CHURCH-BUILDING NEWS.

Peterborough.— The large five-light window, measuring 22 feet by 12, at the east end of St. John's church, Peterborough, has been filled with stained glass by Messrs. Heaton and Butler, of London. The centre light contains a figure of St. John the Baptist under a canopy: on the side, in panels, on grisaille ground, are emblems of the fall and redemption of man. In the outside light are the monograms I.H.S. and A.Ω. in panels, the tracery being filled in with ornamental work, introducing the ivy, vine, oak, &c. and text on scrolls. The expense will be defrayed by voluntary contributions of the parishioners.

Sherborne.—The two new bells about to be erected in the tower of Sherborne church bear the following inscriptions. The treble bell;—

Lord, let the folk below
Resound in living song
Thy praise, as we do now
With iron tongue.

The second bell; —

We hang here to record
That the choir was restored
In the year of our Lord
M.DCCC.LVIII.

Taunton.—The 3rd inst. was a great day at Taunton, the foundation-stone of the tower-restoration of St. Mary's church having been laid, with Masonic ceremonial, by the Grand Master of Somerset, Colonel C. K. Kemeys Tynte. The tower, as our readers know, is to be a *facsimile* of the old (quadrangular) one. The banquet, which, of course, followed, was attended by 300 persons.

Flemingstone (near Cowbridge).—The ancient church of the retired village of Flemingstone has been restored and re-opened. The church, together with the chapelry attached to it on the south side, has undergone considerable restoration and improvement, and is fitted up in a simple manner. The pulpit and seats are of oak. The exterior of the fabric, also, has been restored, and the whole is surmounted with a double bell-turret, with two bells. The *Cardiff Guardian* expresses satisfaction on seeing a monument erected in this church to the memory of "Iolo Morganwg," "Old Iolo, who knew things new and old," the mason, the bard, and the antiquary,—the chair bard of the Cardiff Eisteddfod in 1831. The inscription is in Welsh and English.

Rhyl.—The Congregational chapel erected here was recently opened. The edifice, occupying a commanding site in the town, is in the Lombardic style of architecture, and is cased with purple fire-bricks, with dressings of white fire-brick and Llanasa stone. The outside dimensions are 71 feet by 37 feet. The porches are placed on each side of the front, giving the building a front of 50 feet. There are school and lecture rooms beneath. The tower, with spire, rises about 80 feet from the basement, and is the only one in the town. The chancel arches are Gothic, behind which is the organ gallery, with vestry beneath. The architect was Mr. R. Moffat Smith, of Manchester, and the builder Mr. W. Morris, of Rhyl.

Birkenhead. — The new Baptist chapel, in Grange-lane, Birkenhead, has been opened. The edifice was erected at a cost of about 4,500*l.* The style of architecture is Doric. The chapel is 106 feet in length, including the portico, and 49 feet in breadth. The portico is lofty, and the pediment is supported by four fluted columns. Gas in the interior is supplied by two large sun-burners. The seats are open benches, with accommodation for about 700 persons. Beneath the chapel there is a school-room, which will accommodate about 600 scholars. Mr. W. Cole was the architect.

Liverpool.—Holy Trinity church, Parliament-street, has been opened by license, preparatory to consecration. The district in which it is situated is one of the most wretched in Liverpool. The church is built of brick, in the form of a cross. It is fitted up with benches to accommodate about 600 persons. At the west end are two pulpits, a few yards from each other, but on the same level. Above these are two stained glass windows, one presented by Mr. John Wilson, and the other by Mr. Thomas Lloyd.

Berrington.—The church of All Saints, Berrington, about four miles south of Shrewsbury, has been repaired and altered. The chief improvements consist in removing the whitewash from the roof timbers, which have been further cleansed and varnished, and carved bosses placed at the intersections, the intervening spaces being tinted with colour The space within the communion-rails has been reduced, and the pediment above the centre compartment of the altar-screen taken down, which now shows the whole length of the eastern window. The roof principal, above the entrance of the chancel, which formerly presented a barn-like appearance, has been filled in with tracery of an ornamental design, and has mainly added to the interior improvement. The entire walls of the church have been coloured, and the arches and piers dividing the nave from the side aisles, and also the large eastern arch of the tower, have been cleansed from many accumulations of whitewash, and now present the natural colour of the stone. The area of the tower has been appropriated to a vestry.

Sibthorpe.—The church of this parish, interesting as the birth place of Archbishop Secker, has been re-opened, after having undergone some repair and embellishment. The Luge alabaster tomb in memory of one Edward Burnell, who married the widow of Richard Whalley, the patentee, and which was placed right in front of the curious Easter sepulchre, has now been removed to a position in the chancel further west. The Easter sepulchre has been cleaned and coloured. The founder's tomb underneath it has been restored. A portion of the eastern wall has been stencilled, and scrolls and mottoes introduced. A lofty timber roof and a sacristy have been added, the walls repaired, and copings placed on the gables, the eastern surmounted by a cross. In the nave the square pews have been removed, and plain open benches substituted. A singers' loft at the east end has been taken away, and an arch, opening into the tower, by this means exposed to view. The chief part of these improvements have been carried out at the cost of the Duke of Portland. The work has been executed by Messrs. Cooper, of Newark, and Fisher, of Southwell; and the decorations by Mr. Oaks, of Bingham. On taking down certain buttresses on the north side, with the view of rebuilding them, it was discovered that not only the arches but the pillars and capitals of an arcade were in existence, and in good condition. They are of the later Norman period. It would be desirable, therefore, that the northern aisle should be restored, especially as thus accommodation would be afforded for an increased number of worshippers.

Lincoln.—A new altar-railing has just been completed and placed in Lincoln Cathedral, the joint gift of the Venerable Drs. Stonehouse and Bonney, the archdeacons of Stowe and Lincoln. Dr. Stonehouse having determined upon a pattern, founded principally upon the design of the adjacent monument of the Bishop Remigius, gave directions to Mr. T. H. Worth, of Retford, for carrying it out in brass, which Mr. Worth, after negociating with several founders, ultimately placed in the hands of Messrs. Messenger, and Sons, of Birmingham. The whole length is 39 feet 2 inches, and the total height to the top of the oak rail 2 feet 9½ inches. At one inch from the floor is a basement of quatrefoils, 5½ inches high; then a rim the whole length, 4½ inches wide, bearing, in raised letters, the words comprised in the 1st, 2nd, and 5th verses of the 15th chapter of St. John, "I am the vine, &c."; then a row of clusters of grapes, 3 inches wide, upon which is placed the oak cup of 3½ inches. The brass is highly lacquered in gold colour, and the weight is nearly 7 cwt. A portion of this railing was exhibited to the Queen, in the collection of manufactures shown to her Majesty at Aston Hall.

Scarborough. The new Roman Catholic church at Scarborough has been solemnly dedicated to St. Peter by Cardinal Wiseman. The design is in the Geometric Decorated style. The plan comprises a nave, apsidal chancel, and lateral aisles terminated by chapels. The extreme internal width is 53 feet, and the length 115 feet, the nave being 88 feet by 22 feet 6 inches, and the chancel 27 feet by 22 feet 6 inches. The side chapels are 13 feet by 15 feet or thereabouts. The sacristy is 16 feet by 14 feet, and the outer sacristy 12 feet by 12 feet. The tower, which stands at the north end of the western aisle is 11 feet by 11 feet internally, and is for the present carried up only to the eaves of the nave. The height of the nave is 50 feet to the ridge, and 28 feet to the eaves. Upon entering the church, perhaps the most striking feature of the interior is the grand chancel arch, the piers of which are square, moulded on the angles, and set back to the line of the arcade, so as to afford the best possible sight of the chancel. The arch is supported by a respond pillar terminating in a corbel to be carved hereafter. No carving whatever has yet been done, and the massive blocks of stone left for that purpose give a somewhat ponderous effect to that which, when completed, will doubtless be different. The chancel is lighted at the sides by four windows of two lights each, filled with medallions bearing angels and *grisaille* quarries, the gift of Marmaduke Maxwell, Esq. of Terregles. An arrangement somewhat novel, at least in England, has been made in this church by entirely omitting the window over the altar, usually the most striking feature of a church. This arrangement was made principally because the altar is placed to the south, and too great a flood of light would have been admitted by any window of size proportioned to the structure. The side chapel on the east side is dedicated to the Virgin, being the Ladye Chapel. The window is of stained glass by Messrs. Hardman, of Birmingham, representing the Virgin in the centre light. On the right hand is portrayed an incident in the life of St. Edward, King and Confessor, and on the left is depicted the legend of St. Elizabeth, Queen of Hungary. This chapel, as well as that on the western side and the centre compartment of the chancel, are laid with Maw's tesselated tiles in mosaic patterns. The chapel on the western side has a window of two lights not yet glazed. It is to be dedicated to St. Michael the archangel. The nave is an arcade of five bays, circular columns and arches of two orders, with a clerestory pierced by two-light windows of pattern glass. It is roofed in a simple system of open framing, stained and varnished, and so constructed as to admit of panelled ceiling hereafter. The aisles are lighted by Geometric windows. On the east side is a recess, fitted up as a confessional; and at the end of this aisle will be the baptistry. The principal entrance is through the tower. The arched opening is divided by a stone shaft, in which is engaged a canopy and niche for a figure of the patron saint. The northern end of the nave is lighted by a window of four lights with Geometric tracery, filled with stained glass; the gift of Lord Herries. The centre will be the image of St. Peter, the patron saint of the church. The four remaining lights will be occupied by St. Paulinus; St. William, Archbishop of York; St. Margaret of Scotland; and St. Helen, the mother of Constantine the Great. This window, and those in the chancel, were by Mr. Ward, of London. The church is built of fine sand-stone, from Whitby and the neighbourhood; the ashlar being cleansed, and the walling rock-faced. There is at the east end, in the place of windows, an arcade of stone. The tower, which is to be hereafter built, will be surmounted by a spire. Adjoining the sacristy the group of building will be hereafter completed by the presbytery or residence for the clergy, and its appendages. Much remains to be done to complete this church. The architects are Messrs. Weightman, Hadfield, and Goldie, and the design

has been executed by Mr. Falkingbridge, of Whitby, under the superintendence of Mr. Thomas Maskell, the clerk of the works.

Brinkburn.—The old Priory Church of Brinkburn is being restored. Buried in the rich woods which clothe the precipitous banks of the Coquet, its secluded position easily escapes the observation of the passer-by, and gives colour to the ancient legend which tells how, for a summer's day, a band of marauding Scots sought in vain its whereabouts, till guided in their search by the sound of the priory bell, calling to vespers the unsuspecting brotherhood. Twice burnt down, the old church still retains its original features and proportions; the gables of the nave and transepts, and the south-west angle of the nave, being the only portions of its masonry which have perished. It consists of a choir, north and south transepts, with their usual accompaniment of transeptal chapels, a nave, and north aisle. A stunted tower stands on the intersection of the principal portions of the building. The absence of an aisle on the south side of the nave is a feature which this church has in common with Lanercost and a few other abbey churches. The windows are variously pointed or round-headed openings, and with the exception of the eastern and western lancets, are of extremely plain character. The pier and other arches, which carry great weights, are all pointed. The church, with the exception perhaps of the west front, is considered a good example of the transitional period of our architectural history. For the third time in its history this church is undergoing restoration, and will be again devoted to the purposes of public worship. The dilapidated portions are already rising in their ancient form, and such other portions of the masonry as are decayed are being replaced. The vaulting in the transeptal chapels, which is in an insecure state, is to be taken down and re-set in its present position. The vaulting of the nave aisle, which has entirely fallen in and been destroyed, will not be at present restored. The roofs of the principal portions of the church, which have never been vaulted, will consist of squared timbers, crossed and braced, pitched to the angle of the old weather mouldings on the tower: the underside of each set of timbers will be wrought into a semi-circle. The roof will be covered with dark-red Staffordshire flat tiles. Of the original stained glass there are sufficient remains to enable the artist to effect a restoration. The works at present in progress, embracing the masonry and roofing, are contracted for by Mr. Alexander Thomson, of Sunderland, and are under the direction of Mr. Austin, of Newcastle, Mr. Gibson Kyle being the resident clerk of the works. The expenses of the restoration are defrayed from private sources.

Carlisle.—Mr. Scott, of this city, according to the *Journal*, is engaged in executing a memorial window, intended to occupy the south side of the chancel in the parish church of Aspatria.

Preston.—The chief stone of St. Luke's Church, which is being erected at the corner of Fletcher-road and Blensdale-street, has been laid. About four-fifths of the necessary funds have been subscribed. The estimated cost of the church is 5,600*l.* when completed; but it is not intended to add the spire immediately. The estimated expenditure is as follows: Site, sidestones, &c. 700*l.*; contracts accepted, 3,033*l.*; commission to architect and clerk of works, 240*l.*; allowance for extras, 60*l.*; total, 4,033*l.* The following items, for which the committee have not yet contracted, not having sufficient funds in hand, must be added to the expenditure: Carpenter's and painter's tenders, second part, 400*l.*; warming and lighting, 100*l.*; inclosing, &c. 200*l.*; repair fund, 300*l.*—1,000*l.*: total, 5,033*l.*; and, at some future time, an additional 600*l.* will be required to finish the spire. The church is to be built of Longridge stone, in the Early English style of Gothic architecture, and of a plain but substantial character. It is designed so as to accommodate 802 persons—namely, 605 upon the ground-floor, and 197 in a gallery (principally for children) at the end of the church opposite the chancel. Three-fourths of the sittings will be free. The building will admit of the erection of an additional gallery on each side. The body of the church will be of an oblong form—79 feet 3 inches long by 50 feet 7 inches wide—and will consist of a nave and two side aisles. The chancel will be 23 feet 9 inches long by 19 feet 6 inches wide, and will be a continuation of the nave, having a lower roof. The tower will, when completed, be 137 feet 3 inches in height. The roofs will be slated, and of a steep pitch. Internally, an arcade of Gothic arches, six on one side and five on the other, will divide the nave from the aisles. These arches will rest on stilted circular pillars. The contractors for the masons' work are Messrs. Ellis and Hinchcliffe, Manchester; for the joiners' works, Messrs. Ladyman, Preston; plastering and painting, Mr. J. E. Jones; slating, Mr. G. Pye; smiths' work, Mr. J. Tipping; plumbing and glazing, Mr. J. Dewhurst; clerk of works, Mr. Thomas W. Carter, all of Preston. The architect is Mr. E. H. Shellard, of Manchester.

Salford.—A memorial window, of stained glass, has been fixed in the chancel window of St. Philip's Church, Salford. The window is in three lights, the centre 14 feet by 5 feet, and the side lights each 14 feet by 3 feet. They are divided by broad stone mullions already existing in the chancel window. Messrs. R. B. Edmundson and Son, of Manchester, were the artists. St. Philip's being Grecian in design, they felt themselves precluded from introducing anything like Gothic or pointed work in the tracery of the window; and, as a consequence, determined to attempt a combination of Scripture scenes and allegories, in oblong and lozenge panels, with the old diamond work in the interspaces. The chief subject, which occupies nearly two-thirds of the central light, is "Christ blessing little Children;" above is a representation of the Ascension. The side light has St. Philip preaching at Samaria; and on the opposite side he is shown baptising the eunuch. The subjects occupying the corner spaces are St. Matthew, with the emblem of an angel; St. Mark, with a lion; St. Luke, with a bull; and St. John, with an eagle.

HYDROBORONATED PLASTER.

The patent hydroboronated plaster, of which a specimen has been submitted to us, is composed, as its name implies, of common plaster of Paris (or "any plaster having sulphate of lime for its base"), indurated by a solution of boron. This solution can, of course, be made of varied strength, and so the cement may be made to set in any period, *i.e.* in a few hours or moments, according to the work to be bestowed upon it.

The effect of the hydroboron is to render the plaster very hard, and fits it for the imitation of marbles and stones. Its actual strength is considerable, and the patentee believes he could construct a column of it capable of bearing an equal pressure with freestone. The process insures the evaporation of the liquid, hence the surface is fit for paint almost immediately. It possesses every advantage claimed on behalf of other cements, with two additional qualities, viz. its setting being retarded according to wish, and, in point of price, being considerably cheaper.

It is in the imitation of marbles and stones that the patentees have principally used it, and the result of their experience is satisfactory. We confine ourselves, as in other cases, to pointing out a new material for trial.

LAW NOTES.

Partnership.—When a partnership is dissolved by the death of one partner, and the firm is indebted to the deceased partner for advances, if the executors allow the surviving partner to continue the business, they have no claim on new stock purchased by him, even though purchased with partnership assets received by him.—*Payne v. Hornby.*

Agreement to Build a House.—Plaintiff agreed to grant to defendant a lease of certain lands as soon as defendant completed the erection of a house and outbuildings, of the value of 1,100*l.* at the least, according to a plan to be approved of by the plaintiff. The house was not built, and the plaintiff proceeded in Chancery to endeavour to compel the specific performance of the defendant's contract. The Master of the Rolls has held that he does not consider he has power to compel the defendant to build the house, as the agreement was too vague. The stipulation should have been to build a house according to a specified plan.—*Bruce v. Wicksted.*

Solicitor Purchasing from his Client. A contract was entered into between a solicitor and his client for the purchase by the former of certain lands belonging to the latter. Deeds were executed, and the property passed; but the descendants of the vendor took proceedings to set aside the sale for fraud, and it has been set aside. The purchaser had acted both for himself and for the vendor in preparing the deeds, and had concealed from the latter the knowledge which he (the purchaser) possessed of the great value of the minerals on the lands. A solicitor purchasing from his client is bound to give him as correct advice as he would be bound to give him if the client were dealing with a third party.—*Gresley v. Mousley.*

Rateability of Property.—A local Act declared lands rateable which were not more than 100 feet from certain parts of a certain borough. A general Act (the Public Health Act) declared all property rateable, except certain "kinds" of property exempted by previous Acts. Some lands were assessed under the latter Act, and it was sought to set aside the assessment on the ground that the property was more than 100 feet from the limits specified in the local Act. Three judges of the Court of Queen's Bench decided in favour of the assessment, as the exemption had arisen from situation and not from "kind." One judge held the opposite opinion.—*Plymouth Board of Health* v. *Luscombe.*

The word "Children."—It has been decided lately, in the Rolls Court, that the word "children" in a will includes grandchildren.—*Pride* v. *Fooks.*

Trade-mark.—An alien may sue in this country to restrain the unauthorized appropriation of his trade-mark, although the goods to which such trade-mark applies are not usually sold by him in this country.—*Collins and Co.* v. *Reeves.*

Bankruptcy Partnership.—A debt incurred in respect of money advanced to one of the partners in a bankrupt firm for his own private uses, and credited to him in his private account in the partnership books, is not provable as against the joint estate of the two partners.—*Re Schlesinger and Parfitt.*

ONWARD MOVEMENT.

PENNY BANKS FOR THE INDUSTRIOUS AND POORER CLASSES.

It has been a pleasure to notice in many districts of the metropolis painted boards and other advertisements stating that in various places penny savings' banks have been established, for the purpose of endeavouring to cultivate habits of thrift amongst the youthful portion of a useful part of the population. A large number of these banks have been opened in connection with the national, and, in some instances, the ragged schools; and it is very gratifying to learn the rapid increase of these institutions, and the great good which they are likely to effect. The larger number of these banks are managed by the clergy of the districts, assisted by the Scripture readers, missionaries, and other responsible persons. In some neighbourhoods, these banks are not of recent date: the Clerkenwell Penny Savings' Bank has been in existence eleven or twelve years. The smallest sum received here is a penny, and the largest a shilling, weekly. The accounts are balanced and paid a little before Christmas, and we are told that in this district last year the number of depositors was upwards of 1,200, and that the total amount of the subscriptions was between six and seven hundred pounds. In one night, at this provident institution, upwards of 12*l.* were deposited. In Lamb and Flag-court, one of the poorest parts of this district, one of these banks has been opened by the exertion of Mr. Nisbett, the City missionary. On the first night, thirty-four persons deposited sums ranging from 2d. to 9d. This may seem a trifling sum, but when the poverty of some of the depositors is taken into consideration, and the good which will result to many of the young by the value of accumulated pennies, it does not seem to be an extravagant hope that many a future prosperous man will be able to trace his success to the penny banks.

ELECTRO-TELEGRAPHIC PROGRESS.

To the unexpected but gratified surprise of almost every one, the Atlantic cable, as we had just time to announce in our last, was safely laid from Valentia to Newfoundland. The whole distance from Trinity Bay, Newfoundland, to Valentia, is about 1,650 nautical miles, and this has only required 2,022 miles of cable: the slack, therefore, is just 372 miles, or about 22½ per cent.; and the company have a remainder of 500 miles, which, unless some untoward accident should, after all, again disappoint the public hopes, might anon be used towards the shortening of our telegraph time-distance from India. So doubtful did the final success of the Atlantic cable appear, that even Professor Thompson, who was immediately engaged in the undertaking, acknowledged, sanguine as he still was of a successful issue, that the "calculus of chances is dead against us." Not having failed, therefore, the triumph is indeed all the greater. It has completely taken the shine of "glory" out of the other great event which was coming off simultaneously with it, namely, the inauguration of the French war-port of Cherbourg; and we would not willingly have had

Britain exchanging with France the respective reasons for glorying on this twofold and curiously coincident occasion. On the announcement that the new world and the old were electrically united, the Atlantic Company's 1,000*l.* shares—which had sunk with the public despondency so low as 30*l.* to 34*l.*—at once, of course, became buoyant, and rapidly rose almost to par. As for the influence of this great success on submarine telegraphing in general, even though the cable were after all unaccountably to fail in its transmission, what scheme will now be considered too vast for the public confidence? Yet it is but a very few years since we, like a few others who were sanguine of success, dared not fully to express, in the *Builder*, the perfect confidence we had in the practicability of crossing the Atlantic by a telegraphic line, and felt obliged to come out with it cautiously and with fear, in case of working too convulsively the sneering apparatus of the shortsighted quasi-critics of society on such a subject.——The only other notable step in our electro-telegraphic progress to be here recorded, is the safe deposit of the Channel Islands telegraph cable from Southampton to Alderney. This line will ultimately, and that very soon, we trust, form a section of *our own* Indian line, *viâ* Gibraltar and Malta.——At the last meeting of the Electric and International Telegraph Company, a dividend of 7 per cent. was resolved on: nearly 6,000*l.* besides are carried to the reserve fund.

VILLAS AT MERTON.

TENDERS.—BILLS OF QUANTITIES.

Sir,—I am under an obligation to your correspondent, "E. S." for calling attention to the great disparity in the tenders for the two cottages (called villas), at Merton, as the known respectability of the other competitors places me in an unenviable position, my tender being so much below, and bearing no comparison with theirs. I therefore take the liberty to forward you tracings of the drawings, and feel assured that you will come to the conclusion the price I have undertaken the work for is at least a remunerative one. I may, perhaps, be allowed further to say that I do not often enter into competition, but when I do so, I prefer (as I did in this instance) taking my own quantities, as it is stated by some that quantities are sometimes taken according to the sliding-scale system.

William Timewell.

*** Without going minutely into the matter, we should say the drawings certainly give the impression that Mr. Timewell's statement, that his amount, 1,187*l.* will be a remunerative one, is correct; in which case what is to be said of the other tenders, ranging from 1,198*l.* to 1,752*l.* There is an impeachment involved in Mr. Timewell's letter, which we must leave those who are interested to appropriate. The "bills-of-quantities" system wants looking to.

THE SUB-ALPINE TUNNEL AT MONT CENIS.

In the *Builder*, Vol. XV. p. 630, and previously, we have given particulars as to this extensive and interesting work. We observe it now stated as something new, that means have been adopted to complete it in six years, instead of thirty-six; but any one who may turn to page 630 of last volume of the *Builder*, will there perceive that the expectation of completing it in six years is nothing new. Three Sardinian engineers, MM. Sommeiller, Grattone, and Grandis, we may state, however, have discovered a method for turning to account the abundance of water for which the locality is remarkable, both in the perforation and the ventilation of the tunnel. The height of the mountain above the highest point of the tunnel, which will slope both ways from the centre to facilitate drainage, is so great, as before stated, that it is impossible to sink shafts, and by the time that the works shall have reached a considerable depth 85,321 cubic mètres of air will be required in the twenty-four hours to replace that vitiated by respiration and combustion. To supply this defect a reservoir is filled with air condensed to six atmospheres by means of a fall of water acting on a kind of inverted syphon. This condensed air, besides being used for ventilation, is also supplied instead of steam as a motive power for working the perforators with which the holes are pierced for blasting, and a larger number of which can in this way be put in operation at once. The progress now making per day in boring, is 3 mètres on each side of the mountain, or 6 mètres in all. The length to be tunnelled, between Modane on the one side, and Bardonèche on the other, is 12½ kilomètres in a straight line. Two kinds of perforators are employed, one invented by Mr. Bartlett, the other by M. Sommeiller; and the manner in which these machines perform their duty affords practical demonstration of the possibility of employing compressed air as a motive power. By means of these perforators holes for blasting may be bored through the hardest sienite in one-twelfth of the time which would be required if ordinary means were employed.

METROPOLITAN BOARD OF WORKS.

At a special meeting of this Board, held on the 11th instant, a report from a committee of the whole Board was presented, in which they say:—

"Your committee recommend that the Board should, without delay, instruct the engineer to report as to the order in which the several parts of the works recommended in the report of Messrs. Bidder, Hawksley, and Bazalgette, may be most advantageously and conveniently carried out.

Your committee further recommend that the engineer be instructed by the Board to prepare specifications for carrying out the several works set forth in the report of Messrs. Bidder, Hawksley, and Bazalgette, commencing with those parts of the works which the engineer considers to be most urgent.

And your committee further recommend that the engineer be instructed by the Board to prepare plans and to report to the Board as to what advantages may be derived by having the outfall on the south side of the river Thames in Greenwich marshes, providing, in that case, for deodorizing the sewage continuously throughout the year.

All which your committee have to submit."

Mr. Leslie proposed a resolution to negative its adoption, on the ground that a negative artesian descent had been effected at Paris, evidence as to which should first of all be received by the Board.

The report of the committee was finally adopted by a majority of 19 to 1.

TEACHING OF ELEMENTARY ARCHITECTURE.

Sir,—In your number of the 31st of July, I observe that "X. V." objects to masters trained by the Department of Art, at South Kensington, being called upon to pass an examination on elementary architecture. Since this was required of students, I am informed that an addition of 10*l. per annum* has been attached to the certificate allowance in respect of an elementary knowledge of architecture; and to enable the students to acquire it, the State has incurred additional cost to a considerable extent in maintaining them. It must be obvious that "X. V." cannot be a student, or he would not grumble at being paid to acquire knowledge, and paid also for having acquired it.

I presume that houses being more common than carpets, or couches, or pianofortes, and architecture being at the foundation of all ornamental design, are good reasons why drawing-masters should be invited to know a little of elementary architecture. A Householder.

NEW HOUSE PAINT.

Our advertising columns contain an announcement of a new paint, which is specially addressed to those classes most capable of judging of its merits. Apart from the commercial advantages claimed for the new commodity, it makes pretension to the removal of one active cause of discomfort and disease. The ancient Spanish proverb, that "Paint costs nothing," may be said to be true, because of the very small proportion its price bears to the value of the subjects of its preserving power. But, unfortunately, this adage is not otherwise applicable to the modern house paint, by the sacrifice it causes of comfort and health.

The sufferers from its evil energy are, first,—Those who are obliged to endure the long process of the renovation of their dwellings by means of this very slowly drying paint, which gives out the *effluvia* of rancid oil, and one of the most poisonous of the metals; secondly, the painters, who are liable to their own peculiar "cholic;" and, thirdly, the operative in the manufacture of this compound, who, before reaching the ordinary period of his prime, is often reduced to the decrepitude of old age.

The materials of the new paint are said to include lime, sugar, molasses, whiting, dry white lead, salt, and refined pulverized borax, with such colouring matter as may be desired. We are not in a position to say anything positively in confirmation of the inventor's statement, but the advantages it offers are quite important enough to claim for it examination on the part of practical men.

A Loose Contract.—In the course of his bankruptcy examination, at Edinburgh, on Thursday, Mr. C. D. Young enumerated, among his losses, 14,000*l.* on the Manchester Exhibition building.

RECENT AMERICAN PATENTS.*

S. H. Titus and O. Des Granges, St. Louis, Missouri.—*An Improved Cellular Iron Pavement.* Claim: Constructing each cell perfect in itself, and by such construction making the cells of the upper periphery of the block not only uniform, but answering as ledges to support the same upon the adjoining block, and thereby distributing the superincumbent weight equally along the whole side of the block.

Elijah Brady, City of New York. *An Improved Stone-dressing Machine.*—Claim: The arrangement and combination of the two adjustable platforms, with the self-adjusting tool-stocks.

Daniel Lombard, Assignor to self and George F. Richardson, Boston, Massachusetts.—*An Improvement in Brick Machines.* Claim: Combining with the brick-making machinery a means of heating the condensing roller. Also, the combination of the gauge, the scraper, and the condensing roller with the hopper, the moulding-wheel, and mixers.

A. J. Mullen and Robert Hall, Greensboro,' Alabama.—*An Improvement in Mode of Burning Bricks.* Claim: The construction of a brick kiln with an inclined bottom leading to the drawing pit, when used in combination with the irregular setting of the brick in the kiln.

Benjamin H. Shedaker, Philadelphia, Pennsylvania. *An Improvement in the Construction of Marquetry Floors.*—Claim: Constructing marquetry floors by first inlaying or inserting the required differently coloured pieces of wood, or other material, across in the upper sides of the proper flooring boards (whether these are alike or of different colours), prepared with tongues and grooves in the usual manner required for common flooring, so that the said boards so prepared may afterwards be laid down and secured directly upon the joints in the usual manner, and so produce a marquetry floor of any surface, pattern, or design, which may be adapted to such mode of construction without the use of the sub floor required by other modes.

H. Thayer and L. L. Martin, Warsaw, New York.—*An Improved Painting and Varnishing Machine.* Claim: The mode of flowing paint, size, varnish, or any other liquid substance, on articles of wood or iron, by passing them horizontally, or otherwise, through holes cut in two sides of any vessel, while said vessel is filled with the liquid substance to be used—said holes to be cut directly opposite to each other, and to be appropriately packed with flannel, fulled cloth, or any other appropriate packing, and to correspond in shape with the articles to be run through. Also, the funnel-shaped india-rubber tube, with its packing, and its application to painting, sizing, and varnishing articles that diminish in size from one end to the other, or that vary in diameter. Also the hollow brush standing on the further side of the chamber from the operator, and its adaptation.

John M. Merrymon, Logansport, Assignor to self and J. H. Jordan, Attica, Indiana.—*Paint Compound.* Claim: The combination of quicklime and resin for a paint material.

Isaac Gattman, Assignor to self and Jacob and David E. Breinig, Philadelphia, Pennsylvania.—*Improved Paint Vehicle.* Claim: The employment of the alkaline salts of the fatty acids, (oleate, margarate, stearate, of potash, soda, and like substances), in combination with resin and oil as a thinner for paints instead of oil.

A. C. Church, Union City, Michigan.—*Improvement in Paint Vehicles.* Claim: The compound for mixing paints. Note: The component parts of the above compound are linseed-oil, soft-soap, distilled rain-water, oil of turpentine, gum-mastic, and caoutchouc.

G. W. Billings, Cleveland, Ohio. *Improved Dove-tailing Tool.* Claim: The dove-tailing tool, having semicircular lips, for the purpose of cutting tenons to fit mortises made by simply boring with a common auger or bit.

E. H. De Witt, Assignor to self and Butler N. Strong, Xenia, Ohio. — *Improved Circular Sawing-machine.* Claim: The construction of sawing-machines, having one of the circular saws arranged vertically, and the other circular saw arranged horizontally, both saws cutting simultaneously, and being carried in adjustable frames.

Archelaus Wilson, Boston, Massachusetts.—*Improved Method of Lighting Gas by Electro-galvanic Batteries.* Claim:—Combining with gas or other burners a vibrating electric-conductor, so that after producing ignition, the conductor

* Selected from the lists published in the *Journal of the Franklin Institute* of Pennsylvania.

shall be removed from the flame. Also, the employment of the motive-power of an electro-magnet with the combined vibrating electro-conductor and burner.

Books Received.

The American House-Carpenter: a Treatise on the Art of Building, and the Strength of Materials. By R. G. Hatfield. New York: Wiley and Halsted. London: Trübner.

The Carpenter and Joiner's Assistant: a complete Course of Practical Instruction, &c. Illustrated by numerous Engravings. Parts XI. and XII. Blackie and Son, Scotland, London, and New York.

Few departments of the art of building are more fully illustrated than those relating to carpentry and joinery. Although iron is gradually being more used for roofs, floors, staircases, and even temporary structures, and will probably eventually be extended here, as in America, to shop-fronts, and many other purposes, there seems to be no diminution in the number of the elaborate books on the application of timber, which are continually appearing abroad and in England. The valuable works which have hitherto been published, such as those by Kraffs, Roubo, Emy, and Tredgold; and, again, the contributions to Encyclopædias, as those in the *Encyclopædia Britannica*, and the *Encyclopédie Méthodique*, are found in the libraries of architects and institutions; but, from their price, are beyond the reach of many students and most operatives. By the system of issuing practical books in parts, adopted by Moxon, so early as 1677, those of Nicholson and others have attained a wide circulation among the classes to whom they are specially addressed; but still an outlay is involved which many workmen fear to incur. As Mr. Hatfield remarks, — "This is owing, in a great measure, to the costliness of the plates with which they are illustrated;—an unnecessary expense, as illustrations upon wood, printed upon good paper, answer every useful purpose. Wood engravings, too, can be distributed among the letterpress, an advantage which plates but partially possess, and one of great importance to the reader." A really good "Handbook of Carpentry and Joinery," divested of extraneous matter, illustrated by numerous woodcuts, and containing available particulars of materials, useful formulæ, tables of scantlings, a summary of the theory and practice, showing the connection between the two, and the simplest methods, comprising the latest improvements in the department of lines, might be issued for a few shillings, and would probably command a large circulation; yet such a compendium has not hitherto appeared in this country.

With some such views as the above, Mr. Hatfield produced his volume, which, despite its comparatively high price, has so far satisfied American requirements as to have arrived at the seventh edition. Although somewhat immethodical, it is plainly written, containing much general information, and numerous diagrams. From the title, we anticipated *American* methods, and certainly expected a few improvements from the nation whose timber bridges and viaducts display so many novel and meritorious points, and whose timber yacht recently cast all others into the shade. But, judging from this book, the American modes of executing work are identical with those ordinarily adopted in England. The illustrations of Egyptian, Greek, and Roman columns, together with the section on shadows, do not appear strictly appropriate in a treatise on house-carpentry; and some particulars of the decay and preservation of timber, the several kinds suitable for building, lists of scantlings, and numerous common operations, which are not even mentioned, would better occupy the space taken up by an historical account of ancient architecture, which is loosely put together, and in many respects tends to mislead the novice.

The operative will naturally turn with most interest to the methods given for finding the lines for the execution of works. These are clearly explained; but, with reference to the author's claims to the "invention" of certain solutions, there have long been several arrangements in print quite as good, and equally likely to be comprehended by an inexperienced person. Many advances in the art of constructing handrailing, which have recently been made in England and America, are quite ignored; and the square-cut system, now rapidly superseding the methods formerly practised, receives scarcely any attention. In fact, the explanations given almost entirely refer to the methods illustrated by Nicholson, but which may be regarded as displaced by more recent improvements. The advantages resulting from working to a centre falling-line are not alluded to; and several useful modes of delineating scrolls for handrails, ought to be found in a work of a practical character.

"The Carpenter and Joiner's Assistant," to which we have before referred, has reached its twelfth part. This is a more expensive and comprehensive work, fully illustrated by engravings, admirably executed. It bids fair to be the best work of its class yet published.

VARIORUM.

An attractive little skeleton of an illustrated treatise on the animal kingdom, for the use of "the little philosopher," has been published by Messrs. Longman and Co. as Part IV. of a shilling series under the title just quoted, by Mr. Thomas Tate, the fruitful author of many school and other treatises. The general title of the series may be quoted in full in explanation of its own purpose: it is as follows:—"The Little Philosopher; or, the Science of Familiar Things; in which the principles of natural and experimental philosophy are systematically developed, from the properties and uses of familiar things; forming a series of instructive reading-books for young people."

Miscellanea.

Government Drawing Examination. The Department of Science and Art holds an examination in drawing once in the year, in every town where there is a school of art. At this examination any person, of any age or sex, educated at the school or otherwise, may come up for examination and is eligible to take rewards. In such towns the period of examinations may be learnt at the school of art. In places where there are no schools of art, provided that the names of fifty persons who will come up for examination in drawing, are sent to the secretary of the Department at South Kensington, arrangements will be made for an inspector to hold such an examination; when awards of drawing instruments, materials, &c. are made to those who have attained a given position of competency. A book, entitled "Elementary Drawing," is published for the Department of Science and Art by Messrs. De la Rue and Co. Bunhill-row; and Messrs. Chapman and Hall, Piccadilly, which illustrates the nature of the examination.

Improvement of the Slvern at Tewkesbury.—The lock, near Tewkesbury, is almost completed, and was to be opened this week for traffic. It will contain a vessel 300 feet long. The cutting is divided by a pair of folding gates of 18 tons weight each, and costing about 3,000*l.* The estimated cost of the entire work, the area of which is based on six feet thick of concrete, was 31,750*l.*, of which 32,000*l.* has been expended up to the present time. The resident engineer is Mr. A. Williams. The old channel of the river was narrowed to about 70 feet, across which piles were to be driven, and these, being top-bound by balks of timber, would leave a groove for the insertion of timber sheathing by which the channel would be completely stopped: this work was to be sustained by supporting earthworks, sunken vessels, and other means. The channel was to be stopped on Tuesday of the present week. The weir has been constructed so as to afford facility to the passage of salmon. Its form is a long oblique line, flattened as it approaches its western terminus, or bank of the new river. Mr. Williams is of opinion that no more locks and weirs are necessary, and he proposes to improve the river between Tewkesbury and Gloucester, when requisite, by narrowing the channel with embankments.

Dudley Gallery. — Mr. Henry Cook thinks that the way in which the assistance he gave in the re-arrangement of this collection was mentioned in our recent notice may "injure his professional position." We willingly let him speak for himself. "The facts," he writes, "are simply these. An old, and I think I may say without flattering myself, a valued friend of Lord Ward's, I undertook, at his earnest request, to arrange the pictures in the new and beautiful gallery at Dudley House. The pictures were cleaned under my directions, by a very talented person, who has, I am bound to confess, upset all the prejudices which, in common with my brother painters, I entertained against cleaners and restorers. I certainly selected the pictures from the mass in his lordship's possession, and endeavoured, without sacrificing important pictures, to do justice to the architect, Mr. Daukes."

Libels on Labels: Freedom of the Press.—An action of libel has just been decided in the Home Circuit, the subject of which was a multitude of leaden labels, or "pilgrim's signs" as they have been called, which were alleged to have been found in excavating for the basin of the new "London Dock." Two shore-raking boys brought hundreds of these mysterious articles to a respectable dealer named Edwards, and one of these boys, named "Charley," appears to have actually been paid no less than 400*l.* for his share of them in less than twelve months! Mr. Edwards must thus have had a perfect faith in their genuineness, as also must the plaintiff, Mr. Eastwood, another respectable dealer, who purchased them of Mr. Edwards. Mr. Eastwood, however, took offence at a report in the *Athenæum* of the proceedings at a meeting of the British Archæological Society, whereat their genuineness was impugned, and brought this action of damages against the proprietors; but, after a good deal of evidence had been given, including that of Mr. C. Roach Smith and the Rev. Thomas Hugo, whose evidence was in favour of the "pilgrims' signs," Mr. Justice Willes summed up in favour of the defendants, and the jury properly returned a verdict in their favour.

Society for Improving the Condition of Labouring Classes.—In the fourteenth annual report of this society, published in *The Labourer's Friend*, or magazine of the society, the subscribers and friends are congratulated on the improved and steadily improving aspect of the present condition of the society, as well as upon the growing interest manifested by the public at large in the cause which it promotes. The chief features of the year were the actual completion and thorough transformation of Tyndall's-buildings, Gray's-inn-lane, the surprising improvement in the sanitary condition of the court, and the reduction in the parochial burdens and rates thereby already effected. It is confidently expected that a regular and clear return of 5 per cent. will be made upon the whole outlay, after every deduction. The average return yielded by all the dwellings belonging to the Society, is said to be 4*l.* 8s. 2d. or nearly 4½ per cent., notwithstanding the fact that the Society, being conducted on philanthropic principles, lets its premises at a lower rent than might otherwise be obtained.

The Destruction of Antwerp Bourse.—In alluding to this disastrous event, some of our contemporaries speak of the Bourse as a comparatively new building: this is not the fact, as will be seen on reference to our volume for 1852. On page 329 of that volume, also, will be found an engraving of the glass roof of the Bourse, that certainly being then new, but the only part that was so. This roof of course fell during the fire, the immense pieces of the metal framework breaking like glass as they reached the ground. Every part of the building, in fact, has been destroyed, and most of the archives contained in it. The fire appears to have arisen in an upper room, on the side of the Courte Rue des Claires. The Bourse contained the Chamber of Commerce, Tribunal, and Record Office; Syndical Chamber of Stockbrokers, Syndical Chamber of Antwerp Brokers, and Telegraph Bureaux. Nothing is saved.

The Boy Bishop.—Sir,—Mr. Planché's verdict on the Boy Bishop effigy at Salisbury, as reported by you in your last number, is, so far as it affects the history of that sculptured riddle, doubtless worthy of consideration. Not so, however, I submit, the declaration that the figure, *because it is canopied*, was designed for an "upright position against some work or column." It may be doubted whether, in England, a sculptured figure can be found which was originally designed for treatment with the column. Certainly such a system of wedding sculpture with architecture was rare amongst us. But Mr. Planché's assertion requires us to believe, against the abundant evidence to the contrary, that recumbent canopied effigies were not designed for the position which they now uniformly occupy. The inference, moreover, being, that the Mediæval sculptors and architects held the verticity of the canopy as sacred. Under this dictum I know not what is to become of the series of royal and other canopied effigies which have so long rested upon tombs and coffins of coeval design. To enumerate them would be superfluous. What, also, I would ask, are we to think of the canopied figures which (on the Continent more particularly) were arranged within the soffit mouldings of the grand portals? In these cases, the canopies, figures and all, toss over towards the apex in a manner which agrees but little with Mr. Planché's views, but which is familiar enough to the student of Mediæval sculpture. The Shade of Stothard.

Anniversary of the Canynges Society, Bristol.—This excellent society, says last Saturday's *Bristol Mirror*, established for the purpose of aiding in the work of the restoration of the church of St. Mary, Redcliff, held its eleventh anniversary on Wednesday last. The event was, as usual, duly observed. The bells of the old church rang forth joyous peels; a fine sermon was preached to an attentive congregation; collections were made; a banquet was provided and partaken of by a large and fashionable assemblage; speeches were made, and reports read. But, in spite of all this, the unpleasant fact that the society was largely in debt would obtrude its presence in all the day's proceedings. Indeed, the working members of the society (the restoration committee) have been so enthusiastic in their labours that they have involved the society in debt to the extent of 500*l*. We hope, continues the *Mirror*, that the public will relieve the society, and enable it to prosecute its object with increased power and energy. The Restoration Committee have published a *resumé* of what has hitherto been attempted and carried out, hoping, by so doing, to mark, as it were, a starting-point for renewed exertion. At the banquet the president announced that he had received letters from the Dean of Bristol, Mr. Miles, M.P., Mr. Bright, and others, apologising for the absence of the writers, and inclosing donations, to show that, although absent, the writers had not forgotten the society and its objects. The president also stated that he had received a kind note from Lady Haberfield, inclosing 5*l*. The president then gave some interesting particulars as to the church and its restoration, and Alderman Proctor read the society's report, from which it appears they have 127 subscribers, paying 181*l*. 16s. and that last year donations of 188*l*. had been contributed, making the total 369*l*. 16s. A further sum of 300*l*. had been expended towards the restoration of the south clerestory.

Birmingham School of Art.—The classes of the Birmingham School of Art re-assembled for the autumn session in the rooms provided by the Midland Institute in the upper floor of their building. These rooms, though neither so large nor so lofty as those hitherto occupied in New-street, and having the disadvantage of approach by means of a lofty flight of steps, are perhaps on the whole better adapted for the purpose than the latter. The lighting, however, is very bad,—the exigencies of the external façade requiring all the windows to be nearer to the floor than to the ceiling; while ventilation, we are told, has been forgotten, an important thing in a school of art crowded as the school at Birmingham is at night, and having a very large amount of gas burning. We think it much to be regretted that the authorities of the Birmingham school have not rather followed the example at Sheffield, and erected a building specially constructed for a school, and properly arranged for the purposes of study in all branches of the fine and industrial arts.

The Worthing Board of Health and their Contracts.—The Worthing Board of Health having pleaded, in the action brought against them for a balance of 1,100*l*. due to Messrs. Frend and Hamill on their contract for draining the town of Worthing, what the judges characterized as the "scandalous and dirty plea," that the work done was on a contract agreement which was "not sealed," a defence which, being good in law, the judges could not resist; some printed warfare has since been going on between the parties; the last phase of which appears to be a pamphlet now before us, titled, in reference to *Punch's* joke about the swindling town of Worthless, "The Worthless Board exposed; being a counter-statement in reference to the Defence by the Worthing Local Board of Health, in the action of Frend and another *v.* Dennett; addressed to the Honest Ratepayers and Visitors of Worthing. By Frend and Hamill" (Rayner and Hodges, Fetter-lane). In this pamphlet the contractors deny what the Worthing Board had previously alleged, that their engineer, Mr. Rawlinson, had *arbitrated* the question, deciding against the contractors' claim. It is also stated that the Worthing Board had remorselessly enforced payment in full of their costs in the abortive action, amounting to 150*l*. not even allowing the trifling set-off confessedly owing of 60*l*. for private house-drainage, all the other house-drainage having been taken from the contractors, to whom they had agreed by their contract to give it, and handed over to Mr. Rawlinson's local assistant, or resident engineer, "an auctioneer, undertaker, and small builder, at Worthing." Messrs. Frend and Hamill state that they hope to obtain a remedy in Chancery.

Houses to Burn.—The accounts of the recent fire at the *Sun* newspaper office, state, that although the front had been modernised, the rear of the premises was ancient, and so combustible that although the persons engaged on the works managed by means of great difficulty to escape, so rapid was the progress of the flames that not a book, document, or other matter could be saved from the premises. It will be found, on examination, that many of the houses at the back of the Strand, which present to the thoroughfare new and substantial fronts, are in the rear in the same condition as the house just mentioned. The north part of the Strand, which has Holywell-street and Wych-street at its back, although of some interest as a relic of old London, is a place of great danger; most of the houses are of timber, and as dry as touchwood. The divisions between house and house are insufficient; and the ravages of a fire here might be attended with the most serious results. It is not our object to create unnecessary alarm, but it would, undoubtedly, be a wise precaution for all who sleep in those ancient habitations, to have the means of escape at hand, for a few minutes would be sufficient to wrap one of these wooden houses in flames from top to bottom. In other parts of London which the great Fire did not reach, there are groups of wooden houses, some of them completely surrounded by those of more modern date, and thickly populated, which are as dangerous as these just mentioned. The entrances to some of those blocks of old buildings, are so narrow that the ordinary fire-escapes are useless.

Gas.—At a recent meeting of the directors of the Sheerness New Gas Company, the contract of 6,910*l*. for the erection of works, and for laying main and service pipes, was signed, the contractors being Messrs. Atkins and Son.——The Hertford Company, at their second annual meeting, lately held, declared a dividend of 7½ per cent.——The Worcester Company have just declared a dividend of 7 per cent. per annum for the last half-year. ——At the gasworks of Messrs. Whitworth, Luddenden Foot, near Halifax, a meter, or holder, 42 feet in diameter and 21 feet deep, had recently been erected, and its tank leaking, a number of men had been employed for some days to raise the holder by screws, so that the inside of the tank might be lined with iron. Scaffolding was fixed at the top from pillar to pillar; but suddenly the gasholder fell, bringing down with it scaffold, girders, and two of the large pillars. A man was fearfully cut and bruised, and others had narrow escapes. Considerable damage was done to the gasholder and the masonry.——The whistling noise and flaring of light, from unequal pressure on the supply from the street mains, are said to be remedied by a patented invention of Mr. Young, of Bow-lane, Cheapside, called the "Improved Economic and Safety Gas Regulator and Escape Detector," which, it is said, has been introduced into several Government offices, prisons, hospitals, mercantile houses, and private dwellings.

The Newcastle Society of Antiquaries, which annually devotes a day or two to a country excursion, with the double purpose of giving recreation to its members and of prosecuting their favourite studies, resolved, says the local *Courant*, upon this year visiting Flodden and its neighhood. Tuesday and Wednesday in the past week were devoted to this excursion. The members on Tuesday left Newcastle by the early train to the north, a saloon carriage being placed at their disposal by the courtesy of the railway company. Arrived upon the spot, and on an elevated site commanding the battle-field, Mr. Robert White read a paper which, at the request of the society, he had prepared for the occasion. The party afterwards took up their night's quarters at Cornhill. Wednesday's excursion was devoted to Millfield, Kirk Newton, Yethering Bell, the camps at Doddington, Humbleton-hill, and Wooler.

Workmen's Dinner. — We have found it undesirable to record the occurrence of all the annual dinners now so general at this season of the year, but at the request of several readers, would mention one which took place on Saturday last, when 350 of the workmen in the employ of the executors of the late Mr. T. Cubitt, of Grosvenor-road, met at the Rye-house. After dinner, the chairman (Mr. Dines), with appropriate speeches, gave, with other toasts, "The Executors of the late Mr. Thomas Cubitt, and success to the building trade," which was accompanied with musical honours, in a good style by some of the workmen. After having amused themselves at various games in the grounds, they again assembled in the hall, where tea (suggested by Mrs. Cubitt), was provided, and then they returned to town well satisfied with the day's pleasure.

Influence of Art.—In addressing the students of the School of Design, at the distribution of prizes in the Edinburgh National Gallery, Sir John Stuart Forbes referred to the opening available for general improvement by the extended cultivation of art among ourselves. Although the heathen poet had long ago proclaimed that it softened the manners, and prevented man from becoming brutal, it had been reserved for the present age fully to recognise and act upon the principle that the love of what was physically beautiful in nature and art was generally accompanied by a delicate refinement of temperament, eschewing what was degrading and disgusting, so that the Christian philosopher and philanthropist could cordially co-operate in the wholesome culture of intellectual power with the object of political and social renovation. In this country the two great modifying engines of progress at present might be considered the increase of machinery, which, by relieving vast numbers of the community from manual operations, rendered it imperative on them to cultivate their intellect so as to make them useful to the community in positions where the higher powers were brought into play. The second was the facility of communication, which, by bringing our colonies as well as foreign countries more closely into connection with us, widened the field of employment, and opened channels for sudden alterations in position, for the advantages of which every man should endeavour to prepare himself. In that preparation, next to sound principles, nothing was perhaps more important than a well-grounded and well-applied knowledge of the Fine Arts. Drawing was now justly considered as the best introduction to the essential acquisition to the art of writing, but the correctness of eye and hand attained by its acquirement rendered it in other respects of the utmost importance in the business of life.

Patents and Patentees.—The report of the Commissioners of Patents for last year has just been issued, and states that the number of applications for provisional protection recorded within the year 1857, was 3,200; the number of patents passed thereon 2,028; the number of specifications filed in pursuance thereof, 1,976; and the number of applications lapsed or forfeited, the applicants having neglected to proceed for their patents within the six months of provisional protection, 1,172. The number of applications recorded within the first six months of the present year (1858) was 1,474; therefore, estimating the total number for the year at about 3,000, a decrease of about 200 on the whole year may be anticipated.

Sussex Archæological Society.—The annual meeting of this thriving society took place at Bayham Abbey and Tunbridge Wells, on Thursday in last week, and, as usual, attracted a large number of the gentry, clergy, and archæologists of the county, as well as ladies. On their arrival at the place of rendezvous, they were courteously received by the proprietor of Bayham, the Marquis Camden, who had kindly undertaken the presidency of the meeting, and conducted the visitors over the grounds and ruins of the abbey. The indefatigable Mr. Beresford Hope, M.P. described the abbey, and luncheon was afterwards partaken of in the mansion and the grounds. The business meeting of the day was then held amidst the ruins, but no report was read. The society, Mr. Blencowe stated, now comprises nearly 750 members. The Rev. G. M. Cooper read a paper on the history of Bayham. The greater number of those present then went to Tunbridge Wells, where about 300 re-assembled in the Riding-school, and had dinner there, the Marquis Camden in the chair.

Literary and Artistic Copyright.—A committee has been formed at Brussels, for the purpose of organising a congress to discuss the subject of literary and artistic copyright.

Accidents.—Two men engaged in sinking a well at Kirkby-in-Ashfield, Nottinghamshire, on Monday before last, fell as they descended, one after the other, and were taken up quite dead, from the effects of foul air which had accumulated in the bottom of the well.——About 50 feet of the east temporary bridge at Sunderland has tumbled down: the wall was pushed over, the timber-work and piles displaced, and an immense quantity of *débris* deposited on the open space east of the wall. The water-pipe which crosses the bridge has burst near the same spot more than once, and it is believed that so much water sent through the earthwork and sand, caused them to expand; and the water, forcing its way down among the stone-work and deposit of which this portion of the structure is composed, caused the mischief.

The late Mr. Brotherton.—The effort to raise a memorial to the memory of the late Joseph Brotherton, M.P. for Salford, resulted in a subscription amounting to 2,550*l.* out of which it was determined to raise a statue in the Peel-park. The cost of this statue, which was inaugurated on the 5th inst. as already intimated, leaves a balance of 800*l.* which is to be invested with the intention of applying the annual proceeds to the purchase of books for the Peel-park Free Library, the Working Men's College, and the Pendleton Mechanics Institute. The statue is a full length figure in bronze, modelled by Mr. Noble, and cast by Messrs. Robinson and Cottam, of the Pimlico Works, London. It is about 9 feet 5 inches high, and the likeness is considered striking.

Railway Matters.—There is to be a new station at Dumfries. The main building and wings extend 206 feet in length. There is to be a covered verandah the whole length of the station. At the north end of the station-house is a covered shed, 200 feet long by 40 feet wide.—— A wooden viaduct at Bubwith, on the Selby and Market Weighton branch of the North-Eastern Railway, has been totally destroyed by fire, from red hot cinders, it is believed, falling from an engine on some portions of the timber which protruded through the gravel of the roadway.

Institution of Mechanical Engineers.—The general meeting of the members of this institution was held on the 28th ult. at the house of the institution, Newhall-street, Birmingham, Mr. John Penn, President, in the chair. A considerable number of new members were elected. The first paper read was "On Wood Bearings as applied to the Shafts of Screw Steam-vessels," by the President. The next "On a new Dynamometer and Friction-break," by Mr. William Froude, of Darlington; and the last was a "Description of a Compressed Air Forge Hammer," by Mr. Charles Beyer, of Manchester. The meeting then terminated, and afterwards a model was exhibited of Mr. Picking's self-acting boiler-feeder, for the purpose of feeding steam-boilers by a condensing apparatus, regulated in its action by the level of the water in the boiler. The next meeting of the institution is to be held at Newcastle-on-Tyne, at the end of the present month.

Fatal Accident at the Licensed Victuallers' Asylum.—On the 31st ult. about half an hour after the men who are engaged in the erection of the new buildings had returned from breakfast, a stonemason lost his life here. The stone mouldings were being raised to the top of the houses, a height of nearly 25 feet, when suddenly one of the stones fell off from the ledge on which it was temporarily resting, its weight sweeping away the scaffolding, and carrying away with it the unfortunate man whose life has been thus lost.

Tobacco-smoking.—Your correspondent, "A Wayfarer," who writes on the subject of the tobacco-duty, falls into an error when he reckons that all the tobacco paid duty on in London is consumed there. He states that more than 2,000,000*l.* out of the 5,000,000*l.* is paid in London, while the population is only about one-tenth of the whole kingdom. From this one would conclude that Londoners were three times as great smokers as their country cousins. The fact, however, is, that London is a great source of supply to the country,—sufficiently so to restore the balance between the population and the consumption. Another Wayfarer.

Green Paper-hangings.—A few months ago considerable alarm was felt by the public, arising from the appearance in the *Times* of a letter strongly denouncing the use of green paper-hangings, from their alleged poisonous influences by being coloured with arsenite of copper. The subject was accordingly brought under the notice of the Commissioners of Inland Revenue, who have just issued their report of a thorough investigation into the matter, and, from the experiments made by Mr. Phillips, it is said to have been demonstrated that the alarming statements which have been made on this subject are without foundation. Mr. Phillips says, that he and his family occupied a sitting-room three years, the walls of which were covered with paper laden with arsenite of copper, and experienced not the slightest ill effect from it.

"Fever Nurseries:" Dust-heaps.—Sir: Let this be understood in order to its immediate amendment. About Vauxhall we cannot get our dust removed without paying for it. What is the consequence? It is allowed to accumulate till they have something to take worth paying for. Half a dozen houses will fill a cart on this system: the injurious consequences to health I need not dilate on.—J. J.

"Stop Thief!"—In Berwickshire a new power has been given, says a local paper, to the county police in the shape of a powerful telescope, which is slung round the shoulder, and folds to a length of not more than 6 inches, but has the power of distinctly viewing several miles of country. Truly science is being brought to bear on thief-catching in a manner which Jonathan Wild, or even Townsend, little thought of. By photographic portraits, and the means of producing numerous copies, we can by swift railway trains have faithful likenesses of offenders sent from Land's End to John O'Groat's house, and to the police-stations throughout the breadth of the land. The electric telegraph blockades the sea ports of the coast to the culprit; and if by skill or fortune he effect an escape, follows him to distant lands. The old-fashioned bloodhounds, hues and cries, and other means of former days, were insignificant in comparison with the systems now at work. It has been proposed that the electric telegraph should be employed in concentrating the means of information throughout the metropolitan police; and considering the power which this would give, it seems extraordinary that it should have been so long delayed. The present plan of conveying information requires immediate attention throughout the whole of the police, and is slow in comparison with what could be arranged by means of electricity; thousands of pounds might be saved if the same principle were properly applied, too, in connection with the engines of the fire-brigades. At any rate, as regards the police establishments, he will need to be an active thief who will escape the lightning swiftness of the law of 1858.

The New Roman Catholic Cemetery of St. Mary, Kensall-green.—Thirty acres of land, says the *Lamp*, have been purchased by the administrators of the Secular Clergy Common Fund, a portion of which is now enclosed, and being drained and laid out in accordance with the regulations prescribed by the Secretary of State, to form a cemetery at the west end of the metropolis, and a temporary chapel has already been placed upon the ground. On July 7th the works were commenced for the erection of a mortuary chapel, capable of containing more than 150 persons, and with a sanctuary adapted for funeral ceremonies. From the lower part of the chapel an entrance leads into cloisters, which give access to catacombs, ranging both under the cloisters and under the mortuary chapel itself. These catacombs have been arranged according to ancient Christian precedent, into separate recesses formed by stone slabs, to be sealed by the inscription tablet. The cloisters above are designed to receive the memorials erected to departed friends; and the decorations of the mortuary chapel are devised to include also suitable funeral monuments. The chapel consists of a porch, a simple nave and apse, with plain bell arch and piers rising from its west front, the gable of which displays an extended stone cross, dividing by its stem a couplet of single-light windows, while a circular window forms the nimbus of its upper part. The vault of the apse is formed internally into a plain semi-dome, to be covered with mural painting after the manner of the ancient Roman sanctuaries. In the centre of the ground a large stone cross is to be erected. At the entrance from the Harrow-road, which adjoins the ground of the General Cemetery Company, a lodge and office will be placed. Mr. Samuel J. Nicholl is the architect. The contractor is Mr. George Smith, of Pimlico.

Value of Suburban Land.—At a sale by auction, by Mr. Murrell, on Tuesday, among other lots, was a plot of land at the corner of the Junction-road, Upper Holloway, which realized at the rate of about 5,500*l.* per acre.

County Rates. An abstract of the account of the county rate for the year ending Michaelmas, 1857, has been printed by order of the House of Commons. In England the total value of the property assessed is close on 65,000,000*l.*; the total amount of rates levied is nearly 2,000,000*l*; the disbursements are, however, less than this by 219,904*l.* which balance remains in the hands of the various treasurers, making the actual expenditure 1,785,096*l.* The total cost of gaols, &c. is 355,022*l.*: of prosecutions, 145,469*l.*—500,491*l.*; over half a million for prisons and prosecutions! The property assessments for Middlesex amount to £8,127,336
For Lancashire 6,909,655
15,336,991

These figures show that the two great seats of industry and close population alone pay nearly one-fourth of the county rates levied on the whole kingdom.

[Advertisement.]

Self-coiling Convoluted Shutters.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. CLARK and CO. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with, there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.—*From the Builder, June 26th, 1858.*

TENDERS.

For building warehouse, factory, and shaft, at West Ham, for Messrs. Lorsant and Co., St. Paul's Churchyard. Messrs. Ives, architects, Halifax:—

Brass	£9,521	0	0
Carter	9,300	0	0
P'Anson	9,193	0	0
Piper	9,058	0	0
Myers	8,929	0	0
Cooper	8,383	0	0
Pritchard	8,366	0	0
Patrick	8,234	0	0
Hill	8,183	0	0
Higgs	8,168	0	0
Hocken	8,148	0	0

For a church at Egham. Mr. E. B. Lamb, architect. Quantities supplied:—

Patman and Co.	£2,091	0	0
Dove Brothers	1,955	0	0
Chillock	1,949	0	0
Lane and Lewis	1,898	0	0
Trollop and Son	1,888	0	0
Oades and Son (accepted)	1,847	0	0
Mills and Son	1,747	0	0

For alterations and additions to a house in Oatland's Park, for Mr. G. Virtue. Mr. Allom, architect. Quantities by Mr. Chas. Sewell:—

Brown	£2,004	0	0
Lawrance	1,982	0	0
Cowland	1,952	0	0
Childs Son and Martin	1,894	0	0
Patman, Kingston accepted)	1,887	0	0

For the Egham cemetery. Mr. T. C. Capes, architect:—

Marshall	£1,669	0	0
Speakman and Haines	1,613	0	0
Barton	1,439	0	0
Mills and Son	1,395	0	0
Oades and Son (accepted)	1,350	0	0

For alterations and repairs at the Provincial Bank of Ireland, 42, Old Broad-street. Mr. N. T. Randall, architect:—

Little and Son	£1,525	0	0
Cubit and Co.	1,330	0	0
Nixon	1,297	0	0
Arnold (accepted)	1,275	0	0

For new chancel and vestry, St. Cuthbert's Church, Blaydon. Mr. J. E. Watson, architect, Newcastle-on-Tyne. Quantities were supplied.

Masonry.

Gibson and Stewart	£393	16	6
T. Wilson and Co.	370	0	0
Cuthbert Gardner	253	4	0
Daniel Ferguson	250	0	0
William Fegrin	247	10	0
Thomas March	164	10	0

Carpentry.

Waite and Howard	£139	0	0
John Nicholson	129	10	0
T. Wilson and Co.	98	0	0
John Daws	98	0	0
Robert Curry	98	14	0

Other works small in amount.

For repairs at No. 266, Upper-street, Islington. Mr. Widdows, architect:—

Wagstaff and Son	£165	0	0
Wood and Son	148	0	0

For alterations at the Shaftesbury Arms, Shaftesbury-street, New North-road. Mr. Widdows, architect:—

Wood and Son	£290

For building two houses for Messrs. Wilson, London-road. Mr. W. Berriman, architect:—

	No. 1 Estimate.			No. 2 Estimate.			Total including Drains.		
	£	s.	d.	£	s.	d.	£	s.	d.
Crawley	768	16	6	892	5	6	1,678	13	0
Henshaw	748	0	0	861	0	0	1,609	15	0
Colls and Co.	735	0	0	837	0	0	1,588	0	0
Wardle and Baker	709	0	0	801	0	0	1,523	0	0
Fisher	681	3	9	773	19	3	1,467	13	0
Thompson	678	0	0	775	0	0	1,463	0	0
Booth	700	0	0	731	0	0	1,431	0	0
Cook	630	0	0	740	0	0	1,382	0	0
Wells	640	0	0	740	0	0	1,380	0	0
Tarrant	600	0	0	700	0	0	1,311	17	0
Thornuland Son (accepted)	457	0	0	659	0	0	1,13	8	0

For alterations at the Excise Chop House, Old Broad-street, City. Mr. F. G. Widdows, architect:—

Sargeant	£326	0	0
Wood and Sons	298	0	0
Raby	250	0	0
Jeffs Brothers	250	0	0

TO CORRESPONDENTS.

W. H. ff. would not be wise to form a set of small discount rules that could be done. Two much rules would be better.—M. M. B. We must decline giving wages.—S. L. M. (under 33).—G. J.—Mr. P.—E. A. D.—E. A.—T. M. E. C.—J. N. B. (see body of the journal). W. K.—T. L. D.—T. L.—S. B. H.—G. M.—C. L. E.—C. W. Melbourne (we have no funds, if we can, at the subscriber we would challenge it). J. W. R. W. Milton.—B. B. is not the first instance by the late Mr. Wyatt; it was altered by Sir Chas. Barry).

Erratum. In Building Intelligence of Mr. Wm. Jupp (p. 542) for "Lady-art," read "Lady-altar."

☞ *NOTICE. All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

ABERDARE, GLAMORGANSHIRE.—SURVEYOR WANTED. The Local Board of Health to the Parish of Aberdare are desirous of receiving APPLICATIONS from CANDIDATES for the OFFICE of SURVEYOR for the above parish. He must be competent to prepare plans, drawings, estimates, and specifications of all works connected with the sewerage, paving, making, and repairing of the streets, as well as the surveillance and to superintend the execution of, and the taking down of, houses for the public improvements. All plans and specifications for sewerage and works He will also be required to report upon all new buildings within the parish with their drainage lines and other arrangements, and to supervise the erection of such buildings. He will be required to attend the same, and generally possess a thorough knowledge of all the duties required by the "Public Health Act, 1848." The whole of his time will be required to be devoted to the service of the Board. Persons desirous of undertaking the duties of the appointment are requested to send in their application and testimonials, stating the salary required, on or before MONDAY, the 6th day of SEPTEMBER next. By order of the Board, H. HOLLIER, Clerk.

Aberdare, 7th July, 1858.

A GOOD CHANCE for a Young Man leaving the Office, who requires practical information.—A thorough Practical Man, who is desirous of meeting with a Party requiring a Heavy Contract in the Building Trade, which he has just entered upon. As the Contract is a heavy one, a Person with Capital is much need reply to A. B. South London News-office, Newington Butts.

A CLERK of WORKS—a practical Man—competent to prepare Plans, Estimates, and keep Accounts, will be glad of a Situation as CLERK of WORKS, or ASSISTANT to a Surveyor. Good Testimonials can be given.—Address, A. Z. 12, East-road, City-road, Hoxton.

MANAGING ASSISTANT WANTED in an ARCHITECT'S OFFICE. He must have passed a considerable time in London, and be capable of undertaking the management of extensive Works, and of taking Measurements, and Estimates. State age, experience, terms, and references, to A. M. WALTER, News Agent, Bedford, Bedfordshire.

NOTICE to MASONS. WANTED, good BANKER HANDS. 4 Workmen Apply to Mr. Nottingham, C. C. and A. Dennet having now agreed to give the hour on a Monday which there has been a strike, fifty additional men are required to make more rapid progress with the works.

N.B. It is a two years' job.

SURVEYOR, &c. WANTED.—The Llanelly Local Board of Health, Carmarthenshire, is desirous to appoint a SURVEYOR, and an ASSISTANT SURVEYOR and INSPECTOR of NUISANCES. The surveyor must have a competent practical knowledge of engineering, and be properly fitted for the Road Walking and superintending the execution of works, and at the meetings of the Board. The assistant surveyor and inspector of nuisances will be required to give his whole time to the performance of the duties required of him, and to take his orders from the surveyor. Further information may be obtained from Mr. P. J. BROWN, Clerk to the Llanelly Local Board of Health. Applications will be received till the 1st of SEPTEMBER next, when the time of election and amount of salaries will be determined.

Llanelly, 7th August, 1858.

TIMEKEEPER, &c.—WANTED, a TIMEKEEPER, &c. from 30 to 40 years of age, and to make himself generally useful in an Engineer's Repository. Those who have not been about fifty men are not required. None need to apply but those who have filled a similar situation. Apply by letter, in own handwriting, to B. B. care of Mr. Sloper, Stationer, 47, Holborn-hill, E.C.

WANTED, an efficient Young Man, as ASSISTANT to a Surveyor and Builder. Must be competent to keep the books, and make out working drawings. Address, with terms and particulars, to GEORGE WOOD Surveyor and Builder, Rayleigh, Essex.—N.B. A good BUILDER'S CART WANTED.

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WANTED, an experienced and respectable Man, for the country, about six miles from Liverpool. He must be a good draughtsman and accountant, also conversant with the general routine of an office, with early hours.—Apply, by letter, post-paid, A. M. Post-office, Prescot, Lancashire.

WANTED, a BUILDER'S FOREMAN, who has a good knowledge of plans and building generally, to superintend in the shop and out of doors.—Address to BOAZ, Office of "The Builder," stating age, when last employed, and salary required.

WANTED, by an ARCHITECT and SURVEYOR of good practice in the country, an ASSISTANT, who can trace and copy drawings, &c. Board and lodging with the family to be considered an equivalent for services.—Address, stating age, &c. to J. B. M. Post-office, Donnington, Newbury, Berks.

WANTED, immediately, a respectable Man, who is a good GRAINER on SLATE.—Apply on Monday, at the Llangollen Slate and Slate Company (Limited), 4, South Wharf-road, Paddington, W.

TO WORKING FOREMEN OF CARPENTERS AND JOINERS.

WANTED, an experienced Man to TAKE CHARGE of a JOB in the Country. If found to suit, constant employment can be given.—Apply to Messrs. JOHN and M. COGGS, Swaffham, Norfolk.

WANTED, a DRAUGHTSMAN, who has a good practical knowledge of designs for mechanical and ornamental metal work. He will also be required to take out quantities from them, and make up estimates from prices. Hours, nine and six; salary, 30s. per month. Sobriety, punctuality, and steadiness indispensable. Apply, by letter, only to Messrs. STEVENS and SON, Dial-yard, Windsor, Berkshire, bridge end.

TO LIME, TILE, CEMENT MERCHANTS, AND OTHERS.

WANTED, by a respectable Young Man, who is acquainted with the principal builders in and about London, a SITUATION, a few miles from London, as COLLETOR, and to attend to a wharf. Has filled similar situations. Can be highly recommended from his present employers.—Address, M. R. C. Office of "The Builder."

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WANTED, by a Young Man, a SITUATION, in a Smith's Shop. Would not object to attach himself for a short time. Has been some time in the above.—Address, T. B. No. 103, Gloucester-mews West, Montague-square.

WANTED, by a Young Man, aged 22, EMPLOYMENT as a HANDY-MAN, in Painting, Glazing, and Plumbing; is not quite practical. He is a good white washer, and would make himself generally useful.—Address, H. H. Mr. Gilbert's, 3, Paddington-street, Baker-street, Marylebone.

WANTED, a SITUATION in an ARCHITECT'S OFFICE, in town or country.—Address, J. S., 17, Stockbridge-terrace, Pimlico.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a respectable, middle-aged Man, as CLERK or FOREMAN of a brickfield, or tile-works, who thoroughly understands the business in all its branches, paints, stocks, red and white bricks, drain pipes, and tiles. Respectable references.—Address, R. R. No. 105, Lower Marsh, Lambeth.

TO BUILDERS, HOUSE DECORATORS, &c.

WANTED, CONSTANT EMPLOYMENT, by a sober, steady Man, as JOBBING BRICKLAYER, PLASTERER, SLATER, &c.; understands fire work; a good distemperer, painter, and glazier. At a low salary. In town or country.—Address, J. M. 8, Durand-terrace, Kentish-town.

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WANTED, an ENGAGEMENT, by an experienced Man, aged 30, a good MEASURER, DRAUGHTSMAN, &c. ACQUAINTED and thoroughly understands practice of Land and Estate Work.—Address, M. M. V. No. 1, Great Ormond street, London, W.C.

WANTED, an ENGAGEMENT, in a Builder's or Surveyor's Office, by a CLERK, accustomed to measuring, taking quantities, and writing out the same; who is a good accountant.—Address, B. B. 18, Retreat-place, South Hackney, N.E.

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WANTED, by a Young Man, a SITUATION as IMPROVER in the Plumbing Business, for three years. Has been four years in the trade, and is willing to fill up his time with profit. Country not objected to.—Address, W. C. H. 13, Belvidere-road, Lambeth, S.

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WANTED, by a respectable trustworthy Young Man, a SITUATION as CLERK. He has been used to take out quantities and booking materials. And understands the general routine of office duties. The most satisfactory references can be given.—Address, A. J. B. Mr. J. Smith's, 55, Charles street, Goswell-road, E.C.

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WANTED, by a steady, respectable Man, aged 33, a SITUATION, as a thoroughly practical PLUMBER. Can fill up his time in painting and glazing. Good references from last employer.—Address, H. L. Office of "The Builder."

WANTED, for a respectable Youth, 15 years of age, who has been two years in a surveyor's office, a SITUATION with a builder as an APPRENTICE, to learn the trade of a carpenter and joiner.—Address, free, stating terms, to A. Z. care of Mr. Louke, Bedford House Academy, Mile-end-gate, London.

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WANTED, by a Young Man, practically acquainted with bricklaying, a SITUATION as FOREMAN of SEWER WORK, TIMEKEEPER, &c. or he would take work by the piece, in town or country.—Address, Y. Z., No. 30, Powell-street road, King's square, Goswell-street.

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WANTED, an ENGAGEMENT, in Town or Country, to prepare Working, Finished, and Perspective Drawings, take off quantities, and measure up works; or as Clerk of Works. Good references. Salary moderate.—Address, J. A. B. care of Mr. R. WRIGHT, 3, Joiner-street, Lambeth-road.

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AN ASSISTANT, well versed in the routine of an Architect's office, and possessing a thorough practical knowledge, is open to an ENGAGEMENT at a moderate salary. Is a good draughtsman, and can take out quantities.—Address, M. N. No. 59, Alfred-street, Cartwright-square, W.C.

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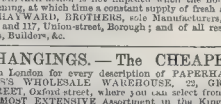

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ROYAL BOTANICAL GARDENS, REGENT'S PARK,

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great metropolitan meet has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, as used for inclosures at the Royal Agricultural Society's House, in Hanover-square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and to delays sometimes incident to their route. They also CAUTION AGAINST MISREPRESENTATION as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and CO.'S MANUFACTORY, LAMB'S BUILDINGS, BUNHILL-ROW. Roofs covered with the Felt to be seen at the Factories, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster-Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

The only White Zinc Works in the United Kingdom.

HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Painters and Decorators have now and really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no comparison with the genuine article.

But still greater prejudice is excited to their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns, but chalks away. It first loses the gloss, and ultimately moves up with the water and washes off.

Hubbuck's Patent Process completely resists London atmosphere, bilge water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.

N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

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THE CRYSTAL PALACE AND SUBURBAN BRICK AND TILE COMPANY (Limited),

WORKS: LORDSHIP LANE, DULWICH,

One mile from the Forest Hill Station, have on SALE, BRICKS and TILES, DRAIN PIPES of various sizes, and other CERAMIC Wares, of very superior quality, and at prices much lower than those usual in the trade; great economy being effected by this patent mode of burning. For prices and particulars respecting licenses, apply to Mr. JULIEN DENIS, the Manager, at the Works; or at the Offices of the Company, 86, KING WILLIAM STREET, LONDON, E.C. where Samples and Specimens may be inspected.

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JAMES HETLEY and CO beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London

ARTISTIC TABLE GLASS,

in any style, Plain, cut, or engraved
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WHOLESALE BRITISH and FOREIGN WINDOW-GLASS WAREHOUSE.

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Of a superior Quality and Colour,
SUPPLIED AT THE LOWEST CURRENT RATES.
Contracts given upon application.

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THOMAS MILLINGTON'S NEW LIST of REDUCED PRICES are now ready, and may be had on application.

SHEET GLASS, fourths, in 200 feet cases, at 24s per case.
" thirds, " 33s. "
" seconds, " 50s. "
best, " 80s.
Boxes of 100 feet each, at 10s. 12s. 14s. or 16s. according to size.
21oz. 26oz. 32oz. and 42oz. in various qualities.
Also, CRYSTAL SHEET GLASS
16oz at 42oz Ground and Matted Glass of various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

COLOURS, VARNISHES, &c.

Genuine White Lead, 32s 6d.; seconds ditto, 30s. 6d. per cwt. Linseed Oil, 2s. 6d.; Boiled ditto, 2s. 10d: Turpentine, 3s. 5d. per gallon. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c
The above prices subject to the fluctuation of the markets.

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LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER CLOSETS
Cocks and Valves of every description.
Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in exchange.

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Established upwards of One Hundred Years.

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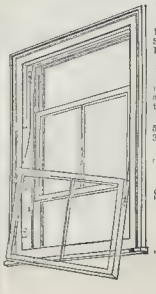

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Both outer and inner sashes can be detached from the frame and lifted in one minute, as removing a part of the inner and parting beads. The lines are simply slotted into a groove, at the side of the sash.

Old Windows fitted, complete, at 5s. each, or materials supplied, from 3s 6d.

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SASHES AND FRAMES, DOORS, MOULDINGS, SHOP-FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERS' WORK, ON THE SHORTEST NOTICE AND AT THE LOWEST PRICES.

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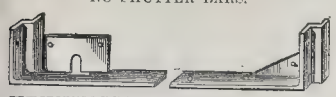

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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops refitted in every public street in London
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MESSRS. FREEN and CO.
CEMENT AND PLASTER MANUFACTURERS,
AND
LIME MERCHANTS,
WORKS: CANAL ROAD, KINGSLAND-ROAD BRIDGE.
ROMAN CEMENT
Supplied in any quantity, fresh from the Mill, of a quality for which these works have been celebrated for upwards of thirty years.
PATENT PORTLAND CEMENT,
proved by eminent engineers to be the strongest and most uniform in colour of any manufactured
PLASTER OF PARIS
of very superior quality, fresh from the ovens, daily.
GREY and CHALK LIME, by the yard or barge.
Shipping orders executed upon liberal terms

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And 6, SOUTH WHARF, PADDINGTON BASIN.
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SUPERIOR WHITE SUFFOLK FACINGS,
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BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.
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STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terra-Metallic Paving Tiles. Plain, Chamfered, Rolled-top, and Ornamental Ground Edging, &c. Broseley Tiles
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SLATES, best quality from the Bangor Quarries.
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BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.
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All kinds of Building Materials sent by Rail the same day as ordered.
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Tenders given for any quantity.
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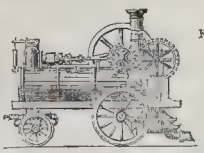
Manufacturers only of first class quality, for the home and foreign trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks or breakwaters, tidal work, or otherwise.
LONDON WHARF, BELVIDERE-ROAD, LAMBETH.



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From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month
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Manufacturers of Ironwork for Drainage Purposes,
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N.B. Steam-power, with Workshops, to Let.

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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.
MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.
DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
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DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.
HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

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ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength, &c. of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

WHITE and RED SUFFOLK FACING BRICKS,
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The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT-COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex.
The RWELL deep BLACK RUBBING and BUILDING BRICKS. And the EWELL and CHALFONT dark and bright RED RUBBERS.
COWLEY, KENT, AND ESSEX BRICKS, IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth, and Kent-road Bridge, } SOLE CONSIGNEES.
The usual commission allowed to merchants of the trade from the monthly price-lists.
N.B. Every description of the Building Goods of the Trade always in Stock.

ST. JAMES'S MUSIC-HALL.—The whole interior of this noble Hall has been plastered with MARTIN'S PATENT CEMENT. The elaborate Ceiling, including the ribbing and Colouring of the principal and intermediate Ribs, Mouldings, Rosettes, Drums, &c. as also the Ground work, were all completed in less than a month on the SAME MATERIAL. M nufactured by STEVENS and SON, Drury-lane, and Derwent Mills, Derby.

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LIME WORKS, CHALK, FLINT, and BALLAST WHARFS,
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Whereat can be obtained of the best quality:—
GREY STONE, CHALK, and FLARE LIME
ROMAN, PORTLAND, KEENE'S, ATKINSON'S, MARTIN'S, and PARIAN CEMENTS
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WHITE and RED SUFFOLK FACING BRICKS.
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Goods forwarded by Railway with despatch.

PARIAN CEMENT.—This article is valuable for internal stucco instead of common plastering, and is especially adapted to skirtings, flooring on brick arches, &c. &c. It takes paint in a few hours after its application on walls or laths, is without efflorescence, and may be painted or papered forthwith. A finer quality forms a beautiful scagliola, and polishes with any admixture of colours.—Manufactured by the Patentees, FRANCIS, BROTHERS, and POTT, Cement Works, Nine-elms, London.

SCOTT'S PATENT CEMENT,
Manufactured only by
WILLIAM LEE, SON, and SMITH,
EARL STREET, BLACKFRIARS.
This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

PORTLAND, BATH, and LIAS CEMENTS.
First-class quality and lowest price.
GENUINE BLUE LIAS LIME, fresh up from the kilns in Warwickshire daily, at the same price as Grey Lime at Paddington Station.
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*** Shipping orders carefully and promptly executed.

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MESSRS. STROUD and SON beg to announce, that they are now able to supply builders, and the trade generally, with Grey Stone Chalk, Blue Lias Lime, Sand, Roman and Portland Cement, Plaster, Laths, Hair, Tiles, Drain and other Pipes, and Malm Facing-bricks of every description, of the best quality, and at the lowest prices.—CROWN-WHARF, HERTFORD-ROAD, KINGSLAND.

GREAVES'S BLUE LIAS LIME.—Messrs. GREAVES and KERSHAW beg leave to inform the Trade that they are prepared to deliver GREAVES'S BLUE LIAS LIME, LUMP or GROUND, direct from their Works, to any part of London, and the neighbourhood either by boats or Railway.
Since Mr. GREAVES introduced this LIME into the London Market it has been so extensively used in all the principal public and other works wherever strong hydraulic lime has been required, that its quality as well known. By the arrangements now made Messrs. GREAVES and KERSHAW will be enabled to deliver LIME direct, fresh from their Works, at such a price as will ensure its being used in all works where quality is considered, it being the best and strongest LIME in the London Market.
Works at Stockton near Rugby.
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" Wilmcote near Stratford-on-Avon.
Offices at Warwick.
Portland, Lias, Bath, and Roman Cements.

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N.B. These Cements supplied for shipment, on advantageous terms.

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STAFFORDSHIRE PAVEMENTS and RIDGING. Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.
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PORTABLE STEAM ENGINES,

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At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

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OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Barns, Gardens, Stables, Liquid Manure, Slops, Barges, Warehousing, &c. adapted for any depth.

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Pumps of any size, Single or Double Barrel, up to Double 18-inch diameter, kept ready for use, at reduced prices

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

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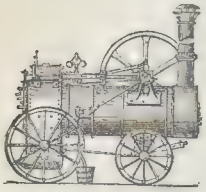

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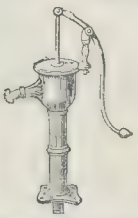
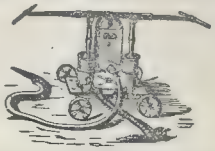
OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.

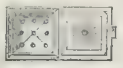




HOLMAN'S Patent CESSPOOL PUMPS, CONTRACTORS' PORTABLE PUMPS, Pumps of every description for HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

Sectional Elevation of Street Gully & Trap



Plan of Top of Trap

MERRY'S REGISTERED

TRIPLE EFFLUVIA-TRAP

IS ADAPTED FOR

STREETS AND STABLE DRAINS.

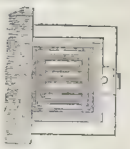
Also for

AREA, SINK, AND SCULLERY DRAINS OF DWELLING-HOUSES.

It is compact in form, simple in construction, not liable to derangement, and is decidedly (WITH OR WITHOUT WATER) the most perfect Trap of the day.

Price 8s. and 10s. each.

MANUFACTURED BY H. MILLICHAMP, Princes-street, Lambeth.



Plan of Street Gully & Trap

Sectional Elevation of Trap

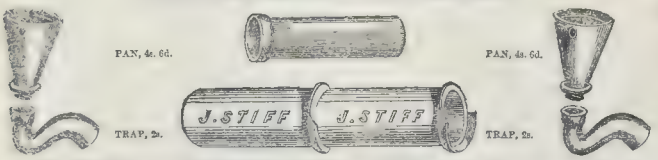
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs COLES, SHADBOLT, and CO'S. St James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr LAVERS'S, Dowgate Wharf, Cama-road, Hoxton.
Messrs COLWILL (BROTHERS), 39, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

TO BE SOLD, by TENDER, a capital three-throw ENGINE-PUMP, with three 6-inch brass cylinders, and [illegible] complete, [illegible] Tenders, endorsed "Tender for Engine Pump," may be sent to my Office, on or before TUESDAY, the [illegible]

[illegible] CHAMBERLAIN, Clerk

Leicester, July 6th, 1858

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, [illegible] SOCKET RINGS, for Hot Water Pipes, Vacuum Bottle Protectors, and Solid Rubber Rollers for Paper and Calico Printers. Patentees of Rubber Stereotype Blankets for Bagshaw's patent.

Patentees of Improved Hackle, and Improved Vulcanized Rubber Supply-pipes for ditto.

Manufacturers of India-rubber Springs, from those to four feet wide, and of every description of India-rubber Goods, including Portable Baths. Illustrated Price-list and Pattern Book forwarded on application, or may be seen by Patterns at

N.B. All goods manufactured and sold by the Patentees, or their Successors, JAMES LYNE HANCOCK, Gossamer-mews, Great Peter-street, Westminster.

DURABILITY of GUTTA PERCHA TUBING.—Many persons having been misled as to the Durability of Gutta Percha Tubing, the Patentees have pleasure in calling the attention of the public to the following letter from SIR RAYMOND JARVIS, BART. VENTNOR, ISLE OF WIGHT, addressed to Messrs. "March 16th, 1852. In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, that it answers perfectly. Many Gentlemen of other persons have lately examined it, and there is not the least appearance of its having [illegible] I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From the last named it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF-ROAD, CITY-ROAD, LONDON.

PELICAN LIFE INSURANCE COMPANY, established in 1797.

70, Lombard-street, City, and 57, Charing-cross, Westminster

Directors.

William Cotton, D.C.L. F.R.S.	Kirkman D. Hodgson, esq. M.P.
Octavius Edward Coope, esq.	Henry Lancelot Holland, esq.
John Dent, esq.	William Lancaster, esq.
William Walter Fuller, esq.	Lieutenant Sconce, esq.
Jas. A. Gordon, M.D. F.R.S.	Matthew Whitbread, esq.
Henry Grace, esq.	M. Wyvill, jun. esq. M.P.

The Company offers

COMPLETE SECURITY. Moderate Rates of Premium with participation in four fifths or eighty per cent of the profits. Low Rates without participation in profits.

LOANS in connection with Life Assurance, on approved security, in sums of not less than £20.

ANNUAL PREMIUM required for the Assurance of 100l for the whole term of life.

Age.	Without Profits.	With Profits.	Age.	Without Profits.	With Profits.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
15	1 11 0	1 15 0	40	2 18 10	3 6 8
20	1 17 0	1 18 3	50	4 0 9	4 10 7
30	2 4 0	2 10 4	60	6 1 6	6 7 4

ROBERT TUCKER, Secretary

ACCIDENTS of EVERY DESCRIPTION.

£1,000 IN CASE OF DEATH; OR A FIXED ALLOWANCE OF 6l. PER WEEK IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY.

A special Act provides that persons insuring compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid 80 compensations for Accidents 27,000l

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against for the Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company, Offices, 3, Old Broad-street, London, E.C.

THE SANITARY CONDITION OF COURTS IN THE DISTRICT OF BERMONDSEY.

THE "BUILDER" OF LAST WEEK THUS CONCLUDES A LONG ARTICLE ON THIS SUBJECT:—

"Having already noticed the difficulty in connection with the water supply at New-court and elsewhere, and feeling both that cisterns and sunk reservoirs are insufficient for poor districts, and that the supply of water from the main at intervals does not answer a useful purpose, we were glad to meet with the application of an invention which consists of a communication with the main water-pipe, whereby, on the movement of a handle, a certain quantity of water is poured out. By this contrivance the inhabitants of any court can have a supply of water at all hours of the night or day.

"Mr. Payne, the proprietor of some house property in this neighbourhood, says that he finds this to answer well, and believes that they must come into general use. At any rate, the invention deserves examination."

This invention, so favourably noticed, is

JENNINGS'S PATENT WATER-WASTE PREVENTER,

By the use of which all Water-butts, Cisterns, Ball-Cocks, Service Pipes and Cocks are dispensed with.

The following Testimonial from the Engineers of the Southwark and Vauxhall Water Companies, stamps the value of the invention:—

"Southwark and Vauxhall Water Company, Sumner-street, Southwark,
"August, 1858.

"Mr. Jennings,

"Dear Sir,—In reply to your inquiries, I have much pleasure in stating that where your "Water-Waste Preventers" have been introduced into the Courts and Alleys of this Company's District, they have proved eminently successful, effecting a great saving in the quantity of Water supplied (although constantly on), and adding very much to the comfort and convenience of the inhabitants.

"I am dear sir, yours truly, "JOSEPH QUICK."

These "Water-Waste Preventers" will be found applicable to any class of house, or any situation in which a supply of water is required. Independently of the advantages of PREVENTING WASTE, they have the effect of equalizing the pressure of water throughout a town or house, and may be used as PUBLIC FOUNTAINS, or as a means of supply to Water-Closets of every kind, Sinks, Courts, Yards, Stables, &c.

These "Waste Preventers" can be had in quantities at the following Prices:—

For Public Fountains, Courts, Sinks, Stables, &c. 38s. each

For Water-Closets—complete for fixing, 42s. each.

Compare the cost of the above arrangement with the cost of a Water-Butt or Cistern, with the attendant Ball-Cocks, Service-Cocks, Waste and Service Pipes, &c.

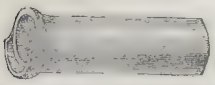
Further particulars, with Illustrations, can be had on application to

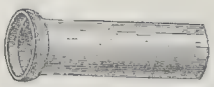
GEORGE JENNINGS, SANITARY DEPOT, HOLLAND-STREET, BLACKFRIARS-ROAD;

Where may be seen JENNINGS'S Patent Drain-Pipes, Air-Chamber Flue-Pipes, Segmental Sewer-Blocks, Sluice-Valves, Fire-Cocks, Water-Meters, Water-Closets of every kind, and many other Sanitary Appliances, well worthy the notice of Architects and Engineers.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.





S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

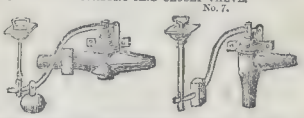
Price 6s. 6d. each.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,
Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his
GLAZED STONEWARE DRAIN-PIPES.
LISTS OF PRICES FORWARDED ON APPLICATION.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.

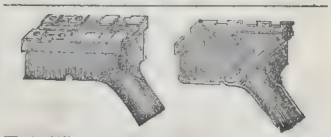
No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentee,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 12s. 6d. each.



BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Pimlico, Engineers, and Smiths, 103, Drury-lane, and 82a-road, Bermondsey.

DRAIN-PIPES!—To BUILDERS, CONTRACTORS, &c.—

In consequence of relinquishing business, the DORSET COUNTY DRAIN PIPE COMPANY are prepared to deliver the remaining portion of their stock (only part in Great Britain (Lincoln especially)), at wholesale lots, at very advantageous prices.—Address, D C D Post-office, Dorchester.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Croydon Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

KAMPTULICON FLOOR-CLOTH, the Improved Patent Noiseless, Warm, Waterproof, Cleanly and Everlasting, NOW READY, Plain, and in a Variety of Elegant Designs, adapted for Churches, Halls, Public Buildings, and Rooms; subject to constant and indiscriminate wear.—Price 6d per square foot.—COBBETT and CO House Furnishers, Deptford-bridge, S.E.—Patterns may be seen at the Office of "The Builder."

SALES BY AUCTION.

GROSVENOR SQUARE.—Valuable Building Materials, Fittings up, and Fixtures

MR. GEO. HAINES announces for SALE by AUCTION, on the PREMISES, on MONDAY, August 16, and following day, at ELEVEN, all the capital MATERIALS of TWO MANSIONS, Stable, and Outbuildings, 2, Grosvenor-square, and 27, Grosvenor-street; comprising a large quantity of sound brickwork, slate and lining scantlings, excellent timber for floors, partitions, doors, sash, and other sashes, glazed lights, in side cheaney pieces, Portland and York paving, deep lead flats, batten locks, bells, shutters, pipes, and water-closets, and fittings, the fittings of the coach-houses, together with numerous fixtures of ranges, stoves, large coppers, ovens, presses, a wrought-iron room with folding doors, and useful articles. May be viewed three days previous to the sale. Catalogues on the Premises; at Messrs HAINES' Auctioneers, Moorgate-street; and at Mr. G HAINES' Offices, 12, High street, Kensington, and Grosvenor-street West, Eaton square

No. 35, GROSVENOR-SQUARE.—To Builders, Dealers in Materials, Artificers, and others

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, on WEDNESDAY and THURSDAY, AUGUST 18 and 19, at ELEVEN o'clock, the whole of the capital MATERIALS of the MANSION, comprising prime brick-work, slate and tile covering, massive lead-work, sound timbers in roofs, floors, partitions, doors, sashes, staircases, stone pavement, iron railings, the erection of an eleven-stall stable, coach-house, and other offices, numerous fireproof chimney-pieces, and numerous fixtures. May be viewed TWO DAYS prior to the Sale. Catalogues of Messrs. HAINES, Auctioneers, Moorgate-street; and at the Auctioneer's Offices, No. 12, High street, Kensington; and Grosvenor-street West, Eaton square.

TO BE SOLD, pursuant to a decree of the High Court of Chancery, made in a cause of Smith v. Tagg, with the approbation of the Master of the Rolls, in eight lots

MR. THOMAS HEWS, the person appointed by the said Judge, at the CATHERINE WHEEL INN, Hedsor on Thursday, the 26th day of August, 1858, at TWO o'clock, the following valuable FREEHOLD PROPERTIES, — six houses and premises with gardens, in Duke-street, Henley, a house and premises, with garden on the north side of the Market place, Henley; a house, warehouse, and extensive business premises, and workshops, with stable, coach-house, and yard in the rear, in Bell-street, Henley, and premises adjoining, in Bell street, Henley; together with the GOODWILL and STOCK IN TRADE of the late Mr. Frederick Tagg, ironmonger, deceased; a dwelling house and premises, with stable, coach-house, garden, and small paddock, also in Bell-street, Henley; two cottages, with garden, situate at Shepridge, in the Parish of Hambledon, Bucks; and an enclosed piece of Meadow Land, containing about six acres, called Tuppenny Mead, situate in the Parish of Remenham, Berkshire, all late the property of the said Mr. Frederick Tagg, deceased.—Printed particulars and conditions of sale, may be had (gratis), in London, of Messrs. KINGSFORD and DORMAN, Solicitors, 23, Southampton-street, W.C.; Messrs. NEWBERY and JARVIS, Solicitors, 23, Chancery-lane, W.C.; and Mr. CHARLES BERKELEY, Solicitor, 52, Lincoln's-inn fields, W.C.; and in the Country of Mr. HENRY HEADLEY, Solicitor, Henley; Messrs. COOPER, Solicitors, Henley; and of the Auctioneer, Hedsor; and at the Place of Sale. Dated this 27th day of July, 1858.

GEO. HUME, Chief Clerk

METROPOLIS IMPROVEMENTS, SHOREDITCH.—Very near and valuable Freehold Building Land, adjoining the Terminus of the East and West India Junction Railway, with Extensive Frontages to the two streets called Great and Little Wood-street, Shoreditch to Spitalfields Church and Whitechapel; also well-situated Freehold Ground Rents of long date

MESSRS. NORTON, HOGGART, and TRIST, have received instructions from the Commissioners for the Metropolitan Board of Works to offer for SALE, by AUCTION, at PUGH'S, 67 and 68, CORNHILL, on Thursday, the 19th day of August, 1858, at TWELVE, the following valuable FREEHOLD PROPERTY. Lot 1. A plot of building land, having a frontage of 140 feet to Commercial-street and 95 feet to Whitechapel. Lot 2. A plot of building land, adjoining lot 1, having a frontage of about 140 feet to Commercial-street and 95 feet to Dorset-street. Lot 3. A plot of building land, having a frontage of 32 feet to Commercial-street and 95 feet to Dorset-street. Lots 4 and 5. Two freehold messuages, with workshops in the rear of Nos. 37 and 38 Wood-street, and fronting to Commercial-street. Lot 6. A plot of building land, adjoining the Ten Bells Public house, having a frontage of 32 feet to Commercial-street and 124 feet to Red Lion-court. Lot 7, with Three freehold messuages in Wilkes-head, Goodman's Yard, and Spitalfields market, having very considerable frontages to Commercial-street to the north, to Red Lion-court and Wood-street to the south, to freehold messuages in Wood-street on the west, and to the Public House adjoining and fronting to the corner of Mr Phillips's Distillery. Lot 8. Very valuable freehold building land, having very considerable frontages to Great Eastern-street, immediately adjoining the then newly-erected Eastern Counties Railway, and extremely well adapted for the erection of large manufactories, warehouses, or dwelling-houses. Nos. 1 to 6, Blossom's-terrace; and a piece of vacant building ground adjoining—May be viewed, by permission, with plans, had at the Office of Works, 12, Whitehall-place; of JOHN GARDINER, Esq. No. 5, Whitehall-place; of J. PENNETHORNE, Esq. 7, Whitehall yard; at the Mart; and of Messrs. NORTON, HOGGART, and TRIST, 62, Old Broad-street, Royal Exchange.

TEDDINGTON LOCKS. To Contractors, Builders, and Others.—In pursuance of powers in Private Acts of Parliament

PULLEN and SON are favoured with instructions from the Commissioners of the Corporation of the City of London to SELL by AUCTION on the PREMISES, at TEDDINGTON, on THURSDAY, September 2, and following day, at TWELVE, in lots, in consequence of the completion of the new locks, the extensive PLANT, TOOLS, and SURPLUS MATERIAL, comprising a capital 10 horse power horizontal steam engine, by Ransome and Sims; a 4-horse high-pressure oscillating engine; two large steam boilers, two capital mortar mills, complete, Gwynne's patent centrifugal pump and pipes, circular saw-bench, with two 4-feet saws, large double and single crabs, crab and crane bands, six pile-driving engines, with monkeys; 500 loads of prime oak and fir timber, in whole and half timbers, and useful scantling; 100 pounds of iron, consisting of bars, bolts, and straps; 1,000 feet of 3-inch fir planks and boards; 1,500 feet chain, 1 to 3-inch scaffold poles and boards; pulleys, cords, ladders, mortar boards, wheeling planks; 74 navvy barrows, 6 crab-winches, 2 capital carts, 20 false floor tracks, 3 forges, 3 anvils, vices, sledge hammers, crab-stones, water tanks, anvils, drills, arches, and various other tools; 5 tons of wrought and cast iron; the bank and weather boarding of brick, and workshops, and stables, with loose boxes, lofts, and other buildings; and all the capital brick, timber, and iron work of the locks, large and small, and all the offices thereto.—May be viewed two days previous; and catalogues had of PULLEN and SON, 80, Forest-street, Chigwell.

Freehold Building Land, Battersea

MESSRS. GLASIER and SON will SELL by AUCTION, at GARRAWAYS, on TUESDAY, AUGUST 24th, at TWELVE for ONE, in THIRTY SEVEN PLOTS of valuable FREEHOLD BUILDING LAND (land-tax redeemed), most eligibly situate on the south side of the Lower Wandsworth road, leading to Battersea-bridge, opposite the Royal Park, and near the Queen's Crystal Palace. Battersea Rise, Clapham, and Wandsworth, for the erection of first-rate family residences.—May be viewed, and particulars with plans had of Messrs. PRICE, BOLTON, and FILDER, Solicitors, 1, New-square, Lincoln's-inn; at Garraways; and of the Auctioneers, at Clapham

To MERCHANTS, BUILDERS, CABINET and PIANO FORTE MAKERS AND OTHERS

TREW will SELL by AUCTION, PRIMROSE-ST. Union-street, Spitalfields, on FRIDAY, AUGUST 27, at TWELVE, the SUPERIOR STOCK of mahogany, 1,000 feet of walnut, 1,000 feet of [illegible] of scantling and miscellaneous stock.—May be had, on the Premises, and of the Auctioneer, Hampstead-road, near the Euston Station.

SALES BY AUCTION.

To Engineers, Millowners, Agriculturists, and Others, requiring a set of good useful Steam Engine.—Commercial Docks, Rotherhithe, London

MESSRS. PAGE and CAMERON will SELL by AUCTION, at No. 1, WAREHOUSE, COMMERCIAL DOCKS, on WEDNESDAY, AUGUST 18, at TWELVE, in lots, SEVEN new and very superior STEAM ENGINES, boilers, boiler fittings, and machinery, cast iron gas retort, &c., &c., &c., comprising a new condensing beam engine, of 35-horse power, cylinder 28 inches diameter, and 4 feet stroke, made in 1856 by James Carmichael and Co. Dundee; a condensing column framed beam-engine, of 16-horse power, cylinder 14 inches diameter, and 6 feet stroke, made in 1858 by James Carmichael and Co. Dundee; a superior horizontal high pressure steam engine, of 18-horse power, 15 inches diameter, and 2 feet 6 inches stroke, made in 1857 by Standale, Kirkaldy; a horizontal high pressure engine, of 18-horse power, cylinder 14 inches diameter, and 2 feet stroke, with reversing gear, made in 1857 by Tennant, Edinburgh; a horizontal steam engine, of 10 horse power, cylinder 14 inches diameter, 3-feet stroke, by Brown, Kirkaldy; a horizontal high pressure engine, of 12-horse power, cylinder 12½ inches diameter, and 3 feet stroke, by Young, Edinburgh; a horizontal high pressure engine, of 14-horse power, cylinder 12 inches diameter, and 3-feet stroke, by Brown, Kirkaldy; a steam boiler and flue, 23 feet by 5 feet 8 inches, with furnace, bars, and doors; eight sets of gas-making apparatus and machinery, suitable for the above engines; 3 cwt. of brass, &c.; also from the steamer *Rapid*, a nearly new Life-boat, 26 feet; a square-sterned gig, 24 feet; a round sterned gig, 24 feet; fourteen spare oars, a set of mast pieces, and seven stand Ugas-pipes.—May be viewed, between the hours of Nine and Five, by applying to the Engineer, at the Workhouse, Commercial Dock, and further particulars and catalogues had of Messrs. PAGE and CAMERON, Land Agents and Surveyors, 64, Old Broad-street, London, and St. Alban's, Herts; also of Captain RUSSELL, Sub-Committee rooms, Lloyd's, London; at the *Mercury* Office, Liverpool; and at the Office of the *Midland Counties Herald*, Birmingham.

Metropolis Improvements.—Spitalfields Extension.—Twenty-two Valuable Materials of a Soap Factory and Dwelling-house.

MESSRS. EVERSFIELD and HORNE have received instructions from the Commissioners of her Majesty's Public Works and Buildings to SELL by AUCTION, on the PREMISES, on FRIDAY, AUGUST 13th, at TEN for ELEVEN, the remaining portion of the SOAPERY, and DWELLING HOUSE adjoining, late in the occupation of Messrs. Wilkie and Sons, situate in Wheeler-street, Spitalfields; comprising a large quantity of pan and plain tiles, slates, rafters, joists, principal timber, and flooring boards; stable fittings, sashes, doors, frames, iron railings, gates, and palisading, and numerous other lots. May be viewed two days previous, and catalogues had on the Premises; also of J. PENNETHORNE, Esq. 7, Whitehall-yard; and of the Auctioneers, 40, Parliament-street, S.W.

DEPTFORD.—Extensive Waterside Premises, Machinery, Tools, Patent Rights, &c.

MR. MARSH has received instructions to SELL by AUCTION, on the PREMISES, on TUESDAY next, AUGUST 17th, at TWELVE precisely, the capital WATERSIDE PROPERTY, distinguished as ST. GEORGE'S WHARF, Grove-street, Deptford; also the fixed plant and machinery, including two 6-horse power locomotive engines, with tubular boilers, steel rack-and-pinion gear, two planing machines, and a policy of assurance for 1,000*l.* in the Britannia Fire Office. May be viewed the day prior to the sale, and catalogues had; also, with conditions of sale, obtained on the Premises; of Messrs. NELLE and PARKER, Solicitors, 38, Bedford-row, Holborn; and at Mr. MARSH'S Offices, Charlotte-row, Mansion-house

FOR SALE BY PUBLIC AUCTION in the SALE ROOM, at F. K. BARNES and SONS' TIMBER-YARD, Canon's Marsh, Bristol, on WEDNESDAY, the 25th of AUGUST, 1858, at TWELVE o'clock precisely, for account of Shipowners—

2,500 Spruce Deals and Battens, of various sizes, from Quebec
250 Quebec Pine Planks and Boards, from Port Hastings, &c.
1,000 Birch Logs, from Pictou
600 Pitch Pine Logs
1,000 Red Deals
100 Oak Logs, for Shipbuilding purposes
1,000 Pitch Pine Deals and Battens
300 New Orleans Planks
New Leaves of Yellow Pine Timber
Logs of Quebec Red Pine
Loads Best Fresh Quebec Yellow Pine
Logs Quebec Red Pine
Logs Mast Timber
Logs Oak Timber
Loads Square Pitch Pine
1,000 Quebec Pine Staves
20 Fathoms Hemlock Lathwood
1,000 Pipe Hoop Poles
With other Timber.

Catalogues will be issued on the week of sale.

F. K. BARNES and SONS, Brokers.

Canon's Marsh, Bristol, August 11th, 1858.

NOTE.—The Importer of Bristol having determined to close the Yard sale, all persons indebted to him are requested to call and pay the amount of their accounts on or before the day of sale, as no further credit can be given on that occasion, as well as in consequence of it, and solicit their presence and support.

CHISLEHURST COMMON, KENT.—To BUILDERS, WHEELWRIGHTS, FARMERS, DEALERS, and others.

MESSRS. BOOTH and CO. will SELL by AUCTION, at the PREMISES, as above, on THURSDAY, the 19th of AUGUST, 1858, at TWELVE for ONE o'clock, the STOCK of BUILDERS' and WHEELWRIGHTS' TIMBER, consisting of [illegible] and a large assortment of useful timber of the usual description, [illegible] scantling, deals, battens, &c. Also a quantity of old oak, elm, and other timber, and a few tons of wrought iron.—Catalogues may be had on the Premises; of the Auctioneers, City, Kent, and Hemel Hempstead, Herts; and of Messrs. BOOTH and CO. Land Agents, Surveyors, and Auctioneers, 24, Old Broad-street, E.C.

BUILDERS' PERIODICAL DISTRICT SALES.—Western Depôt, St Mary-le-bone, opposite the New Church.

MESSRS. BOOTH and CO. will SELL by AUCTION on the premises, as above, on TUESDAY, AUGUST 24, 1858, a LARGE COLLECTION of BUILDING MATERIALS, new and old, of all kinds. Further particulars next week; to be had; and catalogues had at the Auctioneers' Offices, 24, Old Broad-street, City, E.C.

TOWER.—SALE of STORES.—By order of the Secretary of State for War.—TO BE SOLD by PUBLIC AUCTION, in the TOWER, on WEDNESDAY, the 18th of AUGUST, 1858, at ELEVEN o'clock in the Forenoon precisely, the following STORES:—Great Coats; Clothing, various; Waterproof Capes, &c.; Blankets, various; Rugs, Woollen, &c.; Tents; Accoutrements; Tools, various; Fire Engine, Old Iron and Steel, and Miscellaneous Articles. May be viewed in the Tower, from the 11th to the 14th inst., and previous to the Sale; and Catalogues had at the War Office, Pall-mall; the Tower; and Royal Arsenal, Woolwich.

EAST HILL, Wandsworth, Surrey.—Valuable Freehold Property.

MESSRS. NICHOLSON and SONS will SELL, together or in Two lots, at the Auction Mart, on THURSDAY, the 26th of AUGUST, 1858, at ONE o'clock punctually, a valuable FREEHOLD ESTATE, splendidly situated, and commanding extensive and picturesque views, comprising a Capital Family Residence, replete with every convenience, and standing an opportunity for the erection of first-class villa residences seldom to meet with. The property is conveniently divided, and approached from the high road by a carriage drive, and is now in the occupation of Mr. Goodall, who will show the premises. Plots of Leasehold Land adjoining the above, containing about five acres. Particulars and plans may be obtained on application at Messrs. KEMPSON and FEATHERSTONE, Solicitors, 1, Wellington-street, Westminster, S.W.; at the Auction Mart, E.C.; at the French Horn Inn, East-hill, Wandsworth; and at the Auctioneers' Offices, High-street, Wandsworth, S.W.

FREEHOLD TO BE SOLD, together or separately.—FOUR well built SIX ROOMED CHARNES, with Offices in the rear, situate in Amhurst-road, Hackney, near the Wesleyan Chapel. Price 950*l.* and 1,000*l.* Apply to Mr. PEARCE, No. 261, High Holborn, W.C.

NEW BROMPTON.—TO BE LET, on a BUILDING LEASE, or the FREEHOLD will be SOLD, a large and valuable PIECE of BUILDING LAND, within two miles of the Dockyard Gates, containing upwards of an acre, with a frontage on the Line road from London to Fulham of 221 feet, adapted for a public building, or laid out for erecting ten houses with shops, and an OLD ESTABLISHED PUBLIC HOUSE at the HIGH ROAD, with a terrace of thirty three attached houses and eighteen semi-detached villas. A dry, level, gravelly building site, and large frontage to the main road at the high road. The basement story of the public-house and twenty-three houses, with the walls of the ground story, are already built, and a large old mansion is standing on the land, the materials of which it will sell. The remainder of the land is enclosed with a wall, and is laid out in fruit trees and shrubs in the ground.—For plan and particulars apply to Messrs. GODWIN, Architects, No. 24, Alexander-square, Brompton.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq. at Burham, in the Medway.

MESSRS. FULLER and HORSEY are instructed by the late T. CUBITT, esq. to SELL by PRIVATE CONTRACT, the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq., with the lease eight years. The Burham works and clay-fields occupy a site of about eighty-five acres, partly Freehold and partly leasehold, on the banks of the River Medway, and are free from the Medway river dues. The distance from London is about thirty-eight miles, and the Maidstone or Aylesford stations of the North Kent Railway within two miles of the property. The surface of the land slopes at an inclination of about 1 in 7 towards the river, and the pits having been formed near the summit, but little wooden timber will be required. The clay is known as the Gault Clay, and it extends to all the entire surface to a depth of about 18 feet, above the water level, and is of the best quality for the manufacture. The Gault clay is found in great quantity of superior quality over the lands, and the Burham works are nearer to the London markets than any other of the Gault clay is found. The cost of carriage to London is only 3s. 6d. per ton. The works are conducted by Mr. Cubitt for his own requirements, and with every regard to economy and skill have been improved and expended for the purpose of rendering them complete. The principal building is upwards of 300 feet in length, chiefly three stories high. There are four pottery-kilns within the building, and also all the apparatus consisting of warm water pipes outside the building and extensively paved, are three patent kilns (two for seven each and one for 30,000); two waggon-top kilns 50,000 each; two Scotch kilns, 90,000 each; and three intermediate kilns each; also, seventeen acres covered brick ground, in capital order.

The plant is capable of producing 20,000,000 bricks per annum, in addition to the present extensive quantity of tiles, pipes, and fancy goods. The machinery consists of seventeen brick and tile machines, Ainsworth's rollers, with Mr. Cubitt's improvements, all the requisite pug-mills, worked by a pair of condensing steam engines, by Maudslay, Sons, and Field, of 24-inch cylinders, with boilers, weighing and train shaft, 350 feet in length, and 3 feet long. There are upwards of 100 different sorts of tiles for two, pipes, and fancy goods, including tiles, quarries, and bricks, made for the adjoining Palace. Near the river, there are large wash mills, in which two portable engines of 10-horse power, by Clayton and Shuttleworth, and connected by wooden troughs with four large main backs, at the lower part of the field. A reservoir of three acres in surface has been formed, which is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the establishment. The works are intersected by upwards of two miles of iron railways, with turntables and weigh-bridge, and there is a most substantially-built wharf, with stone wall, having 500 feet of still water light for barges to lie alongside.

The Cement Works comprise 8 mill buildings for drying chalk, three pug-mills, and [illegible] for the manufacture of bricks and pipes worked by a portable steam-engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly-erected residence for general manager, well placed, and surrounded by a large and productive garden. A newly erected [illegible] for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-acre field of excellent sand for brick-making purposes, and a wharf for landing the same. As stated, these works were established to supply Mr. Cubitt's own requirements, and there have not been brought into competition with other works of a similar character; but the facts that Mr. Cubitt's works which for the last few years have made cement, and have secured on the manufacture of bricks, drain pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, 7, London-street

TO BE SOLD PRIVATELY, several PLOTS of FREEHOLD BUILDING LAND, in Eaglefield Park, Lewisham, Kent. One 250 feet by the feet.—Apply to RICHARD GOODISON

A NUMBER of SMALL HOUSES in CROUCH-END, partly finished, TO BE LET, at ground rents, on very favourable terms, with or without leases. They are situated [illegible] and will be [illegible] complete.—Apply to Mr. JAMES EDMESTON, Architect, 5, Crown-court, Old Broad-street, E.C.

CROWN LANDS, WHICHWOOD, OXON.—TO BE SOLD, a Quantity of HEWN and ROUND OAK TIMBER, [illegible] lots of [illegible] timber and [illegible] trees. The timber is now [illegible] and [illegible] to be cut and taken away before the 1st of March next.—For further particulars apply to Mr JOHN CLUTTON, 3, Whitehall-place, Westminster.

CROWN LANDS, RICHMOND, SURREY.—TO BE LET for BUILDING, by order of the Hon. Charles Gore, the Commissioner of Woods, Forests, &c. in charge of the Crown Land in the Parish of Kew, on the north part of MARSH GATE FARM, situate within a short distance of Kew Gardens and Richmond-road.—For further particulars apply to Mr JOHN CLUTTON, 3, Whitehall-place, Westminster, S.W.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on the [illegible] road from Hackney to Walthamstow, and [illegible] from the Lea Bridge Station of the Eastern Counties Railway.—For further particulars apply to JAMES CROWDY, [illegible] Plaistow, E.

MANUFACTURING PREMISES WANTED, or GROUND suitable for their erection. The [illegible] will be [illegible] to the Royal Exchange Address, with price or rent, to [illegible] part-exam. to HENRY LLOYD MORGAN, Esq. Accountant, 74, Cornhill, E.C.

ANCHOR and HOPE PUBLIC-HOUSE, to be rebuilt, in the Old Kent-road, and New Houses in Three Tenements, in Trinity-street. The Contract, Assistant of the Worshipful Company of Parish Clerks, will receive PROPOSALS FOR REBUILDING the said PUBLIC-HOUSE, and HOUSES, and DEMISING, either together or separately, by lease or otherwise. Proposals to be sent under seal, to Mr. WILLIAM DADLEY, on or before the 17th day of [illegible] next. Plans and particulars may be seen at the Company's Office, Parish Clerks' Hall, Monkwell-street, London, E.C. By order of the Court of Assistants.

WILLIAM DADLEY, Clerk to the Company.

1, Anchor-terrace, Bridge-street, Southwark, S.E.

TO BUILDERS.—Eligible BUILDING LAND TO BE LET, with Drawings, on the St John's Old Estate, Old Kent-road, [illegible] Trinity-street, [illegible] Houses, which are [illegible] and of modern [illegible] For further particulars apply to Mr. CLARKSON, 23, Craven's-lane, W.C.

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The Builder.

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MUSEUM at ATHENS.—THE OFFICIAL PROGRAMME for this competition, furnished by A. C. [illegible], Esq., Greek Consul, LIES for INSPECTION at the INSTITUTE of BRITISH ARCHITECTS, 16, Grosvenor-street.
THOS. L. DONALDSON, Hon. Sec. Foreign Correspondence.

CONTRACTS.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS.—To ENGINEERS. ERECTION of NEW BATHS, BIRMINGHAM. The Baths and Parks Committee give Notice, that all persons who may wish to contract for the ENGINEERS' WORK to be done in the erection of the above Baths, are required to send by post to the undersigned, on or before MONDAY, the 20th of SEPTEMBER, 1858, sealed TENDERS, in writing, endorsed "Tender for Engineers' Work, Baths, Birmingham," together with the names, addresses, and descriptions of two responsible persons who will become sureties for the proper performance of the works, in a sum equal to one-fourth of the total amount of such Tender. The particulars of the Engineers' Work required, the plans, drawings, and specification for the said baths, with the conditions regulating the contract, may be inspected, on and after the 20th AUGUST next, at the Office of the Architect, Mr. EDWARD HOLMES, 25, Temple-row, Birmingham. The Committee do not bind themselves to accept the lowest or any Tender.
THOMAS STANDBRIDGE, Town Clerk.
Town Clerk's Office, Birmingham, July 14th, 1858.

HORNSEY DRAINAGE.—To CONTRACTORS. CONTRACT No. 5.—The Highway Board for the Parish of Hornsey are prepared to receive TENDERS for the CONSTRUCTION of 4,030 FEET of BRICK SEWERS, and other WORKS incident thereto; also for the LAYING and JOINTING (labour only) of 2,675 FEET of PIPE SEWERS and other WORKS connected therewith. The form of Tender and schedules may be obtained (on payment of 10s.), and the plans and specification seen, on application at the Office of Mr H. MALCOLM RAMSAY, Surveyor, 5, Southwood-terrace, Highgate, between the hours of TEN and FOUR o'clock, on and after MONDAY, the 23rd of AUGUST inst. Sealed Tenders, addressed to the Chairman of the Sewers Committee, to be deposited at the Offices of the Board, 17, High-street, Highgate, not later than SIX o'clock p.m. on FRIDAY, the 27th of AUGUST inst. No Tender will be received after that time. The Committee do not bind themselves to accept the lowest, or any Tender; and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the work.
(Signed) TOULMIN SMITH, Chairman.
Highgate, August 19, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a VILLA RESIDENCE, with COACH-HOUSE and STABLING, to be built on Balls-hill, near the town of Hertford, for Benjamin Young, Esq., can see the plans at the Office of the Architect. Tenders to be opened on TUESDAY, 31st of AUGUST, 1858, at TWELVE o'clock. The lowest Tender will not necessarily be accepted.
McD. MORGAN, Architect and Surveyor, Ware-road, Hertford.

YEOVIL CEMETERY.—To BUILDERS. CONTRACT for WORKS.—Persons desirous of CONTRACTING with the Council for the ERECTION of the CHAPELS, CENTRAL TOWER, CLOISTERS, LODGE, and other BUILDINGS, on the intended CEMETERY, in West Field, on the Preston-road, can inspect the plans and specifications at the Town-hall, in Yeovil, between the 23rd and the 31st inst. and can obtain any further particulars connected with the plans, &c. and a copy of the quantities, at 12s. each, by application to Mr. R. H. SHOUT, of Yeovil, the Architect.—Sealed Tenders, according to the form that will be furnished, are to be sent to the Town-clerk's Office, on or before SATURDAY, the 18th day of SEPTEMBER next, but the Council do not bind themselves to accept the lowest or any Tender.
August 14, 1858.

CONTRACTS.

SAINT MARY, ISLINGTON, MIDDLESEX. Metropolis Local Management Act.—The Vestry of this Parish hereby give Notice that a Committee will meet at the Offices, 21, Milner-square, Islington, on WEDNESDAY, the 8th day of SEPTEMBER next, at TEN o'clock in the morning precisely, to receive TENDERS for the CONSTRUCTION of [illegible] FEET of SEWER, 3 feet 9 inches high, and 2 feet 6 inches wide, and other works connected therewith, in and along the Holloway-road, between the Liverpool-road and the entrance to Highbury-place, in the said parish. The form of Tender, which alone will be received, may be obtained, and the specification and plans seen, at the Vestry Offices, Surveyor's Department, between the hours of TEN and FOUR o'clock. Persons desirous of Contracting must attend at the time and place above stated, with sealed Tenders, endorsed "Tender for Sewer Works."—The Vestry do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two approved sureties for the due performance of the works.
JOHN LAYTON, Vestry Clerk.
21, Milner square, August 10, 1858.

TO CONTRACTORS.—RAILWAY WORKS in SPAIN.—TUDELA and BILBAO RAILWAY.—The Council of Administration duly give notice to parties desirous of proposing for the EXECUTION of the WORKS of the [illegible] of the above RAILWAY, comprising sixteen kilometres, from [illegible] to Arrancudiaga, that on the 20th of AUGUST next, the plans, sections, specifications, &c. of the same will be ready for their inspection at the Company's Offices, Calle de Santa Maria, No. 8, Bilbao, where from that date every necessary information will be afforded to contractors who may apply. Sealed proposals, presented in conformity with the conditions, which all parties interested may consult at the same time, will be received up to TWELVE o'clock noon, on the 10th day of SEPTEMBER, and the Council will decide the contract at the same hour the following day. The Council do not bind themselves to accept the lowest or any Tender. Parties making proposals must present proper sureties for the due performance of the contract, and be prepared to satisfy the Council that they have the [illegible], and will have at the works on the day stipulated for commencing the same, sufficient plant to insure the completion of the contract on the day to be appointed. On and after the 20th of AUGUST, general information as to the character of the works will be furnished on application at the Office of CHARLES VIGNOLES, Esq., the Engineer-in-Chief of the Company, No. 21, Duke-street, Westminster, London, S.W.
CIPRIANO SEGUNDO MONTESINO, Managing Director.
Bilbao, August 5, 1858.

HAMPSTEAD JUNCTION RAILWAY. TO CONTRACTORS and BUILDERS.—The Directors are prepared to receive TENDERS for the ERECTION of the PASSENGER STATIONS on this railway. The plans and specifications may be inspected at the office of the engineer, Mr GEORGE BERKLEY, 24, Great George-street, Westminster, on or after the [illegible] inst. Tenders, addressed to the Secretary, to be sent to the office, Euston Station, not later than FOUR p.m. on WEDNESDAY the 8th of SEPTEMBER. The Directors do not bind themselves to accept the lowest tender.—By Order,
F. HARLEY, Secretary.
Offices, Euston Station, August 5th, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the RESTORATION of BLETSOE CHURCH, Bedfordshire, may see the plans and specification at my Office, on and after the 6th of AUGUST. Sealed Tenders to be sent to the Rector of Bletsoe, on AUGUST 31st, by TWELVE o'clock.
EDWARD BROWNING, Architect, Stamford.

TO SEWER CONTRACTORS, BRICKLAYERS, and OTHERS.—The Nuisances Removal Committee will meet at the VESTRY-ROOM, in the Parish of Woodford, on FRIDAY EVENING, the 20th inst. at SIX o'clock, to receive TENDERS from persons willing to CONTRACT for BUILDING a SEWER, commencing near the Rose and Crown beer-house, in the before-mentioned parish, terminating near the Woodford Railway station, and some Branch Drains connected therewith; and also a schedule of prices for Supplying and Laying Earthen Drain-pipes.—Plan of sewer, and other particulars, may be obtained on application at Mr NOBLE'S office, Woodford. The Committee do not bind themselves to accept the lowest or any Tender.

BOARD of WORKS for the LIMEHOUSE DISTRICT.—CONTRACT for SCAVENGING and REMOVAL of DUST.—Notice is hereby given, that the Paving, Lighting, and Cleansing Committee of the Board, will be ready on MONDAY, the 6th day of SEPTEMBER, 1858, to receive sealed TENDERS from parties who may be willing to CONTRACT for SCAVENGER'S WORK, and for the REMOVAL of DUST, for one year, from Michaelmas-day, 1858. Full particulars may be known, and printed conditions and forms of Tender and others will be received, or taken at the Office of the Board, White Horse-street, Commercial-road East, between the hours of TEN and FOUR. Tenders endorsed "Tenders for Scavenging," must be delivered at the said Office before TWO o'clock, p.m. on the [illegible] day of SEPTEMBER, and no Tender will be received after that hour, nor unless [illegible]. The Board does not bind itself to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two sureties for the due performance of the works. The contractor will have to pay the costs of the contract and bond. The attendance of parties tendering will be required at the [illegible] of the Board, on WEDNESDAY, the 8th day of SEPTEMBER, 1858, at the Board-room, Ratcliff Workhouse, York-street West, Commercial-road East, at THREE o'clock p.m.—By order,
THOS. W. RATCLIFF, Clerk of the Board.

ST. MARTIN'S CHURCH, CASTLETON MOOR.—To BUILDERS, STONEMASONS, &c.—Parties desirous of CONTRACTING for the whole or any portion of the several works required in the ERECTION and COMPLETION of St. MARTIN'S CHURCH, CASTLETON MOOR, in the Parish of ROCHDALE, in the County of Lancaster, may inspect the plans and specifications and the bills of quantities of the works, on and after THURSDAY, the 19th instant, at the Offices of Messrs. ISAAC HOLDEN and SON, Architects, 6, Cross-street, Manchester, to whom Tenders, addressed to the Building Committee, are to be sent. The Committee do not pledge themselves to accept the lowest or any other Tender.

CONTRACTS.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the Works required in the ERECTION of a CONGREGATIONAL CHURCH, at Erith, Kent, may see the plans and specifications at the Office of Mr JAMES TOWNLEY, Solicitor, No. 50, Moorgate-street, London, E.C., on and after the 18th AUGUST. Tenders, sealed and endorsed "Tenders for Church," to be sent in, however, to the Rev. CHARLES GILBERT, Erith, on or before the 4th day of SEPTEMBER next.—The Committee reserve the rights of accepting and not accepting as to every Tender, whether lowest or otherwise.—Quantities may be had of Mr R. MOFFAT SMITH, Architect, 42, Lloyd-street, Cooper-street, Manchester.
August 14, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a VILLA, at Tottenham, Middlesex, for W. H. Hayne, esq. may inspect the drawings and specification, on and after TUESDAY, the 24th instant, at the Offices of the Architect, Mr G. A. BURN, 9, New Broad-street, City, between the hours of TEN and FOUR o'clock. Tenders to be delivered at the said Offices, not later than TWELVE o'clock, on THURSDAY, SEPTEMBER 2nd. The proprietor will not be bound to accept the lowest or any Tender.
August 18th, 1858.

TO ARTESIAN and OTHER WELL-SINKERS.—The Managers of the South Metropolitan School District, at Sutton, Surrey, are desirous of obtaining a larger SUPPLY of WATER than that now afforded by their well, which is 175 feet deep. They would be glad to receive suggestions as to the best mode of increasing the supply. Persons desirous of sending in Tenders for the necessary works, are requested to communicate with me at my Office, as under.—By order of the Board,
JOSEPH BURGESS, Clerk.
2, Keene's row, Walworth, August 18, 1858.

TO BUILDERS and CONTRACTORS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall-mall, London, on or before MONDAY, the 30th AUGUST, 1858, from persons desirous of CONTRACTING with the Secretary of State for War for STRIPPING and REPAIRING, &c. NINE ROOFS, at the Gun Carriage Storehouse, Gun Wharf, Chatham. Plans of the work are to be seen, and specifications and forms of Tender obtained, on application at the Royal Engineer Office, Chatham Lines, between the hours of TEN and FOUR, till the 28th of AUGUST, 1858, Sundays excepted. The person whose Tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 200l. for the due performance of the contract. Tenders to be addressed to "The Director of Contracts, War Office, Pall-mall, London, S.W." and to be delivered free, endorsed, "Tender for Repairing, &c. Nine Roofs, at the Gun Wharf, Chatham." No Tender will be admitted after the said 30th day of AUGUST, 1858.
N.B. The Secretary of State for War reserves to himself the right to reject the whole or any of the Tenders.
Royal Engineer Office, Chatham, August 17, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on the 31st day of AUGUST, 1858, for WORKS to be performed in ERECTING a GUARD-HOUSE, with Lock-up, Privy, Urinal, and Ablution Shed, at Albany Barracks, in the Isle of Wight. The plans, specifications, and conditions of contract, may be seen, and every information obtained, on application at the Royal Engineer Office, Gosport, on and after the 21st AUGUST, 1858, between the hours of TEN and FOUR, each day (Sundays excepted), until the 31st of AUGUST, 1858. Tenders to be endorsed, "Tenders for Works to be performed in Erecting a Guard-House, with Lock-up, Privy, Urinal, and Ablution Shed, at Albany Barracks, in the Isle of Wight," in the left hand corner of the envelope, and addressed to the Director-General of Contracts.
N.B. The Secretary of State for War, reserves to himself the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Gosport, August 1[illegible], 1858.

HIGHLY IMPORTANT TO BUILDERS and CONTRACTORS.—Mr. GEORGE McCANN, the eminent builder and contractor, Great Malvern, Worcestershire, in consequence of impaired health, RELINQUISHING the above TRADES, there is presented to a man of capital, desirous of entering upon a well-established first-class business, and highly remunerative, and where the demand for buildings is rapidly increasing, an opening rarely, if ever, before met with. A fortune may be secured in a few years, now that the railway to Malvern will be opened during the autumn of this year. The stock is well selected, and of the most useful description, and may be had at a fair valuation. The premises, built expressly for the trade, may be purchased or rented. The valuable STONE QUARRIES and BRICK YARDS, now in full operation, may also be had, if desired. Further particulars obtainable on application to Mr. McCann, the proprietor, Malvern; Messrs. Price and Co., timber merchants, Gloucester; W. R. Kettle, Esq., Waterloo-street; or Mr. Samuel Bloore, Auctioneer, Birmingham.
N.B.—A capital of about £4,000 will be required, but terms could be arranged to supply some portion of this to an enterprising and responsible purchaser, who is thoroughly master of the business.
NOTE.—Malvern, the most celebrated of inland watering places, has opened a wide field for the enterprise of the building trade, and at no period more than the present, as not a respectable dwelling-house is to be had in this fashionable and rapidly increasing place of resort, is [illegible], and the demand for good houses is very great. Newly laid-out roads, and the most eligible and picturesque situations, are [illegible], and must be immediately built upon, to meet the demands of residents and visitors; therefore, the prospects for the builder are most cheering. The railway from Worcester to Hereford will be opened through the present year, and will pour in a still greater influx of visitors to this charming and unrivalled retreat.

NOTICE.—ELLIOTT, BROTHERS, Opticians to the Admiralty, Ordnance, and East India Company, and Successors to Watkins and Hill, beg respectfully to give notice that they have REMOVED from 5, Strand, and 4, Charing-cross, to more Extensive Premises, No. 30, STRAND, formerly Warren's.—Illustrated Catalogues by post for 18 stamps.

VINCENT BELLMAN, SCAGLIOLA MARBLE MANUFACTURER, 14, Buckingham-street, Fitzroy-square, London, W., and 3, Hope-street, Liverpool, begs to call the attention of Architects, Builders, and the Public generally to his new and extensive Stock of SCAGLIOLA COLUMNS, PILASTERS, PILLASTERS, ORNAMENTAL TABLES, &c., to be seen at his Manufactory, where he has always on hand a large assortment of the finest marbles of which he has been the principal importer, having supplied the ARCHITECTURAL GARDEN Statuary at the late Great Exhibition (1851), for all of which he received the Prize Medal and Honourable Mention. Also Chimney-pieces, Tablets, Monuments, Tombs, Tazzas, Vases, Fonts, Pedestals, Work of every description executed in the very best manner and on the most reasonable terms. Also Manufacturer of superior and Improved Polishes for Pianofortes.

TO SCULPTORS, MASONS, BUILDERS, &c. JOHN UDNY Agent for the Proprietors of the Lazzeretto Stone, of Carrara, Keeps a constant and well-supplied STOCK of MARBLE in BLOCKS, at the undermained Wharf, in Stationary, White Sicilian, and Veined, all ready to be Sawn, Rough Squared, or Worked to any required Pattern. He has just landed a lot of superior White Sicilian.—Messrs. DUBITT'S Wharf, Pimlico; and 28, Great Winchester-street, Old Broad-street, City.

THE WESTMINSTER MARBLE COMPANY, Earl-street, Holywell-street, Westminster, supply to Trade and Builders, at their MARBLE WORKS, Imported Blocks sawn and worked by their Patent Machinery. Orders, however limited in number, executed with promptness, and at moderate charges. Chimney-pieces, all sizes, in the finest Statuary and Sienna Marbles, Tablets, Monuments, Tombs, Tazzas, Vases, Fonts, Pedestals, Work of every description executed in the very best manner and on the most reasonable terms. Also Manufacturer of superior and Improved Polishes for Pianofortes.

TO PLUMBERS, MASONS, &c.
ONE HUNDRED MARBLE and STONE CHIMNEY-PIECES TO BE SOLD CHEAP.
Marble, from 35s. upwards; stone, from 6s. upwards.
May be seen at the Warehouse of Messrs. [illegible]
WM WILLETT, Pimlico Wharf, Regency Square.

TO SCULPTORS, MASONS, BUILDERS, &c.—FABBRICOTTI, BROTHERS, of Carrara (Italy), Importers of all sorts of Marble, keep a constant well-supplied Stock of Marble, Blocks of the finest Statuary, Veined, Sienna, and Common Italian Marble, ready to deliver from the Quarries, Blocks at Liberty Square, Genoa, or Marble Sawn and Worked to any Pattern, Size, or Design, at their Steam Marble Works at Carrara, and to be Shipped from Leghorn, Genoa, or Marseilles. Marble Chimney-pieces always kept in Stock.
Carrara Wharf, Thames bank, Pimlico; and 150, Leadenhall-street, City.

THE BRITISH and FOREIGN MARBLE GALLERIES, 17, Newman-street, Oxford-street.—EDWARDS, EDWARDS, and Co., Proprietors, beg to call the attention of Architects, Builders, and the Public to their extensive and well-selected Stock of Foreign and British Marbles, Chimney-pieces, Tablets, Tombs, Monuments, Tazzas, Vases, Fonts, Columns, Pedestals, Baluster Shafts, and Pilasters, and I. Newman-street, Lessees of the Italian Marble Works, Florence.

TO BUILDERS and OTHERS.—ONE THOUSAND CHIMNEY-PIECES kept in Stock, at prices from 6s. each. WM WILKINSON and CO., Marble Masons, Pratt-street, Somers-town, Euston-road.

NORTH-WESTERN STONE WHARF, Caledonian-road, Islington.—W. ASPINALL respectfully calls the attention of the Trade, Builders, Masons, &c., whom he is in a position to supply with all sorts of Stone on the most liberal terms. A Large Stock is kept on hand for selection. Country Orders are punctually attended to; and a List of Prices will be forwarded on application. W. A. begs to assure those parties who favour him with their orders that every attention will be paid to their interests, and that none but the best description of Stone will be supplied. Each Block is carefully examined before leaving the Wharf, and any defective stone will be rejected. Estimates given for any quantity.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries by vessels of their own. Delivered in any part of London or the Suburbs. Contracts taken for any quantities, with punctuality and despatch. Estimates for Stone and Granite Work, Paving, Macadamizing, &c., on application. Offices, 37, Millbank-street, London, S.W.

CAMDEN-TOWN.—STRINGFIELD and COOPER, late W. W. Reed's, BANGOR WHARF, Kentish-town, beg to call the attention of Builders to their extensive Stock of Bangor Slates, Laths, Plaster, Roman, Portland, and Keene's Cement, Blue Lias, Dorking, and Dutch Lime, Plasterers' Hair, Yorkshire Stone Flags, Paving, and Rubble, Grinders' Stone, Pyrites, Lime for Whiting, and Traps, Welsh Fire-bricks, Gravel and Shells for Garden Paths, Sand, Sale, and Mineral Loads, Wharfage Dues, &c.

LITTLE CASTERTON FREESTONE.—
Stone Merchants and
Builders' Contractors,
and see Specimens at the Office of
Messrs. [illegible]
29, Sun Buildings, London.

GRANITE. The Welsh Granite Company, Carnarvon, supplies PITCHING or PAVING SETS of the MATERIAL to order. The sets, which have for several years been extensively used in Bristol, Bristol, Leeds, and other large towns, combine in a higher degree than any others, the qualities of resistance in wear and durability. Address, Mr. JOHN HUTTON.

CAEN and AUBIGNY STONE. C. P. FOUCARD, Stone Merchant and Quarryman. Cargoes constantly on Sale. Contracts taken for any quantities. Depôts: Granite Wharf, East Greenwich; Lett's Wharf, Waterloo-bridge. Office: No. 246, High-street, Southwark, near the Temple Bar.

DUNDRY STONE QUARRIES.—Dundry, near Bristol. The valuable stone for Architectural purposes from these long-established Quarries [illegible] Mr. H. SMITH, Dundry, will be found [illegible] Bristol, Bath, and Southampton, Bland Edge, &c.; Sawn Slabs, Landings, &c.; Robin-hood, Hare hill, Hudd Landhill, Pat[illegible] Stone. The Warehouse [illegible] Broad-street, Bristol. The Quarries [illegible] Dundry Church. Reports, [illegible] apply to Messrs. GEO. C. ASHMEAD and SON, Surveyors and Agents, 19, Small-street, Bristol.

SAMUEL TRICKETT, VICTORIA WHARF, ISLE of DOGS, Millwall, and Basket Wharf, Gravesend, Portland Cast, Bath, Ketton, Portsdown, Farnham, Hare hill, Bramley-Fall, Potterne[illegible], and Whitby Landings, Parkeston, at Stone from Bridport Yeath and Southampton, Bland Edge, &c.; Sawn Slabs, Landings, &c.; Robin-hood, Hare hill, Hudd Landhill, Pat[illegible] Stone. The Warehouse [illegible] Broad-street, Bristol. The Quarries [illegible] Dundry Church. Reports, [illegible] apply to Messrs. GEO. C. ASHMEAD and SON, Surveyors and Agents, 19, Small-street, Bristol.

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall. [illegible] CHOLLS and DAVID E[illegible], Old Broad-street. Manager, JAMES [illegible], Liskeard. The Granite [illegible] for the New Westminster bridge.

RANSOME'S SILICEOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this unrivalled and durable material, at prices not exceeding the usual charges.
Full particulars forwarded on application to
Mr. FRED. RANSOME,
Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

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THE BEST CONSTRUCTED, STRONGEST, AND CHEAPEST, ARE MANUFACTURED BY
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BATH STONE OF BEST QUALITY
RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS, BATH.
Lists of prices at the Quarries and Depôts, above, free of charge to any part of the kingdom, [illegible] application to Bath Stone Office, Cockspur, W.C.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and the First Class Medal at the Paris Exhibition.
Table tops, and all kinds of Slate for [illegible] upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney pieces, billiard tables, table tops, baths, wall-linings, &c. a new Illustrated Catalogue of which can be had at the Pimlico Slate Works, Grand-st., Upper Belgrave-place, Pimlico, S.W.

VALENTIA SLATE SLABS.—The Valentia Slate Company invite attention to their Slabs, now used for [illegible] Chimney-pieces, Tables, &c. They are in use in the Houses of Lords and Commons, National Gallery, Hospital, Natural Lunatic Asylums, the Orleans Works, Mold Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedford and Hertford Breweries, &c. Specimens may be seen at the Depôt, 4, Duke-street, Lambeth, and be had in stock by Country Slate Merchants. Lists, [illegible] Mr. Lynch, Valentia, Kerry.
4, Duke-street, Lambeth, W.C., June, 1858.

GATES and GEORGE, CAEN and AUBIGNY QUARRYMEN, and GENERAL STONE MERCHANTS.
CAEN WHARF, ROTHERHITHE.
Selected Caen Stone always kept in stock. A large assortment of Yorkshire Sawn Slab, and other Stone.

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ROOFING SLATES:				
Duchess	24 in. by 12 in.	4 10 0	per mille of 1,200	
Small ditto	22 "	12	4 5 0	"
Middle	22 "	11	3 15 0	"
Countess	20 "	10	6 15 0	"
Small ditto	18 "	10	5 0 0	"
Viscountess	18 "	9	4 10 0	"
Ladies	16 "	8	3 10 0	"

Slate slabs, sawn all round and planed on one side, from 5 to 10 feet in length slab, at per foot, 14-in. 6d. 2-in. 8d. 24-in. 8d. 34-in. 10d. 44-in. 1s. 54-in. 1s. 6d. 64-in. 2s. 0d. 74-in. 2s. 6d. 84-in. 3s. 0d. 94-in. 3s. 6d. 104-in. 4s. 0d.
N.B.—A large stock on hand of very cheap Larch Fencing, ready for [illegible].

PATENT ASPHALTE ROOFING FELT, a cheap, durable, and perfectly waterproof roofing, one penny per foot. Patent Asphalte Felt for damp walls, &c. Sheathing Felt and Dry Hair Felt for [illegible]. Materials supplied to the trade.—D. ANDERSON and SON, Manufacturers, 23 and 24a, Bell-street, London.

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N.B. Specification of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover.

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ACCIDENTS of EVERY DESCRIPTION. £1,000 IN CASE OF DEATH; OR A FIXED ALLOWANCE OF 6l. PER WEEK IN THE EVENT OF INJURY.
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It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid £120,000 compensation for Accidents 27,000.
Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the [illegible] stations, where also Railway Accidents alone may be insured against by the Journey or Year.
NO CHARGE FOR STAMP DUTY.
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Offices, 3, Old Broad-street, London, E.C.

WINSOR and NEWTON'S new PATENT TUBULAR PENCILS.—Now ready, the [illegible] Architects and Engineers, consisting of the following leads, viz.:—HH very hard; H, hard; HB medium. The set of three complete, in leather case, 5s. 6d. The pencils singly, 1s. 6d. and 2s. Packed post-free, on receipt of stamps. To be had of WINSOR and NEWTON, 38, Rathbone-place, London, W.—and of all Stationers and Artists' Colourmen.

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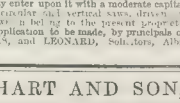

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THE AMERICAN STOVE, "EXCELSIOR," at 42s. for Slopes or Offices, is the best and cheapest ever offered in London.—The trade supplied at ANDREW M'LAREN and CO.'s, Ironmongers, 104, Upper Thames-street.
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Also, their improved **HAND** or **STEAM-POWER RISING TABLE** Circular Saw Bench, with Shifting Fence to cut to any Angle, and extra loose Guide, made expressly for **TENON CUTTING.** This **BENCH** only requires to be **SEEN** to be **APPRECIATED.**

Also, their **PATENT MORTISING, TENONING,** and **BORING MACHINE,** of which upwards of a **THOUSAND** have been sold in **ENGLAND** alone, and is the **ONLY MACHINE** which is **SELF-FEEDING,** and doing the **THREE KINDS OF WORK** by **ONE MACHINE.**

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URINALS, Single, Double, and in Ranges.
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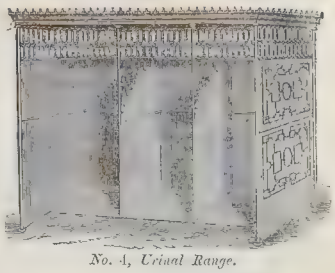
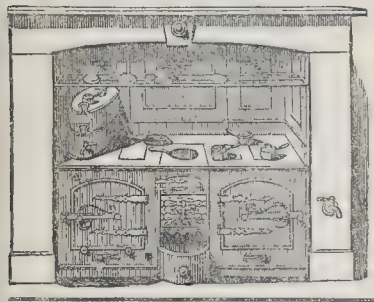


No. 4, Urinal Range.



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Having completed the Alterations and Enlargement of their Premises, invite attention to their extensive suite of SHOW-ROOMS.

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THE LARGEST AND BEST SELECTION IN LONDON.

KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c. for Large or Small Establishments.

CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.

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The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851.

FLAVEL'S PRIZE KITCHENER is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

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IS AS

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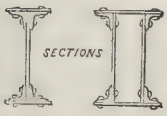
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,

BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

MORRIES STIRLING'S PATENT CAST and MALLEABLE IRON.—The toughened cast iron, for grooves, shafting, pulleys, railway-carriage wheels, engine cylinders, hydraulic cylinders, and for all purposes where a strong, dense iron is required, can be obtained of the following brands:—

Donelyan	Lloyd, Foster, and Co.
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By direct application to them.

RAILS of for surfaced with Patent Hardened Iron can be ordered from the following works:—

Parkgate.	Ebbw Vale.
Lloyds, Foster, and Co.	Tredegar.
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For durability these Rails have never been surpassed. They do not laminate, and wear out several sets of ordinary rails.—Full information, and terms for use of patent right, can be obtained of Messrs. CONNELL and HOPE, 3, Princes-street, Westminster; and of Mr. B. THORNTON, Bradford-street, Birmingham, who also receives orders for Mr. MORRIES STIRLING'S Patent Iron and Rails.

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THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a more secure fastening without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershott, &c. &c. and is universally approved

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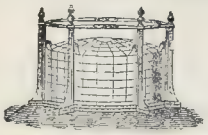

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With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;
WATERWORKS FOR THE SUPPLY OF TOWNS,
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Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
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GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
DEVICES FOR GAS ILLUMINATION.

IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.

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Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.

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ADOPTED BY THE GOVERNMENT.

EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

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WHOLESALE IRONMONGERS AND MANUFACTURERS IN BRASS AND IRON,
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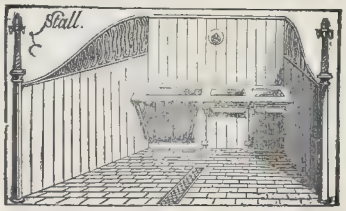


VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

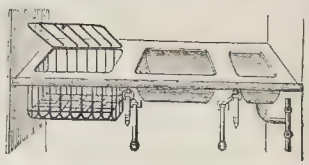
PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

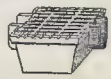
BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY-RACK.



These Fittings are now made with the newly-invented Self-acting Hay-Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage-stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn: are fitted with guard-rollers and seed-box, and combine the most perfect safety with the greatest economy, both in cost and use. ANGLE LOOSE BOX FITTINGS, with guard-rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.



HOOD and SONS' STABLE-GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of loose top-plates, are easily cleaned; and with their CHEQUERED DOUBLE TRAPS, form the safest and most complete surface drain for stables in use.—West London Iron Works, Notting-hill; and Castings Warehouse, 63, Upper Thames-street, London.

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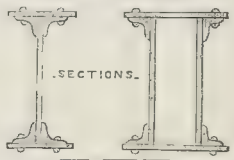
WROUGHT GIRDERS AND FLITCHES,
And all kinds of Smiths' Work.



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A large stock of patterns for building and other purposes, for the use of which no extra charge is made.
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IMPORTANT TO ALL.

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ESTIMATES SUBMITTED FREE OF CHARGE

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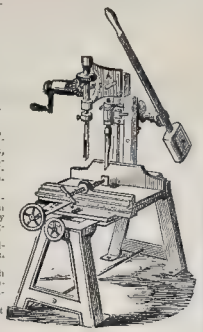

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Testimonials of the highest class can be shown from Builders in almost every part of the United Kingdom

A The Boring and Drilling Apparatus, which can be removed at pleasure

Price for complete, with a set of eight chisels, screwdriver, and Boring Apparatus 15l.

Ditto, ditto, without the Boring Apparatus.

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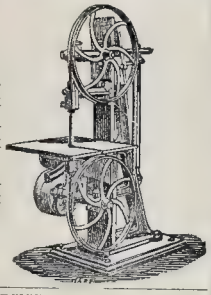

Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55l.

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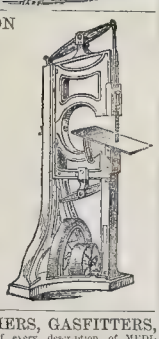

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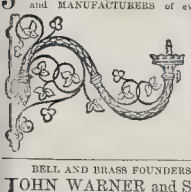

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JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

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Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals.

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Old Bells recast or taken in exchange.

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MUSICAL HAND BELLS tuned to the Chromatic Scale, with improved Clappers, and pegged on a new system, which give superior tone and facility for ringing.

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Manufacturer of Circular Saws *machine-turned*, Mill Saws, Frames Band, or Ribbon Saws, of each hanger, without joints. Machine Plane, Grooving, Moulding, and Mortising Irons; Saw Files, &c.

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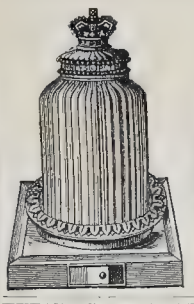

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undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.

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HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER.—This apparatus forms a complete register stove, and may be fixed in the library or dining-room, the same fire heating a conservatory, greenhouse, or anywhere that heat is required, without the expense of extra fuel. Also his improved VENTILATING GREENHOUSE, which can be erected at 3s. per foot.—Applications at the MANUFACTORY, 18, George-street, Portman-square.

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ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.

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JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

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HOBBS'S NEW MORTISE LOCK possesses the following advantages. The Plates are made of Number Twelve Gauge Iron, and being so thick the Locks cannot be loosened by the constant jarring of the door. The security to the four double acting levers. The PATENT FRICTIONLESS FOLLOWER prevents the wear of the locks, and gives unusual freedom of motion to the bolt.

These Locks being manufactured by patent steam machinery, are offered at a less price than locks of inferior workmanship.

STREET-DOOR LATCHES, with Two Keys, 10s. Hobbs's new Mortise Latch for heavy doors. Miller's Fire and Burglar Proof Safes. Strong Iron Doors, &c.

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A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Founding, Nickel-silvering, Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, &c.; and the New Registered Venetian Ventilator, so much admired, 4s. 6d. each.

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LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cart-axles, Chains, and STEWART'S PATENT CAST IRON GALVANIZED WATER PIPES. Office, No. 7, Sise-lane, London

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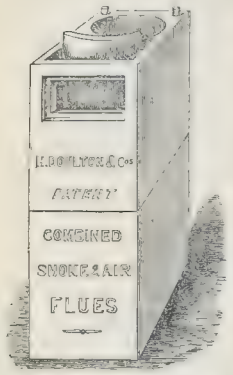

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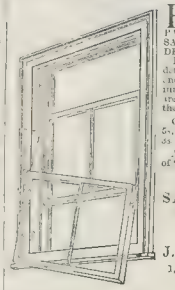

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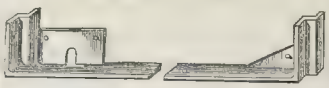

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The Builder.

Vol. XVI.—No. 811.

The Book of Farm Implements.

YET a little while and we shall see vast changes in the mode of cultivating land, and vast advantages resulting in consequence. It has long been our confident belief that an era of agricultural development, as wonderful as that which the present age has already witnessed in manufactures, is not only within the bounds of possibility, but on the eve of advent,—that the day is at hand when models of the farm-buildings now in use, and the agricultural implements of the past and present time, will be put away, as curiosities, beside the distaff and the spinning-wheel; and when even the steam-plough, as it yet exists, will be regarded as a rude and primitive instrument by comparison with others still to be invented. It is interesting, therefore, in this belief, to witness just such beginnings of so grand an era, in agriculture, as were the first spinning and weaving machines in "manufacture," or the first steam-engines; or the locomotive with legs, like a horse, in the railway system.

These ideas, to which we have heretofore given expression, are recalled, at the present moment, by the issue of a goodly volume of descriptive matter, with not far short of 1,000 engraved illustrations, of all sorts of farm implements and machines.*

Here are steam-ploughs, trench, and subsoil ploughs, and ploughs of all kinds, from that most primitive manual implement still used in the Isle of Skye, to the most recent modification of steam-ploughing machines. Here are steam cultivators, grubbers, clod crushers, scarifiers, and weed extirpaters; manure distributors, and sowing drills; corn-reaping machines, and haymaking machines; barn machines, including all sorts of thrashing, winnowing, corn cleaning, hummelling, and corn-weighing machines; corn-bruisers, corn-mills, chaff-cutters, and hay-knives; linseed mills, oil-cake breakers, turnip slicers, and root pulpers; boiling and steaming apparatus; dairy machines, and cheese presses. We had almost felt inclined to look for that grand American beau-ideal of machines into which live pigs are driven, and out of which they are spun by way of sausages. As regards the moving powers of the farm, we have here illustrations of steam power and engines, fixed and locomotive, with and without endless railways; water-power, wheels, and turbines; wind-power, and horse-power. And, finally, we have instructions for the arrangement of machines in the farm, on ground-floor, upper floor, and elsewhere, and of small machines with their moving power.

Having just given expression to a sanguine hope for the future of the agricultural branch of manufactures,—the manfacture of corn and beef,—let us now indicate some of those hinderances to progress, in this direction, which have hitherto adversely operated on the improvement of those implements and machines by help of which these very essential articles of manufacture are turned out. This we may do in the words of the work just noticed:—

"The present age is perhaps the most remarkable that time has produced, for the perfection of almost every kind of machine or tool required in the various departments of art and of manufactures. In that most important of all arts—the production of the raw material of human food—something like a corresponding progress has been effected in its machinery and tools, though certainly not to the same degree of perfection as those employed in most of our manufactures, whether they be from the animal, vegetable, metallic, or mineral productions. Various causes exist to prevent, or at least retard, an equal degree of perfection being arrived at in agricultural machinery, amongst which may be noticed one pervading circumstance, that affects more or less almost every machine or implement employed. This circumstance is, that all the important operations of the farm are performed in *seasons* occupying comparatively short periods of time; and should the artisan be endeavouring to produce any new or important machine, he can only make trial of it in the proper season. The imperfection of human perception is too well known to leave us in surprise at the first attempt of any improvement turning out more or less a failure. The artisan, therefore, will, in all probability, find that his project requires amendment; and before that can be effected, the season is past in which a second trial could be made; and, consequently, it must be postponed for a year, in the course of which many circumstances may occur to cause its being forgotten or abandoned. Impediments of this kind do not occur to the inventor or improver of manufacturing machinery, where constant daily opportunities occur to test the successive steps of his invention.

One other cause, and of a general kind, exists, to supersede the necessity, or even the propriety, of employing machinery of such high and delicate finish as we see in the machines of all in-door manufactures: this is the irregularity of the media on which agricultural machinery is employed, and the numerous changes produced on these media—the soils and produce by vicissitudes of weather and other causes, which not only affect the operation, but also the existence of many of these machines. From this cause, with its train of incidents, it may be inferred that agricultural machinery and tools must of necessity be of simple construction, which shall embrace nothing but the essentials of usefulness; that they have sufficient strength for their intended purpose, and free of any undue weight; that there should be no redundancy nor misapplication of materials; that all materials employed should be of the best quality, and the workmanship plain and sound—which properties, it must be admitted, are of greater importance to agricultural machinery in general, than the minute delicacy of construction and finish observable in many of those almost intellectual tools employed in some of the other arts and manufactures.

Although, therefore, agricultural machines in general do not require a high mechanical finish, yet there are amongst them those which are based on principles implying a knowledge and application of science, as well as mechanical skill in their construction."

Of the more elaborate and complicated implements by means of which not unsuccessful attempts are already being made to aid manual labour in the farm and the field, we shall not for the present have much to say; but we may take a passing glance at a few of the more prominent of these; mean time remarking that, at a period when handsome premiums are being offered by agriculturists in England, and gained by inventors from various parts of the world, for the more important and most sweeping of these aids to manual labour and promoters of agricultural prosperity; it is painful to note that, at the very same time, in Ireland, riots are occurring in consequence of the noble endeavour now being made to improve that fine country, and to benefit its semi-barbarous rural population by the introduction of a few of the less novel and now (with our own lower orders of agriculturists) well received, and admittedly most useful and advantageous, implements of the farm, such as reaping-machines, and even scythes, which have of late been destroyed by the rabble of Irish field labourers, or sickle-reapers, as imaginary evil doers and rivals only to be put down by brute force.

"Steam culture" and "steam ploughing" are terms of different import. Steam culture may include a variety of implements: steam ploughing implies steam culture by means of one specific implement alone,—namely, the plough. The whole question of steam culture is in a transition state, and the experience of a few years may show that steam ploughing,—that is, applying the power of steam to drag the ordinary plough,—is a mere necessity of a particular implement, and that it will be in re economical to adapt a new implement to the new power; while, on the other hand, experience may tend to fix the plough more firmly in the estimation of practical men, and to prove that what is really wanted is the application of a new power to the old implement. The general adoption of deep culture would appear to necessitate the adoption of steam-power.

The most promising inventions in steam-ploughing are considered, by the authors of the "Book of Farm Implements and Machines," to be those of the Marquis of Tweeddale and of Mr. John Fowler, C.E.* On the Tweeddale plan, the land, before being worked with steam power, is freed from stones and pulverized. It is then ever after fit for ploughing by steam. The wheeled steam-plough, or plough-carriage, on this plan, is preferred to the steam-spade, or the rotatory digger, or cutter of the soil. Fowler's is also a steam-plough, but with engine, windlass, and anchor. Rotatory cultivators are a class of projects in which the engine passes over the land, working rotary cultivators or cutters—these forming part of the machine. The best known of this class are those of Usher and Romaine. The latter machine is the one aided by funds voted by the Canadian legislature, which is "taking the lead in promoting cultivation by steam." The first steam-plough, in point of date, was Heathcoat's, introduced in 1833, for the reclamation chiefly of bogs and mosses. Lord Willoughby D'Eresby's steam-plough must not be omitted in our brief allusion to these rudimental machines of the future. The D'Eresby plough somewhat resembles the Heathcoat in principle, both having endless-and-pully mechanism, and both being on the plough principle. The grubber or cultivator is a comparatively recent implement, based on the broke harrow as its more ancient prototype. Many improvements in the old grubber were made in Scotland. To this form of implement we allude in relation to steam culture, not because it has as yet been applied to such culture, but because it would appear to be capable of being combined with the rotatory principle, if that principle be not, in fact, a sort of modification of the grubber itself.

Reaping-machines are another promising and important new implement of the farm, but of older date than steam cultivating machinery. Very early in the present century, we hear of Boyce's patent reaping machine, based on the revolving-cutter principle, the revolver being armed with short scythes; also of Plunket's, with circular cutters, saw-toothed, like a sickle. Neither had gathering apparatus. Gladstone's, about 1806, excited more interest. It had circular smooth-edged cutters, and held the straw till cut, as well as gathered it after

* The Book of Farm Implements and Machines. By James Slight and R. Scott Burn, Engineers. Edited by Henry Stephens, F.R.S.E. Blackwood and Sons, Edinburgh and London. 1858.

* Mr. Fowler's steam-plough has just been awarded, at Chester, a prize of 500*l*. The judges, in their report, state that Mr. Fowler's machine is able to turn over the soil in an efficient manner at a saving, as compared with horse labour, of, on light land, 2½ to 25 per cent.; on heavy land, 25 to 30 per cent.; and in trenching, 80 to 85 per cent.; while the soil in all cases is left in a far more desirable condition, and better adapted for all the purposes of husbandry.

wards. Being on wheels, it was drawn by horses. Many others followed, including Smith of Deanston's, Bell's, and Hussey's and M'Cormick's, in which a series of sloping or angular blades cut the crop, but of these later and more matured machines we have already spoken in the *Builder*.

We must now revert to our chief purpose in reference to the "Book of Farm Implements and Machines;" which was, to base on its very useful pages some few observations on the construction and strength of farm implements and structures, taking a few simple illustrations merely for our text.

To the farmer who is to use, and to the mechanic who is to construct, the varied machines, implements, and structures required in the processes of modern husbandry, the importance of a knowledge of the principles which regulate the construction and arrangement of their component parts cannot be over urged; and the book before us cannot be too highly commended.

"In many instances," as the authors of the work under notice observe, "cumbrous strength is given to parts which a knowledge of the strains to which they were subjected, and the pressure which they were calculated to bear, would have at once shown to have been unnecessary. Take, for instance, the arrangement of a piece of framework—as a roof, or a gate, or the framing of a machine. A workman ignorant of the strains or pressures to which the materials he employs is subject, and of the methods by which the direction and amount of these strains or pressures are ascertained, uses a heavy part to perform an office which a much lighter one would have effected.

Again, a mechanic desirous to make a beam or shaft to do double the work, or to sustain twice the pressure, of a given pattern or model, would naturally double the dimensions, unaware of the fact that he would thus obtain a much greater strength than he anticipated. A knowledge of the law that the transverse strength of square beams of equal length is as the cube of their depth; of rectangular beams, as the square of their depth, multiplied by their breadth, and divided by their length; and of round beams, as the cube of their diameter, would have enabled him to have avoided this mistake.

Again, a workman ignorant of the increase of area with increase of diameter, in desiring to make a pipe to convey twice as much water as another given pipe, would be apt to make the new pipe twice the diameter of the given one, finding, as a somewhat unexpected result, that the area of the pipe would be four times that of the model, instead of twice, as anticipated."

We see exemplifications of this ignorance of mechanical principles every day around us, and this in connection with even the simplest parts of implements. Thus, the handles of a hay-fork and of a turnip-hoe will be made exactly of the same form, although the strain to which the two implements are subjected is differently situated. Again, we find that instruments of the same class have differently formed handles—one specimen tapering from the working part outwards, another with its taper the reverse of this. Both cannot be right; and a brief consideration of the strain to which the instrument is subjected would at once show the part which required to be made strongest and that which had to be made lightest.

The same remark applies to beams or parts of implements which have to sustain cross-pressures. A mechanic uninitiated in the principles which denote the best form of beams under such circumstances, would naturally make a beam of the same size throughout; while a knowledge of them would enable him to obtain a much lighter, and, at the same time, an equally strong beam, by giving it a certain amount of taper—proceeding from the centre to the extremities, as in the case of rungs or rounds of ladders, and of swing-trees or whipple-trees, or as in the teeth of hay-rakes.

Even in the construction of so simple an instrument as the *flail*, the importance of a knowledge of mechanical principles, and of the habit of investigating the effect of any proposed form or arrangement of parts, is exemplified. In forming this instrument, a very general practice prevails, which is to have the beater club-shaped, or thickest at the extremity,—intended, no doubt, to give better effect to the blows. If we trace, however, the effects of this arrangement, we see that the additional weight is not only unnecessary, but lessens the general effect of the instrument. When every point in the length of the beater strikes the floor with an equal amount of momentum or force, the greatest amount of useful effect will be obtained. In a beater of uniform shape, there will be a constant tendency to a larger amount of momentum at the outer point or extremity—arising from its greater velocity during the gyration of the instrument as compared with the other parts of its length. Now if the extremity be made heavier, this tendency will be augmented, the greater velocity being increased by the greater weight: an undue preponderance will therefore be given to the end of the beater, thereby lessening the general effect upon the work under performance. These considerations point to the flail with the outer extremity of its beater thinner than the other parts of it, as being the form more consonant with the laws of dynamics.

Few, comparatively, of our mechanics are acquainted with the fact that if the broad flange of a cast-iron beam be placed upwards, it will break with a weight a little more than one-third of that which it will sustain when placed with the flange downwards. Such considerations might be extended so as to afford suggestions of practical utility.

"'Of all simple geometrical figures,' says Dr. Moseley 'the triangle is the only one which cannot alter its form without at the same time altering the dimensions of its sides, and which cannot therefore yield, except by separating at its angles, or tearing its sides asunder. Hence, therefore, a triangle whose joints cannot separate, and whose sides are of sufficient strength, is perfectly rigid. And this can be asserted of no other plane figure whatever. Thus a parallelogram may have sides of infinite strength, and no force may be sufficient to tear its joints asunder, and yet it may be made to alter its form by the action of the slightest force impressed upon it. And this is true, in greater or less degree, of all other four-sided figures and polygons.' But the practical utility of these deductions may yet be obscure to the thoroughly practical man. 'It is for these reasons,' continues the author we have quoted, 'that, in all framing, care is taken to combine all the parts as far as possible in triangles, which, being once done, we know that the rigidity of the system may be insured by giving the requisite strength to the timbers and joints.'"

This practical deduction from the mathematical enunciation just given is of the highest importance in mechanical construction. Let us exemplify it in connection with field-gates—a part of our agricultural economy than which none points out so broadly the ignorance of our artisans in those important branches of their education—the elementary truths of geometry and mechanics. A field-gate may be described as a rectangular frame. No matter what may be the strength of its parts or the extent of its upfillings, if they are placed at right angles to each other; it is a very weak form, and liable to change with comparatively slight pressure; but a gate in the form of a triangle would, if the joints and the materials were strong enough, be perfectly immutable. This, however, would be an unserviceable shape. How, then, can the principle of the triangle be applied? Simply thus:

"If we take a rectangular frame, so essential to a field-gate, and apply a bar in the position of the diagonal of the parallelogram, we immediately convert the original rectangular figure into two triangles, applied to each other by their hypothen use, and which give us the true elements of a properly constructed gate, all the other parts being subordinate to these, and adapted solely to the practical purposes of the gate as a defence, or for ornament."

Nor is the proposition of less importance in the minor constructions of the farm,—even in such a simple matter as forming a firm connection between the head and the handle of a hay-rake,—for its great utility is observable. As many are aware, the simplest method adopted for this purpose is to insert the extremity of the shaft or helve in the centre of the head by a simple tenon. Little consideration is required to show the weakness of this plan.

"A mechanic acquainted with the principle of stability would know at once that the best method to secure a firm connection between the helve and the head of a hay-rake would be by fixing two pieces of perfectly straight light iron rod at one end to the sides of the helve by screw-nails, and at the other by the same means to the head of the rake, at a point equidistant from its centre."

To have said so much of two such simple matters as the construction of a field-gate and a hay-rake may appear trifling; but we have done so in order to point out the importance of the principle on which depends the strengthening and supporting of the parts of *any* form of framework, whether of wood or iron, by the aid of diagonal stays or braces. This single member, in all constructions, is of such importance, that no opportunity should be lost in impressing the principle on the mind of all whose business or interest lies in those departments of mechanics where its application is required. It is no exaggeration to affirm that the knowledge of this principle alone would have effected a large saving of material in many extensive farms. It is somewhat curious to trace in many of the works of agricultural mechanics the incipient knowledge of the usefulness of this principle of stability in the attempts to avail themselves of the diagonal bar. In these we see it applied—with that uncertainty of purpose marking a doubtful and hesitating knowledge of the subject—in all possible positions save the true one, namely,—extending from an angle to its opposite.

"Tie with iron and strut with wood" is an axiom of universal application in mechanical construction. Ignorance of this axiom has frequently resulted in great waste of material, by using heavy and costly parts, which lighter and cheaper would have effected. Let us indicate this briefly as exemplified in the construction of a gate.

"In field-gates constructed entirely of wood, the diagonal should invariably be applied as a strut; that is to say, it should *rise* from the *foot* of the heel-post, and terminate at the *top* of the head-post. Placed in this position, the diagonal supports the head or swinging end of the gate, by its resistance to compression—a duty which, from the *area* of its cross section being considerable, and hence capable of resisting lateral flexure, it is well adapted to perform; while, at the same time, the above sectional property gives it a broad terminal resistance, where it abuts upon the angles of the external frame. The same diagonal bar, if applied in the opposite position, and performing the duty of a tie or stay, its great sectional area would avail but little; for, though woody fibre is capable of resisting very considerable tension—larch wood having, with equal sectional areas, a power of resistance to tension to about one-quarter that of malleable iron of medium quality,—and though this wooden tie might be found to possess, in its aggregate section, a cohesive force greatly beyond that of an iron bar applied in the same position—for the wooden bar would have a sectional area at least twelve times greater than could be requisite for an iron tie, thus yielding an aggregate force double of the iron,—yet as the wooden *tie* must depend for its connection in the structure upon nails or bolts only, its ultimate power of resistance to tension depends not on its own sectional area, but on that of the nails or bolts by which it is fastened; and these, again, may be very greatly reduced by the rending of the extremities of the wooden tie."

The advantages of iron as a tie, and its disadvantages as a strut, are just the converse of the foregoing.

It is clear, however, that valuable as this mechanical maxim is,—"tie with iron and strut with wood,"—something more must be known by the practical man before he can avail himself of it. For however obvious in some constructions the parts are which act as *ties*, and those which act as *struts*; on the other hand there are some constructions in which an inexperienced mechanic would have some difficulty to distinguish the one from the other. Hence arises the utility of a knowledge of the mechanical principles of carpentry or framework, and which further enables the direction and amount of pressure exercised upon the

various parts of a framework to be ascertained.

The illustrations of useful general principles in the formation of farm implements and structures having happened to hinge a good deal upon gates, we shall conclude the present rather desultory article, as constituting a kind of sequel to previous disquisitions, in our columns, on the plan and construction of farm buildings, by a few further remarks and quotations on the subject of farm-gate construction.

Hitherto, very little attention has been paid to principle in the construction of field gates. Ninety-nine out of a hundred are glaringly defective as pieces of constructive carpentry; and, not unfrequently, constructive defects appear in gates of much higher pretensions.

"The essentials of a field-gate, whether of wood or iron, are a rectangular frame, consisting of the heel and head posts, and a top and bottom bar or rail, which four parts, properly connected at the angles, are rendered of an unchangeable figure by the application of one or more diagonal bars, and these diagonals should in *no case* be applied short of the whole length between any two of the opposite angles. The upfillings, whether of rails or otherwise, as may be desired, to attain any particular object, are mere accessories, and not in any way tending to the stability or durability of the fabric

In treating of the practical construction of field gates, it is perhaps unnecessary to dwell upon the strains that occur in the individual horizontal bars; because, if the principles referred to above are attended to, all cross strains in the principal joinings are avoided; and except when any extraneous force is applied, the strains are resolved by construction into those of direct compression or of tension.

The practical insertion of the diagonal is also of some importance."

The principle of trussing has been successfully introduced into the wooden field gate by Sir John Orde, of Kilmory, in Argyllshire; but the authors just quoted are doubtful of its utility in the common field gate, from a suspected liability to lay hold of the harness of horses in passing, or entangle the feet of colts.

A gate constructed by Mr. C. Miles, of London, architect, is illustrated on page 58 of the work under notice, as one which seems well adapted for fields.

"It consists of both iron and wood. It has a strong cast-iron heel-post, which is round, tapering to the top, and is batted into a large stone in the ground. A collar of iron embraces and revolves round upon a projecting bead encircling the post. To one side of this collar is attached a socket of considerable depth, and of a form to receive into it the upper rail of the gate, which, when properly seated, the socket prevents from drooping at the head. The under-rail style is, in every respect, fitted up in the same manner as the upper one. The head-style is light, and completes the framing. The filling-up of the frame is left to choice, either in iron or wood."

In the construction of malleable-iron gates, we as frequently find malformations as in those of wood, such as placing all the bars on edge except the heel and head-post, misplacing the diagonal, if single, and not unfrequently applying bars variously formed in curves and fanciful figures, to serve the purpose of the diagonals.

"The field-gate maker should be instructed to hold steadily in view, that there is but *one position* and form for that member of the structure that can be fully efficient, and this is, the straight bar extending from the upper angle at the heel to its opposite angle at the head-post; and, if the materials of the gate are light, to apply an antagonist dingonal crossing the first. In framing the gate, also, the top and bottom bars should be set flatways, to enable the structure to resist lateral strain from animals rubbing or pushing against it."

One of the latest improvements in iron field-gates is the introduction of angle-iron,—

"In the application of the angle-iron to the construction of gates, the fabric acquires the rigidity of a massive wooden gate, with all the tenacity and strength of the iron, while its weight is little more than that of wood."

For the improvement of agriculture, and to obtain the advantages to all that will follow, architects must co-operate. The highest knowledge of every kind must be applied to the development and perfecting of the various constituents which go to the formation of a complete farm.

MIDDLE TEMPLE LIBRARY.

On Monday last, the first stone of a new library, for the use of the Society of the Middle Temple, was laid by Sir Fortunatus Dwarris, in presence of a number of literary and artistic friends, with many ladies. The legal element was scarcely so dominant as it should have been on such an occasion, in consequence of the time of year. When the party first assembled in the hall of the society, of which we engraved a view in our last volume,* Sir Fortunatus gave some particulars of the structure, and some notices connected with the early history of the Temple-gardens, and then led the way to the *locus in quo*, an addition to the gardens which has been purchased for the site of the new building. The fountain for which we pleaded when the new library was first talked about is therefore saved. The stone, which was temporarily inscribed—

"*Biblioth. Med. Temp.*
Hujusce Ædificii caput angeli lapis positus fuit
XVI. *cal. Aug. anno Dom.* MDCCCLVIII.
F. W. L. Dwarris,
Equite, Thesaurario.
H. R. Abraham,
Archi.,"—

having been lowered to its bed, was duly levelled and laid, and then Sir Fortunatus made an appropriate and elegant address, wherein, without tiring them, as he said, with a "sermon on the stone, and prate on everything," he dwelt on the value of a law library (containing the laws of all countries as they passed), especially as a "progressometer," and showed that it had the advantage of not merely recording the advances in knowledge, but the improvement in morals of nations. An ample luncheon, in an apartment adjoining the Middle Temple Hall, was then discussed, whereat various toasts were spoken to, including the "Founder of the Library," "The Architect," "The Inner Temple," proposed by "Master" Bagshawe, and responded to by Mr. Adolphus; the chairman of the day, proposed by Mr. Pettigrew; and several others. The party then adjourned to the Temple Church, and were edified by an exposition of its architectural and antiquarian beauties and peculiarities, by obliging archæologists; and further delighted by the organist's skill on the grand and far-famed instrument of the church. The colouring of the church, once thought garish, is now toned down to great quietness, and the whole is much more dirty and smoky than is desirable.

The extreme dimensions externally of the new building for the library will be 117 feet long, 55 feet wide, and 110 feet in height. At the south end is an oriel, and at the north east angle an octangular tower, to contain the staircase to the library, which will be approached by a terrace, in continuation of Garden-court. The library itself will be 96 feet long in the clear, 42 feet wide, and 70 feet high to the apex of the open traceried roof, lighted by seven arched tracery windows on each side, of sufficient elevation from its floor to allow of a continuous range of bookcases and gallery, and also by a large, north window, and an oriel looking over the river, from which all the bridges, Somerset House, and the Houses of Parliament will be conspicuous. The roof will be of open hammer-beam construction, with eight principals of open tracery, winged figures terminating the hammer-beams. Below the library will be two stories, consisting of sets of chambers, constructed fire-proof, for the Society of the Middle Temple. The style of the building will be, we believe, sixteenth-century Gothic. The architect, as we have said, is Mr. H. R. Abraham: the contractor is Mr. Myers; the material, Bath stone.

THE LIONS FOR THE NELSON MONUMENT.

Some little stir has been made on this subject within the last few days, in consequence of the exhibition by Mr. Milnes, the sculptor, of four small models of lions intended by him for the base of the Nelson Column in Trafalgar square, and the information that the Government have intrusted the work to Sir Edwin Landseer! Other sculptors, it appears, had made designs,—we hear of Mr. Lough, Mr. Bell, and Mr. Carew; and the *Morning Advertiser* states that to the first-named of these, Mr. Lough, the work was promised by the late Chief Commissioner of Works, so soon as a grant was obtained. Mr. Milnes has given to his four lions a varied character, naming them War, Peace, Vigilance, and Suspicion, and shows in them considerable skill and acquaintance with the animal, although, we must confess, we feel no great anxiety to see them produced in granite, 20 feet long and 9 feet high, at a cost of 6,000*l.*—his estimate, and on which, he says, the late grant of that sum by the House of Commons was obtained. They would doubtless be sufficiently correct, and answer the purpose very well; but we do not find in them that vigour, grandeur, or beauty, that would make us desire the opportunity of seeing them often.

To the present appropriation of the commission there are unquestionably very great objections. Sir Edwin Landseer, eminent as he is as a *painter* of animals, has no power whatever in plastic art, and will have to work by the hands of others, and these probably, if there be any *esprit de corps* amongst sculptors, inferior ones. The affair can only be looked upon as adding another to the list of affronts which British sculptors owe to the powers that be. Sculpture needs Government aid much more than painting. Sir Edwin Landseer has more commissions on hand than he will ever be able to execute: some of our most eminent sculptors can scarcely get an opportunity to show their skill in a fitting manner. The Sculptors' Institute and the friends of plastic art generally should at any rate give expression to their opinions on the subject, though there may be little chance of altering this unwise and unjust arrangement.

* See page 462.

A RAMBLE AMONGST VILLAGE CHURCHES IN WORCESTERSHIRE.

It may be predicated with confidence of our vast and stately Cathedrals—of the graceful and picturesque remains of our Monastic establishments, that they will never fail to employ the pencil of the artist and the pen of the descriptive writer, nor cease to be the subjects of conscientious study to the professional architect. This distinction will ever be secured to the august diocesan structure, not less by its material splendour, than by the important events which shed a halo of historic interest around its venerable walls;—to the abbey and the priory, by the lovely and enchanting scenery from amidst which they rear up their attractive and elegant forms. But though these memorials of the vanished glory of the past, and of the religious zeal of our forefathers have, undoubtedly, a claim to all our love and reverence, it by no means follows that they should be allowed to monopolise our attention, and that the modest village church should be neglected, as if it were necessarily destitute of any portion of the interest which attaches, in an eminent degree, to the grander and loftier creations of art. On the contrary, it will not unfrequently be found that, under the most unpromising exterior, are concealed treasures, minute in scale, but full of beauty, and fearing no comparison with the fuller and ampler proportions of the prouder Cathedral. A close examination of village churches is instructive also, as furnishing the means of testing the depth and extent of the influence exercised by the architecture of the mother church—a mother church in more senses than one—upon these humbler efforts; this influence manifesting itself diversely, and producing different effects, as it happened to operate upon a mind imbued with real taste and feeling for the beauty of art, when it may be traced in thoughtful and intelligent selection and adaptation; on the other hand, revealing itself in servile and undiscerning imitation of some feature quite consistent with the character of the stately Cathedral, but misplaced, and almost ludicrous, when dwarfed to the contracted dimensions of an unpretending and unostentatious edifice.

It was in hope of verifying in one or more particulars the truth of these remarks, that I some weeks ago undertook that examination of a group of churches, of which the result is contained in the following descriptions;—the localities visited being all easily, expeditiously, and cheaply accessible from Worcester, by means of our modern system of locomotion.

Chaddesley Corbett. — Three miles' pleasant walking from the *Hartlebury* station brought me to the first object of my search, the church of *Chaddesley Corbett*, than which, it may be asserted, few buildings, within limits equally restricted, contain details of greater interest, and as regards some, of more suggestive teaching than may be deduced from them. Of the three longitudinal divisions from the west door to the chancel arch, all of

nearly equal height, the central one is separated from the lateral ones, which are unusually narrow, on the south side, by two well-proportioned columns, which, with their responds, carry three pointed arches, the apex of each reaching within a very short distance of the wall-plate; on the north side, by two columns and a pier composed of a cube having half cylinders on the faces between the arches, which, with their responds, support three round arches, and a fourth, nearest to the west, pointed. These arches have not that obscure point, sometimes scarcely perceptible, which we often find united with the elements of Norman work, but are well formed, less obtuse than many Early English ones, and such as could not be regarded as ungraceful in any style All, both round and pointed, consist of two rectangular-edged orders, the arches on the south side having the addition of a plain concentric hood-mould. The caps, exceedingly short, present no other variety than that the cushions into which they are channelled are in some instances enriched on the upper end with simple flowered designs, and rendered more graceful by the incurvated outline given to them. The bases, where unaltered, present the common Norman section of a smaller tore above one of larger diameter, with vertical-faced member beneath, raised upon a square plinth. As to the abacus, it is to be remarked that the profile making the smallest possible departure from the square block, a plain chamfer on the under side, and usually regarded as the earliest form of this member, is found in union with the pointed arches; whilst the additional sunk channel between the vertical face and the slope, which would appear an evidence of progress, is the accompaniment of the round arch. This anomaly, if such it be, may be useful in teaching that slight varieties in detail are not in all cases to be implicitly relied on as certain indications of differences of date,—a lesson we shall find, when we come to the examination of the exterior, strongly enforced by an example of this particular member still more in advance of the general architectural features with which it is combined. The rest of the church being modern throughout, I shall in this description make no further allusion to it, contenting myself with directing attention to the very curious method in which Welch vaulting-cells rise up into the lean-to roof of the north aisle, with modern windows opened at the lower end.

Three windows in the wall of the south aisle, each of three pointed cinque-foliated lights under an arch formed of two almost imperceptible curves meeting at the vertex to which the mullions are prolonged; a small square-headed one of two similar lights set high up in the wall above a pointed doorway of the original construction (now walled up);—a three-light one in the east, and a two-light one in the west wall under circular segments, all set back in deeply splayed apertures, are insertions of Decorated character, certainly later than the chancel windows, which I shall presently describe.

The chancel arch is but poor; a pointed one of two plain chamfered orders dying off as they descend upon the uprights of the archway. The chancel, narrower than the nave, is flanked by an aisle to the north, separated by an octangular shaft, which, with the responds, bears two pointed arches of one plain-chamfered and one hollow-chamfered order. In the plain moulded cap and base there is no very distinctive character; but the scroll-mould in the octagonal abacus and in the necking of the shaft, sufficiently bespeaks a Decorated origin. The responds are relics of an earlier construction, coinciding in style with the Early English work which is prevalent in the north chancel aisle; as, for instance, in the three pairs of coupled lancets in the side walls, under equilateral arches, and in the triplet of lancets under a circular segment at the east extremity, all recessed in deep splay with cavernous head over head. One never witnesses the beautiful results of these simple combinations without an increased feeling of admiration for the value and beauty of our Early English style.

The three windows on the south side of the chancel are all three-light ones under an enclosing arch of slightly acute form, and surmounted by very prominent dripstones, springing from heads or from tufts of foliage: but here the resemblance ends. The simplest design of tracery results from surmounting three ogee-arched lights (the central one tallest) with two inverted trefoils, carrying a third, which fills up the point of the inclosing arch, trefoliating each foil of the trefoils, cinqfoliating the central light, and trefoliating the outside ones. Another design is produced by the substitution of three multifoils with the foils alternately round and angular, in the place of the simple trefoils, giving to the subdivisions narrow, acutely-pointed heads, each taking under it a trefoil tangent to a trefoil-shaped arch below. In the third window the middle light is low, obtuse-headed, and quatrefoliated; the lateral ones tall ogees, including a trefoil (each foil trefoliated) resting upon a trefoil arch; the space between the subdivisions and the inclosing arch being filled with a circle of which the tracery combines a small concentric circle, set round with three curvilinear triangles, all connected by flowing curves and every interstitial space trefoliated. The great east window, filling up nearly the entire breadth of the wall, is composed of five ogee lights, treated as in the examples last described: above these is introduced a row of the network tracery pattern, and the head of the window is filled with a circle, into which are crowded four of the multifoils before spoken of, whilst one of these figures is external to the circle on each side. The designs of all these windows are ramified and traced out by a bold filletted roll, perfectly continuous, having neither base nor capital, and the depth and satisfactory aspect of the window openings are increased by the addition of two or three external orders of the same section.

Whatever impression may be produced by these traceried designs, we must allow, if susceptible of deriving pleasure from the great charm of all efforts of art—simplicity, that effect is here attained by a total sacrifice of that essential quality. How vast the interval which separates these far-fetched, fantastic, perplexed, and capricious forms from the unstudied and unsought elegance of pure geometrical combinations, can only be measured by one whose taste has been nurtured by contemplation and study of that chaste and unaffected system of fenestration which constitutes the glory and magical charm of *Saint Urban*, at *Troyes*; the *Holy Chapel*, at *Paris*; the choirs of *Tours* and *Evreux*: parts of *Bourges*, of *Bayeux*, and of *Amiens*; of the west front of *Reims*, and, not to multiply examples, of that inexhaustible storehouse of geometrical detail and composition, *St. Ouen*, of *Rouen*. So far as the writer's own observation has extended, he is led to the conclusion that Decorated in its purity survived but for a very short time its transplantation into our own country. With the introduction of the arch of contrary flexures, crept in the germ of corruption and decay; all fixed principle of beauty was cast loose; a career opened to extravagance, whimsicality, and caprice; until at length the ogee arch, invading every province of architecture, gained complete supremacy, and signalised its triumph by the invention of that monotonous, impure, and inelegant form of tracery known as "net-work." That this commonplace, expressionless pattern of tracery, if it be worthy the name, should have met with so ready and wide an adoption by our English builders, must ever remain a subject of surprise, and a lasting imputation upon their taste, in flagrant contrast with the clearer perceptions of the beautiful in art which guided their continental neighbours, who having once recognised the richness of combination disclosed in the pure geometrical element —a combination susceptible of almost boundless modification—remained constant to this supreme, vital principle, for a space not far short of two centuries. The present is not a fitting occasion to pursue this subject further; but, inasmuch as it appears not improbable that our attempts at the revival of Mediæval architecture may ultimately settle down in an adoption of the so-called Middle-Pointed, it can never be out of place to urge a solicitous and untiring study of the grand creations of this style in the country which possesses the earliest and the only perfect exemplifications of its beauties, to reiterate the counsel to seek inspiration at the very fountain-head, without which preliminary and hitherto sadly neglected preparation no reasonable hope can be entertained of producing works reflecting in any degree the spirit, or character, or beauty of their great exemplars.*

The priest's door, on the south side of the chancel, presents the singularity of a segmental circular head inside, and an ogee-formed summit on the exterior; the filleted round string-course on which the windows rest being inflected in passing over this door. The three sedilia, below the easternmost window on the same side, are placed within ogee-headed recesses with continuous mouldings, two double filleted rolls, and surmounted by canopies of the same shape, crocketed and finialled, and springing from one mitred, one crowned, and two female heads, somewhat too heavy and projecting for their position. The piscina still farther to the east, and the credence on the north side, are similar in form and detail, being only a little more enriched by the trefoliation of the arch, and flanking the recess with slender square shafts, crowned with crocketed pinnacles.

At the entrance of the chancel, but within the limits of the nave, lies a sepulchral slab of the fifteenth century, with brasses of a knight in complete plate armour, and of his lady—a memorial, as the border legend informs us, of "*Thome Fyorest Pareary de Dunelent Parke et Margarete, uxoris ejus et omnium puerorum suorum quorum animabus*," &c. The "*omnes pueri*" were certainly a goodly progeny, if their number be accurately represented by the five male figures on a small brass tablet at the feet of the knight, and the six female figures at the feet of the lady. At the east end of the chancel aisle is a monument of far higher interest and antiquity. This consists of two recumbent male effigies in stone; the one, a cross-legged knight, attired in chain-mail, girt with the long Norman sword, bearing the Norman shield, pointed at the lower extremity, and wearing the close-fitting coif. The companion effigy is that of a monk. For what reason the warrior and the priest have been handed down in union thus indissoluble, it were, perhaps, vain now to inquire; unless we are contented with the supposition, that one of two members of the same family embraced the profession of arms, the other that of the church. The age of this monument may be safely fixed in the space included between 1175 and 1200, the earlier date probably the more accurate one.

On the north side of the nave, in the same block with the central column itself, is a massive stone font, completely overlaid with sculpture. The circular bowl is first surrounded below the external rim with a deep band of one of the varieties of the guilloched pattern: below this is one of those symbolical *dearticulated* representations of the Evil Spirit (four times repeated), which abound in works of every description of the eleventh and twelfth centuries. A thick cabled tore separates the bowl from the base, the slightly convex surface of which is covered with an intricate net-work design. Had this interesting relic stood in an isolated situation, I should not have hesitated to attribute to it a date coinciding with that of the Pointed arches of the south side of the nave; but, from its relative position to the columns carrying the round arches, it is impossible not to regard it as coeval with the earlier portion of the church: and hence we may derive the teaching that an exuberance of ornament, even of very fair execution, may co-exist with other indications of a remoter period.

The higher antiquity of the north-west side of the church in comparison with other portions, may, I think, be inferred from the masonry, the inclination of the wall from the perpendicular, and the existence of a very charming little round-arched doorway of one square-edged order, supported by an attached shaft on each side, and continuous plain-chamfered sub-arch, surmounted by a dripstone chamfered on both sides, so as to become semi-hexagonal. Both the face and the under side of the first order are enriched with the chevron, wrought in that excessively low relief which has obtained for this description of carving the denomination of "surface ornament," and which, by some antiquaries, is regarded as carrying us back to an era prior to the Conquest: and yet in combination with this rude decoration, and with all other indications of very early Norman work, we find an abacus of more complex mouldings than would generally be attributed to such a date. I by no means pretend to account for these exceptional cases, where one member of the architecture appears to have got so much the start of the others, but I think they are interesting subjects of investigation, and, if met with in great numbers, must somewhat shake our confidence in the practice of inferring from mere section of mouldings the comparative antiquity of an edifice.

The windows in this north-west wall are certainly the *earliest* insertions of the Decorated period; simply two pointed trefoliated lights taking a quatrefoil between themselves and the external arch,—all worked with a hollow-chamfered fillet. In one instance the quatrefoil is replaced by one of the varieties of the *fleur-de-lis*, a figure in the head of windows we so constantly find in the last phase of Pointed architecture in France. I look upon this as a singular and

* Heretical as the opinion will be regarded by many, I have no hesitation in expressing my conviction that any—the slightest departure from strictly geometric forms—is an evidence of decline and degradation; and from this taint of corruption I do not consider exempt even the flowing tracery of York—the *domus domorum*.

instructive incident, and plainly pointing to the country from whence the corrupted forms of tracery proceeded. I believe no English antiquary would place these windows later than 1320 or 1330: the *fleur-de-lis* does not certainly appear as a form of tracery in French windows of an earlier date than about 1450.

The points of interest on the exterior may be presented in very few words. The buttresses claim the chief attention, because, though plain, the differences of the Early English and Decorated periods are well marked in their composition and detail. Those of the chancel aisle, of good projection, are thrice set off, the successive planes of elevation being united by plain slopes. The plinth mould—one of the loftiest I remember to have seen, reaching nearly to the cill of the window—is unusually bold and good. In the buttresses of the chancel itself, doubled at the angles, the set-offs and the summit are crowned by triangular heads, below which is introduced a simple traceried design on the face. The string course, the all but universal Decorated section, the scroll mould, extends uninterruptedly below the windows, over the buttresses, and is inflected in passing over the priest's door. The battlemented parapet on the top of the south-west wall, and the small square shafts, terminating in crocketted pinnacles, set at intervals, seem parts of the original construction. The coupled lancets of the chancel aisle are surrounded by two hollow-chamfered continuous orders: the Decorated windows of the western portion, worked with narrow square fillet and hollow-chamfer: the external mouldings of the chancel windows the exact counterpart of the interior. The pointed doorway, spoken of in a previous part of this description, is undoubtedly contemporaneous with the pointed arches of the interior.

In the west wall, between the first and second window from the east, is introduced a large ogee-formed recess, nearly on a level with the ground, crowned with a canopy of the like form, carrying the immoderately heavy crockets and finial which characterize very late Decorated or Early Perpendicular work.

The square Tower engaged at the west end, of width coinciding with the nave, and the octagonal spire it carries, are additions of the close of the eighteenth century. T. I.

SOME REMARKS ON THE APPEARANCE OF STRAIGHT LINES IN WORKS OF ART.

Mr. C. H. Smith, in thus heading his observations on this subject of interest, that appeared in the *Builder* of August 7th, seems to do some service to the question, as he thus points to its being considered widely and generally; inasmuch as the degree of curvature given now pretty universally to the upward contours of columns is only, I conceive, to be considered as the most prominent and most generally adopted, as perhaps the most easily applied, of those refinements originating with the Greeks, which came under this head.

There may be some instances even in the best period of Greek art, in which these curvatures may not be appreciable; but, if so, it is at least open to the view, that these cases may have been the result of attachment and precedent, and no doubt the first stage of the column was rectilinear. The Greeks were, doubtless, as we are ourselves, "*laudatores temporis acti*," as is seen in divers of their works of sculpture, as *ritievi*, in which the costume is of an age prior to that in which they were sculptured. This attachment, and the authority of past time, which we call "old times," although, in comparison to our own, they were, of course, as has been often said, young times, appears to be implanted in human nature; and the gradual struggle by which the architects of Greece emancipated themselves from trammels which were first probably forged in Egypt, is not, perhaps, the least interesting part of this subject.

If, however, the Parthenon is to be acknowledged (as it is generally acknowledged) as the most elevated and refined, and at the same time simple and grand example which the golden age of Greece has bequeathed to us, we cannot but recognise there the full adherence, by the Athenians of the age of Pericles, to those principles of delicate adjustment of contour, beyond that of straight lines, the soundness of which, I believe I am right in saying, is now endorsed by far the major portion of the architects of the present time. I would ask Mr. Smith himself whether, if he were now about to construct a building with columns, he would choose to adopt what has been called "the compensatory curves," for the upward contours of his pillars, or would he select such perfectly rectilinear ones as would appear in comparison both weak and crude? and this cannot well be called "begging the question," as the agreement of architects at present in regard to the treatment of this feature defends the suggestion from this rebuke.

And if this principle be acknowledged as regards columns, surely it does not appear that the mission of the curved contour should stop here, but rather essential that it should in some degree inform the other portions of the building. This principle of beauty is certainly illustrated in the human form in which, I believe, no one perfectly straight line exists; what may, at first sight, be thought straight, being found on examination to possess always at any rate some slight deviation from this, which probably a portion of some one of the conic sections would describe, although, of course, one would not venture to exclude, in so delicate a problem, other natural lines, as the catenary or conchoidal curves.

The example Mr. Smith gives of a celebrated architect of thirty or forty years ago actually having one of his buildings altered, in regard to the columns, from the adopted curvature with which, in his absence, they had been erected, to lateral outlines perfectly rectilinear, caused, if I recollect right, no little laughter at a late meeting of the architects' institute; and it is valuable as instancing the light in which those obstructions are held afterwards which, potent at the time, are sometimes thrown across the path of science and art.

It appears not improbable that in all cases straight lines in architecture might be in some degree treated (perhaps only practically at their edges) in a slightly curvilinear manner, and that the columns alone should never be the sole features to receive this refinement; and it may be that the ease of construction in perfectly straight lines and of junction may have been a main element in the retarding of the practical introduction of this treatment in our immediately modern times. The major portion of our work is constructed by contract, for which tenders in competition are made, and in a matter embarrassed enough already, these delicacies might form an element of still more difficulty. To comprise a consideration of these in an operation with which cost has so much to do would not be thought probably very practical; and it might be difficult even to impress an intelligent committee with the advantages of such refinement, as, while their beauties might in their eyes be somewhat problematical, their cost would be certain!

This would probably stand in the way of the addition at present of these refinements in works of common utility, or in common or rough stone; but in cases where marble is used, the introduction might be less difficult.

Appropriately, however, as Mr. Smith headed his article, perhaps it may be thought that he did not so well characterize those curved lines of delicate adjustment on which he comments; for the term "crooked" is not applicable to them. He might perhaps indeed as well have applied this term to the undulating contours of beautiful female form as to the outline of a Parthenaic column! I use, however, this merely as an illustration; for it is essential to keep the consideration of such lines of structural form as are meant to look curved strictly distinct from those of that curvilinear treatment of most delicate adjustment which, applied to straight lines, should be strictly compensatory; and which, indeed, should be like the garlic which the Frenchman used to rub on his plate before commencing dinner, in this respect, that *its effect only, and not itself, should be perceived!*

Epsilon.

HOW AN ARCHITECT'S ASSISTANCE WAS OBTAINED ABOUT THE YEAR 1700.

Having had the curiosity lately to search the books of one of the metropolitan parishes, for the purpose of finding the name of the architect who was employed in the erection of the church, I met with the following curious particulars:—The requisite Act of Parliament having been obtained, the trustees met, and amongst other business several persons were named for the appointment of surveyor to design the church, viz. Mr. S——, Mr. T. B——, Mr. H——, Mr. J. J——, Mr. D——, Mr. C——, Mr. B——, and Mr. A——, who were to attend the next meeting. The trustees again met and adjourned, *as no plans had been left with the chairman*. On the next occasion of their meeting they considered whether they should pay 2 or 2½ per cent. to the surveyor for his trouble, and "2 per cent. and no more" was decided upon. Mr. C—— and Mr. S—— were in attendance: Mr. C—— agreed to accept the 2 per cent.; but Mr. S—— "refused." At the following meeting Mr. H——, Mr. C——, and Mr. T. B——, were in attendance, and "offered themselves candidates; and being called in, were asked by the chairman whether they would take two pounds in the hundred for so much money as should be laid out in building the said parish church, which they agreed to; and upon putting up the persons separately, the choice fell on Mr. H——. Ordered, that Mr. H—— be their surveyor, for the purposes in the said Act."

Plans were made and approved; advertisements inserted in a daily paper for lump tenders from workmen. These parties attended at a meeting of the trustees, when they were collectively asked whether any of them wished to make any deductions from their tender? One made his tender twenty-five pounds less. After they were opened, the lowest was asked for his sureties, which not being considered sufficiently good, the next lowest had the same question put: those offered were considered satisfactory. This tender had been sent in by Messrs. S—— and C——, the two parties mentioned above; and they built the church, under Mr. H——, apparently to the satisfaction of all parties: and as Mr. T. B—— became the surveyor a few years afterwards, he, no doubt, was also satisfied. Unfortunately I did not make a memorandum of the highest of the tenders; but I think it was about 260*l.* above the lowest, in a sum of about 2,000*l.*: five guineas were to be allowed per rod for "extraordinary brickwork," and 1*s.* 6*d.* per cube yard for digging and carting ground.

Mr. J. J—— and Mr. D—— were two architects of repute in their day: they evidently "declined" the munificent offer of 2 per cent. The edifice, which is still in existence, and appears likely to hold out for another century at least, is fortunately erected in "a hole-and-corner," and therefore *its simplicity* is not often noticed by those in search of moderate talent.

What was the regular remuneration in those days? or on what other grounds could Mr. S—— refuse the 2 per cent.? If 5 per cent. was a standard, when was it invented? I ought, perhaps, in justice to this martyr to professional etiquette, to place upon record, in your widely-circulating journal, that the gentleman who magnanimously declined the 2 per cent. was Stibbs, the celebrated Stibbs, the rival of Dance and James, who was not able long to continue this self-sacrificing assertion of the independence of his professional practice, and shortly afterwards appears as a builder. Wyatt Papworth.

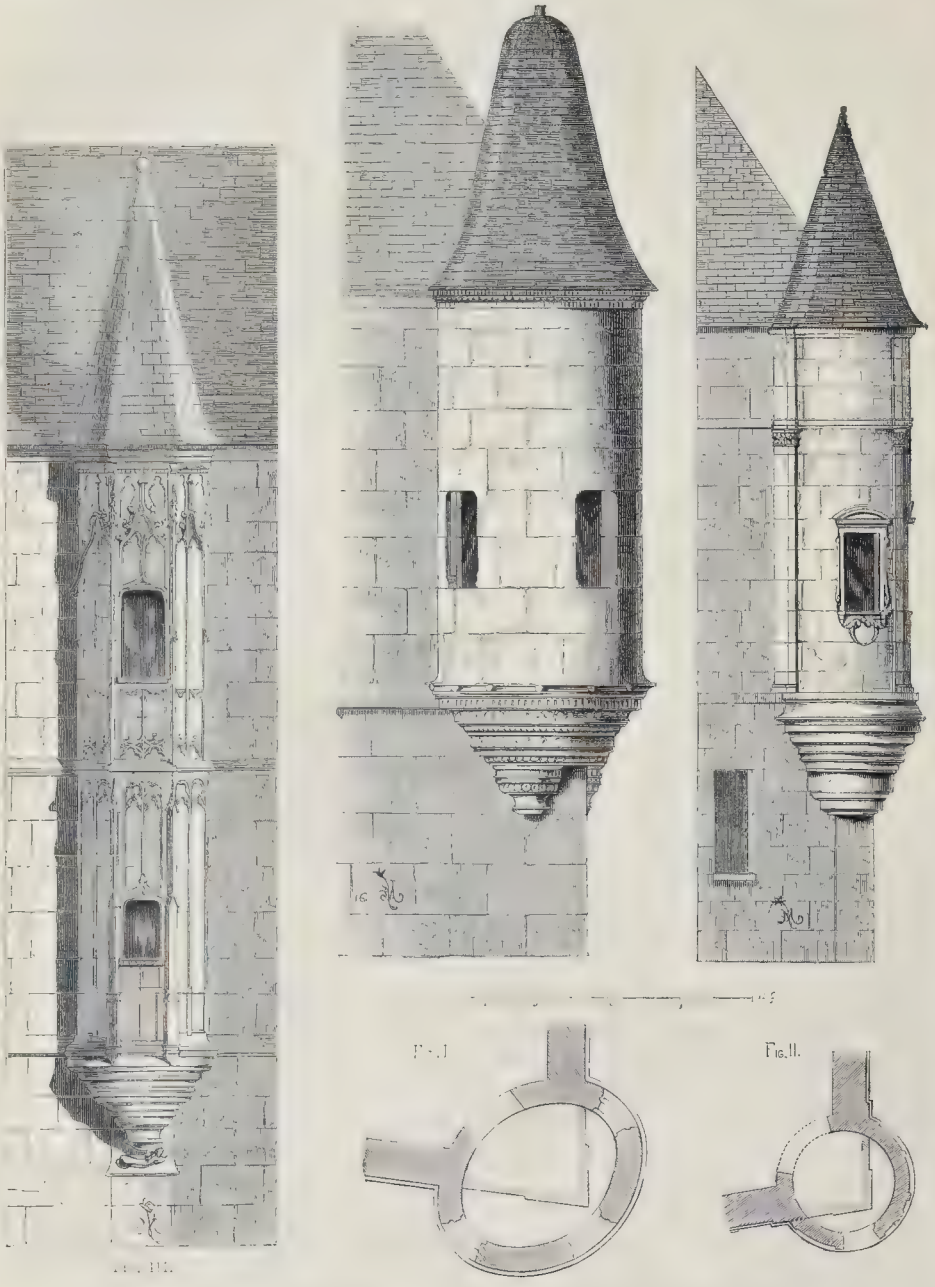
BOURNE (LINCOLNSHIRE) WATER-WORKS COMPANY.

The first annual meeting of the shareholders of this company was held at the office of the society on the 7th inst. The capital account showed the works had been executed, at a cost of 1,287*l.* leaving a balance in hand of 13*l.* The supply of water to the first customer commenced on the 5th April, 1857. The revenue account would show the gradual progress, and the last quarter would indicate something like a return of 6 per cent.; but the balance in hand (from the many necessary expenses), being small, the directors recommended that it should stand to the credit of the company, which met with the approval of the shareholders.

A correspondent says, this small company shows what may be done with a little perseverance and economy, to supply the parish of Bourne, a population of 4,000, with pure water. The original supply came from a spring, called Peter's-pool, and running direct through the town, received filth of every description. Circumstances arose from which this company expected to procure pure water on the artesian principle: they have not been disappointed. From a bore of 4 inches, and 92 feet deep, conveyed into an air-chamber on the surface, and connected with the main, they procured an immense quantity of water, and this will rise to the height of 45 feet in the town, by its own natural force. The water is pure, sparkling, and like soda-water, when first drawn off, and this the company supply at a very economical price, as low as one penny per week to the poorer class of inhabitants in their own houses.

The only works and premises the company have for this supply are on a small patch of freehold outside the town, raised about 6 feet, turfed over, and having the appearance of a small tumulus. The cost was 120*l.*

Gas.—The gas contractors at Nuneaton have reduced the price of their gas to general consumers from 8*s.* 4*d.* to 6*s.* 8*d.* per 1,000 feet, lowering the scale according to consumption.



ANCIENT DOMESTIC ARCHITECTURE IN FRANCE.—Angle Turrets in Paris.

ANCIENT DOMESTIC ARCHITECTURE IN FRANCE.

ANGLE TURRETS.

Continuing the series of angle turrets commenced on page 455 in our present volume, we give three additional specimens, two of them, figs. 1 and 2, being of later date than the other.

These angle turrets, concerning which we have already spoken, are usually of stone, but in later times brick was employed in them; sometimes brick mixed with stone. In plan they were usually circular or polygonal. Occasionally, however, they were square, as we see in the Rue du Jardinet, Paris, and Rue St. Catherine.

The new Rue Victoria, which opens in front of the Hôtel de Ville, passes over the site occupied by the Tourelle of the Place de l'Hôtel de Ville, fig. 3. It had the peculiarity of being constructed in a re-entering angle. If the stones could have spoken, they could have described more than one bloody drama played out on this site, which was called the Place de Grève before 1830, and was the scene of capital executions.

The turret in the Rue de Coq was destroyed in the formation of the Rue de Rivoli, as well as that of the Rue Jean Tiron:—street, house, and souvenir have been swept away by the new artery.

SHADWELL COURT, NORFOLK. —Additions by Mr. S. S. Teulon, Architect.

The turret of the Rue des Prêtres, St. Germain, fig. 2, is still standing. It is connected with the church, and forms part of the residence of the curé.

The turret of the Hôtel de Fécamp, Rue Hautefeuille, fig. 1, is remarkable for its oval plan and the richness of the mouldings of the corbelling. The interior is well preserved, and is still adorned with some fine carvings in wood.

SHADWELL COURT, NORFOLK.

This is one of the seats of Sir Robert Jacob Buxton, Bart. The original mansion was added to some twenty years ago by Mr. Blore, and Mr. S. S. Teulon is now engaged in very considerable additions, not only to the mansion, but the offices and stable buildings. The engraving shows one end of the hall, with the dining-room and one wing of the offices; the turret in the distance being the bell-chamber of a clock-turret on the other side, which, with these buildings, is just erected. The materials employed are local, except the freestone. They are flint, and parts of them set as mosaics. The discharging arches are of Kar stone, which is of a deep brown colour (a rough local stone). The engraving also shows a part of the alcove at one end of the terrace. The works are all being carried out with the assistance of a clerk of works only. The park around the mansion is very striking, and the new approach northward through a thickly-wooded plantation, or rather forest, is very grand. The entrance is beneath a gate-house, just completed, crossing an extensive court, and passing beneath the clock-tower into a court in front of the mansion, where a large tower, forming the vestibule to the great hall, is now being erected.

THE TAUNTON TOWER, OR A WORD FOR RESTORATION.

With the greatest respect for the opinions of Mr. Denison, I must say I read with surprise, almost amounting to alarm, his communication in your impression of the 7th. If what this gentleman urges be the proper course to adopt in respect to Taunton, Somersetshire might exclaim with Wolsey—

"Then farewell—
A long farewell—to all my greatness"

for, unquestionably, one of the greatest attractions and peculiarities of this county consists in its interesting series of *Perpendicular* towers. And if the Taunton tower is to be blotted out of the past, and if such works are to fall under the "nipping frost" of these pure times, I should like to know how many years' purchase the *Perpendicular* style is worth. "Time, the great destroyer," will be outwitted and cheated of his prey by the giant learning of the present day, and a stroke of the pen will annihilate that which whole centuries of wintry storms failed to destroy. To say the least of it, Mr. Denison's suggestion appears premature. Had we attained to a style of *our own*, distinguishing the nineteenth century from the thirteenth or fourteenth, as decidedly as that of the fourteenth is distinguished from the twelfth or eleventh, the practice adopted by the Mediæval architects (viz. to reconstruct in the style of the day) might be advanced with some degree of plausibility as an argument for non-restoration. But as it is, with all our progress, which I would be the last to underrate, we are still merely in the rudiments of the revival; and, to use a musical simile, we are as yet only transposing into different keys the exquisite melodies of the thirteenth and fourteenth centuries. When, however, from the same notes we shall have elicited a *new* and equally harmonious melody, *then*, and not till then, will it be time to "thrust from their stools" the architects of the weak but *original and indigenous Perpendicular*. I have little doubt but that eventually we shall attain to this long-hoped-for position; but even then the question arises, would the Mediæval practice be the most advisable course? I trow not. The art of building in the present day, as compared with what it was in old times, is too extended and too universal to admit a parallel case. And even granting that our architecture shall eclipse everything that has gone before ("a consummation devoutly to be wished"), are we, therefore, to selfishly devour the historian's food? As has been somewhere said, is there not land enough, and to spare, without depriving posterity of its rights?—or is all our vaunted progress only to lead us to cannibalism, to eat up that very mother from whose breast we have sucked the milk and the life of our art-knowledge? No one can more heartily concur with Mr. Denison than I do as touching the imperfections of the style in which the old tower of Taunton was built; but infinitesimal as its artistic merits may be, we should do well to consider how far we are justified in annihilating an *original design*, however poor, if it possesses *any* merit whatsoever. Yea, further, even though it possess no merit, yet inasmuch as it is one of the indices of the architectural mind of the period in which it was conceived, it ought to be, and should be, preserved.

With regard to Messrs. Scott and Ferrey, they have already more than ample opportunities, in the new churches, &c. which fall to their lot, to show the world in general, and the "good people" of Taunton in particular, what lofty flights architecture is capable of. Natheless, the Lancastrian architects were as ambitious to *live in their* works as we of the nineteenth century are in *ours*. Then let us not worry their ghosts, but let us all (architects and amateurs) press onward and upward; and, as we mount the everlasting hill of art which rises before us, let us look with a pitying eye upon our brethren in the valley: and the higher we ascend, the fainter will appear their failings and shortcomings, while fresh truths and new beauties will be revealed to us, and we may even find some good in Nazareth—some art in the much despised and lately-ignored style yclept *Perpendicular*.

E. W. G.

THE TOWER OF TAUNTON.

If a single side of St. Mary's tower had been left standing, and likely to stand, I should have thought it quite right to restore the other three to match it; or if the external stone-work had been good and only the mortar perished, I should have advocated, as warmly as Mr. Scott and Mr. Ferrey at first hoped to be able to do, the rebuilding of the old stones; and for this plain reason,—that in either case you would have been preserving a real antiquity, or as much of it as was possible under the circumstances.

If "M. I. B. A." had condescended to read what I have said upon this very subject in the last edition of my book on Church-building, he would have seen that such were my opinions two years ago, before the state of the tower was proved to be hopeless; and, without reading it, he knew of course, when he wrote his foolish and ill-tempered letter, that the tower actually had been "carted away as rubbish" and "annihilated," before I said a word about doing either one or the other, or about the style in which the new tower should be built. As soon as that was done, it passed out of the domain of antiquarianism. The new tower will be not a bit more valuable or interesting as to antiquity whether it is built in the best style of the thirteenth century or in the worst style of the fifteenth. As a piece of architecture, it will be admired if it is good, and condemned if it is bad. If it is bad, it will certainly not be saved by any appeal to antiquity when it has ceased to be old, and if good, nobody will condemn it, either for not being old or like something else which was old but worse, or because it is the only tower of its kind in that part of England. While it was a real antiquity, it was valuable and venerable in spite of its faults; but a sham antiquity with glaring faults, made more glaring too (as they will be) by modern workmanship, will infallibly be pronounced an ugly blunder in spite of the old beauties, which may be successfully copied, or may not.

The case would be different if there was any fair division of opinion about the things which every architectural critic, from Britton downwards, has admitted to be serious defects in the tower. The advocates of the Perpendicular style are as sensible of them as the Early Gothic men, amateurs or professionals; for scarcely any one but this "M. I. B. A." can be now-a-days so ignorant as to speak of the thirteenth century as "a period when the leading taste was that of quips and quirks, of capricious exceptional parts." On the contrary, the author who has written most strongly in favour of the late styles as a whole, admits them to be inferior to the early ones in the beauty of their details. The overloading of buildings, especially at the top, with monotonous repetitions of the same unmeaning and dull ornament, was pre-eminently the fault of the age when that tower was erected, and when Gothic architecture was on the point of sinking under its own corruptions and excesses.

Yet all the faults of this building—by no one that I ever heard of denied to be such—it is now proposed deliberately to copy and perpetuate, at least for another 400 years, and without the slightest necessity; for everything that really was beautiful in the old tower may be just as well copied in the new without the defects as with them; and that, either in the bold and strong Decorated style of the thirteenth century, or in the really good Perpendicular of the fourteenth, if the architects are seriously afraid that a Perpendicular church will not bear a Decorated tower at its end, as well as the neighbouring county's Early English cathedral bears a Decorated steeple on its back, and as every other cathedral in the kingdom bears a mixture of styles still wider apart.

As for the argument that there is at present nothing earlier than Perpendicular in the neighbourhood, I should think that rather a reason for introducing something of an earlier style than for keeping it out. But that is a matter of taste on which different opinions may fairly be entertained. What I want to save Taunton from, before it is too late, is the deliberate expending of a good many thousand pounds in copying what everybody knows to be wrong, and what no architect with a name to lose would think of designing for himself. I dare say I shall do no good by giving this warning. But I have given it, not because it signifies to me whether Taunton Church has a good tower or a bad one, but because it happens that there is hardly anybody else in the same position for giving it, as there is nobody else who knows so well what has been done in the similar case of Doncaster, except the architect of both churches; and he for various reasons is not likely to be more active in proposing the change at Taunton than he was for several years at Doncaster, where at last he concurred with me in recommending it, and has been singularly successful in executing it. The change ought to be still more successful in this case,—not merely because one of the architects has had that experience elsewhere, but because there were no such glaring defects to be removed at Doncaster, where the tower was already in the best style of Perpendicular architecture, whereas at Taunton it was nearly in the worst.

So much for Taunton. I am quite aware, however, that "M.I.B.A.'s" object was much less to uphold any particular style of architecture than to have a fling at the amateur architects, who, he clearly thinks, ought to be content with the privilege of finding money and praise for the professional members of the Institute of British Architects, and to have credit in return for all the architectural monstrosities of the nineteenth century, because they will not leave the architects to their own good taste. This piece of second-rate professional cant is becoming a little too common; and if we did not know (as, indeed, the "M.I.B.A." complains) that the leading members of the profession do not sympathise with it, it would have received an answer before now, which the architects will find, whenever it is given, not a very pleasant one.

E. B. Denison.

CHRIST'S HOSPITAL AND OTHER CHARTERED SCHOOLS.

It is gratifying to find that the *Times* has taken up the subject of removing the great residential schools from London to the country: an article which appeared on Friday (13th inst.) first treated of the Foundling Hospital, and then the question of that noble institution, "Christ's Hospital."

Again, on the 16th, (Monday), a leading article takes up the theme as to St. Paul's and Merchant Tailors' Schools, and the Charter-house: the benefits to be acquired by such a change were fully described, as being promotive of the morality, health, and education of the pupils, as offering the means of doubling the numbers to be received at each establishment, of vastly increasing their revenues, and of raising the standard of learning, whilst at the same time, by the sale and conversion of the grounds and buildings now in their occupation, it was shown that the over-crowded citizens should be equal gainers in the enlargement of their constipated metropolis.

This is all very true, and the necessity for such changes has been fully recognised, some four or five years back, in five articles in the *Builder*, two of them headed the "Charter-house," and two more headed "Christ's Hospital," together with one other article on "The Colleges and Schools of London," wherein were set forth the particulars of the revenues, number of pupils, amount of church patronage, and collegiate exhibitions, with many other details; but above all were dwelt on the advantages that must result to all the residential schools by the *sale of their City foundations, and their transference* to a short distance from London on a line of railway.

Soon after the publication of these articles in the *Builder*, the governors of Christ's Hospital met and considered the plan suggested. It was debated and supported by many of the 100 governors, and amongst the rest by the Rev. Head Master of Instruction, but it was negatived.

The advocacy of the *Times* may, and it is to be hoped will, create a spirit of inquiry into the subject; for there is no measure of domestic civic economy that could diffuse more benefit upon the youth in pupilage, nor upon the commercial portion of the metropolis; but if such a measure should be carried out, the *Builder* must have the merit, if any, of its origination.

The temptation to increase the revenues of Christ's Hospital and the Charter-house, by the addition of 250,000*l.* each, to be gained by the sales of their urban sites, is great indeed; and as the *Times* says, the spirit of the founder, Thomas Sutton, might look aghast at a new college, the perfection of architectural models at parks, halls, and extended classes, outnumbering any of Oxford; and more particularly at an enlarged educational curriculum, such as the monasteries he had seen suppressed had never contemplated.

Such objects are worthy the attention of all public journalists: their advocacy is a duty; but in divulgating a new project or idea, which can have no "*Lettre de cachet*," as it has been already made patent to all, some avowal of its origination would be but fair to the *Builder*, and to

QUONDAM.

THE BRITISH WORKMEN'S EMIGRATION SOCIETY.

When we witness the effects which the depressed condition of trade causes in many districts both of the metropolis and the large provincial towns, where we have seen the families of those willing to work falling into hopeless poverty, and other evils springing up, the thoughts will turn to those wide lands where the labours of vigorous, hard-working men are sure to meet with a proper reward, and where children, instead of being (as is too often the case in London) a drag and hinderance, become a help and blessing.

There are few things more painful to witness than the compulsory idleness of those who ought to be able, and are willing, to earn their bread by honest labour; and it is satisfactory to learn that a plan, which has for its object the assistance of suitable parties with the means of emigration to one of our colonies, has been proposed by a large body of British workmen, and has met with the sanction of the Right. Hon. Lord Ebury, Mr. John Labouchere, Mr. Robert Hanbury, M.P. and the Rev. W. W. Champneys.

It is pointed out, in connection with this well-intended scheme, that if 50,000 persons each contributed but sixpence per week for one month, the amount so raised would be 5,000*l.*: this, at the rate of 8*l.* 10s. per adult for the passage, or assisted passage money, to several of the British colonies, would be sufficient to send out the number of 588 adults, by which good workmen and labourers would be enabled to emigrate to such colonies; and not only would the men obtain good wages, but the labour-market at home would be relieved in the same proportion as that of the colonies would be improved by this process. The proposals of this new association are as follow:—

1. It is intended to endeavour to raise money to enable workmen to emigrate, either wholly or in part, on loan; and to secure, as far as possible, the return of the loan, it is proposed—

2. That the men to whom the loans are made shall be, for the present, members of the British Workmen's Society, in whom the other members have confidence.

3. That whatever these men have subscribed to the emigration fund of their own society shall be paid to them, to diminish the amount which they may require to borrow.

4. That authority shall be given to some responsible agent, in the colony, to enforce the payment of the loan by instalments, such authority to be given by a legal instrument, properly signed and sealed in England.

5. And as the moneys lent shall be from time to time returned, fresh emigrants shall be sent out to such colonies as offer the fairest prospect of support and employment to the different classes of labour.

A small company of emigrants sailed for New Zealand in the middle of June last; and the members of this society appeal to the general public for assistance in carrying out their proposed plan. No doubt when this society, formed by working men, for the purpose of providing the chance of employment,—that most valuable of all kinds of assistance to the right-minded artisan—becomes more generally known, help will come from many quarters. We should, however, like to see a vigorous effort made amongst the working classes to endow an institution which will be of extent proportionate to the need; and it should be borne in mind, that those who remain at home will be benefited also.

It would be an easy task for the British workmen, without the assistance of others, to provide an emigration fund in a few months of 30,000*l.*—a sum which, if properly managed, might be the means of annually enabling from 3,000 to 4,000 persons to emigrate. That the funds thus raised will be honourably and properly applied, is made certain by the character of the gentlemen who have accepted the office of trustees; and we sincerely hope that the workmen of all classes throughout the country, will give their consideration to the means which are now offered of founding an institution which would be an honour and partial benefit to themselves, and also a means of helping those who, by unfortunate circumstances, require aid.

It is evident that care will be required in the selection of emigrants, for many sad accounts come from Canada and other parts, from linen drapers' assistants, clerks, and others, of the difficulty of obtaining employment. There have also been complaints from Melbourne and the other chief seaports of Australia, and no doubt a considerable amount of distress exists in New York, and some other cities of the United States. These circumstances may, however, be attributed to natural causes, such as the immigration of unfit persons, the flocking together of persons in the large towns, hoping to obtain a living amongst a large population, instead of pushing into the more open country, and conquering the wilderness for their own uses. No doubt those great colonies which, little more than a century and a half ago, were either uninhabited wilds, or else scantily occupied by aboriginal people, must pass through various vicissitudes; and vice, a certain amount of destitution, ill sanitary condition, and other evils, will be centered in the large seaports, until the regular trade from the inland parts can be regulated by the formation of roads, railways, &c. Meanwhile, in Canada and New Zealand there is certain bread for all sober and industrious men and their families, who have the chance of reaching those shores, and will set vigorously to work.

ELECTRO-TELEGRAPHIC PROGRESS.

"Glory to God in the highest! On earth peace and good will amongst men!" Such are the terms of the greater portion of the first formal message transmitted from the old world to the new, *viâ* that grand and cosmical highway beneath the waves, the Atlantic Telegraph. Grand indeed must be that work whose consummation excites the cool, and grave, and matter-of-fact "directory" of a "Telegraph Company," so to transcend the usual and stereotyped phraseology of "business!" and well may Dr Cumming be excused for preaching, on the auspicious occasion, as he has just been doing, from the prophetic text, "And there shall be no more sea!" or even the *Builder* of 14th November last, for hinting something analogous as to the "drying up" of the mystical "Euphrates," to make "a way" to the West for "the kings of the East." The first "king of the East" who has made use of this "way for the lightning," is our own beloved sovereign,—a *Queen of the East*, at least, in a two-fold sense, as she has just become, by Act of our Legislature, at the very time her electrical way to the West was being opened. As regards our Indian empire, it is in truth only now that her title has been completed. And will not the literal Euphrates itself be soon "dried up," and another electrical "way" to the West be opened for this new Empress of the far East? At this very time the electric wires are literally on their way to the Euphrates for this very purpose! Even the infidel, we should think, must be astonished by these "curious coincidences" of ancient prophetic announcement in relation to "the latter times."

There will be one peculiar feature in the working of the Atlantic telegraph to which we think sufficient attention has not even yet been drawn, notwithstanding our own special allusion to it on a former occasion. That is, the alternate transmission of positive and negative electricity along the wire. Positive and negative electricity are doubtless as complete counteractives to each other's influence as are cold and heat. We have repeatedly pointed attention to the probability that positive electricity is more analogous to cold, negative electricity to heat. In noticing, some time before this peculiar mode of working the Atlantic telegraph was thought of, the phenomena exhibited by a small portion of an old submarine wire removed from one of the British Channel lines, which was exhibited at the Society of Arts, we pointed out the curious fact that the copper wire was subdivided or cut, as it were, into small morsels in the midst of the gutta percha, each morsel being entirely separate from the others, and thickened at both ends as if some condensing or hammering process had been effected on each separate piece. This we attributed to the perpetual and uncounteracted operation of the positive electricity upon the wire, our purpose being to induce consideration as to how such disintegration should be obviated. The alternate transmittal of the negative by turns with the positive, was an obviously probable way of counteracting or preventing such disintegration; and we are persuaded that it will prevent it in the case of the Atlantic telegraph, and that other advantages will be found to flow from this mode of working the line. Yet we are not aware whether any such advantage as that indicated has been thought of in this case; but it looks as if such were one of the purposes of the resolution come to.

On the subject of ocean telegraphs, a correspondent gives a contemporary the following calculations:—From Falmouth to Gibraltar the distance is less than 1,000 miles; from Gibraltar to Malta, 988; Malta to Alexandria, 815; Suez to Aden, 1,310; Aden to Bombay, 1,661; Bombay to Point de Galle, 960; Point de Galle to Madras, 540; Madras to Calcutta, 780; Calcutta to Penang, 1,213; Penang to Singapore, 381; Singapore to Hong-Kong, 1,437; Singapore to Batavia, 520; Batavia to Swan River, 1,500; Swan River to King George's Sound, 500; and from King George's Sound to Adelaide, 998. From Adelaide to Melbourne and Sydney there will shortly be a telegraphic communication overland. From Trinity Bay, in Newfoundland, to Bermuda, the distance is about 1,500 miles; from Bermuda to Inagua, about 1,000; Inagua to Jamaica, 300; Jamaica to Antigua, 800; Antigua to Demerara, *viâ* Trinidad, 800; Antigua to St. Thomas, 227; Jamaica to Greytown, *viâ* Navy Bay, 1,000; and from Jamaica to Belize, 700. It will thus be seen that all our settlements, dependencies, and colonies in the Peninsula, Mediterranean, Arabia, India, China, Australia, the West Indies, and Central America could be joined to England by shorter submarine cables than that which at present connects Ireland with Newfoundland, and without their touching any powerful foreign state. Reckoning 20 per cent. for slack, the whole length would not measure more than 24,000 miles. These cables would place England in almost instantaneous communication with upwards of forty colonies, settlements, and dependencies, situated 20,000 miles apart, in the eastern and western hemispheres. Millions of money would be saved to the population of England every year in articles of consumption by English and colonial merchants knowing the state of the home and colonial markets by telegraph. The British squadrons in different parts of the world need not be one-tenth so large as they are, if England and her foreign dominions were enclosed in a telegraphic network.

Telegraphic communication is now all but effected between New South Wales and Victoria. The line has also been completed between Melbourne and Adelaide, the capital of South Australia. The distance traversed by the line between Melbourne and Adelaide is over four hundred miles. The New South Wales Legislature are said to be already "entertaining favourably the proposition of the English Company for the formation of a submarine telegraph between Great Britain and the Australias." The cable intended for submersion beneath Bass's Straits, so as to connect the island of Tasmania with the rest of the colonies, is now in course of manufacture in England.

A prospectus has been issued of the Malta and Alexandria Telegraph Company, with a capital of 300,000*l.* in 5*l.* shares, to complete the Mediterranean portion of the line to India. A cable is proposed from Malta to Candia, whence lines will diverge respectively to Constantinople and Alexandria.

Over-house Telegraphs.—The use of the telegraph by firms having houses of business in various parts of the metropolis is likely to become common. Possibly some of our readers may have seen wires crossing some of the metropolitan streets. Messrs. Waterlow have a set of wires which cross the river twice, and put their establishments in Birchin-lane, London-wall, and Parliament street in direct communication. The wires are supported on poles fixed to the tops of the houses at such convenient distances as are most readily obtainable. Mr. Waterlow says that he has very rarely had any difficulty in obtaining the assent of proprietors of house property over which the

wires pass; but in almost every case a written agreement is entered into to remove the supports and wires at a short notice if required, making good any damage which may have occurred. The whole cost is at the rate of 50*l.* per mile, and it is calculated that the whole of the police stations and fire-engine establishments in the metropolis might be brought into communication with each other by an outlay of 5,000*l.* We may give some further particulars.

CHURCH-BUILDING NEWS.

Hatfield.—St. Mary's Church, Newgate-street, Hatfield, built about ten years ago, by Mr. T. Mills, M.P. and just now enlarged by him, has been reopened for divine service. The edifice has been almost rebuilt, there being scarcely a vestige of the former church to be seen. Two transepts have been thrown out, a tower added at the south-west corner (shortly to be crowned with a spire), a new west front, octagonal vestry, &c.; the whole in Bath stone. There is a considerable amount of ornamental carving about the doors and windows. Some stained glass, by Mr. A. Gibbs, has been inserted in the east and west windows, and also in those at the extremities of the two transepts. The architects were Messrs. Lander and Bedell, and the contractor, Mr. Dove.

Newbury.—The tenders for building the Baptist New Chapel, in Northbrook-street, were opened on Monday in last week. Twenty were given in from various builders, and the following were accepted by the committee:—

Mr. Church, for Contract	No. 1,	£395	16	6
Mr. Warner,	No. 2,	200	0	0
Mr. Blackwell,	No. 3,	126	1	0
Mr. Purchell,	No. 4,	386	2	8
Miller & Warner,	No. 5,	82	0	0
Total		£1,190	0	2

The tenders accepted were not all of them the lowest in amount, the medium priced tenders being thought to be the most desirable.

Tunbridge Wells.—Tenders for the erection of the parsonage-house for St. John's Church have been received, and that of Mr. Elias Edwards, builder, Mount Ephraim, accepted.

Seal.—Another stained-glass window has been put in the chancel of Seal Church, by the Marquis Camden, containing twenty figures, representing our Saviour's Ascension. Messrs. Oliphant and Co. of London, executed the work.

Brighton.—Tenders have been invited for the erection of the chapel and other buildings, for the completion of the western wing of Brighton College. The works are from designs by Mr. Scott, as the architect of the college.

Sherborne. Gangs of workmen were making strenuous efforts to complete the works in connection with the chancel of Sherborne Church in time for the opening on Wednesday. The last compartment of the great east window was being fixed; the old stalls restored have been replaced; the encaustic tiles laid, and the altar-piece reared. The levelling, at least of a portion of the churchyard was to be completed by Wednesday. A monumental brass, to the memory of the late Earl Digby, is being prepared by Mr. Waller, of London, and will be laid in the centre of the choirs. It bears an inscription recording the circumstances of the restoration.

Frome.—A mural marble tablet, 7 feet 6 in. by 4 feet, has just been erected in the Boyle Chapel at Frome Church, Somerset, to the late Edmund eighth Earl of Cork and Orrery. It consists of a moulded and panelled inscription-table, surmounted by a general's hat, plume, sword, and sash. Hung on either side are the official robes of a peer and knight of St. Patrick, and on a slightly projecting plinth, the arms, supporters, coronet, and motto of the deceased, with the collar and badge of the knightly order. The work was from the studio of Mr. Richardson, sculptor.

Northleach.—On the 4th inst. the foundation-stone of a new Independent Chapel, at Northleach, was laid by Mr. H. O. Wills, of Bristol. The building will be in the Gothic style, from a design by Mr. J. R. Smith, of London. The work is under the direction of the English Congregational Chapel Building Society, and of a committee appointed by the Bristol and Gloucestershire Congregational Union.

Tachbrook.—A window has recently been placed at the east end of Tachbrook Church. The design is by Signor Giacosa, and has been carried out by Mr. Holland, of Warwick. The subject is the Ascension of our Saviour.

Ruabon.—On the 4th inst. at a vestry meeting in reference to the new cemetery, a report was read, in which it was stated that a number of sites had been inspected, but that the board had finally fixed upon a piece of land belonging to Mr. West, which could be purchased at 75*l.* per acre. The cost of the land would be 152*l.* 14s. and the probable cost of the conveyances, 50*l.* Mr. Penson, who had prepared plans and drawings, estimated the expense of the cemetery at 675*l.* 17s. 9d. making a total of 878*l.* 11s. 9d.

Doncaster.—A stained-glass window has been put up in the north aisle of St. George's Church by Mr. Wailes. It contains, besides subjects in heraldry, the Passover, the Passage of the Red Sea, Moses striking the Rock, the Brazen Serpent, Aaron and Hur holding up Moses's Hand, and Moses viewing the Promised Land. The window forms a companion to the one opposite, also recently completed.

Scarborough. The Rev. William Fry, canon of Peterborough, with the view of improving St. Thomas's church, has made the following proposals:—First, that he will bear, with any other friends of the church, one third of the cost of replacing the stained glass in the east window, illustrative of "the incredulity of St. Thomas;" and that if, before Christmas, 60*l.* be contributed towards replacing the seats in the centre and south divisions of the church, by substantial pews, he will add to that sum one-tenth.

Kilbarchan.—The enlargement and renovation of the old parish church of Kilbarchan being now completed, it has been re-opened. Mr. Kirkland, of Glasgow, was the architect who was consulted as to the practicability of enlarging and otherwise improving the church. Subscriptions to the amount of nearly 1,000*l.* were collected. The additions now completed have been carried out in conformity with the style of the architecture of the old church, and consist mainly of a new stair tower and two additional transepts and galleries, the principal entrance to the church being a semi-circular arch-headed doorway at the bottom of the tower. This arch is moulded, and enriched with scroll work. The base of the tower is splayed, and the upper story partly corbelled over the circular corner of the ground story. The dead wall on each side is relieved by a panel of the Vesica Piscis form, interlaced with *fleurs-de-lys*. The tower is crowned with corbelling and cable mouldings, supporting a balustrade, having a small turret at one of the angles. The high-pitched roof or spire on the tower is covered with scalloped slates, and surmounted by a metal vane. The interior of the church has been remodelled, the plaster ceiling removed, and the roofs exposed. The seats have been remodelled, and increased accommodation to the extent of from two to three hundred sittings obtained. There has also been added a new pulpit in keeping with the style of the building. The woodwork has been painted and varnished. The windows have been filled with cathedral glass, having ornamental borders, and two stained-glass memorial windows are being inserted on either side of the pulpit. The painting of the church and the stained-glass windows have been executed by Mr. John Cairney, of Glasgow. The contractor for the mason work was Mr. Woodrow, and for the other works, Mr. Alexander Purdon, both of Kilbarchan.

PURIFICATION OF THE TAME: EXPERIMENTS WITH BIRMINGHAM SEWAGE.

An account of some experiments made by the corporation of Birmingham with the view of staying the Chancery proceedings instituted by Mr. Adderley, M.P. is given in last week's *Journal*. The works, says this paper, are situated at the outlets of the two great sewer mains, near the junction of the Rea with the Tame. Here the corporation possess a five-acre piece of land, purchased for the very purpose to which they are now about to apply it, under the pressure of the Vice-Chancellor's order. The experiment is on a limited scale. It is conducted by means of a series of three tanks, through which a portion of the sewage is made to pass upon its emerging from the main. Each of the tanks is separated by a filtering bed of stones, —the first being round gravel of a goodly size, the second broken stones of smaller dimensions, and the third, gravel of the kind usually known as "nuts." The thickness of the beds varies from a foot and a half to seven or eight inches: being enclosed within perforated boards, they can be used for tanks of any depth. The sewage *pur et simple* is introduced into tank No. 1, and the filtering bed separating it from No. 2 is protected by a lining of basket-work, to prevent the grosser waifs and strays from stopping up the perforations. Tank No. 2 is in this way kept tolerably free from solids. No. 3 is in a more liquid condition still; and when the sewage has forced its way through the final bed of "nuts," the water is as colourless and pure as Mr. Adderley could wish his perch and chub to revel in. Supposing the experiment is regarded by Mr. Adderley as satisfactory, the whole of the sewage of the town will be treated in a similar way. In dry weather this amounts to no less than ten millions of gallons per day. The works, therefore, will have to be on an extensive scale. The filtering tanks will cover two acres, it being necessary to have two sets, in order that one may be at work while the other is being cleaned and emptied of the solid sewage. If it pays the working expenses of the salvage, the Public Works Committee will be contented. The cost of the work will be from 2,000*l.* to 3,000*l.*

GAS IN ROME, AND HONOUR TO SKILL.

We have before now noticed the satisfactory progress of the enterprise for lighting Rome with gas, and we learn with pleasure that his Holiness the Pope has named the indefatigable *gerant* and engineer of the company, Mr. James Shepherd, "Chevalier of the Order of Pio Nono."

This is not the first occasion on which the Pope has evinced a warm interest in the success of this undertaking, and his appreciation of the energy of Mr. Shepherd, having, upon a visit to the gas-works, some time ago, presented him with "a gold medal of the first class." We see in these acts a desire to do honour to English enterprise and English skill, which is very satisfactory.

ARROWSMITH'S PORTABLE CHALETS.

Messrs. Arrowsmith, of whose Swiss Parqueterie we have before had occasion to speak, are introducing the use of Swiss châlets in this country as summer-houses, lodges, and cottages for gardeners and others. These châlets are all prepared by machinery, with the floors, walls, and ceilings either plain or of the Swiss parqueterie.

Some of the stock designs are picturesque in outline, and consist of the projecting roof, terminating in cantalivers, fret-worked valence, and cornices, and the perforated balconies and staircases, supported by detached columns, which travellers know.

The varieties of form and colour in either dull or polished surface, of which these structures are capable, offer a wide range to the landscape gardener and improver, for producing effects, united with purposes of utility.

It is suggested, and reasonably, that to those who may be about to build houses on their estates these châlets offer the facility of immediate habitation, while affording the means for selecting the site for the new building, and afterwards superintending its progress; and, when the châlet has answered this purpose, it can, if desired, be removed to ornament a still more appropriate part of the grounds as a lodge or summer-house. One has been erected by Messrs. Arrowsmith at Tulse-hill, but we have not yet seen it.

WATER-SUPPLY, BERMONDSEY.

Sir,—With reference to your recent faithful description of the water-supply to the courts in this locality, it will be but fair to say that the apparatus of which you speak favourably is Jennings's patent water-waste preventor.

The best means of supplying water to small house property has occupied much attention. Ball and service-cocks have no sooner been fixed in poor localities than they have been stolen. The right thing would be to do away with the filthy water-butts and the cisterns, and the tempting cocks, and to give a constant supply, cool and fresh, direct from the main.

The supply from the water companies being intermittent, this could not be done. However, continued agitation, and the proved necessity for a constant supply, have, I am happy to say, induced the East-London and Southwark Waterworks to give a constant supply to any property, if a proper water-waste preventor be used.

The companies will find their interest in this, as is proved. I will instance Magdalen-court, Tooley-street, which is in the locality to which you refer. This court is inhabited by a dense population, chiefly Irish: it contains twenty-nine houses, each having a closet supplied by the waste preventors: there are also three fixed in the court for domestic purposes. The old butts have been removed, and the inhabitants are now in possession of an unlimited supply of water day and night, which is taken, fresh and cool, direct from the main; and the quantity consumed is *much less* than on the old intermittent system. Hydro.

THE METROPOLITAN COW-SHEDS.

At this season of the year the officers of health should examine with vigilance the condition of these places, which are still so numerous in the midst of our population. From various quarters we have heard complaints, some from those living close to the cow-sheds, of the continual and offensive smell which constantly arises, particularly in hot weather; and those at a distance of several hundred yards also complain of the pollution which at intervals taints the air. The effect is most unpleasant and unwholesome. On a sudden a smell of the worst kind fills every apartment of the rooms thus situated, and most people wonder whence it comes. Those who will take the trouble may readily trace it to the cow-yard, where they will find the men at work emptying a large tank, in which the refuse of the cows has been collected. We are told that, although this matter is carried away at such frequent intervals as every two or three days, the removal of it is a perfect nuisance.

If it be considered necessary to continue to keep cows in large cities (an opinion from which we differ), surely it should be made compulsory that such refuse should be deodorised before it is removed. We could point out several of those places from which the worst gases arise in neighbourhoods where almost every house is occupied by forty persons, and in some more. Pigs should be carefully sought for in such places, for the managers of these yards display almost as much ingenuity in concealing those unsuitable visitors in town from the sanitary inspectors as some Irish tenants do on the occasion of a visit from the tithe proctor.

Books Received.

The Practice of Engineering Field-work applied to Land, Hydrographic, and Hydraulic Surveying and Levelling, for Railways, Canals, Harbours, Towns' Water Supply, &c. &c. By W. Davis Haskoll, C.E. London: Atchley and Co. Great Russell-street. 1858.

We hear of "French without a Master," and Mr. Haskoll's book might fairly be called "Land-Surveying without a Master," its instructions are so full and so clear. It begins at the beginning, and takes nothing for granted: and those who master its teachings will find few difficulties in the field they will not be able to overcome. In addition to what is shown of its scope by the part of the title we have quoted, the book includes notes on the description and use of surveying and levelling instruments, and the practical application of trigonometrical tables, and is illustrated by numerous plans and diagrams. We may safely recommend it.

Miscellanea.

A Mountain of Iron.—An American, describing an "Iron Mountain," as it is called, near St. Louis (in rather high-flown terms), says, "If St. Louis had a destiny of high rank from her relation to Pilot Knob, what must be said when the vast wealth of the Iron Mountain is found six miles nearer to your wonderful city? I stand upon this summit, and look down upon the shower of iron hail below, seeing its eggs of ore lying closely packed upon the hill side from base to pinnacle, and I am utterly lost for thought expansive enough to compass the world-wide influences which Iron Mountain will yet exercise upon the destinies of this wonderful state. When I follow the miner in his partial penetration into this iron mass, and find that it grows more rich and solid as he reaches further down, my head grows dizzy with the thought of what St. Louis must be, as the great point, when this mountain shall be melted and forged into the mole-hills of usefulness, under the direction of heaven-born genius. All this, and more than language can portray, is within three hours' ride of St. Louis, and can be taken there in its crude state for less than one dollar per ton freight, and could probably be purchased on a large scale at half as much more at the mountain. It costs next to nothing to get it on board the cars, which run alongside the base of Iron Mountain, where immense masses can be thrown out by a single charge of powder. 10,000 cars might be loaded there per day, and St. Louis might this moment be the rolling-mill for the world."

St. Bartholomew's Hospital.—A new receiving room for patients is to be erected on the site of an existing building at the side of the principal entrance in Smithfield. Mr. Hardwick is the architect.

Light with Safety in Powder-magazines.—At Southsea Castle a number of Chappuis' reflectors have been fixed to supersede the dangerous necessity of using lamps or candles inside the powder-magazines. They reflect from one to another, and are said to be very efficient. The idea of their employment in this position seems an excellent one.

The Bordeaux Fountain Competition.—We have been asked more than once what resulted from this competition, the terms of which we made public in England, now long ago. It appears that there were thirty-six competitors, and some of the designs possessed great merit. A correspondent of the *Revue de l'Architecture*, stated at the time of the decision, as a curious circumstance, that during the examination by the jury of selection, the sculptors in it advocated the claims of designs essentially architectural, while the architects supported the designs wherein sculpture played the principal part, and ultimately indeed gave the first prize (210*l.*) to M. Bartholdi, sculptor, for a design which is described as "*pittoresque et tres mouvementé.*" This occurred some time ago. What has transpired since we do not know.

Fire in Ships.—A correspondent from Bombay suggests, that most vessels—particularly steamers—should have a strong pipe laid through them from stem to stern below ballast water-line; that this pipe should be bell-mouthed where it opens at the bow of the vessel; and at this place it should have a valve capable of being opened or closed from the deck. Throughout the length of the vessel, branching from this main pipe, should be other short pipes, directed into the cabins, holds, and different compartments of the vessel. Each of these smaller pipes should have a turn-cock to be worked on deck. Now, supposing a vessel under way at sea were discovered to be on fire. Instantly, the cock of the branch pipe pointing to the particular place where the fire existed would be turned,—the valve of the large pipe would be opened at the bow,—and a rush of water at least equal to the speed of the vessel would deluge the burning parts.

Ancient Mural Writing at Nynehead Church.—In inserting some windows in the church of St. Mary Magdalene, at Nynehead, the walls were found to have been covered with Scriptural sentences of the time of George Herbert. In the spandrils of the nave—arches are painted in yellow ochre, shaded with red ochre, foliated wreaths with pendants encircling texts of Scripture. On the south wall, the Lord's prayer could be deciphered, as also several geometrical devices, and one in particular, a trefoiled radiating semicircle, which seemed of an earlier date than the rest. Nynehead Church is about to undergo an enlargement, and a partial restoration, under the superintendence of Mr. William A. Sanford, of the adjoining court.

London Inns.—The "Salutation Tavern" still exists. The proper sign is the "Salutation and Cat,"—a curious combination; but one which is explained by a lithograph, which some five years ago hung in the coffee-room, and was presented to the late proprietor by, I believe, one of the Ackermanns. An aged dandy is saluting a friend whom he has met in the street, and offering him a pinch out of the snuff-box which forms the top of his wood-like cane. This box-knob was, it appears, called a "cat,"—hence the connection of terms apparently so foreign to each other. Some, not aware of this explanation, have accounted for the sign by supposing a tavern called "the Cat" was at some time pulled down, and its trade carried to the "Salutation," which thenceforward joined the sign to its own; but this is improbable, seeing that we have never heard of *any* tavern called "the Cat" (although we *do* know of "the Barking Dogs") as a sign. Neither does the "Salutation" take its name from any Scriptural or sacred source, as the "Angel and Trumpets," &c. The late landlord preserved a tradition of the house to the effect that Sir Christopher Wren used to smoke his pipe there whilst St. Paul's was in course of re-building. More positive evidence had he to show of the "little smoky room at the 'Salutation and Cat,'"* where Coleridge and Charles Lamb sat smoking Oronoko and drinking egg-hot;† the first discoursing of his idol, Bowles,‡ and the other rejoicing mildly in Cowper and Burns, or both dreaming of "Pantisocracy, and golden days to come on earth."§—*From Notes and Queries.*

* Lamb to Coleridge, Talfourd's "Life and Letters of Lamb," vol. i. pp. 14, 15.
† Same to Same, *Ibid.* pp. 41—43.
‡ Same to Same, *Ibid.* pp. 54.
§ Elia to Southey, "London Magazine," October, 1823.

Proposed Exhibition of 1861.—Public opinion appears to be steadily accommodating itself to the idea of an exhibition of art and industry in 1861; and doubtless, when the Council of the Society of Arts reassemble, they will take some vigorous steps to put the matters in train. Something has been said about holding the exhibition in Battersea-park, near the terminus of the West-end Railway. We trust, however, that no such notion will be entertained. The site in possession of the 1851 commissioners at Kensington and Brompton would be far superior, and indeed is specially marked out as the right place for the first of the decennial exhibitions, born of that of 1851.

Mr. Baily, Sculptor.—The Royal Academy of Fine Arts, at Antwerp, has just elected Mr. E. H. Baily, the English Royal Academician, a member of its body.

Art Gallery in Leeds.—A strong movement is at work to establish a Public Gallery for Works of Art in Leeds. At a meeting reported in the *Intelligencer*, resolutions were passed in support of the project, and a deputation nominated to confer with the Town Council; and at a subsequent meeting of the Corporation, the Town-hall Committee were instructed to meet the deputation, and consider with them the most desirable method of proceeding.

Patent Hoist.—A number of merchants, scientific men, and others, assembled last week at the warehouse of Messrs. S. and J. Watts, Portman-street, Manchester, according to the local *Courier*, to witness the action of the "Patent Hoist Governor." The hoist-box was regulated to travel at a speed not above 90 feet per minute, and the instant this speed was exceeded the checking apparatus stopped the hoist. This was effected by a pair of governor balls expanding and liberating a lever, which allowed the teeth to become fixed in the sides of the hoist, thus stopping its descent. The governor not only acted when the box descended too rapidly, but when the rope was cut. Mr. W. Fairbairn and Mr. B. Fothergill, engineers, are said to have given their written testimony to the efficacy of this invention.

Branch of Chester School of Art at Crewe.—It having been found desirable to open art classes at the Mechanics' Institution at Crewe, and the mastership having been given (along with that of Chester) to Mr. Davidson, head master of the Chester school, that gentleman delivered the inaugural lecture on the 3rd instant. Around the lecture-hall were displayed a large number of drawings, for which medals had been obtained by the Chester students, and various copies, &c. issued by the Government, and on the table were exhibited a set of models for landscape and general drawing, invented by Mr. Davidson. Mr. Ramsbotham, president of the institution, introduced the lecturer. The hall was well filled by a numerous and attentive audience. The artisans' class, it appears, already numbers thirty-six students, and an increase is anticipated as the evenings lengthen. An excellent room, with gas, &c. has been furnished by the council of the Mechanics' Institution, who also voted 5*l.* for examples to start the class.

An Open Road: Society of Arts Examinations.—Messrs. Thomas Ross Howard, of the Crosby-hall evening classes, and George Edward Skinner, of the Lymington Literary Institution, who distinguished themselves at the Society of Arts examinations in May last, having, through the permission of Lord Derby, been nominated by the council of the society to compete for clerkships in the Customs, have been successful in obtaining the appointments. There were four vacancies and twelve selected competitors. There is no reason now why men of ability, men who by industry and talent have obtained special knowledge, whatever their position, should remain in obscurity: a road is opened which all may travel.

Mr. Morewood's Tunnel Sewers.—Mr. Morewood is again bringing before the Board of Works and the public the claims he considers his scheme has upon their attention. He says,—

"In conjunction with parties of undoubted responsibility, I propose to the Board to construct intercepting sewers, deodorising works, and pumps, &c. to remove not only the present sewage, but to remove double the present sewage flow from the area named, for 1,100,000*l.* and I engage that the tunnel shall be adopted for the removal not merely of double, but of four times the quantity of sewage now passing into the Thames. I also beg to say, with regard to the line proposed by me, that we shall be ready to make such deviations therefrom or additions thereto as may be desired by the Board, provided that any additional work be paid for in proportion; and we will give ample security for the due execution of works. Furthermore, upon the acceptance by the Board of the proposal above made, I shall be prepared to contract for a term of years for the pumping, deodorization, and removal of the sewage, on terms which will save 25 per cent. from the annual charges estimated for the last-mentioned works."

Proposed Vestry-hall for Chelsea.—Competition.—At the last meeting of the Chelsea vestry, it was determined to invite designs from sixteen architects, and the following were named and have since been written to:—Messrs. Legg, Godwin, Bird, Handford, Burnell, Beachcroft, Eppey, Trimmen, Habershon, Pocock, Nelson and Innes, Downes, Gritten, Eyton, Fowler, and Foulon. The cost of building, including ventilation, water supply, and drainage, is not to exceed 4,500*l*. At the meeting, a vestryman, Mr. Rabbits, very properly moved "That the successful competitor be employed to carry out his own design," but the motion was lost by six, the vestry determining to leave that question open. The premiums offered are 50*l*. and 20*l*.

Local Government Act, 1858, 21 and 22 Vict. c. 98.—This Act comes into force from the 1st September, 1858, in districts under the Public Health Act, 1848. In other places it takes effect at the expiration of two months from the date of its adoption. By adoption of this Act, boroughs, towns, and places possessing known and defined boundaries may obtain powers for their own Government and improvement, without recourse to the central executive or to Parliament; and places not having defined boundaries may acquire them for the purposes of this Act.

Sanitary State of Croydon.—The quarterly report of the local mortality, from April 1st to June 30th, from 1848 to 1858 inclusive, shows that the number of deaths for the quarter ending 30th June, 1858, is 108—*i.e.* females, 52; males, 56; which is considerably below the average of the same quarter in the previous ten years; and the rate of mortality of the whole parish may be taken as slightly above 15 in 1,000 inhabitants. In the Southern District, where the population numbers 3,067, the deaths for the quarter were only 5; whereas in the Eastern, the smallest district, with 2,304 inhabitants, they were 11, or as 19 in the 1,000 in the latter to 6½ in the former district. No death from fever had been registered. Were the deaths registered under the age of two years and above eighty years deducted from the tables, the ratio per cent. per annum would be 1·0. Notices for forty new houses had been given.

Libel on an Architect.—At the Chester Assizes, last week, an action for libel was brought by Mr. T. M. Penson, of Chester, architect, county surveyor for Flintshire, and a member of the city council of Chester, against Mr. J. D. Williams, a builder in Chester. Mr. Williams had signed a specification, as contractor, for building a villa; and after the work was completed, payment was delayed on account of a claim for Minton tiles as extra work made by Mr. Williams, who wrote to the owner of the villa, stating that the Minton tiles for the entrance-porch were inserted in the specification after he had signed it, and without his knowledge. Having been called upon by Mr. Penson to retract such a statement, as being libellous and not being the fact, Mr. Williams wrote to this gentleman himself repeating the libel complained of, adding, "I consider you in having done so as having been guilty of one of the basest acts it is possible for a professional gentleman to be guilty of." It was stated, on the part of Mr. Penson, that he had several witnesses ready to prove that the clause as to the Minton tiles *was* in the specification at the time Mr. Williams signed it; that it had been originally interlined in pencil, but had been written out in ink before being signed. For the defendant, of whom a simple retractation was still all that was required, it was agreed to retract if Mr. Penson would state that the clause was in the contract when signed. The fact was repeated, and the libel withdrawn, a verdict for 40s being entered for the plaintiff.

The Public Health Act in Worksop.—Sir,—It is quite true that for the last four or five years, the Local Board have had their own peculiar way of attending to the sanitary requirements of the inhabitants, and the steps they have taken would almost lead us to suppose that they thought there existed a virtue in law-suits; for instead of spending the ratepayers' money in the improvement of the sanitary state of the town, they have spent it in the Court of Queen's Bench, Chancery, &c. But, Mr. Editor, I wish to let your "Old Correspondent" know that "better times are coming." The present Board, with a laudable desire "to promote the public health," have engaged Mr. Rawlinson, C.E. to devise a complete system of sewerage and drainage. I need not say the opposition the Board have met with from the owners of cottage property has been immense, but the Board appear to be keeping to their path of duty, and have the applause of all sensible people.—A Constant Reader.

Crystal Palace: Picture Gallery.—Large numbers of persons are now visiting the Crystal Palace on the cheap *fête* days, and it is to be hoped that the next balance-sheet will show a good result. A new picture gallery has been opened in the gallery of the main building, on the same side as the Pompeian Court, where with a large number of old friends will be found many new ones. We have received some complaints from a correspondent touching the use of a large quantity of asphalted felt to block out the light, which he considers dangerous; but it does not occur to us that there is cause for alarm. For some time past the Crystal Palace has been thrown open to shareholders on Sunday afternoons. Many persons have availed themselves of the opportunity of a quiet stroll through the palace and grounds, which are now in a high state of perfection. The creeping plants and fuschias, with other rare plants within the building, are most luxuriant; while the display of geraniums, hollyhocks, and dahlias, throughout the extensive grounds, presents a brilliant *coup d'œil*.

Accidents to Property and Person.—A warehouse, at Mount-pleasant, Oldham, fell in last week, but fortunately without injuring any one. For some time the warehouse, which was two stories high, had been in an unsafe condition. ——At Warrington, near the new Market-hall, the roof and part of the side walls of a beer-shop, known by the sign of the "Hole in the Wall," suddenly fell in, and four of the inmates were buried beneath the ruins and severely injured.——A frightful scaffold accident occurred last week at St. Paul's, Covent-garden, which is undergoing some repairs: a workman fell from the steeple, a depth of 60 feet. He was taken to Charing-cross Hospital, with little hope of recovery.——On the 26th ult. a bricklayer in the employ of Mr. Crabb, builder, Great Tey, says the *Chelmsford Chronicle*, was repairing Mr. Green's water-mill, Ford-street, when the scaffolding on which he was standing gave way, and falling a distance of 30 feet, he was taken up insensible and conveyed home. Happily no bones were broken, and he is likely to recover.

New Act on Art-Unions.—Under this heading, an erroneous paragraph has been circulating which is calculated to produce an injurious effect on the mind of the public. The new Act of Parliament referred to as lately passed, does not in any way relate to, nor in any degree affect, the Art-Unions established for the general advancement of the fine arts in the British Empire, under the authority of the Act of Parliament passed in the year 1846, but it has reference solely to an association which was formed two years ago, for the purchase of works of utility and ornament, of British and foreign manufacture, to be afterwards allotted and distributed, by chance or otherwise, as prizes amongst the members. Doubts were entertained whether this association came within the meaning of the existing Act, and the new Act has been passed to protect the members of it up to August 31st in next year.

Cotton Bricks.—The *Charlestown Courier* announces that a process has been discovered by which cotton can be compressed into a solid form, harder than wood, impervious to the elements, fire-proof and water-proof, and capable of use for building purposes, at about one-third the cost of brick.

More Water Fountains.—A very excellent public improvement will shortly be introduced into several of the streets of Leeds, says the *Intelligencer*, namely, the erection of a number of small water-troughs or basins in convenient places, to enable travellers and other persons to refresh themselves with a draught of water. The idea was suggested at a meeting of the Waterworks Committee of the Town Council, by Mr. Brook [auspicious name] as chairman of the committee: a sub-committee was appointed to carry it out, and it has since been determined to erect six basins, made of granite, above each of which is to be placed a ram's head of the same material. Through the mouth a small stream of water, supplied from the pipes in the streets, will run night and day. The basins will each be placed in a niche in a wall near the parish church, Leedsbridge, the Cattle-market (North-street), the Leeds Arms Inn (West-street), Woodhouse Moor, and near the Commercial-buildings, Westbar. There will be an iron ladle to each basin, secured by a chain to the wall. The troughs are now being made at Aberdeen.——The Dewhurst drinking-fountain at Blackburn has been fixed in front of the Market-house, and is now in full operation.——A drinking-fountain is to be erected on the north side of the "Town Clock" at Stourbridge. The Rev. C. Girdlestone has given 10*l*. for its erection.——When is the metropolis to be studded with such fountains? Old street-pumps are disappearing fast enough, but not much is being done to replace them. At Titchbourne-street, by the way, there is one with an iron ladle absurdly affixed by a few links of a chain near the pavement, and only fit to allow a child of five or six years old conveniently to drink out of it.

[Advertisement.]

Self coiling Convoluted Shutters.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. Clark and Co. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.—*From the Builder, June 26th*, 1858.

TENDERS.

For the Hastings and St. Leonard's new Hotel. Mr. F. H. Fowler, architect. Quantities taken out by Mr. Smither:—

Howell, Hastings	£28,269	0	0
Kirk and Parry	28,257	0	0
Holland and Hannen (accepted)	27,900	0	0
Dove, Bros.	27,500	0	0
Hughes and Hunter	25,738	0	0
Moxon	25,612	0	0

For new premises, for Messrs. Waterlow and Sons, Parliament-street. Messrs. Hunt and Stephenson, architects. Quantities by Messrs. Lansdown and Robinson:—

Lee and Son	£5,908	0	0
Jay	5,676	0	0
Lucas	5,538	0	0
Kelk	5,518	0	0
Mills	5,469	0	0
Piper and Son	5,409	0	0
Mansfield and Son	5,243	0	0
Lawrence (accepted)	4,996	0	0

For building a mansion for Mr. W. Derry, Plymouth. Mr. J. Hine, architect:—

T. Marshall	£3,274	0	0
Roberts	2,988	0	0
Lethbridge	2,780	0	0
Finch	2,728	10	0
Elliott	2,620	0	0
Matcham	2,500	0	0
Call and Pethick (accepted)	2,384	0	0

For five houses at Lee, Kent, for Mr. C. S. Tosswill. Mr. J. Liddiard, architect. Quantities supplied:—

Lewis, Thorne, and Co.	£2,596	16	0
Kent	2,559	0	0
Brown	2,493	0	0
Greswell and Co.	2,444	0	0
Simpson	2,436	0	0
Taylor	2,399	0	0
Cobham	2,351	0	0
Mildwater	2,345	0	0
Smith	2,300	0	0
Hawkins	2,280	0	0
Lennan and Bird	2,225	0	0
Denton	2,197	0	0
Harding	2,155	0	0
Barker	2,035	0	0
Pearson (accepted)	1,948	0	0
Cave	1,845	0	0

For new church, St. Mary's Abbey, Bergholt, Suffolk. Messrs. Hadfield and Goldie, architects. Quantities supplied by Mr. Thomas James:—

Geen	£2,152	0	0
Roper	2,123	0	0
Cornish	1,919	0	0
Simpson	1,755	0	0

For additions to mansion and offices at Titchhurst Lodge, Sunning-hill, for Mr. Thomas Holloway. Mr. N. E. Stevens, architect.—

Mansfield and Son	£1,248	0	0
Noakes	1,195	0	0
Hollis	1,133	0	0
Dove and Co.	1,095	0	0
Oades and Son (accepted)	1,025	0	0

For a pair of houses, Acton, Middlesex. Mr. Blyth, architect. Quantities not supplied:—

Gadsby	£1,159	0	0
Sewell	995	0	0
Nye	973	0	0
Ring and Stanger	858	0	0

For building a rectory at Bisley, Surrey, for the Rev. F. B. Gourrier. Mr. W. White, architect:—

Low and Sons	£921	0	0
Oades and Son (accepted)	880	0	0

For alterations and additions to a warehouse, Bread-street, for Messrs. Puzey and Pallett. Messrs. Tillott and Chamberlain, architects. The quantities not supplied:—

Piper and Son	£697	0	0
Ashby and Son	668	0	0
Brass	625	0	0
Axley	598	0	0
Brown and Robinson	575	0	0
Wills	525	0	0
Laurence and Son (accepted)	482	0	0

For forming an additional burial-ground at Harrow-on-the-Hill. Mr. Charles Laws, architect. Quantities supplied :—

Houghton and Ley	£879 13 6
Hamill and Foulkes	829 3 1
Chapman	821 15 7
Waldron	662 17 9
Sharon	476 0 0

For certain alterations and additions to Caversham House Academy, near Reading, Berks, for Mr. F. Knighton. Mr. Arthur Billing, architect. Quantities not supplied :—

Carter	£405 0 0
J. and H. Luker	396 0 0
J. Mathews	390 0 0
Geo. Bowler	385 13 0
John Dormer (accepted)	385 0 0

For work to be done at Mr. Norman's premises, Oakley-street, Lambeth :—

Corbett and Olding	£360 0 0
Puzey	294 0 0
Stone	285 0 0
Sexby	279 0 0
Nichols	259 18 0

For alterations, &c. &c. to the offices of Mr. William Smith, C.E. Salisbury-street, Adelphi :—

James Jones	£180 0 0
John Denton and Son	165 0 0
J. W. Warner	151 12 6
Messrs. Day and Co.	130 0 0
M. Cubitt	115 0 0
Thomas A. Anderson	105 0 0
William Bamford	103 0 0
Samuel Sutton	100 5 0
William Walken	81 0 0
Messrs. Grover and Son (accepted) (Three too late.)	78 0 0

For schools at Wimbledon, Surrey. Mr. S. S. Teulon, architect :—

	Red Brick Tacings.
Mansfield	£9,730 0 0 .... £433 0 0
Nicholson	9,449 0 0 .... 375 0 0
Brown and Robinson	9,375 0 0 .... 375 0 0
Wardle and Baker	9,295 0 0 .... 325 0 0
Child and Sons	9,240 0 0 .... 104 0 0
Howell	8,684 0 0 ....
J. Higgs	8,588 0 0 .... 480 0 0
W. Higgs	8,650 0 0 .... 450 0 0
Mills and Son (accepted)	7,796 11 0 .... 250 0 0

For the erection of manufactory, proving room, offices, and enclosure walls, for Messrs. Croll, Ralt, and Co. in the Kingsland road. Mr. William Lee, architect. Quantities by Messrs. Welch and Atkinson :—

	Manufactory and Proving Room, &c.	Stores.	Total, with Boundary Walls.
	£. s. d.	£. s. d.	£. s. d.
Blanchard	2,525 0 0	295 0 0	2,858 0 0
Denton	1,962 0 0	192 15 0	2,297 12 0
Case	1,817 0 0	180 0 0	2,107 0 0
Newman and Mann	1,777 0 0	195 0 0	2,087 0 0
Hocken	1,777 0 0	193 0 0	2,076 0 0
Perry	1,736 0 0	190 0 0	2,056 0 0
Walton	1,748 0 0	183 0 0	2,041 0 0
Willson	1,735 0 0	182 0 0	2,041 10 0
Wardle and Baker	1,720 0 0	175 0 0	2,005 0 0
Wills	1,697 0 0	187 0 0	1,599 0 0
Mears	1,703 0 0	180 0 0	1,595 0 0
Hill	1,676 15 0	170 10 0	1,561 5 0
McLennan & Bird*	1,642 0 0	180 0 0	1,948 0 0

* Accepted.

TO CORRESPONDENTS.

Warming Churches.—Sir, I wish to warm a small village church, where I have not the power to interfere with fabric or fixtures. I am anxious, therefore, to obtain a stove for it which may fulfil the following conditions. It must be easily portable: it must require no chimney or other fixture: it must not smoke or give gases. Is there such a thing to be obtained? A CLERICAL SUBSCRIBER.

C. J. (notice must be given to the district surveyor, and the instructions of the Act attended to).—P. C. W.—Mr. C.—A. McG.—W.P. —G. E. S. (two letters on the subject were already in type).—J. J. M.—T. A.—H. K.—H. J.—D. J. R.—J. and M.—F. F. D.—W. P (next week) —W. D. M. M. T. R.—P. B.—Mr. C. (will appear).—A. B. —W. and Sons.—*Angleterre ou France* (we are forced to avoid recommending).—R. H. D.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No.* 1, *York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

PURSUANT to a Decree of the High Court of Chancery, made in a cause "John Morgan against Harriet Agnes Broder and Others," the CREDITORS of WILLIAM BRODER, late of No. 1, St. James's-terrace, Regent's-park, in the county of Middlesex, Esquire (who died in or about the month of March, 1858), are, by their Solicitors on or before the 5th day of NOVEMBER next, to come in and prove their debts at the Chambers of the Vice-Chancellor Sir William Page Wood, at No. 11, New-square, Lincoln's-inn, Middlesex; or in default thereof they will be peremptorily excluded from the benefit of the said decree. THURSDAY, the 11th day of NOVEMBER, 1858, at TWELVE o'clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.

Dated this 26th day of July, 1858.

HY. LEMAN, Chief Clerk.

J. and J. H. LINKLATER and HACKWOOD, 7, Westcott, London, Plaintiff's Solicitors.

SURVEYOR, &c. WANTED.—The Llanelly Local Board of Health (Carmarthenshire) are desirous to appoint a SURVEYOR, and an ASSISTANT SURVEYOR and INSPECTOR of NUISANCES. The surveyor must have a competent practical knowledge of engineering, and be prepared to turn off the Board with plans and specifications, and to superintend the execution of works, and to attend the meetings of the Board. The assistant surveyor and inspector of nuisances will be required to give his whole time to the performance of the duties required of him, and to take such orders from the surveyor as further instructions may be obtained from Mr. F. L. BROWN, Clerk to the Llanelly Local Board of Health. Applications will be received by the 1st of SEPTEMBER next, when the time of election and amount of salaries will be determined.

Llanelly, 7th August, 1858.

SWANSEA CANAL NAVIGATION.—WANTED, a Person to SUPERINTEND the WORKS on the line of the above canal—sixteen miles. Experience of the nature of the employment is essential, and a knowledge of the Welsh language is desirable.—Apply to the Clerk, Swansea.

August 9th, 1858.

TO PLUMBERS.

WANTED, in the Country, a Good, Steady PLUMBER, one that can do Glaziers' and Painters' Work preferred.—Apply, by letter, with reference and terms, to Mr. WILLIAM PUGH, Abbey Foregate, Shrewsbury. (For constant employment.)

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WANTED, by the Advertiser, a SITUATION as SAW-SHARPENER, and to work a Circular Saw Bench, or to work a moulding machine.—A good reference can be given if required.—Address, R. M. Post-office, Staines, Middlesex.

WANTED, by an experienced practical Carpenter and Joiner, who has had the management of extensive works in town and country, a RE-ENGAGEMENT, as CLERK of WORKS, or General Foreman, or to take charge of Building Works for a Gentleman.—Address, S. G. Printing Office, 13, Dean-street, Westminster, S.W.

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WANTED, a SITUATION as FOREMAN, by a Person who thoroughly understands the Smithing, Bell-hanging, Gasfitting, Steam, and Hot-water Work. No objection to go abroad. Can have a good reference from late employer.—A. Z. 45, Upper L C Mr Soane's, Bruns. Sq., Hoxton-fields.

TO CIVIL ENGINEERS, ARCHITECTS, AND SURVEYORS.

WANTED, by a Gentleman, who has been between four and five years in the profession, an ENGAGEMENT as ASSISTANT. He can take levels and lay down sections, prepare engineering and architectural drawings under directions, has taken part in an extensive practice in London, and is a water and sewerage engineering, and has a general knowledge of the duties in a civil engineer's, architect's, and borough surveyor's offices. Has also had out-of-door superintendence. No objection to a small premium. Present salary to commence at 25s per week.—Address, C. E. A. 29, Guildford-street, Coventry.

WANTED, by an Architect, a competent CLERK. He must write a good hand, draw well, and be familiar with the management of house property.—Applications by letter only, stating terms per annum, to Mr. ROBERTS, 16, Bedford-street, W.

TO CARPENTERS, BUILDERS, AND CONTRACTORS

WANTED, by a very Steady Active Young Man, aged 20, a SITUATION as IMPROVER in a Carpenter's and Builder's Shop. Has had five years' practical experience. Wages no object. Is a clever sub-draughtsman, and writes a moderate hand. Has also a partial knowledge of plans and drawings.—Address, E. D. No. 4, Norfolk-street, Globe-road, Mile-end.

TO PLUMBERS AND BUILDERS.

WANTED, by a Young Man, EMPLOYMENT as PLUMBER [illegible] of workman. Would work country [illegible] reference. Address, H. M. No. 50, Prince-street, Paddington, London.

TO CONTRACTORS, BUILDERS, AND SURVEYORS.

WANTED, an ENGAGEMENT, by a Gentleman thoroughly conversant with office business, a good draughtsman and accountant, and who has had considerable experience in measuring and valuing.—Address A. A. care of Mr. Hodson, 260, Oxford-street, London, W.

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WANTED, a SITUATION as CLERK or FOREMAN, by a person [illegible] Can take out quantities, cost [illegible] and prepare specimens in any required drawings. Unexceptionable references.—Apply by letter to C. X. L. 3, Dorset-street, Manchester-square.

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AN efficient ASSISTANT, of extensive experience, in making all kinds of plans, elevations, sections, working drawings, taking out quantities, valuing, measuring, and finishing all kinds of architects' works, wishes for an engagement.—Address, O. H. J. 12, Queen's-road, Notting-hill-gate, W.

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AN ASSISTANT, experienced in Surveying and Levelling, and a good draughtsman, is open to an ENGAGEMENT. Has been engaged upon drainage and other public works of extent, and possesses good testimonials, or would give reference.—Address, J. H. 8 Post-office, Cardiff.

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AN ASSISTANT, who has been accustomed chiefly to the preparation of finished, detail, and perspective drawings, a desire to [illegible] RE ENGAGEMENT.—Address, A. M. No. 3, Moreton-terrace, Pimlico, S.W.

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AS ASSISTANT, aged 25. Can design, draw perspective, take out quantities, measure up work, &c. Terms, 30s per week. London only. Nearly two years' reference to a Surveyor of one of the Metropolitan Boards of Works.—Address, D. 4, Aske street, Hoxton, N.

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TURNHAM-GREEN.—To BUILDERS, LAND SOCIETIES, and OTHERS.—TO BE LET on BUILDING LEASE, or SOLD, an eligible FREEHOLD ESTATE, comprising upwards of three acres, situate near the high road, and adjoining the Horticultural Society's Gardens. Constant access by omnibus and railway.—Apply to Mr. GEO. ELKINGTON, Architect and Surveyor, 93, Cannon-street, City, E.C.

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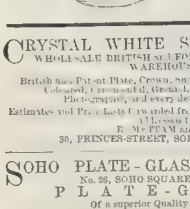

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FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any Pattern Brick, &c. made to order.

TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c

SLATES, best quality from the Bangor Quarries.

YORKSHIRE STONE. Tooled Paving, Sills, Steps, Kerbs, Coping, &c. Seven Sided Slabs for Hearths, Landings, &c.

TILES. Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Glazed always kept in Stock.

GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c

GREY STONE and CHALK LIME.

BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.

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PLASTER of PARIS, fine and coarse, of best quality, at reduced prices.

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IMPORTER OF DUTCH CLINKERS.

All kinds of Building Materials sent by Rail the same day as ordered.

ROAD MATERIALS, Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken Tenders given for any quantity.

N B Landing Wharf and Drawing Dock at Vauxhall.

GREAVES'S BLUE LIAS LIME.—Messrs. GREAVES and KERSHAW beg leave to inform the Trade that they are prepared to deliver GREAVES'S BLUE LIAS LIME, LUMP or GROUND, direct from their Works, to any part of London, and the neighbourhood either by Boats or Railway

Since Mr. GREAVES introduced this LIME into the London Market it has been so extensively used for all the principal public and other works wherever strength to the Lime has been required, that its quality is well known. By the arrangements now made Messrs. GREAVES and KERSHAW will be enabled to deliver LIME direct, fresh from their Works, at such a price as will ensure its being used in all works where quality is considered, it being the best and strongest LIME in the London Market.

Works at Stockton near Rugby
" Harbury near Southam.
" Wilmcote near Stratford-on-Avon.
Offices at Warwick.

Portland, Lias, Roman, and Roman Cements.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT. KNIGHT, BEVAN, and STURGE, Manufacturers only of first-rate quality, for the home and foreign trade.

Portland Cement is manufactured at these Works with especial reference to its best adaptation, whether for stuccoing, brickwork, blocks or brickwalls, tuli work, or otherwise

LONDON WHARF, BELVIDERE ROAD, LAMBETH.

MESSRS. ROSHER and CO. LIME, CEMENT, and BRICK MERCHANTS, LIME WORKS, CHALK, FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

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Wherein can be obtained of the best quality :—
GREY-STONE, CHALK, and FLARE LIME
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COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS.
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TERRA COTTA, CEMENT, and RED CHIMNEY POTS.
HAIR, PLASTER, LATHS, SAND, BALLAST, and other BUILDING MATERIALS.
Goods forwarded by Railway with despatch.

JAMES R. BLASHFIELD (late Wyatt Parker and Co.), ROMAN and PORTLAND CEMENT MERCHANT—Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Chimney Pots, Trusses, Copings, &c.; Stone ware, Drain Pipes and Closet Pans—No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no colouring. Sold exclusively by JOHN DAZLEY WHITE and BROTHERS, Millbank-street, Westminster; and Seel-street, Liverpool.

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SCOTT'S PATENT CEMENT, Manufactured only by WILLIAM LEE, SON, and SMITH, EARL STREET, BLACKFRIARS This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT Messrs. ROBINS and CO. TO WHOM THE PRIZE MEDAL WAS AWARDED in 1857, are prepared to SUPPLY ANY QUANTITY OF THE VERY BEST PORTLAND CEMENT, Manufactured by them for all the purposes to which Cement is applicable.

Orders received at Great Scotland-yard, and at the Works.

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N.B. These Cements supplied for shipment, on advantageous terms.

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TERRA-COTTA and CEMENT WORK GUARANTEED for DURABILITY and uniform warm tint, as used in the NEW LAW COURTS, BRONBOURNE, who had a PRIZE MEDAL (1851), and ONE of ARTISTIC MERIT for Works in the FINE ARTS COURT. STEREOGRAPHS of GARDEN DECORATIONS, &c.; and references to Works executed in all parts of the country over THIRTY YEARS, sent on receipt of twelve stamps for postage. CHEAP FILTERING and other CISTERNS, and FIRE-PROOF STAIRS, for the Use of Lodge or Mansion. As see *Builder* of May 21, 1858 Specimens at Kensington Museum and the Polytechnic.—

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PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Maidenhead-street North, City-road Basin, N. Finally, that the true terro, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufacture as known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

BRICKS.—IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery :—

Best Grey Stocks	25s. per Thousand.
Rough Stocks and Grizzles	19s. "
Place Bricks	18 to 17s. "
Bright Stocks	29s. "
Shippers	30s. "

Address—GEORGE SMEED, Sittingbourne, Kent.
P.S Up any of the Canals on payment of Dues extra.

BRICKS for SALE at Penge, near Sydenham, Kent.—Apply to Mrs. SLANEY, 8, Maple-terrace, Penge, Surrey

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from 4 inch to 14 inches thick, seasoned and ready for use Also Mahogany, Walnut, Wainscot, and all kinds of Timber required for Building Purposes.—Address, R SLADE (late E. Simms), Flooring Manufactory, Willow-road, Pimlico

TO CARPENTERS, BUILDERS, &c.—THOMAS W ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, No. 1, HOOLEY STREET, of the South Eastern Railway Company, adjoining their Ferry Wharf, Deptford Bridge, where, as on Lot with his old established premises in King street, Borough, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S. Country orders executed with prompt attention, and all sawn goods (Bulk Timber excepted), delivered free of carriage within three miles.

BOARDS, RIGA PLANK, 10½ to 11 inches wide

⅞ inch Boarding	4 per foot run.	1¼ inch Boarding	9 per foot run.
1 "	4½ "	2 "	9½ "
1¼ "	5 "	2½ "	10 "
1½ "	5½ "	3 "	11 "

Quartering 2½ by 3 inches 4 per foot run.

"	3 by 3	"	5 "
"	3 by 3½	"	5½ "
"	3 by 4½	"	7 "

Other Boards and and Scantlings at same rate Some pile Lots of short lengths very cheap —EDWARD SPENCER and Co. Contractors, 18, Bridge-street, London, E.C.

TO TIMBER MERCHANTS, BUILDERS, and OTHERS.—FOR SALE, lying on a Wharf at Dartford, and near the Railway station, a quantity of good seasoned 2, 3, and 4 inch OAK PLANK.—Apply to T. M. JOPLIN WEBB, High-street, Dartford.

OAK TIMBER.—A large Quantity for SALE, at a low price.—Apply to Mr. JAMES WINTER, Brent wood, Essex.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s 3d ; Spruce, 2s 9d : Pine Planks, 3s 6d : Mahogany and F. Walnut, 5s6d ; 3-inch White Battens, 9d per Yellow, 11d. ; 1-inch White Flooring, 12s 6d ; 4 ditto, 15s 6d ; 1-inch Yellow, 10s. 6d. ; 4 ditto, 14s. Bird's eye Maple Veneer, 2s. Carriage free to any part of town

T. FORMAN, 1, Walnut-tree-walk, Walcot place, Lambeth.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash :—

	¾	1	1¼	
Spruce	12s.	13s.	15s.	— per 8 square
White	12s. 9d.	13s. 6d.	15s 6d.	18s. "
Yellow	13s 6d.	14s 6d.	16s 6d	19s. 6d. "

Delivered within three miles free of charge.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices Southwark bridge Wharf, Bankside, S.E.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts :—

¾-inch Prepared Flooring	£0 11 6 per square.
¾ inch Prepared Flooring	0 14 0 per square.
1inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each
Spruce Deals	0 3 0 each.
Pine Planks, Dry, 12 ft 3 by 11 in	0 3 6 each
Yellow Battens	11 10 0 per 120.

Mahogany, planks and boards, from 6d per foot

All sawn goods delivered within three miles free of cartage

ALFRED CARTER, Old Bethnal-green-road, N.E.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾-inch Prepared Flooring, 11s 6d. per square.
1 inch ditto, 15s per square.
Yellow Battens, 12 ft. by 3 in. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each
Pine Planks, dry, 12 ft. 3 in. by 11 in. from 3s. 6d. each
Hewn Baulks Mahogany, Plank and Board, from 6d per ft.
Borough-road, Southwark, and Ebn-street, Grosvenor-canal-row.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras road, invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST REMUNERATIVE PRICES Books of Designs of Mouldings forwarded on application

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PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS MOULDINGS of any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Pattern list

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MATCH-BOARDING of any width.

Also,

Timber, Deals, and Mahogany, on either Wharf, or at the Docks JOHN RUFFY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.

Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference.

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TO PAINTERS, BUILDERS, &c.—LIVETT, FRANK, and SON, 14, BOROUGH, London-bridge, quote their present prices :—Genuine White Lead, 32s ; Second, 28s. per cwt ; Linseed Oil, 2s 10d. ; Boiled ditto, 3s. 2d. ; Turpentine, 3s. 6d ; Oak Varnish, 7s. 6d. ; Pale ditto, 10s per gallon. A list of prices on application.

IMPORTANT to BUILDERS and PAINTERS Genuine White Lead, 32s. per cwt. ; Linseed Oil, 3s. per gallon ; Boiled Oil, 3s. 2d. per gallon ; Turpentine, 3s. 3d per gallon ;

Fine Pale Oak Varnish, 7s 6d per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Coleshill-street, Pimlico.

Every article for the Trade at the lowest price.

TO PAINTERS, BUILDERS, AND CONTRACTORS. THE BEST MARKET on the south side of the River, for GENUINE OLD-GROUND WHITE LEAD, LINSEED-OIL, TURPS, VARNISH, and COLOURS of every description, at SIMPSON and CO.'S, 53 and 54, London road, Southwark. A price list sent on application.

COLOURS and VARNISHES at REDUCED PRICES. Genuine White Lead, 32s. per cwt ; Linseed Oil, 2s 10d. ; Turpentine, 3s. 3d. ; Boiled Oil, 3s. 2d ; Pale Oak Varnish, 7s. 6d : Carriage, 12s ; Cash. Lists post free. Dry and Ground Colours, Brushes, &c. &c for Cash

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TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE HILL, Manufacturer, SUPPLIES COCOA NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c of the best quality on the most reasonable terms Warehouse, 42, Ludgate hill, E.C.

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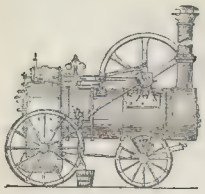

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PUMPS,
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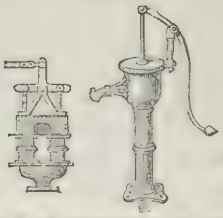

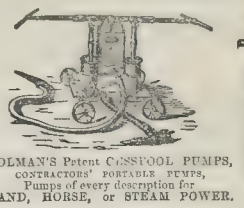

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CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
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PORTABLE
STEAM
ENGINES,
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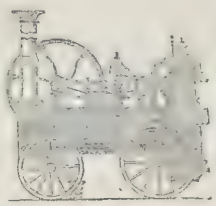
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



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Suitable for Plantations, Parks, Pleasure Grounds, Farms, Gardens, Stables, Liquid Manure, Sheep, Barges, Wells, Mines, &c. &c.
HYDRAULIC PUMPS FOR DEEP WELLS.
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Pumps of any size, Single or Double Barrel, up to Double 18-inch diameter, kept ready for use, at moderate prices.
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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

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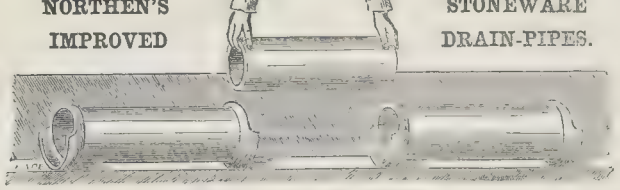
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



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Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe because of stoppage, or to detect where, as it is generally supposed, it has taken up with it the deposit, owing to the joint or lock pipes, the one to overlap the other, thereby preventing anything but manufactured, the utility and simplicity of easy access to drain.

The above improved pipes W. N. undertakes to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first and manufacturer of Stoneware Socket Pipes, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he anticipates to execute orders with despatch.

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LIVERPOOL POTTERY,
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STORES—70, SOHO-STREET, LIVERPOOL.
MANUFACTURERS OF
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DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
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TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

CHEAP, LIGHT, AND DURABLE ROOFING.
CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.
1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the labour usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, a roof scarcely adds 2 lbs. to the square foot; the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.
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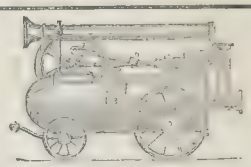
CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent. of Fuel, and deadening Sound.
Samples, testimonials, and full instructions, on application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.



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STEAM-ENGINE for SALE, with Boiler and all the fittings complete, in sound working order, of nominal [illegible] Apply to Messrs. BROWN and ROBINSON, 9, College-street, Cannon-street, City.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, [illegible] and all SORTS OF KEYRINGS, for Hot-water Pipes. Vulcanized Rubber Door springs, and Solid Round Elastic Rubber Bands. Brown Cushioned Rubber Sheeting for Printers' Lithographic Tables.
Dyeing Dresses of superior make, and improved Vulcanized Rubber Shoes supplied to
Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern or order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, for [illegible] conveying water, the undersigned is induced to refer to a letter addressed by Sir RAYMOND JARVIS, Bart. VENTNOR, Isle of Wight, to Messrs. Todd and Mackay, Hull, dated 8th May, 1852—In this letter, answering inquiries respecting the Gutta Percha Tubing for Pump Service, I can state with confidence that it has completely answered. Many believe and other persons have lately examined it, and there is not the least appearance of decomposition after having been down several years, and I am inclined to believe that it will last generally in the houses that are now erecting."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
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WANTED, 3,000*l.* to secure the assignment of one moiety of a practically-tested Patent Invention of [illegible] applicable to existing [illegible] Apply to Mr. C. H. May's General Advertisement Office, 26, Lombard-street, E.C.

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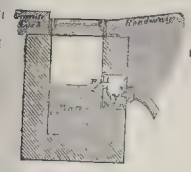
BANK of DEPOSIT, Established A.D. 1844.
3, PALL-MALL EAST, LONDON.
Parties having MONEY TO INVEST are invited to examine the Plan of the BANK of DEPOSIT, by which a high rate of interest may be obtained with perfect safety.
The Interest is payable at January and July.
PETER MORRISON, Managing Director.
Forms for opening Accounts sent free on application.

IMMEDIATE CASH ADVANCES.—Money Lent on Personal Security, Leases, &c.
SUMS from 10*l.* to 500*l.* ADVANCED two or three days after application, for two years, one year, or six months (repayable by weekly, monthly, or quarterly instalments); and good Bills Discounted. Charges moderate, and strict confidence observed.
LONDON and PROVINCIAL LOAN COMPANY: Office, No. 82, Goswell-road, London. Open daily from Nine till Six.
Forms of application and prospectus (gratis) on receipt of a stamped envelope.
H. FLEAR, Manager.



Sectional Elevation of Street Gully & Trap

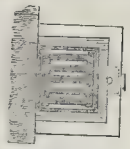
Plan of Top of Trap

MERRY'S REGISTERED
TRIPLE EFFLUVIA-TRAP
IS ADAPTED FOR
STREETS AND STABLE DRAINS,
Also for
AREA, SINK, AND SCULLERY DRAINS OF DWELLING-HOUSES.

It is compact in form, simple in construction, not liable to derangement, and is decidedly (WITH OR WITHOUT WATER) the most perfect Trap of the day.

Price 8s. and 10s. each.

MANUFACTURED BY H. MILLICHAMP, Princes-street, Lambeth.



Plan of Street Gully & Trap

Sectional Elevation of Trap

GREAT REDUCTION IN GLAZED STONEWARE PIPES.
STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.

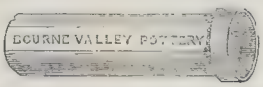
S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

BOURNE VALLEY POTTERY,
NEAR POOLE, DORSET.
LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.
SALT-GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.

The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained of Mr. J. T. BOUNSALL, Manager, Bourne Valley Pottery, near Poole, Dorset; or at the Depôt, 8, Belmont-place.

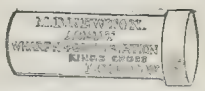
GREAT REDUCTION IN PRICES.
JAMES STIFF,
MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.
LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; Cuper's and Danvers Wharf, Chelsea; Pratt Wharf, King's road, Camden-town; City Road Wharf, City Basin; Dockhead Wharf, Bermondsey;
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thorn hill Wharfs, Caledonian-road, Pentonville.
Messrs RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 22, Brydges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.
CLIFF'S SALT-GLAZED DRAIN-PIPES
are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Pipe Brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connexions can be made with the sewer at any time.
All the Pipes are made to stand a heat greater than any Brickwork.

BELL'S PATENT TRAPS, for Stables,
Coach houses, Gardens, Yards, &c. Price 7s. each. To be had of the Sole Patentees and Manufacturers GLOVER, BROTHERS, Founders, Plumbers, and Stable Iron Dealers, Long-lane, and Swan-road, Bermondsey.

WARNER'S PATENT
VIBRATING STANDARD PUMPS, PATENT CAST-IRON PUMPS fitted with J. W. and S. Nos' Patent Buckets and Sackers, which cannot choke in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of barrel.		£ s. d.
2½ in.	short 1 ft. 7 in.	Fitted for lead,	1 10 0
2½ „	long 3 3	gutta percha	1 14 0
3 „	ditto 3 6	or cast iron	2 8 0
3½ „	ditto 3 6	flanged pipe,	2 12 0
4 „	ditto 3 6	as required	3 3 0
2½ „	short, with 17 feet of lead pipe attached ready for fixing		2 14 0
2½	long ditto ditto		2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and access, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, and of the Works, Prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London. Every description of Machinery for Raising Water, Garden Engines, &c. &c. Engravings sent on application.

PRIZE MEDAL, CLASS 9.
HIGH-PRESSURE VALVE COCKS.—
LAMBERT'S PATENT.

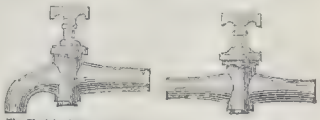
These Cocks have, during the last five years, been extensively and most successfully used in many towns under extremely high pressure, as at Great Yarmouth, Dover, Brighton, Hastings, and numerous other establishments.

The Equilibrium Ball-valve is simple and certain in its action, and is another Patent Improvement of Lambert.

Lead, Iron, Patent Joints, and other Pipes, upon economical arrangements, suitable for public buildings, cottages, &c. Pipes, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, 81 and 82, Great, New-st., Lambeth.

TO WATER COMPANIES AND PLUMBERS.
HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or w.re.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

CARTS, VANS, WAGGONS, LADDERS, BARROWS, &c.
GEORGE ELL, Cart Wheelwright, Ladder,
and Barrow Maker, has constantly on hand brick, dabbin, and other carts, spring vans, and also a large stock of ladders, barrows, trestles, &c., and other trade implements for bricklayers, contractors, and decorators, on the most improved principles and low prices.
Scaffolding, Ladders, Barrows, Steps, Trestles, &c. Lent on Hire.
The new Price Lists are now ready, and will be forwarded on application.
G. ELL, 273 and 274, EUSTON-ROAD, N.W.

SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED,

from 1s. per foot. The "Wood Mosaic," 1 inch thick throughout (not veneered), for Halls, Reception-rooms, recommended them, if desired, available for dancing or otherwise. A beautiful and intrinsic border for Turkey and other carpets, staircases, panelling, &c.; also for round the Altar and Font of Churches (being much warmer than stone), as at Escrick Church, York; St. Gregory's, Cheltenham, &c.

80, NEW BOND-STREET.

SALES BY AUCTION.

No. 37, GROSVENOR-SQUARE. To Builders, Dealers in Materials, and Lead, and Others.

MR. GEORGE HAINES will SELL by AUCTION, on the PREMISES, on WEDNESDAY and THURSDAY, AUGUST 25th and 26th, the LEAVES took the whole of the MATERIALS of the MANSION, extensive OFFICES, STABLING, and COACH HOUSES, FIXTURES and FITTINGS UP, enclosing Grate brick work, Slate work, Coachmaker, Plumber and Lead work, metal Lockers in roofs, floors, partitions, doors, sashes, staircases; chimney-pieces, stone pavement, iron railings, the erection of an Eleven Stall Stable, Coach houses, and Entrance Gates; the interesting Fittings, Decorations, and Ornamental Glass. May be viewed TWO DAYS prior to the Sale. Catalogues of the Premises of MESSRS. HAINES, Auctioners, Moorgate-street; and at the Auctioneer's Offices, No. 12, High-street, Kensington; and Grosvenor-street West, Eaton-square.

TO BE SOLD, pursuant to a decree of the High Court of Chancery made in a cause of Smith v. Tagg, with the approbation of the Master of the Rolls, in eight lots, by

MR. THOMAS HEWS, the person appointed by the said Judge, at the CATHERINE WHEEL INN, Reading, on TUESDAY, the 14th day of SEPTEMBER, 1858, at TWO o'clock, the following valuable FREEHOLD PROPERTIES, viz.:—Lot 1, two cottages and premises, with garden, in Duke-street, Henley; a house and premises, with garden, in the parish of the Market place, Henley; two cottages and premises in the parish of Rotherfield Greys, Oxfordshire; and a cottage, with stables, outbuildings, and another house, shop, and premises adjoining, in Bell-street, Henley; together with the GOODWILL and STOCK IN TRADE of the late Mr. Francis Tagg, deceased; a dwelling house and premises, with stable, coachhouse, garden, and small paddock, also in Bell-street, Henley; two cottages, with gardens, situate at Skirmett, in the Parish of Hambleden, Bucks. Lot 2, a freehold messuage or tenement, and premises adjoining, in the parish of Pope's Meale, situate in the Parish of Remenham, Berkshire, all late the property of the said Francis Tagg, deceased. Lot 3, a freehold messuage and premises in Duke-street, Henley, in the occupation of Mrs. Lovejoy. Lot 4, a freehold messuage and premises in Duke-street, Henley, in the occupation of Mrs. Hall. Lot 5, a freehold messuage and premises in Duke-street, Henley, in the occupation of Mrs. Hall. Lot 6, a freehold messuage and premises in Duke-street, Henley, in the occupation of Mrs. Hall. Lot

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 812. AUGUST 28, 1858. PRICE FOURPENCE. *Stamped, 5d.*

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FREE EXHIBITION.—ART UNION of LONDON. The EXHIBITION of WORKS selected by the Prizeholders of 1858 will be OPEN to the PUBLIC WITHOUT TICKETS, from TEN till SIX, at the Society of British Artists Gallery, Suffolk-street, daily, from MONDAY, 30th AUGUST, to SATURDAY, 4th SEPTEMBER.

GEO. GODWIN, LEWIS POCOCK, } Hon. Secretaries.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The 26th Annual Exhibition of the above Society will take place on WEDNESDAY, SEPTEMBER 29th, and following days, when prizes will be awarded in the following departments:—Mechanical Inventions, Naval Architecture, Fine Arts, Natural History, Statistics, Plain and Fancy Work, and School Productions. Objects intended for exhibition or competition must be sent, carriage paid, to the Polytechnic Hall, Falmouth, between the 20th and 25th of SEPTEMBER, inclusive.—N.B. By a recent arrangement of the Committee, Patented or Registered Articles are no longer excluded from prizes in medals.—For further particulars, application may be made to Mr. SYDNEY HODGES, Falmouth.

CONTRACTS.

BOROUGH of BIRMINGHAM.—NEW PUBLIC BATHS. To ENGINEERS.—ERECTION of NEW BATHS, BIRMINGHAM.—The Baths and Parks Committee give Notice, that all persons who may wish to contract for the ENGINEERS' WORK to be done in the erection of the above Baths, are required to send by post to the undersigned, on or before MONDAY, the 20th of SEPTEMBER, 1858, sealed TENDERS, in writing, endorsed "Tender for Engineers' Work, Baths, Birmingham," together with the names, addresses, and descriptions of two responsible persons who will become sureties for the proper performance of the works, in a sum equal to one-fourth of the total amount of such Tender. The particulars of the Engineers' Work required, the plans, drawings, and specification for the said Baths, with the conditions regulating the contract, may be inspected, on and after the 20th AUGUST next, at the Office of the Architect, Mr. EDWARD HOLMES, 25, Temple-row, Birmingham. The Committee do not bind themselves to accept the lowest or any Tender.

THOMAS STANDBRIDGE, Town Clerk.

Town Clerk's Office, Birmingham, July 14th, 1858.

TO BUILDERS and CONTRACTORS. Notice is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall-mall, London, on WEDNESDAY the 8th of SEPTEMBER, 1858, for ALTERATIONS to the SEA DEFENCES at Sheerness. Plans of the works may be seen, and all particulars may be obtained at the R.E. Office, Sheerness, on and after WEDNESDAY next, the 1st of SEPTEMBER, between the hours of TEN and FOUR o'clock, to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and indorsed "Tender for Alterations of Sheerness Defences."

War Office, Whitehall, 26th of August, 1858.

CONTRACTS.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on the 31st day of AUGUST, 1858, for WORKS to be performed in ERECTING a GUARD-HOUSE, with Lock-up, Privy, Urinal, and Ablution Shed, at Albany Barracks, in the Isle of Wight. The plans, specifications, and conditions of contract, may be seen, and every information obtained, on application at the Royal Engineer Office, Gosport, on and after the 21st AUGUST 1858, between the hours of TEN and FOUR, each day (Sundays excepted), until the 31st of AUGUST, 1858. Tenders to be endorsed, "Tenders for Works to be performed in Erecting a Guard-House, with Lock-up, Privy, Urinal, and Ablution Shed, at Albany Barracks, in the Isle of Wight," in the left-hand corner of the envelope, and addressed to the Director-General of Contracts.

N.B. The Secretary of State for War, reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Gosport, August 1[illegible], 1858.

WAR DEPARTMENT CONTRACT.—To BUILDERS and CONTRACTORS.—The Commanding Royal Engineer of the Aldershot District hereby gives Notice, that sealed TENDERS will be received at the WAR OFFICE, Pall-mall, London, S.W. until TWELVE o'clock, on THURSDAY, the [illegible]th of SEPTEMBER next, from such persons as may be desirous of CONTRACTING for the WORK required in RE-FORMING the FILTERING-TANKS to the FOUL DRAIN at the NORTH CAMP, Aldershot, in the county of Hants. The plans may be seen, and specifications and forms of Tender obtained, daily (Sundays excepted) between the hours of TEN and FOUR, at the Royal Engineer Office, Aldershot, until the 7th of SEPTEMBER inclusive. The Tenders to be addressed to the Director of Contracts, and endorsed "Barrack Tender for Filtering Tanks, Aldershot." The right of rejecting the whole or any of the Tenders is reserved. No notice will be taken of any Tender which is not upon the prescribed printed form allowed.

Royal Engineer Office, Aldershot, August 2[illegible], 1858.

NOTICE to GAS-FITTERS.—ORDNANCE WORKS. The Commanding Royal Engineer of the Dover district hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, on or before FRIDAY, the 10th day of SEPTEMBER, 1858, from persons desirous of CONTRACTING for GAS FITTINGS at the Western Heights Barracks, at Dover. Drawings and a specification of the works to be executed may be seen by gas-fitters fully competent to undertake the works, and printed specifications, with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from MONDAY, the 30th day of AUGUST, to THURSDAY, the 9th day of SEPTEMBER, 1858, Sundays excepted. The party whose Tender may be accepted for the works, will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of [illegible] for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed "Tender for Gas-fittings, at Dover."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, August 2[illegible]th, 1858.

BOARD of WORKS for the LIMEHOUSE DISTRICT. CONTRACT for SCAVENGING and REMOVAL of DUST.—Notice is hereby given, that the Paving, Lighting and Cleansing Committee of the Board, will be ready on MONDAY, the 6th day of SEPTEMBER, 1858, to receive sealed TENDERS from parties who may be willing to CONTRACT for SCAVENGERS' WORK, and for the REMOVAL of DUST for one year, from Michaelmas-day, 1858.—Full particulars may be known, and printed conditions and forms of Tender (no others will be received), obtained at the Office of the Board, White Horse street, Commercial-road East, between the hours of TEN and FOUR. Tenders endorsed "Tenders for Scavenging," must be delivered at the said Office, before TWO o'clock, on the said 6th day of SEPTEMBER, and no Tender will be received after that hour, nor unless accompanied by a deposit of [illegible] as evidence that the same is [illegible]. The Board does not bind itself to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to provide two sureties for the due performance of the works. The contractor will have to pay the costs of the contract and bonds. The attendance of parties tendering will be required at the meeting of the Board on WEDNESDAY, the 8th day of SEPTEMBER, 1858, at the Board room, Ratcliff Workhouse, York-street West, Commercial-road East, at THREE o'clock p.m.—By order,

THOS. W. RATCLIFF, Clerk of the Board.

CITY of ELY LOCAL BOARD of HEALTH. To CONTRACTORS and OTHERS.—TOWN SEWAGE.—The Local Board of Health for the District of the City of Ely give Notice, that they will be prepared at the meeting to be held on WEDNESDAY, the [illegible] day of SEPTEMBER next, at the Grand Jury Room, in the Shire Hall, Ely, at TWELVE o'clock at noon, to receive PROPOSALS from persons disposed to undertake for a term of years the MANAGEMENT of their MANURE TANK at Ely, and the emptying thereof when necessary. The whole of the sewage to be property of the contractor, but the manipulation thereof and the manufacture of manure (if carried on) by the contractor, must be conducted so as not to be a nuisance. Persons disposed to answer this advertisement are advised, before making Proposals to inspect the Works in company with the Surveyor, Mr. WILLIAM BURNS, of Ely, who will show a plan and section of the Tanks, and give any explanation that may be required.—By order of the Board,

Ely, August 24, 1858. W. MARSHALL, Clerk.

EXTENSION of TIME for PROPOSALS. ANCHOR and HOPE PUBLIC HOUSE, Fore street, in the City of London, and Nine Houses in Three Daggers court, Fore street. The Court of Assistants of the Worshipful Company of Pewterers is willing to receive PROPOSALS for LETTING the above HOUSES as and from the 25th of next DECEMBER, either together or separately, by lease or otherwise. Proposals to be sent under seal to Mr. WILLIAM DADLEY, on or before the 11th day of SEPTEMBER, 1858. The Company do not bind themselves to accept any proposal.

WM. DADLEY, Clerk to the Company.

1, Anchor-terrace, Bridge-street, Southwark.

CONTRACTS.

TO BUILDERS.

TENDERS are invited for a GRANARY and WAREHOUSE, to be built in the Commercial road, Lambeth. The drawings, specifications, and form of contract can be seen on and after MONDAY, the 6th SEPTEMBER, at the Offices of Mr. BLYTH, Architect, 113, Aldersgate street, City. Tenders to be delivered in on FRIDAY, the 17th SEPTEMBER. Neither the lowest nor any Tender will necessarily be accepted.

BELPER BURIAL BOARD.—To ROAD-MAKERS and OTHERS. The Burial Board of the Township of Belper intend to enter into a CONTRACT for the MAKING of ROADS, WALKS, TERRACES, and DRAINS in the Burial Ground at Belper, according to a plan and specification which may be seen at my Office, Bridge street, Belper. Tenders to be sent to me on or before the Eighth day of SEPTEMBER next. The Board do not bind themselves to accept the lowest or any Tender. By order of the Board,

Belper, 23rd August, 1858. G. PYM, Clerk.

WHITECHAPEL WORKHOUSE.—To BUILDERS. The Guardians of the Whitechapel Union will meet at their Workhouse, in Charles street, Mile End New Town, within the said Union, on TUESDAY, the 7th day of SEPTEMBER next, at TWO o'clock in the afternoon precisely, to receive TENDERS and CONTRACT for the ERECTION of the SECOND PORTION of their NEW WORKHOUSE, as above. Tenders sealed up and indorsed "Tender for Buildings" must be delivered at the above workhouse before the time of meeting; but the Guardians do not pledge themselves to accept the lowest or any Tender. The plans, specifications, and conditions of contract may be inspected from the 30th of AUGUST inst. to the 4th of SEPTEMBER next inclusive, and every information obtained at the Offices of the Architect, Mr. THOMAS D. BARRY, No. [illegible], Lincoln's-inn-fields, where copies of the bills of quantities can be had on payment of 5l. to be returned to each party delivering a bona fide Tender for the works.—By order,

G. ADAMS PARR, Clerk to the Guardians.

Workhouse, Whitechapel Union, 24th of August, 1858.

TO BUILDERS.—EAST LONDON UNION.—The Board of Guardians of this Union will, on WEDNESDAY, the 1st SEPTEMBER next, at THREE o'clock in the afternoon precisely, examine TENDERS for ADDITIONAL WARDS for the IMBECILE CLASS, to be ERECTED at the WORKHOUSE of the UNION, at Upper Homerton. The plans and specifications may be inspected at the Office of H. JARVIS, Esq. the Architect, 29, Trinity square, Southwark. Tenders are to be sent to me before TWO o'clock, on the 1st SEPTEMBER next, and the parties Tendering are requested to be in attendance at THREE o'clock precisely on that day. The Guardians do not bind themselves to accept the lowest Tender.—By order,

A. J. BAYLIS, Clerk.

Board-room, 1, Devonshire-square, Bishopsgate, August 18, 1858.

TO BUILDERS and OTHERS.—Persons desirous of CONTRACTING for the ERECTION of a COVERED HOMESTEAD upon Dytchly Farm, for Lord Viscount DILLON, may see the plans and specifications upon application to the Steward, at Ditchley-park Farm, near Charlbury, Oxfordshire, on and after SEPTEMBER 1st, 1858. Tenders for the above to be forwarded to the Offices of Messrs. DENTON and DRAKE, 52, Parliament-street, London, on or before the 16th instant. Forms of Tender will be supplied upon application.

TO BUILDERS.—Any Person desirous of TENDERING for the ERECTION of SCHOOLS at Batheaston, near Bath, may see the plans and specifications at the Offices of Messrs. STAUNTON and INMAN, No. 1, Vineyard, Bath, on and after FRIDAY, the [illegible]th of SEPTEMBER. Tenders to be sent not later than TWELVE o'clock on MONDAY, the 20th of SEPTEMBER, to the Rev. T. P. ROGERS, Vicarage, Batheaston. The Committee do not bind themselves to accept the lowest or any Tender.

TO BUILDERS.—NEW SAVINGS' BANK, SHEFFIELD.—Parties desirous of CONTRACTING for the whole of the Works to be done in the ERECTION of a new SAVINGS' BANK in Norfolk street, Sheffield, may see the plans and specifications at the Offices of Messrs. FLOCKTON and SON, Architects, East Parade, Sheffield, on and after MONDAY, the 30th instant. Tenders to be delivered to me not later than SATURDAY, the 11th of SEPTEMBER next. The lowest Tender will not necessarily be accepted.

FRANK WEVER, Actuary.

Savings' Bank, Sheffield, 19th August, 1858.

CITY of WELLS.—The Council are desirous of receiving TENDERS for the CONSTRUCTION of about 2,600 Yards of SEWERS in different parts of the City. The works to be commenced about the middle of FEBRUARY next, or as soon after that time as may be practicable. Plans and specifications will be ready for inspection, and further particulars may be known, on application to my Office, on or after the 6th of SEPTEMBER next. The Tenders to be sent to me sealed, and marked "Tender for Sewers," on or before the 1st OCTOBER next; but the Council do not pledge themselves to accept the lowest Tender. The person whose Tender is accepted, will be required to give proper security for the due performance of his contract.

Wells, August 2[illegible], 1858. W. J. S. FOSTER, Town Clerk.

TO BUILDERS and OTHERS.—The above desirous of TENDERING for the WORKS required to be done in the ERECTION of a CONGREGATIONAL CHAPEL, to be built at Newcastle-under-Lyme, Staffordshire, may see the plans and specifications at the Premises of the present Chapel, King-street, Newcastle, on and after the 1st of SEPTEMBER next. Tenders sealed and endorsed "Tenders for Chapel," to be sent under cover to the Rev. Wm. CHAMBERS, King-street, Newcastle-under-Lyme, on or before the 15th of SEPTEMBER next. The Committee do not bind themselves to accept the lowest or any particular Tender. Quantities may be had upon remitting 2s. 6d. in postage stamps, to R. MOFFAT SMITH, Architect, 82, Lloyd street, Cooper street, Manchester.

August 28, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

LONDON and NORTH-WESTERN RAILWAY.—TO CONTRACTORS and BUILDERS.—The Directors are desirous of receiving TENDERS for the ERECTION of TWELVE COTTAGES at WATFORD STATION. Parties desirous of Tendering are requested to call at their meeting, at the Engineer's Office, Euston Station, on THURSDAY, SEPTEMBER the 2nd, between the hours of TEN and FOUR o'clock. Tenders, addressed to the Secretary, will be received at the Company's Office on THURSDAY, SEPTEMBER the 9th, at TEN o'clock a.m. The Directors do not bind themselves to accept the lowest Tender. By order,

CHAS. E. STEWART, Secretary.

Secretary's Office, August, 1858.

HACKNEY DISTRICT BOARD of WORKS.—CONTRACT for GRANITE CURBING.—The Board of Works for this District will meet at their meeting, to be held at the TOWN HALL, Church-street, Hackney, on THURSDAY, the 2nd day of SEPTEMBER next, at TEN o'clock in the Forenoon, to CONTRACT for the SUPPLY of about 1,000 superficial yards of GRANITE CURBING, whole footways of Caroline Street, to be laid down in such places as the Board may direct within the Hackney district, as may be directed by the Board or their Surveyor. Tenders, addressed to the Clerk, to be sent in and marked, "Tender for Granite," stating therein at what rate per superficial yard, and at what periods, the same will be delivered, and be delivered at the Clerk's office the day before the meeting. Parties tendering, or their representatives, must attend at the time and place of meeting. A bond in a penalty of twice the amount of the contract, with approved securities, to be entered into by the contractor, for the performance of his contract, and their names and places of abode to be given with the Tender. The form of the bond to be signed by the contractor. Forms of Tender and further particulars, if required, may be had at the Surveyor's Office, at the Town-hall, Church-street, Hackney, between the hours of NINE and TEN, a.m. By order,

RICHARD ELLIS, Clerk.

Town-hall, Hackney, 2nd August, 1858.

CITY of ELY LOCAL BOARD of HEALTH.—TO CONTRACTORS and OTHERS.—NEW STEAM ENGINE, &c.—The Local Board of Health for the District of the City of Ely give Notice, that they will be prepared at their meeting, to be held on WEDNESDAY, the 15th day of SEPTEMBER next, at the GRAND JURY-ROOM, in the Shire-hall, Ely, at TWELVE o'clock at noon, to CONTRACT for the ERECTION of a NEW STEAM ENGINE BOILER and PUMPS, at their Water Works at Ely, and also for certain ALTERATIONS in the BOILER and MACHINERY of the present engine, according to plans and specifications, prepared by JOSEPH GLYNN, Esq., C.E., of No. 28, Westminster-chambers, Victoria-street, Westminster, and deposited for that purpose at the Office, in Ely, at or opposite to Mr GLYNN. Sealed Tenders to be sent in to me in my office at Ely, before the 13th SEPTEMBER. Security will be required for the due performance of the contract, and the Board do not pledge themselves to accept the lowest or any of the Tenders. By order of the Board,

WM. MARSHALL, Clerk.

Ely, August 24, 1858.

TO BUILDERS and OTHERS.—Notice is hereby given that plans and specifications for the RESTORING, REPAIRING, ENLARGING, or ALTERING the parish CHURCH at Hambleton, near Hedon (if Hasses, will be lying at Hambleton Rectory from THURSDAY, the 2nd, until TUESDAY, SEPTEMBER the 7th (Sunday excepted), both days inclusive; and all persons desirous of entering for the same are invited to send in sealed TENDERS, directed to the Rev. W. H. RIDLEY, Hambleton Rectory, Hedley on Hasses, not later than THURSDAY, SEPTEMBER the 16th. The contract ensured be prepared with two good sureties before the Tender will be accepted. The Lowest Tender will not necessarily be received, nor any Tender.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the Works required in the ERECTION of a CONGREGATIONAL CHURCH, at Erith, Kent, may see Plans and Specifications at the Office of Mr. JAMES POWELL, No. 1, Nose, Mercer-street, London, W.C., and after the 18th AUGUST at Messrs. Lucas Brothers' Tenders for Carpenter's and Joiner's Work, of Messrs. CHARLES GILBEE, Erith, on or before the second of SEPTEMBER next. The Committee reserve the rights of accepting the most acceptable to every Tender, whether lowest or highest. Quantities may be had on application to Mr. JAMES POWELL, 1, Nose, Mercer-street, London, W.C.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a PARSONAGE HOUSE, for the district of Saint Paul, Deptford (Christ Church), near Woolwich, Surrey, may see the Plans and Specifications at the Office of the Architect, Mr. G. R. CRICKMAY, St. Thomas-street, Weymouth, on and after the 9th inst. Sealed Tenders to be sent to the Rev. JOHN STEPHENSON, by Monday, the 30th inst. by TWELVE o'clock, a.m. The Building Committee do not pledge themselves to accept the lowest or any Tender.

VESTRY of CHELSEA. — TO CARPENTERS and OTHERS.—The Vestry of the Parish of Chelsea will meet TUESDAY, the 14th day of SEPTEMBER next, at ELEVEN o'clock in the forenoon, to receive TENDERS from parties willing to CONTRACT for the EXECUTION of certain WORKS in the ENGINE HOUSES and YARDS of POST and WIRE FENCING. The plans of specifications may be seen at the Office daily, between TEN and FOUR o'clock. Tenders are all required, sealed "Tender for Work," and delivered at the Office, on the forenoon of MONDAY, the 13th SEPTEMBER next. The Vestry do not bind themselves to accept the Lowest or any Tender.—By order,

CHAS. LAHEE, Vestry Clerk.

Offices of the Vestry, Manor House, King's Road, Chelsea, August, 1858.

THREE THOUSAND POUNDS PARTNERSHIP.—A PRACTICAL ENGINEER is desirous of TREATING with a GENTLEMAN having some taste for mechanical pursuits to take the Control of a SMALL ESTABLISHMENT, and advance 3,000l. in partnership, should such be the result of an introduction to each other. The client possesses unexceptionable, first-rate stock, and will insure a respectable and permanent income.—Applications from principals or their solicitors to be addressed to A. CARR, Esq., Solicitor, Rood-lane, Fenchurch-street.

MORTGAGE.—2,000l. to be advanced, in one or more sums, on freehold or leasehold securities, at 5l. per cent. per annum.—Apply, with particulars, to W. JOHNSON, 24, Bread-street-hill, E.C.

IMMEDIATE CASH ADVANCES.

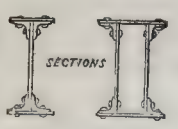
Money Lent on Personal Security, Leases, &c.

STUBS [illegible] ADVANCED from One Day to Twelve Months, on [illegible] of Property, Reversions, Life Interests, Annuities, Policies, &c. Bills Discounted. Charges moderate, and strict attention to business.

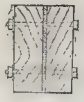
DANIEL STUBS, Manager for the COMPANY, Office, No. 45, Gresham-street, [illegible]-street, E.C.

Forms [illegible] on application, or forwarded for stamped envelope. E. LEAR, Manager.

J. RUNCIEMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, No. 28, Bow-lane, Cheapside, call the attention of warming buildings with hot water to their [illegible] apparatus, which is guaranteed to [illegible] the efficiency of all apparatus they fix; and from their [illegible] and long experience in the trade, they are enabled to guarantee

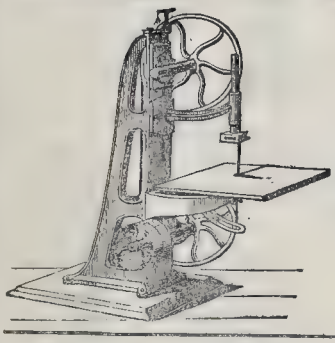


WROUGHT-IRON GIRDERS
For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.



ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.
MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



POWIS, JAMES, AND CO.
ENGINEERS AND MANUFACTURING IRONMONGERS,
26, WATLING-STREET, LONDON, E.C.

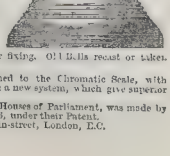
POWIS, JAMES, and CO. beg to call the attention of House and Coach Builders, Cabinet and Chair Makers, and others using such Machinery, to their improved ENDLESS BAND-SAW, both of HAND and STEAM POWER, which are well adapted for every variety of work, CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT, of any thickness: the TABLES are swinging so as to CUT to any ANGLE.
Also, their CIRCULAR SAW-BENCHES, for HAND or STEAM POWER. The HAND POWER one will RIP UP 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and it is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.
Contractors and Proprietors of SAW MILLS are particularly invited to inspect at work, at POWIS, JAMES, and CO.'S Manufactory, their
IMPROVED PATENT PLANING, TONGUEING, and GROOVING MACHINE,
doing SEVENTY FEET per minute of board of any thickness, and GOOD WORK.
*** Contracts for Steam Engines and the Fitting-up of Saw Mills supplied on application.
Drawings and prices to be had on application.
POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE,
With full set of solid Cast-Steel Tools, complete,
IS NOW REDUCED TO FOURTEEN POUNDS.

TO ARCHITECTS, BUILDERS, AND OTHERS.
W. HARMER AND SON
Would respectfully call the attention of the above to their Stock of fitted stoves and kitchen Ranges, which for strength, pattern, and price combined, cannot be surpassed by any maker in London.
REGISTER STOVES, from 5*l.* per inch; the few Descriptions of Bright Bars, with Ormolu Ornaments, &c.; ELLIPTIC STOVES, from 9*d.* per inch; KITCHEN RANGES, from 24*s.* each; the BEST LEAMINGTON KITCHENER with the latest improvements, and to which W. H. and S. solicit the inspection of every person requiring a thoroughly efficient and economical close, and open fire Range.
Estimates furnished for all kinds of Smith's Work, Heating by Hot-Water or Steam, Gasfitting, &c.
PRICE LISTS FREE BY POST, OR UPON APPLICATION.
W. HARMER and SON, IRONMONGERS, SMITHS, STOVE MAKERS, and GAS-FITTERS,
19, HORSEFERRY-ROAD, and 1, NEW PETER-STREET, WESTMINSTER, S.W.
ESTABLISHED 1817.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c. F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c. half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, Sash Weights, and other castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful crane.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's. JONES and BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them, with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Lift and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

IRON FOUNDRY, Harrow-street, Lant-street, Southwark, S.E.—W. E. BARTLETT, Manufacturer of Girders, Columns, Cant Levers, Railing, Balusters, Newel Bars, Iron Coping, Panels, Tomb Enclosures, Area Gratings, &c. Also Fly and other Wheels, Rigger, Engine and Machinery Castings; Forge Backs, Furnace Bars, Kilns, Pans, Pipes, Tank Plates, Soap Frames, and other Castings, to patterns or drawings.

BELL AND BRASS FOUNDERS TO HER MAJESTY.
JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.
J. W. and SONS having of late years devoted much time and study to the long neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has hitherto been accomplished.
Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals
TUNED BY MACHINERY.

Stocked and wheels ready for fixing. Old Bells recast or taken in exchange.
MUSICAL HAND BELLS tuned to the Chromatic Scale, with improved Clippers, and pegged on a new system, which give superior tone and facility for ringing.
The great 16-ton Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1856, under their Patent.
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ECCLESIASTICAL AND DOMESTIC METAL-WORKERS,
MALLEABLE IRON AND BRASS FOUNDERS,

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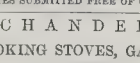
IMPORTANT TO ALL.  THE TRADE SUPPLIED.
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111, GRAY'S-INN LANE.
Tenders from Builders.
ESTIMATES SUBMITTED FREE OF CHARGE

GAS CHANDELIERS,
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Estimates given.

HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER. This simple and complete register stove, and may be fixed with little or no trouble, the same fire heating a room of any size, thereby saving that heat is required, without the expense of extra fuel. Also his improved VENTILATING GREENBUSH, which can be erected at a very low cost.—Applications at the MANUFACTORY, 18, George-street, Portman-square.

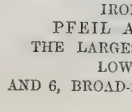
STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to families, shops, halls, offices, and business premises, in which it has been in use, to supply and refer to their Manufactory, Rose-place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 29, John-street, Adelphi.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are particularly adapted for heating greenhouses, sitting rooms, offices, &c., as they will consume all the smoke, and attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.
Manufactured by D. and E. BAILEY, 372, High Holborn, W.C.

BATHS and HOT-WATER APPARATUS.
J. TYLOR and SONS'
ILLUSTRATED CATALOGUE of BATH WORK, &c.
to be had on application.
Estimates and Plans for Fitting given.
J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate-street, London.

HEATING BY HOT WATER.
JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS.
Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

COTTAGE RANGES.—Improved Self-acting, with Oven and Boiler, 27 inches, 18*s.* 6*d.*; 30 inches, 21*s.*; 33 inches, 23*s.*; 36 inches, 24*s.* With brass taps, 2*s.* 6*d.* extra. Prospectuses post free.—BROWN and GREEN, Luton, Bedfordshire.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STEEL WORKS, HARVEST LANE,
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Manufacturer of Circular Saws *machine-ferraced*, Mill Saws, Riddles Band, or Ribbon Saws, of tough temper, without joints. Machine Plate Grooving, Moulding, and Mortising Irons; Saw Files, &c.
Agent for London—Mr. CHAS BADGER, 1, Stangate, Westminster-road.

LOSH, WILSON, and BELL,
NEWCASTLE ON TYNE,
Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and
STEWART'S PATENT CAST-IRON GAS and WATER-PIPES.
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IRONMONGERY.
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THE LARGEST STOCK AT THE LOWEST PRICE,
AND 6, BROAD-STREET, BLOOMSBURY.

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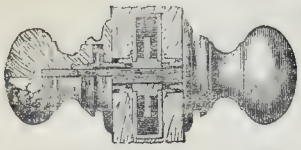
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



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New and rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. to any design.

Hubbe and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

STEVENS AND SON,

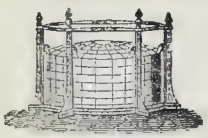
ENGINEERS,
IRON AND BRASS FOUNDERS AND MANUFACTURERS,
CONTRACTORS

FOR THE

ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,

With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;

WATERWORKS FOR THE SUPPLY OF TOWNS,
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
Gas Cooking Stoves and Ranges on the most improved principles.

GAS-FITTING IN ALL ITS BRANCHES.

GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
DEVICES FOR GAS ILLUMINATION.

IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.

These Turnstiles were selected for the Entrances of the Great Exhibition, New York.

PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.
Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.
DARLINGTON WORKS, 16 to 19, SOUTHWARK-BRIDGE-ROAD, LONDON.

BRIDGES, AUBURY, AND CO.'S

PATENT PORTABLE COAL GAS APPARATUS

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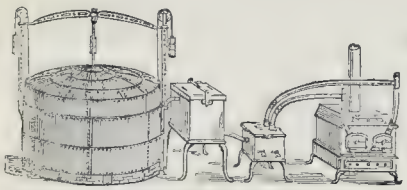

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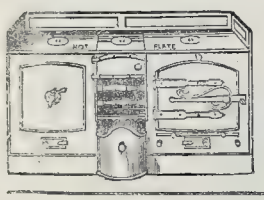

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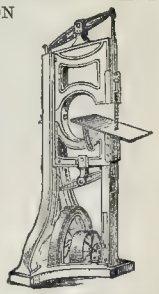

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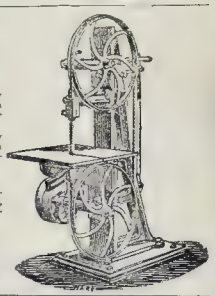

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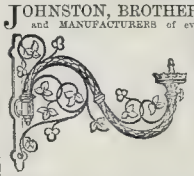

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The Builder.

Vol. XVI.—No. 812.

Sites and Construction of Hospitals.

We propose to devote two or three additional papers to a discussion of general principles on which hospital sites should be selected and hospitals constructed.

The sanitary history of hospitals may be summed up in very few words. There are hospitals on very bad sites: there are hospitals on comparatively good sites; but there is hardly an instance, in this country at least, of both hospital and site fully embodying those sanitary principles which are essentially necessary for a rapid recovery of the sick and maimed.

The one paramount sanitary condition which ought to be observed in all hospitals is that of having *pure and dry air* both within and without the walls of the buildings. The medical profession generally, and the public, have been so much in the habit of considering that medicine is some kind of occult force, by which disease is to be expelled from the human body, that it seems to have been thought sufficient for all purposes of curing and healing, that the sick man and the doctor should merely be brought together, in any locality, or under any conditions whatever. It used to be considered that human beings could live in any sort of place, and under any circumstances. And it is too much the fashion, even now, to consider that the sick ought to recover anywhere. Hospital trustees and committees consider they have done all that is requisite, when they have provided "the very best professional advice and assistance that can be obtained," and so the enormous mortality in hospitals has come to be considered as unavoidable, merely indicating "the per-centage of mortality inevitably resulting from disease."

It appears to us that sanitary reformers have too much overlooked the influence of hospital statistics upon the mortality of particular towns. It is true that the startling increase produced in the mortality of a registration sub-district by the accidental position of the union workhouse in it is well known. But it does not seem to us that the question has always been considered, whether much of the high mortality of particular towns is not due to the bad sanitary state of local charitable institutions. Towns, as everybody now knows, are more unhealthy than the country. But is it recognised that hospitals in towns follow the same law? That, other things being equal, a hospital in a town ought to yield a higher mortality, a longer duration of sick cases, fewer permanent recoveries, and a greater current expense to the administration, than a hospital in the country would do for the same number of cases? Again, "Hospitals," says a great living statistical authority, "are adapted to an intermediate state of civilization." But the question of how much hospitals, in their present condition, increase the mortality among the poor of this "intermediate state of civilization" has scarcely been touched. We can only state the question, and pass on. The importance of an inquiry as to what is the relative mortality in hospital practice and private practice among the poor (considering, too, that cases supposed incurable are never received into hospital) cannot well be over-rated.

To return to our main question, we state broadly that "town districts" should be avoided for hospital sites. Air of sufficient purity is not to be obtained in towns. Every existing town hospital ought therefore to be removed into the country, if it be possible to do so. At a moderate distance from towns land is much cheaper than in close-built places; and there are many large hospital establishments covering considerable areas of ground in crowded and valuable parts of towns and cities, which might be removed to the country, not only with incalculable advantage to the sick, but with great pecuniary gain to the hospital establishment. Even in so vast a place as the metropolis, a few casualty wards, where accidents might temporarily be seen, rooms for the examination and the reception of cases, and suitable vehicles for transferring them to the country, would be all that would be necessary to effect the reform.

The single consideration that the welfare and speedy recovery of the sick must be considered as the main object of all hospitals, ought to determine the removal and reconstruction of any unhealthy hospital, provided there be the pecuniary means of doing so; and if these are deficient, every exertion should be made to obtain them.

The foundations of every hospital should be laid in dry ground, which should be covered by concrete; or the building should have an arched basement, preventing the soil from having any communication with the floors above. Basements, enclosed and connected with the wards by staircases, are inadmissible, as affording ingress for damp air from the subsoil to the air breathed by the sick. A gravelly, or sandy subsoil, well drained, is the best. Clay subsoils are unsuitable in proportion to their power of retaining moisture. Made-ground, or ground covered with decaying organic matters, such as sweepings of streets, old burial-grounds, &c. should be sedulously avoided. One of the most ill-advised proposals for building a hospital which perhaps has ever been entertained is that of extending one of our great metropolitan hospitals over St. Clement Dane's burial-ground, which has for years been a public nuisance to the metropolis. The vicinity of marshes, wet ground, damp valleys, river estuaries, and mud-banks should be avoided. The choice of the position of the new Royal Victoria Hospital, at Netley, with its ten square miles of mud, is singularly unfortunate. The natural configuration of the ground should admit of the buildings being protected from prevailing cold winds. The local climate should be dry. There should be a good supply of pure soft water.

Wherever "Accident-wards" are required in towns, care ought to be taken to select a healthy district, not closely populated, with no nuisances nor other local causes of disease in the vicinity.

The great principle to be kept in view in the selection of sites and climates is that recovery from sickness in the vast majority of cases depends perhaps more upon pure air and pure water, with suitable diet, than upon any medical treatment, however skilful. The same remarks apply to surgical cases, in many of which there is a greater susceptibility to the influence of external causes than is to be found even in medical cases. The idea which ought to be uppermost in the minds of hospital committees, of architects, and of medical men, is that of *pure air*. Better leave the sick and maimed at home, unless this be realised. The aggregation of a number of helpless sick and maimed under one roof, in a given space, without attention to this requisite, may be at any time, as it has often been, and now is, nothing but manslaughter under the garb of benevolence.

The proof of this on a colossal scale, was the mortality at Scutari, which actually reached in the month of February, 1855, just before the Sanitary Commissioners commenced their labours, the incredible rate of 415 per cent. per annum.* And this, when the character of the cases sent there from the Crimea had improved so much, that the general mortality of the army had diminished, notwithstanding up to this time the fearful and increasing death-rate of the Scutari hospitals.

In the Peninsula, as we learn from Sir J. McGrigor, the general hospitals had actually to be broken up, in consequence of the terrible rate of mortality within them.

Suppose a site already occupied by a hospital in which the condition above named, as first in importance, viz. that of *pure air* cannot be obtained. What is to be done? Ought we to go on receiving sick, in such a building, with the certainty that a number will be hurried prematurely to their graves year after year, who would have recovered, if the building had been in a more healthy place? Rather than admit so fearful an alternative, would it not be better to consider the question of removing the hospital altogether? Hospital sites in the midst of increasing populations, are far more valuable for almost any other purpose than for hospitals. Why not sell them, and remove the establishments into healthy districts, leaving only a few accident-wards, and offices for out-patients, and provide the means of transporting hospital patients to the new hospitals? Even medical schools ought to yield to true sanitary requirements. The sick ought not to be permitted to suffer, in order that any medical school, however good, may prosper. Medical schools would, however, prosper far more in the vicinity of good than of bad hospitals. The processes of nature by which the sick recover, would be seen in operation, instead of the processes of foul air by which the sick die, which latter, it is to be feared, forms a considerable proportion of the experience of some hospital students at the present time.

Having obtained a good site, how is that site to be used?—in other words, on what plan is the hospital to be built?

The fundamental idea of all hospital plans ought to be this: to have pure, fresh air in every part of the building. Fresh air is the *sine qud non*. Unless a building can be so planned that the sick shall breathe air as fresh within its walls as they could do externally, they will suffer in a ratio corresponding to the degree of impurity.

All surgical operations, all medical treatment, and all nursing, are subsidiary to this great central point in hospital construction and management. We again assert that it should never be forgotten for a moment, by hospital

* A mortality of "415 per cent. per annum," may startle some of our readers. It means, however, that, supposing the total number of sick cases to have been 104, then that the whole died in the space of three months; or, during the month of February, 1855, that British sick soldiers died in the hospitals at Scutari at this fearful rate. See the Honourable Sidney Herbert's Blue Book, "Report of the Commissioners appointed to inquire into the Regulations affecting the Sanitary Condition of the Army, 1858."—The evidence of Miss Nightingale, pages 361 to 394. The mortality on some of the sick transport ships, from Balaclava to Scutari, was very much higher. The *Cadmus* embarked 430 sick, September 23rd, 1854, and disembarked the survivors at Scutari, September 29th. During the six days there died no fewer than 114 men, being 26½ per cent. of the total number embarked, or in the ratio of 16,160 per 1,000 per annum, or at the terrible rate of one thousand six hundred and sixteen per cent. per annum.

The whole of the evidence by Miss Nightingale is so clear, so important, so terrible, and so full of warning and instruction, that we wonder it has not been re-published in a separate form.

committees, by architects, and by medical officers, that on the purity of the air of a ward depend, in a great measure, the recovery or death of the sick and maimed, the usefulness or injury arising from the hospital, the duration of cases; and, consequently, the hospital economy: whether, in short, a hospital planned, erected, and supported by "voluntary contributions," is to be a blessing or a curse to civilization. And when we consider that (in the words of the statistical authority already quoted), "each individual requires a gallon of pure air every minute;" that "he cannot forego this supply of air so many minutes as he can forego food for days," is it a subject for wonder that pure air should be the main condition; as of health, so of recovery?

In the infancy of knowledge, when Christian benevolence provided for the sick and destitute, and where it also was the sole foundation of the work, hospitals were built in situations and on plans which were far from realizing the intentions of their founders. Mere shelter, food, and attendance were to be afforded to as large a number of sufferers as possible. In times of pestilence, the buildings would be crowded to excess, as we have seen in the case of the Irish workhouses during the famine of 1847. And who can tell how much of the dire loss of human life in the Middle Ages and during the great Irish calamity alluded to was due to benevolence misdirected?

One of the most striking illustrations of the results of absence of knowledge on these subjects is afforded by the experience of the Hôtel Dieu, at Paris. By the statutes of its foundation, "all applicants" were to be "admitted." It had 1,200 beds, and towards the end of the last century these beds used to receive at the same time from 2,000 to 5,000 sick. During epidemics as many as 7,000 sick have been in the building at one time. From 20,000 to 30,000 sick passed through the hospital every year, about 25 per cent. of whom were carried to the cemeteries. In the other hospitals of Paris the mortality was about 12½ per cent. of the sick.

The excuse for the enormous mortality of the Hôtel Dieu was the same as that which is put forward by ill- and even by many well-informed persons at the present day for the high rate of mortality in civil hospitals, and, during war, in military hospitals, viz. that only the worst cases were sent there, and that they were sent there only to die.

The frightful over-crowding and bad ventilation, with the absence of every sanitary precaution, were, however, the real causes of the catastrophe in the Hôtel Dieu, just as the frightful over-crowding, the want of ventilation, defective draining, and want of cleanliness, were the real causes of the catastrophe at Scutari.

Both catastrophes led to great discussion and inquiry on the part of benevolent and intelligent men. In the Crimea the Sanitary Commission was the result; in the case of the Hôtel Dieu, it resulted eventually in the introduction into France of the greatest improvements in hospital construction and management which have taken place up to the present time. In these cases great good came out of great evil. From the Scutari case it is also hoped, that great permanent improvements will arise in military hospitals; and it will be well, if the experience of our own civil hospitals should lead to similar results.

Let any one conversant with the phenomena of disease go into a badly-constructed, and, consequently, ill-ventilated ward, and look at the sick. Unless his senses are dulled by perverse education, he will detect that peculiar foetid smell which always indicates more danger to the sick, than there is safety contained in the long list of benevolent and eminent physicians and expert surgeons who attend in the wards.

Let him look at the languid powerless character of the patients, and ask himself the question, What would be the effect of fresh air upon these poor sufferers?

Let him ask if nurses, or doctors, or medical students are ever seized with fever; and he may elicit some facts which will astonish him.

Let him go into the surgical wards and ask whether wounds heal kindly, whether operations succeed, whether hospital gangrene ever appears, whether erysipelas is common, whether purulent ulcerations and discharges are apt to take place?

In the new surgical part of the Edinburgh Infirmary he will be answered that "Hospital gangrene is never out of the wards." In the double wards of Guy's Hospital, in London, he will be told that they are only fit for medical cases. In the Scutari hospitals, he would have learned that out of 44 secondary amputations, 36, or upwards of 80 per cent. died; that in one month there have been recorded 80 cases of hospital gangrene!

To questions concerning the appearance of hospital fever among patients and attendants, the inquirer will also be answered too truly in the affirmative; and very likely he will be told at the same time, "that it is nothing more than is to be expected, considering the kind of cases received into hospital." This was the reply at Scutari, this is the general reply as to all casualties of the kind occurring in bad hospitals, civil and military. In fact, nature alone is to blame, according to these authorities, or else "contagion" is the cause.

Nature is never to blame. If the cases be bad as possible, all the more necessity is there for care in placing them where they may have a moderate chance to recover.

To place patients in musty wards is simply to kill them, with the addition of torture.

The great army surgeon, Sir John Pringle, knew this quite well when he asserted that hospitals were amongst the chief causes of the mortality of armies. We may safely extend this remark, and say that badly constructed civil hospitals and other charitable institutions increase the mortality of town districts.

We may take this for granted,—that no hospital ought to yield an annual mortality on its total numbers of sick of seven to ten or eleven per cent. per annum, as is the case with our existing metropolitan hospitals. A certain percentage of deaths is inevitable, but not a percentage such as this.

Again, the whole doctrine of contagion, in the case of fevers, may be said to rest on no stronger foundation than the observation of facts in badly-constructed and ill-ventilated hospitals, where emanations from the sick play a corresponding part to the emanations from cesspools and other nuisances, in producing fevers out of hospitals. Both classes of emanations may become fatal or remain innocuous, but all depends on the extent to which they are diluted in pure atmospheric air. A few fever cases in a crowded, ill-ventilated ward may spread fever; but in a well-ventilated hospital, with plenty of cubic space, they certainly will not. The mortality in some of our best-constructed fever hospitals is enormous, and indicates of itself how much they stand in need of improvement.

When fever, erysipelas, or gangrene spread in any hospital, such an event is no proof of "inevitable contagion" or "infection." On the contrary, it is Nature's method of teaching men that her laws are being neglected. If a medical officer, or nurse, has fallen victim to the disease, we may be quite sure that the disease is not to blame, but those who failed to observe and to obey the laws by which the disease is infallibly prevented from extending itself.

Hospital sites and plans should be selected in strict conformity with Nature's laws; and not till this is done will the outcry against hospital contagions cease.

We propose in a future number to consider further some of the main principles of hospital construction.

THE WELLINGTON MONUMENT IN ST. PAUL'S CATHEDRAL.

After the attention we gave to the models exhibited at Westminster Hall—together with the inquiry into the principles for monumental sculpture and public statues; and after our recent article on *competition*; it will have been inferred that we should not have without further notice, proceedings of late which have had reference to each of the questions. Whether, however, we confine ourselves to the subject of the present design for the Wellington Monument in St. Paul's Cathedral, or view the general question of competitions, and with aid of light from the labours of the Committee on Government Offices, we shall find we can arrive at few positions that we have not already taken up. It is in no spirit of laudation that we refer to this contingency of our duties: we allude to it only that we may avoid repetition, or otherwise the imputation of that in cases which are so important that they claim the renewal of arguments. We must be accused of leaving without notice the topic of the week, or run the risk of a different charge against us, and on the score of noticing it.

As to competition, latest experience corroborates the view of the futility to an architect or a sculptor of any dependence upon it for the recognition of merit, or upon success in the first instance as leading to a return for the *design* by the payment for execution of the work. As regards advantage in another direction, the refusal of Mr. Gibson to enter into the limited competition for the Monument, as into the recent competition which was unlimited, is evidence of what is to be expected by the public from others of his position in any case. The Earl of Derby, in the House of Lords on the 2nd ult. referring to the allotment of the chief premium in the Wellington Monument competition to Mr. Marshall, merely for the "intrinsic merit" of the composition, and by no means with regard to the situation it was to occupy, (a consideration which, the judges had ingenuously said, "might possibly have led to some difference in the selection"), actually founded an argument upon the premises, which could be but suppositious—as they left the question of real merit untouched, and were constituted as such only by the admitted incompetency of the judges. Merit of designs thus being, at one stage of the proceedings, in fact, disregarded in the adjudication; at the new stage now arrived at, the course is to throw aside the "intrinsic merit" and known qualifications of sculptors, and to revert to the position of giving a commission, though not to artists admitted to be of the highest rank. The question of competitions,—as to the advantage from them to art and the public, and to the competitors,—thus hitches into the dilemma; namely, on the one horn thereof, we have the system not benefiting aspiring men, or those first selected, as they are led to anticipate; on the other horn, we have it not furnishing the public with the design which it was the object to elicit.

The present design (if we may speak of it as matured) for the Wellington Monument, is based on a principle entirely different from that of the designs made for the site first named. We are amongst those who believe that the first site was not well chosen for the sculpture, or for the effect of the building as modified by the addition. Even in those Gothic cathedrals where there are monuments or chantry-chapels between the nave piers, in certain cases the intrusive excrescence is hardly to be defended; but much more unsymmetrical would be the general effect of a building where the nave arches are few in number, and of no great height; and where, if the want of symmetry had been corrected by monuments of the same kind under the remaining arches, the fine effect of the oblique perspective of aisles, seen from points at either end of the nave, would have been in great measure done away with. The disadvantage to the monument, as according to the larger number of the designs at Westminster Hall, which there would have been through its position against the light, so frequently adverted to, can be understood from observation of the figure of Sir Ralph Abercromby, in the monument to him in St. Paul's, where the features cannot be distinguished at ordinary times of the day. In some of the models at the Hall, this was sought to be avoided by constructed background, or by having the head of the figure of the Duke at such elevation as to appear with the ceiling or window arch behind it. The first-mentioned contrivance was adopted in the excellent architectonic design by Mr. Thomas, of which we gave an illustration; and in another design, that by Mr. Durham. The other arrangement was followed by Mr. Bell, in his models marked "Studens." It remains to be seen what shape the design of Mr. Stevens will take, and whether similar difficulties of the present site will be overcome.

At Westminster Hall, it seemed to us that the height of the monument, according to Mr. Stevens's model, would be far too great, supposing that it could be placed under the arch at all; and the level of the ceiling of the Consistory Court is the same as that of the arch, or corresponding in height with the vaulting of the aisles. An equestrian statue, as the crowning feature of the monument, would be

ridiculous if reaching anywhere near to the ceiling. Modification, therefore, required in the design, must be very considerable, and such as to effect a complete alteration in the proportions and character. In the course of the debate on Mr. Stuart Wortley's motion, in the House of Commons, on the 29th ult. Lord John Manners was understood to refer to *alterations* which Mr. Stevens was ready to make. Now, whether regarding what is to be done architecturally at the new site, or otherwise regarding the mere work of the sculptor, the "alterations" in reality will be the making a new design. We expect from Lord John Manners better reasoning as to the force of alterations in artists' designs, than prevails with the public. In point of fact, a design once produced, if it have any distinctive character and merit, cannot be modified: it must become a new thing; and it will generally be a worse thing by alterations than it would have been if it had been recommenced from a basis. There are poets in the House of Commons. What would become of the *poetry* in the writings of the First Commissioner of Works, if it were pared and patched to suit the fancy of Mr. Milnes, or *vice versâ*, his to suit that of the Commissioner? It would all vanish bodily. Or what would be the result of a combination of original literary talent as that of Sir E. B. Lytton and Mr. D'Israeli? There are instances of co-partnership in art, but they are exceptional; and when inquired into, do not disprove the general rule as to works of mind. There was but one Homer, spite of all the commentators. Now, artist and poet are the same; or their works are reflections of the same mind speaking by different languages. Mr. Stevens pointed the truth of the position, when he selected for the motto of his design the words,—"I know but of one art." He is, we believe, the same artist who exhibited a fresco—"A subject from Shakespeare's Richard III." amongst the works in fresco-painting and sculpture, which were displayed in Westminster Hall, in 1844. His name has been lately confounded with that of Mr. E. B. Stephens, the sculptor.

But, there are distinctions between the fields of the several arts, as we have taken pains to show; and it is as necessary to preserve these as to regard the unity. The artist in each branch, or separate art used in the decoration of buildings, must have studied the whole, for the proper comprehension of his own branch; and this is the case as to the connection between sculpture and architecture. But the Italian artists, so much referred to in the discussions, essaying the practice of all the branches, did not preserve the distinctions, and injured their works accordingly. There are certain principles, as of grouping, common to architecture and sculpture, which for the want of better phrase we call architectonic; and there are the matters belonging more especially to one of these arts, which the other has to use. In monumental art the distinctive character of the architectural or the sculptural monument, will follow from the particular professional practice of the artist, or the monument will be one architectural whilst bringing into use sculpture, or be a sculptural group with some details, and leading structural forms, of architecture. The rules of composition will apply to both cases, as will most of the æsthetic principles which lately have been so much the subject of attention in architecture. Whilst the symbolic, or the representative, is allowed, there will not be admitted that sort of mimicry where the observer is asked to take on trust the existence of what he knows cannot be there,—the fault which was so frequent in the models at Westminster Hall, and was not wholly wanting in the design by Mr. Steveus. There was sufficient evidence in the architectural detail and general mass of his model, that Mr. Stevens had attended to the study of architecture; and in that respect he might be thought to have perceived the requirements of monumental sculpture,—or like to those which we endeavoured to set forth, and which have been lately neglected by sculptors, but of which the importance has been shown by Professor Westmacott in his lectures. The design, however, was not one that we had expected would command a premium, and much less be chosen for the main feature in the monumental work. The occurrence of two representations of the Duke in the same monument, destructive of unity; and the mimicry of a sarcophagus, were errors of the worst kind; whilst the equestrian figure at all, for such a monument and place, and which, at the summit, made the character of the composition generally more suited for a site out of doors than for the interior of a church, seemed to us open to objections. Moreover, as to the new site, it is difficult to see how the monument can be placed consistently with the ordinary arrangement of recumbent effigies in churches,—with feet towards the east (which arrangement there are arguments for not departing from), unless alteration were made in what would seem the direction for the equestrian statue, which last cannot be quite satisfactory in effect if not set looking towards the spectator in the nave; for, if we are not forgetful, the model at the Hall, repeated the error seen at Hyde-park-corner, of an equestrian statue set transversely to the arch below it.

The present design, however, is really an architectural one, rather than as it was originally, for a work belonging mainly to sculpture. It is possible that this dominance of architecture is required for the highest character of effect. There are limitations to sculptural art, as regards the distinctive character of its field, which are soon reached; but, like painting, it has a field in subordination to the architecture of buildings; whilst the latter art is scarcely limited to scale and extent, or to multiplicity of combinations. It was an error to allot any sum like 20,000*l.* to a work on the idea that such a sum could readily be spent in sculpture. There is no monument in St. Paul's Cathedral on anything like the scale of designs sent to Westminster Hall; whilst at Westminster Abbey, works which are on a larger scale are destructive to the architecture; and their results show what would have been the effect on the building of St. Paul's had the perpetration of similar errors there been for a moment admitted. The original sum allotted (5,000*l.*) would have produced a work of sculpture generally more satisfactory than a work of more pretentious character would have been; and the system which has hitherto been adopted in placing the monuments, is that which generally should be adhered to in the cathedral.

On the assumption of the outlay of such an amount as 20,000*l.*, and the bringing in decoration of part of the edifice as a portion of a monument, the principle of employment of an architect has of course our unqualified approbation. The want of purpose in the management of the business, is however, obvious; and from *competition* as an agent to art, the *gain* is rather, to speak in Irish, a loss. Knowing not accurately what is the exact design to be adopted, we can allow that Mr. Penrose and Mr. Stevens, with Mr. Marshall [if he be called in; but this has not been determined on], may produce a grand work. Opinions, however, as to the conduct of the business, and as to the worthlessness of competition under present circumstances, are unaffected by the admission.

We have far more difficulty in the question of the *patronage*, as it is called, of artists,—about the directions and instructions to them, and the public criticism of their works,—than about the merits of artists themselves. Mr. Stirling, in the House of Commons, thought that the mistakes and waste of labour by the competitors in this case were greatly owing to the want of more explicit conditions: but we have shown that the danger is, that conditions and instructions will prevent what is the very object of a competition. Lord Elcho has said, "public opinion has fixed the stamp of failure upon the results of the recent Wellington Monument competition," and "a general impression prevails that there is not that evidence of talent in the works of any one of the successful competitors that would justify his selection:" but "public opinion" is led by the nose; and we shall have some doubts as to the value of *general impressions*, till art-education has advanced in and out of the Commons' House of Parliament. Amongst the designs at Westminster Hall, we believe there were a moderate proportion, but quite as many as could have been expected, that were deserving of praise. Perhaps the best of the number were those very designs which were thrown out of competition by the stringency of the instructions. We do not hesitate to say that for the monument, we should have preferred either the design by Mr. Durham, or that by Mr. Thomas, to that of Mr. Stevens. The last had less originality as a monumental work, and less merit in the sculptural features; and the modelling (a matter deserving of consideration) allowed no means of judging of the technical skill of the author and his claims to be intrusted with the execution of an important work. If any one of the rewarded competitors had a claim; and we must maintain that to be the case; that one was Mr. Marshall, whether considering a design to be now adopted as a new one, or one already made. It is quite impossible to reconcile the reasoning as to the employment of competitors, which seems put forth as though it could be at the same time both for and against. If the Government were bound to employ some one of the competitors, the one they were so bound to was he whom they had constituted the best.

Approving, however, of the principle of an architectural monument, and the employment of an architect, we do not wish to look forward to any but the best result at last, though the events which will have led up to it will not the less on that account be injurious in some of their collateral consequences.

The Consistory Court is admirably well fitted to be made the field of a grand essay in monumental art. It will be recollected by those who are acquainted with the fine plan of the cathedral, as belonging to that part which forms a western transept. The towers fill in what would be re-entering angles on the ground; and so, extend the width of the external elevations of the transepts north and south, as well as that of the grand western façade. Internally, the arrangement as to the chapels or ends of the transept, and the manner of the junction of these parts with the aisles and nave, result in beauty of that order of the picturesque which latterly has been much neglected, the effect to be originated in the design and distribution of *plan*, rather than sought for in meretricious accessories, or simulated irregularity. Looking at the Consistory Court (the northern chapel, used for morning service, is similar, even to the arrangement of the fittings), the plan includes, in the general oblong of the ground, a central area of square form, with semicircular niche-headed portions east and west. The area, or portion of the transept, has a ceiling with quadripartite groining. It corresponds and joins with the arches of the nave, the narrower vaulting of the aisles being groined in. Each severy of the quadripartite groining is filled in with an octagonal coffer and spandril spaces, the latter enriched with ornament: the mouldings are also enriched; and the coffer at the centre of the groining has a rose ornament. The oblong space formed at the intersection of the aisle with the transept, has a large panel with beautifully-enriched [illegible]-moulding. The arches marking out the main divisions of the ceiling have their soffits formed into panels and coffers—the grouping of these parts of the design being especially deserving of notice. The nave arch, as well as that of the aisle and Court, or Chapel, differs from the ordinary nave arches, by springing from coupled columns. The semicircular portions of the plan above mentioned, are covered by bands intersecting diagonally and springing from a radiating centre, which is enriched with a fan-like ornament. These features also have great beauty. The general wall surface is panelled, and at the lower part is covered with wainscoting, as mentioned in a former notice. The Court and Chapel at present are each of them parted off from the aisle by a wooden screen of fluted Corinthian columns. The entrance in the centre here is spanned by a curved pediment, without horizontal entablature, and bears vases, coat of arms, and other enrichments. The screen probably will be cleared away; but, if so, it would be well to have it preserved somewhere.

Those who have followed us in our arguments since we took up recently the subject of monuments, will understand that we regret in this case that the monument and the tomb are not to be one and the same work. For the same reasons that mimicry of a sarcophagus or tomb, as in the instances we referred to, is a misconception of the office and legitimate means of art; so the distraction or want of unity which is involved in two monuments in the place of sepulture,—the least elaborate and pretentious of which, moreover, will be ever the most impressive, involves prognostication of inevitable short-coming. The monument to Nelson associates itself in some degree from its position with the tomb below, as would the Wellington monument, if it were to be placed on the corresponding pier by the entrance to the choir. Not so, however, will be the impression from the disconnection in the intended arrangement, which will be, we say, in effect that of providing two monuments. The idea of the manner in which a combination might have been made at once suggests itself, with the aid of recollection of the tomb at the Invalides.

MURAL PAINTINGS, FRANCE.

ST. QUENTIN'S.

An interesting discovery has just been made in the Collegiate Chapel of St. Quentin (103 miles N.E. of Paris). For some time past works of restoration have been carried on in that edifice, and the repairs have been executed with talent and perseverance. In that part of the chapel called "de la Sainte-Madeleine," a "piscina" was discovered some months ago, embedded in the thickness of a wall. Near this spot were brought to light the treasures of ancient art, which we

have to record, consisting in an ancient *mural painting* representing the life of Mary Magdalen.

The first group represents Mary accompanied by her sister Martha, at the moment when she throws herself at the feet of our Saviour to implore him to give life to Lazarus. Two apostles accompany our Saviour.

In the second group the artist has represented our Lord, surrounded by Magdalen, Martha, and some of the apostles, commanding Lazarus to rise from his tomb. The resuscitation is admirably depicted, as is also the position of the grave-digger, who is overwhelmed with mingled astonishment and admiration at the miracle. Further on, the same personages (excepting our Lord) are being expelled from the Land of Judea, and a troop of soldiers compel them to embark in a boat without oars or sails, and leave them to the fury of the elements: the background of this piece is filled in with a perspective view of Judea, with its ramparts and towers.

The fourth group represents the exiles, touching land at Marseilles (whose buildings are seen in profile in the horizon), and they are following Magdalen in the desert, to which she retired, in the south of Provence. The painter seems to have chosen the moment when, according to the popular belief in the legends, angels lifted her up whenever she was in prayer.

In short, to complete the picture the donator and his family are represented kneeling before an oratory, at the foot of which repose some relics, supposed to be those of Sainte-Magdalen.

We must not pass over the "piscina," which seemed to have received some special attention. Two angels are carved, in adoration before the sacrament. Above are images of our Lord, and the Virgin Mary. On the side is represented St. Quentin, standing up, holding in one hand the palm, in the other a book; the *nails* piercing his shoulders; this being the distinctive characteristic of the saint.

The above paintings are in oil, and seem to have been done about the sixteenth century; their *composition* is far from being inferior.

The most remarkable feature in the discovery is, that the whole of the church seems to have been decorated with wall-paintings, which every stroke of the "scraper" brings to light.

THE ARCHITECTURAL PUBLICATION SOCIETY.

Part I. for the year 1857-58, consisting of twelve plates of illustrations, has lately been issued by the committee. The subjects are confined to Mediæval architecture, excepting two plates; one being "Ceiling," giving examples from the nave of St. Peter's at Rome (contributed by T. L. Donaldson); the Church of San Marcello, in the same city (T. H. Lewis); a chapel in the nave of San Vittore, at Milan (from the portfolio of the late A. J. Green); the music-room of the Palazzo Rinaldelle at Rome, showing the construction which gives the groundwork for the decoration (J. J. Scoles); and the hall in the house of the Peller family at Nuremberg. The other plate, not Mediæval, is entitled "Cinque-cento," and illustrates a panel in the stairs up to the pulpit in the cathedral at Sienna (F. P. Cockerell), an extraordinary specimen by Peruzzi, the scrolls springing from, and terminating in, grotesque monsters, affording an instance of misappropriated ornamentation. This can be compared with that exceedingly fine specimen by Sansovino, from a tomb in the church of Sta. Maria del Popolo at Rome (E. H. Martineau). A somewhat similar tablet to this, also by Sansovino, is given on a larger scale by Gruner, in his specimens of ornamental art, and should be referred to by those studying this peculiar style. A cast will be found in some of our collections. "Candelabrum" is illustrated by the celebrated metal standard of a large size, surmounted by a crucifix, at Leau, in Belgium (S. Salter, jun.); and two smaller branches, comprising figures supporting the stand for the light, which must surely be a little distorted in the drawing. "Canopy" furnishes three known examples from Verona and Bologna (G. Aitchison, jun.), two of them covering tombs, and the other forming the head or frontispiece to a door. Two plates are given to "Capitals," the first chiefly of the Byzantine period; the second, the later styles of Gothic architecture. Venice, Ravenna, Subiaco, Piacenza, Orvieto, in the former, with Amiens, Chalons, Palermo, Florence, Les Andelys near Rouen, Ratisbon, and Ely, in the latter plate, furnish instances all more or less worthy of study; some showing foliage almost natural; others foliage more and more conventionalized, giving various modes of treating sculptured work,—from mere incision, through slight projection, perforation, and attempt at projection, to high relief. In addition to the name of G. Aitchison, jun., H. R. Newton, J. M. Lockyer, H. B. Garling, jun., G. R. Clarke, F. P. Cockerell, S. Salter, jun., T. H. Lewis, C. Fowler, jun. we are glad to see, for the first time, those of F. C. Penrose and W. Burges, the latter of whom has also contributed the material for the second plate of "Ceiling," being a sketch (1848) of the curious example from West's Chapel in Ely Cathedral. West was bishop from 1515 to 1533; and, whilst the walls of the chapel are crowded with late Perpendicular carved work, the ceiling is formed by an also richly panelled vault in the Italian style. Most of our readers will, no doubt, recollect this to be one of the very earliest instances of the introduction of that style. We are not aware of its having been drawn to so good a scale before. "Chateau" has three picturesque examples from Langeais, Brissac, and Azey-le-Rideau (S. Salter, jun. and H. B. Garling). Nineteen more illustrations are given of "Church Plan," showing diversity of form and arrangement sufficient for any stickler for precedent. The interesting "Cloister" at St. Trophime, at Arles, dating 1120, 1220, and 1387, is given in detailed drawings (T. Roger Smith), and other plates are occupied by "Corbel" and "Cross."

At the conclusion of our review of the last part issued by the Society, we felt it a duty to take exception to the appearance of the plates. Some endeavour has evidently been made to prevent a recurrence of the evil; but, upon a comparison of the numbers issued in the earlier years of the Society's operations, the present plates do not exhibit the careful drawing in the shadows, &c. which gives crispness, whereas there is now blotchiness. We would urge a recurrence to the earlier style of work, in fact to *drawing*, and not *stumping*, as being more likely to give satisfaction to the artists who are mainly subscribers.

Having said thus much of the illustrations, we must now notice the completion of the letter C in the text of the "Dictionary of Architecture." It cannot be expected that the critic should take up a part of a Dictionary, with any hope of seeing all the beauties and all the faults of the work; but having faith in the figures, &c. put forward as facts, we note the general care that appears in the preparation of the articles, the novelty of some of the heads as to subjects not before treated, and the new treatment of old subjects: of this latter class we should instance "Chimney" and "Church." The care given in the assemblage of statements is evident in the articles, "Chichen" and "Cordova," which furnish amusing but vexatious specimens of the variance in dimensions taken by different travellers; and "Cistercian Buildings" opens a rich field for consideration, as to character in architecture. We would especially direct the attention of some of our readers to this and kindred articles; for the fact is too often lost sight of that our monasteries and subordinate buildings were erected by sets of ecclesiastics, each having their own views of accommodation, arrangement, and art. Among the principal articles of topographical interest, we must point out the account of the modern portion of "Constantinople," supplied by Mr. W. J. Smith, long resident in that city. The information on Spanish architecture and architects will, no doubt, be largely used as that beautiful country improves in its facilities for the accommodation of the English traveller. "Albert de Cotte" is stated to be the inventor of the much-abused system of modern internal decoration by means of mirrors; and the account of "Chateauneuf" appears to be condensed from the account, prepared for the Society, which will be found in one of our previous volumes. Indeed, our pages are referred to, necessarily, not a little;—witness "Crest," which is mainly due to the interesting paper by Mr. W. Burges. The articles, "Compression," "Condensation," "Contract," "Corrugated Iron," "Cradle Roof," and "Cylinder," keep up to the mark of their predecessors: their very titles suggest the appalling extent of knowledge which the architect is now forced—not only to obtain when he begins to work but—to continue gathering throughout his lifetime. Among the specialities of this part, may be noticed the useful memoranda collected under the heads of "Cheese-market," "Coach-house," "Coal-cellar," "Conservatory," &c. We may draw attention to "Churriguresque," "Cinque-cento, and "Compensation." The initials to "Chancel" and "Choir," show that the articles have been the groundwork of the papers, by the same author, in the pages of the last volume of the "Archæologia." Under the heading "Concrete," the experiments related at the Institute, purporting to show that there is no loss of quantity in the ballast when made into concrete, in opposition to the experiments given in the Prize Essay of the Institute on the subject, have been too hastily adopted, as we shall take an opportunity to show.

We would urge that the work deserves a larger circulation than it seems to have; if but for one point alone, its excellent references to other publications, which makes it of itself a classed catalogue, a desideratum which has occasioned appeals from authors and students in all arts and sciences.

THE MEDICAL CHARITIES OF LONDON.

THE SAMARITAN FREE HOSPITAL.

This marvellous metropolis, with all its mighty wonders, has no greater glory than those charitable institutions which are provided for the benefit of the sick and suffering poor; and notwithstanding that these institutions are endowed with an annual income of upwards of three-quarters of a million sterling, the great increase of the population and the spread of London call for the erection and endowment of new ones, in proper places.

The progress of science is another reason for the rearing of other buildings—which may be devoted to the cure of specific ailments; for at the present day, while the mass of the medical profession has greatly advanced in the general knowledge of diseases, it is more usual now, than formerly, for eminent physicians and surgeons to devote their chief energies to master the peculiarities of some single complaint; and we have, in consequence, chiefly through the energetic exertions of medical men, seen hospitals rise from the most humble beginnings to important establishments, which are of constant benefit to thousands.

We have now, either in the town or suburban districts, often very wrongly placed, as we have elsewhere said, hospitals for diseases of the eye and ear: that terrible plague of England, consumption, fever, small-pox, spinal complaints, cancer, madness, and other "ills that flesh is heir to," have separate places, which, in most instances, are benevolently presided over by the most eminent practitioners of each department of medicine.

The history of the origin and early struggles of some of those which are now great hospitals, shows a degree of perseverance and faith in the ultimate success of good objects which it is pleasant to think of; for although Guy's, and some other hospitals, were endowed at the commencement by worthy individuals with large resources, it has been the case that the chief number have been originated in a very humble manner, and have depended for their existence, for a length of time, on the (sometimes slender) funds and exertions of a single person.

The Royal Free Hospital, in Gray's-inn-road, and many others, might be mentioned as encouraging instances of the great good which has resulted from trifling beginnings. Our object is, however, at present, to direct attention to the Samaritan Free Hospital, now situated in Orchard-street, Portman-square; which is a remarkable example of the condition to which we have now referred.

In 1847, the originator of this institution felt that although there was a Lying-in Hospital, and others devoted to some of the diseases of women and children; some of those complaints incidental to child-birth, and those of young children, were left unprovided for, and that the fatal sickness of children was particularly neglected; for at that time, the hospital for children, now in working so usefully in Great Ormond-street, Queen's-square, was not in existence; and in the general hospitals, children of tender years were either not admitted, or else but scanty space was allowed. When we consider the vast importance of the health of the mother of a family, and the immense destruction of infant life, it is evident that an institution such as that under notice, was greatly needed.

The "Samaritan Free Hospital" was commenced in the year above mentioned, in a small back room in a poor part of Marylebone, with a rental of 5s. a week. This infant hospital soon attracted the notice and professional aid of gentlemen of first-rate skill, and with an income of 100*l.* relief was in the first year given to 3,815 cases (all women and children). In 1850, the cases amounted to 6,187. It was found that the limited means of accommodation for in-door patients was a sad evil, for it took on an average five times as long to the diseases which were treated out of doors, in comparison with those in hospitals; and this is not to be wondered at when we consider the arrangement of the dwellings, the want of knowledge and improper food which in so many instances is the lot of the metropolitan poor. During eight years they struggled on in

an unfavourable neighbourhood, and under other difficulties. There were, notwithstanding, 63,364 sick persons treated. They then removed to the house in Orchard-street, when, as the hospital became more generally known, greater demands for indoor and better accommodation for the numerous outdoor patients became a necessity. During the last year, 8,175 patients were relieved, at a moderate cost, (including food and other matters which are as needful as physic for the cure of many who have suffered sad privations.

Trusting to the strong claims which such an establishment as this has upon the generous public, the committee have ventured to engage a house in Edward-street, Portman-square, and have had it as well fitted as possible with the various necessaries. This has caused great expense, which must cripple the usefulness of the hospital if left unaided. Considering that for eleven years the kind conductors of this needful charity have yearly increased its usefulness, and placed it amongst the established hospitals of the metropolis; and having with our own eyes witnessed the distress occasioned by the illness of mothers in poor circumstances, and the little chance there is for sick children without such aid as is here offered, we hope that the assistance which is required to defray the charges of the new buildings will not be withheld, notwithstanding the views we have expressed in another article.

THE CHERBOURG RAILWAYS.

The Cherbourg Railway having been open for public traffic since the 25th of July, was officially inaugurated on the 3rd and 4th inst. The fêtes, which took place with unusual splendour, were honoured by the presence of the courts of England and France.

As the attention of the public has been already turned towards this enterprise, a few words may be not uninteresting as to its commercial and financial position.

The Cherbourg line forms part of the "Normando-Brittany" group, and was included in the general plans of railway communication of 1846. Its execution, retarded by the revolution of 1848, ly received the serious attention of the company in 1852. At that period a concession was formally signed for the continuation of the works from Caen to Cherbourg, and a subsequent fusion of the different companies under the name of "Chemins de Fer de l'Ouest," developed, in 1855, the Normandy group, especially the Cherbourg extension, commenced with active vigour under the superintendence of Mr. Locke, with Mr. Brassey for a contractor, and brought to a successful termination within the last few days.

The section from Nantes to Lisieux was opened in 1855; that from Lisieux to Caen, in 1856. Lastly, after two years of work, pushed forward with the greatest zeal, Paris is put in communication with the great naval establishment of Cherbourg, as well as with the industrial towns of Lower Normandy, whose commercial products will not fail to enrich the metropolis.

The execution of the Cherbourg line presented some difficulties. Traversing an undulating country, intersected by numerous valleys, many important works were necessary to give solidity to the line on shifting soils and loose ground. On the first section, between Nantes and Caen, the Bréval tunnel had to be strengthened by immense masses of masonry, owing to its having traversed an argillaceous formation, intersected by numerous springs. Another tunnel, that of Couche, through chalk and sand, required very heavy masonry. As the *Moniteur* says, "No railway in France required so much earthwork as this one, especially on the first section above named." The total quantities from Nantes (where the line branches off from the long-established Paris and Rouen line) to Cherbourg are above 10,000,000 cubic mètres of excavation, and about the same for the embankments. The total length of the tunnel is only 4,388 mètres; but, on the other hand, we count 70 river bridges, 310 bridges under and over rail for high roads, 700 for farm-road bridges or their diversions, 114 level crossings, and 400 culverts. The line is only double as far as Lisieux; but earthworks and masonry are made for a second line as far as Lison. When the whole line is perfected to Cherbourg, the cost will be for the double line, &c. 360,000 francs per kilomètre, or 16,800*l.* per mile English.

The principal factories on the line are those of Evreux (cotton cloths), and of Bonneville and Couches (forges and foundries). It has been decided that the Rouen line shall communicate with that of Cherbourg by a branch, starting from the Elboef station of the former, and abutting on the Serquiny station of the latter line, which will place the extensive coal districts of Flanders in communication with the Normandy and Brittany factories. Another branch, from Mézidon, on the Cherbourg line, to Alençon, on the Rennes Railway, will increase its prosperity. The Caen and Cherbourg section, just opened, is 131 kilomètres, and contains twelve intermediate stations. The distance (about 10 kilomètres) between the stations is what has been generally observed on the Continent in wealthy and industrial localities, or in the most populous districts. In fact, the departments of Calvados and La Manche rank with the most populous in all France.

Already between Caen and Bayeux the passenger traffic is immense. As to the goods traffic of the line, it promises much. The Andrieu-Tilly station, in the midst of a rich and fertile canton on the banks of the Seulle, a river literally covered with corn and oil mills, promises an important traffic.

The Bayeux station will be supplied by the tanneries, potteries, and porcelain factories of the surrounding districts, the fisheries of Port-en-Bessin, and the butter trade which forms the great industry of the province. But, incontestably, the most important station is that of Lison, whence the line is to branch off to Saint-Lo.

ENGINEERING AND OTHER WORKS ABROAD.

By a treaty ratified at the meeting of the 20th ult. the Northern Railway of France, "*Chemin de Fer du Nord*," has consented to construct the line from Namur to Givet, and has already completed the surveys. The length is about 46 kilomètres. Making use of the Great Luxembourg Railway to within a short distance of Namur, it branches off some hundred yards from the bridge which carries the train over the Meuse, and developing along the left bank through Jambes, Dave, Taillefer, Godinnes, Yvoir, and Bauvignes, it crosses to the left bank to arrive at Dinant. Thence it is directed towards Givet through a winding country, which offers some difficult work for a length of about 16 kilomètres, and joins the Ardennes Railway 4 kilomètres from Givet. The Ardennes line branching off at Mézières runs on the one hand to Rethel and Reims, and on the other to Sedan and Thionville.

By a decree of the 17th of August, 1853, relative to a concession of the Mulhouse Railway with a branch to Coulommiers, and to those of the Paris and Vincennes to St. Maur, the "*Compagnie des Chemins de l'Est*" engaged themselves to complete in three years the branch lines to Coulommiers and to Vincennes and St. Maur. On the 8th of July last additional time was granted. The Vincennes line is to be completed the 1st of May, 1859, and the Coulommiers branch on the same day in the year following.

By an order of the 15th ult. the Paris and Soissons Railway is to pass through Dourmartin, Nantueil le Haudouin, Crespi, and Villers-Cotterets, as proposed by the "*Chemin de Fer du Nord*," to whom the concession has been given.

In Algeria railways have made but little progress. Earthworks between Algiers and Amoura have been, it is true, made by soldiers, but that is all. As the *Journal des Actionnaires* says, "*L'exécution réelle et sérieuse des chemins de fer Algériens est entièrement liée à l'émigration des capitaux Européens en Algerie.*" The new minister for that colony has promised that the great question of railway communication for that portion of the globe shall receive his best attention, and that he will neglect nothing that can tend to bring it to a prompt and complete solution.

After an official document transmitted by the Government of Cuba, it appears that it contains thirty-one lines of railway terminated. Their total length is 1,514,516 mètres, and the cost 32,336,652 piasters.

Vienna correspondents state that the Lombardy Venetian Railway Company is in negotiation with the Government for the construction of the South Tyrol line (Bolgen to Venice), and the North Tyrol (Inspruck to Kustein).

On the Corinthian Railway 7,000 workmen are actively employed between Marbourg and Klagenfurt.

New surveys have been commenced for a coast line from the Var (Sardinian frontier) to Nice and Genoa.

On the Pia-Latina Railway (States of the Church) the works are so far advanced that in seven months the Rome and Frascati line will be extended to Velletri. At the same time, on the Naples and Capua line, 5,000 men are at work to extend it to the Roman frontier. It is positively stated that at the commencement of 1859, the line from Naples to Ceprano will be completed. Then one can travel from Rome to Velletri by rail, Velletri to Ceprano by diligence, and from Ceprano to Naples by rail; thus being in Rome and Naples on the same day.

A Hollando-Franco-Belgian Company has applied (without demanding any subvention) to the Government of the Netherlands for a concession of the line from Utrecht to Zwoll, by Amersfoort, Nykerk, and Hardwigk.

The wrought-iron bridge constructed in Belgium for the Seville and Cordova Railway, to be erected at Lora, over the Guadalquivir, has arrived in Spain. The section from Seville to Lora-dal-Rio will be opened to the public in the course of next month (September).

On the Rhenish Railway, the portion between Rémagan and Nettenhaus, opposite Neuwied, is entirely completed, and will be open for public traffic on the 15th instant. From the latter point to Coblenz the distance is but small: there are few structures, and the works are so much advanced, that the line can be ready next October. Then the communication between Dusseldorf, Cologne, and Coblentz, will be complete by rail. Thence to Bingen, one of the most picturesque portions of the Rhine, remains to be constructed; and as many difficult works have to be executed, no period is fixed as yet for its completion. From Bingen to Mayence, Ludwigshafen (opposite Manheim), Strasbourg, Bale, and Berne, to the railway, is open for traffic, so that, when the Coblentz and Bingen section is finished, the traveller can proceed by rail from Dusseldorf all along the Rhine to Bale and the north of Switzerland, without a break.

The Victor Emmanuel Railway will be opened on the 15th instant from Aix les Bains to Culoz. This will place St. Jean de Maurienne (near Modane) in communication with Geneva and the north of Europe. From St. Jean to Susa the journey is still by diligence over Mont Cenis. From Susa the rail has been long since completed to Turin and Genoa.

ST. BARTHOLOMEW'S, SYDENHAM.

A new chancel has been recently erected to the Church of St. Bartholomew, being the district parish church of Sydenham, and was consecrated by the Lord Bishop of London, on the 9th instant.

When the church was erected, the revival of Mediæval architecture, after a slumber of more than two centuries, was not out of its infancy, and churches were as often built in a revived Grecian, as they were in a revived Gothic manner. This building was designed in the Gothic of the day by Mr. Lewis Vulliamy, and had broad and lofty nave and aisles, north and south porches, and a tower at the west end of the nave, but no chancel. It is in the Perpendicular style. Mr. Edwin Nash is the architect of the addition which has been made to a very unsatisfactory building. All the works were contracted for by Mr. Myers, of Lambeth.

Mr. Nash says, in a description of his work:—

"The old vestry had been built beyond and against the east wall of the nave, and was entered through it; and this being ecclesiologically bad, and the space that would be gained by its removal being needed, it was at once evident that an enlargement should be attempted here by the formation of a new chancel. The space was small, only 19 feet, including a footpath that skirted the outside of the vestry; and this being quite inadequate, as a length, for any chancel that would bear a due proportion to the rest of the building, it was determined to advance the chancel 16 feet into the old nave, whereby a length of 35 feet would be obtained. This is what has been carried out; so that the former easternmost bay of the nave is now occupied by the new westernmost bay of the chancel, and the aisles on each side of this bay may now be considered as chancel aisles, instead of nave aisles; and a remodelling of these portions was intended both internally and externally, so as to bring them into a degree of harmony with the new work, but funds did not permit the execution of this, and the design materially suffers from its omission: the executed work consists, therefore, solely of a new chancel and vestry, with their respective fittings, and an alteration and enlargement of the gallery at the west end, together with the reredos, and other work forming a memorial, mentioned hereafter. The design embraced a new two-storied south porch, in place of the present insignificant portal; and numerous other improvements were contemplated, together with a chime of three

bells at the least; but the postponement of these has been unavoidable. It may here be noted that proposals were made for a general improvement of the entire church, and that the only impediment thereto seems to have been the cost.

"The chancel is constituted in seven compartments or bays, including a semi-octagonal termination, each bay divided by triple-shafted stone piers, advanced boldly from the wall; and as stone groining could not be introduced, the next best thing to it was adopted, namely, a wooden roof in the form of large moulded and curved ribs, springing from the stone capitals of the piers, three ribs from each pier, one directly across to the centre, and the two others over the window arches; not in imitation of stone groining, which would have been reprehensible, but as true timber work; and round the whole a large cornice runs, and the portions forming the ceiling are divided into panels enriched at the intersections of the mouldings by carved bosses. Circumstances would not admit of a chancel arch in stone, as might be shown by long explanation; moreover, numerous churches in the Perpendicular style are without them, and the internal effect of the junction of the new with the old work would not have been improved by it in this case. There are five large three-light windows, so that very little wall space appears, except over the new arches that have been thrown in between the new chancel and the old aisles. Externally the chancel has bold buttresses and cornice, and embattled parapet, also pinnacles at each angle rising from winged angel corbels bearing shields charged with emblems of our Saviour's Passion."

The stone reredos on the walls of the three eastern bays of the chancel, the new rail in front of the sacrarium, and some decoration of the roof over, and the new painted glass in the east window compose a memorial to the first incumbent of the district, the Rev. Thos. Bowdler.

The railing that marks off the sacrarium is a stout brass rod, with telescopic slide in the centre in place of gates, and is carried upon iron standards, from which spring scroll branches, with brass leaves at the terminations. Four of the five three-light windows of the new chancel (the eastern window wholly filled, and the others partially) have stained glass in them.

MALTBY CHURCH, YORKSHIRE.

The old church, dedicated to St. Bartholomew, was situated to the south of the very picturesque village of Maltby, in the same valley that contains the ruins of Roche Abbey, and formed one of the objects of interest in the route from Rotherham to that ancient ruin.

The old building, whose site is rapidly being occupied by a new and more extensive edifice, consisted of chancel, nave, south aisles, and south porch, with western tower. The chancel bore evidence of being Norman work. In the tower there are some good examples of herring-bone walling, and the arcade was first pointed without much character; the whole fabric, with its flat nave and chancel roofs, wooden dormered aisles, and wretched modern porch, forming a miserable object outside; its damp walls, high pews, and huge galleries extending nearly to the east end of chancel, making the interior one of the most uncomfortable and ill-arranged churches witnessed in modern days.

The new edifice is designed in the Middle Pointed style, and will consist of chancel, 28 feet by 14 feet, with vestry on north side; transepts to chancel, 15 feet by 15 feet; nave, 45 feet by 19 feet; north and south aisles to same, 45 feet by 10 feet. The total internal length of the church will be 88 feet; total internal width, 45 feet. The height to apex of roof to nave, 40 feet. The roof of nave and transepts is framed without principals, every spar being braced and bolted: that to the aisles is framed with principals, moulded and stopped. The chancel has a counter-arched ceiling of pitched pine, and is divided into panels by moulded ribs. All the seats are to be low open benches, having ornamental cut standards. The chancel will be provided with stalls, and the altar-table raised seven steps above the nave. The reading-desk will be at the west end of stalls, on the north side, and the pulpit on the south side. All the arches are of two orders beaded: that to the chancel is more richly moulded, the inner order being supported by stalk foliage caps, serpentine voluted octagon shafts, and moulded corbels. The south transept opens into the chancel with an arch having a pierced tympanum, resting on a marble shaft, with carved cap. The north transept arch is left open to receive an organ front behind the stalls.

The tower, which at present is without an arch, will be pierced on the east side with an opening of three orders, with dying imposts. There will be a reredos, and the sedilia are formed in the sill of the south window of the sacrarium, the rear arch being divided into three, and supported with marble shafts. The floors of the nave will be laid with Peake's tiles, and the chancel with Minton's or Mawe's, in ornamental patterns. The building, as it will be viewed from the south-east, shows the east gable to be supplied with a five-light window, having circle in the head, containing five smaller circles, cinque foliated. The sacrarium window is a three-light lancet, with tracery in the head. The gabled transept has a circular window, containing three circles cinque foliated, and three trefoils, the whole springing from a moulded sill and weatherings. The aisles are supplied with two-light windows, with quatrefoiled heads, and, together with the other windows, have plate tracery. There is a good supply of plinths, weatherings, and sets-off, but few buttresses. The tower and spire will be rather overpowered by the new building; but it is hoped that funds will be found to add buttresses, and surmount it with a more lofty spire and belfry There is accommodation for 450 worshippers. The total cost, including old materials, will be about 1,700*l*. Among the principal subscribers is the patron, Lord Scarborough, together with Sir William Eden (who gives part of the stone), the Rev. E. H. Brooksbank, the Rev. George Rollesston (the vicar), Earl Fitzwilliam, Lady Mills, and Mr. Haywood. The sister of the vicar presents the east window of stained glass. The landowners have agreed to pay a rate of 2d. per acre, and the Incorporated Church-Building Society has made the liberal grant of 115*l*. The architect employed is Mr. Philip Boyce; the contractor, Mr. G. Chadwick, of Rotherham: the carver is Mr. Henry Earp. The whole of the works are to be completed by Christmas.

CHURCH-BUILDING NEWS.

Falkingham.—The restoration of Falkingham church is progressing under the superintendence of Mr. Kirk. Many hidden treasures have been brought to light by the removal of the gallery and the unsightly partitions, and the opening of the groined arch of the tower has produced an effect.

East Retford. The new church and additional burial ground, at Eaton, near Retford, have been consecrated. The church consists of a nave, porch, bell-turret, and spire. It is rebuilt in the Decorated style. The roofs are open timbered, in a series of arches, with braces, &c. The sittings are open benches. The chancel is stalled; and this work and the pulpit, &c. are of carved oak. The west window is of stained glass, given by Mrs. Coupland, the subject being the Crucifixion. The window is in three compartments, with tracery above. In the middle compartment is the Saviour on the cross, with the Saviour's mother, St. John, and Mary Magdalene, at the foot; and in the other compartments, as well as this one, are grouped the Roman soldiers, some on horseback and some on foot, armed with spears and carrying small Roman flags. The tracery above is filled up with cherubim and angels, the dove and the lamb, &c. There is a window opposite the font and porch, with the figures of St. Peter and St. Paul. The chancel is floored with encaustic tiles. The church will accommodate about 130 persons. The "architect and builder" was Mr. George Shaw, of Saddleworth, by whom also the painted and stained windows were executed. The edifice is entirely built of Steetley stone, and was erected by Mr. H. B. Simpson, of Babworth Hall, the owner of the village, at a cost of 1,000*l*. The additional burial ground is 11 perches.

Cambridge.—Two churches are now closed in Cambridge, for the purpose of undergoing renovation. The controversy in the parish of St. Edward, says the local *Chronicle*, has resulted at last in works of considerable extent, and the church at this moment presents a spectacle of desolation. At Little St. Mary's, the process of putting a new roof upon the church is going on.

Market Harborough.—The Rev. F. P. Johnson, the incumbent of the parish church here, intends to fill one of the lights of the east window with stained glass, and two friends have offered to fill two more lights, and a third to fill the tracery with stained glass. There are two other lights to fill. A memorial window to the late Mr. Rowland Rouse is to be placed in the chancel by Mr. Bloxam, of Rugby.

Ashford.—The buildings in connection with the Ashford Cemetery have been commenced by Messrs. Picard and Co. of London, the contractors. The entrance lodge is rising above the foundation: the foundation of the dissenters' chapel is completed; and that of the established church is also in a forward state. A number of workmen are preparing and carving the stone-work ready for use.

Faversham.—The following tenders were received by the Town council, for flinting and executing other alterations to the church tower, according to the plans of Mr. Scott, from Rumsey's bequest:—Kirby, Faversham, £2,241 7*s*.; J. Frost, Rotherhithe, £2,385; Sutton, Walter, and Goodwin, Maidstone, £1,923; Lancefield, Canterbury, £1,922; Sutton and Vaughan, Maidstone, £1,742. The last-named tender was accepted. It included an estimate of £95 for groining the vestibule, but this part of the work it is proposed not to execute.

Dover.—At the latter end of the year 1855, remarks the *South Eastern Gazette* (in reference to a subject not new in the *Builder*), the Archæological Institute addressed an earnest remonstrance to Lord Panmure, then at the head of the War Department, on the desecrated state of the church in Dover Castle, and the appropriation of the Pharos to the use of the Foreign Legion. Lord Panmure returned a courteous reply, regretting the emergency which induced the engineer officers to suffer the misuse of the Pharos, but said that the wrong was repaired, and directions given that the old church should be cleared of coals, and that they should be respected and kept more decently in future. A portion of the nave still serves as a coal-yard. Is this the reason why this national monument, one of peculiar interest, is jealously consigned to the grim charge of a barrack sergeant, and the public debarred admission? A few hundred pounds would build a coal-shed, and restore the church to its legitimate destination as a barrack chapel; for the troops on the Western Heights have been furnished recently with a school-church, while the regiment in the castle has to be marched to the hall of the Maison Dieu (the Guildhall), upwards of a mile distant, to attend Divine service. We shall soon have more to say about this.

Sherborne.—The chancel of the church of St. Mary, Sherborne, was re-opened on the 18th inst. The restorations of this church, as our readers know, have latterly been carried out by Mr. Slater, of London, successor to Mr. Carpenter, who superintended the restoration of the nave. Mr. Slater was called in by Mr. Wingfield Digby, in 1856, to report upon the state of the fabric, and to recommend what should be further done to restore it. Mr. Slater found the structure in a very dilapidated state, the foundations bad, and the groining of the roof exhibiting fissures some three inches wide, and many of the stones loose. The tie-beams were also so decayed at the ends that the tie of the building was dislocated. On the recommendation of Mr. Slater, Mr. Digby determined that the fabric should be put into thorough repair, and gave Mr. Slater *carte blanche* for its restoration. The first step taken was to restore the foundations, and, having secured them by underpinning and filling in concrete, the defects in the drainage were remedied. The roof, having sunk several inches, was raised to its original height, and a new oak roof, covered with lead, put up. The windows and buttresses were next re-built, portions of the old work being used, where available, to identify the new erections with the original. The stalls were restored by Mr. Forsyth, and new ones added. The base of the stalls is formed of a new marble from a quarry on Mr. Digby's estate, and resembling Purbeck. The ascent to the chancel is by marble steps, and the pavement consists of encaustic tiles, executed by the Messrs. Minton, from the old patterns found in the abbey. The sacrarium is separated from the choir by an oaken rail with brass standards on a marble base, and it is paved with mosaic work, composed of different kinds of marbles. A brass candelabrum, 14 feet high, is placed on each side of the altar. The gas jets are fixed in coronæ, which are supported by a twisted brass column, standing on a marble pillar. The reredos, which is of Caen stone, was designed by the late Mr. Carpenter, and executed by Mr. Forsyth. A carved canopy surmounts a representation of the Ascension, three lower panels exhibiting the Last Supper—both being carved in high relief. The panels on each side of the reredos are decorated with scrolls, bearing texts. In the centre of the choir a black marble slab has been placed by Mr. Digby to the memory of his uncle, the late Lord Digby. The decoration of the choir roof during the recent restoration was intrusted to Messrs. Crace. The devices vary in their subjects, and the colouring increases in rich-

ness in the eastern portion over the sacrarium. The large east window is filled with stained glass, designed and executed by Clayton and Bell, of London. It is a Martyr-window, and contains in the tracery the three orders of martyrs, viz.:—1. those of will and deed; 2. those of will but not of deed; 3. those of deed without will; all surrounding the One Divine Martyr, represented as expiring on the cross, in the centre light. The third order are represented by the Holy Innocents, and fill the topmost row of the tracery lights. The second class are immediately beneath, and exhibit six figures, viz. the prophet Daniel, the three youths in the midst of the burning fiery furnace, the Virgin, and St. John the Evangelist. Below these are the third row, containing twelve figures of the first order of martyrs. In the body of the window the subjects are grouped in six triplets. The three central top lights are occupied by the Crucifixion. The subjects are arranged in the following order:—In the lower tier,—Entry to Jerusalem. Agony and Betrayal. Ecce Homo! In the upper tier,—Bearing the Cross. Crucifixion. Resurrection. The six large windows of the clerestory are filled with subject-glass by the same artists. The upper tier of lights in these is filled with figures of saints, martyrs, and worthies of the Church; while the lower tier contains bishops and abbots of Sherborne. There has been expended in the nave and tower a sum approaching to 14,000*l.* The amount already expended on the chancel is 12,511*l.*, so that the whole of the more recent restorations have cost nearly 27,000*l.*

Williton.—The chapel at Williton has been re-opened, after having undergone restoration. The old church consisted of a nave, chancel, and south aisle. A new aisle has been added on the north, also aisles on either side of the chancel, in which children sit. There are new roofs to the nave and chancel, and the church is entirely re-seated with low seats. The turret at the west end of the nave is about 60 feet high, and is surmounted by an iron cross. The architect employed was Mr. C. E. Giles, of Taunton. The whole of the new work is in the style which prevailed in the early part of the fourteenth century.

Kidderminster. — The new Roman Catholic church erected instead of the old one has been opened. The architect and designer of the altar was Mr. Gilbert Blount, of London. Mr. Woollams, the builder, failed during the erection of the edifice, which has been completed by Mr. Henry Ankrett, of Kidderminster, at a cost, in round numbers, of 2,400*l.* It is built of red and black bricks, faced with Bath stone; sacristy, porch, and tower lighted with aisle and clerestory windows in the early manner of the Decorative style. The roof is of open timber work, and 40 feet high. The church will seat 600, and hold, upon occasions, 1,000 persons. The altar was carved by Mr. William Farmer, of London, in Caen stone. The reredos has carvings of "The Last Supper," and the charge to Peter, "Feed my Lambs." The altar front is of the same material, divided by black marble pillars, representing "Abraham's first Sacrifice in Canaan," "Melchizedek blessing Bread and Wine," and "Abraham offering Isaac." The seats are open-backed, and were made by Mr. Ankrett, of Kidderminster. The gas fittings were furnished by Hardman, of Birmingham.

Worcester.—St. Peter's church, which is only twenty years old, is now closed, in consequence of the imminent danger that is said to exist of the roof falling in. One of the cornices had already fallen. The building, says the *Worcester Chronicle*, appears to have been constructed in a very faulty manner, ensuring neither strength nor durability. A vestry meeting was held on Tuesday in last week, to consider the subject, when there was placed upon the table the end of one of the beams which contributed to the support of the roof. The end which entered the wall was completely rotten: it was stated by Mr. Perkins (architect) to be affected with dry-rot, caused by the dampness of the wood on erection, and the subsequent absence of ventilation. The chairman read the report of Mr. Perkins, which stated that the walls were weak, and in consequence of the wall-plate not being continuous, the building was in a very dangerous state. In order to effect a substantial repair, all decayed timber should, as far as practicable, be removed. The decayed ends of the principal beams should be cut off as far as might be done with safety, and a continuous wall-plate inserted, the whole to be done with best Baltic timber, except the short beams, which should be replaced with English oak. In addition to this Mr. Perkins recommended the insertion of a continuous chain of wrought iron to connect the principals properly together; the ends of the timber to be washed with a solution, to prevent rotting, and proper ventilation to be ensured; and the gutter to be laid upon a bed of sand and clay; the whole to cost about 85*l.* A long and desultory conversation took place, chiefly on the question whether sufficient strength would be retained to support the roof after the rotten ends were cut from the beams. It appeared that 9 inches would have to be cut off, leaving only 4 inches upon the wall, which was thought by some to be insufficient. It was then resolved that other advice be obtained upon the matter, and a motion followed to the effect that Mr. Flewitt be empowered to inspect the state of the roof, and report. Another meeting is to be held shortly on the subject.

Kilvey.—The Swansea *Cambrian* states that it having been determined to enlarge the district church of Kilvey, in order to comply with the demand for increased accommodation, Mr. R. Kyrke Penson was instructed to prepare the necessary plans. The enlargement is intended to be effected by the erection of a new south aisle, and the re-arrangement of a portion of the present seats. Tenders for the execution of the several works have been received from Mr. Joseph Richards, and Mr. W. Rayner, of Swansea, and Messrs. Gough and Richards, of Kilvey; and the committee have decided upon accepting that of Mr. Rayner, which amounts to about 550*l.*

Menai-town.—The new parish church of St. Tysilio has been consecrated. The land was given by the late Marquis of Anglesey. The church consists of a nave, 63 feet by 24 feet 4 inches; chancel, 25 feet 9 inches by 15 feet 9 inches, attained by three steps (internal dimensions); a western tower, finished with pinnacles at each angle, and a stair turret on the south-west angle; south porch, and robing-room on north side of chancel. The style adopted is the late Second Pointed. The building will accommodate 343 persons, at a cost of about 1,450*l.* The roofs are open timbered, and stained dark, while the fittings are stained of a lighter shade, to show the grain of the timber. The sittings are open throughout. In the tracery of the east window the centre forms three mitres. The ground stage of the tower has been thrown into the church by means of a western arch, and contains the organ. The works have been carried out by Mr. Richard Parry, builder, Menai-bridge, from designs and under the superintendence of Mr. H. Kennedy, of Bangor, architect. The carving has been executed by Mr. Evans.

Garstang.—The Roman Catholic Church of St. Mary and St. Michael, newly erected at Bonds, Garstang, has been opened. The church, in which sittings are provided for 650 persons, consists of nave, 77 feet by 26 feet 6 inches, divided by an arcade of five arches from a north aisle of the same length, and 18 feet 6 inches wide; chancel, 23 feet by 26 feet 6 inches; lady chapel, separated from aisle and chancel by an arch, and western tower, 22 feet 6 inches square, and 61 feet high. It is in the Geometric style, from a design furnished by Mr. Paley, architect. The building on plan and without the tower is a parallelogram, 100 feet long by 46 feet broad, and is divided by columns and arches. A window of five lights, filled with tracery, occupies the east wall. The tower opens into the church by an archway, and is so arranged that the organ and choir are placed in a gallery, without obstructing the view of the western window. The nave and aisle are of the same height, and covered with ridge roofs, the constructive timbers being ornamented. On the south side of the chancel is placed the sacristy, communicating with the church and joining the presbytery, which is designed in character with the church. The church and presbytery are built of freestone, from quarries in the neighbourhood; and the contracts were taken for about 3,000*l.* by Messrs. Harrison, Wilson, and Walker, of Lancaster, and Mr. Waterhouse, of Garstang. The schools and master's house are placed at a distance from the church, facing the road from Garstang to Greenhalgh Castle, and consist of two principal rooms, each 40 feet by 18 feet, with entrance porches, open roof, &c.: they are constructed chiefly of brick, with stone dressings to the windows, &c.

The Brickmakers of Birmingham.—The secretary of an "Operative Brickmakers' Association" at Birmingham, has been sentenced, by the magistrates at West Bromwich, to imprisonment in the House of Correction for six weeks, for an attempt to intimidate a master brick manufacturer, at Greet's-green, in the conduct of his business.

WORKHOUSE BUILDINGS FOR MILE-END OLD-TOWN.

Mile-end Old-Town, like some of the other villages round London, has become an important place, and its estimated population is now 56,000. The first rate-book preserved, shows that a rate of 10½*d.* in the pound raised 164*l.* The same rate now realises 7,000*l.* In 1857 the hamlet was separated from the Stepney Union, and one condition made by the Poor-Law Commissioners was, that a new workhouse should be erected. The trustees have purchased an eligible site in the Globe-fields, between the Eastern Counties Railway and the Mile-end-road, consisting of 7½ acres. The soil, like nearly the whole of the parish, is gravel, thus compensating for its low level. The tenders for the building varied between 34,000*l.* and 25,000*l.* the latter sum being 5,000*l.* above the desired amount, we understand; but after several modifications, the builders have undertaken the works at 20,258*l.* The building will be calculated to give accommodation to 500 adults, with schools for 300 children, an infirmary, receiving wards, &c.

The buildings are in the Tudor style of architecture, and are to be faced with red bricks, relieved by black glazed headers in patterns, and with Suffolk brick dressing to the doors and windows. For the principal entrances to the workhouse, oriel windows, copings to gables, &c. Bath stone will be used. The whole of the corridors and staircases throughout are of York stone. The plans have been arranged with a view to enable the masters and matrons of the various buildings to exercise at all times a *surveillance* over the inmates.

The poor on the books are 117 males, 196 females, and 229 children. The house occupied as a poor-house in 1770 had been the residence of the father of Bishop Thirlwall, and was rented at 30*l.* per annum.

The architect of the new buildings is Mr. William Dobson; the builders, Messrs. Ayers, of Dover. Mr. Foster is clerk of the works. The first stone was laid by Spencer Charrington, Esq. chairman of the Board of Guardians, on Monday last. The prayer was offered up by the Rev. J. G. Dreffield, rector of Bow.

A cold collation, very tastefully laid out in the carpenters' temporary workshop, was done ample justice to by a very respectable assemblage. The amount required has been raised on the security of the rates, the first 18,000*l.* at 4½ per cent. and the remainder at 4½.

"CONTRACT" AND "CONTRACTOR."

The part last issued of the Architectural Publication Society's "Dictionary of Architecture" contains two articles under the above headings which may be usefully circulated, whether for the information they contain or as examples of the manner in which the work is being prosecuted.

Contract.—The agreement by which a person undertakes to supply labour or materials, or to execute a particular work, for a presumed adequate remuneration. A contract should be *under seal*, but is often *verbal*, or reduced to writing; and even in the case of simple contracts they may be either *expressed* or *implied*; but it is essential to all contracts or agreements that there should be a reciprocal and mutual assent of two or more persons, competent to contract, a good and valid consideration, a thing to be done which is strictly lawful, and a time stated to be the essence of the contract. It must be evident that the preparation of a written contract and its proper execution are matters which belong to the profession of law, and not to that of architecture: a solicitor therefore should draw up the contract, for which the architect should specify the conditions that are requisite, in his opinion, to a just completion of the work. Some of the conditions which might be desirable are given by Gwilt, "Encyclopædia," 8vo London, 1842, p. 619; Bartholomew, "Specifications," &c. 8vo. London, 1846; and Walker, "Architectural Precedents," third edition, 8vo. London, 1847. Probably from the solicitors' use of the word specify, many practitioners have fallen into the error of appending to their specifications not only those conditions which are called general clauses, but also the legal agreements to perform the works, to pay the price, &c. In consequence the architect becomes liable, if he charge or be paid for such service, not only to a heavy penalty, but also to an action on the part of the client, should a flaw occur in the contract by which a loss is sustained: the validity of the standard provision for penalties, as liquidated damages, has been contested; and the written order of the client for these clauses will not exonerate the architect from

the responsibilities. Another general mistake is the omission to name some qualified person to give notices, take possession, or do other legal acts; a position too often assumed, to his own damage, by the architect. So far as the architect is concerned, it is important that the drawings and specifications he prepares for the purpose of furnishing the elements of a contract should contain every indication required for a clear explanation of the works proposed to be performed, and that every work which may be essential to the execution of the design should be previously indicated in the same manner in both drawings and specifications. This is more particularly important when the contract is to be for a "lump" sum without a condition respecting omissions, additions, &c. because in fact any deviation, however slight, from the contract in such case destroys it. When the contract is for the execution of works upon what is called a "schedule of prices," there is not the same necessity for extreme preliminary caution in preparing the drawings; although of course there would be less ground for possible objection on the score of increased value, if the original documents should contain the fullest and most correct details. The province of the architect with respect to a contract is to explain the intended works in all their mechanical details so clearly and distinctly that even unprofessional parties should be able to understand them before the contract is signed, and after that event to watch carefully over their execution: this province constitutes one of the most important and delicate of the architect's duties, and requires great practical acquaintance with both men and things. After all, the best security for the fulfilment of a contract consists in the good faith of the parties contracting, and of the architect who is their umpire. Blackstone, "Commentaries," edition 1825; Elmes, "Architectural Jurisprudence," 8vo. 1827; Addison, "Law of Contracts," fourth edition, 8vo. 1857; Gibbons, "Law of Contracts," &c. 12mo. 1857; Chitty, "Contracts," 1857; and the articles in the *Builder* journal, 1856, xiv. 296, 312, 352.

The following general covenants, usually introduced into building contracts, consist of such as are necessary on the part of the contractor, on the part of the employer, and for mutual protection; of course under special circumstances special covenants are introduced:—

The builder to provide all labour, implements, materials, carriage, and scaffolding, as well as measuring rods, &c. and to set out work at his own expense.

To give all necessary notices, and pay all fees.

To make good all damage to adjoining properties arising from the works to be executed.

To perform all the works in the specification, in the best manner, and with the best materials, in accordance with the specification and under the direction, and to the satisfaction, of the architect.

To underlet no portion of the work (this may occasionally require modification).

To alter any works, defective or otherwise, within a certain time after notice has been given.

The employer or his architect to have the power of making any omissions, alterations, or additions, without vitiating the contract, the amount for such alterations to be assessed by the architect, and to be added to, or deducted from, the contract sum.

That no works are to be considered as extra or as additional to the contract unless ordered in writing.

That any work described in either specification or drawings, though not in both, be executed as if described in both.

That the detail drawings be followed in preference to the general drawings, and the figures in preference to the scale.

That any work implied by the nature of the work, though omitted to be described, be executed as if specified.

That any disputed point be decided by the architect. This is sometimes more fairly drawn, that any dispute be referred to two disinterested parties or their referee.

That should the progress of any of the works be delayed unnecessarily, or be executed in an improper manner, the employer or his architect have the power of employing other workmen, and stopping down works, the costs or other damages to be assessed by the architect, and deducted from moneys due to the builder, or if none due, then to be paid by the builder.

That the works be completed within a specified time, on payment of a penalty for every day the works remain incomplete beyond such date. Sometimes the employer will give a sum per day for the works being executed prior to the specified date. The employer to have the power of carrying on the works after the specified time, upon so many days' notice to the builder, and of deducting the expenses from any amounts due to the builder.

That a proportion of the amount for executing the work be paid at stipulated periods on the certificates of the architect.

Recent frauds on the part of certain contractors suggest the propriety of there being a clause to guard these certificates against covering any wilful or fraudulent deviation from the contract.

Special extras are occasionally necessary: such as, to enable the architect to appoint persons of his *own* choice for executing such works as carving, modelling, painting, &c. as require to be executed in a superior or artistic manner, to be included in the contract, and paid for by the builder.

The following list comprises most of the known English Mediæval contracts, some of which include specifications: some notices of the existence of foreign Mediæval contracts might be collected upon a careful investigation of provincial and local histories.

Buildings in thirteenth and fourteenth centuries—*A Brief Account of Durham Cathedral*, 1843.

1314. House at Lapworth.—Parker, *Domestic Arch.* 5.

1363. Masonry of Westminster Hall—Rymer, *Fœdera*, edit. 1709. vii. 794.

1395 Tomb of Richard II.—Rymer, *Fœdera*, 795. Gough, *Sepulchral Mons.* i. 167.

1401. Dormitory at Durham—*A Brief Account*, &c.

1412 Catterick Church, Yorkshire—Salvin and Raine, *Descr. of C. Ch.* 1834.

1421. Bridge at Catterick—Referred to in Whitaker, *Richmondshire*, ii. 27.

1435. Fotheringay Church, Northamptonshire—Dugdale, *Monasticon*, iii. 162, *Memoirs of the Oxford Society*, 1841.

1439. Chapel fittings and tomb, Beauchamp Chapel, Warwick—Britton, *Arch. Antiq.* iv.; Dugdale, *Warwick*, ed. 1656. 329; Blore, *Mont. Rem.* &c.

1440. Eton College, Buckinghamshire Britton, *Arch. Antiquities*, ii. 89; Nichols, *Royal Wills*, &c.

1450 and 1525. King's College Chapel, Cambridge—Malden, *Hist.* 1769; Britton, *Arch. Antiq.* i, Lekeux, *Memorials*, ii.

1470. A jesse altar, St. Cuthbert's Church, Wells—*Builder* Journal, xv. 326.

1471. Choir of Freiburg Minster—*Builder* Journal, viii 183.

1484. A timber house at Kirkington, Yorkshire—Whitaker, *Richmondshire*, ii. 146.

1484. Carpentry for the chapel and school of Waynflete, Lincolnshire Chandler, *Life of Waynflete*, 309.

1486. Rood-loft, Merton College Chapel, Oxford—*Archæological Journal*, ii. 181.

1492 Roof of great tower, Magdalen College, Oxford Chandler, *Life of Waynflete*, 367, 398.

1506. Vaulting of a choir of St. George's Chapel, Windsor, Berks—Referred to in Ashmole, *Hist. of the Garter*, 136.

1516. Tomb of Henry VII. at Westminster—Speed, *Hist.* 1057-8; Britton, *Arch. Antiq.* ii.; Ackermann, *Westm. Ab.*, ii. 140.

1525 and 1538. Erection of Hengrave Hall, Norfolk Gage, *Hist.* 41; Hunt, *Tudor Arch.* 19.

1533 Burnley Church, Lancashire Whitaker, *Hist. of Whalley*, &c. 208.

1714. Great Yarmouth Church, Norfolk—Preston, *Hist. of Yarmouth*, 23.

Perhaps "the first *bonâ fide* contract for a building entered into in London was that for Drury-lane Theatre, 1811; but the hospital at Yarmouth, and a barrack at Hampton Court, had been done somewhat earlier" (*Builder* Journal, xiii. 437): that is to say, the Commissioners of Military Inquiry, 1806 (Report, iv. 226), give the form of contracts for barracks settled in January, 1805, and pp. 127-34, the list of the contract and other works.

Contractor.—The term popularly given to the tradesman or other person who is to be paid for the work which he performs, or the property which he delivers under a contract. The word, although perhaps older in its reference to mercantile and monetary matters, does not appear to have been very frequently applied to monopolists in building matters before the present century. Indeed, Harris, "History of Dublin," 8vo. London, 1766, p. 475, styles the architect-engineer, Semple, "overseer," and the builder or mason Mack, "undertaker;" and Mulvany, "Life," 8vo. Dublin, 1846, p. 70, shows that in 1784 Gandon was supposed to be a "contractor," and as they termed him a "projector or undertaker;" and that the gentry of Bandon, in 1795, called a contracting builder an "architect." The Reports of the Commissioners of Military Inquiry, 1806, at first style the builder "proposer," and afterwards "contractor:" see Rep. iii. 139-141; Rep iv. 127-134. But, except in some works for the English Government, the system was not then that which now prevails. In the seventeenth century the existence of "resident surveyors," mentioned *s. v.* Architect, as at Wollaton and Holkham, rendered the condition of the master-builder precarious, if it even were possible, as a monopolist; but in the eighteenth century there was a change of practice on the part of the clients, who either preferred to have the works measured and valued (sometimes on a schedule of prices), or else employed an architect, who, as in the case of Jupp, at the East-India House, in 1799, made his design, and submitted an estimate upon which he obtained advances of money, making with the tradesmen his contracts, which, with the receipts, he produced at the termination of the works to his client; and it was customary for the latter to make a present, beyond the commission, if the works were executed within the estimate: thus 1,000*l.* is said to have been given in the cases of this building and of the gaol at Nottingham. The Irish architects, so late as 1803, practised in this manner, as Gandon appears to have done in the courts at the Custom House of Dublin: (Mulvany, p. 182). Of course this system created a class of architects, who, frequently advancing money for their patron, presented an abstract of the accounts, received a gross amount when this bill was sent in, and distributing it amongst the tradesmen, derived a discount or per-centage from them; and the architect was more or less openly a builder, as he could make contracts with his client for a higher sum than those delivered to himself. the quarrels and extra charges of tradesmen following each other were avoided, and it must have been often found convenient that there should be only one creditor. Sir W. Chambers was a contractor in the erection of Parkstead, at Rochampton, 1767, and his contracts for Pepper Harrow, 1775-6, still exist; a combination of positions now considered to be derogatory to the interests of the architect and his employer. As the building trade was rapidly falling into few hands, capitalists and others embarked in it, especially about 1815, and then the system of competition contracts with all its strategems, came into full force, especially after the panic of 1825, when many speculative builders found it best to work for others besides themselves. The epoch of the "division of labour" has seen all the trades connected, however remotely, with a building combined in single hands, and has commenced a system of under contracts called sub-letting, which cannot be sufficiently deplored on account of its attendant evils.

EXTRAORDINARY SEASON.

DIMINISHING RAINFALL.

The year 1858 will be noted as a season of great drought in many places, but especially so on the north-east coast. At Berwick-upon-Tweed there has not been an available shower of rain from August, 1857, to August, 1858; and numerous springs are dry which the "oldest inhabitant" cannot remember before to have failed. The local waterworks have, as a consequence, run short of water: the waterworks at many other places have also partially failed, as at Bolton, at Liverpool (the Pike), and at Manchester. At Washington, near Durham, the actual recorded fall of rain for nine months (November, 1857, to July, 1858), has been 8·86, or a little more than eight and three-quarter inches, in the nine months. It has been noticed for the last fifteen years that the seasons are modified, and that the fall of rain is diminishing. Will cultivation and land-drainage account for the change?

PRESENT POSITION OF THE RAILWAY INTEREST.

No greater calamity could befal the country than the failure of the railway system; and this danger is not to be considered a visionary one when we remember that the managers of the Great Western Railway not only declined, at their last meeting, offering a dividend, but that it is said there were only 2,000*l.* which could be fairly applied to that purpose; and the decline of the profits of other lines gives substantial reason for alarm.

When thinking of the costly manner in which the largest number of the railways have been constructed, the early difficulties, the immense price charged for land for railway purposes; the great increase in the price of labour caused by sudden and large demand for that of a peculiar description; the enormous remuneration of engineers, surveyors, and their assistants; the difficulty and expense of engraving plans; the sums paid to lawyers, and their large troops of followers, the absence of dividends is not wonderful. Besides the contests with the owners of the land, fierce and more costly battles were commenced amongst the promoters of different lines, which have swallowed up millions of British capital, and caused by the interest of the money a lasting tax on this description of property.

In some cases large sums have been borrowed for the completion or extension of lines, at an amount of interest varying from five to six and even more per cent. per annum; and these sums must be paid although the per centage paid to the original shareholders has diminished to next to nothing.

Dividends have been fictitiously kept up by paying them from capital instead of income: necessary repairs have been delayed, and the "penny" thus saved has proved an ultimate "pound" lost; and while these comparatively small and unwise savings have been made, great extravagance and want of thought have been shown in other matters.*

The opposition of established companies to each other, the formation of branch lines to places which have neither sufficient population nor trade to pay

* In the United States of America there are 174 railways, of which twenty-two are in progress of construction: fifty-eight only pay dividends of from two to seven and a half per cent. per annum. The longest road is the New York Central—557 miles; total cost, 32,000,000 dollars, and the last dividend eight per cent.: and the shortest is the Erie and North-east,—twenty miles; cost 750,000 dollars, and dividend ten per cent.

even, in some instances, the working expenses,—these and other circumstances render it necessary that shareholders should at once carefully consider their position; for it is to be feared that, in too many cases, the opposition which is at present raging, and swamping large interests, is to some extent promoted by the rival feelings of managers. The disputes, so damaging to all concerned, should, if possible, be brought to a close, and the actual condition of each company put in a proper and true light; for it will be better to know the worst than to keep up trimming measures which will end in magnified difficulties.

If the evil be boldly tackled, and affairs put (if even in a less showy) in a clear and honest position, and careful yet sufficient cost of working allowed, there will be hope of amendment; for the population, the trade, manufactures, and other resources of the country will surely year by year increase, and the profits gradually increase in proportion, if the strife of contending factions can be stayed, and a fair and wise system of business management adopted, the present conduct of some of the lines is frightfully defective.

NEW STATION ON NORTH-KENT LINE.

BELVEDERE.

The first stone of a new station on the North-Kent line was laid on Thursday, the 19th, by Lady Eardley, who was accompanied by Sir Culling Eardley, and several friends.

The station, which is named "Belvedere," is to be erected mainly at the expense of Sir Culling Eardley, who has thrown open many eligible spots for villa residences, nearly fifty of which are already in course of erection. The station will be completed in the course of two months, and is situated midway between Abbey Wood and Erith stations.

The new town that is arising here is upon the property of Sir Culling Eardley, and is designed and being carried out under the superintendence of the architects, Messrs. W. G. and E. Habershon.

RAILWAY STATIONS, AND THEIR NAMES ON THE PORTERS' HATS.

Would it not be a regulation convenient to the public that the name of each station should be conspicuously affixed in front of the hats of the officials throughout the lines of our railways? Every traveller must have noticed the strange transformation which these names undergo in the mouths of the railway guards and porters, so as really in many cases to be unintelligible. These having to pronounce the words so often, hit upon that mode which is most easy, perhaps, for them to repeat, but by no means for the passengers to understand! If the name of a station, for instance, happens to end with a "ton," it is very usual to get only, in the way of information, as the official passes hurriedly by the carriage in which the passenger is, an indistinguishable mumble in the first place, and then the "ton" pronounced with marked emphasis! which, as so many names of places end so, is not calculated to convey much information. Also, the names of many places are not pronounced as they are spelt (Cirencester, for instance, is pronounced Cister), and the time afforded for inquiry, by the short stoppages by some trains, is hardly enough sometimes for the passenger to obtain the information of whether or no he really has arrived at the place at which he wants to stop. Now, all this not only occasions needless anxiety to travellers in general, and to "unprotected females" in particular, but occasionally no doubt leads to passengers being carried beyond their destination. This might, it occurs to me, be mainly and easily obviated by the officials and porters, having the names of their stations placed conspicuously on their hats; these names being either painted on the front of their hats, or affixed with an elastic band, so as to be easy of removal when the official is off duty.

EPSILON.

THE LONDON DOCKS.

The new Shadwell entrance to the London Docks is fast approaching completion.

From the new bridges of Fox or New Gravel-lanes may be seen, when the plates of the machinery-pits are off, the mysterious levers, pulleys, hydraulic rams and their appendages, henceforth destined to open the dock-gates.

Care has been taken with these gates, not only in the choice of timber, but in the workmanship, under the superintendence of Mr. Samuel Spekeman. They are constructed of beams and timbers of sound English oak, green heart, and pitch pine, all of which has been duly seasoned with creosote, and laid by in the same manner as timber in the process of seasoning for ships of war.

Each of these gates (there are six) cannot be less in weight than 140 tons—a strange backful, one would imagine, for a modern Sampson to struggle under.

The bridges of iron were constructed by W. G. Armstrong, under the superintendence of Mr. Thompson. Dock-bridges hitherto, have been parted in the middle, presenting two closing wings midway across the water space. This old-fashioned mode, however, is done away with under Mr. Armstrong's patent, as each bridge presents one moving platform of light structure.

Each of these bridges works on a drum-head opening with a sort of rule joint.

THE MASTER BUILDERS AND THEIR WORKMEN.

The following paper, it will be remembered, was recently issued to the building trade:—

"At an aggregate meeting of the trade, held in Exeter-hall, on June 3rd, 1858, it was unanimously resolved that a memorial should be presented to you, asking you to reduce the hours of labour from ten to nine hours per day, *with the present rate of wages.*

The reason why we ask this of you is, we believe the time has come when there must be a better equalization of the hours of labour, in consequence of the great increase both of population and machinery; we are not opposed to machinery, but we are of opinion that the working classes ought to reap some benefit from its extensive introduction, and the benefit we wish is a mitigation of the hours of labour.

We also think that reducing our labour one hour per day would be a great boon to society in general, and would have a beneficial tendency to those employed, in promoting their *moral and social condition.*

Gentlemen, The object of this Memorial is to respectfully request you to concede to us the privilege of working nine hours per day instead of ten as at present. We wish this alteration to take place without any diminution in the present rate of wages. Should you grant us this boon, it will produce and promote a better feeling between employer and employed, for long hours of labour is detrimental to both. Hoping you will consider this question as employers of labour belonging to a great country which is held up as a model for the admiration of the world."

On Thursday last, by appointment, the masters met to receive a deputation on the subject, and, after consideration, came to the following resolutions:—

"That the question, although raised by the carpenters and joiners, is really a question involving all trades.

That, inasmuch as there is no compulsion by which workmen are obliged to labour for any given number of hours, it really only amounts to an alteration in the rate of wages.

That within the last four or five years the price of skilled labour has been advanced 10 per cent.; and that it does not appear to this meeting that there is anything in the circumstances of the present times to warrant a further increase to the extent suggested.

That, looking at the very large amount of the interest involved, not only as it regards the building trades, but obviously even beyond those bounds, this meeting do not feel that they can accede to the request made, and they come to this resolution with the best possible feeling of goodwill towards the workmen; and they are bound to say that the manner in which this question has been brought forward and discussed is very creditable to those who have appeared as its advocates.

G. Wales, Secretary Builders' Society."

PROPOSAL FOR THE COLLECTION OF AUTHENTIC COPIES OF MONUMENTAL INSCRIPTIONS.

The value of monumental inscriptions, as containing evidence applicable to the purposes of the historian, the genealogist, the biographer, and in fact of all historical inquirers, is too obvious to need enforcement. Although generally inscribed on the most durable materials, they are in no degree exempt from the action of the ordinary agents of destruction. There are even some perils to which they are peculiarly exposed. Valuable memorials, which have defied time, fire, and damp, the ravages of civil warfare and the recklessness of the restorer, have yielded at last to the carelessness or the ignorance of parochial authorities. Of the inscriptions published by Weever, Le Neve, and other collectors of this class of historical monuments, it is astonishing how many of the originals cannot now be found. In the present day the work of destruction is proceeding at an accelerated pace. The recent alterations in the law of interments operate most fatally against this class of historical evidences, and in a few years the loss of historical and genealogical materials from this source alone will be found to be not only most extensive, but of an irreparable character.

The Society of Antiquaries of London, not having been successful in inducing the Government to take measures for arresting this serious and growing evil, desire to provide a partial remedy by establishing a registry of all properly-authenticated copies of inscriptions; and with this view propose to collect such copies in the following manner, viz.:—

To receive all copies of monumental inscriptions, authenticated to the satisfaction of the committee appointed by the society for this purpose, which may be sent to them free of expense.

Rubbings, photographs, engravings, etchings, and lithographs will be received as copies. Written copies should be in a clear and legible hand-writing, and upon foolscap of the ordinary size. The paper should be written on one side only, and with a clear space between each inscription. It is indispensable that it should appear on the copy whether it be derived from the original monument or from any transcript or other source.

Such copies, and all rubbings, photographs, &c. of monuments and monumental inscriptions, will be kept in the apartments of the society in Somerset House, London, or some other suitable place of deposit, and will be arranged and indexed.

It is hoped that eventually arrangements may be made for rendering the index and inscriptions accessible to the public generally.

The Society of Antiquaries invite the co-operation not only of all their members, but of all possessors of rubbings, photographs, or other copies of monumental inscriptions, or drawings, &c. of monuments. It is obvious that the value of such a collection will mainly depend upon its extent and accuracy.

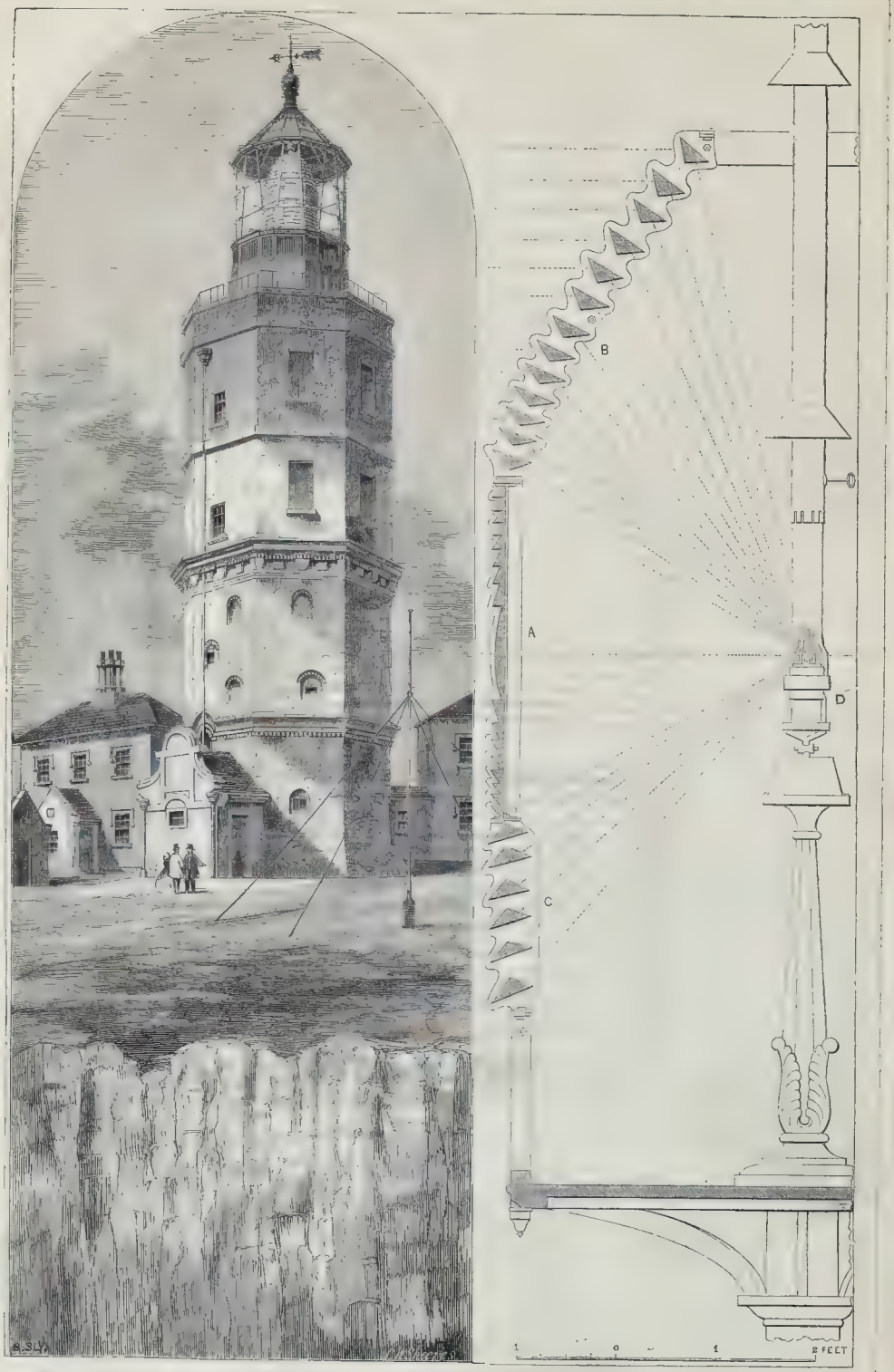
Copies and communications upon this subject should be addressed to "The Society of Antiquaries, Somerset House, London;" and it will be convenient if the subject of the communication be indicated by the word "Inscriptions" written on the envelope. Information respecting curious or valuable inscriptions, especially if in any state of decay or danger, will be thankfully received.

CHOKED DRAINS AND DISINFECTING AGENTS.

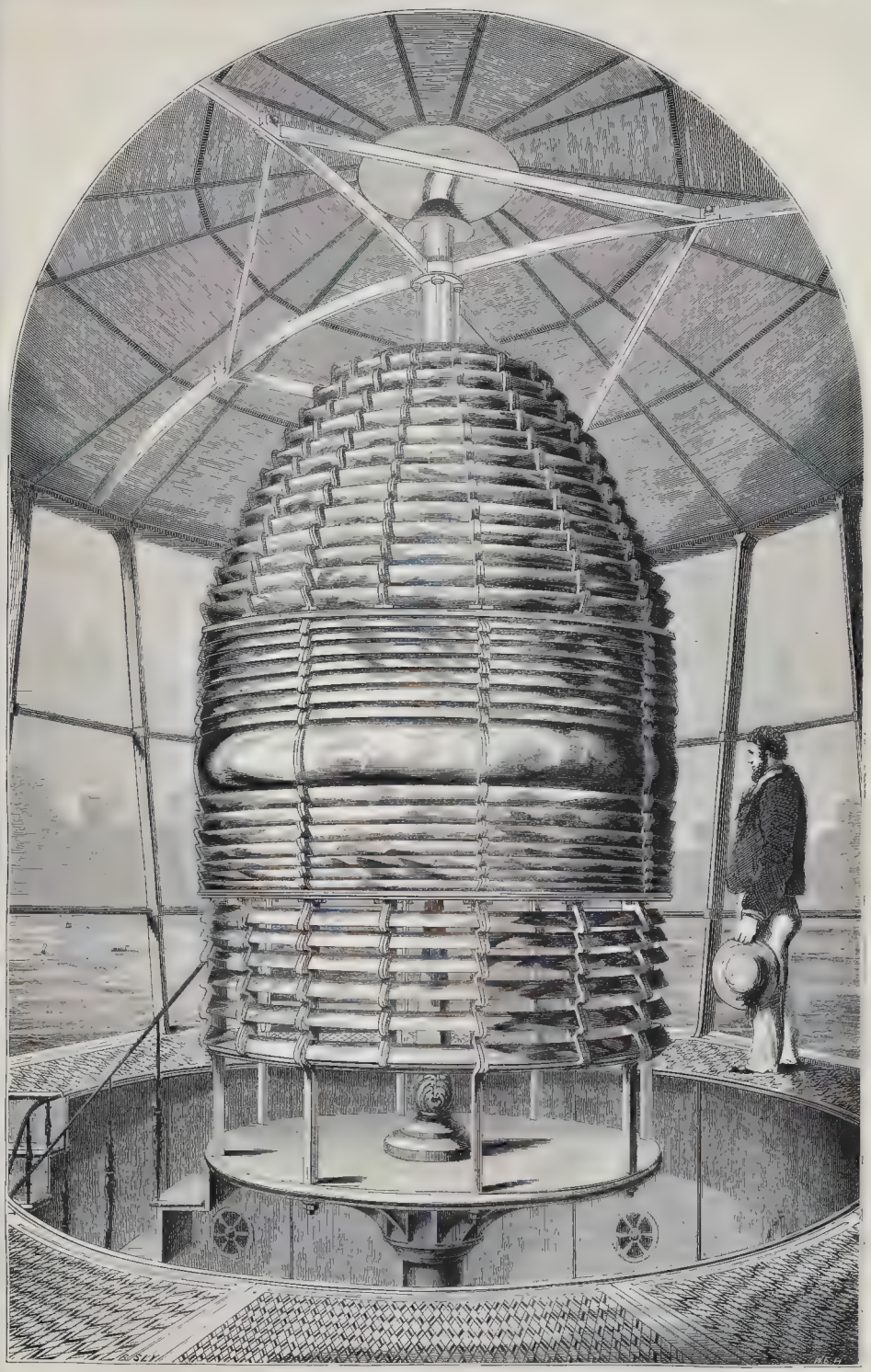
Having lately had the misfortune to live in a house in which the drain had become choked, owing to some roughness and imperfection in the joining of the pipes, the passage had become stopped and offensive matters flowed under the floors of the kitchen and washhouse. When the workmen began to remedy this matter, it was found that to the depth of 4 feet the soil was impregnated with refuse from the closet, a large quantity of which it was necessary to carry away and bury in the garden. The smell was most offensive; and it was remarkable, that although numerous children and an invalid were living close by, no advantage was taken of those cheap deodorizing materials which would to some extent have lessened the evil. I have in other instances noticed the extreme carelessness of a certain class of workmen in this respect, and that even if the materials have been supplied by a person living in a house which is thus unfortunately situated, no care is taken properly to apply them, unless they are watchfully looked after—a task by no means pleasant to those who are accustomed to such operations, and also stimulated by sundry pots of ale.

In order, however, to counteract the effect of these gases, I had chloride of lime mixed in vessels of water in all the rooms and passages; but I found, however, that the children, my wife, and self, were effected by a peculiar dryness and soreness of the throat and a violent headache, which I was at first inclined to attribute to the opening of the drain: when, however, this offensive cause had ceased, for the sake of experiment I continued for a time the use of the chloride of lime, and also the chloride of zinc, and found the headache, &c. to continue. Thinking that many of your readers have been and will be circumstanced in the same manner, I submit these particulars to you, thinking that the hint may be useful, and that some chemical correspondent may enlighten those who require the use of these and other disinfecting agents, as to what extent (if any) these agents may have an ill effect upon health when used in bedrooms, &c. It may be, that, in my anxiety to destroy the effluvia from the drain, I used the mixtures too strong: this, however, is a kind of sanitary knowledge which is not generally understood; and I hope that this communication may be the means of, in some degree, giving information which will be useful to the public.

LONDONER.



THE NORTH FORELAND LIGHTHOUSE; AND ENLARGED SECTION OF THE CATADIOPTRIC LIGHT.



THE NORTH FORELAND LIGHTHOUSE: INTERIOR OF THE LANTERN. *Messrs. Wilkins, Lighthouse Engineers.*

THE NORTH FORELAND LIGHTHOUSE.

SEA LIGHTS.

"Let there be Light" was said, "and there was light." Beneficent command! mighty result!

"Before the sun,
Before the heav'ns thou wert, and at the voice
Of God, as with a mantle, didst invest
The rising world of waters dark and deep,
Won from the void and formless Infinite."*

Light and darkness serve to symbolize knowledge and ignorance, wisdom and foolishness, happiness and misery. Correctly has light been called Holy,—

—— "Offspring of Heav'n first born,
Or of the eternal co-eternal beam."

Grand indeed is the theme,—numerous are its ramifications, mind-filling its suggestions; but our purpose at this moment forbids us to do more than express a feeling induced by our subject,—the beacon for the mariner. Statements made at a recent banquet at the Trinity House have drawn attention to the works now in progress for the protection of the navigator, and will serve to show how much is being done in this respect at the present time. According to a writer in the *Penny Cyclopædia* there were then, namely, in 1839, in the hands of the Trinity House, 30 lighthouses; whereas in the recent report alluded to it was stated that the number now under their immediate management is 77, with 32 light-vessels in attendance, on which are employed nearly 700 persons. The principal works on hand, the report went on to say, are the light of the Bishop Rock Lighthouse, the first stone of which was laid in 1852, and of which the light will be exhibited on the 1st of September next. The erection of a light-tower in this position, exposed as it is to the whole weight of the Atlantic ocean, is considered a triumph of engineering skill and perseverance. Smalls lighthouse comes next, at which station for many years the light has been exhibited from an inconvenient structure of wood, erected on piles. The foundation of a substantial granite tower was laid in June, 1857, and the building is now rapidly progressing. Again, the prevalence of sea fogs hanging on the high land of the Needles Point, on which the old lighthouse stands, has rendered it advisable that the light should be exhibited from a less elevated position, and the foundation of a granite tower on the outer Needles rock was laid on the 2nd of July, 1857. The tower is now 68 feet high, and will be completed and the light will be exhibited therefrom on the 1st of January next. At High Whitby the erection of two lighthouses was commenced in April, 1857. These are now nearly completed. Then there is a new lighthouse in course of erection on the Island of Godrevy, in St. Ives Bay, which it is thought will be completed and lighted in the ensuing winter. And, to conclude, a new lantern and light are about to be set up on the North Foreland, situated, as every Cockney sailor knows, between Broadstairs and Kingsgate, in Kent, and of these we are about more particularly to speak.

"Like the great giant Christopher, it stands
Upon the brink of the tempestuous wave,
Wading far out among the rocks and sands,
The night-o'ertaken mariner to save."

We need not say how far back the existence of arrangements for showing a light to ships at night may be traced. We have the remains of perhaps the earliest structure for such a purpose, in this country, in the Pharos of Dover Castle.

Until almost recently nothing was used in lighthouses for illumination but wood or coal in a sort of brazier. Eddystone lighthouse, for years after its erection, had nothing but tallow candles for that purpose. Argand's lamp, in the focus of a parabolic reflector, superseded these, and was the mode of lighting chiefly adopted in this country until quite lately, and after Fresnel had introduced in France, about 1822, the mode of illuminating by refraction, previously described by Condorcet in that country, and by Brewster in this. Mr. Alan Stevenson was sent into France to examine into the system, and, in consequence of his report, Fresnel's principle was gradually introduced into our Lighthouses. In his able "Account of the Skerryvore Lighthouse," Mr. Stevenson describes the characteristics of the two systems of illumination by Reflection and Refraction. In the reflecting apparatus, the lamp is placed in *front* of the mirror, whose surface is so formed that the rays which fall upon it, and are reflected from it, must afterwards move in lines parallel to the axis of the mirror; while, in using refracting instruments, the flame is placed *behind* the lens, whose action is simply to bend the rays, in their passage through it, in such a manner that they come out from its face parallel to a line drawn from the focus to the centre of the lens. In revolving lights, on the reflecting principle, the mirrors containing the lamps are placed on a frame, which revolves on its centre, and carries them round in succession to the different points of the horizon, so that each mirror produces a bright flash when it crosses the line drawn from an observer's eye to the centre of the lighthouse; "but in refracting lights, a simple lamp of great power is fixed in the centre of the light room, while the lenses, placed on a revolving frame, intercept and modify the rays which fall upon them from the lamp, as they pass in front of it, and thus produce successive flashes whenever the centre of the lens crosses the imaginary line already noticed, as joining the observer's eye and the light-room." The two systems, the reflecting and refracting, are known as the *Catopric* (from the Greek for a "mirror"), and the *Dioptric* (probably from the Greek of "through," and "I see"). A catadioptric light involves both. To form an effective lens of the size required in the dioptric system of one piece of glass, would be scarcely possible, and the necessary thickness of the glass would greatly obstruct the light. The merit of the invention consists then in *building the lens of separate rings*, by which means, when properly done, with the consumption of oil required for seventeen Argand lamps, with reflectors, an effect is produced, it is asserted, equal to that of thirty lamps and reflectors as previously used. The labour of trimming and keeping clean is of course lessened, besides the saving in oil.

Endeavours have been made to apply the Drummond and the Voltaic light, but at present without success. We ought to have mentioned that Mr. Alan Stevenson did much towards perfecting the catadioptric light, and that in his book, to which we have alluded, the theory of it is set forth very elaborately.

Let us now turn to that particular spot on the coast to which our attention is directed, the *Cantium Promontorium* of the Romans, and our North Foreland, where there was probably a beacon of some sort or other in very early times, in consequence of the neighbourhood of the Godwin Sands. The North and South Foreland lights, together, are called by sailors, "The long mark for going clear off the south end of the Godwin."

In 1636 there is distinct notice of a lighthouse here in the shape of letters patent granted by King Charles I. to Sir John Meldrum, giving him right to continue and renew the lighthouses erected by him on the North and South Forelands, and to take toll. It was then merely a lath and plaster building, with a light on the top of it, in a glass lantern. This was burnt down in 1683. A temporary expedient was used for a time; and at the end of that century an octagonal structure of flint was erected, with an iron grate on the top, in which a fire of coals was made at night. In 1723 the fire was enclosed in a lantern; but this lessened the light, and the lantern was removed. Sixty or seventy years afterwards two stories of brick were raised on the original structure, with a decagonal lantern at the top, and the building was brought to nearly its present appearance. The fire was discontinued, and in each of the eight sides of the decagon were placed a lamp and parabolic reflector, with a magnifying lens in front. These lenses, however, which had cost 50*l.* a-piece, being thick and unscientific in form, only did harm, though it took many years to find out this fact; and about 1835, when the Elder Brothers of the Trinity House acquired the management of the lighthouse, the lenses were removed, and ordinary plate glass substituted, with good effect. No one can say our advances have been too rapid in the art of illumination,—at any rate, at the North Foreland. More than twenty years have passed, and another step is about being taken there: a catadioptric light is being constructed for it by Messrs. Wilkins and Co. lighthouse engineers, of Long-acre, by whom several have been set up, and this we have illustrated, giving a view of the lighthouse, and an enlarged view and section of the light.

The new lantern will be 14 feet wide, and 22 feet from the floor to the apex of roof. It will be sixteen-sided, with diagonal astragals. By this direction of the astragals, the interception of light is confined to a small oblique space: were they upright, they would at certain points intercept the light throughout the whole height of the refracting belt. Moreover, the greater stiffness and strength which this arrangement gives to the framework of the lantern make it safe to use more slender bars, and thus, also, absolutely *less* light is intercepted. The panes of glass at the same time become triangular, and are stronger than rectangular panes of equal size. The lantern is formed for the most part of gun-metal and copper, so as to render painting unnecessary. The St. Gobain glass is used, in the belief that it is very much better than English glass. If it be so, our manufacturers should look to it, and learn the reason why. The cost of the lantern will be from 1,300*l.* to 1,400*l.*: the cost of the light apparatus about 1,000*l.*

The new lantern will be completed and fixed in about six weeks from this time, to speak safety to the storm-tossed of all nations. It is only "they that go down to the sea in ships, and occupy their business in great waters," who really know the value of a lamp in a starless night. Long may the North Foreland Lighthouse stand to comfort and advise the passers-by:—

"Sail on," it says, "sail on, ye stately ships!
And with your floating bridge the ocean span:
Be mine to guard this light from all eclipse;
Be yours to bring man nearer unto man!"*

Description of the Diagram to illustrate the principle of the Catadioptric Light.

A. Compound dioptric belt.
B. Catadioptric zones.
C. Lower catadioptric zones.
D. Argand lamp, with three wicks.

* Milton.

THE LIGHTHOUSE.

Proud object of a nation's care,
More than a nation thou dost guard!
Based on the rock, but rear'd in air,
By night and day thou keepest ward.

The sanctuary lamp of old,
Was not so grateful to the sight,
When—from its mask grotesque and bold,—
It stream'd out on the murky night,

As thou, to watching weary eyes
That strain to catch the distant shore,
While stormy floods from angry skies,
With stormier waves commingled roar.

Beam on, thou good and holy light,
Like Heav'n's pure Truth, whose ray divine,
Will guide the soul thro' darker night,
To where th' Eternal Day-beams shine.

PROVINCIAL NEWS.

Lincoln.—The building of small and middle-class houses is still proceeding very rapidly in Lincoln, according to the local *Chronicle*, especially in the east and west districts of the city. In Saint Hugh's Croft, in the Monks'-lane, a completely new town has recently sprung up, and so great is the demand for small tenements that no sooner is the erection commenced than the houses are spoken for and let. To the west of the city, adjoining the Carholme-road, a great number of new houses have also been erected, and they likewise find tenants immediately they are completed. Sites for sale in the upper and more commanding portions of the city, where villa residences could be erected, are still untouched, probably through the high price demanded for the land.

Birmingham.—The Netherton tunnel, under the Rowley Hills, executed by the Birmingham Canal Company, for the purpose of affording direct and uninterrupted communication between the South Staffordshire and East Worcestershire mining district, has been formally opened. By the old Dudley tunnel, only one boat at a time could pass along, and that only by being propelled by manual labour. This having been found inadequate, the Birmingham Canal Company projected the work just concluded. The Netherton tunnel, and the works in connection with it, extend from Dudley Port to the Delph, where a junction is formed with the Stourbridge canal. A new canal has been formed from the Birmingham level line, at Dudley Port, through Tividale, and thence under the Rowley Hills to Windmill End. The canal is carried on an embankment as far as Tividale, where the tunnel commences. Between Dudley Port and the commencement of the tunnel there are fourteen bridges and two viaducts, one of which carries the new canal over the turnpike road, and the other the branch of the canal known as the Wolverhampton Level over the new canal. All the masonry is of blue brick with red stone dressings. The tunnel is in length 3,035 yards: it is 27 feet wide, with 17 feet of water, and has a tow-path 5 feet wide on each side, and 16 feet high from the water level. In the construction of the tunnel seventeen shafts have been sunk, varying in depth from 60 feet to 345 feet, and a variety of strata have been passed through,—blue band, marl, coal,

* Longfellow.

ironstone, &c. The engineers who prepared the plans were Messrs. Walker, Bingley, and Cross, of London: the contractor was Mr. George Meakin, of Birkenhead. Mr. James R. Walker, resident engineer, has had the superintendence of all the works; and Mr. George Hancox has been the principal agent of the contractor. The tunnel is lighted with gas throughout. At Windmill End, a junction is formed with the old Dudley Canal, the course of which has been improved, and at Brewin's Tunnel a new line, called the Two Lock Line, has been chosen, the tunnel having been converted into an open cutting, and the canal carried along an embankment to Woodside in a direct line. At the Delph a series of eight new locks have been constructed, to improve the communication with the Stourbridge canal. The cost of the works, including the tunnel, the Two Lock line, and the new locks, has exceeded 300,000*l*.

Wolverhampton.—A new music-hall and lecture-room is in course of construction here by private enterprise. Mr. E. Banks is the architect, and Mr. Elliott the contractor. The front elevation will be in Garrick-street, and there will be an approach by a covered entrance from Snow-hill. The room will be above the ground-floor. Its length will be 70 feet; the end next to Snow-hill 40 feet, and the opposite end 58 feet wide, the orchestra and platform being at the narrow end. The ceiling will be 25 feet high, curved at each angle, and the room is to be capable of seating comfortably between seven and eight hundred persons.

Coventry.—The new chimney at the gasworks, which has been some time in course of erection, has been recently completed. The foundations are 16 feet in depth, and the chimney rises to a height of 185 feet from the ground. Mr. Smith, of Birmingham, was the contractor, and Mr. Sinclair the architect. The iron top is in eight parts, and weighs a ton. The chimney is the highest in Coventry.

Farndon.—New school-rooms have been built here, capable of receiving about 100 scholars. The erection is from a design by Mr. Baily, of Newark, architect.

Birkenhead.—At a late meeting of the Mersey Dock Board, it was stated that the engineer would immediately proceed with the completion of the Birkenhead dock works, and that the delays had been owing to legal difficulties respecting the possession of the land required.

Cheadle.—The foundation-stone of a temperance hall, library, and newsroom, has been laid in the village of Kingsley. At the close of an address on the occasion, a collection was made, which amounted to 25*l*. with a donation of 10,000 bricks; and thirty of the members of the local Total Abstinence Society volunteered to execute the excavation required for the building.

Rochdale.—St. Chad's new infant school has been opened: it will accommodate 300 infants. The school is a plain stone building, with open-timbered roof, erected on glebe land, in a field opposite to St. John's Roman Catholic Chapel. A large yard has been walled in for playground.

Preston.—The foundation-stone of St. Paul's Schools, Preston, has been laid. Mr. William Hopwood is the architect. The building will accommodate about 500 children, of both sexes. It will probably cost 2,000*l*. Attached to the school will be a master's house.——A new police-station and magistrates' court has been recently erected at Preston, but, owing to the peculiar construction of the latter, it is said, conversation cannot be heard in it, and a ludicrous scene is described as having occurred in it last week, the bench not being able to hear a word uttered by the counsel, and *vice versâ*, so that the proceedings were dumb show.

Barnsley.—The foundation-stone of two new schools for the Roman Catholic denomination at Barnsley has been laid by Mr. Joseph Locke, M.P. The schools are to be in the Early Decorated style, and consist of three apartments, 60 feet by 20 feet, with open roofs, and two class-rooms, 30 feet by 20 feet. They are to be erected of stone. Accommodation will be afforded for 600 scholars. There will also be a residence for the master, and a play-ground behind the schools, which are situate on the Dodworth-road, and within an easy distance of the centre of the town. The cost of the buildings is provided by subscription, aided by the usual Privy Council grant. The amount required to complete the whole will be about 3,500*l*. towards which the Rev. H. J. Cooke has subscribed 1,000*l*. The architects are Messrs. Weightman, Hadfield, and Goldie, of Sheffield; while the contractors for the masonry work are Messrs. Robinson and Sons; joiners' work, Mr. H. Harrison; plasterers, Messrs. M'Mahon; and painting and staining, Mr. C. Rogers.

Bolton.—At a meeting of the Bolton Board of Guardians on Wednesday in week before last the tenders for the erection of the new workhouse were opened and read. They were then referred to a committee and two architects, Messrs. Hall and Woodhouse, to ascertain the lowest offer, and the meeting adjourned. The guardians again met, when the list was presented, as follows:—

Neill, Manchester	£17,133
Caughey and Langhor, Bolton	17,486
Penk, Manchester	17,654
Pilling, Bolton	17,866
Foggett, Manchester	18,163
Thompson and Co. Manchester	18,251
Farrell and Brownbill, Salford	18,377
Bamber, Preston	19,079
Marsden, Bolton	19,082
Barton, Son, and Moulson, Bradford	19,201
Ward and Ansdell, Nottingham	19,478

In Mr. Neill's contract an offer was made to deduct 650*l*. for the clay upon the ground for making bricks, and in the others an offer of 3s. 6d. per 1,000; but it was thought advisable to leave these offers out of consideration, as a bargain would have to be made for the clay, whoever might be the contractor. There were also five tenders for portions of the work, but these not embracing all its branches, they could not be entertained. The work was let to Mr. Neill by twenty-seven votes. Mr. Hall, the architect, stated that the contract was twenty-three per cent. lower than the Chorlton Union Workhouse was built for.

North Shields.—The new Mechanics' Institution in Howard-street, North Shields, was publicly opened by Mr. W. Lindsay, M.P. for the Borough of Tynemouth, who on the occasion was accompanied by Mr. Roebuck, M.P. The new building, the foundation stone of which was laid on the 19th July, 1857, is erected at the south-west corner of the intersection of Howard-street and Saville-street. The principal front is in Howard-street, the main entrance leading to the library being in the centre of this front, and a private entrance for the librarian at the south end of it. On the ground floor there are a news-room and a conversation-room, placed one on each side of the principal entrance, and a large room with an entrance from Saville-street. A stone staircase, with iron balustrades, leads to the library-room, which is 50 feet in length by 25 feet in width, and 22 feet high to the springing of the arched glass roof. A gallery is carried round the room. There are also a class-room and a committee-room on this floor. Above these two rooms there are three rooms for the librarian's residence. The contract for the internal fittings of the building was entrusted to Mr. Buckham, of North Shields. The building, which has been designed by Mr. John Johnstone, of Newcastle, is of brick, with dressed stone facings. The elevation is of an Italian character. The contractors are Messrs. Scott and Reed, of Newcastle. The amount of the contract for completing the building was 1,500*l*. The ground cost about 260*l*.

Dundee.—The directors of the Dundee Water Company have accepted the tender of Mr. Moffat, contractor, for the new reservoir at Monikie, the outlay being somewhat under 14,000*l*.; and the contractor bound to have the reservoir completed in October, 1859. It is rumoured that there was an extraordinary difference in the amount of the tenders. On the other hand the Dundee Gas Company have accepted the lowest of eight offers for the large gasometer they propose erecting, there being only a difference of 100*l*. between the offerers on a job of nearly 4,000*l*. The gasometer is to be finished before November next, under a daily penalty, so that there may be no scarcity of gas.

Stromness.—At a meeting of Road Trustees on the 4th instant, offers were received for the bridge of Waith, near Stromness, in Orkney, from Mr. Wilson, the contractor for the new road, 774*l*.; from Mr. John Halcro, builder, Kirkwall, 680*l*. The latter was accepted. Mr. Mitchell's estimate for this bridge was 615*l*. The works are now being proceeded with. Mr. Wilson has 200 men daily at work, and a considerable number of horses employed. Mr. Doull, of Wick, has also a number of people working at the new bridge at the Ayre of Kirkwall, and at the wall from it to the harbour.

Masons' Strike at Berwick.—The masons in Berwick lately occupied on Dr. Cairns' new church and other buildings have struck work. A refusal to advance wages is the alleged cause of complaint, the malcontents demanding 26s. per week instead of the 24s. at present allotted them.

STATUES AND MEMORIALS.

The Grantham Monument to Sir Isaac Newton.—The arrangements with regard to the erection of the statue of Sir Isaac Newton, at Grantham, are progressing, and the inauguration, which will be attended by Lord Brougham, will take place on the 21st of September. The statue is reported to have been well cast, and the stone on which it is to be placed has arrived from Wales. The pedestal stands upon a square base of 7 feet 4 in. and 2 feet 3 in. in height. The height of the sub-plinth is 2 feet 8 in.; of the plinth, 1 foot 4 in.; the plinth moulding, 2 inches; the die, 4 feet 9 in.; and the cornice, 1 foot 10 in.—making a total of 14 feet. The torus in the plinth is carved with the *laurus nobilis*, and with the *acanthus* at the corners. The material is a light grey stone generally known as Anglesea marble, and derived from the same quarries as the lions at the ends of the Tubular Bridge over the Menai Straits. The contractor for the work is Mr. W. T. Rogers, of Beaumaris, Anglesea, and the design is from the studio of Mr. W. Theed, the sculptor.

The Liverpool Statue of Archdeacon Brooks.—This statue has arrived at Liverpool from Rome. The likeness is said to be good. The statue is life size, or something more, and is executed on a block of marble of the purest white. Mr. Spence was the sculptor. The site is not yet fixed upon. The statue meantime stands in the large entrance-hall at the north end of St. George's Hall.

Memorial of the late Sir William Peel, of the Naval Brigade.—As might have been expected, the proposal for a memorial of this noble and gallant sailor has met with such sympathy from the public that the committee are enabled to extend their original plan. It is now proposed that the picture of the late Captain Peel shall be painted by Mr. John Lucas, and that it shall be presented to Greenwich Hospital, on condition that a suitable position be assigned to it in the Painted Hall. The Dowager Lady Peel will be requested to accept a cabinet copy, and a print will be presented to every seaman and marine who served in the Naval Brigade under the orders of Sir William.

Memorial to General Barnard.—A monumental tablet is about being erected to the memory of Major General Sir H. W. Barnard, K.C.B., one of the Delhi heroes, in the military chapel, Wellington barracks, Birdcage-walk. The tablet, which is of white Carrara marble, has been executed by Mr. T. Gaffrey, sculptor.

A Statue of Marshal Suchet, Duke d'Albufera, has just been inaugurated at Lyons.

The Mansion and Tomb of Washington.—The "Mount Vernon Ladies' Association of the Union" has been incorporated by the state of Virginia, and powers given to purchase and hold 200 acres of the Mount Vernon estate, including the mansion and tomb of Washington, the garden, grounds, and landing on the Potomac river. The sum to be raised is limited to 500,000 dols. Two hundred acres have been purchased by the association

IRISH NEWS.

The new Catholic church at Tipperary is approaching towards completion, the principals of its high-pitched roof being partially fixed, and the chiselled limestone tower erected to a height of 40 feet. A spire will be added hereafter, when it reaches its full elevation of 85 feet, and the total height will be 160 feet. The east and west gables will have great lancet lights, 34 feet from sill to soffit, and will be filled with stained glass. The interior is still in an unfinished state, and is not expected to be completed before the early part of next year.

We hear that premiums will shortly be offered for the best plans for arranging the council chamber of the Dublin City Hall; and for widening Carlisle-bridge, the extreme narrowness of which impedes the public traffic to the thoroughfares to which it conducts. The roadway of the bridge has been reduced about 1 foot 6 inches, and the rise thereby considerably lessened. The projected new street leading towards the terminus of the Midland Great Western Railway, the lessening of the segmental area in front of the university, and the removal of the unsightly boundary-wall in College-street, are improvements we hope, with others, soon to see realized.

A new line of street, 60 feet in width, is also proposed from Parliament-street to King's-bridge terminus. Mr. Louch, architect, &c. has prepared plans.

A monument of important character has been erected in the new cemetery at Derry, to the memory of the late Patrick Gilmour, Esq. The

pedestal is of Wicklow granite, and the superstructure of Portland stone. The height is 35 feet 6 inches from ground line to top of obelisk, which in itself is 16 feet high. A sarcophagus, tastefully ornamented—with on one side a female figure leaning over an urn, and bearing a wreath in her left hand, while groups of beggars and school children are arranged on either side; on another, the parable of the good Samaritan exemplified, and on a third the armorial bearings of the deceased,—is introduced between the pedestal and obelisk. The figures stand out in bold relief. Appropriate mottoes and inscriptions are cut on the sarcophagus and over the door. Mr. Joseph Kirk, of Dublin, is the sculptor.

The great mass of concrete which formed a bridge across the tideway in Hantoon Channel, Wexford harbour, and presented a great impediment to navigation, has, after much labour, been removed, under the direction of the county surveyor. Beneath this lies a stratum of gravel, which can be removed at the rate of thousands of tons per diem.

A new lighthouse, of a more ornamental character and different design from those on the coast and headlands of Ireland, is to be erected at Blackpoint, on the Smith Barry property, and from the designs of Sir John Benson, C.E. It will be 80 feet high, 12 feet square at the base, octagonal at high-water mark, and circular at the lantern. Two iron balconies will project from it, and the approach will be on two handsome arches. Materials, brick and limestone. Cost, about 800*l.*

A new harbour of refuge at Skerries is strongly urged on the consideration of the Government by the Drogheda Improvement Commissioners.

The new lighthouse at Rockabill is advancing towards completion.

A great fire has taken place at Chapelizod Mills, near Dublin (the property of Mr. Dargan), and property to the amount of 8,000*l.* destroyed. The building consumed was 160 feet in length, 40 feet in breadth, and 60 feet high, containing five lofts. A portion was fire-proof and escaped.

In Belfast, the building trade is particularly brisk. The structures in progress of completion comprise the new custom-house and post-office; the Sailors' Home (already noticed in the *Builder*); the mercantile establishments of Messrs. Campbell, at the corner of Nelson-street; Messrs. Woodman, in Bedford-street; Messrs. Lindsay, in Donegal-place; and of Messrs. Arnott. The old Independent church, in Donegal-street, is being pulled down, and a new building erected on the site; and many other works of a less extensive character are in progress. There is a good demand for tradesmen.

Tenders are being received for the erection of the long competed for De Vesci testimonial, at Abbeyleix, according to the approved designs of Mr. J. S. Butler, of Dublin, architect.

At Rathmines and Rathgar, near Dublin, buildings of a mercantile and domestic class are speedily springing up, and the locality is rapidly rising.

The Governors of the Bank of Ireland are about to erect a new bank-house and agent's residence in Donegal-place, Belfast, according to designs by Mr. S. Symes, architect. The front will be of chiselled granite, with cornices and dressings of Portland stone; the lower story being rusticated, with Doric cornice, and porch, and the remainder of the façade of Grecian character, surmounted by an enriched cornice. Interiorly, the arrangements are of the usual character for such purposes: the offices, safes, and lavatories are in the rear, and occupy one story. The second story comprises the agent's apartments, and is chiefly lighted from the front towards the street. The building will be expensive, owing to the quantity of piling required. Tenders are being received.

It is in contemplation to build a new lighthouse on the Carrig Phadrig rocks, in the Bay of Killala.

The proposed improvements to the harbours of Westport, Newport, Ballina, and Killala, are likely to be carried out immediately; surveys, plans, and estimates having been already submitted to Mr. Barry D. Gibbons, harbour engineer to the Board of Works. At Newport and Killala extensions to the present quays are contemplated; and at Ballina docks and wharfs are said to be required, and will be constructed when the necessary funds are obtained.

Lord Palmerston, during his recent visit to Ireland, granted a free site for a new Roman Catholic chapel on his estate at Cliffony, as also 40*l.* towards its erection.

A new church has been built near the town of Carlow, on the Athy road, from the designs of Mr. Derrick, architect. The plan is cruciform, with square tower and broach spire rising to a height of 217 feet, at the intersection of the cross, and consists of nave, transept, choir, vestry, porch, &c. and the dimensions internally are 113 feet by 25 feet. Attached to the tower is a smaller one of octagon shape, terminated with pyramidal roof and crocketed pinnacle, and containing a winding staircase leading to belfry and to the pulpit, through a doorway formed with solid granite in the massive but deeply splayed and moulded pier of the tower. The roof is of open timber work, stained, varnished, chamfered, and diagonally-sheeted; and between each window springs a great trefoil arch of granite, as also at the transept. The communion-table, choir seats, and other fittings correspond with the character of the roof, and the flooring is of Minton's encaustic tiles, the chancel having black marble steps. An appropriately-designed baptismal font occupies a position in the longest arm of the cross. Externally, the effect of the building is peculiar, owing to the application of materials of different colours, three kinds of granite (all local), namely, white, bluish, and grey, being distributed throughout, either as walling, plinth courses, or kneelers or hoods to buttresses, &c. and Yorkshire stone being used for the window tracery, gurgoyles, &c. The chancel has a five-light window, and each other gable a four-light window, filled in with elaborate tracery, and having hood-mouldings springing from richly-carved corbels. Grotesque figures are introduced at the commencement of the broach spire and the eaves throughout. The angles and flanks are ornamented with hooded buttresses, and the gables are terminated by finials. The tower is divided into two stages, the upper receding from the lower, connected therewith by a deeply-splayed weathering, and having two double-light traceried belfry windows on each face. The spire is ornamented by traceried and hooded lights, as also clustered pinnacles rising out of the broach, and is terminated by a gilt cross. We must observe that the entrance-gates and boundary-wall are characteristically designed, though the workmanship is somewhat objectionable. The expense of building this church was about 12,000*l.* and defrayed by Colonel Bruen, who handed over for this purpose the funds collected for his defence of an election petition.

We regret to see so little improvement in Carlow. The railway station is a neat Elizabethan structure, of grey brick and granite dressings; and the Roman Catholic Cathedral, in which is Hogan's *chef-d'œuvre*, Dr. Doyle's statue, is a work of considerable architectural pretensions; but the commercial establishments are of a very inferior class, and exhibit little signs of improvement since our correspondent visited the town twelve years ago. Some alterations have been made at the college, and a new national school of unpretending character built.

PRESERVATION OF STONE IN MELROSE ABBEY.

In a visit, the other day, to this beautiful ruin, I was much struck with the extraordinary degree of preservation in which some of its most delicate details still exist, and, although probably this is familiar to the *Builder*, I am tempted to advert to it. The abbey was founded by King David in 1136, and, after suffering severely, seems to have been greatly rebuilt by Robert Bruce, in 1324, he having given 2,000*l.* towards its restoration, which was a great sum in that time and country.

Taking the latter of these two dates as the period of the execution of a principal portion of the architecture, it yet affords a duration of more than 500 years up to the present time. Various of the traceries of the windows, as also the groinings of the arches of the roof, remain almost intact, as well as the varied and beautiful foliages that enrich the work throughout: but what most attracted my attention and admiration on the score of preservation were various of the little highly wrought and elaborately pierced canopies to niches, that seem nearly as perfect as when left by the workman's chisel. These exist in all directions on the outside as well as the inside of the building, so situated as that at any rate the major portion of them could be in no way protected. They would have been, one would think, the first parts to perish, and yet they now exist apparently in very nearly their primitive crispness; and this after the wind, rain, and frost of 500 years in a climate not thought very mild. The stone came from the neighbouring village of Dryburgh, also close to the Tweed, at least so they say here, and the character of the material appears similar, although what is wrought now does not seem to stand so well. In conversation with an intelligent builder here, he gave it as his opinion, that as regards the surface of the work, "they must hae putten something over it," in the first instance; a preparation which has had the effect of preserving it to a degree which I fancy is almost unparalleled in this island. Is there any record of such a kind of preparation having been applied to old buildings in our islands? If so—

> "The monks of Melrose," who "made fat kail
> On Fridays when they fasted,
> Nor wanted ever good beef and ale,
> As lang's their neighbour's lasted,"

made better preparation for the welfare of their abbey than even of themselves or their order; and, if so, in case the preparation of late tried over portions of the New Houses of Parliament is half as efficient as that which may have been thus used at Melrose, it will be all that can be desired.

EPSILON.

LAW NOTES.

Improvements in Land.—Metropolitan Building Act.—A person left two estates to his widow for life, and after her death to his children. The Crystal Palace and West End Railway Company, under their compulsory powers, purchased one of these estates, and paid the purchase money into court. The Commissioners under the Metropolitan Building Act soon afterwards gave notice to the tenant for life, requiring that the houses on the other estate should be rebuilt, and with this notice she complied at her own expense. The outlay exceeded the amount paid into court for the other estate, and the tenant petitioned that that sum should be paid out to her in part payment of the expense which she had incurred. The Master of the Rolls declined to interfere, but on appeal the Lords Justices granted the application. *Re Davies' Estate.*

Copies of Deeds.—Conditions of Sale.—In the absence of special conditions to the contrary, the purchaser of the larger of two lots of land is entitled without payment to the deeds, and the purchaser of the smaller is entitled, also without payment, to attested copies of all deeds which are delivered to the purchaser of the larger lot.—*Peterson* v. *Elwes.*

Splitting Demands.—Plaintiff brought two actions in a County Court,—one for rent in arrear, and another for double value for holding over after notice to quit. It was held that they were distinct causes of action, and might legally be made the subject of several plaints.—*Wickham v. Lee.*

ENGLISH AND FOREIGN WINDOW TRACERY.

In your last number we are favoured with an interesting description of the village church of Chaddesley Corbett, but, as the *Builder* is a main channel for disseminating architectural opinions, an erroneous opinion which the writer of that article has expressed, should not be allowed to pass without correction. I allude to his assertion of a superiority in the examples of window-tracery on the Continent. He lays especial stress upon St. Ouen, at Rouen, terming it "an inexhaustible storehouse of geometrical composition." Now St. Ouen was not only erected after the Geometrical period, but its windows are for the most part without variety, far removed from Geometrical, and verging on Flamboyant. Even the much-admired circular west window has a stringy closeness which would shrink from comparison with its betters in this country. I need not follow your correspondent to Bayeux, Amiens, &c., but will confront his opinion with the fact, that our highly-gifted and intelligent architects find great difficulty in the tracery of new windows, and can obtain but little help in importing from abroad. Those, in this country, who feel interested in securing for Gothic architecture a true cultivation, should, I submit, in their estimates of the comparative merits of English and foreign, be on their guard at the present time not to underrate the work of our ancestors. The Chapter House at York, the Retrochoir of Lincoln, and the glorious Pentalpha window in the western front of Exeter, are without their equals in the foreign Geometrical tracery; and I shall esteem it a favour to be directed to any foreign windows of flowing Decorated character that equal the west window of York, the north window of Sleaford, or the modest chancel window of Castle Ashby. In France and some adjacent districts we find the Gothic remains exhibiting a higher aim, a more

elegant finish, and a wonderful profusion of sculpture; but, much as the Continental builders have excelled in many things, in the fundamentals and in the spirit of Gothic art, it must be admitted that the English have shown themselves the first masters. V.

THE TREES IN CHELSEA COLLEGE GARDENS.

Knowing how strenuously you advocate the preservation of whatever is beautiful, in combination with public improvements, I am led to call your attention to the fact, that the score of choice old plane-trees now standing on the verge of the Chelsea-college garden, and abutting on the new quay recently built opposite Battersea-park, are said to be doomed to destruction. Having been sold at a high price, it is purposed to fell them in the ensuing autumn. Now, if the roadway on which they partly stand were likely to be much frequented, a plea might be advanced for their "partial" demolition; but as there is at present no likelihood of the quay being carried beyond the immediate locality in question, surely they might be allowed to remain, if only for shade. A few benches placed beneath them would make one of the most agreeable lounging-places imaginable. The trees are in themselves magnificent, being the growth of, perhaps, a century or more; and surely the authorities are not so devoid of all sense of the beautiful, as for the consideration of a few hundred pounds to destroy what millions could not purchase.

Pray, Mr. Editor, raise your potent voice against the perpetration of so gross a vandalism, and add one more proof to the many you have already manifested on behalf of the public good.

I would also point out how desirable (as well as facile) it would be to plant trees of the same kind at intervals along the whole line of quay, in the same manner as obtains at Paris by the Seine. London is the largest, and there is no reason why it should be also the ugliest capital in the world.

Sylva.

BOURN WATERWORKS, LINCOLNSHIRE.

ARTESIAN WELLS.

Observing your notice in last week's number of the above works and company, I would add the following information, as likely to be of great interest to many of your readers; for, probably, there is not another artesian well in this country, if in Europe, which yields so large a supply of water for the size of the bore. I accurately gauged it in 1856, as well as checked its yield, by careful admeasurement, and it was 567,000 gallons per diem (of twenty-four hours)—an enormous flow up a 4-inch pipe.

And it is almost as unusual to supply a town, with water constantly on, under "high pressure," from a well in the town, *without the aid of engines or pumps*.

Fire-cocks or hydrants are placed on the mains throughout the town, by which a jet of water may be thrown upon any house direct from the main, by the natural force, without the intervention of a fire-engine. Bourn water-supply may be considered, I think, unique.

James Pilbrow, Engineer to the Company.

ST. MARY'S TOWER, TAUNTON.

Sir,—Mr. Denison only said what many others have been saying for months past, when he deplored the course which it is proposed to adopt in rebuilding the steeple at Taunton.

Had it been possible, I am sure the right course would have been to prop up the old tower, and to erect another, as a campanile, in some part of the churchyard. As Mr. Scott and Mr. Ferrey took the responsibility of saying that this was absolutely impossible, we cannot doubt that they were justified in taking the old steeple down.

But I believe that most men who care much for art will disagree entirely with your correspondent "M. I. B. A." who objects to repetitions "*usque ad nauseam* of existing works of the thirteenth century," and yet gravely advocates what would most undoubtedly be a repetition "*usque ad nauseam*" of a work of much later date!

It is unfortunate that "M. I. B. A." cannot see that Mr. Denison asked for *no repetition*: his whole object was to *prevent the folly of a repetition*; and, until I am corrected, I refuse entirely to believe that two architects of such eminence would willingly repeat, as they have to do in this case, rather than invent and design, as Mr. Denison desires they may.

I do not think "M. I. B. A." can really see much "independence" in the course the architects are made to pursue: to me they seem to act "as bondsmen to their masters."

Perhaps before "M. I. B. A." discusses Somersetshire art again he will consider whether Wells and Glastonbury sin against the "old associations of the whole county," in that they are not examples of his favourite Perpendicular style. To ordinary minds they are the real glories of Somersetshire; and, if architects are to inquire, before they design a steeple, in what style the majority of old buildings in the county are; I think it would be reasonable that they should also ask in what style is the best building in the county? Then, most unquestionably, at Taunton, Mr. Scott and Mr. Ferrey would have the pleasure of emulating the glories of Wells, instead of erecting a mere copy of an old steeple, which any good mason could do nearly as well as any two architects.

The copy will be of no more value to us than careful drawings would have been: and if Mr. Denison's wise council does not prevail, we shall have an opportunity of seeing how poor even such an example of Perpendicular work is, when bereft (as it will be entirely) of all the pleasures of old associations, and all the beauties of the weather stains of 400 years. G. E. S.

BILLS OF QUANTITIES.

Sir,—Much has been said in your journal, from time to time, about the "bills of quantities" system, and as some of your correspondents appear to decry the practice altogether, allow me to submit that it is in many instances indispensable with architects of large business, and more especially where public competition is invited, and the time for from fifteen to twenty persons to tender is limited to a few days.

It would be impossible to despatch the business of some offices, if time had to be allowed for every contractor to take out his own quantities. If a surveyor requires two days to take them off correctly, and the time for inspection of the plans &c. is limited to six days, as is often the case, it must be a great convenience to a contractor to be furnished with a copy of the same quantities as his competitors, as the time he then has to spend in examining the plans, specifications, and conditions, previously to affixing his prices, is comparatively short.

I agree with the practice of allowing one day, after the tenders have been settled, for examining and correcting quantities, before the party is called upon to sign an agreement to fulfil his contract.

The following is an abridgment from the conditions I generally adopt, viz.:—

"Each contractor will be supplied with a copy of the quantities for his convenience, for which he will be charged the sum of , and a further sum of per cent. on the amount of the contract, should he be the successful competitor. One day will be allowed for corrections of the said quantities, after the tenders have been settled, prior to the successful competitor being called upon to sign the contract, after which he, the said contractor, shall be alone responsible."

This clause is not to preclude any contractor from taking his own quantities if there is time and convenience. W. B.

A DEFECT IN BENEFIT SOCIETIES.

Sir,—Benefit societies may now be numbered almost by hundreds: many of these possess stability: others—perhaps the greater portion—offer very doubtful security for the investment of the hard earnings of those classes from whom they derive their support. Many advantages are held out to investors, in some instances more than in others. One great want or omission prevails almost universally amongst the provisions for their members. No allowance is made for the unemployment of members, and yet this is the most important point perhaps of all. Many may pass through life without being seriously attacked by illness, yet but few who do not suffer at times from a want of employment, which, if unaided, frequently leads to sickness. The provision for unemploy should be about two-thirds of that allowed for illness. A few, but very few, might be found, perhaps, who would come upon the funds in preference to working for their living, but there would be little or no difficulty in detecting idlers who would not work, for it is soon known whether work is abundant or scarce amongst the majority of the working classes. No doubt there are many instances constantly occurring where individuals who cannot find employ feign illness, and successfully, too, and thus obtain the relief that otherwise would be denied them, however necessitous their state. It may be said that the workhouse offers relief to the destitute and unemployed, but the difficulty of obtaining out-door assistance from thence is great, and of an insufficient character; and there is a stigma attached thereto that is repulsive to the industrious, while to seek a shelter within those hateful walls necessitates the breaking-up of homes, and ruin to their future prospects. Were provision made for the unemployed, many would join benefit societies who now will not do so, and they might assume an importance and position of affluence very few of them have as yet attained. For, although they are many in number, the greater portion are possessed with *comparatively* scanty funds, while some one or other of them is continually becoming insolvent, to the serious loss of those who have contributed their hard-earned savings. W. D. M. M.

THE RAPID DECAY OF STRUCTURES IN ENGLAND.

When looking at vast and venerable ruins, like those of Kenilworth, rich with coatings of different coloured lichen, the interiors of the once stately halls overgrown with ivy and other vegetation, massive walls, as well as delicate tracery, crumbling into shapeless masses, the observer is surprised at the comparatively short time which it takes in this country to transfer a magnificent and seemingly substantial building into a picturesque ruin.

It was only in A.D. 1575 (283 years ago) that the Earl of Leicester entertained Queen Elizabeth with so much pomp and ceremony: then those now deserted halls were lively with the sounds of minstrelsy and rejoicing; the inner walls were gay with tapestry, gilding, and decorated furniture; coloured light came through the stained glass windows; and, instead of the owls and other wild birds which now haunt the place, were fair ladies and courtly knights, and numerous lands of revelling attendants. At this time a considerable portion of the building was barely completed; and fifty years after the above date, revels were held at Kenilworth, in rare Ben Jonson's time. This gives a date of only 233 years since the whole place was in proper repair,—a time which the fourth man who has lived only to the age of sixty years, was in existence.

It is extraordinary how soon dilapidation takes place in even the most substantial building, when the roof fails, and the elements are allowed to play in at the broken windows.

The spacious mansion of the Delawar family, in Northumberland, where, within the last century, gay parties gathered together, has since then been partly destroyed by fire. No pains were taken to remedy this disaster, and now the whole edifice has assumed the livery of time, and fallen into a hopeless state of decay.

In Scotland, many of the old castles, built in the most substantial manner, with massive materials, are, in many instances, of not much older date than the reign of our own Queen Elizabeth, and yet are now in ruins. Some of these bear the marks of Oliver Cromwell's cannons; but, in other cases, the change has been wrought by the desertion of the owners and the natural progress of decay; for some of these are so removed from the busy haunts of man, that he cannot be blamed for the demolition. We have seen churches which, at about the time of the Reformation, were in good order, have now scarcely one stone left upon another, and other now ruinous religious edifices, which at that date were in as fair order as Westminster Abbey is now.

Even with care, and under the best circumstances, it is necessary, in this changeable climate, where the usual quality of stone is used, to reface buildings every three or four centuries. The tower of St. Nicholas's Church has been almost entirely reset with new masonry. Many of the turrets, &c. are of new work, executed as closely as possible in the old style. The Norman Castle, at the same place, has undergone similar treatment within the last few years. The great towers and other parts of Durham Cathedral have been refaced. Henry VII.'s Chapel, at Westminster, although only built about 400 years ago, has needed to be completely refaced with new stone. Taking a number of examples, it appears that stone buildings in England, in the most instances, require thorough external repair every three centuries.

In the interior of Westminster Abbey, for instance, the decay of the Gothic tracery on the royal tombs, &c. is remarkable. In some instances the niches are so much mouldered away that it is difficult even with fancy's eye to

race the original form, and it is both curious and instructive to compare the firm and unaltered condition of the bronze effigy of the Queen Eleanor with the indistinct traces of the architectural decorations of the tomb. Even the wood and iron-work are in a better condition than that upon the stone which has been used. The gilding of this bronze figure, although now nearly removed, has, no doubt, been an important means of keeping it in its present fine state of preservation. Stone effigies in this famous abbey, although of not nearly such old date as that of Queen Eleanor, have become shapeless masses, in spite of attempts at preservation by painting, &c. This circumstance should cause us to consider the materials most proper for the memorials of those whom it is intended to honour, if we wish to preserve the memory of our worthies beyond a very limited period. No doubt the most permanent monuments would be those of bronze, thickly electro-gilt, and decorated, when necessary, with enamelling. In some cases, thin gilt copper has been covered over wooden and stone figures, and the effect of time resisted in a remarkable manner. At the East-India House, and also in the British Museum, are some rare specimens of thin gold plate, which has at one time covered the features of some of the ancient Babylonian kings. On the plates, which are probably 3,000 or 4,000 years old, there is no mark of rust or decay. Would it not be possible to preserve the fine sculptures of Flaxman and others by a thin covering of similar metal, in a manner which would not interfere with the delicacy of the design, and which would be the means of preserving the original work in perfection for a thousand years and more?

Some of the brick buildings of Henry VIII.'s reign have been less acted upon, so far as the wide surface is concerned, than stone structures of the same date. It is true that in the brickwork there are not fine details exposed to the weather; but the fine old purple brickwork of that date is doubtless a serviceable shielding material, as is shown by a contrast of the decay of the stone facings with the brickwork.

It is a solemn matter to see,—notwithstanding that it is an important struggle of humanity to defy the ravages of time,—rare men, rare buildings, and other efforts of genius, and examples of ingenious handiwork, surely progressing towards that dusky oblivion which now shadows what were once the glories of the earth.

RECENT PATENTS CONNECTED WITH BUILDING.*

Improvements in the Construction of Beams, Girders, and Bridges. Dated September 19, 1857. *W. H. Peake.*—A series of bars and plates of iron are built one on the other, and bound together by bolts.

Improvement in Doors. (A communication.) Dated September 7, 1857. *P. A. de Fontainemoreau.*—This consists in a certain appendage applied to doors for preventing draughts. It is composed of two narrow strips of wood connected edge to edge together by hinges. One of the strips, termed the "connecting piece," is secured to the lower part of the door. The other, termed the "flap," hangs in such a position that, when the door is closed, it may cover any opening which may exist between the floor and the door.

Improvements in Stoves and Fire-places.—Dated September 7, 1857. *T. Goodchild.*—Below the bottom grating of a stove or fire-place a drawer is applied, preventing air passing up and for receiving ashes, &c. A false bottom is put into the grate. The front fire-bars, the sides, and the back of the fire-place are fixed that no air may pass through them. In front of the fire-bars is a sliding screen, which, by preference, has openings in it glazed with talc. The stove is filled with coal, and the upper surface thereof lighted, the upper edge of the screen being brought below the top fire-bar, and lowered from time to time as the fuel consumes away.

Improvements in the Manufacture of Articles used for forming Flues and Air and Water Passages in Buildings. Dated October 1, 1857. *J. C. Jennings.*—Here cast-iron trimmers, with flanches and recesses to receive the joists, are made with air-passages through them, so that any air admitted between the floors by air bricks, &c. may pass freely through such trimmers. Hollow blocks of earthenware are used below the hearths, so that the passages through them correspond with the air-passages in the trimmers. From the ends of such blocks proceed like blocks, which rise up the sides or the backs of the flues or chimneys corresponding with hollow passages for connecting the horizontal and upright blocks. Part of the invention is applicable when making flues and air-passages conjointly. For conveying away rain-water from roofs, and for ventilating drains, hollow blocks are formed suitable for bonding in with the brickwork of a building, such blocks being of clay expressed through dies or moulding orifices.

Improvements in Chimney-cans or Apparatus for Promoting Draught in Chimneys. Dated Sept. 30, 1857. *W. Sandilands.*—The main shell of the improved can consists of a cylindrical metal tube, the upper end of which is encircled by a short length of wider tube, which stands up above the central tube, and is bell-mouthed at its open top. This shorter piece of tube is attached to the main tube by open stay pieces, leaving a passage for air between the two. The end of the main tube is sheltered by a conical cap, with its small end upwards. This conical cap is placed at some little distance above the main tube. Down draughts are thus, it is said, prevented.

Pot for Chimneys and Ventilation. Dated January 28, 1858.—*William Spence*, Chancery-lane.—This invention consists in manufacturing pots of clay or similar materials suitable for chimney-pots, in such manner as that the mouth for the exit of the smoke or air may be protected, and the smoke or air within the pot receive an upward instead of a downward tendency from the action of the wind or current of the external atmosphere. This is effected by providing the pot with an upper or outer lip or cap projecting above, and at a small distance from, the inner or ordinary shaft, and placing around or externally to such inner shaft a space, or a series of spaces, so situate in reference to an inclined surface below that the wind or external current of the atmosphere will be deflected upwards, and make an upward current through their spaces, and counteract the tendency to a downward current which such wind would otherwise produce at the mouth of the inner shaft if not protected, and thus aid the up current of the inner or ordinary shaft. Such pots may be made of a square, circular, hexagonal, or other shape, and present an ornamental appearance externally, and be adapted to the style of architecture of the building upon which they are placed.

Improvements in Protecting the Walls, Ceilings, Wainscots, and other Parts of Buildings from Humidity. Dated Oct. 19, 1857.—*V. Pean.*—This consists in protecting the walls, ceilings, wainscots, and other parts of buildings from humidity, by coating the same with glass made adherent to sheets of wood by means of a composition which is described.

Certain Improvements in Purifying and Filtering Water. Dated Sept. 5, 1857.—*R. Johnson.* This consists in removing mineral substances from water by the influence and chemical action of the air, and in separating veretable substance or other impurities by filtering. The water is caused to pass through the air in jets, and fall upon broken slate, &c.

Improvements in and connected with Cocks and Valves, especially adapted to preventing the Bursting of Water-pipes from Frost. Dated Sept. 30, 1857.—*J. Harris.*—One of the main features here consists in providing a valve or passage for the admission of air into pipes in which water has been led say, for instance, from a main into a house cistern—in order to drive out the water therefrom as soon as the supply is cut off, to prevent the bursting of the pipes by the freezing of the water therein; and this the patentee effects by certain arrangements of cocks and valves, or by fitting at the upper part of the pipe, or behind a ball or other cock, a valve opening inwards to allow of the entrance through it of air. The arrangements of cocks and valves consist mainly in so fitting them that, supposing water to be turned on from a main by means of any of the cocks or valves, one movement of a lever to a given distance will shut off from the main, and by moving the same lever a little further in the same direction, the services will be emptied or allowed to flow out. The improvements are also applicable to bib cocks, and to cocks and valves suitable for boilers, for water-gauges, and for supplying baths.

Improvements in Forming the Joints of Pipes for conveying Water, Gas, and other Fluids. (A communication.) Dated Oct. 17, 1857.—*R. A Brooman.* According to one of the inventor's arrangements, one of the pipes to be connected is formed with an enlarged end, terminated by a recessed flange, into the recess of which a ring of vulcanised india-rubber is placed, and against this ring a circular plate is tightly screwed to the flange. The second of the two pipes to be connected is then forced through the ring, which is of such an internal diameter as to admit it and grasp it tightly, forming a fluid-tight joint. If the two pipes thus connected are to be subjected to transverse strains, the plate may be formed with a funnel-shaped flange, spreading outward from the packing-ring. According to another arrangement, the enlargement of the end of one of the pipes may be dispensed with, and a boxed flange formed on the pipe, into the recess of which flange a ring of vulcanised india-rubber is forced, and is there held by the boxed sides of the recess.

Improvements in the Manufacture of a Composition to be employed in the preparation of Pigments. (A communication.) Dated Sept. 5, 1857.—*W. E. Newton.*—This relates to producing mixtures or compounds of alumina with other earths or alkaline earths as bases for pigments, and for the preparation of the "satin white" used by paper-stainers. Also to the substitution of sulphate of alumina instead of alum in the preparation of pigments, especially Prussian blue and the lakes.

Improvements in the Construction or Manufacture of Earthenware Pipes. Dated Sept. 30, 1857.—*C. C. Creeke.*—Instead of making the pipes of equal thickness throughout, the patentee proposes to flute them, or to give their outer surface corrugations or flanges to add to their strength without adding to their weight. The junction of the pipes is made by forming an annular groove at each end of the tube for receiving one-half of a projecting flange or metal ring, which must be perfectly imbedded with red lead.

Kilns or Ovens for Burning or Firing Bricks, &c. Dated Jan. 22, 1858.—*William Basford*, Longport, Staffordshire.—This invention of improvements in kilns or ovens for burning or firing bricks, tiles, pipes, and pottery or earthenware, and in the mode of charging the ovens, or placing or setting the articles that are to be fired therein, relates in the first place to various improvements in the construction of kilns or ovens, or of arranging the internal parts; the objects of most of the improvements being economy in the construction or in the consumption of fuel, or the more equable and uniform distribution of the heat given off from the fires, so that neither the oven nor any of the articles to be fired therein may be damaged by any excess of heat or particular parts of the oven, as is now frequently the case. The inventor has found that by making the mouths and fire draughts of smaller dimensions than usual, and increasing their number so as to reduce the space between them, he can obtain a much more uniform and regular heat throughout the oven than heretofore.

Improvements in Machinery or Apparatus for the Manufacture of Bricks, Tiles, Pipes, and other Articles of a similar Nature. Dated Oct. 19, 1857.—*H. Wimball.*—This relates to a peculiar construction of pug-mills, suitable either for pugging or working clay, or for making bricks, tiles, and drain-pipes, and other similar articles, and mainly consists in the employment of pug-mills with two or more shafts and sets of knives, in place of using only one shaft and set of knives, as is at present the case.

Improvements in purifying and cleansing Clay, and in the Manufacture of Bricks, Tiles, and similar Articles therefrom. Dated Oct. 9, 1857.—*J. Harland.*—The clay is here contained in a travelling-box running on anti-friction rollers, and impelled by a rack and pinion, for the purpose of forcing the body of clay against the dies or bars employed for shaping or purifying it. The lid of this box is fitted in grooves, and as the box moves forward the lid is held stationary by bearing against the bars or dies, whilst the box with the clay continues to travel onwards, and forces the clay through the moulding dies or bars. The purifying of the clay is accomplished by forcing it through a grating of any desired degree of fineness, placed either in the lid of the box or at the ends thereof.

Improvements in Machinery for the Manufacture of Bricks. Dated Oct. 10, 1857.—*R. and J. Porter.*—The moulds are arranged horizontally around a spindle, and caused to revolve by a star-wheel or tooth-gear. They are fitted with loose bottoms, for delivering the brick. These bottoms are actuated by a lever, to which are fitted a sponge, sand, and oiling apparatus, for lubricating the brick-mould and facilitating the easy delivery of the brick.

Certain Improvements in Machinery or

* Selected from the condensed lists published in the *Mechanics' Magazine* and *Engineer*.

Apparatus for Making Bricks, Tiles, and other similar Articles, and also in the Machinery for preparing Clay for the same Manufacture. Dated September 26, 1857. *J. Lewis.*—This relates to improvements upon an invention for which letters patent were granted to W. Grimshaw and E. Rowland, September 7, 1853, the principal object being to make bricks of dry clay by compression in a mould by the direct action of steam power.

Improvements in Rock-drilling Machinery. (A communication). Dated September 25, 1857.—*A. V. Newton.*—This consists in improved means for operating the drill, giving it its reciprocating motion, and rotating the same intermittently. Also in an arrangement of the frame which contains the working parts, and by which the said parts are adjusted to work at different angles. These improvements cannot be described without engravings.

Improvements in Machinery for Cutting off and Heading Lengths of Metal, applicable to the Manufacture of Rivets and other Articles. Dated September 15, 1857.—*T. Archer, jun.*—This consists in a combination of mechanical parts in which a moveable cutter and die are carried by a sliding plate.

Books Received.

Architectural Sketches from the Continent. By Richard Norman Shaw, Architect. Day and Son, London.

Mr. R. Norman Shaw's "Architectural Sketches from the Continent," just now published by Messrs. Day and Son, of Gate-street, Lincoln's-inn-fields, make a very charming volume, as fit for the drawing-room table as for the architect's library. The sketches include views and details from France, Italy, and Germany; and although, as the artist feels is the case, of a somewhat disconnected nature, are for the most part fresh and suggestive. In the preface he says,—"We have recently commenced to engraft on our national style many beauties and peculiarities hitherto confined to the Continent. A work illustrative of these peculiarities may, it is hoped, find favour in the eyes of those who are anxious to see our art progressing and gaining increased vigour by an infusion of new elements."

In France, Amiens Cathedral (especially the north side of nave), Angers, Auxerre Cathedral (sculptured groups), Beaune (an effective bit of the Hôtel Dieu), Beauvais Cathedral, Bourges (especially Jacques Cœur's House), Le Mans Cathedral (two interiors and two exteriors, of portions), Paris Cathedral (details), the Hôtel de Cluny, Sens Cathedral, Strasbourg Cathedral, and Toul Cathedral afford subjects. From Italy we have details and views of buildings in Assisi, Florence (a view of the hospital of the Bigallo, and interior of San Miniato) Lucca Cathedral, Milan, Naples, Padua (St. Antonio), and Pisa.

Amongst the German buildings, the cathedral at Erfurt (the view of the porch very good), Freiburg Cathedral, St. Lawrence, and St. Sebaldo at Nuremberg the gateway at Prague, an oriel from Inspruck, and Ratisbon Cathedral, are illustrated. While Belgium affords sketches from Antwerp (a cabinet), the Mont de Piété at Malines, and the noble old Romanesque cathedral at Tournay, which no one who has once seen it will easily forget.

Mr. Norman Shaw has designed a title-page for the volume, which shows that he can do more than draw. He has dedicated his book to the President and Members of the Royal Academy of Arts of London, as a testimony of the great advantages he derived from his connection with the Academy as Travelling Student in the department of Architecture, who will, doubtless, receive it, as we do, as a very satisfactory commencement of his professional career.

Examples of Ancient Domestic Architecture. By Francis T. Dollman, Architect, author of "Examples of Antient Pulpits." Part IV. London: Bell and Daldy. Also by the Author, 6, Albert-street, Regent's-park.

The fourth part of Mr. Dollman's "Examples of Ancient Domestic Architecture," completes the work, and is equal in interest and value to those of which we have already spoken. It contains plans, views, and details of Ewelme Hospital and Grammar School, four plates; the Bede House, Higham Ferrers, three plates; the Alms Houses, Cobham, Kent, two plates; and a view of the Inner Court, Ford's Hospital, Coventry; together with descriptive particulars of all the subjects given in the volume. Mr. Dollman has confined himself to the Charitable Institutions of the fourteenth, fifteenth, and sixteenth centuries. He says,—

"In examining the plans of the various buildings illustrated in the present work, the component parts that appertain to nearly all of them will be found to consist of—an audit-room, occasionally with a muniment-room adjoining; a suite of apartments, more or less extended, for the master or chaplain; an infirmary for the sick; a common hall; a suite of living-rooms for the inmates; and, lastly, a chapel, which, with becoming significance, was always more ornamental in character than the other buildings. In the relative position of these, four principal kinds of arrangement present themselves. The first, and that of which the characteristics are, perhaps, the most definite, is to be found in those instances where the abodes of the inmates were all under one spacious roof, the area being subdivided into small dwelling-rooms or dormitories. This hall communicated directly with the chapel beyond, from which it was only separated by an open screen, thereby affording an opportunity to the sick and aged of hearing the recital of the church's offices, from which, supposing the chapel to be a distinct building, they would otherwise have been debarred. The 'motif' of this wise and thoughtful arrangement may probably have originated with the ancient monastic infirmaries, and among the examples will be found the Bede Houses at Stamford and Higham Ferrers, and St. Mary's Hospital at Chichester. The second kind is where the dwelling-rooms for the inmates were, as before, under one roof, but the chapel, though immediately contiguous to the hospital, was a distinct building, and entered from without: an example of this kind is to be found at St. John's Hospital, Northampton. A third variation is where the abodes of the inmates formed one continuous suite of buildings, sometimes within a quadrangle, but not, like the foregoing, included under one roof, the church or chapel being altogether distinct, but connected with the hospital buildings by an ambulatory or cloister, or by a short covered way only. Examples of this kind exist at St. Cross, near Winchester, Ewelme, in Oxfordshire, and Cobham, in Kent. A fourth mode of arrangement, differing somewhat from the foregoing, is to be met with in the case of Ford's Hospital at Coventry, where the plan consists of a central open court, on each side of which are the almoners' abodes, at one end of the quadrangle the common hall of the hospital, and facing it, at the other end, the chapel."

Irrespectively of its interest as a record, Mr. Dollman's volume will be found valuably suggestive to all who seek to apply the principles of Mediæval architecture in the domestic structures of to-day. The author intimates that he has materials for a second series, and will proceed with the work if the subscribers to the present volume be willing to go on.

The Gothic Model-book: a Collection of Gothic Types and Models, drawn from existing Monuments in Germany. Part I. By V. Statz and G. Ungewitter, with text by A. Reichensperger. Evans and Sons, Strand.

As we have been noticing some not Gothic *model*-books, but collections of examples of Mediæval architecture published in England, we may take the opportunity to make the German work above-mentioned known to our readers. It is to be completed in four parts, published quarterly, each containing forty-eight plates of letters, tracery, ironwork of every description, niello or engraved plates, ornaments, stained glass, canopies, buttresses, baptismal fonts, pulpits, tabernacles, altars, gates, arches of every description sculptured in wood, cathedral stalls, ceilings, &c. &c. with descriptive texts,—the latter translated into English.

Its object is "the instruction of amateurs, students, and art-workmen, in the application of the Gothic style to the monuments of architecture and the various branches of the industrial arts, and thus to furnish a collection of types and models, serving at once as an elementary course of instruction for the use of schools of design, and an auxiliary manual for the use of amateurs."

The objects represented are for the most part taken from ancient monuments existing in Germany, and will embrace the epochs from the commencement of the thirteenth century to that of the sixteenth.

The first two parts will be particularly devoted to details, ornamentation, &c.; and the last two parts will consist of complete representations of works in sculpture, ornament, and architecture.

The part before us contains specimens of letters, tracery, niello work, stained glass, some good ironwork (*Schmiede arbeiten*), carved crockets (*laub-bossen*), and finials (*Kreuz-blumen*). The lithography is in a finer line than our artists use, and more like etching.

Miscellanea.

"Murder done Here."—The editor of the *Bridgwater Times*, drawing attention to the ravages of ague at Cannington, and its cause, says,—"There is really so much to be done in sanitary matters that iteration on this point, on the part of those who assist in forming public opinion, is not only excusable, but commendable and necessary. When official authority tells us that 'thousands of deaths annually arise from such diseases as are in the most absolute sense preventible—diseases which either will not arise or will not spread in communities which follow certain well-known sanitary laws, we are disposed to echo the sentiment of that sturdy, sanitary reformer, the editor of the *Builder*, and declare that 'Murder done here' should be written up in many districts of England. Why are we so slack in remedying this state of things? Let an epidemic appear amongst our 'beeves or muttons,' and the whole country is alarmed: it touches our pockets and our stomachs, and men of science and breeders and graziers are at once busy in discovering the cause and finding a remedy; but year after year some tens of thousands of human beings are annually slaughtered in this country by diseases of a preventible character—'diseases,' to use the emphatic words of the Registrar-General, 'of which the very essence is filth,—diseases which have no local habitation except where putrefiable air or putrefiable water furnishes means for their rise or propagation,—diseases against which there may be found a complete security in the cultivation of public and private cleanliness:' and yet who cares? Whose business is it? What money shall we get or save by endeavouring to remedy this state of things? Answers to these questions are demanded of each of us, gentle or simple, landlord or tenant; it concerns us all, and we look and hope for the time when we shall all do our duty."

The Lightning Conductors at two New Churches, in Doncaster.—Some person having expressed surprise at the conductors at St. George's and St. James's, Doncaster, being fixed with common hooks close against the wall, and running straight down through the lead and wood of the roofs and floors, without the intervention of "the usual glass neckcloths," as he called them; he wrote to Professor Faraday, explaining how the conductors were fixed, and asking whether there was any reason for the alarm which had been expressed. Mr. Faraday answers that "there is no occasion for, and no use in, the glass neckcloths, provided the conductors are sufficiently continuous and well connected with the ground," which it is needless to add that they are. The tower of St. George's has a copper rod on each of the great pinnacles, connected with the ground at the foot of the pillars inside the church by a half-inch copper rope. At St. James's, the copper rope is connected with the bottom of the vane rod, about 12 feet below the top of the spire. A spire was knocked over by lightning some time ago, from the conductor being fixed to the vane rod at some distance above the bottom: the lightning naturally went down continuously to the end of the rod, and then had to leap across to the stone, in order to get to the ground, and of course broke the spire in so doing.

Somersetshire Archæological Society.—The members of this society assembled in Bridgwater, on Tuesday in last week, for the purpose of holding their annual meeting. The Assembly-room at the Clarence Hotel was converted into a temporary museum. At the annual meeting the officers were elected. The Rev. F. Warre read the report, which stated that the society was in a prosperous condition. Mr. James Yates, F.R.S. read a paper "On the Mining Operations of the Romans in Britain," in which he referred to the pig of lead found near the Sydney Gardens, at Bath, and to other specimens found on the Mendip Hills, and at Bruton. The Rev. F. Warre read a paper "On the different Types of Primeval Camps." Mr. Elliott read a paper "On the Builder and Designer of St. Mary's Tower, Taunton." The party then proceeded to visit the church. Dinner was provided at the Clarence Hotel; and in the evening a second meeting was held, at which a number of papers, on subjects connected with natural history, were read. The Rev. T. Hugo also read one on Muchelney Abbey.

Oaks in England.—The Parliamentary Oak, of Clipston-park, is said to be 1,500 years old. This park existed before the Conquest, and belongs to the Duke of Portland. The tallest oak was the same nobleman's property: it was called the duke's walking-stick, and was higher than Westminster Abbey. The largest oak in England is the Calthorpe Oak, Yorkshire: it measures 78 feet in circumference at the ground. The Three Claire Oak, at Worksop, is called so from forming parts of the counties of Nottingham, Derby, and York. This tree had the greatest expanse of any recorded in this island, drooping over 777 square yards. The most productive oak was that of Melenos, in Monmouthshire, felled in 1810: the bark brought 200*l.* and its timber 670*l.* In the mansion of Tredegar-park, Monmouthshire, there is said to be a room, 42 feet long and 27 feet broad, the floor and wainscot of which were the production of a single tree—an oak—grown on the estate.—*Sir W. Symonds.*

Dijon.—The church of St. Michael, at Dijon, has just received a curious *souvenir*, of the late war, consisting of a small bell taken at Bomarsund by the French sailors, and presented to the parish by Marshal Vaillant, minister of war. This bell, which in appearance presents nothing remarkable, seems to have formed one of a set of chimes, as it contains a ring at the end of the clapper. The metal is fine and hard, and its tone strong and melodious. A suitable inscription engraved on it states that it was presented by the Marshal to his own parish.

Justice to Ireland.—Lord Eglinton remarked the other day at Derry, that "the increase of live stock in Ireland, since 1852, had been enormous In round numbers, there had been an increase of 85,090 horses, 570,000 cattle, 75,000 sheep, and 330,000 pigs. Calculating them at the very moderate price of 8*l.* for each horse, 6*l.* 10s. for cattle, 22s. for sheep, and 25s. for pigs, this makes an increase in the value of live stock alone of £,716,000*l.* In 1852, the average under cultivation was 5,039,000*l.*; in 1857, there were 5,881,000*l.*" In glancing at the past history of Ireland, even as far back as the time of our Henry V. no such hopeful prospect has beamed over this beautiful island. Pauperism is rapidly declining, manufactures are increasing, and the ports on wild parts of the coast assuming great importance.

Repairing a Chimney.—An operation of considerable interest and importance to the building trade, says the *Gateshead Observer*, has just been brought to a successful termination in this borough. The lofty and beautifully proportioned chimney belonging to the Friars' Goose Chemical Works, has several times been struck with lightning, and the brickwork rent and bulged out for a considerable distance down the shaft. The Jarrow Chemical Company having recently taken possession of the works, engaged the services of Mr. H. Wilde, an engineer of Manchester, who undertook the task of repairing the chimney, and fixing to it one of his patent lightning conductors. The workmen commenced operations by flying a large kite over the chimney, and by means of the string a strong rope was got over the top of it. To the end of this rope a short chain and block were attached, and drawn to the top of the chimney—a second rope, previously put over the pulley, being drawn up at the same time. To one end of this rope a cage was attached, the other end being secured to a windlass, by means of which the operator, and whatever building materials might be required, were drawn to the top of the chimney, which is about 250 feet in height. By this simple apparatus the operation was brought to a satisfactory termination without the least accident, and at a considerably less expense than by the usual method of scaffolding, which frequently costs more than the execution of the repairs. The loftiest chimneys on the Tyne have all been erected without lightning-conductors, and afterwards struck with lightning, the repairing of which has cost some hundreds of pounds. Mr. Wilde having now fixed lightning-conductors to most of our manufacturing spires, we may therefore expect that the ravages formerly caused by lightning to these buildings will now be unknown.

Hindoo *versus* English Carpenters.—I once, at Agra, says the author of "The British Army in India," tried an English artilleryman, who had been a sawyer, with a good-sized hand-saw, against ten native carpenters together, with their poor implements and squatting attitude. Though he was out of practice, and not in English health, and they in daily practice, he beat the ten hollow by the evening, having done more work than the whole of them together, and won the prize for which they had unitedly and keenly contended with him.

A deep Shaft.—The deepest coalpit in Great Britain, it is believed, and probably in the world, has, after nearly twelve years' labour, just been completed and opened at Dunkinfield, in Cheshire. The shaft of this pit is 686½ yards deep, and the sinking of it has cost nearly 100,000*l.*

Colonial News.—The new church of St. Philip's, Sydney, New South Wales, is just completed. It is a Gothic building, with nave, clerestory, side aisles, chancel, and tower. From its commanding position and its height, it forms a striking object from nearly every portion of the city and suburbs. Public improvements are going on in Sydney with some rapidity. The banks are providing themselves with new premises, and many private establishments have also erected buildings of some architectural pretensions, among which the *Sydney Morning Herald* office stands prominent. A new town-hall, to contain a public-room, 120 feet by 60 feet, is about to be erected.——At Launceston there is said to be ample and profitable employment for labouring people of all kinds, including, according to the *Launceston Examiner*, carpenters, joiners, cabinetmakers, blacksmiths, sawyers, quarrymen, stone-cutters, stone-masons, brickmakers, lime-burners, bricklayers, painters and glaziers, paperhangers, gilders, a moderate number of working engineers and engine-fitters, and, in fact, all kinds of labouring persons and mechanics.——It is the intention of Government to send out forthwith to British Columbia a force of royal engineers, provided with everything necessary for the formation of roads and bridges to open up the resources of this new colony, and to erect block-houses for the safe custody of gold.

The Gloucester Citizens and their Corporation on the Public Fountain Question.—The appearance of our engraving of "A Proposed Fountain for Gloucester," in the *Gloucester Mercury*, has not been without its good effect, as appears from the fresh attention which it has turned to the doings of the city corporation in respect to the ancient public spring at Robin's-wood-hill. The corporation have lately been indicted, as the Local Board of Health, for a nuisance, in cutting off this spring and tearing up the pipes, aqueducts, and other works which conveyed the same to Gloucester, and destroying the public and gratuitous supply of water, without providing a sufficient substitute,—in contravention of the Public Health Act; and the city grand jury have found two true bills against them, thereanent, one as a board of health and the other as the city corporation, for destroying the conduits in Southgate-street. The tenant of the corporation on the Robin's-wood-hill property has also been brought up for destroying the ancient public paths leading to the hill, though authorised to do so by the corporation; and having pleaded guilty, and promised to restore the paths, judgment against him has been suspended.

Railway Matters.—The cost of working a passenger train between Liverpool and London, says the *Albion*, is ascertained to be 2s. 6d. per train mile, or say 25*l.* It follows, therefore, that the cost of each passenger for a train of 500 is 1s. 0½d.; 400, 1s. 3d.; 300, 1s. 8d.; 200, 2s. 6d.: 100, 5s.; 50, 10s.; 25, 1*l.* 4s. The above results prove that express trains, carrying only first-class passengers, few in number, do not pay, while the parliamentary trains yield the profit, low fares bringing quantity.——It is said to be the intention of Prince Napoleon to give a fresh and continuous impulse to the construction of railways in Algeria. Several new lines are under consideration, which are to be offered to public competition. The troops are to be employed in the formation of the earthworks, by which a considerable saving of time and expense will be effected. The troops, on their part, receive the stimulus of an addition to their pay.

Gas.—The Liverpool United Gaslight Company have agreed, as usual, to a dividend, at the rate of 10 per cent. for the last half-year, and the conversion of 600 shares into the general capital stock, to be divided among the holders.——The trustees of Workington have commenced new gasworks on the Marsh, near the ironworks. Messrs. Graham, Bolton, and Co. of Cockermouth, are contractors for the erection of the building; and the whole is being carried out under the supervision of Mr. J. H. Little, of Newcastle-upon-Tyne, gas-engineer. ——The hall of the New Town Hall at Newcastle has been lighted with gas, on a plan proposed by Mr. Johnstone, architect. The principle is the same as that of the Free-trade Hall at Manchester. There are ten sunlights, five being placed at each side of the roof, and one light at the narrow end of the hall, under the gallery. Active exertions are being made to have the hall inaugurated with becoming *éclat* on the 1st of September.

Minerva in the Parthenon.—Marvellous were the impressions produced by the goddess. The sun glowed upon the statue in golden rays, through the semi-open ceiling of the temple. The sight of the sacred altar, and, in the rear of the goddess, the treasury of the temple, of which she was the keeper, all this lent peculiar charm and majesty to the virgin goddess, as she stood in her virgin home, the Parthenon. The citizen of Athens might well give himself up to the most enthusiastic admiration, and exclaim with the poet;—

"Nimmer wird Eos Reicheres schauen
Und nicht Göttlicheres!"

To comprehend this enthusiasm, we must call before our imagination, not the faded and monotonous colours of our northern architecture, but the rich and gorgeous colours of Grecian art, and the still more luxuriant colours of the Grecian skies. The gold and ivory of the statues, the embellishment of the walls, the beautiful ornaments on the friezes, of the triglyphs, of the metopes, and all the thousand fairylike art treasures of the temple, received a new life and a new fascination from the glowing reflection of the sun, and the general beauty of nature in Greece. Indeed, nature seems to have supplied Attica with such remarkable marble, in order to give to the sun a worthy aim for his light, and to the artists a worthy material for their conceptions. The effect which the sun has upon the Parthenon is as marvellous at the present day as it was at the time of Phidias. The Parthenon may still be likened, when bathed by the rays of the sun, to a mighty rose and gold-coloured fire, which rises from a dark background, sending its flames towards heaven. The German traveller, Bröndstedt, describes it as a great fire, kindled in past, and memorable, and splendid periods, which continues to retain its glow, to burn on slowly and quietly, after the lapse of ages, and for all time to come.—*The Crayon.*

Southampton Dock.—In reference to the late accident in the inner dock, Mr. A. Giles, the engineer, reports that, after a careful examination of the present condition of the north wall of the inner dock, his previous impressions had been confirmed; namely, that the movement was entirely owing to the water having been drained from under the foundations, thereby causing a vein of sand to be compressed and to slide forward. When the foundations of this wall were laid seven years ago, the soil appeared perfectly sound, and the borings taken previously did not indicate the presence of any quicksand: the fact, however, showed that a length of 380 feet had sunk 1 foot 11 inches in the centre, and had slid forward 5 feet 3 inches at the extreme point; yet, so perfect was the cohesion of the material of the wall, that there was no more disruption than was due to a straight line having been stretched into a curve; and when it was remembered that the base of the wall was 24 feet thick and carried 5 feet below the bottom of the dock, that it sustained its full pressure while the mortar and concrete were fresh and green, and also that it stood firm for ten weeks after the water was pumped out of the dock, such a failure could certainly not have been expected. In restoring the wall to its original line he states that the back of the wall can be sufficiently strengthened by adding large counterforts of concrete, after which the face may be rebuilt and protected where necessary by sheet piling at a cost of about 3,000*l.* The work of repair may be proceeded with at once, and need not at all endanger the stability of the D warehouse. The directors state their conviction that the accident did not arise from any defect in the strength or construction of the wall, nor from any cause which could have been foreseen or prevented, and that the wall may be repaired, and the inner dock completed and rendered in every respect as perfect and efficient as if no such accident had occurred.

Sash Windows.—"A. A." writes to *Notes and Queries*,—What is the history and origin of these windows. The derivation of the word is no doubt the French *chassis*, a groove, or anything that slides in a groove. They seem first to have come into use after the Great Fire. But they must have been rare in Queen Ann's reign, as appears from the following advertisement in the *Tatler*, No. 178, May 27 to 30, 1710:—

"To be lett, in Devonshire Square, near Bishopsgate, a very good Brick House of 3 Rooms of a Floor, and a good Hall, with very good light and dark Closets, the whole House being well wainscotted, and *sash'd with* 30 *Sash Lights*, a very pleasant and convenient Office below Stairs, a good Yard, a good Vault for Wine, &c., with a very good Warehouse and Cellar for Merchandize. Enquire at the Baker's in Devonshire St, near the House."

Accidents to Property and Person.—The new pier at Burnham has met with a mishap. It has sunk along nearly its entire length, on the cutting side, and the wall which supports it has bulged, thrusting from its side the wooden buttresses intended for its support. The effect of this has been to disarrange the rails, and to so loosen the paving-stones that the first heavy sea will probably wash them away. The Somerset Central Railway directors have resolved to call upon the contractors, Messrs. Rigby, to repair the damage, they having undertaken to keep the work in repair for twelve months after its formation. The cost of reparation, it is said, will be heavy. ——As a well-digger was engaged, on Monday in last week, in the excavation of a well in Newstreet, Chelmsford, when at a depth of about 26 feet, the sides gave way, and the man was buried beneath a mass of earth and bricks, from which he was only extricated after eight hours' hard toil, though happily alive, and without any material injury.——A fatal accident has just occurred at the new works in progress at Alnwick Castle. A joiner was on the roof of the new kitchen, when, by some means, he fell through, and was killed. This is said to be the fourth fatal accident since the rebuilding began.——The bridge crossing the Stockton and Darlington Railway at Howden, on the Wolsingham and Bishop Auckland turnpike, has been a second time on fire. Arrangements have been made for its repair. The beams having been *coated with coal tar*, the flames rapidly spread, until that on the west side was destroyed.

The God of Steam in China.—During the eventful progress to Tien-tsin of the allied mission of modern civilization to the antiquated Chinese, the river borderers, so far from attempting to oppose the progress of the allies, collected in crowds upon the banks of the river, prostrating themselves with their foreheads to the ground as the first gun-boat passed. It was the first time that the "devil-ship" of the barbarians had disturbed the muddy waters of the Pehio, or that the agitated pant of a 60-horse power steam-engine had aroused from noonday siesta the placid inhabitants of its banks. But they did not content themselves with gazing at or worshipping the god of steam. Regarding it as the precursor of a power destined to overthrow the present dynasty and raise itself upon its ruins, they faced the decrees of fate, says the correspondent of the *Times*, in a spirit worthy a nation which has preserved its existence throughout changing dynasties for countless ages, and, with cries of "Hail, great king! welcome, oh, king! come thou and reign over us, and be our emperor!" they brought cattle, and poultry, and vegetables down as presents.

Edinburgh.—A great deal of building work, says the local *Post*, is about to be commenced in Edinburgh, or may be expected. As recently noticed, 10,000*l.* have been voted for a new museum. A pertinent is to be added to the Register-house, which is to occupy the site of the tavern so often referred to in the *Noctes Ambrosianæ*, and which is in the ancient Gabriel-road: Parliament has voted upwards of 7,000*l.* for this purpose. Again, a new national Post-office is to be set down to occupy the place of the Theatre-Royal and Shakspear-square. An Act of Parliament has been obtained for the building, which will absorb a large amount of public money. Measures should be taken to have Trinity College Church erected. The building would afford much employment; and, in carrying out the original design, a school for masons in the delicate manipulation of the Gothic might be established. There are something like 20,000*l. in retentis* for this one object.

Scientific Congress of France.—The *Congrès Scientifique de France* will be held this year at Auxerre. It will commence on the 2nd of September and last ten days. There are five sections: the fourth is appropriated to history and archæology; and the fifth to literature and the fine arts. Various archæological excursions are arranged for.

The Cambridge School of Art.—At a meeting of the provisional committee of this school, at the Guildhall, the honorary secretary, the Rev. W. J. Beaumont, explained the objects of the institution, and the nature and amount of the assistance that would be given by the Government. It was carried unanimously, "That it is desirable to establish a Cambridge School of Art." It was also resolved, that it is desirable to raise at least 100*l.* for the purpose of commencing the school, and conducting it for the first year. A sub-committee was appointed to take measures for securing suitable premises, and the meeting was adjourned.

Exploration at the Rye House, Hoddesdon. —An interesting exploration has recently been made by Mr. Teale, under the ancient gateway of the Rye House, Hoddesdon. A tradition has been handed down that a subterranean passage extended from the Rye House to Nether Hall, in Essex. Mr. Teale determined on ascertaining somewhat respecting the truth of the story, and, accordingly, commenced excavating under the brick staircase of the tower. After clearing out several cart-loads of earth, a passage was discovered descending round the central foundation of the staircase. After going to a considerable depth there was found a huge stone, which might have served for a coffin, but which, from the position in which it was placed, had probably served as a living prison. A passage was next found, leading off westerly from the tower, and after proceeding some yards a cell was discovered, with huge iron door and grating: inside this cell is a seat of brickwork running the length of the interior, eight or ten feet. A faint ray of light glimmers in from above. A passage branching off north under an arched doorway, near the cell grating, has been blocked up for the present: another leading south was cleared out and explored, and an entrance has been made from it into the garden, south of the tower. Some curious specimens of antiquity were found; coins, some Roman; a sword, a remarkable spear, and other weapons. The excavations are to be continued.

Discoveries at Bowdon Parish Church.—In the demolition of the chief part of the old church, preparatory to its re-erection, restoration, and extension, many interesting remains of previously existing buildings have been brought to light, and which consist chiefly of mouldings, window-tracery, caps, bases, and monumental slabs. There still remains the tower, with portions of the north aisle, in the walls of which it is hoped that many fragments of equal interest to the antiquary may be discovered. Taking, however, the evidence furnished by the discovered remains, it must be assumed that a church of no mean importance was erected here in the time of the Normans. Of this church has been recovered the richly-moulded attached base of a pillar, having the cable-mould worked upon its most prominent members; also part of the shaft of this pillar, which is circular on plan, with the exception of one quarter: this quarter has been left square to fit the inner angle of the jamb or pier, to which both this and the base originally belonged. It is 6⅔ in. diameter: the base is 9 in. in height.

The New North Dock at Liverpool.—The new timber dock, north of the Huskisson Dock, was lately opened. It comprises 17¼ acres of water-space; has been named "The Canada:" and entrance is obtained from the north end of the Huskisson Dock by two guts, or passages, one 80 feet, and the other 50 feet wide, spanned by a single iron bridge of 202 feet long and 30 feet wide. The quay storage ground for the timber trade is 1,385 feet in length. For the present, the west side of the dock is to be appropriated to the use of steamers. The quay space, that is lineally, is 1,272 yards. The subject of a still further dock extension, at the north side, is shortly to be brought before the Mersey Dock and Harbour Board. The total area of the Liverpool Docks at present, including basins, according to the *Journal*, is 235 acres, with 17 lineal miles of quay space. When the Birkenhead Docks are completed, they will add more than one-half, indeed nearly two-thirds to that amount. At present, including the Great Float, they comprise 121 acres; and 32½ acres, consisting of docks, 7½, 11, and 14 acres respectively, are to be added to the 121 acres, before the projected works will be complete.

The Liverpool Society of Arts. — The arrangements for the opening of the first exhibition of paintings, drawings, and sculptures by modern artists, under the auspices of the new Liverpool Academy of Arts, are in a forward state, some of the pictures having already arrived. Of these the most important is Sir Edward Landseer's picture of "The Maid and the Magpie," which has been insured by the society for 1,500*l.* There is also Mdlle. Rosa Bonheur's painting of "The Horse Fair," which has been insured for 1,000*l.* Upwards of 600 pictures in all are promised.

The New Water-Works of Cork. — The citizens of Cork have now a plentiful supply of water. The engine is capable of raising 2,000,000 gallons of water per day to the large reservoir lately built, which is at the height of 180 feet above the river, the quantity raised at each stroke of the pump being 160 gallons. The boilers have been set by Mr. Carlisle, of Belfast. Precautions have been taken for straining the water from impurities on its passage to the reservoir. The higher reservoir, which is intended merely for the supply of the few most elevated localities of the city, is on an elevation of 360 feet, and will contain 630,000 gallons.

Relics discovered at Wells.—In the course of pulling down and removing the remains of the old Priory or Hospital of St. John (founded, A.D. 1206), on the site of which the new city schools are being erected, numerous interesting relics have been discovered. In a chimney stack, supposed to have been built soon after the Reformation, when the priory was dissolved, there were found several elaborately sculptured fragments of the ancient reredos or altar-screen, chiefly consisting of canopies of niches, beautifully illuminated, portions of the gilding being as bright as when it was first laid on. Coins of different kinds have also been found, together with several old keys and other objects.

Electro-Telegraphic Progress.—An agreement has been concluded between the Treasury and the Red Sea Telegraph Company, for the establishment of a telegraphic line from Alexandria to Aden, down the Red Sea, and thence to Kurrachee, following the line of coast of South Arabia. The Treasury is to guarantee a rate of interest on the amount of capital paid up from time to time (not exceeding 800,000*l.*) of 4½ per cent. per annum, payable half-yearly, for the term of fifty years certain. The directors have made a contract with Messrs. Newall, for submarine cables, on such terms as will leave a surplus capital of about 300,000*l.* The concessions obtained leave the entire control over the line, as regards all but local Turkish messages, in the company's hands.——Captain S. Samuels, the commander of the Dreadnought, hospital ship, has been describing, at the Liverpool Exchange, a patent plan of his for laying down submarine cables, the chief point in which consists in paying out the cable through a tube forming an inclined plane amidships instead of by the stern, there being less likelihood of undue strain in the centre of the ship than at either extremity.

[Advertisement.]

Self-coiling Convoluted Shutters.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. Clark and Co. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs strained: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.—*From the Builder, June 26th, 1858.*

TENDERS.

For alterations of Mile-end Silk and Braid Factory, for Messrs. J. J. Foot and Sons. Mr. Francis H. Fowler, architect.—

Case	£417	0	0
Read and Son	397	0	0
Hall	394	0	0
Thorpe (accepted)	387	0	0

Building rear of 15, 16, 17, Broadway, Deptford. Mr. Winchcord, architect

	New Building.	Allowed for Old Materials.	Total.
Mitchell, Deptford	£507 10 0	£ 4 0 0	£503 10
Hall, Deptford	535 0 0	35 0 0	500 0
Walbutton, City	480 0 0	5 0 0	475 0
Smith, jun. Deptford, (accepted)	481 10 0	17 10 0	464 0

HASTINGS HOTEL.

We are requested to insert the following reply to a letter from Messrs. Dove, asking to be informed of the reason why their "Tender for the Hastings Hotel was not accepted, it being lowest than Messrs. Holland's":—

Gentlemen,—The surveyor was premature in the announcement in the *Builder*: no tender is yet definitely settled upon. I may mention that your tender was not in accordance with the condition, that part of the payments should be taken by the contractor in paid-up shares; and your tender specified that no shares would be taken. Francis H. Fowler.

Sir,—Allow me to state the circumstances under which my tender for the Hastings Hotel was not accepted. The company required the builder to take two-fifths of the amount of his tender in shares, which I declined; and therefore, although my amount was the lowest, I was not accepted. I hear since that Messrs. Holland and Hannen have declined the works. W. Moxon.

Mr. Blanchard says his tender for Messrs. Croll's premises was 2,358*l.* and not 2,858*l.* as stated by us. The architect confirms our list, so that there is probably some misconception prevailing.

TO CORRESPONDENTS.

T. F.—W. A. P. (the block of building, as it now stands, is the result of successive alterations, the cost of which could not be obtained).—W. H. C—S and H.—T. O—Cuncaster (we shall treat all times had it receive such information).—E. W. G—J. B—I. E. (no).—T. I shall hear from us).—C. B. A. (send us some particulars; though we may not engrave).—E. R. R. (we may, presently, give portion of it).—J. R. (we replied some time ago).—Messrs. A.—R. H. D.—C. T.—W. H. B.—Messrs. H. J. J.—J. T. C. (we may, perhaps, give the remainder of the programme. There is no plan).—Anser.—H. H.—W. H.—Messrs. D.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

A CONSTANT SITUATION is OFFERED to a respectable, steady Young Man, as a JOBBING CARPENTER, JOINER, and UPHOLSTERER. He must be willing to take his share in all sorts of jobbing in the building and upholsterers' line.—Apply at No. 1, Surry Villas, St. Paul's road, Camden New Town.

SWANSEA CANAL NAVIGATION. WANTED, a Person to SUPERINTEND the WORKS on the Line of the above canal—sixteen miles. Experience of the nature of the employment is essential, and a knowledge of the Welsh language is desirable.—Apply to the Clerk, Swansea.

August 6th, 1858.

TO ARTIST WORKMEN.—WORKMEN in the several trades of Masonry, Carpentry, and Smiths' work, who are desirous of being EMPLOYED as ART WORKMEN, and willing to learn, are requested to write to the Architects of the New Museum, at Oxford, to the care of Mr. W. C. Bracknell.

TO CARPENTERS AND JOINERS.

WANTED, by a London Firm, a thoroughly experienced SHOP FOREMAN.—Address, W. T. office of "The Builder."

TO PARENTS AND GUARDIANS.

WANTED, in a West-End Architect's Office, a gentlemanly well-educated YOUTH. Address to A. B. Office of "The Builder."

WANTED, a Youth of respectable parents, about 15 or 16 years of age, who has some knowledge of ornamental drawing, in a BRASS MANUFACTURER'S OFFICE; one who has attended the School of Design preferred. Salary to commence at 20*l.* per annum.—Apply, by letter only, to A. Q. B. at Mr. Everett's, Charles street, Long-acre, W.C.

WANTED, a CLERK, accustomed to take out quantities, design, make working, and detail drawings.—Address, stating terms, &c. to J. B. P. Office of "The Builder."

WANTED, a Competent ARCHITECT'S ASSISTANT. Thorough practical business knowledge principally required.—Apply (by letter only), stating salary, &c. to BENJAMIN WOODWARD, Esq. Pulse Chambers, St. James's street, S.W.

TO BUILDERS' CLERKS.

WANTED, by a London Firm, a respectable Young Man as BOOKKEEPER, who understands the routine of a builder's office.—Address, stating age, particulars, and salary required, to S. W. S. Office of "The Builder."

A respectable Youth, accustomed to copying, also required.

WANTED, in a Builder's Office, as BOOKKEEPER, KEEPER of COSTS, and occasional ESTIMATOR, a thoroughly efficient CLERK. Must have an unexceptionable character.—Address, stating age, salary required, and where last engaged, to H. Office of "The Builder." One who has been engaged in a jobbing business preferred.

WANTED, in a Builder's Office in town, a CLERK, who thoroughly understands Book-keeping, and be general routine of a builder's business.—Address, J. B. 111, York-road, Lambeth, stating salary, and reference as to character, &c.

WANTED, in a Land-agent's Office, an Intelligent Young Man, between 21 and 25 years of age, as COPYING and DRAWING CLERK. He must write a good hand, be a good draughtsman, be capable of laying down plans to scale, and of measuring builders' work. He will be required to give satisfactory references as to his respectability, steadiness, and integrity of character.—Address, stating age, salary required, and the names of former employers, A. N. Post-office, Fareham

WANTED, a BOOKKEEPER, for a POLISHED GRANITE and MARBLE ESTABLISHMENT; one who has had practice in drawing will be preferred.—Apply, with testimonials, and state salary expected, to JAMES WRIGHT, No. 112, Union-street, Aberdeen.

WANTED, in a Jobbing Shop, a sober active Man, and thoroughly good Carpenter and Joiner. He must be able to make working drawings, to measure work, and keep accounts. If he suited, the employment would be constant.—Address, stating where last employed, wages, &c. to W. G. T. 35, Howland-street, Fitzroy-square, W.

TO STONEMASONS.

WANTED, a good practical WORKING FOREMAN; one who thoroughly understands drawings, especially Gothic detail. He must be fully competent to superintend a yard. Character must bear the strictest scrutiny.—Address, with terms and references, A. F. Post-office, Leicester

WANTED, immediately, a thorough practical FOREMAN of CARPENTERS and JOINERS, to take charge of the above trades, at a large building within three miles of London.—Address, J. W. X. 34, Frederick-place, Mile-end road, E. stating where last employed, and salary required.

WANTED, by a respectable Young Man, a RE-ENGAGEMENT in an ARCHITECT'S OFFICE, in town or country. Terms moderate.—Address, J. S. C. No. 3, Churton-place, Pimlico, S.W.

WANTED, a RE-ENGAGEMENT as CLERK of WORKS, by a thorough practical Man, a good draught-man, and well understands building works in all its details.—Address, T. S. Post-office, Northampton.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a handy young Man, a SITUATION as PLUMBER'S ASSISTANT. Thoroughly understands the painting and glazing department; but would prefer to be taken as an improver in plumbing. Wages no object, but a permanence would be wished for.—Address, R. L. 36, Prebend-street, Britannia-fields, Islington, N.

WANTED, a SITUATION as GENERAL FOREMAN, or CLERK of WORKS, by a Middle-aged Man, having a practical knowledge of the different building trades. Can fill up time at the bench, and is capable of executing the principal portions of joiners' work. Reference.—Address, Q. X. 5, Serjeants'-inn, Fleet-street, London, E.C.

WANTED, by an Architect and Surveyor, a JUNIOR CLERK, who has been articled to a member of the profession. He must write a good hand, and draw neatly.—Address, with full particulars, T. S. Watling's Newspaper-office, 469, Strand, W.C.

TO BUILDERS, PLUMBERS, AND OTHERS.

WANTED, a CONSTANT JOB as THREE-BRANCH HAND, Plumber, Painter, and Glazier. Has a general knowledge of gas fitting and zinc-working. Good reference. Wages moderate.—Direct to G. WILSON, care of Mr. Hutchens, No. 35, Ainslie-street, Walworth-road, London

TO ARCHITECTS

WANTED, a SITUATION, at 30*s.* per week. Detail and working drawings, and iron construction, understood. References given. Permanent employment only accepted. Address, C. Z. C. Office of "The Builder."

WANTED, by a steady respectable Man, CONSTANT EMPLOYMENT. Is a first-rate plumber, but has no objection to fill up time with painting and glazing. Town or country. Address, T. M. P., 1, Clarendon-place, New-road, Camberwell.

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WANTED, by a Young Man, a SITUATION as IMPROVER to the PLUMBING Business. Has been six years in the line.—Address, A. G. 60, Weber-row, Westminster-road, S.W.

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WANTED, by a Young Man, aged 26, EMPLOYMENT, in the PAINTING, GLAZING, and GRAINING. Wages, 25*s.* a week. Good references can be given if required.—Address, Y. Z. at 1, Lilypot-lane, Noble-street, E.C.

TO JOBBING MASTERS.

WANTED, by a Steady Young Man, a CONSTANT PLACE as JOBBING CARPENTER or Handy Man. Would make himself generally useful. Can have three years' good character from the master he is now leaving. Wages not so much an object as a constancy.—Direct, J. B. No. 5, Park-street, Dorset-square.

TO CEMENT MANUFACTURERS.

WANTED, by the Advertiser, a SITUATION as FOREMAN, or MANAGER of WORKS. Has had great experience in the manufacture of building cements. Can produce first-rate testimonials as to abilities, character, &c.—Address, H. M. D. Office of "The Builder."

TO PLUMBERS, BUILDERS, &c.

WANTED, by a Young Man, aged 20, a SITUATION as THREE-BRANCH HAND. Can do gas fitting. Wages not so much an object as improvement in the plumbing. Unexceptionable references, if required.—Address, A. T. 1, Charles street, Seymour-street, N.W.

TO CARPENTERS AND BUILDERS.

WANTED, by a Young Man of good experience, a SITUATION as IMPROVER for twelve months, in town or country (town preferred).—Address, W. M. 67, Boston place, Dorset square, N.W.

TO ARCHITECTS, CIVIL ENGINEERS, AND SURVEYORS

WANTED, by the Advertiser, aged 26, an ENGAGEMENT in either capacity. Is a good draughtsman, can take out quantities, prepare specifications, level, and possesses a thorough practical knowledge of construction.—Address, UTILITAS, 1, Upwell place, Camberwell New road, Kennington park.

TO BUILDERS, CONTRACTORS, and SURVEYORS.

WANTED, by a Gentleman thoroughly conversant with office business, a good draughtsman and accountant, and who has had considerable experience in measuring quantities and estimates, an ENGAGEMENT at home or abroad.—Address, Z. Z. 5, Great Ormond-street, London, W.C.

TO MASTER PLUMBERS AND OTHERS.

WANTED, by a young Married Man, a SITUATION as PLUMBER, PAINTER, and GLAZIER. Can do plain writing. Good reference. Address, C. B. Mr. Hockey's, Colney hatch.

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WANTED, by a middle-aged Man, of great experience in the building trade (a carpenter and joiner by trade), a SITUATION as FOREMAN. No objection to the country. Satisfactory reference can be given as to qualification, integrity, and respectability.—Address, E. 44, Upper Seymour-street, St. Pancras.

TO BUILDERS, PLUMBERS, AND DECORATORS

WANTED, by a Young Man, a SITUATION as a THREE-BRANCH HAND. First-class testimonials can be given. Can estimate for work, or has no objection to joining in partnership with any one of the above branches.—Address, F. H. L. Post-office, Kensington.

N.B. Can do writing and graining.

TO MASTER BUILDERS, OWNERS OF ESTATES, AND OTHERS.

WANTED, by the Advertiser, aged 25, within twenty miles of London, a constant SITUATION, as CARPENTER and JOINER. Has been used to the bench, and understands jobbing.—Address, stating terms, to A. Z. X. 4, Jamaica-street, Commercial-road, E.

TO PAINTERS, BUILDERS, &c.

WANTED, for a Young Man, a SITUATION, who understands writing, graining, painting, writing on glass, &c. Wages not so much an object as constant employment.—Direct J. T. Post Office, Teddington, Middlesex.

TO LAND SURVEYORS.

THE Advertiser, who has been articled to an Engineer, and is a good Draughtsman, &c. wishes to have some practice in Railway Surveying and Levelling. He is willing to give his services for a month or two in consideration of his expenses being paid. Address, S. P. Gardner's Library, 30, Bridge place, Hornsey road.

TO CIVIL ENGINEERS, SURVEYORS, &c

THE Advertiser, who has been an Assistant Engineer on railway works for several years, is desirous of EMPLOYMENT in any position, where his experience would be of service. He is good leveller, and has had much practice in preparing plans and sections, setting out works, &c. For a permanent appointment, or one of long duration, he would be happy to give a premium of from 50 guineas to 100, or would advance money in good security. A small salary not objected to. Age 30. Unexceptionable references and testimonials.—Address, A. Z. care of Mr. Cox, 22, Skinner-street, London.

TO SURVEYORS.

THE Advertiser, who can land survey (having theodolite and all other instruments), and measure timber, take out quantities, survey dilapidations and a good draughtsman, is open to an ENGAGEMENT. Aged 28. Salary moderate. Highest testimonial and references can be given.—Address, SURVEYOR, Messrs. Davies and Co 1, Finch-lane, Cornhill.

TO MANUFACTURERS.—AGENCY WANTED.—The Advertiser, having a good connection among the building tradesmen of a large town in the south of England, wishes an Agency for some article suitable to his connection. Good references.—Address, stating terms of commission, &c. to E. N. Office of "The Builder."

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, aged 25, requires a SITUATION. Can design, draw perspective, take out quantities, measure up work, &c. &c. Nearly two years' reference to a surveyor of one of the Metropolitan Boards of Works. Terms only Salary, 30*s.* per week.—Address, D. 4, Aske-street, Hoxton, N.

TO BRICKLAYERS AND EXCAVATORS

GOOD SEWER HANDS WANTED, at Newport, Monmouthshire.—Apply to Mr. PHILLIPS, on the Works.

GAS-FITTING, &c.—An experienced GAS-FITTER and BRASS-FINISHER wants a SITUATION as SHOP or WORKING FOREMAN. Has a practical knowledge of the different methods of bronzing and lackering in present use; also the repair of meters, &c. Can produce testimonials as to ability and character, and would have no objection to go abroad.—A line, prepaid, addressed to R. 33, care of Post-office, Richmond, Surrey, will be promptly attended to

ESTIMATING.—The Advertiser, whose evenings are disengaged, wishes to meet with a party who requires ASSISTANCE in the above department. The Advertiser has had great practical experience in all matters connected with the building trade, sewers, roads, &c. Terms very moderate. The highest testimonials can be given. Address, Z. X. Z. Mr. Faulkner's, Chapel-street, New road, St. Marylebone.

TO SMALL BUILDERS AND OTHERS.

EMPLOYMENT WANTED, by a respectable Man, of sober, active, and persevering habits, aged 48 years, as ASSISTANT, or to TAKE CHARGE of a SMALL BUSINESS (no objection to the country), who has a thorough practical knowledge of the building trade, can keep accounts, measure up work, take out quantities, assist in making plans, and attend workmen, &c. &c. Unexceptionable references and testimonials from architects and others. Salary moderate. The advertiser would be found of value to a young builder or contractor commencing business, or is in every respect qualified to superintend building works on a gentleman's estate.—Address, S. R. T. 8, Old North-street, Theobald's-road, Holborn.

TO ARCHITECTS, ENGINEERS, AND OTHERS.

AS CLERK of WORKS, or MANAGER, a steady, energetic Man, of many years' experience in town and country, in various sorts of building, and all kinds of carting, road, sewer, lime, and brick making; can draw, level, and measure well, &c. &c.—Address, CARPENTER, 2, Weymouth place, New Kent-road. Will accept a short job.

A YOUNG MAN, aged 22, desires to meet with a SITUATION as a DRAUGHTSMAN, in an Engineer's, Architect's, or Builder's Office. Has been in the Engineer's office of a large railway for two years. Understands levelling and surveying, and can obtain good references.—Address, A. B. Book-stand, Boston.

A CLERK of WORKS, a thoroughly practical Man, who is a good draughtsman, is open to a RE-ENGAGEMENT, as CLERK of WORKS, or ASSISTANT to an ARCHITECT. Country not objected to.—Address, Z. J. 31, Robert-street, Hatton

N.B. Good testimonials from last employer.

TO MASTER PAINTERS AND GLAZIERS, &c.

A YOUNG MAN, aged 19, wishes to ENGAGE himself as an IMPROVER, for two years, to any respectable master, to finish learning the painting, glazing, and gasfitting, having served two years to the above. Wages not a consideration. Finishing the trade in London. Direct, stating particulars, E. W. 8, Wellington-place, Stepney, E.

TO BUILDERS AND CARPENTERS.

A YOUNG MAN, aged 23, is desirous of placing himself with the above for a term. Has been in an engineer's office for two years. A person of good business and respectability indispensable.—Address, T. H. Post office, East Ham, Barking, E

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A FIRST-CLASS Practical LAND and ENGINEERING SURVEYOR is open to an ENGAGEMENT, either permanent or otherwise. He is capable of managing a business and any parties who have confidence to require.—Address, stating salary offered, to A. Z. Post-office, Shrewsbury, Salop.

TO ENGINEERS AND LAND SURVEYORS.

A GENTLEMAN, who will have completed his engagement in a large office on the 4th of September next, OFFERS his SERVICES to the above.—Apply to C. W. at G. Kirkman's, 29, 32, Bishopsgate-road, Lambeth, London.

A GOOD PLUMBER is in want of constant EMPLOYMENT. No objection to do painting and glazing. Can have a good reference from his late employer.—Address, W. G. S. 14, Dorset-street West, Princess road, Lambeth

TO DRAUGHTSMEN, ENGINEERS, LITHOGRAPHERS, AND OTHERS

A HIGHLY RESPECTABLE YOUTH, aged 17, who has been some time in an architect's office, wishes for a SITUATION; has a talent for drawing, &c. No objection to give his services for a period.—Address, J. B. 12, Egmont place, Old Kent-road.

TO BUILDERS AND DECORATORS.

A RESPECTABLE YOUNG MAN wants CONSTANT EMPLOYMENT, in town or country, as PAPER-HANGER, PAINTER, and GLAZIER; can do writing and graining. Wages moderate.—Address, C. A. Mr. Owen's, Decorator, No. 12, Earl-street East, Prince-grove

TO PLUMBERS

A YOUTH, aged 15, wishes for constant EMPLOYMENT as IMPROVER, for four years, in the above line. Has been three years in the trade.—Address, G. H. 28, Robert-street, Grosvenor-square, London

A JOB WANTED, Piece Work, by a STAIRCASE HAND and GENERAL JOINER to the Trade, in town or country.—Address, S. J. 185, Warner-street, Dover-road.

TO ARCHITECTS AND SURVEYORS

A THOROUGHLY PRACTICAL ASSISTANT and first-rate Draughtsman, accustomed to the management of an architect's practice, surveying, leveling, &c. desires an ENGAGEMENT.—Address, Mr. ALEXANDER, 15, Palmerston-terrace, Camberwell.

AS CLERK of WORKS (or otherwise), by a Young Man of business habits, quick at accounts, understands measuring and the timber trade, and who would be willing to make himself useful in any other requisite if required. Unexceptionable references.—Address, J. ALFRED'S, No. 25, Duncan-terrace, Islington.

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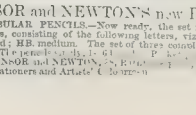

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SASHES AND FRAMES, DOORS, MOULDINGS, SHOP-FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERS' WORK, ON THE SHORTEST NOTICE AND AT THE LOWEST PRICES.

Lists of Prices and Estimates on application.

WHITE and MITCHELL,
JOINERS
AND SASH-MAKERS TO THE TRADE,
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Staircases, Shop fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp. Workshops, 2, Commercial-road, Lambeth.

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Architects and Builders can effect a great saving in PULPITS, DESKS, ALTAR-RAILS, TRACERY, ANTIQUE and CHURCH FURNITURE.
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HALF the EXPENSE
SAVED in CLEANING, PAINTING, and REPAIRING SASHES, by the use of "RAMSDEN'S PATENT SASH."

Both outer and inner sashes can be detached from the frame and lines in one minute, by removing part of the outer and parting beads. The lines are simply slotted into a groove, at the side of the sash.

Old Windows fitted, complete, at 5s each, or materials supplied, from 3s 6d.

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SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
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JOINERS' WORK in all its branches,
EXECUTED with despatch, and cheaper than any house in London.
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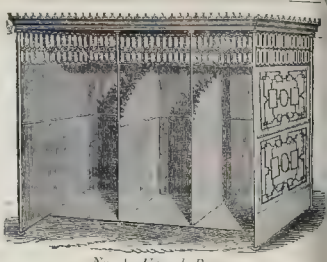

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Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.

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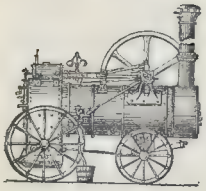

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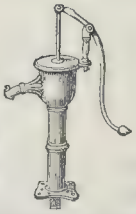

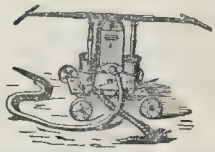

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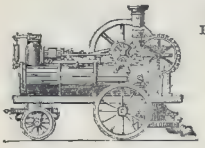

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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

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16oz and 21oz Crown and Hot Glass of every Description, Batteries, and Coloured Glass, Rough Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.

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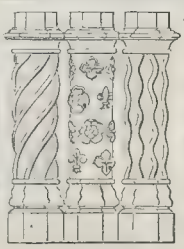

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ARTIFICIAL STONE WORKS.

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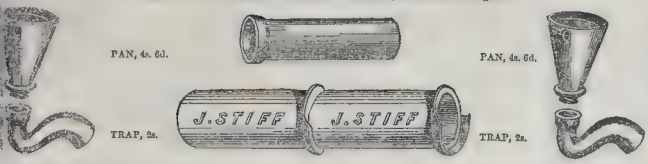
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
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Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
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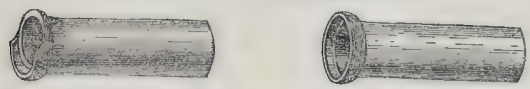

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

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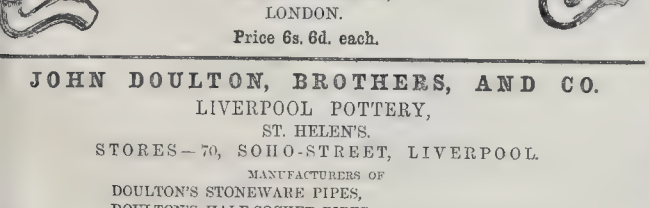
W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET-PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Close 4s. 6d.; Trap, 2s.



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WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

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BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers, GLOVER, BROTHERS, Founders, Engineers, and Smiths, 103, Drury Lane, and Spa road, Bermondsey.

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The LARGEST STOCK in LONDON of every description of SANITARY BASINS, WASHHAND TABLES, URINALS, &c. White or Enamelled.
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An Illustrated Catalogue sent to Customers.
MANUFACTORY, MILLWALL, E.
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LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE.
No. 7.

is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 300 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentee,
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BRASS FOUNDERS AND ENGINEERS,
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N.B.—No 7, enclosed with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 15s. 6d. each.

DRAIN PIPES.—More than 20,000 of each for immediate SALE, of first quality. Sample pipe and price to be seen at the Office of "The Builder;" or by application to the Manufacturer, W. B. LONSDALE, Nottingham.

TO WATER COMPANIES AND PLUMBERS.
HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, cloth round and flat, CHECK-RINGS, for Hot-water Pipes. Vulcanized Rubber Door Springs, and Solid Round Rubber Cord in all sizes of any length. Billiard Cushions and Rubber Stripe cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

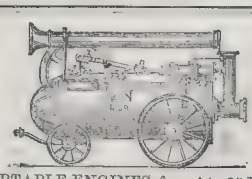
Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT, received this morning:—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying it down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Rockfriars-road, London.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

H. PIGGOTT,
115, Fore-street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

SALES BY AUCTION.

TO BE SOLD, pursuant to a decree of the High Court of Chancery made in a cause of Smith v. Tagg, with the approbation of the Master of the Rolls, in eight lots, on

MR. THOMAS HEWS, the person appointed by the said Judge, at the CATHERINE WHEEL INN, Henley-upon-Thames, in the County of Oxford, on THURSDAY, the 16th day of SEPTEMBER 1858 at TWO for 4 o'clock, the following valuable FREEHOLD PROPERTIES, viz.—six lots of and orchards, with gardens, in Duke street, Henley: a house and premises, with garden on the north side of the Market Place, Henley; a house, malt-house, warehouse and extensive business premises, and wharf, with stables, coach-house, and yard; also another house, shop, and premises adjoining, in Bell street, Henley; together with the GOODWILL and STOCK IN TRADE of the late Mr Frederick Tagg, in the business carried on by the deceased, a dwelling-house and premises, with stable, coach-house, garden, and small paddock, also in Bell street, Henley, two cottages, with gardens, situate at Shiplake, in the Parish of Hambledon, Bucks; and an enclosed piece of Meadow Land, containing about six acres, called Tarry's and Pope's Meads, situate at the Parish of Remenham, Berkshire, all late the property of the said Mr Frederick Tagg, deceased.—Printed particulars and conditions of sale may be had gratis, in London, of Messrs. KINGSFORD and DORMAN, Solicitors, 21, Essex street, Strand; of Mr SAFFERY WILLIAM JOHNSON, Solicitor, 2, Gresham-square, Mr HENRY WILLIAM RAVENSCROFT, Gresham's-office, Mr. in the Country, of Mr GEORGE SAMUEL HALL, Solicitor, Cambridge and Ely; Mr. CHARLES SAMUEL COOPER, Solicitor, Cambridge, and Mr ROBERT PEACH HALMER, Solicitor, Cambridge, and of the Auctioneers Dated this 18th day of August, 1858

GEO. HUME, Chief Clerk.

TO BUILDERS, CONTRACTORS, STONEMASONS, AND OTHERS

MESSRS. HUMPHREYS and ROBINSON are in train to DISPOSE of at the highest TENDER to be opened at their offices, 9, Lombard-street, Greenwich, on TUESDAY, AUGUST 31st, 1858, at TWELVE o'clock precisely, the undermentioned sound PORTLAND STONE, now lying at Norway wharf, Hare-street, Greenwich, suitable for Road stone, Landings or general purposes.—For terms of Tender, conditions of sale, apply to the Auctioneers at their Offices, 10, London-street, Greenwich.

CHESTERTON, near Cambridge.—TO BE SOLD, pursuant to a decree of the High Court of Chancery, made in a cause, Warren v. Lawrence, with the approbation of the Master of the Rolls, the Judge to whose court the said cause is attached, on

MESSRS. WENTWORTH and SON, the persons appointed for the purpose, on WEDNESDAY, the 15th day of SEPTEMBER 1858, at FIVE o'clock in the afternoon precisely, at the PORTLAND ARMS HOTEL, Cambridge, in 17 lots, three well-built and convenient FREEHOLD DWELLING HOUSES, several PLOTS of LAND admirably adapted for building upon, and three PLOTS of excellent GARDEN GROUND, situate in Chesterton, in the immediate vicinity of Cambridge, and abutting on the high road leading from Cambridge to Ely and Chesterton.—Printed particulars and conditions of Sale, with plans, may be had gratis, in London, of Messrs. KINGSFORD and DORMAN, Solicitors, 21, Essex-street, Strand; of Mr SAFFERY WILLIAM JOHNSON, Solicitor, 2, Gresham-square, Mr HENRY WILLIAM RAVENSCROFT, Gresham's office, and in the Country, of Mr GEORGE SAMUEL HALL, Solicitor, Cambridge and Ely; Mr. CHARLES SAMUEL COOPER, Solicitor, Cambridge, and Mr ROBERT PEACH HALMER, Solicitor, Cambridge, and of the Auctioneers Dated this 18th day of August, 1858

GEO. HUME, Chief Clerk.

IMPORTANT CEMENT, PAINT, COLOUR, and BRUSH MANUFACTORY, HULL, to be SOLD by AUCTION, in order of the Devisees under the will of the late Mr Wm Ellis, deceased

MESSRS. DANIELS and CLOUGHTON, at their SALE ROOM, in Bishop lane, Hull, on THURSDAY, the 30th day of SEPTEMBER, 1858, at ONE o'clock in the afternoon (unless previously disposed of by private contract), subject to such conditions as will then be produced, one of the most desirable and important Establishments in the thriving and populous town of Kingston-upon-Hull, comprising the following Business (which has been lately carried on, in full activity upon the Premises,—namely, Roman and Portland cement, plaster of Paris, paints, painting-brushes, and general Ironmongery; and its extensive Trade in Linseed, Rape and Pearl Barley, per splitting, sawing, and wood turning. The entire plot of the premises comprises upwards of 5,000 square yards of ground, having a frontage next the road Hull, with a good wharf and shipping, upon Church-street, and in the immediate neighbourhood of one of the North-eastern Railway stations. The buildings comprise extensive warehousing, with enclosed cellars, three stories high adjoining the River Hull, where vessels of large burden may discharge alongside. Also, the Main Building, formerly used as a chapel, now most conveniently converted into an Hall, between stories high, with two steam engines of ten and twenty horse power respectively, the machinery of which are in good working order, grinding mills, crushing mills, drying furnaces for working, cement mills, corn garage, stable, and harness, and sheds, with convenience for carrying on a very extensive business, which has been for the late partner for many years past, and recently last past. For access to the premises apply to Mr HUNTER, the Cashier, at the Works; and for further particulars apply to the Auctioneers or at the offices of Messrs DANIELS and SON, solicitors, Hull. Hull, August 18, 1858.

LEADENHALL-STREET.—Stock of Ironmongery, Brass work, &c.

MR. SITGRAVE will SELL by AUCTION, on TUESDAY, AUGUST 31, at TWELVE, at his AUCTION ROOMS, 28, Leadenhall-street, the remaining STOCK of an IRONMONGER, removed for the convenience of the purchaser, consisting of bills, shelf ware, sash fastenings, steels, chisels, locks, &c., the brass work and tubes of cut and other lamps, flush bolts, bed hinges, screws, and assortment of tin-plate articles, and several brass work and other castings; also a quantity of frame fastenings, Venetian stay-blocks.—May be viewed on MONDAY, cards and catalogues had at the Rooms, or will be forwarded, per post, on application

Sale of Prime Oak and other Timber, near to Watford, St Albans, and Rickmansworth, Herts by

MR. W. BROWN, by the direction of the Executors of the late Right Hon. Lord Rokeby, at the CHEQUERS INN, Rickmansworth, on WEDNESDAY, SEPTEMBER 8th, 1858, and on the day following, at the SWAN INN, Rickmansworth, at ONE o'clock, about 100 compromising 800 oak, 47 ozens, 17 ash, and 3 elm timber trees, 4 Beech growing on two lots of land in the Watford station, on the London and North Western Railway, 250 oak, 10 ash, 10 elm timber, and other trees, lying on different parts of the Rickmansworth Park estate, between Rickmansworth and Watford, and 1 lot in the Cashiobury Park estate, on the Grand Junction Canal. The whole is particularly worthy the attention of timber dealers, and is to be sold in lots to suit purchasers. Mr WHITLEY, Arboreal, will show the lots. Particulars may be had at the Places of Sale; Inchen, St Albans; Penn House, Watford; Crown Chesham; of Mr PROCTOR, Solicitor, Watford; Crown Rickmansworth; of Mr W. R. THOMPSON, Esq. Uxbridge, Middlesex; and of the Offices of Mr W. BROWN, Land Agent, Ivery

TO BUILDERS AND OTHERS.—Ironstone Brick and Tile Works to be Let or Sold.

MR. S. FLETCHER has been favoured with instructions to SELL by AUCTION, on THURSDAY, SEPTEMBER 2nd, 1858, at ONE for 2 o'clock precisely, 600,000 good SECOND and PLACE BRICKS, and a few lots of inferior bricks, by the thousand or hundred. The above commanding site for carrying on the business of Brick-making, is situate on the Eastern Counties Railway, at Stratford, within a few minutes' walk of the Bow station, and is well worthy the attention of builders, as the conditions of sale will be read at the time of Sale. Bow, in the neighbourhood, upon the Premises, and of the Auctioneer, Romford, Essex

TO TIMBER MERCHANTS BUILDERS, WHEELWRIGHTS, AND OTHERS.—KINGSTOWN, near Canterbury, Kent

MR. WILLIAM HODSOLL will SELL by AUCTION, at the PORTOPELLO INN, Kingstown, on FRIDAY, SEPTEMBER 3rd, 1858, at THREE o'clock, 361 sound OAK TIMBER TREES, 200 oak tellers, and other trees, near Kingstown, close to the high road, 850 oak timber trees, and 65 stacks of cordwood.—Catalogues may be had on week previously of the Auctioneer, Dover, at the place of sale, and of the Auctioneer, Barnsley, near Cirencester

SALES BY AUCTION.

TEDDINGTON LOCKS.—To Contractors, Builders, and Others.—Important Sale of Surplus Plant and Material

PULLEN and SON are favoured with instructions from the Conservators of the River Thames and the General Purposes Committee of the Corporation of London to SELL by AUCTION on the PREMISES, at TEDDINGTON, on THURSDAY, SEPTEMBER 9th, and following day, at TWELVE, in lots, the extensive PLANT, TOOLS, and SURPLUS MATERIAL used in the construction of the new locks, comprising a capital 10-horse power horizontal steam-engine, by Ransom and Sims, a 14-inch high-pressure, oscillating engine, two large steam boilers, two capital mortar mills, one pitch; Gwynne's patent centrifugal pump and pipes, crushing saw-bench, with two 9-inch saws and gearing, leather and india-rubber driving bands, six-pair driving cranes, with ironkeys; upwards of 500 loads of prime oak and fir timber, in whole and half timbers, and useful scantling, 100 counter piles and 1,000 short piles, iron-shod; about 600 feet run of oak-lip planks and beads; 1,000 feet chain, 1 to 3 inch, and roll pin bolts and bushes; trusses, cords, ladders, no-bar boards, whs, long planks, 4 inches by 9 inches, 22 feet in length, and 2 inches by 9 inches, 12 feet in length; rails, forges and bellows, buckets and falls, grab irons, water tanks, casks, lights and fixtures, 3 tons of new rigid and soft iron, 1 ton of bar iron, 2 tons of wrought boat-spikes, 5 cwt. of bolts, work-shops, and stables, with patent roofs, together with the old lock gates, and all the capital oak timber and iron work of the old lock, a shallop, or large pleasure boat, length 36 feet, new 1857, with house, enclosed 14 paddle-gates and railing doors; 2 barges, and various useful materials and effects.—May be viewed two days previous; and catalogues had of PULLEN and SON, 89, Fore-street, Cripplegate.

TO BUILDERS, CABINET MAKERS, COACH BUILDERS, PACKING CASE MAKERS, CHAIR MANUFACTURERS, and OTHERS

To-morrow, 30th instant, at 10 o'clock precisely, at the Warehouse, 9, Bishopsgate-street, Mount pleasant, Gray's-inn-road

MESSRS. C. and H. WHITE will SELL by AUCTION, on the PREMISES, in the rear of 6, High street, Mount pleasant, Gray's-inn-road, on WEDNESDAY, SEPTEMBER the 15th, 1858, at ELEVEN for TWELVE o'clock, the entire PLANT, STOCK of TIMBER, consisting of 10,000 feet of yellow and white prepared flooring boards, 7,000 feet super of prepared timber, sawn into boards, 2 two-day timber and stave planks and deals, 1,000 yellow deals and battens, 3,000 feet super Honduras and Spanish mahogany, 9,000 feet super of cedar and American walnut wood, with sawn timber, bench seating, iron bath, &c., bar mare, phaeton and harness. May be viewed the day prior and morning of Sale. Catalogues had on the Premises, and of the Auctioneers, No. 1, Bucklersbury, London.

TO LAND and BUILDING SOCIETIES, SPECULATING BUILDERS, and OTHERS.—PEREMPTORY SALE of 24 ACRES of very desirable FREEHOLD LAND, about 2,000 feet frontage to two roads, and situate at W. Ewell, Surrey

MR. HOLLINGSWORTH begs to direct attention to the SALE of the ABOVE, to take place at the CITY AUCTION MART, on MONDAY next, AUGUST 30. Particulars and plans now ready. Auction and Estate Offices, 11, High-street

BUILDING MATERIALS of all kinds for SALE by AUCTION, at the West-end Depôt, Mount Pleasant, Gray's-inn-road

MESSRS. BOOTH and CO. will SELL by AUCTION, at their, on TUESDAY, AUGUST 31st, 1858, at TWELVE for ONE o'clock with the reserves, a large ASSORTMENT of GOODS and STOCK, in lots, comprising new and other sashes, doors, and deal and other cheese; pine mouldings, and other stores, also an old and deal and other cheese; pine mouldings, and other stores, also an old and deal and other cheese; pine mouldings, and other stores, also an old

The Builder.

Architect, Engineer, Operative & Artist.

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ARCHITECTS' BENEVOLENT SOCIETY.

Sir Robert Smirke, R.A. | George Stanley Repton, Esq.
President.—Sydney Smirke, Esq. R.A.
Vice-Presidents.
Sir Charles Barry, R.A. | Charles Robert Cockerell, Esq. R.A.
Phillip Hardwick, Esq. R.A. | Edward Cresy, Esq.
Treasurer—William Tite, Esq. F.R.S.

The List of Subscribers will be published in the Report of the Anniversary Festival, which will be held at FREEMASONS' TAVERN, on WEDNESDAY, the 6th of OCTOBER next, under the Presidency of Sir Robert Smirke, R.A.

Gentlemen desirous of becoming Stewards are requested to forward their names to the Secretary, at the Office, 16, Southampton-street, Bloomsbury; or to the Treasurer, Mr GEORGE REID, 3, Edgeware-road.

A. C. HARRIS, Secretary.

BUILDERS' BENEVOLENT INSTITUTION.—The ELEVENTH ANNUAL DINNER will take place at the LONDON TAVERN, on THURSDAY, OCTOBER 28th, 1858.

THOS. PILCHER, Esq. F.S.A. in the Chair.

Gentlemen desirous of becoming Stewards are requested to forward their names to the Secretary, at the Offices, 18, Southampton-street, Bloomsbury; or to the Treasurer, Mr GEORGE REID, 3, Edgeware-road.

A. C. HARRIS, Secretary.

ROYAL CORNWALL POLYTECHNIC SOCIETY.—The 24th Annual Exhibition of the above Society will take place on WEDNESDAY, SEPTEMBER 29th, and following days, when prizes will be awarded in the following departments:—Mechanical Inventions, Naval Architecture, Fine Arts, Natural History, Statistics, Plain and Fancy Needlework, School Productions. Objects intended for exhibition must be delivered at the Polytechnic Institution, Falmouth, between the 20th and 23rd of SEPTEMBER, inclusive.—N.B. By a recent arrangement of the Committee, Patented or Registered Articles are no longer excluded from prizes; but further particulars, if required, may be had on application to Mr SYDNEY HODGES, Falmouth.

CONTRACTS.

HAMPSTEAD JUNCTION RAILWAY.—TO CONTRACTORS and BUILDERS.—The Directors are prepared to receive TENDERS for the ERECTION of PASSENGER STATIONS on this railway.

Specified at the office of the engineer, Mr. GEORGE BERTLEY, Great Bridgewater, Westminster, on and after the 1st of September, addressed to the Secretary, at the same place, and endorsed "Tender for HAMPSTEAD JUNCTION RAILWAY," on or before WEDNESDAY the 8th of SEPTEMBER.

The directors do not bind themselves to accept the lowest or any tender.

By order,
F. HARLEY, Secretary.

Offices, Euston-square, August 31st, 1858.

EXTENSION of TIME for PROPOSALS.—ANCHOR and HOPE PUBLIC HOUSE, [illegible] City of London Union Chargeable with Three Regiments, Barracks, &c.—The Lists of the Workmen employed at the Works will be required to receive PROPOSALS for LETTING the above HOUSES, for a Term of Seven Years, either together or separately, from the 29th day of SEPTEMBER next, at the Board House of the Union, Whitechapel-road, by WILLIAM DADLEY, on or before the 14th day of SEPTEMBER, 1858. The Contract will not be signed until the Lease is executed.

WM. DADLEY, Clerk to the Guardians.

1, Anchor-terrace, Bridge-street, Southwark.

BELPER BURIAL BOARD.—To ROAD-MAKERS and OTHERS.—The Belper Board of the Township of Belper, according to a plan and specification which may be seen at my Office, Bridge-street, Belper. Tenders to be sent to me on or before the Eighth day of SEPTEMBER next. The Board do not bind themselves to accept the lowest or any Tender.—By order of the Board,

Belper, 23rd August, 1858. G. PYM, Clerk.

CONTRACTS.

TO BUILDERS and CONTRACTORS.—Notice is hereby given that TENDERS will be required by the Directors of the Cottage Hospital, Upton, on or before the 8th of SEPTEMBER, 1858, for ALTERATIONS to the SEA DEFENCES, Leslie rows. Plans of the works to be seen, and all particulars can be had at the H.P. Office, Upton, on and after WEDNESDAY next, of the clerk of the Works, Mr. Leslie Wall Office, Pall-mall, London, S.W. and addressed "Tender for Alterations to Sea-rows Defences."

War Office, Whitehall, 30th August, 1858.

NOTICE to GAS-FITTERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover district hereby gives Notice that sealed TENDERS will be received at the Office of the Royal Engineer, Dover, until TWELVE o'clock on THURSDAY, the 16th day of SEPTEMBER, 1858, from persons desirous of CONTRACTING for GAS-FITTING at the Western Heights Barracks, at Dover. Drawings and a specification of the works to be executed may be seen at the Royal Engineer Office, Dover, between the hours of TEN and FOUR, on the 16th of SEPTEMBER, 1858. Tenders to be addressed to the Commanding Royal Engineer, Dover, and endorsed "Tender for Gas-fitting Western Heights Barracks."

Royal Engineer Office, Dover, August 30th, 1858.

TO BUILDERS and CONTRACTORS.—Notice is hereby given, that PAPERS will be ready at the Inspector of Contracts' Office, Pall-mall, London, S.W., on MONDAY, 6th day of SEPTEMBER, 1858, from persons desirous of CONTRACTING with the Secretary of State for War for ERECTING a PIER at the New Magazine, Upnor Castle, near Chatham. Plans of the work are to be seen, and specifications and forms of Tender obtained, on application at the Royal Engineer Office, Chatham Lines, between the hours of TEN and FOUR, on the 11th of SEPTEMBER, 1858, inclusive. The party whose Tender may be accepted will be required to enter into a bond, with two eligible sureties, jointly and separately to be bound under a penalty of 300l. for the due performance of the contract. Tenders to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W., and to be delivered free, endorsed "Tender for New Pier, at Upnor Castle." No Tender can be received after the hour of TWELVE o'clock on the 13th of SEPTEMBER, 1858. The Secretary of War does not bind himself to accept the lowest or any Tender.

By command of the Secretary of State for War,
H. D. JERVOIS, Lieut.-Colonel,
Director of Contracts.

War Office, 30th August, 1858.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Royal Engineer, Dover, until TWELVE o'clock on THURSDAY, the 16th day of SEPTEMBER, 1858, from persons desirous of Contracting for CONSTRUCTING a GUN SHED in the Western Heights, at Dover.

Drawings and a specification of the work to be executed may be seen by persons duly empowered to undertake the work, and printed forms of Tender, with the conditions of the Royal Engineer, Dover, between the hours of TEN and FOUR o'clock, from MONDAY, the 13th of SEPTEMBER, to THURSDAY, the 16th of SEPTEMBER, 1858. Tenders are to be made, only by persons on the Lists, which will be received up to the hour of TWELVE o'clock on the 16th, when they will be opened in the presence of the contractors or their agents who may attend. Tenders are to be addressed to the Commanding Royal Engineer, Dover, and endorsed "Tender for the Gun Shed in the Western Heights, at Dover."

Royal Engineer Office, Dover, September 1st, 1858.

TO BUILDERS and CONTRACTORS.—HERMAN LANES, WINDSOR.—The HON. ISABELLA CHARLES ALEXANDER GORE, the Commissioners of Her Majesty's Woods, &c. in charge of Her Majesty's Land Revenues, are prepared to receive TENDERS for the ERECTION of a DWELLING HOUSE and FARM YARD, called Great Wimond Farm, in the parish of Iver, Bucks, with the requisite Plans and Specifications, which may be seen at the Office of Mr. JOHN CLUTTON, 9, Waterhall-place, Waterloo-bridge, Lambeth, on and after MONDAY, the 6th of SEPTEMBER next, and Tenders must be sent in, duly sealed, to the HONOURABLE CHARLES ALEXANDER GORE, 1, Whitehall-place, before TWELVE o'clock on MONDAY, the 13th day of SEPTEMBER next, for the same, or for detached portions thereof, at the lowest sum they will execute the same for.

August 31st, 1858.

TO BUILDERS and CONTRACTORS.—The Guardians of the Parish of the Holy Trinity, Minories, about to erect a NEW UNION WORKHOUSE and other Buildings, in the Parish of Stepney, are desirous of receiving TENDERS for the execution of the same. Plans, Specifications, and Conditions of Contract may be seen at the Parish Workhouse, Commercial-road East, on and after MONDAY, the 6th day of SEPTEMBER next, between the hours of Ten and Four o'clock, and Tenders must be delivered at the Workhouse aforesaid, addressed to the Guardians, on or before TWELVE o'clock on MONDAY, the 13th day of SEPTEMBER next, when they will be opened in the presence of such Contractors as may attend. The Guardians do not bind themselves to accept the lowest or any Tender.

By order,
JOHN JOHN GALE, Clerk to the Guardians.

Vestry Hall, Commercial-road East, 30th August, 1858.

TO BUILDERS and CONTRACTORS.—The Guardians of the Parish of Whitechapel are about to erect NEW UNION WORKHOUSE and other Buildings, in the Parish of Stepney, and to the completion of Plans and Specifications, and Conditions of Contract, which may be seen at the Parish Workhouse, Commercial-road East, on and after MONDAY, the 6th day of SEPTEMBER next, between the hours of Ten and Four o'clock, and Tenders must be delivered at the Workhouse aforesaid, addressed to the Guardians, on or before TWELVE o'clock on MONDAY, the 13th day of SEPTEMBER next, when they will be opened in the presence of such Contractors as may attend. The Guardians do not bind themselves to accept the lowest or any Tender.

By order,
JOHN JOHN GALE, Clerk to the Guardians.

Vestry Hall, Commercial-road East, 30th August, 1858.

TO SEWER CONTRACTORS, BUILDERS, and OTHERS.—Notice is hereby given, that the Highway Board of the Parish of Hornsey intend to CONTRACT for MAKING about 1,050 lineal yards of SEWERS, and DETAIL Drawings may be had on payment of 1l. of GARDNER and CO. Surveyors, 1 and 2, Southampton-buildings, Chancery-lane, S.—TENDERS to be sent in at the Parish Office, Crouch-hill, N.—TENDERS to be sent in at the Parish Office, Crouch-hill, N.—TENDERS to be sent in at the Parish Office, Crouch-hill, N.

CONTRACTS.

METROPOLITAN BOARD of WORKS.—TO BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Pond Works Committee will meet at the Board Room, Clerkenwell, at TEN o'clock on FRIDAY, the 10th inst. at TWELVE o'clock precisely, when the lowest Tenders for the EXECUTION of CONTRACT No. 1 for the ENLARGEMENT of the POND at BRICK LEWER, 1,225 feet in length, more or less, in the parish of Saint Mary, Lambeth, and Parish of Battersea, will be opened in the presence of such Contractors as may be present. The Specification of the works, together with the forms of Tender, may be inspected, and other particulars obtained, at the Office of the Board, No. 1, Greek-street, Soho-square, between the hours of NINE o'clock and FOUR p.m. until the 9th inst., and no Tender will be received after that hour. The Committee do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted will be required to enter into a bond with sufficient sureties for the due performance of the works.

T. H. WOOLRYCH, Clerk to the Board.

No. 1, Greek-street, Soho-square, September 1, 1858.

TO BUILDERS and CONTRACTORS.—The Board or Committee of the Vestries Nos. 1 to 6 are desirous of obtaining TENDERS for the ERECTION of NEW WORKHOUSES, on the Estate of the present Parish Workhouse, between Myddelton-square and Pentonville-road, in the parish of Clerkenwell.—SEALED TENDERS will be received at the Office of the Vestry Clerk, No. 37, M. CHARLES TURNER, 37, Myddelton-square, Pentonville, on or before the hour of TWELVE o'clock on the 15th day of SEPTEMBER next. Tenders to be addressed to the Rev. J. MAILAND, A.M. Vestry Clerk, Myddelton-square, and endorsed "Tender for the Workhouses," and to be delivered on or before SEPTEMBER 15th. The Committee do not bind themselves to accept the lowest or any Tender.

ROAD-MAKING at HITHER-GREEN, LEWISHAM.—TENDERS will be required, on or before SIX o'clock on THURSDAY next, for CONSTRUCTING ROADS and FOOTPATHS on the MOUNT PLEASANT-PARK ESTATE, in the Parish of Lewisham, Kent, pursuant to Plans, Sections, and Specifications to be seen at the Offices, No. 4, Lower-street, Greenwich, on and after MONDAY next, of whom further particulars may be had. Tenders to be addressed to the Rev. J. MAILAND, Hither-green, Lewisham, and endorsed "Tender for Road-making at Hither-green," and to be delivered at the Offices, No. 4, Lower-street, Greenwich, on or before SIX o'clock on the evening of the 9th inst.

By order of the Board of Directors,
GEO. W. GURLEY SMITH, Secretary.

Offices, No. 4, Lower-street, Greenwich.

NOTICE to MEMBERS.—The Sixth Financial Year of the Society will end SEPTEMBER 30th. The next Quarterly Meeting will be held on WEDNESDAY, the 1st of DECEMBER next, at the WEDNESDAY EVENING, from SEVEN till NINE o'clock.

BOROUGH of PRESTON.—SEWERAGE WORKS.—To CONTRACTORS.—The Local Board of Health for the Borough of Preston are prepared to receive TENDERS for the following SEWERAGE and DRAINAGE WORKS, viz.:—The construction of about 2,200 lineal yards of brick sewers, varying in size from 2 feet 6 inches to 4 feet 6 inches in diameter, and the laying of about 1,000 lineal yards of pipe sewers, varying in size from 9 inches to 2 feet 6 inches in diameter, and the construction of about 200 Manholes, Lamp-holes, Gullies, &c. in the Borough. The Local Board, at their meeting to be held on TUESDAY, the 14th day of SEPTEMBER next, at the Office of the Local Board, No. 3, Cross-street, Preston, will open the Tenders which may be sent in, sealed from Mr. JOHN NEWTON, C.E. Surveyor to the Board. Sealed Tenders, addressed to "The Chairman of the Sewers Committee," must be delivered with the Surveyor, to TWELVE o'clock on WEDNESDAY, the 8th of SEPTEMBER next.

ROBERT ASCROFT, Town Clerk.

Preston, August 27th, 1858.

TO BUILDERS.—FISHERMEN'S RESIDENCES at GREAT GRIMSBY.—TENDERS are required for the ERECTION of TWENTY-EIGHT HOUSES, with Warehouses, &c. and a Tank. The Drawings may be seen, and Specifications obtained, at the Office of Mr. J. ANGELL, Architect, Great Grimsby, on and after WEDNESDAY, SEPTEMBER 8th, and the Tenders are to be addressed to "Trustees of Fishermen's Houses, Grimsby," to be delivered to EDWARD ROSS, Esq. Secretary to the M. S. and L. Railway Company, Manchester, on WEDNESDAY, SEPTEMBER 15th, the west or any Tender not necessarily accepted.

MICHAEL DRURY, Architect and Surveyor, 1, Bank-street, Lincoln.

August 31, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of the CHAPEL and SCHOOLS and RESIDENCES attached, at CASTLE HILL, HEADINGLEY, near LEEDS, for the CONGREGATIONALISTS assembling in ZION CHAPEL, Burley, Specifications may be had of Mr. J. ANGELL, Architect, Great Grimsby, on and after MONDAY next, the 6th inst., and Plans at the Offices of Messrs. MIDDLETON and AGAR, Architects, Manchester, on and after MONDAY next, the 13th inst. Sealed Tenders, addressed to the Rev. J. RADFORD, Headingley, near Leeds, are to be delivered at the Vestry Room, Zion Chapel, Burley, on or before the 20th of SEPTEMBER next, when they will be opened in the presence of such Builders as may attend.

TO BUILDERS and OTHERS.—The above parties desirous of TENDERING for the WORKS required to be executed in the ERECTION of CONGREGATIONAL CHAPEL, Vestry, and Minister's House, with Stabling, in Nelson-street, Jesmond, Newcastle-upon-Tyne, are informed that the Plans, Specifications, and Conditions of Contract may be seen at the Offices of Messrs. CHAMBERS, Architects, Newcastle-upon-Tyne, on and after the 15th of SEPTEMBER next. The Committee do not bind themselves to accept the lowest or any Tender.—Quantities may be had upon remitting 2s. 6d. in postage stamps, to R. MOFFAT SMITH, Architect, 42, Lloyd-street, Cooper-street, Manchester.

August 29, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

CITY of ELY LOCAL BOARD of HEALTH.—To CONTRACTORS and OTHERS.—TOWN SEWAGE.—The Local Board of Health for the District of the City of Ely are NOW PREPARED to RECEIVE TENDERS for the EXECUTION of WORKS for the DRAINAGE of the said City, and the Grand Jury Room, in the Shire Hall, Ely, at TWELVE o'clock at noon, to receive PROPOSALS from persons disposed to undertake the whole of the sewage to be properly, in the estimation, and the manner to be approved by the Engineer or Surveyor employed by the Board, of the contractors, upon the conditions to be specified in the Specification and Plans, which may be seen at the Office of the Surveyor, Mr. WILLIAM BURNS, of Ely, where also any information may be obtained. Persons desirous to answer this Advertisement are advised before making a Proposal, to inspect the Premises in company with the Surveyor. Mr. WILLIAM BURNS, of Ely, who has drawn plans and specifications of the Work, and given such Information as may be required. By order of the Board,

Ely, August 25, 1858. W. MARSHALL, Clerk.

CITY of ELY LOCAL BOARD of HEALTH.—To CONTRACTORS and OTHERS.—NEW STEAM ENGINE.—The Local Board of Health for the District of the City of Ely are NOW PREPARED to RECEIVE their TENDERS, to be held at WILLIAM'S, on TUESDAY, the 14th of SEPTEMBER next, at the GRIFFIN'S ROOM, Ely, at 1 o'clock precisely, for the following Works, at most, or TENDERS for the ERECTION of a NEW STEAM ENGINE LIGHTER, 12 PUMPS of the Water Works of Ely, and also for the ENGINE, PUMPS, &c., for FILTER and MACHINERY of the Proposed Water Works. Plans and specifications, prepared by JOSEPH GLYNN, F.R.S., C.E., 33, Westminster-park Villas, Maida-hill, may be seen at the Office of Messrs. WILLIAMS, Ely, or of Messrs. EWARD CHILD Bell Dock, Southwark, E.C., where forms of tender may be obtained on or after the 5th SEPTEMBER next. The lowest Tender will not necessarily be accepted. By order of the Board,

Ely, August 25, 1858. W. MARSHALL, Clerk.

TO BUILDERS.—Any Person desirous of TENDERING for the ERECTION of SHOPS, Dwelling-houses, &c., in Commercial-road, Limehouse, may obtain Plans and Specifications at the Offices of Messrs. HOCKTON and SONS, Architects, Bread Plan, Staffords, on and after MONDAY, the 30th instant. Tenders to be delivered to the said Messrs. HOCKTON and SONS, on SATURDAY, the 11th of SEPTEMBER next. The lowest Tender, or any Tender, will not necessarily be accepted. FRANK WEVER, Actuary

Savings' Bank, Sheffield, 10th August, 1858.

TO GAS FITTERS.—PARISH of SAINT PANCRAS, in the County of Middlesex.—Notice is hereby given, that the Directors of the Poor in and of the said Parish, at a VESTRY HALL, King's-road, Pancras-road, on TUESDAY, the 14th day of SEPTEMBER next, to receive TENDERS from PERSONS or other for LAYING on GAS to certain Workhouses, Schools, and other Buildings belonging to the said Parish, and for the EXECUTION of BOARING REPAIRS to the GAS FITTINGS, &c., of the Workhouses and Buildings, all agreeable to specifications now lying at the Office of the said Vestry, 11, Edward-street, Hampstead-road, where further particulars may be obtained. Security will be required for the due performance of the contract. The Directors do not bind themselves to accept the lowest or any Tender. Tenders to be delivered at my Office by or before TWELVE o'clock at noon, on the said TUESDAY, the 14th day of SEPTEMBER. Dated the 27th day of August, 1858.—By order,

CHARLES HIBBARD, Clerk to the Directors of the Poor.

Vestry Office, King's-road, Pancras-road.

TO PAINTERS and OTHERS.—PARISH of SAINT PANCRAS, in the County of Middlesex.—Notice is hereby given, that the Directors of the Poor in and of the said Parish, at a VESTRY HALL, King's-road, Pancras-road, on TUESDAY, the 14th day of SEPTEMBER next, to receive TENDERS from PAINTERS or others for PAINTING the PARISH WORKHOUSE, IRON WORK of the WORKHOUSE, and all BUILDINGS belonging thereto, specifications to be seen at the Office of the Surveyor, 11, Edward-street, Hampstead-road, where further particulars may be obtained. Security will be required for the due performance of the contract. The Directors do not bind themselves to accept the lowest or any Tender. Tenders to be delivered at my Office by or before TWELVE o'clock at noon, on the said TUESDAY, the 14th day of SEPTEMBER. Dated the 27th day of August, 1858.—By order,

CHARLES HIBBARD, Clerk to the Directors of the Poor.

Vestry Office, King's-road, Pancras-road.

TO ZINC-WORKERS and CONTRACTORS.—PARISH of SAINT PANCRAS, in the County of Middlesex.—Notice is hereby given, that the Directors of the Poor will meet at the VESTRY HALL, King's-road, Pancras-road, on TUESDAY, the 14th day of SEPTEMBER next, to receive TENDERS from ZINC WORKERS for the ERECTION of certain WORKS in ZINC FLAT ROOF at the Workhouse of the said parish, agreeable to plans and specifications to be seen at the Office of the Chief Surveyor, 11, Edward-street, Hampstead-road, where further particulars may be obtained. Security will be required for the due performance of the contract. The Directors do not bind themselves to accept the lowest or any Tender. Tenders to be delivered at my Office by or before TWELVE o'clock at noon, on the said TUESDAY, the 14th day of SEPTEMBER. Dated the 27th day of August, 1858.—By order,

CHARLES HIBBARD, Clerk to the Directors of the Poor.

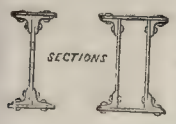
Vestry Office, King's-road, Pancras-road.

SUFFOLK ARTILLERY MILITIA DEPOT.—TO BUILDERS.—Persons desirous of CONTRACTING for the above WORKS may obtain the Drawings and Specifications at the Office of Mr. F. R. PHIPSON, Architect, Ipswich, on or after MONDAY, the 30th of SEPTEMBER, and all Tenders are to be sent to me sealed, and endorsed "Tender for Artillery Barracks," on or before NOON, on the 8th of SEPTEMBER next. The Magistrates will not bind themselves to accept the lowest or any Tender.

JOHN HENRY BORTON, Clerk of the Peace.

Bury-st.-Edmund's, August 21, 1858.

THE MIDLAND GREAT WESTERN RAILWAY of IRELAND COMPANY.—CONTRACT for WORKS.—The Directors of the Midland Great Western Railway of Ireland are prepared to RECEIVE TENDERS for the COMPLETION of so much of the Works of the EXTENSION LINE between Longford and Sligo, as are contained between the Stations of Boyle and Sligo, being about thirty-two miles in length, including all Bridges, Culverts, and Accommodation Works between Longford, Carrick-on-Shannon, and Boyle, and Stations, Goods Sheds, Engine Sheds, &c., at Boyle. Plans and Specifications may be seen after the 31st of AUGUST, at the Company's Office, 6, Great George's-street, Dublin; and at the Engineer's Office, 30, Upper Sackville-street, Dublin; and at the Engineer's Office, 30, Upper Sackville-street, Dublin; and at the Engineer's Office, 30, Upper Sackville



WROUGHT-IRON GIRDERS
For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

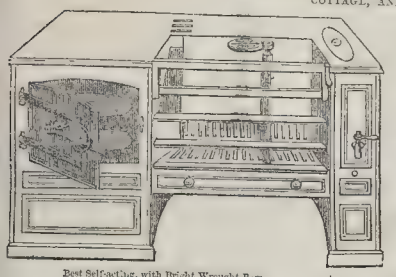
ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.
MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

POWIS, JAMES, AND CO. ENGINEERS AND MACHINISTS,
Also, Patentees and MANUFACTURERS of all kinds of MACHINERY for WORKING in WOOD,
26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of BUILDERS, CONTRACTORS, and PROPRIETORS OF SAW-MILLS to their much-improved ENDLESS BAND SAWING-MACHINES, which are well adapted for every variety of work—CIRCULAR, TRIANGULAR, ANGULAR, and STRAIGHT—of any thickness, with Swinging Tables to CUT TO ANY ANGLE, for HAND or STEAM POWER.
Also, their improved HAND or STEAM-POWER RISING TABLE Circular Saw Bench, with Sinking Fence to cut to any Angle, and extra loose Guide, made expressly for TENON CUTTING. This BENCH only requires to be SEEN to be APPRECIATED.
Also, their PATENT MORTISING, TENONING, and BORING MACHINE, of which upwards of a THOUSAND have been sold in ENGLAND alone, and is the ONLY MACHINE which is SELF-FEEDING, and does the THREE KINDS OF WORK by ONE MACHINE.
P. J. and Co. also invite inspection, at their Manufactory, of their Improved Patent Planing, Tongueing, Grooving, and MOULDING MACHINE, doing SEVENTY FEET per minute, of board of any thickness, and GOOD WORK.
*** CONTRACTS FOR STEAM ENGINES, AND THE FITTING-UP OF SAW-MILLS WITH DRAWINGS AND PRICES, SUPPLIED ON APPLICATION.
POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE, with full set of solid Cast-steel Tools, complete, IS NOW REDUCED TO FOURTEEN POUNDS.

CLARK AND HUNT,
IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,
159, SHOREDITCH.
A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Best Self-acting, with Bright Wrought Bars.
34 inches ..... 34s.
36 ,, ... 56s.
38 ,, ... 58s.
42 ,, ... 60s.

Register Stoves, with Sol. 1 Bars, per inch, 5d.
Improved New Pattern, Circular Check Register, with strong Bars and Trivets, 5d. per inch.
Best Solid Fullback, with Eared Back, per inch, 10d.
Bright Stoves, with Two Pipes, 4s. to 10s. each.

	Best Cut Clasp and Rose Nails			
1½ inch.	1¾ inch.	2-in.	2½-inch	3-in.
10s.	1 - 6d.	15s.	14s.	14s. per cwt.

Best Sheet Cut Floor Brads, 12s 6d per cwt.
Best Cut Lath Nails, 16s per cwt.

Cast Rain-water Pipe —	16d	1s	1s 3d. per yard.
	2-in.	3-in.	

Cast Gutters, 4-in 8d. per yard.

	4-in	4½-in.
O G Gutters,—	8d.	9d. 9d. per yard.

	2	3	4	5	6
Patent Line,	4s 6d.	6s.	5s	7s	8s per gross.

6-inch Bell Mouth Mortice, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 13s. 6d. per cwt.
Dr. Arnott's Ventilators, 4s. each.
Brick Moulds Kept in Stock. Any size made to order
BLACK ANNEALED FENCING WIRE, 12s. PER CWT.

IMPROVED PATENT FINE-CAST SMOKELESS STOVE,
8d. per inch.

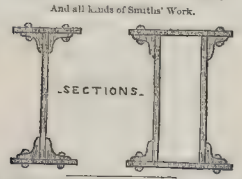
Self-acting Cottage, with Oven and Back Boiler.
20 inches ..... 20s.
32 ,, ... 28s.
34 ,, ... 30s.
36 ,, ... 32s.

Best Japanned Registers, 4s; Berlin Black, with Bright Mouldings 6s. Bright Fronts, with Ormolu Ornaments and Two Sets of Bars ..... Improved Cast Mangers, with Wrought Hay-rack and Water Trough, fitted, 40s.

AN ILLUSTRATED BOOK OF PATTERNS WILL BE SENT ON RECEIPT OF POSTAGE STAMP.

VULCAN IRON FOUNDRY,
SMART'S-BUILDINGS, DRURY-LANE
Castings of every description at reduced prices.
No charge for the use of Patterns.

VULCAN FORGE, Crown-street, Soho.
WROUGHT GIRDERS AND FLITCHES,
And all kinds of Smiths' Work.



STOVE and RANGE MANUFACTORY.
The only Maker of Town-set Self-acting Kitchen Ranges,
247, Tottenham Court-road.
G. BARRETT, Proprietor.

GAS CHANDELIERS,
GAS-COOKING STOVES, GAS-BATHS,
DEANE'S,
LONDON-BRIDGE.
Estimates given.

BELL AND BRASS FOUNDERS TO HER MAJESTY.
JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS having of late years devoted much time and study to the long-neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight of superior tone, truer in form, and at less cost than has hitherto been accomplished.
Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals.
TUNED BY MACHINERY.

Stocked and wheeled ready for Ringing. Old Bells re-cast or taken in exchange.
MUSICAL HAND BELLS tuned to the Chromatic Scale, with Harpsichord Dampers, and repeated on a new system, which gives set, even tone and facility for ringing.
The great 16-ton Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1858, under their Patent.
8, CRESCENT, Jewin-street, London, E.C.

TO ARCHITECTS AND OTHERS.
PATENT BATH-VALVES for PUBLIC INSTITUTIONS.—The Patentee, who has had twenty years' practical experience in Bath work, can with confidence recommend these VALVES, as being superior to any now in use. Specimens may be seen at Mr. MAY'S Manufactory, Dean-street, Holborn.

JOHN HENDERSON PORTER,
ENGINEER AND CONTRACTOR,
IRON BUILDING AND ROOFING WORKS,
GAS-STREET, BIRMINGHAM
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IMPORTANT TO ALL. THE TRADE SUPPLIED.

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FOUNDERS, ENGINEERS, and SMITHS,
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And Works also at
SPA-ROAD, BERMONDSEY.
Castings and wrought-iron work of every description.
A large stock of patterns for building and other purposes, for the use of which no extra charge is made.
Estimates on application.
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HAWKINS'S REGISTERED SASH CHAIN, in Tinned Iron, and Copper Wire, is greatly approved for its strength, durability, and facility in running over pulleys, and is allowed to be one of the most useful and efficient Articles in Registered Chain, for Lamps, Chandeliers, &c. Sold by every respectable Ironmonger in the Kingdom. Manufactory, 27, Dale End, Birmingham.

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THE LARGEST STOCK AT THE LOWEST PRICE,
AND 6, BROAD-STREET, BLOOMSBURY.

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
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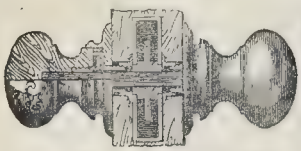
WROUGHT IRON GIRDERS, TANKS, &c.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screws in the back of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Castle at Aldershott, &c. &c. and is universally approved

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

Holtzapffel and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.

ADOPTED BY THE GOVERNMENT.

EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

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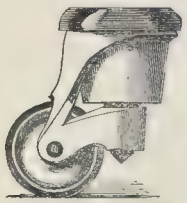

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HUXLEY AND CHING

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WHOLESALE IRONMONGERS AND MANUFACTURERS IN BRASS AND IRON,

28 and 29, CASTLE-STREET (north side of Long-acre),

Builders and Cabinet-makers' Ironmongery, Nails, Tacks, and Brass Work of all descriptions.

Huxley's Patent Plate and Socket Castors, in Brass and Iron.

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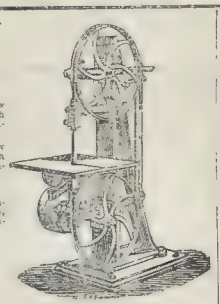
FOR

SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 50*l*.

Price of Band Saw Machine, with 24-inch pulleys and light framing, 32*l*.

A descriptive Catalogue, with Drawings, may be had on application to

SAMUEL WORSSAM and CO

Engineers, &c.

King's road, Chelsea, London.

THOMAS ROBINSON

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ROCHDALE, near MANCHESTER,

PATENTEES,

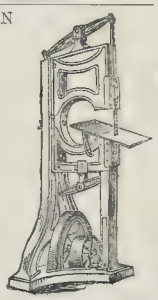
AND

Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

For Cutting out Sweeps and Circles.

Price 20*l*.



Drawing sent on application.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to churches, schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Reece-place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 20, John-street, Adelphi.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting room fire, as they will continue burning without attention for many hours, never going out during an entire night. They are also an effectual cure for all kitchen nuisances.

Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

BATHS and HOT-WATER APPARATUS.

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ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application.

Estimates and Plans for Fixing given.

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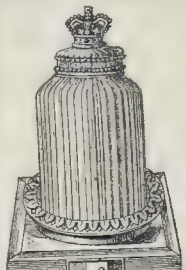
KITCHEN RANGES.—BROWN and GREEN'S PATENT, with the late Improvements, is the best and most economical. It is a certain cure for a smoky chimney. Prospectuses post free. BROWN and GREEN, Lot 10, Bedford-place Agents, R. W. KENNARD and CO.'s, Upper Thames-street.



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(Offices, 36, Great George-street, Westminster.

Manager,
WM. WOODCOCK,)

undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.

Economy and effectiveness are the advantages offered.

Particulars and Testimonials forwarded on application.

HEATING by HOT WATER by HAMMOND'S IMPROVED BOILER.—This apparatus forms a complete register stove, and may be fixed in the library or dining room, the same fire heating a conservatory, greenhouse, or anywhere that heat is required, without the expense of extra fuel. Also the most novel VENTILATING GREENHOUSE, which may be erected and taken down.—Applications at the MANUFACTORY, 13, George-street, Pimlico, S.W.

HEATING BY HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS

Builders of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

THE AMERICAN STOVE, "EXCELSIOR," at 35*s.* for Shops or Offices, is the best and cheapest ever offered in London.—The trade supplied at ANDREW MARFS and CO.'s, Iron Founders, 14, Upper Thames-street.

P.S. A large Stock of other Stoves, Ranges, and all kinds of Castings at the lowest prices, combined with the best designs and workmanship.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions, China, Glass, and Wood Furniture of all kinds, with Patent Shafting Spindles; Dr. Arnott's Ventilator, &c. &c. the New Registered Venetian Ventilator, so much admired, &c. &c. &c.

J. H. BOOBBYER (late STURCH and BOOBBYER), established nearly 250 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE

14, Stanhope street, Clare-market, London.

CHUBB'S LOCKS, with all the recent Improvements. Strong Fire-proof Safes, Cash and Deed Boxes. Complete Lists of Sizes and Prices may be had on Application.—CHUBB and SON, 57, St. Paul's-churchyard, London; 28, Lord-street, Liverpool; 16, Market-street, Manchester; and Hornsey-fields, Wolverhampton.

HOBBS'S NEW MORTISE LOCK possesses the following advantages. The Plates are made of Number "Twelve Gauge" Iron, and being so thick, the pins cannot be loosened by the constant jarring of the door. The security consists in four double acting levers. The PATENT FRICTIONLESS FOLLOWER prevents the wear of the parts, and gives unusual freedom of motion to the handle.

These Locks being manufactured by patent steam machinery, are offered so low as to defy competition, price 10*s.* each. Also, every description of Lock required for house and cabinet work, at proportionately low prices.

STREET-DOOR LATCHES, with Two Keys, 10*s.* Hobbs's new Mortise Latch for heavy doors. Milner's Fire and Burglar-Proof Safes, Strong-room Doors, &c.

HOBBS, ASHLEY, and CO. 76, Cheapside, E.C.

WOLVERHAMPTON LOCK DEPOT, OPPOSITE VINEGAR WORKS, CITY-ROAD, LONDON

Manufactory, Worcester-street, Wolverhampton.—Manufacturer of rim, mortise, cabinet, and other description of locks, with patent adjusting spindles; nails, screws, bolts, hinges, &c. and patentee of the Burglary Detector Alarm Latch and Bolt, after.

REDUCED PRICE OF CAST STEEL BELLS.

MESSRS. NAYLOR, VICKERS, and CO.'S PATENT CAST STEEL BELLS, for Churches, Schools, Factories, &c. from 35 lbs. to 6,000 lbs. in weight; and also in peals, as at foot, may be obtained of their

SOLE AGENTS,

MESSRS. WHITE and BATES,

OOZELLS-STREET, BIRMINGHAM.

Specimens can be seen on application. They are only one-third the price of bronze ones, both to tune, and are superior in the purity and melody of their tone, and in their durability to break.

PEALS OF FOUR.	FOUR.	FOUR BELLS.
Weight about 3,100 lbs.	3,400 lbs.	5,000 lbs.
The Tenor 36 in. Key B flat.	42 in. Key G.	52 in. Key E.
Price about 90*l*	130*l*.	200*l*.

PEALS OF FIVE.	FIVE.	FIVE.	FIVE BELLS.
Weight about 2,500 lbs.	3,7 lbs.	4,800 lbs.	7,000 lbs.
Tenor 42 in. Key B.	42 in. Key G.	48 in. Key F.	54 in. Key E
Price about 107*l*.	145*l*.	240*l*.	290*l*

PEALS OF SIX.	SIX.	EIGHT.	EIGHT BELLS
Weight about 4,000 lbs.	6,500 lbs.	8,000 lbs.	17,000 lbs.
Tenor 42 in. Key G.	52 in. Key F.	54 in. Key E.	64 in. Key C
Price about 170*l*.	290*l*.	360*l*.	720*l*

Single Church Bells, 32 in. diameter and upwards, loaded to 1 cwt.

JOHNSTON, Brothers, GASFITTERS AND MANUFACTURERS of every description of MEDIÆVAL BRASS-WORK, and GENERAL GAS-FITTINGS,

for Churches, Chapels, Public Buildings, &c.

Drawings and estimates furnished

Architects' designs accurately executed.

MANUFACTORY,
190, HIGH HOLBORN,
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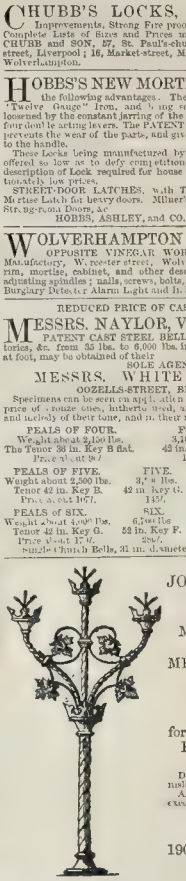

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The Builder.

VOL. XVI.—No. 813.

Lunatic Asylums and the Treatment of the Insane.

SINCE the publication of our last articles on this subject,* several incidents have brought public attention closely to the question of the condition of the insane in many private asylums, and have corroborated the views under which the articles were written, as to the urgent need of a large increase in the number of the public institutions. The demand for further study of the requirements in lunatic asylums as a particular branch of the hospital-class of buildings, also is evident; and questions of site, distribution of plan, and structural contrivance, will have to be considered by architects collaterally with change and progress of opinion as to insanity itself and the treatment of those who are afflicted. The provision for pauper lunatics as set forth in the Reports which we had last before us, we referred to as there shown to be very defective. An asylum for criminal lunatics is now only about to be commenced. For lunatic soldiers, the want of an asylum like the Haslar Hospital of the sister service continues to be felt. Even these allusions go but a short distance to the statement of the want which exists, and of the interest of architects in the question of supplying it.

Assuming, as it seems necessary to do, that private asylums must, at least for some time to come, though under greatly amended legislative regulations, be allowed; it is clear that the majority of the present "licensed houses," as institutions, must be discontinued. If there are any arguments for such asylums for the middle and upper classes, the institutions required are such as would be sufficiently large to allow of that constant study of psychology and mental science, by their medical officers, which is especially requisite to success in the treatment of the insane; of that association of the patients which is deemed beneficial to them; and of the economic advantages of the club-system. These views have been advocated lately by a writer who has apparently a good title to be heard on the subject. In a recent number of the *Lancet*, however, it seems to be argued that association of insane persons tends in a direction opposite to cure. Should such views be correct, there will be an end to the system of classification which renders necessary much of the present elaborate contrivance in the plans of the public asylums. The county asylums, on the other hand, are planned on a scale which is too large; and in future cases the error which has been made just lately, at Hanwell and Colney Hatch, must not be repeated. The buildings which at present are made to serve the purpose of private asylums, as we have before remarked, are generally, however altered, ill-adapted to the purpose. Recollecting that there is no kind of building which so much requires to be designed for its use, as a lunatic hospital or asylum; and that the arrangements for the public institutions have been made the subject of much study by medical men, it seems to follow obviously that the superintendence of an institution not so planned, but located in an ordinary mansion,—with the original stables and other outbuildings altered, and often as ill-suited by its structural character and its state of repair as by its want of the proper plan, to its new purpose,—will be carried on under the utmost disadvantages. Under proper legislative regulations, therefore, the lunatics now placed in private asylums would be provided for in a smaller number of institutions, but in buildings nearly all of which now will have to be erected for the purpose. Thus, were we to sum up a list, adding in the counties and boroughs which yet have to provide for their poor, and including the provision required for the lunatics who are now erroneously placed or left in "licensed houses," workhouses, and gaols, we should find doubtless a result deserving the observation of all members of our profession.

Also since our last article, the Twelfth Report dated 31st of March, 1858, of the Commissioners in Lunacy has been printed, and still further shows the importance of the question for notice in our pages; and we are glad that Mr. Tite is giving attention to the main subject—regarding which the inquiry which he intends to move for in the next session of Parliament, will supply matter of moment to all. The Report, from which we gave our last particulars, showed that there were 21,344 lunatics on the 31st of March, 1857, in asylums, hospitals, and "licensed houses," —that number, however, not including many "single patients," and many cases in workhouses. Of the number, 5,175 patients were in the "licensed houses." We find the total number now raised to 22,310 lunatics, whereof 5,270 were in the private institutions,—or 2,623 of the latter in the metropolitan district, and 2,647 in the provinces. The supervision of the provincial private asylums affords great cause for dissatisfaction. Apart from defects of the law by which it is shown, sane persons can be incarcerated, or detained after the period of a cure, and besides the obvious danger from existence of any asylums as commercial speculations, there is much reason to think that means of *restraint* and consequent ill-treatment prevail to a considerable extent, though now repudiated by the English medical authorities, and discarded in the public institutions. The conclusions of Dr. Conolly, from his experience at Hanwell, and set forth in his writings in opposition to the arguments of many of the continental authorities, show that it is only where the plan and structure of the asylum are defective, or where the attendance is inadequate, that mechanical contrivances for restraint, need be resorted to. That the proper management and curative treatment of the insane are by means of moral influence and medical care, is established in England as the principle; and should it be found that the indulgence of certain kindly feelings of the friends of lunatics in some cases, is incompatible with complete supervision by the Commissioners and the full development of the better principles of treatment, it would be desirable even to trench on that "liberty of the subject" somewhat, and prevent the cruelties which other *friends* have perpetrated or sanctioned. It may be right to mention that the defence which is made in some cases in this country, and far more frequently on the Continent, for certain mild forms, as they are considered, of restraint, is grounded on the belief that they are less injurious than the substitute, which, it is asserted, often is a course of medical treatment lowering to the constitution of the patient, and otherwise subversive of the intention. The defence for the existence of the private institutions, so far as it deserves notice, appears to be that any publicity may be fatal to the future worldly prospects of the patient, whose affliction may be one of the body rather than primarily the mind, or be removed under the proper remedial influences. But, at present, where the seclusion is required for any lengthened period, it is scarcely possible for the fact to be held concealed. Moreover, as information as to the nature of insanity in many of its common forms is extended, asylums will be viewed in a better light popularly, or less as places of imprisonment and suffering than as analagous to hospitals for particular diseases of the body. It seems unnecessary to regard insanity as always incurable; and much may be done where the treatment commences at an early stage. Something is in the power of the individual himself in warding off the commencement of the affliction. Recognised forms of madness prevail amongst those who are reputed "sane," or much of the evidence in criminal cases has belied itself; and we think there is to be discovered amongst many of those who are *insane*, a phase of the mind which is sometimes apparently the finer, and the better as preservative against vice, from the very fact of the insanity. These are questions, we know, lying beyond the sphere of our knowledge. Yet the vocation of the architect is concerned with them, and the whole subject of the modern treatment of insanity culminates in this fact.

It is noteworthy, that the causes of insanity as now seemingly they are regarded by physicians, or as having much relation to the condition of the body and to physical disease, also appear to be not unallied to circumstances, which it has long lain within our own purpose to get corrected. The statistics are defective; but knowing it is believed by some psychologists that the sense of right and wrong in individuals—the very *conscience* is deadened by bodily disease; remembering the constant statements of the Registrar-General as to the still unfavourable conditions of our modern life in towns; noticing there the lack of open spaces and objects of beauty in nature; and remembering that sources of innocent enjoyment are hardly available to those who furnish the largest number of victims to insanity,—that number being not the actively and intellectually occupied portion of the people, but the poorer classes and the female sex,—and knowing that all the hurtful conditions of town-life may be called identical with what it is the aim to have reversed in a lunatic asylum,—as by the choice of a site with every advantage of soil, of large area of land for gardening and agriculture, and for exercise and recreation; of seclusion from noise, and of rural and inviting prospect; and by the provision of means for innocent enjoyment, and occupation, as more potent than any mechanical restraint, we can well believe that the principles which have been adopted most recently in the provision of places for the cure of insanity, are required to be recognised in the altered state of society to a greater extent, and with a view to the *prevention* of the affliction.

In the year ending 31st March, 1858, considerable progress has indeed been made towards adequate public accommodation for pauper lunatics in the counties. New sites have been purchased; plans have been prepared and approved of by the Secretary of State; buildings previously in course of erection have been materially advanced, and additions have been made or commenced at several existing asylums where accommodation had been found inadequate. Yet the structural works do not keep pace with the demand. We supply on our next page from the Report, some particulars of the asylums in course of

* Vide pp. 293 and 371, *ante*.

erection, to which we have added a column showing the cost per patient in those cases, and to which again we have added (from Mr. Fowler's statements in his paper read at the Institute of British Architects in 1846, and noticed in our fourth volume) the cost of some other buildings.

ASYLUMS IN COURSE OF ERECTION.	NUMBER OF PATIENTS FOR WHOM ACCOMMODATION WILL BE PROVIDED.			ESTIMATED COST—						WHEN TO BE COMPLETED.
				Of Land.			Of Building and Fittings.		At per Patient Building and Fittings	
	Males.	Females.	Total	£	s.	d.	£	s.	d.	£ s. d.	
Cumberland and Westmerland*	100	100	200	8,000	0	0	20,000	0	0	100 0 0	October, 1860.
Durham	157	155	312	4,000	0	0	27,480	0	0	88 1 6½	December 1, 1859.
Carmarthen	135	115	25	3,835	4	0½	42,000	0	0	177 11 1¼	"Quite uncertain."
Bristol	100	100	200	2,500	0	0	27,400	0	0	137 0 0	1859.
Sussex	200	200	400	6,923	0	0	44,923	0	0†	112 6 1½	March 1, 1859.
Cambridge	125	125	250	4,670	0	0	45,000	0	0	180 0 0	May, 1858.
Beds, Herts, and Hants	252	252	504	15,000	0	0	70,920	0	0	158 11 5	Uncertain.
Northumberland	100	100	200	7,572	13	5	42,427	6	6	212 2 8¾	September 1, 1858.
Total accommodation, and average cost per patient	1,169	1,167	2,336				Average			142 19 1‡	

Cost, exclusive of land, per patient,

Asylums—Devon	£115	0	0
Surrey	173	0	0
Hanwell	192	0	0
Maidstone	183	0	0
Lincoln (but with land)	240	0	0
Irish Asylums—average	183	0	0

These last-named amounts are probably without fittings. The variations in the first list are very striking.

Thirty-three pauper asylums existing in counties, and three or four in boroughs, which at present provide for 16,231 inmates, will shortly accommodate, when additions to some of them are completed, the further number of 2,481 inmates, of whom we notice that the Colney Hatch Asylum will receive an addition of 796 patients, and the Hanwell Asylum one of 710 patients. Considering that some authorities doubt whether more than 400 patients should be provided for in any asylum, these extensions, in opposition to the opinion of the Commissioners, are to be regretted. A third asylum should have been provided.

The additions, by new asylums and by extension of existing ones, will amount to the provision of 4,817 beds. If to this most recent estimate of the increase in the accommodation for paupers "we apply the ratio of increase in the numbers requiring accommodation observable during the last year," as the Report says, "some conclusion may be formed as to the period for which these additional beds are likely to be found sufficient to meet the constantly increasing wants of the country, and how far they will tend towards the object we (the Commissioners) have sought most anxiously to promote ever since the establishment of this commission, namely, the ultimate closing of licensed houses for pauper patients." On the 1st of January, 1857, the number of pauper lunatics in county and borough asylums, hospitals, and licensed houses, amounted to 16,657. On the 1st of January last, the number had increased by 915 patients, or so as to make the total 17,572; whilst, of the total number, 2,467 were confined in various "licensed houses."

Assuming, then, that during the next two years the progressive increase in the number of pauper lunatics will be at least equal to that of the year 1857, it follows that on the 1st January, 1860, accommodation for 1830 additional patients will be required; and if to this number be added the 2,467 patients who are now confined in licensed houses, there will remain, to meet the wants of the existing year, only 520 vacant beds. It is obvious, therefore, that if licensed houses are to be closed for the reception of pauper patients, some scheme of a far more comprehensive nature must be adopted, in order to provide public accommodation for the pauper lunatics of this country."

On the matter of the quantity of land belonging to an asylum, a point to which so much importance is attached, the experience of the Commissioners has satisfied them that in no case should the quantity be less than in the proportion of one acre to four patients.

Amongst the additions to existing buildings, it may be well to notice those to the Devon County Asylum, where it seems a kitchen, and accommodation for 100 female patients, with fittings, have been provided at as little as 38*l.* per patient.

The buildings now in progress at Hanwell comprise the reconstruction of the interiors of the eastern and western towers, so as to do away with the objectionable caged staircases; detached residences for the medical officers; a large dining-hall, near the kitchen, on the ground-floor, for female patients, and a dormitory above; the addition of a third story to the whole of the central portion of the main building, to consist of day and sleeping rooms, thereby increasing the number of wards from fourteen to twenty on each side; building recessed day-rooms to each gallery, and conversion of some existing day-rooms into dormitories; conversion of the foul-linen washhouses, the kitchen, the steward's house and the workshops into wards; the enlargement of the laundry, and the building dormitories above it; and a new kitchen, bakehouse, brewhouse, store, dairy, larder, and other offices; extension of the washhouse; removal of the cow-houses and piggeries; re-arrangement of certain workshops; changes in the gas and water apparatus, and enlargement of some of the airing courts. The Commissioners were unfavourable to the third story, and would have preferred two new blocks of buildings to the south-east and south-west of the asylum. At Colney Hatch, the plan of enlargement included wards added to various parts of the building, and designed on the same principle as the original building, and the necessary additions to the domestic offices. The additions, therefore, on plan, formed "spurs" carried out from the existing buildings; and a story was to be added to certain blocks originally two stories in height. The Commissioners urged that instead of the addition of the new wards, as proposed, a distinct and separate building should be erected for quiet, convalescent, and working patients to the number of about 600, leaving only an addition of 200 to be accommodated in the main building. The Committee of Visitors, however, declined to accede to these propositions, and the original plans were proceeded with, subject to a few slight alterations. The Commissioners, however, are strengthened by all their experience in the opinions which they had before expressed, and which were noticed in our former papers; and they feel assured that had their propositions in these cases been adopted, not only would the funds of the ratepayers have been spared a very large outlay, but the patients themselves would have derived benefit from being lodged in rooms more cheerful, and otherwise better adapted to the purpose. As to the case of both buildings, therefore, they record their regret that the Visitors should have lost the opportunity of providing efficiently for a large proportion of the pauper lunatics at a reduced cost.

Asylums are in contemplation for the city of London and the borough of Maidstone; and 290 acres of land on Bagshot Heath have been purchased for the moderate sum of 6,000*l.*, preparatory to the erection of the State Asylum for criminal lunatics. The provision for their pauper lunatics by boroughs, continues to be unsatisfactory. It appears that there are difficulties in the Act of 1853 which will require to be removed. The effect in the case of Ipswich is, that the pauper lunatics are sent to a "licensed house" near London, a distance of upwards of 70 miles, where the patients are never visited by the guardians, and of course seldom by any relative or friend. The only cases of boroughs having asylums of their own are those of Birmingham, Bristol, and Hull; though Maidstone, Bristol, and London, are about erecting asylums. There are about sixteen "boroughs in union with counties;" and eighteen whose paupers are now sent to asylums, under contract or arrangement between Justices or Councils, and Visitors; besides eight other cases where the agreements are not formal, and under the express provisions of the statute; but a list is given of twenty-four boroughs that have not made any statutary provision for their lunatics.

The institutions called "hospitals" are for lunatics who are not paupers; though in some of them the patients are received gratuitously, and in other cases at reduced rates. In no part of the country, say the Commissioners, is the want of public provision of this nature more felt than in the vicinity of the metropolis. At St. Luke's Hospital, the governors contemplate the admission of recent cases on moderate terms; and hope is expressed that the munificent funds of Bethlehem and Guy's, will be made applicable in a similar manner. But, the lunatic wards at Guy's, we see, are likely to be closed. Of the present condition of these, as well as of the other London hospitals, we must infer that the opinion of the Commissioners is more favourable than it was, that is to say, notwithstanding the urban localities. Great improvements were made at Bethlehem recently, and we have noticed those at St. Luke's as having been immediately followed by a more satisfactory condition of the inmates. It is possible that some of the disadvantages of institutions in towns could be overcome by different topographic distribution, and especially by the incorporation of garden-courts with works of art disposed therein; but, wherever possible, as we said of hospitals last week, the towns should be left, and a site obtained in the open country. The mixture of the class of ordinary paupers with those persons who have notwithstanding their affliction cultivated minds, is admittedly not desirable; and recreations and employments must be of a different character. On all, however, the influence of good air and exercise, and of natural beauty, operates. At the asylum at Charenton, in France, paintings in fresco or encaustic, in the chapel, and much gilding, have been thought suitable; whilst Dr. Conolly, we believe, objects to embellishment of that character.

Though there is very much yet to be done in the provision of new buildings, and in the devotion of their skill by architects to this branch of their vocation,—or by means (good planning and structural arrangement), which really comprise the chief and special agency for the proper treatment of the insane, what has already been done in this country is, comparatively considered, great.

The history of the progressive changes to the ultimate disuse of mechanical restraint, forms an interesting subject, which has been treated by several writers.* The credit for the first step may be given to France. In 1792, Pinel struck off the chains of the patients in the Bicêtre; but after that time, the progress did not keep place with that effected in England; and in 1828, in France, the old system had not disappeared. In the year 1792, mentioned in referring to France, "The Retreat" at York was projected: it was opened in the next year; and to it and to the exposure, in 1814, of the condition of the York Asylum, and to the contrast which was apparent between the cases, we may attribute the amendment from the wretched condition of the insane which up to the latter date prevailed. "The Retreat" was, and still is, an institution maintained by the Society of Friends; and the reader who is disposed to pursue the subject will find from some of the authorities, that the project and its execution were mainly due to the family of the Tukes, of York, honoured members of the Society. One who knew them well in very early life, had impressed on his recollection the fact of a matter of improvement—simple, but which serves to indicate the perception of the right principles. We refer to the substitution of *casements* of iron, for the iron bars which previously had been considered indispensable. Some account of the structural changes made will be found in the "Description," by S. Tuke,† and in other works by the same hand; and a biographical notice of the elder Tuke may be met with, written by Lindley Murray.

Alterations to "The Retreat," including the addition of a new wing, are, we believe, at this present time about being commenced. Many, if not the chief of the original improvements, are said to have been those adopted eventually in the county asylum at York, and in other cases.

The earliest reference that we have met with to improved new buildings, is supplied by the title of

* Illustrated at pp 294 and 295, *ante*.

† This includes interest to the completion of the purchase.

‡ This, however, does not include bedding, furniture, &c

* Society for Improving the Condition of the Insane. The Prize Essay, entitled "The Progressive Changes which have taken place since the time of Pinel, in the moral Management of the Insane, and the various Contrivances which have been adopted instead of Mechanical Restraint." By Daniel H. Tuke, M.D. Assistant Medical Officer to the York Retreat, &c. &c.; together with a short Abstract or Classification of Cases contributed by Sir Alexander Morison, M.D. 8vo. pp. 122. London: J. Churchill, 1854.

"The Treatment of the Insane without Mechanical Restraints." By John Conolly, M.D. 8vo. pp. 380. London: Smith, Elder and Co. 1856.

"A Concise History of the Entire Abolition of Mechanical Restraint in the Treatment of the Insane," &c. By R. Gardiner Hill, F.S.A., M.R.C.S. London: Longman and Co. 1857.

† A Description of the Retreat near York for Persons afflicted with Disorders of the Mind among the Society of Friends; giving a Historical Narrative of the Rise and Progress of the Institution, a Description of the Moral and Medical Treatment practised in it, and many other interesting Particulars, with three ito plates, descriptive of the Buildings," by S. Tuke. 4to. York. W. Alexander, 1813.

a work* by Mr. Wm. Stark, architect of the Glasgow asylum, and of one at Dundee, spoken of by the *Edinburgh Review* about forty years back (when it was condemning the London asylums, then lately erected), the first-named building as "the best in Britain," or at the time of its erection, and the other as "of admirable construction."

The introduction formerly of the "non-restraint system" is greatly due to Mr. Hill, of Lincoln, who put it in practice there in 1837,—declaring that mechanical restraints were "never necessary, never justifiable, and always injurious." The system was adopted at Hanwell in 1839, and shortly afterwards at Northampton, Gloucester, Lancaster, Stafford, Glasgow, and Haslar, and in Ireland, and generally. To Dr. Conolly, however, the merit of the complete demonstration of the correctness of the system, is due. Within recent years our volumes may be referred to for particulars of the chief buildings erected. In our fifth volume, for 1847 (p. 585), the plans for the Colney Hatch Asylum were described, and some remarks, in continuation of a previous paper, were offered, on the arrangement of lunatic asylums generally. In our ninth volume, for 1851, the executed design for the Colney Hatch building; in the next volume, the asylum for the counties of Monmouth, Hereford, Brecknock, and Radnor, at Abergavenny, and the Eglinton Asylum at Cork; in the thirteenth volume, for 1854, the hospital on Coton-hill, near Stafford (referred to in recent letters as an example of the hospital required for the patients of the higher class); and, in last year's, the Essex Asylum, at Brentwood, were described and illustrated. These examples will afford aid in studying the subject of icnographic distribution in relation to the class of buildings. An apparent disadvantage from extended line of plan, in some of them—namely, as to distance of wards and rooms from the kitchen,—was referred to in the most important of the cases. Whilst the Colney Hatch plan has the extended line, the Brentwood plan too seeks to preserve advantages of prospect, but with buildings arranged rather at right angles, and bounding the gardens and airing-courts—which last, however, are open on one or more sides.

Both the history of the changes, however, and the full consideration of the requirements in asylums, are subjects too extensive for present notice. It may be necessary to recur to them.

* Remarks on the Construction of Public Hospitals for the Cure of Mental Derangement. 4to. Edinburgh. 1807.

CRAWLEY AND HORSHAM, SUSSEX.

"Is it worth while looking at Crawley Church? I am told 'there's nothing in it.'" Of course it is worth while. There is not an old church in this wide United Kingdom that does not contain some interesting confirmation of history, a link in the chain of artistic progress, or a thing of beauty,—something, in short, to either interest, enlighten, or delight, and usually all three. If the architecture have been obliterated, messed, destroyed, you will find a monument or two,—

> "And on one side
> An epitaph and quaint memorial
> Remembers the first founder, who beneath
> Sleeps carved in effigy, while overhead
> A dusty banner, colourless with time,
> Waves in the air, an emblem of his toil
> And martial calling."

If sash-windows have been put into the nave roof, and the whole of the interior agreeably whitewashed, there is perhaps a good Early English chancel: if there be no stained glass, there is a fine brass, or an elegant piscina, or a Norman north door. Depend upon it you will find something, and therefore never believe those who say "there is nothing to see in the old church." Crawley being on the Brighton road, was well known in the old coaching days (pleasant days, notwithstanding the waste of time and "please remember the coachman!"): it has the termination from *leigh*, a meadow, common in the county, and which round about has been mostly turned into a "ly,"—pronounced as if the inhabitants desired to make it evident; as Arding-ly, and Chidding-ly, and Hoath-ly. It has, at the London end of the one wide street that forms the parish, the stump of a singularly large and ancient elm, presenting an apartment inside, but yet supplying sap to a bower of leafy branches above. There's life still in the outer skin of the old fellow, though time and ill-usage have taken the heart out of him.

Warburton says Crawley is "remarkable only for its church steeple, which is a tower of great height, built all of fine freestone, and adorned with antique figures and grotesque embellishments." The tower is of the Perpendicular period (the body of the church is earlier), and was coarsely repaired, especially at the top, in the beginning of the present century, so that it has at first sight almost a modern aspect. The outline of the tower is very good: in other words, its proportions are satisfactory. The figures spoken of would seem to be from another building, and are worked in, in the west front. These are small and rude. In addition to these, will be found represented the lamb, a bird, and the Masonic star, if we mistake not, of eight points. Within, amongst various little peculiarities, heraldic as well as architectural, a tie-beam of the roof displays, in one line in old English, the first part separated from the second by foliage, the following moral apothegm:—

"Man yu wele be war. For warldly good makyth man blynde. ✠ Be war be for whate comyth be hynde."

A brass inscription to the memory of William Blast, who died the 27th of February, 1438, "*cujus animæ*,"* &c. &c. affords some excellent examples of the letters and figures of that period.

Some of the windows, too, are worth noting; but we must say no more, or we shall have no space for Horsham, which is on the same arm of the railway, throwing off at the Three Bridges station, and has more points of interest.

Horsham,—whether the name be derived from Horsa, the Saxon chief (a favourite in the county), or from *Hurst*, a wood, and *ham*, a town,—is an ancient place, and a pleasing. The approach to the church, through an avenue of trees, paved with the large flag-stones peculiar to the neighbourhood, used also for roofing, is remarkably pretty: the sight, when the sun is shining through the leaves and on the old church beyond, is a joy gratis. "Gratis!" says Jerrold. "It is the voice of Nature, speaking from the fulness of her large heart. The word is written all over the blue heaven; the health-giving air whispers it about us; it rides the sunbeam; the lark thrills it, high up in his skyey dome; the little wayside flower breathes gratis from its pinky mouth; the bright brook murmurs it; it is written in the harvest moon. And yet, how rarely do we seize the happiness, because, forsooth, it *is* a joy gratis."

Cartwright, in his "Western Sussex," and other historians of the county, describe Horsham Church as an Early English structure, and this is correct as regards the body of the church, which displays an interesting clerestory of lancet arches. But they all overlook the fact that the tower is of Norman architecture, and was probably built quite at the commencement of the twelfth century, if not before. East of the tower, too, on the north side, there is some Norman work, disguised by restoration, but unmistakable.

Interiorly the church is a large and lofty building, including the tower, 146 feet long. It is much twisted and racked about by time: it has gone over towards the north, and the columns are greatly out of upright. The ceiling, pentangular, so to speak, is boarded, and formed into panels by mouldings, with carved bosses and knots at the intersections. The east window is a modern abomination, in imitation of one of the Perpendicular period, surrounded externally by rustics!

On the north side of the chancel, between that and what is known as the Roughey Chantry, is a Purbeck canopied altar-tomb, from which the inscriptions have been taken away. The canopy, or testern, is groined, and is supported by four marble pillars. Shields, *pateræ* and lions' heads occupy the cornice. The whole is of Debased Gothic. This has been usually supposed to commemorate Thomas Lord Hoo ("the noble Baron Hoo," as Camden calls him), who died in February, 1455. Mr. Durrant Cooper, in a paper on this and other monuments in the church, printed in the excellent new volume of the "Collections" published by the Sussex Archæological Society, is disposed to think that it was erected to the memory of his half-brother, Thomas Hoo, who died in October, 1486, in which opinion, judging from the character of the work, we should be inclined to agree.

The font at the west end of the church, is also of Purbeck marble, probably of the same period as the canopied tomb. On the south side of the chancel is an altar tomb, with a recumbent stone effigy of Sir Thomas de Brewese, or Braose, who died, September 22, 1395. In this the habiliments of the period are admirably represented: it has probably once been coloured.† Near it is a more recent effigy and altar tomb, dated 1654, to Mrs. Delves.

Many a brass has been removed from this church, and exclaims, from the pavement, "Witness my mark." In the centre of the church there is a brass of a robed priest, of considerable interest and beauty. It is one of only four examples known, which show the cope worn over the eucharistic vestments instead of the chasuble; the opening of the cope in front makes the crossing on the breast of the stole (or band) visible. The chasuble, it will be remembered, has no opening in front, and therefore hides the stole. The chasuble has an aperture in the centre for the head, but none for the arms, so that when the latter are raised, the chasuble falls over them in folds. The fringed ends of the stole are usually seen below it. The figure, in the brass of which we are speaking, bears, too, on the left arm, the maniple, a short sort of stole, and which in this case is, like the latter, richly ornamented. The Golden Legend says of St. Peter, that "he bare alway a sudary (or maniple), wyth wyche he wyped the teerys yt ranne from his eyen."* The edge of the cope on each side is ornamented with a border, beautifully cut. This contains in a lozenge and a circle, alternately, the letters T and C, and the brass is supposed, in consequence, to be a memorial of Thomas Clerk, who was vicar of the parish, and died in 1411.†

Here, however, we may not longer stay. Outside, the grammar-school, on the south side of the church, the river and the far-away stretching fields make a charming picture, agreeable to contemplate; while over all dominates the tower, which for seven centuries and more has looked down on successive generations. If it could speak, how many tales could it relate? And yet it could tell us little that we do not know; the good and evil passions of mankind were the same then as now, and led to the same lessons:—

> "Ancient Tower! thy voice
> Need not instruct us: for we look around
> On high ways or on byways of our life,
> And find no sorrow of the ancient days
> Unparalleled in ours; no love sublime,
> No patient and heroic tenderness,
> No strong endurance in adversity,
> No womanly or manly grace of mind,
> That we could not, if every truth were known,
> Match with its fellow in our later days.
> So keep, Old Tower, thy secrets to thyself
> There's not a hovel in the crowded town
> That could not tell us tomes of histories
> Of good and evil, wonderful as thine."‡

* The invocation stands, "*Cujus aie. ppiciet. de. anie.*—the *animæ* being repeated, as is sometimes the case.

† There is a good engraving of it in Cartwright's book.

* As quoted by Mr. Boutell.

† An engraving of this brass is given in Messrs. Waller's book of brasses.

‡ Charles Mackay.

THE NEW ADELPHI THEATRE.

THE works of the new Adelphi theatre are in active progress, and though comparatively little has been done, the roof, we are told, will be put on within the next six weeks. The new building will cover a somewhat larger area than was comprised within the old house, the present plan being made to include all the ground added at various dates. The ground also, will be excavated to a depth of 10 or 11 feet below the original level, to get space required beneath the pit and stage. The gallery entrance will be at the side, or from Bull-inn-court, in which, also, will be one of the stage entrances. The pit and box entrances will be as at present, from the Strand. A wide flight of stairs will lead to the grand tier, which will be appropriated to private boxes; and it appears there will be four other staircases of communication between this and the other tier of boxes, and that two of these staircases—those in the angles next the proscenium boxes—will extend also to the gallery and pit levels. There will be four tiers of proscenium boxes, ranging with the divisions alluded to, of the body of the house. The proscenium boxes will occupy much space, and form a leading feature in the decorative effect. The whole of the stairs and floors to passages will be fireproof; and the apertures in the external wall next Bull-inn-court will be contrived so that they may be made readily available for escape in case of fire. The pit will extend under the grand tier of boxes, as in the old house. The front seats of the gallery, and of the pit, will be arranged as stalls, those in the latter case having the staircase, communication before mentioned, with the boxes. A large saloon, over the grand staircase, will be provided, in connection with the upper boxes.

The roof-principals will be of wrought iron, and they will be carried from the ground, independently of the brickwork, by cast-iron stancheons built in, or on a somewhat similar principle to that referred

to in our notice of St. James's-Hall.* The arrangement in the present case seems to have been adopted in the first instance, to avoid the removal and re-instatement of the party-wall. It happened, however, that the wall was found so seriously defective as to require the removal, under any circumstances; and the work is, therefore, in progress.

Owing to the space occupied by the proscenium boxes, and the curvature of the plan of the ordinary boxes, the first impression on looking at the drawings is, that of a larger number of bad places for seeing, than would be desirable. But these matters, no doubt, have been well considered, or may be altered; and for the proper method for reconciling the objects in theatre planning,—the question which lately we alluded to—we are not even yet prepared to offer any suggestion to remove the difficulty which an architect has.

The decorative effect of the house, we opine, will be tasteful and elegant. A manner resembling that of florid Italian in the enrichments, pervades the whole: light and highly ornamental shafts carry the box fronts: the partitions of the private boxes have their front edges formed in curves of contrary flexure, with a view to the general effect: and the centre of the ceiling rises in domical form. Of all these features, and many of those of the structure, we shall, however, have other opportunities of speaking. Mr. T. H. Wyatt, our readers know, is the architect, and the work is being executed by Mr. Willson. The front in the Strand, and the premises next Maiden-lane, are not at present touched. This is *par excellence* the year of theatre-building, and something in that branch of architecture and building-work has been done both northward and eastward in London, that we must find opportunity to notice.

BUILDERS AND ARCHITECTS.

MYERS *v.* SARL.

We mentioned some time ago that Mr. Myers had brought an action against Messrs. Sarl, to recover the balance of the amount of contract, extra works and fittings, in respect of the premises rebuilt for Messrs. Sarl, in Cornhill, and that it had been referred to arbitration. The inquiry has been going on since then, Mr. Thomas Norton, barrister, being arbitrator. Nine or ten meetings have been held, and a number of architects and builders have been examined on the part of the plaintiff, including Mr. Barnett (the defendants' architect), Mr. R. Roberts (the defendants' surveyor), Mr. G. Plucknett, Mr. H. Hunt, Mr. Geo. Smith (builder), Mr. Chas. Lucas, Mr. J. T. Knowles, Mr. Abraham, and others. The case is one of some mystery, and involves several points of considerable importance. Let us mention, in brief, that the quantities were taken out by a surveyor (Mr. Roberts) *named by Messrs. Sarl*, assisted by one of Mr. Barnett's pupils, and that the account of extras and omissions as made out by the same surveyor (the defendants' own agent), and certified as correct by their architect, is that for which the builder is proceeding. According to the contract, orders in writing were to be given for all alterations, and a weekly account of the work done thereunder delivered to the architect. These are the two points on which the counsel for the defendants, with or without consideration of right and wrong, is insisting. We will illustrate the proceeding by one example. The contract provides, say 30*l.* for concrete. The concrete actually used comes, according to the defendants' own surveyor, to say, 10*l.* In making up the account, 30*l.* is placed amongst the deductions, 10*l.* amongst the additions. "Where is the written order for the ten pounds' worth of concrete?" says the barrister. "None was given: it was provided for in the specification." "Very well: then I object to it," and off goes the 10*l.* the defendant knowing perfectly well, nevertheless, that the concrete was used. Again, 100*l.* were put down in the contract by direction for scagliola. The defendants and their architect took the scagliola into their own hands, and gave their orders to the party employed,—one recommended by the architect. The work did, it came to 227*l.*; which sum the builder paid on the certificate of the architect. The sum of 100*l.* is entered on the list of deductions, 227*l.* in the list of extras; but as there is no order signed by the architect for this work, the defendants' counsel knocks off the amount, and coolly says, the builder must lose it. If we were to express what our opinion of such a proceeding is, we might be liable to an action for libel.

Architects are very gravely interested in this matter, and we shall return to it.

* See page 171, *ante*.

A RAMBLE AMONGST VILLAGE CHURCHES IN WORCESTERSHIRE.*

Fladbury.—My second day's excursion took me to Fladbury, a pleasant village on the Avon, at the distance of ten miles from Worcester. I here found a church for the most part of Decorated character merging into Perpendicular, and which derives its interest more, perhaps, from the sepulchral monuments it contains than from strictly architectural features, of which the following brief enumeration may suffice:—Three very obtuse arches of two plain-chamfered orders borne on octagonal shafts, which divide the space from the west to the chancel arch into nave and side aisles; the caps composed of a scroll mould with large oblique fillet on the under side; the short but deeply inflected unornamented bell; the scroll-mould necking; the clerestory windows,—little coupled ogee lights under a square head, set close below the wall-plate *over the point of the arches*; those of the side aisles in rapid deeply-splayed openings under a three-centred arch on the south side, a four-centred one on the north; the great eastern window of the chancel a six-light one of a design very common in late and inferior Decorated, resulting from the formation of the subdivisions by tracery bars following the curves of the containing arch, and which, if produced, would intersect it; the lights rising in gradation from the centre to the sides, and being surmounted by a quatrefoliated circle. There remains nothing of the ancient timber-roof except the six curved braces of the principals on each side the chancel, springing from exquisitely carved corbels, all of different designs, the spandrils being filled in with foliage.

In the middle of the nave stands a very fine altar-tomb of Scotch granite highly polished, sharp and clear in outline as when first executed. The brasses are full-length figures, of knight in complete plate armour with lion at the feet, and of lady with the feet resting on dogs; the hands of both effigies clasped on the breast. Square panels, each enclosing a quatrefoil, with every foil trefoliated, and quatrefoliated pointed ovals in the spandrils, enrich the sides and ends of the tomb; a band of quatrefoliated circles the base mould. Three shields of arms at the head and two at the feet of the figures are richly emblazoned in colours and gold. The border legend of brass inserted in the slope of the cornice informs us that this noble memorial was raised to "*Johannes Thenkwardes et Annora uxor ejus et Thomas filius eorum. Johannes fuit sub Thesaurarius Anglie qui vero obiit xxviii. die Aprilis anno Domini Millmo. CCCC°XLVI. quorum animabus*," &c. At the entrance of the sanctuary lies a sepulchral slab with half-length brass of a priest, a former Rector of the church, "*Qui vero obiit ultimo die Aprilis an. Domini M.CCCCLVIII. cujus animæ*," &c. Near to this is a still more interesting brass, though a little later in date,—a small full-length, a little more than a foot in height, of an ecclesiastic in full vestment, a former Rector also of the church, who died in 1501. Besides these, there exist two other slabs at the west end; one, that of a warrior, the accompanying matrix of the female figure being deprived of its brass. The legend of this, as well as of the contiguous one, is defective in the date, which, however, the general character clearly indicates to be of the fifteenth century.

On the south side of the sanctuary a fragment of the Early English period has survived everything of coeval date with itself. This is an admirable double piscina, of two trefoil arches, springing from a central bearing shaft (this is a restoration), the lateral foils being continued downwards to form the sides of the opening, enclosed in an obtuse arch, whose mouldings are likewise continuous. The section is very good, and quite characteristic of the style: the water-drains are circular sinkings.

A square porch, projecting from the south-west side of the church, roofed with a single compartment of four-celled vaulting, plain-chamfered ribs springing from shafts in the angles with abacus, cap, and necking identical with those in all of the internal shafts, sufficiently connect this portion in date with the interior. But the Tower engaged at the west end carries us back to a much more remote period, for the two lower stories, perhaps also the third, are clearly the work of Norman builders, as is shown by the corner buttresses of slight and uniform breadth and projection from base to summit; by the one in the middle of each disengaged side (an arrangement peculiarly characteristic), in which is scooped out a shallow round-topped recess; and by the semihexagonal strings. The first and second stages are lighted by mere oblong slits, the belfry story by a two-light Decorated window, and the summit crowned by a battlemented parapet, with pierced vertical panelling, and square pinnacles in the middle and at the angles.

Cropthorne.—The ferry-boat conveyed me across the *Avon*, at a quarter of a mile's distance from which the little church of *Cropthorne* crowns a gentle ascent, the successor, evidently, of a much earlier edifice. The indications of this anterior structure are visible mainly in the chancel arch, very low, pointed, of two plain-chamfered orders, resting on pilaster masses flanked on each side by an attached shaft, set in the angle formed by the intersection of pilaster and wall; crowned by short cone capitals and abacus of the simplest section, all very coarse in execution. And further, in the arch giving admission from the nave into the tower, at the west end, pointed also, with hood-mould of large nail-heads. The circular arches sustained on somewhat bulky columnar piers, are not faithful representatives of the age whose architecture they affect, to which they have just enough of resemblance to cheat the eye into a momentary belief of antiquity, which vanishes on the most superficial examination. They are most probably contemporaneous with the windows of the entire church, insertions of very late Decorated character, or perhaps of the Perpendicular period, with such close similarity to those of *Fladbury*, that they may be passed over with the remark that the clerestory windows are here placed *over the piers*, and not over the points of the arches, a proof that the old builders were bound by no such unvarying consistency of practice in this matter of construction as has sometimes been imputed to them.

At the eastern extremity of the south side of the chancel, there occurs a singular example of the ingenious employment of an architectural member, for a purpose very different from its original destination. This is the conversion of a capital into a piscina, projecting from the wall, and which, from the profile of its abacus and deep unornamented bell, I take to be of Early English origin. The top is slightly hollowed, and close to the wall is pierced a circular hole for the escape of water.

The original open benches of this church, whose destruction would have been a just subject of regret, have by good fortune been admirably preserved. The traceried designs of the ends, the bold string on the upper edge, the double ogee with circular fillet at the base and top, are extremely good, and characteristic of Early Perpendicular work. The sharp and delicate carving recalls to mind the skilful hand which has left its impress on the corbels of the chancel-roof at *Fladbury*. Indeed, it requires no great effort of imagination to suppose the same builder to have raised these neighbouring structures: for, in addition to the all but identical designs of the windows, we find in the ground-stage of the tower the same system of buttressing; the little round-headed shallow scooping in the central buttress, in which is inserted a strip of glass, a few inches in width, to which narrow dimensions is contracted the splay, opening wide in the internal face of the wall and running through its entire thickness. The belfry openings are two light perpendicular windows, divided upwards by two transoms, of which the lower one is traceried, and surrounded by a prominent dripstone descending half way to the sill, and returned horizontally as a string,—somewhat coarse in execution, but sufficiently pleasing and picturesque in effect on a distant view.

Of the memorials raised to the family of the *Dingles* in this church, I shall do no more than note the existence, as neither from beauty of design, richness of material, nor skilful execution, do they merit a description. The one, an altar-tomb of stone, with recumbent male and female effigies, the former in the warlike attire of the age, dates from 1624. A second, a canopied tomb on which the figures are in an attitude of devotion, and their offspring represented in the usual position at the sides, is of the date of 1646.

Retracing my steps to *Fladbury*, I thence proceeded to *Wyre Piddle*, prompted by the desire to glance at the famous chancel arch,—famous in Worcestershire as an indisputable relic of so-called Saxon architecture. It is mortifying to be compelled to acknowledge one's inability to discover what every one else professes to see very clearly; but I should be wanting in candour did I not avow that I departed unconvinced of the pre-Norman origin of this fragment. I saw nothing but a low round-headed arch, cut square in the wall, with a concentric dripstone of the usual Early Norman profile, returned inwardly in the direction of the opening, and again at right angles, so as to form

* See p. 567, *ante*.

an impost tablet, with no peculiarity of masonry, no marks which can be held distinctive of the mode of construction of any people or epoch. This arch is flanked on each side by a narrow circular-topped aperture; in the adjacent and kindred chapel of *Pinvin*, these apertures are square, and herein resides the only difference between the chancel walls of the two structures. On the whole, I conclude this arch to be pronounced Saxon on no more solid grounds than would support the claims to the same designation of the one I saw in the curious little church of *Pirton*, near *Croome*, and, indeed, of half the round chancel arches in the country. The west window is a Perpendicular one of three lights, a more favourable specimen of its age than we should expect to meet with in so rude a structure. It contains numerous fragments of contemporaneous stained glass, utterly marred in effect by the careless arrangement which has placed them in juxtaposition without regard to the unity of the subject represented. The object which will be viewed with the greatest interest is an original Norman font of very early date: the bowl, supported by a cylindrical stem, is surrounded below the rim by a band of the chevron reversed, a string of the same enrichment in its usual form occurring beneath, and a scolloped ornament at the base of the bowl.

Ashchurch, Kemerton, and *Overbury.* — The starting point of my third day's ramble was *Ashchurch*, a village distant two miles from *Tewkesbury*. The church, of generally Perpendicular character, consists of nave and an aisle on the north side only, separated by low octagons carrying six obtuse arches of two plain-chamfered orders—this being the section also of the abacus and capitals. These supports, declining alarmingly from their vertical position, are shored up by internal sloping masses of wall rising from the floor, and abutting nearly on a level with the apex of the arch, and having quadrantal spaces cut out at the base. The windows, of two and of three lights, set on the outer edge of an immoderately deep splay, are true to the type I have heretofore described, which appears quite characteristic of the district. The object by which strangers are attracted to this church is the wooden rood-screen stretching across the chancel, a pleasing and now somewhat rare memorial of ancient ritual usages. It consists of two stories in height of pierced vertical-lined panelling, separated by a deep and well-carved band of foliage. The loft is coved over in a quarter-circle curve, whose concave surface is spaced into squares by delicately moulded ribs, and finishes in a broad frieze of the vine tendrils, fruit, and leaves, with a coronal crest of inverted trefoliated semicircles, having flowered points, an enrichment constantly occurring in similar situations in the Flamboyant architecture of France.

The noticeable features on the outside are the remains of an old Norman doorway in the south wall, under a porch of Perpendicular date; the outer order enriched on the face with the *horizontal* zig-zag and a string of pearls, surmounted by a dripstone with very curious flat scroll terminations. The shafts have disappeared, and within the doorway has been inserted a pointed aperture, with mouldings continuous to the ground,—an innovation probably of the same date as the interior of the church to which epoch may also be referred the engaged Tower at the west end, with its corner buttresses of six stages, graduated in height and projection, the window in the west front of the ground story, and the solid battlemented parapet.

Kemerton.—At my next stage, the charmingly secluded village of *Kemerton*, which I reached by a walk through a country rural and picturesque in the highest degree, I was doomed to disappointment in my ecclesiological researches. I found a church in which the hand of the restorer is everywhere manifest in its complete transformation into a highly florid Decorated edifice. I found ritual arrangements costly and sumptuous; but I observed nothing ancient internally but the Pointed Transitional arch under the tower, and the fragment of an abacus: an enormous splayed opening expanding through the entire thickness of the wall until contracted on the outer face to a mere pointed slit, glazed as a window. Nothing on the outside save the ground-story of the tower, and a string or two just sufficient to tell of the past existence of a structure of which they are the only relics. I hastened, therefore, to *Overbury*, at half a mile's distance, through a country of undiminished beauty, where I found more than compensation in its singularly interesting and instructive church, which I proceed to describe.

Overbury.—The plan of the church comprises three aisles, central tower, and square chancel. Three Norman columnar piers, 4 feet in height by 7 feet 9 inches in circumference, and having intercolumniations of 9 feet, with the responds, sustain semicircular arches of two rectangular edged orders, and form the separation between middle and side aisles. The abacus, a square of 3 feet 5 inches, with a depth of 5 inches, has the under-side deeply hollow-chamfered on the south side, with an additional intervening channel on the north. The surrounding hood-mould, plain on the north, and springing from heads, and a minute capital is, on the opposite side, enriched by scooping out on each edge a series of semicircular notches, and is brought down upon the abacus. Again, on the south side, the capital, of 9 inches in depth, sloped at the lower corners just enough to make a transition from the square to the cylinder, has the inferior part furrowed into channels, exactly resembling the striæ of a shell: whilst on the north side, the more common capital of inverted cones is introduced. The base, a not very clearly defined section of a hollow between two rounds, is elevated on a square plinth. The covering of the nave is a plaster waggon-vault. Over each pier of the ground-story, so high as to touch the wall-plate, descending a little lower than the summit of the pier arch, and occupying the entire space between two contiguous arches, is cut a round-topped aperture, with deeply splayed niche contracted on the external face of the wall to mere slits. The lean-to roof of the side aisle, abutting at its upper end on a level with what I must call these clerestory lights, they, of course, look both upon the central and lateral divisions of the church. Beyond the portion thus described, there have survived but very faint indications of the original Norman building; for the outer walls west of the chancel have been entirely replaced by modern constructions, with insertions of three-light windows of the common Decorated net-work pattern. Before arriving, however, in chronological succession at this later work, we meet with considerable intervening portions of pure Early English, exemplified in a very interesting way, and with some peculiarities of detail. First, the window in the west front is composed of three isolated lancets (the middle one tallest), mere perforations pierced in the outer face of the wall with no mouldings whatever: the inner face being formed into three corresponding arches, with rolls in the head carried on single shafts backed by a wall strip. But it is in the chancel that this era of Pointed architecture is most beautifully developed: a distinction arising, I apprehend, not from any difference of date in the erection of the west and east ends, but solely from the general, perhaps universal practice, of lavishing upon the sanctuary all the resources and riches of the art. The two compartments of four-celled vaulting which make up the length and breadth of the chancel, afford an admirable example in detail of the vaulting system of the early English builders: the transverse rib, a broad-filleted round; the diagonal, a roll and triple fillet springing from triplets of shafts (the middle one carrying a square fillet in front) placed between the windows and descending uninterruptedly to the floor, with capitals at half the height of the windows. The circular abacus, base, and plinth, good and characteristic in section; the deep bell clothed with exquisitely free curling foliage, amidst which nestle small human heads, are all specimens of these respective features worthy of close study. Between the vaulting shafts are inserted the windows: single lancets of strikingly graceful proportions set at the back of a recess (square on the plan) of which the front is formed into a pointed arched aperture with three rolls in the summit supported by coupled shafts on each side encircled with rings. A very well accentuated hood-mould gives additional character to this part of the interior. The wall rib beneath which each window is opened, describing a very acute arch with mouldings continuous down the sides and returned horizontally along the wall, is thus treated as an independent member of the vaulting, a disposition not usual, and, I think, inferior in elegance to the more ordinary method of including it in the general group of ribs and making it rest with them upon one capital. The two circular bosses at the intersection of the ribs represent, the one, a crowned head, the other a mermaid. When to this fabulous being is given a fish, it becomes a well-known Christian symbol, either as emblematic of baptism, or because the letters which form its Greek name are the initial letters of our Lord's titles. Though I failed to discover this addition I think its existence more than probable. The great east window is an eight-light one of Late Perpendicular character.

Regarding the interior of the central Tower I have but little information to afford, and this scarcely sufficient to determine with certainty to what order of construction its ostensible features are to be referred. The pointed arches looking east and west, of two plain-chamfered orders resting on almost shapeless masses of stone not to be called piers, the very tall bases from which all the mouldings have been cut smooth away: some remains of those odd protuberances at the corners of the base common in Norman buildings, and which have been called *tongues*, are not very sure guides to lead to a discovery of dates. The windows in the north and south sides of the ground stage, of three lights, are of clear Perpendicular character.

The font is a very interesting relic of a date quite as remote as the earliest remaining portions of the church, and though displaying some marks of restoration, yet in the main unaltered. The external surface of the bowl is ornamented with four panels of sculpture, the first representing a priest, with the stole thrown over the shoulders, and holding in the right hand the symbolical ark: the second, a figure having the head surrounded with the nimbus, and holding in each hand a pastoral staff; the third square is occupied by a representation of foliage; and the fourth displays a cross and dove, manifestly one of the restorations of which I have spoken. The stem is of much later date than the bowl itself, a fact evident from the presence of the ball flower which is employed in its decoration.

The only entrance to the church is a doorway on the south side, opposite to the second pier arch from the west: an interesting example of the Norman era, with three orders of rolls in the arch mouldings, of a more complex and refined character, than appears quite consistent with the simple section of the abacus, and the somewhat rudely ornamented capitals of the coupled shafts in the sides. The porch preceding this doorway is a modern construction.

The west, south, and north walls are entirely new: in the first-named the triplet of lancets appears as mere perforations; but the exterior of the chancel is brought into close resemblance to the interior, by first surrounding the windows with a continuous roll, returned at right angles at the foot; and again, with an external roll resting on ringed shaft at each side, and surmounting the whole by a well-marked label extending over the wall, until stopped by the buttresses. The filleted-roll string on which the windows stand, breaks over the buttresses, plain pilaster masses of uniform breadth and projection from the ground to the eaves course, strengthened at the east end by more massive constructions of two stages, united by weathered slopes.

The external features of the Tower, of three stories divided by plain strings, strengthened at the angles by buttresses set diagonally, are altogether Perpendicular, and only to be noticed for the singular square belfry windows of four lights, with tracery in the head, produced by piercing four sets of as many circles tangent to each other and to the sides of the circumscribing squares formed by the intersection of mullions and transom.

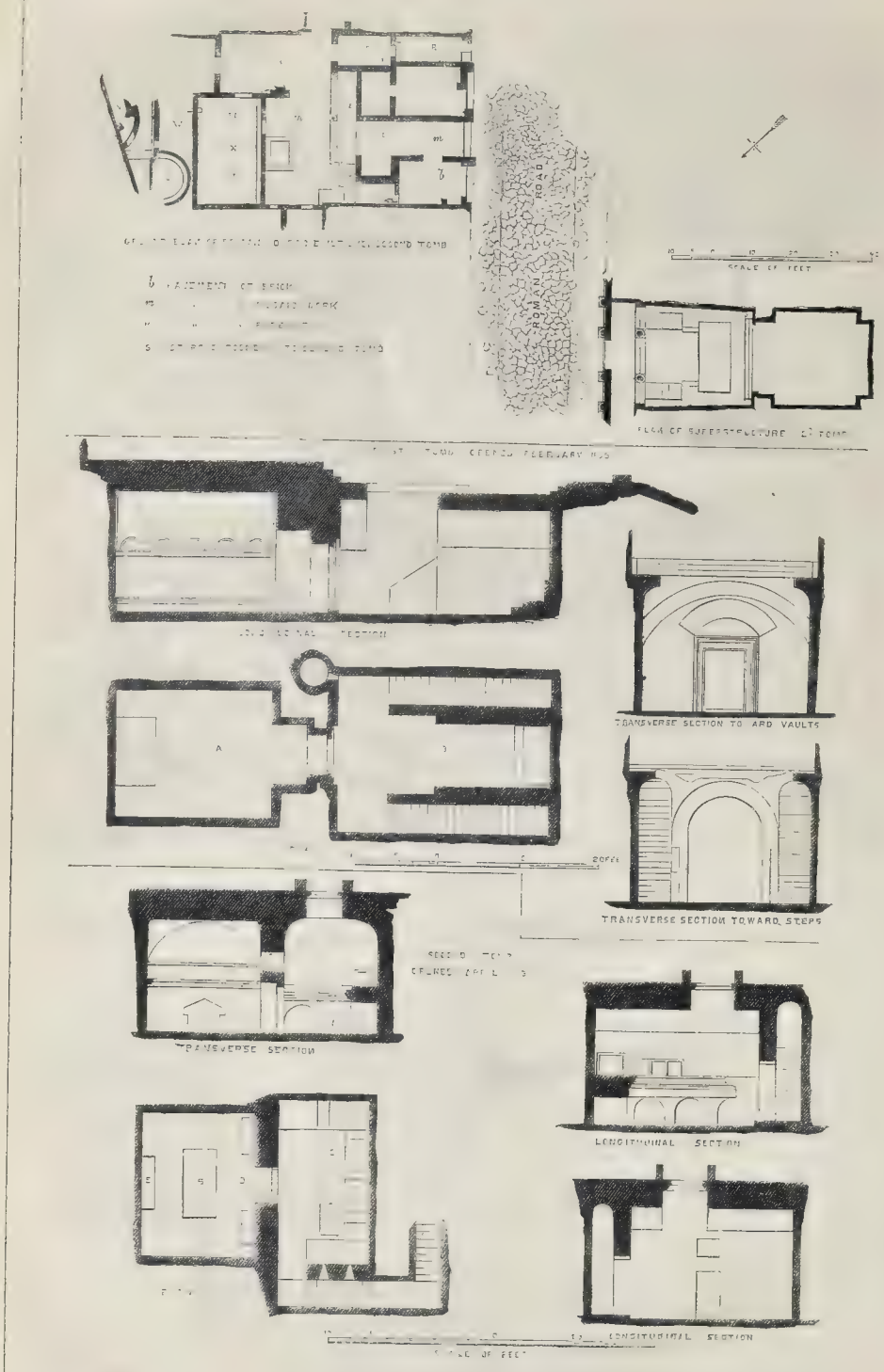
It is satisfactory to be enabled to add to this description, that the original benches of oak are still in perfect preservation: a specimen of wood carving not quite equal in design or execution to the open seats I noticed at *Cropthorne*, but still very creditable to the workmen of the close of the fifteenth or beginning of the succeeding century.

I lingered so long at *Overbury*, that on my return I was reluctantly compelled to pass by unnoticed the other churches I had designed to visit. These must be reserved for my last day's excursion. T. I.

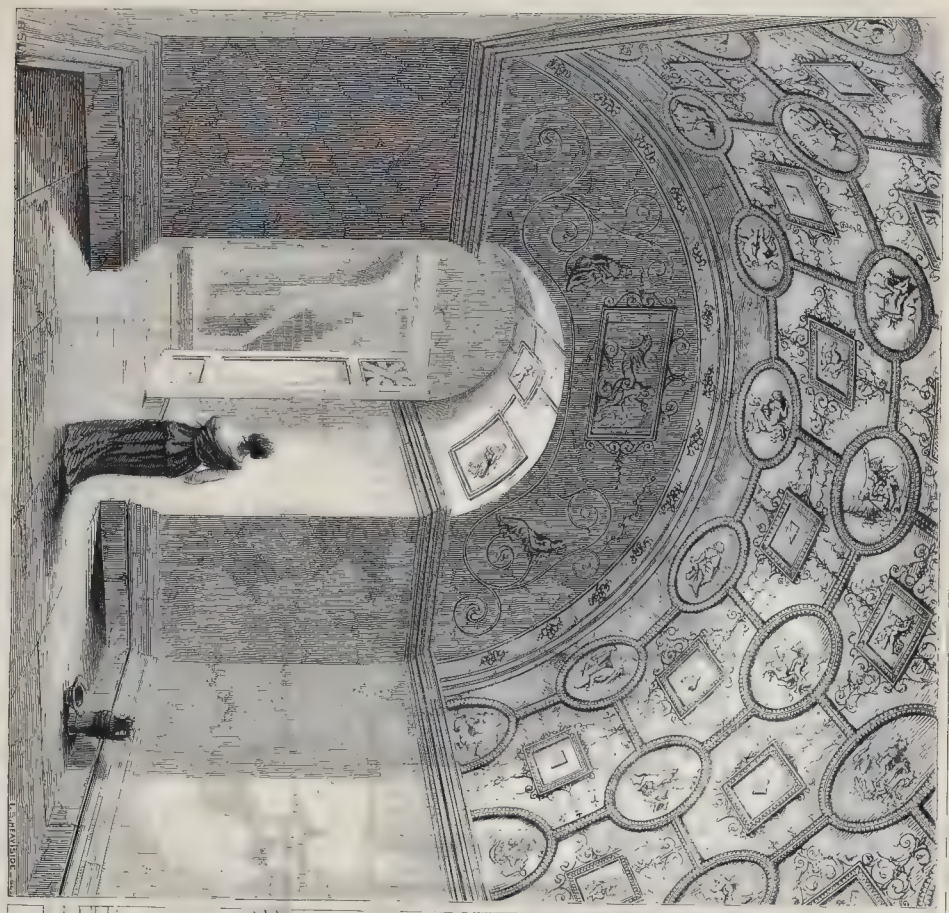
PUBLIC DRINKING-FOUNTAINS FOR LONDON.

SIR,—Mr. Melly, of Liverpool, in an article which appears in the *British Workman* for September, kindly offers *two* granite fountains, with bronze heads and handles complete, for the City of London, provided any lady or gentleman will undertake to erect them and procure a constant supply of water for the same. And it is a gratifying fact that Mr. Robert Richardson, civil engineer, of Westminster, is making an effort to have a public drinking-fountain placed in front of those large ragged schools now in course of erection in the City of Westminster, towards the erection of which this gentleman has collected the sum of 80*l.* and 170*l.* more given by a generous public. Should he succeed, these schools will have baths and a drinking-fountain attached for the benefit of this populous district.

ISAAC WOOD.



EXCAVATIONS IN THE NEIGHBOURHOOD OF ROME: PLANS AND SECTIONS.



INTERIOR OF THE FIRST TOMB OPENED.

DETAILS OF PANELS ON THE VAULT.

EXCAVATIONS IN THE NEIGHBOURHOOD OF ROME.

THE recent excavations in the vicinity of Rome have excited a great deal of interest here, though, unfortunately, they were undertaken too late in the season to allow the majority of English visitors an opportunity of seeing many of the interesting objects which have been brought to light.

Early in the present year Signor Fortunati, an enterprising Italian, having good reason to believe that a piece of ground known as the Prato Corvo, two miles beyond the Porta San Giovanni, would be a fruitful field for his labours, obtained permission from the proprietor to excavate there; and in the month of February a tomb was discovered, so well preserved, and of so unique a character, that it would alone have amply repaid the undertaking. At the same time with this were unearthed several interesting fragments and a portion of the old Roman road (Via Latina). It is said that about this time an offer was made by some Englishman to continue the excavations at his own expense, provided that he might appropriate whatever he found. The intention, however, seems to have been given up, and Signor Fortunati continued his labours alone. A short time afterwards the remains of a building were discovered, which, judging from its plan, and from the fragments found near and in it, there is little reason to doubt was of Christian origin, and, according to the antiquaries here, was the basilica of San Stefano, raised in the fourth century. Lastly, in April, two other subterranean chambers were discovered, which communicate by a stone staircase with a superstructure on a level with the Via Latina.

It is intended, some time hence, to publish a work on the subject; but with the exception of what has been done with this view, the annexed sketches, which I have been enabled, through the kindness of Signor Fortunati, to draw from my own measurements on the spot, are, I believe, the first that have been made. They may, therefore, not be uninteresting to some of your readers.

In the first drawing are the plan and sections of the first tomb that was discovered. It is reached by two flights of steps, which lead down from the Via Latina to a sort of area, lighted from above by a rectangular opening, which must have been originally protected, I think, by a low wall or railing. In front of these steps, above, still remain the bases of pilasters and piers which probably belonged to the portico of some superstructure. On the level below, and facing each other, are two chambers, both waggon-vaulted. That one between the two flights of steps is open to the area at one end; the other chamber is entered by a doorway. The vault of this latter one is beautifully decorated, in a style of which I believe few examples exist. It is divided into circular and square panels, placed alternately, as shown in the drawing, the intervals between them being filled with leaf ornament. In the centre of each panel is a grotesque group of figures, in the style commonly called arabesque—a nymph riding on the back of some sea monster, or dancing with a fawn. These figures are executed with plaster, in low relief, and in some parts with incised lines. The spirit and vigour of these sketches, if I may use such a word for this kind of work, are truly wonderful. They seem to have been rapidly executed, but with the greatest decision and artistic skill. At a little distance they have all the appearance of highly-finished work, and though really roughly modelled, seem as far superior to the same style of decoration in the Renaissance period, as the free leafage in the capitals of our best Pointed architecture are to the insipid neatness of some modern Gothic execution. Each end of the vault is also decorated with leaf ornament, in which, though the execution is inferior, there is still great freedom; and lovers of *συμμετρια* would be shocked to find great irregularity in the disposition of the lines in a design so closely allied to the Classic school.

Sarcophagi were found here, and fragments of a cornice, which, though its projection is unusually great for internal work, was originally, as is evident, placed at the springing of the vault. I have, therefore, restored it in the accompanying sketch.

This tomb evidently belonged to that class of sepulchres to which dead bodies were consigned entire, viz. Conditorium (corresponding to the Greek *ἐνταφιον*, in contradistinction to those which contained the bones and ashes only (Bustum). The authorities here fix the date somewhere in the second century. Without presuming to differ from this opinion, it is worthy of consideration that at that time the practice of burning the dead was almost universal with the Romans, and there appears to be no evidence that this tomb was ever used as a bustum. Their opinion is based on an inscription, still plainly discernible upon a square tile let into one of the steps. It is a round stamp bearing the names of the maker and of the consuls of the year (Quintillus and Priscus). Now, though it certainly appears in the Fasti Consulares that Flautius Quintillus and Statius Priscus were consuls for the year 912, U.C. and therefore 159 of the Christian era, it is by no means conclusive that the tomb is of the same date. The tile may very possibly have been used to mend the steps long after the tomb itself was built. If it is older than the tomb, the date of the latter could only be referred to the period when the perfect establishment of Christianity caused the practice of burning the dead to fall into disuse. But there is no evidence that this tomb was ever used by Christians. A more probable supposition, therefore, is, that it was built *before* the practice of burning the dead became universal; viz. during the Republic. This, however, need not apply to that part of the structure on a level with the Via Latina, the character of some of the fragments being apparently of later and inferior workmanship.

On the ground level over the other tomb are the foundations of a building which have puzzled the antiquaries a little. It is hardly possible, judging from the plan, to suppose them the remains of a temple; and, if they were the walls of a house coeval with the tombs below, its inhabitants must have lived in rather unpleasant proximity to their deceased friends; for there is but one entrance to the tombs, and that is from one of the principal passages, while light seems to have been admitted through a square opening in the floor of the atrium. It seems probable that the tombs and the superstructure were of different dates; or, if of the same period, that the chambers below were not used as sepulchres at first. Indeed, it is evident that the vaults themselves were used at two distinct periods, some of the sarcophagi found in them appearing to be of a very early date, while others may very possibly be Christian.

The outer chamber below, marked D on the plan, is lined with blocks of travertine, plastered. Round three sides of it is constructed a broad shelf, supported on small semicircular arches of excellent brickwork, and ornamented with a cornice of terra-cotta or moulded yellow bricks, which measure about 11 in. by 4 in. by 1½ in. The ceiling has formerly been painted, but the subjects are almost obliterated by damp and time. Under the small arches may still be traced paintings of the peacock (? emblem of the Resurrection*), of other animals, and fruit, exhibiting some skill. Several sarcophagi were found here. The most important one is coarsely carved in bas relief. Winged children are represented with baskets, &c. One is putting on the mask of an old man, while another child turns away in disgust. The two central ones support a medallion, on which is left unfinished a portrait in relief—probably of the deceased. These figures are nearly 2 feet high.

Another sarcophagus bears the following inscription. A touching record of marital affection: in bad Latin:—

"C . SERVTENIVS . DEMETRIVS
MAR . F . VIVIAE . SEVERAE .
VXORI . SANTISSIMAE . ET
MIHI . Q . BIXIT . MECVM . ANNIS . XXII . MENS . VIII . DIES . V .
IN . QVIBVS . SEMPER . MIHI .
BENEFVIT . CVM . ILLA .
PANCRATI . HIC."

This sarcophagus also bears a medallion, representing the worthy couple: both heads are unfinished. The lid is ornamented with a kind of frieze, representing animals in varied action, executed in very low relief. The style is vigorous, but very coarse and rude.

Another sarcophagus, on the ground, is enriched at the angles, with carved representations of a lion tearing a horse. In the centre of the longest side is carved a small barrel. It is quite possible that this may have been a Christian sarcophagus, the barrel being one of the first symbols used in the early Church.

The floor of this chamber is paved with plain mosaic.

Small splayed windows, resembling the Early English "squint," occur in the wall which separates the vault from the staircase.

Other smaller coffins—"arcæ" or "loculi," were found here.

The inner chamber is vaulted, and the ceiling is finely painted with arabesque figures, in the style of which many examples exist at Pompeii. Some figures, executed in low relief with plaster, are introduced at the angles, and in the midst of the painted portions. Nearly the whole of this is executed in a most masterly manner. Four landscapes are still visible, not indeed equal in merit to the rest, but curious, as showing the absence of all conventionalism in this branch of art. While the griffins and other figures are simply decorative and formal in line, these landscapes, though childish in conception and feebly executed, are, nevertheless, evident attempts to represent Nature truthfully. The trees, for instance, are by no means mere types of trees, but each branch is made out, and mass of foliage put on, as if the painter had had a sketch of a real tree beside him.

It is intended, I believe, to present the sarcophagi found in this sepulchre to the museum in the Vatican. It would therefore be useless to describe them. Of the former use of the building above on a level with the Via Latina, until further excavations are made, little can be known. About six small rooms besides the atrium have been disclosed. Some of these are paved with black and white mosaic work, and some with a composition of mortar and broken brick, which Vitruvius describes as "ruderatio." The walls are chiefly of "reticulated" work (with quoins of bricks set square, about 9 in. by 5 by 3), and in their ruined state stand about 3 feet 6 inches high. A drain from the pavement, marked x in the drawing, which is laid slightly on the slope, seems to have carried away water, either from an impluvium or bath, into the area. Whether the walls, circular on plan (e), and now filled in with soil and rubbish, had any connection with the rest of the building, or were merely entrances to other vaults or catacombs (of which latter remains have been discovered in the vicinity), is yet to be ascertained.

The general impression seems to be that what has hitherto been discovered only forms a small portion of a "paga" or village, of which the most part still remains to be disinterred.

The basilica is undoubtedly Christian, though some of the capitals of columns found near it indicate an earlier and more refined period of art, and were probably taken from some Pagan temple. The number of these capitals having been insufficient, additional ones were supplied similar to the ancient in general outline, but merely "blocked" out, like the rude restoration of the Composite order in the Arch of Titus, by Pius VII. The remains of the Basilica lie about 40 or 50 paces north of the tombs. The whole of the excavations have been hitherto thrown open to the public with great generosity, by Signor Fortunati, who does not, however, yet allow drawings to be made in detail. Nevertheless, I am indebted to him for permission to send you the inclosed:—

A general plan of the superstructure of the tombs, with a portion of the Via Latina.

Sections and plan of the first tomb opened, basement level, one sixteenth of an inch to a foot.

Perspective sketch: interior of ditto.

Details of enriched panels on the vault.

Sections and plan of the second tomb opened, one sixteenth of an inch to a foot.

Rome. CHARLES L. EASTLAKE.

* The Phœnix, which has been regarded as an emblem of the resurrection, is traditionally or mythologically believed amongst the Chinese to this day, as it was of old by the alchemists to be "a new bird," or that the feathers added to it, probably, certain fancies, and that the peacock,—and we noted, the peacock dead, of the hues of which the alchemists also speak curiously, be the mythological Phœnix. A rainbow or peacock-hued bird, painted at Rome, as an emblem of the resurrection, is in rather interesting accordance with the Chinese and the old alchemical idea of the Phœnix. It has been noted, by the way, as a curious circumstance, that the Greek term for a palm-tree is identical with that denoting the Phœnix. The feathery form of the palm leaves appears to have had something to do with this in the oddities of the alchemists, and both denoted forms and colours of chemical sublimation in the preparation of "the grand elixir," "elixir vitæ,"—or water of immortality; this, too, still implying the idea of a species of resurrection, from "ashes," or a "caput mortuum."—ED.

THE BURIAL-GROUNDS OF LONDON.

IT is deeply to be regretted, that, notwithstanding the strong expression of public opinion, and the evident injustice and danger of disturbing the dead, cases of this wrong are frequently brought to notice; and it is to be feared that many others occur which are never heard of except in the immediate neighbourhood. The last account of this interference with the sanctity of the dead is in connection with the St. Martin's Cemetery, Pratt-street, Camden-town, a consecrated ground, which has on former occasions been mentioned to our readers.

It appears that the parish authorities, in spite of remonstrances, have disposed of certain parts of this ground for building purposes, and, in conse-

quence, the churchwarden of St. Martin's, Mr. B. Latchford, and the sexton of the cemetery, have been summoned before Mr. Tyrwhitt, the magistrate, charged by the authorities of St. Pancras "with unlawfully and improperly removing certain human remains, coffins, and other matters and things there deposited, and buried in a certain burial-ground there, and doing certain other matters and things in such removal so as to be a public nuisance, and injurious to the health of her Majesty's subjects," &c.

Mr. Cook, the solicitor of St. Pancras, remarked that the nuisance complained of was the removal of a large number of coffins and bodies, which had been interred in the cemetery mentioned, and he should be enabled to show, by the evidence of Mr. Newman, one of the inspectors of nuisances, that up to the middle of August men were engaged in the cemetery digging out. In the course of that work a large quantity of bones and coffins were exposed; and in one hole were the remains of five bodies, in coffins partly broken. The bones were hanging together by their tissues, particularly the bones of legs and thighs; and the stench arising was of the most disgusting and disgraceful description. It would appear that the men have been engaged since in another part of the ground, in a similar manner, and coffins, bones, &c. have been broken and removed to a large hole prepared for that purpose. The smells are very bad, and no doubt must affect the health of the neighbourhood.

Some of our readers will remember the account given of this burial-ground in the *Builder*, when we were treating of the metropolitan graveyards: this was at the time rather fiercely contradicted by the churchwardens of St. Martin's, who said that the grounds were "salubrious and beautiful," and that there had been no overcrowding, and also that there was a very large quantity of ground which had never been touched. On this point Mr. Cook, who must be considered as an authority, in consequence of his experience of the condition of the graveyard of Old St. Pancras Church and that adjoining, says, that at St. Martin's there are at the present time some hundreds of bodies in the ground, *and many of them within a few inches of the surface*, and he might mention that human bones were now lying scattered about the grounds. Mr. Cook remarked that no doubt the offending parties would say that they were only proceeding under the Act of Parliament, which was intituled "An Act to enable the granting of Building Leases on Parts of the Camden Town Cemetery belonging to the Parish of St. Martin's in the Fields, not heretofore used for Interments." That, however, would not avail, for about the same season of the year 1854 similar excavations were made, but such was the indignation raised in Camden-town; that after a public meeting had been held, and the St. Martin's trustees communicated with, the latter suspended all further operations till the present year. After discussion—

Mr. Tyrwhitt adjourned the fourth hearing until Friday, the 5th of November, Mr. Daugerfield, on the part of the authorities, consenting to have an independent person to look after the work that was going on. The case was then adjourned, Mr. Latchford remarking that the bones that had been found were no doubt those which had been removed by the Government at the time of the Charing-cross improvements.

The facts in connection with this cemetery may be briefly summed up as follows. The managers of the St. Martin's graveyard resisted to the utmost the abolition of intramural interment. In spite of the universal opinion of the most eminent medical and other authorities of the age, they persisted in asserting the wholesomeness of the practice of burying large numbers of the dead in the midst of the living. When public opinion was too strong for interested parties to resist, and the chief part of the graveyards were closed by Act of Parliament, the authorities of St. Martin's-in-the-Fields applied for an Act to enable them to build on the ground which had been appropriated to the burial of the dead.

Two years ago, as Mr. Cook said, at about the same season of the year, an attempt similar to the present was made to build upon this ground; and this would probably have been persisted in, although it was evidently contrary to the Act of Parliament which had been obtained, which only allowed the use of ground in which no bodies had been buried: it was, however, only the rising of the inhabitants that put a stop to the objectionable proceedings.

Again, when Parliament is prorogued, the law courts closed, a large number of the influential inhabitants of Camden-town at the sea-side, or in the country, and the district magistrate powerless to prevent an act which is not only a desecration of the dead, but also a dangerous nuisance, another attempt is made to excavate and build on this ground; and by the day in November next to which Mr. Tyrwhitt was obliged to adjourn the case, the bodies will have been broken up and removed, and the projected houses most likely completed.

THE TOWER AT TAUNTON.

MR. DENISON concludes his reply to my letter with a menace ungracious and rude to the profession, which they can afford to disregard without being frightened out of their wits. For myself, I pass over the personal discourtesy with which he treats "M. I. B. A.'s" "foolish and ill-tempered letter;" and I should have declined to continue the controversy, if upon such terms. However, I hope he will excuse my never having read or heard of his pamphlet; for, to confess the truth, I was not aware that he had written on the subject. But "G. E. S." comes to support Mr. Denison's theory; and lest it should be thought, that all argument is exhausted for the preservation of the integrity of the association with which Taunton's far-famed tower is connected, I beg to refer to no mean authority as a critic, Thomas Rickman, who speaking of Perpendicular English steeples, says:—"Of these there remain some of almost every description, from the plain short towers of a country church, to the elaborate and gorgeous towers of Gloucester and Wrexham; almost every conceivable variety of buttress, battlement, and pinnacle is used, and the appearance of many of the towers combines in a very *eminent degree, extraordinary richness of execution and grandeur of design.* Few counties in England are without good examples. Boston, in Lincolnshire; St. Mary's, Taunton; St. George's, Doncaster, *are celebrated.*" The last, alas! has been swept away by Mr. Denison. And, again, in his special reference to this church, Rickman says:—"The church of St. Mary, at Taunton, is another *very fine* specimen of the western enriched Perpendicular towers, of which this is one of the most elaborate, and with the church is a *very fine* example of the date," which, by the bye, is not that of my favourite style, as supposed by "G. E. S.;" yet I think there are many noble Perpendicular works worthy of preservation. If Messrs. Scott and Ferrey had been commissioned to build a new church at Taunton, and had selected the period of the thirteenth century for their style, I should not have protested against the choice,—I should have admired their courage in trying their taste and skill in competition with the architect of St. Mary's Church. But when the tower has been taken down with the solemn pledge that it should be restored stone for stone, a perfect *fac-simile*, I consider it a breach of good faith in any to disturb the compact. I regret that I was so obscure in my expressions as to lead Mr. Denison to imagine that I had designated the fine period of thirteenth century Gothic architure as one "of quips and quirks, and of capricious exceptional parts," whereas I meant the phrase to apply to the crotchets of the present time.

M. I. B. A.

Does "G. E. S." mean to say that the towers of St. John and St. Benedict at Glastenbury are *not* of the Perpendicular style?

ST. MARY'S TOWER, TAUNTON.

SIR, In the *United Service Journal*, man is the material for armies: in the mad doctor's view of things, man is the field of supply for asylums: in the *Builder*, man is the instrument of Providence for the payment of architects' bills.

In all the letters about the perpendicular and the slantendicular –if that be the other dicular— the only question seems to be, what do architects say, and what will they decide upon? Nobody seems to think that the inhabitants of Taunton may have a wish in the matter, and ought to have a voice in the question.

At one period of my boyhood, it was about the only point left to my own daily discretion, whether I would go to school by turning to the right or the left, when I got in front of St. Mary's Tower. As I took both horns of the dilemma very frequently, I got a very good knowledge of the details of the building. I did not know whether it was of the perpendicular style, or the slantendicular: to me it was of the *familiar* order of architecture. My old recollections give their voice for a *fac-simile* renovation; and I trust that the decision of the Taunton folks will be that the beauties of the old tower shall be preserved, because they were its beauties, and the faults because they were its faults. The defects of an old friend are often more pleasant than the excellencies of a new one.

To me the statements about preserving the style and altering some details have no force. The alteration will either alter the look of the old tower, or it will not: in the first case the alteration is unbearable, in the second it is useless.

Let the architects improve or modify the perpendicular, or any other style, as shall seem best, in all the new towers they build. But I am sure that if they were allowed to meddle with the details of this old tower, the Taunton people, to use a word I once knew, and they probably still know, would never think it had been done *vitty*.

B. E. N.

SHORE LIGHTHOUSES.

SUGGESTIONS.

THE best sperm oil is at present used in most lighthouses, at a great cost: there are numerous lighthouses round the coasts of Great Britain in which coal gas might be employed with advantage and a great saving of money (several thousands of pounds annually). The question has been brought before the authorities as to the light at Berwick-upon-Tweed, and there can be no doubt but that this light, as also the Sunderland light and numerous others, may have gas at once from existing local gasworks.

It has been objected that gas is liable to accident, and that as the absence of light for a time might be productive of disasters of enormous magnitude, the risk should not be run. The risk, however, of failure, might be made infinitely small, and means provided to supply other light temporarily, should that failure by any chance occur.

Sperm-oil is said to be more difficult to obtain than formerly: it is certainly more costly; and, as there are few shore lights in which coal gas may not be used with economy (even if made especially), there ought to be a general adoption of it at once. Government should cause inquiry to be made into this question, so as to reduce the cost of shore lights and lighten the tax on shipping.

Coast railway stations light their signals by gas; and, in some instances, these lights have been mistaken for a true light, and vessels and lives have been lost in consequence. It is a disgrace to our Government to allow any risk to exist from such a cause, yet shore railway signals still blaze away as if they had never caused loss to merchandize and to human life.

STATUES AND MONUMENTS.

The Nelson Monument at Yarmouth. — The works necessary for restoring the column raised on the South Denes to the memory of England's greatest naval hero are at last about to be commenced. The subscriptions for this object amount at present to 488*l.* In order to carry out the proposed works 200*l.* more will, at least, be required; and this sum the restoration committee hope and believe, says the *Norfolk Chronicle*, will be contributed so soon as their position is well known.

Monument to Female Martyrs at Wigtown.— On the 17th ult. the foundation-stone of a monument "to the memory of Margaret M'Laughlan and Margaret Wilson," who suffered martyrdom at Wigtown, was laid on the top of Windy-hill there, in presence of a large assemblage.

The Proposed Monument at Newcastle to George Stephenson.—At the conclusion of the dinner of the Institution of Mechanical Engineers, while at Newcastle-upon-Tyne, the subject of a monument to George Stephenson, which had been referred to by Mr. Fairbairn and Mr. Bell, was discussed, and it was determined that a subscription list should be opened at once, and that the local committee of the institution should be requested to take charge of it. The proposal was heartily received and responded to, and 500*l.* subscribed: several of the non-resident engineers present also undertook to act in their several districts.

The Glasgow Statue to Sir R. Peel.—The cause of delay in the erection of the statue of Sir Robert Peel, modelled by Mr. Mossman, of Glasgow, and which is to be cast in bronze under that gentleman's superintendence, is said to be, that very considerable difficulty has been experienced in getting granite blocks of sufficient size to form a pedestal. The far-famed Aberdeen granite, in so far as large stones are concerned, appears to be now almost out of market; but arrangements have been made to secure a sufficient supply of Newry granite, and it is expected that this colossal statue of the late

eminent statesman will be inaugurated, within the next three months, in George's-square.

Statues in the New Cemetery at Stirling. Five statues, namely, those of Knox, Melville, Henderson, Renwick, and Ebenezer Erskine, have been placed in the new cemetery grounds, at the Lady's Rock, within sight of the castle. The first three are placed in the centre of the western grounds, which are overlooked immediately by the Castle esplanade. That of Renwick is placed to the westward of the Lady's Rock, and the statue of Ebenezer Erskine is in the northern part of the same plot of ground. The whole have been erected at the cost of Mr. Drummond, of Rockdale, with the exception of that of Ebenezer Erskine, the expense of which was defrayed by subscription, but to which he also liberally contributed. The sculptor of all these statues was Mr. Handyside Ritchie, of Edinburgh. A statue of Guthrie, the Scottish martyr, was put up some time ago, in the same grounds.

The "Glass" Monument, Lerwick.—A monument to the late Mr. John George Glass has been erected in the churchyard of Lerwick. The design is an antique cross, and consists of a plain base, upon which rests a square die with cusped panels on two sides, surmounted by Gothic mouldings, above which rises an ornate cross 4 feet in height. Around the upright shaft is twined a fillet of scroll-work, on which a text is cut in red letter and in old English characters. On the pedestal beneath, in plain block lettering coloured black, is the inscription. The material is a close-grained sandstone from the Auchindor quarries, Aberdeenshire. The design of the monument is by Mr. William Keith, sculptor, Aberdeen, and was selected by the committee from among twelve plans submitted to their decision.

PARIS.

THE PONT AU CHANGE, &c.

The municipal administration of Paris are about to commence the re-construction of the Pont-au-Change, in the axis of the Place du Chatelet, thus directly prolonging the Boulevart de Sébastopol.

The Pont-au-Change, the date of which construction carries us back to the period of the Roman sway in France, had no other name in ancient times but that of "Le Grand Pont." It served, as did also the "Petit Pont," as a passage for the inhabitants of Lutecia (the ancient city of Paris, on the island) into the country. In 1141 Louis VII. ordered all the money-changers to be there established. Hence its present name. Isabeau de Bavière, wife of Charles VI. passed over this bridge on her entry into Paris, in 1389, On her arrival at the middle of the bridge, a man, holding a lighted torch in his hand, stepped forward and placed a crown on her head. On Sundays and holidays all sorts of domestic birds were sold on the bridge. This permission was accorded on condition that 200 little winged captives should be liberated at the moment of the passage of kings or queens in their solemn entries into the city. On carnival days, tables were ranged all along the bridge, at which dice were played. This custom, a very ancient one, was suddenly abolished in March, 1604. The old newspaper *L'Estoile* says that the dicemen, on being asked why they suspended their playing, malignantly replied that they wished henceforward to lead an honest and virtuous life, since that the king (Henry IV.) led them such a good example.

The Pont au Change became, in the middle of the seventeenth century, the greatest thoroughfare in Paris, owing to the magnificent exchange shops which ranged throughout on either side. Regnier, the poet, speaks thus of the bridge in his 16th Satire:—

"Va donc; et d'un cœur sain voyant le Pont au Change,
Désire l'or brillant souz mainte pierre estrange,
Ces gros lingots d'argent qu'à grands coups de marteau
L'art forme en cent façons de plats et de vaisseaux."

In the nights of the 23rd and 24th October, 1621, a fire having broken out on the Pont Marchand, the flames, driven by a westerly wind, reached the Pont au Change, and in less than three hours reduced it to ashes. It was reconstructed in stone, with houses as usual in 1639, but not finished till 1647. The demolition of the houses was ordered by the king in September 1786, but not carried into execution till some time afterwards, and now the bridge itself is about to disappear.

It has seven semicircular arches. The total length is 170 mètres, 20 centimètres, and the breadth 31 mètres 70 cents. The new bridge is to be 32 mètres, and to have arches of 31 and 32 mètres. The "axe" is to pass through the middle of the column of the Palmier (lately transported to its present position by machinery and capstan-work, &c. and restored), and 15 mètres from base of the railings of the north-east "pavillon" of the Palais de Justice. The balustrade is to be of Sainte-Ylie limestone from the Jura The Quai de l'Horloge is to be also rebuilt and widened.

The Americans residing in Paris have celebrated the presence, in that town, of their worthy compatriot, Professor S. B. Morse, inventor of the system of telegraph which bears his name. At the same time the immersion of the Atlantic cable was also simultaneously "fêted." A banquet was arranged at the restaurant of the Frères Provençaux, and about eighty persons sat down to dinner. The greatest harmony and cordiality prevailed throughout the meeting, over which Colonel Preston presided, assisted by Mr. Hamilton Fish, who had only arrived in Paris the evening before. Among the distinguished personages present were remarked the American and Neapolitan ministers, Mr. M. E. G. Squier, the Rev. R. H. Seeley, Mr. Spencer, American consul at Paris, Colonel Murray, &c.

Mrs. Beecher Stowe, the authoress of "Uncle Tom's Cabin," was fêted by the most distinguished authoresses and ladies of letters in Paris, on her arrival in that city a few days ago. The dinner took place at a restaurant, in the Palais Royal: none of the sterner sex were bidden to the festive board, save three privileged *littérateurs*," who were admitted for the sake of their feminine names. These were Marie Aycard, Marie Escudier, and Elionore de Vaulabelle!

SITES AND ARRANGEMENT OF BARRACKS IN INDIA.

The statements we have made from time to time, and the opinions we have expressed, touching the ignorance and carelessness shown in Government buildings, and the frightful results to human life, have brought upon us some little personal hostility, as might have been expected. For this, however, much as we may desire to avoid it, we were quite prepared, and we must put up with it, strong in a good cause and a pure motive. We seek to injure no individual: our efforts are directed against thoughtless routine, vulgar prejudices, and a bad system. We may yet work long enough to have on our side the two or three who now feel themselves aggrieved. Let this pass for the present.

The *Indian Engineers' Journal* is angry with us for some observations on the barracks in that country. Our Indian contemporary (we cordially wish him success, by the way), in giving the plans which are being adopted as standards for permanent masonry-barracks in that country, says,—

"The question of barrack accommodation generally has very lately been, and is still being, thoroughly ventilated at home, a Commission having made its report on the state of affairs existing in this respect in Great Britain and Ireland, revealing facts that are as disgraceful as they are culpable to those to whom has hitherto been intrusted the life of the British soldier.

Most of the daily and weekly journals have had their say on the matter. The magazines—*Fraser* and the professional periodicals,—amongst them the *Builder*, have also lent a hand in the good cause.

The latter, however, not content with confining itself to the question of Home barracks, concerning which the Commissioners' report afforded all-sufficient evidence, has gone out of its path to call attention to the state of Indian barracks, and, with the usual ignorance of facts that all persons in England seem to possess and be unable or unwilling to cast off, has indulged in some remarks which we extract for the benefit of our readers —

'At the first outbreak of the Indian mutiny we urged the Government to send out a Sanitary Commission with the army, satisfied by the strongest evidence that thousands of lives would be saved by the act. The greatest ignorance of sanitary requirements appears to prevail in India, *and the condition of the barracks is frightful. This the Government has known for years; but frightful it still remains.*—(The italics are ours.)'

Now this is a little too strong and positively unjust. The reform that has been introduced in this respect, not only at new stations,—and the majority of our troops are now located at stations that have sprung into existence within the last ten to fifteen years,—but at old stations, where barracks on the ancient models have been altered, added to, furnished with extra verandahs, &c. has been most extensive, and as thorough as any reform ever has or will be in the same time."

The writer further says,—

"For one set of European barracks complete, 11 or 12 lakhs of rupees (110,000*l.* or 120,000*l.*) may be set down as the cost. This is no trifling sum; and, seeing that the Government of India has been steadily committing itself to this large expenditure for years past, it is but fair that the facts should be made patent to the world and recognised; if only to fling back such unwarranted assertions as that brought forward in the *Builder*."

It is satisfactory to hear that improvements are being made: that they are needed,—so far, at any rate, as the old barracks are concerned,—is certain enough, and the editor of the paper in question knows this as well as we do, notwithstanding his desire to go in to the rescue of things as they are. It could scarcely be imagined, but in the very number of the journal in which the observations we have quoted appear, a writer says,—

"The subject of laying out permanent quarters for our European troops requires the most earnest consideration of the authorities. It behoves Government to benefit from past experience, and construct barracks suited for soldiers, and not extend the old system of constructing charnel-houses, similar to those that now exist in every station from Cawnpore downwards. Not only should a new system of barracks be introduced, with all the additions and improvements of the times, but the subject of laying out ones should be thoroughly studied, with the view of concentrating the forces as much as possible in each station."

And, still further on, there actually appears an intelligent editorial article to show, what we are blamed for asserting, namely, the desirability of the spread of sanitary knowledge in Calcutta. The loss of life and money in India that has been caused by the ill choice of sites for barracks, their bad arrangement, and overcrowding, could not be calculated. Improvements are, doubtless, being effected, but many of the existing quarters deserve, as our Indian contemporary's own correspondent says, no other name than "*Charnel-houses.*"

A FIRE FOR A CHURCH WITHOUT A FLUE.

If your correspondent who signs himself "A Clerical Subscriber," in the number for August 21, does not require a great amount of heat in his church, he might have a common hot-air stove fitted up to answer his purpose, in the following manner. Remove the solid fire-brick back, and fix in its place a back of similar materials, perforated with holes. Fix a damper in the flue-pipe, which pipe need not be more than 2 feet long. Fix the fire bars in a frame turning on a centre, so that the fire may be dropped when necessary. Fill the air chamber with pieces of broken fire-brick. Fix the entire stove on wheels. When required for use, let the stove be placed in some convenient spot outside the church, and the fire be lighted, taking care to close previously the valve of the air chamber. When the fire has burnt clear, let the damper be closed, and the air-chamber valve opened. The heat will then pass through the air chamber, and warm the pieces of fire-brick. Let this be continued until the air chamber and its contents become thoroughly heated. Let the fire then be dropped, and the stove wheeled into the church. The fire bricks will remain hot for a considerable time, and the cold air in the church will draw through the air chamber and pass out again warmed through the valve.

C. S.

SCHOOL-BUILDING NEWS.

Reading.—The foundation stone of St. John's national schools, Reading, was laid on Wednesday before last. The new building will be from a design by Mr. Charles Smith, of Reading. It will consist of two schools, each 37 feet 6 inches by 22 feet, with a class-room to each 17 feet by 10 feet; the whole capable of accommodating 100 boys and 100 girls. The schools will be of a T shape plan, and may be thrown into one room, the partition being framed like folding shutters. The windows will be placed behind the desks rather than in front, and the schools will be wider by four feet than the size recommended by the Government, giving space for separate classes, in addition to the sets of desks, so as to make the room suitable for lectures. The style is the middle period of Pointed architecture. The walls will be faced with flint, with Bath stone dressings.

Brighton.—The directors and guardians, says last week's *Brighton Herald*, accepted, on Tuesday last, a tender for the erection of Industrial Schools on the Warren Farm, and resolved, by a majority of sixteen to twelve, "that the work be proceeded with without delay." Mr. Fabian's contract is to complete the work by the 1st of December, 1859, for a sum of £8,223; water to be supplied to the contractor. In obtaining a supply of water and in forming roads, &c. an expenditure has been incurred, up to the present time, on the Warren Farm, of £5,269. This gives a total of £13,492.

Leominster.—The Hereford papers give lengthened accounts of the opening of some new schools at Leominster with much ceremonial. The schools were erected at a cost of nearly £3,000.

Willenhall.—The foundation stone of St. Ann's national schools, Spring Bank, Willenhall has been laid. It will consist of girls' school, 50 feet by 19 feet; boys' school, 41 feet by 18 feet, a class-room, master's residence, &c. The walls externally will be faced with basaltic rock, quarried in the neighbourhood, and will have dressings of red sandstone. The roofs will be covered with blue and red tiles, arranged ornamentally, and sur-

mounted by an open ornamental cresting. Interiorly the roof timbers will be exposed and varnished, and the walls, to a height of four or five feet, will be faced with blue and bluff glazed bricks. The interior jambs and arches of the windows, &c. will also be of blue and bluff bricks. Messrs. Griffin and Weller, of Wolverhampton, are the architects, and Mr. James Rowley, of Walsall, the builder.

Liverpool —There has recently been erected in King-street, Edge-hill, new schools in connection with St. Mary's Church, and the architect was Mr. J. Denison Jee. He has adopted the early English style. The principal front is built with Yorkshire stone, with Stourton stone dressings. The building, which consists of two large school-rooms, a wing constructed for the master.'s residence, and a wing on the opposite side for a committee-room, &c. is built to accommodate about 300 boys and 400 infants. The land on which it was reared, and which, according to the journal, was the only piece of freehold to be procured in the neighbourhood, cost 1,090*l.*; while the contract was for 2,384*l.*; and the fittings up and sundries involved an additional expense of about 426*l.* Towards the cost of erection the Government grant amounted to 1,500*l.* The remainder has all been subscribed except 100*l.*

THE FINE ARTS AND THE WESTMINSTER PALACE.

A REPORT from the Commissioners of the Fine Arts has been published. It contains the following passages:—

"In our last report we proposed to commission Daniel Maclise, R.A. to paint a subject in fresco in the apartment called the Painted Chamber or Conference Hall; but some difficulties having been found to exist with regard to the lighting of some compartments in that locality, the work was postponed, and the artist was, at his own request, finally released from such undertaking. A grant of public money, amounting to 1,500*l.* which have been voted by Parliament for this object, was, with the consent of the Lords Commissioners of your Majesty's Treasury, appropriated to the painting of twenty-eight whole-length portraits of personages connected with the Tudor family, to be placed in the apartment called the Prince's Chamber, as proposed in the appendix to our seventh report.

"Of such portraits, executed by or under the direction of Mr. Richard Burchett, fifteen have now been completed. Being taken from authentic sources, and executed in methods fitted to reproduce the style of the original works, they at once serve a decorative purpose, and constitute trustworthy resemblances of the historical personages represented.

"In our ninth report we had proposed that twelve compartments in the same room should be filled with metal casts from models of bas-reliefs, to be provided by a competent sculptor. The subjects proposed—relating to events corresponding with the periods of our history to which the before-named portraits belong—are enumerated in the appendix to our seventh report. The preparation of the models referred to was ultimately committed to Mr. William Theed. Eleven models, the design and execution of which are highly approved by us, have been completed by him accordingly, and ten of such models, cast in metal by Messrs. Elkington, Mason, and Company, of Birmingham, have been fixed in their places in the Prince's-chamber."

"We propose to commission Daniel Maclise, R.A. to paint in fresco one of the subjects in the Royal Gallery, at the price of 1,000*l.*

"The subjects proposed for that gallery, and which are also enumerated in the appendix to our seventh report, are eighteen in number, two of them measuring 45 feet in length. The magnitude of the undertaking not only suggests the subdivision into two series of the upper and lower range of subjects, but, as regards the lower range alone, it appears advisable that the artist should contemplate the treatment of such subjects as have a correspondence or local relation with each other, so that, in the event of his being interrupted in the prosecution of so great a work, the portion which he may have been enabled to complete may still, as far as possible, form a whole by itself.

"For the above reasons we have thought it expedient to invite the artist, while confining himself to the lower range of subjects, to prepare designs for the two larger compartments on the east and west walls, and, in the first instance, to undertake one of the smaller compartments at the north or south end of the room."

"With regard to the Peers' Robing-room, the subjects for which, to be executed in fresco, and which are explained in the appendix to our seventh report, have been committed to John Rogers Herbert, R.A.; we are enabled to state that the artist has completed, to our entire satifaction, a large cartoon for the subject of 'Moses bringing down the Tables of the Law to the Israelites;' and we trust that the fresco from the same will proceed without interruption."

METROPOLITAN BUILDING ACT.

CUTTING OFF FOOTINGS.

Clerkenwell Court.—On Friday, the 27th ult. Mr. Abraham Hargreave was summoned before Mr. Tyrwhitt, at the instance of Mr. Godwin, district surveyor of South Islington, for contravention, at a house in Orchard-street, Lower-road, of the eighth preliminary clause of the First Schedule, which regulates the footings of walls. It appeared that the defendant, after constructing the walls with the footings required by the Act, had cut off one, if not two, courses, in order to increase the height of the story, and had persisted in laying the floors without remedying the irregularity, after it had been repeatedly pointed out. A solicitor who appeared for the defendant sought to show that the removal was only partial.

The magistrate ordered that the footings should be reconstructed to the satisfaction of the district surveyor, within fourteen days.

BILLS OF QUANTITIES.

SIR,—Having been engaged to carry out a public building last year, the works were advertised to be let by contract, and bills of quantities promised on application. A pressure of other business prevented the quantities being supplied by the time promised, and it was therefore given out that they would not be furnished. Several contractors, previously willing, then refused to offer tenders, on the ground that it was probable the works would not go on. Under these circumstances, I was requested by members interested in the building to supply the quantities. In order to do so I had to employ other persons; and, to facilitate the copying, they were lithographed. No charge was made for the quantities at the outset, but a commission was charged on the amount of the tender, to be paid only by the successful contractor. The contract was accepted by the committee, including the amount to be paid for quantities. This amount, however, has not been paid, although the contractors are quite willing to do so on receiving the authority of the committee.

I wish to inquire, therefore, if the authority of the committee is necessary in order to make the payment under the circumstances; and also if the charge for furnishing such quantities, being over and above the commission of five per cent. on the outlay for professional services as architect, is customary and professional?

AN ARCHITECT.

*** The charge for taking out the quantities has nothing to do with the architect's five *per cent.* commission, and is a transaction between the builders and the architect alone. Whether or not it be *desirable* for architects to take out the quantities for their own works is another question.

THE NINE HOURS' MOVEMENT.

SIR,—WHAT next? and next? I observe with astonishment a request that the hours of labour be reduced to nine hours per day, but the wages to remain as at present; also that the masters have refused the request. Is there anything in the case to warrant such a request? I say, No. Allow me to remind the men of a few facts. I was apprenticed to the trade of a carpenter and joiner, in London, some thirty-five years ago. The wages at that time were from 24*s.* to 27*s.* per week, for the best men, while ordinary men were to be obtained for 21*s.* and 22*s.* The necessaries of life were,—the quartern loaf, gen rally, 10*d.* 1*s.* and 1*s.* 2*d.*; butter from 1*s.* 2*d.* to 2*s.*; salt, 4*d.* and 5*d.* per lb.; the lowest priced tea, 8*s.* per lb.; sugar, 10*d.*; lump, 1*s.* 2*d.*; butcher's meat about the same as at present. Lodgings much dearer. Clothes double the present price; a shirt from 6*s.* 6*d.* to 14*s.*; a flannel jacket, the lowest price, 7*s.* 6*d.*; trowsers and waistcoats equally dear. Beer (not a necessary), 5*d.* per pot; ale, 10*d.*; gin, 8*d.* and 10*d.* per quartern; a half-rip saw, 11*s.* 8*d.*; plow, 30*s.*; stock and bits, 30*s.*; and not the best either. Planes proportionably dear. Coals, candles, &c. much dearer than at present. Now, I ask is there anything in any or all of these matters to warrant an advance of wages, or nine hours per day, which is the same thing?

At the time I refer to, and subsequently, the produce of labour would fetch double what it will now. A third-rate house would fetch 800*l.*—now, not 500*l.* If the work be contract, and a master cannot get a 5*l.* job now without half a dozen competitors, the case, if possible, is worse. There is nothing, therefore, in the article produced, to warrant an advance of wages; but a great deal in the cheapness of provisions, clothes, tools, &c. and the diminished value of the various articles produced by labour, to urge against it. Nor is there anything in the profits of masters to warrant an advance. Have they got rich by the men? Not one of them. The few who are so have got their riches by ground-rents, &c. The bankruptcy and insolvent courts, and Whitecross-street Prison, will answer how much is got by men. There is not half of them worth 4*s* per day, while there are many worth 7*s.* I advise the masters to make a selection, pay every one according to his merits, and give piecework where practicable, at a fair price.

"ONE WHO KNOWS A THING OR TWO."

NUMBERING THE HOUSES IN OXFORD. In consequence of complaints made on the subject, the Street Commissioners of Oxford are turning their attention towards a better system of numbering the houses in those streets where at present there is no uniformity, but, on the contrary, several numbers alike.

ACCIDENTS.

ON the 23rd ult., at the new park at Battersea, a number of men were engaged in an excavation for the construction of some villas contiguous to the park, when a slip of earth took place, and three men were buried beneath several tons of soil. For a moment the others were paralyzed. They, however, speedily set to work to release the sufferers, and fortunately succeeded in getting out two of them alive and comparatively uninjured. Some time elapsed before they reached the third, the men being compelled to work with great caution, as another slip momentarily threatened. At length the poor fellow was got out yet alive, but quite senseless, his abdomen being crushed completely flat. He was removed with all haste to Westminster Hospital, where he expired soon after his admission. ——The workman who fell from a ladder at St. Paul's, Coventgarden, died in Charing-cross Hospital. At the inquest it was stated that the deceased and another man were at work on a temporary scaffold, formed by two ladders and boards placed across by means of iron supports. One man was in the act of taking up a pot of colour, when a ladder snapped at the top, and the scaffold gave way, precipitating the deceased to the ground, the other men saving themselves by clinging to the ladders.——At Ipswich, last week, some children are actually said to have knocked down two cottages, built about three years since, by pulling out a brick from an angle, and throwing brick-bats at the opening! The cottages were contiguous, and fortunately unoccupied. They stood on a piece of ground in Baker's-garden, Long-lane, St. Clement's, were four-roomed and semi-detached, and belonged to a bricklayer!——At Sudbury, on Sunday week, after morning service, a considerable portion of the ceiling of Trinity Chapel fell. Happily, no one was injured, though some children were in the table-pew, and several of the ceiling joists fell within a few inches of where they were sitting. Had the fall taken place during the morning service no doubt many lives would have been sacrificed, as the chapel was full. The remainder of the ceiling must be taken down to ensure safety.

ST. MICHAEL'S NEW (R. C.) CHURCH, BALLINASLOE.

THE consecration of this edifice, which has been for a long period in course of erection at the eastern end of the town of Ballinasloe, on the bank of the river Luc, took place on Wednesday, 25th ult. The plan comprises nave, with two aisles, separated therefrom by lofty arcades, and chancel, with apsidal end and lateral chapels, dedicated respectively to the Virgin and St. John the Baptist. Interiorly the dimensions are 150 feet by 60 feet in clear, and the height about 60 feet. The roof is of open timber work of hammer-beam construction, and with panel work of various patterns. The tower and spire will be about 175 feet from ground line, and the former is nearly at its full height, and is of massive construction. In the chancel is a stained glass window, designed by Mr. Barf, decorator of the metropolitan R. C. cathedral, Carlow college chapel, and several other ecclesiastical buildings. It represents "the Expulsion of Satan from Heaven," after Michael-angelo, and "St. Gabriel announcing to the Virgin the Message of the Incarnation." In the lower compartment are figures of SS. Patrick, Brendan (patron saint of the diocese), Bridget, and Dympana, an Irish virgin of royal birth, martyred at Gale, near Antwerp. In the head are representations of the Virgin, and in the two adjacent compartments are figures of angels, one bearing a crown, and the other a sceptre. The chancel, the chapels, and sacristy are paved with encaustic tiles in patterns, and a fine marble altar has been erected. The style is Early Decorated, and the building is after designs by Mr. J. J. McCarthy. We understand that the chief portion of the timber work has been executed by Mr. O'Brien, of Loughrea, and the rest of the work has been carried out under local superintendence.

Miscellanea.

CRYSTAL PALACE AT NIGHT.—We understand the directors have determined on lighting the tropical end of the Crystal Palace till 7 o'clock in the evening during the winter months. The electric light will be used. The Art-Union as proposed in connection with the institution will benefit neither art nor the company. The sooner the idea be given up the better. We must take another opportunity to refer to it.

THE RAILWAY MASSACRE NEAR DUDLEY.—From the evidence given at the inquest on the dead bodies of those who were killed in the excursion train between Wolverhampton and Worcester on the 23rd ult. it appears that in the morning the breakage of coupling chains had twice occurred, and that the 2,000 persons, or thereby, of whom the excursion consisted, were divided into two trains, so that the officers of the company were perfectly cognizant of the danger to be apprehended from the insufficiency of their coupling chains, more especially as they were aware that the trains had to surmount an incline of 1 in 75,—where the couplings again broke, and the shocking catastrophe took place, by which about 100 persons were more or less seriously injured, and 15 killed outright. Thus, even after warnings specially given as it were, the trains, without any additional couplings, or any other substitutes, for the sake of safety, to the multitude of confiding passengers so entirely at their mercy, were despatched on their way to the fatal incline, within ten minutes or a quarter of an hour of each other; and the but too imminent result ensued, that while the *first and heaviest* was labouring up the incline, the *second and lightest* came more rapidly up; the couplings of the first gave way; the train rushed backwards down the incline; and both trains smashed right into each other, tearing the carriages to splinters and committing havoc right and left amongst the unfortunate passengers. Is nobody to blame in such a case as this? What compensation short of legal punishment can recompense the public and those who are suffering from such misconduct?

REPORT ON RAILWAY ACCIDENTS. — In the report of the select committee appointed to inquire into the causes of accidents on railways, and into the possibility of removing any such causes by further legislation, the causes of accidents on railways are classified under the three following heads:—Inattention of servants; defective material, either in the works or rolling stock; excessive speed. The committee are of opinion that the Board of Trade should be invested with the fullest powers to investigate and report to Parliament upon any accidents which may occur on railways;—that a rate of speed considerably in excess of what is considered safe is sometimes attained on many of the lines;—that this has arisen from want of strict punctuality in the time of the departure and arrival of trains from each station, and to make up time lost;—that the committee is not prepared to recommend any direct legislative interference upon this question of speed; but that the public should have some means of obtaining prompt and cheap redress in the recovery of penalties in every case of want of punctuality in the departure and arrival of trains at every station; that it should be imperative on every railway company to establish a means of communication between guards and engine-drivers;—and that the telegraph would be a most effective means for the prevention of railway accidents, the largest proportion of which arise from collisions.

THE MEMORIAL CHURCH AT CAWNPORE.—The *Art-Journal* says,—It was originally designed that a memorial church at Cawnpore should arise over the very grave of the martyrs; but it is found now, that the distance of the well from the mission station, and other considerations, render it ineligible as the actual site of the sacred edifice. It has been determined, therefore, to mark the dreadful spot itself by some suitable monument of a simple, though lasting kind,—and to build the church (which, though it need not be large, must, from its monumental character, be of good architecture, and therefore expensive), in connection with the mission buildings already existing near the native town.

MULTIPLICATION OF MUSIC BY ELECTRICITY. LAYING IT ON.—An idea occasionally broached in the *Builder* has, it seems, been realized at Brussels. A Hungarian, M. Leon Humar, according to the Brussels *Emancipation*, played recently, at a public concert in the National Theatre, by means of electric wires, on five different pianos at the same time. The battery which worked the wires was in an adjacent room.

POISONING BY FOUL AIR.—Information has been forwarded to Mr. Payne, the coroner, of the death of William Beaven, aged seven years, who resided at No. 9, Theobald-street, New Kent-road. It appears the deceased, with other children, had been attacked with severe illness, arising from the stench of a drain or sewer; and a second child had died a few days previously. The one then still alive was taken to Guy's Hospital, where it shortly expired. The medical gentlemen entertain no doubt the child was poisoned from the foul air arising from the drains.

WATERWORKS.—The first stone of the Oldham New Waterworks, in the Piethorn Valley, about seven miles from Oldham, was laid last week. The mayor entertained the company afterwards at the Waterworks Inn, when the engineer stated that the works were proceeding satisfactorily, the expenditure being 2,000*l.* under the estimate so far. It is intended to make three reservoirs. The first, at the top of the valley between Norman-hill and Piethorn-farm, will be fed principally by the Piethorn stream, which takes its rise on Bleaked-gate-moor. It will act as a filtering-lodge for the water before it gets to the middle reservoir, and will be fitted with "cloughs," to turn the water into the middle reserve or down a by-wash. Above this reservoir there will be a small dam, to intercept wreck brought down by floods. The middle will be the principal reservoir, and will receive water by the Coldgreave stream. At the lower end of the valley an embankment will be thrown across to form the lower end of the reservoir. The embankment, in the centre of which will be a puddled wall, will contain 385,000 square yards, and the area of the reservoir will be upwards of 30 acres. The water from this reservoir is to be conveyed into the town by a 20-inch pipe, and in the lower reservoir (a compensation one for the mills down the valley), by a 14-inch pipe; both pipes being placed in a culvert 6 feet in diameter and 100 yards long, arched over with three separate courses of stone, running through the embankment and terminating in a valve-house.——At a recent meeting of the shareholders of the Derby Waterworks Company, the directors reported that the revenue had increased sufficiently to enable them to recommend a dividend of 6½ per cent. against 6 per cent. last half-year, and they had little doubt of a steady and gradual improvement.

HOW TO MAKE THE THAMES THE SCAVENGER OF LONDON, WITHOUT POLLUTING ITS WATER.—Without any information as to the mode proposed by the Board of Works for getting rid of the nuisance hitherto existing, of emptying the whole of the sewage of this enormous city into the Thames, it occurs to me that instead of requiring the river to carry this polluted matter into the body of the stream, it might be rendered available for the purpose by turning the tide at high water into a large drain to be constructed on either side of the river, so that the contents of the latter, after receiving the sewage of the city, might be washed out from one end to the other, at every flood tide, and conveyed away by this means to any distance that may be desirable. The mode of utilising this precious material for agricultural purposes is a matter of detail into which it is not my province to enter.—J.B.

TAPESTRY AT LUCERNE.—A valuable discovery has just been made, destined to fill up a regretable blank in the series of monumental figures of French history. The Marquis of Azeglio, Minister of Sardinia, in England, has found recently, at Lucerne, a tapestry of the time of Joan of Arc, representing her arrival at the Court of Charles VII. This piece of work, which, from the lettering upon it, appears to be of German workmanship, offers a marked character of authenticity as far as regards the heroine. The costume answers exactly the description given by the official reports of the Rouen trial, and by contemporary authors. This has not been the case in any of the figures, elsewhere discovered posterior to that date, which have been brought to light. The Marquis d'Azeglio, perhaps one of the most accomplished in the diplomatic circle—at once poet, musician, and artist—has hastened to send to the principal museums of France, a photographic reproduction of this work, so interesting to the French nation.

SOCIAL SCIENCE ASSOCIATION. The second annual meeting of the National Association for the Promotion of Social Science is fixed to be held at Liverpool, on the 11th of October next, and five following days.

IMPROVEMENTS AT BILLINGSGATE SHELL-FISH MARKET.—Dr. Letheby having reported to the Commissioners of Sewers that the shell-fish market of Billingsgate was ill ventilated and badly cleansed, workmen were yesterday engaged in improving the ventilation by opening the glass roof throughout. The old steam-engine, which was used for the purposes of pumping water from the Thames for cleansing and washing down the market, has been taken down, and the fountain is about to be removed to the open area of the New Metropolitan Cattle Market at Copenhagen-fields. A new arrangement of the "standings" is also about to be effected, and a more stringent system of management is to be enforced under the authority of the Markets Committee of the corporation.

THE MAGISTRATES' NEW COURT AT PRESTON.—The acoustics of the new court, according to the *Guardian*, have been improved by the temporary covering of the flat part of the dome, showing that an inner ceiling light affixed would remove in a great measure the inconvenience complained of. As respects the ventilation, it adds, we are told that the architect proposes to adopt the system now in use in the courts of Salford, Ilford, and Leicester, in the Chapel Royal, St. James's, in Windsor Castle, and in several other public buildings.

LIGHTING FROM CEILINGS.—A contemporary publishes the following paragraph:—"A Venetian has invented a new apparatus for lighting theatres. By parabolic mirrors he concentrates the light over the opening in the ceiling, and they are reflected down on a system of plano-concave lenses, a foot in diameter, which occupy the aperture, and convey into the theatre the rays of light, which arrive at them parallel and depart from them divergent. It is said to be efficacious and very cheap, lighting the whole theatre." By reference to volume IX. p. 106, of the *Builder*, it will be seen that the idea and practice of lighting theatres from the ceiling alone is not new: it was first announced, under the signature "J. E. D.," in the article referred to. In that case, to be sure, the particular object in view was the lighting of the stage alone; but the system of lighting, exclusively from above, by reflectors, on the principle explained in the *Builder*, and in connection with ventilation, has since been extensively practised in churches, halls, and other public buildings throughout our own country, under the name of "sun-lights," the idea of which appears to have been appropriated by a Liverpool man as his own particular invention.

CRYSTAL PALACE IN CANADA.—The people of Toronto have been getting up a Crystal Palace for the exhibition of the products and history of the Canadian provinces. The palace is expected to be opened by the 1st of October. A movement has been got up in connection with it to invite Queen Victoria either to preside in person over the opening of the palace or to send the Prince of Wales, or some other member of the Royal Family, to do so.

ST. PETER'S CHURCH, WORCESTER.—Without any desire to take a part in the professional discussions of architects, we think it right to state, as an act of common justice, that it is the opinion of nearly all the practical men who have examined the roof of this church that its original construction has had much less to do with the present decay than was at first thought and affirmed. Faults there may have been in laying the bed of the gutters, but beyond this blame does not appear to lie at the door of any one. Admitting, however, that the building in the ends of the beams has not caused the decay in this instance, it is nevertheless a fact that in the "Suggestions and Instructions" issued by "the Incorporated Society for Promoting the Enlargement, Building, and Repairing of Churches and Chapels," there occurs the following clause:—"Whenever the ends of timbers are lodged in the walls they should rest on stone templates, or be carried on stone corbels, and a space should be left for ventilation between the timber and the wall on all the other sides." The work of repair at St. Peter's has been undertaken by Mr. Taylor, of the London-road, for the sum of 136*l.* 10*s.* There were four other tenders. The amount of Mr. Taylor's tender comes as near as it well could to Mr. Flewett's estimate.—*Worcester Herald.*

YORKSHIRE ARCHITECTURAL SOCIETY.—The next meeting of the members of this society will, we understand, be held at Ripon, on the 14th and 15th of this month.

LEGAL QUAYS AND NORTHFLEET DOCK COMPANY.—We hear it is proposed to form noble docks between Rosherville and Northfleet, including the site of Rosherville gardens. A company has been formed under the above title, and Mr. Henry Pitcher, we are glad to learn, is made managing director. Mr. Pitcher is, we believe, well qualified for the post.

TENDERS.

For alterations to premises, No. 8, Watling-street, for Messrs. Southall and Ponsford. Mr. Thomas Burton, architect:—

Holmes	£2,484	0	0
Piper and Son	1,800	0	0
Downs	1,780	0	0
Oxford and Co.	1,664	0	0
Sargent	1,503	0	0
Lawrence	1,382	0	0
Glen	1,271	0	0

For additional buildings to sugar refinery in Rupert-street, Goodman's-fields, for Messrs. Hicks. Mr. G. H. Simmonds, architect :—

Jacobs	£6,722	0	0
Rider	6,010	0	0
Ashby and Horner	6,500	0	0
Jolly	6,475	0	0
Single	6,453	0	0
Wilson	6,453	0	0
Reed	6,318	0	0
Hall	6,200	0	0
Perry	6,170	0	0
Myers	6,115	0	0
Outwhite	5,870	0	0
Downs	5,830	0	0
Piper	5,575	0	0
Hill	5,552	0	0
Wood	5,175	0	0

For proposed new roof over south aisle of St. Mary's Church, Whittlesea. Mr. Edward Browning, Stamford, architect :—

Ellis and Son, Peterborough	£350	0	0
Mills, Whittlesea	318	10	0
Wilson, Grantham	291	13	2
Griffin and Ashley, Whittlesea	285	0	0
Bradshaw, Stamford	265	0	0

For erecting a lodge at Broke Hall, Suffolk, the seat of Sir G. N. Broke, Bart. C.B. Mr. R. N. Phipson, Ipswich, architect. The principal part of the materials found by the proprietor. Quantities not supplied :—

Smith, Ipswich	£230	6	0	
Luff, „	228	0	0	
Girling, „	222	10	0	
Orman, „ (accepted)	214	0	0	

[ADVERTISEMENT.]

SELF-COILING CONVOLUTED SHUTTERS.—The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. CLARK and CO. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being considerably cheaper, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow windows may be obviated by their use, without extra cost.— *From the Builder, June 26th, 1858.*

TO CORRESPONDENTS.

J. B.—C. must call have referred to it. R. J.—S. S.—R. H. are made to assist. Ask Mr. Simpson, if by circular. E. B. R.—Z. next week).—Sir J. M. (next week).—Z. C.—W. A.—Mr. H.—G. H. S. (having been requested publication, they will be considered what grounds we could depart from our custom.—W. P.

"Errors and Addresses."—We are forced to decline pointing out book-keeping addresses.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

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AN APPRENTICE WANTED, to a BUILDER and DECORATOR. A full opportunity will be afforded of learning the business.—Apply to W. LEA, 14, Hatton-garden.

CIVIL ENGINEERING.—A CIVIL ENGINEER is prepared to receive a PUPIL, and to afford him the best advantages for a thorough knowledge of his profession. Mathematician, or one who has a knowledge of building or survey to a certain extent, would be preferred. To be made to VALENTINE GOOLD, Esq. Glastonbury, County of Somerset.

Dated 9th August, 1858.

WANTED, an AGENT, in London, for the SALE of PLASTER, and the PATENT HYDROBORAN. All applications to be made to Messrs. WRIGHT, BROTHERTON, and CO. 149, Cannon-street, E.C. Messrs. PATENTEE and BARNARD, Scott's Western Plaster Depot, Homer-road, Leicester.

WANTED, by a Builder, a WORKING FOREMAN of PAINTERS, GRAZIERS, &c. He must be fully competent to take the entire management of the work, as the Situation will be permanent. None need apply who are unable to produce satisfactory testimonials as to their abilities, sobriety, &c. from the last employer. Salary, £1 1s. per week.—Apply, by letter only, to R. S. D. Mr. Clark's, Stationer, Sydenham, Kent.

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Dated 9th August, 1858.

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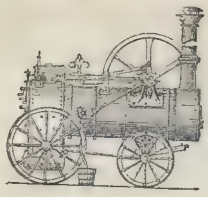

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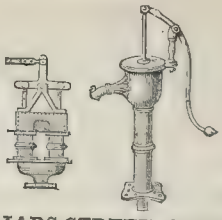

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TO BUILDERS, CABINETMAKERS, and OTHERS. ALFRED CARTER submits the following very reduced prices for really useful sorts:—

½ inch Prepared Flooring	£0 11	6 per square.
¾ in. Prepared Flooring	0 13	0 per square.
1inch Prepared Flooring	0 15	0 per square.
Good Yellow Deals	0 3	3 each.
Spruce Deals	0 3	0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3	6 each.
Yellow Battens	11 10	0 per 120.

Mahogany, planks and boards, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal green-road, N.E.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY submits the following List of Prices to Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾ inch Prepared Flooring, 11s. 6d. per square.
1 inch ditto, 12s. per square.
Yellow Battens, 11s. 6d. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d. per foot.
Borough road, Southwark, and Blue-street, Grays-inn lane.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST REMUNERATIVE PRICES.
Books of Designs of Mouldings forwarded on application.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Planks, 3s. 6d.; Mahogany and F. Walnut, 5d.; 2½-inch White Battens, 9l. 5s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 13s. 6d.; 1-inch Yellow, 12s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.
T. FORMAN, 1, Walnut tree walk, Walnut Place, Lambeth.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public, especially that he has taken PREMISES, 29, TOOLEY-STREET, of the South Eastern Railway Company, adjoining their Termini, London-bridge, where, in connection with his old-established Yard in Kingsland, he begs to be prepared to supply, from a large and well-assorted stock, Timber, Deals Seasoned Planed Ready, Matched Linings, Mouldings, &c. at the lowest possible prices for cash.
P.S. Orders carefully executed with prompt attention, and all examples from Timber merchants, delivered free of cartage within three miles.

TO TIMBER MERCHANTS, BUILDERS, and OTHERS.—FOR SALE, lying on a Wharf at Dartford, and near the Railway Station, a quantity of good seasoned 2, 3, and 4-inch OAK PLANK.—Apply to Mr. JOHN WEBB, High-street, Dartford.

WALNUT VENEERS at first hand.—MITCHELL'S is the only manufactory of these veneers in this country, and the cheapest house in the trade. Wood cut into veneers for the trade by knife machine, at 4d. per foot, with a saving of 50 per cent in the timber. MITCHELL, Importer of Walnut Wood, and Manufacturer of Walnut Veneers, 77, Robert-street, Chelsea.

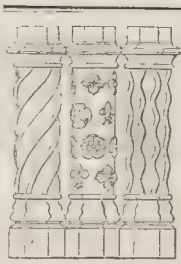
A CORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	1	1¼	
Spruce	12s.	14s.	18s.	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s. "
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d. "

Delivered within three miles free of charge
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
S. Isthmark-bridge Wharf, Bankside, S.E.



AUSTIN, SEELEY, and CO.
371—375,
EUSTON-ROAD,
ARTIFICIAL STONE WORKS.

CATALOGUES OF
CHIMNEYS,
AND ALSO OF
FOUNTAINS,
ON APPLICATION.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, belt, rotary and flat, and also KEY RINGS, for Hot Water Pipes. Vulcanized Rubber Joints, and Solid Round Rubber Cord of all sizes. Plain and Chain Insertion and Rubber Strips cut to any pattern for Bagatelle Tables.
Patent process of patch making, and improved Vulcanized Rubber Sample pipes for ditto.
Vulcanized Rubber in Sheets, from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.
N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha and Caoutchouc Company are willing to offer the following letter from Mr. SEAWARD, Tables, Bonchurch, Ventnor, Isle of Wight, as conclusive and satisfactory:—"March 10th, 1852. In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Patent Screw Lead-slates with which satisfaction, it answers perfectly well. Many builders and other persons have lately come to see, and have found not the least apparent difference since the first having down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."
N.B. From this testimonial it will be seen that the CORROSIVE WATER of the Isle of Wight has no effect on Gutta Percha Tubing.
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY-ROAD, LONDON.

IMMEDIATE CASH ADVANCES.—Money Lent on Personal Security, Leases, &c.
SUMS from 10*l.* to 300*l.* ADVANCED two or three days after application, for two years, one year, or even months (repayable by weekly, monthly, or quarterly instalments), and good Bills Discounted. Charges moderate, and strict confidence observed.
LONDON and PROVINCIAL LOAN COMPANY, Office, No. 69, Goswell-road, London. Open daily from Nine till Six.
Forms of application and prospectus (gratis) on receipt of a stamped envelope.
H. FLEAR, Manager.

BANK of DEPOSIT, Established A.D. 1844.
3, PALL-MALL EAST, LONDON.
Parties desirous of INVESTING MONEY are requested to examine the Plan of the BANK of DEPOSIT, by which a high rate of interest may be obtained with perfect security.
The interest is payable in January and July.
PETER MORRISON, Managing Director.
Forms for opening Accounts sent free on application.

SOLID PARQUET FLOORS.
ARROW-SMITH'S PATENTED,

from its perfect fit. The "Wood Mosaic," 1 inch thick throughout, and most economical for Halls and Corridors, requiring them, if desired, available for dancing as soon as laid. A handsome and appropriate border for Turkey and other carpets, staircases, panelling, &c.; also for fixing the Arrow-head Parquet Oak Floor, now in warmer than steam at Exeter Hall, York; St. Gregory's, Cheltenham, &c.
80, NEW LONDON-STREET.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE made by Barlow upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
115, Fore-street, City. Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

THE PATENT ARCHITECTURAL POTTERY COMPANY, Poole, Dorset, Manufacturers of RUABON TILES, INLAID MOSAIC TILES, also ornamental TESSELATED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for halls, conservatories, corridors, conservatories, lobbies, vestibules, porticoes, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles, for the dairy, &c. Various specimens of the above may be seen, and every information obtained, at the Offices of the Company, No. 7, Parliament-street, Westminster, and from Messrs. WILLIAM W. BONNIN, and J. G. H. MACCOLLA, "Sole" Agents for London.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES - 70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

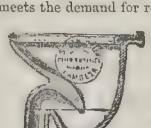
GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,

IMPERIAL POTTERIES, LAMBETH.

S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—
Messrs GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City Road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs COLES, SHADBOLT, and CO.'S at Jarvis's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Brydges-street, Covent-garden.
Mr. HENRY TURNER, 3, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

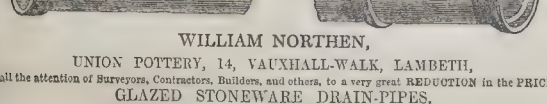
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.

Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

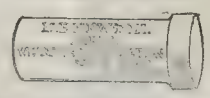
Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, screwed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	14s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
8s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter.
Connexion can be made with the sewers at any time.
And the Pipes guaranteed to stand better than any Brickwork.

BELL'S PATENT TRAPS, for Stables,

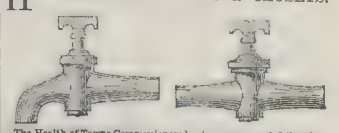
Coach-houses, Garden-paths, Wards, &c. Price 7s. each. To be had of the sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 108, Drury-lane, and Sidney-road, Bermondsey.

DRAIN PIPES.—More than 20,000 of

Each, 2 ft. in length SALE, of first quality. Sample taps and prices forwarded at two days' notice. Early delivery by application to the Manufacturer, W. D. LONSDALE, Nottingham.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as the Cock free from valves, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

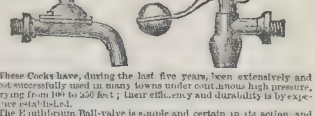
LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 350 feet; their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for private houses, stations, asylums, &c.

THOMAS LAMBERT and SON,

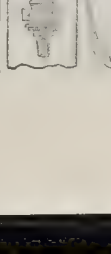
Brass and Iron Founders, Short-street, New cut, Lambeth.

WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST IRON PUMPS

fitted with J. W. and Sons' Patent Buckets and Sinkers, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2¼ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ ,, long	3 3	gutta percha	1 14 0
3 ,, ditto	3 6	or cast iron	2 8 0
3½ ,, ditto	3 6	Hinged pipe,	2 12 0
4 ,, ditto	3 6	as required.	3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, drying, and plant houses; they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of Wheels, Rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.



TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to

JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive stays and guides are unnecessary, rendering the price considerably less than Pumps made on the usual plan.

Rotary Water Pumps for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,

8, Crescent, Jewin-street, London,

Manufacturers and Patentees.

SALES BY AUCTION.

TO BE SOLD, pursuant to a decree of the High Court of Chancery made in a cause of Smith v. Tagg, with the approbation of the Master of the Rolls, in eight lots, by

MR. THOMAS MEWS, the person appointed by the said decree, at the CATHERINE WHEEL INN, Henley-upon-Thames, in the County of Oxford, on THURSDAY, the 23rd day of SEPTEMBER, 1858, at TWO o'clock, the following valuable FREEHOLD PROPERTIES, viz. — six houses and premises, with gardens, in Duke-street, Henley; a house and premises, with garden on the north side of the Market-place, Henley; a house, warehouse, and extensive business premises, and workshops, with stables, coachhouse, and yard; and another house, shop, and premises adjoining, in Bell-street, Henley; together with the GOODWILL and STOCK IN TRADE of the late Mr. Richard Tagg, ironmonger, deceased; a dwelling-house and premises, with stable, coachhouse, garden, and orchard, also in Bell-street, Henley, in the occupation of Mr. Edmund Shawcross; and the Freehold Dwelling-House, with garden, and orchard piece of Meadow Land, containing 1a. 1r. 35p. or thereabouts, called Lower Pear House, situate in the Parish of Remenham, near Henley, in the occupation of Mr. Philip Tagg.

Printed particulars (to which conditions of sale may be had (gratis), in London, of Messrs. KINGSFORD and DORMAN, Solicitors, 7, Lincoln's-inn-fields; at Henley, of Messrs. MEWTON and JARVIS, Solicitors, 23, Chancery-lane, W.C.; and Mr. CHARLES BERKELEY, Solicitor, 39, Lincoln's-inn-fields, W.C.; and in the Auctioneer's Library, 191, Piccadilly, W.; and of the Auctioneer, Henley: Messrs. COOPER, Solicitors, Henley; and of the Auctioneer, Henley: and at the Place of Sale. Dated this 25th day of July, 1858.

GEO. HUME, Chief Clerk.

CHESTERTON, near Cirencester. TO BE SOLD, pursuant to a Decree of the High Court of Chancery, made in a cause, Wilson v. Lawes, with the approbation of the Master of the Rolls, the 31st day of July, 1858, in one lot, and subject to conditions of sale to be then produced, and which will be read at the time of sale, by

MESSRS. WENTWORTH and SON, the persons appointed for the purpose, on WEDNESDAY, the 15th day of SEPTEMBER, 1858, at FIVE o'clock in the afternoon precisely, at the PORTLAND ARMS HOTEL, Cirencester, in lot 1 the FREEHOLD and COPYHOLD DWELLING-HOUSES, several PIECES of LAND and PLOTS of LAND for building purposes, called the PLOTS of LAND in CHESTERTON GROVE, situate and being in the immediate vicinity of Cambridge, and distinguished in the plan of the same from Cambridge by the Canal Bridge.

Printed particulars and conditions of Sale, with plans, may be had (gratis), in London, of Messrs. KINGSFORD and DORMAN, Solicitors, 7, Lincoln's-inn-fields; of Mr. JEFFERY WILLIAM JOHNSON, Solicitor, 5, Gray's-inn-square; Mr. HENRY WILLIAM RAVENSCROFT, 7, Gray's-inn-square; and in the country, of Mr. GEORGE SAMUEL HALL, Solicitor, Cambridge and Ely; Mr. CHARLES SAMUEL COOPER, Solicitor, Cambridge, and Mr. ROBERT PEACH HALMER, Solicitor, Cirencester; and of the Auctioneers — Dated this 9th day of August, 1858.

GEO. HUME, Chief Clerk.

TEDDINGTON LOCKS.—To Contractors, Builders, and Others.—Important Sale of Surplus Plant and Material.

PULLEN and SON are favoured with instructions from the Conservators of the River Thames, to the General Purposes Committee of the City of London, to SELL by AUCTION, on the PREMISES, at TEDDINGTON, on THURSDAY, SEPTEMBER 9th, 1858, following day, at TWELVE o'clock, the extensive PLANT, TOOLS, and SURPLUS MATERIAL used in the construction of the new locks, comprising a capital 10-horse power horizontal steam-engine, by Ransom and Sims; a three-throw pump, oscillating cylinder, two large steam boilers, two capital smiths' forges complete; Gwynne's patent centrifugal pump and pipes, circular saw-bench, with two 30-inch saws and gearing, lathes, rack and other rubbish barrows, crabs, crane engines, well-screws, pairs of lock paddles and rack frames, timber, and balk landers, quantity of useful sawn timber, 18 main piles, and 1,000 sheet piles, iron shod; 10,000 feet run of 3-inch fir planks and boards; 1,500 feet cleft 3-inch and 4-inch seafold poles and boards; puttogs, cords, ladders, mortar boards, wheeling planks; 74 navvy barrows, 12 earth waggons, 6 Dobbin carts, 20 tons of cast-iron rail, bonds, and fishplates, 1,000 chairs, 1,000 trenails, 1,000 trunk spindles, bolts, &c., 1,000 cwt. of wrought and cast iron: the brick and wrought-iron work of the locks, viz., the cast-iron sills, gaffle rod, length rod, bollard, chain, eye, and all the solid oak timber and iron-work of the old lock; a shallop, a large pleasure boat, boards, trestles, forms, with Bass's railroad 1½ yard tip waggon, and various useful materials and effects. — May be viewed two days previous; and catalogues had of PULLEN and SON, 89, Fore-street, Cripplegate.

IMPORTANT CEMENT, PAINT, COLOUR, and BRUSH MANUFACTORY, at HULL To be SOLD by AUCTION (under the Decree of the Court of Chancery, dated the 5th day of July, 1858, in the cause of Mee v. Mee), by

MESSRS. DANIELS and CLOUGHTON, at their SALE ROOM, Bowlalley-lane, Hull, on THURSDAY, the 30th day of SEPTEMBER, 1858, at ONE o'clock in the afternoon precisely, in the following lots, and subject to such conditions as will then be produced, one of the most extensive and important Establishments in the thriving and populous town of Kingston-upon-Hull, comprising the following branches of business (the whole of which are in full working order), viz.:—Roman and Portland cement, plaster of Paris, paints, painting-brushes, and general white-lead manufacturers; also extensive French and pearl barley, pearl-flour, sawing, and wood-turning. The valuable and extensive premises, comprising 5,000 square yards of ground, having a frontage to the river Hull, with a good wharf, and adjoining Union Chapel-street, and in the immediate neighbourhood of one of the North-Eastern Railway stations. The Dwelling-house is capitally arranged, and contains twelve rooms, three servants' halls, with suitable Back Kitchen, Pantry, Cellarage, and Yard. The above premises are replete with every convenience for carrying on the business, and comprise a spacious counting-house, with large plate-glass windows, and fitted with desks, &c., and the whole of the premises are well lighted with gas, and have been recently repaired throughout, and are in a most complete state for carrying on the business. Also, the Main Building, which is of brick, and two stories high, with two steam engines, the one of 14-horse power, and the other of 10-horse power respectively, the machinery for which is in perfect working order. Also, a good Dwelling House, with three tenements for workmen, counting-house, warehouse, stabling, coachhouse, and other sheds, with convenience for carrying on a very extensive business; which have been occupied by the present proprietors during the last century and a half. For a view of the premises apply to Mr. HUNTER, the Cashier, at the Works; and for further particulars apply to the Auctioneers; or at the Offices of Messrs. DRYDEN and SON, Solicitors, Hull. Hull, August 18, 1858.

TO TIMBER MERCHANTS, BUILDERS, CABINET AND PIANO FORTE MAKERS, AND OTHERS.

MR. LEREW will SELL by AUCTION, on the PREMISES, 42, Upper Street, Somers-town, on MONDAY, SEPTEMBER 13, at TWELVE, the following valuable Stock, in lots, viz.:—About 1,000 feet of prepared yellow and white flooring, 400 cut deals, seven feet quarter, and sundry other lots. May be viewed the day prior and morning of sale, on the Premises, and of the Auctioneer, Church-street, Hackney-road, near the Eagle, Shoreditch.

SPECIAL NOTICE TO THE BUILDING TRADES.

MESSRS. BOOTH and CO. Auctioneers, respectfully announce that SALES of BUILDING MATERIALS will in future be held at their TIMBER DEPOT, St. Mary-le-bone-road, near the Yorkshire Stingo, on SATURDAY next, and every Saturday, at TWELVE precisely. The attendance of Builders and others will be invited to the first SALE on Saturday next, when a large assortment of Timber, Deals, Battens, Flooring, Boards, Mouldings, &c., will be submitted to Public Competition. BOOTH and CO., Auctioneers, &c.

TURNERS, CABINET MAKERS, COACH BUILDERS, PACKING and MARKING CASE MAKERS, JOINERS, &c.—To be SOLD by AUCTION, at Mount-pleasant, Gray's-inn-road, on WEDNESDAY and THURSDAY, the 15th and 16th days of SEPTEMBER, 1858, at ELEVEN for TWELVE precisely each day, the DRY STOCK of TIMBER, consisting of about 2,000 dry pine and spruce planks and deals, 1,000 cubic feet of mahogany, 3,000 dry pine and spruce planks and deals, 1,000 cubic feet of mahogany, 3,000 feet super. Honduras and Spanish mahogany, 1,000 feet of Italian and American walnut wood, dining-room, drawing-room, and other baths, &c.; bay mare, phaeton and harness. May be viewed the day prior and morning of sale.—Catalogues had on the Premises; and of the Auctioneers, No. 191, Fore-street, Lambeth.

SALES BY AUCTION.

TO SMITHS, MACHINISTS, IRONMONGERS, AND OTHERS.

MR. ELLIS is directed by Mrs. Hegerty, who is leaving off trade, to SELL by public AUCTION, at 8, Christ Church-passage, Newgate-street, on TUESDAY, SEPTEMBER 7th and following day, at TWELVE each day, the valuable STOCK, comprising upwards of 100 stoves, a variety of beer engines, brass taps, ship, garden, and other pumps, stink traps, screw jacks, crabs, locks and bells, chains, lead trackles, cases of instruments, and tape sellers, gardeners' and surveyors' rules, with brass circles, and sundry other tools, the whole complete. Select iron bedsteads, washstands, and other fittings, stock and the complete, wrought-iron fire-proof safe, two sets of baker's ovenwork, large sugar and coffee mills, and a miscellaneous assortment of general ironmongery, capitally adapted for country dealers. May be viewed two days previous and morning of sale. Catalogues had on the Premises; and of Mr. ELLIS, Market-place, Chandlers.

STRATFORD, ESSEX.—The valuable Plant and Machinery of Mr. W. Fairbairn's extensive Chemical Works, together with the iron building, stock, &c.

MESSRS. PRICE and CLARK will SELL by AUCTION, on the PREMISES, the Iron Works, called Bow Bridge Works, on MONDAY, SEPTEMBER 20th, and following day, at TWELVE to ONE o'clock, in separate lots, by direction of Messrs. Fairbairn, the PLANT, comprising two powerful steam engines, one of 14-horse power, and the other of 12-horse power, by Ransome and May, with patent governors, and all the usual gear, two powerful steam boilers, twenty-four feet long, seven feet diameter, with patent furnaces, two steam cranes, one of 3-ton power, the other of 2-ton power, with all the usual gear, two powerful steam hoists, with all the usual gear, two powerful steam hoists, with all the usual gear, two powerful steam hoists

The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—THE ELEVENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY, OCTOBER 28th, 1858.

THOS. PIPER, Jun. Esq. President, in the Chair.

Gentlemen in the Profession, feeling the interests of the Institution, are becoming Stewards will be pleased to forward their names to the Secretary, at the Offices, 19, Southampton-street, Bloomsbury; or to the Treasurer, Mr. GEORGE BIRD, 38, Edgware-road.

A. G. HARRIS, Sec.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—The AUTUMN COURSE of LECTURES will COMMENCE in OCTOBER. Further particulars will be announced, and cards forwarded to subscribers.

GEORGE GILBERT SCOTT, R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Secretary.

QUEENWOOD COLLEGE, Near Stockbridge, Hants, Dual rule: Station, Salisbury Branch, S. W. R.

GEORGE EDGUMBE, Principal.

NATURAL PHILOSOPHY AND MATHEMATICS—Frederick R. Smith, LL.D. CHEMISTRY—Dr Henry De la Beche, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg.

CLASSICS AND HISTORY—Daniel Hughes, M.A. Jesus College, Oxford.

MODERN LANGUAGES AND FOREIGN LITERATURE—Mr. John Haas, from M. de Fellenberg's Institution, Hofwyl, Switzerland.

GERMAN—Mr. Nicholas Wegmüller, from M. de Fellenberg's Institution, Hofwyl, Switzerland.

PENCIL AND SHADING, LABELLING, &c.—Mr. Richard P. Wright.

DRAWING—Mr Richard P. Wright.

ENGLISH—Mr Daniel F. Brightwell.

ENGLISH—Mr. Wooton Preyer.

MUSIC—Mr William C. Crowell.

TERMS.

For Boys under 12 years of age ..... £45 per annum
" above 12 and under 15 ..... 65 "
" above 15 ..... 85 "

Laundress and Sempstress 3l. per annum extra (except in the case of Two or more Pupils from the same family, when the charge is settled

CONTRACTS.

TO BUILDERS.—TENDERS for the ERECTION of a CONGREGATIONAL CHAPEL, at West Brompton, will be received at the Offices of Messrs. GOODMAN and MOLLEY, Solicitors, 7, Crescent place, Bridge-street, Blackfriars, up to the 22nd of SEPTEMBER next. Plans and specifications may be had of the above mentioned Messrs. on and after WEDNESDAY, the 15th instant, between the hours of TWELVE and THREE. The lowest Tender not necessarily to be accepted.

TO CONTRACTORS.—The Clay-Cross Coal Company will receive TENDERS for the ERECTION of a TIMBER STAGING, with Tipping Coal Staiths in connection with the London and Blackwall Railway, at Upper Copper-street, St George's East. The drawings may be seen at the Office of Messrs. BERKLEY, Engineers, on application at the Office of Mr GEORGE BERKLEY, 24, Great George-street, Westminster, S.W. on and after the 13th inst. Tenders to be delivered to Mr. BERKLEY, before TWELVE o'clock Noon on the 27th inst. The Company do not bind themselves to accept the lowest or any Tender.

September 11, 1858

CONTRACTS.

NOTICE to BUILDERS. ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall Mall, London, on or before FRIDAY, the 17th day of SEPTEMBER, 1858, from persons desirous of Contracting for CONSTRUCTING a GUN SHED at the Western Heights, at Dover.

Drawings and a specification of the work to be executed may be seen by persons duly inspected, to tender for the work, at a limited number of Offices, viz. that of Tender, and that of the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock from MONDAY the 13th of SEPTEMBER, to THURSDAY, the 16th of SEPTEMBER, 1858. The party whose Tender may be accepted for the works, will be required to enter into a bond, with two sufficient sureties, jointly and separately to be bound in a penalty of £50 for the due performance of the contract. Tenders for the above to be addressed to the Director of Contracts, War-office, Pall Mall, London, S.W. and endorsed "Tender for a Gun Shed, at Dover."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Dover, September 2, 1858

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War-office, Pall Mall, London, on or before TUESDAY, the 14th day of SEPTEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING an INFANT SCHOOL-HOUSE, at HOUGHAM, near Dover. Plans and specification of the works, and printed forms of Tender, obtained at the Royal Engineer Office, Dover, from the hours of TEN and FOUR o'clock from MONDAY, the 13th of SEPTEMBER, to SATURDAY, the 25th SEPTEMBER, 1858, Sundays excepted. The party whose Tender may be accepted for the works, will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of £200, for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall mall, London, S.W. and endorsed, "Tender for School-house and Quarters at Hougham."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, September 2, 1858

BOROUGH of SUNDERLAND.—SEWERAGE WORKS.—CONTRACTS Nos. 35 and 36.—To CONTRACTORS, MASONS, EXCAVATORS, and OTHERS.—The Council of the Borough of Sunderland are prepared receiving TENDERS for the EXCAVATING, MASONS' WORKS, and LAYING of STONEWARE PIPES in the following Streets:—

CONTRACT No. 35.—Lower Dock-street Branch Sewers.

CONTRACT No. 36.—Wellington-lane District Branch Sewers.

Plans, sections, and specifications may be seen at the Office of WILLIAM FROZIER, C.E. Borough Engineer, East Cross-street, Sunderland, to whom Tenders are to be sent, addressed "To the Chairman of the Sewerage Committee," and endorsed "Tender for Sewerage Contracts, Nos. 35 and 36," and must be delivered on or before SATURDAY, the 18th day of SEPTEMBER, 1858.—By order,

WM. SNOWBALL, Town Clerk.

N.B.—The Corporation do not bind themselves to accept the lowest or any Tender.

Sunderland, September 7th, 1858

CITY of ELY LOCAL BOARD of HEALTH.—To CONTRACTORS and OTHERS.—TOWN SEWAGE.—The Local Board of Health for the District of the City of Ely give Notice, that they will be prepared, at their meeting, to be held on WEDNESDAY, the 15th day of SEPTEMBER next, at the Grand Jury Room, the Shire Hall, Ely, at TWELVE o'clock at Noon, to receive PROPOSALS from persons disposed to undertake for a term of years the MANAGEMENT of their MANURE TANK at Ely, and the emptying the same when necessary. The whole of the sewage to be the property of the contractor, but the irrigation thereof and the manufacture of manure to be carried on by the contractor, must be conducted so as not to be a nuisance. Persons desirous to answer this advertisement are invited, before making Proposals, to visit the Works in company with the Surveyor, Mr. WILLIAM BURNS, of Ely, who will show a plan and lend one of the Tank, and give any explanation that may be required by either of the Board.

Ely, August 24, 1858. W. MARSHALL, Clerk

CITY of ELY LOCAL BOARD of HEALTH.—To CONTRACTORS and OTHERS.—NEW STEAM ENGINE, &c.—The Local Board of Health for the District of the City of Ely give Notice, that they will be prepared at their meeting, to be held on WEDNESDAY, the 15th day of SEPTEMBER next, at the GRAND JURY ROOM, Shire-hall, Ely, at TWELVE o'clock at Noon, to receive TENDERS for the ERECTION of a NEW STEAM-ENGINE, BOILER, and PUMPS, at their Water-Works, at Ely, and also for certain ALTERATIONS in the BOILER and MACHINERY of the present Engine, according to plans and specifications prepared by JOSEPH GLYNN, Esq. C.E. No. 28, Westminster Chambers, London, S.W. which may be inspected by all parties at any Office, or by application to EDWARD CHURCH, Esq. Surveyor, Ely. Sealed Tenders to be sent in to me on or before the 15th SEPTEMBER next, addressed to the Chairman of the Committee of the Local Board of Health, and endorsed "Tender for Engine," and to be delivered at the Office of the Board. The Board do not bind themselves to accept the lowest or any of the Tenders.—By order of the Board,

Ely, August 24, 1858. WM. MARSHALL, Clerk.

TO BUILDERS and OTHERS. Persons willing to CONTRACT with the Board of Guardians, Clerkenwell, for BUILDING the NEW WORKHOUSE, are requested to send their Names and Addresses to the Clerk to the Board, at the Office of Mr. W. P. GRIFFITH, Architect, 16, Guildford-street, on MONDAY, the 13th instant, to which day the Tenders will be received. Plans and specifications may be seen at the Workhouse, Liverpool-road, Islington, on and after MONDAY, the 13th instant, between the hours of SIX o'clock in the morning and SEVEN o'clock in the evening, on application to the Clerk of the Works.

EDWARD SCARGILL, Clerk to the Guardians.

September 7, 1858.

CONTRACTS.

EXTENSION of TIME for PROPOSALS. The ANCHOR and HOPE PUBLIC-HOUSE, Fore-street, in the City of London, being the Nine Houses in Three Daggers Court, Fore-street, the Court of Assistants of the Worshipful Company of Drapers are willing to receive PROPOSALS for LETTING the above HOUSES, as on lease or otherwise. Proposals to be sent under seal to Mr. WILLIAM DADLEY, on or before the 14th day of SEPTEMBER, 1858. The Company do not bind themselves to accept any proposal.

WM. DADLEY, Clerk to the Company.

1, Anchor-terrace, Bridge-street, Southwark.

TO BUILDERS and CONTRACTORS.—The Guardians of the Poor of the Machynlleth Union being about to erect a NEW UNION WORKHOUSE, capable of accommodating sixty inmates, invite the competition of Excavators and Masons, Carpenters and Joiners, Plasterers, Slaters, Bricklayers, Glaziers, Sluters, Ironfounders, and Painters, who may be desirous of TENDERING for the whole or for any portion of the Works. Such persons may inspect the plans and specifications at the Board Room, Machynlleth, from the 22nd of SEPTEMBER to the 5th of OCTOBER, both inclusive, and may obtain bills of quantities and any information on application to JOHN EDWIN OATES, Esq. Architect, Wrexham. Sealed Tenders, endorsed "Tender for Works," must be sent at or before TWO o'clock on WEDNESDAY, the 6th of OCTOBER, addressed to HUMPHREY JONES EVANS, Esq. Clerk to the Board of Guardians, Machynlleth.—No pledge is given to accept the lowest or any Tender—By order of the Board,

Machynlleth, 28th August, 1858. D. HOWELL, Clerk.

TO BUILDERS.—Persons desirous of TENDERING for the Execution of the Works required to be done in RESEATING and making sundry ALTERATIONS and ADDITIONS to ZION CHAPEL, Frome, Somersetshire, may see the plans, specification, and additions at the Office of Mr. LANGFORD, Godless Ground, Frome, or at the Offices of Messrs. MEDLAND and MERRY, Architects, Gloucester, on and after MONDAY, the 13th SEPTEMBER. Tenders, sealed and endorsed "Tender for Reseating and Sundry Alterations at Zion Chapel, Frome," and addressed to Mr. LANGFORD, Frome, are to be delivered on or before the 24th SEPTEMBER. The lowest Tender will not necessarily be accepted, nor any, should the amount be unsatisfactory.

THE MIDLAND GREAT WESTERN RAILWAY of IRELAND COMPANY.—CONTRACT for WORKS.—The Directors of the Midland Great Western Railway of Ireland are prepared to receive TENDERS for the EXECUTION of so much of the WORKS of their EXTENSION LINE, between Longford and Edgeworthstown, as are comprised between the towns of Boyle and Elphin, being a distance of about twenty-eight miles, and also of a portion of and extension next the town of Longford, of about a quarter of a mile in length.—Plans and specifications, with conditions of Tender, to be seen at the Offices of G. W. HEMANS, C.E. 46, Upper Sackville-street, Dublin, and 26, Duke street, Westminster, on and after the 1st of SEPTEMBER, next.—Tenders to be sent in addressed to the Secretary, and endorsed "Tender for Works," not later than SATURDAY, the 25th day of SEPTEMBER next. The Directors do not bind themselves to accept the lowest Tender.—By order,

HENRY BEAUSIRE, Secretary.

Broadstone Station, Dublin, August 26, 1858

MINCING-LANE, London.—VALUABLE BUILDING GROUND.—The Court of Assistants of the Worshipful Company of Grocers are willing to receive TENDERS for taking on a Building Lease, for a Term commencing at Lady-day, 1859, and at a Ground-rent, to be agreed upon, a PLOT of LAND, upon which are now erected two houses, known as Nos. 8 and 9, Mincing-lane, in the City of London, and a range of Warehouses in the yard in the rear, known as Warner's-yard; and for the ERECTION thereon of SHOWROOMS, COUNTING-HOUSES, or Warehouses, with Cellarage, as shall have been prepared, or plans which may be approved upon. The ground contains a frontage towards Mincing-lane of about 35 feet, and a width in all from the front of about 75 feet, with a frontage depth of about 90 feet.—Further particulars may be obtained, and the plans shortly prepared, may be inspected at the Clerk's Office, Grocers' Hall, Poultry, E.C. where Tenders are to be sent, addressed to the Clerk, on or before the 24th SEPTEMBER next. The Company do not bind themselves to accept any Tender.

WILLIAM RUCK, Clerk.

RUNCORN CEMETERY.—To BUILDERS, EXCAVATORS, and OTHERS.—The Burial Board are prepared to receive TENDERS from competent persons for the ERECTION of TWO CHAPELS, LODGE, FENCE WALLS, PALISADING, and other works as well as for the Excavation, Drainage, Foundations, and Roads and Paths in the Cemetery. The Plans and specifications may be seen, and Bills of Quantities obtained, at the Office of the Architect, Mr THOS. D. BARRY, 47, Bedford-street North Liverpool, from the 6th of SEPTEMBER to the 16th of SEPTEMBER, and Tenders which may be received for the whole, or separately for the several buildings, fencing, &c. or for the excavations and remaining works, are to be addressed to the undersigned not later than THURSDAY, the 17th of SEPTEMBER next. The Board will not bind themselves to accept the lowest or any Tender.

By order of the Board

WILLIAM FRANCIS SALKELD, Secretary.

Town's Offices, Runcorn, August 30, 1858

SUFFOLK ARTILLERY MILITIA DEPOT at BURY.—Persons desirous of CONTRACTING for the WORKS required to be done in the ERECTION of an ADJUTANT'S HOUSE, adjoining the Depot at Ipswich, may see the plans, specification, and bills of quantities at the Office of Mr. J. PHIPSON, Architect, Ipswich, on and after MONDAY, the 6th of SEPTEMBER; and all Tenders are to be sent to me, addressed "Tender for Adjutant's House," on or before SATURDAY, the 25th of SEPTEMBER next. The Magistrates will not bind themselves to accept the lowest or any Tender.

JOHN HENRY BORTON, Clerk of the Peace.

Bury St. Edmund's, August 31, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

BATH CITY WATER-WORKS. TENDERS for CAST-IRON PIPES. Form of CONTRACT for supplying about [illegible] Cast-Iron Pipes, may be seen on and after the 15th inst. at the Office of the Water Committee, and sealed Tenders addressed to the undersigned, will be received by him up to TUESDAY, the 28th SEPTEMBER inst.
ALFRED MITCHELL, Treasurer.

THE Visiting Justices of the County Prison [illegible] are desirous of receiving TENDERS for the ALTERATIONS and ADDITIONS [illegible] on or before the 1st OCTOBER, 1858. [illegible] may be seen on and after the 20th inst. at the Office of the Clerk of the Peace, on application to [illegible] Gaoler. The usual security will be required.
Petworth, 31st September, 1858.

TO BUILDERS. The Committee [illegible] are desirous of receiving TENDERS for TAKING DOWN and REBUILDING the [illegible] Chapel, Ashton-road, Bow, in accordance with plans and specifications to be seen at the Vestry Office, Bow, on and after MONDAY, SEPTEMBER 13th. Tenders to be sent to MESSRS. ROGERS, Bow, on or before MONDAY, SEPTEMBER 20th, and addressed to the Secretary. The Committee do not bind themselves to accept the lowest or any Tender.

TO ROAD-MAKERS and OTHERS. WHITE HORSE ESTATE, NORWOOD. — Copy Quantities, Plan, Sections, and Specification for the Works on the above Estate [illegible] may be had on application at the Estate Office, 3, Bedford-street, Addington square, Camberwell, on payment of 15s.; copy of the quantities only, 10s. [illegible] on TUESDAY next.

TO BUILDERS. Persons desirous of giving TENDERS for the ERECTION of NEW SCHOOLS and OFFICES may see the plans and specification at the Vestry of the Wesleyan Chapel, Bath street, East-India-road, Poplar, from MONDAY, the 13th, to WEDNESDAY, the 22nd SEPTEMBER inst. TWO GOOD SUN Cottages to be erected. Tenders to be sent to MESSRS. ROGERS, Bow, on or before the 20th inst. Builders invited to meet the Trustees at the School on TUESDAY, SEPTEMBER 21st. The Trustees do not bind themselves to accept the lowest or any Tender.

BOROUGH of HALIFAX. TENDERS are invited for the ERECTION of PUBLIC BATHS, for the Borough of Halifax, according to the plans and specification prepared by Mr. W. [illegible], Borough Engineer, on or before WEDNESDAY, the [illegible] SEPTEMBER next. Tenders must be delivered at the Town Hall, Halifax, on or before MONDAY, the 13th of SEPTEMBER next.
[illegible] JOHN WAITE, Town Clerk.
Town Hall, Halifax, August [illegible], 1858.

HOUNSLOW TOWN-HALL COMPANY, LIMITED. The Directors are desirous of receiving PROPOSALS from Builders willing to TENDER for the ERECTION of a NEW TOWN HALL at Hounslow. Plans, Specifications, and Conditions of Contract may be seen at the Offices of NELSON and INNES, Architects, 7, Waterloo-place, Pall-mall, on and after MONDAY, the 13th inst. Tenders to be delivered at the Offices of the Company, Hounslow, on or before the 20th of SEPTEMBER next. The Directors will not be bound to accept the lowest or any Tender.
HENRY LELLOE, Esq., Chairman of Directors.
By Order of the Board, H. DRUMMOND WOLFF, Secretary.
Hounslow, August 31st, 1858.

YEOVIL CEMETERY. To BUILDERS. CONTRACTORS for WORKS [illegible] are requested to APPLY IMMEDIATELY at the Office of the undersigned, when they will receive particulars connected with the plans, &c. and a copy of the quantities, at which time [illegible] will be required. The said Works are to be completed on or before the 25th day of DECEMBER next, but the Council do not bind themselves to accept the lowest or any Tender.
By order, [illegible]
Yeovil, [illegible] 1858.

TO BUILDERS. — TAFF VALE RAILWAY, CARDIFF. — The Directors of the Taff Vale Railway Company are prepared to receive TENDERS for the ERECTION of WORKS and BUILDINGS at the Company's Offices, Cardiff. Plans and Specifications may be seen at the Company's Offices, Cardiff, on and after MONDAY, the 13th inst., and Tenders will be received by the undersigned, at 31, St Mary street, on and after the 27th inst., when the lowest or any Tender will not necessarily be accepted.
By order, E. RENWAY, Secretary.
Taff Vale Railway Offices, Cardiff, September 1st, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of FOUR SHOPS, with DWELLING-HOUSES over, in Bridge-street, Warrington, for the Executors of the late Mr. [illegible] of Warrington, for Theophilus Tunstall, esq. of Liverpool, can be supplied at the Office of Mr. JNO PURSHOUSE, Architect, Warrington, on and after MONDAY, the 13th day of SEPTEMBER next. Sealed Tenders will be received by the said Mr. Jno PURSHOUSE, on or before THURSDAY, the 23rd SEPTEMBER inst. at 12 o'clock at noon, endorsed "Tender for Four Shops, &c. Theophilus Tunstall, esq., 17, Red-cross street, Liverpool," and addressed to the said Mr. Jno PURSHOUSE, Warrington.

TO BUILDERS. Persons desirous of CONTRACTING for the TAKING DOWN and RE-BUILDING [illegible] may see the plans and specifications at the Offices of Mr. KNOWLES, Architect, Hope-street, [illegible]
N.B. [illegible]
Dec. 11th, 1858.

DISTRICT CHURCH. — A CHURCH is [illegible] ERECTED in a Manufacturing District [illegible] to INCUMBENT, [illegible]

GLOUCESTER WATER WORKS.—CONTRACTS [illegible] are invited for the [illegible] with an ATTENDANT'S DWELLING HOUSE, CONDUITS, and [illegible] to be seen at the Office of Mr. JOHN HANVEY, C.E. surveyor to the Local Board of Health, Gloucester, are requested to be sent, marked "Gloucester Water Works, Tender for Works," under cover addressed to Mr. K. H. [illegible] Gloucester, [illegible] 1858.

BRICKS.—East Cowes Park, Isle of Wight. Fine White Facing Bricks, second and [illegible] lying on the Beach on the above Estate. [illegible] at 5d. per thousand. [illegible] JAMES [illegible]

ITALIAN and GALWAY MARBLE QUARRIES. — Depot, Whitehall-wharf, Parliament-street, [illegible]

TO BUILDERS and OTHERS. — ONE THOUSAND CHIMNY PIECES kept in stock. Patterns from [illegible] each. W. B. WILKINSON and CO. Manufacturers, Fenchurch street, Newcastle-on-Tyne.

MARKET WHARF, REGENT'S-PARK BASIN, WEST-END DEPOT for YORK and [illegible] Paving, Landing, Steps, Sills, Kerb, Curb, Paving, and Landing Stones, Bath, Guernsey, and Fire Goods, Portland and Whitbed Stone, Chimney Pots, Flue Linings, and every description of Building Materials. Head-stones, chairs, and [illegible] executed to order.
Premises and depôt to be let.

TO SCULPTORS, MASONS, BUILDERS, &c.—FABBRICOTTI, BROTHERS, of Carrara (Italy), Importers of [illegible] Marble [illegible] MASSA and CARRARA, VENICE and PADUA [illegible] SLATE, &c. [illegible] Carrara Wharf, Thames-bank, Pimlico; and 120, Londenhall-street, City.

THE BRITISH and FOREIGN MARBLE GALLERIES, 17, Newman street, Oxford-street. EDWARDES, EDWARDS, and SON, Marble Merchants [illegible] Chimney Pieces [illegible] Tablets, Tombs, &c. [illegible]

DUNDRY STONE QUARRIES. Dundry, near Bristol. Has [illegible] for Architectural purposes, and has been many months [illegible] Carriage Paid to the London Railway Stations, or Canal Wharfs [illegible] Apply to the Quarries, Dundry, near Bristol, or to [illegible] Bristol. Plans of the Jubilee Drinking Fountains, Lower Lansdown, Bath, [illegible] Park, Batheaston, and Weston, [illegible] Lansdown Terrace, Bath. All particulars can be had of the Quarry Agent, Mr. [illegible] Dundry, near Bristol, and Esquire has [illegible] approximate [illegible] ASHMEAD and SON, Surveyors and Agents, 19, Small-street, Bristol.

SAMUEL TRICKETT, VICTORIA WHARF, ISLE of DOGS, E. Merchant and Dealer in all kinds of [illegible] Portland Stone, Bath, Caen, Purbeck, [illegible] Hollow Bed, Bath Rag, Batten, and Weak; Lancashire, Darley, and Stair flags, Pendle Fell Nosed and square Templet Edge, &c.; Sawn Slabs, Landings, &c.; Robin-hood, Hare-hill, Huddersfield, and [illegible] Paving; Yorkshire landings, [illegible] Curbs, Kerbs, and Channels to any section required; Bath and Purbeck Coping, Chimney Pots, &c.

BATH STONE OF DEAD QUARRY.
RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS,
Have [illegible] the Quarries and Premises [illegible] by the late Mr. Randell, to [illegible] Bath, Somerset.

NORTH-WESTERN STONE WHARF, Candleridge, Camden-town. W. ASPINALL respectfully [illegible] &c. whom he is in a position to supply with all sorts of Stone on the most liberal terms. A Large Stock is kept on hand for selection. Country Orders are punctually attended to; and a List of Prices will be [illegible] on application. W. A. begs to [illegible] Portland, Bath, Caen, Purbeck, Yorkshire, and Scotch Stone, [illegible] Chimney Pots, Flue Linings, Garden Edging, Paving, Landings, Steps, Sills, Curbs, Kerbs, Channels, Coping, Templets, Blocks, Rubble, Ballast, Sand, Gravel, Lime, Cement, Bricks, Tiles, Slates, Timber, Deals, Battens, Boards, Laths, Lead, Iron, Glass, Oils, Colours, Paints, Varnishes, Brushes, Ironmongery, Cutlery, Grates, Stoves, Ranges, Pumps, Pipes, Cisterns, Baths, Water-closets, Hose, Fittings, Tools, Implements, Machinery, Engines, Boilers, Cranes, Trucks, Scaffolding, Poles, Planks, Ladders, Trestles, Stages

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

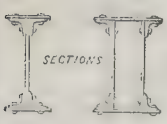
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY PURPOSES.

MANY ROOFS COVERED WITH ZINC THIRTY FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Roller, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

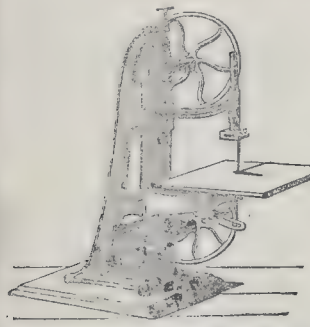
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,

BOLTS AND NUTS, LOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 61, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.



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ENGINEERS AND MANUFACTURING IRONMONGERS,

26, WATLING-STREET, LONDON, E.C.

POWIS, JAMES, and CO. beg to call the attention of House and Coach Builders, Cabinet and Chair Makers, and others using such Machinery, to their improved ENDLESS BAND SAW, both HAND and STEAM POWER, which are well adapted for every variety of work, CIRCULAR, TRIANGULAR, ANGULAR, or STRAIGHT FORM, of any thickness; the TABLES rise or sink so as to CUT TAPER ANGLE.

Also their CIRCULAR SAW BENCHES for HAND or STEAM POWER. The HAND LOWER can cut RIPPING 3-inch stuff with EASE. Also, their PATENT MORTISING, TENONING, and BORING MACHINE, which is well known, upwards of a thousand of them having been sold in ENGLAND alone, and is the only machine which is SELF-FEEDING and doing the three kinds of work by ONE MACHINE.

Contractors and Proprietors of SAW MILLS are particularly invited to inspect at work, at POWIS, JAMES, and CO.'S Manufactory, their

IMPROVED PATENT PLANING, TONGUEING, and GROOVING MACHINE,

doing SEVENTY FEET per minute of board or any thickness, and GOOD WORK.

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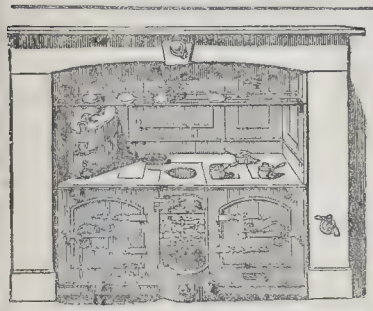
Drawings and prices to be had on application.

POWIS, JAMES, and CO.'S PATENT MORTISING MACHINE,

With full set of solid Cast-Steel Tools, complete,

IS NOW REDUCED TO FOURTEEN POUNDS.



BENHAM AND SONS, WIGMORE-STREET, LONDON,

Having completed the Alterations and Enlargement of their Premises, invite attention to their extensive set of SHOW-ROOMS

STOVES, FENDERS, AND FIRE-IRONS,

THE LARGEST AND BEST SELECTION IN LONDON,

KITCHEN RANGES and COOKING APPARATUS, GAS FITTINGS, BATHS, &c.

For Large or Small Establishments.

CUTLERY, ELECTRO PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery.

FLAVEL'S PRIZE KITCHENER,

The only Kitchener which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851.

FLAVEL'S Prize Kitchener is the most complete self-supporting, economical, and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

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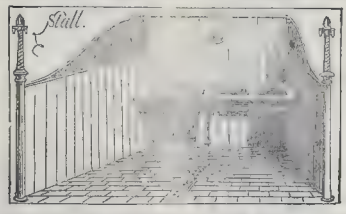
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

COTTAM AND COTTAM, ST. PANCRAS FACT-WORKS,

Opposite the Old St. Pancras Church, OLD ST. PANCRAS ROAD, LONDON.

COTTAM'S PATENT MANGERS AND STABLE FITTINGS.



VARNUM'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

CHUBB'S

WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at

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HOBBS'S NEW MORTISE LOCK

HOBBS, ASHLEY, and CO. [illegible]

A PRIZE MEDAL [illegible] LOCKS

[illegible] Locks of all descriptions; Glass, Glass and Wood Furniture [illegible]; and the New Registered Victoria Valve [illegible]

J. H. [illegible] SUPERIOR [illegible] BRASS [illegible] LOCKS [illegible] BEST [illegible] PANEL [illegible] LOCKS [illegible]

13, [illegible] Lane.

WOLVERHAMPTON LOCK DEPOT.

[illegible] WORKS [illegible] Locks, Latch, Mortice Locks, Warehouse doors, [illegible] and other description of locks, with [illegible]

R. & S. NEWALL and CO. Patentees of the COPPER ROPE [illegible] Newall and Co.'s Patent Copper [illegible] Condy [illegible] of the world.

Offices—[illegible] Road, E.C.

" [illegible]

" 2, Bloomfield, Manchester.

" [illegible]

" 14, Goree-piazza, Liverpool.

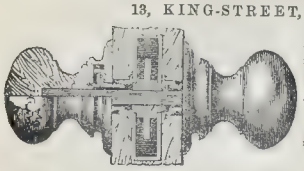
" [illegible]

" 7, Princes-street, Cavendish

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw at the neck of the knob. Perfect action guaranteed in both Locks and Furniture, it being the manufacture of our own manufactory. It has been most extensively introduced and privately used by Her Majesty's Consul Aldershott, &c. &c. and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

Hall and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, bells, cornices, and ironmongery, required for buildings, of the best quality manufactured, at the lowest possible prices.

ILLUSTRATIONS AND ARTICLES SENT UPON APPLICATION.

JAMES HAYWOOD, Jun.

PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

TO ARCHITECTS, BUILDERS, AND OTHERS.

W. HARMER AND SON

Would respectfully call the attention of the above to their stock of fitted Stoves and Kitchen Ranges, which for strength, pattern, and

REGISTER STOVES, from 5*l.* per inch; KITCHEN RANGES, from 24*s.* each to the BEST LEAMINGTON KITCHENER, with the latest improvements, and to which it will be found the cheapest, of every person requiring a thoroughly efficient and economical close, and Iron fire Range.

Estimates furnished for all kinds of Smith's Work, Heating by Hot-Water or Steam, Gasfitting, &c.

PRICE LISTS FREE BY POST, OR UPON APPLICATION.

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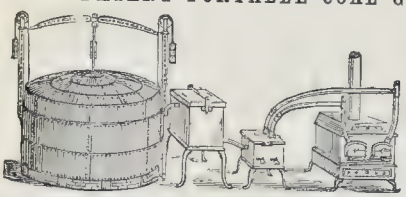
ESTABLISHED 1817.

BRIDGES, AUBURY, AND CO.'S

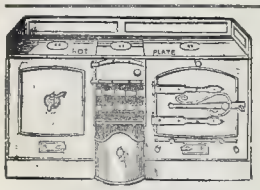
PATENT PORTABLE COAL GAS APPARATUS

(FREE FROM NUISANCE).



The Patentees have now been manufacturing the above for several years, and a great number being at work in different parts of this country, and also abroad (owing to its superiority of construction), I also of handsome, substantial, compact expansion), and which are getting more and more generally adopted, are in a position to confidently recommend the same for lighting the mansions of the Nobility and Gentry, also for small Private Residences, Farm Buildings, Churches, Chapels, Railway Stations, Workshops, Small Villages, and other places that are not lighted with gas. It is economical and portable, and can be had of various sizes, from 7 to 200 lights.

Full Particulars, Testimonials, &c. upon application to the Patentees, at their Works, 1, LOWER KENNINGTON-LANE, NEWINGTON-BUTTS, S. where an Apparatus, in course of erection, may be seen in full operation.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

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WHOLESALE AND MANUFACTURING IRONMONGERS.
38 and 65, York-street, Westminster.

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BIRMINGHAM,

MANUFACTURERS OF
EVERY DESCRIPTION OF MEDIÆVAL
METAL WORK,
In SILVER, BRASS, and WROUGHT IRON.
MONUMENTAL BRASSES AND
STAINED GLASS WINDOWS.

Designs and Estimates FREE, on application to the
LONDON OFFICES AND SHOW-ROOMS,
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FOR CHURCHES, PUBLIC BUILDINGS, HALLS, &c.

IMPROVED SELF-REGULATING STOVES:

Will burn (according to size and the heat required) from Fifteen to Thirty Hours without attention, and at a cost in fuel, of from 1½d. to 3d. for twenty hours.

Fitted with COOKE'S Patent Self-Acting Regulator and Apparatus.

The Regulators being made on the principle of expansion of Metals by Heat, are both CERTAIN, DURABLE, and SIMPLE in their ACTION.

MANUFACTURED ONLY BY THE PROPRIETORS OF THE PATENT,
HUXLEY AND CHING,
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STUART and SMITH'S PATENT GILL AIR WARMER. Every information may be obtained, and references given to churches, schools, private residences and business premises, in which it has been long in use, by applying either to their Manufactory, Rosoce place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 39, John street, Adelphi.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.

Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

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ILLUSTRATED CATALOGUE of BATH WORK, &c.
to be had on application
Estimates and Plans for Fixing given.
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Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling Houses, Warehouses, &c. &c. where they have fixed their Hot Water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

THE AMERICAN STOVE, "EXCELSIOR," at 35*s.* for Shops or Offices, is the best and cheapest ever offered in London. The trade supplied at ANDREW MCLAREN and CO.'S, Ironfounders, 174, Upper North street.

P.S. A large Stock of their Stoves, Ranges and all kinds of Castings at the lowest prices, combined with the best design and workmanship.

COTTAGE RANGES.—Improved Self-acting, with Oven and Boiler, 27 inches, 22*s.* 6*d.*; 30 inches, 26*s.*; 33 inches, 28*s.*; 36 inches, 24*s.* With brass taps, 2*s.* 6*d.* extra. Prospectuses post free.—BROWN and GREEN, Luton, Bedfordshire.

FIRE-PROOF CONSTRUCTION.—FOX and BARRETT'S PATENT.

This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.

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MIRAMS, COWELL, and CO.
WHOLESALE AND RETAIL
IRONMONGERS,
RANGE AND STOVE MAKERS,
24, CHISWELL STREET, FINSBURY,

Beg to call the attention of the Building Trade to their extensive and varied Stock of
IRONMONGERY AND BELL HANGING MATERIALS,
PIPES, GUTTERS, &c. &c.
At wholesale Prices,
A full List of which can be had on application by enclosing a card.

N.B. A LIBERAL DISCOUNT TO THE TRADE

PATENT MACHINES for WORKING on WOOD.—These celebrated Machines have been awarded a number of prize medals by many scientific institutions, and also by the Great Exhibition in London, and are now extensively used by the Indian, American, and all the principal Governments in Europe; also by eminent Contractors, Builders, Shipwrights, Machine-makers, and other workers in wood. Their operations are in every respect perfect, either in hard or soft wood, for planing, squaring up, moulding, tenoning, mortising, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.

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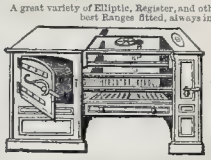
CLARK and HUNTS IRONMONGERY, STOVE, and METAL WAREHOUSE, 139, Shoreditch.

A great variety of Elliptic, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.



Improved Self-acting Cottage Ranges, with Large Oven and Boiler,
30 32 34 36-inch.
26*s.* 28*s.* 30*s.* 32*s.*
Best Self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars—
34 36 38 42-inch.
54*s.* 56*s.* 58*s.* 66*s.*
Strong Elliptic Stoves, with Extra Back and Solid Ends, per inch, 2½d.

Register Stoves, with Solid Bars, per inch, 6d.
Improved New Pattern Circular Check Register, with strong Bars and Trivets, 5d. per inch.
Best Solar Ditto, with Fire-brick Back, per inch, 10d.
Bright Stoves, with Two Fires, 40*s.* to 100*s.* each.
Best Cut Clasp and Rose Nails
1½-inch. 1¾ inch. 2-inch. 2½ inch. 3 inch.
16*s.* 10*s.* 6*d.* 15*s.* 1*s.* 1*s.* 5*d.* per cwt.
Best Sheet Cut Floor Brads, 12*s.* 6*d.* per cwt.
Best Cut Lath Nails, 15*s.* per cwt.
Cast Rain-water Pipe, 2 2½ 3-inch. 10*d.* 1*s.* 1*s.* 3*d.* per yard.
Cast Gutters, 4-inch, 8*d.* per yard.
O G Gutters..... 4 4½-inch. 1*s.* 1*s.* 2*d.* per yard.
2 3 4 5 6
Patent Line ... .3*s.* 6*d.* 4*s.* 5*s.* 7*s.* 9*s.* per gross.
5-inch Rd. Ward Mortise, with best Furniture and Patent Spindles, 2*s.* 9*d.* each. Light Elliptic and Register Metal, 13*s.* 6*d.* per cwt.
Dr. Arnott's Ventilators, 4*s.* each.
Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12*s.* PER CWT.

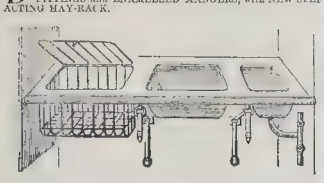
HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guards to horses' necks and sockets, rendering the most perfect safety with the greatest comfort, both almost and at rest.

ANGLE LOOSE-BOX FITTINGS, with Corner Piers, and every variety of furniture for stables. Engravings and prices forwarded on application.

HOOD and SONS' STABLE GUTTERS, cast in one piece, and free from the danger caused by the frequent replacement of loose cop plates; have a large channel, and, with their CHEQUERED IRON RUB TRAPS, form the safest and most complete surface and foot stable in use.—West London Iron Works, Notting-hill; and Castings Warehouse, 93, Upper Thames street, London.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY-RACK.



These Fittings are now made with the newly-invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is so constructed as to bring a surface of Hay at the top of the Rack, however small the quantity given, producing an effective combination with the Loose Box Fittings accompanied, with Patent Halter and Collar Rein Guides attached, which are fully described in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all Kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage-stamps.—JAMES BARTON, Iron-founder, &c., 37, Oxford-street, London, W.

THOMAS ROBINSON and SON, ROCHDALE, near MANCHESTER, PATENTEES, AND Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery. IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20l.

Drawing sent on application.

MACHINERY FOR SAWING, PLANING, MOULDING, &c

Price of Band Saw Machine, with 48-inch pulleys and heavy framing, 65l.

Price of Band Saw Machine, with 24-inch pulleys and light framing, 32l.

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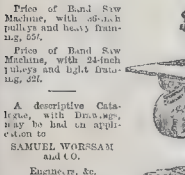

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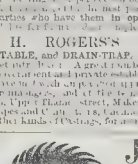

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VOL. XVI.—No. 814.

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Can we avoid by any structural arrangements such excess of mortality? This is the great question to be decided by hospital architects. Experience replies that there are many illustrations of masses of sick, who, having been treated in the open air, have escaped with few deaths; of large numbers treated in properly-constructed tents, and in small wooden huts, who have also recovered. Even the famine-stricken fever population of Ireland exhibited a marked contrast in the small mortality of cases treated under hedges, in the open air, as compared with the same class of cases treated in workhouses and in hospitals. In like manner, in the large, but at first overcrowded, badly-drained, and badly-ventilated hospitals at Scutari, the mortality rose as high as 42·7 per cent. on cases treated. In the wooden huts of the Castle Hospital above Balaclava, which only held from fifteen to thirty patients each, the mortality was under three per cent. of the cases treated. In the large overcrowded and badly-ventilated hospitals of the Peninsular army, the mortality was so great that they had to be closed, and the sick to be sub divided amongst a number of separate buildings. The old idea that fresh air was dangerous, and that warmth must be obtained and preserved even for small-pox and fever patients, has been driven away with. A small-pox patient will have more chance of recovery if placed on clean straw under an open shed and covered with blankets, than in many private rooms, or in most hospital wards. Small-pox cases have been so treated, and without loss.

After the pestilential hospitals at Scutari had been cleansed, ventilated, and regulated according to the plans and under the directions of the sanitary commission, the deaths among the sick there did not much exceed the deaths among healthy guardsmen at home.

The lesson taught by all experience is, therefore, that large hospitals, as generally built and managed, are destructive of human life, unless extraordinary precautions be taken, and that it would be safer, as a general rule, in the absence of such precautions, to treat large numbers of sick in the open air. But we *must* have hospitals, and it is only by subdivision of the sick among a number of separate buildings, by relatively large cubic space, and by ample ventilation, that we can make hospitals furnish a minimum rate of mortality and a minimum duration of cases.

Large, rambling, low roomed buildings, like old mansion-houses, are utterly unfit to receive sick. Their wards, or rather their badly-constructed, ill-arranged rooms, are hardly adapted for the smallest families of healthy people to live in, much less for numbers of helpless sick people to recover in.

Given a building like Netley Hospital, with 500 sick confined to bed under one roof, in a series of cells communicating with each other by corridors and staircases, and we have not our own intelligence to thank if the sick are not carried off by hospital epidemics. There *is* a certain ratio between the number of sick placed in a building, and the amount of mortality. We know that, of the sick who were treated in the Crimea, almost exposed to the elements, during the frightful winter of 1854-55, not above one-half so many in proportion died, as perished in the great hospitals at Scutari during the same time. In the Crimea, the sick were aggregated, twenty or thirty together. In the hospitals at Scutari, there were, sometimes, crowded under one roof, upwards of 4000 sick, wounded, and healthy men. The subdivision of the sick and wounded should therefore be made a primary object in all hospital construction.

To what extent should this subdivision be carried? We apprehend that the point must be determined by the two-fold consideration of uniting the greatest advantages as to health, with the greatest facilities as to administration and economy.

And, first, we would lay down the principle that no hospital should be more than two flats in height. By such a construction, the sick are spread over a wider area, the walls are not so high as to interfere with sunlight and ventilation of neighbouring pavilions, the accumulation of hospital miasms in upper flats is avoided, access to the wards is easier for patients and attendants, and the whole administration is much facilitated. "It will cost a great sum for land to build an hospital with only two flats," will say the hospital economist. No doubt it will cost more money to accommodate a given number of sick in an hospital of two than in one of four flats. But the question has been discussed and decided notwithstanding, that the hospital of two flats is better than one of additional stories, and many hospitals of two flats have been built. Those of St. Jean and St. Pierre, at Brussels, have each two flats, and land is dear enough in Brussels. In this country also, land, in towns, has been used for building hospitals of two flats high. But even admitting the argument of the expensiveness of land as being entirely valid, the conclusion is certainly, not that hospitals three and four flats high should be built in towns; but, that hospitals should be built in the country where land is less expensive. It is little else than a breach of trust to build great lofty architectural structures merely to flatter the bad taste of committees or governors; or to place the hospital in a close unhealthy neighbourhood, to suit the convenience of medical attendants, when the object of the whole ought to be, recovery of the sick.

The number of sick which may be safely placed under one roof will, to a certain extent, be determined by the local position of the hospital, by the amount of cubic space allotted to the patients, and by the state of ventilation. In the most recent hospitals the number varies considerably. Thus, in the Royal Marine Hospital, which is at present being erected at Woolwich, 84 sick are to be accommodated under one roof. In the proposed hospital at Aldershott there will be arrangements for about 100. In each of the hospital blocks at Beaujon, in Paris, there are arrangements for 60 sick. In the magnificent hospital Lariboisiere, at Paris, the number is 102 per block. At the hospital St. Jean, at Brussels, it is about 88.

Too great a subdivision of sick must necessarily incur an increase of cost in administration and nursing. On examining the experience of all these hospitals, we are of opinion that from 100 to 120 sick may be safely and economically treated under one roof, provided the ventilation and cubic space be sufficient, and the structure and communications of the building be so arranged as to facilitate the administration and nursing.

The next important question is, how to arrange buildings so as to have pure air outside and inside the structure.

The air must be "moving air" in mass. The motion of the air in any room should never exceed a velocity of two feet and a half per minute, and should not be at any time much below this rate. There must be no "stagnation." It is a great error to imagine that because buildings are erected around a large court, therefore they are airy enough. A court, with high walls round it, does one thing with certainty,—it stagnates the air. All closed courts, narrow *culs-de-sac*, high adjacent walls, closed angles, overshadowing trees, and other obstructions to outer ventilation should be sedulously avoided, at whatever cost. Plan the building so that the sunlight can strike as large a surface of it as possible, and so that the air may move freely over the whole external surface.

Figures 1, 2, and 3* represent arrangements of buildings at present occupied for hospital purposes, which ought to be carefully avoided.

It may be considered certain that, wherever such arrangements exist, injury to the sick is so constant that, were it practicable, all the angles should be opened to admit of the circulation of air.

The simplest form of structure for ensuring light and ventilation is to build hospital wards in a straight line, fig. 4, with windows on both sides, *i.e.* back and front; the lengthway of the ward being the lengthway of the building, and the administration in the centre. By such an arrangement as this, however, no more than four wards could be obtained, if the building were two stories high. For small hospitals not exceeding 120 sick this plan would be economical and efficient. The direction of the axis of such a building should be from north to south, a little inclining to the east, which would ensure the sun shining on both sides every day of the year, and would also protect the wards from north-east winds.

One staircase would suffice for an hospital such

* See p. 611.

* In our last article on Hospitals (see *Builder*, of August 28), we gave the annual mortality of hospitals as 7 to 10 or 11 per cent. So stated, the mortality appears much less than it really is. The deaths on *cases treated*, may be fairly stated at 7, 10, and 11 per cent. When the element *per annum*, is introduced, it not to refer of necessity to the number of beds constantly occupied by sick. And, if we apply this test to the hospitals whose deaths to cases treated we have given above, we find the *annual* mortality mount up to 85, 110, and 134 per cent. This estimate, however, depends to a great extent on the rapidity with which the cases pass through hospital, as well as upon the mortality on the cases treated. The mortality on the cases treated in the metropolitan hospitals varies between four and a half per cent. and nearly sixteen per cent. Even this enormous mortality is a trifle when compared with the mortality in the metropolitan lunatic asylums. It varies from 9 to 10, 20, 25, up to nearly 42 per cent. of the cases which enter their destructive precincts. Surely there is "something rotten in the state of Denmark."

as this. If it were carried from the bottom to the top of the building, and ventilated above the roof, it would cut off entirely one set of wards from the other, which is all that is necessary to prevent the possibility of any intermingling of foul air.

By adding projecting wings at the ends of such a line of building, as in figs. 5 and 6, additional ward space might be obtained.

But additional staircases also there must then be at the ends, and such a building would have the disadvantage of a closed angle, although this would be of less consequence, if the wings were very short in proportion to the length of the front.

A much better arrangement is represented in fig. 7, in which the wings are entirely detached from the centre, and connected with it only by an open corridor on the lower floor. This is the plan adopted in the great military hospital at Vincennes, and is a very good one for hospitals of a certain size, for the open angles permit air to circulate freely round the building. All of these plans, however, have the disadvantage of not admitting extension beyond a certain limit. The only plan which allows as much extension as can be necessary in any single hospital up to (say) 1,000 sick (beyond which hospital management becomes very difficult), is the plan adopted in the hospital at Bordeaux, of which we gave an engraving in our volume for 1856; or still better, that of the Lariboisière at Paris. In that fine hospital, each block containing 102 sick constitutes a separate hospital. There are six of these blocks, which are arranged parallel to each other on two opposite sides of a square. And there are four blocks containing the administrative and other offices. The kind of arrangement is represented in fig. 8.*

All the blocks are joined together by a glazed corridor along the lower flat, and by an open terrace above for convalescents taking exercise. In such a building, for the sake of sunlight, the axis of the wards should run nearly from north to south, and the distance of the blocks from each other should be about twice the height of the side walls.

We have given these illustrations of the arrangement of hospital buildings to show the more recent improvements in this important matter. Whether any of these or any better arrangement be adopted in building an hospital, it should be kept in mind that the great objects aimed at are, subdivision of the sick, free ventilation outside and inside the buildings, abundance of light, and windows on opposite sides of the wards, the heads of the beds being between the windows.

An hospital for 1,000 sick ought to have none of its offices in duplicate. It should have one kitchen, so situated that the diets can be easily carried to any ward, and in the shortest space of time to all. The kitchen should be separately ventilated, and should not be under any part of the building used for sick. The laundry should be at a distance from the hospital, and in no way connected with it. The offices of the administration should be conveniently situated, not only for facility of access, but for efficiency of superintendence. This point was quite lost sight of in the Netley plans, in which, if the unfortunate governor happened to be wanted at the two extremities of the building successively, he would have to walk half a mile; while, with such a plan as that of Lariboisière, he could in the same time walk all round the buildings.

No sewer nor drain should pass under any part of the hospital where there are sick. Sewers and drains should be outside, and free even of the external walls; there should be means of ventilation in abundance; there should be means of inspection and for flushing. The water-supply should be of the purest and softest description. It should be laid over the whole building hot and cold. This arrangement, together with that of lifts, saves the service of at least one attendant to every thirty sick. For water-supply, there should be a water tower and tank placed centrally, affording water under high pressure. The mains should be of cast iron, varnished; the service-pipes should be of wrought iron; there should not be any cisterns, but the supply should be constant. Fire-cocks, or "hydrants," should be placed at short intervals. Each supply-tap should have a waste-sink underneath it, and these should be placed so as to save labour. Waterclosets must be external, but near the wards, and under such arrangement of plan as to prevent any possibility of atmospheric contamination. There should be not less than one closet to each ten patients. Lavatories should also be in like proportion. Warm, cold, and shower-baths should also be easy of access on each floor. All staircases and passages should be wide, light, and airy. This is a most important consideration in hospitals. The steps should consist of stone, but they may be covered with wood, as in some of the French hospitals. Stone is essential to prevent accidents from fire. All hospitals should have convalescent wards, supplied with dining and day rooms. In the pavilion structure these can be placed under a separate roof. Casualty wards and small wards for special cases should be placed in a separate part of the hospital.

The square within the hospital, and the spaces between the pavilions, should be laid out as garden ground, with well-drained and rolled walks, and shaded seats for convalescents.

It is of great importance to provide places of exercise under shelter, for patients, to be appropriated to that purpose alone. Such recreation and winter-airing grounds may be comparatively large, and yet of cheap construction, if roofed on the Crystal Palace plan. The country can alone offer all the necessary facilities for the establishment of such valuable aids to hospitals.

In a future number we shall discuss the structure and the arrangements of hospital wards.

* In an early number we shall give a detail plan of this hospital.

SHORE LIGHTHOUSES.

TOUCHING the suggestions, under this head, which appeared in our last, we have received a communication from Mr. Alexander Gordon, denying that the "best sperm oil is at present used in most lighthouses." Mr. Gordon says,—I continued the use of that, the best of oils for illumination, longer than any other lighthouse engineer. I had been vainly hoping for cocoa-nut oil in Jamaica, and therefore continued in that colony to use sperm, until it could only be had there at a cost of about 9s. 6d. per gallon. For many years all lighthouses in France, Belgium, Holland, and all British lights at home, had abandoned sperm oil, and adopted colza, or rape oil, which costs less than half the price of sperm. This (vegetable) oil, has also been in use for some years in many of my lighthouses abroad, —at Barbadoes, and in the Bahamas, to the exclusion of sperm. In Newfoundland, I began with sperm oil, but at once changed to *seal* oil; and in my last lighthouse, at Cape Race, in that colony, succeeded in establishing the use of the above-mentioned vegetable oil. In Ceylon and other very hot climates, where cocoa-nut oil can be had in a constantly liquid state, that oil is the best of all. In one of my lighthouses we have it supplied at about eightpence per gallon, and in several others in progress in hot climates, I hope to see the same efficient and economical oil used.

At the Cape of Good Hope I am now putting up two new lighthouses. There we shall certainly not burn "the best sperm oil," neither shall we use the oil from sheeps' tail tips, costing 12s. 6d. per gallon, with which that colony indulged itself, until I succeeded in waking up inquiry as to the management of colonial lights.

You insist upon the use of gas in (all?) shore lighthouses, and at the same time admit that there may be danger; and the use of gas is pressed upon your readers' attention as promising a saving of "several thousands of pounds annually." I prefer incurring no "dangers of enormous magnitude," and I deny the promised economy of gas for lighthouse purposes generally, where permanent efficiency is indispensably necessary.

That "sperm-oil is said to be more difficult to obtain than formerly," and "is certainly more costly," no one can deny, and it may be more costly still. As a lubrication for machinery, by which manufacturers can obtain more revolutions of their spindles, it will continue to be used, and I believe 20s. or 30s. per gallon, as a market price, would not prevent manufacturers using it in preference to any other lubrication, which would delay their work.

You are led to say, "that it is a disgrace to our Government to allow any risk to exist" from the superior (?) railway "signals by gas" at "coast railway stations, as if they had never caused loss to merchandize, and to human life." If, indeed, very bright railway signals are not blinded, or screened, on the seaward, the companies are to blame, and so may be the Railway Department of the Board of Trade; but until it can be shown that "merchandize and human life" have suffered therefrom on the seaboard, the Government are not to be charged with "disgraceful" neglect.

ALEXANDER GORDON.

There is a little acerbity in the communication, for which we cannot find a reason. Admit that the "best *sperm*" oil be not used in lighthouses to the extent it was a few years ago, and that colza or rape, or other oils, may have taken its place in most, if not all, of our lighthouses;—and what of that? The question is, will coal-gas be cheaper for shore-lights than any oil?—and will it be perfectly safe, as well as more economical? The answer to such questions, if yes, ought to induce the authorities to see to the introduction of coal-gas as soon as practicable. We did not "insist" upon the use of gas: we but urged inquiry, and we urge it again.

In 1834, there existed, it would seem, 168 lighthouses on the coasts, or at the entrances of harbours in Great Britain. There were also twenty floating lights. The gross sums annually collected in light-dues amounted to 240,304*l.* The charges of collection being 22,135*l.* and the expenses of maintenance 74,832*l.* left a surplus of 143,337*l.*

Mr. Clegg states that the best Wigan coal will make gas at a cost of 1s. 3½d. per 1,000 feet; Boghead at 11d. per 1,000 feet. Coal-gas is less impure than rape or colza oil, in the proportion of 1 to 2, and gives less heat in rather less proportions. These features of coal-gas give it an advantage for use in lighthouses over any oil, in addition to the cheapness.

With respect to shore railway signal-lights, let Government inquire if these have caused accidents to shipping, and, if so, surely a proper masking of them ought to be insisted on. The inquiry may be commenced at Berwick. Even if accident have not occurred, but *may*, they should be masked. We cannot admit Mr. Gordon's argument that Government is not to be blamed till "merchandise and human life have suffered."

These hints may be taken for what they are worth. They have no personal bearing, and surely need not disturb any one.

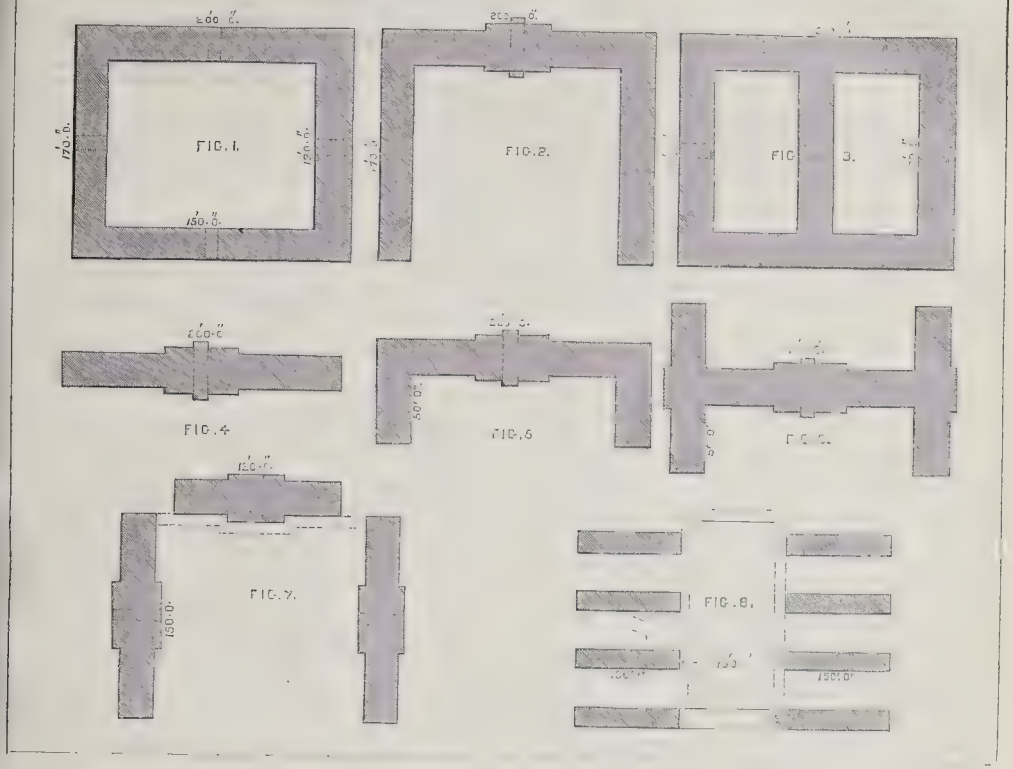
DRAWING-BOOKS.*

SYSTEMS of instruction in those processes subservient to art, comprised under DRAWING in its widest acceptation, continue to receive attention from the Department which has wisely charged itself with the popular education upon which the desired advancement in all art ultimately depends. To devise such methods, and to succeed in imparting the skill and knowledge to others, obviously require gifts not necessarily possessed by one who has the knowledge, and has entered upon the pursuit. The difficulty of teaching by books is under any circumstances great. Perspective, of which an architectural student may learn, by an hour's *vivâ voce* instruction, nearly all that he can gain except through his own work,—under the hands of a Peter Nicholson swells out into a volume with diagrams which are complicated and repulsive, and which are defective through attempting what must be the office of models. The case as to instruction in the method—other than perspective—of representing objects—or by plans elevations, and sections—is precisely similar; and we would undertake that a student, with very few directions, and set to work at the representation of the room he is in, with its furniture, should

* "An Elementary Treatise on Orthographic Projection; being a new Method of Teaching the Science of Mechanical and Engineering Drawing, intended for the Instruction of Engineers, Architects, Builders, Smiths, Masons, and Bricklayers, and for the use of Schools: with numerous illustrations on wood and steel." By William Binns, Assoc. Inst. C.E., Master of the Mechanical Drawing-Class at the Department of Science and Art, and at the Government School of Mines; late Professor of Applied Mechanics at the College for Civil Engineers, &c. &c. 8vo. pp. xiv. and 138. London: E. and F. N. Spon. 1857.

"The Amateur's Drawing Manual, and Basis of Study for the Professional Artist: comprehending Elementary Drawing, Perspective, Sketching from Nature, Painting, Etching, and Engraving; Modelling and Composition; especially adapted to the use of Public and Private Schools, as well as Home Instruction." By J. G. Chapman, N.A. 4to. pp. viii. and 34,—many illustrations. London Sampson Low, Son, and Co. Edinburgh: Thomas Constable and Co. 1858.

THE GROUND-PLAN OF HOSPITALS.



find himself, at the end of such work, better able to produce a set of drawings—say of a building than he would be after far longer time given to the perusal of the best treatise on "orthographic projection." The attempts, however, that are made at instruction by books are not to be discountenanced: of course, these must often comprise the only instruction that the student can get; and, moreover, works such as either of those which are the subject of the present notice, tend to supply a want, that of occasional reference, felt even by those who have passed the elementary stages.

The instruction in art-processes, now recognized as needed as well by the general public as by the professional student, is aimed at in the book of which the title stands second in our note. It is far more comprehensive in its attempted range than the other work, the subject of which, indeed, it hardly notices, though what it says specially of "drawing on stone or lithography"—to wit, and not a word more than that it "is of an easy acquirement to any one who can use the pencil or crayon with facility"—may show that its author has not supplied all that was consistent with his aim, or as to some branches of his subject. It affords us, however, great satisfaction that there should come from America, a work which, if it have the circulation it deserves, cannot but greatly promote the study and advancement of art there, so greatly needed; and a work also which is suggestive and useful for objects of art-education in our own country. Its general purpose, and the manner in which arguments and explanations of the text are aided *pari passu* by well-chosen illustrations, of which there is profusion, deserve high commendation. The book is peculiarly one which it is pleasant to look at and agreeable to study from. It would be well that English authors and publishers, whose illustrations are often stinted, from considerations of expense, below the positive requirements of explanation, should consider how the illustrations in the book before us (which are all printed with the text) have been produced. Judging from the quantity of cross-hatching, they are not wood-engravings, and, if produced by *xylography*, or surface printing from copper, the method in use must, we think, have been attended with rather better success than that in England. Some of the illustrations are, however, defective in the shading to the hollows or undulations of the objects represented, as in the case of many of those of the human countenance and the "extremities."

The author begins with our position of years ago, that "any one who can learn to write can learn to draw;" and throughout his book he advocates instruction in both accomplishments, primarily and contemporaneously, as both useful, and serving each the other. He, however, does not mistake drawing for *art;* whilst he properly animadverts on much of the so-called instruction in drawing which has been common in schools, and which serves no purpose whatever. Still he shows that a knowledge of design gives advantages even for making a copy. The deficiency in the work, as it strikes us forcibly, is under one of the heads of instruction which we spoke of at the commencement of this notice. There is a chapter on Perspective, besides sections on "the Elements of Geometry," and "Studying and Sketching from Nature;" but useful as this chapter is, there is no information which could fairly serve the student in the representation of objects in oblique perspective. "Vanishing points" are hardly spoken of; and the mode of finding those points where objects are viewed as referred to, is not noticed. This, perhaps, results from the omission of the subject of "orthographic projection." The chapter relates to little more than parallel perspective; but there are some useful suggestions on the representation of interiors in one of the other chapters, or with reference to choice of the station point for the view.

The omission which is so common in books intended chiefly for amateurs, or for painters, might help us to the explanation we have long wanted, as to the reason of the serious ignorance of perspective displayed annually in the oil-pictures in the exhibitions. The best course for acquiring the knowledge is undoubtedly through the initiatory stage of geometric drawing; because that mode of representation alone shows the object as it is.

It would have materially enhanced the value of the work of Mr. Binns, had he *at the outset* explained the respective uses of perspective drawing and "orthographic projection." But we look in vain for that explanation of the first which would allow the student to understand readily the use of the other. For the want of this, and the absence of a precise definition of "orthographic projection," many students would go through the treatise, and be left ignorant of the meaning or application of the term. The "familiar illustration," by the window-pane, of the elevations of objects (or representations "in the vertical plane"), involves an obvious error—one that can only create confusion between the different modes of representation, whereof one shows, as nearly as "perspective" can, the object as it appears, and from a given point—the other, by a combination in which each drawing of a superficies, or sectional form, bears a part, or represents a phase of the mass, conveys the representation, or rather mental reflection, of the object exactly as it is. He correctly mentions, however, that in orthographic projection the eye is supposed to move over the object, or rather to remain always directly opposite to every part represented,—the visual rays being, therefore, supposed parallel, while in perspective they converge to a point supposed to be that of an immovable eye. An analogous instance of what we think defective in the book, is seen in the "Problem III.,—The End Elevation of an object being given, to find the plan thereof,"—which is not logically stated; for, only a few lines below that, the truth appears that more than an end elevation would have to be "given," or nothing whatever as to plan could be arrived at. The defect in explanation, though remedied in the sequel, is an important one: because the fact that an elevation or a plan, by itself, is as nothing for representation, is that which should be in the very first stage of instruction made evident to the student, and that which is so much required to be known by the general public to ensure knowledge of the system of representation which is used in drawings of buildings, machinery, and contrivances of every description. We are by no means finding fault with Mr. Binns's book in saying that the whole subject could be conveyed more readily, both to

the general public and the student, with the aid of drawings from models or from the buildings and machines themselves. The author himself appears to feel this, inasmuch as the student's case of instruments and pencil are brought into use in several of the explanations. The method of illustration by models, we ought to say, has been adopted by others in lectures, as it is now by Mr. Binns, and in either case with the best results. In the process of instruction, we are inclined to recommend primarily the explanation of the "section," because the section, or the drawing thereof, is precisely what has to be represented in every case, sometimes by supposed tracing of the section or the new face exposed in the object itself, as in the instance of the horizontal and vertical sections of walls; and at other times as in elevations and roof plans, by the section of the combined parallel lines which are supposed to be projected horizontally or vertically. It is a question how far any one who could understand this much would require a treatise. In the book before us, the "Architect," "Mason," or "Bricklayer," for some time would scarcely recognise the explanation of much that he has learned in a different manner: to such classes, however, ready familiarity with the modes of the "projection of objects on the inclined plane," "the projection of curved lines," and that "of conic sections;" "the penetration and intersection of solids," and "the development of the curved surfaces of cylinders and cones," which form the head of the later chapters, and which subjects are amply illustrated by woodcuts and by plates opening out of the book clear for reference, is important; and the explanatory methods have, doubtless, been very well considered; and by many having the ordinary knowledge as regards the objects of more simple form in architecture and mechanical engineering, might be studied with advantage. For primary study the *viva voce* instruction is best, and is, perhaps, absolutely required. The system has been adopted, we believe, in the Art-Schools connected with the Department of Science and Art, throughout the kingdom.

Mr. Chapman's work not only affords "primary instruction in drawing" (which we might say, it *includes* writing), and gives "rudiments of drawing the human head," the "extremities" and the figure, and many objects of nature and art, together with the "Elements of Geometry" and "Perspective;" but has a good chapter on "Studying and Sketching from Nature;" one on "Painting," and the several methods and vehicles; one on Etching and Engraving, including Wood-Engraving; one on Modelling, and a final chapter on "Composition." Of course there are some of the subjects which are not gone into at much length; but enough is generally afforded to set the student well on his way; and the general views inculcated as to study, and as to the American and everywhere national interest in art, which extend to a considerable portion of this book, deserve a warm approval, and might deserve quotation had we space. The recommendations as to the use of the pen rather than the pencil and india-rubber, for practice in drawing, because the former compels accuracy, may be attended to with advantage. The work is one that we should like to see extensively read and studied from.

THE LIONS FOR THE NELSON COLUMN.

If lions are to occupy the four pedestals at the base of this column, two or three questions naturally arise about them, the most important being, perhaps,—Are they to be treated, specially, sculpturally, or architecturally? or rather, perhaps, I should say as statues representing a group of four living lions, and, therefore, varied in their attitudes; or more as architectural monuments, as which they would be less varied, and much more broad and general in treatment? It may be said that the British lion is, as an emblem, single: are the proposed examples to be four British lions, or merely four lions?

As architectural features merely, supposing them to be treated in a broad Egyptian manner, there could be no objection to their repetition. A mere architectural feature may be repeated over and over again with perfect propriety, and yet not give the idea of a multitude of individualities; but if these lions are to be worked up to a full and perfect representation of the species *Leo*, of the genus *Felis*, and they are to be varied with all the resources of the sculptor's art, they may be most successful as specimens of sculpture, but not so much so as architectural ornaments, and also may be deficient in the quality of the unity attaching to our idea of the "British Lion."

Of these two modes of treatment it appears that the chief commissioner leans towards the actual, and not the symbolic, if one may judge from his having entrusted the superintendence of them (for I suppose that nothing beyond this is intended) to our admirable animal painter, Sir Edwin Landseer. In the works of no artist, perhaps, is life-like actuality a more prominent element than in those of this distinguished painter. The very felt of his rabbits seems as if you could blow it apart, but a colossal granite lion is a very different matter, and will not, I fancy, be a success unless considerably idealized. It strikes me, indeed, as just possible (if indeed the project, as it stands, takes effect), after the exercise of great talent, both in the sculptor or sculptors employed, and of great attention and many hours of supervision by Sir E. Landseer, that, when the lions may be put up (a varied group of excellent examples of the *Felis Leo*), a visit to the British Museum might suggest to us that, perhaps, after all, they would have been much better and more impressive had they been treated more in the manner of those two noble examples of lions (as emblems) which were brought over by Lord Prudhoe from Egypt.

I confess I lean towards these, and in the opposite direction to that to which, I fancy, the Chief Commissioner inclines; for it appears to me that it might be better that the granite lions should be rather symbolic than very vital and varied, and rather treated as architectural features than as varied statues of the noble beast. Let us recollect, there is one lion already on the top of Northumberland House, in a very animated attitude: what will be the effect of four more down below, also in animated attitudes?

Lions are known to go in twos or threes, or in even larger numbers, and to join their forces to pull down some nobler animals of the chase; but we do not fancy British lions to be among these. Sparrman gives an account of seeing a huge bicorned rhinoceros go into a little thicket, not far from the traveller's path, when suddenly out at the other side rushed eight lions immediately away into the plain, with their tails up, and with an air of amazement. Their rapid retirement needs no comment; but we should not expect the British Lion to do likewise. Indeed, I doubt if we expect this legendary animal to do anything in companies. Could we hear him roar, we should expect but one voice, solitary and like thunder, which he emerged on our view, we should expect to see him alone. To borrow, indeed, the expression of the showman, and apply it to the British Lion, our impression of him appears to be that he is "a unique animal."

Even when the subject was under discussion in our House of "legislative and collective wisdom," there was some sort of small joking about four red lions! the number seemed to tickle the fancy of some of the members. Gravity in the treatment of these works seems therefore to be the more desirable, and an Egyptian symbolic and strictly architectonic breadth of manner might accordingly present advantages not to be reached by a greater degree of detail. No one, I fancy, feels inclined to smile when looking at the granite recumbent lions I have alluded to in the Museum, although they are "red lions." ESSELON.

ALTERATIONS AT THE UNITED SERVICE CLUB, PALL-MALL.

The United Service Club-house was erected about the year 1826, or somewhat more than thirty years ago. The architect was John Nash. The building is now undergoing repairs, internally as well as externally; and considerable additions are being made, chiefly by the extension of the frontage, which is to include the site of the house adjoining. The kitchen and offices, it may be recollected, extend from the club eastward, or were at the back of the house referred to. They are on the ground-floor, instead of as in the other London clubs: and we recollect that at the time of the competition for the Army and Navy Club, the arrangement was pointed to as having many advantages. The useless portico in the front to Waterloo-place, has been removed, and the two rooms in the ground floor on that side have been thrown into one, an iron-faced girder being placed for the support of the upper portion of the original cross wall. The entrance-hall is being extended to the available width obtained by the removal of the porters' rooms and closets. The additional area is to provide for, in the basement, a house-steward's room, and on the ground-floor, a house-dining room in lieu of the room adjacent, at the north-east angle of the old building, which will become the "writing-room;" whilst the upper floors will be appropriated for a smoking-room, and a billiard and smoking room, and their adjuncts. There are some minor alterations and additions; and the general internal repairs seem to comprise an unusual amount of that kind of work.

Besides the internal work, however, alterations beyond those already named are being made in the exterior, which will, no doubt, much improve the architectural character of a building, which, from whatever defects of design, was certainly not the most meritorious of its architect's productions, and was unworthy of its fine site. Interest, therefore, may be felt in the present works on many grounds, by architects; that is to say, whether regarding questions of construction and durability, or regarding the nature of progress in taste which may have taken place.

The third decade of our century was a very important one in London improvements, and as to the number of public buildings that were then going on. Nash, J. P. Gandy, Mr. Decimus Burton, who is conducting the present alterations, Sir John Soane, the late Mr. Wilkins, Sir Robert then Mr. Smirke, Sir Jeffrey Wyatville, Mr. Lewis Vulliamy, and Mr. Edward Blore, were the architects employed, whose names present themselves to our recollection; and buildings completed or in progress in that time were the churches of St. Pancras; All Souls', Langham-place; and St. Luke's, Chelsea; and the chapel in North Audley-street; the terraces in the Regent's-park, and the Colosseum; Buckingham Palace and Windsor Castle; the Law Courts, Westminster; the Board of Trade; the Post Office, British Museum, King's College, and the London University; St. George's Hospital, the entrance to Hyde-park, the Hall at Christ's Hospital, the University Club-house, the New College of Physicians; the Corn Exchange, Mark-lane; Covent-garden Market, and Fishmongers' Hall; besides St. Katharine's Docks, the Thames Tunnel, and London-bridge; Hammersmith-bridge and the bridge over the Serpentine, and the improvements in St. James's-park; the squares in the locality now known as Belgravia, and the widening of the Strand. The architecture of the day of the Italian character was like that of Nash, bad, at least in details: the Anglo-Greek architecture, not without merit in the details, did not supply its deficiency of much of the Greek feeling by real and new *art*; and the Gothic architecture, though not really so bad as it has been the habit to consider it, since the buildings contain original and commendable features of plan and detail, though its details give the expression of little more than caricature of the style. Such errors will be likely constantly to occur where architects use old models, not as *basis*, but solely with the effort to imitate them; and a like impression from the works of *our* day, haply may be derived when taste has made a still further advance and by our successors, if we also in the main, or practically, make a point of *imitating*, or of striving to get into an old stream rather than keeping in, whilst contributing to the volume and richness of the living and actual stream of our day.

The chief alterations in the exterior of the Club-house include the substitution of Portland cement for the original painted mastic, which certainly had always a very bad effect,—the substitution for the cornice, which was simply the entablature of the upper order of the portico in the main front, of a *cornice* of better proportion to the height of the building, and including an enriched *frieze*, the design of which will be by Mr. Cass, also a work from the same hand for the tympanum of the pediment; a new balustrade to the building, with pedestals for vases; new balustrades to the windows, in Portland stone, in lieu of those in Bath stone, and of somewhat different proportions; and a balustraded enclosure to the area of the basement in place of the iron railing.

The mastic, composed, we believe, of Bath-stone sand, litharge, and oil, it may be well to observe, has, except in the arrises and upper mouldings of the cornice, stood exceedingly well. This was shown by the state in which even the arrises of the fluted columns were found. The building, we are told, had not been painted for a considerable time; and had this been done, decay would have been prevented on the only parts of the work in which it was of serious amount in those, as all who latterly have passed the building must have noticed, it existed to great extent. The removal of the mastic, though the coating is scarcely more than one quarter of an inch in thickness, is obviously work of considerable labour. It is to be hoped that after the present heavy expenditure, the Portland cement may be found never to require colouring or painting. An inquiry into the question of cost of works of repara-

tion as regards original buildings of this date and magnitude, might afford some useful lessons. Our readers will not fail to recollect that the time of thirty years ago is often spoken of as one in which builders' work was executed in a style of which we have not any present experience. Are we to regard such extensive repairs as here are in progress, as necessary in buildings every thirty years?

The plan of the staircase-hall and rooms is commendable in many respects. Such ornament as there is, also is not without merit. But with all, the interior of the building, by its decorative character, at the present day, gives the impression a general coldness of effect.

The Athenæum Club-house, by Mr. Decimus Burton, completed about the year 1829, is stated in the "Companion to the Almanack" of the subsequent year, to have been modified as to the external design by some arrangement between the committees of the two buildings. This ideal harmony, so far as the opposite portices of the buildings are concerned, will, we suppose, now be given up. It was never worth much; and the gain to the *place* in variety, through difference in the buildings, itself may be worth more than the absolute uniformity. In all these little events in architectural history, an observer who is at same time a thinker, may find, we say, some lessons of value.

The works of the club house are in the hands of Messrs. Wm. Cubitt and Co. under Mr. Barton's direction.

THE LATE MR. DWYER, ARCHITECT.

We announce with regret the melancholy death of Mr. Jno. Dwyer, architect, which took place at the Lord Warden Hotel, Dover, on Tuesday evening, the 31st of August, in the 39th year of his age. Mr. Dwyer had been on a fortnight's tour in Belgium, and having suffered severely from sea-sickness while crossing the Channel, was, on landing, seized with pain in the region of the heart, and died within an hour after quitting the vessel. With artistic powers of a high order, he possessed an extensive knowledge of ornamental art and great fertility of invention. His works display a marked originality, and his favourite style (Italian Renaissance) he treated in a manner peculiarly his own. Mr. Dwyer was one of the successful competitors in the Government Offices competition of 1857, and a frequent contributor of papers (which were reported *verbatim* in our journal) at the meetings of the late "Decorative Art-Society." His last work was preparing some designs in water-colours for the decoration of Lanark (R.C.) Church. Those who knew him intimately speak highly of his strong sense of honour and of his energy under difficulties.

AGRICULTURAL DEVELOPMENT.

Our recent observations on the necessity for improvements in agricultural buildings and accessories, have obtained the attention of some of our provincial contemporaries. The *Sheffield Independent* says,—"The *Builder*, in its review of 'The Book of Farm Implements and Machines,' expresses its

'Confident belief that an era of agricultural development, as wonderful as that which the present age has already witnessed in manufactures, is not only within the bounds of possibility, but on the eve of event, that the day is at hand when models of farm buildings now in use, and the agricultural implements of the past and present time, will be put away as curiosities, beside the distaff and the spinning wheel, and which even the steam-plough, as we at present know it, will be regarded but a rude and primitive instrument by comparison with others still to be invented.'

This is a bold prognostication, and possibly may be of the nature of an inspiration of that 'good time coming' of which poets have sung, and on which demagogues have expatiated. A few years ago, sewing machines would have been regarded as an absurd idea; and still more recently, the project of linking the old and new world together would have been scouted as it only for the dreamers and magicians of the Arabian Nights' class. It is impossible to give a reason for denying the possibility of so augmenting the earth's fertility, and facilitating the gathering and securing its produce, and of improving the breed of domestic animals, as to produce as great a revolution in agriculture, as the steam-engine and spinning and weaving machinery have produced in manufactures. The original sentence which scattered weeds and other growths unsuited for human food, and which doomed man to painful and exhausting toil for his bread, cannot fairly be interpreted as precluding the sanguine hope of a new mode of manufacturing beef and bread, so as to lighten human toil and indefinitely augment man's vital resources. The donation of the earth to the human family, and the command to subdue it, rather lead to an opposite conclusion, and leave room for hope that, in process of time, three quarters of corn may be got in place of one, and new varieties of food may be discovered and cultivated, so as to supersede some now most esteemed. Centuries ago, wheat was scarcely known in Britain, and it is only modern history which records the cultivation of the potato, which now feeds largely its millions. Other plants and vegetable productions were once as little known as this now favourite root, and yet at the present day furnish work, and by consequence, maintenance, to vast numbers."

Abundant evidence can be adduced that the introduction of improved machinery and improved processes into agriculture means improvement in the condition of the labourer as much as the farmer. The *Bury Post* gives an example in the county of Essex:—"Messrs. Burgess and Key's manufacture of M'Cormick's improved reaping machine," says the writer, "has risen in three years from 30 to 200, and this year to 700 machines already sent out. It is patronised by princes and nobles in England, France, Tuscany, and other countries; and the Prince Consort invites the farmers of the Isle of Wight to witness its operation on his farm at Osborne. But in the vicinity of their manufactory at Brentwood, Messrs. Burgess and Key found considerable difficulty last year in getting the machine to work on the farm of one spirited agriculturist, on account of the hostility of the labourers. They were not, however, to be daunted, but declared their determination to persevere at all costs, and this year not the slightest difficulty has been experienced. But now let us see how has the introduction of machinery worked on this farm. At the harvest-home, last year, the farmer called up one of his men, and something like the following colloquy took place:—

Master: Tom, how long have I been on this farm?

Labourer: Well, master, somewhere about twenty years.

Master: And how long have you been with me?

Labourer: Well, soon after you came, master.

Master: And how many acres do I farm now?

Labourer: Why, just the same as you did then.

Master: And have I more machinery now?

Labourer: O yes, master, three times as much.

Master: And have I as many men at work?

Labourer: Yes, master, more men than you had then.

Master: And are your wages less than they were then?

Labourer: No, master, we make more money than we did then.

Master: And what's the reason of all this?

Labourer: Why, you grow a great deal more corn than you did then."

And this simple dialogue supplies the true solution of the matter. The more machinery, the more men employed; and the more men and machinery, the more produce.

Machinery must do the work: men must do the thinking and directing. To state the *desideratum* broadly, we must *turn agricultural labourers into professional gentlemen*. There are several intermediate stages to be gone through, and the desired object may be a long way off, but this is what we have to do nevertheless.

STREET ARCHITECTURE.

BRUNSWICK, WHITECHAPEL.

WHILE considerable advances are being made in architecture generally, our street architecture seems still for the most part in a very neglected and unsatisfactory state. In many cases no architect is employed, or he is prohibited by his employer from departing from the beaten track, on the grounds of supposed economy, or the requirements of his business, or from mere conservatism and disinclination to do anything unusual. The ordinary business front consists, on the ground floor, of one large void, which is filled with glass. Above this is a bressummer, which carries the first floor, and on which is built a plain brick wall, with holes in it for windows. The front wall is invariably finished with a level parapet, whatever may be the shape of the roof. A favourite form of roof is what is known as the V roof, specimens of which may be seen in abundance in leaving London by the Brighton or Blackwall railways. Where uniform rows of houses are built with these V roofs, the backs of the houses present a series of gables, half a gable belonging to one house and half to the next, while the fronts have the usual level parapets. The bressummers over the shop-fronts are usually concealed by an entablature of joinery, or lath and plaster work, stopped at the ends by cunning cement consoles, scarcely varying in pattern, and which are bought "ready-made," just as one would purchase a number of bricks. The fronts above the bressummer are faced with malms, with those weak, wretched, deceptive things called "gauged arches" over the windows, and the parapets are finished with a "neat" Portland or York coping, or a slight variation is, perhaps, made by the introduction of cement "dressings" to the windows and heavy cement cornices to the parapets; or the entire fronts are rendered with Portland cement, carefully "jointed" to imitate stone, with a great redundance of "dressings" round the windows, and heavy cornices to the parapets. Such are, or, at any rate, have been our usual stereotyped street fronts. In the majority of cases, architects are not responsible for these perpetrations, or if implicated, they are probably acting under the strict injunction of their employers, or with a similar feeling to that which leads us all to dress in black coats, and to wear chimney-pot hats—a feeling with which the monkey is usually supposed to be highly endowed.

It is somewhat refreshing, then, to see, here and there, as we now do, not merely in London, but the provinces, an attempt to avoid this dull monotony, and to throw off the senseless trammels with which we are surrounded; and we are led, therefore, to notice a building lately erected at No 30, High-street, Whitechapel, as one of these evidences of movement.

In this design the object has been to obtain some degree of character and effect without materially increasing the cost, beyond that of the ordinary plain brick front, with a level parapet, previously alluded to. The frontage being narrow, and the building lofty, it naturally assumed a vertical character; and a gabled front seemed therefore more suitable than the ordinary level parapet, which would have given this house a very clumsy appearance, as it is much higher than the adjoining buildings. It was considered also that in this case, the cost of a simple ridge roof would be less than that of a V, or of a hipped roof.

The front is formed with the ordinary yellow bricks, with arches of red bricks,—the object being to avoid, as far as possible, the variegated or "Tonbridge-ware" effect (as Sir Charles Barry terms it), now somewhat in favour. Yellow bricks were used as the predominating materials, while the red bricks have been sparingly used, to afford a slight and agreeable relief. The large arch over the first-floor window is not a mere decorative feature, but is carried through the thickness of the wall, so as to be really capable of carrying the fronts. There is also in the basement a corresponding inverted arch to spread the weight of the front over the foundations. The windows have 9-inch external reveals on the grounds of strength and effect. In order to obtain segmental arches externally, and yet to avoid the expense of segmental heads to the sashes and frames of the upper windows, the outer half brick rims of the arches are segmental, while the soffits of the inner rims next the frames are level. A projecting shop-front was necessary, from the fact that the upper portion of the house could not be brought forward, or it would have projected beyond the "general line" of the neighbouring fronts. The roof of the shop-front is covered with plain-tiles, each alternate course of which is laid diagonally. The fascia of the shop-front is formed of two thicknesses of glass, the outer being of clear plate-glass, on the inside of which the inscription is written, and the inner of flashed ruby glass, which throws up the gilt letters, and serves to protect the inscription, while it admits light into the shop at day-time, and at night, when the shop is lighted up with gas, the fascia is thus illuminated, so that the name can be read from the outside. The use of external plaster decorations has been avoided.

The architect is Mr. Chas. B. Arding; and the builders are Messrs. Browne and Robinson.

SCRIPTIONS IN STONE.—SIR: Even the entrance to a workhouse may be made ornamental and instructive. The pediment over the brick entrance to the Strand Union Workhouse, in Cleveland-street, Fitzroy square, has been decorated with an ideal figure of an old man holding and pointing to a piece of drapery, with the motto, "Avoid idleness and intemperance," cut in projecting letters, of a regular width, and it is to be hoped that this advice will be taken by all those who pass it.

P. S.

THE THAMES PLAGUE.

SIR JAMES MURRAY, of Dublin, writes to us as follows:—"Observing that you devote much time and attention to sanitary measures, may I venture to solicit space for the enclosed suggestions? They are founded upon long experience, and can be tried in any section of a town at small cost."

"Pestis et ira Deum stygiis sese extulunt undis."

In accordance with the able paper on smoke, sewage, &c. in the Transactions of the Highland Society for July, 1858, it is quite right to bank the Thames and all tidal rivers: no exuviæ should be exposed, as silt and mud, to the sun and air. They ought to be constantly covered by a deep *water-valve*.

But the veins that disgorge their vitiated currents into the central heart must have their odious streams edulcorated; otherwise foul drains, as feeders, will always keep the great alluvial receptacle foul itself.

Defined areas of cities should be insulated, and their sewage treated *separately*, so that deluges from one district shall not interfere with another. Street 'grates' and gullies, &c. to be valved, to direct storm-floods into particular channels, and to render other drains or tunnels more adapted for the new processes of suction of foul airs from stagnant receptacles below, and of smoke nuisances from above.

These new processes consist in *extracting* vapours, gases, and miasms by *traction*, since *driving them by force* has hitherto failed.

About two years since letters patent were obtained "for abating the smells, and increasing the fertilizing usefulness of sewage and precipitated gases, also for chemical and improved mechanical means of transmitting them to such distances or levels as may be required."

During the first cholera in 1832,* as a member of the *Central Board of Health*, I made numerous experiments on the agency of a partial vacuum for medical and sanitary purposes.

By these trials I found—

1st. That a large air-tight tank, with tubes, answered several sanitary uses. Among others, that when its air was exhausted by a pump, or by *traction* into *lighted lamps or funnels*, the foul gases of sick rooms, or hospitals, and smoke itself, could be speedily abstracted by suction, and their places supplied by an influx of fresh air.†

2nd. I found this plan far superior to *ordinary ventilation*, becauses that mixes good and bad air together, and both escape, or are blown about alike, out of chambers and barracks; whereas first employing traction of foul vapours up some *rarefied conduit*, allows, then, the introduction of an entirely pure and unmixed atmosphere into the vacated spaces.

3rd. That a self-injected jet of red-hot hydrochloric acid gas into the vat or cistern produces many valuable effects in disinfecting vapours, decomposing miasms, *preceding smells from ascending up lamps or spouts*, promoting evaporation, drying basements, and aiding to form a *partial vacuum* in the cisterns, by condensing the acid vapours, with the fumes and steam commingling in transit along the pipes and vessels, or passing over floods of fœcal matters.

4th. That such rarefaction can be established, at little or no expense, to draw miles of drain-exhalations to the condensing reservoirs, even without the aid of pistons.

5th. That pumps and pistons, like the atmospheric engines of railways, are not, however, to be objected to, because their great shafts and fires conduce to accomplish many subsidiary ends for the new processes of *Traction*, for *deodorizing vapours* and ventilating drains. To render the outlines of these processes more plain, reference may be had to the proceedings of the Surgical Society of Ireland, as reported in the *Dublin Medical Press*, February, 1858.

As in respiration we require to *exhale* twenty inches of breath before the lungs can inhale twenty inches of pure atmosphere, let us imitate Nature, and draw out the bad vapours *first*, from crowded houses or institutions, when, instantly, an equal volume of fresh air will flow into the space so vacated.

Ventilation, by forcing or blowing, does not separate bad air from good, but commingles and transfuses them together: propulsion, by bellows and mechanical contrivances, has been tried long enough, but smoke, vapours, breath, and fixed air will not be *pushed away* to leave a void space for a purer atmosphere: they yield, however, to the power of *traction*, by which we can withdraw bad fumes at will, and make room for good air instead.

These few outlines may direct some more attention to this comparison, so far as relates to pulmonary action, like the expiration of noxious airs, smoke, and miasms, succeeded by the inspiration of a salutary atmosphere.

The other operations, bearing some analogy to those of the heart, relate to the traction or expulsion of drainage, when it passes purified into vast tanks or ventricles, where a lift of some height raises it up pipes, furnished with valves, like the aorta. When these principles should be applied and modified on a large scale for cities, barracks, &c. double tunnels and tanks would be required to clear out soot, silt, and guano, from the one vat, whilst another is in operation.

* See "London Medical and Surgical Journal," 1832.

† See the author's paper on the Air-pump, Royal Dublin Society, 1838, and notes on Cholera. Longman and Co. 1848.

CONSTRUCTION OF FARM-GATES.

IN the *Builder* of the 21st of August, the leading article treats of the construction and hanging of gates, and states that hitherto very little attention has been paid to principle in the construction of field-gates, —that ninety-nine out of a hundred are glaringly defective as pieces of carpentry, and not unfrequently constructive defects appear in gates of much greater pretensions; and then is pointed out what the essentials of a field-gate ought to be. Allow me to mention a sheet of drawings which came into my possession some time ago, consisting of plans, elevations, sections, details, &c. made by Mr. A. Paterson, clerk of works, identical almost in every respect with what is set forth in the *Builder*, and which drawings were laid before the Society of Arts, at their rooms in the Adelphi, and examined by the committee of mechanics on the 26th of March, 1846.

These designs show that a gate should be constructed upon a similar principle to what a self-supporting crane is constructed; that the point of suspension should be at, or below, the surface of the ground; and that a diagonal bar springing from the bottom part of the heel-post to its opposite angle should be the principal part of the framing of the gate; that the top and bottom rails and head-post are secondary, and that the filling in is merely a matter of fancy or taste. A hinge of a different construction to any I have yet seen is here shown, for the purpose of preventing the head of the gate from drooping down, which is the case with ninety-nine out of a hundred of the usual construction, after being hung a short time.

A design for a stop bar, or gate, such as is used in several parts of Pimlico, and elsewhere, is also shown, where the gate is constructed without a gate-post, and so as to make a complete revolution on its own axis, formed by the heel-post being continued down several feet below the surface of the ground, and let into an iron socket fixed into a rough piece of wood, such as the butt end or root of a tree sawn down the middle, and the ironwork inserted in the same;—the pieces of wood bolted together again, and fixed in the ground, which must be well rammed down round the same to make it perfectly firm and secure. This stop-bar or gate would be quite portable, as it might be taken out of the socket at any time required, and a wooden plug, made to fit the socket when the gate was taken out, could be inserted, the top of the plug being level with the surface of the ground, to prevent accident or injury. This stop-bar or gate might be most usefully employed in many positions where at present there is none that I have yet seen so fit for the purpose.

A design for a large iron gate is also shown, where the heel-post is continued down some feet below the surface of the ground, and let into a socket fixed into a strong piece of stone. A spur, with a small roller on the bottom end of the same, is continued down from the heel-post, at the surface of the ground, and traverses on a piece of iron plate, let into the same stone and level with the socket. This spur is the medium of self-support to the gate instead of a roller on the surface of the ground, which is frequently employed. A wall of brick or stone work encloses the space where the spur traverses, covered over with a stone covering, so as to be taken up at any time with little inconvenience. The construction and hanging of this gate would give much less vibration to the work adjoining the gate than what usually is the case when the gate is hung principally by the top hinge, and where a great strain is exerted sometimes against weak piers, causing great damage to adjoining work.

A design for a farm-yard sliding gate is also shown. Two rails are fixed along the face of the wall or fence adjoining the gateway, which sustain the gate when either open or shut. No rail or groove is required to cross the gateway to keep the gate in its proper position. This gate would be very useful in many cases, and particularly where the ground at the gateway happened to be much out of level.

All these gates are constructed with a diagonal bar, being the principal feature of construction.

R. JONES.

THE NINE HOURS MOVEMENT.

SIR,—Allow me, in justice, one small nook in your journal, in reply to "One who knows a Thing or two." In the first place, when he speaks of wages thirty-five years ago being only "24s. to 27s. per week for best men," allow me to ask what men he means? Surely he does not mean carpenters and joiners: if he does, he knows nothing about the wages at that time; for it is in the recollection of many men who worked in London at that date, that men were in receipt of 5s. 6d. per day. Also, about that time, if "One who knows a Thing or two" will tax his memory, resolutions were passed and carried into effect by the carpenters and joiners, at the "Yorkshire Stingo," New Road, Marylebone, on Friday, 3rd day of June, 1820, or 1823 (I am not quite certain which), that 5s. 6d. per day should be acknowledged as the standard rate of wages; and I have no doubt in my own mind that, when he speaks of 21s. and 22s. per week, he was in receipt of that sum for the first two years after his apprenticeship, and so "measures others' corn by his own bushel."

It is all very well for one that has nothing else to do to set on the goose's quill, to fire away and rake up old musty bills to tell us that certain articles were of such and such a price at such a date; but then we might go back to the time of Doomsday, and say that, because such and such was the price at that time, you shall be guided by that and no other; but allow me to say that, in this age of progression, prices thirty-five years ago have become obsolete, and are no standard for the present generation. As for clothes, have not the last thirty-five years caused a complete revolution in prices by the aid of machinery? and as machinery has supplanted the labour that is at present in the market, the carpenters and joiners have only asked for a reduction of the hours of labour in the spirit of humanity, so that, instead of many being out of employment, it might be equalized, and our fellow man obtain that which, by his nature, is to fulfil the command,—"Man shall eat his bread by the sweat of his brow." And thirty-five years ago, population had not increased to such an extent, and those could better afford to pay a higher price for provisions at that time, on account of insuring a more constant demand for their labour; and instead of, as at present, two men looking for one employer, it was *vice versâ*.

Who, I would ask, first started the "nine-hour movement?" Have not employers introduced it themselves in the winter? and we say, if you take advantage of the dark days, give us the benefit of the light ones for our own improvement. And, again, who has taken up the question of the "Saturday half-holiday?" Not the working men, but men of philanthropic principles, who feel for those that toil from morning till night for a bare subsistence, and would give them some little relaxation for moral and social improvement. Such misanthropists as "One who knows a Thing or two," would keep us toiling on, and asks himself the question, "What do they want improvement for? Such did for their forefathers, what need they more?" What are your Mechanics' Institutions, Schools of Art, &c. raised for? Why, their very names will answer the question; and if the British public have been so generous as to build up these institutions for our instruction, they are also willing to extend their generosity by granting us the boon of one hour to improve and cultivate our minds, and the employer will lose none of his profits if the public pay for it; so that if the employer is paid, his profits will warrant the reduction of the hours, or the advance of wages, whichever you please to call it.

A POOR CARPENTER.

SIR,—As you were kind enough to insert an article on the "Nine Hours Movement" in your last, with equal fairness I hope you will give insertion to this note. Your correspondent appears to be in error about the wages given to the best men at the time stated. All that I have consulted on the matter give it a blank contradiction: a more correct statement would have been, the best men where he was apprenticed. With regard to the price of necessaries, the writer of the article

alluded to has been kind enough to tell us something which unfortunately we know too well to be true, and few, indeed, are they who require reminding of it. There are one or two points, however, upon which the author has not touched, and which, perhaps, may prove interesting.

That is, how much of the several articles, enumerated in his letter, the head of the family to which he belonged could obtain (of course, supposing that party to be a mechanic, and getting 27s. per week); whether intellectual culture was cared for among the working-classes in those days, and how much could be spared for it; or whether they had to depend upon some charity to supply the deficiency; and, lastly, whether the artisans of this great country, who have done their part to make England what it is, were at that time getting their fair share of this world's comforts, and that is the reason that wages at the present time ought to be reduced. Thanks to a cheap press, and the spread of intelligence among the labouring-classes, we are now alive to the importance of instructing ourselves, and of giving our children some degree of schooling, to enable them to drag through this existence with some degree of comfort, which is a task of no easy accomplishment with the mechanic at the present rate of wages.

Allow me, sir, just to add, that I am no partisan of the nine hours' movement, which is started for the very laudable purpose of giving employment to the unemployed. It appears to me if the principle were carried out in all branches of labour, we should find ourselves, ultimately, in a worse position than at present. The more effectual mode would be, the establishment of an Emigration Fund among the working-classes, to assist in transferring those who are qualified, to where the chance of employment is greater.

I do hope, sir, on the first opportunity, time and space permitting, that you will give the artisans of England a simple and candid article on this question, for which I am sure they will feel grateful.* A LONDON JOINER.

THE PROPOSED MUSEUM AT ATHENS.

ALTHOUGH we have already printed the terms of the proposed competition for a design for a museum at Athens (p. 558, *ante*), we think it right to give an official translation of the whole programme. Further, we are authorised to state that the Greek Legation at London is instructed to receive and transmit to the Hellenic Government all communications respecting the museum.

OTHO, BY THE GRACE OF GOD, KING OF GREECE:—

Considering the liberal donation of Mr. D. Bernardaki for the erection of a museum at Athens; desiring that the conservation of the remains of antiquity existing in Greece be provided for in the most proper way and the most worthy of those treasures:—

On the proposition of our Minister for the Department of Worships and Public Instruction, we have ordered as follows:—

Art. 1. A museum shall be erected at Athens to contain the antiquities which have been treasured, up to this date, and those which may be successively discovered. The situation of this museum, the execution of which must be worthy of the masterpieces it will contain, shall be determined subsequently.

Art. 2. The architects of all nations, who should desire to submit to the Hellenic Government projects for this monument, shall be invited to do so either directly or through the Legations and the Consulates of Greece, before the expiration of a year from this day. The projects must be accompanied by sections, front-views, &c. The architect whose plans are adopted shall be intrusted by right, if he desire it, with the execution of the edifice.

The designs must be accompanied by estimates.

Art. 3. The museum shall comprise general divisions by periods, and subdivisions by objects for the scientific disposition of the antiquities. In the division by periods a place shall be reserved for casts of the antiquities conserved in foreign museums as well as for designs and models of the monuments of architecture belonging to the same periods.

Art. 4. The structure must include compartments for an archæological library, for the offices of the administration of the museum, and storerooms for objects previous to their scientific disposition.

Our Minister for the Department of Worships and Public Instruction is intrusted with the publication and execution of this ordinance accompanied by the necessary instructions.

In the name of the King,

The Queen,

(Signed) AMELIA,

(Counter-signed) CH. CHRISTOPOULOS.

INSTRUCTIONS FOR THE ARCHITECTS:—

Proud to contain in her soil the remains of the finest of arts, and of the written monuments of the most brilliant of histories, Greece has felt for those precious remains, from the first days of her regeneration, the most lively solicitude. She has searched for them in her soil: she has collected them, and preserved them from destruction. Laboriously enriched, this collection is already so extensive, that the necessity for the construction of a museum to contain them has been felt long since most pressingly. The ever-ready liberality of several Hellenes, and especially of Mr. D. Bernardaki, so distinguished for his generous patriotism, having tendered assistance, the subjoined ordinance, relative to the construction of a museum at Athens, has been issued by his majesty.

An edifice intended to shelter the masterpieces of the great artists of antiquity must be, as an artistic monument, worthy of the objects it will contain; nevertheless, considering the actual circumstances of Greece, the beauty of the edifice must depend less on the richness of the execution than on the happy disposition of the plan and the harmony of the proportions.

We invite, therefore, conformably to the terms of the ordinance, the architects of all nations, who might think as we do, that the interests of the fine arts require the erection of a museum at Athens that town which has been the cradle of art,—to send, during the term fixed by the ordinance, their projects to his majesty's government.

The following data are nothing more than stakes intended to guide the artists in the way they have to follow.

According to the terms of art. 3 of the ordinance, the museum should be divided by periods and subdivided by objects.

Thus, the first distribution shall comprise rooms for monuments of all kinds, of each of the following periods:—

1. Heroic times and Archaïc or Eginetic period.

Flourishing Period of the Arts.

2. Period of Phidias.
3. Period of Praxiteles.

Decline.

4. Macedonian period.
5. Roman period.
6. Byzantine period.
7. Lastly, a division should be reserved for foreign objects of art which might exist in Greece.

The disposition by objects might be effected in the following manner:—

Statues, busts, and architectural fragments might be placed in the centre of each room; bassi-relievi and inscriptions fitted in the walls.

Cabinets adjoining the two sides of each room might contain the other objects belonging to the same period, such as vases, coins, engraved stones, &c.

The plan might perhaps require that the central room should receive light from the roof, and the lateral ones through side-windows.

According to the fundamental enacting of the royal ordinance, the disposition of models and casts is equally subject to the distribution by periods. Nevertheless, as it should be desirable that the series of rooms intended for the originals should not be interrupted by the interposition of the models and casts of the same period, it might, perhaps, be deemed advisable that the apartments which are to contain the ancient originals should not be on the same floor as those which are to contain the casts and models; but care should be taken that a communication should exist between the rooms containing the originals and those containing casts and models of the same period.

As to the dimensions which are to be given to each of the different parts of the edifice, it appears to us useful to add the following information:—

1. The collection of antiquities anterior to the eightieth Olympiad existing in Greece, or at least discovered up to this time, is very limited, although it is, after the Eginetic collection of Munich, the most considerable of all those of the other museums of Europe.

2. The school of Phidias, with the exception of the friezes of the Parthenon, has afforded up to this time but few fragments of sculpture. The inscriptions, coins, and vases of this period are more numerous.

3. The collection of the succeeding epochs up to the Roman period, 94-158 Olympiad, existing in Greece, and especially of the Macedonian times, is very considerable, and the number of bassi-relievi, inscriptions, and objects of art of minor dimension, increases every day.

4. The number of objects of the Roman period surpasses that of all the other collections. Few museums of Europe possess as many as Greece, and a much greater number is, doubtless, still hidden in the ground.

5. The remains of the Byzantine period deserving to be gathered and conserved are comparatively few.

6. In fine, some few fragments of foreign arts in the Egyptian and Asiatic style are also to be met with in Greece.

Athens, June 30 (*July* 12), 1858.

The Minister Secretary of State for the Department of Worships and Public Instruction,

(Signed) CH. CHRISTOPOULOS.

DOINGS IN BELFAST.

It is proposed to erect a public lecture-hall, library, reading-room, &c. by the Belfast Roman Catholic Institute Association.

A new Evangelical union meeting-house has been built at Wellington-place. The exterior is of red brick, of ornamental character, and somewhat Byzantine in style. Mr. Boyd, we believe, is the architect.

In the neighbourhood of the Botanic Gardens, buildings of a domestic class appear to be on the increase, and are generally of a superior description, compared with other provincial towns. A large block, apparently for a similar purpose, but of much more expensive nature, is in course of construction near the east side of Donegal-square, and at the opposite corner a large building in grey brick, and with two important fronts, has been recently reared, probably for commercial purposes.

A terrace, in the Elizabethan and Tudor styles, with centre and wings terminated by high-pitched gables; large projecting oriels on first floor, and four stories high, with basement in addition, is about being built at Elmwood, nearly opposite the Queen's College. Materials, red brick and Dungannon stone. Mr. Thos. Jackson, architect; who has also designed a new bank for Derry.

The Ulster Bank-house (previously described in the *Builder*) is being proceeded with, and is about to be raised to level of principal floor. Messrs. Fulton are the contractors.

Several commercial houses are being newly fronted, or otherwise decorated, but the most important work of that class in this or any other provincial town in Ireland, is the establishment of Messrs Lindsay, in Donegal-place. The exterior is richly ornamented in the Italian style, and has two wings, with balustraded parapet, carried up higher than the centre, and with polished Aberdeen granite columns, which have a striking effect. Interiorly the decorations are elaborate; and a segmental roof, with thorough glass lantern and timbers, partially exposed and painted white, lights the whole. Galleries are also introduced, and have metal railings and enriched soffits.

It would be well if there were more architectural improvements in that leading thoroughfare, Castle-place, wherein some of the shop-fronts and houses are of the paltriest character. Several of the new ranges of houses and shops are not to be surpassed by those of any other town in Ireland.

A new school-house is to be erected immediately at Mary-street, by the Presbyterian congregation of Belfast. There will be two schools, one for boys, the other for girls, each 47 feet by 23 feet, and 16 feet 6 inches high, separated by a portable partition so as to form one apartment for lectures, &c. The schools will be one story, and lighted from a continuous range of glass along the top of the roof; but in front will be a two-story building, containing on first floor a library, 23 feet by 17 feet, and 13 feet high. Due provision will be made for ventilation, &c. The front elevation will consist of a rusticated basement, with central doorway, and a small semicircular-headed window at each side, with sills level with a moulded pedestal. Above are four Roman Doric columns, with a large and two smaller windows, in intercolumns, and surmounted by a triglyphed entablature, above which is a balustraded parapet, with ornamental vases central over each column. Mr. J. Boyd is the architect. Material of front, freestone from Scrabo. There will be two entrances, one in front, the other in the rear.

On the whole Belfast is improving, and the best sign is, that all connected with the building profession are busy.

* Some observations on the Workmen's Emigration Society will be found at p. 573, *ante*.

CHURCH-BUILDING NEWS.

Poplar.—The foundation-stone of a new Baptist chapel and Sunday school was laid on the 24th ult. The building is to be Gothic, with open-timbered roofs, and will contain, in the chapel, Messrs. Tarrant and Cole, architects. Mr. [illegible] the builder.

Braintree.—The parish church of St. Mary, Panfield, near Braintree, was re-opened on the 19th ult. The nave has been restored, the roof restilled and boarded, and re-placed on queen-posts inserted, and the spire carried to a point. Internally the walls have been re-plastered, the oak beams of the roof left open, stained and varnished, put up in lieu of the fir pews, and various other improvements carried out. The west window over the door is filled with stained glass by Mr. Lavers, the subject being "Christ blessing little children," and "Timothy receiving instruction in the Scriptures from Eunice and Lois." A south window is also filled with stained glass. The chancel has been almost rebuilt, a north aisle and vestry added, a perpendicular window of five lights inserted in the east wall, and filled with stained glass by Lavers. The subjects in the lower lights are the Birth, Baptism, Crucifixion, Burial and Ascension of our Lord. In the upper lights are represented the instruments of our Saviour's Passion; the emblems of the four Evangelists; and "The Majesty," holding in the left hand an orb, surmounted by a cross, the right hand pointing upwards. The south chancel windows are filled with coloured quarries by Powell. The aisle is open to the chancel by an arch supported by shafts of serpentine rose-coloured marble. Under the east window is a sculptured reredos, inlaid with different coloured marbles. The whole floor is laid with encaustic tiles. A low screen divides the chancel from the nave.

Ore.—The restoration of the tower of the church here is still proceeding, and in examining the fissures have been made found. The roof of the chancel, the *Cambridge Chronicle* remarks, is rather symmetrical with the east window in height, enough to correspond with the nave. The same mistake was made in the restoration of Chesterton Church by Trinity College.

Hoo.—Hoo, the early part of whose fine, ancient Norman church at Holt has been closed for restoration and repair. The works are now approaching completion. The entire inside of the walls in the interior has been chipped; a new open roof of wood-work has been erected over the chancel, the ceiling of the nave removed, and the old wood roof and rafters open. Since the removing the eastern window, a specimen of the Perpendicular period, it has been restored to the church by the removal of the plaster, from underneath the [illegible] arch. Three pews of oak are being erected in the nave, and the ancient door on the north side, opposite the principal entrance, but long closed and out of mind, will have its timbers again swinging on their hinges. The old encaustic tiles which for some centuries adorned the floor of the south chapel belonging to Hoo Castle, have been relaid. Two stained-glass windows have been inserted on each side of the chancel. The church is to be warmed with hot water, the apparatus for which has been laid down by Messrs. Jones, Powell, and Perrins, of Worcester. Mr. H. Rowe, county surveyor, has superintended the roofing, seating, &c. Mr. Tolley, of Lodsworth, is the carpenter, and Mr. Snow, of Cuxton, the mason. The chancel and the [illegible] will be [illegible] by Lord Ward, except the [illegible] which will be defrayed by the incumbent, Mr. [illegible] has ever been heard to shrink in the restoration.

Tidenham.—The parish church of Tidenham has been re-opened for divine service. It has been restored under the superintendence of Mr. John [illegible], and the carving by Mr. Wall and [illegible] of Bristol, and the [illegible] carried out by the [illegible] of the architect. It [illegible] sittings on the [illegible], and open, those in the chancel being [illegible] with the [illegible] of carved oak. An [illegible] window of [illegible] stained by Mr. O'Connor, of London, [illegible] in the chancel by private subscription.

Taunton.—The first foundation-stone of St George's new Catholic church, at Taunton, was laid on Thursday week. The site selected for the new edifice is at the top of Billet-street. The church, presbytery, [illegible] will [illegible] exclusive of the purchase of the land, the external fittings and [illegible] The builder is Mr. John Spiller, of Taunton, and the architect, Mr. E. Birchall, of Bath, late of Stroud. The style of architecture will be the Decorative. The frontage, including the sacristy, is about 72 feet. The main entrance, or west door, is 11 feet 6 inches in height, and 7 feet in width, on each side are stained [illegible] belonging to the aisles. Immediately over the door is the [illegible] or principal window, measuring 21 feet in height. The tower, from base to top-cut, is 80 feet, and the spire, including the vane, 10 feet. Attached to the church is the presbytery. The nave is to be 61 feet by 22 feet; the aisles, 80 feet by 9 feet; the chancel, 26 feet by 18 feet; the two chapels at the end of the aisles and adjoining the chancel, 16 feet by 12 feet; and the two sacristies, one 16 feet by 10 feet, and the other 12 feet by 6 feet. The roof will be open, and built of stained deal: the aisles will be supported by stone principals. Under the foundations there will be formed a bed of concrete, which will have to be thrown from a height of 12 feet. The exterior of the church walls are to be built of Monkton stone, picked and hammer-dressed. The interior is to be built of burnt bricks, 9 inches thick. The spire from the parapet is to be built of ashlar of Bath Corsham down ground stone, 10 inches thick at the base, and gradually lessening to 6 inches at the top, to be crammed with galvanized iron cramps, run with lead. The roof is to be slated with Bangor slates, and the walls plastered.

Pantasaph.—The foundation-stone of a Franciscan monastery has been laid at Pantasaph, in North Wales. Viscount Feilding has recently given about fourteen acres of land to the Roman Catholic Church at Pantasaph, on which is to be erected the monastery, a large school, &c.; the remainder of the land being devoted to the formation of monastic grounds, &c. Subscriptions to a considerable amount having been contributed towards the erection of a monastery, plans were drawn, foundations dug, and the first stone laid, dedication being to Saint Dewi or David.

Frodsham.—For some time past the residents in the district of Five Crosses have felt an inconvenience from the fact that no place of worship was located nearer than Frodsham; and Mr Thomas Hazlehurst, of Rumworth, determined that a Wesleyan chapel should be erected. This same gentleman had been the chief contributor to the erection of five other chapels—at Helsby, Farnworth, Walkes Brook, Bretherton, and Weston; and he generously came forward to defray the entire cost of erecting a new chapel on a spot of ground close by Five Crosses, in the township of Overton, in the Eddisbury division, and about three-quarters of a mile from Frodsham. The foundation-stone of the chapel has just been laid. The plans, which include a school-room, have been prepared by Mr. William Winn, architect, Penkett, near Warrington; and Mr. Thomas Davies, Frodsham, is the builder. The chapel, which is to be of red brick with Roman mouldings, will have accommodation for 150 hearers, and the school will hold an equal number of children.

Addingham Rectory.—The foundation-stone of a chapel to be attached to the school at Rupton was laid on August 26, by Earl Howe. The intended building will stand on a basement, raising the floor several feet from the ground. The style adopted is Gothic of the fifteenth century. The building consists of nave and transepts; one of which will be appropriated to the choir. The entrance will be through a porch, with a deeply-recessed doorway in the north transept. The walls inside and outside will be of stone, the inner surface to be chiselled. The roof will be constructed with eight pairs of trussed hammer-beam principals, the ends of the beams being carved, and the whole of the ceiling lined with boarding. At the east end will be a [illegible] with wood tracery in the head, and on the sides are coupled two-light windows. An oak turret for a bell will rise from the centre of the roof. Mr. I. H. Seaton, of Ripley, is the architect. Messrs. J. and O. Lilly, of Mansfield, and Elliott, of Ashby, are the builders, whose contract for the carcase of the building is 1,750*l.* The chapel is estimated to cost altogether more than 2,000*l.*

Heslington.—During the past year a new church has been in the course of erection at Heslington, near York, from the designs of Messrs. J. P. and Wm. Atkinson, architects, the style adopted being the Flowing Decorated. The plan of the church, as described in the *York Herald*, is arranged so as to seat six adults on either side of a spacious aisle, approached from a south porch, forming the principal entrance, which admits the congregation at once into the body of the building. A parallelogram, measuring internally, 65 feet by 25 feet in width. The chancel extends eastwards 26 feet in length, and 16 feet in width, and is raised one step from the nave under an arch. The western tower is also separated from the church by a pointed arch, and rises 11 feet square in its clear dimensions between the walls. In addition to those is placed, on the north side of the chancel, a vestry, which completes the area of the structure. The stone employed in the building of the walls is from the West Riding, that of the mouldings of arches, wind-w-jambs, and tracery being the Ancaster stone of Lincolnshire. The tower rises some 60 feet to the corbels, whence springs a spire to a height of 110 feet from the ground, topped by a vane. The pews are of oak, the bench ends being carried by carved outlines into carved finials. The chancel is provided with a costlier description of stalls. Accommodation is thus rendered available for 220 adults and 70 children. The roof is an open one of wrought, chamfered, and stained timbers. The church is lighted on the north and south sides by means of double light windows of varied design, in the formation of trefoiled tracery. The east wall has a window of five openings, filled with stained glass by Messrs. Hodgson, of York. The west wall of the tower is provided with a three-light window. The total cost has been upwards of 3,000*l.*, the whole of which has been contributed by Mrs. Lloyd, of Stockton Hall: and the works have been carried out as follows:—The masonry, by Mr. Weatherley; carpentry and joinery, by Messrs. W. Pellerby and Son; plumbing and glazing, by Messrs. W. and T. Hodgson: slating, by Mr. Barnabas Baynes; painting, by Mr. Henry Perrett; plastering by Mr. G. Jennings; the ornamental ironwork, by Mr. John Fryer: and the building has been heated by Mr. Wm. Walker. The font was supplied by Mr. Bradley, sculptor, York, and the wood carving was executed by Mr. Wolstenholme, also of this city. The church was opened and consecrated on Thursday in last week.

Nether.—The church here has been restored. The main feature of the restoration is the insertion of a Greco-Italian stained glass eastern window, over the communion-table. This window was designed by Mr. T. Ede, jun. of Malton, and has been executed in colours by Baillie, of London. It contains three lights, the circular-headed centre one being the largest. It represents the apse of a Corinthian temple, in which stands Christ, surmounted by a dove, both having glories. Christ is represented holding a globe upon which is a cross. This light was previously intended to be filled by a figure of St. John. The two side lights are rectangular. The north contains a full-length figure of St. Paul, with the Bible, naked sword, and a glory. The south light has a full-length figure of St. Peter carrying the keys, and having also a glory. The window head, or arch, is filled (in five compartments) with emblematic representations of St. Matthew, St. Mark, Christ, St. Luke, and St. John. The masonry of the window has been executed by Mr. John Teale, of Malton. The next item in the restoration is the erection of fifteen new pews in the west part of the nave, for the use of the poorer inhabitants. The doors have also been laid with boards. These new pews have been grained, and, together with the rest of the wood work, varnished, by Mr. Wilson. The church has also been renovated and cleaned throughout. The wood-work has been executed by Mr. W. Wilson, of Norton, and the wire screen, &c. for the windows, by Mr. North, of Malton. The estimated expenditure is about 200*l.*

Newcastle-on-Tyne.—The old building known as St. James's Chapel in Blackett-street, Newcastle-on-Tyne, is now in course of being taken down, and a new and more ecclesiastical congregational church is about to be erected on its site. The works have been let to Messrs. Scott and Reid and Messrs. Smith and Bell. Messrs. Oliver and Leach are the architects.

Edinburgh.—A new church for the united Presbyterians is being erected on the south side of Lauriston-place, at the top of Lauriston-street. The new building will be a Gothic edifice, and is to contain sittings for about 1,200 persons. The front or gable-end, facing the street, will rise to a height of about 75 feet, and differs considerably both in general design and in details from any other specimen of modern Gothic church architecture in Edinburgh.

Glasgow.—Lansdowne parish church, at Glasgow, has been undergoing some restorations. The principal alteration is the removal of the triple window behind the pulpit, and the substitution of a large painted window from the manufactory of Mr. John Carmey, of Glasgow. It represents the transfiguration of our Saviour on Mount Tabor. The design represents Christ as the central figure

in the group; with, on either side of him, Moses and Elias, and the three disciples, Peter, James, and John, lying on the foreground, shading their faces with their hands from the glory which appeared to them. The picture is surrounded by a border. The expense of the improvements amounts to between 200*l.* and 300*l.*

BUILDINGS IN IRELAND.

Reformatory of St. Vincent de Paul, Golden-Bridge, Dublin. A Reformatory for female convicts has been established in the above locality, under the management of the Sisters of Mercy. A plot of ground, about six acres in extent, containing a small suburban residence, has been procured, on which it is proposed to erect the necessary buildings. Laundries on an extensive scale, and at a cost of 3,600*l.* have just been completed. The building is 220 feet in length, and 45 feet in extreme breadth, with exposed timber roof, and louvre ventilators. It contains store room, packing room, ironing and mangling rooms, each 40 feet by 20 feet; also laundry of the same size; drying chamber, 30 feet by 20 feet; boiler-room, coal-store, steaming and fumigating rooms, kitchen, scullery, bakehouse, flour and bread store, with passages, &c. &c. The boiler-room is entirely covered by a large cast-iron tank, which is supplied from the neighbouring canal. A large cast-iron cistern, heated by steam, supplies hot water to the different departments: the drying chamber is furnished with sliding horses, which enter an air tight closet, heated by a system of horizontal and upright steam-pipes. The steaming-room is furnished with large rectangular wooden boxes (with close covers), into which the clothes are put, and acted on by steam, before being washed: these boxes, when closed, preserve the water at the boiling point for two days. The want of dormitory accommodation limits the number of inmates to 75, but the laundries are intended for 200 convicts. It is intended to erect large dormitories, together with refectory, workroom, chapel, &c. for all of which designs are prepared. We understand that during three years no case of relapse has occurred on the contrary, the inmates generally exhibit the most lively grief when the period arrives at which they must leave the establishment. In most cases the Sisters procure situations for them; and in many instances, where emigration to Australia can be procured, a branch of the community, settled in that country, takes charge of the emigrants until suitable employment can be obtained.

St. Mary's College, Mullingar. This building, which is also called the "Hevey Institution," the commencement of which was formerly noticed in this journal, is now completed and occupied. It has been built and endowed by a bequest made by the late Mr. James Hevey. It forms three sides of a quadrangle, and extends about 160 feet in front, and 100 feet on each flank. The entire exterior surface is faced with wrought limestone of the district, the cornices and dressings being of Tullamore limestone. The central portion contains, in the basement, culinary offices, store-rooms, &c.: the principal floor contains the entrance hall, principal stairs, corridor, waiting-rooms, refectory, and library: the upper story contains the sleeping apartments, oratory, &c. for eight of the community of the "Christian Brothers," under whose charge one department of the establishment is placed. One wing contains four schools, 40 feet by 24 feet, and 16 feet high, with stairs, &c.: 150 pupils are already in daily attendance at this department, under the care of the Christian Brothers. The other wing contains large study-hall for classical and mathematical students, together with suitable dwelling for the teachers, and refectory, dormitory, &c. &c. for ten pupils, who will be selected for proficiency, and maintained on the establishment. The front of the building is furnished with three large projections, finished with pediments and inclosing large Venetian windows. Similar projections, with entrance-porches, are placed in the centre of each flank. The front of the building is surmounted by an open campanile, 80 feet in height. The cost of erection has been about 6,500*l.*

Drumcarraig, near Moate. A small chapel has been erected here, cruciform in plan, about 40 feet in length, and 80 feet across the transepts; the nave 22 feet wide, furnished with sacristy, baptistry, entrance-porch, and small belfry. The ceiling is of exposed timber work, and the gables are pierced with triple lancets. Single lancet openings light the nave and transepts. The cost of erection was about 1,100*l.*

Boggobstreet. The Sisters of Mercy have just completed large additions and alterations at their convent, including an open cloister leading to the schools, new staircases, workrooms, chapel, &c. The chapel is 80 feet by 20 feet, with an elliptic groin ceiling, and paved with Maw's encaustic tiles, of a rich pattern. It is furnished with forty stalls, of carved oak. A large window, containing the "Fifteen Mysteries," in stained glass, the gift of William Forde, esq., is placed in the end over the altar. The same community have also made extensive additions to their house at Booterstown, including poor schools, dormitory, refectory, choir, &c. &c.; and also at their convent at Athy, additions are now in progress, containing schools, class-rooms, cells, infirmary, novitiate, kitchen, choir, &c. &c.

Mr. John Bourke is the architect of all the foregoing works.

FOREIGN RAILWAYS AND OTHER WORKS.

ACCORDING to the terms of the convention entered into between the Western Company of France (*Compagnie de l'Ouest*) and the Government, the earthworks and masonry of the line from Rennes to Brest are to be executed by the state, the company, on the other hand, foregoing the subvention agreed to for that line. The benefit that will accrue to the Western Company by this arrangement is valued at 10,000,000 francs (400,000*l.*). It is possible that there were some miscalculations in the original estimates of this branch. The line from Pont l'Evêque to Trouville has, however, been agreed to, to be constructed by the company; and, being a cheap branch, its traffic is expected to be able to pay the interest of the cost of construction.

Between Marseilles and Toulon the works make rapid strides. The two long tunnels are open throughout, and the other important works on this line, though of an extremely difficult nature, are satisfactorily progressing. The first section, that of Marseilles to Aubagne, can be open for circulation in the month of September next, and the rest of the line in the spring of 1859.

The works of the "*Chemin de Fer Américain*" (as tramways are styled on the Continent), between Montdidier and the Breteuil station, are to be commenced immediately, as soon as the engineer of the company has completed the survey for levelling a portion of the Imperial High-road No. 35, near Mesnil-Saint-Georges.

The Spanish Government, during the month of July last, authorised the surveys to be made for the following railways:

1. From the mines of San Juan de las Abadesas to the port of Rosas, passing through Olot.

2. Lorca and the port of St Juan de Aguilas.

3. Cuenca to Ligüenza, through Molina of Arragon.

4. Seville to Huelva, passing through Coria, Manzanilla, Palua, Villarosa, Nieblas, and San-Juan del Puerto.

5. The port of Ventana to the mouth of the Praira, to the San Estaban or Castillo points, passing by Proaza, Trubia, Pendilo, and Oviedo.

6. On the provincial road from Granollers through Vich to Pujol and San Juan de las Abadesas. These two last are to be worked by horse traction.

On the Northern Spanish Railway, in the Avila section, 301,711 cubic mètres of excavation, and 987,329 of embankment, have been done up to the present time. Great activity is display ed in forwarding the different structures, among the most important of which we may cite the bridge over the Manzanares and the Torrelodones tunnel, which is open from end to end.

Mr. Van der Kun, inspector of the Waterstaat, has been charged by the government of Holland with the examination of the different railway projects between Belgium and Central Holland. One company demands the following concessions:—

1. Rotterdam to Villemsdorf; the Merwdijk to Breda; Flessing to Ruremonde; Tilbourg to Boisle-duc; and Ruremonde to Meersen.

2. The Boisle-duc and Arnhem, and the Tilbourg line to the Belgian frontier. A subsidy is demanded from the State of 13,000,000 florins, with a guarantee of the minimum rate of 4 per cent. on a capital of 27,000,000 florins. The estimated cost of the southern group is 10,200,000 florins.

The works on that portion of the Rhine line between Coblentz and Bingen, as we have before remarked, present great difficulties, and some time elapsed before the engineers in charge of the works could make any calculation as to the probable completion of the line. They now assert that the sections from Coblentz to St. Goar, and from Bingen to Oberwesel will be completed by the autumn of 1859, whereas the small part between St. Goar and Oberwesel cannot possibly be terminated before autumn 1860, on account of its three long tunnels. Among the men employed many are Piedmontese, who were sent for, as being, perhaps, the best men for rock excavation, or tunnelling, that can be met with on the Continent. The Rolandseck and Nettelhaus section has just been submitted to its last and definitive testing of the works by the administrative police, and is to be open to the public in fifteen days.

The *Journal du Havre* says that the English steamer *Royal Adelaide* is taking on board at that port six locomotives and tenders for St. Petersburg. They are consigned to the Russian railway company. These are the first six of the order given for forty, and which are being made in four of the principal French firms. The same paper states that a similar order was given in England, and that the engines have been already completed and sent to Russia.

Among the orders publicly issued by the Prefect of Police in Paris, fixing railway fares, is one concerning the communication between Paris and Milan, which for through tickets is to be,—first class, 117*l.* 65*c.* (2 l. 15*s.* 1*d.*); and second class, 88*l.* 50*c.* (3*l.* 18*s.* 1*d.*).

The *Ocean*, of Brest, says that it is no longer a rumour but a certainty, that the works of the Rennes and Brest line will be pushed forward so as to be finished in 1861 by the "*Ouest*" Company, who remain concessionists of the line. But, in consequence of new arrangements, which the law of 1842 permits to be made with the government, the latter has agreed to pay a portion of the expenses of the construction.

The works of the Kehl bridge over the Rhine are to commence at the end of this month or the beginning of the next. The works are to be finished in two years at farthest. For the temporary bridge there are two contractors who have engaged to put one up in wood in three months, constructed by them conjointly.

M. de Lesseps writes from Ghizeh that the English Government have withdrawn all opposition to the Suez canal; so he says the new ambassador has assured him.

The Madrid and Alicante railway has just commenced the construction of a bridge over the river Jarama. The rails are laid upon the new premises of the Rambla station. At the Madrid terminus they are covering in a portion destined for the new offices, and are making the interior of the rest which has been to let.

Dividends in the Western Line.—At the last general meeting of the Russian railways it had been decided that two-thirds of the *obligations* to be issued should be reserved for the shareholders. This resolution was founded upon an article of the statutes which reserved for shareholders two-thirds of *new shares*. The Russian Government, however, decided that, as *obligations* were *not* shares the above article was not applicable to their resolution. Up to the present 35,000,000 roubles have been issued in 700 *Coupons*. The government have taken for sale, near charitable institutions, for 5 *Coupons*, so that there remain 20,000 for the public. The *obligation* is 500 roubles or about 80*l.*

On the 5th December, 1857, the first section of the line from St. Petersburg to Longa was opened for public traffic for a length of 137 kilomètres. The inauguration of the section, from Longa to Pelovo, 161 kilomètres, took place on the 31st July last. Pelovo is one of the most ancient towns of Russia, and contains 10,000 inhabitants.

The works of the Northern Spanish Railway have been commenced at Victoria, by the levelling of the station ground at that town, on the 2nd inst. in order that the buildings and depots for plant, &c. may be commenced forthwith.

The Russian Minister of Roads and Communications is preparing, at St. Petersburg, the gigantic project of a canal from the Baltic to the Black Sea. It is not yet decided whether it is to be established between the Vistula and the Dnieper, or between the former and the Dniester. In the first case, Odessa would be the starting point, in the second, it would be Cherson.

ST. MARTIN'S HALL, LONG-ACRE.

ALTERATIONS are being made in the orchestra in the great hall at this building, which appear likely to effect much improvement in the appearance of the interior, and in the acoustic quality of the hall to what is its chief purpose. The whole orchestra is now lowered considerably, and the seats are rearranged on the plan of a semi-ellipse, in place of the former straight line, with curved ends, of plan. The staircase also is being cleaned and painted.

THE SITES OF OLD AND NEW BUILDINGS.

In most instances the monks of old have shown skill in the selection of sites for those ancient religious establishments which, in their ruins, may be ranked among the chief glories of the land. Round many of these beautiful clusters of building important cities have sprung up, which in some instances have given additional dignity to, and in others disfigured, the more ancient buildings. In some cases the clumps of buildings mixed with trees, gardens, and mounds like those at Durham, and others, give an indescribable charm to the different views of the cathedral and other buildings. From a hundred points, whence the towers and roofs form a fine outline against the horizon,—from middle distance whence the broad masses are enriched by details,—from the river side, and other near points, the piles of building rise up in lofty dignity. Other places, less favoured by nature, at the time of the selection of the site had green banks, trees, and other landscape adornments, which foiled and gave effect to the architecture, but these in modern times have been covered with ordinary buildings, which often hide and disfigure the edifices with which they are grouped.

Tintern, Finchley, Brinkburn, and many other ancient foundations, lie in deep valleys, and most of them are situated close to clear streams, which, while serving the purposes of health, were also acceptable for the fish-supply, which was necessary in those days when roads were scarce and conveyance slow.

In a sanitary point of view, beautiful as some of those old-time works are, they are not so satisfactory, for their enclosed and low position often renders them damp, and the decomposing vegetation of the surrounding roads would have a bad effect: often, however, the old workers selected the little eminences in valleys which afforded the means of drainage and health. We have in our recollection many of these buildings, set like jewels in a rich border, which, besides having the advantage of shelter, have also the means of such efficient drainage as will prevent dampness, and carry off dangerous refuse to the adjoining stream.

In modern times, when we pride ourselves on the advance of our knowledge and civilization, those who wander over the broad lands of England will have noticed buildings which have been erected at great cost, and which have considerable architectural pretension, in such situations that health can never be safe. We could readily point to many large domestic edifices, and even places built for the use of invalids, at the very bottom of valleys, where there are no streams at hand, and where effective drainage is impossible. In such situations, the damp-doctor is constantly at work, vainly endeavouring to battle with moisture, which rises up walls—causing dry-rot in timber, damage to pictures, prints, and other furniture—and what is worse, often producing illness, which is either fatal or difficult of cure. We know large houses—built very recently—which, although wholesome and commanding sites are close at hand, have been put up on spots where good health and comfort are impossible, where the merits of the architecture are lost, and where the landscape gardener may labour in vain. When viewing such misapplication of both skill and capital, we cannot but wish that the artistic feeling, which often guided the choice of the positions of the monastic edifices, was more common in this generation, and joined with a practical knowledge of the laws of health.

KILKENNY ARCHÆOLOGICAL SOCIETY.

THE September meeting of this Society was held in the Tholsel, on Wednesday, the 1st instant, the president, the Very Rev. the Dean of Ossory, in the chair.

Some curious correspondence was read as to the dilapidations at Dunbrody Abbey, and the following resolution was unanimously adopted:—

"That this meeting feels called on to express its regret that the promised repairs at Dunbrody Abbey have not been carried out in the manner which was expected, and that they fully approve of the course pursued by the honorary secretary of this Society, the Rev. James Graves."

The following papers were submitted to the meeting:—"On Money of Necessity, or Siege Pieces, struck at Youghal:" by the Rev. Samuel Hayman. "On Leaden Tokens, struck in Ireland:" by Dr. Aquilla Smith. "On the Charter of Dermot, King of Munster, to the Church of St. John, at Cork:" by Mr. Daniel McCarthy. And "On Cryptic Inscriptions on the Cross at Hackness, in Yorkshire:" by the Rev. D. H. Haigh.

THE WESTMINSTER PALACE CLOCK.

THE authorities seem to be in a complete muddle with the dial-plate and hands for the great clock of the Houses of Parliament. Nearly every day we see an attempt at some alteration, either for better or worse, though generally worse. Any person would naturally suppose, from their numerous experiments, that there had never been a public clock before; and wherein does the blunder consist? Why, in having a set of unmeaning hieroglyphics, instead of the usual bold Roman figures, and also by having so much of the *original diameter* of the dial taken off, by the *enormous* space for the minutes, which look more like the bars of a prison than the minutes of a clock-dial. These, at a very short distance, contract the diameter of the dial about *one-fourth*, and are actually making the dial look small instead of large, as was originally intended. It would have been much better to have had *no minutes at all*, and to have left the full space for a field for the hands to have shown themselves upon, and for the hour-figures to have been in about the same proportion as those of the dials of St. Martin's Church, Charing-cross. This clock has no minutes, and yet no person would be so foolish as to say that they could not tell what the time was *to a minute*.

There are plenty of other examples of effective dials in London, such as, St. James's, Piccadilly; St. Saviour's, in the Borough; St. Paul's Cathedral, &c. &c.: if these or any of them had been taken, there need not have been the least difficulty in preparing the transparent dials of the Parliament House, as, for these large dials there only required the *same proportions* to have been adopted; but, as it is, it seems very doubtful if, after all, we shall be able to see what the time really is beyond a quarter of a mile from the clock.

It should be recollected that the present dial is the second face that has been exhibited there, as the first was, if possible, more ugly than the present one.

The better plan would have been to have had the bold figures and hands *gilt* on a *pale blue* glass on porcelain ground. R. M. C. R.

NINE HOURS MOVEMENT.

BUILDERS' CLERKS.

SIR,—Will you kindly lend the aid of your valuable journal to assist that very useful but over-worked class of men, viz. builders' clerks.

In the firm with which we are connected, we commence, both summer and winter, at seven o'clock in the morning, and never close, even in the slack season, till past nine o'clock in the evening—1½ hour only being allowed out of this for meals. On Saturday we have some small benefit from the four o'clock movement, as we close immediately the men are paid, say seven or eight o'clock. We obtain but three holidays in the year Easter Monday, Boxing-day, and Beanfeast. These are considered by no means long hours. Now, the nature of this business prevents our obtaining that great boon conferred in nearly every London office—the Saturday half-holiday. But if we were granted some other afternoon—say Monday—our employers would find that they were no losers by their generosity. By inserting this you will greatly oblige. We enclose our employer's card, and beg to subscribe ourselves,

THE CLERKS TO A LONDON BUILDER.

DATA FOR PRICES.

BLIND GUIDES.

HAVING been arranging some schedules of prices for my own use, I was induced to look over several "Builders' Price-books." The one that I consider the best is seriously injured by the printer's blunders, which, as there have been many editions, ought to have been corrected ere now: another, which has only just made its first appearance, is a complete mass of errors, such as making deal wrought one side worth more than the same with two sides. On dissecting some of the prices in the latter book, I find the relative quantity of the *materials* for handrails given as under—

	Deal.	Spanish.	Honduras.	Wainscot.
Straight	1·0	1·0	1·0	1·0
Ramped	2·16	1·6	1·52	2·23
Level circular or Swan-neck ...	2·0	1·3	1·32	1·53
Wreathed	3·7	2·5	1·36	1·3
Scroll		3·57	2·0	2·3

In another book I find the proportions as follows (Spanish mahogany):—Straight, 1; ramped, 3; circular level, 3; swan-neck, 3·6; wreathed, 6; scroll or twist, 6·4.

These certainly come under the head of blind guides, and show that correct data for the foundation of prices are much wanted. Z.

THE CHURCH OF ST. MARY, STOKE NEWINGTON.

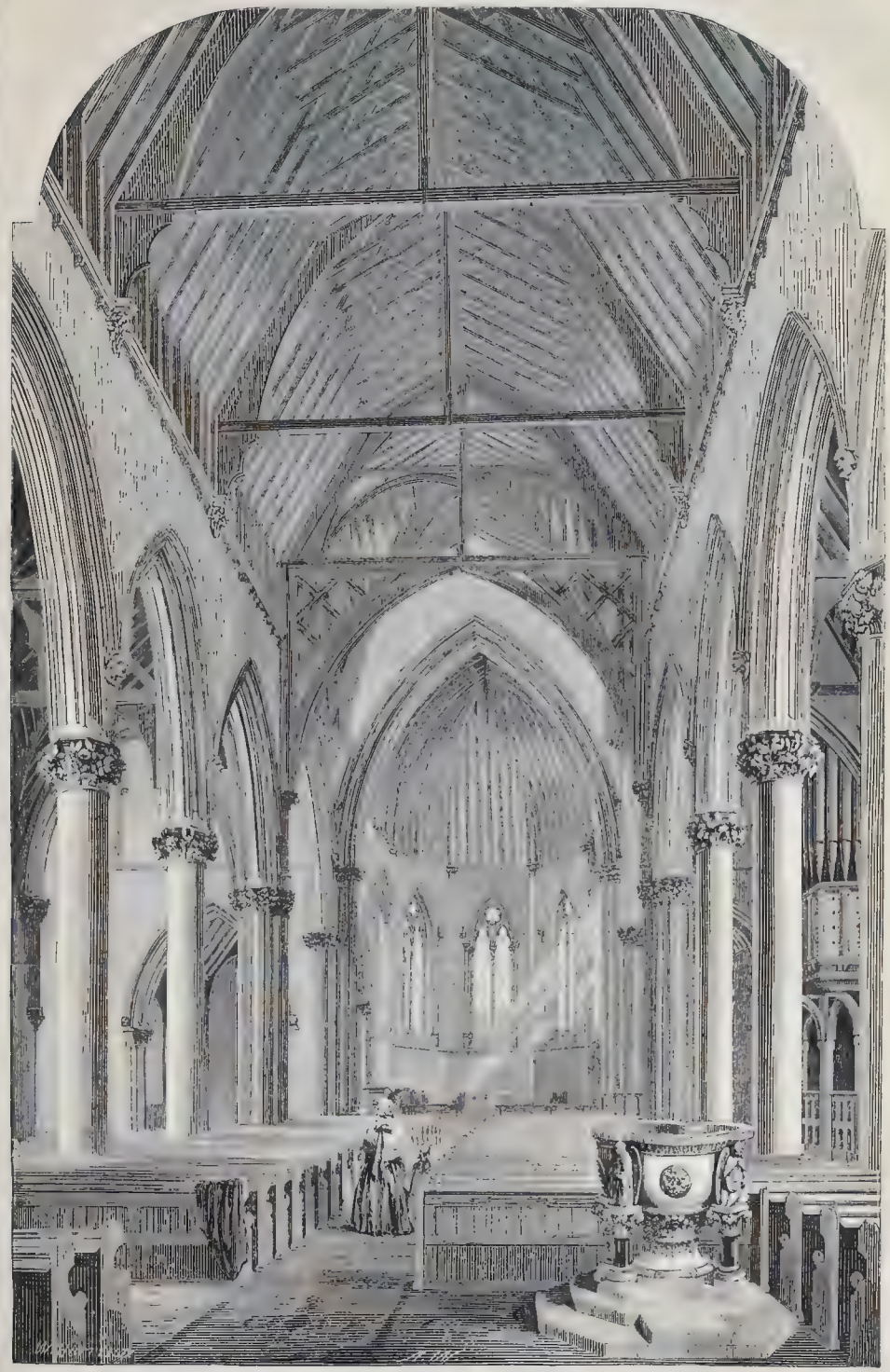
THIS large, and, in many respects, beautiful church, was consecrated by the Lord Bishop of London on the 25th of June last. Its erection has been necessitated by the crowded state of the old parish church, which, although it was almost rebuilt about thirty years ago, is inconvenient in its internal arrangements.

The new building consists of a nave with side aisles, a north and south transept, and a deep chancel (44 feet by 27 feet internally), terminated by an apse. The internal dimensions in the clear are, from the western door to the inside line of the apse, 180 feet; from wall to wall of the aisle, 60 feet; and from the inner wall of the north to that of the south transept, 80 feet. The tower stands at the west end, and measures in the clear 16 feet 6 inches: it is very bold and effective, and will be surmounted by a spire, the whole reaching to the height of 220 feet. The arch of the tower displays a stone groined roof, which supports the floor of the bell-ringing chamber. Above the arch opening into the open wood-work of the roof of the church are three windows, which serve to ventilate the building. The external carving of the tower is not yet done. The principal entrance to the church is at its western end. Under the arch of it is a double doorway, separated by a clustered pillar of Aubigny stone. The tympanum over it is partly filled by a circular window; and at the apex of the arch a block bracket is inserted, from which a statue is hereafter to be cut.

In the interior, the capitals of the columns of the nave are carved with foliage, founded upon a study of the natural leafage of English plants: the briony, the oak, the mandrake, the vine, the currant, the mulberry, and others, are all appropriately represented. The chancel is divided from the chancel aisles by two arches on each side, supported by coupled columns of Aubigny stone: in the soffits of the arches are carved forty angels, bearing musical instruments, &c. The pulpit is a temporary one, of stained deal. A rich pulpit which has been designed for the church is not yet ordered. The organ, a fine one, from the factory of Messrs. Gray and Davison, is fixed in the south transept. It rests on a gallery of stained timber. The reading-desk is richly carved. The altar-rail is of oak, supported on gilded iron standards. This is as light as possible, in order that nothing beyond may be concealed. The font is the joint design of Mr. Scott and Mr. Westmacott, the sculptor, by whom it was executed. Its ground-plan is an octagon. On its four opposite sides stand four pillars of imperial marble, with richly-carved capitals of Caen stone. On these rest four kneeling statues, emblematic of the Sacrament of Baptism, cut in Carrara marble. The bowl of the font may be called a vast goblet, in plan a quatrefoil; and on each side of it are carved paterae of leafage in a circular border. Messrs. Clayton and Bell have already received orders for six windows of stained glass, which are nearly completed. The window of the great north transept is 40 feet high: for this they have designed glass illustrating the lives of the Marys mentioned in holy Scripture. They have also furnished a scheme for staining all the windows in the church, upon an artistic theory.

The north porch extends 9 feet beyond the church, and consists of three gablets, the centre one being the highest, which rest upon a series of arcaded columns. It is intended that the whole shall be enriched with carved rosettes in moulded lines. A plinth of dressed granite runs round the entire base of the church, just above the level of the ground, and gives an appearance of strength and durability. The face of the wall is of Kentish rag, in horizontal courses. The dressings of the doorways, windows, string-courses, &c. are of Boxhill Bath stone. Mr. Scott is the architect. Messrs. Myers and Sons are the contractors. Mr. Foster acted as clerk of the works during the greater part of the building, under the architect and the committee. The stone carving, which is very elaborate, is by Mr. Farmer, of the Westminster-road.

The Rev. Thos. Jackson, M.A. Prebendary of St. Paul's, the rector of the parish, wishes us to express his public acknowledgments to Mr. Arthur Burnand, Mr. Felix John Hamel (solicitor to H.M.'s Customs), Mr. Thos. Howse, Mr. Patrick Johnson, Mr. Wm. Nevill, Mr. Robert Smith, Mr. John Twells, and many others, for the indefatigable and essential aid, and the great liberality with which they have promoted the erection of this structure.



INTERIOR OF ST. MARY'S, STOKE NEWINGTON. Mr. G. G. Scott, A.R.A. Architect.

THE NEW TOWN-HALL BUILDINGS AT NEWCASTLE-UPON-TYNE.

THE inauguration of the new public buildings in Nicholas-square, Newcastle, took place last week, in the form of several grand musical performances by the Sacred Harmonic and Choral Society of Newcastle.

The main building is of Roman character; the ground-floor being Doric, the first-floor Corinthian, and the attic Composite. The building contains first-class shops on the ground-floor, mezzanine floor over the shops, and capacious cellarage; also, banking offices, and a hotel in connection with the Corn-market and Music-hall.

The Council-chamber is on the first-floor, facing the church. It is 41 feet long by 24 feet broad, and 24 high. The roof is coved, and finished with Corinthian entablature and ornamental ceiling.

The principal committee-room adjoins the council-chamber, on the east side, and the town-clerk's office adjoins on the west side. Along the corridors on each side are placed the several corporate offices. On the second-floor and attic are other public offices, all supplied with lavatories and other conveniences. The entire rental of the ground-floor of the main or front building, including the hotel, is about 1,000*l.*; and estimating the corporate offices at their value, the entire rental of this portion of the building has been put down at 3,000*l.*

The Corn-market is on the ground-floor, extending northwards. It is 173 feet long by 61 feet broad, and 21 feet high, and is lighted by eleven windows on one side and ten on the other, at an elevation of 20 feet from the ground; and by the same number of entresol windows over these, at a 12 feet higher level. It is from these last windows that the principal light is admitted; and by the manner in which it is thrown down by the entresols, the light is equal in the centre of the market to that close to the windows. The floor is laid with Caithness flags, and the ceiling is plastered between the iron girders which support the floor of the Music-hall. Besides market purposes, it may be lighted by gas at night, and used for public meetings, public dinners, &c. Entrance and egress are provided by wide doors on each side about the centre, and the same at the north end. Ventilation is effected by the hopper-like formation of the ceiling, opposite the windows.

The Music-hall is above the Corn-market. It is 147 feet long (exclusive of the organ-loft), by 60 feet broad in the mean, and 46 feet 6 inches high. The floor is supported by wrought-iron girders on cast-iron pillars and brackets, and socketed in the side walls, so as to prevent the possibility of a lateral movement of the walls. The roof is also constructed of wrought iron. The ceiling is divided into panels, and enriched with plaster-work. The hall is lighted in the daytime by ten Venetian windows on each side, and at night from the ceiling by sun-burners, at each alternate junction of the beam is fixed a sun-burner, in all ten in number, by Mr. Bradford, of Manchester, gas engineer: these "sun-lights" consist of rings of gas-jets terminating ornamental brass, that hang down from the ceiling. The rarefaction of the atmosphere caused by the heat of the burners carries off the vitiated air to flues in the roof. The admission of fresh air is by perforated iron gratings, fixed under the front panelling of the side galleries. These galleries run the whole length of the building. There is also a gallery at the north end. The hall will seat 1,100 in the area, 550 in the side galleries, and 750 in the north gallery—in all 2,400, exclusive of the orchestra. The arrangements, however, will admit of the accommodation of 4,000 persons. There are four entrances to the hall, two at the north end and two at the south; and there are four stone staircases at different parts of the building. An organ, from the establishment of Messrs. Gray and Davidson, of London, is to be erected, at a cost of 2,000*l.*

The extreme length of the buildings now completed is about 300 feet. The extreme breadth, being that of the front in St. Nicholas-square, is 100 feet, tapering backwards to a breadth of 45 feet. The whole has been erected from the designs, and under the personal superintendence of Mr. Johnstone, of Newcastle, architect. Mr. R. Robson, of Wideopen, was the contractor, and supplied the stone from his quarries. The slaters' work was executed by Mr. Beck; the plumbers' work by Mr. Henderson; glazing, painting, and gilding, by Mr. Greaves. The iron girders and roof were manufactured by Messrs. Hawks, Crawshay, and Son, of Gateshead, and the principal carvings in stone were by Mr. Scott, sculptor. The ornamental railings in the Music-hall were executed by Mr. Donkin, of Newcastle. The plaster work was executed by Mr. Alderman Dodds, who transferred the services of his workmen to Mr. Robson, to assist him in carrying out the work. Mr. Sopwith supplied the upholstery work.

A further important addition will probably be soon made to the north end of the present erections. The existing Town-hall buildings will then be extended about 60 feet northwards, making the total length 360 feet. In this extension it is proposed for one thing to accommodate the School of Design upon a very moderate rental. The cost of the proposed new erections will be about 4,000*l.*; which, added to the cost of the sites and old property, will make a total of about 13,000*l.* About 30,000*l.* will cover the total outlay upon the present buildings when thoroughly finished. The original contract with Mr. Robson was about 17,000*l.*; but in consequence of improvements subsequently introduced, the cost has exceeded the estimates.

OLD WROUGHT-IRON WORK.

How did it happen that the Government sold by auction, at less than their value as old iron, the wrought-iron gates from Greenwich Old Palace, as we are told they did? At any rate there are the gates at Mr. Pratt's, in Bond-street, in perfectly good order, and though not particularly handsome, certainly a dozen times more interesting than the cast-iron affairs put up in their stead. Pratt's place just now is full of iron gates and railing. There is a very curious set of gates from Constance, including figures in the foliage, and partly chased as well as wrought. These are designed to produce a deceptive perspective effect when viewed at a distance. The best piece of work, however, is a balcony front from Augsburg, in Bavaria.

ELECTRO-TELEGRAPHIC PROGRESS.

ALL the enthusiasm excited by the electrical union of the Old World and the New appears to have been concentrated in the heart of Brother Jonathan, on the other side of the water. While the Britishers, as a people, took it coolly, and seemed as if they were asleep over it, the *United* States men were not only wide awake, but "wild with excitement," entranced and "transported out of themselves, as it were," with "feelings of glorification" and "great rejoicing," such as "could not be described," even at New York. It is clear, in short, that, notwithstanding all their "bunkum" pretences to the contrary, our American brethren have a warm side towards "the old country." As for the cord of concord itself, it was said to be "working splendidly," when, all of a sudden, the public were informed that the continuity had ceased. Mr. Whitehead, the electrician-projector, however (who, by the way, appears to have been rather scurvily treated in this affair), assures us all that the break is probably only at the shore end, near Valentia, where it was before chafed by the waves; and this it is earnestly to be hoped will turn out to be the case.

The slowness of the signals through the telegraph did not depend on the *retardation* of electricity in passing through the length of wire. The first signal made at any one time was transmitted *almost instantaneously*; but the wire did not readily *part with* the charge, and the electricity it *retained* prevented the effects of a second signal from being perceived at once on the distant instrument. This peculiar effect begins to show itself in an immersed wire at a distance of fifty miles, and it increases in force as the distance increases, so that, at 200 miles, communication by Morse's telegraph would be impracticable, unless means were adopted to *counteract* the detaining influence of the external conductor. Now, the best possible mode of so counteracting the retention of the electricity, one would think, must be the alternate transmission of the two contraries—the negative and positive—and doubtless this was one of the chief purposes in view in working the line by these alternately.*

At first only one word in two minutes could be transmitted from Valentia to Newfoundland or *vice versâ*, but afterwards, it seems, five words could be sent in one minute. A system of abbreviations, moreover, analogous to those used in short-hand writing, is being prepared, in order still further to expedite communication; and although this may multiply the chances of error unless very discreetly arranged, it will doubtless very greatly increase the rapidity of verbal intercourse between Europe and America, if, as will be the case, single signals can be made to denote each some word of common or frequent occurrence in the ordinary construction of the English language. Even as it is, the rapidity with which intelligence can be sent to us from America must be vastly greater than that with which continental news is transmitted to us, even were it from less than half the distance; because in the former case a single transmission, in a single language, through 2,000 miles of telegraph, is all that is requisite to send the intelligence from Newfoundland to Ireland; whereas, in the course of a few hundreds of miles across the Continent, there may be several lines to be worked, as well as several languages to be translated, ere the intelligence can reach its destination.

The ready means which the Atlantic telegraph would afford of ascertaining the exact differences of longitude between places far apart in Europe and America is one of the many practical advantages to be derived from its completion.

Mr. Bright, the Atlantic Company's engineer, has been *fêted* in Ireland, first at a dinner given in his honour by the Lord Mayor, and then by the Lord Lieutenant, by whom he has been knighted.

The financial and general position of the Atlantic Telegraph Company was recently reported to be nearly as follows:—Their original paid-up capital was 350,000*l.*, and this has since been increased to 456,000*l.* Out of this the charge for the entire cable has been paid, together with all other expenses. The colonial concessions to the company give them an exclusive right for fifty years as regards the Newfoundland coast, and the shore of Labrador and Prince Edward Island, and twenty-five years as regards Breton Island. They have also a similar privilege for twenty-five years from the State of Maine. From the respective Governments of Great Britain and the United States the terms obtained are a payment of 14,000*l.* per annum from each for the transmission of their messages for fifty years, until the dividends amount to 6 per cent. on the original capital of 350,000*l.*; after which each Government is to pay 10,000*l.* a year, such payment to be dependent on the efficient working of the line.

The representatives of the European powers who decided on granting an indemnity to Professor Morse for the use of his electrical apparatus, have come to a definitive understanding. At the conference held in Paris on the subject, Austria, Belgium, Holland, Russia, Sardinia, Rome, Sweden, Tuscany, and Turkey, were represented each by a political agent; and the sum voted was 400,000f.: of which France will pay 150,000f.; Sardinia, 15,000f.; Rome, 5,000f. &c. The money is to be paid in four instalments.

The Submarine Telegraph Company have just declared a dividend of 8 per cent. per annum for the half-year ending 30th June last.

The prospectus has been issued of the Indian and Australian Telegraph Company (1st section), with a capital of 500,000*l.* in 20*l.* shares. The proposal is to continue the Red Sea line from Ceylon to Singapore, and eventually to carry further sections to Hong-Kong and Australia. Application is to be made to the Government for a guarantee.

Another gigantic telegraphic scheme under the name of the European and American Submarine Telegraph Company, is projected. The company propose to start a line from Plymouth, and proceed to Cape Finisterre, where a junction will be effected with a line from Bordeaux and the south of France. From Cape Finisterre, the line will proceed to Cape Rocco, near Lisbon, and from thence it will be carried westwards to the Azore Islands, touching at San Miguel, and leaving the group at Flores; whence it will proceed to traverse the Atlantic Ocean direct to Boston in the United States of America, or to Bermuda, and thence to Cape Hatteras in North Carolina, or such other places as may be hereafter determined. By this system England, France, Spain, and Portugal will be brought into direct communication with each other, as well as with the North American continent. Another branch of this undertaking will consist of a cable proceeding from near Lisbon to Gibraltar, and thence to Malta, which will complete, with the powers already obtained for laying lines eastward of Malta, a British and perfectly independent submarine telegraph between England and our Indian empire.

The telegraph to the Channel Islands has been

* Our recent remarks on this subject have excited some interest, and a correspondent of the *Morning Advertiser*, under the signature "John Percival," having read an extract from these remarks, points out various facts corroborative of our views. It would not be fitting, perhaps, to enter further on these in the midst of our present hasty notes on electro-telegraphic progress; but we may here refer those who wish for a little further information on the subject to an article in the *Builder*, vol. xii. p. 586, titled "Electricity, and its alleged Connection with Disease,—what is electricity?" and to various incidental allusions to it in our columns both before and since that time.

inaugurated by messages despatched to and from her Majesty.

A great cable by Glass and Elliott for the Electric and International Telegraph Company will shortly be laid between this country and the Hague. This is the largest and heaviest cable that has ever been yet manufactured. It combines four wires in one, and is otherwise of such strength and weight that if a vessel be so unfortunate as to catch her anchor in it she would infallibly lose it, as she can neither raise nor break this cable The weight of the cable is nearly 10 tons per mile, and its breaking strain is upwards of 100 tons.

The Berlin papers state that the Russian Government have been for some time in treaty with the British Transatlantic Company for laying a cable across the Straits of Bhering. This project of the Russian Government is founded upon a memoir by Mr. Babinet, of the French Institute, and approved of highly by Mr. Humbolt.

THE ORPHAN WORKING-SCHOOL AND THEIR TENANT.

WE have been requested to publish a long statement on the part of Mr. Thomas Henley, showing how the Corporation known as the Orphan Working School have ruined him by proceedings in respect of an agreement made by him in 1855 to build sixty houses on their vacant ground at Haverstock-hill. Houses were to be built in a certain time, and advances, under conditions, were to be made by the Corporation. The conditions were not complied with, the advances were refused, difficulties were increased by a fire, the builder could not sell, and then came actions at law and all their expenses, a forced sale, and, according to the statement before us, the utter ruin of Henley. Whether or not the Corporation have pressed their legal rights too strictly (anything more than this their character forbids the suspicion of), we may not pretend to decide on an *ex parte* statement, and to print this statement would produce but small advantage to any.

IRON CHURCHES.

IN the present age of improvement and patent inventions, cannot something be done to improve architecturally the various iron structures we see erecting by the many eminent firms in the iron trade? Surely something might be done to make their churches and chapels more worthy in architectural character. To my mind, the buildings already erected are so cold and crude, that I feel rather surprised architectural writers have not taken up the matter, and thrown out suggestions, by which the material might be more satisfactorily applied even for temporary uses.

Why do not the contractors for these buildings engage an experienced designer to furnish them with drawings and details for such structures, and not leave the matter entirely in the hands of their foremen or mechanics, to construct in a all manner of absurd features, which must eventually impair such material from becoming generally adopted? For I feel convinced, unless something is done to regenerate the taste already displayed, iron, as a material, will be superseded by a material more pleasing and less obnoxious to public prejudice.

C. DEPE.

SCENERY AND THE STAGE.

The Haymarket Theatre.—The painting of the theatre has been revived during the recess, the decorations re-gilt, and although there is no change apparent, all looks fresh and bright. At the pit entrance an attempt has been made to lessen the ancient danger, commented on by one of our correspondents a few weeks ago, by the introduction of a barrier to divide the pressure of the crowd. A new act drop has been painted by Mr. William Callcott, representing "The Cart of Thespis." It is in truth a picturesque landscape, with a group in the foreground around Thespis, who is gesticulating violently:—too violently for a scene which people have to look at continually. Thespis, it will be remembered, lived six centuries before Christ, so that a little severity and archaicism would have given character. However, it is a well painted and pleasant landscape. The comedy with which the season was commenced *The Way to Keep Him*, was exceedingly well played, and will probably keep its place for some time.

Burford's Panorama.—Those who, unhappy, are forced to remain in town, and cannot join the thronging crowd of Anglo-Saxon wanderers now penetrating every recess of France, Belgium, Germany, and Switzerland, may go to Mr. Burford's and refresh their brick and-stone-worn eyes with as pleasant a view of the country round the Righi as was ever painted. Those who know the place may identify every lake and mountain peak, and those who do not may see where Alps o'er Alps arise and Pelion's piled on Ossa.

Polygraphic Hall.—The conjuror Frikell is here, and will amuse those who like to be puzzled: very neatly and cleverly are his tricks performed. The fact that such skill of hand *can* be obtained by application, should be a stimulater in other branches *of art*.

New Theatre and Music-Hall, Greenock.—The foundation stone of a structure of this class was recently laid at Greenock, by Brother John Scott, senior, acting grand master, and in presence of the Provincial Grand Lodge, West Renfrewshire; Port Glasgow Doric; Glasgow Thistle and Rose; St. Mary's Patrick; Glasgow Thistle; Glasgow St. Clair; and Greenock St. John, and a vast assemblage. Two bands were in attendance. Brother David Crawford deposited the jars containing the coins and documents into the cavity in the stone, as also a plate suitably inscribed. Mr. Stephen Edmund Glover is the proprietor; Messrs. John Potts and Son, the architects: Messrs. Adam, Brown, McLachlan, Swan, and Broadfoot, the contractors; and Mr. Thomas Tomlinson, clerk of works.

ARCHITECTURAL UNION COMPANY.

WE are glad to hear of some movement in this quarter. On Wednesday last the Board accepted Messrs. Hack and Son's tender for the works in Conduit-street, at the sum of 4,496*l.* the contractor taking a good proportion in shares, redeemable by the company at par. The ground-floor, which is let, is to be made ready by Michaelmas, and the Institute room by Christmas.

IRISH RAILWAY AND OTHER MEMORANDA.

THE metropolitan terminus of the Dublin and Wicklow Railway presents a busy scene, a large number of workmen being employed, and extensive structures in progress. The new viaduct in Harcourt-street will cost 7,096*l.*; the road and goods store, 3,304*l.*; the station buildings, 8,502*l.*; and 1,697*l.* for the new iron lattice bridge (Messrs. Courtney and Stephens engineers), which is to convey the line across Harcourt-road; making a total of 20,599*l.* The principal front of the station faces Harcourt-street, and extends 130 feet. It has a central pediment, with pilasters, at either side, and a lofty arch beneath, with two smaller semicircular arches, forming entrances to first and second, and third classes, respectively. Doric columns are introduced, and the frieze of entablature ornamented with triglyphs. At the left hand side of the principal entrance is a commodious parcel-office, and on the right the booking and other offices are placed. The ground floor of the building is lighted by eight windows in the intercolumns of a colonnade, and the first floor by six elliptical windows on the western flank. The station building is constructed chiefly of granite stone from Dalkey quarry, but black stone is observable in some portions, especially in the great arches of the viaduct at the rear, and which causes a very marked contrast. An apartment, 38 feet by 26 feet, is provided as a sort of general hall, and is to be ornamented in strict character with the style of the front. This is a new feature in *Irish* railway termini. The staircases are of stone, and the platform 400 feet in length by 25 feet in width, 350 feet of the length being covered in with a glass and iron roof, now in course of erection. The usual apartments for station-master, waiting-rooms, retiring and other offices, cloak rooms, &c. are provided. The goods store is approached by a carriage-road, with an incline of 1 in 20 feet, and has its entrance in Hatch-street. The second section of the new lattice bridge is now ready, and the station is expected to be open in a month or so, though the foundation stone was not laid till last May. Mr. George Wilkinson is the architect, and Mr. Cunningham the contractor.

The matter in dispute between the Dundalk and Enniskillen Railway Company and Messrs. Killen and Moore, contractors, has been settled by arbitration. The contractors claimed 67,000*l.*, but the award of the arbitrators was only 18,750*l.*, including costs.

The works on the Belfast and County Down Railway, between the junction and Downpatrick, a distance of nine miles, are, according to the report of Sir J. McNeill, C.E., in a very advanced state, six miles being formed and ready for the rails. Two bridges only remain to be completed, besides the one over the Quoile, and all are in rapid progress. The joint sleepers of the finished portion are composed of malleable iron, and the joints of the rails secured with bolts and nuts to malleable iron plates, causing smoothness and uniformity of motion. The stations at Comber, Ballygowan, Saintfield, and Ballinahinch, as also the goods warehouses, are advancing towards completion. The workshops at Belfast terminus are finished, and the whole establishment will soon be in working order.

A new church is proposed to be erected at Kingstown, near Dublin, and it is intended to afford sittings for nearly 600 persons on the ground floor and in a small gallery, with capability of enlargement hereafter, so as to accommodate 1,000 persons, by extending the transepts. Further particulars will be given in a future number.

The new Presbyterian church at Bray, county of Wicklow, is to be consecrated immediately.

INSTITUTION OF MECHANICAL ENGINEERS.

MEETING AT NEWCASTLE-UPON-TYNE.

A SPECIAL meeting of this institution was held in the week before last, at Newcastle. The proceedings extended over three days, and were well attended.

The proceedings of the week consisted of the reading and discussion of papers, in the Council Chamber of the new Town-hall buildings; a *conversazione* and exhibition of engineering models, drawings, &c. at the rooms of the Literary and Philosophical Society; a public dinner, and visits to the principal engineering and manufacturing establishments of Newcastle and the neighbourhood, which were thrown open to the inspection of the members of the institution.

The most important of the papers read was one by Mr. W. G. Armstrong, F.R.S. of Elswick, the inventor of hydraulic cranes, &c. and of the hydro-electric machine. The subject of this paper was the water-pressure machinery invented by the author of the paper. He states that the subject was first impressed on his attention about twenty-three years ago, by noticing a small stream of water which flowed from a great elevation, down a steep declivity, and turned a single overshot wheel near the end of its course. Observing that the portion of the fall thus utilised was not more than a twentieth part of the whole descent, he was forcibly struck with the inadequacy of the wheel as a means of realising the power of such a fall; and conceiving it practicable to render the entire head available by bringing down the water *in a pipe*, and causing it to *act by pressure* upon a suitable machine at the bottom, he applied himself to devising an engine to be worked by such a pressure.

Other inventors, guided by the same idea, had been previously led to apply water pressure in various ways to the propulsion of machinery, although the principle had never been extensively adopted; but with these applications, Mr. Armstrong, who was not then an engineer, was wholly unacquainted.

After meeting with many difficulties and discouragements, as is usual in such cases, the machine was produced. It was tried first in Newcastle, with the pressure from the street pipes, equivalent to a column of about 200 feet; then in Gateshead, with a still greater pressure; and in both cases it yielded a very high effect in relation to the theoretic power of the moving column.

Having thus had practical experience of the power residing in street water pipes, he conceived the idea of applying such power to the cranes, at that time so slowly and expensively worked by hand upon the Quay of Newcastle. Accordingly, after duly considering the means of effecting this purpose, a working model of a hydraulic crane was constructed. It was connected with the town water pipes, and went through the several operations of lifting, lowering, and slewing, in a very satisfactory manner.

The next step was to carry this scheme into actual practice; and, accordingly, in the year 1846, the first hydraulic crane was erected at the upper end of the Newcastle Quay, where it has ever since continued to do good service in discharging ships.

The introduction of the accumulator, which took place in the year 1851, removed all obstacles to the extension of water-pressure machinery, which has since been applied in nearly all the principal docks, and in many of the Government establishments, in this country. Nearly 1,200 hydraulic cranes, hoists, and other machines of that character have been applied, and 125 steam engines, collectively of more than 3,000 horse power, are now daily at work to supply the pressure for working them.

The system has also been adopted in many of the principal railway stations, not only for cranage, but also for working turn-tables, traversing machines, waggon lifts, hauling machines, &c. It is also extensively used for raising and tipping waggons in the shipment of coal, for opening and closing swing-bridges, and for many other purposes which it would be tedious to enumerate. In fact, new forms of application are continually being developed, and no doubt can be entertained of its capability for further extension.

After some discussion on Mr. Armstrong's paper, others were read;—on the manufacture of steel on the Uchatius process, by Mr. T. Spencer, of Newcastle; on floating corn-mills for the navy, by Mr. W. Fairbairn; on railway springs, by Mr. T. Hunt, of Crewe; on locomotive axles and couplings, by Mr. W. Fairbairn, junior; and on an improved railway switch, by Mr. J. A. Haswell, of Gateshead. Elswick was afterwards visited, and the *conversazione* held in the evening. Next day other places were visited, and the public dinner partaken of in the evening; and on Thursday an excursion was taken by railway to Jarrow, Sunderland, and elsewhere.

LAW NOTES.

Validity of a Church-rate.—A rate of twopence was proposed, and an amendment of a halfpenny-rate then introduced. The amendment was negatived, and a poll refused to be taken upon it. The original motion was then carried. The seconder of the amendment again demanded a poll, and it then appeared that the original motion was only carried by a majority of one. It has been held that the refusal to grant the poll on a perfectly legal amendment was illegal, and so the whole proceedings were declared null.—*Churchwardens of St. Michael's, Oxford*, v. *Luff*.

Bankruptcy.—Where there are two partners in a firm, and each has been declared bankrupt upon his own petition, and both are afterwards made bankrupt under a third petition by a creditor against them jointly, the Court will give effect to the joint petition.—*Re Powell*.

Trader-debtor Summons.—The particulars of demand were served upon one partner, and the summons upon another partner, and it did not appear by the affidavit of debt that the particulars were served at the place of business of the firm. It was held that the affidavit was not sufficient to make the firm liable under the Bankrupt Act.—*Ex parte Kentish*.

County Surveyor.—An action for a personal damage resulting from the want of proper repair to a county bridge will not lie against the county surveyor either at common law or by statute.—*McKennon* v. *Penson*.

Damage to Sub-stratum.—The withdrawal of any part of the sub-stratum, to the support of which the owner of the adjacent soil or house thereon is entitled, is a cause of action as an injury to the right, although no immediate damage ensues; but no fresh cause of action arises by the occurrence of subsequent damage. Therefore, to an action for damage caused by such withdrawal it was held to be a good defence that a prior action had been brought for the injury, and an accord agreed to between the parties.—*Nicklin* v. *Williams*.

Indemnification of Directors.—A. the promoter of a public company, applied to B. to become a director, and wrote him a letter, in which he undertook to guarantee him harmless from all expenses as director. It was held, in an action by A. against B. on a bill of exchange, that B. might set-off against the bill travelling and other expenses incidental to his acting as director of the company.—*Hutchinson* v. *Sydney*.

Privilege of Magistrate.—A magistrate attending petty sessions in the discharge of his duty is privileged from arrest.—*Clendinning* v *Browne*.

Rent Guarantee.—A. let premises to B at a certain rent, payable quarterly, and C. signed the following guarantee:—"And C. does also agree and undertake to see the rent paid quarterly by the said B. or otherwise does agree to pay the said rent quarterly for the said B." An action was brought against C. on this guarantee, and it was held to be a binding instrument, and to imply a sufficient consideration for the promise.—*Calal'ero* v. *Slater*.

Lien on Goods hired by Tenant.—An innkeeper has not a lien for his guest's bill on a piano hired by the guest.—*Broadwood* v. *Granara*.

Powers of a Company.—A waterworks company employed an engineer to investigate whether an increased and improved supply of water could be obtained. He did so, and reported accordingly. The committee of management determined to apply to Parliament for power to make their works more extensive, and resolved to employ the same engineer to prepare the plans required by the standing orders. At a special general meeting, the committee were empowered to proceed, and the engineer's engagement was sanctioned. He prepared the plans, and an action had to be brought for the lithographing against a corporation which had bought the company's works, and had become liable to pay their debts. Barons Martin and Channell considered the plaintiff entitled to recover, as the work was within the powers of the Company. Baron Bramwell dissented.—*Bateman* v. *Mayor of Ashton-under-Lyne*.

Alteration of Bill of Exchange.—Where the acceptance of a bill of exchange was altered, without the consent of acceptor, after it was in circulation, by the addition, to the general acceptance, of words implying payment at a particular place, it was held that the acceptor was discharged, though the plaintiff was *bond fide* indorsee for value after the alteration, without notice of it.—*Burchfield* v. *Moore*.

Burial-ground — Rate. — Where the churchwardens of a parish made a single rate for providing necessary additional burial-ground for the parish (which could only be done, if done at all, under the Church-Building Acts), and also for draining and spouting a chapel in the parish, it was held that the rate could not be enforced.—*The Queen* v. *Abney*.

IRON IN STONE.

THE stone curb on the Park-wall in Knightsbridge is undergoing its periodical restoration. We have before now alluded to the occurrence. Groups of the iron bars are let into the stone at intervals; and, where this is the case, the expansion and contraction of the metal by change of temperature, or its oxidation, blows the stone to pieces. A score of lengths are at this moment about to be restored with new. The Office of Works should apply to the Museum of Geology, or the Department of Science and Arts, for information, so as to avoid a repetition of the failure. At any rate, the costly lesson ought not to be lost on the inhabitants of the metropolis, before whom it appears to be annually repeated.

THE CROSSING AT CHARING-CROSS.

IF you will take a walk as far as Charing-cross, and look around you, I think you will agree with me that a great improvement might be made there. I am compelled to cross twice a-day from and to Spring-gardens, and I am always in fear of being run over; but if the foot-pavement round King Charles's statue were enlarged, and carried down to a point so as to divide the roadway, nearly as low down as the crossing at Drummond's bank, I should have little fear of crossing then, and much more timid and less active people than I would not so often be put in bodily fear.

There might also be placed an ornamental and highly useful fountain in the centre of such triangular enclosure, as it would be about 10 feet below the top of the basins in Trafalgar-square, and thus might be worked by the water of the two great fire-plugs now running to waste.

J. SIMON HOLLAND.

THE COTTAGES OF PARTS OF ENGLAND AND SCOTLAND.

IT is curious to note, when travelling even in our own country, the great variety in the arrangement and form of the dwellings of the peasantry and poorer classes in parts removed from towns; and it is to be remarked, that the difference alluded to is in a great measure caused by the materials which are to be met with in each district; but the peculiarities and origin of the inhabitants also influence the architectural characteristics which are exhibited.

In woody districts, the cottages erected more than a century back, when roads were bad, and one neighbourhood could not readily be provided with materials from another, are, almost without an exception, of strong timber framework, filled in with slighter materials, and covered with lime; or where that is not handy, some less permanent substance. Over a large part of Staffordshire and Cheshire the exterior of these dwellings is painted white and the timber black. It might be thought that this arrangement would produce a sepulchral effect unpleasant to the eye. It is not so, however, for these houses, often seen amongst chesnut and other trees, are relieved by the clear blue sky: there are also, frequently, red and white roses, and flowers of other hues, bee-hives, and other accessories, which, on the whole, produce a good effect.

This method of colouring may be also noticed in parts of Warwickshire and "Salopia." In the latter county some of the cottage dwellings are little pictures of English comfort: some of these are smothered in flowers and foliage,—a matter which may not be quite right in a sanitary point of view, but is pleasant to the sight. Many of the timber-framed cottages are of great antiquity, some probably three, four, and even more hundred years old; and although the massive frames are warped and out of perpendicular, they promise, if let alone, to stand for many years to come.

In Essex and other counties, where bricks can be conveniently manufactured, we find a mixture which, when covered with different coloured lichens, has a good effect; and it may be noticed, that the red brick of these districts has a sort of madder purple hue, which soon becomes very rich, and harmonises well with all around. In the neighbourhood of Birmingham, towards the iron and coal districts of Staffordshire, the bright gaudy vermilion tint of both the bricks and tiles is disagreeably harsh.

In the neighbourhood of our cathedrals and other important ecclesiastical edifices, the dwellings, and also their fittings, are more or less decorated with carvings and other ornaments. Near St. Alban's, the fronts of several of the houses are covered with rude diaper-work. In Gloucestershire, the stone troughs used for the pigs are so well cut and fashioned, that they might be mistaken for church fonts.

In Somersetshire a light yellow-coloured stone is used for building purposes, which, with age, takes those reddish, grey, and green tints which a painter is glad to imitate. Most of the houses here have some elegance in design, and are more or less ornamented. In Yorkshire a number of the smaller houses are built of substantial stone work, some thatched, and others covered with large flagstones and tiles. As we approach the north, the squarely-formed cottages of cold grey-looking stone, often roofed with red tiles, form an unpleasant contrast with the more artistic dwellings of the same class in the south of England; and it may be noticed that less care is taken to provide flowers and trees than the difference of climate will account for. In and near the city of Durham, the cold effect to which we have alluded is in a measure removed by a covering of pebbles mixed in lime, which, when dry, is coloured of a white or cream tint. Throughout the chief part of Northumberland, the cottages are externally of the same unpleasant form and colour of which we have spoken, but there, stone of a better hue, though of a more perishable nature, is used. Generally speaking, however, the interiors of the cottages in these districts are clean and comfortable. The houses in the pit village, although most unsightly externally, and surrounded by pigstyes, and other evil agencies, are patterns of cleanliness inside. Each dwelling generally consists of two rooms, one leading to the other. The floors are of red brick, which is washed and done over with new colour several times a week. A blazing fire is kept when necessary, and the hearth and sides of the chimney kept of a dazzling whiteness. Clean housewives give it a tint after each meal. The chief furniture of the front room consists of a four-post bedstead, on which is displayed a covering of gay patchwork and chintz-hangings; a mahogany chest of drawers, so polished that you may see your face in it; table, chairs, &c. equally cared for. The inner room, set apart for the sleeping-room of the children, and for the reception of company on Sundays or holidays, is even smarter than the one already mentioned. There is generally a garden attached; and, since cock-fighting has nearly gone out of fashion in those parts, much rivalry takes place in producing the largest gooseberries and cabbages.

Throughout the greater part of Scotland the cottages are of stone, covered with thatch or flagstones, many of which are of the most primitive and inconvenient description. Most of them, like the pitmen's houses alluded to, have two small, low rooms. A considerable portion are in a most dilapidated condition, and we are told that it is not uncommon for the old women to add to their other prayers,—"And may the Lord send us fair weather to sleep in." The arrangements for sleeping in the chief of those places which we have visited are of a very bad kind, the inner rooms being fitted with boxes, with hangings in front, similar to those in the cabins of ships.

A tremendous amount of work remains to be done in providing proper dwelling-places, not

only in the agricultural districts, but also in the fishing villages along the coast. Many of these houses which please the painter's eye are as little favourable to the health of the inmates as to their morality.

INAUGURATION OF THE LEEDS TOWN HALL.

On Tuesday last her Majesty inaugurated the new town-hall at Leeds, on which occasion the mayor, Mr. Peter Fairbairn, received the honour of knighthood. Her Majesty reached Leeds on the preceding evening, and had spent the night at Woodsley House, the mansion of the mayor, and on her way to the hall in the morning "reviewed" a goodly army of 30,000 children belonging to the Sunday schools of the district, who sang to her Majesty the National Anthem.

In our volume for 1853, pp. 690-1, will be found a view and plan of the Leeds town-hall as designed and then about to be erected. The foundation stone was laid in August of that year, by the mayor for the time being. The design was by Mr. Cuthbert Brodrick. The edifice has been reared in the centre of the town, on an elevated platform surrounded by Corinthian columns, supporting an enriched entablature about 70 feet from the ground. The whole structure is of the Roman Corinthian order. The south façade (the chief one) has a deeply-recessed portico of ten columns, with a flight of nineteen steps, 135 feet in length, leading up to it. Pedestals at each corner are placed for groups of statuary, and the spaces between the columns at the sides of the building are divided into two ranges of semi-circular headed windows. From the centre, over the south portico, the tower, with chimes and illuminated clock, will rise 230 feet from the ground. The hall is 162 feet long by 72 feet wide, and 75 feet high. Its ceiling is arched, divided with five bays or compartments by stone ribs, which are upheld by columns painted to resemble Rosso Antico. Ten lay windows by day, and ten crystal chandeliers by night, illuminate the whole interior of the building, without glare. The north end of the hall is occupied by the great organ. At the south end is a glass screen, separating the hall from the vestibule under the chief entrance. This vestibule is, in fact, the base of the tower. It is 70 feet high by 28 feet square. The floor is covered with Minton's tesselated pavement of the same pattern as that made for the Senate House at Washington. In the centre of this vestibule stands the mayor's gift to the hall and town—Noble's statue of her Majesty. It stands under the dome of the vestibule on a pedestal of polished granite. At a recent council meeting of the corporation the mayor, now Sir Peter Fairbairn, formally made over by deed of gift this statue to the borough. The statue is of heroic size. In the left hand is a sceptre—the right holds a roll of paper. We shall give more precise particulars as to the works hereafter.

We may here add, that the Fine-Art Gallery in the new hall several contributions have been made. Mr. Jas. G. Marshall has presented Calcott's painting of "Milton dictating Paradise Lost to his Daughters." Mr. J. G. Upplby presents an architectural piece by Panini, a battle-piece by Bourgognone, and a portrait of William Pitt: another gentleman has offered to present a full-length statue of the Leeds antiquarian and historian, Ralph Thoresby, provided some other gentleman will present a similar statue of John Harrison, the founder of St. John's Church and the Almshouses, and the endower of the Grammar-school in the town.

STAINED GLASS.

Ely Cathedral.—One of the five windows above the Cosin's screen in each of the aisles of the eastern transept of Ely Cathedral has been filled with stained glass windows, representing "The Four Evangelists." The *Lincolnshire Chronicle* states that they are the workmanship of, and presented by, two of the sons of the late Sir Richard Sutton, who some time ago contributed to the adornment of the cathedral.

Ely Cathedral.—Dr. Charles Heagall of London has added a window to the memory of his late wife, a native of Ely. The subject is extended through the lights of which the window is composed, and represents the "Repentance of Nineveh at the Preaching of Jonah." The artist, in copying out the architectural details, consulted, it is said to have consulted the works of Layard and others, and the ruins in the British Museum. The windows in the south aisle are already all of stained glass, and the present addition leaves only three plain ones in the north aisle, two of which, it is reported, are taken, and the other, it is said, will be applied for by Mrs. Janes. Her Majesty's window, the third of the four in the Octagon now about to be completed by Mr. Wailes, is in the Decorated style of Edward III. There are eight figures: her Majesty wearing the crown, and the Prince Consort as Chancellor of the University of Cambridge, Edward III. and Queen Philippa, are the top four; and Bishop Turton, Dean Peacock, Bishop Hotham, and Prior Cranden the lower. The roof of the nave is commenced. It is in the hands of Mr. L'Estrange, the amateur artist, and done without any emolument to himself.

Cuckfield Church.—A new painted window has been erected in the north chancel aisle of this church. The subjects are designed to illustrate the Incarnation of our Lord, the centre light representing "The Holy Child Jesus," with "Mary his Mother;" while on either side are the two prophets of the Old Testament, and the two preachers of the Gospel who chiefly "spake of these things," viz. King David, with his harp; Isaiah bearing a scroll; and also John the Baptist and the Evangelist John. The glass comes from the works of Messrs. Hardman, at Birmingham, and was set up by Mr. Knowles; the repairs of the stonework having been effected by Mr. Constable, of Lindfield.

Wirksworth Church.—A stained glass memorial has been placed here in a new window in the south aisle of the church. The window is of Gothic construction of three lights, containing as many subjects, viz.:—1. The Entombment. 2. The Nativity. 3. The Angel appearing to the Three Women. Over each subject is a canopy, in the centre light of which is an angel bearing a scroll, with the text "Glory to God in the highest," and in each of the others are the shepherds gazing heavenward, the star being in the quatrefoil at the summit of the window. Beneath the texts are as many pedestals. The window is from Messrs. Hardman's of Birmingham. We understand another stained window will shortly be put in; but the insertion of stained glass windows will only retard the general restoration, if, as is the case at the present time, all attentions are made subservient to existing defects. The present flat ceiling, which is so destructive of effect and breadth of tone, ought to be removed. The unseemly galleries which block up the transept call loudly for removal, and we cannot understand on what grounds they have so long been allowed to remain.

St. George's, Doncaster.—The stained glass of the east window of Portico Chapel, by Mr. Wailes, has been completed. "The window," says the *Herald Express*, "forms rather a striking contrast to the two recently fixed by the same maker. In this we see much more brilliance of colour, better finish, and better material. We must, however, in some measure object to the indefinite and neutral colour employed in some instances: there is likewise rather too much shading to be observed in some portions,—a reminiscence, as it were, of Munich glass. With these few objections we close our fault-finding with the lower portion of the window, and in other respects look upon it as worthy of the maker. As regards the filling in of the tracery, we are sorry to see so great a contrast. From this portion of the window, all that quiet repose which characterizes the lower part is banished. We see, instead, what indeed very closely approaches patchwork; the colour which is gaudy and ill-taken. In speaking of the two smaller windows by Mr. Wailes, we noticed the absence of what we termed a peculiarity, if not a defect, in many of his windows, that is, the too great contrast of tone between the filling-in of the tracery and main-lights. We have now before us a specimen of this contrast, and we think most will agree that we have given it due consideration. Yet, at the close of all these cautionary lines the window stands forth as a fair specimen of art. The incidents portrayed are:—1. Joseph of Arimathea and Nicodemus returning home after the Burial of Christ. 2. The Three Marys watching the Tomb all night. 3. The Angel seated on the Tomb, and addressing them. 4. The Three Marys. Peter and John." 5. Peter and John looking into the Sepulchre. Underneath which is the inscription to the memory of members of the Seaton family."

St. John the Baptist's, Clayton, Bradford.—A memorial window has lately been placed in this church. As the legend at the foot of it shows, it may be taken as a token of filial affection. The window, architecturally speaking, consists of three lights, trefoiled, carrying a foliated circle. The side lights have their heads filled in with trefoils. The circle, which consists of three trefoils, contains the sacred monogram "I.H.S.;" and the memorial cyphers, the spaces being filled in with vine leaves. In the head of the side lights are the Lamb, the Vexillum, and the Pelican. The centre light contains a full-length figure of Our Lord in the act of benediction. The outer robe is of ruby, diapered, lined with purple: the inner robe is blue, and diapered. This (as well as the other figures) stands beneath an enriched canopy. To the left is the figure of St. Thomas carrying a square rule. His outer dress is of green, diapered, and lined with blue; his inner robe of ruby colour. To the right is the figure of St. John the Baptist, the patron saint of the church, carrying a cross. Beneath these is a series of three medallions, the centre one representing the Ascension, the one to the right Peter holding the keys, and the one to the left St. Paul with a sword. At the foot of the window is the inscription. The glass painter is Mr. F. Barnett, of Edinburgh.

Lancaster Parish Church.—A three-light stained-glass window is about to be placed in the parish church of Lancaster, it having been executed for Mr. Murray Gladstone, of Manchester, as a memorial of his late wife. The subjects are Abraham and Isaac, Moses with the brazen serpent, Mary and Martha before the Saviour, St. John the Baptist, the Raising of Lazarus and the Crucifixion. The window is the production of Messrs. R. B. Edmundson and Son, of Manchester.

Walsden Church.—There have lately been put into this church two new stained windows, or one window with two lights, manufactured by Messrs. Ward and Son, of London. They have been put in at the expense of Mr. John Crossley, of Scaitcliffe, in memory of his late father and mother. In the centre of one of them is a medallion representation of "The Transfiguration," which contains six figures, the centre or principal one of which is our Saviour. On each side of him are Moses and Elias: beneath are Peter, James, and John: above is the figure of an angel with trumpet and scroll; and round the border of both lights are the sprig of acacia, pomegranate, ear of corn, and five-pointed star, alternately. On the second light, near the centre, is a representation of "Christ's Agony in the Garden:" above is an angel with trumpet and scroll.

THE APPLICATION OF PHOTOGRAPHY TO DRAWING ON WOOD,

AND ITS PROBABLE INFLUENCE ON ART.

It cannot be doubted that ere long the means will be discovered of producing as clear and distinct representations of objects, by means of photography on boxwood blocks, as can now be obtained on the prepared paper commonly used; and, when this is done without injury to the surface, it will to a certain extent revolutionize the art of engraving on wood. When, however, this desirable result has been obtained, there will still be a difficulty in adapting nature's printing on wood to the conventional style now commonly used by wood-engravers. At present, in order to ensure effective engravings, it is necessary that the draughtsman should make a drawing bold and distinct in the arrangement of light and shadow, and that it should also have all the tints and textures indicated by *lines*. A drawing simply laid in with Indian ink or other tints would not be useful to the chief portion of the present school of wood engravers. It is to be regretted that this art should have become so mechanical as it has, and that a larger amount of artistic skill and invention should not have been acquired by the rising generation of engravers.

In engraving on copper or steel it is necessary to produce, from a picture or drawing placed at hand, a copy, by means of lines of various form and strength on a plain surface. The copperplate engraver has not only to prepare his own outline, but he has also to invent the manner of laying on and the quality of the lines: he has to produce his work without even the help which would be given by a photographic image.

In order to render the application of photography useful to the chief number of the wood-engravers, it would be necessary to employ a practised draughtsman to indicate the direction in which the lines should be cut. It would be well, however, that the pupils who are now rising up should be taught to dispense with this assistance.

It is curious to speculate on the effect of the extensive application of photography on art generally. Some ask what will be the use of draughtsmen on wood, when a properly organized staff of engravers have been trained to cut from photographs? We believe, however, that, instead of rendering the aid of the artist unnecessary, so great will be the increase in the demand for book and other illustrations for many years to come,

that the demand for draughtsmen will be increased rather than diminished, for there are many subjects which necessarily require intellectual treatment and management.

It is a matter for serious inquiry, however, to what extent the means of the rapid production of the forms of objects, and that too without the long and trouble-some process of acquiring skill of hand, may prevent many who might have become good artists from taking the trouble, thinking how useless the long task is when such fine effects can be so readily produced by mechanical means. Looking at the subject in another point of view, it is likely that photography will benefit those who are bent on the pursuit of true art, both in historical, landscape, and other painting, by affording the means of comparing the matter-of-fact sun pictures with their own: and that it will be a means of correcting to some extent that looseness of drawing which has often been considered an imperfection of the English school. Again, will the young artists of the next generation be likely to be so industrious in copying from nature in the green woods, among the rocks and streams, in old cathedrals and picturesque streets, when such result can be obtained with so little hand labour?

When we glance at some of the fine photographs of buildings now available, it is impossible not to acknowledge that, with the exception of colour, they afford all the materials from which an artist of ability could make fine pictures: they will, notwithstanding, fail to supply the careful study from nature which has made such painters as Turner, Constable, Dewint, and others.

Several artists of some eminence now in their wanderings use the photographic apparatus instead of the sketch-book. This may not do much harm to those who are thoroughly conversant with nature, but such a practice cannot fail to be injurious to the progress of youthful students in art.

PUBLIC BUILDINGS IN THE PROVINCES.

Sittingbourne New Corn-Exchange.—The corner-stone of this building was laid on the 26th ult.

Gosport Forts, &c.—Three more large forts are to be forthwith commenced in the neighbourhood of Gosport, which will complete the cordon of batteries intended to surround this important port. Large cavalry and infantry barracks, according to the *Mechanics' Magazine*, are to be built near the Gomer Fort; and these, with the extensive barracks just completed at Gosport, and the numerous other military establishments already existing, will form this promontory into an immense *place d'armes* for the south of England.

Llangwyney-bridge (near Crickhowell).—This project is in a fair way of being carried into immediate execution. The plans and specification for the work have been approved, and signed by the committee and the contractors, according to the *Hereford Times*. The bridge has been entrusted to Messrs. Hughes and Steele, of the Usk-side Iron-works, Newport. There were ten competitors. The bridge is to be constructed of wrought-iron.

Sutton Coldfield Town-Hall.—The first stone of the new Town-hall of Sutton Coldfield was laid on Wednesday in week before last. The proposal to erect a new public Hall was mooted some years ago, but difficulties unexpectedly arose, particularly as to a site. It was originally proposed to erect the public rooms in the centre of the Market-place, on the site occupied by the old Town-hall. For this site the warden and the society first sought plans; but it was afterwards abandoned, as too limited in area. The site which it is now proposed to occupy fronts Mill-street, and comprises over two thousand superficial feet. The building will have two main frontages, the west towards the high road, and the south towards a large open area adjoining the almshouses, which has been cleared in order to avoid the declivity of the hill, and afford facilities for the readier approach of carriages to the principal entrance. The building will be two stories in height; the external dimensions 72 feet long by 38 feet wide, and from the terrace level to the cornice 32 feet high. On the first floor are the Corporation room, 26 feet by 18 feet, an ante-room, and an assembly-room, 50 feet by 35 feet, with an apsidal end 20 feet by 12 feet, fitted as an orchestra, with performers' rooms underneath. On the ground-floor the accommodation given consists of a Magistrates' Court, 35 feet by 20 feet, public waiting-room, prisoners' cell, surveyor's office, reading-room, library, and ante-room. On the basement-floor are kitchens, scullery, heating apparatus-room, and coal stores. The building will be set back from the road about 5 feet, and a terrace formed in front. A flight of ten or twelve stone steps on to this terrace will form the approach to the principal entrance under the tower. The edifice is Gothic in character, and will be executed in red brick, banded with white brick and stone. The windows are grouped double and triple, and the single-light windows moulded with painted arch-heads: the dressings generally are of stone. The contract for the building has been entrusted to Mr. Charles Burkitt, of Wolverhampton. The amount of the contract, including heating, is 3,300*l.*

Enlargement of Ashton Barracks.—It has just been decided that the barracks at Ashton-under-Lyne are to be so enlarged as to accommodate 1,000 men.

Lichfield Museum and Library.—The building which has been erected near the Minster Pool, for the Lichfield Museum and Library, is shortly to be opened.

Baths at Seaderland.—The contractors, Messrs. Patterson and Clark, are making progress in adapting the old Bishopwearmouth Workhouse into new corporation baths and wash-houses, for the advantage of the west end of the town. There are to be sixteen baths; those for males on the ground floor, and for females a story above them. The wash-houses are to contain sixty stalls, with 120 tubs. A large swimming-bath will be in the centre of the building, which is to be of two depths, to suit boys and adults, and round the walls there will be rings and ropes to provide against accidents. The various apartments will be ventilated by Mr. Watson's patent syphon.

Falkirk Corn-Exchange.—We stated, says the *Falkirk Herald*, that Mr. Alex. Dick, Brighton, Polmont, had been the successful party for completing the mason work of the Corn-Exchange. Mr. Dick, however, has since declined to fulfil the contract in terms of his estimate, and the feuars have accordingly agreed to take the next lowest estimate first given in, namely, that of Mr. Thorburn, builder, Polmont.

Books Received.

SANITARY.

"A COMPENDIUM of the Local Government Act, 1858 (21 & 22 Vict. cap. 98), &c. By Joseph Jones, Clerk to the Derby Local Board of Health," has been issued by Hamilton, Adams, and Co. of London, and Wilkins, of Derby. This is a timely shilling abstract of the new Act for strengthening the hands of local boards of health and sanitary reformers in general. Appended is an account of sanitary progress at Derby, with observations and extracts illustrating the importance of sanitary operations; but containing no allusion to that fruitful source of sanitary observations, the *Builder*: it is some consolation, however, to note how promptly authors discover the sanitary importance of our publication when they require its aid in the promotion of a knowledge amongst the public of their own sanitary efforts.—In "New Purifying Sewers for the Thames" (Weale, High Holborn), M. Hector Horeau, architect, proposes an elaborate system of underground tunnels or tunnel-sewers, of an inverted pear shape, with sub-divisions forming four iron gutters or rivulets, supported by iron bearings, independent of the construction of the vault, and arranged at different heights to facilitate their junction with the present sewers, at different levels, with basins, and sluices for deposits and separation of "purified water" to be poured into the Thames, while the liquid manure found beneath "may be covered with oil to prevent the escape of its valuable gases," and afterwards "sent by pumps, pipes, or casks to the market gardens surrounding the metropolis" "The solid residuum," he adds, "should be covered with lime or alum, to preserve its quality and facilitate its being put into casks," and these raised by pulleys on to one of three railways, with moveable floor placed above each other between the rivulets in his tunnel-sewer, and thence removed. Six galleries in the vault also would be appropriated to inspection of the sewer junctions, fixing and repairing of pipes for water, gas, electric wires, "speaking tubes, and beer conductors, for the different workmen in the sewers," &c. Ventilation would be effected by means of draft chimneys, and in somewhat obscure relationship to which the projector adds that "the workmen should be not only permitted, but even induced to smoke." We fear that M. Horeau, like not a few of his fellow-countrymen, entertains the idea that in England cost is not worth considering. The three little items,—oil for the liquid manure, alum for the solid, and beer pipes for the workmen, would be no trifling items themselves alone; and although a tunnel to contain street sewers and subways, with room for gas and water pipes, &c. was long since urged in the *Builder*, we have considerable doubts as to M. Horeau's modification of the suggestion.—"Remarks on the Main Drainage of the Metropolis, with a Plan of a better Provision for disposing of the solid Matter of the Sewers, with the view of preventing the contamination of the river Thames, and advancement of Agriculture: By James Knight;" is another of those numerous and, in most essential respects, by no means novel schemes which are now and have for some time been afloat. Mr. Knight's proposal is to filter in sewers all the sewage and drainage in its passage to the river, to precipitate and deodorise all the solid matter, and pass the purified water out into the river, while the sludge (1,600 tons daily), is pumped up into pipes, and conveyed by its own gravity to places of deposit for conversion into portable manure for agricultural purposes. Mr. Knight estimates that 2,500,000*l.* out of the 3,000,000*l.* proposed to be expended by the Metropolitan Board might thus be saved.*—The concluding part of that now celebrated work, Copeland's "Dictionary of Practical Medicine," with preface, and classified contents, has been published by Messrs Longman and Co. To all who desire to know something of hygeiene; the causes, symptoms, treatment, and prevention of fevers, pestilences, &c.; there is no better general standard work of reference, we are disposed to think, than Copeland's "Dictionary." It is the life-labour of an able and competent author, and embodies the fruits of thirty years' diligence, experience, observation, and reflection.—"Fever in Agricultural Districts" (Parker, London), is a report of cases of fever occurring in the parish of Great Horwood, Bucks, by Dr. H. W. Acland, Regius Professor of Medicine in the University of Oxford. Fever has been endemic in Great Horwood since last year, and Dr. Acland attributes it to overcrowded dwellings, putrescent animal and vegetable matter, and bad ventilation, no less than to destitution, bodily and mental depression, and contagion. A model cottage, he rightly thinks, is much wanted in all such places. The report is an interesting corollary on what we just lately said ourselves on the sanitary state of rural districts.

Bodily Exercise: The third of a Series of plain and simple Lectures on the Education of Man. By THOMAS HOPLEY, F.S.S. London: Houlston and Wright, Paternoster-row. 1858.

GEORGE COMBE, lately deceased, in his "Constitution of Man," and other kindred publications, did a vast deal to advance man's knowledge of the laws of his physical and mental constitution, and the advantages to be gained, and the evils to be obviated, by a due observance of or obedience to them. Mr. Hopley's lectures are based upon cognate principles. The present is the second lecture on bodily exercise. It treats of the effects of exercise after a hearty meal—the sanitary value of cultivating in young people a taste for geology, botany, entomology, ornithology, and natural history generally—the reforms required in schools for females—spinal curvature—a glance at the routine of a fashionable establishment for young ladies—a glance at needlewomen and factory children—deformities among the lace manufacturers of Bedford, Nottingham, &c.—and what has Government done for these? Following the lecture,—which inculcates, in a telling way, many truths which it is desirable to publish as widely as possible so as to aid in forming an enlightened opinion on the subject,—there are appended some remarks on "Wrongs which cry for redress," in which the long hours of labour and overwork of children and others, which even still prevail in some of the manufacturing districts, are shown from evidence collected by authority of Parliament, down to the present time.

Conversations on Natural Philosophy. By Mrs. MARCET: illustrated. Thirteenth edition. Longman and Co. 1858.

THE thirteenth edition of this well-known and admirable work by Mrs. Marcet, for behoof of the young, needs little to be said by us in its behalf. All we would wish to say is this,—consider well, good reader of the *Builder*, ere you decide that *you* are too old to benefit by these instructive "Conversations."

* We may here remark that Mr. Cunningham, of Liverpool, architect, according to the local *Journal*, has "hit upon the exact thing wanted," but we have failed to discover anything novel in that either. Mr. Cunningham proposes a series of tanks at the discharge of a sewer in which to collect the sewage, and mix it with lime into a solid or plastic paste, to be then taken out, and the tank refilled as before.

Reading Lessons. Advanced Series. Fourth Book. Edited by EDWARD HUGHES, A.I.C.E. Head Master of the Royal Naval Lower School, Greenwich Hospital. With numerous illustrations. Longman and Co. 1858.

THE peculiarity and excellence of this work, as we have before noted, consists in this, that it is made up of various essays written by different persons more or less versant with the special subject on which he has been engaged to write. Thus we have here, in the fourth book, essays,—by R. W. Wornum, on the Fine Arts; by Grace* Calvert and others, on Arts and Manufactures; by G. L. Craik and Hugo Reid on Scientific Biography; by John Tyndall on Heat; by Robert Hunt on Light; and so on. Besides these, there are various other essays,—on Meteorology, by James Glaisher; on Animal Physiology, by James Mann; on Natural History, by G. J. Allman; on Astronomy, by Robert Main, &c.; so that altogether this is quite a model book of "Reading Lessons," so far as regards substance, at least; and it is no less unobjectionable as regards style of composition, the essays being carefully written, and clear and popular in explanation.

VARIORUM.

"THE Permanent Way and Coal Burning Locomotive Boilers of European Railways," by Zerah Colburn and Alexander Holley (New York, Holley and Colburn), is the unattractive first-half of the title of a very important illustrated report, containing facts for a comparison of the working economy of European and American lines, and for the discovery of the principles upon which improvement must proceed. We shall take an early opportunity to abstract some of the information it contains for the advantage of our readers; and in the meanwhile, commend it to the consideration of all who are interested in the construction and working of railways, especially in America. The cost of maintaining and working the American lines eats up everything. The comparison of the two national systems will be found to be very much against that of America, a circumstance and the reasons for which must interest, not only the engineering profession, but the moneyed interest also of this country. The work will be found quite full, too, upon the further Improvement of Permanent Way and Coal-Burning Locomotive Boilers, in which, even here, great interest is now taken, and for which several very novel systems of construction and practice are now on trial.——Under the title of "Board Management," an "Address to Shareholders in Search of a Dividend" has been published (Stanford, Charing-cross), the writer of which calls for the removal of *Boards* altogether, and the elevation of the secretary to power, under a permanent commission with a president for life, appointed by the Crown or the Court of Chancery, subject to dismissal by the vote of shareholders holding three-fifths of the capital of the undertakings, who avail themselves of its machinery. "The Commission to consist of a number of chief clerks for the various departments, whose duties would embrace the whole business, and who should be taken in the first instance from the different railway offices, which would be closed by this plan, and their places, vacant by death or withdrawal, to be filled up by promotion from the under clerks."——The current No. of "Titan" contains, under the heading "*Leviter Legenda*," a long and cleverly written critical journal in Italy, the second of a series.——"A Manual of Domestic Economy, with Hints on Domestic Medicine and Surgery, prepared under the direction of the Committee of the Home and Colonial School Society, for the use of Students in Training Schools, Pupil Teachers, and Others, at the suggestion of the Rev. F. C. Cook, one of H.M.'s Inspectors of Schools. By W. B. Tegetmeier" (Groombridge, Paternoster-row), is a very useful little volume, already noticed in the *Builder*, and which we here again allude to for the purpose of remarking that it has now reached a fourth edition, and has been revised and enlarged.——No. 15 of Vol. II. new series, for May, 1858, of a bi-monthly journal of "Proceedings and Papers of the Kilkenny and South-east of Ireland Archæological Society" has been issued. Besides reports of meetings, it contains Mr. E. Fitzgerald's paper on "Ancient Mason Marks at Youghal," &c. with which our readers are already madeacquainted, and another on "The Clan Kavanagh, temp. Henry VIII." by Mr. H. F. Hore.——The first number of a four-penny publication called "The Horological Journal" has just appeared. In the introductory address, the editor declares the chief purpose of this journal to be "that the greatest amount of solid information may be supplied to those who, from the apathy at present manifested in the artistic part of their profession, appear particularly to require a healthy stimulant,"—a purpose, the urgency of which will readily be admitted by all who are cognizant of the way in which Mr. Bennett's endeavours to improve our home manufacture of watches were met at Clerkenwell by the operatives not long ago. —The biographical notice of M. Joseph Gautherot, "the Hydroscope" (or water seer), now in England, and willing to be employed; and the compact little "Guide to the Cathedrals of England and Wales," by Mackenzie Walcott, M.A. (Stanford, Charing-cross), must stand over for a time.

* Mr. Calvert's name, by the way, is, by a printer's error, called, throughout, "Grace Calvert."

Miscellanea.

NEW GASOMETER AT IMPERIAL GAS COMPANY'S, HACKNEY-ROAD. Messrs. Westwood and Wright, engineers and gasometer builders, of Brierly-hill, Dudley, have nearly completed a gigantic gasometer, from the design of the Imperial Gas Company's engineer. The machinery for the execution of the work is simple, but of unusually large dimensions, on account of the ponderous weights which the contractors had to raise to a great elevation before they could be secured. In a few weeks this monster specimen of engineering will be completed.

DISCOVERY AT DORCHESTER.—A piece of tessellated Roman pavement was found in the gaol-grounds, Dorchester, while excavating a grave for the convict Seal. Upon the discovery, another spot was chosen, and an attempt will be made to preserve this relic of antiquity. The pattern, according to the *Wilts Mirror*, is very distinct, and the colours rich in variety.

EXHIBITION OF INDUSTRY AT LEEDS. — An exhibition, illustrative of the products, manufactures, and industry of the borough of Leeds, has been opened in that town. The idea was suggested by the local committee of the British Association for the Advancement of Science, and the exhibition has been got up under the direction of the Chamber of Commerce. It is held in a portion of one of the wings of the coloured cloth hall, which has been arranged for the exhibition of the various articles contributed. Upwards of 200 exhibitors have sent specimens of their industry, and the exhibition is divided under the following heads:—Natural products; agricultural implements and tools; chemical and pharmaceutical preparations; works from mineral products (not metallic); constructive, plastic, and decorative art; iron, and works composed principally of iron and brass, in nine subdivisions; textile materials and manufactures; paper manufacture, stationery, and lithography; philosophical instruments and general articles of ingenuity and taste. No medals or certificates will be awarded.

MACHINE FOR RINGING CHURCH BELLS.—A contrivance has been patented by Mr. Wright Jones, of Pendleton, engineer, for ringing bells Mr. Jones has fitted up one of his machines in the Tower of St. Thomas's Church, Pendleton. The peal of eight bells is said to be easily rung by a boy. The apparatus, which occupies scarcely a square yard of space, is worked by the simple turning of a handle, which gives motion to levers and tappets. The hammer is fixed near the outer rim of each bell, working on a spindle at the top, over which projects a short lever. To this a wire is attached, which descends over a pulley (or a crank) to the machine. The wires from all the bells in this way converge upon the instrument, and each wire can be regulated in length by a screw, and made to strike the bell with more or less force, as may be found desirable. Uniform turning of the handle is said to be all the skill required by the operator. The swinging of bells may thus be obviated.

GAS.—At the half-yearly meeting of the Birmingham and Staffordshire Gas Company, a dividend was declared at the rate of 10 per cent. per annum.——At the meeting of the Wolverhampton Company, the manager read the thirteenth half-yearly report of the directors, which stated that during the past half-year the revenue derived from gas rental, coke, tar, ammoniacal liquor, &c., was 10,609*l.* 17s. 4d. and the expenditure 6,796*l* 1s. 1d. leaving a balance of 3,813*l.* 16s. 3d. From this sum the directors recommended the payment of the usual dividend of 10 per cent. per annum, amounting to 3,558*l.* 8s. payable on and after the 8th of September, and the surplus of 255*l.* 8s. 3d. to be passed to the reserve fund, which would then stand at 1,454*l.* 14s. 9d.

BRICK AND TILE WORK AT ERROL.—The numerous brick buildings recently erected, or in process of erection, in this quarter, remarks a Scottish contemporary, betoken the existence of a brick manufactory in the vicinity. This is the most extensive branch of industry in the place, giving, at present, employment to above 150 persons. The improved processes of husbandry have given rise to a great demand for tile for drainage and other agricultural purposes, and in consequence, the works have greatly extended their operations within the last few years. The proprietor at present has an extensive contract with the Police Commissioners for Dundee, for supplying brick for sewerage purposes. Eight "tables" are constantly employed just now solely in making brick, each table turning out between four and five thousand bricks daily. Estimating the weekly quota at 200,000, and the value at 25s. per thousand, this will represent 1,000*l.* monthly as the value of the brick produced here.

THE DEPARTMENT OF ART.—We learn that Mr. Henry Cole has found it necessary, in accordance with the advice of his medical advisers, to seek mental rest by leaving the country for some months. He has proceeded to Italy to make a long-contemplated inspection of the works of fine art there, and will, we hope, derive advantage from the step. He is at present in Turin with Mr. Redgrave.

ACCIDENTS.—Two lives were lost last week at the shop, No. 266, High-street, Poplar, by the falling in of an oven, which some men were employed in constructing. While two labourers were under it, the crown suddenly gave way, and the *débris* immediately covered and suffocated them.——An inquest was held before the borough coroner of Liverpool, on the 28th ult. on the body of a labourer. On the Thursday previous he was employed to connect the drain from a house in Blundell-street with the main sewer. To avoid risk from the noxious gases of the sewer, and the falling-in of the earth, he should first have made an "eye" in the street, and have worked from that to the house. Instead of doing so, however, he commenced driving an underground communication between the house and the sewer, persisting in this course notwithstanding an injunction to the contrary from an officer from the office of the borough engineer. He commenced the work on Thursday morning, and by night he had driven a hole of about 6 feet or 8 feet in extent, and 4 feet or 5 feet square. The occupant of the house asked him if he was going to work all night, and he said he should keep on till twelve. About a quarter to twelve this person, perceiving that his light was extinguished, called for assistance, and a neighbour went with a candle down the hole, and at the bottom found the deceased, buried up to the neck in sand, and apparently dead. The smell of gas was strong. A hole was opened from the street, and, after much difficulty, the unfortunate man was got out, but life was extinct. Verdict: "Accidental death."

THE MAIN DRAINAGE SCHEME.—A meeting of the Greenwich District Board of Works was held on Wednesday before last, at the Board-room, Greenwich, for the purpose of taking into consideration the proposed placing of the outfall and the construction of deodorizing works in the Greenwich marshes. Captain Routh moved the following resolution:—"That any proposition for an outfall at Greenwich, and for deodorizing or defecating the sewage of the southern side of the metropolis in or near the Greenwich marshes, is highly objectionable, and fraught with danger to the health of the inhabitants of this populous district; and this Board therefore protests against any such plan or project, the result of which would be so injurious to persons and property in this district being carried into effect." The motion was seconded by Mr. Reeve, and carried.

FEVER IN THE HOUSE.—Fever lately prevailed in a northern part of London, which proved fatal to three persons in the same house. This was reported to the parish authorities, with the remark that there was nothing the matter with the house in which this event happened. On the spot no exact information could be obtained about the drainage, though it seemed suspicious, but the construction of the house was sufficient to account for fever, inhabited as it was by a number of inmates. This house was one of a row placed back to back against another row. There was no attempt at ventilation in the front door, no back door at all; no window in the staircase, no opening to the roof: the room doors were all close, without perforation: so were the windows. If even the drainage of this fever place be good—a matter which is doubtful—there is sufficient cause in such ill-construction for the development of disease.

Competition: Battersea.—The designs of Mr. Thomas W. Horn, of the Adelphi, have been accepted for the "Battersea Lammas Hall."

Death of Mr. Alfred Gee, C.E.—We regret to have to record the death of Mr. Alfred Gee, civil engineer, occasioned by an accident on the line of railway which is in course of formation in Spain under his auspices. The particulars of this painful event have not yet reached this country.—*Lancaster Guardian.*

Leicestershire Architectural and Archæological Society.—A meeting of this society was held in the Town Hall, Leicester, on the 30th ult. the Rev. G. E. Gillett in the chair. The secretary laid before the committee a statement of the expenses incurred by the society at the annual meeting held at Market Harborough on the 28th July, amounting to 9*l.* 14*s.* 6*d.* which were approved and ordered to be paid. Various objects of interest were exhibited. Mr. Thompson laid before the committee memoranda concerning discoveries recently made in Leicester, in excavations required in the extension of its sewerage system. It seems that in every part, relics of the Roman period (from A.D. 50 to 450) are repeatedly met with. What is considered worthy of preservation generally finds its way to the Leicester Museum. The foundations of an extensive building have been lately partially uncovered. Mr. Gresely read a paper on some building remains of thirteenth century, at Medbourne.

Death from Imperfect Sewerage.—On Monday last Mr. Baker held an inquest at the City Arms, on view of the body of Catherine Nathan, aged eight years, whose death arose from inhaling a noxious effluvium emanating from a sewer. The deceased, it appeared, was living with her parents in London-street, and was in good health up to a few days ago. In the course of the week a most noxious effluvium emanated from the grating in front of the house, which so affected the deceased that she was seized with vomiting, and died in consequence. Mr. Bevington, surgeon, Brook-street, Ratcliff, stated that he was called to attend the deceased, and that it was his opinion deceased's death resulted from the sewer. The jury returned a verdict to that effect.

Wolverhampton School of Practical Art.—A meeting to inaugurate the opening of the fifth session of this institution was held on the 2nd instant, at the institution, Darlington-street, Mr. E. Perry, one of the vice-presidents, in the chair. Mr. George Wallis, of the Department of Science and Art (formerly of this town) delivered an address to the students, as did also Mr. Mückley, from Burslem, the newly-appointed head master of the school. The walls of the room were decorated with old engravings and works of art, &c. In his address to the students, Mr. Wallis, amongst other points, spoke of symmetry. They were called upon, he remarked, by the action of their eye, to judge of the symmetry of an object; and, unless they could judge absolutely of perfect symmetry, they could not detect when an object was not symmetrical. Natural objects were not absolutely symmetrical: two sides would, to a certain extent, differ from each other, and as they seemed symmetrical, the practised eye only could detect the deviation. It might be said that the two sides of a man's face were alike, but he said that generally they were not, and it was because common-place portrait painters persisted in maintaining the former proposition, that they produced such insipid portraits as they did. If they took up a doll in which every thing was perfect as regarded symmetry, they would find it perfectly insipid. To draw a face correctly it was, therefore, necessary that the painter should be able first to ascertain whether it was absolutely symmetrical, and, if not, how much it deviated from absolute symmetry. If they could not detect the deviation, then he told them they could not draw the face; they could not give that truthful representation of it necessary to convey the character. The same remarks held good in drawing objects from nature. Therefore he told them again that, while learning to draw, they must draw the two sides of the perfectly symmetrical object placed before them, though, when they were proficient and came to the practice of the art, to draw the two sides would be a waste of time. A vote of thanks to Mr. Wallis was unanimously adopted.*

* A testimonial has been presented to Mr. Wallis by a number of gentlemen interested in the progress of art in Birmingham. Since his resignation of the appointment of head master of the Birmingham School of Art, Mr. Wallis has been engaged in organizing the exhibition of works designed or executed by students of the Schools of Art at the South Kensington Museum. The present from his friends consisted of a drawing-room time-piece, in bronze, surrounded by figures representing Faith, Hope, and Charity, and a tea service in silver.

Thames Ditton.—The first stone of a new parsonage-house was laid by Lord St. Leonards, on Friday last, in the presence of the incumbent and the principal part of the inhabitants, and children of the National schools. Mr. Giles is the architect, and Messrs. Dodson and Son, the builders.

Honours from Rome.—We understand that the Pope has conferred upon Mr. Edward Pugin, architect, the order of St. Sylvester. It was communicated by Cardinal Wiseman, at the celebration of the Ushaw College Jubilee, in testimony as well probably to the services of the father as of satisfaction with the works of the son.

Prospects in the Colonies.—The discovery of gold in British Columbia (says the *Canadian News*), will give a vast impetus to the growth of our power on the westward side of the continent, and will hasten forward that line of railway from New Brunswick to the Pacific, which will be of such importance to the commerce of England. The climate of this district is said to be fertile in the highest degree, and possesses great agricultural capabilities. A considerable portion of this land, which lies between the Cascade Mountains and the Pacific, is subject to a remarkably equal temperament. Snow seldom lies on the ground for a week, and the rains, although frequent, are not heavy. All fruits are as early there as in this country, and grass grows on the top of the hills. The eastern section, however, under the snows of the Rocky Mountains, cannot be praised for its climate, for it is subject to great changes of temperature, going through all the gradations of summer, autumn, and winter in a single day. A numerous body of the Royal Engineers have been fitted out for this colony, who will be employed in making roads, and enforcing the laws which have been passed. A letter to Mr. Bright, M.P. addressed to him by the contractors about to make a railway from Melbourne to Sandhurst, which has been published, says,—"This operation will necessarily find employment for a vast number of hands; and if a thousand masons were to arrive here, we could readily find them employment at 11*s.* per day. Indeed, if, during the next year, such a body of labour could be placed in the market, competent to work granite, blue-stone, or the yellow free-stone of this colony, they may safely rely on the wages quoted." They refer to their London agents, Messrs. De Pass and Sons, to supply information. They add: "We may also mention, that if one or even two thousand navvies were to come forth, we would readily find work for them at 8*s.* a day."

Street Fountains.—Four or five drinking-fountains are about to be erected in the most public thoroughfares in Leicester; and at Birmingham, the trustees of the Savings Bank have placed a public drinking-fountain in front of that institution, and another at the back entrance in Needless-alley. Another drinking-fountain has been erected in Derby, through the liberality of Mr. Josiah Lewis. It is similar to the one adjoining St. Michael's Church. The site chosen by Mr. Lewis is Lodge-lane, at the top of Willow-row. At the opening of the Liverpool Borough Sessions, the Recorder, in charging the grand jury, noticed the diminution of crime directly referable to drunkenness, and attributed this improvement in social morality to the influence of the public drinking-fountains, recently erected all over the town by Mr. Melly. As we have before said, temperance societies ought to agitate for the bountiful extension of street fountains in every town and village throughout the country. An excellent addition has just been made to one of the "Melly fountains," namely, the receiving of the waste water from the drinking-fountain into an iron trough for cattle, and a smaller trough for dogs. This has been done by a benevolent lady, whose example will no doubt be followed by many others. The Local Government Act of 1858 will prove of great service to towns in respect to public fountains. By section 45, "The commissioners shall cause all existing public cisterns, pumps, wells, conduits, and other waterworks used for the gratuitous supply of water to the inhabitants within the limits of the special Act, to be continued, maintained, and supplied with water, or they shall substitute other such works equally convenient, and shall cause them to be maintained and supplied with water; and such public cisterns and other works shall be vested in the commissioners, and be under their management and control; and the commissioners may construct any number of new cisterns, pumps, conduits, and other water works, for the gratuitous use of any persons who choose to carry the same away, not for sale, but for their own private use, and may supply with water any public baths or washhouses."

Disinfecting Agents.—In connection with some recent observations in our columns, a correspondent who has had experience of it recommends Collins's "Chlorine Powder," as it is termed. He says it was successfully used in the camp at Aldershot, and at his recommendation was used for some time by the Metropolitan Sewage Commission labourers, for preventing accidents from cleansing out foul sewers, &c.

French Triumphal Arches.—A new style of architecture has been found in Brittany for the rearing of triumphal arches. We now have the Piscatorial and Agricultural, in place of the Doric or Corinthian. The fishermen of Vannes, on a skeleton of spars spliced in seaman fashion, festooned the whole with nets, trawls, and instruments of their craft, prongs, and boat-hooks; the effect being much admired by the Empress, whose wonder was increased, some posts inland, by passing under an arch built up with wheel-barrows, ploughs, harrows, scythes, and greenery in all branches.

Cambrian Archæological Association.—The twelfth annual meeting of this association began on the 30th of August, and lasted till the 4th inst. The members mustered in good number, under the presidency of the Lord Bishop of St. Asaph. As usual in all meetings of this kind, excursions were made by the association each day to explore the various antiquarian remains of the district, and each evening the members assembled to hear papers and memoirs read, to discuss various topics connected with this peculiar pursuit, and to hear accounts given of the result of every morning's operations. A temporary museum was formed, and contained a small but good collection of charters and other mediæval documents connected with the neighbourhood, a numerous collection of early seals, specimens of armour, coins, early printed books, &c.

Give us our Own.—The *Labourer's Friend* for August 31st contains four articles, occupying eight pages out of its sixteen, reprinted from the *Builder* without the remotest acknowledgment. This is doubtless through an oversight, we feel quite sure it is so, knowing how the society is managed, but we think it necessary to point it out that it may be avoided in future. It gives us the greatest pleasure to see articles from our pages reprinted elsewhere: we feel that contemporaries who so far favour us thus increase enormously the value of any efforts, with good ends in view, that may be made by the *Builder*, and we thank them accordingly: but, at the same time, we confess to the weakness of desiring to see the source acknowledged.

Metropolitan Main Drainage.—We have now before us the reply of Captain Galton and Mr. Simpson, the Government referees, to the "Observations" of Messrs. Bidder, Hawksley, and Bazalgette, on the answer of the former to the report of the latter on Captain Galton and Mr. Simpson's report. It is too late this week, however, to enter into the new "reply." The Government referees in this document assert "that, if the project of the engineers of the Metropolitan Board of Works be adopted, it will, in addition to its first cost, entail a large annual expenditure on the metropolis, without giving that relief which the public have been led to expect."

Muir's Patent for Warming and Ventilating.—A patent, of date 13th January, 1858, taken out by Mr. G. W. Muir, of Manchester, relates, first, to forming the pipes through which hot water is made to circulate with flanges; such pipes being placed on the top of fresh-air drains, and made to support tiles with which they are covered; the flanges and tiles having openings through which the air passes from the drain into the place to be warmed;—secondly, to constructing ventilators, or ventilating shafts, so that inward and outward currents are produced and maintained. The shafts may be square, round, or of any other section, and are formed double, that is, one within the diameter or circumference of the other. The outer shaft is divided vertically into compartments, but the inner is not generally so divided. The compartments of the outer shaft may be used for either inward or outward currents, but the inner shaft the patentee prefers to use for outward currents only.

Royal Manchester Institution.—The "private view" of the exhibition of modern pictures and works of art is to take place this Friday, September 10th. The card of invitation drawn by Mr. F. Holding, engraved by Mr. Norton, is a very creditable production, but would have been better if the figures and the foliage had been on the same scale. Mr. E. Salomons is now the Hon. Secretary of the Institution.

CHROMO-PHOTOGRAPHY.—We hear that an invention, likely to create a revolution in the art of photography, has recently been made by Mr. Backshell, of the Photographic Institution, Durham-place, Dalston, and which has received the protection of letters patent. It consists, we are told, in producing a coloured non-inverted photograph.

MR. ROBERT STEPHENSON AND THE WORKMEN AT SUNDERLAND-BRIDGE.—The workmen employed at Sunderland-bridge presented Mr. Robert Stephenson, M.P. and his brother engineers, with an address, on the occasion of his visit to Sunderland, in company with the members of the Institution of Mechanical Engineers. Mr. Stephenson, in reply, said,—"There are no members of society for whom I have a higher respect than for industrious and intelligent workmen. It is to them that the engineer is indebted for the full and efficient realization of his conceptions, which, however good they may be, must largely depend upon the skill of the workman for their success. The progress made in the higher branches of engineering during the last thirty years may be attributed in a great degree to the improved skill and intelligence of the workmen. The advance of mechanical science, and its application to useful purposes, must always go hand-in-hand with the skill and also with the comfort of the working classes. I cannot refer to a better example in proof of this than the bridge upon which we are now standing. The alterations and improvements which you are so admirably carrying on could not have been executed at the time when the original bridge was designed. If the engineer, therefore, had even designed the bridge as it is now intended to be made, his mental labour would have been vain and useless, for there was not sufficient skilled labour in the country to realize such an idea. I merely take this bridge as an appropriate example on the present occasion, because it is a work you are now carrying out under my own directions; but it is only necessary to look around, and we meet everywhere with engineering works to which the remarks I have just made apply in the strictest manner, and reflection on such subjects teaches us to feel that skilled labour is the great fulcrum upon which all our social progress depends, and that the success of this progress is just in proportion to the skill of the labour brought to bear upon the great works so thickly scattered throughout our country."

TENDERS.

For Gosport Defences. Quantities supplied:—

Brass	£284,113 0 0
Camwell	374,800 0 0
Peto and Co.	340,800 0 0
Jackson and Bean	[illegible] 0 0
Jackson, Thomas	293,339 0 0
Lawrence	298,300 0 0
Smith	294,800 0 0
Cubitt and Co.	292,600 0 0
Lucas	290,460 0 0
Rigby	283,000 0 0
Lee and Son	278,500 0 0
Nicholson	255,215 0 0
Kelk	253,400 0 0
Myers	248,500 0 0
Kirk and Parry	245,890 0 0
Piper	243,715 0 0

For mason's, bricklayer's, and carpenter's work, in enlarging caracse of Bloxsdon Abbey, Wilts. Mr. Edward W. Mantell, architect, Swindon:—

Peniter, Highworth	£3,277 14 0
Barrett, Swindon	3,000 16 0
Holtham, Bath	2,719 0 0

For building a Villa Residence on Balls hill, Hertford, for Mr. Benjamin Young. Mr. D. Morgan, architect, Hertford:—

Hunt	£2,750 0 0
Lawrance	2,494 0 0
Hitch	2,445 0 0
Webb	2,450 0 0
Glasscock, Stortford	2,115 0 0
Dove, Brothers, London	2,385 0 0
Norris	2,350 0 0
Macey, London	2,349 0 0
Andrews	2,295 0 0
Raymond	2,235 0 0
Collins	2,190 0 0
Allcock	2,161 0 0
Green	2,100 0 0
Coker, Ware accepted	1,995 0 0
Mitchell, London came too late	2,019 0 0

For semi-detached Dwelling, at Hertford, for Mr. J. Fitzgerald. Mr. W. P. Thompson, architect. Quantities taken out by Mr. G. Jones:—

Brown	£1,976 0 0
Sumpson and Wright	1,950 0 0
Moody	1,899 10 0
Jenkins and Co.	1,809 0 0
Robinson	1,748 0 0
McNeal and Son	1,694 0 0
Jonas, Brothers accepted)	1,405 0 0
Sedgwick	1,249 15 0

For repairs to St Middred's Church, in the Poultry. Mr. Richard Paull, architect.

Lee and Son	£329 0 0
Dawes	195 0 0
J. Carter	74 6 6
Taylor	69 0 0
Hall	293 0 0

For the Boundary Walls, Iron Railway, and Excavations, Brecon Cemetery. Mr. H. J. Paull, architect:—

Price and Williams	£400 0 0
Evan Winstone	397 0 0
Griffiths and Son (accepted)	393 15 0
George and Price	373 11 0
Hergest and Sevenoaks	319 5 0*

* Afterwards withdrawn.

For preliminary alterations to the Residence of Mr. H. Hulme, Hunstow. Mr. James Talley, architect:—

Pickard and Co.	£247 6 0
Dew	243 0 0
Hurst	229 0 0
Nias	194 4 0

For the alterations in the London-road for the Marshall Estates. Messrs. E. and G. Burnell, architects:—

	Villar's.	Down's.	Total.
Piper	£492 0 0 ..	£307 0 0 ..	£799 0 0
Wakefield ..	399 0 0 ..	258 0 0 ..	657 0 0
Sanders, Brs.	397 0 0 ..	246 0 0 ..	643 0 0
Nicholson ..	385 0 0 ..	235 0 0 ..	620 0 0
Little & Son	348 0 0 ..	217 0 0 ..	565 0 0

For the erection of two Chapels, and laying out of Grounds at the new Cemetery, Pontefract. Mr. William Kerby, Architect —

	Allow for an old Building on Site.	£ s. d.	£ s. d.
Lindley, Pontefract		50 0 0	1,262 13 4
Dagdale, Ackworth		30 0 0	1,143 10 0
Stow, Leeds		8 13 0	1,090 7 0
Richardson		7 10 0	1,184 10 0
Pratt, Bradford	.. ..	.. ..	1,150 0 0
Wilkins, Pontefract	.. ..	.. ..	1,149 0 0
Fenton and Myers, Knottingley	.. ..	.. ..	1,065 0 0
Lee and Ashton, Retford	10 0 0	10 0 0	1,047 0 0
Lister, Knottingley	29 0 0	29 0 0	1,066 4 9
Cameron, Barnsley (accepted) ..	20 0 0	20 0 0	886 6 0

TO CORRESPONDENTS.

"Colouring Buildings."—X. Y. would be glad to know the mode for colouring the restoration of a cathedral to imitate the old work of the Anglo-Saxon period, and whether any work has been published to represent ancient colouring. [illegible] to refer to the *Builder* for [illegible] and shall be glad to receive [illegible] J. G.—Delta.—L. C. H.—D. G. (thanks). J. T.—W. P. (yes).—D. H.—P. B.—Titus.—Messrs. A.—H. J.—D. and Son.—T. S. (letters to effect were in type previously).—S. E. B. (ditto).—W. R.

"Boiler."—A Subscriber.—We are forced to decline pointing out [illegible]

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

[ADVERTISEMENT.]

SELF-COILING CONVOLUTED SHUTTERS. The utility of Revolving Shutters for closing windows and other openings is universally acknowledged; but the cost has hitherto prevented their general adoption. Messrs. CLARK and CO. of 15, Gate-street, Lincoln's-inn, have recently introduced a new Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and consequently less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become derangedl.

The Patent Self-coiling Shutter is composed of laths in metal or wood, which are connected by bands, or strips of tempered steel, that form the connection between the laths, and also cause them to coil, or roll themselves up into a circular space, above, below, or on either side of the window: grooves are formed in which the ends of the laths slide, and when the shutters are closed, keep the springs straight: the springs also counterbalance the weight of the shutters, which are opened and closed with the greatest facility. We are disposed to think they will be largely used both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters to large openings may be obviated by their use, without extra cost.—*From the Builder, June 5th*, 1858.

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APPRENTICE WANTED, in the CHURCH DECORATION and STAINED GLASS BUSINESS. Apply to Messrs. [illegible] MAY, Sculptors, 78, [illegible]

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Since Mr. GREAVES introduced this LIME into the London Market it has been so extensively used in all the principal public and other works wherever strong hydraulic lime has been required, that its quality is well known. By the arrangements now made Messrs. GREAVES and KERSHAW will be enabled to deliver LIME direct, fresh from their Works, at such a price as will ensure its being used in all works where quality is considered, it being the best and strongest LIME in the London Market.
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Portland Cement is manufactured at these Works with every regard to its durability, and that for these important Works, Messrs. Walker, Burlton, and Walker, of Liverpool.
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It possesses great strength, takes any ornament polish, and is of an unfading tint, is unlike Asphalte, Lime, or Cement, and
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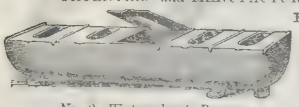

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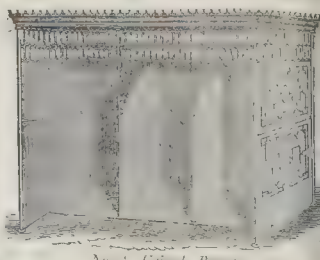

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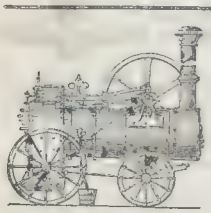

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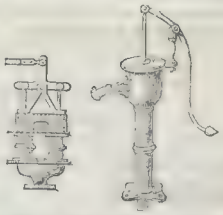

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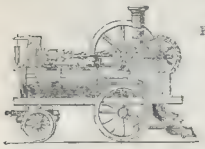

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From Four to Ten-Horse Power, TO LET ON HIRE, by the Week or Month
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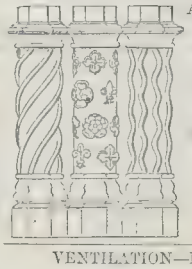

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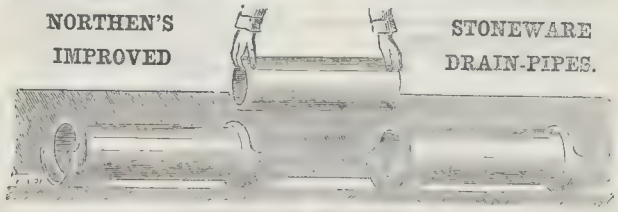

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IT AFFORDS THE SAME FACILITY TO CHANGE THE SAME PIPE AS THE COMMON SOCKET PIPE.

W. N. having [illegible] to make the [illegible] and [illegible] of the most improved descriptions, he [illegible] to [illegible]

VENTILATION—PURE AIR.

Sherringham's [illegible] admission
Ventilator [illegible] of Pure A
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With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

closed for the evening, at which time a constant supply of fresh air [illegible] HAYWARD, [illegible]

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Offer for sale from the Finest Hill Stocks, [illegible] SALE, BRICKS and TILES, DRAIN-PIPES [illegible] of the CERAMIC Works, of very superior quality, [illegible] lower than usual [illegible] of the Works [illegible] by Competent Judges [illegible] and parties [illegible] to Mr. J. LIEN DENT, the Manager of the Works, or of the Offices of the Company, No. KING WILLIAM-STREET, LONDON, E.C. where Samples and Specimens may be inspected.

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7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

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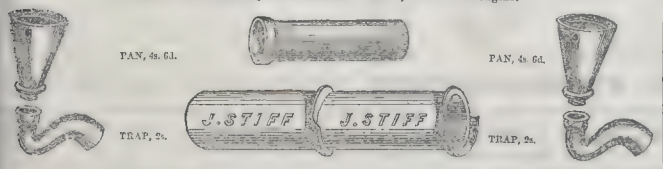
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



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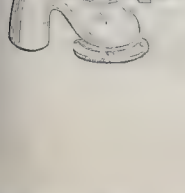


DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

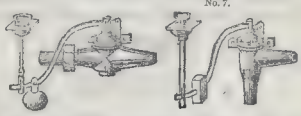
DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED,
AND
LAMBERT'S HIGH-PRESSURE VALVE-COCK.
WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Gardeners' Yards, &c. Price 5s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 1, 3, Lamb's-lane, and Spa-road, Bermondsey.

DRAIN PIPES.—More than 20,000 of 4-inch for immediate SALE, of first quality.—Sample pipe and price to be seen at the Office of "The Builder;" or by application to the Manufacturer, W. D. LONSDALE, Nottingham.

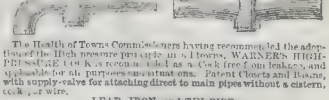
LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE, No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,
THOMAS LAMBERT and SON,
BRASS FOUNDERS AND ENGINEERS,
Corner of Stockwell-street, Newcastl, Lambeth, S.
N.B.—No. 7, complete with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 1os. 6d. each

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

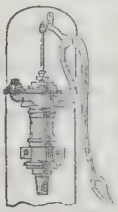


The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cock, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

TO BUILDERS AND PLUMBERS.

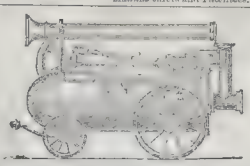


The Attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slides and guides are unnecessary, rendering the pump considerably less than Pumps made on the old plan.

Also, Gas, Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Gaphi Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without an option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 66, Bow-street-road, London.

TO BE SOLD, a 12-horse HORIZONTAL ENGINE, with boiler, almost new. Will be sold a bargain.—Apply at the Office of "The Builder."

MARINE ENGINES. TO BE SOLD, by Private Contract, a pair of MARINE ENGINES, of 110-horse power respectively, constructed by Messrs. Maudslay, Sons, and Co., on the oscillating principle. The cylinders are 48 inches diameter, length of stroke, 3 feet; gun-metal air-pump, 20 inches diameter, 18 inches stroke; gun-metal feed and bilge pumps; copper steam pipes; wrought-iron feeding-butts of 1,000 gallons each, and other fittings, adapted for a vessel of 18 feet beam.—For further particulars, apply to Messrs. FULLER and HORSEY, 14, Billiter-street, E.C.

STEAM MACHINERY.—WANTED to PURCHASE, a CIRCULAR SAW BENCH, with pulling up motion; PILE ENGINES for working by steam power; PUMPS to throw 500 to 1,000 gallons per minute; also a six or seven ton CRANE, to work in a circle. Address, with full particulars and where to be seen, price, &c. to A. B. 2, Doddington-grove, New-street, Kennington-road, S.

STEAM-ENGINES WANTED.—A 6-horse and 8-horse power PORTABLE ENGINE. Must be in perfect working order. Address, stating full particulars of price, &c. and where to be seen, to Mr. CLEAVER, News-agent, Commercial-road, Lambeth, S.

WOOD HUTS.—Any party having these to DISPOSE OF, such as will answer for temporary dwellings for workmen, may address, with particulars, to A. B. 11, Studley-terrace, Larkhall-lane, S.

SALES BY AUCTION.

TO BE SOLD, pursuant to a decree of the High Court of Chancery made in a cause of Smith v. Tyce, with the approbation of the Master of the Rolls, in eight lots, by

MR. THOMAS HEWS, the person appointed by the said Judge, at the CATHERINE WHEEL INN, Bishophill, Pontefract, on THURSDAY, the 16th day of SEPTEMBER, 1858, at TWELVE o'clock, the following valuable FREEHOLD PROPERTIES, viz.:—Lot 1, Two Houses and premises, with garden, in Duke-street, Hedley; a house and premises, with garden, in the North side of the Market-place, Hedley, a house, warehouse and extensive business premises, in workshops, with cellars, coachhouse, stabling, and other premises, also dwelling-house, with garden, in Bell-street, Hedley, together with the GOODWILL and STOCK IN TRADE of the late Mr. Frederick Tate, in Bell-street, deceased; a dwelling-house and premises, with garden, coachhouse, stabling, and small paddock, also in Bell-street, Hedley; two cottages, with gardens, and to let at Skelton, in the Parish of Birkenhead, Bucks; and a dwelling-house and premises in Moor-lane, Staplehurst, Kent. And Lot 8, Lands and Rents, Messuages, and Tenements, situate in the Parish of Ringmer, Sussex, all let to tenants. Also Mr. Bedrock Tracy, Horsham. Printed particulars of the several lots may be had gratis: in London, of Messrs. KING, SHELLEY and BOSANQUET, Solicitors, 81, Pall-mall, S.W.; Messrs. MAWBURN and HARVEY, Solicitors, 29, Canonbury-square, N.; and Mr. CHARLES BERKELEY, Solicitor, 59, Lincoln's-inn-fields, W.C.; and in the Country, of Mr. THOMAS LEDIARD, Solicitor, Bell-street, Henley; Messrs. COOPER, Solicitors, Henley; and of Mr. Alfred Lucas, Henley; and at the Place of Sale.—Dated this 29th day of July, 1858.

GEO. HUME, Chief Clerk.

IMPORTANT CEMENT, PAINT, COLOUR, and BRUSH MANUFACTORY, at HULL, to be SOLD by AUCTION (by order of the Devisees under the will of the late Mr. Wm. Thomas deceased), by

MESSRS. DANIELS and CLOUGHTON, at their SALE-ROOM, in Bishop-lane, Hull, on THURSDAY, the 16th day of SEPTEMBER, 1858, at ONE o'clock in the afternoon (unless previously disposed of by private contract), in one lot, such ready-made and well-known freehold, one of the most lucrative and important Establishments in the thriving and populous Town of Kingston-upon-Hull, comprising the following branches of business lately carried on with extensive connection upon the Premises, namely, British and Portland cement, plaster of Paris paints, painting brushes, and general brushmaking in all its departments, making French and pearl buttons, carving, sawing, and wood turning. The genuine plot of the premises comprises upwards of two acres of land of ground, having a frontage next the river Hull, with a good wharf, and adjoining upon Church-street, and in the immediate neighbourhood of one of the North Eastern Railway stations. The buildings comprise an extensive warehouse (with arched cellars), three of the lofts high, adjoining the River Hull, where vessels of large burden can discharge alongside. Also, the Main Building, formerly used as a sugar-house (which might easily be converted into an oil mill), is twelve stories high, with two steam engines often and twenty horse-power respectively, the machinery of which is in a good working order. Also, a good Dwelling House, with three tenements for workmen, cement kilns, cooperage, stable, pig house, and soft sheds, with every convenience for carrying on a very extensive business; which has been kept by the late proprietor for more than half a century past. For a view of the premises apply to Mr. HUNTER, the Cashier, at the Works; and for further particulars apply to the Auctioneers, or at the Offices of Messrs. DRYDEN and SON, Solicitors, Hull.—Hull, August 18, 1858.

STRATFORD, ESSEX.—The valuable Plant and Machinery of Mr. W. Papmeau's extensive Chemical Works, together with the remaining Stock.

MESSRS. PRICE and CLARK will SELL by AUCTION, on the PREMISES, near Harrow bridge, Stratford, Essex, on MONDAY, SEPTEMBER 13th, and following day, at TWELVE for ONE o'clock, in consequence of the expiration of the lease, the PLANT, comprising two steam engines, small portable engine, four cast-iron boilers, with wrought-iron flanges, 30 feet long and 6 feet in diameter, &c., lead well and tank, 1 cwt. about forty tons of lead; two iron tanks, capable of holding 7,000 and 6,000 gallons respectively; five slate tanks, weekly cast-iron and iron, strongly iron bound, evaporating pans, stills, filters, 200 stoneware receivers and settling pans, acid screening machines, gas and water piping, beams, scales, and weights, a hay mare, a grey gelding, a lorry, cart, a four-wheels Tarap, and all the necessary apparatus required in manufacturing chemicals. May be viewed the Friday and Saturday preceding the sale, when catalogues may be had on the Premises, and of Messrs. PRICE and CLARK, 18, Change-alley, Cornhill.

To BUILDERS, CABINET MAKERS, COACH BUILDERS, PACKING CASE MAKERS, CHAIR MANUFACTURERS, and OTHERS.—Gough-street, Mount-pleasant, Gray's Inn-road.

MESSRS. C. and H. WHITE will SELL by AUCTION, on the PREMISES, in the rear of Gough-street, Mount-pleasant, Gray's Inn-road, on WEDNESDAY and THURSDAY, the 15th and 16th of SEPTEMBER, 1858, at TWELVE for TWELVE o'clock, the entire STOCK of TIMBER, consisting of fine yellow and white pine planks, boards, 7,000 feet super white pine timber sawn, well seasoned, 20 only mahogany planks, 1,000 feet, 1,000 yellow deals, 2 thousand feet super Honduras and Spanish mahogany, 6 sets of super Italian and American walnut wood, the square timber, lining, cabin fittings, sawn mahogany, and a quantity of iron and brass. May be viewed the day prior and morning of sale.—Catalogues had on the Premises, and of the Auctioneers, No. 130, Prince's-road, Isleworth.

DOWNING-STREET PUBLIC OFFICES EXTENSION.—Third Sale of Valuable Building Materials.

MESSRS. GLASIER and SON are favoured with instructions from the Commissioners of Her Majesty's Works and Public Buildings, to SELL by AUCTION, on the PREMISES, on THURSDAY, SEPTEMBER 16th, at TWELVE for ONE, the valuable BUILDING MATERIALS of THREE LARGE HOUSES, Nos. 9, 10, and 11, Downing-street, and FIVE HOUSES, Nos. 6, 7, 8, 12, and 13, King-street, Westminster, including the Cloth and Horse Hair kept by Mr. Collier, well-known as the contractor for the above capital sites, bricks, slates, and all that valuable timber in roofing, floors, a very useful dwarf brick warehousing, sashes and frames, doors and frames, private and staircase balusters, York and other paving, coping, &c., stone cistern, several tons of good iron pumps, pipes, cisterns, &c., marble and stationary lobby pieces in polished slates, &c., excellent Kentish rag and Caen stone, and other valuable effects. On view the day prior and morning of sale, and catalogues had at the Office of Works, 15, Whitehall-place; of JAMES PENNETHORNE, Esq., 7, Wimbledon-villas, Putney; of the Auctioneers, at GARRAWAYS, at the Auction Mart, 71 and 72, Tokenhouse-yard, Lothbury.

BUILDING MATERIALS.

MR. ELLIS is directed to SELL by AUCTION, on FRIDAY, the 17th day of SEPTEMBER, at TWELVE o'clock, in lots, to be taken down by the purchasers, the excellent MATERIALS [illegible] WAPPING, adjoining St. Bride's Wharf, with the [illegible] in the rear, comprising principally first-class [illegible] about 60 feet of Yorkshire landing, with [illegible] at 12s. per foot cleared dimensions, the [illegible] gutter, coping, and PAVIOURS' paving, [illegible] other excellent matters, first-class portland stone [illegible] pairs sashes and frames, 80 stone sills, 4 shop fronts, and a variety of useful chimney pieces, [illegible] register and other stoves, ovens, and the internal fittings throughout. May be viewed [illegible] previous to the sale, and catalogues had of GEORGE AITCHESON, Esq., Architect, Mercery-court, Trinity-square; and of Mr. ELLIS, Marklane, Tokenhouse-yard.

IN BANKRUPTCY.—Windmill-street, Saville-place, Lambeth-walk.—STOCK in TRADE of a Timber Merchant.

MR. PEAKE is directed by the Assignees of Mr. Stephen Poole, a bankrupt, to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER [illegible] TWELVE o'clock precisely, a quantity of [illegible] Pine, Deal, Lining, and Flooring Boards, [illegible] Mahogany and Rosewood Planks, Deals, and [illegible] Pine, Mahogany, and Rosewood Veneers, [illegible] Mahogany Logs, Mahogany Scantling, [illegible] Mahogany Cabinet Fittings, Mahogany Chair [illegible] Mahogany Chair Seats, Mahogany Chair [illegible] Mahogany Chair Backs, Mahogany Chair [illegible] Mahogany Chair Rails, Mahogany Chair [illegible] Mahogany Chair Legs, Mahogany Chair [illegible] Mahogany Chair Stretchers, Mahogany [illegible] Mahogany Chair Arms, Mahogany Chair [illegible] Mahogany Chair Splats, Mahogany Chair [illegible] Mahogany Chair Spindles, Mahogany Chair [illegible] Mahogany Chair Cresting, Mahogany Chair [illegible] Mahogany Chair Top Rails, Mahogany Chair [illegible] Mahogany Chair Bottom Rails, Mahogany Chair [illegible] Mahogany Chair Seat Rails, Mahogany Chair [illegible] Mahogany Chair Back Rails, Mahogany Chair [illegible] Mahogany Chair Front Rails, Mahogany Chair [illegible] Mahogany Chair Side

The Builder,

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 815. SEPTEMBER 18, 1858. PRICE FOURPENCE. Stamped, 5d.

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BUILDERS' BENEVOLENT INSTITUTION.—The ELEVENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY, OCTOBER 28th, 1858.

THOS. PIPER, Esq. R.A. President, in the Chair.

Gentlemen desirous of forming the Stewards of the Institution, by becoming Stewards will be pleased to forward their names to the Secretary, at the Offices, 10, Southampton-street, Bloomsbury; or to the President, Mr. GEORGE BIRD, 30, Edgware-road.

A. G. HARRIS, Sec.

THE SCHOOL of ART at SOUTH KENSINGTON, and in the following Metropolitan Districts, will RE-OPEN for the SESSION of FIVE MONTHS on FRIDAY, the 1st of OCTOBER:—

1 Spitalfields, Crispin street
2 Finsbury—William-street, Wilmington-square.
3 St. Thomas Charterhouse—Goswell street.
4 Bethnal Green—Green-street, Bethnal-road.
5 St. Martin's-in-the-Field—Castle street, Long acre.
6 Lambeth—St. Mary's, Prince's road.
7 Hampstead—Downshire Building
8 St. George's-in-the-East—Cinnamon-street Road

At South Kensington, 37, Gower street, Bedford-square, Spitalfields, Finsbury, at Charterhouse, there are Evening Classes for Persons, Young and Old, Apply to the respective Schools.

By order of the Committee of Council on Education.

QUEENWOOD COLLEGE,
Near Stockbridge, Hants,
Dunbridge Station, Salisbury Branch, S. W. R.
HORACE TOWNSEND, Principal.

NATURAL PHILOSOPHY AND MATHEMATICS—Frederick R. Statil, LL.D.
CHEMISTRY—Dr. Henry Debus, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg.
CLASSICS AND HISTORY—Daniel Hughes, M.A. Jesus College, Oxford.
MODERN LANGUAGES AND FOREIGN LITERATURE—Mr. John Hess, Docteur de l'Académie, Docteur en Philosophie, Heidelberg.
GERMAN—Mr. Nicholas Wagmüller, from M. de Fellenberg's Institution, Hofwyl, Switzerland.
PENMANSHIP AND ARITHMETIC—Mr. Richard P. Wright.
DRAWING—Mr. Richard P. Wright.
ENGLISH—Mr. Daniel R. Hughes.
PHYSICAL EDUCATION—Mr. Walter Trevor.
MUSIC—Mr. William C. Crowell.

TERMS.

For Boys under 12 years of age ..... £45 per annum.
" above 12 and under 15 ..... 50 "
" above 15 ..... 60 "

Laundress and Separate Bed, per annum, extra, except in the case of two Brothers from the same family, when the charge is omitted.

MINERALOGY.—King's College, London. PROFESSOR TENNANT, F.G.S. will commence a COURSE of LECTURES on MINERALOGY, with a view to their practical study at Coal Pits, and of Ore and other Mineral Substances, on Arts, Trades, and Manufactures. These Lectures will be illustrated by numerous Specimens, and will begin on FRIDAY, OCTOBER 8, at Nine o'Clock p.m. They will be continued on each succeeding Wednesday and Friday at the same hour, for 20.

R. W. JELF, D.D. Principal.

CONTRACTS.

BARNSTAPLE WATER-SUPPLY.—To PIPE-LAYERS and OTHERS.

CONTRACT No. 4.—Excavating for Laying and Jointing about 2½ Miles of Spigot-ware Pipes.

CONTRACT No. 5.—Excavating for Laying and Jointing about 7 Miles of Cast-iron Pipes.

Specifications may be seen at the Company's Office, Quay, Barnstaple, on and after the 1st day of OCTOBER next; and any further information obtained by applying to Mr. A. ROWE, No. 9, High street, Barnstaple, from whom copies (either of the above specification can be obtained after that date, on the payment of 2s. 6d. Tenders for performing the above Works, addressed to the Chairman of the Company, will be received on or before the 31th day of OCTOBER. The Directors do not bind themselves to accept the lowest Tender.—By order of the Board of Directors,

Dated, Sept. 15, 1858. R. HEARD, Secretary.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE WORKS. The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, Ware-office, Pall mall, London, on or before TUESDAY, the 28th day of SEPTEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING an INFANT SCHOOL-HOUSE, and QUARTERS for a Schoolmaster and Schoolmistress, at Walmer. Drawings and a specification of the works to be executed may be seen by persons fully competent to undertake the works, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Walmer, between the hours of TEN and FOUR o'clock, from MONDAY, the 13th of SEPTEMBER, to SATURDAY, the 25th SEPTEMBER, 1858 (Sundays excepted). The party whose Tender may be accepted for the works, will be required to enter into bond, with two eligible sureties, jointly and severally to be bound under a penalty of £—— for the due performance of the Contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall mall, London, S.W. and endorsed "Tender for School-house and Quarters at Walmer."

N.B. The War Department reserves to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, 8th September 2, 1858

TO BUILDERS. Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall Mall, London, on FRIDAY, the 24th SEPTEMBER, 1858, for ERECTING and FINISHING at Chichester Barracks, in the county of Sussex, in the left-hand corner of the Quadrangle, and addressed to the Director-General of Contracts.

N.B.—The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, 9th Sept 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for LAYING DOWN about 1,200 feet run of IRON PIPES, with double head gun metal Screw-cocks, at the Grand Depôt at Woolwich. The drawing may be seen, and copies of the specification, terms of Contract, and form of Tender, may be obtained at the Royal Engineer Office, Grand Depôt, Woolwich, until MONDAY, the 27th SEPTEMBER, 1858, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered or forwarded, prepaid, to "The Director of Contracts, War Office, Pall Mall, London," by 12 AT NOON on WEDNESDAY, the 29th of SEPTEMBER, 1858, marked "Tender for Pipe Main-pipes." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, 10th September, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Manchester District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall mall, London, on WEDNESDAY, the 29th OCTOBER, in the said persons as may be willing to Tender for the ERECTION of MARRIED and other QUARTERS, OFFICERS' MESS, &c. at the Cavalry Barracks, Manchester. The specification, drawings, and terms of contract, may be seen, and every requisite information obtained, at this Office, on and after MONDAY next the 20th inst. each day, from TEN to FOUR o'clock, except Saturdays, when they will be closed at ONE o'clock. Sureties will be required. Tenders to be endorsed "Tender for the Erection of Married Soldiers' Quarters and Out-buildings, at the Cavalry Barracks, Manchester."

Royal Engineer's Office, 1, Greenheys-street, Dawson street, Manchester, September 16, 1858.

TO BUILDERS and CONTRACTORS.—The Guardians of the Poor of the Machynlleth Union being about to erect a NEW UNION WORKHOUSE, hereby invite Tenders for digging sixty cubic yards, and the completion of Excavator and Mason, Carpenter, Slater, Joiner, Plasterer, Plumber, Glazier, Painter, Ironfounder, and Plumber, who may be desirous of TENDERING for the whole or any part or parts of the Works. Such persons are requested to attend at the Board-room, Machynlleth, from the 22nd of SEPTEMBER to the 5th of OCTOBER, both inclusive, where they may obtain bills of quantities and all information on application to JOHN EDWIN HAYES, Esq. Architect, York.—Sealed Tenders, endorsed "Tender for Works," must be sealed on or before TWO o'clock on WEDNESDAY, the 6th of OCTOBER, addressed to HUMPHREY JONES EVANS, Esq. Chairman of the Board of Guardians, Machynlleth.—No pledge is given to accept the lowest or any Tender.

By order of the Board,
D. HOWELL, Clerk.

Machynlleth, 28th August, 1858.

MINCING-LANE, London.—VALUABLE BUILDING GROUND. The Court of Assistants of the Worshipful Company of Grocers are willing to receive TENDERS for LEASING a Building Lease, for a Term (commencing Lady-day, 1859), of that Ground-rent, the Freehold, in a PLOT of LAND, having a Frontage to the Lane of about 50 feet, and a Depth of about 80 feet, and which is now occupied as Warehouses and Offices by Messrs. Sandys, Mainwaring, and Co. known as Warrington's Wharf, and for the ERECTION of NEW BUILDINGS, of such Dimensions, and on such plans which shall have been prepared, or plans which may be agreed upon. The ground contains a frontage towards Mincing-lane of about 50 feet, and a width in the rear of about 50 feet, and an average depth of about 80 feet.

Further particulars may be obtained, and the Plans, &c. may be inspected, by application at the Clerk's Office, Grocers' Hall, Poultry, E.C. where Tenders are to be sent not later than the 1st day of NOVEMBER next. The Company do not bind themselves to accept any Tender.

WILLIAM RUCK, Clerk.

SOUTH YORKSHIRE RAILWAY.—TENDERS are required for the CONSTRUCTION of TEN MILES of SINGLE LINE of RAILWAY, from Thorne to Keadby, on the banks of the Keadby Canal. The contractor is to find materials for the same, and to execute all works necessary for the completion of the line. Plans, sections, and specifications for each of the Company's Offices, Rotherham, on the 20th SEPTEMBER instant; and sealed Tenders to be sent, endorsed, "Tenders for Keadby Railway," on or before the 30th SEPTEMBER instant.—By order,

Rotherham, September 8, 1858. C. BARTHOLOMEW.

CONTRACTS.

SUFFOLK ARTILLERY MILITIA DEPOT.—TO BUILDERS. Persons desirous of CONTRACTING for the several WORKS required to be done in the ERECTION of an ADJUTANT'S HOUSE, adjoining the Depôt at Ipswich, may see the plans and specification at the Office of Mr. R. M. PHIPSON, Architect, Ipswich, and after MONDAY, the 6th of SEPTEMBER, and Tenders are to be sent to me sealed and endorsed "Tender for Adjutant's House," on or before SATURDAY, the 25th of SEPTEMBER next. The Magistrates will not bind themselves to accept the lowest or any Tender.

JOHN HENRY BORTON, Clerk of the Peace.

Bury St. Edmund's, August 31, 1858.

HOUNSLOW TOWN HALL COMPANY, LIMITED.—The Directors of the above Company are desirous of receiving APPLICATIONS from Builders willing to TENDER for the ERECTION of the NEW TOWN-HALL at Hounslow, for a handsome, substantial, and correct, may be seen at the Offices of Messrs. NELSON and VILES, Architects, No. 6, Whitehall, from the 12th to 17th inst. inclusive, between the hours of ELEVEN and THREE. Forms of Tenders and bills of quantities will be forwarded on the 20th inst. to parties applying. The Tenders to be forwarded to HENRY BULLOCK, Esq. Honorary Secretary, Hounslow, on or before the 24th day of SEPTEMBER next, marked "Tender for Erection of the Hounslow Town Hall." The Directors will not bind themselves to accept the lowest or any Tender.

6, Whitehall, September, 1858.

TO CONTRACTORS.—The Clay-Cross Coal Company will receive TENDERS for the ERECTION of a TIMBER STAGING, &c. to carry a Coal Siding in connection with the London and Blackwall Railway, at Upper Chapman street, East end of the Brick-lane Goods Station. The drawings can be seen, and the bills of quantities obtained, on application at the Office of Mr. GEORGE BIRKBECK HILL, C.E. 24, St. George-street, Westminster, S.W., on and after the 20th inst. Tenders to be delivered to Mr. BERKLEY, before TWELVE o'clock Noon on the 27th inst. The Company do not bind themselves to accept the lowest or any Tender.

September 10, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a SMALL HOUSE on the Estate of the Conservative Land Society, at Ealing, Middlesex, may see the plans and specification at the Offices of Messrs. ARCHED MORAN, No. 4, Duke-street, Strand, between the hours of TEN and FOUR. Tenders are to be delivered, before TWELVE o'clock, on SATURDAY, 25th SEPTEMBER, endorsed, "Tender for House, Ealing." The lowest or any Tender will not necessarily be accepted.

TO SUB-CONTRACTORS and OTHERS. TENDERS for MAINTENANCE of WAY.—The Directors are desirous of receiving TENDERS for the MAINTENANCE of the WAY on the Eastern and Hertford sections, which are respectively about 34 and 24 miles long. Specifications may be seen at the Company's Offices at Liverpool-street, and at the Office of JOHN CASS BIRKINSHAW, Esq. 24, Abingdon-street, Westminster, S.W. on and after the 14th instant, and Tenders are to be forwarded to the Secretary, JOHN MARCHANT, Junr. Esq. Hertford, not later than the 27th instant. The Directors do not pledge themselves to accept the lowest or any Tender.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a POLICE STATION and JUSTICE-ROOM, at Coalpit-heath, Gloucestershire, may see the plans and specification at the Office of Mr. F. P. CLARK, Architect, No. 4, Broad-quay, Bristol, after SEPTEMBER 20th, next. The Tenders are to be delivered on the 2nd of OCTOBER. The Committee do not bind themselves to accept the lowest or any Tender.

TO ENGINEERS, &c. The Guardians of the Tenterden Union are prepared to receive TENDERS for the ERECTION of an ENGINE HOUSE, for supplying water by high pressure ENGINE, PUMPS, GEARING, &c. for the supply of the said Union. The plans, specifications, and conditions of contract may be inspected at No. 7, Sittingbourne, Kent, and Tenders for further particulars, apply to Mr. J. LAIDLER, Architect, Hampton-court, Middlesex. Tenders to be sealed and addressed to the Offices of W. MAGE, Esq. "Tender for Engineering Works, Union House, Tenterden, Kent," on or before TWELVE o'clock the 22nd inst.

TO BUILDERS.—Parties desirous of offering TENDERS for the EXTENSION of NORTH AISLE, New ROOFS, BENCHES, and other alterations, with general repairs of the Parish Church, Hackness, are invited to inspect the plans and specification on and after the 20th inst. at my Office, 17, Tenant-street, Derby, where Bills of Quantities, Forms of Tender, and other information may be obtained. The Tenders to be delivered before FRIDAY, the 1st of OCTOBER, sealed up, endorsed, and addressed to the Hon. and Rev. FREDERICK CURZON, the Vicarage, Muskeeter, near Derby, where a meeting of the Parishioners will be held on the 2nd day after the 1st inst. The Committee do not bind themselves to accept the lowest Tender.

I. HENRY STEVENS, Architect.

22, Suckville-street, London, W.

PARISH of ST. GILES, Camberwell.—To SEWER CONTRACTORS and OTHERS.—The Sewers and Sanitary Committee of this Parish will meet at the Vestry Hall, on FRIDAY, the 1st day of OCTOBER next, at HALF PAST SIX o'clock in the afternoon precisely, to receive TENDERS for the EXECUTION of the DRAINING and GENERAL WORKS connected with the Sewers of this Parish. No Tender will be received unless on the printed form, which, with the schedule of prices, can be obtained, with all necessary information, on application to Mr. J. C. REYNOLDS, Surveyor to the Vestry, at the Office of the Works, Wells-street, South-gate-street, Camberwell, between the hours of ELEVEN and THREE o'clock. The Committee do not bind themselves to accept the lowest or any Tender. All parties tendering are to be in attendance at the time above named, or their Tenders will not be received.

By order, GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, September 14, 1858.

[*For remainder of Contracts see next page.*]

CONTRACTS.

TO DUST CONTRACTORS.—PARISH of CHELSEA. The Vestry of the Parish of Chelsea will meet at the Board Room of the MANOR-HOUSE, Kings-road, Chelsea, on TUESDAY, the 28th day of SEPTEMBER, inst., at ELEVEN o'clock in the forenoon precisely, to receive TENDERS from persons willing to CONTRACT for COLLECTING and REMOVING the DUST, ASHES, FILTH, and RUBBISH from the Houses and other premises in the said parish, during the period commencing the second day of SEPTEMBER 1858, and ending the 29th day of SEPTEMBER, 1859. Persons tendering must appear personally on the day of Tenders being opened, and one fourth of the amount of such Tender will be required to be paid by the person whose Tender may be accepted, as a deposit for the due performance of the contract to be entered into by the contractor upon the execution of the same. Such Tender, signed by the proposed contractor, and countersigned by two sufficient and responsible sureties for the performance of his contract, are to be left at the Office on or before MONDAY the 27th instant. No Tender will be received or accepted unless in the terms of the printed forms, to be obtained at the Office. The Vestry do not bind themselves to accept any Tender. By order

CHAPPELL AREL, Vestry Clerk.

Office of the Vestry, Manor House, No. 74, King's-road, Chelsea, September, 1858.

SHEFFIELD WATER WORKS.—LARGE STORE RESERVOIR and CONDUIT. The Directors of the Sheffield Water Works Company are prepared to receive TENDERS for the CONSTRUCTION of a large STORE RESERVOIR, together with several Weirs, Water Courses, Embankments, and several Works of Culvert and Conduit Masonry, and Cast-iron Pipes, and for other Information obtained, on application at the Company's Office, Division-street, Sheffield, between the hours of NINE in the Morning and SEVEN in the Evening, on and after TUESDAY, the 14th SEPTEMBER inst., and not later than MONDAY, the 27th OCTOBER next, at which time the Directors will not be bound to accept the lowest or any Tender.

By order of the Directors,
JOHN GREAVES, Secretary.
Sheffield, September 8, 1858.

TO SEWERAGE CONTRACTORS.—TENDERS are wanted by the Commissioners of Police, for CONSTRUCTING NEW SEWERS within the Burgh of Dundee, plans, &c of which may be seen at the Office of the Town Surveyor, Police Buildings. The Tenders are to be made on printed Forms, which will be supplied on application. They are to be lodged with the Commissioners of Police, Surveyor's Office, Police Buildings, Dundee, marked "Tender for Sewers," and not to be delivered there not later than TUESDAY, the 28th inst. Parties tendering will be prepared to find sufficient security for the fulfilment of their contracts. The Commissioners do not bind themselves to accept the lowest or any Tender. Dundee, Sept. 8, 1858.

TO BUILDERS, PERSONS willing to TENDER for the COMPLETION of five pairs of HOUSES, at Croydon, Surrey, may inspect the drawings and specifications at the Office of Mr GEORGE S. TEMPLE, Architect, 37A, Moorgate-street, City.

TO BUILDERS and OTHERS. — The Croydon Local Board are prepared to receive TENDERS for the following WORKS:—

CONTRACT No. 1.—For sinking and Constructing, about 1800 feet of Brick Culvert, in cement, 2 feet 10 inches by 2 feet 6 inches, at South Norwood.

CONTRACT, No. 4. To Excavate the Trenches for Stoneware Pipes, about 12 miles in length, and to lay and cover up the Trenches, according to the plans and levels to be seen at the Surveyor's Office, for the district of the Upper Norwood.

CONTRACT No. 5.—For the supply of Stoneware Pipes, about 7 miles in length, and to lay and cover up the Trenches according to the plans and levels to be seen at the Surveyor's Office, for the district of Croydon.

CONTRACT No. 6.—To Excavate for Water Tanks, at Brimstone Barn.

CONTRACT No. 7.—To Construct Tanks, 60 feet long each, and 45 feet wide, and over in a portion of the same, with sluices, connecting pipes, &c.

Plans and Specifications for these several works may be seen at the Engineer's Office, No. 1, Town-hall, Croydon, on and after TUESDAY, the 14th inst., between the hours of TEN and FOUR o'clock, on the Contract Days, and Tenders, to be delivered at HENRY ROBINSON, Esq., Clerk to the Board, on or before NOON, on TUESDAY, the 28th of SEPTEMBER, 1858, endorsed on the cover "Tender for Works." The Board do not pledge themselves to accept the lowest Tender.

Croydon Local Board of Health, Surveyor's Office,
Town-hall, Sept. 15, 1858.

THE VESTRY of the PARISH of SAINT LUKE CHELSEA, in the County of Middlesex.—FLINTS. The Vestry of the Parish will meet at the Board-room, at the Manor House, Kings-road, Chelsea, on FRIDAY, the 24th day of SEPTEMBER, inst., to receive TENDERS from persons properly qualified to contract for SUPPLYING the BEST CLEAR GREY BROKEN FIT ROAD FLINTS, to be delivered at the Free Dock at Chelsea Wick, at such times, and in such quantities, as may be directed. The Vestry do not bind themselves to accept the lowest or any further Tenders, agreeably to proposals to be signed, with the names and residences of two sufficient sureties for the performance of the contract, to be left at my Office, on or before MONDAY, the 27th instant. The legal charges of the Contract to be paid by the Contractor upon the execution of the same. No Tenders delivered or signed otherwise than on the printed forms to be obtained at my Office. By order,

CHARLES CHEE, Vestry Clerk.

Office, Manor House, No. 111, King's-road, Chelsea,
September, 1858.

TO IRONFOUNDERS. The Croydon Local Board are prepared to receive TENDERS for EIGHT HUNDRED LINCH CAST IRON SOCKET PIPES, to test 100 lbs. and not to stand any higher than 50 lbs. to the inch, proportioned by the main up to a pressure equal to a column of water 400 feet high. Tenders to be sent to HENRY RICHARDS, Esq., Clerk to the Board, on or before ONE o'clock, P.M., on TUESDAY, the 28th of SEPTEMBER, inst. The Board do not bind themselves to accept the lowest Tender.

Croydon Local Board of Health, Surveyor's Office,
Town-hall, Sept. 15, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of FOUR SHOPS, with DWELLING-HOUSES over, and Premises at the back, situate in the Borough of Wednesbury, in the County of Stafford, and fronting the Market-place, may see the Plans, Elevations, and Specifications, on and after WEDNESDAY, the 15th instant, at the Office of Mr JOSEPH PLOWMAN, Architect, Wednesbury, and on and after MONDAY, the 20th day of SEPTEMBER, 1858. Tenders to be sent to the said Office, on or before TUESDAY, the 28th instant, endorsed "Tender for Four Shops, &c. Theophilus Turnstall, esq., 17, Red-cross-street, Liverpool." The lowest Tender will not necessarily be accepted. Quantities required.

TO BUILDERS.—Persons desirous of CONTRACTING for the TAKING DOWN and RE-BUILDING a portion of the MANSION at Ridgewell, Essex, are requested to apply to Mr JOHN PHILLIPS, Architect, Warrington, on and after MONDAY, the 20th day of SEPTEMBER, 1858. Tenders to be sent to the said Office, on or before TUESDAY, the 28th instant, endorsed "Tender for Four Shops, &c. Theophilus Turnstall, esq., 17, Red-cross-street, Liverpool." The lowest Tender will not necessarily be accepted. Quantities required.

GLOUCESTER WATER WORKS.—CONSTRUCTION of RESERVOIRS.—TENDERS for the CONSTRUCTION of TWO RESERVOIRS (of a water area of about twenty acres), with EMBANKMENTS, DRAINS, PUDDLING, and other WORKS, and for certain plans, drawings, and specifications to be seen at the Office of Mr. JOHN HANLEY, C.E. Surveyor to the Local Board of Health, Gloucester, are requested to be sent, marked "Gloucester Water Works, Tender for Works," and addressed to Mr K. H. FRYER, Clerk to the Local Board of Health, Gloucester, on or before the 12th OCTOBER next. Deposits, in addition, of £1 for each quantities with terms of Tender, may be had at Messrs PENGELLY and SON'S Offices, Quay-street, Gloucester, after the 20th instant, for the sum of 5s. The reservations must be tested by parties tendering, and are not guaranteed by the Board.

K. H. FRYER, Clerk.

Gloucester, 8th September, 1858.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.

ADOPTED BY THE GOVERNMENT.

EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

WAREHOUSE. — WANTED, in the neighbourhood of Oxford-street or Tottenham-court-road, a WAREHOUSE, with a light upper floor.—Address, A. B. Mr. Moser's, 16, Mortimer-street, Cavendish-square.

TURNHAM-GREEN. — To BUILDERS, LAND SOCIETIES, and OTHERS.—TO BE LET on BUILDING LEASE or SOLD, a eligible FREEHOLD ESTATE, containing upwards of 6 acres, situate on the high road, and close to the Hammersmith Assembly Rooms, Chiswick Gates, Commons and Stations.—Apply to Mr GEO ELKINGTON, Auctioneer and Surveyor, 84, Queen-street (City), E.C.

MANUFACTURING PREMISES, Bel Sauvage-yard, Ludgate.—TO BE LET or SOLD, with possession, the extensive MANUFACTURING PREMISES known as Jordan's Patent Wood-carving Works; comprising several ranges of light and lofty workshops, a noble show room, capital offices for clerks and principal, and warehouse, engine and boiler houses, turning shops, and all other requisites. Apply to Messrs FULLER and HORSEY, 13, Billiter-street, E.C.

TO MANUFACTURING CHEMISTS and OTHERS.—FREEHOLD LAND, suited for manufactories, situated on the Paddington Canal basin, sides of rail, London, and recently enlarged, TO BE SOLD or LET, Plots, at per acre, or the FREEHOLD TO BE SOLD. Apply to JOHN WHICHCORD, Esq., Architect and Surveyor, 16, Walbrook, City, E.C.

BUILDING LAND at KENSINGTON Gate, the Gardens.—TO BE LET, on LEASE, direct from the freeholder, Plots, and two enclosed. Apply to Mr DAVIS, 5, Upper Phillimore place, Kensington.

PADDINGTON FREEHOLD BUILDING LAND.—About TWO ACRES TO BE SOLD or LET, eligibly situate in the Harrow-road. About five minutes' walk from the terminus of the Great Western Railway. Several of street frontage already formed. Apply to DODGE and MACHELLS BAY, Dodge Agents, 24 and 25, Princes-street, Cavendish-square, W.

HIGHLY IMPORTANT to BUILDERS and CONTRACTORS.—Mr. GEORGE McCANN, the eminent Builder and Contractor, Great Malvern, Worcestershire, in consequence of impaired health, RELINQUISHING the above TRADES, thereby presenting to a man of capital, desirous of entering upon a well established, first-class business, highly remunerative, and where the demand for buildings is rapidly increasing, attractions rarely, if ever before met with. A fortune may be secured in a few years, now that the railway to Malvern will be opened during the autumn of this year. The stock is well-selected, and of the most useful description, and may be had at a fair valuation. The premises, built expressly for the trade, are in good repair. The valuable STONE QUARRIES and BRICK YARDS, now in full operation may also be had, if desired. Further particulars obtainable on application to Mr McCANN, the Proprietor, Malvern: Messrs PRICE and CO Timber Merchants, Gloucester; W. R. KETTLE, Esq. Waterloo-street; or Mr. SAMUEL BLOOR, Architect, Birmingham.

N.B. A capitalist (should he will be required) but terms could be arranged to supply competent practical and enterprising and respectable Partner, who is thoroughly master of the business.

TO SURVEYORS and OTHERS. Commission or Salary.—The Advertiser has had seventeen years of practical experience in London (he particularly refers to the Surveyor of Great Ormond Street), and is desirous of meeting with a Gentleman of respectability, who can introduce him to a connection in the Building Trade, or Land Agency line, and to whom he could render valuable assistance. Address, post paid, to A. Z., 3, Cecil-street, Strand.

FREDERICK DENT, Chronometer, Watch, and Clock Maker to the Queen and Prince Consort, and maker of the gold clocks for the Houses of Parliament, 61, Strand, also 34, Royal Exchange.

No connection with 23 Cockspur-street

ACCIDENTS of EVERY DESCRIPTION. £1,000 IN CASE OF DEATH; OR A FIXED ALLOWANCE OF 6l. PER WEEK IN THE CASE OF INJURY.

May be secured by an Annual Payment of 3l for a Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY.

A Special Act passed last session empowering compensation from this Company are not barred thereby from recovering full damages from the parties causing the injury, an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured by accident yearly. This Company has already paid as compensation for Accidents £75,000.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at the principal Railway Stations, where Railway Accidents alone may be insured against to the Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London, E.C.

IMMEDIATE CASH ADVANCES.—Messrs London Personal Security, Loans &c.

SUMS from £10 to £500 ADVANCED to Persons of small capital, solvent, for two years and one year, PAY not the repayable by weekly, monthly, or quarterly payments, and great Privacy and Despatch, assured and guaranteed.

LONDON and PROVINCIAL LOAN COMPANY. Office, No. 69, Great Russell-street, Bloomsbury, London.

Forms of application and prospectus (gratis) on receipt of a stamped envelope. H. FLEMING, Manager.

BANK of DEPOSIT, Established A.D. 1844. 3, PALL-MALL EAST, LONDON.

Parties having money to invest are requested to examine the Plan of the BANK of DEPOSIT, in which a high rate of interest may be obtained, with perfect security.

The interest is payable in January and July.

PETER MORRISS, Manager & Secretary.

Forms for opening Accounts sent free on application.

PATRON H.R.H. THE PRINCE CONSORT.

THE ROYAL POLYTECHNIC INSTITUTION is open daily, from Twelve to Five and Seven to Ten o'clock, with the Popular Lectures, Experiments, &c.—A Dissolving Panorama of the Lakes of Killarney, by Messrs. Williams, Finch, and Hall, under the direction of Mr. E. V. Gardner, Professor of Chemistry, Commences on Monday, the 27th instant, the Four Sisters Greenwood will perform daily at a quarter to Four, on the First and Second Violin, Violoncello, and Pianoforte.

PROFESSOR WILJALBA FRIKELL.—POLYGRAPHIC HALL, King William-street, Charing Cross TWO HOURS of ILLUSIONS Every One Must Laugh. Time to Professor Frikell to arrive on a Professional Tour. Every Evening at Eight. Saturday Afternoons, at Three. Private Boxes, One Guinea; Box Stalls, 5s.; Orchestra Stalls, 3s.; Area, 2s.; Amphitheatre, 1s.—Places may be secured at the Polygraphic Hall, and at Mr Mitchell's Royal Library, 33, Old Bond-street.

PATENT ASPHALTE ROOFING FELT, a cheap, durable, and perfectly waterproof roofing, one penny per square foot. Patent Dust-proof Felt for damp walls. Sheathing Felt, and Dry Hair Felt for quilting purposes. Most liberal terms allowed to agents. D ANDERSON and SON, Manufacturers, 23 and 24, Bullister-street, London.

PATENT ASPHALT SPAR PAVEMENT.—The most economical and durable pavement which is both fire and damp proof, and is particularly adapted for Warehouses, Workshops, Stables, Yards, Barn-floors, &c. Impervious to heat, and consequently cool in summer and warm in winter. Will last twenty years without repairing, and is clean to keep. Is made to any required colour, and is not slippery. The cheapest and best floor for granaries, as vermin cannot live or work through it. Cottages, Villas, and Mansions can be laid with it without much confusion, trouble and expense, and to any part of the country. Estimates free, and will be given for any description of work. Apply to W. P. SALES and CO, 15, Castle-street West, Leicester-square, W.C.

ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London, Established 1851.—TRINIDAD, SEYSSEL, and BRITISH ASPHALTES, manufactured by steam-power, laid down in the best manner, or supplied in any quantity. Information for using it may be had on application, and Post-office orders or reference in London promptly attended to. Estimates given for every kind of the above work.

ASPHALTE, FOREIGN and BRITISH, for FLAT ROOFING, and every description of PAVING, especially in damp situations.

PREPARED { for Flat Roofing, per square yard.
Country Builders supplied with Asphalte for Footings and Barn Floors, and Instructions for using it.

Apply to JOHN PILLINGTON, Patentee and Manufacturer of Asphalte Office, Monument Chambers, 14, Fish-street hill, London.

N.B. Importer of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover.

ASPHALTE — TRINIDAD — rendered of uniform consistency by Steam Power.

PREPARED { for Flat Roofing, Footpaths, Railway, Carriage, and Approach Ways.

TEMPERED { for every purpose, situation, and export to any climate.

The Trade supplied on liberal terms, and estimates given for works of any magnitude, also for LAYING TAR PAVEMENT.

THOMAS HARRISON, ASPHALTE, ROOFING, AND PAVING WORKS:—Cambridge heath Wharf, Hackney; Southeast Wharf, Rotherhithe; City Offices, 19, London street, E.C. opposite the Blackwall Railway.

CLARK and HUNT'S IRONMONGERY, STOVE, and METAL WAREHOUSE, 189, Shoreditch.

A great variety of Elliptic, Register, and other Stoves, Cottage and Parlour Ranges, Metal Chimney-pieces, Slow Combustion Stoves, Improved Self-acting Cottage Ranges, with Large Oven, 14 Inches wide, 12 Inches high, 22 Inches deep, Register Stoves, Bright Bar Ranges, Ovens, Hobs, Bright Wrought Fenders, Fire Irons, Fire Brick Backs, Hearths, Chimney Pots, Flue Pipes, Register Stoves, with Patent Back and Bottom Plates, per inch, 2½d.

Register Stoves, with Bright Bars, per inch, 5d.
Improved Kitchen Range, with Bright Bars, with strong Fire-bars, per inch, 10d.
Bright Register Stoves, with Fire-brick Back, per inch, 10d.
Bright Register Stoves, with Fire-brick Back and Hot Plate, per inch, 12d.
Best Cast Cheapside Bar Grate.

14 inch.	16 inch.	18 inch.	20 inch.	22 inch.	24 inch.
10s.	12s.	14s.	16s.	18s.	20s. per pair.

Best Cast Coal Grate, 5 per cent.
Best Sheet Cut Floor Brads, 12s. 6d. per cwt.
Best Cut Lath Nails, 14s. per cwt.

Cast Rain-water Pipe,	2 inch.	3 inch.	4 inch.
	10d. 1s.	1s. 3d.	1s. 3d. per yard.

Cast Gutters, 4 inch, 8d. per yard.

O G Gutters	3 inch.	4 inch.
	1s.	1s. 2d. per yard.

Patent Line	2	3	4	5	6
	6d.	9d.	1s.	1s. 6d.	2s. per gross

6 inch Rd Wrot Mouse, with best Furniture and Patent Spindles, 2s. 9d. each. Light Ed pleasand Register Metal, 1s. 6d. per cwt.
Dr Arnott's Ventilator for sand.
Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12s. PER CWT.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY, Limited, HENRY GRISSELL, Manager, Lime Wharf, and No. 13, Upper Thames-street, London. These Windows combine the advantage of great strength with lightness and cheapness, and they have been very largely used in many of the most eminent subjects of the day. They are peculiarly well adapted for factories, workshops, prisons, and lunatic asylums, and also for exportation, as it is impossible to break them by the rudest usage. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE CONSUMING APPARATUS and REGULATING VALVE.—This valve is the most simple and effectual yet introduced. It fits to the mouth of the flue of any description of fire-place, and is adapted for Kitchen Ranges, Register Stoves, Open Fires, Cooking Apparatus, Furnaces, Steam Engines, &c. Testimonials given by the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 2l. 2s.; fitted complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have given the most complete satisfaction. They are found equally to answer in cases of the foulest possible nature, such as Cesspools, Soil-pans, &c. Upper Thames-street, Messrs. Cox and Wilkes' Premises, Agents for Piped and Corrugated Arches, Air-pipes, Ranges, and all other kinds of Castings, for manufacturing and building purposes.

SAWING MACHINERY.—To BUILDERS and SAW MILL PROPRIETORS.—Messrs WORSSAM and CO. Engineers, have always in stock several Second-hand Machines, including Band-saws, Circular-saws, Planing and Tenoning Machines, and steam engines capable of driving the same. Apply at the Factory, Commercial Wharf, Kingsland-road Basin.

TO CARPENTERS, BUILDERS, and IRONMONGERS.—TO BE SOLD, in good condition, a small quantity of second-hand IRONMONGERY, consisting of 2½ gross iron and brass butt hinges, from 2 to 4 inches; 130 gross flat and round head screws, 4-inch to 3-inch; thirty-five dozen frame and axle pulleys, and a small lot of sash cases and weights.—For price and to view apply by letter only to B. D. Stevens's Library, Gowell-road.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,

BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

POWIS, JAMES, AND CO.

Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

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POWIS, JAMES, and CO. beg to call the attention of all who use **SAWING MACHINERY**, to their **NEW PATENT** (dated August 24, 1858), being an **ELASTIC COMPOUND ADJUSTING LEVER MOTION ENDLESS BAND SAWING MACHINE**, by which the **STRAIN** upon the **SAW USED** is so **REGULATED**, that **BREAKAGE** of **SAWS** is **ENTIRELY DONE AWAY WITH.** This **PATENT** only requires to be seen **AT WORK TO BE FULLY APPRECIATED**

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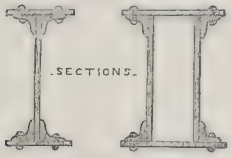

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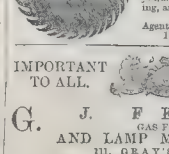

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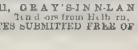

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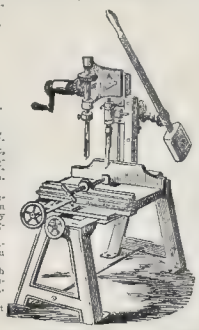

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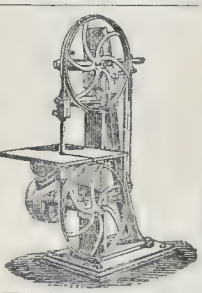

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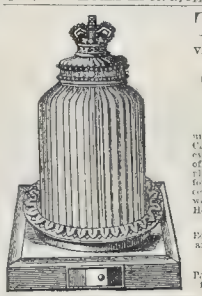

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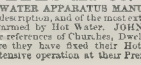
HEATING BY  HOT WATER.

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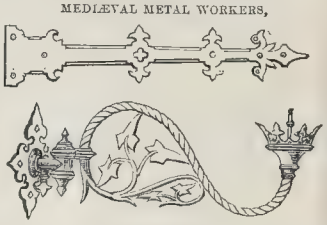

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The Builder.

VOL. XVI.—NO. 815.

Concerning Architecture, and London House-Building.

CONSIDERING that in the last ten or twelve years, marked improvement has taken place in our profession, and a higher standard of qualifications has been acknowledged by its members, it is to be regretted that the growth of London continues to afford opportunities for the manifestation of art and taste, which in number are out of fair proportion to the quantity of the building-work always going on. Some kind of assistance in preparation of drawings is obtained, perhaps in a majority of cases, by the speculative builder; or the supervision of a contractor by an architect exists, or is provided for, though to a certain limited and rather ideal extent. In truth, the sort of talent enlisted in these cases, must be of a very different order to that, for example, with which we ourselves in the course of our literary duties are chiefly brought into contact; or otherwise the *supervision* is comprised in the nominal connection of a "surveyor," with the work or some branch of duty relative to it. We apprehend that this sort of assistance, in many cases, stands in the way of complete utilization of those qualifications referred to at the outset, which otherwise might bear fruits correspondent to the real sedulity of their cultivation by architects,—and in improved planning and construction of houses, no less than in art-manifestation—matters all tending to the great ends of social and sanitary amelioration, to mental and moral improvement, and towards the ultimate domestic comfort of the people and individual happiness. Other callings may have their *mission* in regard to these ends; but the relation of our own profession to them, is both intimate and comprehensive,—though the value of such connection may, in the main, have yet to be derived, and perhaps even the capability of that valuable return have to be at all hands adequately felt.

It seems necessary, then, ever and anon, to call the attention, as well of the profession as of the public, to this large amount of building-work, in London and at its outskirts, which is going forward; and with which—whilst the number of architects largely increases—the profession has no connection, or withal no opportunity of conferring or deriving benefit of any kind. Even though, as in the case of buildings of moderate cost, pecuniary inducements be not great, it should be a question how by these or otherwise, the best talent of the day can be brought into use,—a public question which architects should help to solve. What is wanting to secure those things of the nature of services in art and science, which assuredly the public voice will demand? The present generation of architects cannot but feel interested in themselves supplying those wants. Or are the architects prepared to admit that the objects can be attained on the supposition of superior qualifications to be acquired and exercised by builders, in that event to be regarded as designers, or in short artist-architects? Failing this, will architects be satisfied to see the extension of a class of builders' assistants doing in some fashion their work, without the educational qualifications? Have they themselves in readiness, a tangible scheme for meeting the demand? Is it the point of remuneration on works of small cost, that makes all the difficulty? Is it that the public require to be better informed as to the value of services by a properly qualified person; and are these services really rendered in cases where they are called for? In a word, are the qualifications of education and experience in any respect wanting with architects, to the end that conviction of the value of the services be afforded? If it be found that the five per cent. on the single work would not compensate for invention and design, can anything of the nature of copyright, that is to say, anything binding practically, or morally, if there be difficulties legally,—secure to the author of a design, from many works, what he could not derive from one? At present, we know, any architect's designs for one house are purloined unhesitatingly—as for the house next adjoining it; only, and worse for the public interest, they are so carried into effect as not merely to disgust the original artist, but to produce a positive injury to taste by the misconception induced of the force of alterations which, whilst assumed to be unimportant, constitute, as we observed lately in an article on the Wellington monument, really the difference between what is good and what is bad. There are no more prominent instances of bad taste now, than those buildings in which the window dressings, mouldings, and ornaments have been, as it was supposed, copied from the best examples, or from the drawings for other and recent buildings by able architects. We could at once name a dozen even of the most respectable builders of London, who are in the constant habit of using the moulds that were made for particular ornaments, and entire designs that were entrusted to them, in a manner which is as much opposed to the progress of art, as it is to principles of honour and morality. Or, lastly, can the public objects be obtained with due regard to others, by more frequent embarkation of architects in speculations connected with building?

It must be understood that we have formed no conclusive opinion any way, except as to the desirableness, or rather the necessity, which there is for architects amongst themselves to "ventilate" the question of the approaching public demands. Can they, the architects, devise means by which *they* may supply the want, and by which the public may receive the real thing, rather than the counterfeit which may fasten upon the country a reign of taste certainly below comparison with its capabilities, definable by those of its artists, and a long endurance of social and sanitary ills which now for a brief space are preventible. Let those who are architects of the first class, bring their attention to the fact that there are at present engaged on duties for which they are or ought to be qualified—and sometimes to their very exclusion—men not eligible at the Institute, calling themselves "surveyors," "engineers," "builders," "land-agents and house-agents," or "decorators;" and that the public go to these men on the matured belief that they get better served,—as to the matter of building, or sometimes even as to that of taste,—that the said public like to have before-hand what they think the best guarantee regarding what the work will cost; and that under this idea or some other, they will pay as part of a general charge for work, and bad work, an excess itself over and above what would be the amount of an architect's charge. We would have these points constantly before the attention of the experienced members of the profession, since they so much affect their interests, and concern especially those of the young practitioner; and be it recollected the while, that no good will result unless the qualifications we have so much spoken of, are maintained,—or rather indeed, unless they are raised higher than at present,—so that the architect, to whatever branch of the general profession he may desire to be accredited, may fully justify his claim to serve the public in his capacity. Without the educational standard *nothing* can be done.

We are withholding any expression of positive opinion; but it may be required to consider whether the old relations of builders and architects do not need reviewal. The question will no doubt suggest itself to non-professional readers, whether, without derogation of the distinctive professional character, and to their own gain as that of others, architects of ability and position might more frequently assist builders with plans and designs, as they are in the habit of assisting them with opinions and with evidence where there are cases of dispute and arbitration. We can even suppose that persons having in view the *pecuniary interests* of our profession, might be inclined to recommend in all cases, the employment of the architect by the builder, and would view this as simply analagous to the system which obtains in another profession, where even it is contrary to *etiquette* and custom, for the barrister to act except on the instructions of the more practical and executive branch of the general legal calling or vocation. We are afraid, however, that the parallel could not be exactly drawn, or with the same issue in the contrasted cases. The existing doctrine in trade, as we have had heretofore to observe, is *caveat emptor*,—sell any quality of article and get the best price you can. This is avowed; but the professional principle is wholly different, and is one that we believe is maintained in practice both in our own ranks and by many honourable members of other professions. Of course there are builders—some whose names will occur to every one—in whom confidence, it will be said, might be placed as to quality of work and moderation in charges, whenever they were consulted as advisers. The recognised principle of commerce, however, tends the other way: and the larger number of builders of the class we have been chiefly considering are speculators, "pure and simple." We do not mean to say that all members of *professions* are free from liability to accusation; and, in trades and professions both, it is to be admitted that the true change required is one of morals, and has in point of fact no applicability altering with the classification of men's callings. The unlimited confidence often reposed by clients in solicitors, the latter are in a very large number of cases justly deserving of. The family apothecary, though it is possible to regard him as a sort of trader in drugs, also, is deservedly, often in like manner, the disinterested adviser and friend. But if imputations are possible in such cases, doubts with reason may be entertained of the disinterestedness of a class, characterised, it may be said, hardly by any such principles as those referred to in the moral or the professional points of view. We need say nothing of the consideration that may be due to a builder previously employed, and confided in, by a building-owner, or a proprietor of an estate. But often the public commit the grave error of trusting, without recommendation or check, men who have no object whatever but that of self-interest, based on the narrowest view and the calculation of the immediate moment. It is in the very cases where the professional element and the professional character and qualifications are most wanted, that they are dispensed with. The interest of the public really is to consult, in the first instance most frequently, the architect, rather than the

builder as now, or on the supposition that the architect's qualifications may be in an indirect way obtained, and that the object of progress in art and structural science can be answered by the speculating builder.

True it is, the public generally, or as represented by the Government, or by committees and other authorities, have established no claim to disinterested services: their course towards architects has not tended in the way of proper encouragement to merit and to maintenance of the desired standard of qualifications. But errors of the mode in which buildings, *public* or *private*, are commissioned, it must be the business of architects to get corrected. We ourselves did what we could in that direction in reference to recent competitions where fitting use has not been made of the qualifications as they exist. The purpose of our present article relates mainly to the design and building of houses, and to those of very ordinary dimensions and cost. It is in these, no less than in the larger edifices, that art and structural skill are required. Till the exertions are enlisted of persons who may be properly qualified, on these "common objects," which should become all objects of art,—it will be vain for our country to credit itself on having made any great step in art-productiveness, or towards beneficial results attendant on that position. It matters little—at least, to our actual argument—by whom the art and skill are supplied: we merely show that, although improvement has taken place, the art-works bear no numerical relation to the extent of new building and the qualifications of architects.

There is a public demand for architectural art; otherwise decorative character would not be attempted as it is in some shape now universally. But, we are even inclined to prefer the common houses of the early part of the last century, brick-faced and unornamented as they were, to the miserable imitations which the reign of cement has brought in; which have produced disgust of original models, and have led to mistakes and controversies that are known to all our readers; and which delay the educational progress of the people in what relates to art, and that of the profession itself. In the old houses there might be no window dressings, though there was in many cases a porch and doorway which would well compare with the corresponding feature of the ordinary house of present date. The staircase also, sometimes remarkable decoratively, was generally well-planned. No unprejudiced architect, we think, could look at the houses we are speaking of and there are many remaining in London and in provincial towns,—without feeling that the ordinary builders of that day were a higher class of men than the speculative builders of our own time. If the former had few books—though, indeed, there were several that have passed out of date, but may yet be looked at with advantage,—they knew how to get from them many good features, and to use their models with, on the whole, less of objectionable result than their successors produce with their imitation of the best models.

By the manner in which the natural demand, as expressed by the public, is now sought to be supplied, a vitiatory action on taste prevails at the same time that there is hopeful development otherwise. Quantity of the bad tends to swamp growth of the good; and it says much for the real art, that its power manifests itself wherever it is allowed a standing; and the effects of one well-designed building may be seen on others which rise adjacent. Thus, if we are dissatisfied with an existing state of things, observations at intervals of a few years indicate to us improvement,—though it may be not all that we could desire, and much less than with existing agencies could be effected.

The business, whether of a mere speculator in house property, or of a building contractor, will soon demand something more than enterprize or capital, the ordinary concomitants to success in the vulgar perception of commerce and trade. A builder should be a man of superior general education, if not also qualified better than the public to see the difference between what is good and bad in taste; and if speculator, he should be ready to help, rather than stand in the way of, progress of architecture. The speculators who are those who extend the area of London, however, are not of this class: and the public need again and again to be reminded that what is really the architectural talent of the day, has nothing to do with what becomes the character of London architecture. Whatever be the commodiousness of certain houses, the *art* about them, in vicinal Cubitopolis, or Tyburnia; in suburban Islington, or Hackney; in transpontine Camberwell, or distant Greenwich, bears kindred likeness, whereto the cementman has given much, and the artist and architect nothing save what has become distorted in transmission, or by the manner of its use. Houses are built even without drawings, and the staircases become the very opposite of those of the last century for convenience and safety. The utmost that the builder gets in the way of architectural skill is comprised in the assistance of one of his own order, who is able to draw a rough plan and an elevation that will allow any kind of ornament he has on hand to be used, and without regard to proportions or congruity. The ground landlords of course have occasioned much of the bad building and prevalent ugliness. But do qualified architects intend always to have little influence over public taste, and to hold for ever aloof from what must be building, and might, with some little help of theirs, just as well be architecture?

AMERICAN RAILWAYS,—THEIR COST, CONDITION, AND PROFIT, COMPARED WITH THOSE OF ENGLAND.

IN profitable working, our railways are not as yet, by any means, all that can be desired; but by the accounts from America they are perfection itself, by comparison with the boasted Yankee "tracts," not only in workmanlike construction and substantiality, but in economy of working, and even in resultant profit. It is well the proofs are American: had the exposure been of British origin, we can all readily conceive the hullabaloo which that man of "calculation" and of "common sense" and practical action,—the go-ahead Jonathan, would have kicked up, and the dirt that would have been cast upon our English railways from the "mud tracts" of America. As it is, the native dissatisfaction which has secretly been fermenting in Jonathan's heart, while he compared his own cheap and nasty railway system with those on this side the water, at last manifested itself in a resolution of some of the principal railway managements of the United States, to pick out two of their own most able and thoroughbred engineers from amongst the extraordinary mass of incompetency which appears to prevail amongst that craft—we are not justified, by all accounts, in calling it a profession,—in America; and to send these able and chosen men to this country, in order to investigate the causes of those differences which have been secretly giving so much dissatisfaction in the United States. These two gentlemen, Mr. Zerah Colburn, and Mr. A. L. Holley, came, saw, and realized all the differences, took notes, and on their return to New York, prepared and issued a weighty volume, with numerous engravings, conscientiously and determinedly exposing, to all interested in their own country, the defects and short comings of the American railway system by comparison with ours.*

From this important and salutary *exposé*, we shall endeavour to give our readers some idea of the comparative state of affairs in the American railway world, and of those reasons which ought to make us less dissatisfied, and more hopeful, in regard to our own.

"In comparing our railways with those of Europe," remark the authors, "we find that while the first cost of the road-bed and superstructure (or the permanent way) of those of the latter is but little greater, their expenses per mile run, for maintenance of way, is but *two-fifths* that in this country, while their consumption of fuel, for equal mileage, is less than 60 per cent. of the quantity burned in our locomotives.

The railways of this country (America) are operated at an annual expense of 120,000,000 dollars. The cost of operating the English railways for the same mileage is but 81,000,000 dollars—the difference alone being nearly equal to the annual production of the gold mines of California.

The expense of maintenance of way of American lines is from 31,000,000 to 35,000,000 dollars annually. That of English lines for the same mileage, 12,500,000 dollars—difference say 20,000,000 dollars annually. The cost of fuel for the former is 18,000,000 dollars yearly, that of the latter, *for the same mileage*, is but 7,500,000 dollars, or 10,500,000 dollars against our system. * * *

It is very common to attribute *all* examples of economy to 'management,' implying thereby organization, discipline, retrenchment, devotion, integrity, and business talent. These are of the greatest importance, but in none of these respects are English railways managed greatly different from those of this country, excepting that the former have, in nearly all cases, a responsible engineering head, permanently retained in the service. But in character and quality of structure, English lines are materially different from those of America.

Works which eat themselves up so fast as do ours, must be founded on a low standard of engineering. It has been well said that practical science, as enlisted in the service of moneyed enterprise, must necessarily confess itself at fault if, by any glaring defect in its exercise, that enterprise fails to reap its fair reward. Robert Stephenson, on taking the chair as president of the Institution of Civil Engineers, congratulated the 700 members that, within a quarter of a century, their business had risen from a craft to a profession. As a science, engineering is, indeed, ably cultivated and creditably applied in Europe. How is it here? There is certainly no lack of natural ability—no want of genius. But in most of our works of construction, *everything, the future especially, is sacrificed to the present*. Quantity, not quality, is the staple demand. Thus the higher developments of engineering are systematically undervalued, and we boast the extent of our executed works and the enterprise with which they have been carried forward; while their *quality*, as disclosed in their frequent disastrous failures, to say nothing of their extravagant maintenance, is too often a reproach upon our civilization. * * * *

Wherever engineers have degraded themselves and their profession by sacrificing their better judgment to the cupidity of ignorant proprietors, they have fallen, hopelessly, to the rank of mere tools for contractors and railway directors. And thus the latter have often obtained absolute sway in matters upon which only an educated engineer can properly decide. It is due too much to the causes thus suggested, that American engineers have so little influence as a body, having no recognised interest in common, and having no power to decide what qualifications shall entitle any aspirant to admission on equal terms. The profession being brought into contempt, an engineer who is scrupulous of the character of his work and who stipulates for means sufficient for its faithful execution, is hardly in favour. Speculators, who assume to decide the matter, boast that they can command 'men' not only at a less salary, but who will also bring in far lower estimates. And thus the reputation of being a thorough engineer is not a profitable one, and very few of the profession in this country have built each more than one railway—each new line having its own 'chief,' born to the occasion, and who, thus raw and compliant, devotes himself to the routine of the field and of the office, while the president of the concern dictates the proportions of earthworks, the shape and quality of rails, and the selection of machinery and material generally. The condition of our roads is a sufficient commentary on this notorious abuse. Nor can they improve until our engineering takes a higher standard."

Such being the working-heads in American railway construction, let us see how that construction itself has been carried out. This the authors go into *seriatim*, and at great length; but we shall endeavour to state some of the more salient points in a condensed form.

While the earthwork of English lines is 33 feet in width at formation level, that of American lines is from 25 feet to 28 feet only for double track. The slopes of cuttings and embankments for the latter are very deep, say one to one, while they are seldom or never protected by grassing or turfing. Upon one long line, which had been in use throughout for over five years, no less than 7,000*l.* appeared in last year's charges for "watching cuttings," while the cost only of removing slips and repairing the effects of water, averaged 18*l.* per mile. The scantiness of the earthwork and the want of ballast, entail the necessity for constant packing and surfacing; and, indeed, earthwork is one of the most defective points in American Railway construction, and drainage another.

The provision for drainage is generally very incomplete, and with the narrow and badly made earthwork the road-bed is often saturated, and the ditches are choked. The firmness of support is thus lost: the ballast (if there happens to be any) sinks irregularly, displacing the track, increasing the resistance; thus adding greatly to the wear and tear of both track and machinery. The presence of water in the road-bed converts it into mud in wet seasons, especially when the frost is coming out in the spring, while in dry seasons the trains are enveloped in clouds of dust; but in the deep frosts of winter, especially when the road freezes immediately after a rain, the road-beds of many American lines become as rigid as rock. No condition can be worse, especially upon the "mud-roads," as those without ballast are facetiously termed, and which, unfortunately, form a majority of the American lines.

The sleepers of American lines are small, of irregular sizes, and laid often so closely as to prevent proper packing. They are never protected by chemical preservatives, and last only half as long as ours. The rails are light, notoriously of very bad material, and of a shape of "head" which experience in this country has proved to be

* The Permanent Way and Coal-Burning Locomotive Boilers of European Railways; with a Comparison of the Working Economy of European and American Lines, and the Principles upon which Improvement must proceed. By Zerah Colburn, and Alexander L. Holley: with fifty-one engraved plates, by J. Bien. New York: Holley and Colburn. 1858.

very objectionable. These, too, last only half as long as ours. There is no adequate system of supports at the joints, while the fastenings also are generally such that the rail does not lie quietly, its disturbance on the passage of trains largely increasing the resistance. In illustration of the general carelessness of American permanent-way engineering, our authors mention that upon the Erie Railway, for a given length of time, one-half of the joints at the rail ends averaged 1¼ inch open, several were 2½ inches open, and cases were actually found where the rails were separated 3 inches and even 3½ inches at the ends. The effect of this alone, not only on the smoothness of travelling, but on the endurance both of way and of rolling stock, may be readily conceived. Another similar example is furnished by the great number of railway gauges, which are no less than six in the United States—to wit, 4 feet 8½ inches, 4 feet 10 inches, 5 feet, 5 feet 4 inches, 5 feet 6 inches, and 6 feet; while in one part of the west a "compromise"—so characteristic of America—has been made, and the equipments of the 4 feet 8½ inches and 4 feet 10 inches gauges run together upon one of 4 feet 9½ inches.

Many of the railways being opened in a very unfinished state,—often, indeed, only half finished —their construction-accounts must not only necessarily remain open, but may be, and indeed, often are, made to bear what rightly belongs to revenue. Earnings do not always rise in proportion to capital: competition is nowhere so active as in America, while the expenses must rise rapidly as the line grows older. The American railway system does not average six years of age. This is only about sufficient to wear out the rails and sleepers, and much of the machinery. The depreciation is rapid and enormous, yet renewal-accounts are scarcely ever thought of. The restoration of establishment comes suddenly—an overwhelming charge, which revenue cannot bear, and which capital should not. The limit of expenses is not yet reached in America.

Yet the future is considered to be encouraging, and an intelligent spirit of reform is said to be already at work.

"We hear on all sides," observe the authors, "that 'we *must* have better tracks,' and 'we *must* burn coal;' and these convictions once fixed, it is not probable that either engineers, managers, stockholders, or the public, will rest satisfied until we have as really good and durable railways as any part of the world can furnish. The best are cheapest. Earthwork and ballast, the foundation of the whole, have hardly yet received their due attention, but their importance cannot be much longer neglected. In the meantime, a decided movement is going on in favour of lighter and better iron, and this will not stop, until full advantage is taken of such principles of form as science and practice have alike proved to be best. Joints are receiving remarkable attention, and it is only hoped that railway men will not imagine that these are the only subjects for improvement. In burning coal, a decided step has been taken at last, in agreement with the simplest principles of combustion, viz. the introduction of jets of air above the coal, the use of fire-brick to furnish heat to ignite the carbureted hydrogen when it has combined in the proper equivalent with oxygen; and, lastly, the employment of the combustion-chamber to afford space and time for the flame to develop itself. With better roads, we shall be able greatly to reduce the dead weight of our engines and cars. And we shall be able to attain to a much higher speed than is maintained at present."

A large edition of the work under notice has, it seems, been already absorbed in the United States, a hopeful circumstance this itself; and it contains much matter of utility to the engineering profession and railway managers in England, as well.

FALL OF A TUNNEL ON THE HAMPSTEAD AND CITY RAILWAY.

THE Hampstead and City Junction Railway is a loop of the North Western Railway, which it joins at Camden-town, and then running northwards, with extraordinary curves, as far as Parliament-hill, turns to the west, and, dropping southwards, goes past Kensall-green. From Downshire-hill to the Finchley-road it will run in a tunnel under the Rosslyn estate, and this is in progress of formation. Mr. George Berkley is the engineer, and the present contractors for the part of the line in question are Messrs. Oliver, Banks, and Barton. On Sunday last a part of this tunnel fell in, but fortunately without accident to life, although many men were present. It appears to have been driven in to the extent of 200 feet, as we are told, by the weight above. The bottom of the tunnel is said to be 130 feet from the surface of the ground; and this mass of earth, including water and quicksand, has fallen in, taking with it, in one part, an engine-house, with shaft and machinery. The arch was formed with seven rings of brick-work in mortar. The loss, it is unnecessary to say, will be very great, and a serious question will arise as to the parties who will have to bear it. For the re-construction, we hear on the ground, Staffordshire blue bricks set in cement will be used.

SYMBOLICAL SIGNIFICATION OF THE PEACOCK.

IN reference to the notice, by Mr. Charles Lock Eastlake, of the sepulchral remains recently brought to light in the Prato Corvo, near Rome,* in which he mentions the peacock occurring on the walls of a chamber "as an emblem of the Resurrection," to which, in the printed letter, a note of editorial doubt is affixed; permit me to remark, that Mr. Eastlake is probably quite right in his description of the bird there represented, though he is most probably wrong touching the meaning of it. The phœnix is the symbol of the Resurrection: the peacock was a Gentile symbol for the immortal soul; subsequently introduced by the Christians in the same sense.

We see the phœnix, with a glory of rays round its head, perched upon the palm-tree—the Tree of Life—as a symbol of the resuscitated and glorified body, in the mosaics of various Roman apsides. There is a well-known and very good specimen of this in the apsis of the church of the Saints Cosma and Damiano. We also see a similar bird perched upon the Tree of Life in the Paradise represented in the apsis of S. Giovanni Laterano. Other instances of this might be mentioned. Between the phœnix and the palm-tree (the date-palm, *phœnix dactylifera*), there was also understood to be a recondite connection.

If Mr. Eastlake has erred in the interpretation of the peacock, he has the learned St. Augustine to keep him countenance in the mistake. In the opinion of that eminent Father of the Latin Church, the Christians did consider the peacock to be a symbol of the resurrection of the body, because its flesh was believed to be incorruptible. See the remarks of Monsieur le Dr. Comarmond, in his well-digested notice of "The Monuments of the Musée Lapidaine, of Lyons." The peacock, however, never takes the place of the phœnix in apsidial mosaics; nor does the phœnix ever take the place of the peacock on Christian sepulchral urns and other monuments.

The immortal Christian soul was figured less frequently by the peacock than by the dove. We may see the disciples of our Lord figured as doves on the apsidial cross in S. Clemente. As doves Christian souls are found figured on mural tablets, on baptismal fonts, and on sarcophagi. Less frequently they are figured as peacocks, on sarcophagi; and, as far as my own observation goes, with one exception, on sarcophagi only: however, the Gentiles thus represented them on the walls of sepulchral chambers, and in scenes of the Paradise of Osiris. On a sarcophagus in the Museum of the Lateran, are two doves on a cross, surmounted by the monogram of Christ within a wreath. This device may be frequently seen. In the Museum, at Ravenna, there is a sarcophagus representing a peacock and a palm-tree, on each side of the monogram of Christ. On a most interesting sarcophagus in the cathedral of Vienne, in Dauphiné, two peacocks are represented feeding on a vine that grows out of a chalice.

On that unique ivory tabernacle preserved in the sacristy of the Cathedral of Sens, of which the Arundel Society has published an illustration, we see a pine cone taking the place of the cross, or the diagram of Christ, and on each side of it a peacock, representing, not the souls of Christians merely, but the souls of martyrs, for each peacock has a small palm-branch attached to its neck. In a very remarkable tablet in the church of St. Mark, at Venice, a cast of which is in the Crystal Palace, and another in the South Kensington Museum, two griffons take the place of the peacock, and stand one on each side of a vase from which proceeds a vine; and that there might be no mistake as to what this vase is supposed to contain, the Thyrsus of Bacchus is placed within it.

The Egyptian conventional symbol for the soul was, as every archæologist knows, a sparrow-hawk with a human head: the great doctrine of the resurrection, however, well known to the ancient Egyptians, as we may learn by their monuments, and as St. Augustine expressly declares, was set forth by them under the truthful representation of the human form divine, as we may see on the walls of certain tombs at Thebes. In later times, and among the Romans, the souls of the departed, in the Paradise of Osiris, were figured as doves and peacocks. In a fresco painting that once existed at Pompeii, on the wall of a small atrium in a house near the gate, a copy of which was made by Francesco Morelli in 1812, and was engraven and published at Naples in 1833, symbolical souls as doves and peacocks are represented perched on the sacred trees, the palm and the peach tree, in the Paradise of Osiris and Isis. In this fresco was also represented the heron, the symbol, according to Monsieur Le Vicomte Emmanuel de Rougé, of the first transformation of the soul in this mysterious Paradise. I do not remember ever seeing this bird on Christian monuments, but the phœnix as commonly shown is not much unlike it.

H. C. BARLOW.

*** It was doubtless Mr. Eastlake's purpose, in his query as to the peacock, to call forth just such communications as this of Dr. Barlow (which is both interesting and curious) on the subject. As regards our own note, keeping a like purpose in view, we did not intend to question the probability that it might be the peacock, unless the bird depicted stood in such co-relationship to its surroundings as obviously to be intended "as an emblem of the resurrection;" in which case (and we understand Mr. Eastlake's suggestion to imply this) we were of opinion that it might be intended for the phœnix, as that bird was imagined to be peacock-hued.

It is singular, however, that just as Dr. Barlow shows the occasional identity of symbolical meaning between the peacock and the dove, so Higgins, unquestionably a man of great learning on such subjects, points, in his "Anacalypsis," at the probable identity of symbolical meaning between the dove and the phœnix. Thus, in speaking of the dove of Venus as "a maenad, or fanatic bird, crucified on a wheel with four spokes," the dove being called "Iynx;" and, in correlation with these symbols, also alluding to the fact that Semiramis is described as having fled away, changed into this dove, when conquered by Staurobates, who had threatened to "nail her to a cross" (which is identified with the four-spoked wheel in the "eternal crucifixion of Ixion the accursed," or the wheel of execution described by Pindar), Higgins goes on to say;—Staurobates may have meant cross-borne: it might also mean the phœnix or palm-tree cross: Phœnix, he adds, "was the bird of paradise and of the morning; also a tree; and on the boss of Achilles's shield was a palm or phœnix tree." The dove, crucified on a wheeled cross, is curious as a heathen symbol, in connection with what Dr. Barlow describes as a frequent Christian symbol, namely, two doves on a cross. The association between the peacock and the palm-tree, to which Dr. Barlow alludes, is also interesting. Moreover, as man is said to have been made "a living soul," and as the "immortal soul" is, at all events, included in the "resurrected" and immortal body, the symbols of the one may well be closely mixed up with those of the other. Thus if the palm-tree, as denoting the tree of life [Egyptian mythology, by the way, appears to point to the pomegranate as the tree of life, and this accords with the symbol of the pome or apple], be also symbolical of the resurrected body, as its correlative or alternative, the phœnix, is said to be, the soul inhabiting that body might be denoted by the peacock perching on it; but if the peacock and the dove be symbolically identical, as indicated, may it not be questionable after all whether the symbolical meaning of either really be the *soul* and not the *Spirit*; for the dove, in fact, does denote the Holy Spirit; and is it not more probable that doves, indicating our Lord's disciples, did so, as signifying that each of them possessed that Spirit, than that these doves denoted their own souls? Even among the heathen the dove denoted a spirit of prophecy, or divine afflatus; and the oracles were called doves,—Columbæ by the Latins, for example. Thus, too, Herodotus says that the "black dove" who founded the oracle (and *colony*?) of Dodona was an Egyptian woman, and hence called a black dove. That strange fellow, Count Cagliostro, by the way, who pretended to be an Egyptian "grand coptha," called a boy, whom he used as an oracle, to see visions in a magical crystal,—a "Colomb."

All such significations and analogies appear to be rather against the usual interpretation of the symbolical meaning of the peacock than in its favour; and either St. Augustine may be right (as it is "the spirit" which "quickeneth" the dead body in "the resurrection") in regarding the peacock as denotive of the resurrected body of the immortal man or "soul;" or it may have simply denoted the resurrected,—having both "body and soul and spirit." Indeed, one cannot well see how a symbol of the resurrection of the body can exclude the soul in that body, so that the phœnix itself may be regarded as indicating both in *one*.

The pine *cone* taking the place of the cross, or

* We regret that we have accidentally led some of our contemporaries to ascribe the article here referred to, signed "Charles L. Eastlake," to the president of the Royal Academy. The interesting communication in question is by Mr. Chas. L. Eastlake, a nephew of Sir Charles, and who is still in Italy.

the diagram of Christ, with a peacock on each side, in Sens Cathedral, bears curiously on the Assyrian pine cone *as an offering* to the sacred tree.

BUILDING STONES USED EXTERNALLY IN AND NEAR THE METROPOLIS.

MANY stones having been introduced into London since the publication of the Commissioners' Report, a list pointing out those previously used, together with the new ones, naming also the structures in which they are employed, will, no doubt, be found very serviceable to the profession. This list is compiled from the descriptions which have appeared in the public prints of the various buildings, and I fully believe it may be relied upon. In some few particulars it might be more definite, as stating from which quarries all the Bath and Caen stones have been derived. Perhaps some of your readers may be able and willing to add this information.

Under one or two headings, such as Portland stone, a longer list of buildings could have been given, but the purport of the whole would not have been improved.

The buildings where these stones are employed have been in some instances cleaned down, perhaps more than once: this should be borne in mind when viewing the present state of the stone; and such examples as are noted for having been painted over, may perhaps have been so treated from a desire of cleanliness, rather than from the actual decay of the material.

I had some idea at first of adding to the list those buildings that have been cemented, commencing from about Adam's time, many of which present a better appearance than the stones themselves; but as our endeavour is to procure a good and serviceable stone, it was needless to encumber your pages with such memoranda.

1. *Anston Stone.* *See* 27.

County Fire Office, Cornhill, 1854-5.
Museum of Practical Geology, Piccadilly, 1837-48.
Seal and Co.'s Bank, Leicester-square, 1856.
New Hall, Lincoln's-inn (and red brick), 1843-5.
Houses of Parliament, 1840-57.
Ordnance Office, Pall-mall, the part in 1851.
St. Stephen's Church, Rochester-row (and Sneaton Rag stone), 1847-50.

2. *Ashgny Stone.*

Part of 81 and 82, Pall-mall (Schomberg House), 1851.

3. *Bargate Stone and Bath Stone Dressings.*

Holy Trinity Church, Vauxhall Bridge-road, 1849-52.

4. *Bath Stone.* *See* 3, 10, 12, 17, 20, 27, 31.

Houses, Dean's-yard (Box quarry), 1852-4.
(R. C.) Chapel, Duncan-terrace, City-road (with brick), 1841.
New College, Finchley New-road, 1850-1.
Lady Owen's Almshouses, Goswell-road, 1840-1.
St. Mary's (R.C.) Church, Grove-road, St. John's-wood, 1833-4.
St. George's (R.C.) Church, Lambeth-road (Coombe Down in ornaments, Caen stone mouldings, &c.), 1840-8.
All Souls' Church, Langham-place, 1822-5.
St. James's Church, Liverpool-road, 1837-8.
St. Thomas's Church, Orchard-street (Box-hill), (with brick), 1857-8.
Apsley House, Piccadilly, 1828.
St. Luke's Church, Chelsea, 1820-4.
Exeter Hall, Strand entrance, 1830-1.
Plowden-buildings, Middle Temple (with brick), 1830-1.
St. Anne's Chapel, Wandsworth (with brick), 1820-2.
St. Paul's Church, Westminster-road (Box-hill), 1851-7.
Henry VII.'s Chapel, Westminster (Coombe-down), refaced, 1809-22, now mouldering away.
Christ Church, Woburn-square (with brick), 1831-2.
Buckingham Palace (Monkton Farleigh) 1825-7.

5. *Bramley-fall Stone.*

London and Westminster Bank, Lothbury (plinth only), 1837-8
Southwark-bridge and Whitby stone), 1814-9.
Blackfriars-bridge (see 11), parts of parapet, 1838.
Euston-square Railway Station, entrance gateway and lodge, 1837-8.

6. *Broadhill Stone.* *See* 18.

7. *Burford Stone, Oxfordshire.* *See* 15.

8. *Cadeby Stone, near Doncaster.*

Portico of Day and Martin's, High Holborn (now painted).
Almshouses at Edgeware.

9. *Caen Stone.* *See* 4, 17, 19, 21, 27.

Chambers, &c. 22, Basinghall-street, 1856-7.
Baptist Chapel, Bloomsbury-street (with brick), 1848; cleaned down, 1858.
St. Martin's Schools, Castle-street, Long-acre (with red brick), 1850.
Baths and Wash-houses, Greenwich (with red brick), 1851.
Mark-lane Chambers (upper part; lower part, Portland stone), 1856-7.
No. 116, Piccadilly (H. Thomas Hope, Esq. M.P.), 1849-50.
Conservative Club, St. James's-street, 1844.
Buckingham Palace, east façade (painted over), 1846-7.
St. Jude's Church, Turk's-row, Chelsea, 1843-4.
Henry VII.'s Chapel, Westminster, 1502-20 (refaced with Bath stone, 1809-22).

10. *Chapel Town (near Leeds) Rubble Stone and Bath Stone Dressings.*

St. Anne's Church, Highgate-rise, 1852-3.

11. *Craigleith Stone.*

House in Queen Anne-street, Cavendish-square (no appearance of decay at the time of its being painted over in 1840), 1760.
Blackfriars-bridge (see 6), repairs in 1838-9.

12. *Flint Walls and Stone Dressings.*

Christ Church, Chiswick, 1843.
Christ Church, Croydon, 1851-2.
St. Peter's Church, Croydon (Maidstone stone facing), 1849.
St. Paul's Church, Dorking (Bath), 1856-7.
Hanwell New Church, 1842.
St. John's Church, Kensall-green (brick), 1843-4.

13. *Godstone Stone.* *See* 15.

14. *Granite.*

Bow-bridge, over the River Lea (Aberdeen), 1838.
Duke of York's column (pale red), 1830-6.
Christ's Hospital, arcade of hall (Haytor), 1825-9.
Carlton Club-house, Pall mall (columns of red Peterhead), 1847 and 1851.
General Post-office, St. Martin's-le-Grand (lower part, Grey), 1823-29.
Nelson Column, Trafalgar-square, 1843.
London-bridge, 1824-31.
Waterloo-bridge (Cornwall), 1811.
Somerset House, river front, lower part of arcade (much disintegration), 1776-92.

15. *Great Barrington Stone, Gloucestershire; or Godstone, in Surrey.*

Westminster Abbey Church, 1245-1307. "Mouldered away 4 inches deep," Sir C. Wren; who used stone "from near Burford, Oxfordshire" in the reparations on north transept, north side of choir, &c.

16. *Hare-hill Stone, near Leeds.*

St. Olave's, &c. Grammar Schools, Tooley-street (parts), 1853-5.

17. *Kentish Rag, and Bath Stone Dressings.*

All Saints' Church, Acton-street, Hoxton, 1857.
St. Philip's Church, Arlington-square, Hoxton, 1855-7.
St. Margaret's, or Broadway Chapel, Westminster, 1841-3.
Mansion-house Chapel, Camberwell (? Caen stone), 1852-3.
St. Michael's Church, Chester-square, 1844-6.
Congregational Church, Clapham, 1851-2.
Ealing Church, 1850.
St. Mary's Church, Earl's-court, Brompton (Combedown Bath stone dressings and Caen stone parapet and cornice), 1849-51.
Christ Church, Endell-street, St. Giles's, 1844-5.
St. Mary's (R. C.) Church, Farm-street, 1846-9.
All Saints' Church, Finchley New-road, 1845-6.
Trinity Church, Bishop's-road, Bayswater, 1845-6.
St. Matthew's Church, Great Peter-street, Westminster, 1849-51.
St. Stephen's Church, Hammersmith, 1849-50.
St. Mary's Church, James-street, Commercial-road East, 1849-50.
St. John's Church, Notting Hill, 1841-5.
Wesleyan Chapel, Liverpool-road, 1849-50.
St. Helen's (R. C.) Church, Westbourne-grove North (Box-ground Bath stone), 1852-3.

18. *Kentish Rag and Broomhill Stone (Kent) Dressings.*

St. Michael's Church, Wood-green, Tottenham, 1843-4.

19. *Kentish Rag and Caen Stone Dressings.*

Holy Trinity (R.C.) Church, Brook-green, Hammersmith, 1851-2.
All Saints' Church, Cambridge-place, Paddington, 1850.
New City Prison, Holloway, 1849-52.
St. Barnabas's Church, Pimlico, 1846-9.
St. Alexis (R.C.) Church, Fitzroy-place, Kentish-town, 1849-50.
St. Mark's Church, Rosherville, 1853-4.
Christ Church, Highbury-grove, 1848.
St. Barnabas's Church, Homerton, 1845-7.
Holy Trinity Church, Milton, near Gravesend, 1844.
St. Mark's Church, Old-street-road, 1846-8.
St. Gabriel's Church, Warwick-square, Pimlico, 1852-3.
Chapel to Consumption Hospital, Brompton, 1849-50.

20. *Kentish Rag and Corsham Bath Stone Dressings.*

All Saints' Church, Blackheath, 1857-8.

21. *Kentish Rag, Hammer-dressed Yorkshire Stone Facing, and Caen Stone Dressings.*

St. Giles's Church, Camberwell, 1842-4.

22. *Ketton Stone, Rutlandshire.*

Schools, &c. Fulham (with brick), 1854-5.
Messrs. Parlitt's, Jermyn-street (with brick), 1857.
St. Dunstan's Church, Fleet-street (upper part), 1831-3.

23. *Portland Stone.* (*All edifices of importance from about* 1600 *to* 1800).

St. George the Martyr Church, Borough High-street (dressings, with brick), 1734-6.
St. Margaret's Church, Broad Sanctuary, Tower recased, 1735.
York-stairs Water-gate, 1626.
Law Institution, Chancery-lane, 1831-2.
Ditto, additions, south side, 1856-7.
Chelsea Hospital (with brick), 1682-92.
St. Matthew's Church, Bethnal-green (brick), 1740-6.
St. Ann's, Limehouse, 1712-29. (Repaired after the fire, 1850.)
Christ Church, Spitalfields, 1723-9.
Coldbath-fields Prison—the Gate, 1793.
Dyers' Hall, College-street, 1856-7.
English, &c. Bank, Cornhill, 1856-7.
St. Paul's Church, Covent Garden, 1788.
St. Pancras New Church (body only, terra cotta ornaments), 1819-22.
Legal, &c. Assurance Office, Fleet-street, 1838.
Goldsmiths' Hall, Foster-lane (Waycroft quarry), 1829-35.
Greenwich Hospital (east end, Roche Abbey stone ?), 1664—1752.
Queen's Insurance Office, Gresham-street, 1852.
St. Giles's Church, St. Giles-in-the-Fields, 1730-4.
Stone Buildings, Lincoln's-inn, 1756.
St. Mary Woolnoth Church, Lombard-street (cleaned down, 1857), 1716-9.
Pelican Insurance Office, Lombard-street (painted cir. 1855), 1756.
St. Margaret's Church, Lothbury (cleaned down 1858), 1690.
London and Westminster Bank, Lothbury (plinth of Bramley Fall stone), 1837-8.
Custom-House, 1813-7.
Mark-lane Chambers (lower part—upper part Caen stone), 1856-7.
Clothworkers' Hall, Mincing-lane, 1858.
The Monument, 1671-7.
St. Marylebone New Church, Marylebone-road, 1813-7.
Christ's Hospital, Newgate-street (upper part of hall), 1825-9.
Reform Club house, Pall-mall (Waycroft quarry), 1838-9.
General Post-office, St. Martin's-le-Grand (upper part), 1823-9.
St. Paul's Cathedral (Grove quarries), (west front cleaned down in 1852), 1675—1717.
Chambers, Staple Inn, Holborn (with brick), 1843.
Somerset House—parts now decaying (also Purbeck and Moor stone), 1776-92.
Blackfriars-bridge (parts refaced 1838, with Bramley Fall stone), 1760-70.
Old Westminster-bridge, 1739-50.

21. *Prudhoe, or Prudhoe Stone, Northumberland.*

Freemasons' School for Children, Wandsworth-common, 1851-2.

25. *Reigate Stone and Bath Stone.*

Asylum for Idiots, Redhill, 1859-5.

26. *Roche Abbey Stone. See* 23.

27. *Sneaton Rag Stone (Whitby, Yorkshire), with Dressings. See* 1 *and* 5.

St. Paul's Church, Herne-hill (Box Bath stone dressings), 1845.

St. Stephen's Church, Rochester-row (Anston stone), 1847-50.

Infant Orphan Asylum, Wanstead (Caen and Bath stone), 1841-3.

St. Andrew's Church, Wells-street, Oxford-street (Bath stone), 1845-7.

28. *A "Somersetshire Stone."*

Columns to the Colonnade, Opera-house, Pall-mall side (now painted), 1818-20.

29. *Steetley Stone.*

One of the Courts of the Houses of Parliament.

30. *Swanage Stone.*

London, &c. Law Life Assurance Office, Fleet-street, 1853-5.

31. *Swanage Stone and Bath Stone Dressings.*

St. Stephen's Church, Avenue-road, 1849.
St. Mary's Church, Ewell, Surrey, 1847-8.
Trinity Church, Haverstock-hill, 1849-50.
St. Paul's Church, Nelson-street, Bermondsey, 1847-8.

32. *Whitby Stone, Yorkshire. See* 5, 27.

Highgate Cemetery (Egton quarries), 1838.

33. *Yorkshire Stone Facing. See* 21.

WYATT PAPWORTH.

SPITALFIELDS.

SOME years have passed since we first directed attention in this journal to the sad condition of the weavers of Spitalfields. We pointed out then, with regret, the decline in the amount of their earnings in times of pressure, and mentioned that when trade grew brisk the wages had seldom risen. Since that time prices have continued to decline, and are now so low that many skilful weavers, by working fourteen hours a day, can only earn from 9s. to 10s. in a week. The condition of the women and children who "reel the thread" is much worse; and bad as this aspect of affairs is to those employed, several thousands of these workers are worse off, for they have little if any employment at all.

Our experience of various of the suffering classes of the metropolis, and of some other parts of the country, leads us to form a high estimate of the honesty and persevering industry of the Spitalfields weavers.

In order to have room for their lathes, it is necessary that they should have apartments of considerable size, for which the rent amounts to from 3s. to 3s. 6d. a-week. In the winter-time, the long hours of darkness during which they are forced to work causes an outlay of from 1s. 6d. to 2s. a-week for oil for the lamps. Deduct these sums from 10s. a-week, and only 5s. are left for subsistence. We could tell sad tales which were related to us during a recent visit to some parts of Spitalfields. The want and starvation have been dreadful: piece by piece, furniture has been sold or otherwise disposed of; and in many instances the bread-winner, the loom, has been taken away, and families are left entirely destitute. No one can see, without pain, a large population like this, who would gladly work, sinking, with the children who surround them, into deep and almost hopeless poverty. Much temporary good might be effected by those who lead the fashion, if they would use the silks and velvets of this particular manufacture. We know well the difficulty there is in this, and that ladies have notions in connection with articles of dress which must not be disputed; and yet we ask for consideration for the condition of the Spitalfields weavers. They make a good, useful article, which, taking into consideration the present price of raw silk, is sold at a fair and moderate cost.

The weavers, driven to our shores for conscience sake many years ago, have been, taking everything into consideration, a credit to our population, and deserve help.

They would much rather work than receive parish relief or other charity. Having said this much, we earnestly, and with the kindest feeling, ask the workers of Spitalfields to consider on their side the difficulties in which they are, the constant decline of prices during the past fifty years, and the prospect of still further decrease, and decide if it be wise to bring up their children to the trade, and thus make the number of workers greater than the demand for production warrants. We are sure that our object will not be mistaken by the very intelligent men and women who work at this trade when we remind them that in former years, even as far back as George the Third's reign, there have been in Spitalfields times of great distress, and that these have constantly recurred.

Let them look top at the gradual reduction of prices, until even constant work is little better than starvation. The distaff, the hand-looms for weaving various fabrics, the hand-work of the manuscript writer of books, the knitting-needle of the stocking-maker, the stage-coach, and other matters, have succumbed before the progress of steam and other agencies; and, much as we may regret it and sympathize with the suffering which exists, we are forced to express an opinion that, before long, the hand-loom work will cease to be in demand. Our object in saying this is to ask parents in Spitalfields to use every exertion to place their children to other trades. This we know well is no easy task; still a vigorous effort should be made to accomplish such a desirable object: there are the navy and the merchant service for boys, which would be infinitely better than the long and ill-paid for hours amongst the silk webs. Weavers, it is said, in agricultural districts, make good colonists (Dr. Livingstone was a weaver), and it might be well worthy of the consideration of the Government to offer to them some means of emigration on a useful scale. Meanwhile assistance is immediately needed to an extent which can be only judged of by those who have inquired on the spot. Those who are helping in distant lands should not forget the wide-spread destitution which exists at home.

LONDON UNITED BUILDING TRADES' SOCIETY.

"THE artizans in the employ of a builder having attended the funeral of a fellow-mate, who unfortunately died from the injuries he sustained through having fallen from a scaffold, and who, like working men generally, left his wife and children without any means of support—they, the artizans, seeing how suddenly the thread of life is sometimes cut, and not knowing how soon their own children, like those of their deceased shipmate, may be fatherless and destitute, resolved at once to form themselves into a Society, and invite their fellow-workmen to join them, and continue with them one penny per week each man, for the purpose of raising a fund, to be termed 'The London United Building Trades' Orphan Asylum Fund,' from which the children of members who may unfortunately be deprived of their father shall receive such assistance as the members shall consider the funds will admit of; and ultimately, when the Society shall possess funds sufficient, to obtain an asylum wherein to place those children, where they shall be provided with food and raiment, and good moral teaching and instruction."

This is the substance of an address which has been issued to the building trades, and we have been requested to make it known. The secretary, Mr. Arscott, states that the Society has been in existence six months, numbers 200 members, and has already twelve guineas in the bank. "The Society meet every Monday evening at eight o'clock, at the Alma Coffee-house, Star-street, Edgware-road, where any information relative to it may be obtained."

We have the greatest respect for all such efforts, and cordially wish it success. It is, nevertheless, to be regretted, as we have before now urged, that there is not one properly organized all-embracing guild for the building trades in lieu of a number of disjointed societies for separate purposes. Expenses would thus be lessened and safety ensured.

LEEDS TOWN HALL.

PENDING such particulars as we may give hereafter, it will be right to name the contractors for the various works: Mr. Samuel Atack, Leeds; Messrs. Addy and Nichols, Leeds; Messrs. Matthew, Firth, and Co. Bradford; Messrs. Webster and Son, Leeds; Messrs. Singleton and Tennant, Leeds; Messrs. Nelson and Sons, Leeds; Messrs. Hummerston, Brothers, Leeds; Mr. Thomas Hall, Leeds; Messrs. Haden, Trowbridge; Mr. Charles Smith, Birmingham; Mr. John Thomas, London; Mr. Frederick Dent, London; Mr. Warner, London; Messrs. Winn and Brothers, Calverly; Messrs. Thorp and Atkinson, Leeds; Mr. Thos. Whiteley, Leeds; Messrs. Gray and Davison, London; Messrs. Balmforth and Smith, Rodley; Messrs. Robert Harrison and Co. Leeds; Messrs. E. Maude and Son, Leeds; Mr. Francis Danby, Leeds; Messrs. Minton, Hollins, and Co. Stoke-upon-Trent; Messrs. J. Heap and Co. Leeds; Mr. J. G. Crace, London; Messrs. Osler, Birmingham; Mr. Ratcliff, Birmingham; Messrs. Defries, London; Messrs. Joy and Holt, Leeds; Mr. Jas. Hartley, Manchester; Mr. William Wright, Leeds; Mr. John Haigh, Halifax; Messrs. Child and Pickles, near Bradford; Mr. Joseph Slater, Bradford; Messrs. Hobson and Yeoman, Kirkskeil-wood; Mrs. Mawer, Leeds; Mr. H. Wilde, Manchester; Mr. Thomas Mathews, Leeds; Messrs. Kendell and Co. Leeds; Messrs. Edmundson and Sons, Manchester; Mr. Dominico Brucciani, London, Mr. John Robinson, clerk of the works.

The total cost of the building, including the interior fittings and decorations, and the organ, together with the land, will exceed 100,000*l.* to be raised by rates levied upon the inhabitants of the borough.

The architect, Mr. Brodrick, was presented to her Majesty.

The cost of the decorations in the hall and vestibule, by Crace, was 1,600*l.*

ANCIENT DOMESTIC ARCHITECTURE, CLUNY, FRANCE.

AT about four leagues from Maçon, upon the borders of Burgundy, stands the pretty little city of Cluny, concealed amongst lofty mountains still covered with forests. Built on the side of a high hill, it extends down into the valley, just where the river that waters it forms a bubbling cascade. With its ancient houses, bastions, city-walls, and the remains of the ancient abbey, it inspires thoughts of the Middle Ages, and suggests a time when Cluny was of more importance than it is now. A glance serves to show how much this importance depended on the abbey. On the site of that building are now united the infant-school, the prison, the assembly-room, the law court, and the theatre, while its vast cloisters form the recreation-place of the inhabitants.

In respect of civil architecture, Cluny offers to the architect and antiquary curious and interesting specimens of the twelfth century, and the thirty or forty houses preserved in this town are good examples of the Romanesque period, almost intact, although they have had to travel through six centuries or more to come down to us. Nor will the goodness of their condition astonish us more than the taste and skill they manifest. We have chosen three of these legacies of the past, to show the residences of the townsmen of that period. As in all cases where many are gathered together within fortified walls, the frontage of each is small.

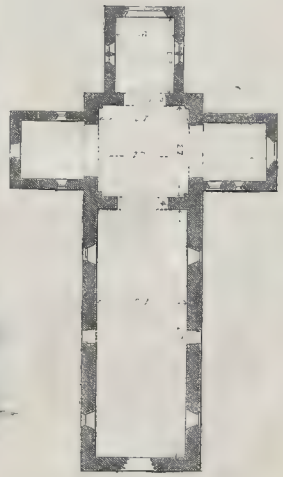
The house, of which we give a perspective view in the next page, is remarkable for its general harmony. It was doubtless the residence of a dealer well to do, and one feels that a certain degree of comfort reigns in the first-floor, presenting, as it does, externally, three arches, in the tympanum of each of which is opened a small square *oculus* for ventilation or additional light. The dressings of the windows are of stone: the rest of the building is of rubble work, covered with a composition of lime and sand. The roof is steep, and projects at the foot considerably before the face of the wall. It will be noticed that the shop preserves its ancient shutters, composed of fixed flaps, the upper opening horizontally from the transom, to serve as a shade from the sun, and the lower part as a stall-board. The chimney consists of a trunk about 6 feet long, which gets smaller towards the top, and ends in a column surmounted by a cone, pierced with openings, to allow the passage of the smoke.

The ground-floor of the house represented by the engraving on the right is occupied as a shop, and the entrance-door has its *oculus* above. The arrangements of the first and second stories agree in general character, but differ in the details. We give the centre pier on the first floor to a larger scale, 1-20th full size.

The third house is a town trader's house *par excellence*,—that of a shopkeeper, perhaps, who had retired from business enriched by his industry. A small door gives entrance on the ground-floor, and near it a rectangular opening admits a few rays of light to an apartment serving as a cellar. On the first floor is a double window divided by a column, with semicircular arches, adorned with delicate ornamentation, and surmounted by a length of horizontal cornice. The upper-floor shows the same arrangement with greater simplicity. A small amount of art is here well placed.

We give the capital of the column of the window on the first floor, 1-15th of full size.

ANCIENT DOMESTIC ARCHITECTURE, CLUNY, FRANCE.
Twelfth Century.



THE ANCIENT CHURCH IN DOVER CASTLE.

CHURCH OF ST. MARY, IN THE CASTLE, DOVER.

Enthusiastic antiquaries have referred the date of this church to the legendary age of an apocryphal King Lucius, or the period of the mission of St. Augustine. It may safely be attributed to the interval between the conversion of the Saxons and the accession of King Alfred. In the seventh century, King Idbald, 616-40, founded a college of secular canons in this place, to minister to the garrison. The combination of military and ecclesiastical structures within one inclosure occurs at Exeter, Porchester, in the Tower of London, and in the very interesting instance of St. Germain's Cathedral, and Peel Castle, in the Isle of Man. Three chaplains were left after the removal of the clergy to St. Martin's-le-grand, in 691. There were three altars,—the high altar, and those of St. Mary and the Holy Reliques; the latter probably occupying the lateral spaces on either side of the rood screen, as in Continental churches. The monumental stone of Henry Earl of Northampton stated that his "body and monument had been removed to Greenwich, by reason of the ruinous state of this chapel, A.D. 1696." The decay of the church and its disuse may be fairly attributed to the latter end of the seventeenth century, and its subsequent injuries to the carelessness of the Board of Ordnance. In 1635, the church and its monuments were in complete repair.

This venerable building has been constantly threatened with demolition, from 1800 until last year. Grose, Darell, and others have given external views; but Malcolm, alarmed at the prospect of its destruction, and compelled to take a drawing by stealth and at all risks, has preserved to us a very valuable prospect from the south to the north transept. Rickman very significantly alludes to the walling up of the entrance, and suggests that the closed apertures permit no view of the interior. Mr. Britton was positively refused admission by the Duke of Wellington, when Lord Warden. Military jealousy and some slight apprehension of popular disgust at the profanation of this church have hermetically sealed it. It was in 1855 only that Lord Panmure, then at the head of the War Department, promised it should be cleared of coals—it is a coal-cellar!—and kept more decently and respected for the future. His lordship promised; but his orders, if issued, were never carried into effect. The Pharos was, however, on the remonstrance of the Archæological Institute, rescued from an abominable misuse, to which it had been put by the Royal Engineers.

Mr. Essex, in his MS. notes, thus describes the church:—"The remains consist of ragstone and Roman bricks. In the middle tower there are yet remains of arches, but they have undergone several alterations, particularly the addition of stone-work to the arches, most of which seem about the time of Henry III. or the earliest in the time of King Stephen." Rickman makes the following observations, which are open to some cavil:—"The chapel is a cross. There is a door on the south side, now stopped, but built with a Roman brick arch of two tiers, like Brixworth, but it has no dripcourse. There are other apertures with bricks, but which do not appear to be original. There is some Decorated and some Perpendicular stonework in the chapel. There are several round apertures, but most likely not original. The tower is short, large and square. The parts of the cross are small, except the west. One door has an impost and small stone, not bricks, for an arch: the bricks are intermingled with stones, which seem Kentish rag. The whole masonry is very rough, of bricks, rag, and flint intermixed.

Having had the advantage of making such a survey of this "piece of rare architecture," as the coals and rubbish permit, we offer our notes to the reader, in the hope that they may awaken his interest and promote the restoration of the church. The original windows were all formed with tiles, and the arches turned with the same material: from the three tiers of weather mouldings on the west side of the Tower, it would seem that the first roof was of a slight pitch, the second high and steep, when three windows of corresponding date were added on each side of the nave above the ancient windows; and subsequently a third roof, more depressed, was added. In the old views of the church, the cills of these three windows are plainly marked.

Mr. Bloxam gives a description to this effect:—In the west wall is a semicircular-headed window, the arch springing from a plain, square-edged impost of two members, one projecting over the other. The east and west arches of the tower are semicircular and of bricks like the jambs, which are 3 feet 6 inches thick, except a few courses of stones below the impost and the key-stone. The imposts are rudely moulded. The arch of the west wall is recessed. The windows in the tower are semicircular-headed, with straight jambs, without any splay; there are small circular windows of Roman brick, splayed without and within.

The church is cruciform, but without aisles, consisting of a nave 72 by 27 feet; a tower at the crossing, 28 feet square; a transept, 72 by 20 feet; and choir, 22 by 18 feet; the whole internal length being 121 feet. On either side of the nave are the remains of two clerestory windows of great size: between those on the south side was a door, circular headed, with double arches of tile: underneath the west window, on the north side, was a more pointed door, beneath an acute-angled pediment, the weather moulding of a porch, the principal entrance. Two round windows were in the gable of the north transept: one *was* in that of the south wing; in the east and west walls of the former was a trefoiled lancet window. In the west wall of the south transept was a round-headed window, and in the north-west angle is a late Tudor window of three lights. In the south wall of the nave appear two huge indents, which in some old prints are erroneously fashioned into windows, but are evidently the effect of a design to destroy the entire edifice by gunpowder. The choir was lighted by two lancet windows, separated by a shaft with a simple capital on either side; the east window, perhaps a triplet, was 13 feet 8 inches in width, and the splay is 2 feet 3 inches; on the south side remain a bracket piscina and sedilia, Early English. In the south-east angle were found two bodies, buried upright, like the De Claphams at Bolton. A covered porch unites the nave to the Pharos. In the angles of the tower are graceful Early English shafts, and the springers and ribs of arches filled with a dog-tooth moulding. Two large round brick arches, strong and massive, with bonding courses of Roman tile, support the central tower on the east and west: those opening into the transepts are pointed. On the east face were two round windows; on the south two pairs of the same form; and on the north three, disposed in an inverted triangle. On every side was a round-headed window, opening below the roof into the church, and forming an internal lantern, above which were two stories, the uppermost lighted by two small windows, a pair on every face, and of pointed form, probably added when the second roof was added. A round-headed window is in the west wall of the nave. The choir arch is 12 feet wide; the transept arches, each, 17 feet; that of the nave, 15 feet. The octagonal tower, at the west end, was built by the Romans as a lighthouse, about A.D. 100, in imitation of Caligula's Pharos, at Boulogne. It has bricks of a bright red hue, with blue flinty grit in the centre, or of cream-colour and white. On the south side are some specimens 3 feet in length, highly glazed, and with chequered or straight channels. The other material employed is travertine, a tufa cut into blocks, measuring about 1 foot by 7 inches; the walls having seven courses of tophus, and then two tiers of tiles. There were originally two windows on the ground-floor, with a north-west entrance 6 feet wide. Some alterations were made by Bishop Gundulph, and in 1250 it was cased with flint by Richard De Grey, the Constable, and altered from an hexagonal shape, and battlemented. The foundations are laid in a bed of clay. Its interior is square, about 10 feet in diameter, while the walls are 10 feet in thickness. Externally it is 37 feet in length. Sir George Rooke, at the beginning of the last century, removed its peal of eight bells to Portsmouth, and the lead, for economy, was stripped off by the Board of Ordnance. On the north face are the arms they pass current for those of King Lucius) of Erpingham, Constable, in the reign of Henry V. the date of some further repairs: Vert an inescutcheon between eight martlets, which have hitherto appeared as two bars—a canton. Rickman thus describes the tower:—"It is a rude, round below, and square inside; the walls about 12 feet thick. The upper apertures of the tower, which is octagon, are Decorated one-light windows." Dr. Stukely enters more into detail: "The door is on the east side, about 6 feet wide, with an arch made of a course of Roman brick and stone, alternately, 11 feet high. All the stones are of narrow scantling: there are first, two courses of Roman brick, which is level with the bottom of the windows; then seven courses of hewn stone, which mount up to the top of the windows; then two courses of brick and of stone, alternately to the top. The inside was entirely filled up with a staircase: the height of what is left is 40 feet. I believe there were 20 feet more originally, and the whole number of windows on the sides was eight."

The restoration of this church is demanded by the necessities of the garrison of the castle. A commodious chapel has been built for the troops quartered on the Western Heights, and was opened during this summer; while the regiment in the Castle is marched to the Guildhall, upwards of a mile distant, at once an unseemly and inconvenient place of worship. Many a soldier sleeps under the tangled grass on the south side of the nave, and we are quite sure that officers and men would hail with pleasure and pride a return to their ancient and proper garrison church. When costly officers' quarters have been lately provided, and excellent and well-attended schools instituted for the men, how long shall the adjoining House of God lie desolate, and not present to the mariner nearing these shores a glorious landmark, on the most prominent of England's cliffs, to attest that the red cross upon her national flag is no empty symbol of the faith which has elevated her to her present greatness?

Mackenzie Walcott, M.A.

MUSIC—DRURY-LANE.

Miss Pyne and Mr. Harrison have commenced their second season with such vigour and success, as to give renewed hopes to those who desire to see an English opera house permanently established. On the opening night, *The Rose of Castille* was admirably well done, the cast being the same, with one exception, as when it was first produced, and all having gained increased power of expression with more complete knowledge of the music. The dresses are good, and the scenery sufficient. Flotow's *Martha* is to be produced forthwith, and is not an unwise selection. It does not seem absolutely necessary that *every* opera brought out should be by an English composer, but this should be the case for the most part; and Mr. Harrison, encouraged by the success of his first commission, should seek to give English composers the opportunity, which has long been denied them, of bringing their works before the public. In deciding on such works, let him look as well to the story as to the music; and, having carefully chosen, let him, by vigorous rehearsals and artistic mounting, including correct as well as effective scenery, give it that completeness to which the public of to-day are entitled, and a commensurate success will be certain.

EDINBURGH.

The governors of Watson's Hospital (designed many years since by one of the brothers Adam, who designed the Edinburgh College, and Register House) having resolved to expend 10,000*l.* on additions to the Hospital, instructed their architect, Mr. John Lessels, Heriot-row, to prepare plans, which were at once adopted. The additions, which are now so far advanced as to admit of inspection, consist, says the *Scotsman*, chiefly of two wings added to the original building, and extend southwards. The east wing is devoted entirely to educational purposes. The ground-floor contains two class-rooms, an in-door play-room, and a workshop for the boys. On the first floor there are one larger class-room and a smaller which, though separated by folding-doors, can be thrown into one, and the library and book-closets. The second floor comprises two reading-rooms, drawing class-room, clothes room, and cleaning-room. Of the class-rooms in the old house only one has been retained, and it has been enlarged and improved. Two of the others form corridors connecting the new and old portions, and the fourth is converted into a sleeping-ward. The west wing is occupied by the house-governor's apartments; a chapel, communicating directly with the governor's house; and a large store-room over it, with some additions to the kitchen offices. Considerable difficulty was experienced in connecting the old and new buildings, owing to the want of height between the floors, which did not admit of giving sufficient elevation to the ceilings of the class-rooms; but the architect got over this obstacle, by lowering the ground one foot at the base of the old house, and taking advantage of the fall of the ground to the south, by which two feet and a half more were obtained; thus giving three feet and a half to the elevation of the lower class-rooms, and also improving the external appearance of the old house.

The other additions consist of an entrance lodge at Lauriston, which is henceforth to be the principal entrance. Attention has been paid to the warming and ventilating of both the old and the

new buildings. This has been provided for by a combined system of warm-water pipes and heated air led along the corridors and into each of the class-rooms, with outlets in all the staircases and corridors. The mason work has been executed by Messrs. Paterson and Son; the carpenter and joiner work by Mr. John Swan, of the Edinburgh Saw-mills; and the plaster work by Mr. James Annan,—all under the superintendence of Mr. John Annandale, clerk of the works.

The new Baptist Church, Dublin-street, built from designs prepared by Messrs Peddie and Kinnear, was opened a few weeks ago for public worship. The style is Geometrical. The building is entered by a corridor, leading from the porch in Dublin-street, and lighted by a traceried window in the gallery stairs at the east end. The entrance-door to the body of the church is placed opposite the pulpit, which occupies the north extremity of the building, under a large rose or "wheel" window filled with stained glass. On passing through this door, a view is obtained of the whole interior. The plan of the edifice is seen to be a cross formed by a nave or main body running north and south (parallel with Dublin-street), intersected by two transepts or cross divisions, extending beyond the sides of the nave to the east and west. The nave and transepts terminate in gables pierced by windows filled with tracery of varied design. On each side of the nave, at the intersection of the transepts, rises a moulded iron column, which serves the double purpose of supporting the centre of the gallery occupying the transept on each side, and of carrying the arched timbers of the nave and transept roofs, which here unite. These iron columns have capitals enriched with ivy-leaves, in high relief, which, together with the label terminations of the windows and bosses in the corridor-roof, have apparently been studied from natural foliage. The main roof timbers span the nave and transepts with pointed arches. Between the small timbers, the slate boarding is plastered. The timber fittings are stained, of a brown colour, and varnished.

BARRACKS AND HEALTH IN INDIA.

IF any confirmation were needed of the truth of the observations we made some time ago as to the condition of barracks in India, and for which, as mentioned last week, we had been reproved by a Calcutta journal, it would be found in the report recently made to the Court of Directors by Mr. J. R. Martin. The report begins,—

"1. It is stated by Colonel Sir Alexander Tulloch, as the result of investigations in the War-office, made by desire of Mr. Sidney Herbert, that among British officers and soldiers of the Queen's and Company's armies serving in the East Indies, there occurred, from 1815 to 1855 inclusive, a total mortality, exclusive of casualties, of about 100,000 men, 'the greater portion of whose lives might have been saved had better localities been selected for military occupation in that country.'

"2. Dr. Burke, late Inspector-General of Hospitals in Bengal, has stated that in the station of Secunderabad alone, during thirty years of its occupancy by British soldiers, the cost to the State on account of loss of life amounted to 150,000*l.* estimating each soldier as worth 100*l.* But, estimating the loss of life mentioned by Sir A. Tulloch at the same valuation of 100*l.* each man, we arrive at a loss in money of 10,000,000*l.* sterling.

"3. Then there has been enormous waste of the public funds on account of barracks and hospitals placed in stations so unhealthy that they were subsequently abandoned. The buildings for the European troops at Berhampore, Bengal, abandoned since 1835 on account of its unhealthiness, are stated by the finance authorities of Calcutta to have cost since 1757 nearly 17,000,000*l.* sterling. Tennant declares that, up to this time, the sums expended by the East India Company for the accommodation of their European troops, 'if laid out at the compound interest of the country, would, at a determinate period not very remote, have equalled the national debt.'"

The report goes on to show that the Irish sufferers from typhus during the famine who were massed in workhouses and hospitals perished in enormous numbers, whereas those who were thrown along the roads and under the hedges recovered in goodly proportions: of so much more avail is pure air towards the restoration of health than a fine building. The thorough ventilation through the openings and crevices of huts supplies the sick with what they do not obtain in our ill-constructed barracks and hospitals—namely, pure air.

The report also bears out what we emphatically urged at the commencement of the revolt in India, the want of a sanitary staff in that country:—

"Lastly," says Mr. Martin, "let there be appointed for the sanitary duties of the army, at each of the Indian Presidencies, a medical officer of health—an officer of scientific attainments and of rank, who shall be attached to the quartermaster-general's department: we shall thus add to the department of military topography that of medical topography. The medical officer of health should preserve in his office, for the use of the scientific persons concerned, plans and models of the best barracks and hospitals which may be from time to time approved by the military powers of Europe, in order that the most recent improvements may be rendered available wherever buildings of the nature indicated may be found necessary."

We care not in what shape the authority be deputed, so that it exist, and do its duty. We may now hope to hear no more denials of the truth of our assertions as to the existing ignorance of sanitary requirements in India, and the bad condition of the barracks there. Let all unite to obtain improvements in these respects.

DRINKING FOUNTAINS.

THE fountain movement is evidently spreading throughout the country; and it is to be hoped the Londoners will in time enjoy a share in it. We are glad to observe that our suggestion that the temperance societies ought to agitate for the extension of street fountains, taps, and pumps, as one of the most potent aids towards the excellent end they have in view, is already taking effect At a temperance demonstration in the City, on Tuesday, the chairman of the City of London Temperance Association, Mr. Benjamin Scott, the City Chamberlain, in an address to the meeting, said, "There is one point of importance;—that many of our humbler citizens complain that they cannot find a wholesome substitute for beer or other drink; and I think the suggestion of having water-fountains in London is a good one. Now I know the Commissioners of Sewers; and I think a memorial to them from the Temperance Association, on that subject, would be of good service. I one day saw in Cornhill eight or ten people waiting at the pump there to drink; and it struck me that fountains or pumps in the streets would save many men from drunkenness. I should be glad to contribute towards such a movement."

When a useful suggestion has been laid before the public in the *Builder*, it always happens somehow, that it *shortly afterwards* takes a new start, as quite a new suggestion, by somebody else; but that is a matter of small moment to us so long as the suggestion as had its effect; and we have far too often noted this peculiar association in the "constant sequence" of cause and effect to be at all surprised or mortified: the taught do not often either acknowledge or glorify the teacher, and it is sufficient recompense to watch our goodly progeny as they "walk alone," unmindful of our erewhile helping hand.

A still more practical and promising step has been taken by the Banbury Temperance Society towards the adoption of the street fountain movement as a useful subject of temperance agitation. A deputation of this society waited last week on the Banbury Board of Health, and asked to be allowed to supply the town with two or three public drinking-fountains. They proposed both to supply the fountains and to put them up, the Board to fix upon the sites, take charge of them after they were erected, and go to the expense of supplying the water. A great number of persons, they said, came into Banbury, especially on market days, to whom these public fountains would be acceptable; and hence the Temperance Society was anxious to provide them, and had raised a contribution for that purpose amongst its members. If the Board thought well to appoint a committee on the subject, the committee of the Temperance Society would be glad to show them the plans and designs of the fountains. In reply, the chairman said the Board was much obliged to the Temperance Society for making so liberal an offer. He believed the public would not object to incurring so small an expense. The deputation then withdrew, and it was resolved to refer the matter to the committee already appointed to arrange similar conveniences for quadrupeds, two other members being added "as representatives of the biped interest," adds the Banbury reporter.

It is gratifying to note that horses, cattle, and dogs, as we have long and often suggested, are thus not being forgotten: where drinking-fountains for human beings are erected in the streets of a town, there can be no difficulty in devoting the waste to animals, who frequently suffer sadly from want of such accommodation. This is especially the case in the vast extent of the metropolis; and it is painful to witness the poor creatures drinking out of every filthy puddle they come across, even these being not often available.

Several items of further progress require to be noted down this week.

At Preston a drinking-fountain is being erected in the market-place.

The design for the fountain to be erected in Ann-street, Birmingham, with the surplus of the decoration fund for the queen's late visit, has been decided on. Designs were invited from three architects, and that furnished by Mr. E. J. Payne, of Bennett's-hill, was finally selected. The site proposed is the boundary-wall of Christ Churchyard, at the sweep of the street near New-street. The fountain, according to the local *Herald*, will be sculptured from a block of Ancaster stone, of a cream-white colour. A niche, sunk in the stone and wrought in imitation of stalactite rock, and of rushes and water-weeds, forms a protective receptacle for the basin—a double shell opened, cut in Aubigny stone; the water issuing from the volutes of the upper shell. The niche is girt with a laurel-wreath and enriched mouldings, and is surmounted by an angel. Below the fountain, and at a level of merely a few inches from the pavement, is to be provided a second basin, also sunk in a niche, through which the waste water from the upper basin is allowed to pass before flowing into the drain. This will afford refreshment to dogs, and, we presume, to other animals as well. The fountain will be set back in a recess in the wall, and will be executed in *alto relievo*.

The Leicester Council have unanimously passed a motion approving of fountains, and referring the subject to their Highway and Sewerage Committee. It is proposed, in the first place, to erect three fountains,—one at the Cross in Belgrave-gate, another in Welford-place, and the third at the junction of Sanvey-gate and Northgate-street, and each to have a waste trough for animals.

EFFECT OF FINE WEATHER ON PUBLIC MONUMENTS,

AND ON LABOUR IN PARIS.

DURING the month of September, in Paris, it has been delightful to observe the influence that extraordinary fine summer weather has in heightening the beauty of a city's public monuments and works of art They have appeared to great advantage under cloudless skies, and a sun shining with the most intense brilliancy, exciting in the hearts of thousands the most enthusiastic impressions. The French, accustomed to splendid sights and pompous processions, stopped on their way to business or pleasure, and directed their eyes upwards and around them to gaze on their sun-sparkling city with some astonishment. The more distinguished and beautiful lines and members of their national edifices—the theatre for fine building and groups of statuary in the *Place de la Concorde*—of which the Parisians have reason to be proud, were seen glistening like burnished steel, exhibiting a degree of splendour far surpassing the attempts they have made in the way of their nocturnal and festal illuminations. The reflection of the sun was so powerful that even in the shady sides of buildings and other objects, the details were discernible; parts too beautiful to be concealed, revealed themselves; and the veins of marble were resplendent. The polished surfaces of the productions of the studio and *atelier*, the gilded railings, the *trottoirs bitumés*, the fresh-jointed masonry, the sculpture of buildings recently renovated, the richly-carved ridge ornaments to the roofs of the pavilions of palaces, the flooring to the *Pont-des-Arts*, were more like the well-kept and spotless interior of a duke's *salon*, than external work which is exposed constantly to dust, and daily wear and tear. We have often admired and been amused at the great pains taken in preserving the monuments of Paris clean and free from dirt, or moisture, that might corrode them, and confess that it needs a delicate and careful hand to scrape and to polish the fine and elaborate parts of them. However, this attention to them from Government acts beneficially on the mind of the people; and there is no occasion for the police to prohibit the bill-stickers pasting placards on anything else than a blank ugly wall. The French cherish their monuments, and the names of those who have created objects for them to admire. The out-of-door attractions of art, which are very numerous, are appreciated and loved by the Parisians, especially when the climate which favours their appearance is in its perfection, and when holiday-making and games in the environs of the city are the programme of every day. The weather, with an azure sky without a cloud the whole of the day, and so studded with stars during the night as it has been this month, is most propitious for the labours, almost proverbial, which are making Paris more and more eminent as one of the greatest centres of industry in the civilized world. The present reparations and alterations of the Tuileries, and the improvements making in the gardens; the light and graceful bridge, admitting daylight and opening a pleasing vista of the terraces and trees, which were formerly intercepted by a dead wall; the erection of two more bridges on the Seine, excite the interest of every one as he strolls on the quays, from which he obtains a good view of works in constant operation, and calculated for the use and ornament of the

capital, at the same time promoting the welfare and interests of the population. These constructions have, and will yet have for a long time, the effect of employing hundreds of active and careful workmen night and day; and the energy and spirit they produce among a class and craft who are aptly called "the blood of the nation," is a gratifying sight alike to both native and foreigner.

ART-EXHIBITION IN CLONMEL.

THE moveable collection of specimens from the Government Department of Art having been lent to this town, an effort was made to provide suitably for them, and to produce a creditable exhibition, of which, so far as we can learn, and making due allowance for limited resources, we believe we may chronicle success. To the committee of the local Mechanics' Institute is mainly due the credit of this event, both as to its origin and accomplishment; but several gentlemen of rank and position, voluntarily came forward and tendered their assistance, both by valuable contributions and otherwise. At the head of the staircase is a full-length portrait of Lord Gough, by a local artist, Mr. James Howard. The effect of the apartment is pleasing: a splendid *jet d'eau* occupies the centre; and the glass-cases, stands, &c. are judiciously distributed. Several of the townsmen have contributed specimens of local industry; and some beautiful and valuable pictures have been lent for the occasion by Lord Gough, Messrs. Bianconi, Bagwell, White, Grubb, &c. The surplus profits (if any) are to be handed over for the benefit of the Clonmel School of Design. A portion of the Court-house is devoted to this exhibition, and several improvements have been effected; the entire arrangements being under the management of Mr. Worsop. The value of the collection of pictures is estimated at 8,000*l*. Lieutenant-colonel Phipps, K.C.B. took the chair on the occasion of the opening, which was very brilliantly attended. In this age of "excursions," it would not be inadvisable to take an influx of visitors to the town by cheap trips, though the season is somewhat advanced.

BIRMINGHAM.

PURIFICATION OF THE TAME, &c.

AT the town council meeting last week a report of the public works committee on the sewerage of the borough and the filtration experiment was read by the chairman. The committee reported that they had now completed the experiment of filtering a portion of the sewage of the borough, at the outlet at Saltley, and the process had been in operation several weeks. During this period the works had been carefully watched by each member of your committee, and several scientific individuals had also attended to inspect them. The committee, being satisfied with the results, had no hesitation in recommending the council forthwith to authorize them so to extend the works as to enable them to purify, for a considerable period yet to come, the sewage of the borough; and they estimated that this object might be attained by an expenditure of 4,200*l*. The sewage, and also the filtered water, had been subjected by Mr. Adderley to the examination of Mr. Lindsey Blyth, the analytical chemist to the General Board of Health, and they append to their report the analyses of that gentleman in support of their recommendation to the council. The committee also reported that their attention had been continually directed to the present condition of the sewerage of the borough, and to the necessity which has so long existed for completing it; and they were of opinion that the work could not be longer delayed. They had obtained an estimate of the cost of the works, which amounted to 75,000*l*. This sum, it was believed, would complete the main and branch sewers of the building area of the borough. A large extent of kerbing and guttering would be necessarily required in the streets traversed by the new sewers when constructed, and in many streets already sewered: an estimate of the cost of this work amounted to 50,000*l*.

The report having been received, the chairman moved that the committee be authorized to carry out the extension of the works at Saltley, with power to certify for payment of a sum not exceeding 4,200*l*. For his own part, he remarked, he might say that the result of the experiment was of a highly satisfactory character. It would be eminently useful in purifying the sewage water from offensive matter; and the nuisance complained of by Mr. Adderley, with reference to the Tame, would be so far mitigated as to remove that gentleman's objections. At the same time he must remind the council that the injunction of the Court of Chancery was hanging over them, and it was absolutely necessary that they should do something, and the general opinion of scientific and other persons appeared to be decidedly in favour of filtering the sewage matter.

In course of the discussion which followed it was stated that the quality of the sewage matter compared with that produced in other towns was richer, and that in a very short period it would return the outlay and the working expenses connected with it. The sewerage yielded some 10,000,000 of gallons of liquid matter per day, and about 150 grains of solid matter were obtainable from each gallon, or about 4lbs. from every ton. The yield of solid matter per day would, according to the quantity of sewage water conducted into the works, average from 76 to 78 tons, which, sold at even a moderate price, would realize 50*l*. or 60*l*. a-week, which would be more than amply sufficient to enable the works to pay their way. The proposition was carried unanimously, and the report approved of by a large majority.

At the same council meeting, a portion of the Lunatic Asylum Committee's Report with respect to the proposed enlargement of the Borough Lunatic Asylum was read for further consideration. The committee called attention to the want of room in the asylum. The house was built for 300 patients, and it was now recommended that an extension should be effected by adding a block of 40 feet by 25 feet to each of the six wings, with alterations near the laundry. That would give accommodation for 200 more patients, making the total number 500. The estimated cost of the alterations, with furniture, fittings, &c. was 10,000*l*. The committee now asked for authority to carry out the projected enlargement.

After considerable discussion the report was approved of, and a resolution to give the authority asked for almost unanimously carried. The finance committee were authorized to negotiate for a loan of 10,000*l*. for the purpose.

IRELAND.

THE Wesleyan Congregation and Society of Portadown, finding that the premises occupied by the body were unsuitable to their wants, at first determined on effecting extensive improvements and additions thereto; but ascertaining that the cost would be too high, considering the additional accommodation obtainable, it was subsequently decided not to proceed, but to dispose of the existing concern, and take a site close at hand for the erection of a new building. Subscriptions were promised to the extent of 2,048*l*. and plans obtained from Mr. Boyd, architect, of Belfast, for the necessary works, which comprise a chapel 60 feet by 40 feet in the clear, and 31 feet high, having two vestries, a large vestibule, a gallery (carved and ornamented in front) surrounding interior, an organ gallery, and a panelled and enriched ceiling; also a large school-room, 60 feet by 30 feet, divided in the centre by a movable partition, and forming two apartments 30 feet square for boys and girls respectively, with class-rooms, &c. off same; and a manse, containing dining-room, drawing-room, library, and five bedrooms, with stable, coach-house, &c. at the rear. The chapel will be heated with hot water. Exteriorly the end of chapel building towards Thomas-street presents a tetrastyle Corinthian portico, surmounted by an entablature with cornice and pediment, and plain blocking over, returned a short distance on the flanks over two Corinthian antæ. The elevations of the schools and manse are of plainer character. The chapel is lighted by eight pairs of windows, the lower being short, with segmental heads, and the upper long and narrow, with semicircular ditto. The excavations are being proceeded with, and the works are intended to be executed in whin stone, with a considerable quantity of cut stone. Estimated cost, 4,000*l*. Messrs. Brown and Ross, of Belfast, are the contractors.

In the same town a new Presbyterian Church has been recently opened. It is capable of seating 600 on the ground-floor, with a place for a gallery for 200 or 300 more to be hereafter erected. The old house is being made into a school-house. Mr. W. J. Barre, of Newry, is the architect; Mr. Davidson, of Lurgan, the builder.

A new male orphanage is proposed to be built at Glasnevin, near Dublin, by the Society of St. Vincent de Paul, and plans have been substituted for same in a limited competition by Messrs. J. S. Butler, P. Byrne, and C. Geoghegan, architects. The estimated cost of the intended construction is 4,000*l*.

Ten substantial school-houses are being erected in the parish of Ardcarna, Boyle.

The line of railway recently constructed from Ballinahinch to Belfast, is now open for traffic.

A new organ, by Messrs. Hill, of Euston-road, London, has been erected in the Roman Catholic Cathedral of Waterford.

The Dundalk and Enniskillen Railway extension to Lisbellaw, has passed the Government inspector, and is opened for traffic.

Two stained glass windows have been manufactured by Messrs. Casey, of Dublin, for the Roman Catholic Church of St. Peter, Drogheda. They are 14 feet 6 inches in length, and 4 feet 6 inches in width. The same firm is also preparing new windows for the churches of St. Lawrence O'Toole Dublin, Turbotstown, and Killeshandra as also for the Convent at Kells.

A new Convent of Mercy, schools, and orphanage have been erected in Belfast, from designs by Mr. J. J. McCarthy, architect. They are situated near the Crumlin-road; and the gaol wall forms one of the boundaries of the Convent grounds. The Convent faces Donegal-street. The materials are red brick, with sandstone, and white brick dressings.

THE BRUEN TESTIMONIAL CHURCH, CARLOW.

THE *Carlow Sentinel*, exhibiting, first, a kindly appreciation of a recent notice of the town in our pages (591), appeals to us, in justice to the late Col. Bruen, to give the following history of the Bruen testimonial:—

"After the defeat of the late Mr. O'Connell at the memorable election of 1841, a sum of about 1,800*l*. was collected by many of the nobility and gentry of Ireland to present the colonel with a service of plate in commemoration of the victory he had so fearlessly won. With the disinterested feeling which he exhibited in every act of his life, whether in a public or private capacity, he declined the intended honour, but requested the subscribers to appropriate it to the erection of a free church for the accommodation of the parishioners—the parochial church not being sufficiently extensive to accommodate all. He commenced the work, which he did not survive to see completed; but he bequeathed the task to a worthy successor, who, following in his parent's footsteps, and possessing much of his energy and zeal, accomplished that task at an expense of about 10,000*l*. above the sum originally subscribed."

CHIMNEYS.

MR. JOHN BILLING, of Abingdon-street, Westminster, has patented a throat and door for chimneys and flues. The patentee constructs a double conical throat or frame of iron, of pottery, or enamelled iron, or other suitable material, which he fixes or builds into the chimney, above or upon the fireplace. A door or valve is made to fit into this throat, and is connected to it by a joint or hinge, and is provided with a rod or handle by which it can be raised or lowered. He makes this door and its frame curved, or level, and elliptical, or longer in one direction than the other, and he makes the joint in such manner that the door may be taken out and replaced by another, if required. The edges of the door and its seat may be bevelled, or they may be of a spherical or ellipsoidal form, so as to insure a sufficiently close fit. Any slight interstice between them will soon be filled by soot falling upon it, as the form of the frame directs the soot to it. These doors are intended to be shut when the fireplace is out of use, and to be open, either to their full extent or partially, when the fire-place is in use. For this purpose they may be raised and lowered by a rod with holes, or loops, or notches, which catch upon a fixed pin, or by other suitable means. These throats and doors may also be applied to flues used for ventilation.

Mr. John Billing has directed his attention to the cure and prevention of smoky chimneys for some time past, and has applied his arrangements at many of the Government offices, and in other buildings of importance, with very good effect, as we are informed.

THE GRECIANS OF CHRIST CHURCH.

SOME discussion has for a time been going on respecting an alleged decline in the vital power of the "Grecians," or head boys, of the Blue Coat School. Some of the Grecians and other members of this establishment have come forward in vindication of their own health. Without deciding as to the fact, we would remark, that in a sanitary point of view the Grecians are certainly not so well cared for as the other scholars. Instead of their having the advantage of the space provided in each dormitory, they are lodged in curious looking closets, placed about halfway between the floor and ceiling, in parts of each sleeping apartment. These places of dignity are reached by rather primitive staircases. From this elevated position the Grecians can look with the eye of

uthority upon those below, and are also able to arsue their studies without interruption. This nour, however, is not without its alloy, for ese little boxes are decidedly too small for the rposes of health. They must also to a consider-le extent depend for their ventilation, if it can be called, on the air of the rooms, which, when these e occupied, must be more vitiated than is the case low. In the dormitory provided for the house-s, near Field-lane, those sleeping on the floor ithough very closely crowded), passed through everal seasons, without any case of fever occur-g. At a particular time owing to the large umber who required admission, some were lodged a gallery, placed in a similar position to the osets of the Grecians, and from this so many ses of fever occurred, that it was found neces-ry to put a stop to the practice of sleeping in e gallery. Our suggestion, therefore, as to the use of the difference in the health of the Gre-ans and the other boys, if it exist, is founded on a gnate fact.

PROVINCIAL NEWS.

Sudbury.—An exhibition of works of art and manufactures has been opened at the Corn Ex-change in this town for the benefit of the local British Schools, and has been well supplied. It may be as well to add that this town is a disen-franchised borough, containing but 6,000 inha-bitants. A correspondent says,—"When a town thus situated shows such public spirit, ought not s privileges to be restored, as an example for her towns?"

Colchester.—Flag stones are gradually supply-g the place of the present small stones in the ide-walks of the minor streets of this town. rinity-street has been thus treated throughout, nd a considerable portion of East Stockwell-street.

Leicester.—At a council meeting last week the hol committee reported that they had received rirty-four tenders for the execution of the gaol ulargement works, and that they recommended eceptance of the following separate tenders:—

For the New Buildings:—			
Osborne, bricklayer's and slater's works	2,159	10	0
Ditto, carpenter's	230	0	0
Richards, iron work	387	0	0
Lindley and Firn, stonework	604	0	0
H. Smith, painter's	15	10	0
Alterations, exclusive of Brickwork and Carpenter's Work:—			
Richards, ironwork	29	12	0
McCracken, stonework	67	8	0
H. Smith, painter's	2	10	0
For new Buildings and Alterations:—			
Norman, plumber and glazier	207	12	6
Haden, of Trowbridge, heating apparatus for buildings and cells, at 4*l.* per cell (say)	620	0	0
	4,623	2	6

he report was adopted. At the same meeting ie sewage committee reported with regret that ney had received notice from the Patent Solid ewage Manure Company (limited) of their inten-ion to relinquish the works at the outfall into ie hands of the town authorities. The company lad at the same time intimated their readiness to nter into an arrangement for the continuation of ie contract for three years, by the payment of n annual sum towards the cost of lifting and dis-nfecting the sewage. The company were under ie obligation of surrendering to the local board ll the machinery and other works without receiv-ig compensation or equivalent. Although there hould be no doubt of the efficacy of the system of eodorising adopted by the company, considered n a sanitary point of view, it was to be regretted hat hitherto it had been a failure as a commercial ndertaking, the manure not having found a narket at anything like a remunerative price, nd that the company had sacrificed a large mount of capital in the undertaking. It was tated in the discussion on the report that between 0,000*l.* and 30,000*l.* had been expended on the ompany's works. Time was taken to consider he subject.

Cardiff.—Messrs. James and Price are pulling own an old house in St. Mary-street, it being ntended to erect on the site a public building for he use of the Freemasons, and also an arcade, the horoughfare of which will lead from St. Mary-treet into the Hayes, thus forming a direct line o Bute-street. The improvement will cost about ,000*l.*

Liverpool.—The subject of erecting new public offices more adapted than the present in Corn-wallis-street and the Town-hall for the extended requirements of the borough, promises soon, says the *Courier*, to be brought prominently before the municipal authorities. The Parliamentary sub-committee of the health committee of the town council have agreed that Mr. Newland, the borough engineer, be instructed to prepare two plans—one showing the arrangement of the offices entire, and the other such an amount of accommodation as would be required for only a portion of the offices. An opinion has been expressed by the town-clerk that, as a matter of economy, the con-centration of the offices in one building was de-sirable; besides which, the public business would be much more satisfactorily and efficiently per-formed.

Bolton.—It is in contemplation to erect a Concert Hall in Bolton, on the site of the old theatre, in Mawdesley-street, to accommodate an audience of 1,200 persons. The plans have been drawn by Mr. Holt, architect, and the cost is estimated at 2,100*l.*——The first stone of the Bolton workhouse, on the Fishpool estate, Farnworth, was laid last week.

Rochdale.—The foundation-stone of new Wes-leyan Schools has been laid at Rochdale. The new building is to be a plain brick structure, to corre-spond in style with the chapel. The cost is expected not to exceed 1,500*l.*

Ormskirk and Southport.—The commissioners of Southport have at length agreed upon adopting a system of sewering to low water. A resolution has been adopted, abandoning and ordering the removal of the sewer at present existing on the sea-shore, from the bridge at the end of Nevill-street towards low water, a distance of 320 yards, and authorising the construction of the new sewer. The project will cost about 2,000*l.*

Halifax.—The corporation are now to commence the erection of the much-talked of baths. The design has been produced by Mr. G. W. Stevenson, the borough engineer. It is in the Classico-Italian style, and consists of an elevation facing Park-road of a superintendent's house of two stories, having on each side wings of one story. The façade is broken by pilasters with plainly-moulded capitals, and surmounted by a moulded cornice. At the entrance, in the centre, there are four columns with Ionic capitals. The windows are all square, with moulding on every side. The first story windows in the superintendent's house (in the centre) are circular-headed. The elevation into King-cross-lane is plain, being relieved by pilasters; the same being the case in the elevation facing into the park. The cost of the building, it is estimated, will be 3,000*l.* and of the engineering work and general fitting up 1,500*l.* making a total cost of 4,500*l.*

Clevedon.—The new schools at Clevedon, built by Sir A. H. Elton, M.P. and others, are just finished. Messrs. Pope and Bindon were the architects, and Mr. Hartree the contractor.

Worksop.—It is intended to proceed soon with the drainage works of this town.

Whitby.—The foundation-stone of a new Masonic Hall, to be erected on the West Cliff, Whitby, has been laid by the Earl of Zetland, Grand Master of Masons.

Doncaster.—The parish church bells have reached Doncaster, and been safely, it is said, raised to the belfry, under the superintendence of Mr. Denison, Q.C. Though not formally tried, they are said to promise well.

Books Received.

The Illustrated Historical and Picturesque Guide to Swanage and the Isle of Purbeck; with a Description of the Coast from Bournemouth Bay to White Nore. By Philip Brannon, Architect. Poole: R. Sydenham. London: Longman and Co.

This is the third of a series of "Guides" to a very picturesque district of our sea coast, and the first and only guide-book to the Isle of Purbeck. To our professional readers, the most interesting feature of this "isle" will doubtless be its (not sufficiently) well-known quarries. Of these Mr. Brannon gives full and useful particulars, from which we condense the following:—

In the Isle of Purbeck, building-stones exist in great variety, so as to be adapted to almost any description of architectural and engineering purposes. The true Purbecks, or thin beds of shelly limestone, alternating with clays and sands, formerly considered as wealden, now as upper oolite, furnish the great staple of the stone exports from this district. They consist of an immense number of beds from a quarter of an inch to four feet in thickness, mostly very hard and close grained, and separated from each other chiefly by beds of clay, varied with sandy and loamy, gravelly or marly earth. A very great proportion of the stone beds are useless, either on account of their excessive hardness, their friability, or softness. The upper beds are the well-known and beautiful Purbeck marble: beneath this, the thick beds of the harder kinds are adapted to sea walls, fortifications, and other solid work, where minute cutting and rubbing are not required. The more easily worked, or "freestone beds," are used for all kinds of architectural dressings, external and internal stone fittings, sunk and rounded work, such as sinks, troughs, granary and rick leg and cap stones, and in fact all those purposes where easy and clean cutting in work, and subsequent durability, are essential. The thin beds are employed for paving, which, when well selected, is the best in the kingdom; and the very thin layers of tough lime-stone, or the tough fissile beds, are split into suit-able thicknesses as tilestones for roofing.

The quarries are all worked underground, and entered by oblique shafts, from 20 feet to 100 feet deep: a slope for dragging up the stone, and steps at the side for the workmen, with a rude capstan worked by a horse at the top, and sheds adjoining, in which to carry on dressing the stone, constitute the whole arrangements in these primitive works. There are in the Isle of Purbeck about 100 of these quarries, more than half being in the imme-diate neighbourhood of Swanage.

The mode of shipping the stone from Swanage is even more primitive than those employed for bringing it to the surface. There is no pier for this purpose, although its construction would be a source of great profit even in the present state of the trade.

Prices at the quarries and at the bankers':—Purbeck marble, block, per foot cube, 2s. to 4s.; paving stones, per foot super. 3½d. to 3½d. or 27s. per 100 square feet, or free on board at 4d. per foot; landings, tombstones, and other large slabs, per foot super. 9d. to 1s. 1d.; steps, per foot, 4d. to 6½d.; curb, according to thickness, per foot run, 3d. to 4d.; rough block, 6s. per ton, or 8d. per foot cube; scappled block, per foot cube, 1s.; tooled ashlar, per foot cube, 1s.; window-sills, tooled copings, strings, and other gauged stones, foot run according to thickness and mould, 11d. to 1s 6d.; ditto, rubbed, per foot run, 1s. 3d. to 2s.; long steps, per foot, 10d. to 1s. 2d.; flatners, per ton, 9s.; ditto, squared and faced, 15s.; rough horse pitchers, per ton, 45 feet, 6s. to 8s.; dressed, for pitching streets, 9s. to 13s.; rough wall stone, per load, 1s.; per load or per ton, 1s. 8d. to 2s. 10d.; dressed ditto, 6s.; tile stones, per load, to cover 100 square feet of roof, 1*l.*; ditto, dressed at the bankers', 28s. to 30s.; gutter, per foot run, 5d.; channel, ditto, 4½d.; gate-posts, each, 2s. to 4s.6d.; leg and cap rick and granary stones, according to size, finish, and whether round or square, per pair, from 3s. to 5s. The shipments have latterly amounted to only about 20,000 tons annually, whilst with proper arrangements four times that amount would be easily disposed of in the market.

There are also cements and limestones of excel-lent quality in the Purbeck Portland beds, as also fire and pottery clays, iron ores, &c.

Miscellanea.

Exhibition of Works of Modern Artists at Manchester Royal Institution.—The annual exhibition at this Institution has been opened. According to the *Courier* it exceeds that of last year both in numbers and in the interest and value of the pictures. The statuary is placed in the vestibule. There are 600 works of art from chisel and pencil exhibited. The paintings and water-colours fill three rooms and the staircases. The Manchester artists exhibit in great force, especially Messrs. Duval, Gibson, Whaite, Crozier, Hayes, Mitchell, Brodie, Royle, Rothwell, &c. Mr. J. Hammersley was to give a lecture, de-scriptive and critical, at the exhibition.

The Mahogany Trade.—A crash, it is said, has taken place amongst the firms in the Honduras trade. After several stoppages for smaller amounts, the house of Hyde, Hodge, and Co. suspended payment, large assets appearing, but not capable of being immediately realized. The houses of Holme and Slater, and J. Carmichael and Co., of Liver-pool, and that of M'Nair, Greenhow, and Co. of Manchester, have suspended, Carmichael and Co. showing liabilities to the extent of 250,000*l.* or 300,000*l.*; on which a dividend exceeding 10s. in the pound, it is said, cannot be expected. The result of these failures is to throw the Honduras trade for the present into two or three hands.

Sewage and its Ventilation.—Dr. Letheby, the City officer of health, has presented a long report to the Corporation on "Sewage, Sewage Gases, and the Ventilation of Sewers," which will have our attention in due course.

Accidents.—At the Adelphi Theatre, on the 19th inst. as one of the men employed in the rebuilding was wheeling a barrow of bricks along a narrow plank, he slipped, and fell a considerable depth; the heavy barrow and contents falling on his loins, breaking several ribs, and injuring his spine. He was taken insensible to Charing-cross Hospital. On another of the workmen several tons of bricks had fallen: he was also taken to Charing cross Hospital in a precarious state.——A bricklayer, at work on a scaffold, near Pimlico, had his attention called by some one below, and on turning round fell a considerable depth. He was conveyed to St. George's Hospital in a dangerous state.——A bricklayer's labourer was working on the 3rd instant, at some buildings in Abbey-gate, at Leicester, when he fell from a scaffold and injured his spine. He was conveyed to the Infirmary, where he died.——A joiner, who was engaged in constructing a gallery on some vacant ground in Woodhouse-lane, Leeds, near the New Connection Chapel, fell down head foremost and severely fractured his skull. He was at once taken to the Infirmary, but died there in a few hours.——Letters from Spain mention a distressing accident on the Santander Railway. The Directors were making a trial trip, when an embankment gave way, and about twenty persons were injured, and one of the engineers of the line was killed.

Catastrophe at the Surrey Music Hall, Sheffield.—On Monday evening a panic caused by the escape of gas led to a rush of the audience from the house, and on the staircase from the lower gallery five persons were, unhappily, killed, and many injured. The description given of the staircase is not very clear: we shall hope to have further information. The necessity for the warnings we have given for years in respect of stairs and approaches to public buildings must be evident to all.

Our Crossings.—These the several parishes can cause (under the Metropolis Local Management Act, sec. 118) to be kept clean, and they are specially empowered to pay crossing-sweepers. Supposing, however, this duty were performed once a day (by the way, if their contracts for cleansing the streets were carried out, even this would not be requisite), we should get rid of a system of solicitation and annoyance at a moment of distraction, when one's faculties ought to be engaged only in devising escape from the numerous vehicles that ply the streets. How this open begging system is countenanced by the police passes comprehension. Under cover of it, I believe many robberies are effected; and it is a nuisance which should be numbered with the things that were. I am very much inclined to try Justice Coleridge's view of the law as regards foot and horse passengers. His doctrine is, one may just as well call on the other to stop, as the other:—seriously, as the speed of steamers is regulated in the Pool, so ought that of cabs, carriages, and omnibuses to be on public roads.—Viator.

Mr. Hanvey, City Surveyor, Gloucester.—In a Gloucester paper which found its way to Penrith last week, says the *Carlisle Journal*, some severe strictures were made upon the claims of Mr. Hanvey (late engineer of the Penrith waterworks), which had been sent in to the Gloucester Board of Works, for extra services rendered to the said board as engineer of certain public works connected with the city of Gloucester. The case came before the Gloucester Board of Health on Monday last, and, after a brief discussion, it was carried, unanimously, that the sums for extra services and money out of pocket, amounting in all to 480*l.* be paid to Mr. Hanvey.

Iron Churches.—Sir,—We are are glad to find attention is being directed in your journal to the subject of iron church building. As contractors for these structures, several of which we have lately erected, we admit that material improvements might and *can* be made if *price* were not so much an object. We are beaten by this at present. The clergy and those for whom we have erected churches, have hitherto cared less for the *outside* than the *inside*. As regards the latter, we are glad to say we have been able to give satisfaction; and as regards the former, and with a view to architectural improvement, we have appointed Mr. G. Adam Burn our architect: he is now busily engaged for us on a series of designs for iron churches, which, when complete, we shall have much pleasure in sending you.

Tupper and Co.

The late Mr. Field, Architect, Melbourne.—Not long ago we gave a view of a church in progress in Melbourne, under the direction of Mr. Field, architect, late of Worcester. We hear with regret that this gentleman dropped down dead in the street, at Melbourne, in the beginning of July last. Mr. Field was rapidly coming into notice in his adopted country as an able architect.

New Church at Newington-Butts, Surrey.—The Dean and Chapter of Canterbury Cathedral have given a site for a new church at Newington-butts, and an endowment of 150*l.* a year for the incumbent. The new church will cost 5,000*l.* and will contain 1,000 sittings, free.

Incrustation of Iron Water-Pipes.—The supply of water at Whitehaven, which is brought from Ennerdale Lake, has become unexpectedly curtailed by the incrusting of the iron-pipes, through which only 500,000 gallons a day can now flow, instead of 1,000,000 gallons, which they were originally capable of delivering.

Liverpool Society of Fine Arts.—The exhibition of the Liverpool Society of Fine Arts was opened on Saturday, the 11th inst. for the first time, under the presidency of the Earl of Sefton. The exhibition comprises 852 works of art, and differs from the Liverpool Academy in being managed by a council not entirely composed of artists. This Society was formed, it will be remembered, through a popular impulse in opposition to the doings of "The Liverpool Academy." Every subscriber is furnished with a card, on which, it is hoped, he will express his opinion as to the picture entitled to the prize which has been offered. Mr. J. Boult is the hon. secretary.

Preservation of Stone.—A practical illustration of Ransome's process for the preservation of stone is now before the public, at Bloomsbury Baptist Chapel, New Oxford-street, where the Caen stone of the principal front, towers, and flanks are under treatment, for the hardening and preservation of it. A few years' exposure to our corrosive atmosphere has sufficed to completely destroy the face of the stone, and the sharpness of the moulded and enriched work generally. These decayed portions are now being reinstated, and Ransome's solutions applied to the whole surface. Architects, builders, and others, to whom the subject must be of interest, have thus an opportunity of forming their own judgment of the working and effect of the process.

Gas.—The thriving village of Morecambe is now lighted with gas. Messrs. Clapham, Brothers, and Whitley, of Keighley, were the contractors entrusted with the construction of the works, the estimated cost of which was 2,100*l.*——At the Independent Gas-factory at Haggerston, whilst a number of men were at work in different parts of the building an escape of gas took place from one of the great mains in the valve, or regulating shed, and before any attempt could be made to stop the defect in the pipe the gas rushed out in such quantities that it entered the smith's shop, and reaching the furnace, suddenly ignited with a noise resembling the discharge of a piece of ordnance, and the two shops presented a sheet of flame. Several of the hands employed were terribly injured, more especially five of the unfortunate workmen, who being unable to rush out in time, became fairly encircled in flame: eventually the leakage was stopped and the fire extinguished, but not until the valve shop and smith's shed—extending 10 feet in length—were burned out.

Statues.—The Leeds statue of the late Edward Baines, provided by the subscriptions of his fellow-townsmen, and executed by Mr. Behnes, has been erected in the great hall of the Town-hall. The figure, it is thought, gives the idea of a somewhat taller and thinner man than Mr. Baines, though, on the whole, a pleasing likeness. It is eight feet in height, and made of a block of Carrara marble. It is placed on a temporary pedestal, in one of the spaces between the columns.——The new stone statue of the late Earl of Leicester, placed on the top of Dereham Corn-hall, has been formally inaugurated. It is said to be a very suitable ornament for the new building, as well as an appropriate monument to the greatest farmer in the world. The statue weighs over three tons, and was cut out of a block weighing seven tons. The stone is from the Isle of Portland. The present earl is said to have pronounced the model for the statue to be one of the best which he had ever seen. Mr. Butler, of London, was the sculptor. The statue stands 50 feet above the ground. It is 9 feet in height above the pedestal, which is 2 feet in height, and the plinth 9 inches; and on the pedestal there is a bas-relief representing agricultural implements, such as the plough, the scythe, and the rake.

Fencing Quarries: Liability of Road Surveyors.—At Stroud County Court it has been decided, in the case of Marment *v.* Barnfield, that it is imperative on a road surveyor to *keep* a quarry that has been dug, on waste land, for road materials, fenced off, so as to prevent injury to man or beast. The quarry in question had been dug ten or twelve years since, and was finally fenced off seven years ago. The surveyor had maintained that his responsibility then ceased, and refused to yield damages for the loss of a blind horse which had fallen into the quarry.

Glasgow.—Hitherto the chimney-shaft of the St. Rollox chemical works, Glasgow, was regarded as the highest chimney in Scotland, but one now in course of erection at Port-Dundas, Glasgow, will outstrip it by some 10 feet.

Edgbaston (Birmingham).—A stained-glass window, in memory of the late Mrs. Ord, mother-in-law of the Vicar of Edgbaston, has just been placed at the east end of the new isle of Edgbaston Parish Church. It is a four-light window, with a single medallion in the two outer lights, and two medallions in each of the centre ones. The two outer medallions represent the baptism of Christ, and the institution of the Lord's Supper; and the four minor medallions the History of Mary of Bethany. The ground work of the outer lights is an ivy-leaf scroll, and of the inner a passion-flower leaf, the tracing being occupied by heraldic bearings. The design of this window was from the pencil of Mr. Sebastian Evans, M.A. The work was executed by Messrs. Chance, of Birmingham. Mr. Charles Ratcliff, churchwarden, Mr. Whateley, and Mr. Messenger, have each undertaken to give a stained-glass window to their parish church; and donations for other windows have been promised.

TENDERS.

For second portion of Whitechapel Workhouse. Mr. Thomas D. Barry, architect. Quantities supplied by Mr. Richard Roberts and Mr. Poland:—

		Deduction for Earthwork if not removed.
E. Maurs	£13,993	£95
George Myers	13,796	150
T. G. Tolley	13,790	90
Charles Fish	13,571	116
George Holme	13,520	—
Thomas Ennor	13,425	116
F. Rummens	13,350	—
Wm. Palmer	13,293	115
Longmore and Burgs	13,272	155
Joshua Higgs	13,270	100
George Matthews	13,250	—
J. and J. Wood	13,150	68
Keast and Moon	13,023	96
M'Lennan and Bird	12,927	75
Wm. Higgs	12,888	120
Wm. Downs	12,860	155
Wm. Hill	12,819	75
John A. Scott	12,800	—
Pritchard and Son	12,765	125
S. Hocken	12,675	50
Thomas Rudkin	12,589	97
Hack and Son	12,489	39
W. J. Purkiss	12,297	80
P. Ayers and Co.	11,987	50
Wm. Moxon (accepted	11,000	39

For the Central Telegraph Station in Threadneedle-street. Mr. Horace Jones, architect. Quantities furnished by Mr. Reddall:—

Holland	£8,438 0 0
Lucas	8,268 0 0
Pritchard and Co.	8,240 0 0
Scott	7,694 0 0
Gammon	7,575 0 0
Ashby and Sons	7,567 0 0
Mansfield	7,083 0 0

For a new Congregational Chapel at Chelsea. Mr. J. Tarring, architect:—

G. Todd, jun.	£5,980 0 0
Piper and Son	5,689 0 0
Patman	5,580 0 0
Dove	5,575 0 0
Higgs	5,300 0 0
T. Rudkin, jun.	4,790 0 0
Myers	4,600 0 0

For building new Premises in Chancery-lane for Mr. Button. Mr. Francis H. Fowler, architect. Quantities supplied by Mr. Morris Evans:—

Notley	3,324 0 0
J. and E. Bird	3,269 0 0
Rider	3,250 0 0
D'Anson	3,184 0 0
Piper and Son	3,125 0 0
Burton (accepted)	3,123 0 0

For House at Oatlands Park, for Mr. J. Wilks. Mr. Laforest, architect:—

Peters, Oatlands	£2,719 0 0
Mills, Egham	2,717 0 0
Goldking	2,675 0 0
Mansfield, London	2,649 0 0
Norris, Hackney	2,597 0 0
Taylor, Sunbury	2,275 0 0

For Warehouse, Maze pond, Southwark, for Messrs. Harris and Son Mr. W. H. Skyring, architect. Quantities supplied by Mr. Cambell :—

Colls and Co.	£1,877	0	0
Coleman	1,850	0	0
Rider	1,790	0	0
Pritchard and Co.	1,782	0	0
Fowler	1,768	0	0
Williams	1,700	0	0
Piper	1,654	0	0

For Woodlands Parsonage, Kent. Mr. Josh. Clarke, architect :—

Grover	£1,258	4	0
Bills and Gunbrell	1,235	0	0
Allcorn	1,126	0	0

For Speldhurst Schools, Kent. Mr. Joseph Clarke, architect :—

	Brick.			Stone.		
Foster	£1,454	0	0	£97	0	0 extra.
Kirk and Parry	1,176	0	0	1,136	0	0
Sutton, Walters, and Goodwin	1,040	0	0	20	0	0 extra.
Bilton	1,020	0	0			
Punnett	997	10	0	997	10	0

For Police Station, at Blaydon. Mr. John Howison, architect :—

Robt. Thompson, West Auckland	£490	0	0
George Gradon, Durham	460	0	0
Thomas Marsh, Blaydon Bank (accepted)	383	0	0

For alterations at Tichborne-court, Holborn, for Mr. Ansard. Mr. G. R. Burnell, architect. :—

Wm. Piper	£709	0	0
Nicholson and Sons	684	0	0
Little and Son	673	0	0
J. and W. Sanders	659	0	0
Wagstaff	648	0	0

For sundry alterations and repairs, including a new shop-front, at No 22, Southampton-row, Russell-square, for Mr. Thomas Kipping :—

Patman	£595	0	0
Traylor and Spriggs	598	0	0
Williams (accepted)	560	0	0

For making roads, footpaths, and surface-drains on the Mount Pleasant Park Estate of the People's Freehold and Land Society, at Hather-green, Lewisham :—

Baum, Hackney-wick	£490	0	0
J. Marshall, Willow-walk, South-wark	470	0	0
Houghton and Ley, Walworth rd.	440	0	0
G. Stevens, Deptford	395	10	0
G. Rodger, Seven Sisters'-road	359	5	0
W. Jones, Tottenham (accepted)	327	10	0

TO CORRESPONDENTS.

Tiles.—"Can one of my readers inform me what is the best white for dipping two-penny plain tiles, to give them the appearance of old tiles, besides rendering them more impervious to wet;—also, what is the best red for plain tiles, with safety?"—S.

W. R. S. and the Lad, and all Apprentices.—W. R. H. J. N.—H. H.—K. F. (it would not answer the purpose to send a person from London on such a matter).—C. B.—H. K.—T. H. E. (see last number).—Provincial Subscriber (must look to a manufacturer).—Bond-timber.—Sceptic.—Dr. B. (we shall be glad to hear from him).—T. R.—J. C.—M. K. D.—E. L. P.—M. R. I.—D. F.—E. B.—House Rents.—A Friend in Architecture.—J. D.—H. S. D. (it is not usual, and could not be insisted upon. We believe no more right to prevent the artizan from working "over-time" than he has to prevent us from doing so, which would be a very serious interference with the liberty of the subject).—A. N.—R. S. (perhaps office work; all and good practice in that particular department, but it has its drawbacks).—D. A.—W. H.—W. D.—"The Atlantic Telegraph."—By a slip of the press in last week's number, Mr. *Whitehouse*, the electrician of this telegraph, is called Mr. Whitehead.

"Bores and Artesians."—We are forced to decline pointing out books or finding artesians.

☞ *NOTICE.—All Communications respecting Advertisements and Subscriptions should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

☞ *Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.*

ADVERTISEMENTS.

THE BUILDER," Vol. I. WANTED. Also Number for JANUARY 5, 1856.—Apply at the Office, York-street, Covent-garden.

WHITECHAPEL UNION. — SECOND PORTION of NEW WORKHOUSE. The Guardians are desirous of obtaining the SERVICES of a thoroughly efficient and practical PERSON, to SUPERINTEND the ERECTION, under the Architect, Thomas D. Barry, esq., of the SECOND PORTION of their NEW WORKHOUSE, in Charles-street, Mile-end New Town, at this Union. The daily stipend is 2l. 2s. 6d. per week and the person appointed will be required to enter upon the duties on the 1st instant or the earliest time to the Architect's satisfaction. Applications in writing, accompanied by testimonials, are to be sealed up, addressed "Application for Clerk of Works," and delivered at the Board-room, at the Workhouse, before SIX o'clock in the afternoon, on TUESDAY, 21st SEPTEMBER, 1858, when candidates are personally to attend.—By order, ADAMS FARR, Clerk.

Clerk's Office, Workhouse, September 8, 1858.

AN ENGINEER in the North of England has a VACANCY for a PUPIL. The Advertiser has extensive railway works, gas works, and other works under his direction, to which the pupil would have constant access. Premium, 100 guineas. Address ENGINEER, Office of "The Builder."

PUPIL or IMPROVER.—An Architect, practising in London, has a VACANCY for a PUPIL. Premium, 100 guineas; or a Youth, to some extent acquainted with the profession, might be taken as an Improver.—Address, P. Q. R. Office of "The Builder."

WANTED, immediately, by the Swansea Local Board of Health, a CLERK of WORKS, to superintend Sewerage Works. None need apply who have not been previously engaged on similar works, and well acquainted with the use of the levels.—Apply, stating terms, to Mr. E. COUSINS, Town Surveyor, Swansea.

WANTED, a BENCH CARPENTER, whose wife would act as Laundress. Wages for the two, 30s. a week, and a cottage. No Co. with a family need apply. Good references as to character and character of both will be required.—Address, R. H. Post-office, Slough.

TO CARPENTERS AND JOINERS.

WANTED, a JOINER, for a permanent Situation in a Jobbing Business. Must be steady, and thoroughly understand his business. Wages good.—Apply in person, BRADLEY and EGG, Butlers, 3, Charlotte-row, Bedford.

WANTED, a FOREMAN SMITH, at the Lunatic Asylum, Colney Hatch. Wages, 30s. a-week. Personal application.—Apply to Mr. JOHNS, Clerk of the Works, at the Asylum.

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WANTED, an ENGAGEMENT, by a Gentleman thoroughly acquainted with office business, a good draughtsman, measurer, and accountant, and who is practically acquainted with quantities, estimates, and the superintendence of works. Address, A. A. Mrs. Hoyle, Great Ormond-street, W.C.

WANTED, an ARCHITECTURAL DRAUGHTSMAN, with a knowledge of construction, in an office in the country. Salary, 2l. per week, and second class railway fare one way. Address, stating past experience, to W. G. Office of "The Builder."

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WANTED, by a Young Man, aged 20, who has just completed his articles, an ENGAGEMENT in an ARCHITECT'S OFFICE, where he will have an opportunity of improving himself. He is a good draughtsman, understands levelling, surveying, &c. London preferred. Salary moderate.—Address, M. F. T. Post-office, Bridge-street, Sunderland.

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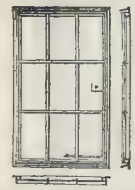

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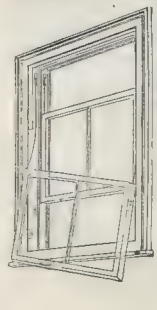

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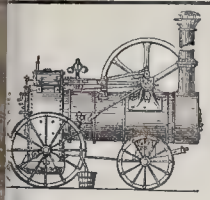

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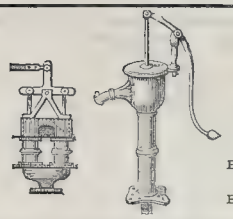

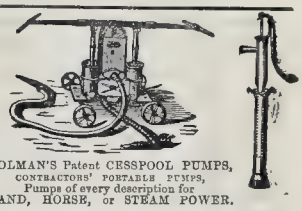

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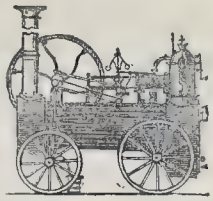
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS,
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

SOHO PLATE-GLASS WAREHOUSE, No 20, SOHO-SQUARE, LONDON, W.
PLATE-GLASS,
Of a superior Quality and Colour,
SUPPLIED AT THE LOWEST CURRENT RATES.
Contracts given upon application.

CHEAP WINDOW GLASS.—Sheet in Boxes of 100 feet. Glazing quality, 12 in. by 9 in. to 16 in. by 8 in. 14s.; 24 in. by 16 in. 14s. 6d. Cases of 200 feet, at 27s. 6d. Brown in crates. Harley's Rolled Plate, at 6d. a foot. Every description of Glass kept in stock, at GRISTS City Glass Ware. use, 67, Chiswell-street, opposite Whitbread's Brewery.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description (seventeen years with James Newton, of Falcon Dock, Bankside), beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's Superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Peake, that the trade may learn, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 681, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

PANTILES, PAVING, and PIPE-TILES.—J. H. ANDREWS, Wisbech, Cambridgeshire, offers Pantiles at 60s. per 1,000, Floor Bricks and 6-inch Pavings, at 40s. per 1,000; 9-inch Pavings, at 55s. per 1,000, cash prices. Delivered in trucks in London or along the line on the Eastern Counties Railway.

BRICKS.—East Cowes Park, Isle of Wight. Fine White Facing Bricks, second quality ditto, Red and Yellow Stocks, of very superior quality, 26s. and 28s. deliverable at the Dock on the above Estate, or on board craft, at 3d. per thousand extra. RICHARD LANGLEY, Agent on the Estate

BRICKS. -IMPORTANT to BUILDERS. Bricks delivered at any part of the Thames below Battersea Bridge as follows, for cash on delivery:—

Best Grey Stocks	28s. per Thousand.
Rough Stocks and Grizzles	19s. ,,
Place from	18s. to 19s. ,,
Bright Stocks	29s. ,,
Shippers	30s. ,,

Address, GEORGE SMEED, Sittingbourne, Kent.
P.S. Up any of the Canals on payment of Dues extra.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES
Books of Designs of Mouldings forwarded on application.

TO BUILDERS, CABINETMAKERS, and OTHERS—ALFRED CARTER submits the following very reduced prices for ready-cut Hearths:—

2-inch Prepared Flooring	£0 11 6 per square.
½-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 3 0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, planks and boards, from 6d. per foot.
All sawn goods delivered with 1, three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

½-inch Prepared Flooring, 11s 6d. per square.
1-inch ditto, 15s. per square.
Yellow Battens, 11l. 10s. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d. per foot.
Borough-road, Southwark, and Eliz abeth-street, Grosvenor-place.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from 4 inch to 1½ inches thick, seasoned and ready for use. Also Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building Purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton-road, Pimlico.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 36s.; 7-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 15s. 6d.; ¾ ditto, 11s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

A CORN TIMBER WHARF and SAW MILLS
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	⅜	½	¾	1	1¼	
Spruce	12s.	13s.	15s.	—	—	per square
White	12s. 6d.	13s. 6d.	15s. 6d.	18s.	,,	
Yellow	13s 6d.	14s 6d.	16s 6d.	19s 6d.	,,	

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF
BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above spacious Premises, where, in conjunction with his other established Yards in Great Peter-street, Westminster, and Endell-street, Long Acre, he is always ready to supply from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Elm, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised house in London.

Mahogany, in log	from	0s 5d.
,, ,, board	,,	0 8
Spruce Deals	,,	2 9
Pine Plank	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11

Prepare. Flooring:—
White.—¾ in. 12s.; 1 in. 13s. 6d. Yellow.—1¼ in. 19s.

WANTED, a Quantity of OAK TIMBER, large size preferred, lying near railway or water carriage to London. Address, with price and full particulars, to M. C 9, Cumberland-street, Hackney-road, London.

TO BUILDERS and OTHERS.—FOR SALE, lying upon a Wharf at Dartford, contiguous to the Creek, and within a very short distance of the Railway Station, about 1,500 feet super of 2-inch OAK PLANK, 1,500 feet of 3 inch ditto, and 1,200 feet of 4-inch ditto—all well seasoned, and fit for immediate use. Apply to Mr. J. WEBB, High street, Dartford, Kent.

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.
MOULDINGS! any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Pattern list.
FLOORING (dry) in large Stock, of various description.
MATCH-BOARDING of any width.
Also,
Timber, Deals, and Mahogany, on either Wharf, or at the Docks.
JOHN RUTTY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.
Orders from the country delivered to any of the Railways in London punctually, if accompanied with remittance or Town reference.

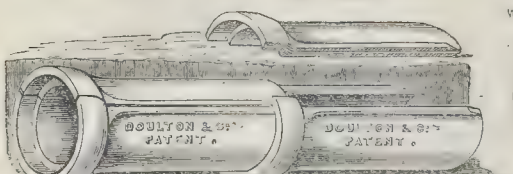
MARINE ENGINES.—TO BE SOLD, by Private Contract, a pair of MARINE ENGINES, of 120-horse power collectively, constructed by Messrs. Miller, Ravenhill, and Co. on the oscillating principle. The cylinders are 42 inches diameter, length of stroke, 3 feet; gun-metal air-pumps, 29 inches diameter, 18-inch stroke; gun-metal feed and bilge pumps; copper steam-pipes; wrought-iron intermediate shaft; paddle-shafts, and other fittings, adapted for a vessel of 18 feet beam.—For further particulars, apply to Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSS'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

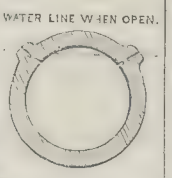
DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain, or Lessening its Capacity.

SOCKET JOINTS.



WATER LINE WHEN OPEN.



ADVANTAGES.

I. The Pipes may be laid whole as ordinary Socket Pipes, and the openings need only be formed should necessity arise.

II. On the removal of the ash the drain is left open to the sight as to its entire length, and may be cleaned without disturbing any part of the invert.

III. The adaptation of inspection arrangements without any imperfect joints or other complication, which at once shows either the escape of the liquid or the entrance of the sewer gas.

IV. The economy of the Drain, as not requiring that which, in the ordinary mode, is known by the cross section.

V. The ultimate [illegible] of effectually securing

VI. The [illegible] with the Pipe, fits with a perfect and accuracy [illegible] by the peculiar mode of manufacture, and it cannot shift laterally

VII. Perfect [illegible] secured, and increased [illegible] attained

VIII. Simplicity of construction, and consequent [illegible]

IX. They may be laid alternately, or at any intervals, with ordinary Socket Pipes.

Manufactured by HENRY DOULTON and CO.

Offices HIGH-STREET, LAMBETH, LONDON Manufactories HIGH-STREET, LAMBETH; ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM

PATENT ENAMELLED CLOSET PANS,

WITH A STRONG VITRIFIED BODY, AND A WHITE INTERIOR GLAZE,

MANUFACTURED BY

DOULTON AND WATTS,

LAMBETH POTTERY,

LONDON.

Price 6s. 6d. each.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

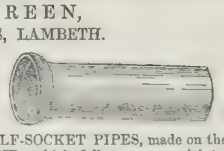
MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN,
IMPERIAL POTTERIES, LAMBETH.



S. G. wishes to call attention to his WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to his IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

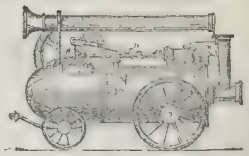
WARNER'S PATENT VIBRATING STANDARD PUMPS—PATENT CAST IRON PUMP fitted with J. W. and Sons' Patent Bucket and sinkers, which cannot get out of action, for farms, cottages, and wells not exceeding 30 feet.

Diameter of Barrel.	Length of Barrel.		£ s.
2½ in.	short	1 ft. 7 in.	[Fitted for lead, 1 10
2½ „	long	3 „	[gutta percha 1 14
3 „	short	0 „	or cast iron 2 0
3½ „	ditto	6 „	[lead 2 10, [2 12
4 „	ditto	6 „	[as required 3 3
2½ „	short, with 15 feet of lead pipe attached ready for fixing		2 14
2½	long	ditto ditto	2 18

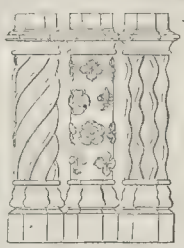
The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of scullery and sink or washhouses with soft water from underground tanks, or for lead fencing, and pleasure-grounds, where they may be fixed, when desired, under the stage. May be obtained of any Ironmonger of Druggist in town or country.

Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

TO BE SOLD, a 12-horse HORIZONTAL ENGINE, with boiler, almost new. Will be sold a bargain. Apply at the Office of "The Builder."



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without men. [illegible] CRESWELL, Engineer, 92, Isle of Dogs Road, London.



AUSTIN, SEELEY and CO.
371—375,
EUSTON-ROAD.
ARTIFICIAL STONE WORKS.

CATALOGUES OF CHIMNEYS AND ALSO OF FOUNTAINS ON APPLICATION.

VENTILATION—PURE AIR.

Sherringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL

With single pulley, from 6s. each, with double pulley, from 6s. 6d.

These Ventilators are arranged that the requisite quantity of air may be admitted by the mere insertion of an ordinary brick without the slightest draught being felt by the occupants, and as the same plan is used in the external wall, their action is not impaired when the house is closed for the evening, as they can always supply fresh air. Most required HAYWARD, BROTHERS, and Manufacturers, 18, Blackfriars-road and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, cloth, round and flat, also SOCKET RINGS, &c. Horizontal Pipes. Vulcanized Rubber Insertion, or Solid Rubber Round Cords, for washboth. Elastic Cords and Bands. Strips cut to any pattern for Bagatelle Tables.

Driving Bands of any shape, and improved Vulcanized Rubber Suspension Bands.

Vulcanized Rubber in sheets, from three to four feet wide, and of any thickness. Aprons, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, painted, lined or plain, and made to any pattern to order

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter from SIR RAYMOND JARVIS, Bart., M.P., Hall, Wigan, Lancashire, Lord-lieutenant of "Manchester, Dec. 11, 1857.

"Manchester, Dec. 11, 1857.

"Gentlemen,—In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many Builders and others in this neighbourhood have adopted it, and there is not the slightest apparent difference since the first laying down, two or three years, and I am informed that it is to be adopted generally in the houses that are to be erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

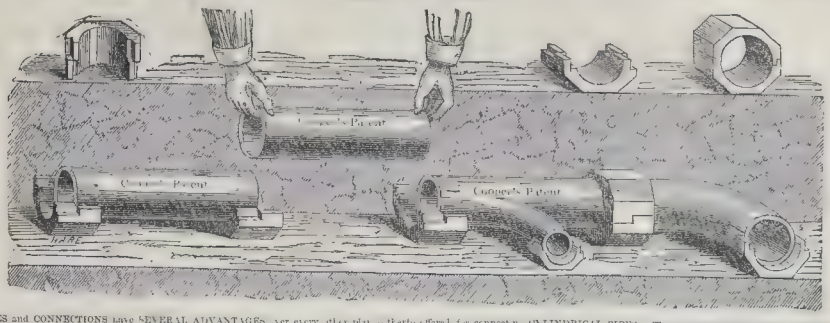
THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF ROAD, CITY ROAD, LONDON.

TO BUILDERS and OTHERS.—TO BE SOLD, a Rare Opportunity, a SIX HORSE VALVE WATER LOSLTS, with Patent Supplying Apparatus, which dispenses with cranks, wire or steel rods, &c. &c. Apply to GEORGE BURGESS, 5, Skinner-street, Snow-hill, London.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE HILL, Manufacturer,
SUPPLIES COCOA NUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c
of the best quality on the most reasonable terms.
Warehouse, 42, Ludgate-hill, E.C.

COOPER'S PATENT STONEWARE DRAIN-PIPES,

PERMITTING EXAMINATION AND CLEANSING, AND THE DRAIN TO BE REPLACED PRECISELY IN ITS ORIGINAL STATE.



These PIPES and CONNECTIONS have SEVERAL ADVANTAGES not every other plan hereto offered for connecting CYLINDRICAL PIPES. They are very SIMPLE in their construction, and are specifically submitted by the Patentee to the inspection of Professors, Men, as especially adapted to meet their respective needs. The following are some of the advantages possessed by them, viz:—

I. They provide READY ACCESS TO ANY PART OF THE DRAIN, FOR EXAMINATION, without disturbing any other part, or point of the invert, of the drain.

II. The Pipe, being laid ON THE UNDER CONNECTION, butts its opposite Pipe at the MIDDLE of the socket-ring; the Pipes are therefore kept PERFECTLY STRAIGHT in the drain.

III. Should any Pipes be not quite exact in size, arising from the difference of the clays, or burning (which is often the case), their edges, when UNDER CONNECTION, will necessarily throw any IRREGULARITY TO THE TOP OF THE DRAIN, thereby obviating the necessity of the use of the rasp, and making the invert PERFECTLY FAIR AND EVEN. Having but ONE JOINT to each pipe, and supported in the connection, they are not liable to be obstructed or injured by pushing same, as long of the earth, or the action of external water.

IV. By the USE of the under connection SINGLY, THE FULL ADVANTAGE of half sockets, single or double, is SECURED TO EVERY PIPE

SPECIMENS OF THE PIPES AND CONNECTIONS TO BE SEEN AT THE CRYSTAL PALACE

Orders received by Mr. J. H. RIDDELL, Superintendent of the Court of Inventions, Crystal Palace; and 5, Scott's yard, Bush lane, Cannon street, London, E.C.; by Mr. THOMAS COOPER, 19, Albert Terrace, Commercial-road, E.C., and by the Patentee, Mr THOMAS COOPER, Brick and Pottery Factory, Wootton, Isle of Wight — COMMON STONEWARE SOCKET-PIPES, SPLAY and PLINTH BRICKS MADE TO ORDER.

MANUFACTORY: POOLE, DORSET. —— LONDON DEPOT: 66, WAPPING WALL.

WILLIAM NORTHEN'S

WHITE ENAMELLED STONEWARE,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH, LONDON.

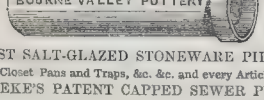
W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.

SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Close 4s. 6d.; Trap, 2s.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT-GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

SALT-GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained on application at the Works; or at the Depôt, 8, Belmont-place.

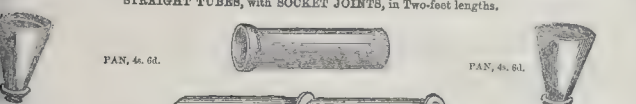
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—

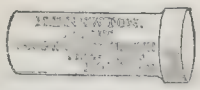
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; Coty-road Wharf, City Basin; Dockhead Wharf, Bermondsey;
Messrs COLES, SHADBOLT, and CO'S at James's and Thornhill Wharfs, Caledonian road, Pentonville.
Messrs RITCHIE and SMITH'S, Bayeswater Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Camden-road, Hoxton.
Messrs COLWILL (BROTHERS), 32, Brydges street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



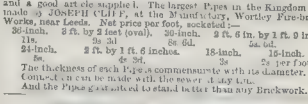
CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
12-inch.	9s. 3d.	9-inch.	6s. 6d.
6-inch.	4s. 9d.	4-inch.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.

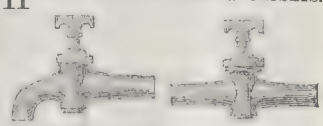


BELL'S PATENT TRAPS, for Stables, Coach-houses, Gardens, Paths, Yards, &c. Price 7s. each. To be had of the sole Agents and Manufacturers GROVER BROTHERS, Founders, Engineers, &c. Staffa, 168, Bean's Lane, and Bye-road, Bermondsey.

DRAIN PIPES.—More than 20,000 of 4-inch for immediate SALE, of first quality.—Sample pipe and price to be seen at the Office of "The Builder," or by application to the Manufacturer, W. D. LONSDALE, Nottingham.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the high-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCKS are constructed as Cocks and Closets, to prevent leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

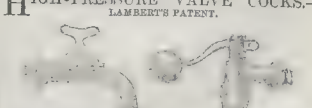
LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns in for continuous high pressure, varying from 100 to 300 feet; their efficiency and durability is by experience established.

The Equilibrium Ball valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,

Brass and Iron Founders, Short-street, New-cut, Lambeth.

SALES BY AUCTION.

STRATFORD, ESSEX.—The valuable Plant and Machinery of Mr W Pat means's extensive Chemical Works, together with the remainder o Stock.

MESSRS. PRICE and CLARK will SELL by AUCTION, on the PREMISES, near Barrow bridge, stratford, Essex, on MONDAY, SEPTEMBER 20th, and the following days, at ELEVEN precisely, TWELVE o'clock, the entire valuable assortment of the lease, the PLANT: comprising a 6-horse power horizontal high pressure steam-engine, 12 horse power ditto, 4 large power pumps, expansion with gearing, sliding rudder, connecting rod and fixings, four cylindrical boilers, a pair of granite edge runners, 3 feet 6 in. diameter, two extra grill to ditto, 12 feet 6 inches and 10 ins. 3 capital chimney shafts with coal containing about forty tons of lead; two iron tanks, capable of holding 7,000 and 6,000 gallons respectively; five slate tanks, twenty oak and fir vats, strongly iron bound, scraping frame, sundry pipes, 200 stones of granite and setting jars, a rice-screening machine, gas and water piping, beams, scales, and weights, a bay mare, a grey gelding, a town cart, a four-wheeled van, and all the necessary appurtenances required by a manufacturing chemist. May be viewed the Friday and Saturday preceding the sale, and catalogues may be had on the Premises; and of Messrs PRICE and CLARK, 48 Chancery lane

By Spekhlanore, Backyard—MAIDSTONE, KENT.—Corner Plot of Freehold Building Ground.

MESSRS. PRICE and CLARK will SELL by AUCTION, at the STAR HOTEL, Maidstone, on THURSDAY, 2nd of SEPTEMBER, at TWELVE for ONE o'clock, by direction of the mortgagee, a CORNER PLOT of FREEHOLD BUILDING GROUND on the south side, and adjoining Brunswick street East, about 97 feet deep, with a frontage of 27 feet, in the Parish of Maidstone in the county of Kent. May be viewed and particulars obtained of W S BOUSFIELD, Esq. Solicitor, 10a, Philpot lane; of Messrs. DANGERFIELD and FRASER, 26, Lyons street, Strand, at the Place of Sale, and of the Auctioneers, 48, Chancery lane

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K BARNES and SONS' TIMBER-YARD, Oak-street, Bristol, on WEDNESDAY, the 22nd of SEPTEMBER, 1858, at TWELVE o'clock precisely, for account of Importers —

38,000 Spruce Deals, Battens, ex cargoes per *Jenny Lind, Albert, Pearl, Eva &c*
5,000 Quebec Pine Deals and Plank, ex cargo per *Ant, &c.*
2,000 St Petersburg Red Deals
1,000 St Petersburg White and Deals
7,000 Quebec Red Deals (new importation).
1,000 Fresh Swedish Red Deals (new importation).
500 Fresh Redwood Memel Deals
400 Loads Quebec Yellow Pine Timber.
150 Loads Prince Large Board Timber.
50 Loads Large Birch St John Timber
400 Loads Best Swedish Sundewall Timber.
150 Logs Crown, Mettes, and Dantzic Oak Timber.
1,000 Quebec Pipe Staves.
3,000 W. I. P. Staves.
10 Fathoms Hemlock Lathwood.
1,000 Prepared Flooring Boards
With other Goods.
Catalogues will be issued on the week of Sale.
F. K. BARNES and SONS, Brokers.

Canons' Marsh, Bristol, September 8, 1858.

N B. The Brokers take this opportunity to thank their friends for the support given to their Sales, and to call attention that the timber importers of this city are still opposed to them

PLAISTOW, near the Victoria Docks.—Important Sale of valuable Freehold Building Ground, by order of the Executors of the late Mr T. E. Bradley.

MR. JOHN M. DEAN will SELL by AUCTION, at the Victoria Tavern, near the Barking-road Railway Station, on TUESDAY, SEPTEMBER 28, at ONE, in Lots, EIGHTY-NINE PLOTS of most valuable FREEHOLD BUILDING GROUND, free of land tax, situate in Forty-acre-lane, near the Barking-road, immediately over Docks, the Thames Ironworks, and other large manufactories. Particulars of the several lots of which will place may be had at the Place of Sale; of Messrs. CHAMPION and PUTNAM, 36, Gre. 71, Whitechapel-road, and of the Auctioneer, Hem-lane, Stratford

Marble Slab, near the Great Northern Railway.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the GREAT NORTHERN MARBLE WORKS, Caledonian Road, on TUESDAY, the 28th of SEPTEMBER, at TEN PRECISELY for TWELVE, the extensive STOCK of VEIN, Sicilian, Statuary, Dove, Bardilla, Sienna, Rouge Royale, Languedoc, Black, St. Ann's, Devonshire, Emperor's Red, and other Marbles, Slabs, Chimney-pieces, &c. Terms—Cash. To be taken in payment Mayor's acceptances, and catalogues had on the Premises, and of the Auctioneers, 40, Parliament-street, Westminster, S.W.

ALDERSGATE-STREET, CITY.—BUILDING MATERIALS OF FIVE HOUSES.

PULLEN and SON are directed to SELL by AUCTION, on the PREMISES, on TUESDAY, SEPTEMBER 21, at ELEVEN precisely, the whole of the BUILDING MATERIALS of 5 Large HOUSES, and 1 WAREHOUSE, No. 5, Aldersgate-street, and Four Houses adjoining, forming the whole of Cox-court: comprising good sound brickwork, useful timber in roofs and floors, glazed sashes, doors, partitions, and fittings, sound flooring and boarding, a large and valuable lot of lead, pipes, stone paving, cast coal-vaults, wrought and cast-iron girders, bond timbers, gutters, an open shed, stable, stove, and other fixtures.—May be viewed the day previous, and catalogues had of PULLEN and SON, 81, Fore-street, Cripplegate

SPECIAL NOTICE TO THE BUILDING TRADES.

BUILDING MATERIALS of 5 valuable Houses for SALE by AUCTION, by

MESSRS. BOOTH and CO. on the PREMISES, St. Marylebone, adjoining Great Portland-street, on TUESDAY, the 5th day of OCTOBER, 1858, at TWELVE for ONE o'clock.

FURTHER NOTICE.

That a regular monthly sale, in future, will be held as above, on the FIRST TUESDAY in EVERY MONTH; and that goods intended for the same, must be sent to Cox's Yard on EVERY TUESDAY in EACH MONTH. Entry forms, and full information, may be obtained on the Premises; or at the City Office, BOOTH and CO. Auctioneers, &c. 13, East Cheap, E.C.

N.B. For insurance and other purposes, all parties are requested to forward their address, with post-office

BURGHLEY PARK, near Stamford, Lincolnshire. Important Sale of large OAK TIMBER TREES, by direction of the Executors of the late Mr. Samuel Sharp, deceased.

MESSRS. RICHARDSON, on THURSDAY, SEPTEMBER 23rd, 1858, 104 superior fine OAK TIMBER TREES, the whole averaging 105 feet each, several of them containing upwards of 200 feet, and 674 very large forks, collars, and post wood, now lying in Burghley High park, marked and numbered with white paint.

Also, will be sold, on SATURDAY, the 25th SEPTEMBER, on the same Park, 4,000 FAGGOTS, and a quantity of Fire-Wood. The Auctioneers request the attention of all parties connected with the timber trade, to this sale, the timber of a size and quality rarely to be met with. Burghley park is one of the best and most picturesque, and its proximity to the Midland, North Western, Great Northern, and Stamford and Essendine Railways affords every facility for removal to any part of the Kingdom. Mr. SHARP, residing at the Dairy farm, Burghley park, will point out the timber to be taken. The Auctioneers will meet the purchasers at the Cottage in the Park, at half-past eleven o'clock, where refreshment will be provided, and immediately proceed to Sale.

Stamford, September 9, 1858.

Thirteen Acres of valuable Freehold Land, at Hornsey, near the Great Northern Railway Station.—At the MART, on FRIDAY, the 24th of SEPTEMBER, at TWELVE

PETER BROAD and PRITCHARD will SELL, unreservedly, all that valuable FREEHOLD ESTATE, including of thirteen acres of land, most advantageously situate in the above delightful and favourite locality, just on the south side of between Hornsey and Wood Green, at Cook, Miller's, and Noble Fields, Lordship. The healthiness of the locality is proverbial, and the beauty of the neighbouring country at the present time is found from the numerous Buildings on this land would be taken as covenants, or let or finished, and would prove a most productive mode of investment. Particulars and plans may be had of W. A. OBERATOREY, Esq. 58, Chancery lane; J. W. KNIGHT, Esq. 110, Great Portland-street, Oxford-street; at the Mart; or of the Auctioneers, 28, Poultry, E.C.

BUILDING MATERIALS

MR. ELLIS is directed to SELL by AUCTION, on TUESDAY, the 21st day of SEPTEMBER, in Lots to be taken down, the whole of the excellent MATERIALS of Nos. 210 to 215, inclusive, HIGH-STREET, WAPPING, adjoining St. Bride's Wharf, with the extensive premises in the rear, comprising a quantity of plain tiles, 100 squares slating, about 300,000 stock bricks, which are to be removed to the present vendors at 12s per thousand, cleaned and stacked on the spot, 12 tons of cast-iron plates, gutters, casements, and sashes, 1,500 superficial feet of moulded and joists, and other excellent timbers, framed partitions, and 50 internal doors, 20 iron sashes and frames, fire-mantels, dresser fronts, and a variety of marble chimney-pieces, ranges, register and other stoves, ovens, and the internal fittings throughout.—May be viewed two days prior to the sale, and Catalogues had of GEORGE ARTHESON, Esq. Architect, 9, Muscovy-court, Tower-hill; and of Mr. ELLIS, Market Lane Chambers

CROWN LANDS, WHICHWOOD, OXON. Important Sale of 7,800 OAK TREES, 1,030 Ash Trees, 700 Cords of Wood, 16,000 Faggots, and 1,000 Hurdles. To be SOLD by AUCTION, at the CHURCHILL ARMS INN, Ascott, on TUESDAY, 5th day of OCTOBER, 1858, by

MR. LONG, by the direction of the Hon. Charles A. Gore, a Commissioner of Her Majesty's Woods, Forests, and Land Revenue. The above valuable timber, arising from the clearing of the Lyte's-end of Whichwood Wood, on the north of the Oxford, Wendle with Limestone, consists of about PLANT TWELVE o'clock. Whichwood lies within an easy distance of three stations on the Oxford, Worcester, and Wolverhampton railway, and the place of sale immediately adjoins the Ascott station of the above railway. By permission of the company, the down train leaving Euston square at 9.45 a.m. and 3.15 p.m. and the up train, leaving Wolverhampton at 9.40 a.m. and 3.15 p.m. will stop at the station on the day of sale, for the accommodation of passengers. Catalogues and tickets to be obtained at the Churchill Arms, 1, Whitehall-place; of Mr JOHN CLUTTON, Crown Receiver, 9, Whitehall-place; of Mr. ROBERT MORRIS, Ascott, near Enstone, Oxon (who will show the produce); of the Auctioneer, Witney; and at the Place of Sale; and also of the Waterhampton, Birmingham, Dudley, Stourbridge, Kidderminster, Droitwich, Worcester and Oxford Railway Stations.

MAIDSTONE GAS COMPANY, Incorporated 1823.—SALE of NEW SHARES,—100 NEW SHARES of 25*l.* in the Maidstone Gas Company, created under their Act passed in the last session of Parliament, will be offered for SALE by PUBLIC AUCTION at the Bell Inn, Maidstone, on THURSDAY, SEPTEMBER 30th, 1858, at ELEVEN for TWELVE o'clock precisely, by order of the Directors of the Company, by Mr. TOOTELL. The shares will be sold singly. A deposit of Ten pounds per share will be required to be paid on the day of sale, and the balance of the purchase money on the 28th day of OCTOBER, 1858, at the Office of the Clerks to the Company. Particulars and conditions of sale may be had at the town Surveyor's, Kentish Hotel, Tonbridge Wells; Sarsen's Head, Ashford; New Falcon, Gravesend; the Auction Mart, London; of Messrs. BEALE and HOLMAN, Maidstone, Clerks to the Company, and at the Auctioneer's Office, Maidstone. A copy of the Act of Parliament may be inspected at the Office of the Clerks to the Company, and of the Auctioneer.

TO MAHOGANY and TIMBER MERCHANTS, CABINET and PIANO-FORTE MAKERS, COACH-BUILDERS, and OTHERS.

MESSRS. DAVIS and VIGERS are instructed to SELL by AUCTION, on the PREMISES, No. 2 and 3, Euston-road, on MONDAY, 20th SEPTEMBER, and following day, at TWELVE for ONE, the well-assorted and seasoned STOCK: comprising about 60 feet of Cuba and Honduras Mahogany, wainscot, birch, and beech, in planks and board; 4,000 feet of rosewood, walnut, ash, and cedar board; 4,500 feet of rosewood, walnut, Cuba, and Honduras veneers; walnut and maple planks, a case of Swiss pine, a large and useful assortment of dry cut stuff, 300 planks of pine planks, 7,000 feet of pine boards, 1,500 feet of spruce scantling, 400 feet of beech quarters, 50 sashes, 6 squares of flooring, 4 squares of matched boarding, a spring timber truck, &c.—May be viewed the day before and mornings of sale. Catalogues to be had on the Premises; of Messrs. WILD and BARBER, Solicitors, Ironmonger-lane, City; and of the Auctioneers, 3, Frederick's-place, Old Jewry, E.C.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, Gideon Chapel, and within half the Eight miles from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq 17, Serjeants'-inn, Fleet street, E.C.

TO BUILDERS and OTHERS.—DOVER-COURT NEW TOWN and SPA,—a short distance from the town and port of Harwich, and within a few minutes' walk of the Parkeston Quay of the Eastern Counties railway, by which passengers are conveyed direct to the Harwich and Dover Railway, and to the Midland, in about two hours, or express in half the time several times in the day. This is beautifully situate on the borders of the German Ocean, on a plateau of the cliffs sixty feet above the sea-beach, and commanding other advantages sought for in a seaside residence, including that of pure water. Plans may be seen at Mr. Thomas Bond's office, and others to invite, to an inspection of the Estate and the contemplated new Terms for building leases very moderate, in fee, and liberal advances on the properties, apply to Mr. J. H ROWLEY, Architect, No. 17, St. Helen's-place, Bishopsgate-street, City; or to Mr. H. DARKEN, Architect, Harwich and Dovercourt

WATERSIDE MANUFACTURING PREMISES, MILLWALL, POPLAR, on the THAMES.—TO BE SOLD, by PRIVATE CONTRACT, the LEASE of extensive MANUFACTURING PREMISES, known as the British and Colonial Smelting Works, the greater part erected within the last six years, and well adapted for any manufacturing business requiring water side premises, there being an excellent wharf, with a depth of 9 feet at the Thames. The buildings are principally spacious ground-floor erections. There are two dwelling-houses and two lofty brick-built chimney-shafts.—The Premises comprise two steam-engines of 30-horse and 10-horse power, two steam boilers, furnaces, crushing-rolls, and other plant, may be taken at the option of the purchaser. For further particulars apply to Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

TO BE LET, on Lease for long terms, about 10 Acres of very eligible BUILDING GROUND, close to the Railway Station of Chiswick, and in the immediate vicinity of the church and the Lion. The soil is excellent, and the spot possesses excellent water, and is healthy. Drainage complete. Portion of the land is planted with fruit trees, and has a cottage, barn, and other buildings, and early 40 rods from Epsom and Ewell Railway, with which there is constant communication. Apply to Messrs. MANT, MAULE, and ROBERTSON, Solicitors, Bath; or to Mr. Mitchell, Estate Agent, Chiswick-row, Mansion-house.

BUILDING LAND, SOUTH KENSINGTON To Commissioners for the Exhibition of 1851 are prepared to receive TENDERS for BUILDING LEASES, of three several detached portions of their estate, in Prince Albert's-road and Cromwell-road. Forms of Tender, with conditions and plans, may be had on application at Messrs. FLADGATE, CLARKE, and FINCH, 29, Craven-street, Strand; to Messrs. HUNT and STEPHENSON, 4, Parliament-street, Westminster; or to Mr. WADE, at the Office of the Commissioners, Kensington Gore. The Tenders are to be delivered on or before TWELVE o'clock, SATURDAY, the 9th day of OCTOBER next.—The Commissioners do not pledge themselves to accept the highest or any Tender.

TO BUILDING SPECULATORS, &c.—TO BE LET as a whole or in plots about TWENTY ACRES of BUILDING LAND in the Parish of Tottenham, the property of the holder, and for a long term of years. The land lies close to railway station, is within easy reach of London, commands beautiful views, has a dry soil, and excellent water can be obtained.—Apply for particulars and plans to Mr. T. CHATFEILD CLARKE, Architect and Surveyor, 137, Leadenhall-street, E.C.

TO BUILDERS, BRICK-MAKERS, and OTHERS.—LOWER NORWOOD.—TO BE SOLD, a valuable PLOT of FREEHOLD BUILDING LAND, in Gipsy-hill road, near High-street, Lower Norwood, having a frontage of 80 feet to the high road, with a depth of 430 feet, and well adapted for the erection of cottage residences. Good brick earth.—Apply at 1, Albert Cottages, Hamilton road, Norwood.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq. at Burham, on the Medway.

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq. within the last eight years. Burham works and clay-fields occupy a site of about eighty-five acres, partly freehold and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London is about thirty-eight miles, and the Snodland or Aylesford station on the North Kent Line are within two miles of the property. The face of the land slopes at an inclination of about 1 in 80 towards the river, and the pits having been formed near the summit, the loaded carts pass on to the top of the kilns on the Great Clay, and it is therefore said the entire surface to a depth of about 15 feet, affords a supply more than sufficient for the next century. The Gault requires a smaller quantity of ashes than any clay near London, and the Burham works are nearer to the London market than any other the Gault clay is found. The cost of carriage to London is 3s. 6d. per load. The works were established by Mr Cubitt for his own requirements exclusively, and both in 1857 and 1858 have been unsparingly expended for the purpose of rendering them complete. The principal building is upwards of 300 feet in length, chiefly of stone. There are four patent kilns with the latest improvements, one of the most approved construction, with a capacity of burning 30,000 bricks each, and conveniently placed, are three small kilns (two of 20,000 each and one for 30,000); two waggon-top kilns, 50,000 each; two large round kilns, 90,000 each; and three others, each of seventeen acres covered back ground, in capital order.

The plant is capable of producing 20,000,000 bricks per annum, in addition to an almost unlimited quantity of drain-pipes, tiles, and all kinds of moulded bricks, and consists of seven pug-mills, two making machines, under-fire, with Mr Cubitt's improvements, and two pug-mills, worked by a pair of condensing steam engines, Maudslay's, Sons, and Field, of 25-horse power, with boilers, wrought-iron shaft, 500 feet in length, and gearing. There are upwards of two miles of tramways for the use of the cement works. On the works is a newly erected residence for general manager, with garden, and surrounded by a large and productive garden. A new erected house for foreman of cement works, large stables, coach-house, and a mess-room for the workmen, with cooking apparatus. A short distance, on the opposite bank of the Medway, is a 15-acre field of ground for brick-making purposes, and a wharf for landing it. As before stated, these works were established to supply Mr Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is acknowledged to be the best for brick-making purposes, that this field is the nearest yet in existence to London market, that roads can be procured without being subject to the City of London or local dues, that all other raw materials can be obtained on the best terms, that the machinery is of the highest character, most judiciously planned, and that for as working skilled labour is not required, all serve to show that a most profitable investment of capital may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs FULLER and HORSEY, Billiter-street.

GUILDHALL.—Lower Thames-street, adjoining the Coal Exchange.—The Coal and Corn and Flour Committee will meet at Guildhall on TUESDAY, the 21st day of SEPTEMBER, instant, at ONE o'clock precisely, to receive PROPOSALS in writing for a LEASE of the PREMISES, No. 11, Lower Thames-street, for a term of Thirty-one Years. A plan of the property to be let may be seen, and forms of Tender obtained, upon application at the Architect's Office, Guildhall

September, 1858. MEREWETHER

NORWOOD, within three minutes of the Station to London-bridge and West-end.—GROUND TO LET, for building villas, from 50 to 100 feet in front, which are now making. There is not a house on the estate built, while a row of substantial villas are daily made for residences. Plans for gentlemen requiring large villas can secure them. Advances made. Apply to W. F. LOW, Esq. Solicitor, 67, Wapping-street, Commercial-square.

VALUABLE BUILDING LAND, PENGE, Surrey, near the Crystal Palace and Railway Station on the London and Brighton Railway, and the West-end and City Omnibus Route.—TO BE SOLD or LET, about 12 ACRES of extremely eligible LAND, for building, held for a long term of years, and having a frontage to the high road of 1,300 feet. It is admirably situated for the erection of villa residences, being on a good elevation, and commanding extensive views over Kent and Surrey.—Apply to Mr. OWEN, Burnt Ash, Lee, Kent, or Upper Sydenham Post-office.

BELSIZE-PARK ESTATE, HAMPSTEAD.—PORTIONS of this ESTATE will be LET to respectable builders on very favourable terms, and, if required, money advanced thereon.—For further particulars, apply Mr TIDY, on the Estate; Messrs PALMER, PLUMER, and BLAKE, Solicitors, 24, Bedford-row; or to Mr WILLIAM THOMPSON, Architect, No. 2, Adam-street West, Westbourne-terrace, W.

TO BUILDERS.—TO BE LET, on Lease, for the Freehold Sold, some eligible BUILDING LAND, situate on a public road, near the Great Northern Railway Station, at Wood-green, Tottenham, within a sixpenny ride of London. Plans and particulars ready, and to builders of respectability and respectable the necessary preparations are being made.—Apply to Mr J. MAYNARD, Land Agent, 383, Strand, London.

TO LAND and BUILDING SOCIETIES, BUILDERS, and OTHERS TO BE SOLD, in one or two lots, TWENTY-FOUR ACRES of FREEHOLD LAND, situate in a beautiful locality, near the new Church, at Sydenham, Kent, within a few minutes' walk of the intended station of the Mid-Kent Railway, now in course of construction, and having a frontage to Kent House-road, containing a splendid view of the Crystal Palace, and is bounded by the estates of Lord Sydney, Mr Bevens, and Mr Lewis, where villas are in much request. There is capital brick earth on part of the land, sufficient for all the buildings required. The property offers an excellent opportunity to builders and others.—Particulars and conditions of sale may be had of Mr. NOBLE, Auctioneer and Surveyor, 18, Baker-street, and Lois-street, Greenwich.

LAND in the CITY.—TO BE LET, a Lease, an eligible PLOT, lying between New Cannon-street and Thames-street, containing about 3,800 superficial feet, with convenient and valuable space for loading goods; well adapted for a Wharf and Timber Yard. The premises will be let for a term of years, or for a few years if preferred.—For plan and particulars, apply to Mr. HENRY JAWSON, Architect, 19, Finsbury-circus.

CARTS, VANS, WAGGONS, LADDERS, BARROWS, &c.

GEORGE ELL, Cart Wheelwright, Ladder and Barrow Maker, has constantly on hand brick, ladder, and other carts, spring vans, and also a large stock of ladders, barrows, trucks, and other kinds of trade implements for builders, contractors, and others, on the most approved principles at low prices.

Scaffolding, Ladders, Barrows, Sieves, Trestles, &c. Lent on Hire.

The new Price Lists are now ready, and will be forwarded on application

G. ELL, 279 and 280, EUSTON-ROAD, N.W.

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The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

VOL. XVI.—No. 816. SEPTEMBER 25, 1858. PRICE FOURPENCE, Stamped, 5d.

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BUILDERS' BENEVOLENT INSTITUTION.

THE ELEVENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY, OCTOBER 28th, 1858.

THOS. PIPER, Jun. Esq., President, in the Chair.

Gentlemen desirous of promoting the interests of this Institution by becoming Stewards will be pleased to forward their names to the Secretary, at the Offices, 19, Southampton-street, Bloomsbury; or to the Treasurer, Mr. GEORGE BIRD, 30, Edgware-road.

A. G. HARRIS, Sec.

THE SCHOOL of ART at SOUTH KENSINGTON, and at the following Metropolitan Districts, will be OPEN for the SESSION of Five Months on FRIDAY, the 1st of OCTOBER:—

1. Spitalfields—Crispin street.
2. Finsbury, Wilson street, Wilmington square.
3. St. Thomas Charterhouse, Goswell street.
4. Bethnal-green, Green Coat School, Hare-street.
5. St. Martin-in-the-Field—Castle street, Long-acre.
6. Lambeth—St. Mary's, Prince's-road.
7. Hampstead—Infirmary Building.
8. St. George's-in-the-East—Cannon-street Road.

At South Kensington, 37, Tower street, Bedford-square, St. Martin's-le-Grand, Finsbury, and Charterhouse, there are Female Classes.—For Prospectuses, Terms, &c. apply to the respective Schools.

By order of the Committee of Council on Education.

QUEENWOOD COLLEGE,

New Stockbridge, Hants,
Dunbridge Station, Salisbury Branch, S. W. R.

GENERAL FOUNDATION.

NATURAL PHILOSOPHY AND MATHEMATICS—Frederick R. Smith, LL.D.
CHEMISTRY—Dr. Henry Debus, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg.
CLASSICS AND HISTORY—Daniel Hughes, M.A. Jesus College, Oxford.
MODERN LANGUAGES AND FOREIGN LITERATURE—Mr. Felix Hoas, late M.A. Pestalozzi's Institution, Hofwyl, Switzerland.
GERMAN—Mr. Nicholas Wegmüller, from M. de Fellenberg's Institution, Hofwyl, Switzerland.
DRAWING, PAINTING, MODELLING, &c.—Mr. Richard P. Wright.
ENGLISH—Mr. Daniel B. Brightwell.
ENGLISH—Mr. William Trotter.
MUSIC—Mr. William Stowell.

TERMS.

For Boys under 12 years of age ..... £45 per annum
" above 12 and under 15 ..... 50 "
" at age 15 ..... 65 "

Laundress and Physician's fee 3l per annum extra (except in the case of two or more pupils from the same family, when the charge is modified).

MINERALOGY.—King's College, London.

PROFESSOR TENNANT, F.G.S. will commence a COURSE of LECTURES on MINERALOGY, with a view to facilitate the study of Geology, and of the application of mineral substances in the Arts. The lectures will be illustrated by an extensive collection of minerals, and will begin on FRIDAY, OCTOBER 8, at Nine o'clock A.M. They will be continued on each succeeding Wednesday and Friday, at the same hour. Fee, 2l 2s.

R. W. JELF, D.D. Principal.

TO SCULPTORS. —ARTISTS are requested to send their sealed ESTIMATES, MODELS, and DRAWINGS for the proposed STATUE of the late Sir H. HAVELOCK to the UNITED SERVICE INSTITUTION, Whitehall, on or before the 1st of OCTOBER.

CONTRACTS.

LANCASTER and CARLISLE RAILWAY.

LUNE VALLEY LINES—TRACINGS and BILL of QUANTITIES for these Contracts may be obtained from Mr. ABRAHAM HILL, 41, Lord street, Liverpool; or at the Station, Lancaster.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a POLICE-STATION and JUSTICE ROOM, at Caxton, Cambridgeshire, may see the plans and specification at the Office of Mr. J. F. CLARK, Architect, Newmarket, on and after SEPTEMBER 24th next. The Tenders are to be delivered on the 2nd of OCTOBER. The Committee do not bind themselves to accept the lowest or any Tender.

CONTRACTS.

NOTICE to BUILDERS. ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War-office, Pall-mall, London, on or before TUESDAY, the 28th day of SEPTEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING an INFANT SCHOOL-HOUSE, and QUARTERS for a Schoolmaster and Schoolmistress, at Walmer. Drawings and a specification of the works to be executed may be seen by those disposed to tender, at the Royal Engineer Office, Walmer, between the hours of TEN and FOUR o'clock, from MONDAY, the 13th of SEPTEMBER, to SATURDAY, the 25th SEPTEMBER, 1858, Sundays excepted. The party whose Tender may be accepted for the works, will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 100l. for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed, "Tender for School-house and Quarters at Walmer."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, 21st September, 1858.

NOTICE to BUILDERS. ORDNANCE WORKS. The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, on or before TUESDAY, the 28th day of SEPTEMBER, 1858, at Noon, from Persons desirous of CONTRACTING for CONSTRUCTING a GUN-SHED at Shorncliffe. Drawings and specification of the works to be executed may be seen by those disposed to tender, at the Royal Engineer Office, Shorncliffe, between the hours of TEN and FOUR o'clock, from MONDAY, the 13th to SATURDAY, the 25th of SEPTEMBER, 1858, Sundays excepted. The party whose Tender may be accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately, to be bound under a penalty of 200l. for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and endorsed, "Tender for Gun-Shed, at Shorncliffe."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, 21st September, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for LAYING DOWN about 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 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IRON PIPES, with double Socket Junction, Turn-Outs, &c. at the Grand Depôt at Woolwich. The Contract may be seen, and the specifications, terms of Contract, and Forms of Tender may be obtained at the Royal Engineer Office, Grand Depôt, Woolwich, until MONDAY, the 27th of SEPTEMBER, 1858, between the hours of TEN and FOUR, when the Tenders are to be delivered or forwarded, prepaid, to "The Director of Contracts, War Office, Pall Mall, London, S.W." at NOON on WEDNESDAY, the 29th of SEPTEMBER, 1858, marked "Tender for Fire Main-pipes." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, 10th September, 1858.

NOTICE to BUILDERS. The Commanding Royal Engineer of the Manchester District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on or before TUESDAY, the 12th OCTOBER, from such persons as may be willing to Tender for the ERECTION of MARRIED SOLDIERS' QUARTERS OUTBUILDINGS, &c. at the Cavalry Barracks, Manchester. The specification, drawings, and forms of contract, may be seen, and every requisite information obtained, at this Office, on and after MONDAY next, the 20th inst. each day, from TEN to FOUR, Saturdays excepted. Tenders to be endorsed, "Tender for the Erection of Married Soldiers' Quarters and Outbuildings, at the Cavalry Barracks, Manchester."

Royal Engineer's Office, 1, Green-street, Dawson-street, Manchester, September 16, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts for the War Department, Pall Mall, London, on THURSDAY, the 7th day of OCTOBER, 1858, before TWELVE o'clock at Noon, from any persons who may be willing to undertake the EXECUTION of CERTAIN SERVICES required to be performed at Dudley Port, Tipton, Staffordshire, in the County of Hants. The plans, specifications, and conditions of contract may be seen, and every information obtained, on application to the Royal Engineer Office, Dudley Port, between the hours of TEN and FOUR o'clock, Sundays excepted, until the 5th OCTOBER, 1858.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, September 22, 1858.

TO BUILDERS and CONTRACTORS. The Guardians of the Poor of the Macclesfield Union being about to erect a NEW UNION WORKHOUSE, capable of accommodating sixty inmates, under the superintendence of Executive and Masters, Carpenters and Joiners, Plasterers, Plumbers, Glaziers, Slaters, Ironfounders, and Painters, who may be desirous of TENDERING for the whole or any portion of the Works, such persons are invited to see the drawings and specifications at the Board-room, Macclesfield, from the 22nd of SEPTEMBER to the 5th of OCTOBER, both inclusive, and may obtain the printed forms and any information they may desire to JOHN EDWIN OATES, Esq. Architect, York. Sealed Tenders, endorsed "Tender for Works," must be sent at or before TWO o'clock on WEDNESDAY, the 6th of OCTOBER, addressed to RUPERT JONES EVANS, Esq. Chairman of the Board of Guardians, Macclesfield—No pledge is given to accept the lowest or any Tender.—By order of the Board,

D. HOWELL, Clerk

Macclesfield, 28th August, 1858.

TO BUILDERS and OTHERS.—TENDERS are required for the ERECTION of a pair of semi detached HOUSES at Forest-hill, Sydenham. The drawings, specification, and terms of contract may be inspected on application to Messrs. DIMMOCK and DURBEY, Solicitors, 2, Suffolk Lane, Cannon-street, on any day between the hours of TEN and FOUR o'clock. The lowest or any Tender will not necessarily be accepted.

CONTRACTS.

SHEFFIELD WATER-WORKS.—LARGE STORE RESERVOIR and CONDUIT.—The Directors of the Sheffield Water-works are prepared to receive TENDERS for the CONSTRUCTION of a large STORE RESERVOIR, together with several Weirs, Wall Watercourses, and about 5,750 Lineal Yards of Culvert. Plans, specifications, and conditions may be seen, and further information obtained, on application at the Company's Office, Division-street, Sheffield, between the hours of NINE in the Morning and SIX in the Evening on and after MONDAY, the 27th SEPTEMBER.—Tenders to be delivered at SEVEN o'clock in MONDAY, the 4th OCTOBER; but the Directors will not be bound to accept the Lowest or any Tender.

September 16th, 1858.

TO SEWERAGE CONTRACTORS.—TENDERS are wanted by the Commissioners of Police, for CONSTRUCTING certain SEWERS within the Burgh of Dundee, plans of which may be seen at the Office of the Town Surveyor, Police Buildings. The Tenders must be made on printed forms, which will be supplied to contractors. They are to be addressed to the Commissioners of Police, Surveyor's Office, Police-buildings, Dundee, marked, "Tender for Sewers," and must be delivered there not later than TUESDAY, the 28th instant. Parties tendering must be prepared to find sufficient security for the due fulfilment of their contracts. The Commissioners do not bind themselves to accept the lowest or any Tender.—Dundee, Sept. 8, 1858.

THE VESTRY of the PARISH of SAINT LUKE, CHELSEA, in the County of Middlesex, FLINTS.—The Vestry of this Parish will meet at the Board-room, at the Main Road Entrance, on TUESDAY, the 28th day of SEPTEMBER inst., at ELEVEN o'clock in the Forenoon precisely, to receive TENDERS from persons willing to contract for the 29th day of SEPTEMBER instant next and inclusive of the 29th day of SEPTEMBER, 1859, for the SUPPLY of GREY LEAN GREY BROKEN PIT ROAD FLINTS, to be delivered at the Free Dock at Cheyne walk at such times, and in such quantities, as may be directed. The Vestry do not bind themselves to accept the lowest or any Tender. Sealed tenders, signed by the proposed contractor, with the names and descriptions of two sufficient sureties for the performance of the contract, to be left at my Office, on or before MONDAY, the 27th instant. The Inspection of the Contract to be open to the Contractor upon the occasional Inspection of the Surveyor. Tenders will be rejected, unless made on the printed forms to be had at my Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Offices, Manor House, No. 111, King's-road, Chelsea,
September, 1858.

GLOUCESTER WATER WORKS.—CONSTRUCTION of RESERVOIRS.—TENDERS for the CONSTRUCTION of TWO RESERVOIRS, of a water area of about twenty acres with an ATTENDANT'S DWELLING HOUSE, CONDUITS and other WORKS, according to certain plans, drawings, and specifications to be seen at the Office of Mr. JOHN HANWAY, C.E. surveyor to the Local Board of Health, Gloucester, and prepared to be sent, marked "Gloucester Water Works, Tender for Works," under cover addressed to Mr. K. H. FRYER, Clerk to the Local Board of Health, Gloucester, on or before the 12th of OCTOBER next. Printed forms of tender, bills of quantities with form of Tender, may be had of Messrs. PENRICE and SON, Clarence-street, Gloucester, after the 27th instant, for the sum of 2l. The quantities and be tested by parties tendering, but are not guaranteed by the Board.

K. H. FRYER, Clerk.

Gloucester, 8th September, 1858.

OLDSWINFORD SCHOOLS.—To BUILDERS and OTHERS. Persons willing to TENDER for the ERECTION of a SCHOOL-HOUSE, RESIDENCES, FENCE WALLS, &c. at Oldswinford, can view the plans and specification at my Office, on and after TUESDAY, SEPTEMBER 21st instant. Tenders to be sent in on or before TUESDAY, OCTOBER 12, sealed and endorsed "Tender for School," and addressed to JNO. HARWARD, Esq. Solicitor, Stourbridge, the Honorary Secretary. No passages given by the Committee that the lowest or any Tender will be accepted. The contractor will be required to provide approved sureties, and to enter into the usual bond for due execution of the works.—By order of the Building Committee,

THOS. SMITH, Architect.

Stourbridge, September 11, 1858.

TO DUST CONTRACTORS and OTHERS. The VESTRY of the PARISH of St. GILES, CAMBERWELL.—The Committee for General Purposes hereby give Notice, that they will meet at the VESTRY-HALL, Camberwell, on MONDAY, the 4th day of OCTOBER next, at TWELVE o'clock at noon precisely, to receive TENDERS for the PURCHASE, COLLECTION, and REMOVAL of all the ASHES, CINDERS, RUBBISH, DUST, BREEZE, REFUSE, FILTH, SOIL, &c. made, or to be made, from the several Houses, Streets, &c. in the several districts contracted for, under certain penalties, in case of non fulfilment; and the Contractor, or such Contractor, with two responsible sureties, to be approved of by the Vestry, will also be required to enter into a bond or bonds, in a sufficient penalty, for the due collection of the ashes, cinders, rubbish, dust, breeze, refuse, filth, soil, &c. The draft contract and bond will be open for inspection by parties intending to tender at the Vestry Clerk's Office, and prepared at the expense of the Vestry. Tenders must be sealed up and endorsed "Tenders for Dust," &c.; and the parties Tendering must be in attendance when their Tenders are opened by the Committee, otherwise their Tenders will be rejected, and the party whose Tender may be accepted must pay a deposit of 5l.—By order,

GEORGE WILLIAM MARSDEN, Vestry Clerk.

Vestry Hall, Camberwell, September 14, 1858.

[For remainder of Contracts see next page.]

CONTRACTS.

TO DUST CONTRACTORS.—PARISH of CHELSEA. The Vestry of the Parish of Chelsea will meet at the Board Room, at the MANOR HOUSE, King's-road, Chelsea, on TUESDAY the 28th day of SEPTEMBER instant, at ELEVEN o'clock in the forenoon precisely, to receive TENDERS (separately and each CONTRACT, pursuant to the terms of a draft contract, marked "Dust Contract, 1858 3," now lying for inspection at the Offices of the Vestry, Manor House aforesaid), for REMOVING the DUST, ASHES, FILTH, and RUBBISH from the houses in the several districts of the said Parish, for the period commencing on the 1st day of SEPTEMBER, 1858, and ending on the 29th day of SEPTEMBER, 1859. Parties tendering are to state separately the sum they require per annum for each district, and to specify the number of carts they propose to employ in each district. Every Tender must be delivered sealed, and addressed to the Vestry, and must be signed by the Tenderer, or by some person duly authorized by him in writing, and must state the Christian name, surname, and place of abode of the Tenderer. The Vestry do not bind themselves to accept the lowest or any Tender.

By order of the Vestry,
CHARLES LAHEE, Vestry Clerk.

Offices of the Vestry, Manor House, No. 111, King's-road, Chelsea, September, 1858.

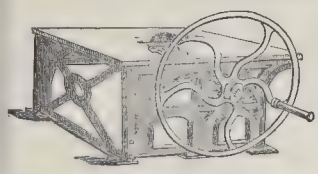
ST. MARYLEBONE WORKHOUSE, 21st September, 1858.—BUILDERS' CONTRACTORS, &c.—SAW MILLERS, SCHOOLS for the PARISH of ST MARYLEBONE, at Southall, Middlesex.—Notice is hereby given, that the Directors and Guardians of the Poor of the Parish of St Marylebone, in the county of Middlesex, will meet in the Board-room of the Workhouse of the said parish, in Northumberland-street, on TUESDAY, the 28th day of SEPTEMBER, inst., at half past TWO o'clock in the After noon precisely, for receiving TENDERS for the BUILDING of NEW WORKHOUSE SCHOOLS at Southall, in the parish of Norwood, in the county of Middlesex. Further particulars may be known, and plans and specifications of the said intended buildings, may be seen, on application to the Clerk of the Works, at the Workhouse aforesaid, on any day (except Sundays) between the hours of Ten and Four o'clock. Tenders for the Boys' Schools at Southall, and for the Schools Buildings in connection therewith, before ELEVEN o'clock in the Forenoon of the said 28th day of OCTOBER next, must be delivered, endorsed "Tender for the Boys' Schools at Southall," addressed to the Schools Building Committee, before ELEVEN o'clock in the Forenoon of the said 28th day of OCTOBER next. Separate Tenders for the Girls' Schools at Southall, and for the Schools Buildings in connection therewith, must be delivered, endorsed "Tender for the Girls' Schools at Southall," addressed to the Schools Building Committee, before ELEVEN o'clock in the Forenoon of the said 28th day of OCTOBER next. Each Tender must be delivered in a sealed envelope, and must be accompanied by a letter, signed by the Tenderer, stating the sum for which he undertakes to execute the Contract to be named for or deducted from the Contract to be named for or deducted from the Contract to be named for or deducted from

POWIS, JAMES, AND CO.

Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (NEW PATENT).—NO MORE BREAKAGE OF SAWS.



POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT, dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE, and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW BENCHES, with RISING TABLES,
AND PATENT PLANING, TONGUEING, GROOVING, AND MOULDING MACHINES.

Letters and Applications for Machinery to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, LONDON, E.C.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS and IRON-WORK for WOOD WAGGONS, &c.

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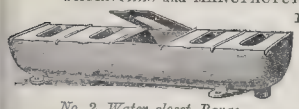
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

WALTER MACFARLANE & Co

IRON FOUNDERS AND SANITARY ENGINEERS, SARACEN FOUNDRY, GLASGOW,

PATENTEES and MANUFACTURERS of PUBLIC SANITARY APPLIANCES,



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For DWELLINGS, SCHOOLS, ASYLUMS, BARRACKS, RAILWAYS, STREETS, &c.
URINALS, Single, Double, and in Ranges.
WATER-CLOSETS, Single and in Ranges.
WASH-HAND BASINS, Single and in Ranges.
WASH-FOOT BASINS, Single and in Ranges.

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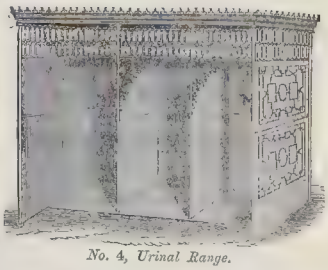
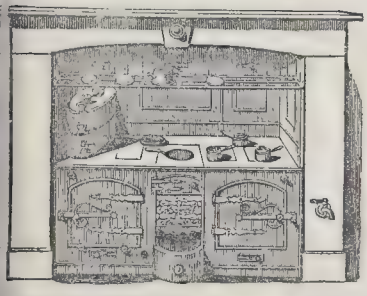
Agents for the Counties of Northumberland and Durham.

HENRY WALKER AND CO. NEVILLE IRON WAREHOUSE, NEWCASTLE-ON-TYNE.



No. 4, Urinal Range.



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Having completed the Alterations and Enlargement of their Premises, invite attention to their extensive suite of SHOW-ROOMS.

STOVES, FENDERS, AND FIRE-IRONS,
THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c.
for Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING,
and every Description of General Furnishing Ironmongery.

FLAVEL'S PRIZE KITCHENER,

The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851

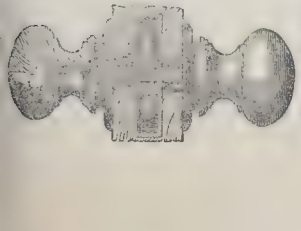
FLAVEL'S PRIZE KITCHENER is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 15 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for smoky Chimneys.

BENHAM and SONS, 19, Wigmore-street, Cavendish-square, London;
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



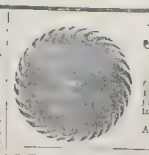
THIS PATENT FURNITURE is applicable to all locks and latches, Bath Rim and Mortise Furniture of every description will fit any screw in the back of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Court at Aldershott, &c. &c. and is universally approved.

Now in Stock a fine assortment of glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. of the best description.

Hobbs and Company's Patent Latch.

A most complete and extensive stock of every description of locks, latches, brass foundry, and furniture always on hand for buildings, of the best quality manufactured, at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.



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STEEL WORKS, HARVEST LANE, SHEFFIELD,
Manufacturer of Cast-steel Shoe-Tools, Mill Saws, Patent Pond, or Dish's Saws, Circular Saws, Without Teeth, Metal Plate, Engraving, Moulding, and Mortising Irons; Saw Files, &c.

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NAILS and IRONMONGERY,
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Builders, Contractors, and others supplied with Nails, Iron, and Ironmongery, of every description, at the
LOWEST BIRMINGHAM PRICES.
A complete LIST (which will be forwarded upon application to
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IMPROVED SELF-REGULATING STOVES:

Will burn (according to size and the heat required) from Fifteen to Thirty Hours without attention, and at a cost in fuel, of from 1½d to 3d. for twenty hours.

Fitted with COOKE'S Patent Self-Acting Regulator and Apparatus.

The Regulators being made on the principle of expansion of Metals by Heat, are both CERTAIN, DURABLE, and SIMPLE in their ACTION.

MANUFACTURED ONLY BY THE PROPRIETORS OF THE PATENT,

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,

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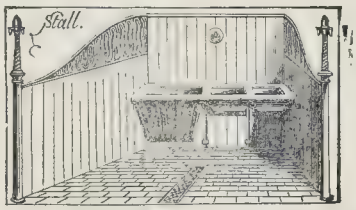
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.

COTTAM'S PATENT MANGERS AND STABLE FITTINGS.



VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

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WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

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REGISTER STOVES, from 5d. per inch to the best descriptions in Berlin, Black, and Bright, with Ormolu Ornaments, &c.; ELLIPTIC STOVES, from 25s. per inch; KITCHEN RANGES, from 2½s. each; the BEST LEAMINGTON KITCHENER with the latest improvements, and to which W. H. and S solicit the inspection of every person requiring a thoroughly efficient and economical close, and open fire Range.

Estimates furnished for all kinds of Smith's Work, Heating by Hot-Water or Steam, Gasfitting, &c.

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ESTABLISHED 1817.

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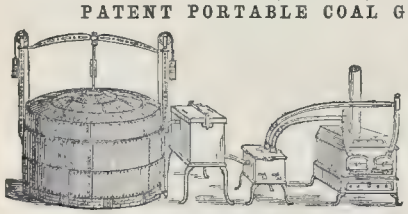
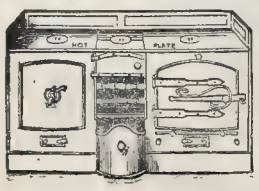
PATENT PORTABLE COAL GAS APPARATUS



(FREE FROM NUISANCE).

The Patentees have now been manufacturing the above for several years, and a great number being at work in different parts of this country, and also abroad, being found, by way of construction and all of management, admirably adapted for exportation, and which are giving entire satisfaction, they are in a position to confidently recommend the same for lighting the mansions of the Nobility and Gentry, also for small Private Residences, Farm Buildings, Churches, Chapels, Railway Stations, Workshops, small Villages, and other places hitherto but little lighted with gas. It is economical and durable, and can be had in various sizes, from 7 to 200 lights.

Full Particulars Testimonials, &c. upon application to the Patentees, at their Works, 1, LOWER KENNINGTON LANE, NEWINGTON-BUTTS, S. where an Apparatus by means of which they light their own premises, may be seen in full operation.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for smoky Chimneys

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

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COTTAGE RANGES. — Improved Self-acting, with Oven and Boiler, 27 inches, 18s. 6d; 30 inches, 20s.; 33 inches, 23s.; 36 inches, 24s. With brass taps, 2s. 6d. extra. Prospectuses post-free.—BROWN and GREEN, Luton, Bedfordshire.

THE AMERICAN STOVE, "EXCELSIOR," at 35s. for Shops or Offices, is the best and cheapest ever offered in London. The trade supplied at ANDREW M'LAREN and CO'S, Ironfounders, 174, Upper Thames-street.

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ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.

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Buildings of every description, and of the most extensive dimensions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot water Apparatus. Also to be seen in extensive operation at their Premises, King's road, Chelsea.

J. RUNCIEMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, Newcastle-on-Tyne, beg to call attention to their economical method of warming buildings with hot water. J. R. and Co. from their long and practical experience, are enabled to guarantee the efficiency of all apparatus they fix; and from being situated in the midst of a coal and iron district, can with confidence submit the terms of their contracts as the lowest ever offered. Workmen sent to all parts of the kingdom. All work warranted for thirty years.

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Beg to call the attention of architects, builders, &c to their efficient system of Heating Horticultural, Public and Private Buildings, by the circulation of hot water. Plans and estimates furnished, and references of the highest respectability, on application.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to churches, schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Rescoe-place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 29, John-street, Adelphi.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS

J. W. and SONS having of late years devoted much time and study to the long neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and less liable than hitherto to be worn out or fail.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c cast for any size, note, or weight, ready for use.

TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND-BELLS tuned to the Chromatic Scale, with improved Clappers, and pegged on a new system, which give superior tone and facility for ringing.

The great Tenor Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1858, under their Patent.

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IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 24, Davies-street, three Doors from Oxford-street, for the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general at wholesale prices. In connection with his old establishment, No. 28, Blandford-street, Manchester-square, running out of Baker-street, Portman-square, London, W.

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This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.

The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a mass of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling houses and domestic buildings, within the reach of every one.

Further information may be obtained of the Proprietor of the Patent,

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IRONMONGERS,

RANGE AND STOVE MAKERS,

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Beg to call the attention of the Building Trade to their extensive and varied Stock of

IRONMONGERY AND BELL-HANGING MATERIALS,

PIPES, GUTTERS, &c &c.

At wholesale Prices,

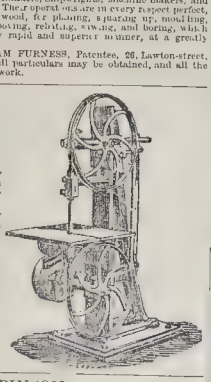
A full List of which can be had on application by enclosing a card.

N.B. A LIBERAL DISCOUNT TO THE TRADE

PATENT MACHINES for WORKING on WOOD. These celebrated Machines have been awarded a number of prize medals by many scientific institutions, and also by the Great Exhibition in London, and are now extensively used by the British, American, and all the principal Governments in Europe; also by eminent Contractors, Builders, Shipwrights, Machine makers, and other workers in wood. They operate on cuts in every respect perfect, either in hard or soft wood, for planing, squaring up, moulding, tenoning, mortising, grooving, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.

Sold only by WILLIAM FURNESS, Patentee, 26, Lawton-street, Liverpool, from whom full particulars may be obtained, and all the machines can be seen at work.

MACHINERY FOR SAWING, PLANING, MOULDING, &c.



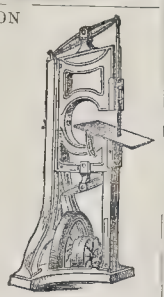
Price of Band Saw Machine, with 36-inch pulleys and 1¼ inch belt, £67.

Price of Band Saw Machine, with 24-inch pulleys and 1 inch belt, £47.

A descriptive Catalogue, with Drawings, may be had on application to SAMUEL WORSSAM and CO. Engineers, &c. King's road, Chelsea, London.

THOMAS ROBINSON and SON, ROCHDALE, near MANCHESTER, PATENTEES, AND Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW, for Cutting out Sweeps and Circles. Price 20l.



Drawing sent on application.

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PATENT GALVANIZED TINNED IRON and TILES, GALVANIZED IRON, PLAIN or CORRUGATED, and CURVED, of all Gauges. Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c. All kept in Stock.

Also Galvanized Water and Gas Tubing, Stamped and Moulded Gutters, Wire, Wire Netting, Hooping, Nails, Rivets, Pails, Bowls, Plate, &c.

Estimates given for Roofs, and every description of Galvanized Buildings, at the Works.

OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

JOHN WALKER, CORRUGATED GALVANIZED IRON MANUFACTURER, IRON ROOF, BRIDGE, and PORTABLE BUILDING CONTRACTOR Works—Millwall, Poplar Offices—Corner of Arthur-street West, City. Merchants and Shippers supplied, and Drawings and Estimates furnished.

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THE PATENT GALVANIZING and CORRUGATING IRON WORKS, Glass-house-yard, opposite the Custom-house London Docks (IMPROVED PROCESS.)

W. TEMPLE and CO. beg to inform the public and the trade that they are prepared to supply CORRUGATED SHEET IRON, GALVANIZED, Gauge or Black, of the best quality, at the most reasonable terms. By the new arrangements they can deliver any other articles that have hitherto ever been attempted. Sheet and Wire Work of every description. Estimates given for Houses, Roofs, Stores, &c.

TUPPER and COMPANY, Manufacturers of GALVANIZED IRON, and GALVANIZED TINNED IRON, In Sheets, Tiles, Iron Roofs, Houses, Cisterns, Tanks, Iron Fences, Telegraph Wire, and Stores Offices—81, Moorgate-street, E.C. London. Works— LIMEHOUSE, LONDON; BERKELEY STREET, BIRMINGHAM. Merchants and Shippers supplied Iron of every description galvanized.

TO IRONMONGERS, BUILDERS, &c. PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure Locks, &c. Manufacturers of Dr Arnott's Improved Ventilators. HULETT and CO. 53, High Holborn.

IMPORTANT TO ALL. THE TRADE SUPPLIED.

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HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed-box; and combine the most perfect safety with the greatest economy, both in cost and use.

ANGLE LOOSE-BOX FITTINGS, with guard-rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.

HOOD and SONS' STABLE-GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of iron top plates; are easily cleaned; and with their CHEQUERED DOUBLE TRAPS, form the safest and most complete surface drain for stables in use.—Works, Iron Works, Notting Hill, and Castings Ware house, 68, Upper Thames street, London.

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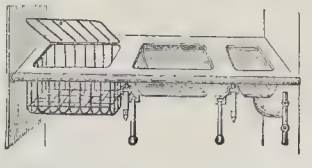

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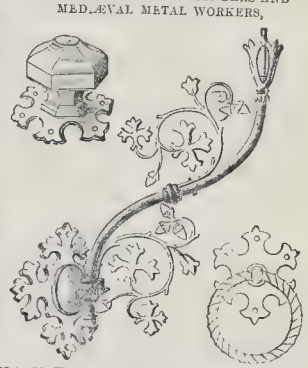

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The Builder.

VOL. XVI.—No. 816.

Hospital Construction.—Wards.

IN our former papers on this subject, we have considered the question of SITES and general arrangement of hospital buildings. We now proceed to discuss the question of Ward Arrangements, with reference to light, ventilation, and administration.

Without entering into any scientific discussion as to the effects of light on organization, it may be taken as proved, that light exercises a peculiar influence on the two elements of form and colour. And, as both of these properties in living bodies are intimately connected with the *nutritive* processes, we may safely consider it as certain that light is essential to the recovery of the maimed and sick. Experience in the more southern climates of Europe has determined the erection of houses for invalids in localities exposed to the full glare even of a southern sun, with which the rooms are flooded through a greater proportion of windows than would be considered safe by some of our medical men in colder climates. Very many of our civil hospitals would enable experiments to be instituted as to the injurious effects of absence of light on peculiar classes of disease. But the only experimental evidence we have hitherto obtained is that given by Sir James Wylie in regard to certain hospitals and barracks at St. Petersburg. In some of these hospitals there are rooms without direct light; and the sick and wounded treated in these dark chambers yielded only a fourth part of the recoveries when compared with patients treated in the light rooms. Nearly twice the number of invalids, it was also found, were received from the dark side of the barracks as from the light side. Dr. Edwards, who has paid particular attention to the effect of light upon health, has given equally strong testimony to its preventive and curative efficacy.

Altogether apart from scientific elements, common sense would lead us to anticipate such results.

Now let us see how light is treated by some popular physicians and ignorant nurses. In nine cases out of ten, a physician will draw down the window-blinds, and half shut the shutters, while an ignorant nurse will probably shut the remainder of the shutters—especially if it be a bright day—and draw the bed-curtains. We have the positive testimony of a well-known London physician, given in his report to the Netley committee, that "whenever he enters a sick-room, he takes care that the bed shall be so placed that the patient shall be turned away from the light." After this, we cannot blame army medical officers for not knowing much about the matter. An acquaintance of ours one day passing a barrack, saw the windows on the sunny side boarded up in a fashion peculiar to prisons and penitentiaries. He said to a friend who accompanied him, "I was not aware that you had a penitentiary in this neighbourhood." "Oh!" said he, "it is not a penitentiary—it is a military hospital. There is a great horror of light on the part of certain army medical men. I suppose," he added, "the medical officers are afraid the light will alter the shape of the men." Not a few civil surgeons, also, treat light as if it were an enemy.

In the teeth of all these popular fallacies, we assert that every sick-ward should be capable of being flooded by sun-light; and, consequently, that the windows should bear a large proportion to the wall-space in all hospitals. Experience appears to prove that window-space should not be in a much less proportion to wall-space of an hospital than one to two.

The next important question is, the amount of air required in an hospital, and how best to renew it.

In a former article we stated the amount of air absolutely required for the *chemical* purposes of healthy respiration to be a gallon per patient per minute. This measure, however, by no means represents the amount required for a continuous preservation of health. The great and constant movements going on in the atmosphere prove that the amount of change which nature has provided for healthy existence is unlimited. The test of the ventilation of a sick ward is the comparative freshness or impurity of the air. The interesting experience of Lariboisière appears to prove that about 4,000 cubic feet per bed per hour are required to ensure this.

There are two ways of maintaining the freshness of the air of a ward:—

First, by so constructing a building that Nature will renew the air, if left to herself, which is by far the best plan.

Secondly, by artificial ventilation—never to be used except as a *pis aller*.

If the hospital is badly planned, or if fuel be dear, artificial ventilation comes into beneficial operation; for it admits of economical warming, but it never *freshens* a ward like pure natural air from without. Every intelligent physician and nurse knows the value of freshness in the air of a ward. It is better oxygenated, and, perhaps, contains more ozone. But whether or not this be so, it is quite certain that a condition of ward-air is secured by open windows, and by open fire-places for warming, which is never obtained by the best ventilating machinery, especially if warm air be thrown in by it.*

Architects must therefore well consider how in every corner of wards, passages, and staircases, air is to be kept constantly *flowing*, —not air passing in a stray or in a strong current, but air gently moving.

This can only be done by having wards of a certain height and breadth, and by having a window for every two beds, the windows opposite.

We shall afterwards discuss the questions as to the size of wards, and the proportion of window-space; but, in the meantime, we lay down a principle of construction applicable to all wards, of whatever size.

Few greater mistakes can be committed in hospital construction, as far as light and ventilation are concerned, than placing the windows at *one end* of a ward, or even at both ends, with beds ranged down the sides, their heads to the dead wall. No greater mistake, we had nearly said, could be committed. But there has been a greater in the case of Netley Hospital, where, not only has this most objectionable principle of construction been adopted, but also that of covering the windows in on one side by a glazed corridor.

In an hospital similarly built, we asked the medical officer how his sick, who were men in the prime of life, recovered? His reply was, "I do not know how it is: but all my cases linger." The reason why the cases lingered was obvious enough. For, in the first place, the air of all the wards communicated by the corridor; and, in the second place, wards and corridor were so arranged that thorough ventilation was impossible.

In another such hospital we expressed to the medical attendant our surprise that every ward was so uniformly full of sick. He replied that it did not arise so much from fresh admissions, as from the fact that when he got sick into the hospital, he could hardly get them well again.

Our military buildings have been and are most unfortunate in their arrangements. The unhappy Netley Hospital has been copied in its wards and corridor arrangements from such places as Chatham Garrison Hospital, Woolwich Hospital, &c. In fact, there are few military hospitals in which the error does not exist in one form or another. It was hardly to have been expected that, given the same directors, Netley should have escaped the same fate. A great mistake and a lamentable misfortune is Netley Hospital. But let us hope we have seen the last of such fatal blunders in hospital building.

Having alluded to military hospitals, we may say a word about regimental hospitals. We have visited several of these establishments, and certainly we can but consider their style of construction as extraordinary. They generally resemble a small ill-planned village residence, belonging, perhaps, to the attorney or the doctor. There are usually a narrow passage, a narrow staircase, and small rooms, in which the sick are stewed up: these rooms have a window or two here and there, as if each building had been an especial victim of the window-tax. Buildings of this class have not such a thing as a proper ward. They have merely little bed-rooms, and everything else upon a little scale. As for light and ventilation arrangements, these have not attracted much, if any, attention on the part of the adapter. We hope that there may be some regimental hospitals on a better plan. We speak from a knowledge of such as we have seen; and, judging from these, we should say that a minimum of accommodation has been provided at a maximum of expense.

Besides arranging for light and ventilation, all hospital-plans should provide for the greatest economy in administration, consistent with healing of wounds and recovery of the sick There should be facility of superintendence and nursing. The wards should be of such a size, and, if possible, so arranged that the head nurse may have all her sick under her eye at once. This is especially necessary for night-watching. A single attendant can easily perform the duty of night-watching for many bad cases, if the beds are so placed as to be seen from a single point. The head nurse's room should have a window looking into her ward. It is highly important that patients, who must necessarily be in various stages of sickness or convalescence, should feel that they are continually under the eye of the head nurse. It is, of course, most economical to have one ward to each head nurse. The ward, therefore, should be large enough to occupy her whole attention; but not too large to render its ventilation difficult. Small wards

* These remarks on warming and ventilation are intended to apply to hospitals on the separate-ward, or "pavilion plan," in this climate. In France and in America artificial warming and ventilation are carried out, but the air is never so fresh as in a room ventilated by open windows. Fan and flue ventilation is used in the Lunatic Asylums of America; and the House of Representatives, at Washington, is also fan and flue ventilated. St. George's Hall, Liverpool, has fan ventilation, but our American friends smile at the costly character of the apparatus. The closed stoves and hot-water apparatus of Continental cities, may make a room feel warmer in winter, but the Englishman glories in his open grate and "sea-coal fire." The Americans consider fan ventilation more economical and more effective, than either the furnace or steam-jet plans. They warm by hot-water. We may have something to say on artificial warming and ventilation, as there are many public buildings for which these are alone practicable. Our great theatres are in a sad sanitary state, especially behind the curtain, and few of our concert-rooms are bearable.

cannot be overlooked with sufficient strictness unless, indeed, a head nurse is to be set apart for each—an arrangement which would enormously increase the expenses of nursing, without benefiting the patients.

A head nurse may adequately superintend a ward of from thirty to forty patients. But, if we are to be guided by the results of recent experience in hospital building, we should say that a ward with thirty sick, or thereabouts, is, upon the whole, the best for sanitary reasons, and this number of thirty we propose to fix as the ward unit for an hospital.

Much has been said about the benefits of small wards for from six to ten sick, about the greater comfort and privacy of such wards, and the greater facility for ventilation which they afford. It is simply an error to assume that small wards afford any such advantages. Privacy, in an hospital, does not extend beyond any two adjacent beds. As regards complete ventilation, the effect of angles in retarding an even flow of air has not been sufficiently considered. Direct experiment, made in the wards of the Lariboisière Hospital, has proved that the amount of air circulating along the centre of a ward is two or three times as great as it is near angles. Such a result might have been inferred. But the important practical point never seems to have been comprehended, that the difficulty of ventilating a given cubic space occupied by sick bears a direct ratio to the length of the corridors and to the number of cells or "wards" into which that space is divided. Unnecessary rooms, angles, or cupboards should be omitted in any structure. There should be no dark corners in any part of an hospital ward. Every recess or angle not easily overlooked is as injurious to hospital discipline as it is to hospital ventilation. Each pavilion should have a staircase, wide, roomy, well lighted and ventilated from above. The gradients of the steps should not exceed a rise of 5 inches to 12 inches tread, to enable patients to ascend and descend with facility. There should be as little passage space as possible, and none of it should be dark. The head nurse's room should be situated, as already described, with one window opening down the ward, and a window looking into the open space. There must be a separate scullery for every ward, adjoining the nurse's room, but having a separate entrance and a separate window to the open air. A lift will be found an essential means of convenience as well as of economy. Each ward should have bath-room, lavatory, and closets. On the male side there may be other necessary conveniences attached. The best situations for these will be at the ends of the wards, opposite the entrance. They should be separated from the wards by a partition wall with a half glass door. There should be a small lobby, lighted by a large window at the end, and from this lobby there should be doors opening right and left,—one to the bath-room and lavatory, the other to the closets, &c. The ventilation and lighting of these places should be ample and independent of that of the wards. No ward requires more offices than are here enumerated. There should neither be small wards nor dining-rooms attached to the large wards.

A ward for sick should not, as a rule, contain convalescents. This class of patients, under a proper system of hospital construction, should always have separate accommodation. Small wards for casualty cases, as already stated, should be built separately and be separately administered.*

In applying these principles it is necessary, first, to ascertain what ought *not* to be done.

Figures 1, 2, 3, and 4 represent common errors in hospital ward construction, which ought to be carefully avoided. Figure 1 represents the arrangement in King's College Hospital and in the new wards at Guy's, London. Figure 2 is the ward arrangement usually carried out in buildings which have been adapted for civil hospitals. It was designedly adopted in the military hospital, Portsmouth, as also in many other military hospitals. Figure 3 is the arrangement in a few ill-constructed foreign hospitals, as *e. g.* in one at Rotterdam. It exists at Chatham Garrison Hospital, and is to be perpetuated at the new Victoria Hospital, at Netley. Figure 4 shows the kind of arrangement in the wards and corridors in the old Royal Marine Hospital at Woolwich. These diagrams do not pretend to extreme accuracy; they simply indicate the arrangement.

These plans should be avoided for the future in hospital construction. They are contrary to every sound principle of sanitary construction, and can only be kept free from hospital epidemics by the greatest possible care,—hardly even with that.

We shall next state what ought to be done in applying the principles of hospital construction we have laid down.

The best principle of hospital construction is, as we have long urged, that of separate pavilions placed side by side, or in line. The former is preferable for large hospitals, for the reasons stated in our last paper.* The distance between the blocks should be double their height. There should be two flats in a pavilion, and one ward to a flat.

The hospital should be erected to form a square; the basement story of the pavilions being connected by a corridor, and the whole of the basements erected on arches.

The wards should hold from twenty to thirty sick: each bed should have from 1,500 to 2,000 cubic feet of air space allotted to it.

The following table exhibits the proportions of a ward for thirty-two patients. The first column gives the proportions of such a ward in the Lariboisière Hospital; the second, the proportions adapted to a larger cubical space, such as is given in our best hospitals in this country:—

	1.		2.	
	Feet.	In.	Feet.	In.
Length of ward	111	6	128	0
Breadth	30	0	30	0
Height	17	0	17	6
Wall spaces between end walls and windows	5	0	6	4
Breadth of windows	4	8	4	8
Breadth of wall space between windows	9	2	11	4
Height of windows	13	0	13	6
Cubic space per bed	1,760	0	2,100	0

It is undesirable to increase the width of any ward beyond 30 feet, because the distance between the opposite windows becomes then too great for efficient ventilation.

The proportions of a ward for twenty patients might be 80 feet long, by 25 feet wide, and 16 feet high. This would give about 1,600 cubic feet to each bed.

One window at least should be allotted to every two beds. There are hospitals with a window to each bed. The windows should be double, or be glazed with plate-glass, to prevent loss of heat. Tripartite windows, like those of Middlesex Hospital, are useful for ventilation. The ward-walls should consist of pure white polished Parian cement, or some other equally white non absorbent substance. Grey-coloured cements should be avoided: they never look clean; they give the ward a sombre appearance, and they hide dirt. The best ward flooring is oak. No sawdust nor other organic matter, capable of rotting, should be placed underneath hospital floors. The joints of the flooring should be well fitted together, so as to be impervious. Floors should be bees-waxed, or oiled and polished. The general baths of the hospital should be separated from the pavilions, but connected with the corridor. They should contain hot and cold water, sulphureous, medicated, hot air, vapour, shower, and *douche* baths. The kitchen should have walls and ceiling of Parian cement.

There should, as stated, be a head-nurse's room and scullery attached to each ward, and store presses in each ward.

The bedsteads should be of iron. The ward furniture should be of oak. The arrangements for water supply and drainage were discussed in a previous article. We have also pointed out already the best position for closets, lavatories, ward-baths, &c.

The ward construction, now described, is that which, up to the present time, experience has shown to be best suited for fulfilling all the requirements of ventilation, light, cheerfulness, recovery of health, and economy, in this country. It is embodied in the plan, fig. 5.

One great advantage of the proposed system of construction is, that it admits of any arrangement of the pavilions on plan, which is consistent with light and ventilation. Hospital establishments, so constructed, may be added to without difficulty and without altering, or indeed without interfering with any of the existing pavilion buildings.

The principles of hospital construction which we have now laid before our readers are a tacit condemnation of the majority of hospitals in the three kingdoms. It may be thought by some of our readers that we have expressed our opinions somewhat strongly. We have considered it necessary to do so, because, as we have shown, large hospitals are even now being built in defiance of the most ordinary sanitary principles, as to site and plan; and men have been found to defend these errors. Another opportunity is now afforded of retracing our steps. The noble bequest of Mr. Morley for the foundation of a convalescent establishment in the country, near London, may be a great practical advance in the right direction; and it behoves the governors of St. George's Hospital to take care that an institution of such importance is constructed so as to realize the benevolent intention of its founder.

Most of the great hospital and charitable institutions in this country were suburban at their foundation: the rapid growth of our towns in modern times has encroached so much upon space once country, that gardens and fields have been absorbed, and are now covered by bricks and mortar; and hospitals are surrounded by the screaming and roaring traffic of railways, street cabs, omnibuses, and waggons. It is due to the benevolent founders of our great charitable institutions, that their humane intentions should continue to be realized by removing the sick and maimed to pure air and quiet. It is due to poor suffering humanity that any plans adopted should be the most perfect modern intellect can devise; and it is no less due to the cause of charity that there should be the best and most economical form of hospital nursing and management.

The following is a summary of the principles of hospital construction contained in this and preceding papers:—

1. Never erect a general hospital within the precincts of a town, or in suburbs likely to be built upon.

2. Remove all large hospital establishments out of town, or from populous suburbs, as soon as possible.

3. Build all hospitals in the country, on areas of ground sufficient to admit of extensions of the buildings, and to prevent other buildings from being erected within such a distance as shall interfere with a free circulation of air and with quiet.

4. Select a dry and mild climate.

5. Give the preference to a porous self-draining sub-soil, and avoid ground saturated with organic matter, especially old graveyards.

6. Build all hospitals on arches, to admit of a free circulation of air underneath the ward floors.

7. Let the plan be simple, and have as few closed angles and corners as possible.

8. Do not provide for more than 120 patients or beds, under one double pavilion roof. If the hospital must contain a larger number of beds, increase the number of pavilions, but on no account increase their size. Connect the pavilions by corridors running between the ends, and no higher than the ground-floor.

9. Plan any hospital with no more than two flats, containing, in a single pavilion, two superimposed wards. Provide for convalescents and "casualty" cases in pavilions separate from the ordinary sick.

10. Provide for no more than 32 beds in a ward—16 on each side, with a window to every two beds.

11. Let the window spaces be, as near as may

* Convalescent establishments may be more on the ordinary villa or separate house system, than either on the "corridor and wing," or even on the "pavilion hospital plan." There may be a convalescent village, but not a convalescent hospital. Fence round the estate to secure isolation and order, but have residences affording separate sleeping-rooms to each inmate. Day-rooms, dining rooms, and reading-rooms, may be provided; as, also, airing and exercise grounds for inclement weather. Public or general gardens may be provided, as, also, small garden allotments for patients' amusement capable of out-of door exercise.

* See p. 609, *ante*.

HOSPITAL ARRANGEMENT: WARDS.

Common Errors.

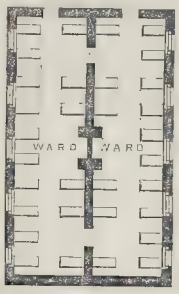


Fig. 1.

Fig. 2.

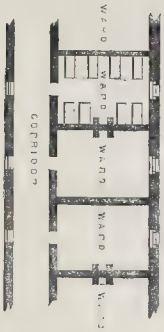


Fig. 3.

Fig. 4.

be, in the proportion of one to two of the wall-space. The windows should reach from within 3 feet of the floor to within 1 foot of the ceiling.

12. Wards should not exceed 30 feet in width.

13. Each bed should have from 1,500 to 2,000 cubic feet of air-space.

In very exposed and airy situations the smaller cubic space will suffice; but where, from the nature of the ground, there is not likely to be much horizontal external movement of the atmosphere, the larger the internal cubic space is the better.

14. Trust for pavilion ventilation to open windows and fireplaces. Artificial methods are, in this climate, unnecessary, with proper construction.

15. Place water-closets, ward-baths, and lavatories, at the far end of a ward, opposite the entrance, and, in addition to ventilating them, cut them entirely off from the ward by a separately-ventilated and lighted lobby.

16. Restrict the ward offices to a nurse's room and scullery, with a lift.

17. Let staircases be wide, roomy, and thoroughly ventilated up to the roof. Construct the stairs and entrance-lobbies of stone and cover them with wood.

18. Make hospital floors of oak, and walls and ceilings of pure white polished cement.

19. Supply hospitals with water at high pressure, and lay it on, hot and cold, over the whole of the buildings.

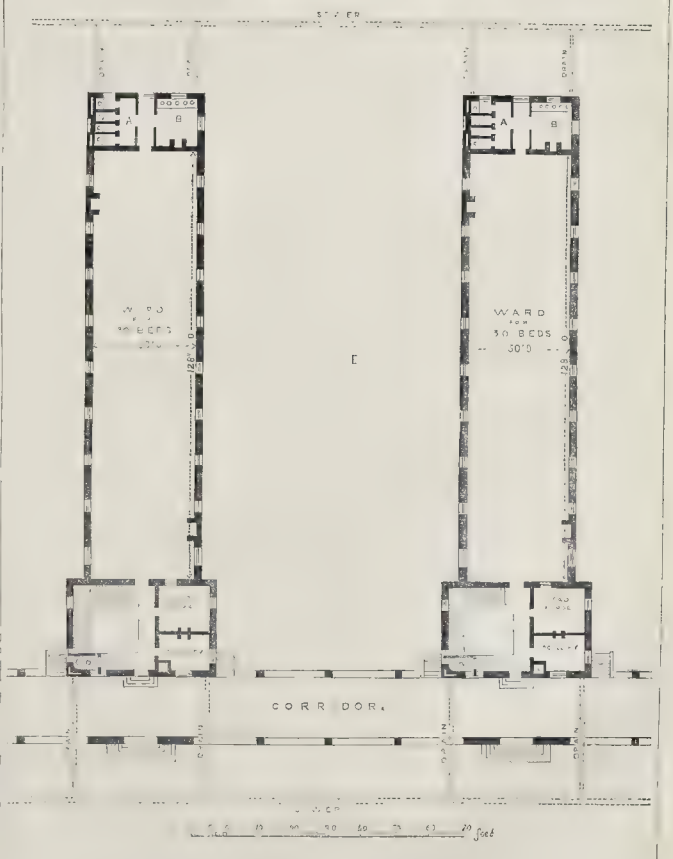
20. All sewers and drains must be outside, and detached from the walls of the buildings. Provide for their ventilation at a distance from the wards, and also for their inspection and flushing.

21. Provide garden-ground for exercise with properly drained and gravelled walks, sheltered seats for convalescents, and, where practicable, a promenade covered with glass for use in bad weather.

Other matters of detail, regarding kitchens, washhouses, rooms for hospital administration, &c. can be best decided on according to local circumstances; but none of these should ever be under the same roof with the sick.

The public hospitals of any country may fairly be taken as a standard of the knowledge and care of the governing body, or of civilization amongst a people. Commercial wealth, political freedom, and education ought to enable the inhabitants of Great Britain to set an example in this respect. Life is of more value in the British empire than in any other part of the globe, and the means to secure it to the latest periods (the full three score and ten of the psalmist) ought to be sought out and put in practice. Let us reform our hospitals now; and, as we improve our cities and towns, they will be less required.

DESIGN FOR A PAVILION HOSPITAL.



A. Ward Closets.
B. Bath and Lavatory.
C. Lift in Scullery.
D. Private Closet.
E. Ornamental Ground.
Ward Windows to be 4 ft. 8 in. in the clear.

NEW THEATRES: HOXTON AND WHITECHAPEL.

NOT long ago, some interest was attracted to the subject of the management of theatres,—especially in reference to arrangements for the comfort of the audience and their connection with the object of commercial success. It was affirmed, and plausibly so, that theatrical speculations were conducted, apparently as though it were the interest of lessees to foster distaste for the sort of entertainment, rather than, in managerial phrase, to *draw* the public to it. We lately alluded to one portion of the subject, and incline to the opinion that many improvements particularly mentioned at the time, were needed, and that there were others in the principle of theatre-planning and construction, which might have been brought forward and dwelt upon, and which still are not so near attainment as we should desire. We could of course instance the still defective and dangerous passages for entrance and exit which remain at some of the most frequented theatres. But this subject at least, in our pages, has been sufficiently prominent; and the importance of it, proved already by some calamities, has been once more shown by circumstances on the occasion of the panic at the building at Sheffield, appropriated to musical entertainments, but planned as a theatre, and called the Surrey Music Hall, where there was a repetition of what occurred at the building of the same name in London. On that occasion, whilst giving credit for great forethought in the provision of an ample number of staircases, we did not fail to notice details in their plan, as likely to occasion accident, and almost in the words of the evidence at the inquest in that case: in a series of articles, in the course of which we had to speak of London theatres, we instanced the plan of Drury-lane Theatre, as devised with full regard to the safety of the audience, and noticed the disuse of entrance-and-exit-ways that had been carefully provided in the first instance; and, repeatedly, we have dwelt upon the danger of the single exit-way, which is the common arrangement, and upon the case of Exeter Hall. It is, therefore, unnecessary that there should be the repetition of imputations on "our architects" by the leading journal, which have been somewhat common of late. The control of *architects* in these cases, and the mistake in not allowing it, is much the same as what we noticed last week in speaking of house building. The danger that exists is enormous. Instance the case of the National Standard Theatre, Shoreditch, where on "boxing-night" there have been present about 4,500 persons, all having to make their exit to the street by one way. But recently built theatres have been manifest improvements in the particular referred to. In many other respects, the theatres lately built, or now constructing, manifest new regard for the comfort of the audience, as in the provision of many adjuncts scarcely ever before deemed essential—if ever in such theatres as we have at this moment more especially in view, where now their presence testifies to the growth of improved habits, and to the prospect of the further growth which attention to such matters themselves will help to effect.

It is true that as regards planning, and as to "the auditory" (so called in distinction to the stage), there is the difficulty which architects will not be able to overcome without perhaps modifying in some respects the views of lessees—whilst deferring rightly, to any stipulations essential to commercial success. Those requisite stipulations may sometimes modify the form of the house, from the exact plan which the architect would, under the more obvious considerations of mere seeing and hearing, arrive at. Thus, we believe the plan of Covent Garden Theatre was based on the primary *datum* of providing in the circuit of the auditory, boxes for a definite number of subscribers; and that after sufficient attempts, it was found impossible to secure this accommodation by a plan more resembling in its form that of the ancient theatre, or, in other words, having less distance than is now usual from the boxes to the proscenium front—measuring along the major axis of the plan—and consequently a smaller number of boxes at the sides,—whence, as in most theatres, the occupants either cannot see the stage at all, or see what they are not intended to see, at one side, and not what they should see at the other; or have to look sideways as they are seated; whilst those who have the front view are certainly too far removed from the stage. There are, however, more serious defects in theatres than those arising from general formation on plan; and it deserves consideration whether it would not be better to admit only so many persons as could enjoy the performance, rather than have further sittings, and, as a consequence, a discontented portion of the audience. We have before this allowed that a plan like that of Covent Garden Theatre, may be deemed well fitted for operatic performances,—since in regard to these, mere hearing may be important, even though it be provided for in some parts of the house with loss in other features of the dramatic effect. We must, therefore, be understood to refer in these remarks to cases where *spectacle* and action must be main points, or as unquestionably they are required to be, in the ordinary drama, tragic, comic, or burlesque. But beyond the questions of contrivance we have been adverting to, as forming matter for consideration, others arise from the particular class of persons who may be expected in the locality in which the theatre-building is placed.

Many of these, from whatever part of London, who frequent the chief theatres, or extend their tastes, once in a few years, to Astley's or the Surrey, would be surprised to find the theatres that there are in the eastern part of London, which attract immense audiences, and which, with very low prices of admission, have proved the best-paying speculations. Theatres of this class offer points of interest for the architect, both in their special requirements and those which we are regarding as still to be provided for in all buildings for the drama; whilst there are many questions concerning the dramatic *art* itself,—its purpose and capabilities, and the means which it can use—that may there find elucidation and suggestion for wide application. The drama being that art in which story and action are essential, we have in these cases audiences to whom such elements of the art are almost exclusively the matter for appreciation. The audience must see something done, *veluti in speculum*; and at least as now, will be hardly satisfied with the finest sentiments written in poetry, or the most beautiful imagery only spoken. In this they but follow the bent of the natural taste recognised in the advice of *Hamlet*, that is for the acted drama as distinguished from the poem in dramatic form which is written to be read. Cannot this taste be elevated, and made to serve to greater extent than the drama has yet served, the cause of social progress and good morality? If so as we would hope, and as we believe, our subject is not merely one of professional interest for architects.

A theatre designed for the particular class of audience we have been chiefly thinking of, and with less distinction between the several parts of the auditory than there is between pit, boxes, and gallery in the chief theatres,—and, moreover, in which a good view of the stage may be called the requirement *par excellence*, should offer some hints applicable to what, speaking with reference to architectural effect and decoration, may be called more important buildings. There are just now two theatres in progress in London, which may usefully be looked at in this light. The Britannia Theatre, in High-street, Hoxton, and the Pavilion Theatre, in the Whitechapel-road, are the new buildings which we allude to. They are neither of them, as yet, roofed in, but are expected to be complete and open before the end of this autumn. They are planned for very large audiences, larger even than those of Covent Garden,—the prices of admission being moderate to all parts of the house: much importance is given to the pit and gallery, and the last-named portion of the house is provided more advantageously as regards seeing and hearing than the gallery in other theatres,—being better, of course, than the excellent gallery of Covent Garden Theatre, insomuch as it is nearer, whether by measurement of height or on the plan, to the stage. The Pavilion Theatre, however, assimilates in the plan of the auditory, as defined by the box-fronts, to that of Covent Garden Theatre; though the major axis, or that taken longitudinally on the general plan, is rather less in proportion to the diameter across the auditory, resulting therefrom a plan as much like in the effect as the present can be.

In the Britannia Theatre, in place of a semi-circle with lines prolonged for the plan of the boxes, the elliptical form is chosen, the major axis being, however, parallel with the proscenium front. But to show in what respect the actual plan here will be suited to a house which has to accommodate, at no great distance from the stage, a very large number of persons, we should observe that the curvature, on each side the auditory, will be modified at the space nearest the proscenium, from the ellipse, so that those who would be beyond the axis of the plan may not be seated so as to look in the opposite direction to that required, by which event the plan would have had disadvantages not found in the forms of the semi-circle, the horse-shoe, or the opposite elliptical curvature. The boxes, therefore, here will be retrenched, or the space across between the box-fronts from side to side) at the proscenium extended. Between this line of front of the proscenium, and the curtain opening, there will be splayed sides,—containing, indeed, private boxes disadvantageously situated for view of the stage, though not such as are supposed to be required, except for persons connected with the establishment,—and in the same space on plan, the orchestra, of about 5 feet in breadth, will be placed. The endeavour seems to be to give all available pit-accommodation, even at the expense of the stage, in preference to a defined projection of the orchestra and stage into the auditory. The difficulties of theatre-planning resolve themselves very much into the question of appropriation of those parts of the plan next the proscenium, which we have spoken of. The practice has been to get over the difficulty by placing the private boxes in what are in many respects the worst parts of the house; because back seats in such boxes are practically not needed. The case, however, is different where all space provided must be considered as likely to have its occupants. The filling-up of these *lowers* of the house, chiefly by providing additional staircase communication there, as needed between different floors, and conducive to ready escape, has been preferred in the Hoxton and Whitechapel Theatres, as in the Adelphi, lately noticed, to the having seats where they are useless. Further attention to such points, however, is needed; and equal staircases in these very parts of the building have always communication with side streets, they would be the most valuable means of escape. It may be impossible to get this on the present sites of theatres; but we think such an arrangement should be enforced by law, and that theatres are buildings which should be isolated.

The site of the Hoxton Theatre may be described as two parallelograms of ground, where of one, next High-street, 36 feet by 52 feet, is appropriated to a tavern and two entrance-ways,—and the other at the back, 150 feet by 110 feet, is occupied by the theatre and its accessories—as promenades, scene-painters' rooms, and carpenters'-shop. Between the two main buildings is a corridor, to be covered with glass. Into this, both the entrances lead; and it is united by wide archways to a similar space in the theatre building, at the back of the pit, the whole together forming a promenade of 50 feet by 30 feet, from which access is gained to the pit, and by the staircases to the other parts of the house. There are three tiers of boxes at the sides of the house; but in the centre, the space corresponding in height with the two upper tiers is occupied by one large gallery, which extends to the full height of the building, or over the saloon, which itself corresponds with that part of the promenade which is immediately attached to the pit. The pit extends under the lower tier of boxes. It measures 76 feet in width, and is 58 feet from the back wall to the orchestra front. The stage is the same width 76 feet, and it measures 60 feet from the foot-lights to the back wall. The curtain opening in the proscenium, is 35 feet across and 36 feet in height. A portion of the pit is arranged as stalls. The accommodation in that floor is estimated at 1,000 persons seated (1,000 in the general area, and 200 in the stalls); but bringing into consideration the standing room in the promenade and at the back of the pit, it is thought the total number will be 1,500 persons. The admission to the stalls decided on, may be 1s. and to the pit 6d.

The seats in the lower tier of boxes are divided into two classes by framed partitions. The divisions nearest the proscenium will be occupied by persons paying perhaps 2s. 6d. for admission; and the centre division by persons paying 1s. The whole accommodation in this tier will give 600 sittings; but it is thought that standing-places in the refreshment-room gallery, will raise the number to 650 persons. The side boxes in the upper tiers, to which the admission decided upon may be 1s. 6d. and 1s. respectively, and the great gallery to which the admission will probably be 1d. will altogether hold 1,250 persons; whilst the sum of accommodation in all parts of the house at 1 foot 6 inches to each sitter, will be 3,250 persons. We have been particular to state these matters, because they are all important to the consideration of many of the questions which we adverted to in our opening remarks, and which may deserve some further allusion. The two entrances from High-street, are each of them 14 feet wide. There are in all five staircases; one of the number, however, is merely a staircase of communication between

different parts of the house. Leading out from the ends of the promenade, are two staircases to the boxes, each 5 feet wide, and at one end is a staircase of the same width to the galleries. The other staircases are those placed as before noticed. The refreshment-room to the boxes, is 50 feet by 60 feet; and the floor is to be fire-proof. Three doorways of 4 feet opening, and others of 4 feet 6 inches, give access to the boxes of the two classes on this tier. All doors are to be made to open outwardly, and within the thickness of the walls. Cisterns and fire-proof cocks are to be provided. In case of a rush from the house, escape in addition to that by the 14-feet ways, could be afforded by removal of some light framed partitions, separating the inner bar of the tavern from the outer bar, or that next the street. The arrangements for the refreshment department, and in the provision of various conveniences, are extensive, as they are required to be from the practice of the house to avoid trouble in checks and re-admissions. Besides the tavern and the refreshment saloon of the boxes, there will be a refreshment court communicating with the pit promenade, and measuring 28 feet by 25 feet, and an open court on the opposite side, 50 feet by 15 feet. The main walls are 2 feet 3 inches in thickness at the piers, which carry the roof principals, the recesses being formed with arches above, and inverted arches below. The greater portion of the brickwork is laid with mortar, composed of pounded brick from the bricks of the old buildings, ground and mixed in the machine with the lime and sand. By this, saving will have been effected. The brickwork in all respects appears to be particularly well executed.

The fronts of the boxes are supported by tiers of cast-iron columns, which also receive the ends of the trusses of the galleries, and hand-rails of the box-fronts in certain cases. The manner of the connection between the timber construction and the iron work, may be sufficient; but in some respects varies from the most approved arrangement. The columns in certain parts, are cut through for the end of the rail or other timber, in place of having a shoe "cast-on" the column. There must be some difference in the strength of the shafts in consequence. In each principal to the galleries and boxes, the end of the tie-beam passes entirely through a slot cast in the column; it is there bolted through, and further secured by three bolts to a flange: the other end of the tie-beam rests on a stone corbel in the wall, and is secured by an iron strap, which is hooked on to a 3-inch by ½-inch wrought-iron bond plate. The latter continues round the building; is fixed in the centre of the wall, and secured to the outer face by straps and bosses. The head of each principal is attached to "bond" in a similar manner. The principal rafters carry purlins for the fixing of the seats. From the peculiarity of the plan, a different mode of framing had to be adopted in each principal. The roof truss, for a span of 76 feet as commenced, appears of very simple character compared with other trusses for roofs of theatres. It is a queen-bolt truss with the smallest number of members, the bolts being 2½ inches wrought iron; the tie-beam, 14 inches by 9 inches, or 15 inches by 9 inches at the stage end of the building; and the principal rafters, 12 inches by 9 inches. By nuts between the shoes of the struts and the tie-beam, the struts can be screwed up, and the principals cambered without raising the tie-beams. The truss is considered to have been fully tested: but it should be mentioned, that there will be no carpenter's shop, no painting-room, and but little storeage of properties in the roof, or thereabouts. The manager thinks there is a lesson from the fact that so many fires have commenced about the roofs of theatres: he also feels that he cannot have the proper supervision of work done in such a lofty region; and in good time, he elects to have things under his eye. The fly-floors are carried by trusses, supported by the walls; and such weights as it may be necessary to suspend from the truss, it is proposed to have hung from the queen-heads, and to have little strain on the tie-beams. Above the collar-head of the truss, a supplementary truss is placed for the ventilator which runs from end to end of the building. For the ventilation of the several tiers—pit, boxes, and gallery openings in the external walls, eighteen on each side of the house, and measuring 3 feet by 2 feet, are left near to the ceilings. They are to be filled with moveable louvres. The enrichment, 17 feet by 14 feet, in the centre of the ceiling over the pit, also, will be designed with reference to the free escape of air into the roof, itself ventilated by the louvres already mentioned.

The decorative details as at present in hand, do not seem to us equal in merit to the other parts of the building. This is to be regretted, as the oval form of the ceiling, and the novelty of the design in many of its features, offered an opportunity for effect, such as only the hurry in which works of this class are conceived and finished, can have prevented the advantage of. The fronts of the principal tiers have the inverted ogee form of section, and will probably receive some enrichment. Over each column will be a seated figure of Britannia, surrounded with laurel and oak-leaves. The splayed sides of the proscenium, in which are the private boxes as mentioned, will be bordered by detached shafts, with spiral fluting or enrichment, with ornamental brackets as capitals and a cornice. From the brackets will spring the ribs forming the pendentives, and the support to the outer rim of the oval ceiling itself. The ceiling is to be coved and divided into four external compartments and the centre space already mentioned. The enrichments are being executed in *carton-pierre* and *papier mâché*, by Messrs. White and Parlby.

The front to High-street, comprising that of the tavern, with the entrances to the theatre, will be of stone, save the ground story, which will be in cast-iron. Piers, or pilasters, with ornament carved thereon at the upper part of the shaft, a plain cornice, and windows with moulded and splayed reveals, are the chief features. The building is being erected for Mr. Samuel Lane, and the architects are Messrs. Finch Hill, and Paraire. The builders are Messrs. Hollands and Hannen. The building was to have been completed by the 30th of October; but a recent strike of the labourers may prevent this.

We must speak of the Whitechapel Theatre next week.

OCEANIC TELEGRAPHS.

THE first submarine telegraph that was laid, namely, on the Dover and Calais line, delivered only *one* message, when its continuity for ever ceased. That did not prevent its enterprising projector, Mr. Brett, however, from laying down another; and another *was* laid, and was not only permanently successful, but paved the way for all subsequent triumphs. Now, the first great ocean telegraph, the Atlantic, delivered *many* messages ere its continuity ceased,—if, indeed, it can be said to have even yet ceased; for, though unintelligible, it has been stated that signals still continued to be received at Valentia. Whatever be the ultimate fate of this one cable, however, it matters probably as little to the ultimate success of ocean telegraphy as did the *failure* of the first of all submarine telegraphs,—indeed, much less, for the fate of submarine telegraphy altogether—that of the great oceans inclusive,—was involved in the final success of the first submarine telegraph in the British Channel. The perfect practicability of laying such cables safely in any ocean throughout the wide world has now been fully established; and men of enterprise, whatever may become of the individual cable just laid, will never cease in renewed endeavours till the grand end be accomplished.

It may be, however, that some changes of principle in the construction of submarine cables of such lengths and for such depths may be advisable. Although Mr. Whitehouse proved the possibility of telegraphing with facility and certainty through a thousand miles of wire or more, it must be remembered that this wire did not extend through a thousand miles of ocean surrounded by its natural electrical, magnetical, and calorical influences; and that however excellent gutta-percha or any known substance may be as an insulater, *there is no such thing as an absolutely perfect and total insulater known*, as Professor Faraday, we think, long since pointed out. Although the natural electricity of a limited area or circuit of space, in which a thousand miles of wire may be coiled, therefore, may *not* be sufficient to influence the circuit through that insulated and yet conductor-encompassed wire, the natural electricity extending through a thousand miles of ocean *may* be capable of very seriously influencing such a circuit. The extreme conductibility even of the warping iron wires with which the telegraphic lines are surrounded, though tarred or pitched, may exert an influence in such a case,—adverse or otherwise, according to circumstances, notwithstanding the intervention of the insulating gutta-percha and the hemp, on the one hand, and the tar and pitch on the other.

The directors themselves, some time ago, pointed out the possibility that even "the perturbing influence of terrestrial magnetism, especially during the occurrence of magnetic storms, may prove, to a certain extent, troublesome: it is so even on shorter circuits." And accordingly the Atlantic Telegraph has already been "violently disturbed," it is believed, by magnetic storms. Was it wise, then, to wrap the copper lines in so massive and complete a cylinder of *iron* wires as those which envelope the core? A great part of the strain-resisting power of the iron was of course required for the additional weight of the iron itself; and may it not hence be ultimately found that the lightest and thinnest possible rope, comprising as little as may be of what one may call this worse than useless *dead* weight, would on the whole be safer, as it certainly would be easier to lay, and of less importance as a loss in case of accident? If Lieut. Maury fathomed the depths of the Atlantic with a mere "lead" line, bringing up not only the line's own weight, but the heavy apparatus for sinking it, and also specimens of the shelly bottom, why should not even the lightest of lines be able to bear its own weight either in laying or in lifting? The tremendous forces of nature may often best be coped with by slight means rather than by a vain attempt to outvie them in ponderous counteractives. Should the strength of metal be considered indispensable, however, it might still be partially used in aid. Copper wire would be more costly than iron as a covering, but a thin and light warp of it would at least be less likely to exert a disturbing *magnetic* influence than a far more ponderous and thicker mass of *iron*. Even thin steel wire would be preferable to thick and heavy iron wire. Were the electric wires (which are scarcely thicker, each of them, than a silk thread) coiled *round* a good tough light hempen cord, so as to allow for the stretch of the rope under strain, and well insulated above that with gutta-percha (especially if a somewhat more elastic form of it, or an insulating combination with India-rubber could be discovered; but bas it been clearly proved, by the way, that India-rubber could not be made a sufficient insulater?), the whole might then be finally encased in an outer covering of rope well tarred and pitched; and perhaps such a cable, kept within very moderate dimensions as to thickness and weight, would be preferable to the comparatively ponderous one already laid. A certain increased thickness of the insulating substance to that yet in use may be requisite in ocean telegraphs to secure a sufficient insulation. Again, may it not be found requisite, even where the cable is otherwise made as at present, to combine the gutta-percha with some interweavement of rope material *round* the copper wires, in order to prevent the possibility of these wires approaching too closely, by pressure or otherwise, to the outer surface of the gutta-percha, on any one side of it? We have described an instance in which the wire in the core lay covered on one side by a *mere film* of the gutta-percha, almost the whole thickness lying at the opposite side.

This point is of all the more importance when it is considered that it is well known an interruption of electrical communication may be caused by a single hole through the gutta-percha no larger than sufficient to allow a single hair of the human head to pass anywhere between the wire and the outer casing of iron or the water; and that at any one or more points, in course of the whole length of 2,000 miles of cable. We are quite aware that the core is warped with hempen material; but that is *above* the gutta percha, and cannot keep the electric wires precisely in the centre of the insulating covering, as it would nearly do if itself covered with the gutta percha.

In short, the retarding or interferent influences said to have been at work on the Atlantic cable as well as the more fatal damage which, it is feared, it has sustained, may lead to useful suggestions and to valuable discoveries for future service.

M. Babinet, of the French Institute, writes to the *Débats*, to say, that in a conversation which recently took place between himself and several eminent French electricians, the conclusion was come to, that it was next to impossible to obtain a satisfactory result from such a conductor as the Atlantic cable. It appeared that the electric current running along a wire *surrounded by other metallic threads* produced a powerful electrical discharge, which gave signals altogether foreign to the despatch transmitted. The same thing took place, he avers, when the cable was first laid across the Channel, but was obviated by the weakness of the return currents, [as well as by oceanic encrustations?] and by employing an apparatus not too easily acted on by the discharge of the fluid. The telegraph between France and Algeria, however, is said still to present the same difficulties. It is nearly the same thing, he adds, that would take place in a room where the

echoes are very powerful; and where, after uttering one sound, the speaker must wait until the echo has died away.

From another source we learn that it is indeed found, or rather that it was found before the stoppage, that in the passage of an electrical signal across the ocean not only is an appreciable time consumed, but the signal itself changes its original character. It is described as being "stretched out," to use the most apt figure appreciable to so novel a subject. A signal which on a short line would come out promptly and sharp, like a staccato note, is drawn out, and has something of an organ-like swell, and this appears to corroborate M. Babinet's idea of an echo. Since Mr. Whitehouse, therefore, did not observe such phenomena in his preliminary experiments, it does appear that the circumstances differ, in the way, and for the reason, we have suggested. It is our belief, moreover, that every material substance has its natural or constitutional measure of latent electricity, as well as of latent heat; and this, too, ought to be considered; and it may afford a reason why there is no such thing as a total insulater, and may enable electricians to obviate and overcome any difficulties which may have arisen from too great a reliance on insulating power in great lengths of telegraph—not coiled up in a limited area, but extended from one part of the world to another.

The alternate use of positive and negative, as we have before noted, must have decided advantages; but have the possible disadvantages been either well considered or sufficiently obviated? Have the respective influences of the negative and the positive on the insulating gutta-percha been carefully observed? If the negative be more analagous to heat, and the positive to cold, as we have frequently shown reasons for believing, the positive may be decidedly beneficial in its collateral influence on the gutta-percha, while the negative may be very seriously the *reverse*: and although the one will in all probability be counteractive of the other's influence, damage *may* occur to the insulating gutta-percha by the transmission of the negative which no subsequent transmission of the positive may adequately compensate or amend. In fact, gutta-percha, from its extreme fusibility, or facility of softening and melting by heat, *may* turn out to be by no means the best insulater where the negative is brought so continually into play along with the positive through the wires, as in the Atlantic Telegraph. The case may be precisely the reverse, but still the argument holds with equal force in the alternate use of the negative and the positive, whether it be the negative *or* the positive which is most analagous to heat. The positive, we know, where there is an interruption of circuit from a fault in the gutta-percha, will cause it to melt very fast; but that may arise from the access of the negative attracted from the ocean to neutralize the positive when it has lost its insulation. We make all such suggestions—not from any decided or special reason for belief that what *may* be, in reality, *must* be, or probably *is*, the case; but merely to show how much consideration *may* be requisite, and how many questions may require to be fully investigated and decided ere *the best possible* oceanic or other submarine telegraph cable can be invented.

Messrs. Newall, it is said, have offered to lay down a second cable across the Atlantic for 200,000*l*. They had better wait a little longer, perhaps, ere they decide on the *best mode of constructing* such a cable, and not by so hasty a procedure *secure* a second failure, which would, we fear, be fatal, for some time, to our hopes of ocean telegraphy.

PRESERVATION OF STONE.

FROM whatever cause it may arise, certain it is that many of our best buildings exhibit a state of premature decay. Whether the Caen stone, the Yorkshire dolomites, the Bath oolites, or the Portland stone, have been employed, we see to a greater or less extent this disintegration going on. In some cases it appears as a breaking up of the cohesive power, or a giving way of the cementing material under the influences of the air; and the surface is washed away, or blown off, by rains and winds. In other examples there is an exfoliation of the stone, either by the formation of crystaline matter between the laminæ, or by a change taking place on the most superficial layer, which occasions it to separate from the layer immediately beneath. Whether this destruction is due to some peculiar atmospheric agencies arising from the conditions of a denser population than formerly, or to the want of care in the selection of the stone, is not a question to be discussed at present. In nearly every recent building throughout the metropolis we have examples of this premature disintegration; and the problem for solution by the architect, builder, or by the chemist, is,—the means of prevention. Numerous plans have been proposed, some of which have been moderately—and but moderately—successful; while others must be regarded, in many ways, failures. Paint has been applied in some cases; but it is a sad—a discouraging—thing to be compelled to daub over, with oil and white lead, an expensive stone building. Drying oil, resin, soap, and other organic preparations, have been tried. To each and all of these the same objection applies. Oxygen never ceases to act upon an organic surface, that action being more or less rapid, according to the exposure of that surface to light. The sun and the oxygen of the air soon so far break up the surface thus prepared, that it is speedily removed and the stone left unprotected.

Attention has just been directed to an interesting experiment which has been tried upon the Baptist chapel built by Sir Morton Peto, in Bloomsbury. The Caen stone was found to be in some parts in a lamentable state of decay, and a committee was appointed to consider the best means of preservation. Mr. Frederick Ransome's process was one which came under consideration; and, on examination of experimental results, led to a determination on the part of the committee that Mr. Ransome should try his process upon the towers, the stone of which was more decayed than that of any other part of the building. The general appearance of the towers, and the promise of high preservative property, determined the committee to subject all the stone in the building to this silicifying process. The entire front of the chapel has been finished, and, as far as the appearance is concerned, is quite satisfactory; and the silicious surface is so hard, that there is good reason for supposing that a greatly increased degree of durability is given to the stone.

The principles upon which this process depends, and the process itself, must be explained.

For some years Mr. Ransome has been manufacturing artificial stone, by cementing sand together by means of silica (flint) dissolved in an alkali (soda). This soluble glass has been used on the Continent, and, indeed, in this country, upon the surface of plaster-works and of fresco-paintings. The defect of this was the decomposition of the alkaline silicate by the carbonic acid of the air, and the appearance of a white dust (silica and carbonate of soda) on the surface so treated.

Mr. Ransome endeavoured to ensure the production of an insoluble silicate *within the stone*, and thus to produce a non-absorbent surface,—at the same time as a new and powerful cementing material entered actually into its composition.

The mode of effecting this is simply as follows:—The stone of which a building may be constructed should be first cleaned by the removal of any extraneous matter from the surface, and then brushed over with a solution of the silicate of potash or soda (the specific gravity of which may be varied to suit the nature of the stone or other material). This is followed by a solution of chloride of calcium (in solution muriate of lime) also applied with a brush. The lime immediately combines with the silica, forming silicate of lime in the pores of the stone; while the chlorine combines with the soda, forming chloride of sodium or common salt, which is at once removed by an excess of water.

Experience, it is stated, has shown that, when once applied to the stone, it cannot be removed unless it be by the destruction of the surface itself. Samples of stone, varying in character, have been treated, in part, with this silicate and the solution of lime. These have been exposed to the heats of summer and the frosts and rains of winter. All the portions which have been silicified have resisted change, and remained quite perfect; whereas the other parts have undergone rapid disintegration. If, then, by this process, we can, as the patentee professes, "render the softest and most friable stone impervious and imperishable, arrest and prevent decay, whilst the natural colour of the stone is preserved," its great value is evident. A good example is now before the public in the Bloomsbury Baptist Chapel, and we advise that the result be carefully watched.

THE PEACOCK AS AN EMBLEM.

As you have given place in your journal to a critique on Mr. Eastlake's interpretation of the peacock, which is seen in the frescoes lately discovered near Rome, I trust that you will not refuse a few lines in his defence.

In Mr. Hamilton's collection of Christian rings, purchased a few years ago by the British Museum, there is one, of the seventh or eighth century, which elucidates this question.

Gems of this date are of extreme rarity, and the one in question is amongst the finest known. It is an oval blood-stone, with a palm-tree in the centre; on each side a peacock; and the inscription, ΑΝΑΣΤΑΣΙΣ ΤΟΥ ΔΗΜΟΥ.

The *φοινιξ* of course signifies the Resurrection; but as it will hardly be alleged that the peacocks represent the *demos*, we are entitled to regard both emblems as significative of the Resurrection. In other early Christian monuments the peacock has the same meaning, but at this moment I am unable to quote them. They are, I believe, few in number.

Paris. J. H.

THE CHURCH OF ST. ANTONIO, PADUA.

Mr. Norman Shaw's "Architectural Sketches on the Continent."

IN a recent number we mentioned the publication of this work, and bore testimony to its beauty and usefulness. To give our readers a clear idea of the character of the work, we have engraved one of the illustrations—a view of the church of St. Antonio, in Padua, as drawn on the wood by Mr. Norman Shaw himself.

In the year 1231, the citizens of Padua determined on erecting a church in honour of their patron saint, St. Anthony; and having selected for their architect, the celebrated Nicolo da Pisa, the building was shortly afterwards commenced. There can be little doubt but they were anxious to erect a church which should, if possible, surpass that of St. Mark, at Venice, the fame of which had by this time penetrated to all parts of Europe; and it has been thought that it was this spirit of rivalry which led to the adoption of the number of domes by which the exteriors of both churches are distinguished; and that these features were dictated to the architect of St. Antonio by his employers, in order to facilitate a comparison between the two churches, which they, no doubt, hoped would ultimately prove entirely to the advantage of their own; for, in the two great churches of the Frari, and of S. Giovanni e Paolo, in Venice, commenced shortly after, and both under the direction of Nicolo da Pisa, all disposition to use the dome seems to have been entirely abandoned.

The result of their ambition proves that they must have miscalculated the means at their disposal, at least as far as materials were concerned; the marble veneering, the porphyry and verd-antique shafts of the exterior of the Venetian building being, in St. Antonio's, represented by prosaic brickwork, very meagre in design; whilst in the interior the simple whitewash of the domes is but a poor substitute for the glorious mosaics of which the Venetians were so justly proud. It may also be doubted whether the increase of interior height is, in the case of St. Antonio's, any improvement.

There is one part, however, in which the architect was eminently successful, viz. the admirably composed east end (shown in the view). It was finished about the year 1307, with the exception of the cupola over the choir, which was not added till a century later. It is built entirely of a beautiful red brick, mixed with a grey and cream-coloured stone. The stone is used in the shafts and bands, and with great effect in the cornices and string courses of the towers. The pointed arches in all the cornices are cut out of blocks of grey and white stone alternately, the arched form being merely sunk out of the stone. The lead of the domes is bleached with long exposure to the weather, and forms a beautiful contrast to the warm tones of the building, of which unfortunately the woodcut can give no idea. In the interior the two transepts are occupied by chapels, that in the north containing the shrine of the saint, an elaborate work of the Renaissance period, commenced in 1500, by Giovanni Minello, and continued by Sansovino, but not completed till 1553. The lower portion of the south transept (of which the upper portion is shown in the view), is entirely occupied by the chapel of Sta. Felice. It is separated from the body of the church by a screen of pointed arches, of the red Veronese marble: the walls and vaulting of the chapel are covered with frescoes, dating from about 1376, by Jacopo Avanzi and Aldighiero da Zevio, displaying great skill both in composition and colour.

Mr. Shaw has been fortunate in placing before the public illustrations of several buildings heretofore but little known.

THE CHURCH OF ST. ANTONIO, PADUA.

DR. LETHEBY'S REPORT ON DISINFECTION OF SEWAGE, AND SEWER-VENTILATION.

OUR readers will have held in recollection, the position in which, it appeared, the sewerage question stood at the date of our last article, after we had found that the project of the Board of Works failed to provide for the innocuous conveyance of the sewage to any given point—even assuming that the nuisance could be there effectually got rid of. We last noticed the proposals which had been made for removal of the *effluvia* by mechanical contrivances or ventilation, and came to the conclusion that chemical agencies in the sewers themselves, or at the points of dejection in the system of sewerage, would have to be in some manner brought into operation, and were, indeed, indicated as the means, in the Report of Mr. Haywood, even more clearly than he seemed to admit to himself. We dwelt upon the necessity of further investigation of the chemistry of putrefaction, and of the discovery of agents for arresting or neutralizing *effluvia*,—many such, however, being already known, and only wanting the contrivance for their mechanical application, and with due regard to economy.* That part of the reference by the City Commission of Sewers to their Engineer, and their Medical Officer of Health, which has been taken up by the latter, therefore, is one of the utmost importance. We turned to his elaborate report with interest, and, indeed, anxiety, and shall await Mr. Heywood's mature conclusions from such *data* as may be now freshly opened to him. Our comments on what Dr. Letheby says, and any views of our own relative to disinfection and other agencies for purification, must be postponed.

Mr. Haywood, it will be recollected, allowed it to appear that he was amongst those who thought that "great exaggeration, if not total misapprehension," existed upon the subject of "the pernicious influence of the chance emanations from gullies." He had asked whether it was "proved" they were "to be feared when diluted to such an extent that they are no longer offensive to the sense of smell?" And before the Parliamentary Committee he expressed more decidedly his doubts on the point. Dr. Letheby has therefore thought it necessary to preface his chief statements with a description of the physical nature and chemical composition of the miasms to be dealt with, and their action on the animal economy—into which he has inquired afresh, to place the subject on a secure basis. He refers to the old epidemics, as those of the Middle Ages; but says, although we have largely profited by the lesson, it is evident we have much to learn before we shall fully "dispel the ignorance which can permit so false a faith as that there is no danger from putridity and filth when they are no longer offensive to the sense of smell." He then examines into the composition of sewage, which varies very much with density of population; from habits of the people, and trades; and with seasons of the year, day of the week, hour of the day, and even state of the weather. Precise information, therefore, is rather difficult to be got at. But by the synthetical method of "ascertaining the average amount of solid and liquid matter contributed by each of the inhabitants," and the analytical process of "examining the sewage at different places and at different times and sewers," he arrives at results which he thinks sufficiently accurate.

"Altogether it may be said, that the 'ejecta' of the inhabitants of this metropolis, and the washings of the streets daily furnish about 233 tons of solid matter to the sewage, and these, with the trade refuse, are diluted with about 84,750,000 gallons of water."

The analytical results are given in a series of tables, which show:—

* * * * "that the day sewage of the city contains about 94 grains of solid matter per gallon, of which 38 are suspended and 56 dissolved. Of the suspended, 17 are organic and 21 mineral; and of the dissolved, 15 are organic and 41 mineral. The night sewage is not so rich in solid elements, for it contains only about 70 grains of solid matter per gallon, of which 14 are suspended and 56 are dissolved, and of these 15 are organic and 64 mineral, the organic being distributed very evenly between the soluble and insoluble constituents.

Taking the average of all the results obtained in the examination of the metropolitan sewers, it may be concluded that the sewage which flows into the Thames contains about 80 grains of solid matter in the gallon, of which about 30 are suspended, and 50 dissolved, and about 15 grains of organic matter in each of these constituents.

The mineral constituents of sewer water are chiefly carbonate of lime and common salt, with small proportions of the alkaline sulphates and phosphates. They are derived from urine and from the supply of water. The mineral part of the insoluble matter consists almost entirely of the debris of the streets, and the detritus of wheels and horseshoes. These amount to about 15 grains per gallon, which in the aggregate is as nearly as possible 81 tons per day for the whole of the metropolis, or 19 for the city. I am not able to apportion the several constituents of the 116·61 tons of solid matter, which are daily discharged from the city sewers, for there is a difficulty in ascertaining the precise extent of the area drained and the number of the population; but if we take the sewage of the whole of the metropolis the difficulty disappears. Then, of the total amount of 488·5 tons of solid matter contained in the sewage of one day, about 152·50 are the 'ejecta' of the inhabitants, 81·08 tons the pulverized granite and dirt from traffic on the roads, 102·61 tons from the solid matter contained in the water supply, and the residue 152·76 tons from trade and manufactures. The total amount of organic matter in all this is about 213·14 tons, of which half is in a state of solution, and the rest is suspended."

He then pursues the difficult question of "The Putrefactive Decomposition of Sewage," and that of "The Nature of the Sewer Gases." Though under ordinary circumstances, the solid matters would not ferment in less than three or four days; in sewers the catalytic and other influences are so strong that putrefaction begins at once; and the tendency of old sewage to direct and accelerate the decomposition of what comes in contact with it, lasts for weeks after such sewage has ceased to ferment. Blood, sugar, fæces, urine, and other fermentable bodies are rapidly changed by it, and evolve compounds of the most offensive character. Many intermediate products of decay there are which chemists have not yet investigated; and little is known of the part played by atmospheric air in sewers beyond this, that when oxygen intervenes in the molecular movements, "it gives birth to mineral products, as water, carbonic acid, the sulphates, phosphates, and nitrates," which are the final products of decay.

"Its influence, therefore, is of a salutary nature, and ought not to be disregarded. Experiment has also shown that the oxydizing power of the air is promoted by water, by porous substances, and by the fixed alkalies.

"In seeking to know what part of the sewage it is which undergoes decomposition, I have ascertained beyond doubt that it is the solid part which ferments, and this will keep up the putrefactive action for months, evolving large quantities of ammonia, sulphuretted hydrogen, marsh gas, and carbonic acid. It is the sedentary matter, therefore, which is the chief cause of the offensive effluvium."

As to the Nature of Sewer Gases, he says:—

"I have endeavoured to procure the knowledge which is wanted from three sets of investigations, viz. 1st, from inquiries into the composition of the gases evolved in sewage; and from an analysis of the gases evolved during its putrefaction; and 3rd, from an examination of the sewer air itself. Each of these modes of investigation has furnished valuable results."

He finds that the gases in solution consist of carbonic acid, sulphuretted hydrogen, ammonia, "marsh gas," and nitrogen.

"The quantity of them varies from about 32 to 76 cubic inches per gallon, and the proportion of carbonic acid varies from 36 to 72 per cent.; the sulphuretted hydrogen from 0·9 to 3·1. Thames water, near to the shore at low tide, contains the same gases in nearly the same proportions."

As to the second head, he shows that the insoluble part of sewage, in fermenting, gives off gas amounting as in the average of one of the city sewers to about 1·2 cubic inches per hour. The gases were:—carburetted hydrogen, about 72 per cent.; carbonic acid, 17·7 per cent.; nitrogen, 10·2 per cent.; sulphuretted hydrogen, 0·08 per cent.; and ammoniacal gas, "a notable proportion." The ammonia usually "ranges from 3 to 14 grains in the gallon of ordinary sewage, and from 15 to 36 in that of the nearly stagnant sewers." But there are other volatile compounds which may be highly offensive, but of which little else is known.

The analyses of the atmosphere of the city sewers show that it is deficient in oxygen, and contains an excess of nitrogen, carbonic acid, and ammonia. Sulphuretted hydrogen is rarely more than one part in 60,000 of the air. "Marsh gas" is also present in minute quantity, and there are other organic compounds not yet examined. The quantity of coal gas from the mains which escapes into the sewers is enormous.

As to the properties and effects of the organic vapour in sewer gases, he cannot speak with certainty, except that it is matter in decomposition, and, as such, can propagate its condition to other bodies. The occult molecules which there must be in the wards of hospitals, the dormitories of the household troops, and the dwellings of the poor, have not been found, though it is known of them that they reduce the salts of silver and gold, and blacken sulphuric acid, quickly putrefy, and form a means for the growth of the lowest forms of animated beings.

"One breath of the undiluted gases will destroy life immediately, and even when they are mixed with a rather large quantity of atmospheric air they quickly cause asphyxia, or narcotism, or death. Those animals exposed to their influence are suddenly deprived of consciousness. They fall powerless, as if they were shot; the lips become livid, the face turgid, and bloody froth oozes from the mouth; the surface of the body gets cold, the action of the heart tumultuous and irregular, the breathing difficult and spasmodic, and the sufferer dies in convulsions, or lingers for a short time in deep and irrecoverable coma. In smaller quantity the miasms are less active, but not less certainly injurious; for they produce nausea, actual sickness, vertigo, delirium, and gradual insensibility. The muscles of the face and chest are convulsed, and the action of the heart is feeble and fluttering, the skin acquires a death-like coldness, and the respiration is irregular and catching. In this state the danger is imminent, and if means are not promptly taken for recovery the patient dies in a state of coma. If the gases are still further diluted with atmospheric air, they produce a general prostration of the vital powers. The appetite falls, the bowels become disturbed, diarrhœa of a chronic character sets in, and the sufferer is either worn out by exhaustion, or he falls into a state of low fever, from which it is difficult to raise him." * * *

"At every outbreak of epidemic disease, the badly-drained districts, where there are neglected cesspools, stagnant sewers, and untrapped gullies, are always the localities where the disease is most active. It need not be that to produce disease these miasms should be so concentrated as to be unendurable. In many of the cases quoted the gases were in a highly diluted form, and yet their effects were unmistakable. It is, therefore, a fallacy of a most dangerous kind to say that sewer gases are not hurtful when they are no longer offensive to the sense of smell, for there is no necessary connection between bad odour and poisonous properties. The pestilentious matter that floats over the coast of Africa, the Sunderbunds of India, the plains of Algeria, the marshes of Europe, and the fens of England, is not offensive to the nose, though it is deadly enough to the body; and, conversely, there are many horrible stinks which are incapable of producing disease."

Dr. Letheby afterwards considers the means which have been proposed to remedy the evil. He describes the action of the correctives, as the perfumes and volatile oils; the ante-putrescents, as the fluids of Margary, Kyan, and Burnett; the deodorizers and disinfectants, as the preparations of chlorine, the fumes of burning sulphur, and the salts of lead, iron, zinc, lime, &c. To some of these the objections raised are such as would be obvious: to nearly all the others the difficulty he sees is the enormous expense,—a point, however, which, as we ourselves may say in passing, cannot be settled so long as the question of profitable application is undecided; but of the last-mentioned class of substances, he says there are many that deserve attention. He classifies them as under:—

1. Those which combine the putrid gases, and fix them in an involatile form. These are the metallic oxides and their salts, as chlorine and sulphate of zinc, acetate and nitrate of lead; sulphate, muriate, and pyrolignate of iron; impure muriate of manganese; the refuse of bleaching-works; common alum; the fixed alkalies, and the salts of lime and magnesia. Most of these unite with the sulphuretted hydrogen and ammonia, but they do not touch the organic vapours. They are difficult to apply, and are very costly. For the whole of London, he thinks the cost of the mere materials would range from 1,000,000*l.* to 1,500,000*l.* per annum. Lime and superphosphate of Lime with magnesia could be used with some slight advantage, after the sewage had left the sewers. Lime would throw down the insoluble part of the sewage, and about one-fourth of the soluble organic matter.

2. The disinfectants, which act chemically on the volatile matters and break them up so as to form new compounds which are inert, as chlorine, chloride of lime, hypochlorous acid, sulphurous acid, and nitrous acid. The power of chlorine and its oxy-compounds is remarkably great. Eight grains of chloride of lime will completely deodorize a gallon of sewage. The operation is by the extraction of hydrogen from the putrid vapours, and perhaps also by the decomposition of water, so as to set the oxygen free. But chlorine is too costly, and difficult of application, as Dr. Letheby says; and the other substances are even less manageable.

3. The disinfectants which expedite the process of decay and cause the putrid matter to combine with oxygen and to become inert. This class he subdivides into:—

1. Those substances which act chemically by supplying oxygen of themselves.
2. Those which merely facilitate oxydation by their physical properties.

The manganates and per-manganates of potash proposed by Mr. Condy, as already noticed in these pages, are of the first class. The value of these Dr. Letheby admits; but thinks they might cost more than 3,000*l.* per annum for the whole metropolis. Of the second class of substances or agents which promote the oxidation of putrid substances by a physical property—that of bringing them into chemical contact with atmospheric oxygen—there are three,—fire, water, and porous solids. The first effects the change by active combustion, and the others by the slow combustion or oxidation, called *eremacausis*. Of the applicability of fire to the London sewerage, Dr. Letheby gives much the same opinion as Mr. Hayward and Mr. Bazalgette, or "that the disposal of the sewer gases by ventilation and fire is almost impossible." As to the operation of water and running streams,

* See page 525, *ante*; also, p. 514, as well as p. 494, and many preceding articles.

he gives his opinion, already put forth with the report of Messrs. Bidder, Hawksley, and Bazalgette. He says it is "the insoluble organic matter which keeps up the putrefaction and evolves the noxious gases." He cannot speak very accurately of the quantity of water necessary for the purpose of disinfection. The present quantity he regards as evidently insufficient to scour the sewers; and even could it be determined what quantity would suffice for deodorization, there would still, he thinks, be the difficulty as to the scouring. He therefore does not see much prospect from these means, of the remedy required; besides, greater dilution of the sewage than now exists, would not favour success of the object of utilization. Of the agency of porous solids, the best examples are afforded by common clay and charcoal. Both operate in the same way,—namely, by condensing the putrid vapours within their pores and upon their surface, so as to cause them to unite with atmospheric oxygen; "they produce in fact a species of slow combustion, by which the miasms are gradually consumed." The graveyards of every city testify to the quantities of organic matter that can be disposed of by common earth. A ton of clay, he says, will deodorize about three tons of the solid matter of sewage. But this powerful action is not applicable to *liquid* sewage. Even in the case of charcoal, "a much more energetic deodorizer than common clay, the power is speedily lost when it is mixed with the liquid sewage." Experiments both by Dr. Hoffman and Mr. Blyth showed that charcoal began to lose its power when rather more than three times its bulk of liquid sewage had passed through it. The cost for all London would be nearly 1,000,000*l.* per annum: the remedy would be imperfect, and the deposit in the sewers would be increased.

But the power of charcoal of absorbing putrid miasms in a *vaporous* condition is very great. When dead bodies are covered with charcoal to the depth of a few inches, putrefaction goes on with great activity, but there is no bad smell: for, the charcoal absorbs the gases, and causes them to enter into combination with the oxygen of the air, forming compounds which are inodorous. Dr. Stenhouse showed that air impregnated with ammonia, sulphuretted hydrogen, and sulphide of ammonium, passed through charcoal, could be then breathed with impunity; and therefore proposed its application to the gullies, ventilators, and house-drains of a system of sewerage. Dr. Letheby himself has ascertained that the gases from a cesspool, are completely deodorized by passing them through a small box containing about thirty-six inches of coarsely powdered peat charcoal. He has not renewed the charcoal for three months, and yet has discovered no loss of power.

He therefore says:—

"Now, in making a practical application of these facts, it is manifest that we have in common wood-charcoal a powerful means of destroying the foul gases of sewers. How it is to be applied is a question of but little embarrassment. Ventilate the sewers as you will, either by the open gratings in the streets, or by the rain-water pipes of the houses, or by the pillars of the gas-lamps, or by tubes carried up at the landlord's expense from the drains of every house, or by especial shafts in the public streets—in fact, let the gases go out of the sewers how they will and where they will, you have but to place a small box containing a few pennyworth of charcoal in the course of the draught, and the purification of the air will be complete. As far as we know, the strength and the endurance of this power is almost unlimited; so that when once the air-filter has been set up it will last continuously for years. Its action, also, upon the draught is not particularly injurious. The temperature of the sewers, and the agencies which are now at work in circulating the air and ventilating them, will be sufficient to keep a current of foul air through the filters, and, if these were multiplied to a large extent, the friction of the gases upon the charcoal would be reduced to an insignificant amount."

With some useful suggestions for ensuring the safety of workmen in the sewers, the report concludes. It now remains for Mr. Haywood to consider the possibility of applying these facts and suggestions. We shall probably recur to them. Meanwhile we may say, we have observed in the report, omissions to notice some disinfecting agents which we should have thought claimed special remarks.

CHURCH-BUILDING NEWS.

Great Harwood (near Blackburn, Lancashire).—A new Roman Catholic Church is now being erected by Messrs. Farrell and Brownhill, of Manchester, from the designs of Messrs. Pugin and Murray, architects. The building consists of a nave of five bays, 75 feet by 30 feet; chancel (with apsidal end), 25 feet by 25 feet; north and south transeptal aisles of two bays each; a chantry chapel on south side of chancel; tower and spire on north side of nave, and attached to the north transept, through which is the principal entrance to the interior. The presbytery is on the north-east side of the church, and connected with it by a commodious sacristy. The accommodation afforded in the residence is two sitting-rooms, kitchen and out-offices on the ground-floor; over which are three bed-rooms, dressing-room, and other conveniences. The nave of church is to have an open-timber roof of peculiar construction (rendered necessary by the unusual width); the framing of the principals being enriched by constructive quatrefoils. Longitudinal ribs and purlins will support the rafters, which will be strutted from them. The height of nave to wall-plate will be 22 feet, and to apex, 48 feet. The transeptal aisles and chantry chapel will have gabled roofs of cross-braced coupled rafters, fixed at 2-feet centres. The chancel will be 25 feet to wall-plate and 48 feet to apex, and will have the roof divided into seven compartments by the principals and longitudinal ribs, and further subdivided into squared panels (for symbolical decoration) by small moulded ribs. The feet of principals will spring from marble columns. A moulded arch of stone will divide the chancel from the nave, and two arches on each side separate the nave from the transept. An organ-chamber is provided over the tower porch, with arches opening therefrom into nave and transept. Exteriorly the divisions of bays of nave and transepts are marked by bold buttresses, and in the intermediate spaces are large four-light tracery windows. The windows of transept aisles are gabled. The west front is divided in width into three divisions by lofty buttresses, the centre being occupied by the entrance; over which is a large five-light window. The buttresses are coped, and surmounted by metal crosses. The roof of chancel will be surmounted by a wrought metal cresting, terminating in crosses. The nave and chancel roofs being of one level, the wall over chancel-arch is continued up, and coped with stone, which marks, externally, the internal division of the two. The style of architecture adopted is the Geometrical. The whole of the walls of the masonry will be of local stone, which is of a beautiful light colour, and will be what is termed coursed rubble, divided by bands and strings. The accommodation afforded is for 500 worshippers, and the cost of the church and presbytery about 5,000*l.*

Southery (near Downham Market). The foundation-stone of a new church was laid in this village on the 7th inst. by the Lord Bishop of Norwich. The style adopted is Early English, and the edifice will accommodate 380 persons. In plan it consists of nave, south aisle, chancel, south vestry, and tower and spire at the west end of nave. The walls are built of the local stone, the dressings being Ancaster stone. The spire is of timber, covered with slate. The cost of the building is 1,684*l.* Mr. Walter Robinson, of London, is the architect; and Mr. Bennett, of Lynn, the contractor.

Millbrook.—The parish church of this village has been re-opened by the Bishop of Lincoln, after restoration. Its walls, lately defaced with a greenish coloured plaster, have been uncovered, the sandstone being pointed and renewed where necessary. The battlements and roof of the tower have been rebuilt, and new windows put in the tower, south aisle, and clerestory. The string-courses, buttress tablings, and plinths have been replaced in Bath and sandstone. The chief feature of the restoration, however, is a new porch with high-pointed gable, surmounted by a floriated cross. The chancel has been restored externally by the rector, so as to bring it into keeping with the rest of the church: the interior floor has been considerably raised, and the upper foot-pace paved with Minton's encaustic tiles. The work has been carried out under the direction of Mr. Butterfield.

Bury St. Edmund's.—St. Peter's Church, erected without the west-gate of this town, near the hospital, has been opened for divine service. It is in the Early Decorated style, consisting of a nave and chancel, about 100 feet by 30 feet outside, with a high-pitch roof of the same height throughout, having a small north aisle with two arches, one of which forms the vestry; and the entrance is through a porch in the lower part of a tower on the south side, the body of which is carried to the height intended, but is there stopped short and covered with tiles, until there are funds to complete it with a stone spire. The whole church is built with flint rubble-work, with occasional split facing, and dressings of Caen stone. The roof is covered with Lincolnshire stone slabs, and the timber-work of the nave is open, that of the chancel being panelled with moulded ribs in the waggon form. The chancel is divided from the nave by a timber arch-moulding, on stone shafts, carried by carved corbels. The font has an octagonal base and bowl, supported by four clustered shafts with foliated capitals, and panelled with the Cross, the Dove, the Lamb, and the interlacing triangles. The seats are open benches throughout, of deal stained, calculated to seat 450 persons. The floor is laid in red and buff tiles, diagonally. Mr. Hakewill was the architect; and Mr. Farrow, of this town, the contractor.

Whittlesey. Tenders have been sent in for a new roof over the south aisle of St. Mary's church, viz.:—

Ellis and Son, Peterboro'	£350	0	0
Mills, Whittlesey	318	10	0
Wilson, Grantham	291	13	2
Griffin and Ashley, Whittlesey	285	0	0
Bradshaw, Stamford	265	0	0

The lowest tender has been accepted.

Cardiff. We are informed that it is in contemplation to erect a new church at the docks, in the parish of St. Mary, and that the trustees of the Marquis of Bute have given the piece of land for a site opposite to Rothsay-terrace. The plans are to be made by the architect of the estate, at the expense of the Marchioness of Bute.

Brecon. The new cemetery here is making progress, according to the *Hereford Times*. Two chapels and a lodge, of simple design, are far advanced in the builder's hands. At a meeting of the Burial Board on the 23rd ult., the following tenders were received for erecting the boundary walls and iron railing, and making excavation, &c.:—Messrs. Price and Williams, 406*l.*; E. Winstone, 397*l.*; Griffiths and Son, 393*l.* 15s.; George and Price, 373*l.* 5s.; Hergest and Sevenoaks, 319*l.* 5s. The architect's estimate was 394*l.* 10s. Messrs. Hergest and Sevenoaks' tender, being the lowest, was accepted, but they afterwards discovered an error in their calculations, and withdrew the tender. At a subsequent meeting Messrs. Griffiths' tender was unanimously accepted. The latter gentlemen are also the contractors for the chapels and lodge. Mr. H. J. Powell, of Cardiff, is the architect.—The impossibility of longer using the church of Christ's College being at length shown, a strong impulse has been given to a movement for the rebuilding of St. David's, Llanfaes; and at a parish meeting, recently held, a plan was exhibited, which had been prepared by a resident builder, for the erection of a suitable edifice, at a cost of 1,100*l.* including a tower, should the site of the present church be widened; and 900*l.* for the church without the tower; but if the exact site of the present church be built upon then the cost would be 1,000*l.* and 800*l.* respectively. The plans referred to had been prepared by Mr. Wm. Williams, jun. There was a "unanimous disapprobation" of a plan without a tower, while one in which a tower was introduced, says the *Hereford Times*, "gave the utmost satisfaction." A deputation was appointed to wait upon the Dean of Llandaff, who is family are interested in the land, to ascertain whether a site opposite the old one could be obtained, and upon what terms.

Pendlebury.—On Saturday, the corner-stone of a new church was laid in the district of Pendlebury, in the parish of Eccles, to be called Christ Church. A bottle, with the following inscription, was placed beneath the stone:—"The corner-stone of Christ Church, Pendlebury, in the parish of Eccles, was laid on the 11th of September, 1858, on land given by the Rev. George Heron, M.A. perpetual curate of Carrington, Cheshire. The Right Rev. James Prince Lee, D.D. bishop of the diocese; the Rev. William Marsden, B.D. vicar of Eccles; the Rev. Edward Henry Robson, M.A. incumbent of Pendlebury; the Rev. Alfred Dewes, M.A. curate. William Peel and Oliver Heywood, churchwardens; Thomas Wilson and Simeon Brooks, sidesmen." The church is to be built in the Early English style, from a design of Mr. William Reid Corson, architect. The contractors are the Messrs. Southern, of Salford. The clerk of the works is Mr. Alexander Bruce. In plan the church will consist of a nave and chancel, with north porch and vestry. The nave will be 39 feet wide in one span, and the chancel 19½ feet wide. The total length of the interior will be 115 feet. A double belfry is to crown the west gable, and the height to the top of the metal cross on the apex of the spire will be 86 feet. The walls are of Little Hulton stone, and the timber works of pitch pine and red deal. The number of sittings for adults will be 477, and for school children, 213.

SHEFFIELD.—The directors of the Sheffield Savings' Bank have accepted the tender of Alderman T. E. Mycock for the erection of the new savings' bank, in Norfolk-street, in accordance with the plans of Messrs. Flockton and Son. The works are to be commenced forthwith.

THE LATE MR. PIPER, CITY MASON.

FEW men have lived a more active life, or done more for the cause of humanity, than the late Mr. Piper. He was laid aside by the infirmity of age for some years before his decease, which happened last week at his residence, St. Leonards-on-Sea: hence he was not so extensively known to the men of this generation, as he had been to their progenitors. Left by the death of his father, at the early age of 14, the eldest of six children, and thus thrown upon his own resources, his character matured speedily; and to use his own phrase, "he never was a young man." He married at 21; was appointed mason of the City of London in 1805; and constructed the wharfs for Government for the front of the old Custom House, eastwards. In his capacity of City mason he had charge of London-bridge; and when the inquiry as to its removal was instituted, foretold, as will be seen, it is said, by reference to Government publications, the changes which have since occurred in consequence of the taking away of the old bridge with its deep and wide piers.

In conjunction with Mr. Lee, the father of the present respected head of the firm Lee and Son, he built the new City Prison for debtors in White Cross-street, and the military depôt in Tooley-street, now Messrs. Searle's wharf. In 1825 he became, in accordance with the changes then going on, a general builder, and continued the business in partnership with his now well-known eldest son, Mr. Thos. Piper, jun. until he finally retired in 1844. He was a man of active benevolence, and of considerable experience in public business, awake to the importance of education at a time when that feeling was not so prevalent as it now is. He was an efficient member of the committee of the Mill Hill School and afterwards its treasurer. It was in connection with this institution that he was able to aid in the furtherance of the views of the present member for Bath, as adverted to by a contemporary; and the friendship, then commenced, ripened into an intimacy which continued through life. He was a member of the committee of New College, and advised them through the construction of their large building at St. John's-wood. For many years he took a leading part in the management of the Asylum for the Deaf and Dumb. At the formation of the Builders' Society, in 1834, he took a lively interest in its concerns, and presided at the two first anniversary dinners.

Mr. Piper possessed considerable power as a public speaker, with great tact and knowledge of business. He was one of the founders of the General Fire Office, and the chairman of the board of directors until he retired from it in the year 1854.

RELICS OF OUR GREAT MEN.

A COMMISSION has been appointed by the French Government to trace, and carefully mark with inscriptions, and preserve all the houses, &c. connected with Napoleon I. The first thus proved is No. 5, Quai de Conti, where the following inscription is about to be put up:—"Historical souvenir, No. 1795.—The Emperor Napoleon Bonaparte, on his leaving the school of Brienne, inhabited a room on the fifth story of this house." We hope that this example of preserving the relics connected with an eminent man may be the means of causing similar care to be taken of those places in England which are associated with our worthies. This necessity we have often advocated, feeling sure that the interest attached to these matters generally increases with age, provided the identity is preserved. At present, for want of inscriptions, many buildings in the metropolis and elsewhere have passed so much out of memory, that it is only by careful investigation that they can be identified. In numerous instances, persons living in places connected with men eminent in literature, art, or science, have been surprised when informed of the great interest which is attached to them. The cost of inscribing would be but trifling; and, owing to the want of this, many houses of note have been allowed to fall into decay or have been ruthlessly destroyed.

The house of Evelyn and Peter the Great, at Deptford, has nearly lost all traces of its original character; and other cases might be mentioned of the demolition of buildings which should have been carefully preserved as common property.

Some of the houses of our worthies which still remain in London might be usefully converted into schools and other institutions. In some cases, if put into repair, they might be let on terms which would give a return upon the outlay. At any rate, a commission of suitable persons might be usefully appointed to examine into the condition of, and consider the best means of preserving, those dwellings which are so much linked with the progress of our civilization.

LAW NOTES.

Agreement to refer Matters to Arbitration.—Several matters of difference existing, some of which were the subject of action, it was agreed that, if the defendants would consent to refer to arbitration the matters of the action, the plaintiff would accept such agreement in satisfaction of all damages sustained in respect of the other matters. It was held that this agreement and its performance were a good bar to an action in respect of the last-mentioned matters.—*Re Williams.*

Building Speculation—Set off.—A and B being engaged in a building speculation, A sold to B two unfinished houses for 2,000*l.* and agreed that the payment should be made by B's expending the amount in finishing the houses. B expended 335*l.* and became bankrupt. A bill was filed by A against B for an account generally, and it was held that the sum expended must be taken as in part payment of the purchase money, and not as constituting a debt from A to B, and consequently not the subject of a set-off.—*Woodgate* v. *Burton.*

Action for stealing Gas.—Defendants, connected with one gas company, bored into the gas-pipes of the plaintiffs, and, having affixed pipes, abstracted large quantities of the gas belonging to plaintiffs, connected with another gas company, and then, to conceal the wrong for six years, closed up the pipes, so that plaintiffs did not discover the trespass within the period of statutory limitation. It was held that the action was still maintainable.—*Imperial Gas Company* v. *London Gas Company.*

Auctioneers.—It was held that a firm of auctioneers was not entitled to commission on selling property belonging to a member of the firm.—*Matthison* v. *Clarke.*

Landlord and Tenant—Master and Servant.—A, a brewer, agreed to place B in possession of certain premises, in order to carry on the sale of beer for A, and B was bound only to sell beer made by A, and not to part with the occupation to any person not approved of by A. Either party was at liberty to close the connection on giving one month's notice. It was held that the relation was not that of landlord and tenant, but of master and servant.—*Mayhew* v. *Suttle.*

Deserted Premises.—An alderman of London, sitting at Guildhall and the Mansion-house, has not the power which a police magistrate has to send a constable to view deserted premises, and to deliver up possession.—*Edwards* v. *Hodges.*

Dishonour of Cheque.—Damages may be recovered against a banker for dishonouring an acceptance and cheques of a customer, there being sufficient assets at the time in his hands to meet them.—*Rolin* v. *Steward.*

Landlord's Rights.—A claim by an assignee of a bankrupt does not displace the landlord's right to distrain for rent.—*Gill* v. *Wilson.*

STATUE OF NEWTON AT GRANTHAM.

GRANTHAM, where Sir Isaac Newton was educated, has raised a statue to the great philosopher. It was inaugurated on Tuesday, and Lord Brougham, first seated in a chair used by Newton himself, delivered a noble oration on the occasion. The statue is cast in bronze, and is the work of Mr. W. Theed, who has produced a very satisfactory result. The statue is placed on a vacant piece of ground at the south end of High-street, lately known as Wood-hill, but to which the original name of St. Peter's-hill has been restored, and faces the west, looking along the road which Sir Isaac must have passed whenever he came to Grantham. It represents the philosopher in the costume of the period, and in the gown of a master of arts, in the act of lecturing, and his right-hand is pointing to a diagram, taken from the "Principia," drawn upon the scroll in his left-hand. The likeness is from the well-known mask of Sir Isaac's face, taken after death, and from the portrait bust by Roubiliac. The figure is 12 feet high, and weighs upwards of two tons, about one-half of which quantity was presented in the shape of cannon by Government. It was cast at the foundry of Messrs. Robinson and Cottam, of Pimlico. The pedestal is 14 feet high, and was cut from the quarries near Holyhead. The total height of the pedestal and figure together is 26 feet. The expense of the monument was raised by public subscription, amounting to 1,630*l.*; of which sum her Majesty and the Prince Consort contributed 100*l.*; and Grantham and the neighbourhood, 600*l.*

A STRONG ROOM FOR THE GOLD-FIELDS.

A LARGE iron fire-proof strong room has just been supplied by Messrs. Chubb and Son, to the Bank of British North America, and shipped to Vancouver's Island. The room is 7 feet high, 9 feet 4 inches deep, and 7 feet wide, and is constructed entirely of wrought-iron, and lined with fire-resisting materials. The interior is fitted with nineteen separate and distinct lock-up safes, besides shelving for books and papers, and the exterior is secured by two large folding-doors, having three detector locks, throwing twenty bolts all round. The room was shipped in parts, and will be fastened together from the interior, on arrival at its destination. The total weight is 13 tons and three quarters of a cwt.

THE METROPOLITAN BOARD'S ENGINEERS, AND THE GOVERNMENT REFEREES.

MR. G. P. BIDDER has addressed to the Chairman of the Metropolitan Board of Works, in reply to the further communication by the Government referees before noticed, a damaging letter, in which he protests "against a proceeding so unprofessional in its character, and so unworthy of gentlemen acting avowedly on Government instructions; a proceeding," he adds, "for which I am glad to believe that there is no sufficient precedent, and which not even the vexations of defeat, nor the bitterness of disappointment, can sufficiently excuse." He points attention to the fact that the original report of the referees costs the country nearly 10,000*l.* and that, nevertheless, its conclusions have been ignored and abandoned by its authors. The letter ends by assuring the Board that they may proceed with the execution of the plan before them for the main drainage of the metropolis, without any undue anxiety as to its results.

CROSS-CUTTING OF STONES INTO SLICES.

I BEG to call your attention to the benefits likely to arise from having flues for heating edifices constructed of stone sliced. The firestone from the Dylas Quarry, Glamorganshire, will stand any amount of heat, and must be cut with plain circular plates and sand and water. The idea of using stones cut in this way will be of much service to the colonies, where cocoa, coffee, and such like, require quick drying and curing. Metal has in reality not the requisite properties to be brought into immediate contact with fire and its gases.

Great improvements are likely to be made in the manufacture of sugars; and if you desire more on the subject, I will give you a further statement of the experiments I have made. The bread-baking community would benefit much by using stones instead of close tiles.

COLIN M'K. DICK.

TENDERS FOR MARYLEBONE SCHOOLS.

SIR,—Some few weeks since an advertisement appeared in your paper for builders to tender for the erection of schools at Southall for the St. Marylebone Vestry. I was written to by a surveyor (Mr. Joseph Messenger) asking if I would take his quantities of the works, as most of the other builders had consented to do so. I replied that I would, and accordingly tendered on them, and attended at the workhouse on the day it was to be decided. After being kept waiting for a considerable period, one of the builders in attendance sent in a request to the committee that we should be informed of the result as soon as convenient to the Board. We were then told that no information on the subject would be given to us, as all the tenders were above the amount that it was intended to expend. Neither the names of those tendering nor any of the amounts were therefore furnished to us by the Board. This, to say the least, I consider discourteous. I have heard that these vestries are notorious for jobbing. I have now received a letter, of which I enclose you a copy.

[The letter says, "The Boards of Guardians having had the quantities required for the building of the schools, at Southall, taken out under the supervision of their surveyor, have decided to re-advertise for fresh tenders, and I am directed to inform you of the same in order that you may, should you think fit, send in another tender in lieu of the enclosed."]

If all the builders are of my mind, the Board will now receive no tenders for the works. If the Marylebone Board was not satisfied with the amount of the tenders, surely the proper course to adopt would have been to accept the lowest tender, subject to certain deductions, to be settled between their surveyor and the surveyor appointed by the builder, instead of having fresh quantities taken out, and re-advertising the works.

Our own surveyor was answerable to us for the correctness of the quantities, and, after the work he had done, was entitled to some consideration at the hands of the Board. If his quantities were inaccurate I suppose they were capable of correction; but, at any rate, the Marylebone Board Surveyor is not infallible, and therefore why should we accept quantities after what has transpired of which we have had no opportunity of testing the accuracy. WM. MOXON, Contractor, London and Dover.

SUSSEX ARCHÆOLOGICAL SOCIETY.—The members of this society intend paying a visit to the antiquities of Lindfield, on the 30th inst.

NEW GENERAL POST-OFFICE, MELBOURNE.

SOME time ago competition designs were invited by the Government at Melbourne for a new General Post-office there, and above sixty designs were submitted, some of which were from the adjoining colonies. The premiums offered were six in number, divided as follows, viz.:—

1.	For arrangement.....	£300
2.	„ „	200
3.	„ „	100
1.	For Elevation	300
2.	„ „	200
3.	„ „	100

We have before us photographs of part of a design by Mr. Arthur Johnson, formerly of London and now of Melbourne, to which the second premium, both for arrangement and for elevation, was awarded. It is a large building of two orders, Doric and Ionic, with a lofty roof rising from behind a balustrade; and there is a low turret for clock in the centre of each of the principal fronts. There is merit in the design, and if the *projet* they are about to carry out be better, Melbourne will have a very handsome post office. Mr. Johnson, we believe, gained the gold medal at the Royal Academy a few years ago.

Books Received.

Sussex Archæological Collections, relating to the History and Antiquities of the County. Published by the Sussex Archæological Society. Vol. X. London: JOHN RUSSELL SMITH. 1858.

IN our recent notice of Horsham, we quoted a paper descriptive of some of the monuments in the church there, by Mr. Durrant Cooper, as from the *last* volume of "Sussex Collections." This was a slip: it should have been called the eighth. The last volume of these Collections issued by the active committee of the Sussex Archæological Society is the tenth, and is now before us. It contains, *inter alia*, extracts from what are known as the "Dunny Papers" (seventeenth century); Notice of the curious South Doorway of the Church at Bolney; Sele Priory, by the Rev. E. Turner; Smuggling in Sussex, by Mr. W. D. Cooper; Wakehurst, Slaugham, and Gravetye, by Mr. Blaauw; and Inns and Inn Signs, by Mr. M. A. Lower; with a number of engraved illustrations. A few members of the Sussex Society do their work well, and the result is a body of information bearing on the county, and essential to every student of its history.

The recently exposed doorway in the nave at Bolney Church certainly looks like a pre-Norman work. Horsfield's "History of Sussex," as usual, gives no information on the subject. He calls the tower the most ancient part, supposed to be of the reign of Henry VII. and now known to be of Henry VIII.'s reign.

For a book of pretension, Horsfield's History, at any rate in the architectural department, is the most disappointing book possible. Whenever we have had to look to it in this department, we have found it wrong. The "Sussex Collections" will help to set it right.

Miscellanea.

HAMPSTEAD TUNNEL. — The receiver and manager appointed by the Court of Chancery in the late Mr. Hayton's affairs (the first contractor), has appointed Mr. Billinton, C.E. to inspect and report on the tunnel that has fallen in on the works of the Hampstead Junction Railway.

SMOKE AND AIR FLUES.—Mr. Henry Doulton, of Lambeth, has patented an arrangement of flues. The parts of flues are manufactured by expressing suitable clay or brick earth through dies, in order to produce peculiarly formed blocks suitable for building smoke and air flues, and for working in with ordinary brickwork. Through each block there is a passage for forming part of a smoke flue, which may be of a cylindrical, elliptical, or other suitable section, and is of a size corresponding with the size of flue desired to be made thereby. Each block has also a narrow passage through it, in order to produce an air-flue following the line of the smoke-flue. These air passages are made rectangular on both sides, and by preference curved in the fourth, where it comes next the smoke-flue. Three of the exteriors of the surfaces of each block are formed flat and at right angles to each other, and the fourth side is produced partly by a straight line, and partly by curved lines, where it connects with the two sides.

SYDNEY.—A series of photographs has arrived from Sydney, including several views of the "University Buildings, now nearly completed there. They form an extensive pile of late Gothic work externally, a little too much like what one has seen before, and are somewhat rich in decoration.

LIMERICK CATHEDRAL.—The restoration of the east end of Limerick Cathedral has been adopted as a public memorial to the late Mr. Stafford, M.P. Upon the recommendation of Mr. Slater, architect, the committee have decided to erect for the purpose a new east window, fitted with stained glass, a stone reredos, and open oak roof over the chancel.

FALL OF A HOUSE IN PILGRIM-STREET, BLACKFRIARS.—Early on Thursday morning, a frightful crash alarmed the inhabitants of the houses on the Blackfriars side of Ludgate street and hill, the Broadway, and the parts adjacent. It was soon found to be occasioned by the sudden fall of the extensive and lofty premises occupied by Mr. Solomon, in Pilgrim-street, Ludgate-street, which, with the stock of furniture they contained, lay in one vast heap of confused ruins, while clouds of lime-dust filled the atmosphere.

BLOCKED UP.—Fenchurch-street is at present the civic Rubicon: to push through either east or west needs the strength and determination of a Cæsar. Knocking down whole lines of houses is a simple matter in theory; and were there not a hundred knotty points to consider besides the mere question of cost, City improvements might be promoted with the alacrity and decision advocated in after-dinner conversations. Nevertheless, many practical and inexpensive modes of relieving the most busy thoroughfares might be carried out—a vast deal of heavy work in repairing roadways and gas-pipes, delivering coals and heavy goods to warehouses, might be got over before nine or even before eight, in the morning, if suitable regulations were framed and made compulsory. For a whole street to be blocked up while a grocer receives a hogshead of sugar, or a waggon-load of hops is slowly emptied by a crane, is not exactly in the spirit of this age of rapid movements.—*City Press.*

MIDLAND COUNTIES' ARCHÆOLOGICAL ASSOCIATION.—The second excursion of this association (the last for this season), will take place on Tuesday, the 28th inst. in conjunction with the Worcester Diocesan Architectural Society, when Hampton Lovett, Droitwich, Dodderhill, and Westwood, will be visited. At the last-named place, Sir John Pakington will entertain the excursionists at luncheon. Papers will be read by the Rev. W. Lea, Mr. Theodore Galton, Mr. Severn Walker, and Mr. W. J. Hopkins.

METROPOLITAN TOLL REFORM.—The Royal Commission appointed, towards the close of the last session of Parliament, to inquire into the practicability of providing a substitute for the metropolitan toll-gates within six miles of Charing-cross, will commence its sittings early next month, in order to be able to report at the commencement of next session. Viscount Eversley, late Speaker of the House of Commons, will preside over the Commission, and will have the assistance of Sir J. T. Coleridge, late of the Court of Queen's Bench, in conducting the investigation.

BALMORAL.—The Castle is now apparently quite finished, but there is still some building going on about the outhouses, of which there is quite a colony. The new bridge erected over the Dee as a private entrance to the castle is completed. It is constructed after designs by Mr. Brunel, on the principle of the tubular bridge at the Menai Strait; has a span of 165 feet, and contains nearly 90 tons of iron. It has been built at the cost of the Prince Consort.

METROPOLITAN IMPROVEMENTS.—The narrow entrance from Victoria-street to Great Warner-street forming as it were an alternative new line of street, and the legitimate one, too, following the "*Valley of the Fleet*," might be rendered at once safe and commodious by the removal of the "Coach and Horses" public-house, Dawkin's Manufactory, and setting the line of houses to Great Bath-street back in a line with the other portions of Great Warner-street, which narrows to an almost impassable outlet at its intersection with the new street, and is a source of constant accidents. Many metropolitan improvements might be effected at comparatively small cost and little trouble: in some the improved frontages so gained would be almost an equivalent for the outlay. We want some committee "*en permanence*" of the Metropolitan Board specially to consider what improvements on a small scale as regards outlay, but very considerable in their results as regards public convenience, might or might not be effected.

PAULATIM.

VICE-ROYAL PALACE IN ALGIERS.—Architects, says a Paris letter in the *Indépendance* have been sent to Algiers to build a palace for Prince Napoleon, as Minister of Algeria and the Colonies.

KEW GARDENS.—The Royal Pleasure Grounds and new Arboretum adjoining the botanic and flower gardens will close for the season on the 30th instant.

INTENDED NEW CHURCH FOR BRIGHTON.—An advertisement has been issued by Messrs. Attree, Clarke, and Co. as solicitors to the late Mrs. Maria Cook, widow, of Brighton, wherein it is stated that the deceased lady has left the residue of her personal estate, consisting of about 6,500*l.* Three per Cent. Consols, as an endowment fund for a new church in the eastern or north-eastern part of Brighton. And as the church must be built within ten years, the trustees announce that they are prepared to receive communions relating to the subject.

EXHIBITION OF FINE ART, MODELS, MANUFACTURES, &c. AT WILLENHALL.—This exhibition has been opened in large rooms of the national school at Willenhall. It contains a good many paintings and other works of art; but amongst the more interesting of the local features of the exhibition is that of locks and keys, a good display of which appears, chiefly of Willenhall manufacture, as also from Wolverhampton and Birmingham.

GAS.—An influential public meeting of the inhabitants of Blackheath, Lewisham, and Lee, has been held at Lewisham, to consider the propriety of forming a new company for the supply of gas to that district, in consequence of the high prices at present charged by the Phœnix Gas Company. Various addresses were delivered, and a committee was appointed to carry out the objects of the meeting.——A Dublin paper announces the successful lighting of a village by gas, made from peat, under Mr. R. L. Johnson's patent. More than a year ago, Mr. Wilson, J.P. Daramona, Westmeath, had gasworks erected at his private residence to light up that building, the out-offices, farm-yards, &c. Since that time he has used no other kind of artificial light than what was made from the turf of his locality, considering it brilliant, economical, and in every way suited to supply the "wants" of an Irish gentleman.

PURBECK STONE. PROPOSED PIER AND TRAMWAY AT SWANAGE. — A large and influential meeting has just been held at Swanage, to consider the propriety of forming a pier and tramway, in order to facilitate and cheapen the transport of stone, from the Purbeck quarries. Capt. Moorsom, engineer-in-chief of the Southampton and Dorchester Railway, was present, and urged the advisability of the project. There was a sufficiency of stone, he said, to supply the trade for 500 years in the Purbeck quarries, and all that was required was to get at it at a reasonable cost. The price of bringing stone to shipment was 2*s* to 4*s*. per ton; whereas, with a tramway and pier such as were recommended, this item of cost would be reduced to 10*d*. a ton. The estimated cost of the pier (630 feet in length) is 6,500*l.* and of the tramway 8,100*l.* waggons and machinery inclusive. It was finally resolved, that, so soon as shares to the amount of 4,000*l.* were subscribed in the locality, and 12,000*l.* elsewhere, a meeting of subscribers be called to constitute the company.

THE BRITISH WORKMEN'S EMIGRATION SOCIETY.—Sir: I experienced much satisfaction and a great deal of pleasure, when I read the article with the above title in your paper a week or two since: it just fits my view of the case, and is expressed in terms out of my power to command. I think with you, that if the workmen of this country were to raise a fund for the purpose of sending men and their families to the colonies, those of good character, selected by men of their own profession, it would be deserving of the greatest praise. When we think of the thousands of pounds spent by the British workmen in fruitless strikes, of the immense time and produce lost to the world for ever (in such unnecessary evils), upon the vast sums of money spent in trade societies, to support the idle and unprovided who are always out of work—as there is no society without such a class—I think it much to be deplored that such a waste should exist, when such a fine opportunity offers to the trades for sending out their surplus hands to the colonies, there to found comfortable homes and other markets for British produce, and immediate relief to the home-labour market. I trust you will return to the subject, and by your pen endeavour to forward the above object: by so doing, in my humble opinion, you will confer a lasting benefit upon those who live by the sweat of their brow.

A HEWER OF WOOD.

IMPROVEMENT OF ST. PAUL'S CHURCHYARD.—Orders have been given by the City Sewers Commissioners to Mr. Chadwick, the City pavior, to relay the whole of the eastern and southern sides of St. Paul's Churchyard with 4-inch cubes.

APPOINTMENT OF A CLERK OF THE WORKS TO THE INDUSTRIAL SCHOOLS, BRIGHTON.—The directors and guardians resolved, on Tuesday last, on the recommendation of the Industrial Schools Committee, to appoint a clerk of the works, at a salary not exceeding three guineas and a half per week (an amendment to fix the salary at 3*l.* per week being lost). The committee to whom the appointment was referred, have since, we understand, selected Mr. A. Anscombe, late town surveyor, for the office.

STAINING TILES.—In answer to a query contained in your last number, I will suggest the experiment of placing porous tiles in a thick cream of Aberddaw lime. This would give them a stain of an agreeable tone, and render them impervious to wet.—R. KYRKE PENSON.

THE NEW MUSEUM AT OXFORD.—The iron roof of the central hall of the new Museum at Oxford, having been considered unsafe, has been taken down for reconstruction. The whole of the furniture is being manufactured on the spot, in harmony with the character of the edifice.

PHOTOGRAPHY FOR ENGRAVING ON WOOD.—A correspondent, W. P. considering that the article on this subject on page 624, might lead readers to suppose that no one had as yet succeeded in obtaining photographs on wood-blocks, points attention to our last year's volume, p. 586, where an extract from the *Scientific American* is given, showing that the process is in use on the other side of the Atlantic. We have every reason to believe, however, as was intended to be conveyed in the article in question, that the right mode of applying photography to drawing on wood has yet to be discovered.

THE CHAPTER-HOUSE AT YORK CATHEDRAL.—Within the last few years the internal parts of this portion of the sacred edifice have undergone reparation, but a good deal of the outside is in a state of decay. In order that the latter may be properly restored, the recently-appointed Dean of York has just obtained leave of the Chapter to restore it at his own expense, which is estimated at 1,000*l.*

A LANDED ESTATE WON FROM THE SEA.—Extensive improvements have been recently effected in the neighbourhood of Sharon, in Donegal, by Mr. William M'Cormick, the railway contractor. From the Inch the sea has been driven out, and a plain of the richest land, at present loaded with a luxuriant crop, now spreads itself over the former bed of the waters. Upwards of 6,000 acres have thus been reclaimed from the sea.

LIME IN THE EYE.—In relation to cases of workmen becoming blinded by the action of lime which has entered the eye, the *Indicateur de Mayence* recommends, as a well-approved application in the case of such accidents, a strong solution of sugar, which is to be inserted drop by drop under the eyelids. This application can usually be immediately obtained, and, it is said, completely to destroy the caustic action of the lime.

BURSLEM SCHOOL OF ART.—Meetings have been held here for the purpose of taking steps for the re-establishment of the local school of art. A committee has been appointed, and subscriptions have been offered for the erection of a suitable school, which, it has been suggested, should be a memorial of the late Mr. Wedgwood, who was a native of Burslem.

THE SUEZ CANAL PROJECT.—In the course of November next, says the *Daily News*, a general meeting will be held in Paris for the purpose of establishing a company for finally carrying out the project of the Isthmus of Suez Canal. The capital is said to have been nearly all subscribed in the following proportions:—

The Viceroy of Egypt.....	£1,280,000
Turkey, Egypt, and Syria	840,000
France.....	1,600,000
Austria and Lombard Venetian...	800,000
Russia	480,000
North of Germany, Sweden, Denmark, Hanseatic Towns, Prussia, Switzerland, Holland, and Belgium	600,000
Spain, Portugal, Italy, and Greece	400,000
United States of America	400,000
Leaving the portion reserved for England	1,600,000
	8,000,000

The whole capital to be represented by 400,000 shares of 20*l.* each.

EXHIBITION OF ART AT TYNEMOUTH. — An exhibition of paintings, works of art, models, machinery, &c. has been opened at the borough of Tynemouth Mechanics' Institution new building, in Howard-street, North Shields, lately inaugurated. The collection is said to be a valuable and interesting one.

MANUFACTURE OF IRON NUTS BY STEAM.—A steam-machine, recently invented for the purpose of manufacturing iron nuts for bolts, &c. has been approved by the Admiralty, and erected at the factory department of Woolwich Dockyard. These nuts have hitherto been made by hand, but an experimental trial of the machinery, it is said, proves that it is capable of turning out fifty nuts per minute, thus effecting a considerable saving in time and expense.

YORKSHIRE AND LINCOLNSHIRE ARCHITECTURAL SOCIETIES.—A joint meeting of these two societies was held at Ripon on Tuesday and Wednesday, in last week, under the presidency of the Bishop of Ripon. Mr. Walbran read a paper on "St. Wilfred and the Saxon Church of Ripon;" and the Rev. E. Trolloppe, F.S.A., a paper on "Labyrinths and Mazes," and excursions were afterwards made to Fountains Abbey and various interesting churches in the neighbourhood.

WELL-SINKING AT IPSWICH: A TIMELY WARNING.—As Mr. William Pells, of Orchard-street, builder, and his men, says the *Suffolk Chronicle*, were engaged in deepening a well 48 feet from the surface, on the Foxhall-road, Mr. Pells saw symptoms of a settlement in the brick-work when the bucket was coming up, and instantly lowered the rope and ordered the man below to ascend: in two minutes 27 feet of the brick-work fell in, carrying down all the iron tackle and pump stays, leaving 21 feet of brick-work hanging in the earth at the top (the lower course bedded in mortar), without a single brick to stand upon. Had not this timely warning been given, the poor man below must have perished.

STREET BLINDS. — Who can inform me how these dangerous nuisances are regulated? Do they come under a Police Act, or under Sec. 118 Metropolis Local Management Act, making it lawful for the vestry to remove any obstructions or projections; and is there a height below which they may not be fixed? At present the irons supporting them are, in nine cases out of ten, obstructions extending over the footway; such nuisances ought to be dealt with summarily. Here is matter for the police, who may attack a *real* nuisance!—EXPECTANS.

FLOORS OF NEWS-ROOMS.—As prevention is at all times better than cure, I think it would be well, through the medium of your journal, to direct the attention of the public to their safety while sitting in news-rooms. That some may have taken the precaution to strengthen or examine the floors of old buildings previous to their being adapted to the above purpose, I have no reason to doubt; but when we consider the large number of people collected together there, and feel some of the floors shake as I have done, I think it nigh time they should all be made secure. This could easily be effected by fixing stancheons and girders similar to those in warehouses, which would shorten the length of bearing in the present floors, and not detract in the slightest from the efficiency of the room, but would serve to fix the present reading-stands against, and so steady them also.—A. W.

TENDERS.

For the erection of twenty-five fishermen's houses, at Grimsby, for the Manchester, Sheffield, and Lincolnshire Railway Company. Mr. Michael Drury, Lincoln, architect. Quantities supplied:—

Brett and Bolton, Spalding	£9,361 18 9
Elliott & Lovatt, Wolverhampton	9,250 0 0
Brown, Grimsby	8,805 7 0
Ward, Lincoln	8,494 0 0
Rutherford, Grimsby	8,150 0 0
Booth and Son, Boston	7,777 7 7
Harriss and Co. Rotherham....	7,686 0 0
Robinson and Son, Hyde	7,500 0 0
Ashton, Retford (accepted)	7,110 0 0

For additions to East-London Union Workhouse, Homerton. Mr. Henry Jarvis, architect:—

Skinner	£1,595 0 0
Penlington.....	1,549 0 0
Sharp	1,538 0 0
Roper	1,470 0 0
Willson	1,459 0 0
Jarvis	1,440 0 0
Carter	1,434 0 0
Jackson	1,412 0 0
Crawley	1,399 0 0
Lawrence	1,385 0 0
M'Lennan and Bird	1,357 0 0
Stevenson	1,350 0 0
Dove	1,339 0 0
Hack and Son	1,329 0 0
Furnival.....	1,269 0 0
Barker, Camberwell	1,186 0 0

For granaries, warehouses, and dock, at the Old Barge House Wharf, Commercial-road, Lambeth, for Mr. W. Ward, of Honduras-wharf, Bankside:—

Purkiss	£9,929 0 0
Harding	9,455 0 0
Walker and Neave	9,339 0 0
Rivett	9,333 0 0
M'Lellan and Bird	9,262 0 0
Grey	9,165 0 0
Roper	8,965 0 0
Ring and Stanger	8,916 0 0
Hill	8,811 0 0
Rudken	8,800 0 0
Jackson and Shaw	8,611 0 0
Nicholson and Son	8,440 0 0
Downs	8,036 0 0
Jay	7,973 0 0
Hack and Son	7,928 0 0
Colls	7,637 0 0
Nixon	7,470 0 0
Rowe	7,399 0 0
Myers	6,879 0 0

For factory buildings and warehouses, for Mr. R. Hancock, Goswell-road. Mr. W. Lambert, architect:—

Jay	£1,683 0 0
Thompson and Crosswell	1,571 0 0
Perry	1,544 0 0
Brass	1,540 0 0
Wheen.....	1,537 0 0
Downs.....	1,530 0 0
Dove, Brothers	1,475 0 0
Ring and Stanger	1,370 0 0

For new Congregational Chapel at Highgate. Mr. Roger Smith, architect:—

Ladds	£5,129 0 0
White	5,101 13 0
Smith	5,073 0 0
Kelk.....	5,000 0 0
Dove, Brothers.....	4,755 0 0
Myers	4,631 0 0
Carter	4,600 0 0

For new house, to be built at South Hetton, Mr. Martin Greener, architect, Sunderland:—

For the whole: —	
Harrison, West Hartlepool	£965 0 0
Hurst, Sunderland.....	902 15 0
Thorntin, jun. Seaham.....	673 0 0
Black, West Hartlepool.....	649 19 0
Cook & Hunter, Bishopwearmouth	592 0 0
Cooper, Monkwearmouth.....	582 12 0
Lowes, Durham (accepted)	466 0 0
Masons' Work:—	
Brown, Shadforth	284 13 0
Joiners' Work —	
Christton and Beal, Sunderland..	324 16 6
Peart and Humble, Bishopwearmouth.....	226 0 0
Brown, Shadforth	205 10 0
Taylor, Bishopwearmouth	205 0 0
Messrs. Rankin, ditto	169 10 0
Toplin, ditto.....	150 0 0
Plasterers' Work —	
Wilkinson, Newcastle	78 0 0
Good, Newcastle.....	68 0 0
Brown, Shadforth	39 15 9
Painters' Work -	
Attey, Bishopwearmouth.....	23 10 0
Stephinson, Monkwearmouth ..	23 0 0
Slaters' Work -	
Rule, Durham	33 10 0
Preston, Monkwearmouth	33 0 0
Preston, Bishopwearmouth.....	33 0 0
Brown, Shadforth	33 10 0

For additions at Ray Mead, Berks, the seat of Albert Ricardo, esq. Mr. J. Burges Watson, architect:—

Carr, London	£760 0 0
Longmire and Co. London	747 0 0
Lamb, Maidenhead (accepted) ..	641 13 6

For the erection of a lodge and stabling, also the completion of a villa residence, at Grove-park, Camberwell, for Mr. W. W. Chadwick. Mr. John Belcher, architect:—

Deavin	£2,943 0 0
Downes	2,940 0 0
Willson	2,866 0 0
Rawlins	2,759 0 0
Jackson and Shaw	2,720 0 0

For a dwelling-house, at Sutton, for Mr. J. Harris. Mr. T. J. Hill, architect:—

King, Barton, and Hipwell, Croydon.....	£1,057 0 0
Carruthers, Reigate	1,052 17 6
Cooper, London	888 0 0
Timewell, London	870 0 0

For rebuilding premises in Willow-walk, Bermondsey, for Messrs. Chisholm and Son. Messrs. Porter and Markham, architects. Quantities supplied:—

	Wood Roofs.	Iron Roofs.
Barker	£630 0 0	£645 0 0
Tarrant.....	606 10 0	618 0 0
Paull.....	547 0 0	615 0 0
Hollins.....	530 0 0	600 0 0
Wells (accepted)	496 9 0	596 0 0

For the erection of new schools and offices, in Bath-street, Poplar:—

		Allowance for Old Material.
Paisley and Webb	£762 0 0	£15 0 0
Stevenson.....	715 0 0	20 0 0
Salt.....	698 0 0	—
Ennor.....	660 0 0	25 0 0
Sheffield.....	648 0 0	12 0 0
Cave	640 0 0	18 0 0
Furnivall	621 0 0	33 0 0
Hooper and Son (accpd.)	588 0 0	20 0 0

For new house for Mr. Pullman, at Chiswick. Mr. R. Brandon, architect:—

	Ham-hill Stone.	Bath Stone.
Myers	£2,360 0 0	£2,360 0 0
Holland	2,316 0 0	2,223 0 0
Nicholson and Son	2,250 0 0	2,192 0 0
Bird	2,169 0 0	2,116 0 0
Jackson and Shaw	1,998 0 0	1,878 0 0
Dove, Brothers	1,875 0 0	1,825 0 0

For new church for the parish of Ore, near Hastings. Mr. A. D. Gough, architect:—

	In Box Stone.
Gladwick and Cat	£4,304 14 6
Hughes and Hunter	3,595 0 0
Howel	3,398 0 0
Carter	3,259 0 0
Dove, Brothers	3,055 0 0
	3,384 14 6
	3,915 0 0
	3,384 0 0
	3,330 0 0
	3,170 0 0

TO CORRESPONDENTS.

E. SMITH, A. M. The asylum, recently opened in Northumberland at East Cottingwood. We shall be glad to have the plans when they are ready.

"A Subscriber" suggests that the Government should take steps to prevent the adulteration of paints, and complains that the makers of white lead will not supply it genuine. We should be glad to have the name of any maker who will not supply white lead genuine.

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J. W. S.—F. R.—J. D.—J. B. W.—J. M. (we are unable to interfere in private disputes).—Z.—H. T. several receipts for coals were suggested in an earlier number of the *Builder*.—Mr. C.—Mr. T. R. H.—J. W.—R. B.—T. S.—W. M.—C. B.—T. P.—J. B.—E. T.—Mr. D.—A. C. V.—Kemerton (is in type).—"One who knows a thing or two" (next week).—E. L. B. (next week).—Sponge.—G. S.—West Hoathley (Sussex).

"Books and Addresses.' We are forced to decline publishing out Works or Building addresses.

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ADVERTISEMENTS.

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AN ENGINEER in the North of England has a VACANCY for a PUPIL. The advertiser has a steam water works, a sewage work, and other works on hand, in which the pupil would have opportunities of practical progress. —Address ENGINEER, Office of "The Builder."

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WANTED, an active, steady MAN, about the age of 30 married, without incumbrance, and writes well, for a TIME and GATE KEEPER in a factory connected with the building trade, and from the country preferred. Wages about 18s. per week.—Apply, by letter, to T. C. Office of "The Builder."

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WANTED, by the Advertiser, aged 22, a RE-ENGAGEMENT as ASSISTANT. In town or country. He is a good draughtsman, designer, &c., and accustomed to the general routine of other offices. Moderate salary only expected.—Mr. S., 8, Gardiner's-library, Bridge-house Hamlets-road, Paddington.

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WANTED, by a sober, Married Man, aged 29, constant EMPLOYMENT, in town or country, as CARPENTER and WHEELWRIGHT; has a thorough practical knowledge of both trades. Good reference.—Address, G. P. S. No. 16, Tilbrook's-terrace, Chesterton-road, Hampden-v, Middlesex.

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WANTED, by a good Jobbing-hand in the above branches, a SITUATION in town or country.—Address, J. BROWN, 5, Cheyne-row, Chelsea.

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WANTED, by a steady first-class Workman, a PERMANENT SITUATION in the above line. Four years and a half good character from last employer. London preferred.—Address, A. J. B. No. 4, Cleveland place, Wyndham-road, Camberwell.

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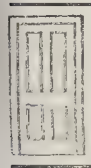

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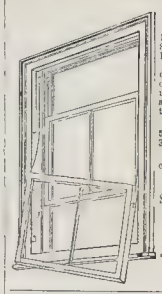

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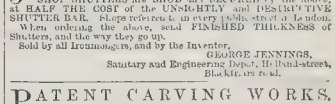

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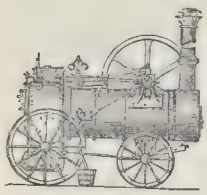

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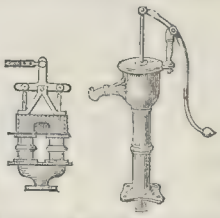

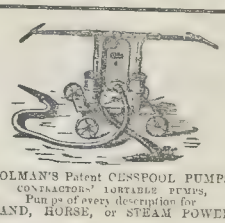

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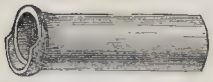

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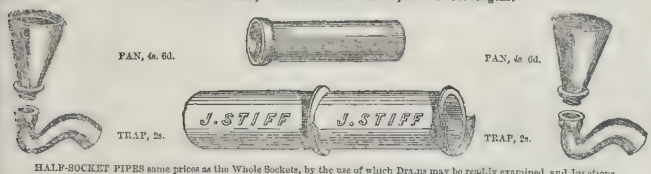

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Messrs. COLTS, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Price 7s. each. The Trap of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 105, Drury-lane, and Spa-road, Bermondsey.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE. No. 7.

Is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, as I are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Shorter-street, Newport, Lambeth, S.

N.B.—No 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Price, complete, 13s 6d. each.

TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is peculiar both for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Barrow Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

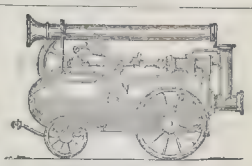
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure Principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and available for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER & SONS, Manufacturers, 8, Crescent, Jewin-street, London.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms. Apply to T. CRESSWELL, Engineer, 99, Blackfriars-road, London.

TO BE SOLD, a 12-horse HORIZONTAL ENGINE, with boiler, almost new. Will be sold a bargain.—Apply at the Office of "The Builder."

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SORET RINGS, for Hot-water Pipes. Vulcanized Rubber Springs and Solid Round Rubber Cord, of all sizes of any length. Bolt and Cushion and Rubber Strips cut to any pattern for Bagatelle Tables.

Patent Dresses of superior make, and improved Vulcanized Rubber Suppl. pipes for ditto.

Vulcanized Rubber in Sheets from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING. Many inquiries having been made as to the Durability of the Patent Gutta Percha Tubing, the Gutta Percha Company take pleasure in forwarding the following Report, addressed to the CHAIRMAN, RAYMOND JARVIS, Esq., VENTNOR, ISLE of WIGHT:—"Second Testimonial.—"March 30th, 1852.—In reply to your letter requesting the morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

SALES BY AUCTION.

Marble Slab, near the Great Northern Terminus.

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at the GREAT NORTHERN MARBLE WHARF, Caledonian-road, King's-cross, on TUESDAY, the 28th of SEPTEMBER, at ELEVEN for TWELVE, the extensive STOCK of VEIN, Statuary, and other MARBLE, consisting of Blocks, Slabs, Chimney-pieces, Tablets, Tombs, Monuments, Tops, Bordering, Paving, Borders, Landing, Steps, Balusters, Rails, and other ornamental Stone. Approved Bills at four months will be taken in payment. May be viewed three days prior to the Sale, and catalogues had on the Premises, and of the Auctioneers, 23, Parliament-street, Westminster, S.W.

CROWN LANDS, WHICHWOOD, OXON.—Important Sale of 7,800 OAK TREES, lofty, fit for Timber, 700 Cords of Wood, 1,000 Hogsheads, 1,000 Hurdles.—TO BE SOLD by AUCTION, at the CHILD HILL ARMS INN, Ascott, on TUESDAY, 28th day of OCTOBER, 1858, by

MR. LONG, by the direction of the Hon. Charles A. Gore, a Commissioner of Her Majesty's Woods, Forests, and Land Revenue. The Timber is made into lots, and may be viewed from the entering of the first street of Whichwood. On account of the number of the Lots, the sale will commence punctually at TWELVE PRECISELY o'clock. Whichwood lies within an easy distance of three stations of the Oxford, Worcester and Wolverhampton railway, and the price of each lot is marked by one of the Stations of that railway. By permission of the company, the Oxford train leaving Euston-square at 9.45 and 5.15 p.m., and the up train, leaving Wolverhampton at 3.40 p.m., will stop at Ascott on the day of sale, for the accommodation of passengers. Catalogues, and particulars may be obtained at the Office of Woods, 1, Whitehall-place; of Mr. JOHN CLUTTON, Crown Receiver, 9, Whitehall-place; or Mr. ROBERT MORRIS, Agent, near Enstone, Oxon (who will show the property), of the Auctioneer, Witney, at the Plough Sale Yard, also at the Wolverhampton, Bridgnorth, Dudley, Stourbridge, Kidderminster, Droitwich, Worcester and Oxford Railway stations.

MAIDSTONE GAS COMPANY, Incorporated 1824.—SALE of NEW SHARES.—The NEW SHARES of £20 in the Maidstone Gas Company, created under the Act passed in the last session of Parliament, will be offered for SALE by PUBLIC AUCTION at the Bull Inn, Maidstone, on THURSDAY, SEPTEMBER 30th, at ELEVEN for TWELVE o'clock precisely, by order of the Directors of the Company by Mr. BOTTELL. The shares will be sold rateably According to the Capital to be raised by the Act under the Directors' Orders of the respective Lots, on the 23rd day of OCTOBER, 1858 at the hour of Two o'clock. The Company Particulars and conditions of sale may be had at the Crown, Tunbridge; Kentish Hotel, Tonbridge Wells; Farmers Head, Ashford; New Falcon, Gravesend; the Auction Mart, London; of Messrs. BEALE and HOAR, Maidstone, Clerks to the Company; and at the Auctioneer's Office, Maidstone. A copy of the Act of Parliament may be inspected at the Office of the Clerks to the Company, and of the Auctioneer.

EXECUTION and ASSIGNMENT.—Paper Mills, Rags and Chimney-Pots.

MR. EDWIN WHITE will SELL without reserve, at the Rose Inn, Farningham, on TUESDAY and SEPTEMBER ONE for TWO p.m., nearly 7 tons PRESS and PAPER MAKING MATERIALS, consisting of about 6 cwt. of Best Cut Linen Rags, Rope, Packing, Canvas, and Sacks; also a handsome wood and stuffed mahogany sofa, and 12 new chimney-pieces. On view the day preceding and morning of sale, when catalogues may be had.

TO BUILDERS, CABINET-MAKERS, SHOP-FITTERS, and OTHERS.—TO BE SOLD by AUCTION, on the PREMISES, No. 15, James's-walk, Chelsea, the entire of the well-assorted STOCK of a BUILDER and SHOP-FITTER, including a quantity of glazed mahogany sashes, suitable for jewellers, stationers, &c. on TUESDAY, SEPTEMBER 28th, 1858, at ELEVEN for TWELVE o'clock, precisely. Catalogues to be had on the Premises.

Important Sale of Timber at Norway-wharf, Greenwich.

MESSRS. HUMPHREYS and ROBINSON will SELL by AUCTION, as above, on TUESDAY, OCTOBER 5th, 1858, at TWELVE o'clock, a large assortment of TIMBER; including yellow and white deals, pine, and spruce battens, lapped flooring, and 3 by 3 quartering, now lying on the Premises; and the Iron in the neighbourhood; of the Auctioneers at their Offices, 10, London street, Greenwich.

IN BANKRUPTCY.—Valuable Freehold Building and Building Ground situate at Milton, near Gravesend.

MESSRS. PLEWS and WALL are instructed by the Assignees, with the concurrence of the Mortgagees, to SELL by AUCTION, at the AUCTION MART, Bartholomew-lane, London, on THURSDAY, SEPTEMBER 30, at TWELVE, in SIX LIBERAL LOTS, a valuable FREEHOLD ESTATE, comprising Detached Site, requiring a moderate outlay for completion; situate in Windmill-street, Milton, near Gravesend; also an extensive and valuable Plot of Freehold Building Land, adjoining the above, and forming an important site for the Building Trade. The whole of the property is enclosed by a wall most substantially erected, of Portland cement, with handsome carriage and private entrance gates, and is situate upon an eminence, commanding beautiful and extensive views of the surrounding country. The Gravesend packet sails in a few minutes' walk of the estate, whence steamboats are constantly plying to the London at Tilbury Railway. May be viewed immediately by Mr THOMAS ATKINSON, on the premises; and particulars and plans had at the Mart of Messrs. LAWRENCE, PLEWS, and BOYER, Solicitors, 14, Old Jewry-chambers; of Messrs. PISHEL and KEAYS, Solicitors, 12, Bedford-row; of Messrs. FISHER and BELL, Esq. Official Assignee, 3, Coleman street Buildings; at the principal Inns at Gravesend; and of Messrs. PLEWS and WALL, Auctioneers, Surveyors, and Valuers, 9 and 10, Basinghall-street.

MAIDA HILL.—First-class Family Residences, two of which are let at 105l. and 100l. per annum, and the remainder require an outlay for completion; presenting unparalleled and advantageous means of complete and decorate a residence to suit their own taste and of desirable and lucrative investment. The whole of the property, which stands on the high road, is held for a long term of very few years.

MESSRS. PLEWS and WALL are directed by the Assignees of Messrs. Atherton and Kay, Upholsterers, with the Concurrence of the Mortgagees, to SELL by AUCTION, at the AUCTION MART, Bartholomew-lane, on THURSDAY, SEPTEMBER 30, at TWELVE for ONE p.m., eight lots, EIGHT FAMILY RESIDENCES, standing and being on the North Side of Maida-hill, in the Parish of Paddington, and numbered 1 to 8, inclusive, on the Plan of Building Ground, about 97 years, at a moderate ground rent. Nos. 5 and 7 are let to Messrs. Atherton and Kay, at 105l. per annum, and Nos. 2, 3, 4, 6, 8, 9, 11, and 13, require an outlay for completion.—The property has lately been viewed daily, and that let by permission of the respective tenants; and printed particulars and conditions of sale had at the Auction Mart, Bartholomew-lane, City; of Messrs. LAWRENCE, PLEWS, and BOYER, Solicitors, 14, Old Jewry chambers; of Messrs. PISHEL and KEAYS, Solicitors, 12, Bedford-row; of W. BELL, Esq. Official Assignee, 3, Coleman-street Buildings; on the Premises; and of Messrs. PLEWS and WALL, Auctioneers, Surveyors, and Valuers, 9 and 10, Basinghall-street.

TO BUILDERS, SMITHS, DEALERS, and OTHERS.—Special Notice.—Of the first Portion of costly Household Furniture, &c. TUESDAY, OCTOBER 5th, 1858.

MESSRS. BOOTH and CO. will SELL by AUCTION, at the PREMISES the first portion of the Household Furniture, Goods, and Effects of the Workmen and Others employed by BUILDERS, SMITHS, and Others, Bridge-street, Battersea, comprising a quantity of the first necessity. The sale to take in and embrace a large stock of valuable materials of the most description, including many valuable articles of general use and every-day consumption; an excellent chapel pulpit, with stairs complete; also a reading-desk for ditto; plate glass frames and fronts, and doors; large lights; hall doors, sashes, and doors with and without frames; a large quantity of new ditto; framing, public house circular sash doors, and other capital fittings; iron and palisading; iron railings, with spikes complete; wood screws; shop stoves; a smith's portable forge and bellows; forge, crane, and small traveller; ironmongery; O. G. guttering, and a few capital water-closets, with levers, traps, and pans complete. On view one day previous and morning of sale. Catalogues will be ready two days prior, and may be had on the Premises; at the Buffalo's Head Inn, opposite; at BOOTH and CO.'s Auction Offices, 35, Essex-wharf, E.C.; and Mollard-house, Hackney-road, N.E.—Further notice. Catalogues forwarded on the receipt of address and one stamp.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq., at Barham, on the Medway.

MESSRS. FULLER and HORSEY are instructed to treat for SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq., on the high road between Rochester and Rochester Bridge, and also comprising about eighty-five acres, partly freehold, and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London by railway is 29½ miles, and the steamboat service three times per day. The Works and clay holdings are situate in the parish of Aylesford, at the North Kent Line are within two miles of the property. The surface of the land slopes at an inclination of about 1 in 20, towards the river, and the pits having been formed near the summit, but little haulage is required. The clay is known as the Gault clay, and it extends beneath the entire surface to a depth of about 120 feet, affording a supply more than sufficient for the next century. The Gault clay requires a small quantity of admixture any clay near London and the Belgian works, nearer to the London market than those after which the Gault clay is found. The site of carriage to London is unrivalled for low rates. The works were established by Mr Cubitt for his own requirements exclusively, and both plants and skill have been unsparingly expended for the purpose of producing them complete. The principal building is upwards of 300 feet in length, chiefly three stories high. There are four pictures on the surface for drying, and the drying of goods is effected by means of warm water pipes. Outside the buildings and contiguous thereto, are three well-known patent Scotch kilns, each of 200,000 bricks capacity; two larger ones for 300,000 each; twelve Scotch kilns, each of 60,000 each; also, seventeen open-ended back-draught, capital order.

The Plant is capable of producing 2,000,000 bricks per annum, in addition to moulded and mitre goods of all shapes, sizes, and fancy goods of every kind. The moulds of wrought brick and the machines, Alsing's, by Mr Clutton, are of the most perfect, and the requisite pug-mills, old and of 220 horse power, will be let, or bought at a fair valuation. Also the Mill for grinding the cement clinker, and the requisite machinery for transferring, raising, and storing it; also the two large barges for the purpose, and the crane on the Rochester Bridge wharf. Also the Cement Works, with the 10-horse power Clayton and Shuttleworth, and other mills, by Messrs. Cubitt, and the kilns at the north part of the field. A reservoir of three acres, with a depth of 20 feet, is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the establishment. The whole is connected by upwards of two miles of iron railway, with a machine and weigh bridge, and there is a most substantially-built school, with a dwelling-house attached, and a wharf for barges to lie alongside.

The Brick Works comprise four well-built kilns for 60 yards each, three drying sheds, and nine chimneys, each 80 ft. high, and upon which is fixed a powerful steam-engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the cement works a newly-erected residence for general manager, with flower-garden, and fronted by a large and productive garden. A newly-erected house for foreman of cement works, three cottages, stabling, and a mess room for the workmen, with cooking apparatus. At a short distance, in the opposite bank of the Medway, is a Quarry of full first-rate stone for brick-making purposes, and a wharf for the same. As before stated, these works were established to supply Mr Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the fact that the Gault clay is acknowledged to be the best for brick-making purposes, that this field is the nearest yet in existence to the London market, that coals can be procured without being subject to City London dues, that all other raw materials can be obtained in the very best quality, and that the machinery is of the highest character, most judiciously planned, and that for its working skilled labour is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, Billiter-street.

NORWOOD, within three minutes of the Station to London bridge and West-end.—GROUND TO BE LET, for building villas from 60l. to 100l. per annum which are in great request. The most eligible ground in this rapidly rising suburb, to be taken for long terms. Private applications only to be made to W. F. LOW, Esq. Solicitor, 67, Wimpole-street, Cavendish-square.

TO LAND and BUILDING SOCIETIES, BUILDERS, and OTHERS.—TO BE SOLD, in one or three lots, TWENTY-FIVE FREEHOLD LAND, Lots 3, 4, and 5, Block 1, healthily near the new Church, at Bexley, Kent, within a mile and a half of the railway station of the Maidstone Railway, now in course of construction, and near the Great London and Maidstone road, and within a short distance of the Bexley station, and is bounded by the estates of Lord Sidney, Mr Bevan, and Mrs Lewis. They will be sold in one lot or three lots, and require little earth on part of the land, sufficient for all the building required. The property is in a most eligible position for building, and will suit building societies, or other speculators. For particulars apply to Messrs. Gribble, Surveyors, 54, Lombard-street, and Bexley, and Dunn, Greenwich.

BUILDING LAND, SOUTH KENSINGTON.—The Commissioners for the Exhibition of 1851 are prepared to receive TENDERS for BUILDING LEASES, three years' building lease of valuable Plots of Freehold Land, fronting Prince's-road and Prince's-gate, with all proper roads and drains, in appropriation to Messrs. HAGGATT, CLARKE, and FINCH, 41, Craven-street, Strand; to Messrs. HUNT and STEPHENSON, 4, Parliament-street, Westminster; or to Mr. WADE, at the Office of the Commissioners, 8, Adam-street. The Tenders to be delivered at or before TWELVE o'clock, on TUESDAY, the 28th day of SEPTEMBER next. The Commissioners do not pledge themselves to accept the highest or any Tender.

TO TRADE, BENEFIT SOCIETIES, and OTHERS.—A LARGE CLUB-ROOM TO LET, at the Calthorpe Arms, Gray's-inn-road.

BELGRAVIA.—Important to House-Decorators, General Builders, and Upholsterers.—TO BE DISPOSED of, for 100l. only with possession, the LEASE for twenty-one years of an ELIGIBLE BUSINESS PREMISES, LIBERTY NO HOUSE, No. 1, Pimlico Place, Belgrave-road. The first floor is furnished, has more than paid the rent, and the present business will be given to the purchaser at the premium quoted for the lease only. Apply to Mr FREDERICK GOLDING, 9, Hobart-terrace, Belgrave-square.

TURNHAM-GREEN.—To BUILDERS, LAND SOCIETIES, and OTHERS.—TO BE LET on BUILDING LEASE, or SOLD, a most FREEHOLD ESTATE, immediately adjoining the Royal Horticultural Society's Gardens. Constant access by omnibus and rail.—Apply to Mr. GEO. LEKINGTON, Architect and Surveyor, 70, Cannon-street, City, E.C.

TO MANUFACTURING CHEMISTS and OTHERS.—ELIGIBLE LAND, suitable for manufactories, to be let or sold, on the Fresh-wharf, close to London and close to a railway station.—TO BE LET, on LEASE, for twenty-one years, or SOLD, a PIECE of FREEHOLD LAND, containing about 2 acres, with a frontage to the River Thames of 200 feet. Apply to JOHN WARICH COLE, Bank-buildings, 1, Walbrook, City, E.C.

MORTLAKE, SURREY.—ELIGIBLE BUILDING LAND, for BUILDING PURPOSES.—To be LET, on LEASE, a PIECE of FREEHOLD BUILDING LAND, fronting the Richmond Horse-ride, Middlesex, and a plot near the railway station, and Mortlake, Surrey. The land is to be let for the residue of a term of 99 years, and is admirably adapted for villas, &c. Apply to Messrs. DEARN and CLAYDON, Solicitors, 29, Great Cumberland-place, Hyde-park; or to R. P. POPE, Esq. Architect, 21, Bedford-row, Holborn, W.C.

TO BUILDING SPECULATORS, &c.—TO BE LET as a whole or in plots about TWENTY ACRES of BUILDING LAND in the county of Surrey, carved from the freehold, and for a long term of years. The land is close to a railway station, is within 22 miles of London, commands beautiful views, has a dry soil, and excellent water can be obtained.—Apply for particulars and plans to Mr T. CHATFIELD CLARKE, Architect and Surveyor, 137, Leadenhall-street, E.C.

BRICKFIELD.—TO BE SOLD, or LET, with immediate possession, a FIELD of about SIX ACRES containing brick earth of the finest quality, with an excellent dwelling-house, five substantial cottages, and a baker's shop and dwelling-house. The property is near Milton, next Sittingbourne, Kent, and close to a line of railway, and is well supplied with water. For particulars, apply to Mr. T. CLARK, No. 3, Dean's-court, St. Paul's Churchyard.

WESTMINSTER.—REPAIRING LEASE.—TO BE LET, on advantageous terms, a HOUSE, in Cecil-lane, with tenements in the rear.—For particulars apply to W. W. POCOCK, Architect, 10, Trevor-terrace, Knightsbridge.

TO BUILDERS and WHARFINGERS.—Commodious WATERSIDE PREMISES, Cumberwell-road, with Workshops, Sheds, two Residences, and Lay-to for Barges, adjoining the Surrey Canal, TO BE LET or SOLD, with immediate possession.—Apply to W. W. POCOCK, Architect, 10, Trevor-terrace, Knightsbridge.

TO MANUFACTURERS and OTHERS.—VALUABLE.—TO BE LET or SOLD, with immediate possession, TWO HOUSES, with large gardens, and wide entrances, suitable for any trade or business.—Apply to W. W. POCOCK, Architect, 10, Trevor-terrace, Knightsbridge.

CHARMOUTH, Dorset.—TO BE LET, by TENDER, the CEMENT and LIMESTONE, and MUNDIC, in the Cliff on the French rock of STONEBARROW FARM.—Apply to ROBERT HILLMAN, Esq. Lyme Regis, to whom Tenders must be sent, on or before the 1st day of NOVEMBER next.

Lyme, 20th September 18.8.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate in Clapham-common, in the Hundred of Brixton, in the County of Surrey.—For particulars apply to JAMES CROWDY, Esq. 17, Serjeants'-inn, Fleet-street, E.C.

WATERSIDE MANUFACTURING PREMISES, MILLWALL, POPLAR, on the THAMES.—TO BE SOLD in PRIVATE CONTRACT, the LEASE of extensive MANUFACTURING PREMISES, known as the British Iron Works, at the Greater part of which is erected with the Land Ways, and well adapted for any manufacturing business requiring waterside power, shipbuilding, an excellent trial ship, with convenience for launching the same. The Premises are very spacious, comprising three docks. There are two dwelling-houses and two lofty brick-built chimney-shafts.—The plant, including two steam-engines of 30 horse and 20-horse power, two vertical boilers, furnaces, crushing mills, machinery, may be taken or not at the option of the purchaser.—For further particulars apply to Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

HIGHLY IMPORTANT to BUILDERS and CONTRACTORS.—Mr GEORGE McCANN, the eminent Builder and Contractor, Great Malvern, Worcestershire, is to commence immediately the ERECTION and FURNISHING of those TRADES, three in number, of a most extensive, desirable, and lucrative character, well adapted for the business, high recommendation, and where the demand for villages and dwelling-houses rarely, if ever, is met with. A fortune may be secured in a few years, now that the railway to Malvern will be opened during the autumn of this year. The whole stock is to be sold, as of the most useful description, and may be had at a valuation.—The premises and business are for sale or to be let on very favourable terms. The trades are STONE QUARRIES, BRICKMAKERS, and BUILDERS, and will afford a most valuable and desirable investment. Further particulars obtained on the spot, of Mr. McCANN, the Proprietor, Malvern; Messrs. PRICE and CO. Timber Merchants, Gloucester; W. R. KEMBLE, Esq. Waterloo street; or Mr. SAMUEL BLOORE, Auctioneer, Bromsgrove.

N.B.—A capital of 2,000l. will be required, but terms could be arranged.—If no purchaser or lessee can be found, a responsible manager, who is thoroughly master of the business.

PADDINGTON.—FREEHOLD BUILDING LAND (above Two Acres) TO BE SOLD or LET, eligibly situate on the Harrow-road, about two minutes' walk from the Great Western Railway Terminus, 270 feet of street fronting already formed.—Apply to POOLE and MACGILLIVRAY, Estate Agents, 21 and 22, Portman-street, Cavendish-square, W.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CHESS'S WHOLESALE WAREHOUSE, 22, GREAT PULTENEY-STREET, Golden-square, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION is given in surveying, Levelling, Civil Engineering, &c. by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Surveyors, &c. of extensive practice, who give Instruction in every branch of the Profession.—Time for the Course of Three Months, Two Guineas.—No extra.—For Prospectuses, &c. apply at the Offices, 21, Guildford-street.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Students, Pupils, Clerks of Works, &c. established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. for giving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing; Perspective, Isometrical, and Geometrical Drawing; Making Finished and Working Drawings; Preparing Specifications; Taking out Quantities, Estimating Builders' Work, &c. Terms—Private Pupils, Three Guineas per Quarter; Evening Pupils, One Guinea per Quarter. There are no extras: the Terms include the whole. The days, with the use of Drawing Boards, Parallel Rules, Scales, &c. for Private Pupils, 9 to 5; Evening Pupils, 7 to 10. Pupils may be had at the Offices, 24, Guildford-street, Russell-square, London.

GALLERY of ELECTRO BRONZES, No. 391, Strand.—ADMISSION FREE.—ALTO RELIEVOS in Cupid Bronze and in Gold and Silver, by the Galvano-Plastique Patent Process, at an UNPRECEDENTED PRICE, rendering them available for architectural and general decorative purposes, and forming a most elegant addition to the drawing-room, cabinet, or picture-gallery, as Works of Fine Art. Battle, Scriptural, Historical, and other highly-interesting Pieces, in solid metal, having been executed from the Originals of the Continental Sculptors, and Electro Reductions of Flaxman, are now on View to the Public at the above Gallery, 391, Strand, from TEN till FOUR. Catalogues, with every information relative to the extensive Patent Process, at 391, may be obtained of the Secretary, at the Gallery, or from any of the Local Agents who are now being appointed throughout the country.

H. CHALON, Secretary.

THEODOLITES, LEVELS, CIRCUMFERENTERS, MATHEMATICAL DRAWING INSTRUMENTS, SCALES, FILES, TAPES, T SQUARES, &c.—JOHN ARROTT, No. 23, Walnut-tree-road, Lambeth, near Astley's Theatre, respectfully informs the Public that his Stock of the above articles, manufactured by superior workmen. The prices will be found considerably lower than can be obtained for articles of similar quality.—A 10-inch mitred pocket theodolite, reading to 5 minutes, with compass and level, complete, six guineas; 10-inch ditto, eight guineas; 14-inch ditto, ten guineas; with compass, one guinea each extra. Best 5-inch theodolite, divided on silver, eighteen guineas.

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The Builder.

AN ILLUSTRATED JOURNAL FOR THE

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq. St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 22, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

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" above 15 .. .. 65 "

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PROFESSOR DONALDSON'S LECTURES on ARCHITECTURE and CONSTRUCTION, at UNIVERSITY COLLEGE, will COMMENCE on TUESDAY, the 19th of OCTOBER.—Prospectuses and particulars may be had at the Office of the College.

CONTRACTS.

LANCASTER and CARLISLE RAILWAY.—LUNE VALLEY LINES.—TRACINGS and BILL of QUANTITIES for these contracts may be obtained from Mr. ABRAHAM LEA, 41, Lord street, Liverpool, or at the Station, Lancaster.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, on or before TUESDAY, the 12th day of OCTOBER, 1858, from persons desirous of CONTRACTING for CONSTRUCTING a GUN-SHED at Shorncliff. Drawings and a specification of the work to be executed may be seen by persons fully competent to undertake the same, and printed specifications, with forms of Tender, obtained at the Royal Engineer Office, Shorncliff, between the hours of TEN and FOUR o'clock, from MONDAY, the 4th of OCTOBER, to SATURDAY, the 9th of OCTOBER, 1858, inclusive. The party whose Tender may be accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately, to be bound under a penalty of 50l. for the due performance of the Contract. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W. and endorsed, "Tender for a Gun Shed, at Shorncliff."

N.B.—The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, 21st September, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Manchester District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on WEDNESDAY, the 13th OCTOBER from such persons as may be willing to Tender for the ERECTION of MARRIED SOLDIERS' QUARTERS, OUTBUILDINGS, &c. at the Cavalry Barracks, Manchester. The specification, drawings, and terms of contract, may be seen, and every requisite information obtained, at this Office, in and after MONDAY next, the 20th inst. each day, from TEN to FOUR, Sundays excepted. Tenders to be endorsed, "Tender for the Erection of Married Soldiers' Quarters and Outbuildings, at the Cavalry Barracks, Manchester."

Royal Engineer's Office, 1, Green street, Dawson-street, Manchester, September 16, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts for the War Department, Pall Mall, London, on THURSDAY, the 7th day of OCTOBER, 1858, before TWELVE o'clock at Noon, from such persons as may be willing to undertake the EXECUTION of CERTAIN SERVICES proposed to be performed at Priddy's Hard, near Gosport, in the county of Hants. The plans, specifications, and conditions of Contract, may be seen, and every information obtained, on application at the Royal Engineer Office, Gosport, between the hours of TEN and FOUR each day (Sundays excepted), until the 5th OCTOBER, 1858.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Portsmouth, September 22, 1858.

TO BUILDERS and CONTRACTORS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War-office, Pall-mall, London, on or before THURSDAY, the 14th OCTOBER, 1858, from persons desirous of CONTRACTING with the Secretary of State for War, for CONSTRUCTING a SLUICE, from the south end of Inner Moat, East Gun Line, into the river Thames, at Tilbury Fort, in the Medway district. Plans of the work are to be seen, and specifications and forms of Tender obtained, on application, at the Royal Engineer Office, Gravesend, between the hours of TEN and FOUR, till the 12th of OCTOBER, 1858, Sundays excepted. The person whose Tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 100l. for the due performance of the contract. Tenders to be addressed to "The Director of Contracts, War office, Pall-mall, London, S.W." and to be delivered free, endorsed "Tender for Sluice, at Tilbury Fort." No Tender can be admitted after the said 14th day of OCTOBER, 1858.

N.B. The Secretary of State for War reserves to himself the right to reject the whole or any of the Tenders.

Royal Engineer Office, Chatham, September 28, 1858.

TO BUILDERS and CONTRACTORS.—CONTRACT for the ERECTION of a COAST-GUARD STATION at YARMOUTH.—Persons willing to CONTRACT for the ERECTION of a COAST-GUARD STATION at Yarmouth, in the county of Norfolk, may inspect the drawings and specifications at the Offices of Messrs. REYNOLDS and PALMER, Solicitors, 28, Regent-street, Yarmouth, or at this Office, between the hours of TEN and FOUR, from SATURDAY, the 9th, to SATURDAY, the 23rd day of OCTOBER now next ensuing, and both inclusive (Sundays excepted). Tenders to be sent to this Office, not later than TWELVE o'clock at noon of the 23rd OCTOBER, 1858, under seal, and directed to the Commodore Comptroller-General of Coast-Guard, and endorsed "Tender for Yarmouth Station." The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 28th day of September, 1858, at the Admiralty.

Coast-guard Office, 18, Spring-gardens, London, S.W.

TO BUILDERS and CONTRACTORS.—CONTRACT for the ERECTION of a COAST-GUARD STATION at NEWHAVEN.—Persons willing to CONTRACT for the ERECTION of a COAST-GUARD STATION at Newhaven, in the County of Sussex, may inspect the drawings and specifications at the Coast-guard Watch-room, Newhaven, or at the Office, between the hours of TEN and FOUR, from the 27th day of SEPTEMBER to 11th OCTOBER now next ensuing, and both inclusive (Sundays excepted). Tenders to be sent to this Office not later than TWELVE o'clock at noon of the 13th OCTOBER, 1858, under seal, and directed to the Commodore Comptroller-General of Coast-Guard, and endorsed "Tender for Coast-Guard Station, Whitehaven." The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or either of the Tenders.

Dated this 18th day of September, 1858, at the Admiralty.

Coast-guard Office, 18, Spring-gardens, London, S.W.

TO BUILDERS and CONTRACTORS.—Parties desirous of TENDERING for a STORE ESTABLISHMENT, at Aldernay, are requested to attend personally, or by their representatives, on the 8th OCTOBER next, at TWELVE o'clock precisely, at the War-office, Whitehall-gardens, to name a SURVEYOR, to take out the quantities on their behalf. At the same time and place the plans may be inspected, and all further information obtained.

—By order,

H. C. OWEN, Deputy Inspector General of Fortifications

War office, Whitehall-gardens, 8 September 23, 1858.

CONTRACTS.

TO BUILDERS and CONTRACTORS.—The Guardians of the Poor of the Machynlleth Union being about to erect a NEW UNION WORKHOUSE, capable of accommodating sixty inmates, invite the competition of Excavators and Masons, Carpenters and Joiners, Plasterers, Plumbers, Glaziers, Slaters, Iron-workers, and Painters, who may be desirous of TENDERING for the whole or for any portion of the Works. Such persons may inspect the drawings and specifications at the Board-room, Machynlleth, from the 22nd of SEPTEMBER to the 8th of OCTOBER, both inclusive, and may obtain bills of quantities and any further information on application to JOHN EDWIN OATES, Esq. Architect, York. Sealed Tenders, endorsed "Tender for Works," must be sent at or before TWO o'clock on WEDNESDAY, the 9th of OCTOBER, addressed to HUMPHREY JONES EVANS, Esq. Chairman of the Board of Guardians, Machynlleth.—No pledge is given to accept the lowest or any Tender.—By order of the Board,

D. ROWELL, Clerk.

Machynlleth, 28th August, 1858.

GLOUCESTER WATER WORKS.—CONSTRUCTION of RESERVOIRS TENDERS for the CONSTRUCTION of TWO RESERVOIRS (of a water area of about twenty acres) with an ATTENDANT'S DWELLING HOUSE, CONDUITS, and other WORKS, according to certain plans, drawings, and specifications to be seen at the Office of Mr. JOHN HANVEY, C.E. surveyor to the Local Board of Health, Gloucester, are requested to be sent, marked "Gloucester Water Works, Tender for Works," under cover addressed to Mr. K. H. FRYER, Clerk to the Local Board of Health, Gloucester, on or before the 12th of OCTOBER next. Printed specifications and bills of quantities (which form no Tender), may be had of Messrs. PENRICE and SON, Clarence-street, Gloucester, after the 27th instant, for the sum of 5s. The contract must be tested by parties tendering, and are not guaranteed by the Board.

K. H. FRYER, Clerk.

Gloucester, 8th September, 1858.

UCKFIELD GASWORKS.—The Directors of the Uckfield Gas Company are desirous to receive TENDERS for the INTERNAL FITTINGS of the above WORKS; the specifications for which will be furnished to any person on application to the Secretary, as under. A ground-plan, showing the general arrangement, may be seen at the Gasworks, at Lewes, at Messrs. LANGHAM'S, Solicitors, 10, Bartlett's-buildings, Holborn, London; or at the Office of the undersigned, at Uckfield. The Works are situate on the line of the Lewes and Uckfield Railway, which will open in the beginning of October, thus affording railway carriage for all materials. Tenders must be sent in to the Secretary, on or before MONDAY, the 4th OCTOBER next; and the Works will have to be completed within two months thereafter.

J. G. LANGHAM, Jun. Secretary.

Uckfield, September 16, 1858.

BRADFORD CORPORATION WATER-WORKS.—To EXCAVATORS, MASONS, MINERS, and GENERAL CONTRACTORS.—The Waterworks Committee of the Bradford Corporation will meet at their Offices in Bradford, on WEDNESDAY, the 20th day of OCTOBER next, at ELEVEN o'clock in the Forenoon, for the purpose of receiving TENDERS or PROPOSALS for the following WORKS

CONTRACT I.—The excavating, forming, and completing of a Store Reservoir, of about fifteen acres in extent, on the Stubden Beck, on Thornton Moor, in the township of Thornton and parish of Bradford, with the bye channel, residuum, lodges, culverts, valve well, beck weir, waste-water channel, gauge house, and other works connected therewith; also, the building and completing of a Catchwater Conduit of about 2,100 yards in length, from Foreside Beck to and into such Store Reservoir.

CONTRACT K.—The excavating, forming, and completing of a Millowners' Compensation Reservoir, of about twenty five acres in extent, at the out flurence of the Denholme and Carpenter Becks, near to Doe Park, in the township of Thornton, in the parish of Bradford, with the culverts, waste pit, residuum lodges, and other works connected therewith.

CONTRACT L.—The forming and completing of about 12¾ miles in length of the Aqueducts or Conduits for bringing an improved supply of water to the higher levels of the town and borough of Bradford, including about 1,750 yards in length, which will have to be executed by means of tunnelling, and the remainder of which will consist of cast-iron main pipes

The Committee do not bind themselves to accept the lowest or any other Tender or proposal. Plans and specifications may be seen, and further information may be had, from and after THURSDAY, the 30th instant, on application to Mr. J. W. LEATHER, Civil Engineer, Leeds.—By order,

W. H. HUDSON, Town Clerk.

Bradford, Sept. 30th, 1858.

TO STONE MERCHANTS and OTHERS.—The Vestry of the Hamlet of Mile-end Old-town will meet at the Town House, Mile-end road, on WEDNESDAY, the 6th day of OCTOBER next, at SEVEN p.m. precisely, to receive TENDERS for the SUPPLY of 10,000 feet lineal of 12 feet by 6 feet, Devonshire, Cornwall, Guernsey, or Jersey GRANITE KERB, according to the terms of a specification, which may be seen at the Office of the Surveyor, at the Town House, between the hours of TEN and ONE. To be delivered free of all charges, alongside Gardner's Wharf, Regent's Canal, Mile-end-road, one-third by the end of November next, and the remainder between the 14th February and 14th May next. The contractor will be required to enter into a contract at his own expense, to be prepared by the Clerk to the Vestry at a cost not exceeding 6l.; and find two sureties in half the amount of his contract, for the due performance thereof. Tenders, containing the names and addresses of proposed sureties, are to be sent in to my Office before THREE of the clock in the afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Town House, Mile-end-road, 30th September, 1858.

ALDERSHOT GENERAL MARKET.—TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of the above BUILDINGS, may inspect the plans and specification at the Office of the Architect, Mr. T. GOODCHILD, Guildford, on and after the 2nd OCTOBER, to whom sealed Tenders are to be delivered not later than the 9th OCTOBER next endorsed, "Tender for Works, Aldershott Market." The quantities will be supplied. The Directors do not bind themselves to accept the lowest or any Tender

[For remainder of Contracts see next page.

CONTRACTS.

ST. MARYLEBONE WORKHOUSE, 21st Sept. 1858. To BUILDERS, CONTRACTORS & c. NEW WORKHOUSE SCHOOLS for the PARISH of ST. MARYLEBONE at Southall, Middlesex.—Notice is hereby given that the Directors and Guardians of the Poor of the Parish of St. Marylebone, in the county of Middlesex, will receive TENDERS for the ERECTION of NEW WORKHOUSE SCHOOLS at Southall, in the parish of Norwood, in the county of Middlesex—Further particulars may be known, and plans and specifications seen, and the quantities obtained, upon application at the Surveyor of Roads, Mill-lane—Notice is hereby given that the Directors and Guardians of the Poor of the Parish of St. Marylebone, in the county of Middlesex, will receive TENDERS for the ERECTION of NEW WORKHOUSE SCHOOLS at Southall, in the parish of Norwood, in the county of Middlesex—Further particulars may be known, and plans and specifications seen, and the quantities obtained, upon application at the Surveyor of Roads, Mill-lane—Sealed Tenders, addressed to the Directors and Guardians of the Poor of the Parish of St. Marylebone, in the county of Middlesex, will be received at the Board-room of the said parish, in North-street-end-street, on TUESDAY, the 5th day of OCTOBER, next, at half-past TWO o'clock in the afternoon, to consider TENDERS for the BUILDING of NEW WORKHOUSE SCHOOLS at Southall, in the parish of Norwood, in the county of Middlesex—Further particulars may be known, and plans and specifications seen, and the quantities obtained, upon application at the Surveyor of Roads, Mill-lane—Each Tender must be signed by the person tendering, or some person on their behalf, to be in attendance at the time of opening the same, and must state his place of abode—The Board do not pledge themselves to accept the lowest or any of the Tenders.—By order,

T. B. RAE, Secretary.

Secretary's Office, Marylebone Workhouse, Sept. 21st, 1858.

THE CONSERVATORS of the RIVER THAMES are prepared to receive OFFERS from parties willing to TAKE AWAY the MATERIAL resulting from the Shoal-dredging in Blackwall Reach.

A correct description, consists of mud, gravel, and the remainder is suitable for filling in purposes—Proposals to be addressed to the undersigned—By order of the Board,

F. BURSTAL, Secretary.

41, Trinity-square, Tower Hill, 20th Sept. 1858.

TO RAILWAY CONTRACTORS.—BLYTH and TYNE RAILWAY—WARKWORTH BRANCH.—The Directors are desirous of receiving TENDERS for the CONSTRUCTION of the WORKS between Bedlington and North Seaton Colliery about 2¼ miles in length, including a VIADUCT over the river Wansbeck, about 250 yards in length—Plans and specifications may be seen, and bills of quantities obtained, at the Office of Mr. J. F. TONE, Market-street, Newcastle-on-Tyne, on and after TUESDAY, the 12th instant. Tenders to be sent in not later than NOON on the 23rd of OCTOBER.

BLYTH and TYNE RAILWAY, Warkworth Branch.—CONTRACTS for MATERIALS for Permanent Way.—The Directors are desirous of receiving TENDERS for the following Materials, viz.—

- 45 Tons Malleable Iron Rails.
- 152 Tons Cast Iron Chairs.
- 5,5?? Sheepers of Larch, or of creosoted Scotch or Baltic Timber
- 25,800 Twisted Iron Spikes
- 3,600 Wrought-iron Fishing Pieces.
- 7,200 Bolts for ditto.
- 13,000 Oak Keys

Tenders will be received up to THURSDAY, 14th OCTOBER next. Specifications and Forms of Tender are now ready, and can be obtained at the Office of Mr. J. F. TONE, Market-street, Newcastle-on-Tyne.

PERSONS desirous of TENDERING for the PULLING DOWN and RE-ERECTION of a PARSONAGE HOUSE, at Stock-cross, near Newbury, Berks, may see the plans, specifications, and conditions, on application at the old Parsonage House, Stock-cross, and after TUESDAY, OCTOBER 5th. Tenders sealed and endorsed "Tender for pulling down and re-erecting Parsonage House," to be delivered to the Rev. JOHN ADAMS, Stock-cross, near Newbury, on or before the 12th of OCTOBER, by TWELVE o'clock at Noon. The lowest or any tender will not necessarily be accepted. JOHN DRAKE, Architect.

Chatham, Sept. 27th, 1858.

BARNSTAPLE WATER-SUPPLY.—To PIPE-LAYERS and OTHERS

CONTRACT No. 4.—Excavating for Laying and Jointing about 2¼ Miles of Stoneware Pipes

CONTRACT No. 5.—Excavating for Laying and Jointing about 7 Miles of Cast-iron Pipes

Specifications may be seen at the Company's Office, Quay, Barnstaple, on and after the 1st day of OCTOBER next; and any further information obtained by applying to Mr. A. ROWE, No. 6, High-street, Barnstaple, from whom copies of either of the above specifications, or of those lately distributed, may be had. Tenders for performing the above Works, addressed to the Chairman of the Company, will be received on or before the 19th day of OCTOBER. The Directors do not hold themselves to accept the lowest Tender. By order of the Board of Directors,

R. HEARD, Secretary.

Dated, Sept. 15, 1858.

TO BUILDERS.—TENDERS are required for the ERECTION of SIX FIRST-CLASS DWELLING-HOUSES at Westonsuper Mare, Somersetshire. Drawings and specifications may be seen at the Offices of the Architect from the 14th to the 28th, inclusive; and at ROGERS'S Royal Hotel, Weston-super-Mare, from the 29th of SEPTEMBER to the 4th NOVEMBER. All Tenders are to be sent in on or before the 4th day of NOVEMBER, addressed Mr. THOMAS ROGERS, Weston-super-Mare. The lowest or any tender will not necessarily be accepted. General Tenders will have the preference. J. H. HIRST, Architect.

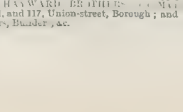
10, Small-street, Bristol

TO GAS CONTRACTORS.—PUBLIC HEALTH ACT, 1848.—DISTRICT of WISBECH.—Persons desirous of CONTRACTING with the Local Board of Health for the DISTRICT PROVIDING and MAINTAINING LAMPS, PIPES for Gas, and other materials and things, and LIGHTING the Town of WISBECH with GAS, for three years, for or the last AUGUST 1858 are requested to send or deliver their proposals to THOMAS STEED WATSON, Esq. Mayor, at his Office in SAID BOROUGH of OCTOBER next, a sealed Tender for the due performance of the several works and things required to be done by the intended contract; a draft of which may be seen and further information obtained on application to Mr. WILLIAM ADAMS, Surveyor of the said Local Board, on and after the 11th of OCTOBER next. The Tenders to be endorsed, "Tender for Lighting the Town of Wisbech with Gas," and to be in the form and signed by two householders of the said borough, and to state the name and place of abode of each Tender. By order of the Board, The Board do not pledge themselves to accept the lowest or any Tender. By order,

T. JACKSON, Clerk to the Local Board.

Wisbech, 29th September, 1858.

VENTILATION—PURE AIR.



EXTERNAL WALL.

Shewing Mr. Jones's admission of Pure Air for the Ventilator through an

With single pulley, from 6s. each; with leading pulley, from 6s. 6d.

These Ventilators are constructed that the requisite quantity of air may be admitted freely into any apartment without any current of the slightest degree perceptible, and when occupants are absent they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is found necessary. HAYWARD BROTHERS, Manufacturers, 115, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Planks, 3s. 6d.; Mahogany and F. Walnut, 7½d.; 2-inch White Battens, 9? 1s.; Yellow, 1?. 10s.; 1-inch White Flooring, 18s. 6d.; 2 ditto, 11s. 6d.; Lunch Yellow, 7s. 6d.; 3-inch, 13s. Lead's-eye Maple Veneer, 2d. Cutting free; and part of the Timber.

T. FORMAN, 1, Walnut tree walk, Walcot place, Lambeth.

TO CARPENTERS, BUILDERS, &c.—THOMAS WILLIAMSON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 201, TOOLEY STREET, at the South Eastern Railway Company's, adjoining their Terminal London-bridge, where, in conjunction with his old-established premises in King-street, Borough, he is prepared to supply from a large and well assorted stock, Timber, Deals, Battens, Flooring Boards, Moulded Linings, Mouldings, &c. at the lowest possible prices, for cash.

Pit Country orders executed with prompt attention, and all sawn goods (Brick Timber excepted), delivered free of carriage within three miles.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, kept at DOVE'S Planing Mills, PRICES, Books of Designs of Mouldings forwarded on application.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful articles:—

¾-inch Prepared Flooring	£0 11 6 per square.
1-inch Prepared Flooring	0 13 6 per square.
1inch Prepared Flooring	0 15 0 per square.
Good Yellow Battens	0 3 2 each.
Spruce Deals	0 3 0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, planks and boards, from 6d. per foot.

All sawn goods delivered within three miles free of carriage.

ALFRED CARTER, Old Bethnal-green-road, N.E.

FLOORING and DEALS, at the LOWEST CASH PRICES. SAMUEL PUTNEY solicits the attention of builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾-inch Prepared Flooring, 11s. 6d. per square.
1 inch ditto, 15s. per square.
Yellow Battens, 11?. 10s. per 120, 12 by 2¾.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Handsome Mahogany Plank and Board, from 6d. per foot.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

A CORN TIMBER WHARF and SAW MILLS.
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	½	¾	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	,,

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to add to the assortment of their Stock the most recent prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark Bridge Wharf, Bankside, S.E.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.

BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has removed his Steam Sawing Premises, where, in conjunction with his other established Yards in Great Peter-street, Westminster, and Pear Hill-street, Limehouse, he can supply from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Elm, Timber, Deals, prepared Flooring, Matched Boarding, and Mouldings, as low as any advertised house in London.

Mahogany, in log	from	6s 5d
,, board	,,	6 6
Spruce Deals	,,	2 9
Pine Planks	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11
Prepared Flooring—		
White.—¾ in. 12s.; 1 in. 15s. 6d.	Yellow.—1¼ in. 18s.	

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.

MOULDINGS to any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large stock always on hand, as per Pattern list.

FLOORING (dry) in a large Stock, of various description.

MATCH BOARDING of any width.

Also,

Timber, Deals, and Mahogany on either Wharf, or at the Docks.

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Orders from the country delivered at any of the Railways in London immediately, if accompanied with remittance or Town reference.

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Since 1782—Nearly Two Millions Sterling.

The Annual Income of the Phœnix Company now exceeds £300,000, and its assets consist of a large proportion of Property in every part of the world, on the most unexceptionable terms.

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ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY
May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from it to Company are not barred thereby from recovering full damages on the parties causing the injury, an advantage NO OTHER COMPANY CAN OFFER.

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NO CHARGE FOR STAMP DUTY.

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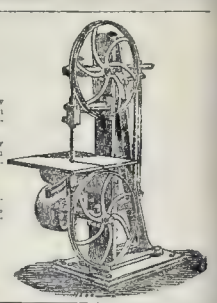
SAWING MACHINERY.—Messrs. C. WORSSAM and CO. have always on hand CIRCULAR SAW-BENCHES, Band Saws, Tenon Machines, Timber Trucks, Deal Frames, and steam engines to drive the same. All sorts of cutting apparatus for working Timbers, Ridgland-road Bridge, London.

HYDRAULIC RAM.—FOR SALE, a 20-inch HYDRAULIC RAM, 8 feet 6 inches long; and the massive cast-iron cylinder, in cast-iron frame, for ditto; with forged wrought-iron cheeks, wrought-iron tie bolts, and the castiron lead valve screwed down to it, as used in raising the Britannia Tube, at Blackpool, on reaching the "Great Eastern" steam-ship.—For price, and further particulars apply to THOMAS BARLOW, Hill top, West Bromwich.

MACHINERY FOR SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 25?.

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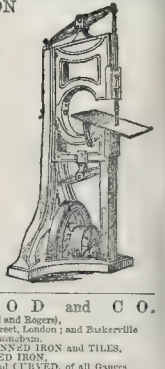
THOMAS ROBINSON and SON, ROCHDALE, near MANCHESTER, PATENTEES, AND Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery. IMPROVED VERTICAL SAW, For Cutting out Sweeps and Circles. Price 20?.



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PLAIN or CORRUGATED, and CURVED, of all Gauges

Also, BLACK or PAINTED CORRUGATED IRON, GALVANIZED or BLACK CAST GUTTERS, PIPE, &c.

All kept in Stock

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Merchants and Shippers can price, and Drawings and Estimates furnished.

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Iron of every description galvanized.

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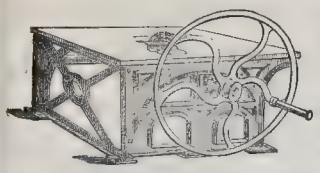
ENDLESS BAND SAWING-MACHINES (New Patent).—NO MORE BREAKAGE OF SAWS.



POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT (dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

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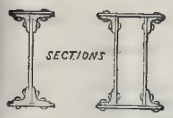
Letters and Applications for Machinery to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, LONDON, E.C.



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For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

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SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
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Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

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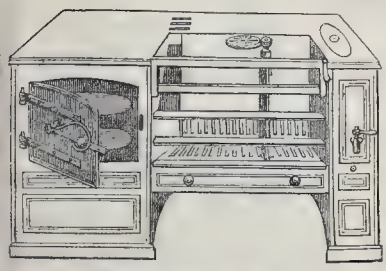
A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER,
COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Register Stoves, with Solid Bars, per inch, 5d
Improved New Pattern Circular Check Register, with strong Raised Travis, per inch, 8d
Best Solid Ditto, with Fine Iron Back, per inch, 10d.
Bright Stoves, with Two Fires, 40s. to 100s. each.
Best Cut Clasp and Rose Nails
1½-inch. 1¾-inch. 2-in. 2½-inch. 3-in.
10s. 15s. 6d 15s. 18s 12s. per cwt.
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Patent Lute,—3s 4d 4s 5s. 7s. 9s per gross
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IMPROVED PATENT FINE-CAST SMOKELESS STOVE,
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Best Self-acting, with Bright Wrought Bars.
34 inches .. 54s.
36 „ 56s.
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30 inches 28s.
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Best Japanned Registers, 40s; Berlin Black, with Bright Mouldings 60s.; Bright Fronts, with Ormolu Ornaments and Two Sets of Bars 90s.; Improved Cast Mangers, with Wrought Hay-rack and Water trough, fitted, 45s.

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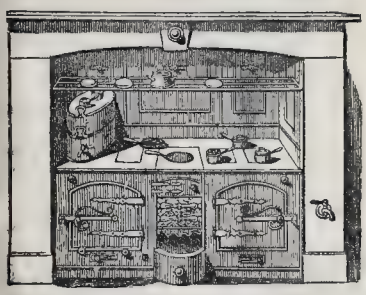

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STOVES, FENDERS, AND FIRE-IRONS,
THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c.
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CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING,
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ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

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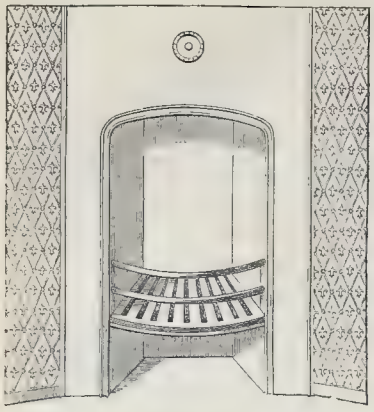
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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EDWARDS'S SMOKELESS KITCHEN RANGE.

A perfect cooking apparatus, ensuring the operations of cooking being conducted with cleanliness, economy, and despatch, and the only one for which the first-class medal was awarded at the Paris Exhibition of 1855. This range effects a saving of 40 per cent. in the consumption of coal, it effectually cures any smoky chimney, and obviates the necessity of chimney-sweeping.

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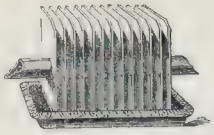
undertake the Warming of Churches and Buildings of every description, by means of a modification of the plans which, during the last four years, have been successfully used by Mr. Goldsworthy Gurney in both Houses of Parliament.



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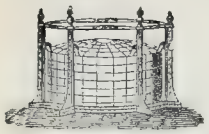

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WROUGHT GIRDERS AND FLITCHES,

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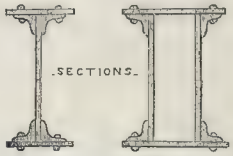

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FOUNDERS, ENGINEERS, and SMITHS,

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Castings and wrought ironwork of every description.

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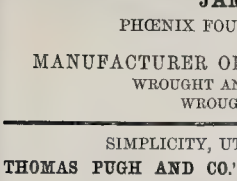

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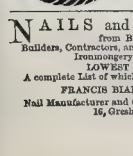

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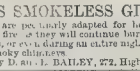
HEATING BY  HOT WATER.

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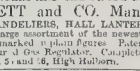
IMPORTANT TO ALL.  THE TRADE SUPPLIED.

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Fresh imitations of this beautiful material are being palmed upon the Public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
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4, Trafalgar-square, London, W.C., June, 1858.

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Duchess	24 in. by 12 in. at	1	15	0	per mille of 1,200
Small ditto	22 " 12	1	9	5	0 "
Marchioness	22 " 11	1	8	10	0 "
Countess	20 " 10	0	15	0	0 "
Small ditto	18 " 10	0	5	0	0 "
Viscountess	18 " 9	4	10	0	0 "
Ladies	16 " 8	3	10	0	0 "

Slate slabs, sawn all round and planed on one side, from 5 to 10 feet in each slab, at per foot, 14-in. 5d. 2-in. 6d. 2½-in. 8d. 3-in. 9d. 12 feet and over, 1½-in. 7d. 2-in. 8d. 3-in. 10d. 4-in. 12d.
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TO ARCHITECTS and BUILDERS.—
T. TRELOAR, 42, LUDGATE-HILL,
Manufacturer,
SUPPLIES COCOA-NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c.
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Warehouse, 42, Ludgate-hill, E.C.

The Builder.

Vol. XVI.—No. 816.

Sanitary and Social Matters, and the British Association.

THE Science of Health may have ere now formed a prominent topic in the president's address at the meetings of the British Association; but if so, we have, we confess, no recollection of the circumstance. That sanitary papers have occasionally been read and received attention we are well aware; but it appears to us to be a new triumph for sanitary science to have forced itself into so distinguished a position, in the presidential address to the British Association, as was given to it by Professor Owen. In his pointed remarks on the importance of sanitary science, which, we trust, will not be without their effect, the president, after regretting the ignorance on this subject, and its sad results, presented not only in large workshops and densely-populated towns, but in our naval and military arrangements, as shown during the Crimean campaign, truly observed, that,—

"When authority becomes impressed with a conviction, stimulating to action, of the importance of sanitary science, it will insist on the possession, by the army medical officers, *of the elements of that science*, as well as *of the principles of practice in the case of diseases and the treatment of wounds*. But in order that an army may benefit by the doctor's knowledge of preventive medicine, authority," he continued, "should direct preliminary examinations, and reports of sites for encampment, —of buildings for barracks and hospitals,—of clothes for extreme climates,—and the like; *and should command that such reports be acted upon*, where no urgent circumstances or inevitable movements precluded the adoption of the means for the prevention of decimating fevers and choleras."

Rapidity of marching and the concentration of troops, as he remarked, are necessary means for the success of modern warfare; and he argued, that "the healthier the troops the longer and quicker will be their march; and that the care which foresees and provides for the efficient fighting order of a force is quite compatible with the most intrepid handling of that force in the field of battle."

After some further observations on the sure effects of ill-drainage, and other unsanitary condition of large populations, the president said:—

"For the prevention of diseases arising from these causes, the sanitary physician must direct his requisitions—not to the apothecary, but—to the professors of new arts, which are only partially created the art of the *sanitary architect and the art of the sanitary engineer*. The latter has already been officially shown how he may collect water from natural and artificial springs; convey it into houses unintermittingly, fresh and without stagnation; and by its means remove from houses, through self-cleansing drains and self-cleansing sewers, constantly, and before noxious decomposition can commence, all the fœcal and waste animal and vegetable matters. In our time physicians have ably exerted themselves in aid of the sanitary engineer and administrator. It is to the landlord—to the representative landlords and owners of habitations, in Parliament,—to whom exhortations are now required to be addressed; to raise their minds above the sordid considerations of the expenses of cure,—that is, the expenses of those sanitary works of combined drainage and water-supply which it is their province to provide."

It is right, however, to state, that advances in well-directed application of sanitary science are advances in economy,—that two houses and two towns may receive constant supplies of water at the expense formerly incurred by one, on the intermittent system, with its stagnancy and pollution in house-cisterns and large storage reservoirs. It remains for the Legislature and local administrators to make prevalent that which is proved to be practicable for the public good; and to ensure that good at the economical rate of which particular instances afforded demonstration that they are achievable.

After remarking on the great advance of agriculture, chiefly caused by the proper application of chemical knowledge, and also the value of the teachings of geology, and the great results of the application of phosphatic relics of ancient animal life to modern purposes, the president regretted the enormous every-day waste of products so valuable, when rightly administered, but which otherwise became a source of annoyance, unremunerative outlay, and disease; and noticed the characteristic workings of the creative wisdom in providing means of carrying out natural effects. He then urged that whatever flows from the outside of houses, together with the general rainfall of the town area, should go to the nearest river by channels wholly distinct from the *hydraulic excretory system*. Agriculture, he pointed out, had made, and is making, great and encouraging progress, but much yet remained to be done. Were agriculture adequately advanced, the great problem of the London sewage would be speedily resolved. Could it be supposed, if the rural districts about the metropolis were in a condition to avail themselves of a daily supply of pipe-water, not more than equivalent to that which a heavy shower of rain throws down on 2,000 acres of land, but a supply charged with 30 tons of nitrogenous ammonial principle, that such supply would not be forthcoming, and made capable of being distributed when called for within a radius of 100 miles? To send ships for foreign ammoniacal or phosphatic excreta to the coast of Peru, and to pollute, by the waste of similar home products, the noble river bisecting the metropolis and washing the very walls of our Houses of Parliament, are flagrant signs of the uncultivated state of a field where science and practice have still to co-operate for the public benefit.

It is to be hoped that these truths, so ably put by Professor Owen, will now be less likely than ever to be passed over unheeded: at all events, he deserves for them the thanks of all who are interested in the social progress of this country.

In the subsequent proceedings of the Association at Leeds, a paper "On the Action of Hard Waters upon Lead," by Dr. L. Lindsay, was read by Dr. Gladstone, and gave the following conclusions:—"That certain pure or soft waters do *not* act upon lead, and that certain impure, or hard waters, in some cases containing abundance of the very salts which are generally regarded as most protective or preservative, *do* act upon lead." The *rationale* of these exceptional cases was very imperfectly understood, and experimentation on a small scale for short periods was very often fallacious. Water may contain lead without necessarily acting as poison on the human system, yet many anomalous colicky and paralytic affections might be ascribed to its presence in drinking-water.

Mr. Crace Calvert suggested the appointment of a committee of the British Association to analyze the water supplied to large towns, and to recommend the adoption of such measures as would cause it to be obtained in a state of greater purity than at present. A member said that when copper sheets *from different factories* were joined together to cover the bottoms of ships, strong galvanic action was set up when they were immersed in sea-water. When all the sheets on the bottom of the ship were of the same kind of copper, the corrosion was very slight. As lead was affected in a similar manner, the sheets of that metal used for lining cisterns ought always to be of one kind.

Dr. Edwards attributed the different action of the same water on different lead cisterns to the fact that some sheets of that metal were made from old lead, containing an admixture of solder, which caused it to be corroded by galvanic action. It was shown that, thirty or fifty years ago cisterns, were not so much acted on by water as now. The long corroded streaks which were often observed in sheet lead were caused by galvanic action set up by small portions of tin which had been attached to old lead.

The Rev. W. V. Harcourt said that, in his opinion, it was advisable to use leaden vessels for holding water as little as possible, for it was clear that health was in constant danger from it.

The general subject of water supply formed the topic of a paper by Dr. Strang, of Glasgow, the title of which was, "On Water Supply to Great Towns; its Extent, Cost, Uses, and Abuses." The author gave a statistical account of the present and projected water supply of some of the leading towns of the western world, with the extent and cost of such supply. He glanced at some of the social disadvantages, and even evils, which have arisen, or may still further arise, from rendering water the too easy agent for the removal of impurities which should be transported otherwise; and thus converting many once pellucid streams, upon which cities are founded, into deleterious and noxious common sewers, detrimental to comfort and hostile to health. The amount of the water supply, and its cost, for the several cities and towns he enumerated, were given in the following tabular form:—

Towns.	Population within Boundaries of Supply	Daily Supply.	Daily Supply for each Inhabitant.	Cost of Undertakings.	Daily Supply for every £ expended.	Prospective Supply Daily in addition.
		Galls.	Galls.	£	Galls.	Galls.
London	2,667,917	81,925,812	30·3	7,102,823	11·4	20,000,000
Paris	1,053,262	15,000,000	14·25	1,000,000*	15·0	
Hamburgh ...	175,000	5,400,000	30·85	360,000	15·0	
New York ...	713,000	28,000,000	39·27	1,800,000	15·5	11,000,000
Manchester ..	500,000	11,000,000	22·	1,200,000	9·5	
Liverpool ..	800,000	11,000,000	13·75	1,640,000	7·	
Leeds	153,000	1,850,000	12·	283,871	7·3	
Birmingham ...	265,000	3,500,000	13·2	450,000	7·7	
Aberdeen ...	67,000	1,200,000	18·2	190,000	13·5	
Dundee	90,000	1,750,000	19·4	90,000	19·4	
Greenock ...	40,000	2,112,500	52·8	90,000	23·1	
Paisley	48,450	1,021,432	21·	60,000	17·	
Glasgow ...	420,000	16,710,000	39·8	651,199	25·	20,000,000

In conclusion, Dr. Strang stated that from

* Independent of the cost of Canal de l'Ourcque.

the statistical figures he had brought forward the following results might be drawn :—

"1. The fact of a present prevailing anxiety for an abundant and pure supply of water, irrespective of every difficulty, and at any cost.

2. The fact of a growing consumption of water on the part of those who had it at command, and the necessity of limiting, as far as possible, the quantity allowed to run waste.

3. That while the increasing abundance of water has necessarily added to the comfort and health of the people, by enabling them to have baths and other conveniences easily and cheaply, it has at the same time tended to encourage city and house impurities being improperly carried away, and that, too, in a manner calculated rather to transfer than to abolish nuisance.

4. That an abundance of water brought within every house, without due attention being paid to the carrying off to a distance or otherwise separating the solid sewage from the water before it falls into any stream, is a serious and growing evil, which ought to be forthwith remedied, particularly on the part of those towns and villages which line rivers from which other towns are deriving their supply of water; and

5. That an abundant supply of water is, in short, a limited benefit, except provision be at the same time made for a perfect and profitable riddance of the increased sewage which it invariably creates."

The Leeds town hall was well filled at the inaugural address of Professor Owen, and subsequently : there were 1,300 members qualified to attend. But it is much to be regretted that not one half of those present could hear anything but the echoes of the president's voice, and the applause with which he was greeted by those who did hear, and by those who did not. It has been suggested that the suspension of flags near the ceiling may improve the acoustic properties of the hall, though it may mar the architectural effect. Even in the various courts, ranged round the great hall, and accessible by the corridor which runs round the building, the speakers at the sectional meetings were not distinctly heard. The great height even of these much smaller apartments appears to absorb the sound : up stairs, where the rooms are less lofty, the inconvenience was not found. Mr. Brodrick will doubtless set himself to devise improvement in this respect.

NEW THEATRES: HOXTON AND WHITECHAPEL.*

PURPOSE AND INFLUENCE OF DRAMATIC ART.

The Whitechapel Theatre occupies a site at some distance from the Whitechapel-road, whence the approach will be by a long corridor. The main building fills an area of 120 feet by 69 feet 6 inches —a small space at one angle, however, being canted off. Deducting the external walls of 2 feet 8 inches, the dimensions for stage and auditory available are 114 feet 8 inches, and 64 feet 2 inches, —the latter being the span of the roof. The area in advance of the proscenium wall, would, we believe, measure as nearly as possible 72 feet by 64 feet 2 inches; but from this should be deducted the spaces occupied by staircases one at each angle, and by private boxes. But whilst there are two or three boxes at the pit level, the plan allows of good places in the pit for seeing the stage, nearly everywhere to the very limits of the building and ground; and including the eight rows of stalls, it is estimated that the area will contain about 1,750 sitters. Ten rows of the seats will be under the lower tier of boxes. The stage and orchestra advance into the auditory about 13 feet 9 inches. The proscenium or curtain opening is 40 feet in width, and 42 feet in height. The admission to the stalls will be probably 2s.; and to the pit, 1s. Of the entrance and exit ways we shall speak shortly. Connected with the pit is a refreshment-room, external to the area that we have given dimensions of; and, leading out of the entrance corridor, other adjuncts to the auditory are provided. There are two tiers,—boxes and gallery. The upper tier, or gallery, will hold at least 1,200 persons, the bulk of whom will pay 6d.; but some of the front seats, considered amongst the best in the house, will be 1s. The lower tier will be divided into dress and private boxes; seats of the first-named of these divisions of the circle occupying every available corner, and being arranged with an alley in the middle, in lieu of external box-corridor. There will be 750 sittings in all the boxes on this tier; the prices ranging, perhaps, from 5s. in the "private" boxes, to 2s. in inferior seats of the ordinary kind. Thus we seem to have arrived at the total number of 3,700 persons, or about a thousand more than we estimated could be placed on crowded nights in the new building at Covent-garden.† The number, 2,500 of these, will have to find admission by one long passage-way, which may be not more than 15 feet wide,—perhaps not so much. There will indeed be a door of exit from the pit, and that from the stage; but, considering the length of the passage-way, the turns from it for the entrance to the pit, and all the exit-way that there is, we can hardly refer to this new building as an example of what we have so long contended for, to ensure the public safety. There are four staircases. Two of the number are staircases of communication in the parts of plan which were the subject of some special remarks last week, and serving only for the private boxes and communication between different levels. To get to the stalls, persons would have to pass down these stairs, after having ascended the staircase of the boxes. A passage-way, deducted from the pit, may, however, be provided, and is indeed thought of. The box-staircase ascends at the end of the entrance corridor, or occupies the south-west angle of the house; and the gallery stairs lead from an entrance next to the pit-exit in Baker's-row.

The height of the pit opposite the stage is about 10 feet 6 inches in the clear, and more in other parts, by the slope of the floor, which is 1 inch to the foot. The boxes are 10 feet 6 inches in the clear, and 11 feet 3 inches from floor-line to floor-line. The gallery at the front is 16 feet 6 inches in the clear : its ceiling sloping upwards, around the domical ceiling, that of the pit. The height from the floor of the pit to the crown of this latter ceiling will be 46 feet. The whole ceiling of the auditory, it would seem, is to be suspended from the roof, or will be without columns, or other apparent support. The result cannot be quite satisfactory in effect, though the arrangement is not uncommon.

The fronts of the boxes and gallery are carried by iron columns, of 6 inches diameter in the lower tier, and diminishing in the case of the upper tier to 5 inches. They are cast with shoes and boxed heads, to receive the ends of the timbers. There are no trusses, as in the Hoxton theatre, to the floors of the boxes and gallery, but merely raking beams, which are no doubt secured at the top to avoid the pressure on the columns that otherwise might result.

The roof-truss, though for a less span than that of the Hoxton theatre, contains a greater quantity of material and a larger number of struts and bolts, whilst it has a tie-beam of the same scantling, or greater scantling as regards the auditory division of the plan. It is a combined king-and-queen-bolt truss. The shoes and connections, which are in some respects better than those at Hoxton, are in others decidedly inferior; for, instead of the formation of the bearing ends and shoes accurately in the manner of a rule-joint (the method adopted at Hoxton), the shoes and heads first put up appear to have been cast so that the bearing surfaces would not have been at right angles to the line of thrust. Sufficient has been done to remedy this by the insertion of additional pieces of casting, to correct the tendency of the compressed timber to fly off its bearing : but the error calls for notice. Architects must not degenerate in carpentry, or give up everything in roofing and flooring to iron-founders. Notwithstanding these objections, the roof is a strong one, as it is quite requisite it should be, seeing that the usual arrangement for the carpenter's shop and scenery will be followed, and leaving out of consideration the weight of the ceiling. The three-bricks-and-a-half thickness of the external walls, it should be mentioned, is confined to piers which are opposite to the trusses, or are placed from 12 feet 2 inches to 10 feet 1 inch from centre to centre.

It is too early to speak of decorations, except to say it is worth while, commercially, that such points should be well studied; for, the force of this recommendation is not fully understood: glitter and colour only are thought of for the crowd, in places to be frequented by what are called the operative classes, or by the poor or the vulgar rich; and of artist-architects' work there is none—though of gilder's, marbler's, paperhanger's, and putty-presser's, a real and a weary waste.

The contract work for the theatre, for which Mr. Tolley, of Spitalfields, is the builder, may be put down at 5,687*l.* reduced by the value (750*l.*) of materials from the old building (which was destroyed by fire), to 4,937*l.*

The architect's duty is divided, we understand, in several hands; and we shall perhaps best avoid error by giving no name at present.

The property originally belonged to Mr. Charles Conaughton, who left it to his daughter, now the wife of Mr. Donald Munro. The lessee and manager for the ensuing season is Mr. John Douglass, who has also (as proprietor and manager,) the Standard Theatre, Shoreditch, where he has lately introduced a superior class of performances, with the assistance of eminent actors.

Much that belongs to the drama must be of interest to us. Not considering just now that there is properly an *art* dramatic, and one, like our own, which may be still elevated; apart from the offices of assistance, which are mutual with that art and ours, and apart from the relations of architect and dramatist which are set forth in biographical history, we cannot without anxiety watch the state and progress of an agency which must now have considerable influence in formation of tastes, habits, and character, be these good or bad, amongst those classes of the people in whose welfare obviously we are most nearly interested. Of *the decline of the drama*, at least in one point of view, we have no evidence in the fact that the present year will have witnessed the completion of four new buildings in London for theatrical and operatic performances, nor yet in the prevalence of "entertainments" intended to answer the wants of the same dramatic taste. The fact that the taste is prevalent, notwithstanding the development of education and the increased number of books and other means subservient to study or intellectual gratification, and the impressions which every one must acknowledge, tend to show the taste is one which is natural and that will continue to exist. The question, then, of the sort of agent which shall be supplied towards this educational end is too serious to be longer got over, as by religionists, moralists, and others of sincere and philanthropic views, or by an interdict on playhouses. The drama, in ancient and mediæval times, had both origin in, and continued relation to, religious feeling or ceremonial; and now it is accident, rather than want of power in the *art*, which diverts it from its end, which was, and is, as we are told, "to show virtue her own feature," and "scorn her own image." Of this diversion, this sad perversion as it has become, France offers the most melancholy example. We know not what is that nationality of character which seems to find vent in the French theatre, and of which every letter from Paris relates some new feature of obscenity and depravity. Managers have imported these vicious agents; and, slightly toned down, have presented them, and impurities too numerous of our own school, to the wives and daughters of England, at theatres and opera-houses of London. Can it be wondered at that the respectable middle-class—people holding above all things the purity of a home and family, in great degree revolt from what by possibility may bring darkness into that treasured circle? The poetry, and the finer part of the sentiment, in our own drama, should be the resource of our dramatists for the ideas which all artists require from their fellows and predecessors, though still without abandoning originality. But the impurities in Shakespeare even are greater than are acknowledged, or are ever omitted in performance, unless at the Princess's. If these exist even in him,—as his works indited at the nascent stage of our civilization, though the precious inheritance "for all time"—have come down to us,—can we wonder at the ban which is still sometimes laid on his works, and which, though as artists, and even as moralists, we may regret the existence of, we cannot be wholly surprised at? We are told by those who believe they understand the classes of the people forming the audiences at such theatres as we have been describing, that it is a mistake to suppose that incidents and allusions of an indecent or immoral character are relished so much as to make it the interest of the theatre to offer them. A laugh is raised at the time; but father and mother are apt to think afterwards that the thing was not quite fit for children's eyes and ears; and on another occasion, some of the party will be left at home. The "blood-and-thunder" class of pieces please such audiences, for the very reason that a play of Shakespeare, for one or two nights, pleases. The plays of both sorts, at least agree in this, that they are essentially *dramatic*, or are—for even Shakespeare's have been so called—melodramatic. Pantomimes please for much the same reason. One aim of art, without which all else must fail, is to be perspicuous,—by language and scenery in the drama, but chiefly perhaps by action. The reason why dramas of a particular class appear to be encouraged, is that they happen to be the best that can be got, and that there are really not writers who address themselves fairly to the intellects of their audiences. The attempts which are made to show "the very age and body of the time, his form and pressure," are chiefly through the medium of burlesque. In ordinary

* Continued from page 645, *ante*.

† See page 345, *ante*.

literature, there are talents specially required, say for children's books: a special talent equally is required in dramas where audience "fit but few" may be not, but where is one of a class with whom is an existing and an increasing power to feel interest in noble sentiments and beautiful situations, so they be set forth in plain guise or intelligible action. There are numbers of the artizan class who would at once see the anachronism of a Gothic arch in the Roman Forum, which we saw not many years ago at one of the principal London theatres; and who, though they may be not ready to examine into the blazon of a shield, could appreciate the action and the scenery, and the language, of the representations at a rightly-conducted theatre: indeed they already do so. Let authors and managers think of the intelligence which is growing, and the morality of the middle and lower classes which we confidently believe grows with it. The filth of the penny theatre, or the expression or the suggestion admitted in higher places, really are not required by any section of the public; are repugnant to many, and limit the good sphere of the dramatic influence. The success of *Punch*, free from the indecency of earlier attempts, as it is far before them in wit and humour, deserves to be considered by managers and dramatists with reference to their interests. Any one who has seen "Extremes," now being played at the Lyceum Theatre, or who recollects many other works equally perspicuous in their language, interesting and unobjectionable, will doubt whether the *répertoire* of the British theatre would not even now afford to any class of audience, dramatic productions which would be equally unobjectionable, or if not pointing very impressively "a moral," calculated to answer the desire for proper amusement,—which is a very excusable one,—in a better or less injurious manner than the want is answered by London theatres, whether those generally of the east or of the "west end." To this, and to the further improvement, we shall be glad to find the theatres we have here noticed, efficiently contributing; and since the questions entered on are so intimately connected with our objects, we could hardly have felt satisfied not to speak of them, even at the risk of adding greatly to our more professional-architectural, or descriptive, matter and remarks.

SITE FOR THE PROPOSED EXHIBITION OF 1861.

Our remarks in respect of the site for the proposed Exhibition in 1861, recommending the land at Brompton belonging to the Commissioners of the 1851 Exhibition, as the natural and most convenient place for the purpose, rather than Battersea, has produced a correspondence on the subject in the *Journal* of the Society of Arts, which has made more evident the propriety of the advice. The superiority of the Commissioners' land will scarcely admit of question. The vast majority of Londoners live north of the Thames, and the vast majority of Englishmen live north of London. The site has a *prestige*, and is known to all the world; has fine roads, good public conveyances, and by means of the West London line, never yet properly worked, goods and visitors from pretty well all England may be brought within half a mile from the spot; whereas, as Mr. Winkworth, who adopts our views, writes:—"What do the thousands who now come up from the manufacturing districts know of Battersea? It is a *terra incognita* probably to the greater part of the residents of London, and of its northern and eastern districts; and can we imagine that it is less so to strangers? Those who visit London for a short time do not take up their quarters at Battersea or anywhere on that side of the Thames; and, if disposed to do so, where would they find accommodation? Sight-seers prefer to frequent hotels which are as nearly equi-distant as possible from all the London lions." Battersea, cut off from London by toll-locked bridges, is out of the world and out of the question. A committee to prosecute the idea should now be formed, and their first step should be to seek the permission of the Commissioners to hold the first decennial Exhibition of Arts and Industries, born of the '51 Exhibition, on the land at South Kensington and Brompton, purchased with the earnings of its progenitor. This good first step taken, and the course to a success would be tolerably clear.

Decay of Stone.—Much has been written about this, and the good condition of St. Paul's has been noticed; but nothing has been mentioned of the method adopted by Sir C. Wren, in exposing his blocks for some time to the influence of the weather. This, I fear, would not suit modern contractors and builders.—T. G.

CRYPT IN THE LAMB INN, EASTBOURNE, SUSSEX.

EASTBOURNE, SUSSEX.

The walls of the new church at Eastbourne are nearly ready for the roof. The nave is intended to have aisles hereafter, and is so arranged that the windows now built in between columns and under arches (hereafter to be thrown open) can be taken out and placed in the aisle walls when erected. This gives a patchy and unsatisfactory aspect to the outside now, but explains itself on examination. The style is the Geometric. The walls are faced with flint: the dressings are of Bath stone; and internally bricks of concrete are used as a lining. Mr. Ferrey is the architect, and Mr. Cane the builder. The site of the church is quite at the end of the town, near the Redoubt, but will, doubtless, soon bring around it a pile of new buildings. Close to it, towards the sea, a row of houses, of the *villa*-nous style common to watering-places, are being carried up. The design of every house erected should be vigilantly controlled by the ground landlords and others interested in the prosperity of such places as Eastbourne, and possessing authority. Mr. Ferrey, we may mention, was the architect of the new cemetery here. At the church of Old Eastbourne,—Eastbourne proper,—Mr. Ewan Christian has been engaged in restoring the east window and the clerestory of the chancel. Another London architect, Mr. A. F. Ashton, has made a descent on the once quiet town, and has commenced some additions at the residence of the popular doctor, Mr. Jeffery.* Large assembly-rooms are in course of erection, and a chapel has been built in North-street, which purports to be Gothic, and includes Early English windows, Decorated pinnacles, and Perpendicular door-way. Fortunately it is of cement. It may seem harsh to the deviser of the building, whoever he may be, to speak so severely, but such erections are public injuries. A little Jacobean residence, close to the chapel, deserves kinder words. Eastbourne is evidently going a-head: every house has been occupied during the season: it publishes weekly a visitors' list, and, to take off their heads, has a clever photographer, Mr. Vidler, who is also an able taxidermist. Pevensey, with its charming ruins, ivy-covered remnants of the Romans; Hurstmonceux, one of the best brick castles left; Bexhill Church; Lewes, and many other places often before mentioned, are at an easy distance, and serve to make a ramble instructive as well as pleasant. Jevington Church, on the road to Pevensey, with its massive tower, and Early English chancel, should not be passed by. The tower would almost seem to be pre-Norman, judging from a passing view of the window in the upper part of it. It has been investigated, doubtless, but we cannot just now refer. At the "Lamb Inn," Old Eastbourne, a very ancient place of entertainment, there is a stone vaulted crypt, with central boss and groins, of the thirteenth or fourteenth century, in an excellent state of preservation. It is now used as a cellar, and the good-natured landlady took pains to let us see it, though the request was made at an awkward moment. The Sussex Archæological Society have published an engraving of it in their tenth volume, mentioned by us last week, and we have been kindly enabled to transfer it to our pages, and so to make it more widely known. It has been popularly called the "spider-web vault," from the plan of the groining. Tradition connects this inn by a subterraneous passage with the neighbouring parsonage-house ("tradition" is very fond of a subterraneous passage), but, as in many similar cases, no grounds for the statement exist.

* Some Tudor cottages are about to be built near Haward's Heath, in the same county, from Mr. Ashton's designs.

THE CHURCH OF ST. MARTIN-IN-THE-FIELDS.

Some important alterations in the internal arrangements at the church of St. Martin-in-the-Fields,—chiefly as regards the height of the pews,—have been made: the walls and ceilings are being coloured, and further enrichment in gold is added. The shafts of the stone columns have been cleared of paint; but the difficulty which there is still, in discovering or applying means of protection from dirt, not having the objections æsthetically which there are in such cases to paint, and to varnish of any ordinary kind, may possibly compel the re-application of a coating of varnish less favourable than we should have desired, to the pleasing effect derived where natural surface is visible,—though not destructive of that element of effect, as in the case of the painted stone-work of the Houses of Parliament, and some of the stone-work of the building under notice where re-painting has seemed unavoidable. Moreover, darker colour is required for the shafts than the natural stone affords. The gilded enrichment is confined to portions of the capitals, and to the pateras and

some of the leading mouldings of the ceiling. The recess at the east end, or chancel as it may be called, which is remarkable, like other portions of the church, for beauty of plan, will be finished on a higher scale of decoration.

The main alteration, however, is that in the pews, which, as in other churches of the same family, were designed manifestly to range with the pedestals of the columns. The bases of the columns being thus placed above the level of the eye, there is a distinctive character of effect. But this, in the case of the churches we are referring to, is coincident with an arrangement in regard to the height of the pews, which is opposed to present notions, as indeed to what is fitting and desirable in church-arrangement. Even in regard to effect, the great height of such pews is not satisfactory: in viewing the church, one feels up to the neck in them, and to have no foreground that combines in the view so well as that at the level of the pavement or ground, familiar to the eye from ordinary cases. Very low benches, together with some appearance of base to the piers or columns, would comprise the effect which is desirable. To alter, however, the pews in churches of the class to which the church of St. Martin-in-the-Fields belongs, so as to make the base of the columns and part of the pedestal stand above the level of the capping, is such an experiment as, architecturally viewed, we are scarcely disposed to recommend at a time when there is too much readiness to alter works which have become interesting and valuable to us, be it from their æsthetic merit, their age and history, or less definable attributes of their existence. The question of what would have been best in effect, we may admit, is made difficult by the associations: but the associations really become part of the effect; and any change even to what might at first have been better, may be attended with loss in the actual effect. We therefore should at present hesitate to advise a similar proceeding to that we are adverting to, in the case of other London churches. This opinion is unaffected by the fact, which we ought to state, that Wren himself, in a report of his which is extant, considered it undesirable in the new churches to have pews, and advised open benches; and that the drawings of the architect of St. Martin's Church, and all the engravings of early date, omit pews, as though these were deemed excrescences. Nevertheless, the pedestals apparently were designed to range with pews.

The works at St. Martin's Church having been decided upon, have been carried out with great solicitude on the part of Mr. T. H. Lewis, the architect. The pedestals, at this time of writing, appear above the pews, cased, as originally, with wainscot; but we believe it has been decided that this shall be removed, and that they shall appear as stone: at any rate, it should be so, under the circumstances.

In altering the pews, the framing was not taken to pieces: the pews were first raised *en masse*, and a portion from the bottom of the framing throughout, was sawn off with less trouble than might have been expected. Small galleries for children, which had been placed at a late date—one on each side the organ—have been removed; but some minor alterations in the plan of the pewing generally, allow of accommodation in the church equal to what there has been recently. Some oval apertures in the upper part of the quadrant corners joining the recess at the east end to the body of the church, have been reinstated as they were left by the original architect; and other minor alterations have been made, with the same praiseworthy intention on the part of his successor. We might even go so far as to recommend the removal of the sashes in the openings to certain private galleries, which we may be sure were as much eyesores to the original architect as they doubtless are to Mr. Lewis.

Besides the works we have mentioned, the windows have been glazed with Hartley's glass. The state of the vaults under this church, we believe, has engaged the attention lately of the architect and the authorities of the Home Office, and that some measures of improvement are being adopted. The subject still requires attention.

The church of St. Martin-in-the-Fields was commenced in March, 1721, and built in five years afterwards. Gibbs was the architect; and he also designed the church of St. Mary-le-Strand. We need not now describe the church of St. Martin's, but may mention, as amongst the features of the interior, that the elliptical form of section to the ceiling of the centre division was chosen on the ground, as represented by the architect, that it had been found by experience best for the voice. The sounding-board to the pulpit possibly may be done away with in the church when re-opened. The panels of the ceiling are enriched with "fret-work," worked in the solid, not cast, by Artari and Bagutti, spoken of by the architect as "the best fret-workers that ever came into England." The idea of England ever having, or having had artists, or "fret-workers," of her own, does not seem to be presented by this passage. The columns and their capitals are of stone, the latter very well carved; but the entablature and work above are of lath and plaster, formed around the main timbers of the roof, which itself in construction, it will be recollected, has features of interest. The painting and decorations are being executed by Mr. Richard Cobbett; the other works by Mr. John Clemence, "both of this parish." The total cost will probably reach 2,300*l.* the whole of which has been raised by voluntary subscriptions.

RAISING THE BELLS IN THE WESTMINSTER PALACE CLOCK TOWER.

The world at large has been given to understand, from time to time, through letters and articles published in some of the widely-circulated leading journals, by persons who have not given themselves the trouble to ascertain facts beforehand, that Sir Charles Barry had provided no means by which the clock or bells could be put into the tower; one in particular stating that the only possible mode of admission was through the windows. This, however, was simple twaddle, as we stated at the time. Now that the moment has arrived, and the bells are ready for hoisting, we have much pleasure in laying before our readers an account of the mode in which this work will be proceeded with, and they will see that nothing that forethought could provide has been omitted.

We will, in the first place, remind our readers that in the centre of the tower, from the foundations to the clock-room, there is a shaft, 11 feet 2 inches by 8 feet 6 inches, provided for the descent of the weights of the clock. Communicating with the bottom of this shaft, on the western side of the tower, and close to where the bells have for some months past been under trial, is a large archway, through which the bell, on the bed of a "cradle," will travel to the bottom of the ascending-shaft. The diameter of the bell at the mouth being somewhat greater than the breadth of the ascending-shaft, the bell will have to be thrown over on its side on the cradle before entering the archway—an operation requiring both skill and care, to prevent any chipping of the outer rim. When the bed of the cradle has been run into the bottom of the shaft, the sides and top of the cradling will be bolted up together, and the centre of gravity of the whole will be ascertained: the bell being on its side, will cause the centre of gravity to deviate considerably from the centre of the cradle. The shaft has been fitted from the bottom to the top, with timber guides for the cradle, against which large friction wheels, attached to the top and bottom of the cradling, will run. Everything being thus ready at the bottom, the bell in its cradling will be hoisted up this shaft by men, and powerful gearing, prepared for the purpose. On a massive carriage and staging, near the open lantern of the roof of the tower, has been constructed a beam of wood and wrought-iron, made by bolting between three thicknesses of wood, two thicknesses of wrought-iron, in the whole 25 inches deep and 19 inches thick, and proved to 100 tons. Around this beam near the centre has also been fitted an iron strap and shackle, so arranged as to be adjusted when the centre of gravity on the cradle has been ascertained below, so that the top block shall be perpendicular over the point already decided on in the cradle. Immediately behind this beam is fixed a powerful crab constructed for this purpose, with extra powers and breaks. The chain will be wound around the drum of this crab four times before starting, and the end of the chain carried over the drum of a second crab in the same manner, at a lower level in the tower, for the purpose of taking up the slack from the first crab, previous to coiling, as it passes off the drums. As the chain will not accumulate on the drum, but pass, when winding, from one end of the drum to the other in ten revolutions of the drum, a click or stopper, has been constructed to be quickly applied to the chain, to take the weight off the crab. When the chain has wound itself to the end of the drum, the men will simply slide the chain back to the other end of the drum; the crab will again take up its work; and the stopper being again released, the same operation will apply to the entire height. The clock-room will be the first landing, as the shaft there ceases.* The bell in this room will be taken out of its cradle, turned mouth downwards, hoisted in that position the remainder of the height, and put on packings previous to its being finally fixed to the bell-carriage already prepared for the purpose. During the whole of the operation the exact height the bell is up the shaft will be easily seen by a line marked in heights from the cradle at the bottom: it will pass over a pulley in the bell-chamber with a counter-weight attached. The chain for the hoisting will be reeved through two treble blocks, with one fixed end, making seven reevings. The entire length of the chain is between 1,500 and 1,600 feet. Every precaution that can be devised for the safe landing of this monster on the tower has been adopted. The circumstance is peculiar, that no one can by any means interfere with or even see the bell from the time it leaves the ground until it makes its appearance in the clock-room, which renders the raising an operation requiring great forethought. The iron for the chain has been made expressly for the purpose by Messrs. Crawshay, of Newcastle, and tested previously to its being manufactured by them into chain; and every link of the chain, we are told, has been tested and examined by Mr. Quarm, the able chief clerk of the works at the New Palace at Westminster, and Mr. James, of Broadwall, at the manufactory of Messrs. Crawshay, at Newcastle, previous to its being sent to London, Mr. James having been appointed to execute the work required for the hoisting of this enormous bell, under the immediate directions and superintendence of Mr. Quarm.

A RAMBLE AMONGST VILLAGE CHURCHES IN WORCESTERSHIRE.†

Besford—Eckington—Bredon.—A ride of five miles by rail to the *Wadborough* station, and a walk thence of three miles, brought me to the unpretending little church of *Besford*, which derives its interest in the eyes of strangers from a well-preserved roodscreen, and a sepulchral monument, accompanied by certain paintings on wood, commemorative of the occupant of the tomb. The enclosure of the western portion of this rude structure, composed of a cradle of timber-beams and interstitial plaster—the domestic casemated windows—the open wooden porch projecting from the south side, covered with a common tiled gable—can scarcely be said to possess an architectural character at all, and are but indefinite indications of a date which is more clearly pointed out by the existence of a small ogee-headed doorway on the north side, which cannot be earlier than the fifteenth century. Interiorly, the church consists of an undivided parallelogram, covered from the west to the part appropriated as the chancel with a timber roof, with tie beams, supported at each end by a curved brace prolonged down the faces of the uprights to the floor,—a manifest proof that it is coeval with these. The chancel of rude masonry, lighted on each side by a single lancet, and at the east by a triplet of lancets under an enclosing arch, is in its actual state the result of a quasi-restoration, in effecting which, as I was informed on the spot, the old materials were carefully replaced. The only opening in the west front, a small window of two triangular trefoliated lights, taking a quatrefoliated circle between themselves and the straight line at the summit, is an interesting exemplification of the use to which wood may be applied in the absence of stone.

On the north side of the Sanctuary stands the monument of which I have spoken: a stone altar-tomb, surrounded on the upper edge by a border of pierced woodwork, imitating the common network pattern of windows, and surmounted by the recumbent effigy, in marble, of a youth named Richard Harewell, who died in 1576. The side and the end of the wall above the tomb to the roof are screened with wainscoting: the side divided into nine, the end into two squares, each filled with an emblazoned shield of arms. Beyond this proceeding westward, on opening two-folding doors, is disclosed in the centre of a panel, a male figure, richly habited, and kneeling on a curiously embroidered cushion before a prayer-desk. Of this part of the composition I know not what explanation to offer, nor how to connect it with the rest of the subject. Above is a figurative representation of the Last Judgment, treated much in the same way as we see it in the tympanum of the doorways of churches of the twelfth and thirteenth centuries. On the one hand, the righteous, already risen from their graves at the blast of the trumpet, sounded by an angel who

* A section of the tower and some particulars will be found in our vol. for 1857, pp. 37 and 62.

† See p. 609, *ante*.

appears in the clouds, with upturned faces, beaming with joy, appear to welcome their assured reward. On the left, a female struggling wildly to escape the grasp of a fearful demon, who drags her by the hair to the edge of an abyss, from which burst forth the flames of the unquenchable fire, sets forth the eternal torments of the damned. Was it distrust of his artistic ability, or a desire to display his poetic faculty, which prompted the designer to append to his picture lines such as these?—

"* * * * *
But Christ shall soone revoke,
And call the goode to lyfe againe,
But plunge the badde in endless paine."

In a separate panel, closed by its own folding-doors, below the central kneeling figure, is painted a recumbent female, very graceful in outline, and enveloped in a veil of gauze, of which the texture is rendered with much fidelity and delicacy of execution. The inside of both the larger folding doors are divided into two compartments; the lower one filled with a poetic lament of Harewell, at his anticipated premature fate, breathed forth in these words:—

"Time bendes his scythe to cut my threede,
Death waves his dreadfull darte I sighte,
And both doe threat without deiaie,
To take my vitall breathe awaie."

The poesy on the other door commemorates the opening virtues of the young heir, and tells of his early death in lines, of which the following are a specimen:—

"An Impe entombed heere dothe lie,
In tender yeares berefte of breathe,
Whose hope of future vertuous lyfe,
Was plaine forsbewde by lyfe & deathe."

The paintings on the smaller doors represent, the one a youth, contemplating with grief-stricken countenance, a rose he appears to have just plucked; the other, bearing away a twig broken from a tree near him. In these, I suppose the artist to have embodied the ideas of youth prematurely withered, and of a tender scion wrenched untimely from the parent stock. A single word of the border legend of this panel has escaped the hands of time—"*bulla*," which I conjecture may be the conclusion of the Latin version of the old Greek proverb, "Πορφύλιξ ὁ ἄνθρωπος."

The upper panel of the outside of each larger folding-door contains a winged female figure, holding a shield of arms, the one on the left very pleasing in attitude, colour, and expression: the companion one is almost quite obliterated. The lower compartments of these, as well as of the smaller doors, consist entirely of emblazoned heraldic insignia.

I have been at some pains to describe this memorial to a now extinct family accurately and at length, as well because of its value and great interest as a work of art of the seventeenth century, hidden in obscurity in a secluded hamlet and rude structure, giving little promise of the existence of such a treasure, as because, so far as I am aware, it is comparatively unknown, and has not as yet engaged the attention of either artist or archæologist.

In the composition of the rood-screen stretching across the chancel, presenting three openings below, a central segmental one, and lateral square-headed ones, there is a manifest approach to the revived classical forms of the *Renaissance* school; the architrave being represented by the embattled transom; the frieze by a flat surface enriched with a suite of four foliated circles, enclosing gilded roses and foliaged spandrils; and the classic cornice by a projecting suite of mouldings, quite as much Italianised in character as Gothic. The colours applied as a decoration are not happily selected, a dull blue being the predominant tint.

Eckington.—The church of this village, three miles distant from *Bexford*, consisted originally of a nave with an aisle on the south side only, square chancel, and tower, the north aisle, with its imitation arches and piers, and frightful windows, being additions of very recent date. The three ancient round arches of two square-edged orders, the columnar piers, not thick in proportion to their height, the circular abacus of simplest section, the heavy capitals scolloped on the upper edge, the circular bases with ugly protuberances at the corners of the square plinth, are surviving portions of the first Norman construction. The roof of the nave is now semi-hexagonal in form, but this results from its having been ceiled across the collar-beams, a measure of precaution necessitated by the decayed state of the principal rafters, which still exist above the plaster. A suite of carved hammer-beams are good examples of this description of work of the fifteenth or sixteenth century. The transverse wall marking the ritual division of the chancel is pierced with a central pointed arch of two plain-chamfered orders, supported on rectangular piers, having a small chamfer on the edge, terminating upwards in triangular prisms, and below in minute scrolls, a common device in Decorated works, amongst which this part of the building must be classed. This arch is flanked on each side by a low four-centered aperture. Two windows in the north side of the chancel of very simple design, a couple of trefoil lights, carrying a trefoil between themselves and the containing arch, are, as usual, in the district I have visited, half hidden in a cavern-like recess, which is the position, also, of a single lancet, with very good continuous mouldings, in the south wall. This church contains but one monumental subject, an ugly tall altar tomb, on the north side of the chancel, commemorative of one *Hanford*, who died in 1616, a date which will satisfy my readers that I am guilty of no injustice towards them in withholding a description of one of its productions. There is but one ancient entrance into the church, an interesting Norman fragment in the shape of a round-headed doorway, enriched with a curious modification of the chevron. With this I believe to have had a contemporaneous origin a small isolated light on the left, notwithstanding its obscurely *pointed* arch, surrounded by a billet-cut hood-mould. The summit of the doorway rises into the cill of a Late Perpendicular window, inserted above it. Of the same late character is the Tower at the west end, an uncouth example of its style, and possessing no claims to description.

Bredon. My rural excursion terminated in a visit to the noble parish church of *Bredon*, of which a description, I think, will make it plainly appear that no more glorious conclusion could have been anticipated or desired by a wayfaring ecclesiologist. The relics of the early Norman foundation are not very considerable, but sufficient to indicate with tolerable certainty that the structure in its first design comprised but a single aisle to the west of the central tower, and a short chancel to the east. The single round-headed windows of small dimensions, in the north-west and south-west walls, splayed very much internally, set high up, and resting upon a bold tore-formed string, incurvated in passing over the north, south, and west doorways; a suite of hammer-beams, seven on each side, carved into heads, shields, basket-work, interlacing knots, and other devices of the period, together with the substructure of the tower and of the walls, are perhaps the only surviving portions of the early Norman work. For, it appears impossible not to recognise marks of architectural progress in the western tower arch, pointed with slightly acute summit, in the section of the arch mouldings, of three orders; the outer one a continuous quarter round; the middle one, having the edge worked into a slender cylindrical rod; and the side and face enriched with a delicately-cut zig-zag, and the rectangular soffit: the sub-shaft and edge-shaft representing on the plan two curves, intersecting in front, so as to produce an arris; in the profile of the abacus, and the hood mould; and above all, in the ornamentation of the capitals, gracefully concave in outline, having the cushions separated by deep channels, and strung together at the upper end by one of the varieties of the scollop. Shortly after the rise of the First Pointed, the church received its first addition by the construction of a spacious chapel, extending from the south doorway to the tower. Two Pointed arches were opened through the wall, resting upon a central bearing-shaft, a quatrefoil in plan, and a requisite portion of this as the responds; and it is singular to remark, that though Early English forms are reproduced in the circular abacus, base, plinth, and bell-formed caps, the hood-mould springs from small Norman beakheads. This chapel presents an unusual, perhaps unique system of fenestration. The interior face of the east end presents an arcade of three trefoil-headed arches (the centre one tallest), supported on two Purbeck marble bearing shafts; the lateral foils of the outside arches being continuous to the base. In the corresponding outer face of the wall are opened windows of identical form; and the south wall is lighted by eight similar ones, arranged in four couples.

The First Pointed had run its course and given place to that more perfect development of the art which all its earlier efforts plainly foreshadowed, when some cause or other—probably the increasing population of the district—led to a further enlargement of the plan of the church, by the addition of a north aisle (coextensive in length with the south chapel), and of a spacious chancel, the central tower at the same time being rebuilt from the foundation. The identity of the horizontal section of the uprights with that of the arches, three plain-chamfered orders, the profile of the polygonal abacus, necking, and plain moulded cap; the two and three-light windows, of the net-work pattern, are so many features of the Decorated in its plainest aspect, which is more pleasingly exemplified in the well-marked character of the eastern tower arch, its accessories, and in the windows of the chancel, of simple and purer composition because of geometric design, coupled trefoils, carrying a trefoil under an enclosing arch, though shorn of half their beauty by the gloomy obscurity of the cavernous receptacle in which the practice of the district I have visited seems to prescribe that these important members should be buried. The east window of four lights, with geometrical tracery in the head, of moderately good design, but very meagre in mouldings, is said to be a faithful reproduction of the original one. How much of architectural effect this noble chancel derives from the continuous sweep of the prominent scroll mould-string on which these windows stand, raised in passing over the sedilia in successive elevations parallel to their graduated ascent, may be more easily imagined than described.

The objects of interest in this church are numerous, and some of them remarkable. At the eastern extremity of the south chapel a small piscina, under a trefoil-headed arch, with continuous mouldings, claims notice as a simple and elegant example of this appendage of a sacred edifice. Along the south wall three pointed arched recesses, raised but a short distance from the floor, contain so many stone coffins, whose covering stones seem to mark a progressive advance from the rudest efforts of sepulchral sculpture to comparative refinement. One of these bears upon it the plain cross, said by writers on this subject to be very seldom used upon these monuments, because regarded by symbolists as the cross of shame. It is formed by an upright branch of very doubtful perpendicularity, in low relief, and raised upon steps, the transverse arm being represented by a block of stone, to which it has been attempted to give no definite form. The same device on the second is a very early example of the more usual ornamented cross. From the perpendicular stem hang down ill-formed curved branches, like drooping twigs, clumsy in design and execution, but certainly the prototype of the graceful pendant foliage of the later floriated crosses. The symbolical circle is thrice repeated at the summit of the vertical arm, and attached to the ends of the transverse one. The third is a more uncommon device. Upon the lid of the sarcophagus is sculptured the lower half of a pointed shield, from the upper end of which issue two arms (apparently those of a female) clasping in the hands a heart. The continuous outline of the shield and arms define exactly the symbolical *vesica piscis*, a fact I note without pretending to deduce from it a significance perhaps quite remote from the intention of the designer. As widely different in date and style from these simple memorials as in the feelings it excites in the mind of the beholder is the pompous and pretentious monument whose towering elevation entirely masks the west wall of this chapel: a display of ostentation and vanity sadly misplaced in a sacred edifice. This is a canopied tomb raised in 1611 to the memory of a worthy knight, Sir Giles Reede and his wife, in the construction of which have been lavished all the riches of variegated marbles, alabaster, colour and gilding. The knight, all armed except the head in plate armour, reposes on an embroidered cushion with an eagle at his feet, accompanied by the effigy of his lady, both with hands clasped on the breast. The panoply of the warrior, the sword-belt, scabbard, spurs, &c. emblazoned in crimson and gold: the costume of the lady: the arched canopy overhead divided into squares each filled with a rose, the obelisks, pyramids, façades of pagan temples heaped upon it in preposterous and senseless confusion, are all as gorgeous and costly as material and adventitious decoration can render them. But I refrain from further description: for though monuments of this era may derive a certain value from the scrupulous and minute attention to details of costume which characterizes them, when we have gratified a momentary curiosity on this point, we turn away with a blush of shame for a noble art degraded to the level of a handicraft, and for its professors sunk to the rank of skilful artificers.

On returning to the chancel the first object which meets the eye is a small canopied stone tomb, on the south side, formed by a four-centred arch under a straight line, beneath which recline the effigies of knight, lady, and child. The sides are relieved with traceried square panels, and the ceiling of the canopy is sculptured into a representation of Our Blessed Lord "*coming in the clouds of heaven.*" The foliage in the spandrils,

the square flowers in the hollow moulding of the cornice, and the angels at the corners bespeak this to be a production of the Perpendicular period. Next to this, going eastwards, is a coped gravestone (raised from its original position to a vertical one) ornamented with a representation of the Crucifixion. Small male and female busts rest upon the transverse of the cross, protected by projecting ogee canopies finialled and crocketed. The dove hovers over the head of Our Saviour, and is again introduced between the busts. This appears of Decorated date. Still further eastwards, we arrive at an admirable triple sedilia with graduated seats, each under a pointed recess with plain-chamfered continuous mouldings, and sunk trefoils in the spandrils. Adjacent to the east window occurs a remarkable piscina under a trefoil-shaped arch of very unusual formation, and cinq-foliated in an equally uncommon method: the water-drain scooped so as to represent a trefoil. This piscina derives more than ordinary interest from the circumstance of the aperture in the outward face of the wall being furnished with a wooden shutter, a contrivance which has given rise to no little diversity of opinion as to its peculiar use. In the north wall within the limits of the sanctuary is recessed a fine Founder's tomb under a pointed arch, cinq-foliated with every foil trefoliated, and surrounded by a band of the ball-flower ornament, somewhat varied from any example I remember to have seen, by connecting the flowers by a branch like fruit on a bough. The crowning triangular canopy is thick set with the small close crockets of the Decorated period. The risers of the three steps which elevate the sanctuary above the chancel are formed entirely of varnished tiles impressed with heraldic insignia of which none appeared to me of earlier date than the fourteenth century.

Of few churches in remote villages can it be asserted that the interest excited by a fine interior, is so fully sustained in the picturesque aspect and general excellence of detail of the exterior as by this one of *Bredon*. The design and outline of the west front are eminently pleasing. The lateral pressure of the well-pitched gable with moulded raking lines, is resisted by flanking buttresses of slight and uniform projection to about two thirds of their height, and thence upwards by no other change than contracting the breadth to admit of a slender shaft being placed at each angle, dividing them into two stories by horizontal strings, and crowning them with solid quadrangular pyramids, they are transformed into well-proportioned turrets. True genius in art is never more manifestly displayed than in the attainment of great effects by simple means. The central window, an insertion of late Perpendicular date, is good of its kind.

The circular doorway, of one shafted order enriched by that variety of the zigzag which is raised at an angle from the vertical plane, between two continuous quarter rounds, may be classed as one of the best examples of late Norman. The same remark is applicable to the south doorway, which may be described in identical terms, substituting for the central order of the arch mouldings another variety of the chevron and a lozenge ornament. The corner buttresses of this front run up uninterruptedly into the cornice under the eaves course, supported by plain modillions, for the most part, though some few sculptured heads may be discovered. The middle order of the north door-archway is enriched with a triple zigzag, and preceded by a projecting porch vaulted below the gable with one four-celled compartment, having groin ribs of characteristic section springing from shafts in the corners: the wall ribs, acutely pointed, having their lower ends sculptured into delicate floriated designs. The outer doorway of the porch displays again another diversity of the zigzag: the dripstone springs from well-carved heads: the capitals of the shafts resemble those of the chancel arch: and the angles of the front are masked by slender shafts rising from the ground to the horizontal string of the gable, ornamented with nail-heads.

The windows of the north aisle stand upon a scroll mould string: the hollow moulding of the cornice at the summit of the wall is filled with the ball-flower. The buttresses have no very distinctive character, and I only refer to them for the purpose of directing attention to a singular disposition in the ground stage of the middle buttress, the purpose of which I am unable to divine: a small trefoil-headed recess excavated in the face, with an edging of the ball-flower, over which projects a sort of trefoil-shaped canopy.

The window in the west end of the south chapel is now closed with masonry, which, however, does not prevent the discovery of its composition, very interesting as marking a stage in the road by which the mediæval builders travelled to the perfection of their art: for it is plain that nothing is required to give to the three isolated apertures (a couple of trefoil lights with a quatrefoil above under a pointed arch), the character of ramification by piercing intermediate apertures, to solve the problem of window tracery, and produce a simple and pleasing design.

The Tower has been wholly recased, and some subsequent deterioration is prejudicial to its effect. Notwithstanding these disadvantages, it retains enough of harmonious proportions to constitute an attractive object, crowned with its eight-sided spire with moulded ribs and three successive stages of spire-lights arranged on the alternate faces.

In concluding my notice of this structure, so rich in objects worthy of patient study, that I fear to have been betrayed into hyperbolical terms to express my admiration, it may be permitted to remark that no one can have traversed the district through which I have led my readers, without being struck with the almost infinite combinations as a mode of ornamentation of which the simple chevron is susceptible. In every church I visited it is employed as an enrichment, and yet in no two instances, I believe, does precisely the same form prevail. At *Eckington* it appears in a very singular fashion: two rows of triangles, with angles reversed, of which the inflections are formed by imitations of little wooden billets, very well described by the term applied by the French to this variety, "*bâton rompu.*" *Bredon* itself is remarkable for the various specimens it exhibits of this characteristic decoration of Norman architecture, all cut with admirable force, precision, and freedom, and having escaped alike mutilation and whitewash, as sharp, clear, and well defined as when fresh from the hands of the workman.

The difference in an essential constructional form, in what can be regarded in no other light than as contemporaneous parts of the building, gives rise to a curious question. A parity so complete, extending to the minutest detail, is displayed in the western tower-arch, and in the three doorways, that no reasonable doubt can be entertained of their being certainly the conception of the same mind, probably the work of the same hands. But the tower-arch is pointed, whilst the doorways, everywhere and at all times the sturdiest opponents of innovation, remain circular. Are the latter, then, to be accepted as examples of art at a period of momentary repose and equilibrium; the arch, as the creation of an intermediate stage of fluctuation and indecision, prophetic of a total transformation? Is the pointed form, though accompanied by section and ornamentation of the strictest and most rigid Norman character, sufficient to impart the distinctive property of a truly transitional era? Or, again, does the union of the two constitute not a transitional, but a mixed style? The problem does not appear of easy solution, but it is suggestive of the great difficulty, not to say impossibility, of framing a system of nomenclature, perfectly adapted to every phase of architectural development. The examples of the extremes of an architectural period are sufficiently well marked to be discriminated and classified with ease, whilst the wavering gradations of a transitional epoch ever changing—never stationary are too subtle and evanescent to be confined within the limits of an arbitrarily assumed definition.

T. I.

SOME NOTES ON THE ANCIENT EMBANKMENT OF THE THAMES,

AND THE ANTIQUITY OF THE ISLE OF DOGS.

The recovery of a large tract of valuable land from the dominion of Father Thames is a matter of such curious interest, and is so vaguely alluded to by both old and modern historians, that it is important to endeavour to discover, by the careful examination of all reliable sources, the origin and progress of this work.

We have often before now alluded to the plain but substantial embankment which is here apparent. In a book published four or five years ago, by Mr. H. B. Cooper, on the antiquarian and general history of Mill-wall, commonly called the Isle of Dogs, the author has taken great pains to collect and arrange the obtainable matter connected with the island, and he has been scrupulously careful to acknowledge the sources of his information. From this useful and interesting book we may glean several particulars in connection with the embankment of "Father Thames," and endeavour to add to the notes which have already been given in this journal illustrative of the rise and progress of the metropolis.

First, let us remind our readers that the Isle of Dogs is in the Parliamentary district of the Tower Hamlets, and "belongs to the hundred of Oasulston,—which name may be equivalent to Oswald's stone, as Harle-stone may denote Harold's stone." Before the island, as it is called, became known as the Isle of Dogs, a portion of it had been called Stebbenheth Marsh. In the days of Edward the Confessor, the Bishop of London held land here capable of feeding 500 hogs,—which was then valued at 20s. This marsh is also referred to in "Doomsday Book." But it would seem that in William the Conqueror's days the value of this plot of ground had fallen to 16s. At the present time, although oxen and sheep may still find provender on the island, but little suitable food would be found for 500 hogs. In order to account for this, it will be well to glance at the geological formation of the district. In connection with this, Pepys, in his "Diary," says,* on the authority of one Johnson, "They did, 12 feet underground, find perfect trees overcovered with earth; nut-trees with branches, the very nuts upon them: he (Johnson) showed us the shells, black with age, and their kernels upon opening decayed, and the shell perfectly hard as ever; and a yew-tree, on which the very ivy was taken up about it, which, when cutting it with adzes, was found to be rather harder than the living tree usually is." Lysons and other London historians allude to this covered forest: by one author this ancient deposit is described as being 8 feet below the surface, "a mass of decayed trees, leaves, and branches, accompanying huge trunks, rotted through, yet perfect in every fibre; the bark was uninjured, and the whole evidently torn up by the roots."

We have given some account, by Pepys, of this forest, and although about 200 years have passed since then, the woods, &c. dug up in those parts seem not at all changed during the two centuries which have so altered the aspect of other affairs.

Mr. Cooper says that he particularly watched the works in connecting the south docks with the Blackwall basin:—"The first five or six feet were evidently made ground, probably the materials dug out of other docks. After the surface soil are several feet of light loam, or clay, which is succeeded by a bluish grey clay, the latter is intermingled with various remains, such as prove it to have been deposited by water,—wood, various snail-shells, fresh-water shells,—some among them in perfect preservation. Beneath, a bed of vegetable remains, consisting of peat, with dead wood, of which several kinds are distinguished. The wood is of different colours, all much decayed: it is also of different sizes, some large, others small; stems, branches, and roots, with traces of rushes and reeds, all imbedded together. Among the fragments of wood which I preserved, one is hazel, another willow, or some such light wood; others resembling the cornel, or dog-tree. Underneath the peat is a clay soil, resting upon loose gravel, below which they have not further penetrated. I saw no fossil remains of any kind."

This subterranean forest, which from time to time has been disturbed, is of considerable extent, and is traced from the river side opposite the dock-yard at Deptford, across the East-India Dock, and reappears in Essex. Some of the London historians mention that amongst those woods were found numerous remains of human bones. There is, however, no proper proof for this statement, and it is probable that the bones alluded to were those of deer, &c. similar to those which were mentioned by us as being discovered in the excavations for the Victoria Docks. Mr. Cooper says that "the stratum (the forest) varies in its depths from the surface between 8 and 11 feet: it is also of different degrees of thickness, not being above a foot in some, in others as much as 3 feet, and even more: in some parts it disappears altogether."

It is evident that this once forest-land, a continuation of the great wood districts of Middlesex, which have now vanished, except in name, such as Epping Forest, &c. has at a period unknown been flooded: we must, however, for our present purpose, be content with stating this much, and consider the time when, after this flood, the inhabitants began to discover the necessity of defining the course of the great stream, rendering useful what are now called the marsh lands. We have already mentioned that in Edward the Confessor's reign, the marsh now called the Isle of Dogs was in a goodly condition, and it has been supposed that the wood which supplied the food for the 500 hogs of the Bishop of London was composed of shoots from the buried

* Pepys was frequently called into this neighbourhood in connection with his duties at the Admiralty. On one occasion he and a pleasant party, "for a frolic," slept all night on the island in a coach.

forest; and that, in course of time, this vegetation ceased. We have, as is shown by the above, evidence that at the beginning of the eleventh century the Thames at this point was substantially embanked: the mystery, however, is as regards more remote times, and the question which arises on this point is,—

Was the embankment of the Thames completed to any extent before the arrival of the Romans?

We are disposed to believe that extensive works were completed on the banks of the Thames before the Roman invasion. On most of the works of this great people they have either set their mark, or left some satisfactory record. The history of the wall between Wallsend and the other side, can, by monuments and otherwise, be as distinctly traced as if the erection had been made 300 or 400 years ago. In connection with the Thames embankment, we are not aware of any Roman memorial being left. On the Isle of Dogs one Roman coin has been discovered, but that may have been dropped there in other times. In the excavations at the Victoria Docks, a few fragments of Roman pottery, and other trifling articles, were found; but, so far as we have been able to learn, no coins, stone-marks, nor any other matters of Roman date, have been found. The fragments dug up in the Victoria Docks were below the level of the Thames embankment.

In Southwark a Roman tesselated pavement was discovered below high water-mark, and therefore the embankment must have been made before that date: this circumstance does not, however, show that the Romans did not make the wall at an early period of their occupation, for it must be borne in mind that they governed in this country more than 500 years.

In the fens of the great level which extend over parts of Essex, Lincolnshire, &c. Roman coins and other remains have been found: there are also roads, tumuli, and other evidences of this people discovered, and it is probable that the ancient inhabitants of England, driven to those damp and dangerous marshes, had many fierce struggles with their conquerors.

It should also be mentioned that Tacitus, speaking of the labours of Gulgacus, about A.D. 85, mentions his work of reclaiming lands which cost the labour of the slaves of Britons in a state of galling servitude under the yoke of imperial Rome. It is probable, however, that the embankments alluded to were in those fen countries in which so many Roman remains are found.

To come to more recent days, Dugdale mentions that in the 26th year of the reign of Edward I. Robert de Retford and Henry Spigurnell were assized to report on the banks and ditches of Stebbenheth.

When we consider that for centuries before the above date extensive lands were held on what is now called the Isle of Dogs, it is probable that at this time the river bank had fallen out of repair, and the river overflowed parts of the marsh. Lysons says that it is stated in an inquisitor's table, in the reign of Edward II. relating to this marsh, that a person had received a grant of 100 acres of land recovered from the river by the making of banks and ditches, which when neglected to be repaired were liable to be overflowed: this proprietor afterwards granted 42½ acres of this land to his freemen, and the remainder to his bondsmen, on condition that each should keep in repair his portion with his own hands. It appears that the freemen had done what was requisite on their parts, but that the bondsmen had allowed their part to go to decay: in consequence the Bishop of London, as lord of the manor, by means of the sheriff of the county, enforced the necessary repairs.

In the reign of Henry VIII. (1535) Connelys Vandercliff, of his own free will, recovered from the river Thames 130 acres of the said land lying between St. Katherine's and the Tower and Radcliff: by an Act the land is granted to the party who recovered it.

Pepys, in his "Diary," refers to a great breach which was made in the embankment in this neighbourhood, which did much damage in Poplar, and was repaired at great expense.

In 1530, when Nicholas Ridley was the Bishop of London, the lands on the Isle of Dogs were surrendered to King Edward VI. who, it appears, by an original grant now at the Rolls, in the same year granted it, with other manors, &c. to Sir Thomas Wentworth, knight,—Lord Wentworth, afterwards Earl of Cleveland, and then Lord Chamberlain of his Majesty's household.

These lands, &c. seem by the above document to have been situated in various parts of the metropolitan districts, viz. "Stebunheath, Hackney, Shoreditch, Holywell-street, Whytechapel, Stratford at Bowe, Poplar, Nort-strete, Lymouse, Westheath, Kyngsland, Shakewell, Newington-strete, otherwise Hackney-strete; Clapton, Church-strete, Well-strete, Hamburton, Grove-strete, Gonneston-strete, otherwise Mere-strete, in our county of Middlesex; and our marshes of Stebunhuth and Stebhuth or Stebenbeth, in our said county of Middlesex."

The following passage of this manuscript takes the mind curiously back to former conditions:—"And also all and singular messes, mill, houses, edifaces, lands, tenements, meadows, feedings, pastures, wood, underwood, rents, revenues . . . . waters, fisheries and furze, heaths, moors, marshes, commons, ways, void grounds, courts leet, profits and perquisites of courts and leets, views of frankpledge, and all things to view of frankpledge, or hereafter may or ought to belong, free warrens, free chase, and all things which to free warren or free chase appertain or belong, bondmen, bondwomen, and vellems, with their sequels, knights' feeds," &c.

The marsh lands were of little value. In the reign of Edward VI. and for some years afterwards, it is stated in some fo the muniments belonging to the Bridge-house estates, which were for the most part purchased of that monarch, that they only let for fourpence per acre by the year, and the greater part of the lands in Southwark, and also at Deptford, only let for one penny per acre by the year. The "Talbot" inn only let for 1*l.* 8s. 2d. by the year. No mention is made of the value of the ferry between the Isle of Dogs and Greenwich. In this reign the sum was probably very small, for seventy-six years afterwards, viz. in 1626, the ferry only let for 20s. by the year. This value is referred to in the abstract of title of the above date, wherein the Earl of Cleveland let the ferry to Nowell Warner upon lease for thirty-one years at the annual rent above stated. Before this lease expired Charles I. was beheaded, and in Oliver Cromwell's time the lands were confiscated. We find, however, that the ferry was re-granted to Warner at the same rent. In this conveyance it is called Potter's Ferry. In 1658, the first year of Charles II.'s restoration, the manors were again possessed by the Earl of Cleveland, but were passed into the hands of trustees to satisfy certain debts, and at this time the ferry was again leased to Warner for a yearly rent of 5*l.*

In 1676 the ferry was leased by Lady Wentworth and others, who granted a lease of ninety-nine years to John Warner and others of all the ferry and ferry place, "called or known by the name of Potter's Ferry." Part of the lease gives particular instruction respecting the repairs of the river walls. In 1737 John Smith Warner mentions this ferry in his will, which was not, however, proved until 1753; meanwhile, previous to 1745, Warner let the ferry from year to year, but in that year he leased the ferry to one Gill, and he underlet the same to a body of men, all watermen of Greenwich. These men continued to work the ferry for foot passengers down to 1762, when this body of watermen, the under-tenants of Gill, of the foot-ferry, purchased the fee of the ferry from Richard Warner. These men formed themselves into a society, and called themselves the Potter's Ferry Society.

In 1812 the population of the Isle of Dogs having greatly increased by the erection of dwelling-houses, factories, &c. which required new carriage-roads, a large landowner of this part and others formed themselves into a company, and applied to Parliament for an Act to enable them to make the said roads, and an attempt was made to interfere with the rights of the ancient ferry: the watermen, however, opposed the interference, and maintained their title to the ferry. A compromise was afterwards made, by which the watermen's society gave up the cattle ferry, but retained full possession of the foot ferry. This ferry, as the population of the Isle of Dogs and Greenwich increases, continues to increase in value; and probably, at no distant day, a bridge of some description may cross the river here; for the numerous docks which are being planned eastward will render it not so necessary for large ships to come towards Town.

Mr. Spurgeon's New Tabernacle.—On Sunday last Mr. Spurgeon informed his congregation, at the Surrey Music Hall, that he had signed an agreement for a freehold site of ground opposite the Elephant and Castle, Southwark, for the purpose of erecting a spacious chapel. The building committee were to meet the representatives of the Fishmongers' Company yesterday, for the purpose of getting the matter completed. 5,000*l.* is said to be the sum to be paid for the land.

CHATHAM.

The want of proper means of ventilation which we showed existed in various barracks in London, has been acknowledged at Chatham and Brompton, and orders have been given to remedy it. According to the *Times*, at the side of each fireplace a large square wooden shaft is erected, running from the ceiling of the room to a point clear of the outside of the roof. "This shaft is sufficiently large to carry off in a powerful current all the impure air engendered in the barrack-room, and its capacity gives an average of 8 square inches to each occupant of the room. In order to obtain a supply of fresh air to each room incisions are made in the outer walls, which are then filled with the ventilating irons, placed on a slight angle, and covered with perforated zinc. The rooms on each floor will be supplied with a separate shaft, which will all communicate with a square apparatus on the roof."

The first of the new large stone docks which the former Board of Admiralty determined on building at Chatham is now completed, having occupied about three years in its formation. The *Engineer* says,—It is nearly 400 feet in length, 93 feet in width, and 40 feet deep. The foundations are laid on beds of concrete, several feet deep, and the dock is built entirely of the best Scotch granite, of which several million cubic feet have been used. The new basin will be opened in the course of a few days.

STREET FOUNTAINS.

The people of Scotland are not behind hand in this movement. The "Glasgow Abstainers' Union" have just got the City Water Commissioners to agree to the erection of no less than thirty-two ornamental fountains—being two for each ward of the city—in the most public thoroughfares, the cost of which will be defrayed by subscription, which the temperance societies undertake to raise. Here is another excellent example to London. At Aberdeen, too, it appears twelve fountains have been erected for the public use; and a correspondent, who writes to thank us for urging on the movement, as a great and national benefit, assists us to an idea of one of these by a rough sketch, which shows it to comprise a fountain "head" of the human form, the water flowing out of the mouth into a twenty-gallon trough, while behind the pillar to which the head is affixed, are two wash-hand basins for public use, which clean themselves, our correspondent remarks, from any degree of blackness or defilement, in the course of a single minute. Mr. Gough and the local temperance people are taking an interest in the subject, as, we have no doubt, their coadjutors in every town in all the three kingdoms now very soon will; the extension of drinking-fountains for the public is so obviously a powerful means of promoting sobriety and rivalling the death-dealing, soul-destroying liquor-shops.

The local temperance committee of Southport are about to raise a monumental fountain in commemoration of the late Mr. William Mawdsley, ironmonger, the founder of the Temperance Society in Southport. It is proposed to present this fountain to the town.

Mr. Henry Clark, of Larkhill, Southport, has proposed to the authorities of the town to present them with three polished marble drinking fountains, one of which is to be placed near the Lancashire and Yorkshire Railway, and is to be so arranged that the overflow will feed a trough for cattle, and below that again will be a small dog-trough. Another is to be placed near Trinity Church, and the third at the Birkdale end of the town. In his letter to the local commissioners, Mr. Clark says:—"I am sure that the cause of temperance and morality would be vastly benefited, if I am permitted to carry out my plan." The commissioners have resolved—"That this board is sensible of the kindness of Mr. Henry Clark in proposing to erect at his own cost drinking fountains for the use of the public in different parts of the town, and the commissioners gladly accede to the terms of his proposal,"—those terms being for the commissioners to supply the water.

The fountain about to be erected in the market-house at Worcester, by the benevolence of a gentleman who desires to remain *incognito*, will be the same in design and pattern as one which formerly occupied a prominent place in the nave of the Crystal Palace, at the Great Exhibition in 1851, and was sent by the Coalbrook Dale Iron Company. In the centre of a basin, 7 feet in diameter, and 7 feet 6 inches high, rises the figure of a swan erect, its wings extended, and a boy clasping his arms round the bird. The whole will

be executed in iron bronzed. The fountain issues from the swan's bill, and the surplus water will be received into a stone basin below, on either side of which will be placed a tap for drawing water at pleasure for drinking and other purposes.

The directors of some of the railways have resolved to erect drinking-fountains at each of their stations.

The works at the artesian well at New Swindon, we may here remark, by the way, are progressing satisfactorily. The excavation and the walling up have now been carried to a depth of upwards of 92 feet. As the works proceed to a greater depth the water comes in in increased quantities, there being now a constant supply of about 25,000 gallons every twenty-four hours.

CENTRAL PARK, NEW YORK.

COMPETITION.

PREMIUMS were offered some time ago for the best plans for the improvement of the Central Park. The conditions were, that they should provide four crossings from east to west; a parade-ground; three play-grounds; a skating-ground; a site for a concert and exhibition hall; an observatory, fountains, flower-gardens, and sites for statues. For the best plan they offered a premium of 2,000 dollars; for the second of 1,000 dollars; for the third of 750 dollars; and for the fourth of 500 dollars.

Thirty-three different plans were presented in compliance with these conditions; and the first prize of 2,000 dollars was awarded to plan No. 33, superscribed "Greensward," the joint work of Messrs. Calvert Vaux and Frank Olmstead.

The authors of the design point out that,—"Up to this time, in planning public works for the city of New York, in no instance has adequate allowance been made for its increasing population and business; not even in the case of the Croton Aqueduct, otherwise so well considered. The City Hall, the best architectural work in the State, and built to last for centuries, does not at this time afford facilities for one-third the business for which it was intended. The present Post-office, expensively fitted up some ten years ago, no longer answers its purpose, and a new one of twice its capacity is imperatively demanded. The Custom-House, expressly designed for permanence, and constructed to that end at enormous expense, less than twenty years ago, is not half large enough to accommodate the present commerce of the city."

The required thoroughfares across the park will be given in sunk roads.

The estimate for the construction of the park is	$1,121,418
Garden and fountains	20,000
Terrace and fountains	20,000
Superintendent's house & offices	12,000
Fifth avenue entrance-lodge and gate (additional)	10,000
Gardener's house, green-house, and reserve garden	5,000
	$1,188,418
Surplus for extra buildings and contingencies (including transverse roads, $204,575)	311,582
Total amount	$1,500,000

ELECTRO-TELEGRAPHIC PROGRESS.

THE prospect with the present Atlantic cable is by no means promising, and we regret to think that our confident expressions as to its unfitness, and that the laying of it at all would be a waste of money, are but too likely, after all, to be confirmed by the result. The fault (if there be but one) is believed, by those now engaged in tracing it, to exist far out at sea,—in fact, on the verge of the sudden dip from comparatively shallow water into the profound hollow of the Atlantic; and it is more than suspected that its own mere ponderosity has there injured the cable, as no adequate slack was paid out till too late to enable it to settle sufficiently over the brink of the submarine precipice or table land. It is to be hoped that the icebergs off the Newfoundland coast have had nothing to do with the difficulty: in fact, it is believed to have originated on this side of the Atlantic.

It is notable in the circumstances that, occasionally, although no intelligible signal whatever was received after the 4th ult. very distinct reversals—as regularly alternating positive and negative currents are termed—have been received; sometimes, indeed, so strong and good that, had words been sent with them as the signs from Newfoundland, they could have been distinctly read on the repeating galvanometer of Professor Thomson. These reversals, in fact, are the only tokens which, it would seem, can at present be depended on; and if the company be indebted to Mr. Whitehouse for the reversal idea, as we suspect they are, this fact says much for his sagacity. Indeed, it may even yet enable the shareholders to make the most of a bad case, if alphabetical signals can be arranged to suit these mere momentary and continual reversals of positive and negative. It must be also noted, however, that Mr. Whitehouse is himself hopeful (or lately was so) that the injury is not a vital one, but may be remediable in itself. There is another particular, also, in which the joint effect of the reversals must be considered. Were positive currents *alone* used in the present or probable state of the cable, the exposed parts of the wire, by decomposing the salt water in contact with it, would be rapidly oxidized and rusted through. The negative is, therefore, here of decided advantage; and the only pity is, perhaps, that it cannot solely be used, any more than the positive, to any intelligible purpose: indeed, as long as it was of any avail, we believe the negative *was* used as much as possible as a counteractive on this very account in the transmission of signals.

We are glad to observe, from a long letter of Mr. Whitehouse's, published since last week's portion of our remarks was sent to press, that he was always of opinion, and still is, that the present iron wire-covered and comparatively ponderous cable is not the best adapted to the purpose. He prepared a light and strong specimen, which was submitted to the directors, but rejected. The main point to be insisted on, we think, in the construction of a suitable cable should be the coiling of the central or electric wires round a stout cord, so as to allow of a little stretching without the absolute fracture to which a straight wire is ever liable on the least strain; and the completion of this core by implanting it in the heart of a hempen rope, well woven around it, and, it may be, saturated with some such substance as well-dried linseed oil, before the insulating covering of liquified material is laid on (perhaps through the aid of vacuum power, to withdraw all air from the rope). If, finally, the whole could be enveloped in a further interweavement of hempen strands, well tarred or pitched (a far more *preservative* material is said to have been lately discovered), the *ne plus ultra* of an ocean telegraph cable could thus, we think, be realized.

Mr. Jacob Brett appears to have pretty clearly proved, in a pamphlet recently published,* that he is entitled to the lion's share of the renown due to the inventors and realizers of submarine telegraphs in general, and even of the Atlantic one in particular. In this publication is given a mass of public documents which forcibly lead to this conclusion. Would it not be well, in the distribution of honorary rewards to men of talent and enterprise, that the conferment of such honours should be preceded by a strict and impartial investigation of the actual merits of the question, so as to prevent the operation of undue momentary excitement, or claptrap, from leading to the neglect of prior or more substantial claims to honours, which may frequently be said to be rather indicative of a climax of merit, than intended as a public recognition of all adequate claims?

The Channel Islands Telegraph is understood to have cost 25,000*l*. The company have a Government guarantee of 6 per cent. for twenty-five years on their entire capital of 30,000*l*.

It is at length definitively settled, it appears, that a submarine telegraph shall be constructed from Ragusa to Alexandria. The exact conditions of the agreement entered into by the British and Austrian Governments are not yet known, but it is said, with what truth we know not,—on the contrary, we fear that Austrian cunning may have overreached our diplomatists as on previous occasions in other branches of diplomacy,—that "the British Government has the best of the bargain; for its despatches, which are to be forwarded by its own agents, are to have right of priority on all three cables." It is also related that right of priority on the Austrian land telegraphs is likely to be granted to the British Government for all the despatches it may forward to or receive from India. The line in question, which is to all intents and purposes a main one, already has, or will soon have, three great ramifications.—1. The line from Corfu to Malta, Cagliari, and Spezia. 2. That from Zante to the Morea, which will join the Greek telegraphic net. 3. That from the Island of Candia to Constantinople, which Mr. Gisborne is about to construct.

It is expected that the submarine telegraph between Constantinople and Alexandria will be completed in a month. We ought to have an Indian telegraph of our own throughout, *viâ* Gibraltar and Malta.

Messrs. Newall and Co. the manufacturers of a moiety of the Atlantic telegraph cable, and who have been entrusted with the contract for the Bombay telegraph wires, have engaged the screw steamers, *Imperador* and *Imperatriz*, belonging to the South American Royal Mail Steam-packet Company, to take this cable to its destination.

The establishment of telegraphic communication is carried on with great vigour throughout the Russian empire. The lines connecting St. Petersburg with Odessa and Warsaw, and each with the other, are now complete, and those which form the link with Prussia and the rest of Europe will very soon be ready for the conveyance of messages.

A submarine telegraph of about 300 miles is in course of manufacture in Scotland, to connect the colony of Victoria with Tasmania.

The Electric and International Telegraph Company are about to lay down a new cable from a point between Lowestoft and Orfordness to Landvoort, near Amsterdam. The directors have determined that it shall be of the unusual weight of ten tons per mile.

The Foreign-office seem to be only now opening their eyes to the indispensability of submarine and cosmical lines of telegraph. Workmen have only now, it appears, connected the Foreign-office, in Downing-street, with the Submarine Telegraph central station. Messages will now, therefore, be received direct by the Secretary of State for Foreign Affairs from the various British embassies throughout Europe, and *vice versâ*. The Secretary for India will also receive his despatches from the Governor-General at the India-House direct, a connection with that department being about to be established.

* "On the Origin and Progress of the Oceanic Electric Telegraph, with a few brief Facts and Opinions of the Press. Johnson, St. Martin's-lane. 1858."

THE GUILDHALL OF LONDON.

ALTHOUGH it may be that only a small number of foreigners take the trouble to go to the Guildhall, it is certain that few visitors from the provinces for the first time leave the metropolis without looking, if possible, at the interior of this place, so famous in connection with City festivals and other events.

Considering the importance which is attached to this "townhall" of the greatest city in the world, it is vexatious to glance at its architectural imperfections. The front is of the Strawberry-hill *Gothic*, which cannot be looked upon with pleasure in this age of improved taste. The interior, with its incongruous ceiling, is also objectionable; and altogether this important national building contrasts strangely with the Hôtel-de-Ville, of Paris, and other similar buildings on the Continent. It may be urged, that the fire of 1666 destroyed portions of a building which was much superior in its architectural features to the present. Still the present hall might be much improved, so far as the interior is concerned, at a moderate cost.

At present the pavement is broken and dilapidated, the stained-glass in the two principal windows is of the most common-place and inartistic description, the flat roof is out of harmony with other parts, and the sculptured monuments, which are the most important features of the place, are disfigured by iron fastenings used for the decorations on state occasions. The capitals of the clustered pillars and coats of arms above are gilt and coloured; but, with the exception of the windows and the emblazonry of Gog and Magog, no attempt has been made to use colour for the purpose of concealing the imperfections of the architectural forms. If the roof were improved, and covered with heraldic devices; the windows at the ends and sides filled with stained glass of a rich and good description, which would throw a subdued light into the hall; the panels behind the pillars diapered; the floor either paved with coloured tiles or parquetry; and the unsightly fastenings, &c. removed, the improvement in the appearance of the place and the relief given to the monuments would be great.

The monument of Wellington is in better condition than the others, which, for want of care, cannot be properly seen. For the figure of Beckford a clumsy attempt at relief has been made, by painting the panels behind the figure black.

Those who constantly see the hall have probably become so much accustomed to the eyesores mentioned, that they do not observe them; but to strangers the want of improvement is evident.

We commend the subject to the excellent and able Lord Mayor elect,—Mr. Alderman Wire.

THE WESLEYAN COMPETITION IN LINCOLN.

Mr. Editor,—The Wesleyan Methodists of the city of Lincoln are desirous of erecting new schools for 600 children, at a cost of 2,000*l.* Amongst the subscribers the name of a local architect (a member of their society) appears for 25*l.* with the understanding that if he is not employed to superintend the building his subscription will not be called for. It is well known that a majority of the committee are in favour of this gentleman being intrusted with the work; but, after mature deliberation, it is decided that a *very handsome* compliment be paid to five other members of the profession, as will be seen by the following resolution, viz.:—

"That the following architects be requested to prepare and submit plans for new school premises for the approval of the committee, viz.—Mr. Simpson, Leeds; Mr. Bottrill, Hull; Mr. Wilson, Bath; Mr. Goddard, Lincoln; Mr. Drury, Lincoln; Messrs. Bellamy and Hardy, Lincoln. Each architect will be required to state his terms for working drawings and superintending the entire carrying out of the building, if employed by the committee.

"The successful architect, if not employed by the Committee, will receive for his plan 10*l.* and 5*l.* will also be given for the second best.

"All the plans to be returned to the parties sending them, except those most approved, and second best, which are *to become the property of the committee.*

"Designs to be sent to the secretary not later than November 1st, 1858, and to have personal signatures."

For the honour of the profession I hope these extremely liberal gentlemen of the committee will be disappointed in their expectations of receiving plans worth at least 150*l.* for their paltry 15*l.* and more particularly as there is an equal chance of the author of the best plan being appointed architect to the Emperor of China, as there is of his being engaged to carry his plan into effect, unless he is prepared to outbid the generous Wesleyan whose subscription of 25*l.* answers the double purpose of a "decoy duck" on the list, and a razor in the hands of the committee to shave down that or a greater amount from the sum which ought to be paid to any respectable member of our often insulted profession.

A Favoured One.

SUNDERLAND ORPHAN ASYLUM COMPETITION.

The governors of the Orphan Asylum offered the beggarly sums of 20*l.* and 10*l.* for first and second best designs, with specification, for an asylum, and, moreover, mixed up with the advertisement the name of an architect. The result is, that although 200 applications were made for the particulars, eleven sets of designs only, from eight or nine competitors, have been sent in; and one of these, not the worst, has been put aside from non-compliance with conditions. The comments in both the *Sunderland Daily News* and the *Sunderland Telegraph* on the subject show a more proper appreciation of architects and their rights than is usually found. "The price," says the latter, "set upon valuable designs, by money-making, hard-fisted boards, is now-a-days reduced to such miserable sums as to flush with indignation all lovers of the art. Were it not that the struggling student could hide himself from the public gaze under a 'motto,' few would be found humbled enough to accept of the petty offers we see weekly on the fly-leaf of the *Builder*."

"*Spes*," "*Utilitas*," and "*Nota Bene*," are the favourites.

PROVINCIAL NEWS.

Oxford.—The *Journal* speaks of recent improvements in the street architecture of this city. New business premises have been erected on the site of a fire which occurred in the Corn-market last October. The new shop front, which rests on a stone base is constructed with pitch pine, enriched with foliage, carved from nature, representing the hop, vine, hawthorn, oak, and ivy. On the sides of the trusses or brackets, supporting the woodwork above, various fruits are represented. A large warehouse is connected with the shop at the back, extending 105 feet from the front, and is 36 feet wide; and besides this, on the ground-floor, there are a private office, clerks' office, and wholesale sale-room; and under the whole are cheese and butter stores and British wine cellars; while there is another large warehouse above, on the one-pair floor. An entrance is formed for vans and carts at the side of the shop. There are other new premises adjoining. Mr. Wilkinson was the architect; Mr. Jones, the builder; and Messrs. Margetts and Eyles, the carvers.

Leicester.—Some street improvements are going on in Leicester. A building recently erected in Campbell-street, for a company of cheese-factors, wholesale grocers, and cigar manufacturers, has just been completed. The foundation-stone was laid in August, 1857. It stands upon an area of upwards of 1,300 square yards, according to the local *Advertiser*, and is quadrangular in form. It has a spacious central court, covered with glass, supported upon a cast-iron roof, in which is a clock; and it is intended also to furnish a fountain, for the use of the porters and others. The average height of the building, including the basement story, is 46 feet. The building is constructed of pressed and gauged red bricks, stone being used occasionally for purposes of ventilation and also for decoration. The decorative part of the building consists of six medallions, placed over the spandrils of the arches in Campbell-street. These are intended to personify Agriculture, Trade, Justice, Navigation, Geography, &c. They were all, with the figure on the apex of the roof symbolical of commerce, executed by a London artist. Mr. Ordish was the architect.

Holyhead.—It is stated that the Admiralty propose further to extend the length of Holyhead Harbour 700 feet.

Newcastle-upon-Tyne.—Mr. W. G. Armstrong, the inventor of hydraulic cranes, has placed 1,200*l.* at the disposal of the Literary Society of Newcastle, for the erection of a lecture-room.

SCHOOL-BUILDING NEWS.

Southwold. The new schools at Southwold, Suffolk, were inaugurated by the Lord Bishop of Norwich, on September 9th. They consist of boys' and girls' school-rooms, each for 100 children; and infant school for eighty infants, with attached class-rooms, and the usual conveniences. Messrs. Palmer and Sawyer, of Southwold, were the contractors; Mr. E. L. Blackburne, of London, the architect; who, on the occasion, delivered a lecture on the "Architecture and History of Southwold Church," in aid of the funds for a subsidiary place of worship for the beachmen of the place, at which many of the clergy and principal families of the town and neighbourhood were present.

Bilston.—The St. Leonard's new schools have been opened. These schools were rendered necessary owing to the dilapidation of the old schools, which were originally erected for children left orphans by the cholera, and purchased for St. Leonard's for 500 guineas. The new schools are from designs by Messrs. Briggs and Everall, of Birmingham. They are built of blue brick, relieved with bricks of a lighter colour, a similar variety being presented in the tiling. A line of building parallel to the Great Western Railway is broken by gables. At right angles with it a teacher's house and infant school extend on the opposite side, and play-grounds for boys and girls occupy the rest of the ground purchased for the purpose, the whole area of which is 1,800 square yards. A room 90 feet long and 30 feet wide, divided by a moveable partition, forms the schools for boys and girls, and is capable of holding 280. The roof is open, and stained; the principals resting on stone corbels. At each end of the large room are a class-room, hat and cloak room, and lavatory. The infants' school is fitted with two galleries. The master's house contains six sleeping-rooms. The whole cost, with the land, will be about 2,300*l.* Towards this the Committee of Privy Council will probably contribute half.

Ogley Hay.—New National schools are about to be erected here, the foundation-stone having been laid on Wednesday in last week. The site chosen is adjacent to the church and parsonage, and in an elevated situation. The new buildings have, like the church and parsonage, been designed by Mr. G. T. Robinson, of Leamington, and are expected to cost about 1,200*l.* in addition to the price paid for the land—200*l.*

Wolverhampton.—A Wesleyan school building has been erected at the rear of the chapel in Darlington-street, the requisite land, value 565*l.* having been given by Mr. John Hartley. The architect of the works was Mr. Edward Banks, and the contractor Mr. D. Evans. The exterior of the building is composed mostly of Prince's-end bricks, with white brick quoins. The interior of the edifice can be divided, by means of sliding sound-proof doors, into three school-rooms, for boys, girls, and infants respectively. The boys' and girls' schools, measured together, are 96 feet long by 30 feet wide, and the infants' school is 40 feet long by 20 feet wide. There are six class-rooms, two for each school, and their separate dimensions are 20 feet by 15 feet. The roofs are partly open, and of deal, varnished. The rooms accommodate 200 boys, 150 girls, and 120 infants. There are three playgrounds attached to the school. The cost of the building is about 1,920*l.* exclusive of the land.

Sheffield.—The foundation-stone of a new school, in Gower-street, in connection with the Wesleyan Methodist Reformers, was laid on Tuesday in last week. The school, now in course of construction, under the superintendence of Mr. Thomas Larder, says the *Independent*, will be a plain brick building, one story high, 10 yards by 12 yards, 15 feet to the ceiling, with two class-rooms, each 5 feet by 4 feet. The large space of ground adjoining, which has also been taken, will probably hereafter be the site of a chapel. In the meantime the school will be used as such, as well as for its primary object.

Largs.—The foundation-stone of the Largs Academy has been laid by Sir T. M. Brisbane. Mr. Campbell Douglas is the architect of the building, and Mr. Caldwell and Mr. Blair are the contractors.

THE ESSEX ARCHÆOLOGICAL SOCIETY.

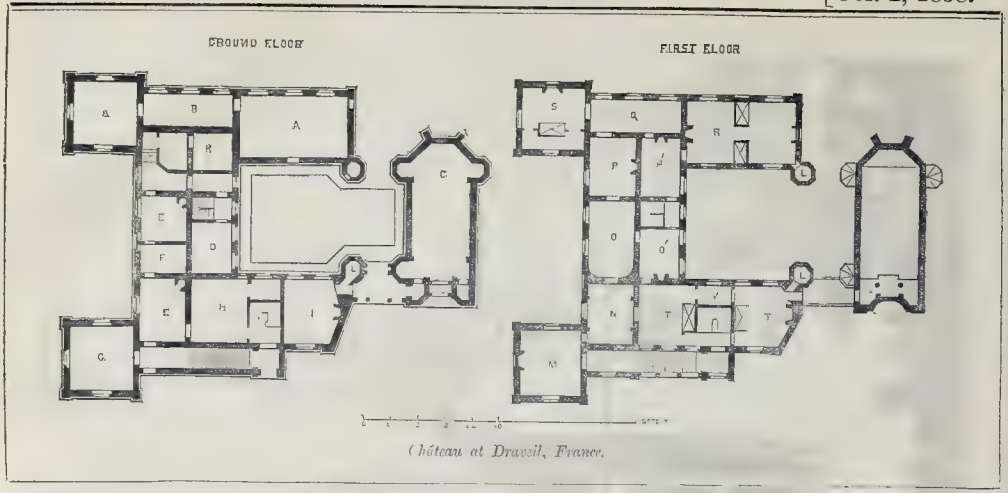
The annual meeting of this society was held on the 16th ult. at the village of Hadleigh. The general meeting took place in the school-room, the wall of which were decorated with rubbings of brasses and other objects of interest. Mr. A. Majendie occupied the chair in the absence of the president, Lord Braybrooke; and after some proceedings as to the establishment of a museum at Colchester, a paper, by Lord Braybrooke, on "Ancient and Mediæval Finger-rings in Essex," was read. The next paper was on the Roman remains at Billericay, by Mr. E. Robarts. Another, on the Danish camps at Bemfleet and Shoebury, and the great battle of Ashingdom, was read by the Rev. W. E. Heygate. The proceedings then closed, and the party afterwards went on an excursion to the church and the ruins of Hadleigh Castle.

A LONDON MEMORIAL TO SIR ISAAC NEWTON.

Lord Brougham, in his remarkable oration near the birthplace of Sir Isaac Newton, truly said of him, that his was the "greatest genius ever bestowed by the bounty of Providence, for instructing mankind on the frame of the universe, and the laws by which it is governed." After a criticism, admirable for its eloquence and learning, the great orator and philosopher directed attention to the estimation in which Newton is held in all parts of the world. Liebnitz, when asked at the royal table, in Berlin, his opinion of Newton, said, that "taking mathematicians from the beginning of the world to the time when Newton lived, what he had done was much the better half." "The 'Principia' will ever remain a monument of the profound genius which revealed to us the greatest law of the universe," are the words of La Place. That work stands pre-eminent above all other productions of the human mind.

The discovery of that simple and general law, by the greatness and variety of the objects which it embraces, confers honour on the intellect of man. "Lagrange," we are told by Delambre, "was wont to describe Newton as the greatest genius that ever existed, but to add how fortunate he was also, because there can only once be found a system of the universe to establish." "Never," says the father of the Institute of France—one filling a huge place among the most eminent of members—"Never," says M. Biot, "was the supremacy of intellect so justly established and so fully confessed; in mathematical and in experimental science without an equal, and without an example, combining the genius for both in its highest degree." The "Principia" he terms "the greatest work ever produced by the mind of man;" adding, in the words of Halley, that a nearer approach to the Divine nature has not been permitted to mortals. "In first giving to the world 'Newton's Method of Fluxions,'" says Fontenelle, "Liebnitz did like Prometheus; he stole fire from heaven to bestow it upon men." "Does Newton," L'Hôpital asked, "sleep and wake like other men? I figure him to myself as a celestial genius, entirely disengaged from matter."

Such is the estimation in which our own great philosopher is held at home and abroad; and yet, if we look around the metropolis in which so many years of Newton's life were spent, we look (with a solitary exception) in vain for any memorial. The



Château at Draveil, France.

centre of Leicester-square, close to which he lived for half a century, for long offered a suitable site for an important monument—to both Newton and Sir Joshua Reynolds. It is, however, useless mentioning this now. But it is not so with the house in St. Martin's-street, which was the residence of Newton, and in which he completed some of his most important works. This dwelling is in solid repair: the panelling of the spacious and lofty rooms, the noble staircase, the observatory on the top, might, with very little trouble, be restored to the same condition and appearance as it bore in those days in which the world-famed philosopher pursued within those walls his studies, and also dispensed his hospitality. Most of the great men of that time have assembled here. In spite of such eminent associations, this house, as we have more than once reminded our readers, is chiefly divided into tenements, and exposed to the risk and to the dilapidation which is almost certain to ensue; and yet, what more suitable memorial could we have in this neighbourhood than the restoration of this house, the erection, in front, of a proper inscription, and the application of these premises to some purpose which would be the means of advancing information,—such as a free library, or public school for the purpose of teaching scientific knowledge to the skilled artizans of the metropolis? Something of this kind was proposed a few years ago, and the matter met with the approval of several persons of rank and influence. The idea, however, seems to have been lost sight of. It is fortunately not yet too late; and while the fame of Newton is occupying most persons' thoughts, we once more direct attention to this house, and express a hope that measures will be taken which will prevent those of another generation having the need of upbraiding us of the present with the neglect of a relic which, equally with the house of Shakespeare, should be carefully preserved so long as the materials will stick together.

Is there no one of standing in the world of science who will make a move in this good work, and endeavour to form a committee for the purpose of bringing it under public notice? Such a movement would no doubt receive the advocacy of the intelligent portion of the press. And if meetings were held in the metropolis and chief provincial towns for the purpose of raising subscriptions for the purchase, repair, and proper endowment of Newton's house, we should soon have sufficient funds for the purpose. As Longfellow sings in his last song,—

"We may build more splendid habitations,
Fill our rooms with paintings and with sculptures,
But we cannot
Buy with gold the old associations!"

BELL "RINGING" BY MACHINERY.

Dear Mr. Builder,—I have not yet received the last part of your publication, but I have just seen an extract from a late number in which is a description of a machine for *ringing* church bells, patented by Mr. Jones, of Pendleton. Is the inventor no better instructed in the art of campanology than to confound *chiming* with *ringing*?

Notwithstanding the daily marvels produced by science, I do not believe a peal of bells will ever be *raised*, *rung*, *changed*, and *ceased*, by any *machinery*. *Ringing* always implies that bells are swung; and it is only by that swinging that the grand full tone of a bell can be brought out.

Mr. Jones's machine may be very ingenious; but be that as it may, there has been in use at Ottery St. Mary, for many years, an arrangement of outside hammers, connected with wires and cranks and levers, and a barrel fitted with lifters like a chime-barrel; and by turning a handle a person very easily chimes all the bells.

About forty years ago, I set up a contrivance at Bitton, with hammers striking inside, and levers, lines, and pulleys, all brought to a given point on the floor, where—

"To call the folk to church in time,
A little boy a heavy peal may chime."

This arrangement is very simple, and not liable to get out of order: it has been in constant use. The same has been set up here and elsewhere. All dependence on a set of ringers is got rid of, and soft and subdued harmony is produced, but the arrangement in no way interferes with the swinging of the bells, for ringing either singly or in peal. H. T. Ellacombe.

Rectory, Clyst St. George.

THE GUARDS' MEMORIAL, LONDON.

After various changes, it has been arranged that the "Guards' Memorial," placed in the hands of Mr. John Bell, the sculptor, is to be erected in Waterloo-place, on the north side of Pall Mall, but with a south aspect, so as to look along the area between the Athenæum and the Senior United Service Clubs, pretty near where the Bude light used to be and where a lamp stands now. That lamp will be taken away, and probably a lamp placed on each side of the monument. The monument itself will consist of four large figures, to be cast out of Russian guns taken at Sebastopol, and the pedestal is to be of granite. The whole will be of some height. The situation seems to us a good one, as a decoration for the metropolis is wanted there. The large models are all ready for casting.

THE FALL OF HOUSES IN PILGRIM-STREET, LUDGATE-HILL.

This disaster, mentioned in our last, will probably have the effect of leading to the condemnation of many old houses in the metropolis. We have a full appreciation of the loss caused to individuals by such a step, and know how necessary it is that the authorities should use discreetly the power they have: the safety of the public, however, is paramount, and should be vigilantly protected. Much of the property round the site of the fallen houses is very bad: the party-wall east is in a miserably dangerous state, overhanging greatly: so are houses west of it and in the Broadway. The whole should be taken down.

Pilgrim-street, the site of the recent accident, like Paternoster-row and Ave Maria-lane close by, carries us back in the history of the metropolis (by its name) to a time long previous to the Reformation, and calls before the mind's eye the narrow streets of overhanging houses which then formed the City, clustered around the ancient cathedral, with its lofty spire, and surrounded by walls and gates. It speaks of the river "strand" not built on, of penthouses and London apprentices, of joustings in Cheap, of burnings on the "Smooth field," and of the long list of brave, energetic, wise, and honest men who have rendered London what we now see it,—the home of freedom, and the centre of progress.

ARCHITECTS' CHARGES.

Sir,—In the case of a building recently erected in Cornwall, under the supervision of a London architect, some misunderstanding has ensued as to the propriety of certain portions of his charges, and we have been deputed to refer the points at issue to your columns. We shall, therefore, feel obliged by a reply in your forthcoming paper to the following questions:— R. B.

[As a general rule we find it inexpedient to comply with such requests. On the present occasion, however, as the same inquiries have come to us recently in several forms, we append replies.]

1. Are bills of quantities, when supplied by architects, included in the usual commission of 5 per cent.?

[No. The supply of bills of quantities is a separate transaction with the contractors, and is no part of the architect's duty to his employer, for which he receives 5 per cent.]

2. If not, is 2 per cent. upon the contract an unusual or excessive charge for the same?

[The charge varies from 1¼ to 2½ per cent. the latter for small works: 2 per cent. although a full charge for works of any extent, is not unusual.]

3. Is it unusual to charge the contractors a sum (in this case 7*l.* 7*s.*) for a copy of the drawings from which the quantities are taken, such drawings having a special reference to the said quantities?

[A charge of this sort is not usual, but may be justified by special circumstances, not stated.]

4. Is a surveyor's charge upon the contractors of 5 per cent. for measuring, so as to obtain the quantity of all extra work, and for valuing the same, unusual, or excessive?

[The customary charge for Measuring and Valuing, is 2½ per cent. and those who have much of this work to do find it pay better than the artist-architect's 5 per cent.]

MODERN FRENCH ARCHITECTURE.

We have illustrated in the present number, in continuation of our exposition of modern French architecture, a château at Draveil, in the department of the Seine and Oise, the summer residence of the Count de Draveil. It is pleasantly situated on the right bank of the Seine, about fifteen miles from Paris. Annexed are plans of the ground-floor and first-floor. The appropriation of the various rooms and some particulars we must give in a future number. The detached building to the right, marked C on the plan, is the chapel. The arrangement of the steps to the principal story is noteworthy. M. Canissié was the architect from whose designs the building was erected.

MODERN FRENCH ARCHITECTURE.—*Château at Dracé.*—M. Cassiat, Architect.

BUILDING WORKS IN MELBOURNE.

It is intended to erect additional buildings in connection with the (at present unfinished) new Cathedral of St. Patrick.

The new chapel recently erected at the west side of the Cathedral of St. Francis, and communicating with the nave by a pointed arch, with massive cut-stone piers, has been opened. There are nine compartments having stained-glass windows and mural decorations, emblematical of the chief points in the history of the Virgin, and the windows are by Messrs. Hardman, of Birmingham. The floor of the chapel generally is paved with blocks of black, white, and grey marble, and the steps leading to the altar are laid with Minton and Co.'s encaustic tiles. A large statue of the Virgin and Child, from the chisel of Herr Todt, stands on the reredos behind the altar. The roof between the groins is painted a deep blue, powdered with stars.

The first stone of the new buildings of the Convent of Mercy, Nicholson-street, has been laid. The additions extend 60 feet by 25 feet, and will be in two stories, comprising on the ground-floor a school and reception-room, and on the upper a chapel and dormitories. Mr. Schneider is the architect; Mr. Glynn, contractor.

New buildings are on the increase, and several very important works, both governmental and otherwise, are either in progress or projected. Large blocks for commercial and domestic purposes are also rapidly rising up, and the general aspect of the city is improving at least architecturally. There is a quick demand for building tradesmen, and competent parties receive liberal wages.

HOUSE RENTS.

No greater burthen, perhaps, exists, than the oppressive one of house rents, nor one that has in England been more quietly submitted to, and more exempt from an agitation which subjects of far less importance (to most classes) have undergone. We may, with advantage, take a lesson from the French nation in this respect. House rents have in many localities reached to an enormous amount, entailing ruin and bankruptcy upon the numerous unfortunates who have ventured to take houses, in the frequently delusive idea of realizing their rentals by means of an extensive and proportionate increase in their business transactions. Competition, amongst traders, effectually prevents exorbitant demands for the various articles required by the public, except in special instances, where some equivalent in the shape of credit, convenient access, or neighbourhood, &c. may offer certain advantages to some portion of the public; but in the case of rentals, whether private houses, shops, or warehouses, there is little or no competition in operation between houseowners. However enormous and unreasonable the demand, the house-seeker has no alternative but to pay it, or give up the chance of a presumed eligible situation for his residence or business. The public, unthinkingly, exclaim against houseowners for asking unjustly high rentals; but the real delinquent is, probably, more often the landowner. Between the two, however, the injury to the community is very serious; and to individuals, *very frequently* the consequences are *ruinous*. The shopkeeper is, doubtless, the most heavily taxed, or charged, of any class: to meet such charge, and pay his exorbitant rent, he, in turn, taxes his customers in some shape or other. When he does not increase his prices, or cheat the public by means of adulteration, or any similar underhanded or immoral system, he most likely robs those who work for him by giving insufficient wages, or eventually, not paying his creditors, becoming insolvent or bankrupt; a result which may not, on the first instance, prove his ruin; but, when repeated several times, is tolerably sure to effect it.

Were we to analyze the causes in operation assisting individuals to become possessed of, and die leaving, from a quarter to half a million of money behind, we should probably find the chief, if not the only one, to be enormous ground-rents. The house-owner often loses a large portion of his income through his tenants leaving his houses without paying their rent, and not having the remotest chance of tracing their destination, with a view to recovery; but the ground-landlord is subject to no such risk, as houses are of a stationary nature, and rarely (in this country at least) capable of being removed. McCulloch, writing about the land-tax, informs us that in 1692 a land-tax was granted to the Crown at the rate of 4s. in the pound of the rental of estates, manors, and other real property, and that the valuation, according to which this tax was assessed, was loose and unequal in the extreme. It was indeed in a great measure left to the different proprietors to assess themselves, and no change was ever made in the valuation on which it was so assessed. The Act 38 George III. made the rate perpetual at 4s. giving at the same time power to the landlords to reduce it on certain conditions. Many have availed themselves of this permission, as might naturally have been expected. Can anything be more iniquitous than the bestowal of such a power on one class of capitalists more than another, and that class, moreover, peculiarly exempt from the losses and defalcations incidental to the rest of the community? A writer in a recent number of the *Builder* states that in a square of small houses recently erected in the north of London, the rental, including taxes, is 32*l.* 10s. yearly each house, upon which there is a ground-rent payable of 10*l.* on each, while the taxes thereupon amount to about 4*l.* 10s. a year. Surely this is a most unjust state of things. These remarks are submitted for the purpose of arousing attention to an evil that has been permitted to remain dormant too long.

No "Laissez Faire."

PUBLIC BUILDINGS IN THE PROVINCES.

Lowestoft.—The inhabitants of this town have resolved to effect certain improvements in their townhall, on plans submitted to a meeting, held on the 9th inst., by Mr. Brewster, who stated that the basement floor would consist of an ante-room, surveyor's office, and a large room for a library and reading-room, &c.; the second floor of one large room, 75 feet long by 23 feet; and at the east end there would be a gallery: the room altogether would be capable of holding 700 persons. There would be an ornamental window in front on the clock tower. The vicar and churchwardens were requested to accept and lay out 500*l.* voluntarily advanced by some of the inhabitants, in addition to a sum now in their hands, in the improvements before mentioned, and also the rents, &c. from the townhall.

Dartford.—The foundation-stone of a new County Court has been laid at Dartford, in Kent.

Nantwich.—The new Townhall here has been formally inaugurated. The building, which includes a corn-exchange, has been erected by public subscription, on a piece of ground in Welsh-row, adjoining the river, and at a cost of about 3,000*l.* The character of the erection is Gothic of the fourteenth century, and it is carried out in blue and red bricks, with Bath stone dressings, having a square tower with stone staircase, pointed gables, and high-pitched roofs and dormers. The ground-floor contains the corn-exchange, 46 feet by 30 feet, with the addition of an open corridor next the river, and also two committee-rooms, a library, and a residence for a hall-keeper; and the one-pair plan gives an assembly-room, 63 feet by 46 feet, fitted up to accommodate about 600 persons, with ante-room for visitors, and private staircase, retiring-rooms, and orchestra for performers.

Dewsbury.—A public hall has been erected and opened in Spring-road, Dewsbury, by Mr. Fawcett, builder. The building is adapted for lectures, concerts, or the drama, and will seat about 2,000 persons.

Bolton.—The projected music-hall for Bolton is to be carried out by a joint-stock company, which has been formed for the purpose under the Limited Liability Act.

BUILDINGS IN IRELAND.

A new Roman Catholic church will be commenced immediately at Thomastown, county Kilkenny. The plan comprises nave, aisles, transept, chancel, chapel of the Virgin on north side, and sacristy on the south. The nave and aisles have four bays of pillars and arches. The transepts do not project beyond north and south walls of aisles (a characteristic of French Gothic of thirteenth century, which is the style preserved throughout). Total length internally, 115 feet by 56 feet. The nave is entered by a door, divided in two by a trumeau, the jambs and arches being boldly moulded. Over the west door is a rose window, contained within a deeply-moulded pointed arch; and between it and head of door will be the organ-gallery. Over the altar and reredos in the chancel will be a triplet of lancets, and over these another rose window. The east and west windows of aisles are two-lights, with tracery; and the side windows single lancets; those of the clerestory being quatrefoils. The roofs are of open timberwork, stained and varnished. Height from floor to ridge, 62 feet. The material for walling is grit stone, and limestone for the dressings. Mr. McCarthy is the architect; Messrs. Ryan and Son, of Limerick, are the contractors. Mr. Serjeant Shee, late M.P. for the county, gave a handsome donation.

A new Roman Catholic church is also being erected from designs by the same architect at Killenaule, county Tipperary. Plan comprises nave, with side aisles; chancel, side chapels, and sacristy. The nave is divided from the aisles by five bays of clustered pillars, with carved foliage caps, and deeply-moulded arches. The west door of nave has clustered jamb-shafts, supporting a richly-moulded arch; and the window over is five-light, with tracery. The east window has seven lights, with elaborate tracery in the head. The east window of chapels and west window of aisles are three-light, with tracery, and the side windows two-light. The clerestory has two light-traceried windows, *i.e.* there are two windows to each bay of nave. The north and south windows of chancel are three-light traceried windows. The roof will be high-pitched, and panelled interiorly. The style is Decorated Gothic. Dimensions in clear, 119 feet by 54 feet; and height to ridge, 68 feet. Materials, fine limestone of the neighbourhood. Contractors, Messrs. Wallace and Son, of Limerick.

The Earl of Clancarty has been improving his western estates, and erecting labourers' cottages two stories in height. They are six in number, each being 18 feet by 15 feet, with a school-house in the centre of the block, 32 feet by 15 feet. Each contains a kitchen and two rooms, the latter on the upper story; and in the rear is an area containing piggery, fowl-house, turf yard, and other appurtenances, with a rood of ground for vegetables. Attached to the schools are apartments for a teacher. The style externally is Elizabethan, and the material of walling black stone, with quoins, &c. of limestone, from the Brackernagh quarries. Mr. Francis Madden, of Upper Dunlo, is the contractor.

The new church of Aaslegh, county Mayo, has been consecrated by the Lord Bishop of Tuam, and is called after St. John the Baptist.

A private chapel is to be built for Lord Castlerosse, to be attached to Kenmare-house; also a new convent in the same locality, for both of which plans have been furnished by Mr. Hansom, architect.

A House of Mercy, or Orphan-house, is to be erected at Clifden.

The new churches of Kilmaloda and Drimsleague have been consecrated by the Lord Bishop of Cork. They are said to be important structures, and each capable of accommodating a large congregation. In the latter there is a stained glass window in the chancel, put in at the expense of the incumbent, Rev. M. L. Connor. Mr. Joseph Bryan, of Dunmanway, is the architect.

The new church of Tullylease has also been consecrated. It is most picturesquely situated in the old churchyard of the parish, in which also stand the ruins of the ancient church of St. Berecheart. The recently erected structure is in the Early English style, built with rubble of local brown stone, with limestone dressings, buttresses, &c. and has a belfry. The interior is lighted by three double lancet windows at the sides, and at the east end by a triple window.

A village on the property of Mr. John Wilson, J.P. co. Westmeath, has been lighted, as already mentioned, with a brilliant gas from "peat" or common turf with which Ireland abounds, under a process patented by Mr. R. L. Johnson, of Dublin. This is the first application of the invention to so extensive a purpose, although it has recently come much into vogue in districts where turf is easily obtainable, and the patentee has fitted up several apparatuses for the supply of "peat gas" to private dwellings, farm-buildings, &c. The cost per first 1,000 cubic feet is certified by the proprietor of this village to be, for turf, 1s. 3d.; boy's wages, 2s.; lime, 9d.; total, 3s.; but for the second and succeeding thousands 1s. 6d. or even 1s. is said to be the expense. One-seventh of the entire superficies of Ireland, or about 3,000,000 acres, consists of bog land, therefore the invention is particularly applicable to that country. The patentee undertakes to produce from three to five or even six cubic feet of gas, according to quality of fuel, from 1lb. of turf, and to produce a clear, brilliant, and beautiful light for an ordinary jet, and to burn twenty-four hours, at a cost of *one farthing*. Peat-gas contains but a small quantity of sulphur. One ton of charcoal or charred peat is procurable from three tons of turf, and sells from 40s. to 60s., turf being from 4s. to 6s. per ton.

The Sisterhood of the New Convent of the Sacré Cœur, Armagh, having lately obtained sixteen acres of ground, on an elevated position,

adjoining Armagh, have erected thereon the central portion of a large convent, which is on the point of completion. The building now erected is 130 feet in length by 54 feet in extreme breadth, and four lofty stories in height. The exterior is faced with wrought limestone ashlar: a projection, surmounted by a pediment, occupies the centre of each front. The basement-story contains the refectories, stores, culinary offices, &c. The principal floor contains a large entrance-hall, reception and waiting rooms, class-rooms, study-hall, staircases, temporary chapel, ante-chapel, &c. The two upper stories contain community-room and cells, for the nuns, dormitories for the pupils, infirmaries, dressing-rooms, baths, &c. A central corridor divides the rooms on each story. Preparations have been made for adding two large wings, which, with the part already built, will form three sides of a quadrangle, and will contain the chapel, sacristy, dormitories, recreation and work rooms. The cost of the portion already erected is 6,500*l*. Poor schools, 104 feet long, 21 feet wide, and two stories high, are also in progress on the convent grounds. Mr. John Bourke is the architect.

At Glassnevin, near Dublin, the same community having some time since obtained possession of the residence of the late Bishop Lindsay, together with fifty acres of land adjoining, have completed large poor schools, at a cost of 850*l*. and have it in contemplation to erect large additions, containing study halls, dormitories, chapel, class-rooms, &c. to accommodate 150 boarder pupils. Large parochial schools have been just completed, in connection with SS. Michael and John's Church, Dublin, at a cost of 650*l*.

The Church of St. Nicholas, Francis-street, Dublin, erected some years since under the superintendence of the late Mr. Leeson, architect, is now in progress of final completion. A tetrastyle portico, of the Ionic order, in Portland stone, columns 3 feet 6 inches diameter, is in course of erection: each pair of columns is elevated on a stylobate, between which is the principal entrance to the church. Owing to the congregation from the gallery and the body of the church meeting in the central vestibule, great inconvenience has been felt. To remedy this, the stone stairs leading to the gallery have been altered, and additional entrances formed in flanks of side vestibules. The belfry is an awkward rectangular tower, dressed on the upper stage with coupled Corinthian pilasters, and surmounted with a pediment on one face. This pediment will be removed, and a dome, sheeted with copper, over a graduated drum, will be erected in its stead. Amount of contract, 1,750*l*.

At Ballyconnel, a rural parish near the town of Tullow, the chapel, erected many years ago, and which is 100 feet by 34 feet, was found to be in a dangerous state from the defective construction of the roof, nearly all the rafters being broken in the centre. Ornamental trusses in stained wood, supported from corbels inserted in the walls, have been put up, and the roof straightened and secured, the ceiling being raised several feet higher than its former elevation. This has been effected without in any way disturbing the existing slating, and at a trifling outlay. Mr. Bourke is the architect of these and the preceding works.

A lunatic asylum for the accommodation of members connected with religious orders has been established at Richmond, near Dublin, by the bequest of the late Miss Magan. It is in contemplation to erect large additions, for which competition designs will be sought. The establishment is under the care of Sisters of Mercy, who have been trained to their duties in continental hospitals.

ANCIENT MONUMENTS IN THE CRYPT OF ST. JAMES'S, CLERKENWELL,

ABOUT TO BE REMOVED TO THE PORCH.

Rich as Clerkenwell was once—in old times—in objects and associations, the chief part have been swept away by fire, tumult, the decay of time, and other causes. There are yet, however, a few relics left. Amongst the most important are the venerable gate of St. John, which, with the crypt of St. John's, and a few fragments on the walls of the present church, are all that remain of the once stately buildings which were the wonder of all observers. Such scraps of antiquity as remain are therefore valuable. The church of St. James, which was of considerable antiquity, and contained several fine monuments, was destroyed and rebuilt about 1788. There were, however, a few fragments of the ancient church remaining, which for years have been left in the darkness of the crypt, amongst the piles of mouldering coffins which have been here collected. These consist of the recumbent figures of the last prior of St. Bartholomew, and priors of a neighbouring religious establishment; also a handsome marble monument to the memory of Mrs. Partridge, the only child of Thomas Holder, esq. of Northwold, in the county of Norfolk. The Latin inscription says that this lady "married, to the joy of her parents, Henry Partridge, esq. of the Middle Temple." Their union was truly happy, but soon broken; for, after giving birth to her first child, she died of a low fever on the 17th January, 1702, aged seventeen. This monument, which is a good example of this description of art-work of the reign of Queen Anne, has been lately brought from the crypt, cleaned and restored, as well as the mutilations would admit of, and placed in a good situation in the porch, where it forms an interesting feature. It is proposed to raise the other relics of the old church into the daylight, and place them near the Partridge monument. There are also some other old monuments in St. James's: one of them, to the memory of Bishop Burnett, is in the porch; and on the south-eastern staircase, which leads to the gallery of the church, there is a tablet, of the debased Elizabethan style, on which is the following curious inscription:—

"Sir William Wood lyes very near this stone;
In 's life in archery excell'd by none:
Few were his equals; and this noble art
Has suffer'd now in the most tender part.
Long did he live the honour of the bow,
And his long life to that alone did owe.
But how can art secure, or what can save
Extreme old age from an appropriate grave?
Surviving archers much his loss lament,
And in respect bestowed his monument
Where whistling arrows did his worth proclaim,
And ever lasts his memory and fame.
Obijt, Sept. 4. Anno Dni. 1691. Ætat 82.
This monument was restored by the Toxopholitan Society in London, 1791."

This record of a time when the famous English archery was giving way to firearms is interesting.

ROOFING TILES.

One of your correspondents inquires for some dipping composition to give new tiles the appearance of old. I cannot enlighten him; but I can tell him of something as good. In two churches in Essex, which have been lately restored, new tiles and old have been *mixed*, with a most satisfactory result. In one case they are disposed in straight lines—three rows of new and two of old: in the other they are diapered. The pattern would of course depend upon the proportion of old tiles available.

A. C. V.

THE GLASGOW WATER COMPANY: ARBITRATION.

An arbitration case under the Act recently obtained for a supply of water to Glasgow from Loch Katrine has just commenced in Edinburgh, between the corporation, as water commissioners, and Mr. M'Gregor, of Glengyle, at the head of Loch Katrine; the question in dispute being the amount which the commissioners shall pay to Mr. M'Gregor for about fourteen acres of his land, which they have submerged. Mr. M'Gregor claims 93,500*l*. and the commissioners offered 1,600*l*. and afterwards 2,500*l*. The inquiry, says the *Glasgow Gazette* of 25th ult. is taking place before the Lord Advocate, as oversman or umpire, Mr. Matheson, of her Majesty's Board of Works, being the arbitrator chosen by Mr. M'Gregor, and Mr. James Horn being the arbitrator chosen by the commissioners. Among the witnesses examined in support of the claim, were Mr. A. Heiton, architect, Perth; Mr. J. T. Rochead, architect, Glasgow; Mr. Cally, civil engineer, Manchester; and Mr. Thomas Page, civil engineer, London. The case, as presented by them, is that the land taken by the company is about fourteen acres of fine meadow land, which is now submerged, but which is liable periodically to be left dry, forming a swamp, which will be extremely injurious to health. The land actually taken, as well as the portion of the estate adjoining, is, it is stated, admirably adapted for feuing purposes, but the operations of the water commissioners prevent the land taken from being feued, while the marsh will spoil the other portion of the estate for feuing. One witness calculated that it would produce 10*l*. per acre for building purposes, and another that about 200 acres will be injured for feuing. Mr. Page calculated that, considering the commissioners would have the whole control of the loch as a reservoir, they should pay 75,000*l*. for the privilege of using it, to the proprietors of it, who are the Duke of Montrose, Lord Willoughby d'Eresby, and Mr. M'Gregor. The construction of such a reservoir, it was mentioned, would have cost half a million of money. It has just been reported in the papers that the case has been settled with 650*l*.; but the report has not an authentic appearance.

NATIONAL ASSOCIATION FOR THE PROMOTION OF SOCIAL SCIENCE.

The following will be the order of proceedings at the second annual meeting of this Association, to be held in Liverpool, as already mentioned, on Monday, the 11th of October, and five following days:—

Monday, 1½ p.m.—Meeting of the Council in St. George's Hall. 3½ p.m.—Special service in St. Nicholas's Church. 7½ p.m.—General meeting in St. George's Hall. The opening address by Lord John Russell, M.P. Lord Brougham, the Earl of Shaftesbury, and other leading members of the Association will take part in the proceedings.

Tuesday, 10½ a.m.—The Lord Chancellor of Ireland, the Right Hon. W. F. Cowper, M.P. and the Earl of Carlisle, presidents of the first, second, and third departments, will deliver addresses in the Concert-room, St. George's Hall. 1 p.m.—An excursion to the Akbar Reformatory Frigate, returning at three o'clock. 3½ p.m.—The Earl of Shaftesbury and the Right Hon. Sir James Stephen will deliver addresses in the Concert-room, St. George's Hall. 7 p.m. to 10 p.m.—The Liverpool Academy will open its exhibition of paintings to members and associates, who will be admitted on presenting their tickets. ½ to 8 p.m.—The Philharmonic Society have invited 150 of the members and associates of the Association (being non-residents in Liverpool) to the concert in the Society's hall in Hope-street. 9½ p.m.—The Mayor has invited the members and associates to a *soirée* in the Town-hall.

Wednesday, 10½ a.m. to 4 p.m.—The departments will meet: papers and discussions. 8 p.m.—The authorities of the Queen's College, Mount-street, have invited 150 of the members and associates (being non-residents in Liverpool) to be present at an address to be delivered by Lord Brougham. 7 p.m. to 10 p.m.—The Liverpool Society of Fine Arts will open its exhibition of paintings to members and associates.

Thursday, 10½ a.m. to 4 p.m.—The departments will meet: papers and discussions. 7 p.m.—Lord John Russell, the Earl of Shaftesbury, and other leading members of the Association, will address a meeting of the working classes at the Amphitheatre. 8 p.m.—*Soirée* of members and associates at St. George's Hall.

Friday, 10½ a.m, to 4 p.m.—The departments will meet: papers and discussions. 6 p.m.—public dinner in St. George's Hall, Lord Brougham in the chair.

Saturday, 11 a.m.—Concluding meeting. Reports and resolutions.

CHURCH-BUILDING NEWS.

Ludborough.—The works in connection with the restoration of St. Mary's church, Ludborough, have been commenced under the direction of Messrs. Maughan and Fowler, of Louth, architects. The nave, both internally and externally, has long been in a dilapidated condition. The expenses incurred in the restoration will be defrayed by subscription.

Lincoln.—The old stained glass taken from the large eastern window of Lincoln cathedral some time ago, says the *Lincolnshire Chronicle*, has recently been cut up by Mr. Smith, the plumber and glazier for many years employed by the Dean and Chapter, and placed in the tracery lights of the windows in the north and south aisles of the choir.

Finedon.—The works for the reseating of Finedon church are rapidly advancing, says the *Northampton Herald*. All the old carved woodwork is to be preserved. The great loss in the appearance of the church will be in the narrowing of the central alley, but by this, and a more economical arrangement of the seats, additional room will be obtained for upwards of three hundred worshippers. The whole estimate for the works in hand is about 1,000*l*., the contract having been taken by Mr. Whitby, of Northampton, for about 900*l*. Mr. Slater, who is also restoring Higham Ferrers, is the architect employed.

Andover.—The new church at Wherwell, in Hampshire, is nearly completed. It is of the Composite order, built on the site of the old priory church. During the excavations under the old church, necessary for the foundation of the new one, several specimens of ancient sculpture were discovered;—bas-reliefs of the banishment of Adam and Eve from the garden of Eden; the flight into Egypt; a head with vine-leaves, coloured in vermilion; a colossal statue, supposed to be that of Elfrida, but more likely, says the *Reading Mercury*, of

e lady abbess, from the manner of the dress. hese interesting specimens of antiquity have been ried under a wall eight hundred years old, near hich there are many more yet to be exhumed. hey are to be presented to the Winchester Muum, in consequence of some notion that their ection in the new church would be inconsistent ith the opinions of the times.

Hove (Brighton).—The new church of St. ames, Hove, will shortly be opened. It is built f Kentish rag, faced with Bath stone, "not likely o redound to the credit of the contractor," says he *Brighton Gazette*. The paving in the interior, too, is said to be very bad, and not according o the specification. The length of the nave is 90 eet, and of the chancel 40 feet. The aisles are ach 16 feet wide, so that the extreme width of he church is 70 feet. Each aisle is lighted by six indows, the tracery being different in each, and hey are all filled with green and white glass. The isles are separated from the nave by pointed rches, 30 feet high, supported by clustered olumns. There are two chancel aisles, over one f which rises the tower, in which is contained he vestry: in the opposite chancel aisle will be laced the organ. There are twelve windows in he clerestory, six on each side. The chancel is 0 feet long by 31 feet wide. The edifice will ccommodate upwards of 1,000 persons. It has een erected at the sole cost of the Rev. J. O'Brien, ho has had a district assigned him by the vicar f Hove and Preston.

Fernham.—The foundation stone of a new church as laid here on the 14th ultimo. Mr. Hughall is he architect, and Mr. J. Luker the builder. The ew church will consist of nave with south porch, nd western bell-cot and chancel,—the whole to e built of Faringdon stone, with Bath stone ressings, and the floor will be paved with Minton iles, and the east window filled with glass, by Mr. Wailes. The style adopted is the Geometrical.

Charmouth.—Catherston New Church was consecrated on the 7th ultimo. The style is Early Decorated, and the edifice comprises nave and hancel under one roof, externally divided by a gable parapet; the chancel being distinguished by enriched stone-work, consisting of carved eaves-ornice and empanelled band. On the north side is attached a vestry building, containing an organhamber. The body of the church is of flint-work of a grey tone, contrasting with the Bath-stone dressings. The entrance is through a recessed doorway at the west end. The arch-moulding is relieved with foliage carving of the oak and acorn, nd the capitals with ivy and thorn. There are sedilia on each side of the doorway. Above is a four-light window, surmounted by a bell-gable, with gablets, and terminating in a foliated cross. The bell was taken at the siege of Sebastopol. The north and south windows are of decorated character, each of two lights: the east window is of three lights, with cusped circles in the tracery. The roof is covered with red tiles and perforated cresting, from Stoke-upon-Trent. The interior is faced with Bath stone. The roof and seats are of oak. The chancel is separated from the nave by an arch, supported by columns, the capitals of which are carved in foliage. The design of the roof is arch-formed in the principals, supported on angel-corbels, the double arcade formed by the wind braces and the perforated spandrils. The chancel is raised one step above the nave, and the sacrarium one step higher. The reredos consists of triple arcade, supported on green serpentine pillars, with stone capitals and bases. The wall surfaces on each side are covered with diaper in stone, as is also the ground of the arches in the reredos, in the centre one of which is a metal cross. The paving of the church is of Minton's tiles. The choir-stalls are square-headed, the angles being relieved by carving, and behind them, on the north side, is the organ, by Walker, of London. The seats of the nave are open and unappropriated. The pulpit is of carved stone, on serpentine shafts. The windows are filled with stained glass, from Clayton and Bell, of London. The subjects of those in the chancel are as follows:—The Agony in the Garden, the Betrayal, the Bearing of the Cross, the Entombment, and the Resurrection. The west window is illustrative of the life of the Virgin Mary, to whom the church is dedicated. The side windows of the nave, as well as that of the vestry, are of coloured diapered patterns. The architect is Mr. J. L. Pearson, of London; and the contractor Mr. H. Poole, of Westminster.

Curry Rivel.—The restoration of the parish church has been resolved on at the vestry meeting. A subscription is to be raised to defray the necessary expenses. The vestry have determined to pull down the present dilapidated tower, and erect a *fac simile* with durable stone. After that the church will be entirely re-pewed.

Wednesfield.—The Wesleyan Chapel trustees have approved of the plans prepared by Mr. Manton, of Wolverhampton, architect, for the enlargement of their chapel and proposed new vestries, &c. Mr. Thos. Jones, builder, has undertaken the contract for the erection of the works.

Wolstanton.—The old church here is undergoing extensive repairs, and may soon be entirely rebuilt. The chancel has been taken down, and the walls, already far advanced, will be rebuilt and restored. This is being effected at the cost of the patron, Mr. R. Sneyd, of Keele Hall; but Mr. E. Wood, of Port-hill, will be at the expense of providing a stained chancel window, and a flooring of Minton's encaustic tiles. The feeling of many of the leading parishioners is in favour of entirely rebuilding the church in a substantial style. The chancel is being rebuilt from plans by Messrs. Ward and Son, of Hanley; and the contractor is Mr. John Bryan, of Stoke.

Kempsford (Bristol).—The church here has been re-opened, on the completion of the new aisle, called the "Bishop's aisle" (from the late bishop of the diocese having contributed towards it), and also the restoration of the chancel, towards which the rector has subscribed 200*l.*

Elberton (Bristol.)—The small church here has been newly roofed, and the outside walls pointed. The interior is entirely new, the pews being low and open.

Bath.—The foundation-stone of the Roman Catholic Cemetery Chapel at Bath, was laid on the 2nd instant. Mr. J. C. Hansom is the architect.

Devonport.—St. Stephen's Church, Devonport, has been consecrated by the Lord Bishop of Exeter. The edifice stands on a site at the corner of George-street and Clowance-street, given by the trustees of the manor. It is in the Early English style, with a nave, north aisle, and spire. A portion of the eastern end of the aisle is screened off, and within is a harmonium. At the termination of the nave is a deep chancel.

Gloucester.—The tower of St. Michael's Church, Gloucester, which was greatly injured by lightning during the thunder-storm of the 16th of June last, is now being repaired.

Chester.—The Marquis of Westminster has offered the sum of 3,000*l.* at the rate of 1,000*l.* a year for three years, towards the restoration and re-pewing of the old church of St. John, Chester, once a cathedral, and of which his lordship is lay rector. The offer is conditional on the balance estimated to be required—a further sum of 2,000*l.*—being raised by the parishioners and the public.

York.—St. Helen's Church has been restored and enlarged. The edifice has been re-roofed throughout, and the south and north walls have been re-built. A new chancel has been erected at a cost of upwards of 300*l.* and there is a new vestry outside the church. The old square pews have been replaced by new open seats. A window of stained glass, by Hardman, of Birmingham, with figures of the Saviour, St. Luke, and St. John, is placed on the south of the chancel, and is the gift of Mr. Sotheran, bookseller, of this city. The tracery of the east window, which is of four lights, is filled in with stained glass, also by Hardman, and contains the Agnus Dei and the evangelistic symbols. The pulpit is of carved oak, and stands upon a stone plinth. A reredos of stone has been placed underneath the east window. The expense incurred (exclusive of the chancel, which is the gift of a gentleman, and a few of his immediate friends), is about 1,150*l.* Subscriptions amounting to nearly 1,100*l.* have been obtained, leaving a deficit of about 350*l.* The restoration has been completed under the direction of Mr. W. H. Dykes, of York, architect, and the undermentioned tradesmen, of York, were employed on the work,—namely, Mr. Kettlewell, masonry; Mr. Brown, carpenters' work; Mr. Walker, bricklaying and plastering; Mr. Norton, plumbing and glazing; Mr. Hodgson, ironmongers' work; Mr. Lupton, painting and staining; and Mr. Bradley, carving: Mr. Skidmore, of Coventry, supplied the gas-fittings.

Manningham (Bradford).—The foundation stone of a new Wesleyan chapel, to be erected in a field on the north side of Back-lane, Manningham, has been laid. The chapel will be in the Italian style of architecture. The length of the building, including the schools in the rear, will be 95 feet by 54 in breadth. The chapel will accommodate 700 persons, and the schools 300 scholars. The cost of the chapel will be 2,600*l.* Mr. S. Jackson, of Bradford, is the architect, and the principal contractors are,—masons, Sugden and Crabtree; and joiners, James Wilson and Son.

Grimsby.—The north-west end of the transept of Grimsby Church is being re-roofed at its original pitch. The unsightly low roof of the nave and chancel will contrast sadly with the new work, and it is to be hoped an effort will be made to restore them also. The chancel requires complete restoration.

BREACH OF CONTRACT.

Marylebone County Court (before Mr. J. L. Adolphus): *Trinder* v. *Sidey.*—The plaintiff has been engaged in large building operations at Queen's-terrace, Finchley-road, and the neighbourhood, and the defendant is the tenant of No. 25, Queen's-terrace. The plaintiff is the owner of No. 26, Queen's-terrace. Mr. Sidey, being desirous of making some alterations for his own convenience, without notice to the plaintiff raised his walls one story, and thus deprived the next house (No. 26) of a portion of the natural light, and further prevented the inmates from using a cistern belonging to the house unless its position were altered by being raised a story higher, level with the new wall. Mr. Trinder complained, and the defendant said,—"Well, if you will excuse what I have done, I will enter into a contract with you to restore the premises and alter the position of the cistern, so that you shall not be damaged in any way." The plaintiff consented to this, and an agreement was signed by both parties, in which Sidey agreed to allow Trinder to make use of the walls built by Sidey, and to replace the coping stone, repair other damages, and carry up the cistern one story higher, "without any expense to the said Mr. Trinder." The defendant did assist in carrying up the cistern a story higher, but, even in reference to the mere carrying of it up, the plaintiff was put to the expense of 1*l.* which sum the defendant paid into court. The cistern then was left, as described, "balanced on a pole," quite unsafe, and the result was that the plaintiff was put to the further expense of 3*l.* 13*s.* 5*d.* in making the necessary alterations and additions. The work charged for was admitted to have been done, but the defendant's attorney submitted that the defendant had done all that he was strictly bound to do under the agreement in carrying the cistern "up one story higher," and the sum paid into court covered the expense of that work.

His Honour said, the common-sense view of the matter was, that the defendant should put the cistern in the same position for practical purposes as it was in before he made his alterations. If the new position in which the cistern was placed rendered further works necessary, the expense would fall upon the defendant, the words of the agreement being,—"The cistern is to be removed one story higher without any expense to the said Mr. Trinder." His verdict would, therefore, be for the plaintiff for the full amount, with costs.

LAW NOTES.

Deterioration of Goods in Transit.—Where a manufacturer contracts to deliver a manufactured article at a distant place, and the article when delivered to the carrier for the purpose of being conveyed is of a merchantable quality, the purchaser is bound to accept it, if only deteriorated to the extent that it is necessarily subject to in its course of transit from the one place to the other.—*Bull* v. *Robinson.*

Architects' Plans.—A, possessed of land, agreed with B, an architect, that he should lay out land for building purposes, and make surveys, &c.; that he should make no charge for the above services; but, in the event of the land being disposed of for building purposes, B should be appointed architect on A's behalf; and the parties building should pay him a per-centage on the outlay, provided they did not employ him as their own architect; but in the event of A, or his executors, wishing to dispense with B's services, that he or they should remunerate him for his services in making the preparations. A made the surveys: the land was not disposed of for building purposes, and A's executors dispensed with B's services, and put it out of their power to dispose of the land for building purposes, and thereupon B claimed remuneration for the preparations. It was held that he was not entitled to recover, as the disposing of the land for building purposes was the event in which he was to have any remuneration.—*Moffat* v. *Laurie.*

Insolvent Debtor.—An agreement by the attorney of an insolvent with one of the creditors, who had given notice of opposition to the insolvent's discharge, to pay such creditor a certain sum of money, in consideration that he will withdraw his opposition, is void; such consideration being contrary to the policy of the Insolvent Debtors' Act,

and a fraud upon the other creditors, even although it may not appear that the money is to be paid out of the insolvent's funds.—*Hall* v. *Dyson*.

Sculptor—Bankruptcy.—A sculptor is not, as such, a trader within the meaning of the bankrupt law; but if he buy marble to exercise his skill upon, and then sell the figure, he can be made a bankrupt as a dealer in marble, and as a worker of goods and commodities.—*Re Bailey*.

Excepted Articles.—A publican's beer-engine, counter, and other fixtures, were held not to be within the meaning of the section allowing wearing apparel, bedding, working tools and implements (not exceeding 20*l.*) to be retained by an insolvent petitioner.—*Re Castle*.

Sculptor—Unfinished Work.—M. a sculptor, made designs and casts, which he desired to be executed in gutta-percha, before having them coated with metal. For this purpose he delivered them to T. who found materials and labour. The work was carried on in a portion of M.'s premises, and the workers were employed by T. and M. It was held that T. had a lien as against the assignees on all the figures unfinished at the time of M.'s bankruptcy.—*Re Monti*.

THE ORPHAN WORKING SCHOOL AND MR. HENLEY.

Sir,—My attention has just been directed to your notice of a pamphlet written by Mr. Henley, which is contained in your number for the 11th September. As the pamphlet is in the nature of a begging memorial, the misstatements and omissions might be charitably attributed to his earnest desire for assistance, and so be left unanswered; but as he has gone so far from impartiality as to charge the corporation with a desire to "persecute" him, allow me, as their solicitor, and as such acquainted with all the facts of the case, to deny the correctness of Mr. Henley's statements and the justness of his imputations on the corporation. This denial I will support by the judgment of Mr. Baron Martin, given in Westminster Hall, but which Mr. Henley, for his own purposes, has prudently omitted. His lordship said, after hearing from Mr. Henley's counsel statements similar to those contained in the pamphlet, that he considered the proceedings of Mr. Henley to be very improper, as he had been treated most liberally by the corporation. The corporation have always shown a desire to act with liberality towards all their tenants. Mr. Henley's misfortunes arose from his commencing a building speculation beyond his capital (2,500*l.* to erect sixty houses), followed by bad times, and his blind refusal to accept terms from the corporation far more favourable than are usually offered by landlords to builders under similar circumstances.

Hull Terrell.

SURVEYORS' ACTIONS.

JURY *v.* PATMAN.

In this action, tried in the Lord Mayor's Court, the plaintiff was a surveyor and valuer of Dowgate-hill, and sued the defendant, a builder of Bedford-row, for the sum of 3*l.* 3*s.* for having valued some property at West Ham.

The defendant pleaded that the plaintiff had refused to value the property at its fair worth, and therefore had no claim to the money.

The plaintiff stated that he engaged to value some property the defendant was building at West Ham, for the purpose of his raising 1,600*l.* upon it, and it was agreed that if he got the money plaintiff was to have 10*l.* 10*s.* and if not he was to have 3*l.* 3*s.* Plaintiff accordingly surveyed the buildings, which were not completed, and in his report recommended that only 700*l.* should be lent upon them, but that if completed, then 1,600*l.* might be lent upon them. He also stated in his report that 3,000*l.* had been laid out on the premises. Having sent in this report, he refused to amend it by recommending the loan of 1,600*l.* and the result of it was that the defendant applied to the Law Property and Life Assurance Company, and their surveyor recommended them to guarantee as much as 1,800*l.* on the same property that plaintiff had recommended only 700*l.* to be advanced upon. The defendant also stated that the plaintiff had said the property was worth 2,000*l.* but he refused to put that in his report.

The Recorder said the only ground this action could be defended on was, that the plaintiff had from some corrupt motive withheld that recommendation from the report, and that question he would leave to the jury. The question they would have to consider was whether he really believed the property was worth the money about to be borrowed and refused to give a certificate for that amount.

The jury returned a verdict for the plaintiff.

NEW BUNHILL-FIELDS BURIAL-GROUND.

Sir,—We have a Queen, Lords, and Commons, to make laws; a Court of Chancery and Queen's Bench to interpret laws; a Home Secretary and Attorney-General to set the laws in motion; metropolitan boards, vestries, police, commissioners of all kinds, churchwardens, overseers, &c. and yet this place is daily and hourly becoming a public nuisance and a scandal. I know that the *Builder* has originated many improvements, and is looked up to. Pray step in and assist us. Daily and hourly fresh rubbish is brought into the place; and, I regret to say, by builders and contractors, who, if I were to call them by any other name than "respectable," would consider it a slight. The accumulation is already as high as the walls of the gardens of the surrounding houses. Men are employed to cover the worst kind of rubbish by means of the best. No useful purpose, for either building or anything else, can account for this conduct. I leave the desecration question to the religious public. But on the score of common decency, common sense, the public health, and the "fitness of things," is it right that we should re-act in 1858 a performance, only to be compared to the Alps of *detritus* of all kinds that once decorated the classic neighbourhood of King's-cross, near Gray's-inn-lane? For goodness sake, do not let "*Vox et præterea nihil*" be the characteristic of our modern parish legislators, but do stir them up to exert the "*fortiter in re*?"—the "*suaviter in modo*" would not be efficient.

Islington.

METROPOLITAN BOARD OF WORKS.

A special meeting of this Board was held in the Council-chamber, Guildhall, on Friday in last week.

Mr. Bristow presented the following resolution from the Greenwich District Board of Works:—"That any proposition for an outfall at Greenwich, and for deodorizing or defecating the sewage of the southern side of the metropolis, in or near the Greenwich marshes, is highly objectionable, and fraught with danger to the health of the inhabitants of this populous district; and this Board therefore protests against any such plan or project (the effect of which would be so injurious to persons and property in this district) being carried into execution."

It was ordered that the resolution be considered by the Board when the engineer's report on the main drainage is presented, which there was reason to believe would be done on Friday in next week.

On a question as to the taxing powers of the Board in reference to a sum of 42,000*l.* for the Victoria-park approaches, according to the Act thereanent, the chairman, Mr. Thwaites, after some discussion, said that it was quite absurd to suppose that all the great works that were necessary to be carried out for the improvement of the metropolis could be accomplished by means of direct taxation only. He hoped, therefore, his hon. friend who had raised the question would be able to suggest some mode by which the Board might be put in motion for obtaining the power of raising funds in some other way besides that of direct tax upon the inhabitants of the metropolis.

A motion for leave to negotiate a loan for the amount was then agreed to, and the committee were to report the terms of the negotiation for the approval of the Board.

Precepts were ordered to be forthwith issued to the several parts of the metropolis for raising the assessments for the Metropolitan Main Drainage Rate, and that it be referred back to the committee to prepare the basis upon which such assessments shall be made.

MONSTER HOTEL, MILWAUKEE, U.S.

Some time since we described in the *Builder* the New Hall House, Milwaukee, a hotel of great magnitude; but we now find that another building of similar class and one-fourth larger is about to be erected in the fourth ward in the same city. The style of architecture is described to be Light Italian; the building six stories high, with a front on Spring-street of 200 feet, and on West Water-street of about 150 feet, by a height of 80 feet from level of street to the main cornice. The portico and entrance will be of cast iron, and will be carried up three stories high, forming a balcony to the centre windows of each story. There will be also a light ornamental cast-iron balcony running the entire length of both fronts, immediately over the first floor. Above the cornice, to the centre portion of Spring-street front, is a dome, 25 feet diameter, and surmounted by an ornamental balcony, at a height of 25 feet. On the apex will be a flag-staff. The front on West Water-street is somewhat plainer in its general appearance, but has a tower carried up above the roof to a height of 25 feet. There will be six stories. The window caps are all designed to be of cast iron, of ornamental pattern, supported on carved trusses. The whole structure will be constructed of a cream-coloured pressed brick, for which Milwaukee is famous. Messrs. Smith and Bradshaw, residents, are the architects.

SPONTANEOUS COMBUSTION.

The extraordinary number of fires, many of them of great extent, which have happened in the course of the present summer, both in the metropolis and the provinces, is no less remarkable than the circumstance that many of them can be in no way accounted for except we admit spontaneous combustion as a cause. It might be worth while for the insurance companies and others largely interested in this important matter to cause a scientific inquiry to be made in order to ascertain the peculiarities of the atmosphere when these unaccountable fires are most frequent; the nature of the materials stored; and the provision made for the ventilation of large warehouses: the latter is of much consequence, for few of even the best structures of this description are sufficiently attended to in this respect; and it would be well, by actual experiment, to discover to how great an extent combustion depends on the ill or proper supply of good air.

One would think that the danger which arises from the close packing of certain substances, particularly those composed of oily matter, and hempen and other textures, was sufficiently understood: the experience of almost every week, however, shows us the contrary. As one instance amongst numbers, we will mention that in the dead of the night, during the voyage of the *Royal Charter* from England to Melbourne, the passengers were aroused by an alarm that the ship was on fire. By the well-directed exertions of the captain and crew the fire was got under, and the lives of the numerous passengers and the fine vessel were saved. On examination, it was found that this danger was caused by a stupid person sending some oil-skin coats packed in cases, and omitting to mark on the case what they contained. Lying together, they became heated. In this instance, by the carelessness or ignorance of the packer of these goods, a number of valuable lives and much property were imperilled.

In order to prevent similar accidents, regulations should be made that all dangerous commodities should be distinctly marked, and arrangements made for their proper stowage on ship-board. It would be easy to render parts of vessels fireproof; and in miscellaneous cargoes to separate the goods liable to spontaneous combustion from the others. Might it not also be possible to provide some better means of water-supply than the old-fashioned hand-pumps which are still in use in so many vessels? In steam-ships there should be no difficulty in this, for powerful pumps might be easily contrived, which would be useful either in case of fire or leakage.

THE OLD AND THE BEAUTIFUL.

KEMERTON CHURCH.

Sir,—All who are interested in the discovery and preservation of objects of archæological note, must read with gratification such accounts as occasionally appear in the *Builder* from the pens of architectural tourists. These accounts become all the more interesting, when the churches or objects described are either well known, or remarkable for some striking original characteristic. In the latter case all may learn something; and in the former, one is only too glad to see our old friends with others' eyes, and from different points of sight.

There is an enthusiasm also about architectural students that one does not often see in other men—a love for their art, so intense as to carry them to comparatively unknown places at any amount of inconvenience. This enthusiasm is thus a very valuable element, for it not only leads men to their work, but makes them work well when they are there. Without this quality in our students, architecture must degenerate into spiritless insipidity; but unaccompanied by judgment, it is certainly calculated to mislead its possessors. It is easy, for instance, to observe, how entirely an architectural enthusiast gives himself up to the hunting for certain features that are merely old, rather than to those that are true and beautiful of all periods. That the antiquity

an object should render it interesting is no atter of surprise, but that the admiration of it ould shut the eyes to the beauty of modern rks is certainly to be regretted. Such a result ows a radical error in a man's system of ob-rvation, and hedges about the practice of his lofession with difficulties that are entirely of his n creation. Truth and beauty are not solely ssessed by any one style, or confined to certain riods, but are distributed, in greater or less pro-rtions, to all epochs, and in all styles. And the rnest student of art will not lay down the gma that what belongs to other or particular es is beautiful, and pass over those objects which ar different dates. To do this is simply, to ecome a mere enthusiast of a period, and shut eself out of all participation in the beauties of chitecture, except of the favourite date. With ch a spirit half the channels of enjoyment come closed to the student; and instead of a reful inspection of all architecture that comes his way, in order thereby to discover the true rinciples of beauty, his tone assumes the cha-cter of a protracted hunt for antiquities, and en-enders a morbid yearning for everything that as the appearance of decay. From such ex-mination he learns nothing. The most sacred orks of antiquity, and those which lay claim to ne greatest beauty, should be closely scrutinised, nd all their points be carefully examined, if good s to result from the study of them to the student. le must not tacitly allow their beauty, and pass n to other works. Unless he can account for the eauty to be observed, and determine what it is nat pleases, and why, his examination will not esult in the acquirement of positive knowledge, ut be very similar to that of superficial obser-ers. Rottenness is not necessarily sacred, but ather the spirit that has triumphed over decay, nd left its impress on the crumbling atoms. he same spirit may be observed in works exe-uted in all periods, but under different phases, nd showing different developments. Whilst, herefore, it is our duty to examine closely the laims of antique specimens of art upon our ad-iration, so should we as searchingly examine the ew, and give to each only that position which ur feelings, and the laws of beauty, will allow. Such an impartial method of decision will be pro-uctive of positive information; for the facts thus scertained cannot but remain firmly impressed pon the memory, and there fertilize the inven-ive spirit.

With these feelings I confess to having been disappointed in reading the account in the *Builder* of September 4th, of a rambling inspection of the Worcestershire village churches. And this did not alone proceed from seeing objects of the greatest interest in the neighbourhood left unmentioned, but also from the simply *recording* spirit of the whole. The writer, for instance, finds nothing to admire in the church of Kemerton; and so, stating one or two facts about the remains of the old church, he proceeds at once to the next village, of Overbury, where he is quite compensated for his disappointment at Kemerton. Now, if the dis-covery of grace and beauty had been the writer's aim, he would have assuredly found it at the latter place; but seeing nothing of importance above twenty years old, he departs with a sneer at the new church and sumptuous ritual. Some men appear to dislike a clean, well-built modern church, and are only happy when they find a treasure-house of religious filth and rottenness, with walls stand-ing at other than right angles to the ground. With them, mouldings are only beautiful when they have lost all angles, and are merely the breeding-ground of lichens and spiders. It would do these gentlemen good if they would reflect for a moment for what purpose a church is built; and when they have determined this little matter, to decide whether there is not, in perfect adaptation to pur-pose, joined with a correct and manly pronuncia-tion of any style of architecture, something which appeals to our feelings and deserves our respect. Kemerton Church was built at a period when the Gothic renaissance was in its infancy. It is an undoubtedly good imitation of the style of the fourteenth century. The nave, south aisle, and chancel, which were consecrated in 1847, are cer-tainly inferior to the north aisle, built a little later. The chancel is richly polychromed, and has some good stained glass, by Willement and Hard-man. The sumptuous ritual spoken of by your correspondent, I suppose must refer to a daily choral service, performed by a voluntary choir, of men and the boys of the village school, who have been trained by the resident clergymen of the parish, and have fully repaid the pains that have been taken in their training. There is nothing forced or artificial in either church or services. The former is certainly kept decently and in order, and the latter is carried on by the clergy-man of the parish and his musical parishioners, and attended by an average daily congregation of twenty to thirty poor people, from an agricultural population of 560. I confess I cannot see in any of these circumstances, which are the barest state-ment of fact, fair grounds for speaking cavalierly of a church. Kemerton is one of the centres from which has radiated that spirit of reality and beauty in architecture, and reverence in ritual, for which our architects at any rate should have respect.

You and your correspondent will, I am sure, pardon me for these few words. Though perhaps not intended, the remarks to which they refer gave a wrong impression of the church, and pain to those who, under circumstances of great diffi-culty, have raised and minister to it, as well as those who have felt the benefit of its services. Let this then be the defence of one who, admiring your correspondent's description of other churches, think she has not dealt fairly with that of

KEMERTON.

Correspondence.

THE NINE HOURS MOVEMENT.

SIR,—I am very much obliged by the insertion of my letter, and hope the *Builder* will not sus-tain any injury thereby. Lest such should be the case, I beg leave to say, that no party whatever connected with it, or with the Masters' Society, is in any way whatever responsible for the article I wrote on the above unpopular subject, or this I am now writing. I am personally unknown to you and the masters; I therefore am alone respon-sible. I may also be permitted to say that, if one thing more than another entitles the *Builder* to the unqualified respect of all parties concerned, it is its *impartiality* in giving insertion to all shades of opinion.

Before replying to the letters of "A poor Car-penter," and "A London Joiner," I beg to premise a "thing or two" which I know well—"deny it who can,"—that somehow or other a very un-happy feeling has most unjustly existed towards the masters for years past, more especially since the formation of trades unions. This feeling has been cherished particularly by certain portions of the body, who are more distinguished as agitators than as frequenters of Mechanics' Institutes, and whose classification for ability would not stand very high; and until their influence be removed, and the intelligent and able workmen and the masters discover that their interests are mutual and identical, the present state of things must remain. On the part of the masters, I must in candour say, that while they have on necessary occasions resisted any dictation from irresponsible men as to how they shall conduct their business, they have, with very few exceptions, always given more wages than they could afford to give, or the circumstances of the times warranted them in giving. And it is mortifying to read so frequently of a builder's name being a byword and a reproach at the Bankruptcy and Insolvent Courts. How is this? I answer flatly, it is the wages unearned by "the muffs" that ruin the masters. There ought to be a selection: pay every one according to his merit: the good workman will then meet his reward. It would not operate badly if every man, on applying for employment, were required to produce his indentures or a certificate of com-petency and character from his late employer. This would make the trade remunerative and respectable.

In reply to "A poor Carpenter," I beg to say, that while he may be right in saying a resolution was passed at "the Yorkshire Stingo in 1820, or 1823, that 5s. 6d. be the standard rate of wages," he fails to tell us what or how many masters obeyed the mandate of the "Stingo" Parliament. I know it was like the man who, on his death-bed, disposed of the half of the county of Devonshire to his friends, and when they questioned the testator as to *his* title to the property, he replied, "Never mind about that, it is my *will* they should have it, but they must *get it* how they can." No doubt at all times some few men of singular abilities have had even more than 5s. 6d. per day, but till the last four or five years, 4s. 6d. and 5s. have been the general wages.

We have a maxim in the trade, "Measure twice and cut once." If "A poor Carpenter" and "A London Joiner" had read my letter "*twice*" before they attempted to answer it *once*, they would not have indulged in the personalities they have been guilty of, nor introduced the irre-levant matter they have introduced, or made me responsible for what I never said. I ask "A poor Carpenter" in what part of my letter have I made the rate of wages thirty-five years ago a standard for the present time? Nowhere. The simple object of my letter was, by a statement of facts, to show the carpenters that their relative position is better than it ever was, and that the masters are giving more wages than they can afford to give, or the circumstances of the times warrant them in giving; that these matters being established, the men may cease from such a foolish agitation at present, believing that their position is as well as it can be under present circumstances. Why, any schoolboy in politics knows that the great laws which regulate prices, whether of labour or goods, are *supply and demand*. Apply these rules or laws to the present question: is there not a complete glut of houses and of men? "A poor Carpenter" admits that "two men have to run after one master." He might have said six; and if houses could run, I expect about 100 would run after one purchaser, and then not find him; and if they did, he would not give the cost as the purchase-money. "A poor Carpenter" knowing that there is nothing in the laws which govern prices to warrant the nine hours movement, he very dex-terously throws the blame of originating the move-ment on the masters and certain philanthropists, and still urges the claim by the "humanity and mental improvement" cry. Very laudable mo-tives truly! But, if charity is to begin at home, I beg to tell "A poor Carpenter" that the majo-rity of masters would be very glad of a little more time for the cultivation of the one and the exer-cise of the other themselves. They believe that humanity to themselves is very necessary, and that it ought to begin at home. As to the philanthro-pists, I very much admire *their generosity* in giving away Saturday half-holidays at other people's ex-pense. The "Poor Carpenter" assures the masters that, by giving the nine hours movement, "they will lose none of their profits, as the public will pay for it." Now, sir, in all reason, if such be the case, why in the world did the deputation wait on the masters to grant the boon? Why did they not go to that abstraction, "the public?" for the favour once granted by the public, and proper credentials being given, the masters would most cheerfully have given effect to the wishes of the public. For my part, if by "the public" be meant the people who patronise slop establishments, purchase mantles, the labour in making which is three halfpence!! offer less than half prime cost for wellbuilt houses, cut a master down by ruinous contracts, &c. I confess I have no faith in their generosity, and, ere the masters trusted them, I would advise them to have good security.

Your "London Joiner" asks, "how (if 27s. per week were the wages) much of the necessaries of life could be obtained in those days, and whether mental culture was cared for?" The answer lies in a nutshell. I give it in the words of Mr. Cleave, editor of the *People's Police Gazette*, to a meeting of carpenters on strike, at the Rotunda, Black-friars-road, at which I was present, some thirty years ago, viz.:—"Neither morally, socially, nor intellectually, will you be ever worth that (snap-ping his fingers) till you leave off lifting the pewter pots." If, on the average, one-third of the wages of the working classes be spent in public-houses, they need not wonder at so much poverty and ignorance existing.

ONE WHO KNOWS A THING OR TWO.

Books Received.

VARIORUM.

"A HANDY Book on the Law of Bills, Cheques, Notes, and I. O. U.s," by Jas. W. Smith, LL.D. (Effingham Wilson), will be found to be what it professes to be,—"a cheap and compendious code of the law of inland negotiable instruments." It conveys information, indeed, which every young tradesman should possess.——A lecture, by Mr. A. Dunn, delivered recently in the Town-hall, Manchester, has been published, under the title of "Steam-boiler Explosion" (Ireland and Co. Man-chester), under the auspices of the Steam-boiler Assurance Company. It is very important that all the information that can be obtained on the subject of boiler-explosions should be widely cir-culated.——As to "Price on the Longitude," if it be true, as the preface says, that there is no better criterion for forming a just estimate of the value of any scientific work than the reception it meets with amongst that class of men whose researches and experience are devoted to the science under consideration, it is enough for us to state, that a fourth edition, revised by Mr. Prior,

has been published.——Among the "books received" we must place one of four leaves (Lindley, Catherine-street) "In Memory of Capt. Richard Symons," of the barque *Shelburne*, drowned in port,—some feeling lines, not without beauty, by Mr. Hargrave Jennings, long a labourer in literary fields.——"Humbug attacked, in Church, Law, Physic, Army, and Navy;" and "Common Sense, or, Humbug attacked in Art, Science, and Literature," are the titles of two small volumes by "Mr. John Bull, jun." (Mountcastle, King-street), which contain many sound views, and give evidence of a considerable acquaintance with what is going on, but are marred by want of constructive knowledge, to say nothing of Lindley Murray.

Miscellanea.

Architectural Association.—The opening *conversazione* is to be held this Friday evening (Oct. 1st) at Lyon's Inn Hall, Strand.

The Chelsea Stewardship.—The *West Middlesex Advertiser* states that Earl Cadogan has superseded Mr. Legg in the office of steward by the appointment of a junior member of his lordship's own family, the Hon. F. Cadogan, and Mr. I. B. Ambler, to be the receiver and assistant-receiver of his Chelsea estate. Mr. Legg has since been appointed to "the surveyorship of Belgravia and Pimlico."

Vernon Park, Stockport.—The people of Stockport have obtained for themselves a park of about 26 acres. It was inaugurated on the 20th. The face of the park is diversified by shrubberies and plantations, small lakes and basins, rustic bridges, fountains, and statuary. A massive bronze fountain bears the inscription, "Presented by the workpeople of the India Mills," belonging to Messrs. Kershaw, Lees, and Co. Near one of the smaller lakes is a statue of Venus at the Bath, and another piece of sculpture is a statue about 4 feet high, cut in the hard grey stone of the district, of a hawker of sand in the town, a local celebrity and a "character" still living, named William Oliver. It is intended to represent him as he appeared at the Court-house, cap in hand, on an occasion when he was brought up to be reprimanded for insulting one of the magistrates. The sculptor is a working stonemason. It is to be regretted that he had not chosen a better subject. A public reprimand for insolence ought not to be the means of rendering its recipient "famous."

Building Contracts: Extras.—A dispute of considerable interest to contractors and railway people has been the subject of arbitration at Darlington; the deputy-chairman of the North-Eastern Railway being the arbitrator. In 1855, the Stockton and Darlington Company invited tenders for constructing a branch of nearly three miles from their Shildon tunnel, and Messrs. Trowsdale and Jackson's offer (16,000*l.*) was accepted. In the progress of the works, several departures from the specification were made at the company's instance; and after all had been finished (payments "on account" having been from time to time made), Messrs. Trowsdale and Jackson repudiated the contract, and claimed 18,800*l.* over and above the 16,000*l.* The company maintained that the tender was binding, and that only the new work would be matter of account. The contractors, on the other hand, were of opinion that the variations had been so many and important as altogether to vitiate that instrument. It was mutually agreed, however, that all matters in dispute should be submitted to Mr. Leeman. That gentleman accordingly heard evidence and arguments on the whole case by counsel. He considered it clear that a binding contract existed, both as to earthwork and bridges. The importance of such instruments, once entered into, could not be over-rated; and, speaking after fourteen years' experience, he held it to be as much the interest of contractors as of railway companies that they should not be lightly set aside. From beginning to end there was no remonstrance, either by letter or verbally, as to alterations in the earthwork or the bridges. The contractors had been paid monthly, and after a long silence they could not now set up these alterations as vitiating the contract. The consideration of the accounts, for the purpose of ascertaining the extras, was adjourned.

Lime in the Eye.—"Prevention is better than Cure."—Put a piece of crape over the eyes: when slaking, apply a thin handkerchief over your mouth. Masons may adopt this when working soft or dusty stone; and if painters were to use a pair of gloves (called "housemaid's"), these simple precautions would save much in every respect.

T. G.

Thurso.—Steam machinery for cutting pavement has just been introduced, for the first time, at Thurso.

The Growth of Melbourne.—The mayor of Melbourne has supplied a tabular statement showing the growth of the city of Melbourne. It is a remarkable array of figures, such as few towns could show. In 1843 there were in Melbourne 1,095 buildings, assessed at 66,847*l.* and yielding 1,521*l.* at a rate of 6d. in the pound. In 1848 the figures stood;—buildings, 2,928; assessed value, 75,493*l.*; amount of 1s. rate, 3,774*l.* In 1853 they were;—buildings, 4,980; assessed value, 638,834*l.*; amount of 1s. rate, 31,941*l.* In 1858 (the city having lost two wards formed into separate municipalities), the figures stand—buildings, 11,153; assessed value, 995,945*l.*; amount of 1s. rate, 49,797*l.*

Dundee.—The foundation-stone of buildings which are being erected in Dundee, "by the working men of Dundee, Perth, Arbroath, and intervening districts, for the manufacture of pure and unadulterated daily food, under the name of the Dundee Corn-mill and Provision Company," has been laid amid much local enthusiasm. The cavity of the stone contained a vase with the customary papers and documents, and a sealed envelope addressed, "To the Finder of the Vase," enclosed in which was the following note: "Dear Friend,—I hope you live in an age when the causes which led to the formation of this company, and the consequent erection of this building, have ceased to exist—namely, the general adulteration of human food. Yours, in hope,—A. L. Donald."

Crystal Palace.—The concert on Tuesday, supported by Madlle. Piccolomini and Giuglini, was a great success. Where the ten thousand handsomely dressed persons who "assisted" at it came from, must be a puzzle to all who will recollect where their own friends, denizens of the great metropolis, are at this moment. Everybody *is* out of town, and yet here were 10,000 persons ready to travel to Sydenham to listen to pleasant singing, at moderate cost. Unless the expenses of the Palace are inordinately large, the year will surely prove a good one financially. Some of the *fêtes* have been attended by enormous multitudes. On the "Foresters'" day, there were 45,000 persons present, and all so well conducted, that it was a sight to make one proud of being an Englishman. Many fresh arrangements are in progress. Mr. Pepper is to deliver lectures during the winter, explanatory of the various architectural and fine arts departments, illustrated by means of dissolving views: there are to be a *winter garden*, agreeable in all weathers, and a succession of concerts. Complaints as to the refreshment department are still numerous. The waiters seem not used to their duties: the consequence is, that, when there is any pressure, no one is attended to.

Destruction by Fire of a Bridge on the Trent Valley Railway.—A destructive fire has occurred on the Trent Valley line of railway, near Stafford. At a short distance from Baswich, and about a mile and a quarter from Stafford, the line crosses the river Penk and the canal. Across them a wooden viaduct, 150 yards in length, had been erected. From 30,000 to 40,000 feet of timber were used in its construction, at a cost of nearly 8,000*l.* which sum was considerably augmented, two years ago, by necessary repairs and additional cross-beams. The viaduct crossed the river and canal at a height of between 20 and 30 feet from a raised embankment at either end. This bridge has been totally destroyed. As to the origin of the fire the general supposition appears to be that it was accidental, and was caused by a lighted cinder falling from the engine of a train which had passed a short time before the fire was discovered. It is said that the loss to the London and North-western Railway Company, by the destruction of this bridge, will be about 10,000*l.* This is the third instance of a railway wooden bridge being fired in course of a few months in England. It is wonderful that harvest time should pass over without the destruction of some of the many fields of corn skirting the various railways. It is not from want of showers of sparks ever falling right and left as the trains fly along that there has been such a singular immunity in this case. Were a single spark to fire a field of dry corn, the late occurrence at Aldershott amongst the woods may show what might be the result. A prairie fire might thus be improvised that would spread far and wide over field after field and farm on farm; for the only way to arrest such a conflagration, by hastily mowing down a good breadth of crop in the way of the fire, would probably (as at Aldershott with the plantations) occur to no one.

Colston's Hospital, at Bristol.—Stapleton Palace has been purchased for Colston's Hospital. The sum given for the house and grounds—the latter 57 acres—is said to be 12,000*l.* The Ecclesiastical Commissioners, when they determined to build a palace there for the late Bishop of Gloucester and Bristol, gave to the executors of Mr. Elton 11,000*l.* and afterwards expended 16,000*l.* in the erection of the present structure. The hospital will retain as much of the land as will be necessary for play and exercise ground, and the Society of Merchants will purchase what is not required. It is not expected that the boys can remove to their new quarters before spring. The *Bristol Times*, in announcing this arrangement, says:—"In London, and generally, there is a strong feeling in favour of removing the ancient endowed schools, around which the metropolis has in the course of centuries grown, to suburban situations; and we do not think the good sense or judgment of the citizens would approve of the outlay of thousands to add to an institution for youths so situated as Colston's Hospital now is. We have as strong a feeling for old associations and historic sites as any one, but to run the risk of impairing the practical efficiency and positive benefits of a valuable institution, merely to maintain a local prestige or picturesque object, would be carrying a fanciful sentiment too far."

The Roman Tesselated Pavement at Dorchester.—Some time ago we noticed the discovery of the tesselated pavement of a Roman *Villa Urbana*, or town dwelling, on the site of Dorchester Castle, a spot which has proved extremely fertile in its relics of these conquerors of the earth. The present example of a perfect tesselated pavement, it may be remembered, was laid bare in the first attempt to dig the grave of a criminal lately executed. The following additional particulars are from the *Dorset Chronicle*:—About two years since, a portion of the outer border of this pavement was also disclosed in digging a grave. The pavement now in the Dorset County Museum had, prior to that, been exhumed in the same vicinity, viz. in digging the foundations for the prison workshops at North-square. Another pavement, of a meaner description, was also found in digging the foundations of the cottages occupied by the warders outside the gaol enclosure; and it is known that at least two other Roman pavements exist, extending into the neighbouring gardens on the south side of the castle-yard. By a careful examination of the lately discovered example *in situ* it has been recovered as nearly as possible in its integrity; and has been relaid in the chapel of the Castle, within the communion rails, where the governor, Mr. Lawrence, has succeeded in effecting a restoration, complete in every detail, and when polished up, as it will doubtless be, as brilliant as when it was first elaborated. The entire dimensions of the pavement are 20 feet square. The foundation on which the pavement had been laid was, of course, a bed of concrete: below that, however, there was a bed of flints; below the flints another layer of concrete; and below that flints again. The object had been to exclude damp, for it was found that underneath all these the site was rather moist. Some interesting remains of the building with which the pavement was connected have been found on the site.

Dock Extension at Liverpool.—The Mersey Dock Board have at present under their consideration an extensive scheme by Mr. Rankin, the chairman of the Finance Committee of the Board, to provide for the increasing trade of the port and of the country. Mr. Rankin's scheme comprises the construction at the north of the present dock range of a half-tide basin, 400 feet by 300 feet, with several locks connected with it, together with slips, quays, &c. Two new streets, each 60 feet in width, together with railway communication, were also involved in this portion of the scheme, the cost of the proposed locks, basin, streets, &c. being estimated at 165,000*l.* Still further to the north, he proposes to construct a timber dock of twenty acres, with quay and storage room. At the south of the dock range, a still more extensive and costly scheme of improvement is proposed, namely, that the Harrington portion of the dock estate be improved by an expenditure of 187,000*l.* and the Herculanean portion by an expenditure of 500,000*l.* The expenditure at the south, however, Mr. Rankin thinks should not be all immediate, though the new canal which would be required, in his opinion, should be secured at once. Mr. Rankin states that an amount of 600,000*l.* is what he recommends in an application to Parliament, though 250,000*l.* additional might be required for warehouses and sheds.

Coal for Railway Locomotives.—For some time past the attention of railway managers has been directed to the advantage of some contrivance by which coal may take the place of coke in locomotives. It is essential that the smoke shall be consumed in the firebox itself, so as to avoid every chance of annoyance to the public, at the same time that an important economy is effected; and hence the great obstacle to be overcome. That it may be overcome in a satisfactory manner is considered to have been practically settled by experiments on one of the southern lines. In this case the invention made use of has been patented, but there is one serious objection to its general employment. An expenditure of about 300*l.* is required to adapt it to any engine previously in use.

The Wharton Memorial Window.—A memorial has just been completed to the late Rev. Thomas Wharton, who was incumbent of St. John's-wood Chapel for more than thirty years. In order to the proper carrying out of the scheme, the congregation included in their plan the erection of a chancel, as a fitting receptacle for the memorial. The design for the window was by Messrs. Baillie and Co. of Wardour-street. It illustrates the life of John the Baptist. The main centre compartment represents John baptising the Saviour, and the Spirit, in the form of a dove, surrounded by "glories," descending upon him. Underneath, St. John is preaching the Gospel in the wilderness. Surrounding these two centre scenes are representations of four incidents in the life of St. John, chronologically arranged. They are;—the meeting of Mary and Elizabeth; Zacharias writing in the book; St. John preaching before Herod; and, finally, Herodias producing to Herod the head of St. John in a charger. Between each of these scenes are small medallion representations of the emblems of the four Evangelists. The whole is upon a mosaic ground of deep crimson and blue. The chancel and window will shortly be consecrated.

Small Sums by Post.—It appears that three more letter-sorters are to be committed for trial for stealing letters containing coin. Nothing could be more easy than to provide a remedy for this, and, at the same time, add considerably to the revenue. There are thousands unable to send more than a shilling to a poorer relation, and more who cannot go through the process of obtaining a money-order. There are many little commissions which might be remunerated by a shilling sent by post, which would amply repay the recipient, and would not be felt by the sender. Why not have orders at sight for one shilling, of the same size as a penny postage-stamp, payable at every post-office in the United Kingdom, and which might be purchased of all post-masters for thirteenpence? They might be printed on white paper, so as not to show through the envelope, and no postmaster should be required to cash more than, say five, on the same day for the same person. I have not heard of any forgery of postage-stamps, and believe these orders might be made secure in the same manner.—W. H. B.

The House of George Stephenson.—Notwithstanding the denial given in our pages, when we mentioned that it was proposed to take down George Stephenson's cottage, and protested against the act, it is now being pulled down, and a Memorial School is to be erected on the site. The building will comprise schools for girls, boys, and infants, together with a Mechanics' Institute and dwelling-house for the master and mistress of the schools. The cost of the building will be upwards of 2,000*l.* The foundation-stone will be laid in the course of the ensuing month by Mrs. Addison Potter. The corporation have been guilty of a dereliction of duty, in permitting the removal of the cottage.

Disinfecting Powder.—Sir: Having seen in the columns of your last number but one a notice respecting our manufacture, allow me to correct a slight error in the name mentioned. Your correspondent spoke of "Collins's Chlorine Powder." It is generally called "Collins's Patent Disinfecting Powder," and sold as such. The former name has arisen (as I suppose) from its character being to evolve "free chlorine" upon exposure to the moisture of the atmosphere. Its adaptability, therefore, as a disinfectant is apparent. Dr. Letheby, in his recent report upon this subject, mentioned, among other agents, chlorine, first, probably, from its strong affinity for hydrogen, thus decomposing the sulphuretted hydrogen which invariably arises from all sewage*.—Thos. G. Stapelton.

* Chloride of lime itself evolves free chlorine when exposed to moisture in the atmosphere.

Whitehaven Water Works.—A report has been received by the town trustees from Mr. Hawksley on the extensive corrosion in the water pipes, which has lately excited so much interest and apprehension. In his report Mr. Hawksley says:—"The cause of the corrosion is to be found in the extraordinary purity (differing little from that of distilled water) of the supply derived from the granite and slate formation of the Ennerdale mountains. Pure water has a powerful affinity for earthly and metallic salts, and, when these are not naturally present in the geological formation from which it flows, it appears to satisfy its chemical craving by absorbing an additional quantity of oxygen. When the water, thus saturated with oxygen, passes into metallic pipes, and especially iron pipes, and becomes subjected to a heavy pressure, the oxygen enters into combination with the metal, and forms an oxide of greater or less amount, as the water is more or less pure, and as the pressure is heavier or lighter. This effect has been observed in many instances, particularly since it has become the custom of large towns to seek the benefit of soft water supplies. It is very marked in the pipes of several towns in Lancashire and Scotland, and especially at Aberdeen; also in the pipes of several of the American cities, and in those of Grenoble, in France; but in none of these instances has the energy of the action at all approached that of the water of Whitehaven." Mr. Hawksley recommends the trustees "to remove all pipes of less than 4 inches diameter, gradually, and commencing at the extremeties of the pipes where the effects of the corrosion are most sensible; and to substitute for these varnished pipes of 4 inches diameter. This operation," he adds, "may be carried on at the rate of at least one mile per annum, at a cost of little more than 400*l.* per mile." And he advises the trustees "to cleanse the main pipes from the river Ehen to the service reservoir by an instrument something like the sweep's patent brush. This operation should be speedily commenced, and may be extended over several years." In considering this report, some of the trustees thought, with Lord Lonsdale, that a mile a-year was too little; but the further consideration of the report has been postponed.

Eton College.—The Rev. J. Wilder, Fellow of Eton College, has restored the hall according to designs by Mr. Woodyer. The roof is new, but simple in construction. Two large Gothic windows east and west replace those inserted by Wren. That at the west end over the dais has recently been filled with stained glass. In the upper part of the window the central light is occupied by a figure of the founder, King Henry VI. the smaller light being filled with armorial bearings and heraldic designs, and the six lower lights are filled as follows:—1. Visit of King Henry VI. to Winchester, previous to the foundation of Eton College. 2. King Henry VI. purchasing the tenements which stood on the site of Eton College. 3. Henry VI. granting the charter to the college. 4. The appointment of the first provost. 5. Henry VII. when Duke of Richmond, a scholar at Eton. 6. Defence of the liberties of the college by Provost Westbury, under Edward IV. This window is the work of Mr. Hardman. The plain stone floor has been replaced by a pavement of Minton's encaustic tiles, containing various arms and badges connected with the college and founder. Behind the wall-panelling, where their existence was wholly unsuspected, were discovered three fire-places, the carving of that on the dais being as fresh as though just from the workman's chisel. There was also a small door discovered, communicating with the lodge, and now again used by the provost. The screen (and gallery) at the east end, replacing Sir Christopher Wren's screen, contains the shields of the benefactors of Eton College. The *Windsor Express* gives a list of them. The restoration has been carried out by Messrs. Wheeler and Luker, builders, Reading. The heraldic decorations have been executed by Mr. Fisher, of London, and the ornamental ironworks by Messrs. Filmer and Mason, of Guildford. One of the two projected memorial windows to the Etonians who fell in the Crimean war has just been erected. It is placed on the south side of the ante-chapel. The centre figure is St. Michael, the archangel. There are also representations of the patron saints of England, Ireland, Scotland, and Wales,—Saints George, Patrick, Andrew, and David. The early British martyrs are also conspicuous,—St. Alban, St. Oswald, &c. There are likewise Scripture subjects bearing on the theme. Some of the smaller lights are filled with designs, showing the Christian phases of the war, such as the Sisters of Mercy comforting the wounded. Nearly the whole of the windows of the chapel are now filled with stained glass.

Theatrical Apparitions—An Optical Illusion.—From a communication we have had with Mr. H. Dircks, the patent agent, says a contemporary, we have an account of his invention of an apparatus for illustrating spectral phenomena. The results, as related by himself, are so complete, that the spectator may see two objects within 12 inches of his eyes, and yet be unable to pronounce whether they are both solid, both visionary, or only one solid and one visionary. If carried out on a large scale, a theatre might be erected, in construction something like a building suitable for dioramic exhibitions, and the audience would see on the stage two or more actors, one of whom might be a mere vision, yet to all appearance as solid and perfect as the rest. In this spectral drama all the figures would act in concert: the visionary character of one of the actors would only appear at the time required to suit the occasion, and he might appear or disappear in thin air, or with the apparent power of passing through all objects.

M. Cavos, Architect.—Theatres.—It was stated some time ago that M. Cavos, architect of the imperial theatres in Russia, and who constructed the magnificent theatre at Moscow, submitted to the Emperor Napoleon plans of a new opera at Paris, on a grand scale, according to the *Critic*. The Emperor has just directed the Minister of State to transmit to M. Cavos the brevet of member of the Legion of Honour, and to make known to him that his plans have afforded satisfaction to his Majesty. "These plans," adds the minister, "may be consulted with advantage in case the Government should decide on removing the opera to another site." We may add that the French Government for the moment has abandoned the idea of building a new opera-house.

Street Architecture.—I am glad to find you are taking up the subject of the anomalous state of our street architecture, and I trust you will not let the matter drop until you have thoroughly roused the attention of architects and the public thereto. As respects architects, I think very little need be said to show them what a wide field would be opened for their employment were they generally consulted by the public; and in these days of severe competition this view of the subject is important. I think architects have also to be convinced that the subject is not unworthy of their attention or beneath their dignity. I would call upon architects, then, to show to the public that they can produce designs for street architecture of every class, which shall combine internal utility with external effect and moderate cost. I hope you will also succeed in convincing the public that the employment of an architect in these matters is true economy. I think that, judging from some recent productions in the suburbs, our speculative builders, who run up streets of houses by the mile, are not indisposed to make some improvement; but as they endeavour to suit themselves to the public taste, we can only influence them through the public, by endeavouring to raise the standard of that taste, if such it can be called.—A.

Joseph Gautherot, the Water-finding Engineer or Miner.—It appears to be a well-authenticated fact that this rather singular genius has proved himself, in many instances, to be an accurate and reliable authority in the discovery of springs of water, even in districts of the least hopeful description. In the pamphlet recently published at Paris (Briere, Rue S. Honore, 257, printer) under the title of "Biographical Notice of Joseph Gautherot the Hydroscope," are many curious anecdotes of his proceedings, together with various corporate and other public documents confirmatory of the statements made of extraordinary success in his profession. Marshal Vaillant, Governor-General of Algeria, attests his success in that thirsty region of the world, in a letter to the French Minister of War, and encloses a report by a government engineer, in which occurs the following passage:—"For my part, I am convinced that the signs M. Gautherot judges by are these:—1. The shape of the section of the mountain spurs. 2. Certain peculiar depressions on the ridges and down the sides. 3. The average extent and thickness of the pervious strata above the impervious." The Emperor also employed him, and successfully, in finding water for the troops at the camp of Chalons and on his Majesty's farms at Villeneuve l'Etang, near St. Cloud, and at Saint-Cucufa. Municipal and parish authorities, agriculturists, manufacturers, and others, would do well to afford M. Gautherot a fair trial wherever water-springs, or water whether in large quantities or in small, are desirable. He is now in England, it appears, and is willing to find water at his own expense, on an agreement that he shall have the execution of the work and be paid according to the quantity procured.

MONUMENT TO HUGH MILLER AT CROMARTY.—After an examination of the various designs, the committee have entrusted the execution of the monument to be erected to Hugh Miller at Cromarty—which is to consist of a Grecian Doric column and statue—the statue to Mr. Handyside Ritchie, and the column to Mr. Thomas Watson, Edinburgh.

STATUE OF DR. ISAAC BARROW.—A statue is about to be erected to Dr. Barrow in the ante-hall of Trinity College, Cambridge. It is from the chisel of Mr. Noble, and is to be the gift of the Marquis of Lansdowne to the college. Sir Isaac Newton and Lord Bacon are also in the ante-hall.

EXTENSION OF EXMOUTH-STREET: METROPOLITAN IMPROVEMENTS.—The locality particularly favours the extension of Exmouth-street, Clerkenwell, in one line. At present it comes to an abrupt termination, at a right angle, and numerous and hourly are the collisions and stoppages in consequence. By the removal of Blogg's brewery, and the two adjoining premises, the open vacant ground in front of the House of Correction would be reached, and a very considerable improvement effected, by one uniform line of frontage. The north side only of Exmouth-street to be carried forward, the remaining side to be left open space in roadway. The omnibuses taking this route are unable to see one another coming round the corner, and have also in addition to cross the traffic of the Bagnigge-wells-road.—SCRUTATOR.

ATHENS ITSELF AGAIN.—The first stone of the Chamber of the Athenian legislative body was laid on the 27th ult. The architect is a Frenchman, M. Boulanger, formerly a pupil of the School of Rome. He is also charged with the construction of a new theatre, and of several other important works. Athens already owes to him the cathedral, as well as the place surrounding it, ornamented with porticoes in keeping with the Byzantine style of the church. The buildings of the Naval School, Orphan Asylum, Civil Hospital, the Mairie, and the hotel which is to accommodate all the ministries, are advancing rapidly towards completion.

WISBECH.—SUPPLY OF GAS.—The contract for the supply of gas to the public lamps expiring in May next, the Local Board of Health are inviting tenders for a further supply for three years. By a clause in the present contract, the Board are precluded from giving leave to the new contractor to break up the streets before the expiration of the present contract; but in the event of a new contract being entered into, the new contractor would be at liberty to construct works, and have everything else ready by June 1st, 1859, and the two or three summer months might suffice to lay down six mains, &c. so as to commence the supply by the end of next summer. The price to private consumers hitherto has been 5s. 10d. per 1,000 feet, and there has been a deficient supply of inferior quality. The present contractor, Mr. Malam, has just completed new works, which have not yet commenced operations; but from the way in which the town has been supplied, there is a general feeling of dissatisfaction, and a desire for change. A requisition to the mayor to call a meeting to consider as to providing gas-works for the town has been very recently signed by 160 persons, mostly gas-consumers, but the Local Board have not legal powers to take the supply into their own hands.

PRESERVATION OF STONE: WATER-GLASS.—In an article in your last publication, "On the Preservation of Stone," you say the only defect in using soluble glass, or water-glass, for the preservation of stone, consisted hitherto in the appearance of some whitish efflorescence by the formation of carbonate of soda. We trust you will allow us to state that the soluble glass, or water-glass, which we manufacture, and sell for indurating stone, cement, &c. will cause no efflorescence whatever, as in its manufacture no soda combination is employed. Nothing can be more satisfactory, both in regard to preservation and appearance of stone-work, &c. than the application of water-glass solution alone, if properly prepared. Allow us also to state that the Cathedral of Notre Dame, at Paris, and most other public buildings and monuments in France, are preserved by means of water-glass solution for a series of years already.

SICHERER AND HAUSMAN.

TENDERS.

For the erection of New Warehouse, No. 12, Little Britain, for Mr. Williams. Messrs. John Young and Son, architects :—

Patman	£4,922 10 0
Rivett	4,171 0 0
Lawrence	4,142 0 0
Ashby	4,114 0 0
Little	4,094 0 0
Piper	4,037 0 0
Mansfield	4,043 0 0

For building fourteen 6-roomed Houses, with offices, at the back, on the Mount Elliott Estate, Lee, Kent. Mr. John Whichcord, architect :—

Evans, Brothers, London	£4,400 0 0
Pearson, Deptford	4,130 0 0
Smith, Deptford	4,058 0 0
Mortimer, Lee (accepted)	4,045 0 0

For Two Pairs of Semi-detached Houses, at Forest-hill, Messrs. Morphew and Green, architects. Quantities not supplied :—

Rudkin	£3,370 0 0
Rider	3,272 0 0
Smith	3,262 0 0
Wells	3,219 0 0
Walker and Neave	3,080 0 0
Hutson } Hancock }	2,905 0 0
Miller	2,666 4 0

For Boys' and Girls' Schools, with residence, at Wandsworth, Surrey. Mr. Joseph Peacock, architect :—

White	£2,450 0 0
Mears	2,240 0 0
Piper and Son	2,227 0 0
Nicholson and Sons	2,180 0 0
Beevers	2,122 0 0
Myers—not delivered.	

For the New Congregational Chapel, Newcastle-under-Lyme. Mr. Smith Moffatt, architect, Manchester, Quantities supplied :—

Boone, Burslem	£2,394 0 0
Boughey, Nantwich	2,130 10 0
Shaw, Silverdale	2,100 0 0
Baker, Newcastle	2,050 0 0
Woolescroft, Chesterton	2,000 0 0
Meadon, Newcastle	1,969 8 0
Bryan, Stoke-on-Trent	1,900 0 0
Sutton, Newcastle	1,790 0 0
Pooley, Peterborough (accepted)	1,750 0 0

For Hounslow Town-hall. Messrs. Nelson and Innes, architects :—

Easton	£2,310 0 0
Harding, sen.	2,247 0 0
Harding, jun.	2,025 0 0
Adamson and Sons	1,998 0 0
Fish	1,990 0 0
Tarrant	1,985 0 0
Parkin	1,957 0 0
Bowley, Brothers	1,850 0 0
Jacklin	1,850 0 0
Hiscock (accepted)	1,800 0 0
Ashton	1,793 0 0
Ellis	1,787 0 0

For building a Manufactory, Warehouse, &c. in Bermondsey, for Mr. Charles Thorp. Mr. Henry Phillips, architect. Quantities not supplied :—

J. and C. W. Todd	£2,069 0 0
J. Wilson	1,843 0 0
J. Logg	1,810 0 0
Brooker and Jarvis	1,620 0 0
J. Bulmer	1,563 0 0
Brown	1,477 0 0
W. Pickford (accepted)	1,448 10 0

For the erection of a New Jetty, opposite the British and Foreign Steam Wharf, Lower East Smithfield. Engineer, Mr. R. Davison :—

S. Fox	£1,833 1 10
J. W. Ball	1,193 0 0
W. Bowack	1,135 0 0
J. Chapman	1,098 10 0
T. M. Gladstone and R. T. Greetham (accepted)	995 0 0

For the erection of a Rectory, at Harkstead, Suffolk. Mr. F. Barnes, architect :—

Grimes, Colchester	£1,751 0 0
Saunders, Dedham	1,560 0 0
Luff, Ipswich	1,473 0 0
Ormon, Ipswich	1,382 0 0

For the erection of a House at Stowmarket, for Mr. E. Prentice. Mr. F. Barnes, architect :—

Luff	£1,422 0 0
Cornish	1,240 0 0
Ormond	1,176 0 0

For completing and altering Nos. 12, 13, 14, and 15, Spencer Villas, Putney, for Mr. E. Hare. Messrs. Hook and J. M. K. Hahn, architects :—

James Hall	£1,098 17 0
Ashmsm and Sons	1,090 0 0
E. Thomas	999 11 0
J. Callom	869 0 0

For the construction of 2,403 feet Brick Sewers, and 1,733 feet 12-inch glazed Stoneware Pipe Sewers, borough of Derby. Abstract of quantities supplied in specification. Engineer, Mr. J. C. Thorburn, borough surveyor :—

John Harpur	£899 1 4
William Hyslop	833 18 0
Joseph Tomlinson (accepted)	769 17 1
Borough Surveyor's estimate	745 7 0

For Schools at New Calton. Messrs. Benest and Newson, architect. Quantities supplied :—

Meachen	£857 17 0
J. Read	835 0 0
Ford	814 2 0
Worman	809 0 0
Watson	785 13 0
Dawes	774 0 0
Griffin	768 0 0
Youngs (accepted)	663 12 0

For Roads and Drainage on the late Stracey Estate. Quantities supplied. Messrs. Benest and Newson, architects :—

CONTRACT NO. 1.

Hobrough and Pope	£553 0 0
Ling and Balls	505 0 0
Goff	500 0 0
Batch (accepted)	316 15 0

CONTRACT NO. 2.

Goff	£615 0 0
Hobrough	457 10 0
Batch	404 7 6

For general repairs to House, No. 4, Southampton-court, Bloomsbury, for Mr. T. R. Jones :—

Williams	£264 0 0
Traylor and Spriggs	256 0 0
Batterbury	239 0 0
Partridge Crutch	237 0 0

For general repairs to House, No. 37, Bedford-place, Russell-square, for Mr. Falcke. Mr. H. H. Collins, architect :—

Bruning	£240 0 0
Miller	227 0 0
Williams (accepted)	216 0 0

TO CORRESPONDENTS.

SQUEEZING WAX.—Can any of your correspondents inform me as to the composition known as "Squeezing Wax," used for taking impressions from sculpture, &c. A recipe for making it, will greatly oblige. PLASTIC.

POLISHING STONE.—Can any of your correspondents inform me if it is possible to polish Bath stone columns, so as not to affect the colour of the stone? I am told it is done with a preparation of wax I have been unable, however, to get the desired information. J. McL.

H T E.—T. H. L.—T. Q.—T. S.—W. M.—J. B.—J. G.—T. H.—C J C.—T. Y K.—D. and W.—A Working Man (a wash of corrosive sublimate: it must be applied with care, has been found effective).—J T.—C. G.—T. B. S.—Misses L.—C. H.—H G M.—Constant Reader.—Avon.—J. E. R.—C. W.—J. W. H.—H. D.

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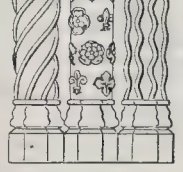

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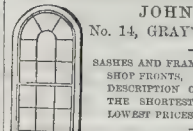

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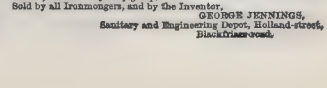

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Messrs. KERSHAW and BELLAMY having for several years devoted much time and capital in perfecting and rendering practical Patented Apparatus for the imitation of various descriptions of woods, for which they have obtained her Majesty's Letters Patent, are now ready to show specimens, and supply the Trade with the apparatus whereby the imitation of Woods of the most elegance and elaborate description are produced on Painted Wood-work, Deal, or other surfaces. The above Patent Graining Tools to be had from agents appointed in the principal towns throughout Great Britain and the Continent, or at the Manufactory, 33, Hackney-road, Marylebone, London, where they have opened a Show-room, with Specimens of Graining in imitation of Woods by the Patent Process for public inspection.

N.B. Agents supplied with Specimens.—An Agent Wanted for Lincolnshire and Gloucestershire.

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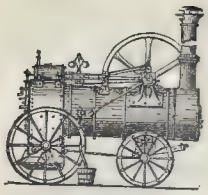

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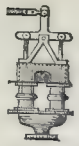

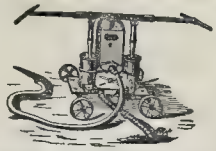

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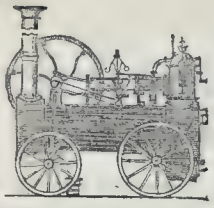

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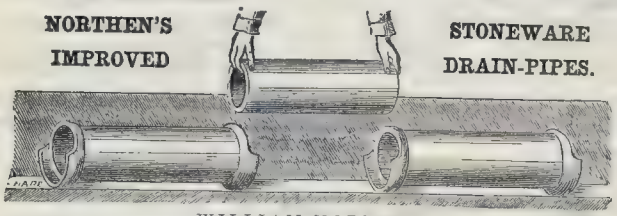

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Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or by other of ordinary means, as every alternate pipe can be taken up without disturbing either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of every access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET PIPES.

W. N. being the first that manufactured Stoneware Socket Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

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BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.
SALT-GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
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The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

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CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

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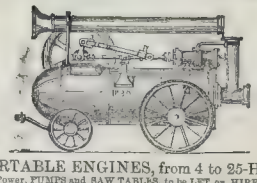

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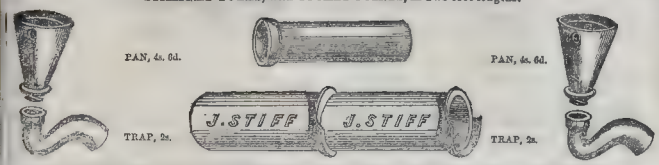
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

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WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

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WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

UNDERHAY'S PATENT REGULATOR CLOSETS for constant or intermitting supply, dispense with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fixing, and a better flush of water obtained in use.

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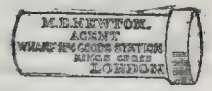
CLIFF'S SALT-GLAZED DRAIN-PIPES are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade

A HANDSOME DISCOUNT IS GIVEN,

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36-inch.	3 ft. by 2 feet (oval).	18-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	12-inch.	15-inch.
5s.	4s. 3d.	3s.	3s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand better than any Brickwork.

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HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

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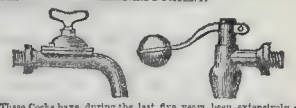
PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 150 to 350 feet; their efficiency and durability are by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short street, New-cut, Lambeth.

WARNER'S PATENT VIBRATING STANDARD PUMPS—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Sucking, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ ,, long	3	gutta percha	1 14 0
3 ,, ditto	3	or cast iron	2 8 0
3½ ,, ditto	3	flanged pipe,	2 12 0
4 ,, ditto	3	if required.	2 16 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

SALES BY AUCTION.

CROWN LANDS, WHICHWOOD, OXON.—Important Sale of 7,800 OAK TREES, 1,000 Ash Trees, 700 Cords of Wood, 16,000 Faggots, and 1,000 Hurdles. TO BE SOLD by AUCTION, at the CHURCHILL ARMS INN, Ascott, on TUESDAY, 5th day of OCTOBER, 1858, by

MR. LONG, by the direction of the Hon. Charles A. Gore, a Commissioner of Her Majesty's Woods, Forests, and Land Revenue. The above valuable timber, growing on the clearing of the late forest of Whichwood. On account of the number of lots, the sale will commence punctually at HALF-PAST TWELVE o'clock. Whichwood lies within an easy distance of three Gates on the Oxford, Worcester, and Wolverhampton railway, and the place of sale immediately adjoins the Ascott station of the above railway. By permission of the company, the down train leaving Euston square at 9 and 7.15 p.m., on the preceding evening Wolverhampton at 3.30 p.m., will stop at Ascott on the day of sale, for the accommodation of passengers. Catalogues and particulars may be obtained at the Office of Woods, 1, Whitehall-place; of Mr. JOHN CLUTTON, Crown Receiver, 9, Whitehall place; of Mr. ROBERT MORRIS, Solicitor, Lincoln's-inn-fields; and of the Auctioneer, Witney; at the Place of Sale; and also at the Wolverhampton, Birmingham, Dudley, Stourbridge, Kidderminster, Droitwich, Worcester and Oxford Railway Stations.

TO BUILDERS, SHOP FITTERS, SMITHS, DEALERS, AND OTHERS.

MESSRS. BOOTH and CO. will SELL by AUCTION, on the PREMISES, adjoining the Workhouse, Marylebone road, on TUESDAY next, OCTOBER the 5th, at TWELVE for ONE o'clock, a valuable collection of New and Old BUILDING MATERIALS: comprising a chapel-pulpit and reading-desk, six capital water-closets, complete with Davis's patent valve and self-supplying apparatus for high or low pressure; also eleven other water-closets with traps and pans complete; six Davis's patent high pressure ballcocks and ball, complete with screw-bosses, &c.; a large assortment of doors and sashes, with and without frames; partitions, &c. &c.; iron doors, ironmongery, ogee guttering, a small steam-boiler, a set of iron wheels, with axles, capable of carrying twenty tons, and a large quantity of cast and wrought iron; useful articles, portable smith's forge and bellows, and a large assortment of iron and wood goods of every day's consuming. May be viewed the MONDAY previous and morning of sale. Catalogues on the Premises; at the Buffalo's Head Inn, opposite; at BOOTH and CO.'s Auction Offices, 13, Eastcheap, E.C. and 34 Grand House, Hackney road, N.E., and will be forwarded by post for one stamp.

TO SHIPWRIGHTS, BARGE BUILDERS, TIMBER and COAL MERCHANTS, LIGHTERMEN, and OTHERS

MESSRS. HUMPHREYS and ROBINSON will SELL by AUCTION, at the WHARF, adjoining the Phœnix Gas Works, Thames street, Greenwich, on WEDNESDAY, OCTOBER 6th, 1858, at TWELVE o'clock, a quantity of useful English and African OAK, TEAK, and FIR TIMBER, consisting of floor and side timbers, beams, long planking, decking, square timber, cabin fittings, iron knees, bolts, pipes, long copper pump, long whaling pieces, firewood, &c.; the remains of a steam-vessel lately broken up; also several barges, sixteen wrought-iron tanks, and numerous other effects.—Catalogues may be had of the Auctioneers, at their Offices, 10, London-street, Greenwich.

Important Sale of the First Portion of a Stock of Timber, removed for convenience of Sale to Norway Wharf, Greenwich

MESSRS. HUMPHREYS and ROBINSON will SELL by AUCTION, on TUESDAY, OCTOBER 5, 1858, on the PREMISES, at TWELVE o'clock, the first portion of a large STOCK of TIMBER, consisting of about 1,000 dry pine planks, 1,000 yell w deals, 500 long battens, 900 white deals and battens, 20 loads of Swedish balk timber, mahogany, prepared flooring-boards, iron water tanks, and other effects. Catalogues may be had of the Auctioneers, at their Offices, 10, London-street, Greenwich.

N.B. The valuable Water side Premises to Let.

TO BUILDERS AND STONE MASONS GOUGH STREET, Grays inn road, by

MR. ALEXANDER, on MONDAY OCTOBER 4, 1858, at TWELVE, Elegant STATUARY MONUMENT, Portland worked staircase, steps and landings; quantity of marble, Portland slabs, blocks and pieces box chimney pieces, two head stones granite landing steps and kerb, sinks, grindstones, ladders, scaffold-boards, poles, boards, trucks, cabin engine, block and fall, wainscot pulpit, ironwork, and sundry effects.

BUILDER'S EFFECTS—Absolute Sale THURSDAY next

MR. HOLLINGSWORTH will SELL by AUCTION, at 14, High Holborn, on THURSDAY, OCTOBER 7th, at TWELVE o'clock, BUILDER'S IRONMONGERY, comprising sash cast shivers, axles, and weights, sash pulleys, brass cocks of all kinds, carpenters and joiners' tools, vehicle, iron, and stable's marble chimney-pieces, seven cwt. of white lead, 100 gallons of varnish, oils and turps, dry colours and other effects. On view on WEDNESDAY.

FOREST-HILL, SYDENHAM.—TO TIMBER MERCHANTS, BUILDERS AND OTHERS

GEORGE F. CORBETT will SELL by AUCTION, on THURSDAY, OCTOBER 7, 1858, at TWELVE o'clock, near the Railway, near the Forest-hill Station; removed for absolute sale, a quantity of OAK FENCING, consisting of 1,000 oak posts, 600 pairs of oak rails, 200 gravel planks, 9,000 oak cleft pales, 200 feet run of sash stiles, 200 feet run deal boards, also three loaded scantling, five-bar oak gates and posts, and other items. May be viewed the day preceding and morning of the sale. Catalogues, with conditions, may be obtained at the Place of Sale; at the inns in the neighbourhood; and of the Auctioneer, Surveyor, and Appraiser, Lewisham, Kent, S.E.

TO ENGINEERS, TOOL MAKERS, SMITHS, AND OTHERS.

MESSRS. PAGE and CAMERON will SELL by AUCTION, at No. 15, WAREHOUSE, Commercial Dock, Rotherhithe, on THURSDAY, the 7th of OCTOBER, at TWELVE for ONE o'clock, in lots, a very superior SELF-ACTING SLIDE and SCREW CUTTING LATHE, 19 inch centres, and 12 feet long, and gap to take in 3 feet 6 inches diameter, complete; Two ditto, each 7 inch centres, and beds 12 feet long, complete; and a Portable Punching and Cutting Machine, to cut and punch 4-inch plates, valuable for hand or steam power. May be viewed on and after Wednesday, and Catalogues had of Messrs. PAGE and CAMERON, Auctioneers and Surveyors, 64, Old Broad street, E.C.; and St. Albon's, Hertford.

CRIMSCOTT STREET, BERMONDSEY. Highly important and extensive Sale of Planks, Deals, Battens, and prepared Flooring.

MR. PEAKE is favoured with instructions to effect a SALE by AUCTION of the well-seasoned STOCK, on the PREMISES, on WEDNESDAY and THURSDAY, OCTOBER 13th and 14th, at TWELVE o'clock each day, in lots, to suit all classes of purchasers. It comprises about 1,500 prime dry yellow and white planks, 1,000 dry pine planks, 1,500 yellow and white deals, 7 superior cube 7/3 yellow and white battens, and upwards of 2,000 squares of floor boards and battens, all of excellent quality. Timber merchants, builders, cabinet and packing case makers, dock contractors, and others, are strongly advised to give this sale their particular attention, as the whole will be disposed of without the least reserve. Approved bills will be taken. May be viewed two days prior and mornings of sale. Catalogues obtained on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley street, Southwark, S.E.

GUILDHALL, London, September 28th, 1858.—BUILDING LEASES, NEWGATE-STREET.—The Committee for letting the Bridge house Estates will meet at GUILDHALL, on FRIDAY, the 8th day of OCTOBER next, at ONE o'clock precisely, to receive TENDERS for LEASING, for terms of 61 years, several PLOTS of GROUND on the north and south side of Newgate-street, in the City of London. Plans of the ground and conditions for letting may be seen at the Architect's Offices, Guildhall.

FERDINAND BRAND, Comptroller.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham common, on the high road from Clapham to Wandsworth. For particulars apply to JAMES CROWDY, The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq., at Durham, on the Medway.

MESSRS. FULLER and HORSEY are instructed to treat ate the SALE by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq., within the last eight years. The Durham works and clay fields occupy a site of about eighty-five acres, partly freehold and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London is about thirty-eight miles, and the nearest railway station is that of the North Kent Line are within two miles of the property. The surface of the land slopes at an inclination of about 1 in 80 towards the river, and the pits lie having been formed near the summit, but little haulage is requisite. The clay is known as the Gault Clay, and it extends beneath the entire surface to a depth of about 150 feet, affording a supply more than sufficient for the next century. The Gault clay requires a smaller quantity of ashes than any clay near London, and the Burham works are nearer to the London markets than any other where the Gault clay is found. The cost of carriage to London is only 3s. 6d. per ton. The works were established by Mr Cubitt for his own requirements exclusively, and both money and skill have been unsparingly expended for the purpose of rendering them complete. The principal building is upwards of 300 feet in length, and 85 feet wide in part. There are four pottery kilns within the building, and also spacious separate excavating of warm water pans. Outside the building, and conveniently placed, are three Suffolk kilns (two for 80,000 each and one for 30,000); two waggon top kilns, 50,000 each; twelve Scotch kilns, 30,000 each; and three ditto of 60,000 each; also, seventeen acres covered back ground, in capital order.

The plant capable of producing 20,000,000 bricks per annum, in addition to an almost unlimited quantity of drain-pipes, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, Ainsley's rollers, with Mr. Cubitt's improvements, and the requisite pug-mills, worked by a pair of condensing steam engines, by Maudslay, Sons, and Field, of 220 horse power, with boilers, wrought iron tank, 50 feet in length, and gearing. There are upwards of two thousand yards of iron railway, 2 feet gauge, 1 fancy gig, hollow tiles, tubes, splay bricks, paving bricks, sole and flue tiles. Near the clay pits are two large wash mills, worked by two portable engines of 16-horse power, by Clayton and Shuttleworth, and connected by wooden troughs with four large main backs, at the lower part of the field. A reservoir of three acres in surface has been formed, which is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the establishment. The steam cranes are erected by upwards of two miles of private railways, with turntables and weigh-bridge, and there is a most substantially-built wharf, with stone wall, having space of sufficient length for six barges to lie alongside.

The Cement Works comprise four well built kilns for 60 yards each, three drying stoves, and nine coking ovens, wash-mill, pug-mill, and pipes worked by a portable steam-engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly erected residence for general manager, well placed, and surrounded by a large and productive garden. A newly erected house for Foreman of cement works, three cottages, stabling, and a mess-room for the workmen, with cooking apparatus. At a short distance, in the opposite bank of the Medway, is a 12 acre field of excellent sand for brick-moulding purposes, and a wharf for landing it. As before stated, these works were established to supply Mr. Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is acknowledged to be the best for brick-making purposes, that this field is the nearest yet in existence to the London market, that coals can be procured without being subject to City of London market dues, that all other raw materials can be obtained on the very best terms, that the machinery is of the best character, most judiciously placed, and that for its working skilled labour is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, Builder-street.

TO BUILDERS and OTHERS. DOVER-COURT NEW TOWN and SPA.—a short distance from the town and port of Harwich, and within a few minutes' walk of the Dover-court station of the Eastern Counties railway, by which passengers are conveyed to and from town to the Great and Local Railways, and to the Metropolis in about two hours by express and other trains several times in the day. This beautiful locality is situated on the shores of the German Ocean, on a plateau of the cliffs sixty feet above high-water mark, and embracing other advantages sought for in a seaside residence, inviting a rapid increase of those proprietary to the celebrated Spa. The attention of builders and others is invited to an inspection of the sites offered in this rising place. Terms for building leases very moderate; materials and premises for builders, and others, apply to Mr. J. H. ROWLEY, Architect, No. 17, St. Helen's-place, Bishopsgate-street, City; or to Mr. H. DARKEN, Architect, Harwich and Dovercourt.

NORWOOD, within three minutes of the station on London bridge and West-end. GROUND TO BE LET, for building, with or without stabling, which will be erected if required. There is not a house on the estate unlet, while numerous applications are daily made for residences. Private gentlemen requiring large plots, one second to none. Advances made. Apply to W. F. LOW, Esq. Solicitor, 67, Wimpole-street, Cavendish-square.

TO LAND and BUILDING SOCIETIES, BUILDERS, and OTHERS.—TO BE SOLD, in one or three plots, TWENTY FOUR ACRES of FREEHOLD LAND, situate on a beautiful eminence, near the new Church, at Sidcup, Kent, within a moderate distance of the intended station of the Mid Kent Railway, now in course of construction, and the Great Northern and Midland stone road, commanding splendid views of the surrounding country, and adjoining the estates of Lord Sydney, Mr Berens, and Mrs Lewin, which will soon be in part of the direct line. Gravel and earth on part of the land, sufficient for all the buildings required. This property offers an excellent opportunity to builders, land and building societies, or capitalists.—Apply, for particulars, to Mr. NOBLE, Architect and Surveyor, 18, Bucklersbury, and London-street, Greenwich.

BUILDING LAND, SOUTH KENSINGTON. The Commissioners for the Exhibition of 1851 are prepared to receive TENDERS for BUILDING LEASES, of three several detached pieces of fine estate, in Prince Albert's road and Cromwell road, Brompton, if tender, with conditions and plans, may be had, upon application to Messrs. FLADGATE, CLARKE and FINCH, 13, Craven street, Strand; to Messrs. HUNT and STEPHENSON, 4, Parliament street, Westminster; or to Mr. MAINE, at the Office of the Commissioners, 5, Kensington-gore. The Tenders are to be delivered at the Office, No. 5, aforesaid, on SATURDAY, the 9th day of OCTOBER next. The Commissioners do not pledge themselves to accept the highest or any Tender.

GROUND-RENTS WANTED.—First-class FREEHOLDS, from £500 to £5,000. Every particular required to sell or lend on such securities. Apply by letter, prepaid, to Mr PITCHER, 43, Great Tower-street, London

TO BUILDING SPECULATORS, &c.—TO BE LET as a whole or in plots about TWENTY ACRES of BUILDING LAND in the county of Kent, within a few minutes' walk from a railway station, and for a long term of years. The land lies close to a railway station, is within 22 miles of London, commands beautiful views, has a good road, and excellent water. Further particulars, with plans, may be had upon application to Messrs. FLADGATE, CLARKE and FINCH, 13, Craven-street, Strand; or to Messrs. HUNT and STEPHENSON, 4, Parliament-street, Westminster; or to Mr MAINE, at the Office of the Commissioners, 5, Kensington-gore. The Tenders are to be delivered at the Office, No. 5, aforesaid, on SATURDAY, the 9th day of OCTOBER next. The Commissioners do not pledge themselves to accept the highest or any Tender.

MORTLAKE, SURREY.—ELIGIBLE BUILDING GROUND.—TO BE LET on lease for a long term of years, about ONE and a HALF ACRE of very ELIGIBLE BUILDING LAND, being a moiety of the Cromwell House site, and adjoining near the railway station of Mortlake, Surrey. The land is to be let for the erection of one or two houses of the first class.—For terms and particulars, apply to Messrs. FEARON and CLARK, Solicitors, 21, Great George street, Westminster; or to R. P. POPE, Esq. Architect, 21, Bedford-row, Grays inn, W.C.

MANUFACTURING PREMISES, Belvidere road, Lambeth.—TO BE LET on LEASE, with immediate possession, the extensive MANUFACTURING PREMISES known as Jordan's Patent Wood-carving Works, comprising several ranges of light and lofty workshops, a noble show-room, capital offices for clerks and principals, dwelling-house, engine and boiler house, turning shop, and large yard. Apply to Messrs FULLER and HORSEY, 11, Builder-street, E.C.

TO MANUFACTURING CHEMISTS and OTHERS FREEHOLD LAND, suited for manufactories, situated on the Paddington Canal, nine miles from London, and close to a railway station, TO BE LET on LEASE for 99 years, at 20l. per acre, or the FREEHOLD TO BE SOLD.—Apply to JOHN WRICHCORD, Esq. Architect and Surveyor, 16, Walbrook, City, E.C.

TO SCALE-MAKERS, AGRICULTURAL IMPLEMENT MAKERS, and OTHERS.—TO BE DISPOSED OF, the old-established BUSINESS of the late Mr. Burchfield, of West Smithfield, having a most respectable and extensive connection in all parts of England. Rent moderate; coming-in, about 800l.—For further particulars, apply to Messrs. FULLER and HORSEY, No. 11, Billiter street.

TO BLIND-MAKERS, CARPENTERS, and JOINERS.—A BUSINESS, with Machinery, Stock-in-Trade, &c. for SALE—seldom to be met with—upwards of 200 customers, who pay ready cash; can be introduced by the Advertiser, and part of the purchase-money can be left by giving security. Satisfactory reasons assigned for giving up the business.—Address, by letter, to H. R., 149, Blackfriars road.

TO BUILDERS, PLUMBERS, GLAZIERS, and PAINTERS.—TO BE SOLD, the GOODWILL, STOCK-IN-TRADE, and WORKING PLANT of a WELL-ESTABLISHED BUSINESS now in full work, in a first-rate and improving neighbourhood, five miles from the Bank. The premises are held for the required term of nineteen years at an exceedingly low rent. To parties seeking a business of this description, the above offers an opportunity rarely to be met with, and to a person of business habits a good income is secured. For further particulars apply to THOMAS FOX, Auctioneer, House and Estate Agent, 33, Bishopsgate-street, Within, E.C.

NOTICE.—ELLIOTT, BROTHERS, Opticians to the Admiralty, Ordnance, and East India Company, and Shipowners to Watkins and Hill, beg respectfully to give notice that they have REMOVED from 50, Strand, also to Charing-cross, to more Extensive Premises, No. 34, STRAND, formerly Warwick. Illustrated Catalogues by post for 18 stamps.

TO CIVIL ENGINEERS, SURVEYORS, and OTHERS.—FOR SALE, a FIVE-INCH THEODOLITE, by Troughton and Simms, price Fifteen Guineas, at JOHN ARCHBUTT'S, 20, Westminster Bridge-road, Lambeth, near Astley's Theatre.

ELEMENTARY MATHEMATICS, &c.—A Young Man is desirous of obtaining, in London, LESSONS in GEOMETRY, ALGEBRA, and MECHANICAL DRAWING, during the hours of Nine and Four.—If any Teacher of the same is holding Classes, he would oblige by sending terms, prepaid, to X. Y. No. 50, Yorkstreet, Dover.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION is given in Surveying, Levelling, Civil Engineering, &c. by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Surveyors, &c. of extensive practice, who give Instruction in every branch of the Profession. Terms for the Course of Three Months, Two Guineas. No extras.—For Prospectuses, &c. apply at the Offices, 24, Guildford street.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Pupils, Assistants, Clerks of Works, &c. established by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c. forgiving DAY and EVENING INSTRUCTION in Architectural, Engineering, and Mechanical Drawing, Perspective, Isometrical, and Oblique Drawing; Making Finished and Working Drawings; Preparing Specifications, Taking out Quantities, Estimating Builders' Work, &c. Terms—Six Pupils, Three Guineas per Quarter; Four Pupils, One Guinea per Month. There are no extras: the Terms include the whole of the above, with the use of Drawing Boards, T-Squares, Plans, Drawings, Models, &c.—Prospectuses and full particulars may be had at the Offices, 24, Guildford street, Russell square, London

GALLERY of ELECTRO BRONZES, No. 321, Strand.—ADMISSION FREE.—ALTO RELIEVOS in Copper Bronze and in Gold and Silver, by the Galvano-Plastique Patent Process, of the CELEBRATED PRICE, rendering them available for architectural and general decorative purposes, and forming extremely beautiful and novel presents to the drawing-room, library, or picture gallery.—Works of Fine Art, Battle, Scriptural, Emblematical, and other highly-interesting Pieces, in solid metal, having been exhibited several times at the Conversazioni of the Royal Society and of other leading institutions of London, are now on View to the Public at the above Gallery, 321, Strand, from TEN till FOUR.—Catalogues, with every information relative to the extensive operations of the Company, may be obtained from the Secretary, at the Gallery, or from any of the Local Agents who are now being appointed throughout the country. H. CHALON, Secretary.

THEODOLITES, LEVELS, CIRCUMFERENTERS, MATHEMATICAL DRAWING INSTRUMENTS, SCALES, RULES, TAPES, T SQUARES, &c.—JOHN ARCHBUTT, No. 20, Westminster-bridge-road, Lambeth, near Astley's Theatre, respectfully solicits the attention of the above articles, manufactured by himself as follows:—The prices will be found exceedingly low. No fictitious charges for articles of inferior quality. An illustrated price list forwarded free on application. A 5-inch compass level, complete, six guineas; 10-inch ditto, eight guineas; 14-inch ditto, ten guineas; with compass, one guinea each extra. Best 5-inch theodolite, divided on silver, eighteen guineas.

PATRON—H. R. HIGHNESS THE PRINCE CONSORT.

ROYAL POLYTECHNIC INSTITUTION.—Lectures on Chemistry by Mr. E. V. Gardner: on Natural Philosophy by Mr. King: on Music by Mr. Geo. Pond, assisted by Miss Ireland. The Atlantic Telegraph Cable explained by Mr. King, with Specimen of Rowatt's New Cable. The Ladies' Quarter Ball (No. 4) Quarter to Four, by the Messrs. Greenfield. The Laboratory is open for Analyses, Pupils, &c. under the direction of Mr. E. V. Gardner, Professor of Chemistry. The Inaugural Meeting of the Evening Classes will take place on Monday Evening, the 4th instant. Persons desirous of joining are requested to attend. The chair will be taken at eight o'clock. Open daily from Twelve to Five; Evenings, Seven to Ten.—Admission, One Shilling.

Managing Director—E. I. LONGBOTTOM, Esq.

EVENING CLASSES in Arithmetic, Latin, French, German, Physics, Algebra, Chemistry, and Drawing, will OPEN at the ROYAL POLYTECHNIC INSTITUTION on MONDAY EVENING, OCTOBER the 4th.—For further particulars apply at the Institution.

SOUTH WALES RAILWAY.—The Directors of the Company are now prepared to ISSUE DEBENTURE BONDS, bearing interest at the rate of 4l. per centum per annum, for periods of not less than three years, to meet debentures falling due. The Directors are also prepared to issue Debenture Stock, bearing interest in perpetuity, at the rate of 4l. per cent. per annum, which Stock will cancel and take the place of Debenture Bonds of the Company for the like amount.—Applications to be addressed to the undersigned.—By order, FRED. G. SAUNDERS, Secretary.

Offices, South Wales Railway, 14, Eastbourne terrace, Paddington, W. September 28, 1858.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the office of "The Builder," No. 1, York-street, in the Parish of St. Paul Covent garden, 16th in the County of Middlesex.—Saturday, October 2, 1858.

The Builder.

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Architect, Engineer, Operative & Artist.

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THE INSTITUTE OF BRITISH ARCHI-

...TECTS hereby give NOTICE that an EXAMINATION of per...ns desirous of OBTAINING a CERTIFICATE of COMPETENCY to ...form the office of DISTRICT SURVEYOR will take place at the ...ROOMS of the Institute, No. 16, Grosvenor-street, Grosvenor-square, ...n TUESDAY, the 26th day of OCTOBER, at TWELVE o'clock at ...n. Persons desirous to be examined must, on or before FRIDAY, ...e 15th day of OCTOBER, send an application, which must be accom...anied by a statement according to a form to be previously obtained ...the Rooms of the Institute.

C. C. NELSON,
M. DIGBY WYATT, } Hon. Secretaries.

Oct. 3, 1858.

SOUTH KENSINGTON MUSEUM.—A

COURSE of TWELVE LECTURES on the HUMAN FORM ...ll be delivered by JOHN MARSHALL, Esq. F.R.S. F.R.C.S., ...ssistant Surgeon to University College Hospital, on the 22nd and ...th of October; 5th, 12th, 19th, and 26th of November; 3rd, 10th, ...d 17th of December; 7th, 14th, and 21st of January, 1859. This ...ourse will be delivered on FRIDAY evenings, at EIGHT o'clock ...recisely, for the course of twelve lectures, or in each nature, to be ...btained at the Catalogue Sale Stall, or from Messrs. CHAPMAN and ...ALL, 193, Piccadilly. A Summer Course is given, to which Female ...tudents are admissible.—By order of the Committee of Council on ...ducation.

QUEENWOOD COLLEGE,

Near Stockbridge, Hants,
Dunbridge Station, Salisbury Branch, S. W. R.
GEORGE FRANKISH.—Principal.

NATURAL PHILOSOPHY AND MATHEMATICS—Frederick R. Smith, LL.D
CHEMISTRY—Dr. Henry Debus, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg
CLASSICS AND HISTORY—Daniel Hughes, M.A. Jesus College, Oxford.
MODERN LANGUAGES AND FOREIGN LITERATURE.—Mr. John Haas, ...m M. de Fellenberg's Institution, Hofwyl, Switzerland.
GERMAN—Mr Nicholas Wegmüller, from M. de Fellenberg's Institu... Hofwyl, Switzerland.
PRACTICAL SURVEYING, LEVELLING, &c.—Mr. Richard P. Wright.
DRAWING—Mr. Richard P. Wright.
ENGLISH—Mr. Daniel B. Brightwell.
ENGLISH—Mr. William Trevor.
MUSIC—Mr. William Cornwall.

TERMS.

For Boys under 12 years of age ..... £45 per annum.
" above 12 and under 15 ..... 55 "
" above 15 ..... 60 "

Laundress and Sempstress 3*l.* per annum extra (except in the case of ...o or more pupils from the same family, when the charge is omitted).

PROFESSOR DONALDSON'S LEC-

...TURES on ARCHITECTURE and CONSTRUCTION, at ...NIVERSITY COLLEGE, will COMMENCE on TUESDAY, the 19th ...OCTOBER.—Prospectuses and particulars may be had at the Office of the College.

COMPETITIONS.

BOROUGH of HANLEY, in the County of Stafford.—To ARCHITECTS and BUILDERS.—The Hanley Town Council have purchased a site for a Borough Cemetery, and have determined on the ERECTION of a CHURCH and CHAPELS thereon, at a moderate cost; the bases to be divided from each other by a narrow passage, but the buildings to be connected by a spire, portico, or in such other manner as an architect may design, so as to appear as one building. As both will be appropriated to dissenting ...dy, they must be of limited size, and the interiors plainly fitted up. ...he Town Council have also determined on the erection of a building ...the entrance to the Cemetery, consisting of a Registry Office on one ...de of the carriage-road, and a Lodge on the other side, connected by ...on gates of an ornamental character.—It is requested that plans and ...timates of the cost of erection of these buildings to be sent to the ...ffice of the Town Clerk, on or before the 1st day of DECEMBER ...ext; and a premium of 10*l.* will be given for the best design, and ...nother premium of 5*l.* for the second-best. Mr. FORBES, Surveyor, ...truria, will shew the site, and furnish any further information that ...ay be required.

EDWARD CHALLINOR, Town Clerk.

Town Clerk's Office, Hanley, October 4, 1858.

COMPETITIONS.

BOROUGH of HANLEY, in the County of Stafford.—To LANDSCAPE GARDENERS.—The Hanley Town Council have purchased a large portion of the Shelton Hall estate, as a site for a Borough Cemetery, and it has been determined that the whole of the ground shall be appropriated to CEMETERY PURPOSES, and be ornamentally laid out for interments, interspersed with walks, flower parterres, shrubberies, and plantations, with a view to promenade; the trees now standing on the land, and the natural advantages of the ground, being used to produce an effect as picturesque as possible. In carrying out this object, attention will have to be made for a good system of drainage. A premium of 10*l.* will be given for the best design, and another premium, of 5*l.* for the second best—It is requested that plans and drawings be sent to the Office of the Town Clerk, on or before the 1st day of DECEMBER next. Mr. FORBES, Surveyor, Etruria, will show the grounds, and furnish any further information that may be required.

EDWARD CHALLINOR, Town Clerk

Town Clerk's Office, Hanley, October 4, 1858.

CONTRACTS.

WAR DEPARTMENT WORKS.

TO BUILDERS, IRONFOUNDERS, and OTHERS.—Notice is hereby given, that TENDERS will be received, at the Office of the Director General of Contracts, PALL MALL, London, on WEDNESDAY, the 20th day of OCTOBER, 1858, for NEW CAST IRON PITMENTS and GRANITE PAVING, in Two Cavalry Stables at Piershill Barracks, Edinburgh. The plans, specification and conditions of contract may be seen, and every information obtained, by application at this Office, on and after FRIDAY, the 8th day of OCTOBER, 1858, between the hours of TEN and FOUR each day (Sundays excepted). And not later than the 18th day of OCTOBER, 1858. Tenders to be endorsed "Tender for Cast Iron Stable Fitments and Granite Paving, Piershill Barracks, Edinburgh," in the left hand corner of the envelope, and addressed to the Director-General of Contracts.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Edinburgh, October 5, 1858.

TO CONTRACTORS and BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Office, Pall-mall, London, at or before TWELVE o'clock at noon, on WEDNESDAY, OCTOBER 20, 1858, from such persons as may be willing to enter into a CONTRACT for REPAIRING the SLOPE of the BREAKWATER, in front of the Grand Redoubt, at Dover Pier, Kent. Plans and conditions and exhibit to may be seen, and every information obtained at the Royal Engineer Office, Lord-street, Brighton, between the hours of TEN and FOUR, p.m. daily, from the 7th to the 18th day of OCTOBER, 1858, inclusive (Sunday excepted). Tenders to be sealed up and endorsed on the outside, "Tender for Repairing Breakwater at Eastbourne."

Royal Engineer Office, Brighton, October 4, 1858.

TO BUILDERS and CONTRACTORS.—Notice is hereby given, that TENDERS will be received by the Director of Contracts, War Office, Pall Mall, London, on or before SATURDAY, the 23rd OCTOBER, 1858, from persons desirous of CONTRACTING with the Secretary of State for War for the CONSTRUCTION and ALTERATION of CERTAIN BUILDINGS connected with the Defences at Gravesend and Tilbury Fort, in the Medway District. Plans of the work are to be seen, and specifications and Forms of Tender obtained, as applied for, at the Royal Engineer Office, Gravesend, between the hours of TEN and FOUR, till the 22nd of OCTOBER, 1858, Sundays excepted. The person whose Tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 70*l.* for the due performance of the contract. Tenders to be addressed to "The Director of Contracts, War Office, Pall Mall, London, S.W." and to be delivered free, endorsed, "Tender for Works at the Defences of Gravesend and Tilbury Fort." No Tender can be admitted after the said 23rd day of OCTOBER, 1858.

N.B.—The Secretary of State for War, reserves to himself the right to reject the whole or any of the Tenders.

Royal Engineer Office, Chatham, 5th October, 1858.

TO BUILDERS.—Persons desirous of TENDERING for the ERECTION of a New PORCH, CLERESTORY, ARCADE, and further ENLARGEMENT of the CHURCH of ST. PETER, at Bournemouth, Hants, may inspect the drawings and specification at this Office, from the 6th to the 16th instant. Tenders to be sent in to me, endorsed "Tender for the Enlargement of St. Peter's Church," to be delivered on or before the 2nd day of NOVEMBER next. Further particulars may be had upon application to G. E. STREET, Esq. Architect, 9, Montague place, London, W.C., or at this Office. The lowest Tender will not necessarily be accepted.

CHRISTOPHER C. CREEK, Architect.

Sainstone Villa, Bournemouth.

TO BUILDERS.—TENDERS are required for the ERECTION of SIX FIRST-CLASS DWELLING-HOUSES at West-super-Mare, Somersetshire. Drawings and specification may be seen at the Offices of the Architect from the 14th to the 23rd instant, inclusive, and at the GEORGE Royal Hotel, West-super-Mare, from the 25th OCTOBER to the 4th NOVEMBER. All Tenders are to be sent in on or before the 4th day of NOVEMBER, addressed Mr. THOMAS RODGERS, West-super-Mare. The lowest offer will not necessarily be accepted. General Tenders will have the preference.

J. H. HIRST, Architect.
13, Bedford street, Bristol.

TO BUILDERS and CONTRACTORS.—The Directors of the London, Brighton, and South Coast Railway are prepared to receive TENDERS for the ERECTION of a new STATION at NORWOOD. Drawings and specification may be seen at the Engineer's Office, London Bridge, on and after TUESDAY next, the 5th OCTOBER, and Tenders must be delivered to the undersigned not later than ELEVEN o'clock on the morning of THURSDAY, the 14th of OCTOBER.—The Directors do not bind themselves to accept the lowest or any Tender.

FREDERICK SLIGHT, Secretary.

London-bridge Terminus, September 30, 1858.

CONTRACTS.

TO SMITHS and IRONFOUNDERS.—The Guardians of the Gravesend and Milton Union are ready to receive PROPOSALS for the Supply of Cast Iron WATER PANS, to contain about Two gallons. The plan thereof and further particulars may be seen on and for Mr JOHN GOULD, Surveyor, Parrock-street, Gravesend. Tenders are to be delivered sealed at my Office, King-street, Gravesend, previous to THURSDAY, the 14th of OCTOBER next. The Guardians do not bind themselves to accept the lowest Tender. By order,

FRANCIS SOUTHGATE, Clerk to the Guardians.

Gravesend, 30th September, 1858.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a RAILWAY HOTEL and other BUILDINGS, at Per-mell Haute, may see the plans and specification at the Red Lion Hotel, Petersfield, on and after the 10th inst. Tenders to be delivered at my Office, St. Swithin-street, Winchester, on or before the 19th inst. The right of rejecting the whole or any of the Tenders reserved

JOHN COLSON, Architect.

October 6, 1858.

TRINITY FREE CHURCH and SCHOOLS.

TO BUILDERS and OTHERS.—Parties desirous of TENDERING for the ERECTION of the above-named buildings, and also for further information, to apply at the Offices of Messrs. HUGHES and EVANS, Architects, Regent-street, Nottingham. The Building Committee do not bind themselves to accept the lowest or any Tender.

HINE and EVANS, Architects.

Nottingham, September 30, 1858

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a RESIDENCE for BENJAMIN CHERRY, Esq., at Dr. Kendal's green, near Hereford, can, if they please, see the plans, &c., at the Architect, Mr. FOWLER JONES, 4, New-street, York, till the 14th inst.; and from the 10th to the 30th inst. Tenders may be inspected at the Town house, on Bricklendon-green, close to the site, which will be pointed out by Mr. JAMES YEOMAN, the Clerk of the Works. All Tenders to be delivered, prepaid by the 30th inst. at the Office of the Architect, whether the lowest or not, and any further information may be obtained. The party whose Tender may be accepted will be required to enter into a written agreement, with sureties, for the due performance of the works, but no pledge is given that the lowest or any Tender will be accepted.

York, October 5, 1858.

GLOUCESTER WATER WORKS.—CONSTRUCTION of RESERVOIRS (of a capacity of about twenty per cent. ATTENDANTS DWELLING HOUSE, CONDUITS, and other WORKS, according to plans, drawings, and specifications to be seen at the Office of Mr. JOHN HANVEY, C.E. Surveyor to the Local Board of Health, Gloucester, are requested to be sent, marked "Gloucester Water Works, Tender for Works," addressed to Mr. K. H. FRYER, Clerk to the Local Board of Health, Gloucester, on or before the 12th of OCTOBER next. Printed forms of tender and bonds may be had with plans of Tender, may be had at Messrs. PENRICE and SON, Clarence-street, Gloucester, after the 27th instant, for the sum of 2*l.* 2*s.* The contract is to be taken by parties undertaking and duly guaranteed by the Board.

K. H. FRYER, Clerk.

Gloucester, 8th September, 1858.

GLOUCESTER WATER-WORKS.—The GLOUCESTER Local Board of Health are prepared to receive TENDERS for the SUPPLY and DELIVERY of CAST IRON PIPES and VALVES, as under:—

CONTRACT 1. About 3 Miles of 12 inch Socket Pipes, and about 5 tons of Bends and Junctions, of similar diameter.

CONTRACT 2. Sluice Valves, viz. six 18 inch Valves, nine 15-inch ditto, eight 12-inch ditto, two 9-inch ditto.

Specifications may be had on application to Mr. JOHN HANVEY, C.E. Surveyor to the Board, Gloucester. Tenders to be made separately for the several contracts, and to be sent to the Clerk to the Board under a sealed cover, marked "Water Works Tender for B or C," as the case may be, on or before the 25th day of OCTOBER instant.

K. H. FRYER, Clerk to the Board.

Gloucester, 4th October, 1858.

TO BUILDERS and CONTRACTORS.—CONTRACT for the ERECTION of a COAST-GUARD STATION at YARMOUTH.—Persons willing to CONTRACT for the ERECTION of a COAST GUARD STATION at Yarmouth, in the county of Norfolk, may inspect the specification and plans at the Offices of Messrs. REYNOLDS and PALMER, Solicitors, 28, Bennet's-row, Yarmouth, or at the Office of the Board of WORKS, Whitehall, from SATURDAY, the 9th, to SATURDAY, the 23rd day of OCTOBER next (Sundays excepted). Tenders to be sent in to the Board, and to be marked "Tender for Coast-Guard Station," on or before the 25th OCTOBER, 1858, under seal, and directed to the Commissioners of Customs, Comptroller-General of Coast-Guard, and endorsed "Tender for Yarmouth Station." The Lords Commissioners of the Admiralty do not pledge themselves to accept the lowest or any of the Tenders.

Dated this 28th day of September, 1858, at the Admiralty, Coast-guard Office, 18, Spring-gardens, London, S.W.

TO BUILDERS and CONTRACTORS.—CARDIFF BURIAL GROUND.—The Corporation of Cardiff, acting as Burial Board for the Borough, are prepared to receive TENDERS for the CONSTRUCTION of TWO CHAPELS, a LODGE, and WAITING ROOM, for forming Roads and Drains, erecting Boundary Walls, and laying out and Planting the Ground, in part of the new Burial-ground at the Weald, about one mile from the town of Cardiff. The drawings and specifications may be seen at the Office of Mr. R. G. THOMAS, Architect, No. 89, St. Mary-street, Cardiff, where bills of quantities and any further information may be obtained, or at his Office, Newport, Mon.; and at the Office of Mr. WARING, Surveyor, to the Cardiff Local Board of Health, Cardiff. Sealed Tenders, endorsed "Tender for Cardiff Burial Ground," to be delivered at my Office on or before the 2nd day of NOVEMBER next.—By order,

Cardiff, 5th October, 1858. BENJ. MATTHEWS, Town Clerk.

[*For remainder of Contracts see next page.*

CONTRACTS.

BOARD of WORKS for the POPLAR DISTRICT.—To SEWER CONTRACTORS.—NOTICE of CONTRACT.—Sealed Tenders will be received at the Board of Works for the District, at the Board Room, East India-road, Poplar, on TUESDAY, 18th instant, at SIX o'clock in the evening precisely, for the following TENDERS for PLAIN DOWN SEWERS, in the district, viz.:—

No. 1. PARISH of POPLAR. 1,420 feet, 3 feet by 2 feet, half-brick; 878 feet, 2 feet by 2 feet, half-brick; 360 feet, 1 foot 6 inches by 1 foot 6 inches, half-brick; 1,366 feet 12-inch pipe; 183 feet 9-inch pipe; in Hale-street, Poplar-road, Wellington-street, Russell-street, Redford-street, Ledbur-road, Bank-street, Hay-street, Westmoreland-street, Dock-street, Garden-street, White Hart-row, and Sidney-place; with the necessary [illegible]

No. 2. PARISH of BROMLEY. 450 feet, 1 foot 6 inches by 1 foot 6 inches, half-brick; 1,193 feet, 12-inch pipe; 193 feet, 6 inch pipe; in St. Leonard's-road, Colsden-street, Railway-street, Byron-street, and Wellington-street, with the requisite [illegible]

A separate Tender must be sent for each part. The Tenders are to be made out in figures, for the price of two respective lengths, and delivered [illegible] with the sum of £50 for the proper name of the Contractor, and will be required to [illegible] down such sum in the event of his Tender for the expense of the Board. Before [illegible] the Tender, and [illegible] Bond, with two sufficient sureties, [illegible] and the parties are to enter into [illegible] Tender is accepted. Tenders are to be delivered [illegible] addressed, "Tender for Sewers," Parish of Poplar and Bromley, respectively (none other will be received), must be delivered, on or before the 18th instant, at TWELVE o'clock noon, after which time no Tender will be received. Plans, &c., may be seen during the [illegible] and forms of Tenders [illegible] Clerk, [illegible] day to the 18th instant, between the hours of TEN and FOUR [illegible]

CHARLES C CEELY, Clerk to the Board.

East India Road, 1st October, 1858.

BOARD of WORKS for the HACKNEY DISTRICT CONTRACT for CAST IRON LAMP POSTS.—Notice is hereby given to the [illegible] of the Hackney District, without [illegible] to be built at the Town Hall, Church-street, Hackney, on THURSDAY, the 14th day of OCTOBER inst. at ELEVEN o'clock in the forenoon. CONTRACT for the supply of ONE HUNDRED CAST IRON OCTAGON LAMP POSTS, [illegible] not more than 3½ cwt. each post, at per cwt. with "H. B. W. 1858," [illegible] Persons tendering are [illegible] Plans, &c., may be seen at the Surveyor's Office, Church-street, Hackney, any morning between the hours of NINE and ELEVEN; to be delivered, free of expense at the [illegible] within the Hackney district, before the expiration of two months from the date of order, under a penalty £2 per day over and above the said two months. Sealed Tenders to be addressed and sent in to the Clerk, on or before the 13th day of OCTOBER inst. endorsed "Tender for Lamp Posts." The Board do not bind themselves to accept the lowest or any Tender, and a person from the party tendering will be expected to be in attendance on the day of opening the Tenders. By order of the Board,

RICHARD ELLIS, Clerk.

Dated this 3rd day of October, 1858.

BOARD of WORKS for the HACKNEY DISTRICT CONTRACTS for MASONS and PAVIORS' WORK.—Notice is hereby given, that the Works for the Hackney District will at their Meeting to be held at the Town Hall, Church-street, Hackney, on THURSDAY, the 14th day of OCTOBER, instant, OPEN [illegible] Tenders for MASONS and PAVIORS' WORK required for the [illegible] such Contracts to [illegible] the Board [illegible] by of MARCH next. Specifications, with a schedule to which prices are to be attached, and [illegible] may be [illegible] by applying to the Surveyor, at the Board's Office, Church-street, at the Town Hall aforesaid, between the hour of NINE and ELEVEN in the forenoon. Tenders to be addressed and sent in to the Clerk on or before the 13th day of OCTOBER instant, and endorsed "Tender for Masons' and Paviors' Work." The Board do not bind themselves to accept the lowest or any Tender, and a person from the party tendering will be expected to be in attendance on the day of opening the Tenders. By order of the Board,

RICHARD ELLIS, Clerk.

Dated this 3rd day of October, 1858.

TO BRICKLAYERS. Parties desirous of TENDERING for the LABOUR of the BRICKWORK of FOUR CARCASES may obtain particulars by applying by letter to X. Y. Z. Mr Reed's [illegible]

BRADFORD CORPORATION WATER-WORKS.—TO PLUMBERS, MASONS, MINERS, and GENERAL CONTRACTORS.—The Waterworks Committee of the Bradford Corporation will receive Proposals, on WEDNESDAY, the 13th day of OCTOBER next, at the Town Hall, in the Borough of Bradford, for the UNDERMENTIONED PROPOSALS for the [illegible] WORKS:

CONTRACT No. 1.—For the [illegible] of a Store Reservoir, and other [illegible] on the Stubbin Beck, at Denholme Moor, in the township of Thornton, the parish of Bradford, and the township and parish of Clayton, as well, with the [illegible] connected therewith; also, the building and completing of a Catchwater Culvert [illegible] and [illegible] Dam towards Dean Head and [illegible]

CONTRACT No. 2.—For the [illegible] and completion of a Mill-owners' Compensation Reservoir, of about forty-five acres in extent, at the [illegible] in the township and parish of Clayton, near to Doe Park, in the township of Thornton, in the parish of Bradford, with the [illegible] and [illegible] and other works connected therewith.

CONTRACT No. 3.—For the [illegible] of about 18½ miles in length, of the [illegible] of the Waterworks Company, for the supply of water to the higher levels of the town and borough of Bradford, including [illegible] which will be executed by means of tunnelling, and the remainder of which will consist of cast-iron mains [illegible]

The Committee do not bind themselves to accept the lowest or any Tender or [illegible] Plans, Specifications, and Forms of Tender may be had on and after MONDAY, the 20th instant, on application to Mr J. W. LEATHER, Civil Engineer, Leeds Buildings, [illegible]

W. H. [illegible], Town Clerk.

Bradford, 8th October, 1858.

TO DUST CONTRACTORS.—PARISH of CHELSEA. The Vestry of the Parish of Chelsea will meet at the Board Room, in the Manor House, King's Road, Chelsea, on TUESDAY, the 19th day of OCTOBER next, at Two o'clock in the Afternoon precisely, to receive TENDERS from persons willing to CONTRACT, pursuant to the terms of a Draft Contract, marked "D," which [illegible] Vestry Manor House aforesaid, for CARTING and REMOVING the DUST, ASHES, [illegible] and RUBBISH from the houses and other premises of the inhabitants of the [illegible] and parish, and [illegible] during the period of [illegible] from the acceptance of the tender, and ending on the 29th day of SEPTEMBER, 1859. Parties tendering will [illegible] on the day the Tenders are [illegible] and [illegible] the Contract, and [illegible] Tenders are to be made out in figures, and delivered [illegible] Tender must be [illegible] and [illegible] and incidental to the preparation and completion of the same. Sealed Tenders, addressed to the Vestry, [illegible] in words and figures, of two sufficient sureties for the performance of his contract, [illegible] MONDAY the 18th [illegible]

CHARLES LABEL, Vestry Clerk.

Offices of the Vestry, Manor House, [illegible], October, 1858.

[illegible] DISTRICTS.

DISTRICT, [illegible] and Upper Church-street; west ward of and including Marlborough-[illegible], Middlesex, [illegible] River, with the intervening parts of the King's-[illegible]

DISTRICT, No. 3.—Eastward of Marlborough road; northward of [illegible] Kensal town.

DISTRICT, No. 4. [illegible] Kensington, [illegible] Knightsbridge, [illegible] Eight-horse (second hand) ditto, a bargain. Apply to SIMPSON and BARNES, Engineers and Millwrights, Openshaw, near Manchester.

CONTRACTS.

TO BUILDERS and OTHERS. County of Berks Assize Courts and Central Police Station.—The Committee of Magistrates for the County of Berks are willing to receive TENDERS for the ERECTION of ASSIZE COURTS, CENTRAL POLICE STATION, and [illegible] at Reading, after SATURDAY, the 23rd inst., when the [illegible] TENDERS for PORTION. Sealed Tenders to be sent to the Committee, addressed to the County Hall, Reading, endorsed, "Tender for Assize Courts, &c.," and delivered before FRIDAY, NOVEMBER 12. The lowest Tender will not necessarily be accepted. By order of the Committee,

G. E. NORLAND, Clerk of the Peace.

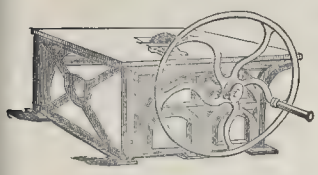
TO GAS CONTRACTORS.—PUBLIC HEALTH ACT, 1848.—DISTRICT of WISBECH.—Persons desirous of CONTRACTING with the Local Board of Health for the district for PROVIDING all necessary WORKS, LAMPS, PIPES, GAS, and other materials and things, and LIGHTING the Town of WISBECH with GAS, for three years, from the 1st of AUGUST, 1859, are requested to send or deliver (free of charge) to THOMAS STEED WATSON Esq. Manager of the said Board, at the TOWER HOUSE, WISBECH, their [illegible] for providing the several things set forth in the proposed contract, a [illegible] of which may be seen [illegible] of the Clerk to the said Local Board, and after the 10th of OCTOBER next. The Tenders to be endorsed, "Tender for Lighting the Town of Wisbech with Gas," and to [illegible] the Surveyor, Mr WILLIAM ADAMS,

POWIS, JAMES, AND CO.

Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (NEW PATENT).—NO MORE BREAKAGE OF SAWS.

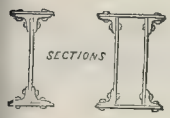


POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT (dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE; and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW BENCHES, with RISING TABLES,
AND PATENT PLANING, TONGUEING, GROOVING, AND MOULDING MACHINES.

Letters and Applications for Machinery to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, LONDON, E.C.



WROUGHT-IRON GIRDER:

For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

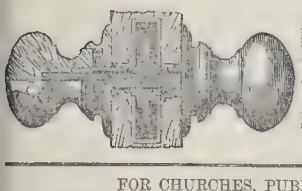
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

JAMES HAYWOOD, Jun.

PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,
13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. Its construction is so simple, that any screw in the most difficult Patent action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in Her Majesty's Office of Works, in H.M. Majesty's Office of Ordnance, &c. &c., and is universally adopted.

New and Elegant Designs in Glass, China, Brass, Bronzed, Gilt, Carved Woods, Inlaid, &c. &c. or to any design.

Hobbs and Company's Patent Locks.

A most complete and extensive stock of every description of Locks, Latches, Bells, Furniture, Japanned Goods, Tin Tea Trays, &c. of the best quality and at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

FOR CHURCHES, PUBLIC BUILDINGS, HALLS, &c.

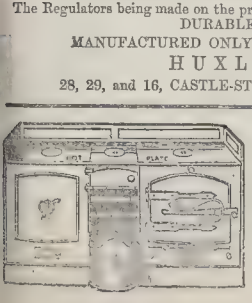
IMPROVED SELF-REGULATING STOVES:

Will burn (according to size and the heat required) from Fifteen to Thirty Hours without attention, and at a cost in fuel, of from 1½d. to 3d. for twenty hours.

Fitted with COOKE'S Patent Self Acting Regulator and Apparatus.

The Regulators being made on the principle of expansion of Metals by Heat, are both CERTAIN, DURABLE, and SIMPLE in their ACTION.

MANUFACTURED ONLY BY THE PROPRIETORS OF THE PATENT,
HUXLEY AND CHING,
28, 29, and 16, CASTLE-STREET, NORTH SIDE OF LONG-ACRE, W.C.



THE LEAMINGTON PRIZE KIT RANGE.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire Hot Plate, and Hobs on Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, Wholesale Prices.

All Goods delivered free within five miles.

BURT AND POTTS,
WHOLESALE AND MANUFACTURING IRONMONGERS.
33 and 65, York street, Westminster.

CLARK and HUNT'S IRONMONGERY,
STOVE, and METAL WAREHOUSE, 1, 2, Shoreditch
A great variety of Elliptic, Register, and other Stoves, Cottage and Fret Ranges fitted, always in Stock

Improved Self acting Cottage Ranges, with Large Oven and Boiler, 30 32 34 36 inch. 2os 25s 30s 42s.
Best Self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars,
34 36 38 42 inch. 34s 36s 42s 60s.
Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

Register Stoves, with Solid Bars, per inch, 8d.
Improved New Pattern Oven and Hot Register, with strong Bars and Trivets, 4s. per inch.
Best Solar ditto, with Fire brick Back, per inch, 10d.
Bright Stoves, with Two Fires, 4os 5os each.
Best Cut Clasp and Rose Nails.

1½ inch	1¾ inch.	2 inch.	2½ inch.	3 inch
1s.	1s 2d	1s	1s.	1s. per cwt.

Best Sheet Cut Floor Brads, 12s. 6d. per cwt.
Best Cut Lath Nails, 7s. per cwt

Cast Rain-water Pipes,	3 inch	2½ inch	2-inch.
	10d.	1s.	1s 3d. per yard.

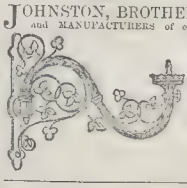
Cast Gutters, 4 inch, 8d. per yard

O G Gutters	4 inch	5½ inch	
	1s.	1s. 2d.	per yard.

	2	3	4	5	6	
Patent Line	3s 6d	4s	5s	7s	9s	per gross.

Garnet Bell Wire, Mortice, with best Furniture and Patent Spandles, 2s. 6d. each. Light Inspirator Gas Metal, 18s. 6d. per cwt.
For Arnott's Ventilators, 4s each.
Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12s PER CWT.

JOHNSTON, BROTHERS, GASFITTERS,
and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



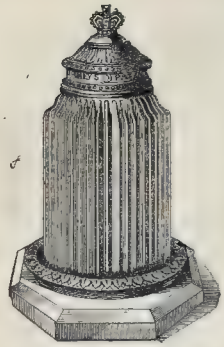
Drawings and estimates furnished.

Architects' designs accurately executed.

MANUFACTORY,
190, HIGH HOLBORN,
LONDON

MIRAMS, COWELL, and CO.
WHOLESALE AND RETAIL
IRONMONGERS,
RANGE AND STOVE MAKERS,
24, CHISWELL STREET, FINSBURY,
Beg to call the attention of the Building Trade to their extensive and well-selected
IRONMONGERY AND BELL-HANGING MATERIALS,
PIPES, GUTTERS, &c. &c.
At wholesale Prices.
A full List of which can be had on application by enclosing a card.

N.B. A LIBERAL DISCOUNT TO THE TRADE.

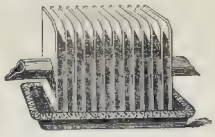


THE LONDON
WARMING AND VENTILATING COMPANY,
LIMITED,
36, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, WM. WOODCOCK),

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known means.



The Horticulturalist will find herein an instrument of new and important powers.

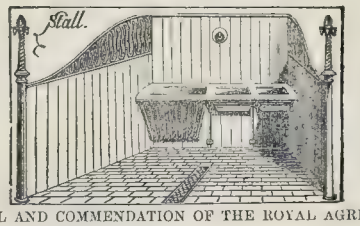
The Apparatus may be seen in St. Paul's Cathedral the various offices of the "Department of Science and Art," and in many churches and other buildings.

Particulars and testimonials forwarded on application.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

ST. PANCRAS IRON-WORKS,
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.
ADDRESS: THE MANAGERS.

VARNELL'S ENAMELLED STABLE FITTINGS.



VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

FIRE-PROOF CONSTRUCTION.—FOX and BARRETT'S PATENT.
This improved system of fire proof construction has been most extensively adopted, and its application has been extended to nearly EVERY DESCRIPTION OF BUILDING, whether public or private.
The system combines ECONOMY, with great simplicity of construction, perfect security from fire, increased durability, and many other important advantages.
The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete; so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of cement, asphalte, tiles, slate, or other material.
Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast-iron girders and brick arches, and as bringing the great desideratum of fire proof construction, even for ordinary dwelling-houses and domestic buildings, within the reach of every one.
Further information may be obtained of the Proprietor of the Patent
Mr. BARRETT,
12, YORK BUILDINGS, ADELPHI.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL and SON'S Show-rooms contain a large assortment of brass bedsteads, suitable both for home use and for tropical climates—handsome iron bedsteads with brass mountings and elegantly japanned; plain iron bedsteads for servants; every description of wood bedstead that is manufactured, in mahogany, birch, walnut-tree woods, polished deal and japanned, all fitted with bedding and furniture complete, as well as every description of bedroom furniture.

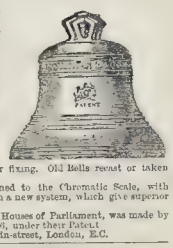
HEAL and SON'S ILLUSTRATED CATALOGUE, containing designs and prices of 196 bedsteads, as well as of 150 different articles of bed-room furniture, sent free by post. HEAL and SON, Bedstead, Bedding, and Bedroom Furniture Manufacturers, 196, Tottenham-court road, W.

CAST IRON PIPES, IRON-WORK FOR OVENS, &c
RAIN PIPES, &c.—F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c. half-round and O-G Gutters, Socket Pipes for Water or Gas, Flange Pipes, H L Water Pipes and Connections, Sash Weights, and other castings; Iron-work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent. Goods landed. A powerful crane.

NAILS and IRONMONGERY, from BIRMINGHAM direct.
Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery, of every description, at the
LOWEST BIRMINGHAM PRICES.
A complete List of which will be forwarded upon application to
FRANCIS BIANCHI (late Blyth and Bianchi),
Nail Manufacturer and General Factor, BIRMINGHAM; and 16, Gresham-street, London, E.C.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's—JONES and BLAXTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes, and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.
CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

BELL AND BRASS FOUNDERS TO HER MAJESTY.
JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.



J. W. and SONS having of late years devoted much time and study to the long neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has hitherto been accomplished.
Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals.
TUNED BY MACHINERY.
Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.
MUSICAL HAND-BELLS tuned to the Chromatic Scale, with improved Clappers, and pegged on a new system, which give superior tone and facility for ringing.
The great 16-ton Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1856, under their Patent
8, CRESCENT, Jewin-street, London, E.C.

AUSTIN'S IMPERIAL
PATENT SASH and BLIND LINE
can be obtained of all
ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY.
Established 1774.

TO ARCHITECTS AND OTHERS.
PATENT BATH VALVES for PUBLIC INSTITUTIONS.—The Patentee, who has had twenty-five years' practical experience in Bath-work, can with confidence recommend these VALVES, as being superior to any now in use. Specimens may be seen at Mr MAY'S Manufactory, Dean street, High Holborn.

JOHN HENDERSON PORTER,
ENGINEER AND CONTRACTOR,
IRON BUILDING AND ROOFING WORKS,
GAS-STREET, BIRMINGHAM.
LONDON OFFICE—1, RICHES-COURT, LIME-STREET.

HOOD and SONS' REGISTERED
RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed-box; and combine the most perfect safety with the greatest economy, both in cost and use.
ANGLE LOOSE-BOX FITTINGS, with guard-rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.

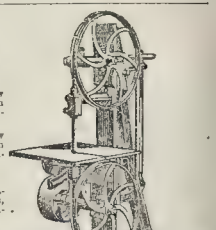
HOOD and SONS' STABLE-GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of loose top-plates; are easily cleaned; and with their CHEQUERED DOUBLE TRAPS, form the safest and most complete surface drain for stables in use.—West London Iron Works, Notting-hill; and Castings Warehouse, 68, Upper Thames-street, London

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY-RACK.

These Fittings are now made with the newly-invented Self acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four penny stage-stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

PATENT MACHINES for WORKING on WOOD.—These celebrated Machines have been awarded a number of prize medals by many scientific institutions, and also by the Great Exhibition in London, and are now extensively used by the Indian, American, and all the principal Governments in Europe; also by eminent Contractors, Builders, Shipwrights, Machine makers, and other workers in wood. Their operations are in every respect perfect, either in hard or soft wood, for planing, squaring up, moulding, tenoning, mortising, grooving, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.
Sold only by WILLIAM FURNESS, Patentee, 26, Lawton-street, Liverpool, from whom full particulars may be obtained, and all the machines can be seen at work.

MACHINERY
FOR
SAWING, PLANING, MOULDING, &c.



Price of Band Saw Machine, with 36-inch pulleys and heavy framing, 55*l.*
Price of Band Saw Machine, with 24-inch pulleys and light framing, 33*l.*
A descriptive Catalogue, with Drawings, may be had on application.
SAMUEL WORSSAM and CO.
Engineers, &c.
King's-road, Chelsea, London.

THOMAS ROBINSON and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*
Drawing sent on application.

LIGHTNING CONDUCTORS.
R. S. NEWALL and CO Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths inch diameter	1*s.* 0*d.* per foot.
Half-inch diameter	1*s* 6*d.* ,,
Five-eighths-inch diameter	2*s.* 0*d.* ,,

R. S. Newall and Co's Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and scientific men in all parts of the world.

Offices—Gateshead on Tyne.
,, 130, Strand, London.
,, 27, Dale-street, Manchester.
,, Broomielaw, Glasgow.
,, 14, Commercial-buildings, Liverpool.
,, Exchange buildings, Dundee.
,, 7, Frederick-street, Aberdeen.

HOBBS'S NEW MORTISE LOCK possesses the following advantages:—The Plates are made of Number Twelve Gauge "Iron, and being so thick, the parts cannot be loosened by the constant jarring of the door. The security consists in four double acting levers. The PATENT FRICTIONLESS FOLLOWER prevents the wear of the parts, and gives unusual freedom of motion to the handle

These Locks being manufactured by patent steam machinery, are offered so low as to defy competition, price 10s. each. Also, every description of Lock required for house and cabinet work, at proportionately low prices

STREET DOOR LATCHES, with Two Keys, 10s. Hobbs's new Mortise Latch for heavy doors. Milner's Fire and Burglar-Proof Safes, Strong room Doors, &c.

HOBBS, ASHLEY, and CO. 76, Cheapside, E.C.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Rails (wrought and cast), Copper, and Zinc; Patent Locks of all descriptions; China, Glass, and Wood Furnitures of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, &c.; and the New Registered Venetian Ventilator, so much admired, &c. 8s. 6d. each.

J. H. BOOBBYER (late STURCH and BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE.

14, Stanhope-street, Clare-market, London.

BAKER and CO.'S is the best Manufactory for SUPERIOR STOVE GRATES, equal to SHEFFIELD MAKE at HALF the COST, bright or black. Mitre Foundry, Bishop street, Birmingham.

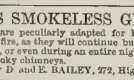
ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.

Manufactured by D and E. BAILEY, 272, High Holborn, W.C.

BATHS and HOT-WATER APPARATUS. J. TYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application.

Estimates and Plans for Fixing given.

J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate-street, London.

HEATING BY  HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS.

Buildings of every description, and of the most extensive mansions, can be effectually warmed by Hot Water. JOHN WEEKS and CO. can give innumerable references of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus. Also to be seen in extensive operation at their Premises, King's-road, Chelsea.

J. RUNCIEMAN and CO. HOT-WATER APPARATUS MANUFACTURERS, Newcastle-on-Tyne, beg to call attention to their economical method of warming buildings with hot water. J. R. and Co. from their long and practical experience, are enabled to guarantee the efficiency of all apparatus they fix; and from being situated in the midst of a coal and iron district, can with confidence submit the terms of their contracts as the lowest ever offered. Workmen sent to all parts of the kingdom. All work warranted for thirty years.

THE AMERICAN STOVE, "EXCELSIOR," at 30s. for Shops or Offices, is the best and cheapest ever offered in London.—The trade supplied at ANDREW MCLAREN and CO.'S, Ironfounders, 174, Upper Thames-street

N.B. A large Stock of other Stoves, Ranges, and all kinds of Castings at the lowest prices, combined with the best design and workmanship.

HOT-WATER APPARATUS MANUFACTORY. HENRY WALKER and CO. Sheaville Iron Works, Pimlico, 42 and 44, WESTGATE-STREET, NEWCASTLE-UPON-TYNE.

Beg to call the attention of Architects, Builders, &c. to their efficient system of Heating Horticultural, Public and Private Buildings, by the circulation of hot water.—Plans and Estimates furnished, and References of the highest respectability, on application.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to Churches, schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Rosone-place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 20, John street, Adelphi.

IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 24, Davies street, three Doors from Oxford-street, for the supply of Builders, Carpenters, Upholsterers, Smiths, Bell-hangers, and the Trade in general at wholesale prices. In connection with his old establishment, No. 18, Blandford-street, Manchester-square, running out of Baker street, Portman-square, London, W.

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Castings, and STEWART'S PATENT CAST-IRON GAS and WATER PIPES. Office, No. 7, Sise-lane, London.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform Lighting, equalizing the pressure and preventing any irregularity in the height of the flame.

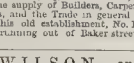
D. HULETT and CO. 55, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and price list, 10s. Nos 55 and 56, High Holborn.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Tubes, &c. Manufacturers of Dr. Arnott's Improved Ventilators. HULETT and CO. 55, High Holborn.

IMPORTANT TO ALL.  THE TRADE SUPPLIED.

G. J. FELLOWS, GAS-FITTING AND LAMP MANUFACTORY, 111, GRAY'S-INN-LANE, Removed from Holborn. ESTIMATES SUBMITTED FREE OF CHARGE.

THE LIZARD SERPENTINE COMPANY informs the Public that it has for some years had, and now possesses, the entire command of the Signal Staff, Treal, Long Alley, and Polteeo Quarries, and that it sent mes to devote its attention exclusively to the manufacture of SERPENTINE, and the sale of the material in block and slab. Estimates given

SHOW-ROOMS—20, Surrey-street, Strand, London, Frederick W. Ruffle, Agent

FACTORY Polteeo, Lizard, Cornwall, Henry Cox, Manager

N.B.—The LIZARD SERPENTINE COMPANY has never had any connection with the late Penzance, or any other company.

TO BUILDERS and OTHERS. — ONE THOUSAND CHIMNEY-PIECES kept in Stock, at prices from 6s. each.—W. B. WILKINSON and CO. Manufacturers, Prudhoe-street, Newcastle-on-Tyne.

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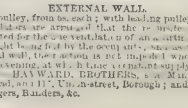

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These Ventilators are arranged that the minute quantity of air may be admitted for the over-heated, or of an ascending current when the glazed casement being fixed by the occupant, and consequently placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required. RAYNARD BROTHERS, the Manufacturers, 196, Blackfriars-road, and 11, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

The Builder.

Vol. XVI.—No. 818.

The Proceedings of the Committee on Foreign Office Re-construction.

IF our readers are not tired of the subject of competitions, we would revert to the Report from the Committee on Foreign-office Re-construction, or rather to the evidence—as bearing upon those interests which are common to the profession, the Government, and the public, in architecture. There is, indeed, very much in the evidence that calls for attention beyond what appears in the Report, although in great degree only confirmatory of opinions on the several questions, which we have advanced from time to time, and notably in the course of our remarks on the designs at Westminster Hall, and articles on the matter of the Government Offices, year and previously. Amongst the ques- is brought up, prominently or incidentally, re is that of the public service as capable of ntage from *concentration* of the offices, and ther merely on adjacent sites, and in a ticular locality of Westminster, or in one lding—the latter arrangement that which ld seem to follow from the principle, or modified only by considerations of light and and of non-interference with important et-communications. There are the ques- s, of course, of distribution in planning for several departments, and of richness in oration or otherwise, as called for in public es. There is the question of national ad- acement as regards architecture; and the y important one of the economic manage- nt of public works as affected by the acts of Government and the Legislature. There is question of competitions—whether service- e to the national interests,—and the question ustice to individuals as concerning the same . There is the question of *style* and character the architecture which is intended to be ional and the creation of our day; and re are, we cannot number how many, ques- ns subordinate or collateral, arising from the ticular site chosen between Whitehall north- rd, and the Abbey and the Houses of Par- ent southward. There are questions even to materials, as regards their durability and r chromatic effects, in our climate,—or ing in distinctions about which there is ch to be explained, between the circum- nces of architecture externally and inter- ly in buildings. Lastly, there is the abstract stion—the most difficult in art—of how in a group of objects, similarity, or con- st, as in the main features or the details, is be studied for the sake of general harmony; supposing this answered, as we think it may in favour of a certain contrast, or as it was Sir Charles Barry,—there is the question ether the harmony requires any considera- n of identity or difference of *styles*, merely such; or whether the similarity or other- se the variety, is not to be sought through ention to general form and character, re- rded irrespectively of style.

We may be well excused, then, for not knowing where to begin upon a thesis which is comprehensive almost as architecture itself, and difficult as a question can be which involves really so many points, political, social, moral, and metaphysical. There will not, however, be demanded from us, any more than we could ourselves have demanded from others, conclusions which may have to be wrought out through further volumes of our journal, or years of "proceedings" of committees and governments. Only we counsel, as it seems ever necessary to do, far more humility than is common in formation of opinions, whilst also, for the very sake of progress, greater steadiness of aim where action, as by the Government, is required.

But, the predominant impression afforded by perusal of the last contribution to the Government Offices question, is certainly little at variance with that which we have so often had to express,—that the qualifications and the exertions of our profession are not encouraged and assisted as they deserve, and as for all objects they require to be. Expressions of opinion, and a manner of conduct of affairs which runs counter to all simple principles necessary in investigation, and to the mere pursuit of business; ideas, as to the wants of the "departments," indefinite and changeable; quibbles as to liability to competitors, and low views as to the responsibility of the judicial office; added to an apparent ineradicable ignorance as to what is a *plan* or an *elevation*, and occasional grandiloquence of phrase which covers ignorance and passes the limits of good English,—these are features noticeable in the history of the case as it dwells in our recollection, or has been now further unfolded to us. It would scarcely have been believed that the perfect *concentration*, understood at one time to be the object in any re-arrangement of the offices (although the prescribed site and the instructions in the late competition were really opposed to it) at present is even objected to by some of the chief authorities on the subject. The reasons seem to be that it is better to discourage idle calls by friends from office to office, and all substitutes for formal and written communications; and that an interview now, if wanted, requires merely the extra trouble of crossing a street. The public, however, may find it hard to understand that what is found useful in other cases, should be undesirable in the several branches of official business, and that with adequate and well planned quarters and proper regulations in the collective ministerial and official staff, complications such as those which have lowered the *prestige* of the British name, might not have been avoided. We cannot, for instance, understand the discouragement offered to the suggestion of a central library, by which the Foreign Office would be relieved of the necessity of storing the bulky reports on Metropolitan Drainage and others, which cannot be very frequently wanted: more especially as the bound correspondence and matter which must be at hand, increases enormously, and as also the general requirements for space may increase,—of the possibility of which last we have evidence in the successive enlargements of plan required by Mr. Hammond, in his communications with Mr. Pennethorne and others. And it is to be considered in favour of concentration, and as opposed to the award on the recent competition and other proceedings, that although a residence is not contemplated, extensive suites of rooms for receptions and dinners, with the various adjuncts of kitchens and offices, seem to be necessary, and that, as it is suggested by the committee, these ought, if provided, "to be constructed for the occasional use of every minister." Such being the case, the inference would be that the design by Mr. E. M. Barry, which, like that by Sir Charles Barry in the Royal Academy Exhibition, united all the offices in one building; and the designs which joined the Foreign Office and the War Office, and embodied in their plan a grand central hall or promenade, should have received better recognition from the judges. The decision, however, as to giving to a competitor—say for the Foreign Office and War Office—only one prize, even though his designs for these buildings had the same merit, thereby making that conjunction which might itself have been a merit, the occasion of a loss to the competitor, or as regards one of his designs,—interfered with the proper course of proceeding, which, though it might have given two or three premiums to the same individual would have tended to rectify the original error in the instructions which is now generally admitted.

It is at length, also admitted that the block-plan competition was "a total failure;" and though the plan of M. Crepinet is thought deserving of the designation "very able and magnificent," we repeat what we said before the designs were made, and without detracting in the least from the real merit of that plan, that in the very nature of the thing asked for, 50*l.* rather than 500*l.* would have been near to the equitable rate of payment,—especially if it be considered that the peculiar formation of the ground prescribed, was such as would allow of little choice in the disposition of the buildings themselves. The value that a plan for the general arrangement, and combined with one of the street improvements, could have, would be its practicability, and with reference to removal or preservation of existing buildings; and though it may be quite true that improvements of a very extensive nature should be contemplated about Parliament-street and Charing-cross, the plan No. 12, as we have shown, was absolutely wanting, as compared with others, in this quality of utility. A majority of the competitors could have made a plan equally "able" or "magnificent" with like regard of existing conditions.

There is now printed in the blue book, abundant evidence in confirmation of what was obvious, and was urged by us, at first, —that the plan for general arrangement should have preceded the designs for the separate offices, or else that, in place of three competitions, there should have been one comprehensive competition "Block plans," as ordinarily understood, should not have been looked for; for, neither they nor separate designs for the offices could be of any value. Each part of a whole must be designed with reference to the other parts; and the only designs which to the country could have been fully worth an amount of premium, would have been designs by architects who were competitors for each class of premiums. It matters not that the amounts thus received by competitors (had the actual selection followed this principle) would have been enormous, and that a greater number of individuals would have gone without reward: as regards the country, value would probably have been had for the money, which value now there is not (except it be generally in some art-advancement), unless at the cost of the competitor, who must make a new design. Competitors who sent in two designs but are rewarded only for the War Office, now stand in a disadvantageous position: though several of them had designs which were of equal merit for the Foreign Office; and amongst the number we should certainly place Mr. Garling. Such are the complication and unfairness which result from the effort of the judges to distribute the rewards over the widest circle, under the view of pleasing all parties. We are reminded of the story regarding a worthy chairman of quarter-sessions, that he had made many good

decisions and some erroneous ones, but that, "*on the whole*, justice was done,"—a reflection very consolatory, doubtless, to the individuals who, being innocent, were unfortunate enough to be transported. Mr. Pennethorne's evidence as to his labours which preceded the competition showed that plans in the general arrangement for the several offices, though inquired about as "block plans," could not be so designated, as it had been necessary for him to study the details of each department. Enough had been said prior to the recent inquiry to have prevented, we should have thought, the misconception which prevailed through too large a portion of the "proceedings" of the committee. It appears, however, to be assumed that "block plan" No. 12, is capable of modification. It has been already shown by us that the plan did not, in the most important particulars, accord with the designs for the two Offices which received premiums, and that its distinctive character was immediately taken away by the decision to preserve the present site of the bridge. Why, then, do we find this perversity of holding to a plan which there has not been the slightest ground for believing would be that which the circumstances require, or the best that the site admits, and which was based on a principle which is wholly annulled by the difference of the position for the bridge and the different area taken for the Foreign Office and War Office by the other chosen competitors. We are not forgetting that there were two plans by M. Crepinet; but the second was clearly an after-thought, and even at variance with the normal idea in the plan.

We have written so much on this feature in the competition and the inquiry because the mistake of not taking up things from the right starting point, and of not pursuing objects in logical sequence, is the error from which so many disasters in public affairs and in art have resulted, and the error which any bolstering up of what has been done would only perpetuate. Let some one architect, we will not now say who, be employed first on the general plan for the whole number of offices—something of the nature of a matured opinion being formed as to the full wants of each department, and as to the importance, or otherwise, of concentration: let this plan be decided upon, and a vote for the whole ground be moved for in Parliament; then, let the Foreign Office be put in hand, and built without delay. Hitherto there has been waste of large sums paid for drawings, not used, and of the exertions of architects which have been allowed to come to no conclusion. Neither of the losing parties may say much about the waste: but the result of the money-cost, if only in 2,800*l.* compromise to Mr. Burton, added to 5,000*l.* in premiums, is not satisfactory; and the circumstance of so much unapplied labour by Mr. Pennethorne, or by the recent competitors, is not encouraging to our profession, or calculated to forward in due proportion, objects whether of art, or of the country in a larger field of view. We have, however, opened up only a small number of the points which are brought into question in the report and minutes of proceedings. We can only now say, as to one of the others, that the "fast and loose" view which is taken of the award, in the case of Messrs. Coe and Hofland, cannot meet with our approval, whatever be the merits of their design. It can only induce carelessness in future decisions, and the feeling that no responsibility attaches to them: unless rather it should tend to show that merit, without name, will meet with no better return in competitions than in ordinary cases, and that it would be best for rising architects, as for public bodies, to look to other means of attaining their ends.

COMPETITION FOR THE ROYAL ALBERT ASYLUM, CAMBRIDGE.

About sixty designs have been sent in, pursuant to an advertisement in our columns. On Tuesday, the Committee met for a short time, and reduced the number to 12. On Wednesday the whole were publicly exhibited in the Town Hall, when it was painfully obvious that the Committee were unequal to their task, they having rejected those few that were likely to be erected for their stipulated sum, viz. 1,800*l.*

The motto system was to be adopted: three architects, who disobeyed the instructions by appending their names, were necessarily excluded from the competition,—but their works were exhibited. These were from Mr. Hill, of Leeds; Messrs. Finch Hill and Paraire, London; and Mr. Dodd, Leeds.

4. *Zeno.*—Six sets of rooms, committee-room in centre, and open archway. Three elevations are sent, designed to fit the same plan.

(*a*) Tudor, with central turret; ground-floor white brick, upper part timbered and plastered, or brick-nogged.
(*b*) Elizabethan, with ogee gables to dormer windows.
(*c*) Tudor, with a covered-way along the front; roof tiled in coloured bands.

5. *Fraternitas.*—Tudor, red brick and stone-dressings; plan similar to the foregoing, but with an open piazza in the centre and committee-room over. Roof slated.

6. *Benevolence.*—Elizabethan. Plan as before, with an open archway in centre: a covered corridor is carried along the front; the roof supported on wooden posts and brackets. Red and white brick; slated roofs.

7. *Two Triangles.*—Tudor. The centre is carried up to form a turret, and capped with a slated spire. Roofs slated. Staircase opposite the front doors.

8. *Rara Fides.*—Plain Second Pointed. White brick with red arches; slated roof. This, which is a simple and unpretending design, appears to have been made with some regard to the limited funds at the disposal of the committee. The centre is occupied by the committee room, which is the whole height of the building.

9. *Cam.*—Second Pointed. Brick, with stone dressings. Many of the external walls are but one brick thick; the centre has a spire, and the committee-room an oriel window in front. This plan covers a large space of ground.

10. *Grumbling on.*—An appropriate motto for a young architect who is given to waste his time, energy, and money in competitions like the present. Elizabethan, of red brick, with stone dressings, redundant with buttresses and gables. Roofed with cut slates. The plan is, like many others, with the committee-room as a centre, and six sets of rooms on either side.

11. *Gloria Patria.*—Tudor. Plan as before. White brick; slated roof. Gables and barge boards to all the doorways and upper windows.

12. *Sick, and ye visited me.*—Second pointed. Stone with slated roof. Plan as before, but the committee-room in the centre is advanced as an apse, from the front line of the building, supported by flying buttresses, and finished with a mansard roof, covered with lead and iron cresting.

13. *To be, or not to be.*—Elizabethan. Plan, three sides of a quadrangle; open at back, to form a drying-ground. White brick, and red brick dressings. Roof slated.

14. *Why not?*—Plan as No. 13 Red brick, with arches of white and black brick. Committee-room in centre, with a clock and bell turret, formed of timber, and slated. The roofs slated, in bands of two tints.

15. *Faith.*—Venetian Gothic. White brick, with arches of red and black bricks; roofs tiled. The upper windows are under separate gables, hipped at the collar-beam. The plan shows a reading-room in the centre on the ground-floor, and committee-room over, with six sets of rooms on either side.

16. *I take Aim for the Mark.*—Tudor. Red brick and stone dressings. This is a pretentious design; the committee-room in centre is over an open archway, approached by a turret staircase projecting from the front, and capped with a stone spire. The doorways have tiled hoods of Rhenish type upon cut brackets. The building is well elevated upon a terrace.

17. *Spes—A.*—Early Second Pointed. White brick and stone dressings; the committee-room covered with a slated mansard roof, and iron cresting.

18. *Spes—B.*—Tudor. Committee-room on first floor, over a flat four-centred arch of wide span, with questionable abutments. The lower story of brick; the upper of timber, brick-nogged or plastered. A clock is placed close upon the head of the centre window, which shows that the pendulum has been forgotten.

19. *Fides sit Penes Auctorem.*—Tudor. Red brick and stone dressings. Plain and unpretending as a simple subject simply worked out; the only objection being that the sculleries are not approachable under cover.

20. *An Arrow.*—Tudor. Red brick and stone. The windows are very small, and the sills t high for cheerfulness.

21. *Thor.*—Venetian Gothic. Red bricks wi black bands. Roofs slated. The committee-roo in centre is subdued in importance to the win which contain the dwellings; the subject has be treated well.

22. *Moulded Brickwork.*—Plain second pointe A committee-room over an archway, lighted by oriel, and capped with a tiled, hipped roof. Mu of the brickwork is treated in a manner similar that at Walsoken school.

23. *E. A. E.*—Elizabethan, with slated ma sard roof, and iron cresting in centre. Dorm windows to the upper story, with scroll-head gables. Red brick and stone dressings; wh brick quasi-porches.

24. *H. G.*—Tudor. Red brick and stone dre ings. The plan is irregular, and the gutters the roof are formed at impossible points of c charge. This observation will apply to several the designs.

25. *Our Hope.*—Elizabethan. Red brick a stone dressings, with flat-headed windows. R slated. Plan as before adverted to, with co mittee-room in the centre, and the staircases either side too publicly exposed to view.

26. *Economy and Taste.*—Tudor. White a red brickwork, in bands alternating in four cour white, and two courses red.

27. *Sub Spe.*—No decided style. Red bri with white brick quoins. Committee-room centre, over a piazza, approached by three arch

28. *Fides et Spes.*—Second pointed. Irregu plan, with apsidal committee-room over a cove area, and turret by the side. Kentish rag sto with freestone dressings.

29. *A Caltrop.*—The Baker-street style. brick with white quoins. Roof slated. A sla verandah on iron supports, runs along the fro except in the centre, where a flight of steps le to the committee-room.

30.—*Spes, No. 2.*—Tudor. White brick; ro slated. Committee-room in centre, with oriel bell turret. A covered arcade of brick arche continued along the front.

31. *Alpha.*—Elizabethan. Red brick and st dressing; slated roof. Committee-room in cen with oriel. Timber porches of pleasing des to the doorways. Flat-headed windows.

32. *Utile dulci.*—Tudor. Red bricks and st dressings. Roofs tiled in bands of two ti Flat-headed windows with wood cusps in upper corners, as at the Earl of Harrington's.

33. *Progress.* Early Domestic Gothic. R covered with Westmoreland slates. Committ room in centre, over an arcade; the wings brought forward at the ends, to the extent of room; a spire surmounts the central roof. coal-places are badly arranged for wet weather

34. *He that giveth to the Poor lendeth to Lord.*—A large pretentious Elizabethan baro mansion divided off into sets of rooms, of wh the doorways form the outer demarcation; redundant with bay windows, gables, finials, an the ornamental accessories of the style. brick and stone dressings; roof tiled. The ce portion of stone capped by a high mansard roo

35. *Man descends into the Vale of Year* Tudor. Stone, with red brick bands. R tiled in two tints, with bands. A Tudor ch with eastern bell gable, projects from the ce of the building to form a committee-room. sets of rooms at each end are also brought forw as wings.

36. *Vigilance.*—Doric, with details from Gi The centre has a rusticated podium support four pilasters, with pediment and clock turret.

37. *As a wise Master Builder I have laid Foundation.*—This appears to have been an design for one side of Eaton-square, altered furbished.

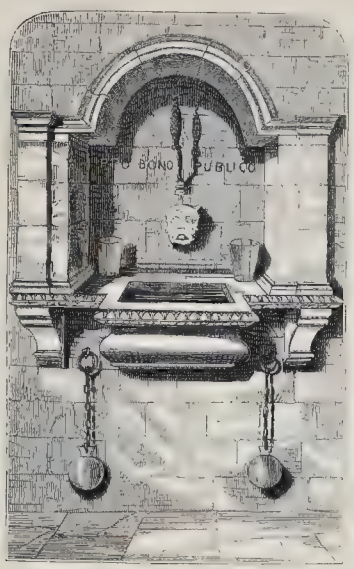
38. *Alma.*—Tudor. Red brick and stone dr ings; slated roof. Committee-room in cen flat-headed windows. All the upper windows gabled dormers with stone coping.

39. *A. B. C.*—Domestic Second Pointed. brick, stone dressings; tiled roof, with band ornamental tiles and iron ridge cresting.

40. *Multum in Parvo.*—(*a*) Batty Langl Gothic in white brick. (*b*) The same style in brick.

41. *Hope.*—Elizabethan. The buildings ranged as the letter L. This plan suits the and shows a large amount of façade at one vie

42. *Albert.*—Anglo-Italian. White brick, brick dressings. Committee-room in centre, rooms at each end, communicating by a cov verandah; the porches are carried up to the ea and the sky-line nicely broken by their t pyramidal roofs. The plan is exceedingly



Water-Fountain, Stockton and Darlington Railway.

ıdied, so as to give great privacy to the stair-ses and offices. This design, though passed vay by the committee, has many points of merit, d is one of the few with any architectural pre nsion that can be erected for the money named.

43. *Cui Bono.*—Gothic, of the Oxford Museum yle. Committee-room in centre, gabled. The ds have mansard roofs, and iron cresting to the hs. Large cut brackets are fixed to the rafter it, but the roofs are deficient in ties, and of ubtful construction.

44. *Non nobis Domine.*—A simple Tudor de-n, with barge-boards to the gables.

45. *Vincit Veritas.*—Tudor. Red brick and one dressings. The committee-room in centre, th crow-stepped gable; the staircase windows e angular, projecting from the face of the wall, d supported on corbels.

46. *Faith.* Elizabethan. Red brick and stone essings. The façade nicely broken by a few ld projections. Committee-room in centre, rminated by a spire.

47. *Consider.*—Byzantine. A white brick ilding, relieved with red bands and black and l arches. All the window and door openings e semicircular headed. The elevation exhibits eat breadth and repose.

48. *Time*—Venetian Gothic. Allowing for riation of style, this is very similar to the last-med.

49. *Age quæ justa sunt.*—A simple Second inted design, with mansard roof, lead flat, and n ridge cusping to committee-room, which is in e centre: brick and stone dressings.

50. *Utile dulci.*—A Tudor building of red brick d stone dressings; roof covered with ornamental es. The committee-room in centre has an elabo-e stone oriel, capped with a pyramidal roof. e coal-places are badly planned for wet weather; staircases are exposed to the front doorways.

51. *Thou hast covered my Head in the Day of attle.*—Second Pointed. Committee-room in ntre, with spire over porch: white and red brick, d stone dressings. Roof tiled in ornamental nds.

52. *Audi, vide, tace.*—Elizabethan: white, red, d blue bricks. Roof covered with Welsh and estmoreland slates, in bands and diagonal lines. e committee-room has a statue of H. R. H. the tron, in a niche, as the centre object.

53. *L in a Circle.*—Illustrated by a card model, obably a Byzantine design, with gabled centre committee-room, which is lighted by an oriel; two porches at either end are carried up above e roof with belvederes, and capped with pyra-dal spires.

54. *Invicta.*—An elaborate Second Pointed de-n of white brick with red bands, and black and ite arches. The committee-room in centre is over an arcade, with bell-turret at the angle; roofs of Welch and Westmoreland slates. The stairs are exposed to the front doorways.

The committee again met on Wednesday evening, and reduced the number to *Cam, Invicta,* and *Progress.* At their next meeting they will make their final selection, and advertise for tenders.

WATER SUPPLY FOR TRAVELLERS.

A GOOD supply of wholesome water for drinking at the railway-stations will be appreciated by all classes: the provision of it will be a good step in aid of the movement now making. Even in many of the better description of refreshment-rooms, the water is so much heated that it contrasts very unfavourably with that from some of the pleasant wells in the woods, which bubbles up on rocky and moss-covered banks, apt to come to the recollection at the season just ending.

At the station of the Stockton and Darlington Railway, near Darlington, an attempt—which is well worthy of praise and imitation—has been made to supply water on the platform of the station, in the manner shown in the engraving.

A similar plan might be adopted at other places without much cost, and should be. No great amount of ornament is necessary, though more artistic skill might be shown than has yet been exhibited.

MUCH VIRTUE IN MUD.

THERE are many questions which may be asked that will startle at first. "Can mud, amidst human dwellings, have any sanitary value?" is one. We say, unhesitatingly, "Yes." And we think it may be proved that mud is one of the most extensive disinfectants in the world. Then some may retort,—"The more mud the better." This we cannot allow. But let us take rivers as we find them, and streets as they are after rain, and then consider the sanitary value of mud in rivers and on streets; in the river Thames and on London streets, for instance.

Rivers are the outlets, not only for water, but also for all that is soluble in water, and for all that is movable by water, dead animal matter and dead vegetable matter (both of which, in their decaying, give out gases injurious to life, especially to human life): mud is the corrective, the disinfecter, the purifier. It has recently been said, over and over again, "Remove the metropolitan sewage from the Thames, and restore the river to its original purity." We ask, "'How to its purity'?" The Thames never was pure within tidal influence, nor ever will be; and no sanitarian wishes that it should be pure, that is, free from its occasional estuary mud. But there is also the upland or rain-flood-water mud. We do not even wish to free it from this; and, even if we did wish, it must be in vain. But consider what this fresh mud accomplishes as a disinfectant. The river Thames abounds in animal and vegetable refuse, either in a state of decay or liable to rapid decay: the mud combines chemically and mechanically with this matter, and partially neutralizes it, "disinfects it," or precipitates and buries it. Water, air (oxygen), and mud dispose of enormous masses of matter, which, without the mud, would breed poisons enough to create a margin of desolation. Then it may be said:—"The Thames mud-banks should not be removed, or should not be covered." This does not follow. Mud in the water, and mud-banks exposed to the action of sun and air, are under different conditions. There is a rapid evaporation from mud-banks, and, under high temperatures, dangerous fermentation: the mud-banks must be covered, or must be removed, to prevent the injury. It is unnecessary to say we do not advocate the existing state of things in the Thames with respect to the sewage; but we do say,—better for human health and life that the sewage should even be in the river than that it should be in cesspools near dwelling-houses, or beneath living-rooms. We, however, say, intercept or disinfect the sewage by proper means, and perhaps we may say embank the river so as to abolish the mud-banks; but do not look for a pure river, that is, for a river of bright water free from mud. Look at the great rivers on the continents,—the Danube, the Nile, the Ganges, the Mississippi: their waters take down vast volumes of mud, and it serves a wonderful sanitary purpose no doubt. Great are the uses to health of river mud.

Then as to street mud. "Is there any use in this?" some will say. We think there is, and must confess to a sort of inward satisfaction (on sanitary grounds) every time we see the scavenger sweeping up the mud from London streets. The Metropolitan Board might pay thousands and tens of thousands of pounds annually for street disinfectants, and not find one so valuable as the ordinary street mud. There may be "too much of a good thing," but a regular wet day now and then is a great sanitary blessing. With the mud goes all the surface refuse from houses and from the other sources of street impurities, and we get a disinfected surface by each mud-sweeping. Let us then be thankful for our mud, if we can have it in moderation. Great are the sanitary uses of river and street mud: rivers and streets, nevertheless, require regular and rigid cleansing.

ARCHITECTURAL ASSOCIATION.

POSITION OF THE ART.

THE opening *conversazione* for the session 1858-9, took place on Friday evening, the 1st instant, at Lyons-inn Hall, Mr. J. W. Penfold, V.P. in the chair. There was a large attendance. Letters having been read from Professor Donaldson and other gentlemen, expressing their inability to attend,—

Mr. Herring, one of the honorary secretaries, read the report of the proceedings of the Association during the past year. The committee congratulated the members on the general improvement which had taken place in the prospects and financial position of the Association, which was at length freed from its embarrassments. They had been in communication with Mr. Edmeston, of the Architectural Union Company, on the subject of the proposed removal of the place of meeting of the Association to rooms belonging to the Company in Conduit-street; but as yet no distinct proposition could be laid before the meeting, the new building not yet being ready for occupation. They had the assurance of the directors, however, that they are wishful to meet the requirements of the Association, as soon as the premises are in a fit condition for the purpose; and the committee hoped that the day was not far distant when all the London societies whose object is the study and promotion of architecture, would be able to recognise one building as their home. The labours of the committee on the subject of competition had resulted, after repeated discussion, in the adoption, by the general body, as a basis for future proceedings, of the two following propositions. First, That in any competition the aggregate amount of premiums ought to be the full commercial value of the choice of designs; that is to say, the right of selection out of many. Secondly, That professional experience alone can adjudicate upon the relative merit of the designs. The class of designs had shown, during the past session, evidence of its great value in bringing forward the rising talent of the profession. The benefits held out by this class to young architects were then

dwelt upon, and the members urged to take advantage of them. The committee could not conclude without an expression of their conviction, that the opening for a society such as that, is larger, and the necessity for its vigorous exertion greater, at the present than at any previous period of its career. The interest taken in art by the public, the altered appearance of our thoroughfares wherever new buildings are erected, and the rapid increase of the means for architectural illustration, rendered the position of the rising architect of the utmost importance, not to himself alone, but to the standing of Great Britain amongst the nations of the civilised world.

Mr. Colling moved the adoption of the report; which, having been seconded by Mr. Seddon, who congratulated the meeting upon the flourishing state of the association, was unanimously agreed to.

The Chairman said, in rising to give those present a hearty welcome, he was reminded that his position had its penalties as well as its pleasures; and he thought they would have cause to regret with himself the absence of their friend, Mr. Norton, under whose auspices the opening address would have assumed an interest which he (the chairman) feared, with his less skilful handling, and short notice of preparation, he should fail to impart to it. It was a salutary custom that prevailed amongst them at the opening of each session, to review the occurrences of the past year, and to put forth, as it were, a programme of their hopes and intentions for the future, that so they might have a kind of register in which they could strike a balance between their actual deeds and their previous intentions; and though, alas! that balance was always found to be sadly against them; still, on looking back through a series of years, they did observe a progress, gradual as it might be, which seemed to indicate a certainty that, though the summit of their hopes was still enveloped in clouds, and they scarcely knew whither they were tending; their course, devious and winding as it had been, slowly developed itself as they climbed, and that its tendency was still upwards and onwards. Let their principal care, therefore, be to see that their path was firm under their feet as they went, and to set up landmarks, and cut, as it were, solid steps in the rock for those who were closely following, and were destined to reach to greater height than they could hope to attain. The past year, though not one of great mark in the annals of architecture, had, nevertheless, seen the completion of the Leeds Town-hall, Covent-garden Theatre, St. James's Music-hall, and other buildings, of a municipal and public character, well worthy the study of the architect and artist, in point of construction and novelty of design. They had looked forward this year to a settlement of the Government Offices competition, but it seemed either to have resulted only in a well-fought battle, of still doubtful issue, between the competitors, represented by Mr. Scott, and Messrs. Banks and Barry, on the one hand, and the heads of the department, as represented by Mr. Pennethorne, on the other; and should it be decided in favour of the former, there was then the promise of an equally arduous and exciting conflict on the question of style; but whatever might be the ultimate result, they were led to hope that the talent engaged on the work would be such as to secure a building which should meet, as far as might be, the requirements of the situation, and be a monument which shall not unworthily represent our position in the artistic scale of nations. With regard to themselves, they would be enabled to judge, by the report which had been read, of the value of their contributions in aid of the general progress: but before proceeding further with the consideration of these points, he must pause for a moment, to pay a passing tribute of respect to the memory of one but recently elected on their committee, and whose valuable co-operation, in carrying out the work they had set before them, they were anticipating with great satisfaction. The sudden removal of Mr. John Dwyer from amongst them, had deprived them of the assistance of one whose extensive knowledge and warmhearted and kindly feeling they could all appreciate; and most sincerely did they sympathise with that private circle by whom his loss must be more deeply felt. Their late president, in the last inaugural address, made what he (the chairman) had considered at the time rather a rash promise—that they were to have on the present occasion "all kinds of flattering information about the long-talked-of new competition code." He regretted to say they had not quite settled it yet. The two resolutions that had been adopted by the Association set forth the principles on which they might possibly be able to form a code of regulations and suggestions for the guidance of ourselves and building committees; and none but those who had served upon their competition committees could fully appreciate the actual progress made, or the amount of labour they had expended on those apparently simple and self-evident propositions. It seemed to him they had theretofore gone too much into detail, and expended more time and temper than they could well afford to lose on questions whether their plans should be tinted in Indian ink or in carmine, and whether the capitalist who can launch out into plate-glass and gold beading does or does not obtain an unfair advantage over his less fortunate rival who is unable to command more than a plain mounting-board for his perspective, instead of devoting our attention to a few main principles which, if they could induce committees to adopt them, would go far to accomplish the object they had in view. They would, doubtless, also consider it a matter for regret to be informed that their Association had not at present come to any definite arrangement with the Architectural Union Company for the occupation of a part of their building, which they all looked upon with great interest, if only as a permanent home for their offspring—the Architectural Exhibition; and he, for one, should be sorry to see the Architectural Association left without its walls, because he believed that the combination and congregation, under one roof, of all the societies in alliance with architecture, would tend to much mutual advantage. It was also, he thought, very important for themselves to obtain a room, if possible, which would at all times be available for the use of the members, and where they would be in a position to carry out that extension and development of their classes to which they had so long looked forward. It was, however, entirely a financial question with them; and the Union Company had not yet been in a position to give any positive assurance of the accommodation they could have for their money; but he hoped that, as there seemed a prospect of the building being actually proceeded with, they would be able to lay some favourable proposition before the members of that Association. It would be further gathered from the report that the peculiar aim of the Association was to carry out some system of art education; and not one thing did he consider of more importance to themselves and to the general progress of civilization, than the art-education of the people; for the more the public were led to take an interest in and appreciate their art, the greater things would they require of them; and they must perforce keep their own æsthetic and scientific education in advance of that of the people, or their occupation was gone; and he believed there was nothing, in comparing past experiences with the present, from which they gained more hope, than from that very thing. As a proof of this, he need only remind them how years had passed over their heads since the time when the *Gentleman's Magazine* and afterwards the *Architectural Magazine* contained about the only meagre notice of architectural doings with which the public were content; and now, besides the weekly publications, conducted with great ability, which devote themselves entirely to the interests of the profession, many excellent standard and popular works were published on matters connected with their art, which were much sought after by the public at large; and even many of the daily papers and leading periodicals had regular articles especially devoted to the criticism of architecture; and though there was much of fashion in architecture as in other matters, it was evident that the public required and expected its professors to produce something more than slight variations of Grecian and Roman porticoes stuck on to bald designs, as if they were but official stamps, used solely for the identification of what was looked upon as a public building. Then, again, with regard to competitions, the very existence of so many, badly conducted as they were, served to show the interest the public take in the development of architectural art; though, reckoning too much upon the gleam of light that has reached them, they too often only succeeded in proving how "a little knowledge is a dangerous thing." And that that feeling was a universal one, they had only to look around on our continental neighbours, and mark how they, like ourselves, are calling on the world for designs for their great undertakings. Even Greece was awakening from the slumber of centuries, and had advertised a competition for an art museum. The manner in which Englishmen had responded to these calls, and the position they had taken at Lille, Hamburgh, Turin, and other places, was a great cause for congratulation, and confirmed the conclusion that our own architects are not a whi behind their brethren on the Continent, in the re sources of their art. He might also point to th street architecture of our metropolis, and ou large provincial towns, to show how the enter prise and capital of our merchants and publ companies are calling into existence costly an substantial piles of warehouses and office which demonstrate how great an advance ha been made in architecture since the tim when the houses in Regent-street, and th terraces in the Regent's-park, were looked upon models of architectural taste; but though the could now afford to smile at the struggles afte originality made by Nash and other architects the time, they should ever remember with grat tude that they were the first to leave the ol routine and strike out a new path in street arch tecture, which, with the more abundant resource now at command, had been widened and improve In a large section of our private dwellings, an the semi-detached villa residences which had b come so national a characteristic of our suburb the public taste, guided—or rather misguided— by speculators, and attracted by the meretricio allurements of Roman cement, had gone rathe rampant; but this he thought would gradual work its own cure, as the buildings in questio betray those symptoms of decay which fortunate were among their ruling peculiarities. Now was that hungering and thirsting, as it were, afte art-knowledge, which it was both the duty an the interest of the architect to foster and direct;— to impress upon the public mind the policy employing duly-qualified practitioners in the a in carrying out their undertakings, be they eve so unimportant; for the more the public know art the more will they appreciate the necessity this mode of action, and we should hear le of such resolutions as that proposed by the Lee Union guardians,—"That in the whole body British architects it was not possible to find a unbiassed professional man, and that no practic benefit would accrue from calling in a profession man, because the arrangements required for workhouse were better known to the guardia themselves than to most professional men;" or cases like that of Bolton, where the guardia had determined on carrying out the exterior one workhouse in combination with the interi arrangements of another, and only required th architect to act as a sort of clerk of works, carry out their own preconceived ideas. In th scheme of art-education, he thought the numerou architectural and archæological institutes, ass ciations, and exhibitions, now profusely scatter throughout the country, greatly assisted. The they met each other as honourable competito and friendly rivals in the cause of art, not co fining themselves each within his own narrow circle of experience, but receiving the bene of a mutual interchange of ideas. They th acquired a knowledge of each other's powers a capabilities, and felt that, for their very existenc they must study and strive hard in order to ke on an equal footing with others; and if th would desire to excel, their energies must strained to the utmost. Thus, while they r individually to a higher position in their art, th art itself was progressing with still more rap strides; new fields of investigation were open up; and the conviction was forced upon them tha after all, they were standing as it were but on th threshold of knowledge. Another means by whi they could assist in the cause, was by availi themselves of the facility now offered for the stu of art in foreign countries. The subject had oft been so ably brought before them, that there w only one point in connection with it to which I would then call attention, and that was the in portance of travelling with some particular obje in view. It mattered little what that obje might be: they wanted information on eve point connected with their profession, wheth relating to its art, science, or policy. Some mig choose the illustration of a style, the influence locality, or national characteristics upon it, a its adaptability for municipal, ecclesiastical, domestic purposes. Others might be more int rested in the building materials of different cou tries, or the several positions of architec builders, and workmen, under various forms government and political creeds; or the influen of government itself on the progress of archite ture; and there were many other points on whic if each would bring his quota of intelligence, vast fund of information on the most importa questions of the day would soon be accumulate And now, one word more, particularly to the own members. He thought they had cause f congratulation at the part their Association ha

taken in the leading characteristics of the day. The Architectural Exhibition, now, he trusted, firmly established, and rapidly becoming one of the popular attractions of the metropolis, was originated, and entirely supported in its infancy by that Association; and, in looking around the profession, how many of the rising men of the day, who had largely contributed to the architectural status of our country, and to whom they were looking for still greater things, were, or had been, members of their Association, and perhaps owed the original training of their genius to attendances at their meetings or their class of design? The names were numerous, and it would be invidious to particularize; but he might be allowed to call attention to the admirable series of "Architectural sketches from the Continent," by Mr. R. N. Shaw, their late president of the class of design, the last production of the kind, as one example out of many of the position their present and former members took in the illustrated literature of their art. He believed they all took an interest in the increasing welfare and progress of their Association: let them, then, in some palpable way, show that they did so. Each one could do something. If they were not all in a position to write a paper, they could take part in the discussion that followed; or, at least, they could assist in making up that important ingredient in their meetings—the audience. He feared the notion was too much gaining ground that, without attending the meetings, they could sit comfortably at home and read the reports of the papers and discussions which appeared in the journals the following week; but that was a most suicidal course to pursue. It was a thankless office to read elaborate papers to empty benches, and to give the results of hard study without eliciting the opinions, and the experience of others in return. The consequence would be, if that course were indulged in, that their meetings would fail in interest, and they would lose altogether the advantage they now possessed of having them permanently recorded and circulated throughout the kingdom. He trusted, therefore, as a matter of courtesy to those who had devoted so much time and study to the preparation of papers, as well as for their own benefit, that the present session would see their meetings more numerously attended, and that interest kept up in their proceedings without which their association would soon lose its vitality and that power for good which he believed it inherently possessed. Having thus imperfectly endeavoured to call their attention to the importance that art-education had in this age assumed, both to themselves and the public at large, he wished to remind them that the faculty they possessed of profiting by experience was a talent they were bound to exercise for the good of others as well as of themselves. Let them beware how they left to others to carry out in practice the morality which they taught and approved. If each of them were to say, "I only know this or that, and none can give me an equivalent, I will not part with my knowledge," he feared social progress would be at a stand-still, and our circle of enjoyment would become much circumscribed. Each with his particular secret, looking with a jealous eye on his brother lest he should snatch it from him, would be a bad state of things indeed. They had all a great deal to learn: every one had something to impart; and if each would but contribute his share, however small, to the general fund of experience,—the history of his failures as well as his successes,—by such mutual assistance, they would be enabled to attain to a much greater degree of perfection in their art than could be the case if each individual were to pursue his studies, relying upon his own exertions and experience alone.

Mr. Kerr having been called upon by the chairman to make a few remarks, said he was happy to see so large an assembly, particularly so many new faces. The latter especially was a sign of progress, because old faces would wear off, and old members would gradually get involved in other occupations and engagements; and new faces, therefore, were always something like an equivalent for their defection. He was pleased to see so many young men present, because he always felt as if he were addressing, there, young men alone. They constituted the strength of the Association, and he hoped the policy of the Association would always be to encourage young men who need encouragement, and who did not generally obtain it where they ought. He looked upon the study of their art as being in this position, that very few speakers had enlarged upon it, and that there had been very few writers upon it, at least in detail, as compared with those who had taken other subjects in hand. He always thought that the science of their profession would look after itself, as well as the business of their profession; but the art of their profession required a good deal of looking after. This had been done by various people during the last ten or twelve years, and by many people whom they would be very glad to see keep to their own business. Therefore, he hoped they would not consider he was singing an old song too often if he spoke on that subject on this occasion. They heard a good deal now-a-days of genius. He might say that every one of those present was the possessor of that attribute to some extent or other: he considered that that last act of mind which brought a man there must be something, if not genius itself, so far akin to it as to cause its possessor to appreciate that which is the work of genius. At the same time they must not allow the philosophy of genius to be too much complicated, as he was afraid it was in the minds of many of those who addressed them upon the subject of the present day. Genius was too apt to be spoken of as something which was communicated to one individual in a hundred as a special act of creative power, in order to awaken a feeling of jealousy in the minds of the other ninety-nine who did not possess it. They were apt to hear it spoken of, in point of fact, as something which is merely imaginary and unreal. Not only was that doctrine philosophically wrong, but it was also, unfortunately, a very dangerous one; for if the possessor of genius did not cultivate his genius with judgment, and if he who did not possess genius would not submit to reason, and hear explained that he did not, and why he did not, possess it, the consequence was that genius became a very desultory thing, and was not cultivated in a proper manner, or engaged on a proper object; and the benefit which it would otherwise have conferred was lost to the world. Genius was only a thing of mental power—creative power. He certainly was inclined to consider, so far as the present argument went, that it was a thing of very great power; akin, in some degree, to the creative power of the Deity itself; inasmuch as the poet, when he creates a world of his own, or the painter when he creates a world in his picture, exhibits a creative power which is one of the most beautiful results of the human intellect. But let them bear in mind that genius was only intellect, and intellect of the best order. Genius, he fancied, was to be found pretty equally distributed over the whole of the human race: though it is only the particular opportunities for its development which brings it forward in such a form as it can be recognised; and where it is not brought forward we were too apt to consider that it does not exist at all. Let them consider the commercial progress of this country. That he contended, was the work of genius—a matter of creative intellect; for what else was it that had produced the great power of England at the present day? It was not the genius of war, it was not the genius of government, for an Englishman governs himself; it was not the genius of science; but it was the genius that had been displayed in commerce which had exalted us: that power of the mind which would strike out a path of its own, and not follow, but lead, was to be found in every part of the commerce of this country. Then if they came down to science, they would find the efforts of genius more prominently exhibited still. Take the cases of Sir Isaac Newton, a man of extraordinary powers, who created a system of planets; Linnæus with botany; Adams with his remarkable discovery of the planet Neptune; the engineers and electricians of the present day. He would only remark, to come more particularly to the subject, that though genius had its province in commerce and science, in art it had more particularly the opportunity of developing itself. It was something lighter and more ethereal than science, or the wisdom of philosophy of any description; and it was therefore in art that genius, as it were, revelled. Now, amongst the various developments of art which will necessarily take place according to the constitution of our minds, he wanted to impress upon those present, that in the vocation of architecture they had an art which possesses peculiar advantages that ought not to be lost sight of. In the present state of the civilized world, with few exceptions, every man had to earn his own bread, and blessed was he who did so. Every man, earning his own bread, therefore, it necessarily followed that art, which otherwise was an amusement or a recreation, more than a serious vocation in life—became a vocation of itself; and they found amongst the numerous vocations in the division of labour, there was, for certain men, the vocation of art purely and simply, such as the sculptor, the poet, the musician, the dramatist, the novelist, the critic, and the great class of decorative artists, at the head of whom stands the architect. He wanted to show that the architect is better situated in the world than any other of those artists he had mentioned. The painter, who was absorbed in the study of his art, became a recluse,—became separated from the common world,—so that his views, instead of becoming widened, became narrowed. Take the case of the musician: he became not only a man of narrowed intellect, but was a man very often of very inferior powers in respect of other matters than his art. Take the case of the poet: more or less they found that he was a recluse; that he shuts himself up from the world, and is often held in derision by plain men of business for his want of that knowledge which seems to them so simple. In the case of the architect, his art was not precisely on a level with that of the poet, or even of the painter: it was not of the same intensity of kind, or of the same merits, as art, as that of either the one or the other. But the architect had quite sufficient of art in his vocation to afford him all the fascinations to a reasonable and proper and safe limit of what we may call, for the sake of expression, the nobler arts: at the same time he has science and business connected with it: the former of these imparts to his mind that balance, or steadiness, which, strictly, other artists cannot attain; and the latter, business, gives him that knowledge of the world around him, and that connection with every-day matters and things upon their own level, without which a man loses a great part of the joy of his life. Therefore, he contended, that the architect is peculiarly and favourably situated as an artist. It was that fact which had created such an increase in the number of members of their profession of late years. The tendency of the practical mind of such a country as this in the present age was to lay hold of a profession like theirs more than any other. The consequence was, that in England, particularly, the profession had increased of late years in the most remarkable manner,—so much so, that many had seen cause of regret; many had said they, the architects, were outgrowing their means of subsistence, and becoming so numerous, that presently they would all starve. But that notion was a fallacy, and of the most extreme kind. As a matter of political economy, nothing can be more radically erroneous, for there was a certain limit up to which the numerical extension of a profession tends to establish it with the people. When architects were few, the profession was little regarded, and the difficulty of taking the first step in the ladder was greater, instead of less, than now. The real limit which prudence, if it could, would assign to the growth of a profession like that of architecture would be, when there was no more business in the whole of the three kingdoms to place in the hands of the architect. At the present moment the amount of building done in the United Kingdom was incalculably more than came into the hands of architects. He did not hesitate to affirm that there was room for a very great enlargement of their profession. The real and proper reflection which ought to be suggested to the mind, by the fact of the large increase of a profession like theirs was, that they were acquiring popularity, power, and weight with the public mind, and the question was, whether they were consolidating themselves, or federating themselves,—forming themselves into unity of operation to a parallel extent? His own opinion was, that the architectural profession was not consolidating itself in anything like a commensurate degree with the magnitude of its stake in society at large. Without casting reflections upon past policy, he thought the time had come when something ought to be done by the profession of architects to secure to themselves a proper position before the public; for, notwithstanding the many slurs attempted to be cast upon it by those who had their own object in view, it was a profession of the most extreme respectability and highest honour, and he did not believe there was anywhere a screw loose in it: if there were, he should be one of the first to point it out. The time had come when something ought to be done for the better confederation of their profession. There existed various institutions, of which that Association was one, which had served to do a large amount of good during the last ten or twelve years; and there was no doubt that progress was being made in the right direction. One principle he might lay down without risk of challenge, that if anything was to be done at the present day, it must be done by liberal policy. They needed no protection—no guidance: they could manage their own affairs, and conduct their own operations with the public, without the government of either old men, wise men, or learned men, or any other kind of men whatever. Now that was not understood in their profession, and there were many other subjects on which it was not understood, as well as that immediately connected with their profession. It was only the other day that a certain great national policy was definitively and candidly abandoned by its stoutest and most stubborn defenders. Now protection was the rule in their profession at the present moment, and it was the thing which they had to get rid of. In Buckle's "History of Civilization" this subject was very well examined, and it was clearly shown that protection could never serve any purpose (except a temporary one), but to overthrow the very thing it is intended to protect. He must not enter too much into detail in regard to the particular form of protection which existed in their profession, because that was not the place to rail at any other body, or even to grumble against the higher powers; but what he meant to say was, that ever since the era of the French revolution, which was no accident, the modern mind had been struggling, throughout Europe and the civilized world, to overthrow, and had succeeded in overthrowing, one after another, protectionist principles; and what they would have to do, before they could establish a confederacy anything like such as would be adequate to their present position in society, was to overthrow the protection of those worthy gentlemen who acted from the very best and most paternal motives, no doubt, but whose protection they did not want. He could not sit down without making a reference or two to the various institutions connected with their profession at present before the public, particularly with regard to one which had made a good deal of stir, and done a good deal of service, as far as regarded exciting public interest was concerned, but which he was afraid was not in a very good way,—the Architectural Museum. There was a great field for good in that society: they had funds, a large number of subscribers, Government patronage and Government aid; they had an earl for their patron, and they had a beautiful site in a building at Brompton; still there was something, he regretted to say, unhealthy about that society. He had no objection whatever to acknowledge with Mr Ruskin that in Gothic architecture there was a much wider field for investigation and artistic research, that there was a volume of greater study than in classic architecture, and he had no objection to the Gothic school taking possession of the Architectural Museum, which was eminently suitable for such a purpose; but why should it pass into the hands of those who were frantic on the subject, and who cannot keep within ordinary limits, and by whom it would be turned into ridicule by such speeches as those made at the Architectural Museum the other night? There was, however, another institution especially deserving of notice, the Architectural Exhibition, which had been conducted without the patronage of the great, without their money, without even the names of distinguished men; and yet he did not think he had ever heard a single complaint against their policy up to that moment. It had been conducted by second and third class men, and was the first institution belonging to the architects of England. Compare it with the Royal Academy. Look at the singular absurdity, the singular evidence almost of weakness in the most extreme degree, in setting up two gentlemen—one to protect himself against the other upon architecture. Could anything be a greater indignity to those two men? and were it not that sham dignities are always more esteemed than real ones, those two gentlemen would have declined the questionable honour of spouting against each other at all. He hoped the day was not far distant when they, as a respectable profession, would no longer require to walk in the leading-strings of painters and sculptors, but would be placed in their real position, and have a royal academy of their own. In conclusion, he could not but express his extreme satisfaction at the prosperity of that Association. He wished to impress upon the younger men present the fact that the first principle upon which that Association was formed was that of a liberal policy. They expressed it perhaps rather vaguely: they talked about liberty of opinion, freedom of discussion, and matters of that sort; but still they had the root of the matter, which was a liberal policy. The doors of that Association were thrown open to all comers, whether they measured up buildings or not, or whether they did anything else which is considered by the higher protectionist powers to disqualify themselves from a seat with architects. What was the consequence? In its small way it had done a good deal, while the Institute of British Architects, in its large way, had, from its commencement, done nothing, and professed to have done nothing. He hoped that Association would long prosper, and long continue in the course it had hitherto pursued, and he could promise it a very good result. He hoped before long to see its meetings held in Conduit-street; he was happy to hear that negotiations were still pending for that purpose, and, when there, he hoped that the banner of the student would again be raised, and a larger number be collected around it; for, whatever inducements might be held out to young men to rally round other standards, that society could not be dispensed with, and must not fall to the ground

Mr. Colling said there was one point in Mr. Kerr's address which he wished to advert to, the slur he had

cast upon the Architectural Museum. He had said their policy was illiberal, but it was the opinion of him (Mr. Colling) that the object of the promoters of that museum was the advancement of their art, and that upon the broadest principles; and whatever the speeches might have been at their last meeting (he thought himself some of them were rather extraordinary), the object of the museum was of the broadest and most liberal character. Since it had been established, it had done, and would no doubt continue to do, a great deal of good for art, especially among art workmen, for whose especial benefit it was mainly established.

Mr. C. H. Smith afterwards made a few practical remarks on the true use of perspective, illustrating his observations by reference to some useful models lying before him.

The meeting then adjourned.

WHAT IS A MILLION?

Now that China is made a free citizen of the world, and we are told that her 300,000,000 of human beings are open to intercommunication with ourselves; now that London can boast her 2,500,000 of inhabitants; now that remains of millions of animalculæ are calculated to be impacted together within a cubic inch of some of the commonest rocks of our globe; now that Mr. Hind informs us that the comet, which at this time flames across the sky, is to approach us as near, and no nearer, than 51,000,000 of miles (that is, about half the distance between us and the sun); now that we are instructed that the denizens of the Milky Way are distant from us billions and trillions and quadrillions of leagues, in comparison with which sums the "million" shrinks to a unit, it may be well to pause and answer the question for ourselves of what is that unit,—what is a million? I say "pause," because the word becomes so familiar to us through frequent use, especially in relation to celestial computations, that one might almost expect to hear it applied as a term of moderation:—"only a million!" Are we not apt to use it without realizing it? The "*argumentum ad hominem*" is a great elucidation. Let us apply it in the present instance. *A man who lives a hundred years does not live a million hours!*

A hundred years contains just 876,000 hours, a million being of course a thousand thousand; and therefore, supposing that a human being attains the great age of 100 years, he has not lived 1,000,000 hours by 124,000. The above consideration might be a useful preliminary perhaps in such branches of education as deal with high numbers. It is also a sermon in itself. How very, very few of us live 1,000,000 hours. Old Parr did, for he lived, they say, to the age of 152 years and 9 months, and Henry Jenkins to a still greater age, that of 169 years; but these are rare exceptions. EPSILON.

NEWS FROM FRANCE.

Architecture at the Ecole des Beaux Arts.—The architectural competition for the medals of the Paris *Ecole Impériale des Beaux Arts*, this year, has given considerable satisfaction. Eight students presented themselves for the probationary tests, and all the eight went into the competition. Four of the competitors had already obtained the second great prize previously. The subject was the plan, with elevations, section, and details, of a hotel for naval pensioners. The programme required that it should be erected on the borders of the sea, be constructed so as to serve for defence, under some exceptional circumstances, to contain residences for officers, dormitories for the invalids, infirmary, kitchen, covered walks, gardens, &c.

All the competitors took for their model the *Hôtel des Invalides* of Paris, which indeed was suggested to them as a starting point. The drawings for the most part exhibited taste in arrangement and beauty of execution.

The first great prize was awarded to M. Coquart, of Paris, aged twenty-seven, pupil of M. Lebas.

The second great prize to M. Thierry, of Paris, aged 28, pupil of Messrs. Thierry and Lebas.

Honourable mention was awarded to M. Eugène Train, of Toul, aged twenty-six, pupil of Messrs. Jay and Questel.

Bordeaux.—Two colossal statues of Montaigne and Montesquieu, by M. Dominique Maggesi, of Bordeaux, were inaugurated last month in that city. It is mentioned, as an extraordinary fact, that he was commissioned to execute these statues twenty years ago; and, in spite of changing circumstances and occurrences tending to throw back the execution of the work, the artist had never been turned from his purpose, nor discouraged for a single instant.—Under the title of "*Douze Lettres de Victor Louis, Architecte du Roi de Pologne, Auteur du Grand Théâtre de Bordeaux*," &c. 1776, 1777, a small volume, edited by M. Marionneau, has been printed at Bordeaux, for private distribution. The *Revue des Beaux Arts* says these letters are, in part, a history of the construction of the theatre of which Bordeaux is justly proud, and especially of the torments, deceptions, and injustice, to which the eminent artist to whom France is indebted for many remarkable monuments was subjected. Nearly every letter appears to have been dictated by despair and discouragement. Victor Louis had to struggle unceasingly against rivalries, pretensions, and personal interests. He could not even obtain the money to pay the workmen, and was often obliged to fall back on his own private resources in order to get the works finished. These letters show, what other revelations have taught in the artistic life, that it is necessary to be always prepared to struggle, and to have courage to brave the attacks of jealous mediocrities,—of the envious or the interested. The theatre was completed and opened on the 8th of August, 1780.

St. Helena.—It is stated that M. Leveel, the sculptor of the statue of Napoleon I. at Cherbourg, has been commissioned to execute another statue of the emperor, to be transported to Longwood, at St. Helena.

HEALTH OF CLERKENWELL.

Our readers know that although many of the worst-conditioned buildings in Clerkenwell have been improved or removed, there is still a vast amount of sanitary improvement needed. The recommendations, reports, and orders, made at any one meeting of the Vestry, would serve to show the attention still required there. It unfortunately happens that a number of the inhabitants, including some vestrymen, view the exertions of the medical officer, Dr. Griffith, in a wrong light. The medical district officer has the health of a section of the community under his charge. The poor and struggling classes are particularly dependent on him, at times, for even life, and one part of his duty is to place the results of his careful researches, with suggestions for the future, before the public in a printed report, the value of which is evident. His recommendations ought to receive the greatest attention, and be carried out—not cavilled at.

THE ROOF OF THE LEEDS TOWN HALL.

LAMINATED RIBS.

At the recent meeting of the British Association at Leeds, Mr. Broderick described the roof of the new Town Hall. The principal points which are worthy of notice in this roof are the absence of tie-beams, which allows of the ceiling of the hall being brought nearer to the exterior of the roof than is usually the case. The roof consists of eight sets of principals framed together. Each principal consists of a semicircular laminated rib, formed of twelve 1½-inch planks, nine inches wide, nailed together and fastened with wrought-iron bolts and straps. They are placed in couples, and stand immediately over each of the columns in the hall. They are respectively 4 feet and 18 feet apart. The width of the room is 71 feet, and the springing of the ribs 53 feet from the ground. The entire height to the top of the roof is 99 feet, the hall being 73 feet high in the clear. This system of roofs has been adopted more frequently in France than in England, the only one with which he was acquainted, of any considerable size, being the station of the Great Northern Railway, at King's-cross. The laminated rib is the invention of a French engineer. It was at first suggested for a bridge over the Rhine, in the year 1811. Several years later, M. Emy constructed several roofs on this plan; but all his roofs, as well as the one at King's-cross, being very near to the ground at their springing, and without ceilings, are consequently much more manageable than the roof of the Town Hall, which has a very elaborate plaster ceiling attached to it, and the springing is at a considerable distance from the ground. He had taken the precaution to insert several additional struts and traces as a preventive against any change of form or outward thrust. Both these points had been attended with the most complete success, there being not the least perceptible outward thrust or change of form since they were put up. The latter fact was proved very satisfactorily by the plasterers, who were enabled to run the mouldings on the ceiling from the centre. The brackets for these mouldings were not gauged from a centre, but fastened to the ribs according to their sizes. In constructing these semicircular ribs, he was much struck with the small amount of springing or alteration of form. If the principle of these laminative ribs were better understood, he was of opinion that many of our church-building architects would adopt it, instead of depending on three or four over-strained joints for one tie.

OFFICERS' NEW BARRACKS, DOVER CASTLE.

Our readers have heard of the new barracks for officers which have been erected in Dover, and here they have a view of the principal front, nearest the sea. The first brick was laid on the 24th of December, 1856, but owing to the severe weather in the early part of 1857, very little was done until the following March, when the works proceeded rapidly until their completion, on the 30th of June, in the present year, having occupied about fifteen months in their erection. The contract was taken for 35,800*l.* by Mr. Moxon, of Dover, and has been carried out in a manner quite satisfactory to those concerned.

The plans and general arrangements were designed by Mr. Geo. Arnold (who, under the new warrant which has just been issued, is made a permanent clerk of works in the Royal Engineer Department). The elevations were designed by Mr. Salvin, architect (an occurrence which has been referred to, it will be remembered, as exemplifying the erroneous system pursued in the erection of our barracks generally). The barracks are for the accommodation of forty-five officers, including a mess establishment, and a stable for twelve horses, with coach-houses, &c.

The mess establishment occupies the central portion of the building, and consists of a mess-room, 50 feet long, 25 feet wide, and 17 feet 6 inches high; ante-room, 35 feet long, 25 feet wide, and 15 feet 6 inches high; hall, 14 feet wide, and 15 feet 6 inches high; the whole of the joiner's work in which is executed in wainscot. The chimneypieces, with moulded panels, and traceried mantels, are executed in Portland stone, and have slate raised hearths, with polished iron dogs, and fire-baskets. The ceilings are divided into square compartments, with heavy moulded ribs of pine, "flatted, and plain tinted." The staircase, leading from hall to quarters over the mess and ante-rooms, is of wainscot, with wrought iron balusters, executed by Mr. Joyce, of Dover. On the same floor with the mess and ante-rooms are quarters for the mess-man, a plate-room, and two water-closets.

The central doorway belongs to this portion of the establishment. The doorway on the left, where the building recedes 37 feet, is to the quarters for a field officer; and the doorway on the right, to the quarters, of the commanding officer. The entrances for other officers are, one at the end of the pile, to the right, and another in the return of the projecting building, at the end on the left. Each officer has a sitting-room and bedroom, the latter rather small. The kitchen, scullery, meat and fish larders, wine and beer cellars, cooks' and waiters' rooms, china closet, bottle store, knife, coal, and wood houses, are all in the basement story. Dr. Arnott's ventilators have been adopted throughout the building, for kitchens, larders, water-closets, &c. The carving was executed by Mr. Nicholls, of London. The drains are laid with Jennings's pipes. The building is faced with Kentish rag-stone, laid at random, and the whole of the window and door dressings, the copings, labels, strings, and quoins are of Bath stone. The roofs are slated with ornamental ridge tiles (black), and all the chimneys are in Bath stone. The whole length of the front is 363 feet.

An imaginary point of sight has been chosen for the view, in order to bring in the cliff to mark the position of the building. The latter would not be seen in connection with the barracks, excepting at a considerable distance. The keep of Dover Castle, with the upper part of the ancient church, and Pharos, recently illustrated by us, is seen at the back, rising ground intervening.

The dwelling-places afforded to many of the privates in Dover Castle are well calculated to destroy health and shorten life. Men enter the army with a clear understanding that their lives are to be at the service of their grateful and admiring country, and of course, therefore, though they may be murdered off before their time, have nothing to complain of. The production of a full-grown and efficient soldier, however, costs the nation something, and one would think that it might be worth while to keep them for use as long as possible, or, at any rate, not to take any active steps to get rid of them! Our rulers appear to be of a different opinion.

THE OFFICERS' NEW BARRACKS, DOVER CASTLE.—*Elevation by Mr. Salvin.*

WORCESTER CEMETERY AND THE WORCESTER ARCHITECTURAL SOCIETY.

The Worcester Cemetery, born amidst discussion and squabble, was consecrated on the 28th ult. with very much the same accompaniments. When designs were advertised for at the beginning of 1857, about fifty were sent in. From these, one by Mr. R. Clarke, of Nottingham, was selected as the best, the estimate for which was approximately given at 3,250*l.*—the dwarf-wall walling from 300*l.* to 400*l.* more. Tenders were obtained, and ultimately, after some objection, one by Messrs. Hylton and Chambers, to execute the works for 4,830*l.* 14s. 6d. was accepted. The contract for fencing, making the walks, and preparing the ground for planting, was 1,850*l.* and with extras will probably amount to 2,000*l.* The planting will amount to 110*l.* more. The design includes two chapels, the sides of which are connected by a cloister, with a tower in the centre, which has a lofty archway through it. The entire length of the pile of building is 140 feet. The interior area of the tower is 13 feet square: the cloisters on either side are 27 feet long and 11 feet wide. Both the chapels are 38 feet long and 19 feet wide. The Episcopalian chapel has a chancel 15 feet by 14 feet, and the Dissenters' chapel a wooden screen, behind which is the vestry, 11 feet by 8 feet. A vestry 9 feet by 7 feet is attached to the Episcopal chapel, approached from the chancel. The style adopted may be considered Geometric. The principal feature of the structure is the tower and spire, the height of which to the top of the vane is 130 feet. The chapels and residences are built of blue lias from the Dunhampstead and Norton quarries, with Bath stone dressings. The spire, a broach, is entirely of Bath stone. The stone carving was executed by two young carvers, Gregg and Bradford; the wood carving by Thos. Hazell. Mr. Lucy was clerk of the works.

As ill luck would have it the Worcester Diocesan Architectural Society held their annual meeting on the day before that fixed for the consecration, and, in their report, the buildings at the cemetery were criticised very severely. The report said:—

"The point which first attracts attention is the extreme monotony and formality of the principal group, consisting of tower and two wings, precisely similar both in form and detail, even to the gable crosses. These wings form the chapels, and are connected together by a cloister, in the centre of which rises the tower and spire. One of the distinguishing features of our mediæval architecture is its reality and truthfulness, whereas this building abounds in shams. In proof of this assertion, the facts may be mentioned of there being no less than eight sham windows; also a vestry mimicking a chancel both in its position and some of its features, as the large three-light pointed window, particularly inappropriate in a vestry. Again, making the plastered interior walls to imitate large blocks of stone—a common but mean device. The general effect of the exterior is much marred by a sad want of general proportion. The large archway under the tower is preposterously high, owing to which the angle piers have a great appearance of weakness; it also takes off very much from the apparent loftiness of the tower. The exaggerated projection of the mouldings to the broach, and the ungraceful manner in which the spire springs from it, are exceedingly unsightly * * * * The same tracery pattern is repeated in twenty-three windows, and not content with this, it is again repeated ten times in the panelling on the piers to the boundary-wall. It is difficult to conceive why key-stones—so contrary to the feeling of true Gothic art—should have been introduced upon the arches, and still more so that sham key stones should be marked on the plastered interior. The domestic buildings should have been kept more subordinate to the chapels with respect to enrichment, whereas they are exceedingly pretentious, and loaded with meaningless workmanship."

And more to the same effect. The determination to find fault with everything, and the absence of consideration for the feelings of others, which are obvious in the observations, rather induce in us a desire to defend the party attacked than to dwell on any weaknesses observable in the design. Touching the blank windows in the cloister, it has been explained that these are eventually to be filled with stained glass, and the spaces between appropriated for mural tablets.

At the dinner which followed the consecration, Mr. Laslett, who gave the land, the mayor, the Rev. Canon Wood, and Mr. Southall, chairman of the committee, defended the buildings. The latter gentleman said, "One of the great difficulties of the committee was to avoid division, and the appearance of favouring one section of the community more than another. Instead of a Church of England cemetery here, a Dissenters' cemetery in another place, and a Roman Catholic one in a third, they had but one, and that he thought was matter for congratulation. The greatest fault that could be found with the structures was their uniformity, and that uniformity was what they had laboured to secure. The uniformity was intended to show equality; and that they did not wish to set one division above another. As one of the committee, he must confess he felt some annoyance at what had been said by the Architectural Society. Of course the designs and the mode in which they had been carried out were open to censure, but when they heard criticism and blame in every line, and praise nowhere, except as to the liberality of the corporation, and an allusion to the clerk of the works, they might well conclude that there was some motive for that wholesale censure which disentitled it to the appellation of fair and liberal criticism."*

ROMAN REMAINS NEAR LIVERPOOL.

In excavating for the new sewers, a few hundred yards to the east of the Church of St. Mary's, Grassendale, near Garston, a Roman pavement was discovered, about 7 feet below the present surface, and evidently forming part of a Roman road of great breadth, and apparently running in a south-easterly direction from Liverpool towards Garston or Hale. The pavement was formed of large and small boulder stones, closely jointed together, and laid flat, and was perfectly level, and without any rise in the centre. The surfaces of many of the stones were worn smooth by traffic. It is difficult to account for the accumulation of soil upon this road: it appears to be a stiff clay, and has no appearance to distinguish it from the natural undisturbed clay soil of the neighbourhood. The most probable supposition seems to be that the use of marl for agricultural purposes during many ages has raised the level of the ground, as the whole neighbourhood abounds in old marl-pits. A year or two since another portion of the same road was uncovered, near the Otters' Pool estate, the pavement being of similar character, and 5 feet below the surface. The present Aigburth-road was made about twenty-five or thirty years ago; but the former road, which was nothing more than a field track, seems to have followed nearly the course of the Roman road. There seems to be no record or tradition of Roman occupation in the immediate neighbourhood of Liverpool; but a year or two since a deep well, full of clear spring water, was discovered 5 or 6 feet below the surface of Mann-street, Toxteth-park, covered over by large oak beams. This well was of fine workmanship, and smoothly chiselled, in the red sandstone rock. Twenty years ago this district was not built over, and the line of the Roman road towards Liverpool tends in the direction of this spot.

E. W. Cox.

COPYRIGHT CONGRESS AT BRUSSELS.

A number of gentlemen connected with art and literature have been meeting at Brussels to discuss the question of international copyright. Mr. Chas. Knight and Mr. Robert Bell ably represented England. The meeting had an official character. The Minister of the Interior, in taking the chair, expressed his desire to make the principles elaborated by the Assembly, law.

The results of the Congress may be thus briefly stated:—

1. International admission of the right of literary and artistic copyright, with or without reciprocity.
2. The establishment of a uniform law, that protection to the produce of intellect may be universal.
3. Complete equality between native and foreign authors.
4. A simplification of the formalities required for an author to publish his work in a foreign country. That is to say, that the fact of his having complied with the requirements in his own country shall be sufficient.
5. Dramatic works and musical compositions to be placed on the same footing as literary works, as regards copyright.
6. An author or compositor's right over the representation or performance of his works.
7. Works of design, painting, sculpture, *architecture*, and engraving to be placed on the same footing as regards copyright as works of literature.
8. An abolition or, at least, a reduction of Customs dues on all works of genius.

NURSES' ROOMS IN HOSPITALS.

After your elaborate articles on the construction of hospitals, it will be almost presumptuous in me to point out an error to be avoided in future hospitals, and, if possible, to be rectified in those now erected. Hospitals, sometimes for the sake of a fine elevation, are often made the cause of great inconvenience and suffering to those who are compelled to labour in them, and with whom it is not always a labour of love, like that of Miss Nightingale. If the nurses in hospitals, through an error in construction, are compelled to sleep in rooms built on the roof, and with ceilings so low that in the hot weather they are like sleeping in ovens; for the night nurses, of course, are compelled to go to bed in the daytime;—if they cannot sleep (which is almost impossible) with the sun shining in all his glory on the slates, and the smoke from the chimneys driving in at the windows if they leave them open to get as much air as possible;—such inconveniences are not likely to make them very good-tempered when they go on their duty, and must, to a certain extent, react on the poor patients.

In some cases, if an opening were made in the ends of the roofs, so as to admit a free current of air to pass between the slates and the ceiling, it would make the rooms much cooler.

A Workman.

SOIREE AT THE LEEDS MECHANICS' INSTITUTION.

The British Association meeting, at Leeds, was taken advantage of by the committee of the Mechanics' Institution to hold a *soirée*, at which, as was anticipated, some of the chief celebrities and others connected with the British Association attended. Some 1,500 tickets (at 3s. and 2s. each) were sold.

Lord Goderich, M.P. occupied the chair, and delivered an address of considerable length upon the objects and advantages of mechanics' institutions and literary societies. As to the present condition of the Leeds Institution, his lordship stated that it had 1,600 members, and an income of 3,000*l.*

The Earl of Carlisle addressed the assembly in support of a "sentiment," which he said he would have preferred calling, as of old, a resolution, namely, "Success to the Leeds Mechanics' Institute and Literary Society, and all similar societies, as they materially promote the development of the chief resources of intellectual cultivation." In doing so, his lordship confined himself to local and personal topics.

Sir Roderick Murchison seconded the motion in an interesting speech, in course of which he said that, as a Scotsman and a Highlander, he felt proud of his country in having produced such a man as Hugh Miller, and he was rejoiced to be able to state that there was very shortly to be erected in Cromarty, near to where that distinguished man was born, a monument to his memory, and a monument constructed of true old red sandstone. But in pursuing his observations in the Highlands, and going beyond Sutherland and Caithness, it was his gratification a second time to meet with a remarkable man, in the town of Thurso, named Robert Dick, a baker by trade, whom he was proud to call his distinguished friend. When he went to see him he spread out before him a map of Caithness, and pointed out its imperfections. He (Dick) had travelled over the country in his leisure hours, was thoroughly acquainted with its features, and delineated to him, with flour on a board, not simply its geographical features, but certain geological phenomena which he desired to impress upon his attention. Here was a man who was earning his daily bread by his hard work, who was obliged to read and study by night, and who yet was able to instruct the Director-General of the Geographical Society. But this was not half of what he had to tell them of Robert Dick. When he became better acquainted with this distinguished man, and was admitted into his sanctum, he found the busts of Byron, of Sir Walter Scott, and other poets; and he found also books carefully and beautifully bound, and which this man had been able to purchase out of the savings of his single bakery. He also found that Robert Dick was a profound botanist. He found, to his infinite humiliation, that this baker knew infinitely more of botanical science,—ay, ten times more,—than he did, and that there were only twenty or thirty species of flowers which he had not collected. He was so excellent a botanist, that he might well have been a professed ornament of section D. He had mentioned these facts in order that the audience might deduce a present application.

The vicar of Wandsworth, the Rev. Dr. Booth, proposed the following sentiment:—"That the present movements in education tend to encourage the working classes to promote their self-improvement."

Professor Owen proposed,—"The advancement of Science, to the steady pursuit of which Britain owes much of her elevation among the nations of the world." The professor remarked that in every instance in which science had been advanced by the original labours of the working man, that man was the development of the boy who had received the blessing of a good, sound elementary education. Whether he adverted to Hugh Miller or George Stephenson, the facts were the same, and the illustration had the same important weight. He narrated an amusing anecdote to show how requisite it was to distinguish opinion

* On the same day a dinner was given to the workmen who had been employed; the clerk of the works in the chair, and Mr. Mitchell, the foreman to the contractors, in the vice-chair.

from fact. The anecdote related to a fishing club with which he was connected. The member who caught the heaviest fish was elected chairman for the evening, and an ambitious political member obtained the end in view by stuffing a barbel down the throat of a trout, which afterwards induced a noble lord to adopt the opinion that trout were much more voracious than was supposed,—an opinion which his lordship persisted in holding, under the false idea that he was only stating a fact, until the real facts of the case turned up.

The provost of the University of Sydney, Sir C. Nicholson, next addressed the meeting.

Mr. Monckton Milnes proposed "The extension of the Schools of Art, as they impart a taste for artistic beauty, and give familiarity with the principles on which it rests." It was well (he said) for every one who attempted to study art to connect it as much as he could with another subject which had been spoken of within that hall during the last few days—namely, science. They must not think that paradoxical, or that art and science were in any way disconnected. Art and science both sprang from the bosom of nature. It was by the study of nature alone, in all its peculiarities and niceties, that science became accurate and useful: it was by the study of nature also in those same peculiarities and niceties it was the conscientious study of nature alone—that could make the great and complete artist. Men might laugh at the peculiarities of art: they might scoff at some of the extravagances into which it had run; but, nevertheless, it was a matter of congratulation that the artist no longer thought that he could produce certain wonderful effects out of his brain, following his own hand at mere momentary impulses, but that he must be a hard-working student, a careful observer of nature, just as much as ever Professor Owen was. But all persons were not artists: in fact, as far as he was concerned, if he were to attempt anything of the kind, he should be much like an Englishman who went into a French eating-house, and, wishing to have mushrooms for dinner, drew something upon the wall which led the master to bring him his umbrella. Nevertheless, he could enjoy art, and he believed that most people could. Just in proportion as they studied nature would they enjoy the study of it in art: just as they approached something like the course of men of science in this matter, would they be able to recognize the beauties and failures of art.

The other speakers were Sir F. Murchison, Dr. Booth, Mr. E. Chadwick, Mr. M. T. Baines, Admiral Fitzroy, Dr. Shaw, &c.

During the evening the chairman distributed the prizes obtained by a number of members of the institution in the recent examination of the Society of Arts.

CHURCH-BUILDING NEWS.

Norwich. The extension of the city westward in Heigham, the number of new streets there, and the great increase of the population, says the *Norfolk Chronicle*, have rendered not only a new church, but also a new chapel necessary. In consequence of this, a movement was made for the erection of a new chapel in Chapel-field, by the Independent denomination. A subscription was commenced, and in June, it reached the sum of 2,000*l.*; but the cost will be 1,000*l.* more. Mr. Joseph James, of London, was employed as the architect, and Mr. Horace Sexton obtained the contract for the building, which was intended to accommodate about 1,000 persons. The design of the exterior elevation is borrowed a good deal from the Early Norman style of architecture, with some variation in the details. The principal feature in the front is a projecting gable, the width of the nave, in which is a recessed arch, formed of Norman piers, caps, bases, and arch mouldings. In the centre of this is a Catherine-wheel window, of a more foreign type of Norman work than is generally found in England. Under this is a small arcade, and beneath is an open porch, formed of three Portland-stone arches and columns, the caps of which are carved. A small circular staircase on each side to the galleries assists in the general character of the front. The chapel consists of a nave, having a semicircular roof, two side aisles, and a semicircular vestry, with an organ-loft above. The dimensions are 86 feet in length, 47 feet 8 inches in width, and the height from the floor to the ceiling is 43 feet. There is a gallery in the front and over each of the aisles. The interior is lighted above and below by a series of side windows, with semicircular arches, besides a circular window in front. The roof over the nave is arched, and is finished at the pulpit end with a circular apse. A series of light columns on each side of the nave support light arches, which are extended to the roof. The length of the nave is divided into five bays by iron columns, from which spring the arches formed in bracketing and plaster. Mr. Fisher, of Norwich, superintended the erection of the chapel, which was opened last week.

Wolstanton.—The clerk of the Works, Mr. Lewis, says that the new chancel is being built from the designs of Mr. Salvin, not of Messrs. Ward, as elsewhere stated.

Little Canfield.—Two painted glass windows have been placed in the chancel of Little Canfield Church. Each window contains two lights, with figures of the Evangelists, under canopies. The windows were executed by Mr. C. Clutterbuck, of Stratford.

Barnston.—A Gothic stained-glass memorial window has recently been placed in the chancel of the church here, by the Misses Toke, of Dover. It is composed of three lancet compartments, the subjects being;—in the centre,—"Christ supping with the two disciples at Emmaus," "The Crucifixion," and "The Last Supper;" in the north compartment,—"Elijah blessing the Widow's Barrel of Meal and the Cruse of Oil," a medallion, and "Elijah fed by the Ravens;" and in the south compartment, "The Miracle of the Loaves and Fishes," a medallion, and "Christ blessing Little Children." Mr. O'Connor, of London, was the artist. By a subscription of the rector, the Rev. R. R. Toke, and the principal parishioners, a large new window has been placed in the north wall corresponding with the opposite one south.

Kempsford.—On the 23rd ult. the parish church of Kempsford was re-opened; the chancel having been restored and enlarged by the addition of a south aisle, and the nave reseated with oak benches. The chancel is separated from the nave by a low stone screen, in the place of a high screen of oak, which formerly occupied the place. The chancel is entered from the nave through brass gates, the screen and gates being a gift. The chancel is paved with Minton's tiles, interspersed with white marble, the steps throughout being of the latter material. The introduction of white marble adds greatly to the beauty of the pavement, and for this the parish is indebted to Mr. C. Edwards, of Brockley Court, who liberally gave the marble required. The chancel is fitted up with stalls and subsellæ of oak. The new aisle, which contains 150 sittings, is separated from the chancel by two arches. The centre pier consists of a shaft of stone, encircled by four smaller shafts of Devonshire marble, surmounted by a capital of carved foliage. All the windows in the chancel, and two in the nave, have been filled with painted glass. These, with the exception of one window, which has been inserted as a memorial of the late vicar, are all the work of amateurs. The central tower, which rises on lofty arches between the chancel and nave, is lighted by a corona of two tiers of lights, also the work of an amateur.

Sunderland.—Owing to the increase of inhabitants in the southern part of the borough of Sunderland, a number of parishioners have made arrangements for the erection of a new iron church for the convenience of the people of Bishopwearmouth. The church will be entirely formed of wrought iron, and is to be lighted with stained glass windows. The pews and seats will be capable of seating 500 people. Mr. William Nicholson has offered a plot of ground for the erection of this church, which will be placed between Nicholson House and the new rectory, a short distance from the Stockton-road. It is intended as a chapel-of-ease for the parish church of Bishopwearmouth, and is to be named St. Bede's Church. When completed, the external part will be painted in imitation of stone.

Morpeth.—The building of the New Presbyterian Church in Morpeth has been let to the following contractors:—Masons' work, Messrs. Middlemas and Sons, Morpeth; Joiners' work, Mr. William Stafford, Morpeth; slating, Mr. Beck, Newcastle; plastering, Mr. Robson, Newcastle; plumbing, Mr. Robert Daglish, Morpeth; painting, Mr. Gibson, Newcastle. The designs have been prepared by Mr. Matthew Thompson, architect, Newcastle; and the site upon which it has to be erected, is where stands the "Old Town's Mill," at the north end of the stone bridge.

Lawrenceskirk.—The New "Free" Church here has been formally opened. The edifice, which holds about 400 persons, is in the Gothic style, without galleries. It stands on the north side of the principal street, and has a spire 100 feet in height. The cost of the building, &c. will amount to about 1,000*l.*

Kelso. The New Roman Catholic chapel here has been opened. It is called "St. Mary's of the Immaculate Conception." It is a small building in the Gothic style, and is situated at the head of Bowmont-street, Kelso. The architect is Mr. W. W. Wardell, of London; and the contractors are Mr. Alexander Black, of Kelso, and Mr. Middlemas, of Eccles. The nave is 60 feet by 25 feet, and the chancel and sacristy 27 feet by 17 feet. The chapel will be seated to accommodate comfortably 300 individuals; and it can be considerably enlarged, when the church will then assume the form of a cross, the wings being set apart for the choir and side altar.

"THE BUILDER'S" LAW NOTES.

Composition Deed.—Secret Security.—A creditor, in consideration of bills for 10s. in the pound on his debt, executed a composition deed, whereby it was expressed that the creditors who executed it released the debtor from all demands, but at the same time he secretly obtained security for the balance. It was held that he ceased to be a creditor, and could not sue out a fiat against the debtor, the original debt being released, and the claim being invalidated by the fraud.—*Re Cross.*

Reputed Ownership.—A person purchased some clocks at the shop of a tradesman who both sold clocks and cleaned such as were sent to him. The purchaser did not remove his purchase, but left the clocks to be cleaned. The tradesman became bankrupt before the clocks were removed. It was held that these clocks did not pass to the assignees, as there was no evidence that the tradesman was reputed owner of them, it being well known that he often had possession of clocks, not his own, to be cleaned and repaired.—*Hamilton* v. *Bell.*

County Court.—Distance of Dwelling of Plaintiff from that of Defendant.—The proper mode of ascertaining whether the plaintiff dwells more than twenty miles from the defendant is by measuring in a straight line on a horizontal plane from point to point.—*Lake* v. *Butler.*

Corporation.—A corporation may be sued in a county court: where, therefore, a corporation was sued in a superior court, and a sum under 20*l.* recovered, which action could have been brought in a county court, the plaintiff got no costs.—*Taylor* v. *Crowland Gas and Coke Company.*

BUILDING IN IRELAND.

Howth, County Dublin.—The liberality of the railway company, in presenting free life-tickets to owners of each new house erected at Howth, has given some impetus to building speculations in that quarter of late. "Cheerful Villa," an ornamental Tudor composition, containing twelve apartments, erected recently for Lord Howth, affords a fair model of the class of property best suited to meet the requirements of a marine residence, in harmony with the coast scenery of that favoured locality. Mr. Charles Geoghegan was the architect.

Church of St. Laurence O'Toole, Dublin.—The schools in connection with this church have recently had the addition of an octagonal staircase tower, forming a porch-entrance on ground-floor, and uniting the upper and lower schools, under the direction of the architect last named. The style is Gothic, with white granite dressings, presenting a marked contrast to the dark colour of the limestone used in the remainder of the walls. The tower has a high-pitched roof of scolloped slating, surmounted with ornamental ridge, crest, and cross, of open-pattern metal-work.

Church of St. Lorcain, Hy' Tuathil, Northstrand, Dublin.—This church, better known by the ugly Anglicised appellation of St. Laurence O'Toole, was erected some years since, the walls and roof being completed under the superintendance of the late Mr. J. B. Kane, architect (the patron saint was Archbishop of Dublin at the time of the English invasion; and having in vain sought to effect a union among the Irish chiefs, proceeded to Normandy to intercede with Henry II. on behalf of the suffering poor of his diocese: he died and was interred at Eu, in Normandy, the parish church of which place has been dedicated in his name). The new church has been completed in the interior with a plaster groined ceiling, springing from engaged cluster-columns: it is cruciform in plan, and 120 feet in length, 35 feet in width, and 75 feet across the transepts. A contract is about being entered into for completing the tower and spire, which will be 175 feet high. The spire will be surmounted with a Mediæval cross, and will be pierced with twelve lancet openings: the belfry will have twelve great lancet windows: side altars, in Caen stone, are in progress, together with the stained glass for the chancel windows. A large reredos, containing alternate panels and niches, for full-sized statues,

is intended to be executed in Keene's cement. The building has cost 10,000*l*. Mr. John Bourke was the architect.

St. Mary's, Navan.—This church, which was erected about fourteen years ago, is a parallelogram, 112 feet by 72 feet clear breadth, with recesses for altars at the side. Some uneasiness having been caused by the great span of the roof, the construction of which is not of the most perfect kind, designs have been prepared by the architect last named for dividing the span into nave and aisles by pilasters, imposts, arches, &c.; the nave to be covered by an elliptic ceiling, space for which would be formed in the great height of the roof. The designs also include the addition at the altar end of a semicircular apse, side chapels, &c. and at the other end two towers 100 feet high, connected by an open arcade for entrance-porch, which will support an organ-gallery in the upper part. The towers will contain staircases, and will be shortly commenced.

THE OLD AND THE BEAUTIFUL.

KEMERTON CHURCH.

If anything could deepen my regret at being charged with the use of unbecoming expressions in writing of a sacred edifice, I should find that aggravation in the fact of the accusation being made by one who frames it in terms which breathe forth the very spirit of candour and courtesy. I am not anxious to clear myself of the imputation of seeing little to admire in modern churches, as a general proposition; nor can I honestly withhold the admission that I discovered nothing in *Kemerton* to entitle it, in my own opinion, to form an exception to the rule. I purposely abstained from any remarks upon its architectural merits, because I knew it to be the work of one whom, when living, I respected, and whose many surviving friends might have been pained by disapprobation. On the remaining part of your correspondent's comment, I will say this much;—that anything having the remotest relation to the reverent celebration of Christian worship should awaken in my breast sentiments which find expression in a sneer is foreign to my very nature; and unfortunate, indeed, must have been the phraseology in which your correspondent imagines he detects the slightest trace of contempt for services and arrangements which command all my sympathy. But is it not quite true that, from constant contemplation of a cherished object, we become enamoured of excellencies, and lement to defects, and at length contract a morbid sensitiveness, which discovers disparagement in everything that falls short of eulogistic encomium?

As to the other objection made to the papers to which you have given admission in recent numbers of your periodical, I think this arises in some measure from having overlooked the end proposed. It is quite true that I have abstained from more than the endeavour to give a matter-of-fact detail of the churches I visited, because I wished mainly to convey an idea of buildings not so well known as they deserve to be, and to aid tourists like myself to view them with the least possible expenditure of time by furnishing them beforehand with some hints of what they might expect to see. I have myself always felt grateful for the slightest information of this sort, which directs you at once to objects really worthy of a visit, and saves you the mortification of a fruitless chase after what proves, when reached, not to have been worth the trouble of pursuit. My descriptions thus naturally assume the *recording* spirit, of which your correspondent complains, and which no one can be more ready to admit as their defect than myself.

Your correspondent does not err in assuming that his remarks will be accepted in the spirit which prompted them. If all expressions of difference of opinion on archæological subjects were moulded in such a pattern, there would be little occasion to regret the intolerance and acerbity, the apprehension of which oftentimes restrains the expression of honest opinion. From one who dissents with so much candour, and who censures with so much courtesy, it is impossible that offence can come; and the pardon of which "Kemerton" expresses his assurance beforehand, I, in my turn, ask of him, if anything I have written should have caused him even a moment of pain.

T. I.

THE POLYTECHNIC INSTITUTION.

The evening classes here were inaugurated by a public meeting, on Monday evening last, in the small theatre, when Dr. Lankester took the chair, and made an instructive address, dwelling on the use to be made of leisure time, and the powers which knowledge gives, and illustrating his assertions by reference to the career of Mr. Titus Salt, and other self-advanced men. Mr. Buckmaster, the hon. secretary of the classes, Mr. Twining, and other gentlemen interested in the movement, took part in the meeting, and the proceedings were closed by the delivery of the certificates obtained at the examination, instituted by the Society of Arts, to the successful candidates. The classes are now open. On the evening in question, being Monday, the Polytechnic was running over with people, who appeared greatly to enjoy the musical lecture by Mr. Peed (very well done), the dissolving views, and other entertainments provided. We desire always to praise rather than find fault, and have done all in our power, and would do so, to make known the attractions of such institutions as the Polytechnic. It is injurious, however, for those who would aid to overlook blemishes, and with that feeling we must urge that sufficient care is not taken to make the dissolving views, for example, as instructive as they might and should be. Something like information should be given with them, and not the mere namby-pamby, "this is Castle A," and "that is River B," that we hear. Moreover, the gentlemen who undertake the task ought to speak English, and learn how to pronounce the words confided to them. When we hear our exponent saying "Ber-loir" for Blois, and "Ler-woir" for Loire, with much to correspond, it grieves one not merely that opportunities of conveying information should be missed, but that the ears of thousands should positively be vitiated. If the Polytechnic is to be regarded as an educational institution, such things must not be permitted.

RAILWAY MATTERS.

The traffic returns of railways in the United Kingdom for the week ending September 11, amounted to 510,910*l*.; and in 1857, to 508,420*l*.; showing an increase of 2,490*l*. The gross receipts of the eight railways having their termini in the metropolis, amounted to 214,963*l*.; and in 1857, to 211,328*l*.; showing an increase of 3,365*l*. The increase on the Eastern Counties amounted to 803*l*.; on the Great Northern, to 2,839*l*.; on the Great Western, to 919*l*.; on the Blackwall, to 148*l*.; on the Brighton, to 1,035*l*.; on the South-Western, to 2,135*l*.; and on the South-Eastern, to 267*l*.: together, 8,146*l*.; but from this must be deducted 4,781*l*. decrease on the North-Western. The receipts on the other lines in the United Kingdom, amounted to 296,217*l*.; and last year, to 297,092*l*: showing a decrease of 875*l*.——Some statistics of railway travelling lately published, make the United States the most dangerous, and Prussia the safest, country for passengers on railways. In the States one in every 188,459, is injured; in Prussia, one out of 3,294,075. England damages one of each 311,345; France, one out of 375,092.——Mr. Armain, Haverstock-hill, proposes to cast rails with a longitudinal groove in the upper face thereof. The sides are cast in such a manner as to leave a space between them, which is filled up with concrete, asphalte, or other suitable material. The ends of each rail may be cast with eyes, which project outwards from the sides; those on the outside to receive bolts for securing the rails longitudinally, and those on the inside to aid in fastening the tie-rod for maintaining the gauge. ——An influential meeting of directors and other representatives of railway companies has been held at the Euston-square station, for the purpose of considering as to the railway competition prevalent in some districts. Nineteen companies were represented. Resolutions were passed, several unanimously, which may thus be summarised: fixed rates and fares, arbitration to settle disputes of companies in a particular traffic, settlement of all differences between railway companies by arbitration, and the appointment of a committee to prepare a bill for presentation to Parliament. —— The Scottish North-Eastern Company have commenced placing on their engine tenders, &c. an apparatus which establishes communication between the guard and the engine driver. To a bell fixed to the tender is attached a line which reaches to the guard's van, and the latter official has only to turn a wheel in order to strike the bell, which is a signal for the driver to stop the engine.——The traffic returns of railways in the United Kingdom for the week ending September 25, amounted to 502,720*l*. and for the corresponding week of 1857, to 513,330*l*. showing a decrease of 10,610*l*. The gross receipts of the eight railways having their termini in the metropolis, amounted to 209,484*l*. and in 1857 to 211,571*l*. showing an increase of 5,087*l*. The decrease on the Great Northern amounted to 129*l*.; on the London and North-Western, to 7,437*l*.; on the London and Blackwall, to 26*l*.; and on the London, Brighton, and South-Coast, to 219*l*.; together, 7,811*l*. But from this must be deducted 108*l*. the increase on the Eastern Counties; 814*l*. on the Great Western; 773*l*. on the London and South-Western; and 1,029*l*. on the South-Eastern. The receipts on the other lines amounted to 293,236*l*. and last year to 298,759*l*. showing a decrease of 5,523*l*. ——A project of forming a railway from Smyrna to Aidia, in Asiatic Turkey, has been brought before the public. The Sultan guarantees a dividend of 6 per cent. on this line, but it would much improve the security if some responsible person could be found to guarantee the Sultan. The cost of the line is estimated at 1,030,000*l*. The works are in progress, and are said to be conducted with great vigour.

Durham.—Mr. E. R. Robson, of London, has been appointed architect to the dean and chapter of Durham.

THE MAIN DRAINAGE OF LONDON AND THE BOARD OF WORKS.

At the last meeting of the Metropolitan Board of Works, held October 1, Mr. Bazalgette submitted his report in reply to the resolution of the 11th of August last:—

"That the engineer do report as to the order in which the several parts of the works recommended in the report of Messrs. Bidder, Hawksley, and Bazalgette might be most advantageously and conveniently carried out. That the engineer do prepare specifications for carrying out the several works set forth in the report of Messrs. Bidder, Hawksley, and Bazalgette, commencing with those parts of the works which the engineer considers to be most urgent; and that the engineers do prepare plans for, and do report to the Board as to what advantage might be derived by having the outfall on the south side of the river Thames in Greenwich Marshes, providing in that case for deodorizing the sewage continuously throughout the year."

At starting, he says,—

"Corrected surveys and detailed plans of the private property to be crossed are now being constructed, and an inquiry has been instituted as to the ownership and occupiers of such portions thereof as will have to be purchased. Additional borings are now being made, and the contract drawings and specifications for several portions of the work have already been commenced, and are being proceeded with as rapidly as possible, in the order hereinafter enumerated. With regard to the arrangements by which the several parts of the works can be most advantageously and conveniently carried out, I submit that the natural, and most convenient, order for executing works of this character, would be to commence at the outfalls on both sides of the river; and, by first constructing the high-level and gravitating sewers, to cut off the flood waters of the high from the low level districts, and thus to prepare for the subsequent execution of the low-level sewers."

It is rendered necessary, he thinks, to push forward the works at numerous points simultaneously:—

"On the north side of the Thames, the northern high level sewer, from Hampstead to the River Lea, is urgently needed. It will form a substitute for the open Hackney Brook Sewer, and embraces a length of 7¼ miles of main sewer, and 1¼ mile of branches; and, in an engineering point of view, it is a convenient portion of the work to commence upon. I have therefore first prepared the contract drawings and specification for this portion, to be let in one contract, which is now submitted for your approval; and I recommend that advertisements be forthwith issued for tenders for this contract."

"The whole cost of this work, including land, compensation, and a variety of contingent items, will be, in round numbers, about 150,000*l*."

The main outfall sewer from the River Lea across to Barking-creek, must form part of the present contract in order to make use of the surplus earth in the embankment across the marshes.

As to the *south* side of the Thames he recommends that the order of the Board for the erection of a temporary pumping station at the mouth of the Earl Sewer be rescinded; and that in lieu thereof the first permanent pumping station at Deptford-creek, intended to raise the sewage of the low level sewer into the main outfall channel, be at once constructed.

When these arrangements are sufficiently advanced, it is proposed to construct the north branch of the low-level sewer, from St. James's Church, Bermondsey, to Deptford-creek, including a portion of the main low-level sewer in one contract.

The sewers of the western division may be commenced and completed independently of the other portions of the work; but before these are contracted for, it is desirable to enter upon definite arrangements for the deodorisation of the sewage to be carried off by them; and he recommends that advertisements be forthwith issued in the public papers, setting forth the quantities of sewage to be dealt with, and stating that the Board will be prepared, at a time named, to receive and consider tenders from responsible parties, for the deodorisation of the sewage of the western division, and the removal of the deposit, for a term of years, under certain restrictions, to be stated, which shall secure the effective deodorisation, purification, and removal of the sewage, in such a manner that no nuisance shall be created thereby. Under such arrangements he thinks "the marketable value of the metropolitan sewage, as a manure, would soon be fairly developed."

"The high level sewer on the south side of the Thames should then be let in one contract. Then the middle level sewer on the north side in another contract, to be followed by a contract for the northern main outfall sewer, from the river Lea to Barking-creek. Then the low level sewer on the south side of the Thames; afterwards the southern main outfall sewer. Then the reservoirs at both outfalls; and, lastly, the low level sewer on the north side of the Thames."

Touching the last point in his instructions, the advantage to be derived from having the outfall for south side in Greenwich Marshes, he comes to the opinion that it is desirable to adhere to the former decision of the Board, and to place the southern outfall at Crossness-point, in the Erith-marshes.

In conclusion, the engineer submits the follow-

ing table, showing the manner in which it is proposed to divide the work into separate contracts, and the periods at which the drawings and specifications may, so far as it is possible to estimate, be expected to be ready to advertise for tenders, accompanied by estimates of cost, intended merely to give a general view of the nature and extent of the works, and including land, compensation, and a variety of contingent items. This table has reference to the construction of sewers and works, exclusive of machinery, engine-houses, deodorising works, and other items :—

Numbers and Names of Proposed Contracts.	Dates when the Contracts may be expected to be advertised.	Approximate Cost of Works.
		£.
1. High level sewer, north side of the Thames	Now ready	150,000
2. Northern branch of low level sewer, south side of the Thames	Depending on purchase of land, and probable completion of machinery at Deptford Creek	60,000
3. Sewers of Western Division	Depending upon arrangements to be made for deodorisation.	55,000
	1859.	
4. High level sewer, south side of the Thames	February	203,000
5. Middle level sewer north side of the Thames	March	214,000
6. Main outfall sewer, north side of the Thames	April	464,000
7. Low level sewer, south side of the Thames	May	152,000
8. Main outfall sewer, Crossness Point, south side of the Thames	June	372,000
9. Reservoir, north side	July	150,000
10. Reservoir, south side		90,000
11. Low level sewer, north side of the Thames	Depending on the Thames embankment	221,000
	Total	£2,131,000

Correspondence.

THE NINE HOURS MOVEMENT.

SIR,—It is somewhat cheering in a country like this that working men have the privilege of inserting their grievances in a public and enlightened journal like the *Builder*.

As a working carpenter of considerable experience, in London and the country, I flatter myself I am qualified to say a few words respecting this nine hours movement. I cannot but in justice admit some portion of the letter of "One who knows a thing or two" as virtually correct, but much, also, is radically wrong, and would tend, unless refuted, to mislead the public mind and foster an erroneous opinion. His letter is diametrically in méal to our interest, and subversive of all efforts of improvement. Ought not the carpenters of London to receive the thanks of all true philanthropic men rather than rebuffs and negative opinions? With respect to builders' names becoming a by-word at the Bankruptcy and Insolvency Courts, much of this unhappy state of things may be obviated. It is the builder's unnatural ambition to figure higher in the commercial world than his compeers. In trade let the builders pursue a more equitable course, and the inevitable result would be a good profit for well remunerated labour.

The London carpenters have more cause for thus speaking out on this matter than any other of her Majesty's subjects, closely confined and pent up in this huge Babylon for six days, with all kinds of pestiferous stenches arising from the foul river upon whose banks their shops are chiefly located. With respect to trades' unions fostering a bad feeling between masters and men, it needs only mentioning to be despised. Union in men is the only means whereby to build the superstructure of independence. Intelligent workmen will always look with hope upon trades' unions as the bulwarks of our national freedom. You might as well seek to annihilate Christianity simply because its potent influence was not more expanded, as trades' unions for not placing the intelligent workmen in a more respectable position. The subject of supply and demand merits my good opinion, and depend upon it emigration is the only effectual agency to equalize the superabundant market. I deeply deplore workmen spending their earnings in the pot-house, but let us not seek to intrench upon the vital principles of sociality.

J. W.*

* We have received a longer letter on the same side, and, if possible, will find room for it next week.

Books Received.

Transactions of the Wiltshire Archæological Society. No. XIII. Devizes: H. Bull. London: Bell and Daldy, and J. R. Smith.

THE June number of *The Wiltshire Archæological and Natural History Magazine* contains the Rev. W. H. Jones's "History of Bradford-on-Avon" (in part), the substance of which was read at the Bradford meeting of the Wilts Archæological Society, and reported in our columns at the time; a very lucid sketch, with map, of "The Geology of Wiltshire," by Mr. Poulett Scrope, M.P.; and the commencement of a series of papers on "The Flora of Wiltshire," by Mr. T. Bruges Flower,—an appropriate author. Mr. Jones's elaborate paper is disfigured by some very unsatisfactory, indeed discreditable, illustrations. Committees of Societies sending their Transactions to foreign bodies and libraries should consider how, by want of proper care, they may damage the reputation of their country. The miscellany is itself, in other respects, a very valuable one.

Miscellanea.

WINDSOR CEMETERY.—Considerable dissatisfaction is expressed in consequence of the non-acceptance of the lowest tender for the proposed chapel in connection with this cemetery. The burial-board deny that they have anything to do with it, and throw the *onus* on the vicar and his curates. The tender of Messrs. Mills and Son was 1,747*l.*; that of Messrs. Oades and Son, 1,847*l.*; and the latter was accepted.

SINKING OF THE NORTH QUAY WALL AT GLASGOW.—Last week a portion of the Quay-wall between Brown-street and York-street, extending to about 200 feet in length, unexpectedly gave way with a cracking noise, and continued yielding till it had gone out about 8 feet, and sunk about 5 or 6 feet. The wall was finished in 1814, and the circumstance of the harbour being now much deeper than it was at that period, is adduced as accounting for the accident.

LECTURES AT POOLE.—The *Poole Herald* speaks in warm terms, under the heading of "A Step in the Right Direction," of a lecture by Mr. Mackintosh, on geology, given at the instance of Mr. Jennings, to the persons in his employ, at the South-Western Pottery. The *Herald* says, "We are pleased to see a movement of this character instituted in our neighbourhood, believing it to be one among the many means which may be brought into requisition to keep mechanics from the public house, and heartily wish Mr. Jennings, and his manager, Mr. Hudson, success in their endeavour to improve the moral and intellectual condition of their workmen."

A THOROUGH STAR-GAZER.—When an Englishman lands on the Continent, all his movements, if not in strict accordance with the French *régime*, are deemed eccentric, though, perhaps, the term is better applied to our Gallic friends than to us. But here is an *exception* which, in all honesty, must be classed with those who amuse themselves by "raking cobwebs from the sky." On Wednesday in last week, an Englishman, resident at Antwerp, and well known for his *eccentricities*, as the *Nord* says, mounted to the summit of the cathedral-tower with an ample supply of ammunition and pieces of all calibres, from a long 64-inch to a short 8-inch opera-glass—focal distances, of course. He declared his intention of seeing the comet closer than others had done, and mentioned the name of Donati. On his arrival at the top of the said tower, he would fain approach near the "*mystery of the tale*:" so he got astride the weather-cock, and remained seated upon the metal biped from 5 till 8 p.m. Needless to say that he was the chief object of regard, and that the comet was for a time forgotten. Thus says the *Nord*; and we adjoin—"*Si non é vero è benè trovato*."

SEATS IN ST. JAMES'S-PARK.—Sir: Yesterday afternoon, whilst passing through St. James's park, a crowd was collected at the end of the new bridge, caused by one of those new functionaries with a bag demanding twopence of a gentleman who had unconsciously seated himself in a chair by the water's edge: the gentleman refused payment, stating that he knew not that any charge was made, and also that he had seated himself more from curiosity to try the chair, and had occupied it but a short time. The official pressed his claim, stating that he was responsible; and the gentleman, not wishing him to lose, paid, on receiving the address of the official's employer. It occurred to me as singular that chairs in public parks should be subject to such a charge. Does Government let this privilege? Why ought the public to be entrapped? For no doubt many sit down in the chairs without knowing that they are private property, and possibly pay rather than have a crowd collected. It certainly would be much more in harmony with the improvements going on in the parks to fix a few free sittings at the water's edge, and add a few more to those already on the paths.

A CONSTANT READER.

HONOUR TO MR. ROBERTS, R.A.—This eminent artist, who is at present on a visit to Edinburgh, his native city, was a short time since elected an honorary member of the Royal Scottish Academy, and was last week presented with the freedom of the city by the Lord Provost, in presence of the magistrates and council, and of several gentlemen eminent in art and literature, including Mr. Clarkson Stanfield, who is also at present in Edinburgh, Professor Aytoun, &c. The Royal Scottish Academy afterwards entertained Mr. Roberts and Mr. Stanfield to dinner.

GOING AHEAD.—A correspondent of the New York *Tribune* proposes to build a railway across the Atlantic! He would cut down the hills in Scotland and in the New England States, wherewith to find material to fill up. The road should be a mile wide, the cars two stories high, with wheels not less than sixteen feet in diameter. The spare ground on each side of the track should be leased for stores, which, together with the mineral wealth derived from the levelling of the mountains, would soon pay expenses. Capital is to be found by England and America giving up their war establishments!! Will other kingdoms do so too?

RELATIVE STRENGTH OF CEMENTS.—Some experiments have been made in Liverpool on the relative strength of Portland cement as manufactured by the experimenters, and what is known as Roman cement. According to the Liverpool *Journal*, all the experiments were made on cement bricks, having a sectional area of six square inches, and these were submitted to a strain tending to tear them asunder by weights placed in a scale-board, suspended by clamps attached to the bricks. The following are given as the results of the experiments :—

Age of Brick	Conditions of Mixture.	Breaking Weight
	ROMAN CEMENT.	
No. 1... 3 weeks..	Roman cement, neat ..	476 lbs strain
No. 2... 3 weeks..	1 of do. to 1 of sand....	420 lbs strain
	PORTLAND CEMENT.	
No. 3... 3 weeks.	Portland cement, neat, immersed in water within 1 hour after gauging for 24 hours	1521 lbs. strain
No. 1... 3 weeks.	Portland cement, neat, not immersed in water	1372 lbs. strain
No. 5... 3 weeks.	Portland 1 part, sand 3 parts	420 lbs. strain

In respect to experiment No. 3, it is but right to state that the breaking of the brick did not take place by mere suspension of the weight attached to it, but was effected by a jerk, which many of the gentlemen present considered would not be over-estimated at 168 lbs. additional to the weight suspended.

OCEANIC TELEGRAPHS. — A correspondent, J. W. H., writes us, saying :—"I have conceived a plan for laying down several cables in a single journey by employing two steamers as before, and by dividing between them the cables. My plan is, to have six or more cables, each of the thickness of a quill, quite strong, and yet so light that they would sink very quietly to the bottom, and, therefore, the speed of the steamers would be of no consequence, whether slow or fast, while the rough sea would not be an impediment to the operation of paying-out the several cables. The splice to be effected as before, in mid-ocean, each cable being coiled separately in the hold of the steamers. In the paying-out I should allow to one-half of the cables more slack than the others: my object in so doing is, that should any of the cables part, others would reach their respective destinations in safety. The shore ends of the cables to be one inch or more in diameter. The advantages of having thin and light cables are, cheapness, combined with security from breakages on sharp edged rocks. The insulator used by me is not gutta-percha, but something cheaper and safer." The adequacy of the insulator, however, is almost everything in such a case; and, of course, without some idea of what *it* is composed of, no one can judge of the actual merit of J.W.H.'s project: indeed, the nature of the line altogether is rather obscurely hinted at. However, as we have said, that Lieut. Maury fathomed the Atlantic depths with a mere "lead" line and brought up specimens of the shelly bottom, besides the weight of the line itself and its sinking weights, is proof positive that such a line is strong enough for successful deposit. The public were agreeably surprised at the beginning of the present week, with the announcement that "Newfoundland letters received by the *Propeller*, viâ Galway, to 21st September, state that a message had been received on that day from Valentia, through the cable, 'with a better current than ever.' They did not appear to know to what to attribute the cessation in the communication previously."

An Hospital for Thurles.—An Irish lady, residing in Paris, has bequeathed all her property, including estates in Tipperary, in trust, to accumulate until the rents and proceeds of sale are sufficient to endow an hospital in the town of Thurles for the poor of the county, who may be afflicted by accidents or incurable but not infectious diseases; and for the erection of an almshouse, for poor widows over sixty years of age.

Poisoning by Paint.—M. de Calvi is said to have experimentally demonstrated that the cases of poisoning by remaining in newly-painted rooms are not due, as has hitherto been supposed, to the white lead, but to the vapours of the oil of turpentine. According to his statement, the effects will be the same, whether the paint employed is lead, zinc, or other pigment, so long as the oil of turpentine, or any of its analogues, is employed as the medium. M. de Calvi purposes to treat such cases by the energetic employment of stimulants.

Fall in the Price of Copper.—Copper, which has maintained a high price during the present year, has at length given way, and a reduction of 4*l.* 10s. per ton has been declared. Tough cake and tile are now quoted at 98*l.* per ton. The smelters have not given way until the stocks proved much greater than the demand. A reduction of one halfpenny per pound has been made of manufactured copper.

Measuring-Rules made by Machinery.—New machinery for the manufacture of measuring-rules has been invented and patented by Dr. Church, of Birmingham. According to the local *Journal*, the several machines require only to be fed with the "raw material," and in the end "they deliver measuring-rules of most exact workmanship." The wood or material of which the sides of the rule are made "is cut up by a machine as completely automatic as any machine we have ever seen, and the sides thus produced are transferred to another machine, by which the length is accurately adjusted, the partings cut away for the introduction of the joint-plates, and the depressions made, in which the steady-pin plates are inserted." Without diagrams, however, it appears, any description would be unintelligible. "In short," says the *Journal*, "almost before one is aware that the strip of wood is securely fixed in the machine, the work is done. A perfect rule side is presented to us. It would weary our readers if we described the many machines which Dr. Church's patent embraces. We must content ourselves with stating that there is a machine for making the joint-plates; a machine for drilling the holes in the joint-plates, in the steady-pin plates, and in the tips; a machine for riveting the several pins by which joint, steady-pin plates, and tips are fixed on the rule; a machine for scraping or smoothing the sides of the rule; a machine for dividing or graduating the rule, and several others."

Northwich Sinking.—A correspondent writing from Northwich to a Cheshire contemporary says: Nixon has a prophecy that the present Northwich shall be entombed. To augur this much does not require the seer's prescience, for common observation and ordinary intellect may with certainty predict this as the inevitable result. It has sunk from time immemorial, is now sinking fast, and bids fair to sink with still greater expedition. The agencies producing this "settling" are numerous and of such a character that to remove them would be to deprive Northwich of its support. Its staple trade is the excavation and manufacture of salt. As the man who opened a vein in his arm and drank his own life's blood, so Northwich subsists on its own vitality, and feeds upon itself. The last six months the "settling" has increased so rapidly that the main street has had to be raised considerably, and the houses on one side seem to be peering from their graves, rendering it not impossible to step from the pavement into the chamber window. Northwich! thy days are numbered!

Drink in the Parks.—In reference to the very laudable movement in favour of "public drinking-fountains," I trust amongst the many proposed sites for that great boon to the poor out-of-door public that the parks of the metropolis will not be overlooked. I, with my family of young children, lately visited that delightful retreat of the east-enders of London, Victoria-park (all honour to its promoters). We provided ourselves with biscuits, and repaired thither to enjoy our half-holiday, and the only drawback to our happiness was *thirst*, to satisfy which we were forced to go outside the park and buy what we did not want, that we might beg what we did want, viz., water for our little ones and selves, besides shortening our half-holiday.

Un pauvre Pere de Famille.

The Spire of Salisbury Cathedral.—It is gratifying to know that no declination of this noble spire has taken place since 1668, when it was plumbed by Sir Christopher Wren, who recommended "that this test be often repeated." It *was* repeated by Mr. Naish in 1680, by Mr. Thomas Naish in 1736 and 1739, by the Clerk of the Works in 1837 and 1840, and, according to the *Salisbury Journal*, on the 30th of September, 1858, being the 600th anniversary of the dedication of the cathedral.

Monument to "the Pilgrim Fathers" in the United States.—A monument is to be erected at Plymouth, U.S. to cost from 300,000 dols. to 400,000 dols. It will be built of granite, 150 feet high, 80 feet at the base, with sitting figures 38 to 70 feet high. It is to be completed in ten years. 36,000 dols. have been subscribed principally in Massachusetts.

Appropriate Monuments.—It has been proposed by the friends of the late Arthur H. Holme, architect, to erect a monument to his memory in Grassendale Church, near Aigburth, to include a full-length figure in marble. At the earnest remonstrance of the incumbent, it has, however, been decided to erect a medallion in lieu of a statue. Certainly, Mr. Holme's friends would do well to re-consider their determination before disfiguring with a monument of Classic style a Gothic church which was considered by the deceased to be his best work. A stained window would be more ornamental and appropriate.—C.

Watering the Streets.—This is an operation performed most injudiciously by the several parishes. The water is deluged on the roadways in such quantities as to form a slimy, slushy mud. What is required is, that the amount of water shall be sufficient to lay the dust, and not convert it into mud. The perforated holes should be finer and fewer in the water-carts. A finer stream is required, and one more diffused and oftener applied. The New-road is invisible at the *present* moment from dust.—Viator.

The State of Preston Parish Church.—Some severe strictures on those responsible for the restorations of this church four years since, appear in the local *Chronicle* of last week. The writer, in describing the state of things, says:—"We have not sufficient practical acquaintance with building to say in what proportion the blame for this negligence of the simplest rules of construction should be apportioned; but, amongst them, architect, contractor, and clerk of the works, they are chargeable with, to say the least, shameful negligence. The grates set in the lower portions of the walls, to allow of a circulation of air beneath the flooring, were all blocked up in the inside with solid masonry: where holes were to be drilled through the walls near the windows to allow of the admission of air, a circular indention was simply made on each side of the wall for an inch or two, but they did not communicate: the water from the roof of the church was brought down in spouts to the base of the church, whence it made its way to the foundations or in the adjoining graves, as circumstances happened, there being in many instances no drains to carry the water off; and the simple provisions which the clumsiest joiner would have made for the preservation of the commonest cottage were here altogether overlooked. Nay, so gross was the negligence, that not even a drain was provided for the water-closet beyond the outer wall of the church."

Fever and Filth in Lincoln.—The state of Lincoln is giving serious concern. The local coroner, writing to a Lincolnshire paper, says,—"The sanitary state of our city, at the present moment, causing a prevalence of a wide-spreading fever, which has entered the houses of those in 'high places,' as well as those of 'meaner estate,' has again excited public discussion, and well it may. The Witham, which passes through the heart of the city, is hourly sending out poisonous bubbles, sulphuretted hydrogen, and carbonic acid gas, and its victims are numerous. Butchery-street has a skin yard, around which are now lying young and old, prostrated by fever. The park is continually offering up its sacrifices. Eastgate now feels the mischief of drains running under the houses, and emptying themselves into dry wells or cesspools. The ditches still vomit forth their miasma. The channels are swept, it is true, and at a great expense; but by doing which, without flushing them, the lurking mischief is stirred up and cast upon the road to revel in its luxury of evil until carted away. The system appears to me to be more ridiculous, and much more mischievous than *washing* a sweep with a *dry towel*. But, sir, the worst remains behind: the remedy is within ourselves, and is not applied."

Architects in the Back-woods.—Sir,—Amidst all this emigration scheming, I write to warn young men who are not inured to hardship from leaving good situations for hard fare in America, as the new world is already overcrowded with such. What are wanted there are agricultural labourers. I, as an architect, went with grand schemes of building, growing cities, and senate-houses for the speculative republicans, but I did so in a different manner from what I expected, namely, with the *axe* in place of the compasses. I think the country is more overcrowded with architects than any other class of professionals.—Itinerant Architect.

Drainage of London.—In the course of a discussion, after a paper on this subject read by Mr. E. Jones, before a section of the British Association, the president (Mr. W. Fairbairn) suggested that the best mode of dealing with the question would be to unite the streams from the drainage systems on each side of the river, using, say the Thames Tunnel, for that purpose; and to raise by pumps the common stream to such a level as to allow it to find its way through covered tunnels to the German Ocean. This arrangement, he said, would free the metropolis from the sewage at once; and it would be quite consistent with the establishment of stations whence farmers could be supplied with as much as they needed of either the liquid or the solid manure. The more thus taken out, the better the result in every respect.

TENDERS.

For new villa at Tunbridge-wells; Mr. N. E. Stevens architect

Mansfield	£2,600	0	0
Dove, Brothers	1,875	0	0
Willicomb	1,819	0	0
Wien	1,759	0	0
Jupps	1,730	0	0
Barret	1,721	0	0
Pink	1,668	0	0
Edwards	1,515	0	0
Walker	1,598	0	0
Nokes	1,568	0	0
Newman and Canfield	1,563	0	0

For additions to house at Southborough-road, for Mr. A. Hamilton. Mr. R. Richie, architect:—

Clark	£1,850	0	0
Dove, Brothers	1,685	0	0
Jackson and Shaw	1,653	0	0
Myers	1,645	0	0

For building a warehouse for Messrs. S. and W. Almond, in Willow-walk, Bermondsey, including removal of old buildings, and filling in pits on site. Messrs. Porter and Markham, architects. Quantities supplied.—

Patrick	£1,529	0	0
Cooper	1,477	0	0
Carter	1,398	0	0
Jackson and Shaw	1,365	0	0
Paull	1,336	0	0
Colls	1,325	0	0
Hollins	1,290	0	0
Maeers	1,234	0	0
J. and W. Barker	1,188	0	0
Wells (accepted)	1,050	0	0

For 2,600 yards of sewers and works, at Wells, Somerset. Mr. Hippisley, surveyor:—

Simmonds and Huish, Wells	£2,567	10	0
Bacon, Highbridge	2,156	13	0
Oliver and Smith, Wales	1,882	2	2
Jehoult, Taunton	1,575	10	0
Beaven (accepted), Wells	1,314	12	6

[The accepted tender is within 20*l.* of the surveyor's estimate.]

For taking up the present brick and pipe sewers in Hatton-garden, and laying down a new 3 feet 9 inches by 2 feet 6 inches brick sewer in lieu thereof. Mr. Lewis H. Isaacs, surveyor to the Board:—

Hammill and Foulkes	£900	0	0
Parrott	872	0	0
Yeoman	759	0	0
Kent	683	0	0
Batterbury	660	0	0
Thompson	648	0	0
Thirst	629	6	0
Walker and Neave	566	0	0
Crockett	556	16	0
Phillips	556	0	0
Abbott and Hopwood (accepted)	537	0	0
Radley	527	15	0
George	524	0	0

For alterations and additions to Zion Chapel, Frome. Messrs. Medland and Maberly, architects, Gloucester:—

Davis and Son, Frome	£1,175	0	0
Brown and Sons, Frome	960	0	0
Rogers, Trowbridge	866	0	0

For dwelling house and workshop, 15, Castle-street, Long-acre, for Mr. J. King. Mr. Chas. Fowler, architect, Quantities supplied by Messrs. H. and G. Lansdown:—

Bruce	£863	0	0
Smith	778	0	0
Hayter and Spriggs	687	0	0
Patman	678	0	0
Brown	667	0	0
Keast and Moon	665	0	0

For the new Mechanics' Institution, Frome. Mr. Jos. Chapman, architect :—

Davis and Son, Frome	£630	0	0
Brown and Sons	565	0	0
Chilcott	545	0	0
Butler (accepted)	512	0	0
Payne	510	0	0

For constructing Runcorn Cemetery. Mr. T. D. Barry, architect. Quantities supplied :—

	Earthwork, &c.			Chapels and Lodge			Total.		
	£.			£.			£.		
Case, Runcorn							3648	0	0
Rigby, Runcorn	1546	0	0	2088	0	0	3634	0	0
Wade, Stalybridge	1380	6	1	1936	2	1	3316	8	2
Hargreaves, Liverpool	1513	0	0	1646	0	0	3159	0	0
Yates, Liverpool	1485	0	0	1486	0	0	2971	0	0
Middlehurst, St. Helen's	1400	0	0	1550	0	0	2950	0	0
Hughes, Liverpool (accepted)	1390	0	0	1530	0	0	2920	0	0
Fisher, Birkenhead		—		1580	0	0			
Hollingsworth, St. Helen's	1423	0	0						
Beattie, Liverpool	1513	0	0						
Hunt, Runcorn*	558	16	0						

* Not including fences and palisading.

TO CORRESPONDENTS.

Tell Truth (send us address, that post may be forwarded).—G. J.—J. J. M. (we should not advise an articled pupil to act in the matter stated without his master's concurrence).—Builder (with our correspondent, as with too many others, "impartiality" means giving insertion to those communications only which accord with our view of a question).—G. W.—H. H.—E. H.—J. J.—S. C. (shall appear).—W. W. (St. George's Hospital).—R. L. S. (has no remedy).—A Surveyor.—C. F. D. (thanks).—R. C.—R. G. S. (see p. 594, *ante*).—A Poor Carpenter).—T. E. M.—B. and Son.—G. W.—J. L.—B. W.—E. B.—W. J. F.—Mr. G.—C. H. D.—T. L.—R. B. E.—G. G.—J. J. B.—F. W.—Avon (Colonial Emigrants Board, Park street, Westminster).

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

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Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

"THE BUILDER," Vol. I. WANTED. Also Number for JANUARY 5, 1856. Apply at the Office, 1, York-street, Covent-garden.

PURSUANT to a Decree of the High Court of Chancery, made in a cause "John Morgan against Harriet Agnes Broler and Others," the CREDITORS of WILLIAM BRODER, late of No. 1, St. James's terrace, Regent's-park, in the county of Middlesex, Esquire who died on or about the 19th day of March, 1858, are, by their Solicitors, on or before the 5th day of NOVEMBER, 1858, to come in and prove the debts of the Chambers of the Vice-Chancellor Sir William Page Wood, at No. 11, New-square, Lincoln's-inn, Middlesex, or, in default thereof, they will be peremptorily excluded from the benefit of the said decree. THURSDAY, the 11th day of NOVEMBER 1858, at TWELVE o'clock at noon, at the said Chambers, is appointed for hearing and adjudicating upon the claims.

Dated this 29th day of July, 1858.

HY. LEMAN, Chief Clerk.

J. and J. H. LINKLATER and HACKWOOD, 7, Walbrook, London, Plaintiffs' Solicitors.

AN ARCHITECT is desirous of meeting with a gentleman as an ASSISTANT, to undertake the Management of the office fully acquainted with the details of the profession, of good ability, of settled and prepossessing manners, and well versed in practical detail. Apply by letter only, stating full particulars and salary required, D. W. Messrs. Corah, Temple-street, Birmingham.

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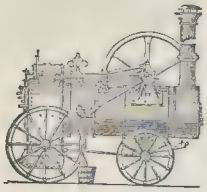

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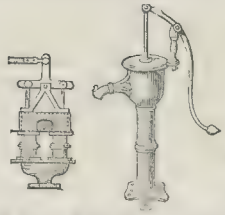

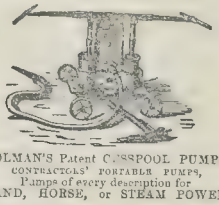

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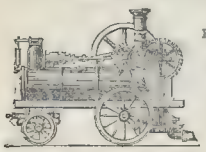

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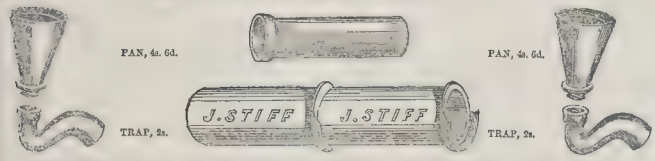

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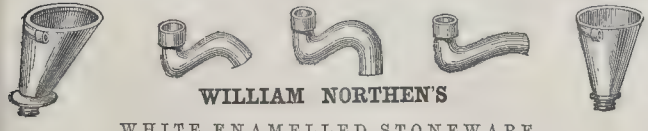

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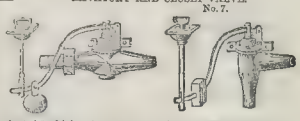

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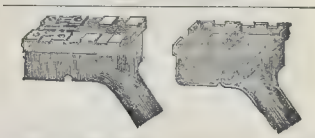

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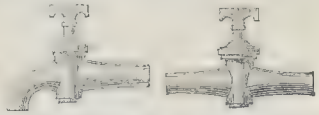

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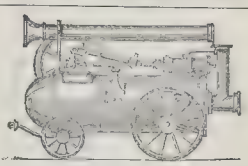

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CRIMSCOT-STREET, BERMONDSEY.-Highly important and extensive Sale of Planks, Deals, Battens, and prepared Flooring.

MR. PEAKE is favoured with instructions to effect a SALE by AUCTION of the well-seasoned STOCK, on the PREMISES, on WEDNESDAY and THURSDAY, OCTOBER 13th and 14th, at TWELVE o'clock each day, in lots, to suit all classes of purchasers. It comprises about 1,500 prime dry yellow and white Memel, 1,000 dry pale planks, 1,500 yellow and white deals, 7-8 square deals, 750 yellow and white battens, and 3 wards of 2,000 square of flooring boards and battens, all of excellent quality. Timber merchants, builders, cabinet and packing-case makers, deal sawyers, and others, are strongly advised to give this sale their particular attention, as the whole will be disposed of without the least reserve. Approved bills will be taken.-May be viewed two days prior and in rings of sale. Catalogues obtained on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley street, Southwark, S.E.

ON TUESDAY, OCTOBER 19, WITHOUT RESERVE.

MR. EDWIN WHITE will SELL by AUCTION, at his ROOMS, 37, Holborn, bar., at ONE o'clock, TWO GENUINE STOCKS of PAPER HANGINGS, comprising about 8,000 pieces of first-class golds, flocks, satins, marbles, &c.; also about 7,000 black and veined marble chimney-pieces. Catalogues free for a stamp.

Third Sale of Ship Timber. — Mill-wall, Poplar. — To Contractors, Builders, Timber Merchants, Ship-owners, and others.

MR. SITGRAVE will SELL by AUCTION, on TUESDAY, OCTOBER 12, at TWELVE, on the PREMISES, next Pinner's Tar Wharf, near the King's Arms, Mill-wall, Poplar, the THIRD and FINAL PORTION of the MATERIALS of the first-class ship Sovereign of the Seas, 1,637 tons burthen, 225 feet 6 inches long, 52 ft. 8 in. and 23 ft. 10 in. deck lengths, a large quantity of useful timber, quartering, &c.; fir beams, 19 inches square; stacks of fire-wood, American fir knees, and a variety of useful materials, suitable for building, repairing, fencing, &c. — May be viewed three days prior to the sale, and catalogues had, at the Place of Sale; at the Black Horse, Rotherhithe; Centurion, Deptford; Mitre, Greenwich; Star and Garter, Woolwich; Bull Inn, Barking; Red Lion, Ilford; Bell, Romford; Castle, Woodford; Mermaid, Hackney; Angel, Islington; Red Lion, Paddington; Pigeon, Brentford; Hoop and Hammersmith; Tiger, Camberwell-green; and of the Auctioneer, at his Rooms and Offices, 38, Leadenhall-street; or will be forwarded per post on application to the Auctioneer.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at

F. K. BARNES and SON'S TIMBER-YARD, CANON'S MARSH, Bristol, on WEDNESDAY, the 20th OCTOBER, 1858, at TWELVE o'clock precisely

FOR ACCOUNT OF IMPORTERS,

35,000 Spruce Deals and Battens, *ex Cargoes per Rufus Choate, Providence, Marie, &c.*

4,000 Quebec Pine Deals and Plank.
2,500 St. Petersburg Red Deals.
5,000 Crown Archangel Mil.-sawn Deals and Battens.
100 Oregon Red Deals (new importation).
1,000 Fresh Swedish Red Deals (ditto).
5,000 Gothenburg Redwood Boards.
400 Loads Quebec Yellow Pine Timber.
100 Logs Prime Large Baltic Timber.
50 Loads Large Fresh Birch.
200 Loads best Swedish Sidewall Timber
100 Logs best Memel Main and Dantzic Oak Timber
1,000 Quebec Pipe Staves.
3,000 West India Puncheon Staves.
10 Tuns Calcined.
10,000 Prepared Flooring Boards
With other Goods.

Catalogues will be issued on the week of sale.

F. K. BARNES and SONS, Brokers.

Canon's March, Bristol, October 8, 1858.

N.B. The Brokers remind buyers, that as these goods will be sold in the sale-room, it is advisable for them to look over the cargo on the day before the sale

TO CABINET and PIANOFORTE MAKERS, BUILDERS, CARPENTERS, and OTHERS.

MR. LEREW will SELL by AUCTION on the PREMISES, 42, Union street, Somers Town, on MONDAY, OCTOBER 18th, and following days, 2,000 superior OAKS, 1,500 planks, deals, and battens, 1,000 feet mahogany, 4,000 feet Australian ash plank, 250 squares of prepared yellow and white flooring and beaded lining, 500 feet mahogany, 15,000 feet yellow and spruce quartering, 500 yds. white, and pale cut deals and planks, box-jack, 2 cramps, 4 pairs trestles, steps, ladders, scaffolding, 4 pairs doors, and other useful stock. Also, on the following Saturday 10 tons of cast-off iron, on the Premises, and of the Auctioneer, Carlingford-street, Hampstead road, near the East-st station

CAMDEN TOWN.—T. BUILDERS, TIMBER and IRON DEALERS & Extensive Surplus Materials and Stores

PULLEN and SON are directed to SELL by AUCTION on the PREMISES, Camden-street, Camden-town, opposite Great Bell-yard, on WEDNESDAY, 20th INSTANT, at TWELVE, a large quantity of valuable SURPLUS MATERIAL and STOCK, consisting of 12 fine feet of deals and battens, 3 inch boards, 1 inch ditto, quartering, scantling, sawn ends, battens, splayed battens, and pitch pine, several thousand feet of fresh sound timber, planks, timber in useful scantlings, hoarding, and other stores, new and second-hand sashes, and frames, doors, grate fronts, cast iron gutters, 250 yards of rain-water pipe, 50 useful hands, sashes, lights, bricks, wrought cases, castors, carpenters', &c. implements, work benches, iron gratings, pulley-wheels, and iron-work, and various useful building materials. Lots may be viewed the day previous. Catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

Freehold Building Land, Battersea.

MESSRS. GLASIER and SON will SELL by AUCTION, on TUESDAY, NOVEMBER 2nd, at the RAILWAY HOTEL, Pimlico, SIX and SEVEN o'clock in the evening, in lots, TWENTY-SEVEN PLOTS of valuable FREEHOLD BUILDING LAND (land-tax redeemed), most eligibly situate on the south side of Battersea Park-road, close to the Gate opposite the Royal Park, and near the Chelsea Bridge and Crystal Palace Railway Terminus; exceedingly well adapted for the erection of semi-detached houses.—May be viewed on application to the Bailiff at Messrs. PRICE, BOLTON, and FILDER, Solicitors, 1, New-square, Lincoln's-inn; at Garraway's; and of the Auctioneers, 41, Charing-cross.

THE NEXT LIVERPOOL PERIODICAL AUCTION SALES, comprising cargoes of Hardwoods and Cuba MAHOGANY, HAVANA CEDAR, Italian and Am. pean WALNUT, and other FURNITURE WOODS, &c. will take place on THURSDAY, OCTOBER 14, 28th, and 11th and American FIRS, every FRIDAY, OCTOBER 15 beginning at ELEVEN o'clock in the forenoon of each day, in the WOOD SALES' SHEDS, Brunswick and Toxteth Docks, Liverpool. Full particulars may be had on application to EDWARD CHALONER, Wood Broker and Measurer.

N.B. East Side Queen Dock Entrance.

GENUINE BUILDER'S STOCK AND PLANT, PIMLICO.

MR. F. HALL has been favoured with instructions to SELL by AUCTION, on TUESDAY, OCTOBER 19, at TWELVE for ONE, precisely, on the PREMISES, Bunn's Wharf, Gardener's-road, Dudley-grove, Pimlico, the genuine PLANT and surplus STOCK of a Builder, the premises being required for other purposes, comprising loam, clay, pebbles, and ballast, oak and deal mahogany planks and scantlings, other mahogany; ornamental chimney-pots, drain-pipes, bends and junctions, several tons of new bar iron; 5 tons of old iron, quantity of new sheet lead and pipe, perforated and other zinc, excellent new full-sweep portal hoods; architraves with blocks and gear complete, several crates of new glass, a large quantity of rough pale deal, excellent van, trucks, and two hand carts, lands and land carriages, pairs of ladders and frames, several bundles feet timber, two large brass-rimmed doors built in the fronts, large quantity of old fittings, mahogany sashes, doors, and partitions, twenty new chimney and other bars, new hinges and plaster, and every description of building materials, and effects.—May be viewed two days preceding and morning of sale, and catalogues had on the Premises, and of the Auctioneer, Chester street, Kennington, S.

SALES BY AUCTION.

PECKHAM, 700,000 Stock and Place Bricks and Brick Plant.

MR. R. CHADWICK will SELL by AUCTION, in the BRICK-FIELDS, at the end of the Lyndhurst-road, close to the Lord Lyndhurst Arms, on MONDAY, OCTOBER 11, at TWELVE, 700,000 STOCK and PLACE BRICKS, chalk, pug, and wash mills, pumps, barrows, planks, and various working utensils; also the portable sheds and stables. On view four days prior to the sale. Catalogues had on the Premises; at the Lord Lyndhurst Arms; and at the Offices of the Auctioneer, 35, St. Martin's-lane, Charing-cross, W.C.

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq. at Burham, on the Medway.

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, esq. within the last eight years. The Burham works and clay-fields occupy a site of about eighty five acres, partly freehold and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London is about thirty eight miles, and the Snodland or Aylesford stations of the North Kent Railway is within two miles and a half of the property. The surface of the land slopes at an inclination of about 1 in 80 towards the river, and the soil having been formed near the summit, but little haulage is requisite. The clay is known as the South Clay, and it extends beneath the entire surface to a depth of about 130 feet, affording a supply more than sufficient for the next century. The Gault clay requires a small quantity of admixture to make it equal to that near London, and the Burham works are nearer to the London markets than any other whereat Gault clay is found. The cost of carriage to London is only 3s. 6d. for 1,000. The works were established by Mr. Cubitt for his own requirements exclusively, and both money and skill have been unsparingly expended for the purpose of rendering them a model. The principal building is upwards of 400 feet in length, chiefly three stories high. There are four pottery kilns within the building, and also drying apparatus consisting of warm water pipes. Outside the building are convenient sheds, and three Suffolk kilns (two for 80,000 each and one for 30,000); two waggon top kilns, 50,000 each; twelve Scotch kilns, 80,000 each; and three ditto of 60,000 each; also, seven acres covered flock ground, in regular order.

The plant is capable of producing 20,000 superior bricks per annum, in addition to an almost unlimited quantity of drain-pipes, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, Ainsley's rollers, with Mr. Cubitt's improvements, and the requisite pug-mills, worked by a pair of condensing steam engines, by Maudsley, Sons, and Field, of 25 horse power, with boilers, wrought iron main shaft, 530 feet in length, and gearing. There are upwards of 100 different sorts of tiles for tubes, pipes, architectural goods, hollow tiles, tubes, splay bricks, paving bricks, soils and flue tiles. Near the clay pit are two large wash-mills, worked by two portable engines of 7 horse power, by Clayton and Shuttleworth, and connected by wooden troughs with four large punin backs, at the lower part of the field. A reservoir of three acres in surface has been formed, which is filled from the Medway every tide, and affords a sufficient supply of water for the engines, and the general purposes of the establishment. The works are intersected by upwards of two miles of iron railways, with turntables and weigh-bridge, and there is a most substantially-built wharf, with stone wall, having space of sufficient length for six barges to lie alongside.

The cement Works comprise four well built kilns for 60 yards each, three dryers or stoves, and nine coking ovens, wash mill, pumps, and pipes worked by a portable steam-engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly erected residence for the general manager, well placed, and surrounded by a large and productive garden. A newly erected house for foreman of cement works, three cottages, stabling, and a mess room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-acre field of excellent sand for brick-making purposes, and a wharf for landing it. As before stated, these works were established to supply Mr Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is found to be the best for the finer brick-making purposes, that the field is the nearest yet in existence to the London market, that coals can be procured without being subject to City of London or dock dues, that all other raw materials are obtained in the very best forms, that the machinery is of the largest character, most judiciously planned, and that for its working skilled labour is not required, all tend to show that a most profitable and extensive trade may be carried on in the manufacture of fine Gault drain pipes, tiles, and cement.

For further particulars apply to Messrs FULLER and HORSEY, Bullion-street.

TO BUILDERS and OTHERS.—DOVER-COURT NEW TOWN and SPA.—A short distance from the town and port of Harwich, and on the main line of railway of the Dover-court section of the Eastern Counties railway, by which passengers are conveyed to and from the North and East of England, and to the Metropolis in about twenty minutes, and other trains several times in the day. This beautiful locality is situated on the shores of the German Ocean, on a plateau of the cliffs sixty feet above high-water mark, and embracing other advantages sought for in a seaside residence, including the close proximity to the celebrated Spa. The estate is finely timbered, and there is situated on an portion of the property a capital mansion, with suitable garden, pleasure ground, and park, presently occupied as a boarding-house. For particulars, apply to Mr J. H. ROWLEY, Architect, No. 1, St. Helen's-place, Bishopsgate-street, City; or to Mr. H. DARKEN, Architect, Harwich and Dovercourt.

NORWOOD, within three minutes of the Station for London bridge and West end.—GROUND TO BE LET, for building, with from 250 to 1,000 feet in front, with a great frontage. There is not a house on the estate until, while numerous applications are daily made for residences. Private gentlemen requiring large plots, can secure them. Advances made.—Apply to W. F. LOW, Esq. Solicitor, 67, Wimpole street, Cavendish-square.

TO BUILDING SPECULATORS, &c. TO BE LET as a whole or in plots about TWENTY ACRES of BUILDING LAND in the county of Surrey, 3 miles from the freeholder, and for a long term of years, land free of access to a railway station, is within 22 miles of London, commands beautiful views, has a dry soil, and level, and may be obtained.—Apply for particulars and plans to Mr. T. CHATFIELD CLARKE, Architect and Surveyor, 137, Leadenhall-street, E.C.

TO MANUFACTURING CHEMISTS and OTHERS.—FREEHOLD LAND, suited for manufactories, situated at the Paddington Basin, is ready for building, and access to a railway station, TO BE LET on LEASE for 99 years, at £20 per acre.—For the FREEHOLD TO BE SOLD.—Apply to JOHN WHICH CORD, Esq. Architect and Surveyor, 3, Walbrook, City, E.C.

BUILDING LAND, with excellent Brick-earth and Sewerage.—TO BE LET, SIXTEEN ACRES of FREEHOLD LAND, North of London, within the three miles circle from the Post-office.—Apply by letter to Mr. BILNEY, No. 156, Marylebone-road.

GUILDHALL, 5th October, 1858. — The Committee for Letting the City's Lands will meet at GUILDHALL, on WEDNESDAY, the 13th OCTOBER inst., at ONE o'clock precisely, to receive PROPOSALS for LEASES of a HOUSE and PREMISES, No. 46, on the north side of Chiswell-street, and Nos. 1 and 2, on the west side of South-street, Finsbury. Plans of the property may be seen, and forms of tender obtained, upon application at the Architect's Office, Guildhall.

FERDINAND BRAND, Comptroller.

NORWOOD-HILL.—BUILDING LAND TO LET, very cheap, on the high road. Water and gas, with the most magnificent views, within eight minutes' walk of Norwood from the Station and Crystal Palace. Money advanced.—Apply to Mr. COOK, Lorrimore-square, Kennington-park.

EXTENSIVE WAREHOUSE PREMISES Bishopsgate street. Four stories, about 45 feet by 25 feet, and cellarage, 45 feet by 30 feet, yard and counting-house, TO BE LET, together or in bulk (cork-lifters, dray-lifters, lighter facilities, or other requiring substantial warehouses within a few minutes' walk of the Leather-market and the South Sea-house.—Apply to Mr. JONES, 57, Milk street, Cheapside.

BROAD-STREET, SAINT GILES'S.—FREEHOLD LAND and BUILDINGS.—TO BE SOLD by PRIVATE CONTRACT, Nos. 54 and 55, Broad street, together with Four Tenements in Shag court, in the rear thereof. The frontage is towards of 30 feet, by a depth of 100 feet, or thereabouts. Plans and particulars to be obtained at the Offices of Messrs. FULLER and SALTWELL, Carlton chambers, No. 12, Regent-street, and of Messrs. DENT and SON, Surveyors, 34, Great James-street, Bedford-row.

TO BUILDERS.—BUILDING GROUND TO BE LET, near the main road, Hammersmith, for the erection of six-roomed houses. The Freeholder will advance money as the work proceeds.—Apply to T. B. FLEMING, Esq. 22, Cannon-street, City.

FREEHOLD GROUND, CHANCERY-LANE.—The Commissioners of Sewers of the City of London hereby give notice, that they will meet in the GUILDHALL of the said City on TUESDAY, the 26th day of NOVEMBER next, at TWELVE o'clock at noon precisely, to receive proposals for taking a BUILDING LEASE, for a term of eighty years, at a ground rent, a certain PLOT of FREEHOLD GROUND, situate on the west side of Chancery-lane, and adjoining the Law Union Fire and Life Insurance Office. Further particulars and forms of proposal may be had on application at the Office, where a plan of the ground may also be seen. The Commissioners will require a plan and elevation of the premises proposed to be built to be submitted to them for approval, and do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said land must attend personally, or by an authorized person, on the above-mentioned day, and the party whose offer is accepted will be required to sign an agreement at the time.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 7th October, 1858.

TO BUILDERS.—Some very eligible PLOTS of LAND at Tulse Hill, Lower Norwood, near Roupell Park, suitable for the erection of good ten-roomed VILLAS; also some eligible lots close to the Railway Station at Harrow, suitable for Six-roomed HOUSES.—TO BE LET on Building Leases for ninety-nine years. Liberal advances to respectable builders. Apply at the Offices of the United Building and Investment Company (Limited), 29, Poultry.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Es., 17, Sergeants' inn, Fleet-street, E.C.

GROUND RENTS by PRIVATE CONTRACT.—Persons having GROUND RENTS FOR SALE are requested to send full particulars to the Auction and Estate Company (Limited), 29, Cannon-street. As the Company deal largely in this description of property, they can always procure purchasers at the full value. A reduction is made in the commission on all property of surveyors and builders sold by the Company.

THOS. B. FLEMING, Registrar.

TO CARPENTERS, BRICKLAYERS, and OTHERS.—TO BE LET, in the Camberwell New-road, a NINE ROOMED HOUSE, with garden, and workshop 60 feet by 18 feet attached; also contiguous, a two-stall stable, coach-house, loft (used as a carpenter's shop), and yard. The business of a builder has been carried on on these Premises for the last thirty-three years. The stable, &c. optional.—Apply, 2, Chepstow-place, Camberwell New road. Rent moderate.

GUARDIAN ASSURANCE COMPANY, for INSURANCE AGAINST FIRE, and on LIVES and SURVIVORSHIPS, No. 7, Lombard street, London, E.C. Established December, 1821, and Empowered by Act of Parliament in 1850.

DIRECTORS.

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DIVISION OF PROFITS AT CHRISTMAS, 1859.—Life Assurance Policies, effected on the Profit Scale, BEFORE CHRISTMAS, 1858, will participate, according to their respective interests, in Four-fifths of the Profit of the ensuing Division of Profits at Christmas, 1859. Prospectuses and forms of proposal may be obtained from the Head Office, or from any of the Agents.

Notice is hereby given, that Fire Policies which expire at Michaelmas next be renewed within fifteen days at the Office, 7 & 8, St. James's-street, corner of Pall-mall; or with the Company's Agents throughout the Kingdom, otherwise they become void.

Losses caused by Explosion of Gas are admitted by the Company.

THOS TALLEMACH Secretary.

ACCIDENTS of EVERY DESCRIPTION.

£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY.

A special Act provides that persons receiving compensation from this Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

It is found that ONE PERSON in every FIFTEEN is more or less injured in the Accident yearly. This Company has already paid as compensation for Accidents 27,000l.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accident Assurance may be effected against all the Casualties of Journey or Year.

NO CHARGE FOR STAMP DUTY.

WILLIAM J. VIAN, Secretary.

Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London, E.C.

PATRON, H.R. HIGHNESS THE PRINCE CONSORT.

ROYAL POLYTECHNIC INSTITUTION.—Lectures on Chemistry by Mr. E. V. Gardner: on Natural Philosophy, by Mr J. Leslie: on Music, by Mr. Thorpe Pead, assisted by Miss Pearce. The Model Telegraph Office explained by Mr King, with Specimen of Bowatt's New Cable. The Ladies' Class for Needlework, at a Quarter to Eleven, by the Misses Greenwood. The Laboratory open for Analyses, Pupils, &c. under the direction of Mr. E. V. Gardner, Professor of Chemistry. Open daily from Twelve to Five; Evenings, Seven to Ten.

Managing Director—R. J. LONGBOTTOM, Esq.

TO BUILDERS, SHIPOWNERS, &c. — A1 WHITE LEAD, 30s. per cwt. Ground Colours, and Dryers, at equally moderate rates, to be had of FORD and CO. Patentees of Saxon White, Surrey Steam Colour Mills, Barton's place, Waterloo-road, S.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, October 9, 1858.

The Builder.

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Architect, Engineer, Operative & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—The ELEVENTH ANNUAL DINNER will be held at the LONDON TAVERN, on THURSDAY, the 28th inst.

Gentlemen desirous of promoting the interests of the Institution by becoming Stewards will be pleased to forward their names to the Secretary, at the Offices, 19, Southampton-street, Bloomsbury; or to the Treasurer, Mr. GEORGE BIRD, 38, Edgware-road.

October 16, 1858. A. G. HARRIS, Sec

SOUTH KENSINGTON MUSEUM.—A COURSE of TWELVE LECTURES on the HUMAN FORM will be delivered by JOHN MARSHALL, Esq. F.R.S. F.R.C.S. Assistant Surgeon to University College Hospital, on the 22nd and 29th of October; 5th, 12th, 19th, and 26th of November; 3rd, 10th, and 17th of December; 7th, 14th, and 21st of January, 1859. This Course will be delivered on FRIDAY evenings, at EIGHT o'clock. Tickets, 6s. for the course of twelve lectures, or 1s. each lecture, to be obtained at the Catalogue Sale Stall, or from Messrs. CHAPMAN and HALL, 193, Piccadilly. A Summer Course is given, to which Female Students are admissible.—By order of the Committee of Council on Education.

QUEENWOOD COLLEGE,
Near Stockbridge, Hants,
Dunbridge Station, Salisbury Branch, S. W. R.
GEORGE ROWNTREE, Principal.

NATURAL PHILOSOPHY AND MATHEMATICS—Frederick R. Smith, LL.D.
CHEMISTRY—Dr. Henry Debus, late Assistant in the Laboratory of Professor Bunsen, and Chemical Lecturer in the University of Marburg.
CLASSICS AND HISTORY—Daniel Hughes, M.A. Jesus College, Oxford.
MODERN LANGUAGES AND ENGLISH LITERATURE—Mr. John Hall, from M. de Fellenberg's Institution, Hofwyl, Switzerland.
GERMAN—Mr. Nachtwey, late Gymnasiast, from M. de Fellenberg's Institution, Hofwyl, Switzerland.
PRACTICAL SCIENCES, LEVELLING, &c.—Mr. Richard P. Wright.
DRAWING—Mr. Richard P. Wright.
ENGLISH—Mr. Daniel R. Pighthwell.
ENGLISH—Mr. William Trevor.
MUSIC—Mr. William Cornwall.

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" above 12 and under 15 ..... 55 "
" above 15 ..... 66 "

Laundress and Sempstress 37 per annum extra (except in the case of two or more pupils from the same family, when this charge is omitted).

COMPETITIONS.

HANLEY CEMETERY COMPETITION.—The PLAN of SITE of the proposed CEMETERY may be obtained in a few days. Due notice will be given. Price 2s. 6d. each.

SCARBOROUGH.—The Building Committee of the Northern Scarborough Infirmary, prepared to receive DESIGNS from Architects for an INFIRMARY, to be erected at Scalby-nab. 500 will be given for the first, and 250 for the second best plan. The premium of the successful architect to be reserved, his commission, provided his plan is adopted, afterwards to include his superintendence. Instructions to architects, and a plan of the ground, may be had on application to Mr. W. LOWNSBOROUGH, 6, Rutland-terrace, Scarborough. It is thought a full description and facts intending to compete shall visit the ground. The designs to be sent in (carriage paid) to Mr. WM. ROWNTREE, Newborough-street, Scarborough, not later than SATURDAY, the 13th of NOVEMBER. T. H. CROFT, Hon. Secretary.

Scarborough, October 7, 1858.

COMPETITIONS.

PARISH of CHELSEA.—The COMPETITION DESIGNS for a VESTRY HALL will be open for public inspection daily until SATURDAY, the 23rd inst. between the hours of TEN in the Morning and EIGHT in the Evening, in the Board Room, at the Manor House, King's-road.—Visitors are requested to enter by the gate in Radnor-street.—By order.

CHAS. LAHEE, Vestry Clerk.

Offices of the Vestry, Manor House, No. 111, King's-road, October, 1858.

CONTRACTS.

WAR DEPARTMENT WORKS.

To BUILDERS, IRONFOUNDERS, and OTHERS.—Notice is hereby given, that TENDERS will be received, at the Office of the Director-General of Contracts, PALL-MALL, London, on WEDNESDAY, the 20th day of OCTOBER, 1858, for NEW CAST-IRON PITCHINGS and GRANITE PAVING, in Two Cavalry Stables at Piershill Barracks, Edinburgh. The plans, specification, and conditions of contract may be seen, and every information obtained, on application at this Office, on and after FRIDAY, the 8th day of OCTOBER, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 18th day of OCTOBER, 1858. Tenders to be enclosed in "Tender for Cast-iron Stable Pitchings and Granite Paving, Piershill Barracks, Edinburgh," in the left hand corner of the envelope, and addressed to the Director-General of Contracts.

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Edinburgh, October 5, 1858

TO CONTRACTORS and BUILDERS.

Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Office, Pall-mall, London, on or before TWELVE o'clock at noon, on WEDNESDAY, OCTOBER 27, 1858, from such persons as may be willing to undertake a CONTRACT for REPAIRING the SLOPE of the BREAKWATER in front of the Cavalry Redoubt, at Eastbourne, Sussex. Plans, specifications, and all that may be necessary to be known by willing Tenderers, at the Royal Engineer Office, Church-street, Brighton, between the hours of TEN a.m. and FOUR p.m. daily, from the 7th to the 18th day of OCTOBER, 1858, inclusive (Sundays excepted). Tenders to be sealed up and endorsed on the outside, "Tender for Repairing Breakwater at Eastbourne."

Royal Engineer Office, Brighton, October 4, 1858.

WAR DEPARTMENT CONTRACT

To BUILDERS and CONTRACTORS.—The Commanding Royal Engineer of the Aldershott District hereby gives notice that sealed TENDERS will be received at the Office of Lieut.-Col. Dundas, R.E. Fort, TWELVE o'clock at NOON, on MONDAY, the 31st OCTOBER inst. from such persons as may be desirous of CONTRACTING for the work required in the CONSTRUCTION and ERECTION of TWO INFANT SCHOOLS, at the Camp at Aldershott, in the county of Hants. The Plans and Specifications, Specifications and Forms of Tender obtained at the Royal Engineer Office, Aldershott, between the hours of TEN and FOUR, at the Royal Engineer Office, Aldershott, on and after WEDNESDAY, the 20th INSTANT, and the same enclosed. The Tenders to be addressed to the Director of Contracts and endorsed, "Barracks, Tender for Schools, Aldershott." The right of rejecting the whole or any of the Tenders reserved. No Tender will be noticed unless the Tender which is to be in the prescribed printed form supplied to

Royal Engineer Office, Aldershott, 11th October, 1858

WAR DEPARTMENT WORKS.

To BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, Pall-mall, London, on SATURDAY, the 30th day of OCTOBER, 1858, for the ERECTION of NEW BRIDGES over the FLOOD WORKSHOUSE, at PIERSHILL BARRACKS, EDINBURGH. The Plans, Specification, and Conditions of Contract may be seen and every information obtained at the Office of the Director-General, on and after MONDAY, the 18th day of OCTOBER, 1858, between the hours of TEN and FOUR each day (Sundays excepted), until the 28th OCTOBER 1858. Tenders to be addressed to the Director-General of Contracts, Soldiers' and Tailors' Workshops, Pierpoint Barracks, Edinburgh, in the left hand corner of the envelope, and endorsed "Tender for Bridges over Flood of Water."

N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

TO GAS CONTRACTORS.—PUBLIC HEALTH ACT, 1848.—DISTRICT of WISBECH.—Persons desirous of CONTRACTING with the Local Board of Health for this district for PROVIDING all necessary WORKS, LAMPS, PIPES, GAS, and other materials and things for LIGHTING the Town of WISBECH with GAS, for the term of the first DAY of MAY, 1859, are requested to send at their free of charge to THOMAS SHED WATSON, Esq. Mayor, their names on SATURDAY, the 30th of OCTOBER next, as above. Tender for the performance of the several works and providing the several things set forth in the proposed contract, a draft of which may be seen and further information obtained on application to Mr. WILLIAM ADAMS, the surveyor of the said Local Board, on and after the 18th of OCTOBER next. The Tenders to be endorsed, "Tender for Lighting the Town of Wisbech with Gas," and to be in the hand which will be first called by the Mayor on application, and in default in such call to be void. The Board will not pledge themselves to accept the lowest or any Tender. By order,

E. A. ADAMS, C. to the Local Board.

Wisbech, 13th September, 1858.

CONTRACTS.—To BUILDERS, SMITHS, and IRONFOUNDERS. The Directors of the London, Brighton, and South Coast Railway Company invite Tenders for supplying the CONSTRUCTION and ERECTION of PLATFORM SHEDS, and their Ironwork to be fixed at the Newhaven Station of the Company's Railway, and to be delivered on the Quays of the Company's London Terminus, on and after MONDAY, the 25th inst., and all Tenders, properly endorsed, and addressed to the undersigned at their London Office, WEDNESDAY, the 20th NOVEMBER next.

FREDERICK SLIGHT, Secretary.

London Bridge Terminus, 15th October, 1858.

CONTRACTS.

TO BUILDERS.—Parties desirous of TENDERING for the ERECTION of a RESIDENCE for BENJAMIN CHERRY, Esq. at Brickendon-green (four miles from Hertford and three from Brentwood), may see the plans and specifications at the Office of the Architect, Mr. FOWLER JONES, 4, Newstreet, York, till the 14th inst.; and from the 18th to the 30th inst. between the hours of TEN and FOUR. The plans, &c. may be inspected at the Farm-house, on Brickendon-green, close to the site, which will be pointed out by Mr. JAMES YEOMAN, the Clerk of the Works. All Tenders to be delivered, post paid, by the 30th inst. at the Office of the Architect, where bills of quantities, and any further information, may be obtained. The party whose Tender may be accepted will be required to enter into a written agreement, with sureties, for the due performance of the work, but no pledge is given that the lowest or any Tender will be accepted.

York, October 8, 1858.

GLOUCESTER WATER-WORKS.—CAST IRON PIPES and VALVES.—The Gloucester Board of Health are prepared to receive TENDERS for the SUPPLY and DELIVERY of CAST IRON PIPES and VALVES, as under:—

CONTRACT A.—About 76 tons of 12 and 18-inch straight Pipes, and about 5 tons of Bends and Junctions, of similar diameter.

CONTRACT C.—Nine Sluice Valves, six 18-inch Valves, one 15 inch ditto, eight 12-inch ditto, two 9-inch ditto.

Specifications may be had on application to Mr. JOHN HANVEY, C.E. Surveyor to the Board, Gloucester. Tenders to be made separately for the two contracts, and to be sent in to the Clerk to the Board under a sealed cover, marked "Water Works Tender for B or C," as the case may be, on or before the noon day of OCTOBER instant.

S. H. FRYER, Clerk to the Board.

Gloucester, 4th October, 1858.

TO BUILDERS and CONTRACTORS.—CARDIFF BURIAL GROUND.—The Corporation of Cardiff, acting as the Burial Board for the Borough, are prepared to receive TENDERS for the CONSTRUCTION of TWO CHAPELS, LODGE, and WAITING ROOM, for forming Roads, Fencing, Boundary Walls, and Laying out and Planting the Ground appropriated for the Burial Ground at the Wood, about one mile from the town of Cardiff. The drawings and specifications may be seen at the Office of Mr. R. G. THOMAS, Architect, No. 5, so, at Mary-street, Cardiff, where bills of quantities and further information may be obtained; also at his Office, Newport, Mon.; and at the Office of Mr. WARING, Surveyor to the Cardiff Local Board of Health, Cardiff. Sealed Tenders, endorsed "Tender for Cardiff Burial-ground," to be delivered at my Office on or before the 2nd day of NOVEMBER next.—By order,

Cardiff, 5th October, 1858. BENJ. MATTHEWS, Town Clerk.

BOARD of WORKS for the POPLAR DISTRICT.—To SEWER CONTRACTORS.—NOTICE of CONTRACT.—Notice is hereby given, that the Board of Works for the District will meet at the Board-room, East India-road, on TUESDAY, 19th instant, at SIX o'clock in the evening precisely, to receive TENDERS for LAYING DOWN SEWERS in this District, as follows:

No. 1. PARISH of POPLAR.—1,490 feet, 3 feet by 2 feet, half brick; 85 feet, 2 feet by 2 feet, half-brick; 360 feet, 1 foot 8 inches by 1 foot 8 inches, half-brick; 1,369 feet 12-inch pipe; 183 feet 9-inch pipe; in High-street, Preston's-road, Wells-street, Robin Hood-lane, Bedford-street, Bow-lane, Sebbon-street, High-street, Wellington-alley, Dock-street, Garden-street, White Hart-place, and Sidney-place; with the requisite manholes, gullies, flushing boxes, stoke holes, and gratings.

No. 2. PARISH of BROMLEY.—420 feet, 1 foot 6 inches by 1 foot 6 inches, half-brick; 1,126 feet, 12-inch pipe; 195 feet, 6-inch pipe; in St. Leonard's-road, Cobden-street, Railway-street, Byron street, and Wiltshire terrace; with the requisite junctions, gullies, flushing boxes, and stoke holes.

A separate Tender must be given for each parish. The parties tendering must in each case furnish the names of two responsible persons willing to enter into bond with them in the sum of £100 for the due performance of their Contract, and will be required to pay for the expense of the Bonds, Counterparts thereof, Stamps, and all other expenses of the Contract and Bond, to be prepared by the said Board. The Board do not bind themselves to accept the lowest or any Tender, and the parties offering to Contract will be required to be in attendance. Tenders, the forms prepared for that purpose can be had, and endorsed, "Tender for Sewers," for Poplar and Bromley, respectively, as the case may be, will be received, must be delivered, on or before the 19th instant, at TWELVE o'clock at noon, after which time no Tender will be received. Plans, &c. can be seen, and further particulars and Printed Tenders had, on application at the Offices, as under, any day to the 18th instant, between the hours of TEN a.m. and FOUR p.m.

By order of the Board,

CHARLES CREELY, Clerk to the Board.

East India Dock-road, E. 8th October, 1858.

TO BUILDERS and others.—County of Berks.—Assize Courts and Central Police Station.—The Committee of Magistrates for the County of Berks are desirous to receive TENDERS for the ERECTION of ASSIZE COURTS, and CENTRAL POLICE STATION, at Reading. Persons desirous of Contracting for the same may see the plans and specifications, and obtain bills of quantities and form of Tender, at the Office of Mr. J. B. CLACEY, County Surveyor, 90, Broad-street, Reading, after SATURDAY, the 16th inst., between the hours of TEN and FOUR. Sealed Tenders to be sent to the Committee, directed to the County Gaol, Reading, endorsed, "Tender for Assize Courts and Police-station," on or before FRIDAY, NOVEMBER 12. The lowest Tender will not necessarily be accepted.—By order of the Committee,

G. B. MORLAND, Clerk of the Peace.

TO SEWER CONTRACTORS.—The Vestry of the Parish of Clerkenwell will meet at the Vestry Hall, Upper Rosoman-street, on THURSDAY next, the 21st OCTOBER inst. at HALF-PAST SIX o'clock, p.m. to receive TENDERS for building a NEW SEWER at the east end of Wynyatt-street, Clerkenwell, commencing at about 140 feet of 18-inch half brick barrel, over in cement; a plan and specification of which may be seen daily at the Vestry Office, between the hours of TEN and TWELVE. Sealed Tenders, endorsed "Tender for Sewer in Wynyatt-street," to be sent in by FOUR o'clock p.m. on the day of meeting.—By Order,

ROBERT PAGET, Vestry Clerk.

Vestry Hall, Clerkenwell, October 15, 1858.

[*For remainder of Contracts see next page.*

CONTRACTS.

TO BUILDERS and OTHERS.—Persons intending CONTRACTING for the ERECTION or COMPLETION of THREE Houses with Shops, and a large Room at the North End of the Town of Newport, in the Isle of Wight, to be let on Building Leases for Ninety-nine Years, are requested to meet at the Office of Mr. J. Macaulay, Esq., on or before MONDAY, 1st NOVEMBER next, when Mr. W. Jacob will attend to explain the Intentions of the Lessors.

Southampton, 6th October, 1858.

TO SEWER CONTRACTORS.—The Vestry of St. Mary Abbott's, Kensington, intend TENDERING for the following Sewerage Works, viz.:—

1. For the Sewer from the Kensington Road to the Western Extremity of the Parish, near the Uxbridge Road, a distance of about 1,000 feet.
2. For the Sewer from the Kensington Road to the Eastern Extremity of the Parish, near the Uxbridge Road, a distance of about 1,000 feet.
3. For the Sewer from the Kensington Road to the Northern Extremity of the Parish, near the Uxbridge Road, a distance of about 1,000 feet.

Plans and Specifications may be seen at the Office of the Surveyor, Mr. Thomas Allom, No. 1, Gloucester-terrace, Kensington, on and after the 20th inst. Sealed Tenders, addressed to the Vestry Clerk, at the Vestry Office, Church-street, Kensington, must be delivered at the Office on or before MONDAY, the 25th inst. The Vestry do not bind themselves to accept the lowest or any Tender.

By order,
R. BRETTON, Vestry Clerk.
Oct. 11, 1858.

ALDERSHOT GENERAL MARKET.—The Board of Health are prepared to receive TENDERS for the following Works and Buildings:—Excavating, Concreting, Brickwork, Slating, Plastering, Carpenter's Work, Joiner's Work, Ironwork, Plumber's Work, Glazing, and Painting.

Plans and Specifications may be seen at the Office of the Architect, Mr. T. GOULD CHILD, Guildford.

WALLASEY LOCAL BOARD of HEALTH.—WATERWORKS.—CONTRACTS for IRONFOUNDERS and others.—Persons desirous of CONTRACTING for supplying the Local Board of Health, in the district of Wallasey, in the County of Chester, with about Two Miles of CAST IRON PIPES, Engine, Castings, &c., are requested to apply at the Office of the said Local Board, on or before the 15th inst., to T. K. HASSALL, Surveyor, 10, Castle-street, Liverpool, a copy of the Specification, schedules of Quantities, and Form of Tender; and the payment of the Engine will be made after the Pipes have been laid down and tested.

AMES T. LEA, Solicitor to the Board, and the others to whom BOLTON RAWLINSON, C.E., are Parliamentary Agents, Westminster. Tenders must be signed and delivered to the Clerk of the Works, at the Board Room, Liscard, on or before the 25th day of OCTOBER next, endorsed "Tender of the Works and Materials," addressed to the Chairman of the Works and Health Committee of the Local Board, Wallasey.

T. K. HASSALL, Clerk to the Local Board.

Egremont, 9th October, 1858.

TO BUILDERS.—TENDERS are required for the ERECTION of the WORKING MEN'S INSTITUTE at NORWOOD. Plans and Specifications, and Form of Tender may be seen at the Office of the Architect, Mr. E. L. LAMB, 5, Bloomsbury-square, on and after Saturday, the 16th inst., and Tenders may be sent, addressed to the Hon. Lionel Seabell Tufnell, Norwood, to the Architect's Office, on WEDNESDAY, the 27th NOVEMBER next, at 12 o'clock, when Sealed Tenders will be opened in the presence of the Architect and Committee.

No Tender necessarily accepted.

October 15, 1858.

TO BUILDERS.—The Committee for the ERECTION of the MARKET HOUSE at Berkhamsted are desirous of receiving TENDERS for the whole Public Works, comprising Brickwork, Masonry, Carpenter's Work, Plumber's Work, Plastering, Slating, Painting, and Glazing. Plans and Specifications may be seen at the Architect's Office, No. 1, Hatton-street, Manchester-square, on and after the 22nd inst. Sealed Tenders, addressed to the Architect's Office, on or before the 29th inst. SEVEN SHILLINGS in the POUND to be deducted from the Tenders Chosen for the Lowest Any Tender.

OCT. 12, 1858.

BOARDS of WORKS for the LIMEHOUSE DISTRICT.—CONTRACTORS for MASONS' WORK.—Notice is hereby given that the Contractors for the said Work will be required to enter into CONTRACTS for LAYING the FOOTPATHS and CHANNELS of certain streets in the Parish of Limehouse. The streets are Limehouse-causeway, Three Colt-street, Salmon-lane, and Narrow-street. Plans and Specifications may be seen at the Office of the Surveyor, Mr. H. Peters, 4, Commercial-road East, on and after Monday next, the 18th inst., between the hours of Ten and Four o'clock. Tenders will be received at the Office of the Board, 4, Commercial-road East, on or before Monday, the 25th inst., at Twelve o'clock at noon, when the Tenders will be opened in the presence of the Contractors or their Agents who may attend. The Board do not bind themselves to accept the lowest or any Tender.

By order,
R. BRETTON, Vestry Clerk.
R. VOSS, Clerk of the Board.

Town Hall, Bethnal-green, 13th October, 1858.

TO BUILDERS.—Builders desirous of TENDERING for the ERECTION of a RAILWAY HOTEL and other BUILDINGS at Pontypool Road, may see the Plans and Specifications at the Inn of the said Road, Pontypool, on and after the 20th inst. Tenders to be delivered at Newport, Monmouthshire, on or before the 30th inst. The Lowest or any Tender not necessarily accepted.

JOHN COLSON, Architect.

October 6, 1858.

TRINITY FREE CHURCH and SCHOOLS.—To BUILDERS.—The Committee are desirous of TENDERING for the ERECTION of the above Church and Schools, in accordance with Plans and Specifications prepared by Messrs. HINE and EVANS, Architects, Nottingham. The Building Committee do not bind themselves to accept the lowest or any Tender.

HINE and EVANS, Architects.

Nottingham, October 14, 1858.

TO BUILDERS.—TENDERS are required for the ERECTION of PARSONAGE and BUILDINGS at Thackthwaite, in the Parish of Lowes Water, in the County of Cumberland. Plans and Specifications may be seen at the Office of Mr. J. KNOWLES, Architect, Penrith, on and after the 18th inst. Tenders to be sent to the Rev. Thomas Noble, Thackthwaite, Penrith, on or before the 30th inst., when the Tenders will be opened in the presence of the Architect and Parties who may attend. The Lowest or any Tender not necessarily accepted.

VINCENT BELLMAN, SCAGLIOLA MARBLE MANUFACTURER, 14, Rathbone-street, Fitzroy-square, London, W., begs to call the attention of Architects, Builders, and others to his SCAGLIOLA COLUMNS, CHIMNEY-PIECES, ORNAMENTAL TABLETS, and other Works in IMITATION of MARBLE, which he is prepared to execute with the greatest despatch, and on the most reasonable terms. Specimens may be seen at the Great Exhibition of 1851, and at the Manufactory, as above. Estimates for Public Works and Contracts undertaken in any part of the Kingdom. Plans and Sketches submitted free of charge.

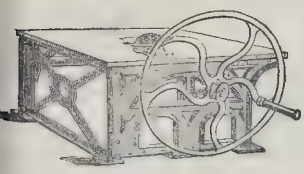
THE WESTMINSTER MARBLE COMPANY, Established, Westminster-bridge-road, for the Trade only.—MARBLE WORKS.—Sawed Slabs and Chimney-pieces, Tombs, Tablets, Grates, Mantels, Curbs, Kerbs, Landings, Steps, and all kinds of Paving, Plain and Ornamental, Marble Mosaic Pavements, Columns, Pedestals, Vases, Fonts, Monuments, Chimney-pieces, Tablets, Tombs, Grates, Kerbs, Curbs, Landings, Steps, Paving,

POWIS, JAMES, AND CO.

Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (New Patent).—NO MORE BREAKAGE OF SAWS.



POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT dated August 24, 1858., being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE; and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW BENCHES, with RISING TABLES,
AND PATENT PLANING, TONGUEING, GROOVING, AND MOULDING MACHINES.

Letters and Applications for Machinery to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, LONDON, E.C.

WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

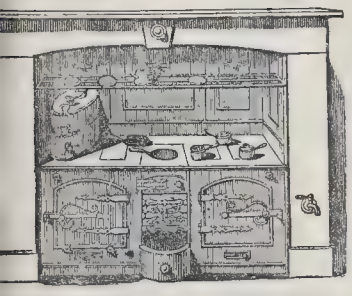
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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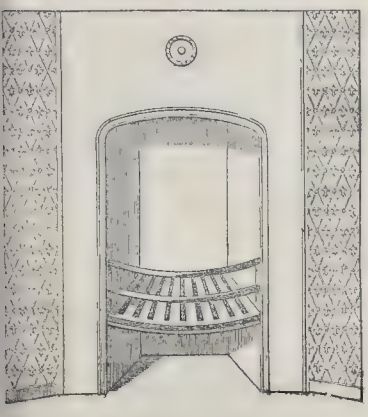
Invite attention to their extensive suite of SHOW-ROOMS.
STOVES, FENDERS, AND FIRE-IRONS,
THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c.
for Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING,
and every Description of General Furnishing Ironmongery,
HOT-WATER APPARATUS, CONSERVATORIES, &c.

FLAVEL'S PRIZE KITCHENER,

The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851.

Flavel's Prize Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 2 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

BENHAM and SONS, 19, Wigmore-street, Cavendish-square, London, W.;
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM, S.E.



IMPROVED GRATES WITH PORCELAIN SIDES,

Of elegant designs, and variegated colours, from 25s. each complete. The advantages of porcelain for ornament over iron or steel arise from its cleanliness, saving of trouble in cleaning, and from its beauty not being impaired by lapse of time.

IMPROVED GRATES WITH STOURBRIDGE FIRE-BRICK BACKS,

from 21s. each, complete. Any one who has experienced the superiority of fire brick over iron for retaining heat, and radiating it into an apartment, would never consent to have grates with iron backs, which conduct the heat away.

IMPROVED SMOKELESS GRATES

now made, from 20s. each. These Grates burn little fuel, give much heat, will burn for hours without attention, and accumulate so little soot, that chimney sweeping is almost superseded.

STOVES FOR ENTRANCE-HALLS, SCHOOL-ROOMS, CHURCHES, &c.

of the most improved construction made with or without open fire, and to burn night and day, if required

EDWARDS'S SMOKELESS KITCHEN RANGE.

A perfect cooking apparatus, ensuring the operations of cooking being conducted with cleanliness, economy, and despatch, and the only one for which the first-class medal was awarded at the Paris Exhibition of 1855. This range effects a saving of 40 per cent. in the consumption of coal, it effectually cures any smoky chimney, and obviates the necessity of chimney-sweeping.

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EVERY DESCRIPTION OF MEDIÆVAL METAL WORK,

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MONUMENTAL BRASSES AND STAINED GLASS WINDOWS.

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The cost is less and the effect greater than that of any other known means.

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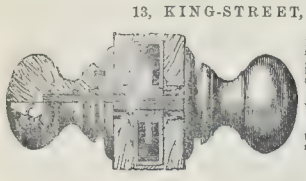

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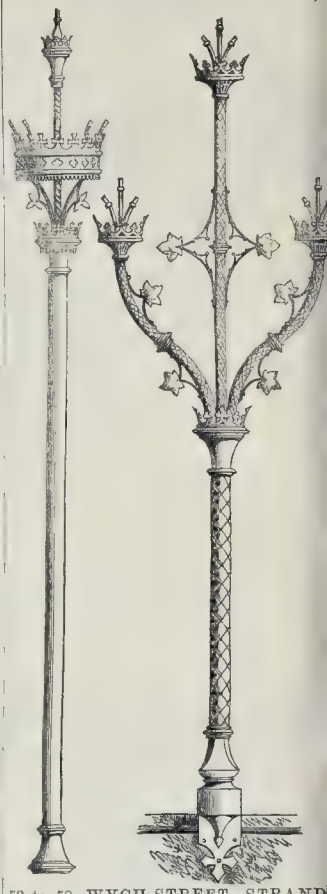

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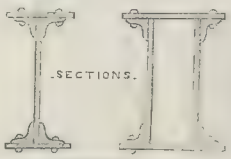

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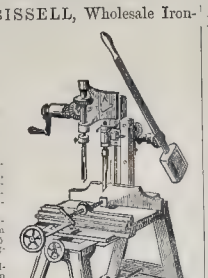

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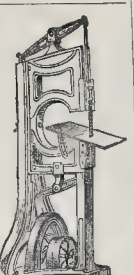

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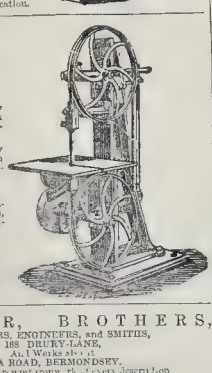

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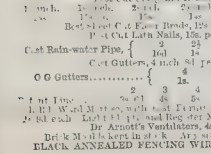

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	2	2½	3-inch
Cast Rain-water Pipe,	16d	1s	1s. 8d. per yard

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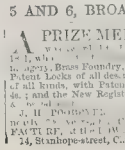

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R. S. Newall and Co.'s Patent Copper Rope Lightning Conductor is being applied by architects, engineers, and contractors in all parts of the world.
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TO BE SOLD, the proprietor leaving business, TWO powerful DOUBLE PURCHASE CRABS, one fitted with brass bearings complete, 12 cwt. each, and the other with iron bearings complete, 10 cwt. each; two iron crabs, 5 cwt. each; two sets of timber shears, fitted with brass sheaves for patent hooks and swindles. Cart boxes and gratings for ditto, and other useful effects. Also a small Engine and Boiler, 4-horse power, with copper tubes and frames; three barges; a quantity of New Zealand oak barge knees; one 6-inch, one 5-inch coal-waggon; Mares, Harness, &c. To be seen, Z.Z. No. 12, Bartholomew-close, E.C., behind the Church.

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DRAUGHTS and DUST round Doors and Windows EFFECTUALLY PREVENTED by GREENWOODS' PATENT INDIA RUBBER MOULDINGS, which will stand, keep quite close, and not require the trouble of making air tight joints to join the edges of the work; OLD and NEW Sashes, for the bottoms of doors. The best and cheapest draught excluder ever yet introduced, as it can be used on both hinged doors and sliding sashes. The Patent Mouldings are also made for the purpose of fixing Plate Glass in Shop Fronts, and Panel Work, &c. without the use of putty, and can be taken out and replaced in a few minutes, when required, without breaking the glass. Specimens may be seen at the Patentee's Manufactory, 33, HIGH STREET, MARYLEBONE, LONDON, where they have opened a show room, with specimens of Graining in imitation of wood by the usual process and by the Patent Graining Process. Prices and every information may be obtained on application at the

The Builder.

Vol. XVI.—No. 819.

The Promotion of Social Science.

EIGHTY was the crowd that flowed into St. George's Hall, at Liverpool, on Monday evening last, to open the meeting of the National Association for the Promotion of Social Science, filling every corner available and not available, and hundreds more would have done so, if they could have obtained tickets. Such is the magic of names that are household words. Some idea had been given of what would occur by the state of the Church of St. Nicholas, in the afternoon of the same day, where the crowd was such as almost to deprive the rector of Liverpool of his equanimity, and where, by the way, the two comets, whom the people went to see, did not show. Not to be outdone in absurdity by any of the managers of London places of amusement, the visitors were admitted by one door only, in a hall which has half a dozen, and were made to get out, if we mistake not, by the same means; indeed, the management of the meeting throughout has not been such as to extort from us any great amount of praise; inquirers for information being referred from one department to another, and no one seeming to care as to what became of anybody. However, this has not prevented the meeting from being a great success; and we may reasonably hope, notwithstanding the amount of platitudes discharged during the first two or three days, that much good will result by the impetus that will be given to the formation of a sound public opinion on the various important subjects on which the Association occupies itself. Lord John Russell, as president of the meeting, read a very excellent address, which, unfortunately, was not heard by one-sixth of those present. Taking the departments into which their business was divided—1, jurisprudence and amendment of the law; 2, education; 3, punishment and reformation; 4, public health; 5, social economy—he laid before the meeting some general observations on each of these topics, rather, as he said, with a view to ascertain our present position and fix the point from which we take a fresh departure, than with any expectation of being able to guide the vessel on her voyage.

He dwelt, of course, strongly upon education. It is education, said he, which enables the Scotch labourer's son to compete with the most favoured of his contemporaries, to rise to the highest posts of dignity and power, and to scale the loftiest eminences of science. It is education which enables the United States of America to proceed in their wonderful career, upheld by the most popular institutions, without serious disturbance of law and order. It is education which in England has mainly prevented such tumults as forty years ago broke the peace and alarmed the mind of this country. It is education which has bound a mass of people to the throne by the links of an enlightened loyalty. In the Registrar-General's Report of the quarter ending June 30, 1858, is the following statement:—"Upon dividing the population into two portions (1), the 8,247,117 people living in rather close proximity to each other, and (2), the 9,680,592 living much farther apart, the result is, that the mortality in the dense districts was at the rate of 24·73, that is nearly 25, in 1,000, while in the other districts, over which small towns and villages are distributed, the mortality was at the rate of 19·58, nearly 20 in 1,000 of the population." Thus it appears that five persons more die every year in every one thousand of the eight millions of people living in large towns than of the nine and a half millions of people living in the country: in other words, the excess of deaths in the large towns is 40,000 a year. When we add to this result the fact that temptations to intoxication and to vice of every kind are far more common in towns than in the country—that the means of education are likewise in large towns either less complete or less used, it is alarming to find by another statement of the Registrar-General that in England and Wales the town population is increasing much more rapidly than the population of the rest of the country.

These facts, then, Lord John took as his text on the question of public health, and proceeded to elucidate the importance of sanitary works by reference to results at Tynemouth and elsewhere, perfectly well known to our readers. He then showed that there are means simple in their nature, practical in application, moderate in their cost, which would very much lessen the frightful evil referred to.

By an Act of last session (the Local Government Bill), the president said, towns and corporations have it in their power to use these means. Undue prejudice and false economy have long delayed the adoption of the remedies prescribed; these are—good supply of air and water, cleanliness, prohibition of overcrowding, removal of noxious matter from the streets and houses. Public taxes which interfered with these objects—the tax on windows, the taxes on coals, on candles, and on soap—have of late years been removed. Heavy indeed will be the responsibility of those who, having the power to procure for themselves and their children the conditions of health and strength in place of those of disease and death, refuse or hesitate to adopt the remedies within their reach. I have spoken of the different rates of mortality in town and country. But this is only a part, and not the strongest part of the case. Feebleness, chronic disease, want of energy, mental and physical, reduce the tone, and I may say depress the moral character of our town population. The excitement of drams and the stupor of intoxication are sought as a relief from the lowness of spirits engendered in an unhealthy atmosphere. Hence quarrelling, strife, assaults, poverty, and neglect of education for the offspring of this degenerate race. Instead of healthy parents and robust children, fitted to continue from generation to generation a mighty governing people, we may see what Milton has so well described—

> "All maladies
> Of ghastly spasm, or racking torture, qualms
> Of heart-sick agony, all feverous kinds,
> Convulsions, epileptics, fierce catarrhs."

And we may end with his sublime words

> "Despair
> Tended the sick busiest from couch to couch,
> And over them triumphant death his dart
> Shook, but delayed to strike, though oft invoked
> With vows, as their chief good and final hope."

In terminating his address, the president thus pointed out the great work the Association has before it:—

"If any suppose, like the masters of the Roman empire, that the sword has done its work, and that nothing remains for them but luxurious enjoyment, that very luxury may revenge the conquered world. If any imagine that to them belongs dominion, and that they may indulge in contempt of the unlettered and ill-fed multitude, that very multitude may overwhelm them in bloody and merciless retribution. It is for us to work as truly as the man who forges the iron bar, or the woman who works at the factory loom. It is for us to endeavour to improve the laws by which the community is governed. It is for us to show how education may be extended and diffused. It is for us to examine and record what has been done for the reformation and punishment of offenders. It is for us to confirm and animate the efforts which are being made to sustain the public health, and thereby preserve for this country her eminence as the home of a vigorous and independent race of men. It is for us to investigate the conditions of the great problems of political economy, which may often admit of exceptions, but never of refutations. In so doing we shall but consult the welfare of the present and future generations; in so doing we shall follow the path traced out for us by Almighty Benevolence and Almighty Wisdom."

Lord Shaftesbury, with great earnestness, proposed a vote of thanks to the president of last year. Sir John Pakington seconded it; and Lord Brougham then energetically acknowledged the compliment, praised the address made by Lord John, and promised, quite unexpectedly, to make an address himself the next morning. In speaking of Lord John's paper he said,—If there were one portion of it more useful, and, I may add, more forcibly and more powerfully expressed, than another, it was the latter part of his observations upon the progress of the people, upon the character of the people, upon the means of its improvement, upon the helps which are to be given for that improvement, and to which I will only add one single remark in illustration further of the principles which he so powerfully and so eloquently laid down—that the people must themselves work out their own improvement. There is no royal road either to popular happiness or to popular fame. It is said by a poet—a poet of the people I will say—by Crabbe—"If any one tells you of those royal roads to fame or to happiness, ah!" says he, "trust them not—

> Who fame or bliss would share,
> Must learn with labour, and must live with care."

The people, whether they are in pursuit of distinction, or of comfort, or of happiness, and enjoyment higher than comfort, must know there is but one road to the attainment or to the fulfilment of those their wishes—and that is hard work—sobriety—avoiding excess of all sorts—even avoiding excess of hard work—but hard work, no over-working, but no idleness, no intemperance, and economy and frugality in the management of their resources.

And then Lord Carlisle, with a shout which made all start, thanked Lord John Russell: and Sir John Kaye Shuttleworth, with an exhibition of humility which, from another sort of man would have another name, seconded the proposition; the president replied, and the meeting broke up.

In the morning, the beautiful concert-room at the end of the hall was crowded, and Lord Brougham read his offered address, vigorously and clearly, until just before the close. The subject of it was the growth of cheap periodical literature, which he dated from the establishment of the *Penny Magazine*, the happy suggestion of Mr. M. D. Hill, now recorder of Birmingham. He paid more than one tribute of praise to John Cassell, and he mentioned him, he said, because Cassell was himself a working man, rose by his industry from a most humble station, has constantly lived with the working classes, and has the most complete knowledge of their habits and tastes, from daily unreserved intercourse with them. The variety of works which he has prepared and published is very great, and their circulation extraordinary. The prices which he gives to secure the best assistance of literary men and of artists do the greatest credit to his liberality, and also to his good sense, as his remarkable success proves. He has indeed even given considerable sums by way of premium for the production of works

by competition—in some cases as much as 100*l.* or 200*l.* It would be endless to enumerate the various works which he and several others have brought out upon this plan. The most widely circulated are the *London Journal*, which sells 350,000; *Cassell's Family Paper*, illustrated, 285,000; "Popular History of England," 100,000. One very remarkable publication of this class is the literature by working men, or essays on every variety of subjects by working men; proving, undeniably, the benefits which they have derived from their studies, and also proving that they have not been distracted for an hour from their daily toil. That these works have encouraged a taste for reading among thousands who never before read, and have afforded the means of gratifying it, cannot be denied. They used to reckon that the *Penny Magazine*, at its highest circulation, had nearly a million of readers. According to this estimate, some of the weekly papers must have twice as many.

Lord Brougham then gave a smashing to the "little learning is a dangerous thing" theory, somewhat overdoing it, and killing half a dozen times a dead baby. After pointing out the works of some of the self-taught men, he said,—

"It is truly delightful to contemplate such feats of genius so scantily aided in a hard-working mechanic, patronized by none. But the same gratification, though certainly in a very inferior degree, arises from seeing the effects of those helps which are now afforded to the humbler classes. Instead of resorting to instances of progress in the physical and the abstract sciences, let us only observe how the study of moral philosophy in its most practical branches has borne good points. There lies before me a short treatise by a working man, popularly written, because it is addressed to his fellow workmen in the same line of employment, with the view of removing the prevalent but dangerous delusions on the subject of capital and wages, by explaining the true principles of economical science on this head. No student of that philosophy at either of the English—nay, at any of the Scotch—universities, where it is studied, could have produced a better-reasoned tract, or one showing more entire acquaintance with the principles. It is the work of a common shoemaker in the Midland Counties, whose attention was turned to the discussion of the subject by the injuries which the strikes and combinations of his brother workmen were doing to their own interests. Nor is there any fear that his success as an author in expounding these principles will make him neglect another principle as essential to the children of industry as profiting by the means of instruction—that their first duty, as it is their highest interest, is the steady pursuit of their calling; and that then reading or writing, whether for relaxation or improvement, must be confined to the hours which that calling leaves vacant and makes as it were their own. This good young man will not go so far beyond his *last* as to become a professional author; for he may know, and if he does not, I will now tell him, what was once said by a celebrated wit in Paris, the mother of a far more celebrated person, the illustrious D'Alembert,—'Woe to him who depends for his subsistence upon his pen!' By a singular coincidence with the present application of her remark, she adds, to illustrate it,—'The shoemaker is secure of his wages; the bookmaker is not secure of anything.' There may be some exaggeration in this, but that it is substantially true appears to be shown by the fact, that the greater part of authors who have no private fortune join some ordinary profession to letters. It is unnecessary to multiply examples of the beneficial effects of popular literature in training up persons even of eminence in the walks of science and of art. One may be mentioned of the latter description. Amongst the most rising sculptors of the day, though he may not yet have obtained celebrity, is one who declared that his mind was first turned towards the fine arts by the wood-cuts in the 'Penny Magazine.'"

The reader then showed that the cheap, wholesome, and amusing literature now provided had driven out of the field scandalous and immoral works, and concluded an interesting address with a denouncement of the want of Christian charity in some of the so-called religious newspapers.

The Hon. Mr. Cowper, M.P. as president of the second department, Education, followed with an address. Then came a visit to the *Akbar*, reformatory frigate; and in the afternoon, on the return of the party, the sitting was opened by Lord Carlisle, president of the 3rd section (Punishment and Reformation), wherein he gave the results of his own experience as strongly in favour of the reformatory efforts now making. As our space is limited, however, we must pass on to the address of Lord Shaftesbury, president of our own more especial section, that treating of—

Public Health.—There were many persons, Lord Shaftesbury proceeded to say, who thought that that Association, more particularly in the department of sanitary arrangements, was intended to assume a greater authority than belonged to it,—that their object was that to which Englishmen so strongly objected, a system of centralization; and, moreover, that they were prepared to assume an attitude and a language that would savour far more of dictation than of the course which they were determined to pursue that of inquiry, research, and the collection of experience of all the good, the wise, and the intelligent men from all the parts of this great community. As for centralization, if they were to centralize their efforts—if they were looking to the constitution of any authority that from a central point should direct all their efforts, and undertake to guide the energies of the kingdom upon this matter—they would be utterly destroying the great project which they had in view. Unless the whole people took it up as their own especial cause, over which they had a special superintendence, and in which they had a special interest, the whole of their efforts would be nugatory and vain. Their object was to excite an interest, to stimulate inquiry, and to collect all the zeal and energy which they could in every district and individual locality, and that each separate locality should be the fountain, the centre, the alpha and omega, of all the operations which affect that locality. The object was, that every person who felt that he was concerned in this matter should be a centre in himself; for sanitary measures would never be carried into effect over the length and breadth of the land till the head of every family, the head of every domestic establishment, was fully convinced that these were principles necessary to his cleanliness, domestic purity, his physical condition, and moral health. Public opinion alone would be sufficient to maintain the thing. It was not by law—it was not by individual effort—it was not by the desultory attempts of a few benevolent persons that these great results were to be attained. They were to be attained only by the constant vigorous exercise of a wise, benevolent, and instructed public opinion. They should find that those great matters which must be brought under sanitary arrangement would be divided into two great aspects, the physical and the moral. The physical and moral in detail might be considered apart; but they could not be so considered apart as not to be frequently, constantly, nay, perpetually brought into combination. They acted and re-acted upon one another, and were in fact indivisible. Why, see how it acted in this single instance, which was enough to prove the rule which he laid down. A low moral state would bring on intemperance, and with intemperance all that frightful catalogue of diseases and crime which follows in the wake of intoxication. But were there no physical causes which brought on moral evils? Was there any one there in the least conversant with the state of the dwellings in courts and alleys who would deny this great and undeniable truth—durst any gainsay it? All experience confirmed what he said—that if they went into, and visited those places he referred to, they would see there the origin of moral mischief. Intoxication, he said, was often engendered by foul air, the disgusting and depressing influence of the locality in which many of the working classes live, by defect in the supply of water, by the deleterious and poisonous quality of the water. All these things combined drove people to that resource which the Association were endeavouring to correct by education, by reformatories, to which his noble friend (the Earl of Carlisle) had alluded, and by ten thousand appliances—all of them good—all of them necessary:—all of them must be brought to bear, but at the root of it lay this great evil. Although moral and physical evils might in scientific detail be considered apart, they must, when we came to deal with the question, be regarded in combination, in producing all those frightful evils which we knew, saw, and deplored; and which, by God's blessing, they would remove, or at least to a great degree abate.

"Look," he said, "into the records of over-crowded dwellings. Look into the effects of drains, of ill-drained close alleys, of the pestilential localities which are found to be the greatest swarms of all that fills our hospitals with fever, fills our workhouses with paupers; and then bear in mind the great fact that I hope will now be examined into—and I believe the more you examine it the greater illustration you will have of it—that crime is now ascertained to be no longer dependent upon poverty or high wages, but that crime is invariably found to be most fertile, most abundant, and most constant among ill-drained localities and among closely-crowded houses, and in all places where neglect and over-crowding squalor keep festering together. Well, now, may I say, look also to your common lodging-houses. In many places they still retain all their normal evils. Look upon them as hotbeds of vice, as hotbeds of pestilence; and take care that in your survey of the different towns these buildings do not escape your observation. Again, look—for we are all now considering the present and future generation—look to the effect of over-toil of all kinds upon the young and upon the old. I am not going to say that toil is not the portion of the human race; and I am not going to say that a great deal of toil which has been regarded as unwholesome must still be the portion of many in our complicated state of society. But what I say is this, that when you see these conditions, and regard them as in some respect necessary, direct your attention to ascertain whether the evils of them cannot be mitigated; and although you cannot bring them to that state of perfection which you would desire, you will consider whether you cannot be the means of removing much evil and introducing a considerable proportion of good. Then, again, look to the total want of water supply—the total want, in many instances, of a wholesome water supply—in the midst of our dense localities. Look, and, in consequence, find no fault with the wretched people who are the victims of that neglect. If you go amongst them, and find them covered with dirt so that you cannot distinguish their nakedness from the miserable rags that cover them—if you find them covered with vermin (and I must say I have gone amongst them with my friends, and have returned from amongst them with a considerable household upon my back)—if you go and see these things, do not lay the blame upon them, but lay the blame upon yourselves. You have knowledge, you have the means. They have not the knowledge, they have not the means; and by everything true, by everything holy, you—*you are your brother's keeper.*"

Lord Shaftesbury next proceeded to glance at the remedies for some of the evils which he had pointed out. One-half of them indeed, he said, applied to bad air and bad water, and where these remedies had been applied the best moral results had always followed; so it was wherever they had applied drainage. The first point, of course, was the right construction of dwellings, and he had known great relief and the happiest result to follow from the opening out a *cul de sac* in the shape of a court, and converting it into a thoroughfare. He believed that gymnastic exercises should be a part of our education. Many small things were of immense importance in the life of a working man and woman, and, therefore, should not be despised. They should be looked into, and the condition of the working-classes would be greatly benefited in consequence. Speaking of some of the remedies which it was proposed to apply, he said the town of Ely would show that we might make our towns far better than agricultural districts not under the same care. The town of Ely now showed in its bills of mortality the marvellous reduction to 17 in 1,000, whilst the mortality in the rural districts around it amounted to 21. The same had taken place in Croydon under the application of the Board of Health Act, and he understood the same had taken place in the town of Liverpool. He was glad to learn, by the sanitary arrangements, they were saving there, as compared

with former times, 3,500 lives a year. Surely this was a matter for consideration—for solemn and serious consideration. Moreover, we were told that the preventible mortality in this country amounted to not less than 90,000 lives a year. Let us say 40,000; that is, four lives an hour. We may be told these things are but in the course of nature, and we ought not to interfere; on such we will turn our backs; we will not listen to such a representation. We may be told these things are costly and require financial effort, and the people are not ready to undertake the expense; but we may safely say that it is disease that is expensive, and it is health that is cheap. There is nothing economical but justice and mercy towards all interests—temporal and spiritual—of all the human race.

In the evening, after a visit to the Liverpool Academy, and a concert at the Philharmonic Hall, to which a certain number of the members of the Association were invited, a *conversazione* was held in St. George's Hall, which was brilliantly lighted for the purpose. The sight pleased the eye, and Mr. Best administered to the ear, by performing on the great organ. Rain, and the bad condition of the ground round about the Hall just now, made the departure at night one of actual danger.

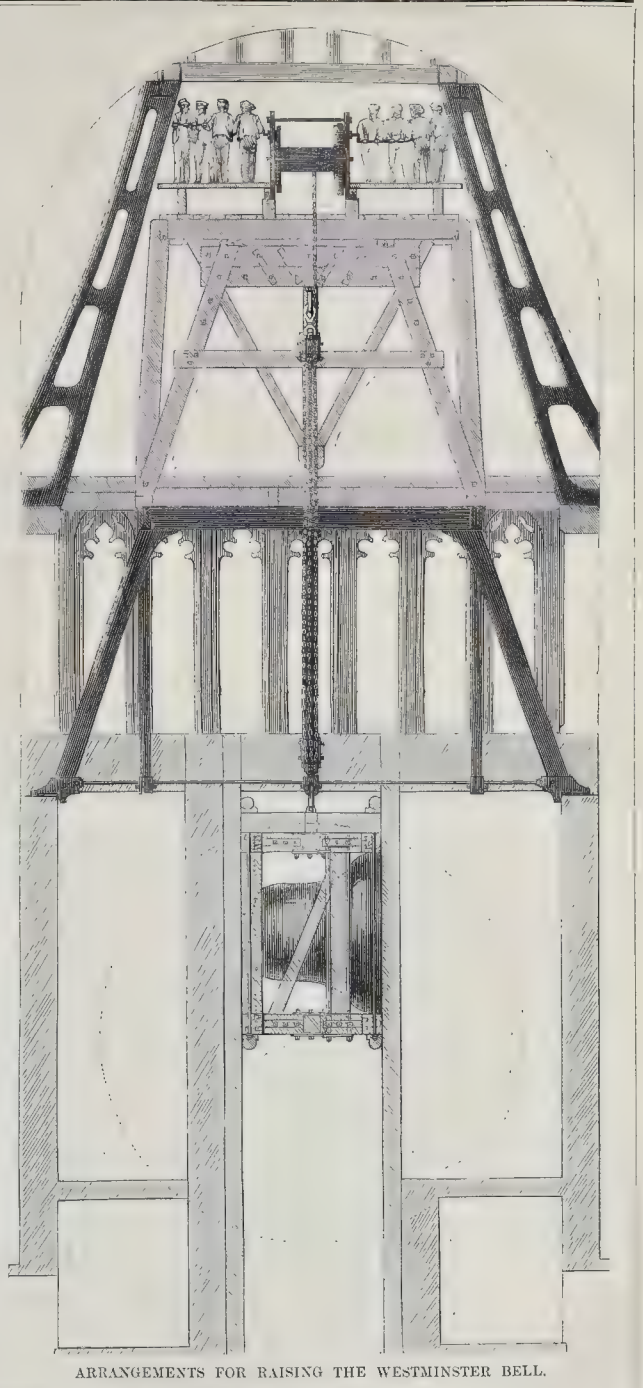
On Wednesday morning, Sir Jas. Stephen, K.C.B. delivered a lucid address as president of the division for Social Economy, and work was commenced in the various other sections; numerous papers being read and discussed. In the Public Health Section, the papers read included the Rev. Chas. Kingsley's, on the Influence of our Elective System on Sanitary Improvement; Mr. Henry Austin's, on the Common Lodging-house Act; Miss Nightingale's, on the Health of Hospitals; Mr. Payne's report of Sanitary Progress at Cardiff (showing very important results); and a paper by Mr. M'Gowan, on Sanitary Legislation, with especial reference to Liverpool, in which he rebutted Mr. Greenhough's recently-published statement as to its unhealthiness, and asserted that the conclusion was drawn from altogether erroneous premises. To this, however, we shall return.

RAISING THE GREAT BELL IN THE WESTMINSTER PALACE CLOCK-TOWER.

The great bell of the Westminster Palace-Clock Tower was placed in its first resting-place, on the floor of the clock-chamber, on Thursday last,—thirty-two hours since day-break on Wednesday having been occupied, without intermission, in the operation of raising it the height of one hundred and eighty-five feet. It is now about to be taken out of the wooden cradle, and will forthwith be raised higher, that is, to its intended position where it will hang at within a few inches of 200 feet from the ground, measuring to the crown of the bell. The operation of hoisting was so fully described, in anticipation, in a former number of our journal,* that we have little to do here except chronicle the success of the first portion of the work, and supply an illustration which will assist the former explanation. The cut, indeed, shows the bell raised to a greater height than it reached before being taken out of the cradle, and is, in the lower part, as to some particulars of the floors and walls, not strictly accurate, but will fully serve the present purpose. The bell-chamber is the space with foliated lights, or openings.

Besides the principal crab shown, there is a smaller one, as already mentioned: this is placed at the floor of the bell-chamber; and it works (through a block, secured below at the clock-chamber, to a strong wooden beam temporarily placed) a second and smaller chain, which passes again upwards, and has its end attached to the fall or waste of the main-chain, in the first instance at a convenient point below the drum of the large crab; so that the fall is drawn down to the floor of the clock-chamber, where it is coiled up—having done its work. The end of the smaller chain is refixed, as may be necessary, to the larger chain. The weight of the bell is really resisted by the friction on the drum of the large crab, added to the weight of the back or fall-chain, rather than by the second chain, which is not kept *taut*, though sufficiently so to serve in case of accident at the great crab. Close watching is required at the winding of the chain, to prevent "riding" of the chain and a consequent jerk.

* See p. 656, *ante*.



ARRANGEMENTS FOR RAISING THE WESTMINSTER BELL.

The weight of the bell of course is distributed over several multiples of the chain, according to the number of reevings, rather than borne by the chain viewed singly as it reaches the drum.

The contrivance for taking the weight off the crab when the coil of chain reaches the end of the drum (which is at intervals of about an hour and a quarter), or in order that the chain may be shifted, and the work begin afresh, is a simple and ingenious one. It is a clip for the chain, cast in two halves, to be screwed together, and, as it were, moulded at the meeting parts, to receive one or two links of the chain. The halves being made secure, the connected block is then wedged up: the weight can thus be taken off the crab, and the alteration at the drum be made as before men-

tioned. The whole operation does not require more than three or four minutes. The contrivance has already become known as the "Quarm *clip-stopper*."

The position of the clock-chamber, when the bell is taken out of the cradle; and that of the bell when hung with the smaller bells, which are now on the floor of the bell-chamber; will be best understood with the aid of the section of the clock-and-bell-chambers in our last years' volume, page 62. In the same number were given some particulars as to the tower itself, and the mechanism of the clock, which may be referred to with interest. The trussed cradling, which will carry the five bells, is indicated in our present illustration. There are twelve inclined principals or stancheons of cast-iron, or three on each side the tower. The shoes of these are connected across the tower, in both directions, by bolts: the principals carry a square frame-work, composed of riveted iron girders, with filling-in girders to the angles diagonally, from which the smaller bells will be suspended; and the great bell will hang from a strong riveted and boxed girder in the centre, the latter girder being also braced laterally, and the whole riveted together. The flooring of the bell-chamber will be of iron, and the ceiling and sides will be enclosed as little as possible, to permit the passage of sound. A staircase will finally be provided, above the position of the bell, to the highest point indicated in the cut, after the staging, which now supports the crab, has been removed.

The contrivance of the details of the mechanism reflects credit upon Mr. Quarm; as also does the success so far, of the hoisting, upon him and others.

PHOTOGRAPHY, AND THE STUDY OF ARCHITECTURE.

THE value of photography for supplying exact representations of buildings and their details, which was perceived on the discovery of the process, and became further evident in the exhibitions of the London Society, and by the French productions which included illustrations in connected series, of the remnants of architecture of chief interest in the ancient world, may appear to have been sufficiently admitted by the formation of the Architectural Photographic Association; and the success of the Association, as evidenced in the character of its exhibition at Suffolk-street, and the receipt of a considerable number of subscriptions, may seem to show that the value is in course of realization. We doubt, however, whether something more should not be done, if it be desired at once to acquire and use for the benefit of present or proximate art in architecture, all the material which photography now offers. The quantity of this has increased, even within the last few months, in a degree which is appreciable, and even with recollection of the large and valuable collection of specimens in the folios of the Association: or rather, the material has increased vastly —taking into consideration the smaller works, intended for the stereoscope,—of which many have been issued, representing with great clearness, architectural remains in distant localities; recent buildings or works in process of construction, at home; interiors, as of palaces; and other subjects, having, from various circumstances, newly developed, or both present and permanent interest.

For many purposes these small photographs may be made to answer equally well as those of larger dimensions; whilst a collection of them would, in some respects, be even more convenient for purposes of comparison and reference. They are to be had singly, in the market, at prices ranging from 4d. to 3s. each; and if the Association is able to supply to its subscribers eight or ten photographs of a large size for a guinea, it seems not unlikely that it could supply four or five times that number of the small size, for the same subscription,—or even eight or ten times the number—single impressions, or such as would be not for the stereoscope. On this supposition, a subscriber, within three or four years, might have at command some hundreds of views, including those of the chief examples of architecture,—and perhaps some representations of their decorative details and ornamentation, similar to those photographs in the collection at the Architectural Museum, which themselves go so far to prove the value of the process to architects. One of such views, of the stereoscopic size, though capable of being enlarged and rendered additionally useful by the magnifying glass, would of course be very inferior to the larger size, as regards the one subject, or for hanging on the wall of a room; but the number of illustrations, in form most convenient for arrangement and classification, could, we think, be made to serve greatly in architectural education and study, and to contribute to that sort of acquaintance with features of particular buildings, and that comprehension of the points of similarity, and of divergence, of the styles, families, and groups, which are of much importance to the production of new art. Such knowledge as we are supposing, we apprehend is, however desired, not generally possessed; and this must be the case, if the student remain wholly dependant upon the books and engravings that he can purchase, or that he can occasionally look at in the public libraries.

With a sufficient number of photographs a student may form, according to methods which we could suggest, but which any one may devise, several collections or books of reference, illustrating the chronological sequence of architecture, the geographical distribution of monuments, the biography of architects, the variations of form in certain features of an edifice, and other subjects of his study or pursuit. There are well known published works, called "Parallels," which seem to have been designed with the view we are adverting to. To this view, in speaking of those works, we have, perhaps, already heretofore made allusion. The same idea, of course, has been acted upon to some extent, and with obvious advantage in the results, in the "Glossary of Architecture," and in the "Dictionary of the Architectural Publication Society." But the limits of such works do not admit of more than a small selection of the examples. A better illustration of our meaning would be afforded by an improved edition of the late Mr. Britton's plate, which gives at one view the west fronts of all the cathedrals: by photographs, however, with the aid of the Association, far more than is there indicated might be done for the illustration of particular subjects, and the attendant benefit to the student and to the art.

It would perhaps be well for the Association speedily to have prepared and printed, a catalogue of the known architectural monuments, and other skeleton forms or lists, which might assist subscribers towards the arrangement of their materials as received, and subsequent reference. A mere list of the names of places, set under the heads of countries, would be of service, and could be readily compiled; but would be not quite all that we are contemplating. Some list will be found indispensable in arrangement of the valuable collection which will no doubt be possessed at head-quarters, and which it will be one of the chief objects of the Association to render fully and readily accessible. In this collection it is to be admitted that photographs of the largest dimensions and best description should be found; and duplicates should be obtainable on payment by all who may require them.

We hope, eventually, the Association will be able to secure the direct assistance of a good photographer, and have the printing executed under the best guarantee for the permanence of the impressions. This would seem to be needed if the large distribution which we have supposed were carried into effect. The same agent could perhaps be employed in the production of photographs of the special subjects which, from time to time, will be required; and might be open to engagement by architects who at present do not always know to whom it is best to apply for such assistance.

We would also suggest that there should be a uniform system in the titles to the photographs, to prevent mistake as to subject and locality. This should be written on the photograph itself. As equally important, also, the fact that the "negative" was taken from the building—if so, and not from an engraving—should be set forth beyond doubt; and the date should not be omitted: for, one of the great uses of photography will be to identify changes which occur through time, spoliation, or "restoration," at various dates,—as in the case of the Athenian temples, and much of the architecture of our own country. The rule with photographers therefore should be to mark on one corner of the original negative, in reversed writing of course, so as to print on every positive, the name of the place where the negative was taken, and the date, and perhaps, in order that the photograph might have its full value for purposes of study, the hour of the day. This latter stipulation would not be one that any artist would consider a needless piece of refinement. Even in smoky London, changes of effect which deserve to be taken note of by the architect, and those every one unfolding a fresh element of the beauty which is in nature conjoined with work of art, may be seen by him who can get rid of the distraction of dust and noise, and watch from morn to eve the witchery that passes over masonry and carving, through the course of one summer's day.*

BIRDS AND WINGS AS SYMBOLS.

THE PARADISE OF OSIRIS AND THE MYSTERIES AND MAGIC OF TEMPLES, TOMBS, ARKITE CELLS, AND PYRAMIDS.

IN order to enable us to get at the true meaning of various symbols and emblems first used by the Gentiles in more or less ancient times, it is absolutely requisite that we give some little consideration to the peculiar doctrines and practices which these symbols were intended to illustrate or inculcate: and if we find these doctrines enveloped in so much mystery that there is no hope of clearly elucidating them, it is to be feared that the precise and true signification of the symbols used by the heathen, in the illustration of these their peculiar ideas, will ever remain in uncertainty, however positive or assured archæologists may feel that they know the precise meaning of each symbol. To enter into any formal or lengthened disquisition on the mysteries of heathen temples in a publication such as the *Builder* is out of the question; but as the subject is one of curious archæological and general interest, perhaps I may be allowed space enough to say so much at least as may give some notion (I hope) of the general bearings of the doctrines and practices already alluded to, especially on bird symbols, which have already formed so curious a subject of interest in your columns.

The records whence such a disquisition may be drawn are more abundant, perhaps, than intelligible; but I shall aim at the exclusion of all that do not seem to clearly bear upon the points of interest under discussion; and though some even of these may not at first sight appear to be very closely connected with the subject in question, I think it will ultimately be found that they *are* inextricably interwoven with it. Thus, various bird-symbols are intimately connected with the ideas of the Gentiles as to the soul, the resurrection, the divine afflatus or spirit, and the paradise of Osiris. It is, therefore, necessary for us, if possible, to ascertain something definite and exact as to those general ideas and doctrines of the soul, the spirit, the resurrection, &c. which led them to treat of such subjects in a symbolical form; and, if we succeed in this purpose, much light doubtless cannot but be shed upon the real nature and meaning of such symbols. Want of space in your columns must add not a little to the other difficulties of such a task; but a slight sketch, however cramped or incomplete, may indicate enough to throw a little further light on the subject, and to suggest or lead to still more.

In the "mysterious paradise" of Osiris, "dead" men "became" the living "god." Now this rather startling dogma is not so unintelligible in its origin as may at first sight be supposed. Iamblichus, in his treatise on Egyptian mysteries, says that in the invocations of the god (to constitute an oracle) the invoker himself "*became* a sort of divine person." Again, he says, "In the contemplation of blessed visions, *the soul* ASSUMES *another life*, operates in another manner, and justly esteems itself *no longer man*: it *often* EXCHANGES its own life for the most blessed *life of the gods*; for the gods are *immediately* present with and united to all those who make the least approaches to them."† It is thus easy to conceive how, in the decline of such a doctrine, it might become confused with an idea that the mummied forms of the actually dead, ferried over to "Osiris," or the souls which had existed in these bodies, became Osiris himself. The soul translated to the gods,—whether "often," or only once,—in the true sense indicated by Iamblichus, was that of a living human being, who thus, for a certain interval, *exchanged* his own life for "the life of the gods;" and hence had no longer his own life *while* so translated, and was, therefore, "dead" to it: in fact, he was supposed to be "dead in the flesh, but quickened by the spirit," to use an expression which denotes the reality of what *may* have been but simulation in an Egyptian oracle. In short, he was no longer the invoker, but the invoked: his disensouled and "dead" body, was "god-possessed:" his soul had been wafted, on angel-wings, into the paradise and bliss of *entranced* and death-like repose, and the divine spirit had taken his place in the body of the oracle, and *become* the man, as the man was said to have become the god. And almost pre-

* Touching the management of the Association, greater promptness in the delivery of photographs is called for.

† "Iamblichus de Mysteris Egyptiorum," ed. Gale, pp. 22 -27.

cisely so, when Castor and Pollux "shared an immortality between them," by each "exchanging," or "laying down his life for the other's sake" alternately; Pollux was dead while Castor lived, and Castor was dead while Pollux lived: each had his Proserpine-like "half existence," and his own "day out," so to speak—the day of Castor and the day of Pollux: the "exchange" was mutual: the human became divine, and the divine human. But, as here obviously indicated, there was a still more precise sense in which the divine became human. This, too, was spoken of by the Egyptian hierophants. As initiaters into the mysteries of the temple, they taught that the soul was once *winged* and dwelt in a celestial *home*, whence it "often" descended to earth [as in "angel visits"]; but that ultimately its desires became so altogether earthly, that its chief residence also became earthly, and its celestial home was at length only occasionally ascended to, or reached, and visited; till, finally, in its ascents, it "drank of a lethean cup" of quasi bliss [the bliss and oblivion of ordinary sleep in fact], "midway" only to its true celestial "home" and "rest;" and then forgot even that it ever had so divine a rest, and lost the very means of ascent to it,—its glorious wings. The grand purpose of initiation, according to the hierophant, was to restore to the soul its lost wings, and to facilitate its celestial flights, so as "often" to "exchange" this life for "the life of the gods," or the celestial life of entrancement.

Such being the hierophantine doctrine, we can see that the Egyptian priesthood or magi must at one time have believed that they themselves possessed and practised these frequent winged ascents of the soul to the paradise of Osiris, *which* was its celestial domicile and only proper place of nightly rest. In truth, the invocations and *descents* of the *gods* to earth were nothing else, in the idea of the hierophants, than these very entrancements and *ascents* of the *soul* to bliss, or at least were simultaneous with them, as is proved by the passages just quoted from Iamblichus, which are in perfect accordance, therefore, with the hierophantine doctrine. Plotinus taught the very same doctrine essentially when he said,—"You can only *apprehend* the infinite by a faculty superior to reason; *by entering* into a state in which *you are your finite self no longer*; in which the divine essence is communicated to you: this is ecstacy: it is the *liberation* of your mind from its finite *consciousness* . . . but this sublime condition is not of permanent duration: it is only now and then that *we* can enjoy this elevation, mercifully made possible for us above the limits of the body and the world. I, myself, have realized it but three times as yet, and Porphyry hitherto but once." How curiously this reminds one of St. Paul being *once* caught up into Paradise—the third heaven—whether in the body or out of the body, he could not tell! The theurgy of Proclus was no other than the magical pass-word, which wrapped the soul up to this highest hierarchy of heaven, where it became "intoxicated with God" and inspired, as with the nectar of Olympus, by a deity who *was* the "repose" he gave. This very doctrine of repose is taught by the Buddhist priests of China to this day. Repose, they say, is man's highest good; and Medhurst, the well-known interpreter, explains* that by "repose" they mean *entrancement*. We can now comprehend, without much explanation, what Hierocles meant, in his "Golden Verses," when he said,—"Philosophy is the purification and *perfection of human life* . . . . by leading it back to the divine image. . . . We must first become men, and *then gods*." It was the divinization—the apotheosis—of man, in truth, which was taught in the Egyptian mysteries; but an apotheosis in which the divine life, "the life of the gods," or the spirit-life, did not exclusively supersede, once and for ever, the merely human or soul-life. On the contrary, it is clear from what Iamblichus and others say, that what was contemplated as the very *beau idéal* of perfection, human and divine in reunion,† was an "exchange" "often" of the divine life of entrancement for the human or natural life, the latter being, ever and anon, returned to, as well as the former; and, indeed, it is impossible to resist the conclusion (which would not be difficult, though the most profound mystery of all perhaps, formally to *prove*, were there space here or necessity to do so) that what was aimed at was, in short, the regular *diurnal* alternation and interchange, *like that between waking and sleep*, of the two states of existence—natural and spiritual—human and divine—by the adoption of the divine life of entrancement as the only state of rest, "repose," or sleep; thus "dying daily" (or nightly rather) to the natural life of the soul, while wrapped up into the death-like "sacred sleep;" but liable consequently to a daily "resurrection," "new every morning," from that nightly "death" in the "daily birth" of the Rig-Veda.

What I meant in allusion to Castor and Pollux may now be explained: it was simply this; that as the natural life was supposed to be "dead" in the spiritual or divine life of entrancement, so that divine or spiritual life itself was "dead" in the natural life of the soul in the body; and in it the divine, strictly speaking, became human; as, in the paradisical flight, the human became divine; for "these two are contrary one to the other," or antitheses, just as positive and negative electricity, or darkness and light, are. In the symbolical interpretation of the Brahminical "Dream of Ravan," these two are thus spoken of:—"Man is a duality: he comprises two modes of existence,—one natural, one *reversed*;" * and Heraclitus shows forth the same antithesis by saying that "mankind *live the death and die the life of disembodied spirits*."† Pythagoras declared that "what is beheld during our *waking* moments is *death*, and during our sleeping moments a vision;" and hence Plato said that "*the body is the sepulchre* of the soul." The divine or spiritual life was thus conceived to be dead, as I have said, in the human or natural life, just as was the human dead in the divine.

As regards birds, then, as symbols of the soul, and particularly in relation to the Platonic doctrine of contemplation, as the power or faculty ("above reason") which sends the soul into the divine abyss; surely if any bird, in the Egyptian mysteries at least, denoted the soul, it was the Ibis. The flight of the soul into the heavenly paradise of Osiris was symbolized by the actual flight of the living Ibis to its resting-place in the adytum or inmost sanctuary of the Egyptian temple,—the type or similitude of that celestial and internal paradise of the human temple or tabernacle. This flight of the Ibis took place after he had stood waiting (till the veils or gates of the sanctuary suddenly opened) fixed and motionless as a statue, on the altar in the vestibule, an obvious living type of the soul's contemplative power,—the power of the eastern "Om,"—the bent "bow of the soul," which sends it, in flight, like a winged arrow, into the divine abyss of entrancement. Plato, in speaking of his well-known doctrine, says that the office of contemplation is to make the soul godlike; its purpose being to plunge it into the divine abyss. It is this very same doctrine which the Brahmins and the Buddhists teach at the present day, though it would appear, from admissions made amongst themselves, that they now neither understand nor practise it aright. In the Egyptian rites just referred to, the fixed and motionless Ibis, on the altar, gazing homeward ‡ towards the sanctuary, was surrounded by a ring of linked priestesses, moving in measured step of "the sacred dance," ever round and round that fixed and contemplative centre,—as a type, probably, of the connective faculty of the soul, or reason and the association of ideas, constituting what may be called the *comparative* soul, surrounding the *superlative*, or central eye of contemplation or identification,—"a faculty superior to reason." Suddenly the great gates of the illuminated sanctuary were thrown open, or the veils withdrawn, and swift as an arrow the Ibis immediately flew in, followed by his fleet train of worshippers, and all disappeared, within the simultaneously closing gates, "in a moment, in the twinkling of an eye," leaving the uninitiated without, as before, in the darkness of night, the time when the mysteries were enacted. These rites were clearly and obviously illustrative of the hierophantine doctrine of the soul, its wings, and its flights into paradisical rest (by night—the fitting time for "rest"). And, doubtless, the priestesses in the train of the flying Ibis were those in whom, chiefly, the oracles of "the divine life of the gods" and "the midnight sun" were evolved in "the temple sleep" of entranced repose, which is spoken of by Iamblichus, and during which the god so invoked was believed to have taken possession of these his true temples, and to have uttered the oracles through the moribund lips of their entranced and death-like bodies. Compared with the sublime *doctrines* of the magi,—whatever *their oracles* may have at length become,—the phenomena of modern "spirit-movements," "mesmerism," and "electro-biology," generally speaking, are the mere garbage of an illusive, though actual, and magical, "spirit of lies," such as heathen oracles in general may have also become, for all that I, explanatively speaking, either know or care. Even the heathen themselves recognised and spoke of "the god of lies." Thus in the Achæmenian monuments, while Ormuzd, the Persian god of truth, and *good* lord, of the Peris of paradise, is continually invoked, Ahriman, in one passage at least, is said to be "the god of lies." It may be that "God sent them strong delusion that they should believe a lie," but in this case at least they knew it to be such. Even of certain Jewish prophets, it is said "the Lord hath put a lying spirit in the mouths of these thy prophets." The prophetic spirit of truth is compared to grains of wheat, and this spirit of lies to the chaff with which wheat itself is enveloped before it is thrashed and fanned out of the chaff.

Such rites and doctrines as those I have alluded to, cast a curious light not only on the use of birds as symbols, but on the signification of architectural arrangements and plans of temples—their altars, vestibules, *dark* adyta, or holy of holies, &c. as emblems allusive to that true temple of the Lord, the human body, and its "heavenly house," and its "earthly house," in "*one* (twofold) tabernacle," with its intervening veil—the veil of sleep—"the shadow of death," to be "suddenly" transcended;—for the body "is the temple of the Holy Ghost," and the Egyptians, doubtless, did their best to aim at this grand, and primitive, and universal truth, in the midst of heathen error and confusion. The simple reason why even the dove, the chief Christian bird-symbol, denoting the Holy Spirit, "the Spirit of Rest,"—as well as "the Spirit of Glory,"—and hence, of "rest in glory," and the "Holy Ghost,"—the "Comforter"—appears to have been chosen as such, is, doubtless, indicated in Scriptural passages such as these:—"Oh! that *I* had *the wings* of a dove, *that* I might *flee away and be at rest!*" "As a dove to her windows," &c. The Ibis was *taught* to "flee away" into the emblematical place *or state* of holy and entranced repose or rest, in the mysterious inner sanctuary of the heathen temple; but the dove, which instinctively flies straight to its home, even from inconceivable distances, may be said to be a natural symbol, not requiring any such teachings to justify its use, or allusions to it, as a symbol of the winged and flying, home-seeking, rest-seeking soul; for here indeed we do observe that the dove, as denotive of the "I" who so longed for "rest," might certainly be supposed to symbolize the soul, although we know it to denote, in general, the Holy Spirit, in other Scriptural uses of it. Yet even here let us see if the difference cannot be reconciled. The body of the dove itself might well, in the instance adduced, denote the soul in flight to the heavenly rest, but the WINGS were what was prayed for by "I," the soul; and these wings were the desired instrument of flight, into rest, for that longing, contemplative soul, and might still denote the spirit, the comforter, on whose wings the soul was wafted into bliss, as, perhaps, originally, the souls of "dead" Romans were, on the back of Juno's peacock.

The Druids were compared to birds, being "of two origins," and regarded as gods or spirits, like the "twice-born" Brahmins. The Druid, we are told, was "*first* born *in* the egg, and *next* born *out of* the egg;" or as Hierocles taught, of what man in general *ought* to become,—the Druid had first become a man, and then *become* a god. Here evidently the second birth, the oracular and quickening *spirit*, and not the first, the living *soul*, was symbolized by, or at least compared to, *birds in general*. The eggs and the birds;—were not these the ovates and the bards? I know that the etymology of the word "bard" has been re-

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* See *Morning Herald* of 23rd September, 1854; or *Builder* of 16th August, 1856, p. 450.

† The Gentiles were not singular in such ideas of perfection: a pious old ecclesiastic, Wynkin de Worde, speaks of "that only absolute gentleman, Jesus, perfite God and perfite man," and much more might be said on such a subject were this a fitting place.

* The ancient Brahmins, however, clearly understood that there was in fact a *trinity* of actual states, *sleep* inclusive; for, as Sir E. L. Bulwer remarks, in a note to that very curious book, "Zanoni," they speak of "the three states,—waking, sleep, and entrancement," as three perfectly co-ordinate and co-equal states of human existence, although they denied the right of sleep to occupy a place (as it were) in "the enlightened twice-born," whose only sleep was to be entrancement. Hence the *duality* of states alluded to as reverses, entrancement being the only full reverse of waking life.

† But ye are *not in the flesh*, but in the spirit, *if so be the Spirit of God dwell in you*." Rom. viii. 9.

‡ Even in modern times, in the Adyta of Egyptian temples, the perch or rest of the Ibis, or at least its stone cage or stall, has been found, as I have somewhere recorded in my note-books, though I cannot, at this moment, say whence the information was derived, but the fact I think is well known.

* Diodorus tells us that Isis was wont to *appear* by night. Like Ceres, too, she was called "the midnight sun." As to this and other cognate subjects, see article in *Builder* of 22nd August, 1857, on "The Mystic Chaldea."

garded as a mystery; but I leave it for consideration whether or not this be one of those cases, alluded to by Coleridge, in which the mere pun of to-day was the etymology of yesterday. The ovates were robed in green, being raw noviciates or recruits, preparing for initiation into bardship. The bards were robed in ethereal blue, an emblem of their celestial second "origin." The noviciate or the ovate whence the bard of bards, the Taliesin, issued, or was born anew, like a bird from the egg, is also compared to a grain of wheat which "the goddess of death," Ceridwen Wrach, or Ceres, the goddess of corn,—"picked up" as "a hen," and sent into "the abyss" of her "crop," as into his tomb or sepulchre, where he was "modelled into a perfect man;" and thence he was born again,—as in the birth of a new egg from the new bird, it would appear, rather than of the new bird itself from the original egg; for the Taliesin says,—"*Thrice* have I been born: I know how to *meditate*: it is woeful that men will not come to seek all the sciences of the world, which are treasured in my bosom; for I know all that has been and all that will be hereafter." This reminds one, by the way, of the veiled goddess, Isis, who says, "I am what hath been and what will be, but none removeth my veil;" or as Moore has it in his "Epicurean," while speaking of "glimpses of glory," ne'er forgot, which tell like gleams on a sun-set sea—

> "What once hath been—what now is not,
> But oh! what again shall brightly be!"

It is said that the Hebrew of the "I am that I am," strictly rendered, signifies "What I have been that I will be." The chief of bards, the Taliesin, occupied the "awakened" chair or stone seat or couch of the bard of bards. "Complete is my chair in Caer Sidi [the arkite caer, cell, or kistvaen]: neither disorder nor age will oppress him that is within it,"—the chief of "the deathless brotherhood."*

That the name "Taliesin" *was a title*, denotive, in fact, of the "awakened" life of entrancement, or prophetic "seer"-life, seems evident from the circumstance that it meant "the radiant aspect"—the luminous head,—as well as from such passages as this in regard to it:—"I went the circuit—I slept in a hundred isles—through a hundred caers [arkite cells] I toiled. . . . *A second time was I formed.* . . . *I have died, I have revived.* . . . *I am now Taliesin.*" Hu, the Druidical "god of mystery,"—"Hu, with the expanded wings,"—Hu, the bird—the god-birth,—"Hu lived and died alternately." After what has been said, this "god of mystery" does not need much explanation. "There is a greater secret,—*the dawn* of the [lost] men of Goronwy ['the Gwyllion—the children of *the evening*']† known to few . . . the magic wand of Mathonwy . . . on the bank of the river of spectres." This is "He of the two origins; *of the race* of the *glorious god*; with his divining staff and his pervading glance." The magic wand and divining staff were one and the same with Mercury's "*entrancing* rod," by means of which winged rod the winged messenger "translated souls *to the gods, and returned them thence.*"‡ The lost children of the evening, who "sang the night songs" of the god—Apollo,—were doubtless the true "bards" till they were "intoxicated and lost:" these were the true winged "birds" of the spirit or the second birth. In the double symbol of the egg and the bird, too, we have doubtless the real and most secret meaning of the mundane egg with the eternal dove *hovering* ("ascending and descending") over it. The birth of the egg, need I here remark, was symbolical of the birth of "this life"—mundane or natural life—the first birth—life in the flesh—the soul-life. The birth of the winged bird out of this mundane egg was symbolical of the birth of what Iamblichus calls "another life,"—the second birth, in short—the divine birth—the birth of the "next life,"—of the "life *to come*" out of "this life,"—of the spirit-life; and that spirit-life, "to come" in all, was believed to have actually "come" and been *fully developed* too, as the bird from the egg of "this life," in the true oracles of the Gentiles in general, most of whom (the Egyptian inclusive, according to Herodotus) were called doves; as well as in the Taliesins and bards "of two origins," amongst the Druids, who were called birds; and in "the enlightened twice-born" amongst the Brahmins. So was it also with the Peruvian "children of the sun;" and so is it believed, or supposed, to be the case with the Buddhist Delai Lama, or pope of popes, and other lamas in Thibet, Tartary, and China. In short, over all the world this great and singular doctrine, I find, has prevailed, under one guise or other. This same doctrine was also symbolized by the butterfly, as a second birth, or birth from the "worm" or caterpillar,—"dead," yet not corruptible, not in the death of corruption, while a chrysalis,—that mummified and mysterious state of simulative "death" which the Druidical "hero," about to conquer his right to be one of "the deathless brotherhood" of "two origins,"—who, as "*bed*-fellow" with Hu, "lived and died alternately," sleeping while Hu aroused or "lived," and arousing while he slept or "died,"—underwent in the dark and mystic cell, or womb of Ceridwen the goddess, such as that at New Grange, in Ireland, and analogous to the Vimana, containing the dark "womb of the house" in Hindoo temples.

Such caers or cells as that of New Grange occupied the heart of a deep and somewhat pyramidal barrow or cairn of earth, and were only accessible by a long, low, and narrow passage, tunnel, or "trance," as they would call it in Scotland, through which the "hero" crept into the dark cell. This entrance was symbolical of a return to the womb of mother earth, whence a new birth of "this life" was to emanate after he had "slept" with "the god"—entranced in the caer or cell, which was at once "the house of the ['living'] god" and "the tomb of the ['dead'] hero," whose deep and "tranquil repose" or "sleep" here was an emblem of and described as "death." The cell itself was cruciform in plan, the opening being the stalk of the cross, and the two arms contained stone *vessels*, thus almost side by side; the one placed on the *earth* in "the tomb of the hero;" the other off the earth (or on the rock) in "the house of the god," which was dedicated "to the Great Mother Ops." It is evidently in allusion to these arrangements and rites that such passages as the following occur in the Druidical or Taliesin records:—

"In the dales where the courses surround the circle (and the caer) He (Hu—pronounced Hee) *arouses* who is partly covered and partly bright" [like the "entrancing" Mercury, one of whose sides was dark and the other light]. He is now, says Davies, in the mystic cell. "Let the renowned, the interprizing [hero, Eidiol, or Ambrosius, whose actions are recorded in the Gododin] be *lulled in sleep* [or "death" while the god "arouses" or awakes and "lives"] . . . but let Hu mildly warm him with *his divine presence*. The man who *rushes forth* . . . is the *bedfellow* of him who rests in *the narrow house, under the tumulus* . . . The Victor directs his view over Manon, the luminary, the arkite with the lofty front, and the red dragon, the Budd (or Victory) of the Pharaon" (or higher powers)."

"In the sacred course, on a serene morning, when Hu sent forth his dancing beams, making this demand:—*I require men to be born again*, in consideration of those liberal ones [those liberated ones?] who will be [who have been?] lost those *blessed ones* they have been intoxicated and lost."

In the first of these two fragments there is a curious conglomeration of remarkable words, suggesting those close connections which actually did exist between Druidism, Buddhism, and Egyptian magic. "The Budd of the Pharaon" is a very notable phrase in this respect, and the connection between the Budd and the dragon suggests the curious penchant of the Chinese and other Buddhists for dragon forms. Even "the Manon" with "the lofty front" smacks not a little of the Memnon statue.

These coincidences suggest mention of the curious analogy between the pyramidal barrow of New Grange and the Egyptian pyramids. A long narrow passage, in one of the latter, leads to a central cell, deep in the heart of the pyramid, and in which was found a sarcophagus,—the tomb of the hero? Here probably the very rites, invocations, incantations, enchantments, and entrancements, just spoken of, or something closely resembling them, were at one time enacted.

I have already, I find, so far exceeded the limits allowable even for an article on strictly architectural subjects, that I fear the little chance I had of admission to your columns in the present instance has been thrown away. Should you consider the subject of sufficient archæological and general interest, however, I shall be happy to conclude what I meant further to say, in a second communication, of more reasonable dimensions.

JOHN E. DOYE.

* The Druidical and prophetic couch or chair of stone reminds one of what is said of the Sibyl to whom Æneas was guided by *a dove*, and to *the shades*, through the Sibyl's *cell* or cave at Cumæ, where it now appears that there was, in ancient times, a strange "city of the dead," as at Ur or Hur, the paradise of the Chaldee "daimons" or spirits [see article on "The Mystic Chaldea," in the *Builder* of 22nd August, 1857],—but with its tombs or apartments fitted up as for the living rather than for the really dead:—

> "In her cave, upon a rock,
> Reclines the mad, prophetic Sibyl."

I quote from memory, but pretty correctly, I think.

† Gwyll meant night-wanderer, fairy, witch, according to Davies; who also says that Gwyllion meant prophetesses who sang or chanted nightly songs or "songs in the night," in the sacred *isle*. There are curious allusions in the Old Testament to "a song as in the night," and "God who giveth songs in the night;" "in the night his songs shall be with me," "in the night, when a holy solemnity is held;" &c.

‡ To the Egyptian Mercury, Nouph, Anubis, or Psychopompos [which last means "death in a higher and better sense"], the Ibis was sacred.

LABYRINTHS AND MAZES.

At the recent meeting of the Yorkshire and Lincolnshire Architectural Societies, the Rev. E. Trollope read a paper, as mentioned before, on the subject of "Labyrinths and Mazes." To those who doubted that labyrinths and mazes could have connection with architecture, he begged to say that labyrinths formed for two or three centuries a portion of ecclesiastical edifices; in fact, they were continually laid down, not only in Europe, but also in Africa, for a period of two or three centuries, forming pavements of churches, and being devoted to Christian purposes. The labyrinths of the Classical age, he continued, and the quaint devices of later times, the mazes of which they were the prototypes, presented to the archæologist a subject of investigation which had hitherto not received that degree of attention of which it appeared so well deserving. He hoped, therefore, that the observations which he made would meet with a favourable reception, as being not only connected with the early studies of classical antiquity, but as illustrative of certain remarkable ecclesiastical usages in the Middle Ages, and possibly recalling certain pleasurable reminiscences of gay disports or rural revelling associated with the maze of more recent times, of which the latest and most familiar example was the verdant puzzle at Hampton Court. Labyrinths might be divided into several distinct classes, namely, the cavernous, the architectural, the designatorial, and the topiarian; or, in plainer words, complicated ranges of caverns, sepulchral buildings, torturous devices indicated by coloured marbles, or cut in turf, and those formed into clipped hedges. Labyrinths were of exceedingly ancient origin, and had been used for the most varied purposes, namely, as catacombs for the burial of the dead, as prisons, as a means of performing penance, and as portions of pleasure grounds. Of architectural labyrinths he said the most extraordinary was that at the north side of the Lake Mæris, in Egypt, and about thirty miles from Arsinoe. Herodotus said that none of the edifices of Greece could be compared with it, either as to costliness or workmanship; that it consisted of twelve covered courts, 1,500 subterranean chambers, in which the bodies of the Egyptian princes and the sacred crocodiles were interred, and that there were as many chambers above ground.

The most surprising fact connected with the mythological labyrinth was its acceptance by Christians, and its adaptation by the Church to a higher signification than it originally bore. The Church adopted labyrinths as symbolical of herself. Figures were designed in the centre of their manifold windings, such as those of bishops, architects, or builders, ranged round a cross, the idea intended to be conveyed doubtless being that the persons represented were resting in the bosom of the Church, as in the ark of salvation; but afterwards these labyrinths were made to serve another purpose, and received an entirely new name. This was when the period of the Crusades was drawing to a close, and when certain places nearer home than Jerusalem began to be visited by pilgrims. Labyrinths became instruments of providing penance for the non-fulfilment of vows of pilgrimage to the Holy Land, and were called "Chemins de Jerusalem," as being emblematical of the difficulties attending a journey to the real Jerusalem, or of those encountered by the Christian before he could reach the heavenly Jerusalem, whence the centres of these designs were not unfrequently termed "Ciel." Labyrinths were also used as a means of penance for sins of omission and commission in general, penitents being ordered to follow out all the sinuous courses of the labyrinths upon their hands and knees, and repeat certain prayers at fixed points. Unfortunately most of these labyrinths were now destroyed—a few wantonly during the revolution, and others because strangers and children, by noisily tracking out their paths, possibly occasioned disturbances during divine service. Occasionally more than the actual path of the life present was attempted to be presented in these works. On one found cut upon the pavement beneath the organ of the Church of Notre Dame at St. Omer, the winding path towards the central Jerusalem was strongly mixed up with lions, rivers, mountains, and animals, intended probably to shadow forth the refreshments

id the difficulties which all Christian pilgrims ust expect to meet with in their journey rough life towards the heavenly city which ey sought. Designs for spiritual labyrinths re in vogue until the third quarter of the last ntury. He was not aware of the existence of single specimen of an ecclesiastical labyrinth any church in England, but there were veral works of this description cut in the rf of the various greens throughout the nd. They were usually termed Troy-towers Julian's bowers, but the term was an improper e, as it apparently pointed to a very remote, or least a Classical period, whereas the works so lyled were without doubt Mediæval.* Ancient rf mazes either existed or were known to have isted in Scotland and Wales as well as ngland, whilst shepherds and others were still the habit of recutting those, or occasionally rming new ones, copied from more ancient de- gns handed down by their forefathers. Such rks were to be seen in Strathern and other arts of North Britain. They used to abound in Vales, and they had been found in agricultural calities throughout England, namely, in the icinity of the Solway, in Cumberland; at Ripon nd Asenby in Yorkshire; at Alkborough, Louth, ppleby, and Horncastle, in Lincolnshire; at eninton and Clifton, in Notts; at Wing and yddington, in Rutland; at Boughton-green, in Northamptonshire; at Hilton, Hants; Dunstable, Bedfordshire; at Saffron Walden, Essex; at Win- hester, Hants; aud at Pimpesne, Dorsetshire. The rev. gentleman observed that there was a ery strong resemblance between a labyrinth cut n marble in an Italian cathedral, and five cut in urf on the green sward of as many English ounties. This fact, in addition to the great skill equisite to trace such complicated devices upon ery limited space, negatived at once the idea hat any of them could have been originally the andiwork of some local shepherd.† Denying herefore their pastoral as well as their presumed Roman origin, it remained to be suggested by whom they were constructed, for what purpose, nd at what period. Hitherto, he believed, ques- ions on these points would have been asked in ain, but France had lately presented him with a ey capable of opening the repository in which his British secret connected with turf labyrinths ad long been concealed; for, by comparing the English specimens with those of the French Mediæval Church, and particularly an example in Sens Cathedral with the one at Alkborough, he found the respective designs almost identical. There scarcely, therefore, remained a doubt that both had an ecclesiastical origin, had no other evidence been forthcoming.‡

COMETS.

There was one peculiarity in the comet lately so brilliant in the north-western heavens, which we have not seen adverted to. As the brush or tail lengthened, night after night, it not only assumed the form of a segment of a circle: it is a frequent enough circumstance for the tails of comets to sweep round a portion of the heavens, as if forming a segment of a great circle;—but what struck us in the present instance as notable, was the fact that the outer margin of the brush seemed to coincide with a portion of a great circle of which the pole-star might be regarded as the centre. This circumstance immediately suggested to us the idea that the entrance of the light from the tail into the globular surface of the terrestrial atmosphere must have something to do with this appearance; and that, although the tail thus seems to us curved, such may really not be the case;—and, on the contrary, that it may stretch away in a straight line through the heavens. A little further consideration led to the expectation that, as the comet advanced south- wards, and its tail came to be seen through a sweep of the heavens approximating a little nearer to the zenith, it would appear to rise into a less inclined or more perpendicular position, *if* the entrance of the light from it into our atmo*sphere had* anything to do with its apparent curvature. We, therefore, awaited with some interest its subsequent appearances. The tail afterwards *did* appear to be less and less inclined, but still preserving its curve as a segment of a circle which might be supposed to be described around the pole-star as a centre. In fact, so far as regards the mere curve, without reference to any particular centre, the tail looked like a pale or colourless rainbow, as was remarked by others, who knew nothing of what we have just stated. This reminds us, too, that after the comet first made its appearance, one clear evening, after the sun went down, a very pale streak like a colourless rainbow swept completely round the zenith from north to south: it gradually passed eastward, till it altogether vanished. That this pale semi-ring had a more distinct relationship to the sun than to the comet seems evident; but, although we have seen a coloured rainbow in the heavens just before the sun rose, we never before saw such a one as that just described, nor any, indeed, after the sun had set. We need scarcely observe that this was no *lunar* rainbow, such as we have also occasionally seen.

Kepler, Cardan, and Tycho Brahé, believed that the tails of comets were simply the solar light refracted more or less through the cometary vapours and atmospheres; but the fact that in all cases the brush of light (which, it was supposed, would become visible, on this hypothesis, by re- flexion from the molecules of the ether which is believed to fill space) ought to run out in a straight line, however much refracted; and the contra- dictory fact that cometary tails were generally curved and not coincident with the line of the ray from the sun, induced Kepler to withdraw his adhesion from the otherwise tempting and beau- tiful hypothesis that these tails are but brushes of light such as are refracted by a lens or a glass of water, after being united in it as a focus. Should it now turn out, however, that the curve is more apparent than real, and is in fact due to atmo- spheric refraction as the light enters the gaseous territories of the earth, one fatal objection would be withdrawn from opposition to such a hypo- thesis. The brush, we need scarcely remark, is always turned away from the sun, as a beam of refracted light from the sun ought to be; and more than that, it is now proved that the brush of a comet is in general either conical or cylindrical *and hollow*. Now, wherever there is a solid or opaque nucleus in a comet, the light must be pre- vented from passing; and such a hollow, in the shadow of the nucleus, and surrounded by the light focalized from its enveloping transparent media, *must* appear. Moreover, comets have sometimes more than one tail. The tail of the comet of 1825, observed in New South Wales by Mr. Dunlop, consisted of "five distinct branches of different lengths." On the 19th of October in that year, "the rays emanating from the extreme tails ap- peared to cross behind the comet, like the rays which diverge from the focus of a lens." In this very description, then, we perceive that a diversity of tails is also explainable on the hypothesis of Tycho Brahé. Again, if it be possible for the solar light thus refracted and shot through the heavens to show itself on the surface of our planet, it ought also to be possible for the smaller ray of light which will be reflected back from a nucleus, or even from its more translucent envelopes or atmosphere and vapours to show itself; and accordingly, in the case of the comet still in sight, a beam of light was described by Mr. Hind as having been shot ahead, like another but smaller tail,—or, if we speak of tails, we ought rather to call this one a horn issuing from the head. There were even fan-like radiations of light seen on the solar side of the nucleus.

On the other hand, one fatal objection to the prevalent idea that the tails of comets consist of a perpetual diffusion either of phosphorescent or of sun-lighted particles or vapour emanating from the wasting body of the comet, is the fact that the tail is ever cast upon the side away from the sun, even while the comet wheels round and darts away itself from that centre of its attraction, back again into the northern or other regions of space, where it was supposed to have "left its tail behind it." The tail, in the comet's retreat, *precedes* the head, not *follows* it, as it ought to do were the tail a material substance, however subtle, flowing behind it as it advanced towards the sun. Newton, we believe, however, attempted to explain this by reference to a vast solar atmosphere, in which such vapour would always *rise* away from the sun.

Having now stated some pretty strong reasons for the belief that cometary tails are mere brushes of solar light (and, by the way, we might have added that this light has been proved to be solar, not cometary, being polarized); we will now start one objection which we have not seen urged *against* this idea. If comets, so far as regards their tails, be mere lenses through which the solar light is brought to a focus and shot forth again starwards, why is it that none of the planets which are known to have atmospheres have ever been ob- served to do so? Is it because while the atmo- spheres of comets are so tremendous by comparison with their nuclei (when they have any), planets, on the other hand, have only very moderate or small atmospheres by comparison with their opaque and nucleate masses?

A new comet has been announced by Mr. Hind: this is thus the fourth of a series now in sight, by telescope at least, Encké's and Donati's inclusive: indeed, if we mistake not, another still has just made its (telescopic) appearance; and it is said that at Tunis, at present, two splendid comets are visible to the naked eye,—one coming from the north (Donati's doubtless) and another from the south. The meeting and mutual attack of two such fiery "bulls of Bashan," with their heads down and their tails up, would be a sight worth seeing. It is to be hoped the errant strangers are not going to meet in congress like the British Association, or accumulate on our hands like the fifty planetoids or asteroids which have been of late years discovered.

THE COMET.

Thou wond'rous visitant!—from what far distant sphere
Dost thou press tow'rds us on thy wings of light?
What comest thou to tell? Why hast thou journey'd here?
Oh! stay and answer. Cease thy rapid flight!

What hast thou seen in those bright worlds so far away?
Have sin and sorrow other homes than this?
Does, elsewhere, Vice—like Judas—shun the light of day,
And sell his master, Virtue, with a kiss?

Those brilliant orbs around, that look so good and pure,
Have they preserved their birthright, holiness?
Or came there also *there*, some Jacob to allure,
And rob them with a show of happiness?

* * * * * *

But more I dare not ask. An awe sublime and grand
Enfloods my soul, and bends my supple knee:
Thou art a pen of light in th' invisible hand
Of Him whose pathway lies in the deep sea!

And thus upon the firmament He writes His name,
And graves his title on the azure sky:
"All-wise, all-merciful I am," His deeds proclaim;
His witnesses, Time and Eternity!

THE REGENT-STREET PAVING QUESTION.

COST OF ROAD-MAKING.

Six months ago it was publicly announced that Regent-street was forthwith to be paved with stones. It is now, however, having its macadam entirely renewed, thus seemingly settling (for a while at least) the question of whether the road- way of this popular thoroughfare is to continue of the kind with which the street has ever been identified, or changed to a granite block pavement. The present position of the affair has been arrived at through a very protracted course of parochial agitation, of the circumstances attending which the following is a little history.

When Regent-street was made by the Govern- ment, some forty years ago, the intent of the cut was not alone as a local improvement, but formed part of a grand scheme for ornamenting the metropolis by the creation of a new city of palaces and general park on the site of Marylebone Farm and Fields,—in ancient times a royal domain, but deparked in the general national spoliation of the seventeenth century. A primary feature in the design for this new palatial city and park was, that its chief approach should be by a grand open carriage-drive, having for its starting-point the seat of Government at Westminster, the greater part of the route, viz. Parliament-street, White- hall, Charing-cross, Cockspur-street, and Pall-mall on the south, and Portland-place on the north, being already in existence; and to connect these— at the same time opening a great metropolitan trunk thoroughfare—was the origin of Regent- street. Another feature in this design was, that all the roadways comprehended in the plan should be constructed on Mr. M'Adam's then new prin- ciple of road-making. At the same time it was wisely suggested by that gentleman, that in order to these roads being maintained in uniformity and in a state of ornamental repair in keeping with the beauty and magnificence of the new estate (desiderata incompatible, as respects the first, with situation in five different parishes, and, as respects the second, with the views of economy usually pervading parochial bodies) should be specially provided for, instead of being committed to paro- chial charge. So, to make the thing in this way complete, the Crown Estates Paving Commission was formed (3rd Geo. IV. cap. 100), and in that

* The works of various labyrinths of this description may have been Mediæval, but the general idea or plan on which they were laid out was ancient, as well as the name of Troy in connection with them.

† Those mysterious ancients, the boys, in some parts of Britain, and especially in Scotland and in Wales, have a traditionary knack of working out, upon a slate, or, on a more ambitious scale, in the turf on a hill side, what they call "the walls of Troy," the "walls," or out-works, being based upon a sort of cross in the centre, whence all the labyrinthine lines and ways radiate, or round which they are circumscribed. The puzzle is to find out the one only way to the head of the central cross, in the midst of several devious and misleading paths, all coming short of the grand central point.

‡ Representations of mazes occur occasionally on the bosses in Mediæval vaulting. There are several in the church of St. Mary Redcliff, Bristol.—Ed.

body was vested the care of all the carriage-ways and footways comprised in the entire district of these improvements, as well as of the main line of approach from Westminster before adverted to, the Act of Parliament giving powers to raise the necessary funds for the purpose by an annual rate on the inhabitants of the houses, &c.

The absence in the constitution of this commission of the favourite old English principle of unity of taxation and representation, added to the circumstance of the rates levied always appearing excessive, and no means open to the ratepayers of knowing how the moneys collected were expended, was ever matter of discontent; and the inhabitants of Regent-street eventually set to work to get themselves relieved from the compact. Their prayer complied with, an Act of Parliament was passed, in 1851, by which that commission was dissolved, and the various portions of the trust restored to the respective parishes in which the same were situate, and Regent-street, which cuts through St. James's, was now handed over to the parish. It was, however, soon discovered that the maintenance of the street, by reason of its immense traffic, was costly beyond expectation, and that the transfer had been a bad bargain for the parish. Numerous experiments were from time to time devised and tried on the road, in the hope of diminishing the constant expense attending the renewal of the macadam; but these brought immediate positive outlay, without effecting in any sensible degree the object sought. The proposition for substituting paving-stones for the macadam was now and then mooted, as affording the more likely certainty of ultimate saving; and, singularly oppertune to the purpose of the promoters of that view, the *Builder* published some statements that had been put forth from Newcastle, Liverpool, and Westminster, purporting to exhibit the comparative expense of keeping up the roadway of streets exposed to great traffic laid respectively in macadam and paving-stones, showing economy enormously in favour of the latter, but asserted, it may be observed (according to the opinion of many very correct-calculating men), on very inadequate data. However, the economists of the St. James's vestry, approving the views thus promulgated, and thinking the matter of rate-saving paramount to every other consideration, now pressed the proposition for paving Regent-street with 3-inch granite cubes; and it was adopted;—a resolution, though, that implied matter of much more import than those engaged in carrying it then anticipated.

To the infliction of a stone pavement on them, the Regent-street people entertained the most grave objections. All felt its consequences would be ruinous to the commercial interests of the street. And the vestry was appealed to, by deputation, memorial, &c. meeting after meeting, to forego the project.

A re-consideration by vestry of the passed resolution on the subject, produced a modification of their former edict, to the following effect, viz.:—That the road should be paved with the granite cubes to the extent of 12 feet on each side, leaving the centre of the way (26 feet) to remain of the macadam. This was equally unsatisfactory to the Regent-street people; for, although proposed ostensibly as a compromise for, as was said, setting the disputed question at rest, "once and for all;" a whisper, *aside*, at the same time announced the measure as the thin edge of the wedge leading eventually to the entire paving with granite. Vestry was inexorable at this point, and impatient at the persevering importunity of "the Regent-street shopkeepers." The latter, at the same time, seeing supplication in this way no longer of avail, but resolving, nevertheless, not to sit down quietly and thus see the spoliation of their street, now turned their attention to another mode of procedure. The annual election of the triennially-retiring third of the vestry was at hand, and the grievance was referred to that battle-field for decision. To the re-election of all vestrymen that had been instrumental in bringing about this obnoxious measure, were opposed candidates pledged on this particular question to the side of Regent-street. The result was, that in three of the electoral wards (the parish being subdivided into four) the lists of the Regent-street committee were carried, a seventh which sent two additional men into vestry favourable to the conservation of Regent-street, displacing a like number inimical to that particular consideration. The scale being now turned in vestry, the existing resolution for the introduction of more paving-stones into the street was quickly rescinded. And although in the earlier epochs of this controversy the Regent-street people sought nothing further than that their [illegible] now that that interest had become in the ascendant, and that the position had been gained by a fight, mere quiescence would not suffice. Vestry now resolved that the paving-stone already laid down in the street should be removed, and that the whole of the carriage-way be repaired in the best possible manner, on the principle of an entire macadamized road; and that the money already voted and calculated for on the year's rate, viz. 4,955*l.* for repairs and paving works on the street, be devoted to the purpose. A committee of three vestrymen—Messrs. Medwin, Crane, and Donald Nicholl, M.P. (assisted by the surveyor)—being appointed to carry out the work.

Hereupon these gentlemen immediately commenced their duties. Several of the principal contractors in the line were invited to send in a specification of any plan they might recommend for a thorough repair or renewal of the macadam of Regent-street (intimating at the same time to them that the committee were seeking to have the very best and most durable road possible to be formed); a price for executing the work to accompany the same. On a careful examination of the merits of the several proposals presented, that of Mr. Carey, of Bankside, seeming to offer some peculiar features of recommendation to the object sought, was selected; and an agreement was entered into with that gentleman, and operations forthwith commenced. Mr. Carey's plan is as follows:—The entire bed of the macadam is taken up, the material twice screened; the first, by 1½-inch sieves, selects the larger lumps of the broken Guernsey, and this is reserved for use again in the surface strata. The second screening, by ½-inch sieves, brings out a stone of smaller size. The rest (dirt and stone ground to powder—about half of the whole mass) is carted away. A sub stratum, composed of broken Kentish rag with small stone (the second screenings of the old material), and an ingredient formed of coal tar and ashes, the whole moistened with water and well blended, is laid down and carefully formed to the intended shape of the road, and brought to a smooth surface by rolling. This forms a compact, tough, and elastic layer, impervious to water, and constitutes what may be appropriately termed the cushion—the primary feature of originality in Mr. Carey's plan. On this lies the super-stratum, which latter consists of a 1-inch layer of the cleaned Guernsey. The top is sprinkled over with a small shingle of the same material—wedges, as it were, for binding the surface stones together; and over that another sprinkling of a fine loamy gravel, these together partially filling up the interstices of the lumps of stone. Then, by the application of a heavy roller, a smooth surface is obtained previous to the traffic going on.* The contract for this work is 2s. 6d. per square yard.

Connected with this work is an original feature, in the introduction of an iron gutter or channel. This is formed of plates of iron, 16 inches long and 4 inches deep, and bolted into each other. They are set in cement. The width is 16 inches, the surface somewhat concaved and ingeniously corrugated, so as to prevent slipperiness, and at the same time afford the requisite facility for cleansing. The cost of this gutter is 4s. per foot.

The following calculation, showing the first cost and maintenance for twenty years of a paved road and a macadam road, having reference to their respective application to Regent-street, would seem to dispute the accuracy of the new light on paving that has recently beamed from Newcastle, Liverpool, and Westminster. Most of the items in the account are based on existing facts; some, however, are more or less speculative; of the latter, the twenty years set down as the period of the duration of a pavement (of the kind here referred to), has been adopted on the authority of a pavior of much experience, familiar with the peculiar circumstances, in this way, of all the great thoroughfares of the metropolis:—

PAVING.

Paving Regent-street with granite cubes, 3 inches by 9 inches, as Piccadilly, west of St. James's-street, laid down in 1852, at a cost of 16s. 8d. per square yard, with 2s. per yard in addition, here meant to mean, 25,000 yards at 18s. 8d.	£21,666
Interest of the above sum, borrowed for the purpose, to be repaid in twenty years by equal annual instalments, say at 4 per cent. per annum, amounts, in the twenty years, to	9,015
Repaving the entire street with the same stone once in the twenty years, including cutting down and refressing the stones, at 2s. 6d. per square yard	2,875
Repairs to the road during the twenty years,—say at the rate average of 300*l.* per annum	2,000
Cost of paving for twenty years	£35,556

* The roller employed is of 6 tons weight, constructed in six rings, 5 feet in diameter, with a width of 10 inches on the rim; each ring having an independent bearing.

MACADAM.

A first construction of a roadway of macadam for Regent-street, taken at the price of the contract for the formation of Victoria-street, Westminster, which, according to Mr. Arnis, the surveyor of the district, was 2s. 11d. per square yard,—23,000 yards	£3,3
Interest on the above sum, supposing the same to have been borrowed, to be repaid in twenty years, by annual instalments, at 4 per cent. per annum, amounts in the twenty years to	1,4
Broken Guernsey, ballast, cartage, and wages, 1,500*l.* per annum for the renewal of the road, being 10*l.* per annum in excess of the surveyor's estimate for that purpose for the present year, and which estimate was said to have been based on the actual cost of past years), in twenty years amounts to	30,0
Cost of macadam for twenty years	£34,7

In order to arrive at the more complete est mate of the relative expense of the two kinds roadway, the position of each at the end of th period of twenty years, as set forth above, mu be well considered. Observe—the pavement mus be taken up as old stone, worth 2s 6d. a squar yard; a new pavement laid down as before, at a expense (less, perhaps, by the cost of the concret foundation, and also the set off for the old stone of net 16,291*l.* The macadam, on the other hand requiring no other outlay beyond the continuanc of the 1,500*l.* per annum for renewal. The mac adam road of Regent-street, from Pall-mall to th northern end of the Quadrant, has lain since th first formation of the street—forty years.

It would, perhaps, be considered that the addi tional expense of scavenging the macadam, ove and above that which attends pavement, shoul have been made a part of the above calculatio but it would be difficult to fix upon any approxi mate item to set down under that head, since th extra expense is uncertain. It is only in times o bad weather that difference in that way occurs.

AN OLD INHABITANT OF REGENT-STREET.

PROGRESS IN NAVAL ARCHITECTURE AND APPLIANCES.

A JOINTED steamer, called the *Connector*, ha been built, and employed in the transport of coal to London. As the name implies, this steame consists of various distinct parts, and is, in fact, sort of marine waggon train, with engine head an screw tail, if we understand the not very clea description aright. Coals can thus, it is said, b brought to London, from the northern coal port at the rate of 2s. a ton for carriage, and at once distributed to several wharfs to be unloaded while the engine and screw portions, disconnected from these and connected with others, is on the way for conveyance of new loads.

A "Floating Derrick" Company (limited), fo raising sunken vessels, has been formed in London and a "patent derrick," on the American prin ciple, has already been launched from Maudslay's This machine is a flat-bottomed, upright-sided floating iron caisson, with two crossing iron arches over head, and a crane apparatus, of a peculiar kind, for lifting the sunken weight by means o chains. One would think that cranes, in such a case, might be made to act with chains on the outer sides of a sort of double but connected derrick simultaneously, so as to convert the counterpoise into an active aiding and lifting force but this does not seem to be the case, in the present instance at least, the counterpoise consisting of water let into compartments on one side of the derrick or "scow,"—namely, opposite to that on which the hoisting takes place. The scow is of a square form, and 90 feet in length each way, or 10 feet wider than the *Great Eastern* steamer; and it has a very light draught of water, not exceeding 30 inches. An immense amount of valuable property may be recovered off the British coasts by such an apparatus.

In speaking of the *Great Eastern* at the Leeds meeting of the British Association, Mr. W. Fairbairn, of Manchester, pointed attention to the strength of her cellular system. He had no doubt, he said, that she would stand the test of being suspended upon the two extreme points of stem and stern, with all her machinery on board, or that she might be poised upon a point in the middle, like a scale-beam, without fracture or injury to the material of which she is composed. He expressed the hope that the necessary funds would be forthcoming to complete her equipment, and we should then see her dashing aside the surge of the Atlantic at a speed of 18 to 20 knots an hour.

Something was lately said about converting her into a battering-ram for the destruction of the ships of enemies; but such an engine, one would think, would require to be constructed, *ab initio*, for the express purpose.

Admiral Sartorius has published a plan (some time since, he says, communicated by him to the Government) for the construction of invulnerable steam-rams for the purpose just hinted at. The rumour that something of the kind, as a development of the steam shot-proof batteries of the late war, was in preparation at Cherbourg, has induced him to make his suggestion public. We have a distinct recollection of such a suggestion appearing in the daily papers, and in the *Builder* as well, on the first occasion after 1848 when an invasion panic took place: it was proposed to have such a ram for the protection of Portsmouth. A correspondent of the *Glasgow Gazette* claims a suggestion of this kind said to have been made by him in 1852. Of the earliest date of Admiral Sartorius's suggestion we are not aware. His "steam-ram" he proposes shall be encased with iron—or rather steel—plates, and shot-proof, while yet a rapid sailer: stem and stern alike would have a massive projecting shouldered prow or rostrum, constituting the "head" of the "ram," with protection for the rudder, and a screw at each end. She should be able to throw shells, red hot-shot, and molten iron, so as to set fire to ships: in short, the "steam-ram" would be a terrible engine of destruction, and an invincible outwork to the wooden (and iron) walls of Old England, but we cannot afford space to go further into the subject. Our present purpose is merely to indicate some of the various directions in which "naval architecture" is progressing.

FORMER TIMES.

This year, as for some years past, the "harvest moon" of September did not rise upon the operations of the reaper, but shone on well-filled stack-yards and golden-coloured stubble-fields. Over nearly the length and breadth of England, and a large part of Scotland, the harvest has been safely gathered before the appearance of the "harvest moon." In some of the bleak parts of Northumberland, and parts of Durham and Yorkshire, where old-fashioned and careless farming are still in fashion, the crops were late and very inferior: even in those districts there has been a beneficial change. When we contemplate the constant progress of agriculture during the last quarter of a century, it gives encouragement for future exertions. Waste lands and fens have been converted into fruitful meadows. Corn and other produce has been reared on steeps, and in other situations, where once it was not thought possible; and chemistry and mechanical skill are daily rendering the earth more fruitful, and raising to a higher condition the position of man. The advance and the application of knowledge are improving and adding to the comforts of the multitude.

It is certain that machinery has been the means of improving the clothing of the large masses, and in due course of time that and chemistry will lead to the cheapening of food and other necessaries of life. The homes even of the poor are improving; and, as intelligence advances, we shall have more early harvest, and what are now desert spaces will be fertile fields.

In Ireland the prospect of the future is no less encouraging. The terrible famine was not without advantage. The improved system of management which has been introduced renders it unlikely that such a visitation will again occur in that beautiful and prolific island. There is still long work to be done, and there are yet many districts which will be thought of with curiosity a few years hence. Let us, however, remember what has been done in such brief time, and work in faith.

It is at present only by the examination of out-of-the-way spots that we can at all get an idea of what was once the general condition of all England; and although much has evidently to be done in the Highlands of Scotland and elsewhere, and perhaps the best course has not been taken, it is worth while to review a few sketches of the north of Scotland, taken a little more than seventy years ago by Mr. Pennant.

In Sutherland the tract is represented as the residence of sloth; the people almost torpid with idleness, and most wretched; their hovels most miserable—made of poles, wattled and covered with thin sods. There is not corn raised sufficient to supply half the wants of the inhabitants. The poorer tenants in the Hebrides, who have no winter-parks, are under the necessity of keeping the cattle under the same roof with themselves during the night, and often are obliged to keep them alive with the meal designed for themselves and families. The cows are often forced through want of other food to have recourse to the shores, and feed upon the sea-plants at low-water. The little corn and potatoes they raise is very good, but so small in quantity that there is not a fourth part for the supply of their annual wants. All the subsistence the poor have besides is curds and milk. The people, although a well-looking race, have famine written upon their features. During some summers no grain is raised at all, and great is the regret, not so much on their own account as on that of their poor babes.

On one island the greatest farmer held for 5*l.* 12s. a-year:—the rent of a large district, containing nine hamlets, only amounted to 2,000 marks a-year (a Scotch mark is not more than 1s. 1½d.):—poultry could not be reared in consequence of the scarcity of grain.

The houses generally in the Hebrides are described as scenes of misery, made of loose stones, without chimneys, without doors, excepting the faggot opposed to the wind at one or the other end of the apertures, permitting the smoke to escape through the other, in order to prevent the pains of suffocation; the furniture perfectly corresponding.

In those days the quern, or ancient stone hand-mill, was in common use, although the lairds could make their tenants avail themselves of the use of water-mills. The miller was empowered to search out and break any querns he could find, as machines which defrauded him of his tolls. Pennant remarks, that many centuries past the legislature attempted to discourage these awkward mills, so prejudicial to the landlords, who had been at the expense of others. In 1284, in the time of Alexander III. it was provided that "na man sall presume to *quheit maislock*, or rye, with hand myln, except he be compelled by storm or be compelled by lack of mills quhilk sould grinde the samen."

Such was the condition of a people almost without carriage-roads, without machinery, and without the intelligent application of science. Great as is the misery which unfortunately prevails, let us contrast it with the earlier times, and take courage from the picture.

METROPOLITAN MAIN DRAINAGE.

MR. POLE'S FORMULA.

Would you allow me to call attention, through the *Builder*, to the following statements of Capt. Galton, R.E., and James Simpson, esq. C.E., in their letter of the 16th of August last, and the documents thereto attached in reply to the "Brief Observations" of Messrs. Bidder, Hawksley, and Bazalgette, to the Metropolitan Board of Works, on the subject of the main drainage of the metropolis.

Mr. Pole gives an investigation, at pages 25 and 26, of a formula for finding the discharge over a weir, taking into calculation the effects of the velocity of approach, and finds, as the result, the equation

$$Q = \tfrac{2}{3}\, a\, m \left\{ (d + h)^{\frac{3}{2}} - h^{\frac{3}{2}} \right\},$$

which, by expressing h in terms of v, is easily reduced to the form

$$Q = \tfrac{2}{3}\, a\, m \left\{ (d + n_1 v^2)^{\frac{3}{2}} - n_1^{\frac{3}{2}} v^3 \right),$$

or, more simply still, into the form

$$Q = a\, A \left\{ (B\, d + v^2)^{\frac{3}{2}} - v^3 \right\};$$

in which equations d is the depth on the weir, h the head due to the velocity of approach v, and a, m, A and B constant quantities, the values of which are to be derived from experiment.

In speaking of this investigation, and the resulting equations, Capt. Galton and Mr. Simpson say, at page 3 of their letter—"Mr. Pole has furnished us with an able paper on this subject, and with an essentially new formula," &c.; and again, at page 21, in the documents attached to the letter, it is stated—"He has investigated the subject in a perfectly novel manner, and, by a high branch of analysis, has produced a *really new formula*." The italics are marked as they are given in the document. Now, sir, it appears to me that there is here a want of knowledge of the results obtained by others on this subject. The formula referred to is not "essentially new," nor is it a "*really new formula*." In Francis's "Lowell Hydraulic Experiments," Boston, 1855, page 117, the formula

$$Q = C\, l\, \tfrac{2}{3}\, \sqrt{2g}\, \left\{ (H + h)^{\frac{3}{2}} - h^{\frac{3}{2}} \right\}$$

is given, which is identical with that investigated by Mr. Pole. Francis refers to Weisbach, as having investigated the equation. It is also demonstrated at page 51 of Neville's "Hydraulic Tables and Formulæ," Weale, 1853, and is there given under the form

$$D = \tfrac{2}{3}\, C_d\, l\, \sqrt{2g}\, \left\{ \left(h_b - h_a\right)^{\frac{3}{2}} - h_a^{\frac{3}{2}} \right\},$$

the same in substance as the foregoing.

With reference to the particular form of the equation dependant upon properly-determined experimental results, Mr. Pole, from those of Mr. Taylor, makes it equivalent to one derived from a co-efficient of ·712 for the discharge, and ·747 for the approaching velocity, nearly; for these will give his resulting practical value. Francis's experiments, however, conducted with the greatest care and judgment, give a co-efficient of only ·623; and a co-efficient of ·628 given at page 70 of Neville's book, would cause his formula and Francis's to give identical practical results. The heads, however, it appears, were taken on the weir by Mr. Taylor, instead of at some few feet above it, from the approaching surface of the flowing sewage. This would, very probably, make up the difference between the co-efficients, but the practice of taking the heads *on* the weir *only*, is evidently incorrect, and to allow a double effect for the approaching velocity, namely, through the notch, and also before it passes through it, i apparently without sufficient reason.

Tell Truth.

COST OF THE LEEDS TOWN-HALL.

At the meeting last week of the town council, it was stated that the grants made, up to that time, for the purposes of the Town-hall, had been 84,310*l.* 16s. and that the expenditure up to the 18th of August, had been 82,089*l.* Of the grants, the following are the principal items:—Land, 9,046*l.* 12s.; the building, 41,834*l.*; the works in connection with the tower, 1,729*l.*; the tower itself, 5,500*l.*; court fittings, 750*l.*; seats for large hall, 324*l.*; gas fittings, 600*l.*; laying out the exterior of the building, 2,000*l.*; warming and ventilating, 3,637*l.*; organ, 5,500*l.*; decorating the large hall, 1,500*l.*; gas chandeliers, 1,650*l.*; furnishing mayor's rooms, 800*l.*; stoves and ranges, 500*l.*; decorating vestibule, 100*l.*; ornamenting the entrance, 490*l.*; clock and bell, 800*l.* An additional grant of 20,000*l.* was made last week, raising the total amount expended or required, to 102,089*l.* but it must be stated, that of this sum nearly 32,000*l.* are for works never contemplated when the building was first decided upon, as the tower, organ, &c.

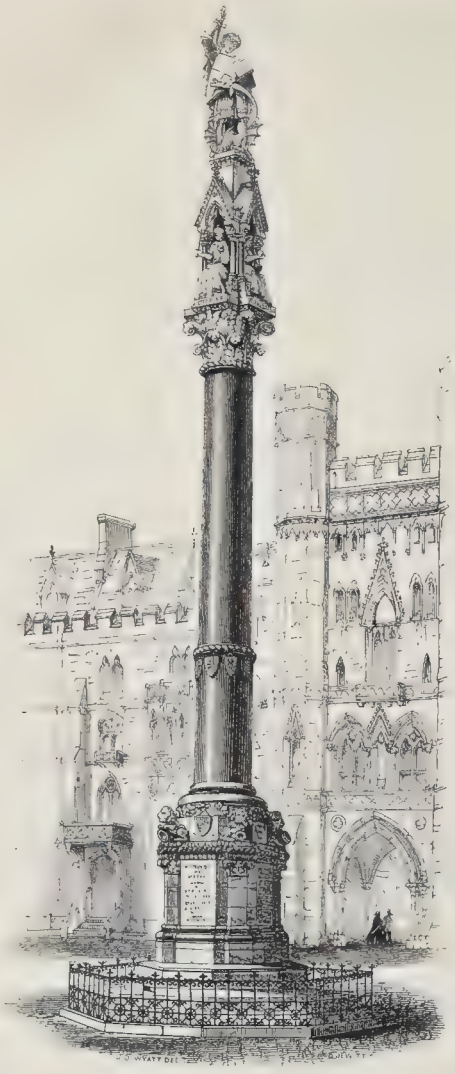
SHAKSPEARE, NEWTON, LOCKE, AND BACON,

AND THE VACANT PEDESTALS IN FRONT OF THE BRITISH MUSEUM.

I see, in an article in the *Builder* of last week, a notice of the statue of Newton, at Grantham, and a hope expressed that we should have one in London: if so, there is a pedestal all ready for its reception. It was intended, when the four large pedestals were put up in front of the British Museum, that they should be occupied by statues of Shakspeare, Newton, Locke, and Bacon, but I have not heard of any steps having been taken towards fulfilling this laudable intention. We seem to have a strange propensity in London for putting up pedestals, and then leaving them unoccupied. We see these incomplete objects all over our town. If a builder makes a hazardous speculation in erecting houses, however long they may remain empty, they generally get inhabitants some time or other: not so with the pedestals I speak of, which do not seem to have even this tardy good fortune occur to them. It would not be, perhaps, a bad idea to reckon the number of vacant pedestals in London, in one column, and in another by its side the names of worthies of our own country, who ought to be honoured with statues, but are not so, in our great town. Among these certainly Newton stands in the foremost rank, and there is a pedestal all ready and waiting for him in front of the British Museum.

Epsilon.

Lecture on Architecture at Truro.—A lecture "On our Churches and our Houses; or, the true Principles of Building," has been delivered at Truro, in Cornwall, by Mr. Hingeston. He spoke of the slow degrees and imperfect beginnings by which architecture had advanced to its highest point in the fourteenth century and then retrograded to the very lowest point in the eighteenth. From this degraded state a hope was expressed that we are at length emerging; and the attention of the company was particularly directed to Gothic architecture and to some of our cathedrals as the beau-ideal of what might be hoped for.



THE WESTMINSTER COLUMN.—Mr. Scott, Architect.

THE WESTMINSTER COLUMN.

We shall make our present number especially honourable to Mr. Scott, by giving an illustration, in conjunction with that of Doncaster Church, of the column which is about to be erected, from his design, in honour of Lord Raglan and the "Old Westminsters" who fell in the Crimea, by their schoolfellows. As the woodcut indicates, the site is in face of Westminster Abbey and of Mr. Scott's new houses in Dean's-yard. We are indebted for this engraving to the courtesy of the *Ecclesiologist*, and it is only fair to transfer with it the opinion expressed by our obliging contemporary.

"In noticing Mr. Scott's monumental column to Sir Charles Hotham, we expressed our satisfaction at that form of memorial having been vindicated for Mediæval art. We need not say how greatly our pleasure is increased at the proximate erection of a pointed column in London, and its *par excellence* mediæval quarter.

With this engraving to present to our readers, we need not enter into any lengthened description. The figure of St. George and the Dragon is being sculptured by Mr. Clayton. The four figures represent Henry III., Edward I., Queen Elizabeth, and Queen Victoria. The material of the various portions is Peterhead granite for the shaft, and Portland stone for the rest. The dimensions are as follow:—total height, 62 feet; height of shaft, 27 feet 6 inches; diameter of shaft, 3 feet 6 inches and 2 feet 11 inches; height of base, 14 feet 3 inches; and width of base, 10 feet. We are not sure that we altogether like the fringe of shields below the cable moulding, standing as they do straight out of the circular shaft; their effect is rather crude."

Canadian Timber Trade.—The Quebec timber market, by recent accounts, had exhibited a much better tone than had previously existed during the whole season; and sales were made to a large extent, although not at any advanced rates. The demand for white pine had decidedly improved. Red pine scarce and much asked for. Deals without change.

THE NEW CHURCH AT DONCASTER.

On the 28th of February, 1853, St. George's Church, at Doncaster, was burnt down, and great was the lamentation of the inhabitants of the town. Our readers were told of the inquiry into the cause of the fire that was instituted, the efforts made to raise funds for the rebuilding of the church, and at various times of the progress of the new structure under the superintendence of Mr. Scott.* Before this reaches our readers the new church will have been opened, and the result of the endeavours before the public. The total length of the new church is 168 feet within the walls, and the width 65 feet. The clear width of the nave between the columns is 27 feet. The width at the transept is 92 feet. The top of the roof is 73 feet from the floor line, and the height of the tower, to the top of the pinnacles, is about 165 feet.

The accompanying engraving represents the interior, as seen, looking towards the east. We reserve a description of the building for another occasion.

The Bells.

Nothing in connection with the destruction of the church caused greater sorrow than the loss of the bells, to which the inhabitants of Doncaster had been accustomed to listen, and corresponding interest has been manifested in the hanging of the new peal, which has been cast at the foundry of Messrs. Warner and Sons, Cripplegate, under the superintendence of Mr. Denison. When the old church was burnt down, such of the bell-metal as could be found in the ruins was recovered, and forwarded to the establishment of Messrs. Warner, who undertook to pay interest at the rate of 4 per cent. on the metal until the new peal should be required. The actual quantity of metal thus preserved fell considerably short of the weight of the old peal, which, however, was somewhat heavier than the present, as will be shown shortly. It will thus be seen that there is no foundation for the idea which prevails in some quarters, that the new peal is composed of the old metal. Messrs. Warner, in effect, bought the old metal, and their doing so, under the conditions already explained, allowed of the new bells being cast under the most favourable circumstances. Many experiments and comparisons were made to ascertain the best proportions in which bell-metal could be mixed, in order to produce the best quality of tone, and the peal which Doncaster now possesses has had the full benefit of these scientific and practical investigations. The large bells of the new peal are heavier in proportion to the small ones than in either of the two former peals, as will be seen by the following table:—

	Daniel Hedderley's. 1722.	Thomas Mears'. 1735.	Messrs. Warner's 1858.
	Cwt. qr. lb.	Cwt. qr. lb.	Cwt. qr. lb.
Tenor....	29 1 20	31 0 24	30 1 0
Seventh..	20 3 19	22 1 7	21 0 24
Sixth	15 2 16	16 0 23	15 1 10
Fifth	13 1 10	14 2 0	12 3 26
Fourth ..	10 3 15	12 0 8	9 3 0
Third	8 2 6	9 1 0	8 0 28
Second ..	8 0 18	8 3 6	7 0 22
Treble....	7 1 14	7 3 3	6 2 13
	Key, the old E flat, lower than the present. Diameter of tenor, 4 ft. 6¾ in.	Key, D, rather flat. Tenor, 4 ft. 10 in.	Key, E, flat, present concert pitch. Tenor, 4 ft. 6 in.

The bells have been hung by Mr. Boswell, one of Messrs. Warner's foremen, on a framework of great strength. The bells are hung in the manner of which our readers have before now heard, whereby they can be turned round in the stock so as to offer a fresh place for the clapper to strike.

The local *Chronicle* says,—"With regard to the quality of the new peal, there can be little hesitation in pronouncing it one of the most musical in the country. All the bells have a clear, fine, sonorous tone; and, whether ringing or chiming, abundantly satisfy the musical ear. How far they carry their sound we have not yet had an opportunity of judging; but, we doubt not, the effect will be equally satisfactory for a considerable distance."

Society of Antiquaries of Newcastle-upon-Tyne.—At the last monthly meeting of this society, Dr. Bruce read two letters (published at some length in the *Gateshead Observer*), which he had received from their vice-president, Mr. Clayton, one of them written from Avignon, the other from Venice. They were descriptive of the Roman antiquities of the South of France and the North of Italy.

* A View of the Old Church will be found in our vol. xi. p. 216.

INTERIOR OF ST. GEORGE'S, DONCASTER.—Mr. G. G. Scott, A.R.A. Architect.

BROMPTON OR BATTERSEA FOR THE EXHIBITION OF 1861.

The proposed decennial Exhibition is now attracting considerable notice, and the subject of site is from time to time undergoing discussion. The matter of location is of primary consideration. It is both useless and undesirable to think of the place in Hyde-park. At present the struggle appears to lie between Battersea-park and the Commissioners' ground at Brompton. Both positions are eligible, but in the estimation of the *Builder* and many others—perhaps the majority—Brompton is a much better local position than Battersea.

Looking at the question as one simply of public convenience, it will be reduced into very narrow limits.

The access to Battersea has been vastly facilitated since the year of the "Great Exhibition,"—but the question may still be fairly asked,—is Battersea-park the most suitable and convenient place for the purposes proposed? It has the benefit of water-conveyance by the Thames, and its fleet of steamers would no doubt be increased for the occasion: it will also have the advantage of the Pimlico Railway, as far as that will serve: the latter, however, will be of comparatively small consequence, as it will be almost as much trouble to reach the station at Grosvenor-basin, as to go at once to Battersea; for at present the Victoria-street station of this line is only in embryo.

The approaches to Battersea from what may be called London proper, are neither very good nor very direct. It is in a corner of the metropolis, out of the ordinary run of general traffic, and the want of direct lines of communication from the northern and eastern districts of London is a very serious drawback to the pre-eminent eligibility claimed for it as the most convenient site.

The west-end residents can of course reach Battersea by several routes, more or less emerging to the new bridge,—which will be crippled, however, in practical convenience, by the nuisance of toll-collectors, certain to interrupt a free and facile passage over Mr. Page's structure.

This toll, small as it may be, will weigh principally in the scale of objections taken against the site in Battersea-park: it will be justly considered by the public as an obstructive nuisance, which ought not to exist on the very threshold of the Exhibition Palace. Battersea-park does not lie on the direct line of any of the great London thoroughfares, but, on the contrary, is isolated in one of the outskirts of the metropolis, and cut from the greater part of its enormous population by the river, and has its *access taxed* by no less than *six toll-paying bridges* within the limits of London—to wit, Battersea, Chelsea, Vauxhall, Hungerford, Waterloo, and Southwark! These six tollgates, and their consequent interruption to the stream of traffic on these bridges, are a great and serious argument against the claims of Battersea-park as being the most eligible site, even for a temporary Exhibition, lasting only for a few months of one season. They are decisive against the erection of any permanent building for art purposes.

Brompton is entirely free from these charges, as regards the great bulk of the metropolis, which lies on the Middlesex side of the Thames.

If convenience of approach alone is to be considered, the advantage is entirely on the side of Brompton: it is in every respect more easily accessible by trunk lines of traffic than Battersea.

The Edgeware, Tottenham-court, and City roads, Oxford-street, Regent-street, and the Strand, are so many arterial omnibus routes leading to Brompton: in this respect Battersea is far behind its rival—and facility of access ought to be a chief element in deciding the question of site.

But there is another question which may now be fairly taken into account,—that of applying the proposed building used for the temporary Exhibition of 1861 as a permanent erection, in which to find a home for our growing collections of art and science. Space is required for the Vernon Gallery and the Turner Collection, as well as for the National Portrait Gallery now in process of formation. These collections would be rapidly increased by donations if the country had an appropriate place in which to receive and properly exhibit them: at present, people are neither willing to lend nor bequeath pictures and works of art to the nation, merely to be stowed away in holes and corners, in make-shift rooms, nicknamed galleries.

If Brompton should be finally determined upon as the fittest site for the Exhibition of 1861, it would be wise to take advantage of the noble opportunity thus offered, and secure a building suitable for the reception of our rapidly increasing national collections of art and science.

I by no means advocate the removal of the National Gallery. That is in the best site London affords for the purpose: let the National Gallery be rebuilt to accommodate the old masters.

At Brompton might be erected a spacious building, so arranged and devised as to accommodate the Sheepshanks, Vernon, and Turner Collections, with ample room for the reception of similar donations, as well as for the portrait gallery of historic personages now hung out of sight in the Zoological Gallery of the British Museum: this, with the new Portrait Gallery from Great George-street, would form the nucleus of a perfect and extensive series, with the advantage of being under one roof in an easily accessible position.

The cartoons of Raffaelle (now being photographed on a large scale by Mr. Thurston Thompson), and the rapidly perishing Triumphs of Julius Cæsar by Andrea Mantegna, with many valuable historical portraits, should be removed from the dark alleys of Hampton Court, where they are buried rather than exhibited, and placed in the new gallery at Brompton. The same observation applies to numerous drawings and pictures in Kensington Palace, now entirely lost to the public. Considering also that the Cartoon Gallery has had more than one narrow escape from fire, these national pictures, now left to the care of servants, in palaces converted into state lodging-houses, ought to be removed to a place where they will not only be safe from the chance of destruction by fire, but where they will be properly displayed and their merits appreciated. The Print Room at the British Museum is all but a sealed exhibition to the public: its treasures are very carefully buried for want of due space for a proper display, which might be readily afforded in the new buildings at Brompton. The Ethnological Room in the British Museum, with its Arctic skins and models, and other heterogeneous matters, should certainly be cleared away: it is entirely out of place there, and what it does contain is neither classified, displayed, nor arranged with any propriety: it would find a much more suitable home at Brompton, and space in the British Museum would be thus gained for the extension of British and Anglo-Saxon valuables.

The East India House has a room or two rich in Chinese drawings, manuscripts, and other matters, where almost everything is carefully stowed away in portfolios and locked up in drawers, entirely out of public view, so that all the visitor sees on walking through the museum is the backs of rusty-looking books, and a few Oriental MSS. in small glass cases on the window cills. A very respectable Oriental museum might be unshelled by having a good rummage in the mouldy drawers of the East India House, to say nothing of the new museum recently opened—all of which would be more attractive at Brompton; for at present the East India House collection, which contains much that is useful as well as curious, is little better than lost to the public.

I merely throw out these few ideas as hints, to be taken or rejected, by those in authority, or who may be in the ascendant when the day for decision arrives. The press will thoroughly ventilate the subject ere long; and as time is flying, the sooner it does so the better, to elicit public opinion relative to the rival merits of Brompton or Battersea, as sites for the Exhibition of 1861. In the mean time I cannot help expressing my opinion that the barrier of the Thames, with its *six taxed* bridges, is a formidable difficulty in the way, and materially cripples the claim of Battersea, as a pre-eminent site for the purposes of the intended Exhibition.

Another question must not be overlooked. Will the Exhibition of 1861 be equally attractive with the previous one of 1851? I think not. The former had the advantage of entire novelty on its side: it was something new to England, and grand inaugural meetings are always better attended than the ordinary subsequent gatherings. There have been many Great Exhibitions at home and abroad since 1851; hence the great attractive zest of novelty has had the edge taken off. I do not, therefore, expect that the next Exhibition will receive the same attention from all quarters as by good fortune was heaped upon the first.

It may, perhaps, be worth while to bear this in mind in planning the new building, and take care not to make it too large, but in the general design keep an eye to its future permanance, affording every accommodation for the temporary Exhibition, and being at the same time adapted for a permanent palace to receive our national collections of science and art.

If once the public possess a suitable gallery for the proper exhibition of the national treasures of art, it will be speedily enriched by numerous and liberal donations. Men who have made it the study or amusement of their lives to collect together a gallery of pictures, are more solicitous of preserving such a gallery than of scattering it to the winds by the hammer of an auctioneer after death. When it is known that the country possesses galleries suitable to its position in the rank of nations, these galleries will soon be furnished by donations, and "many a gem of purest ray serene" will find its way to the galleries from the hole where it has been concealed for years from public view. Provide suitable galleries, and they will soon be furnished, and the national trustees will not again have to decline a Standish or a Beaumont collection, under the miserable and ludicrous plea of want of space.

Joseph Lockwood.

EFFECTS PRODUCED ON GLASS BY EXPOSURE TO WATER.

At the recent meeting of the British Association, Dr. C. W. Bingley read a paper "On the Effects produced on Glass by Exposure to the Action of Mud in Water." Along with several other articles lately found in the lake at Walton Hall, near Wakefield, were a piece of window-glass and the remains of an ancient bottle. It is supposed that they have been buried in the mud ever since the hall was attacked by Oliver Cromwell's soldiers. The interest these specimens possessed, in a scientific point of view, consisted in the remarkable appearance they presented after their submersion, possessing hues of colour rivalling those of the finest specimens of pearl shells. The mud in which they had been embedded contained a large quantity of organic matter and sulphide of hydrogen. On scraping the glass with a penkife the coloured part was easily detached in minute scales, those exhibiting the red or deep orange rays of colour coming off easily, when green or bluish scales became disclosed to view, which were with more difficulty removed. The glass underneath appeared as if it had been ground, or subjected to the action of hydrofluoric acid. The scales consisted of silicates of lime with iron, but with no potash or soda. The glass consisted of a silicate of potash and soda, with a very slight trace of iron and lime. The glass appeared originally to have been a pure alkaline silicate. The potash originally in it appeared to have been replaced by lime and iron derived from the water, in the case of the detached scales. It has been known for a long time that water acts more or less on glass, slowly decomposing it into a soluble alkaline silicate. Scheele observed that water which had been boiled a long time in glass vessels became alkaline. Ebelman published, some time ago, an account of the strong action of water charged with carbonic acid on glass. That ammonia assists the action of moisture or water very materially may frequently be evidenced in the case of stable windows. It is possible that, in the present case, the silica of the glass after the separation of the alkali may have been left in a gelatinous state, as a condition necessary for its subsequent combination with lime and iron, derivable from the water, to form the less soluble silicate of which it is constituted. The glass, viewed by transmitted light, exhibited rays of colour complementary to the reflected rays.

ARCHITECTURAL COMPETITION AND ITS EVILS.

At the meeting of the Worcester Architectural Society mentioned last week, Mr. W. J. Hopkins read a paper on this subject, reiterating, of course, much that has been said in our pages, again and again, although all our inferences do not agree with his. He pointed out the peculiar position in which an architect, as an artist, stands with regard to his employers. They have to judge of his work by draughts and writings before it is executed: he is not like the painter, who employs cheap materials, and whose actual work they see: he has first to conceive and define ideas in his own mind, which he has to represent and describe on paper, and in case of competition, submit probably to a few persons either quite unacquainted with architecture, or who have not studied it. If the architect's drafts and writings are made honestly and truthfully, all are able, more or less, to judge whether the building will be in accordance with their wishes; and this is probably always the case, except in competition, where a strong inducement is held out to deceive by fine promises and pictorial representations. Thus the architect who paints the best and promises the most, is apt to be preferred, and thus a

door is opened to deception and artifice, of which dishonest competitors are not slow to avail themselves. One of the great defects of competition, the names of the competitors being supposed to be unknown, is, that truthful and honest men are placed on a par with untruthful and dishonest persons, in a case in which so much depends upon honesty, because a bargain is struck, not upon sight of the real work, but from a likeness or pretended likeness and description of it upon paper. How much is thus dependent on the honesty of the seller. Another evil of competition is the restricted intercourse it permits between the employer and the employed, which leads to numerous errors and confusion. Committees do not in the outset clearly define what they want. A cemetery, for instance, is to be competed for. They do not say beforehand whether the chapels are to be detached or not: designs are sent in, many of them with detached chapels, and then they decide upon not having detached chapels, and all these become waste paper. Whole sets of drawings are continually rejected because they do not agree with some preconceived notions of a committee, which it was impossible for the competitors to divine. Under a system of competition, too, it is almost essential for the success of an architect that he should be guided by the prejudices of the day. Committees instruct architects, instead of architects instructing committees. The patient prescribes for the physician, not the physician for the patient. Some of the architects who competed for the Government Offices confessed that, against their own better judgment, they had adopted styles because they supposed that such styles would be most favourably looked upon by the judges. But the greatest hardship to a conscientious competitor is the premium held out by committees to induce architects to send in false estimates. Competitors know by experience that if they send in a bald design, denuded of workmanship, in order to match the proposed limited expenditure, they shall stand no chance. It is quantity, not quality, of ornamentation, that weighs with committees. Competitors, therefore, send in designs with just as much workmanship as they think the committee will expect for their outlay, and send an estimate to match, knowing that if they send an honest one, rejection will be the consequence. These false estimates are the most killing baits to catch committees. Another mode of deceiving committees is by false perspectives, that is to say, perspectives which do not answer to the geometrical drawings. The abuses of competition pointed out might be very much obviated by the choice of skilled, competent, and honest committees, who could detect deceptive representations, judge of the comparative cost of the designs submitted to them, thoroughly understanding the geometrical drawings, plans, sections, elevations, and perspectives which they require—committees well versed in architectural composition, and with judgment and knowledge of architecture equal to those who compete. At present, committees consist for the most part of persons wholly unexperienced in all these matters, and entirely unacquainted with them.

> "A man must serve his time to every trade
> Save one; for architects are ready-made;"

though it is hard to imagine why a different rule should prevail in respect to architecture than to any other art or science, and that persons should be called to sit in judgment upon matters connected with it who are ignorant of its first principles. It is not the custom to set a man who does not understand grammar to examine Oxford students, or one who never heard of Euclid to pronounce on the merits of a mathematical controversy. He was a competitor, he said for the erection of a building not a hundred miles off, against the warning of a friend, who was impressed with a belief that "so and so," naming his place of residence, would assuredly have the commission, though he had no opinion of "so and so's" abilities. There were several competitors, one a London architect of some eminence; but the award was made as predicted. Sometimes a competitor, in case of being successful, offers to give a font of the value of twenty guineas, and thus bribes a committee into choosing his design. Though committees, it is believed, are sometimes capable of extraordinary despatch of business, reading off a whole ream of specifications and estimates, and examining one or two hundred drawings, in the time it would take a professional man to examine one; they are very liable to be deceived in the matter of estimates. Mr. Hopkins mentioned that the plan chosen for a certain lunatic asylum was not to exceed 95,000*l.* The lowest builder's tender sent in for it was 165,000*l.* In another instance in this neighbourhood, the estimate was not to exceed 11,000*l.*: the lowest builder's tender sent in was upwards of 23,000*l.* and the average of the ten sent in was 27,565*l.* Committees are sometimes deceived as to what they can get for their money. The Rugby Town-hall Company are desirous of obtaining a town-hall to contain an area of not less than 1,800 square feet, and to furnish accommodation for a county court, and office, petty sessions, corn-exchange, mechanics' institute, library, and two news-rooms, meetings of benefit and other societies, general market under cover, vaults for cellarage, baths on one side and shops on the other, and they desire all this done for 2,500*l.* while the cost of the new chapel now building in Angel-street will be 3,000*l.* In another instance a burial board advertise for laying out, and fencing and draining, a proposed new burial-ground, with two chapels, and a lodge and entrance-gates, the cost not to exceed 900*l.* and the successful competitor to have a premium of 5*l.*! Why, he said, should architecture be clogged by any peculiar system of competition save that natural and healthy competition which operates upon it as well as upon all other trades and professions? What is required is, that architects should be judged by their works rather than their promises, and that they should be judged by competent and learned men, and receive honours according to their ability, as in other professions. To excite healthy emulation in an artist, something like certainty must exist that merit will be rewarded. Architecture can advance and be appreciated only according to the enlightenment of the public, and hence the great advantage of societies like that he addressed, which help to educate the public taste, inform the public mind, and instil into it a due appreciation of the beauties of art, besides encouraging artists to study their profession more intently, and elevate the art itself. Mr. Hopkins suggested that nothing would tend more to promote this than the extension of university honours to the architectural student, that the public might obtain an assured warrant of ability and competence.

SANITARY SCIENCE AT KING'S COLLEGE.

Professor Bloxam, in his inaugural address in the Hall of King's College, remarked that he did not think he was wrong in asserting that the amount of injury to life accruing from accident and from natural disease among the dwellers in towns, was small when compared with that caused by bad drainage, insufficient ventilation, adulterated food, and contaminated water. The inquiry into the causes of the excessive mortality which prevailed showed us in the most convincing manner that there still existed among us a lamentable ignorance of, or inattention to, those conditions which were indispensable to the maintenance of health. "There then arises," said the lecturer, "a great cry, echoed by all ranks, from the hereditary legislator down to Jack plying for coppers on the river stairs, that we are inhaling the most virulent poison from our much-valued and much-polluted river.

From the remote date when London consisted of a few huts upon the banks of the Thames, down to this present middle of the nineteenth century, all the off-scourings of the population have been hurried out of their sight into this devoted stream, and we can only wonder at the beneficent arrangement by which the natural flow of the river has hitherto swept the bulk of that enormous deposit down into the ocean. Some idea of the burden which the river thus bears for us may be formed from the calculation in Dr. Letheby's recent report, that the sewage of one day amounts to nearly 500 tons of solid matter; and we gain a notion of the bulk of this quantity when we learn that 81 tons of it consist chiefly of the comminuted granite-stones from the streets, which would serve to raise a solid mass of granite, containing upwards of 1,000 cubic feet.

Now, about 200 tons of this solid sewage is composed of animal and vegetable matter, in a state of active fermentation or putrefaction, continually evolving therefrom certain gases, more particularly carburetted hydrogen, carbonic acid, sulphuretted hydrogen, and ammonia. It is inferred, perhaps with justice, from chemical consideration, that whilst this fermenting matter is kept in continual motion by the river water with which it is mixed, it is not likely to be productive of any serious mischief, because one great disinfectant, the oxygen of the air, dissolved in the water, is brought to bear upon it. But when some choice portions of this fermenting matter have been left by the receding tide upon the bank, to seeth and bubble in a July sun, the various gases are disengaged into the surrounding atmosphere; and the most vexatious feature of this agitated question is, that we cannot be said yet to know the worst of it. It seems exceedingly likely that certain other poisonous gases are exhaled which are not perceptible by their odour, and have not yet been caught and christened by the chemist, but which the medical men generally include under the name of miasmata, and suppose to resemble the equally mysterious and fatal ingredients of the air of unwholesome districts, such as those of the Campagna at Rome, and of the fens of our own island. The chemist is, then, therefore chargeable at present with ignorance upon the subject of these atmospheric poisons: he only has good reason to infer that they are organic in their nature, and are, therefore, very likely to be produceable by the fermentation of the deposit of the sewage matter. He also has every reason to believe that he can render those poisons harmless by the use of chlorine and chloride of lime; so that if the chemist could but have fair play with these materials, the public would have no reason to complain of his inability to help them.

THE BUILDERS' BENEVOLENT INSTITUTION.

We would point out, as we have done for many years, the occurrence of the dinner in aid of the Builders' Benevolent Institution, with the view of bespeaking for it the increased support, not merely of those connected with the trade, but of all disposed to aid their fellows and willing to do good. It was shown at the last annual meeting of the Institution, that there are at this time numbers applying for the relief granted by this charity, who, after passing their earlier years in either comparative or positive prosperity, are now, from misfortunes, which no prudence on their part could avert, reduced in old age to want and poverty; and the directors are earnestly appealing to the generous and the charitable for the means to enable them to relieve a proportion of these applicants.

It is to be regretted that the circle whence support is derived for the Society does not widen to the extent that we should desire and might have expected. The same knot of gentlemen who were doing all the work five or six years ago, are doing it now with few new colleagues. This really ought not to be. If the manner in which the Institution is conducted do not meet the views of the trade at large—although we have no reason to suppose this is the case,—if it should be desired that it had a wider scope, for example, there is plenty of opportunity for those who think so to state their views, and take the opinion of the majority upon them; and they would be quite right in doing so. But they certainly are not right in holding off altogether, or simply affording an occasional and grudging aid. The building fund gets on but slowly, and has now only reached the sum of 2,000*l.* What has become of Mr. Sheriff Lawrence's pledge, made when he was president? It is to be hoped that, at the ensuing dinner, which is to take place on Thursday, the 28th, there will be a long pull and a strong pull to place the Institution on the top of the tide of success. Let every builder bring his skull in aid.

CHURCH-BUILDING NEWS.

Walsoken.—The parish church of Walsoken, which had been closed for restoration, has been re-opened. The pillars and arches of the nave, which are of Norman architecture, have been freed from disfigurements. The old irregular pews have been replaced by open seats, with carved oak ends, after the pattern of the ancient seats. A new oak pulpit has been put up near the chancel, by Messrs. Rattee, of Cambridge. The floor of the church has been inlaid with tiles, arranged in patterns, from the designs of the architect, Mr. William Smith, of London, who has superintended the restoration of the church. Mr. Naylor, of Wisbech, carpenter, was the contractor.

Thatcham.—The parish church here, too, had been closed during the progress of alterations, and has been re-opened. Externally the whole of the stonework has been re-chiselled, and the walls re-pointed. The nave, north and south aisles, have new open stained roofs, like the old roofs, and plastered between the rafters. The nave has six new arches, two in the north arcade, and four in the south arcade; the latter having been rebuilt, as it was much out of upright. The period of this portion is Transition Norman. The south aisle has been rebuilt, increased in width from eight to twelve feet, and extended one bay: a porch flanks it, and forms one of the principal entrances. The tower has been thrown open by the removal of a

gallery and ringing floor, which intercepted the tower arch. The three-light stained-glass memorial west window, by Messrs. Clayton and Bell, represents the Betrayal, Agony in the Garden, Crucifixion, Entombment, and Resurrection of our Saviour. The seats in the nave and aisles are low, open benches of stained deal, with oak ends next aisles; and the aisles are paved throughout with red and blue Staffordshire tiles. The chancel, which was partially restored in 1850, by Mr. Wm. Mount, of Wasing-place, has now been thoroughly restored, at his sole expense. The roof is new. The side windows are single lancets. The east window (which is three-light) will shortly be filled with stained glass, by Mr. Wailes, arranged in Scriptural types and antetypes as following:—Christ Feeding Five Thousand, and the Manna in the Wilderness; the Last Supper, and the Pascal Lamb; the Woman of Samaria, and Moses striking the Rock. At the north-east end of the chancel is the new vestry, and on the south side, opening by an archway from the chancel, is a chantry, which has been restored at the expense of Mr. R. Tull, of Crookham-house. The east window of the chantry is by Messrs. Powell, and in the centre light is a figure of the Good Shepherd, with a lamb round his neck. The tracery contains the emblems of the four Evangelists, and the remaining portion is filled with Powell's quarries. The church is heated by hot water, by Messrs. Weeks and Co. of London. The churchyard is undergoing considerable alterations, by the levelling of mounds, lowering of ground, &c. The whole works have been carried out under the control of a building committee, consisting of the vicar and three churchwardens. The contractor was Mr. Hanson, of Speenhamland; the architect, Mr. Thomas Hellyer, Ryde, Isle of Wight; and the clerk of the works, Mr. J. J. Clark, of London.

Hunsdon.—The church of Hunsdon has lately been adorned by the insertion of a large east window of painted glass, and some new stonework. The window is a subscription memorial. The church is in the Perpendicular style, and the window consists of five lights with tracery. The three middle lights contain two subjects—the Crucifixion and the Ascension, divided by a transom of ornament, the sides being occupied by the four Evangelists under canopies of silvery effect. The subjects resemble somewhat those of King's College Chapel, Cambridge, the tracery being old glass. This memorial is the fifth window erected, besides many other restorations and improvements in the church, mainly owing to the exertions of the present rector, the Rev. R. W. Thackeray. The glass was executed by Messrs. Ward and Company, of London, and designed and painted by Mr. Hughes, of that firm. The masonry was done by Mr. White, of London.

Rochester.—St. Peter's Church, in course of erection in King-street, Troy-town, is progressing, the external walls being carried to a considerable height, whilst efforts are being made to have the structure roofed in by Christmas next. The architect is Mr. Christian, and the builder Mr. Stump. The design of the edifice is Early English. The church will consist of a chancel, north and south aisles, and a nave. Owing to the want of the necessary funds, it is intended to finish a portion of the structure first, which will be opened for divine service, leaving the north aisle to be subsequently added. The extreme length of the building is 106 feet, and the breadth 62 feet 8 inches. The church will be built of Kentish rag, with Bath stone dressings, the windows, &c. being faced with rustic dressings of red and white bricks. Great delay has been occasioned during the carrying out of the works in consequence of the soft nature of the ground, which necessitated the foundations being carried, in some places, to a depth of 14 feet. There will be three triple lancet-shaped windows on each side. The roof will be open, and the wood stained of an oak colour. There will be a square tower to the church, which will be carried to the height of 60 feet.

Southampton.—St. James's church, Bernard-street, Southampton, has been consecrated. It is in the Early English style, and is faced with Swanage rubble, with Bath stone quoins and dressings. The church consists of a nave, aisles, transepts, and chancel with chapels on each side of the same, for Sunday-school children. The south gable of the nave is surmounted with a bell turret. There are two porch entrances, one on each side, and at the south end of the church, with separate entrances for the children. The roof is open, stained, and varnished. The piers, with caps and bases, are of Bath stone. The chancel window is fitted with stained glass (supplied by Mr. Buchan, of Southampton), as also is the small spherical triangle over the chancel arch. The aisles are paved throughout with white, red, and black tiles, laid to a pattern, and supplied by the Architectural Pottery Company, Poole. The floor of the chancel is also laid with Poole tiles. Gutta percha tubing is laid down the centre aisle of the nave, leading from the pulpit and reading-desk, and it is proposed that should any of the congregation desire to have a branch laid into their pews, they can do so, by simply paying the cost of such branch pipe. The two windows in the children's chapels are about to be filled with stained glass. The dimensions of the church, according to the *Hampshire Advertiser*, are as follow:—

Length of nave	83 feet 6 inches.
Length of aisles	60 „
Length of the chancel.....	24 „
Width of ditto.....	18 „
Width of nave.....	19 „
Width of aisles	14 „
Extreme length, in the clear	110 „
Extreme breadth, in the clear	50 „

Children's chapels, 18 feet 6 inches long by 12 feet wide. The height from the floor of the pews to the underside of the ridge of roof is 56 feet. The accommodation provided is for 828 persons. The cost of the church will be about 3,500*l.*, towards which sum societies have given grants. Messrs. Hinves and Bedborough are the architects, Mr. Joseph Bull, the builder.

Landford (Wilts).—Landford church has been consecrated. The Dowager Countess Nelson gave 1,000*l.* to further the erection of this church. It is dedicated to St. Andrew, and is built upon the site of the ancient and ruinous Norman edifice. It will seat about 200, and consists of a nave, chancel, small south aisle and transept, and a vestry room and porch. The structure is of red brick, with stone dressings; the roofs and seats of stained deal, except in the chancel, which are of polished oak. Mr. Crook, of Whiteparish, is the builder.

Bishopstone.—The church of this place has been restored. The nave has been cleared of its unsightly pews, and refitted with oak seats (all free), executed by Mr. Hale, of Salisbury, builder, under the superintendence of Mr. T. H. Wyatt, the diocesan architect. On either side beneath the tower the choir seats are arranged, looking north and south, with return stalls facing east. By this means the chancel is prolonged, as it were, to the west of the transepts. New south doors have been erected, the work of Mr. Lanham, carpenter, Bishopstone. The altar-rails are removed from the upper step of the sanctuary to the level of the chancel floor, and Minton tiles introduced into the foot-place of the altar. Some old tiles, found in excavations made during the restoration, have been preserved and placed beneath the altar.

Malvern.—A vestry meeting has been held at Malvern church, to consider the present dangerous state of the roofs and other parts of the church, and to devise means for the restoration of the fabric. It was ultimately resolved to proceed with the necessary repairs, on the report, and under the direction, of Mr. Scott, if no other architect be agreed upon; and also to raise the requisite sum for effecting the same under the powers of the statute 5 Geo. IV. chap. 36, and other Acts. Mr. Scott's report stated that in order to render the chancel roof perfectly safe it would require a considerable quantity of new purlins, portions of beams, rafters, wall-plates, gutters re-formed, iron straps and bolts, &c. in addition to perfecting the roof constructionally. The beautiful ancient oak ceiling of the chancel was in an exceedingly dangerous state, and required immediate and very careful attention. The nave roof was similar to that of the chancel; but in a much worse condition, and much of it must be reconstructed. The roofs of the north transept and north aisle were constructed like that of the north aisle of the choir, but were in a much worse state, and should be reconstructed, using such of the old timbers as were good enough. The south aisle of the nave had a very bad lean-to roof, which should be entirely reconstructed. Mr. Scott estimated the cost of these and other restorations at 3,700*l.*; but if the roofs of the aisles were made flat instead of pitched, the cost would only be 3,300*l.* Some ill feeling towards Mr. Scott was displayed in consequence of the extent of the restorations he deemed requisite; and allusions were made to a report of a different description said to have been made by him four years since, but of which others had no recollection.

Barnsley.—A mural tablet of Caen stone has just been erected in Ardsley Church, to the memory of the late Mr. Joseph Fox, of Barnsley, by his executors. It is an ecclesiastical design, enriched with geometric tracery and pointed panels, and surmounted with crocketed pediments and spirelets. The work has been executed by Mr. W. P. Taylor, of Darfield, under the direction of Messrs. Senior and Wade, architects, Barnsley.

IRELAND.

The Adam Clarke testimonial at Portrush is in progress of erection, the stone having arrived from Newry, and its completion in about a month is expected. Mr. Magee is the contractor.

The foundation-stone of new gas-works for a local company has been laid at Bray, county Dublin, by the countess of Meath, and in presence of Lord and Lady Monck and a host of fashionables. The site of the proposed building is on the strand near the railway. Mr. Edmund William O'Relly, architect; Mr. Wm. Morley Stears, of London, the engineer. Dr. Waller (better known by his *nom de plume* of "Jonathan Freke Slingsby,") in a humorous address, said that as now "they had got the light," he hoped "they would *see* their way to further improvements," and "when they had got their heads above water, they should see and get water over their heads, and bring it from such an elevation as would secure for the inhabitants a plentiful supply." He suggested that "the town should be flagged, and have a fine esplanade along the handsome strand." Considering the natural advantages of Bray, whereat commence the beauties of the world-famed county Wicklow, and its railway communication with Dublin, there is very little building work going forward.

The long-expected and wished-for metropolitan improvement, viz. the removal of the unsightly iron railing in front of Trinity College, and the reduction of the segmental area enclosed thereby, seems to be somewhat farther off than ever, although apparently on the eve of demolition but very recently, as the College authorities have declined to allow 2 feet 8 in. next the quoin of the building to be added to the thoroughfare, although the corporation agreed to expend 1,000*l.* in the erection of a new palisading. We understand, however, that it is projected to remove or retire the block of houses existing between the Alliance Gas Office, in Grafton-street, to Boyle, Lowe, Pim, and Co.'s Bank, in College-green, and thereby increase the roadway; but there seems to be much doubt as to the feasibility of this plan, and its likelihood of accomplishment, in a pecuniary point of view. Some reports of an intention to remove the pedestal recently erected for "the Moore statue" have reached us; and though a local journal has published the project as almost certain, it is doubtful, whatever may be the public opinion of its artistic merits. A new street, to be called "The Grand Parade," is proposed to be constructed from the western end of Dame-street to the terminus of the Great Southern and Western Railway at King's-bridge. Cork-hill will be done away with, and its great ascent considerably reduced by an extended gradient. The Parade will run nearly parallel with the river Liffey, and cross Fishamble, Winetavern, Bridge, Bridgefoot, and Watling streets; the roadway to be 60 feet, and each pathway 20 feet in width, and will be level nearly the entire length. The design is by Mr. Louch, architect and civil engineer. These matters augur progress, and we must not omit to notice that tall chimneys from 100 to 120 feet in height are being reared up, the timber trade largely on the increase, the streets newly paved and sewered, and commercial establishments being newly frouted.

The new Roman Catholic Church recently erected at Ballyorgan, in the diocese of Limerick, has been consecrated. It is a massive, commodious building, devoid of architectural character, but nevertheless is said to contrast favourably with the thatched shed that preceded it.

A new station is to be built at Athlone, by the Great Southern and Western Railway Company, and one of a very important and costly character has been completed at the same place by the Midland Great Western Railway Company, both companies having branch lines to the town. The buildings about to be commenced will have a frontage towards the town of 136 feet (as well as a boundary wall extending 64 feet, and enclosing a yard, from which are lighted the telegraph-office, lamp-store, &c.), and will consist of a centre, two stories high, and depressed wings, both having cantilever roofs. The entrance is through a portico, formed with two Tuscan columns, whence spring three semicircular arches, and leading to a passage which communicates with the platform, off which the various offices, refreshment and waiting rooms,

&c. are situated. In the second story is a suite of apartments for the station-master; and in the west wing is a basement, containing kitchen, &c. The platform is to extend 300 feet, and be covered in to a breadth of half the railway, by a roof partly of timber and iron, resting on metal columns. The materials of the station building are rubble limestone, with sparrow-picked dressings, and a cut stone plinth surrounds the whole. The elevation next the railway is of unpretending character, but the style throughout is somewhat Italianized. A goods-store, 150 feet in length, and 25 feet in breadth, with foundations about 16 feet deep; also a carriage-shed, 140 feet by 16 feet, are to be built at this station. Plans for all have been furnished by the architect to the company, Mr. Wilkinson, and the expenditure will be between 6,000*l.* and 7,000*l.*; Mr. Bagnall, contractor. The same company is also about erecting a station—with similar goods-store—at Clara; to be two stories high, frontage 33 feet, depth about 20 feet, and somewhat like that of Athlone in architectural character; the cost to be about 2,500*l.*; same architect and contractor.

LIGHTING THE FIRST SLATE QUARRY WITH GAS.

This slate quarry is situated near Festiniogg, North Wales: it belongs to Samuel Holland, esq. and is worked through different levels into the side of the mountain, to the distance of more than 1,000 feet. The mode used is to make openings in the solid slate rock, at the end of the tunnels, 30 feet wide, high and long, and then to leave a pillar of slate of the same dimensions, before making another opening. In these excavations no daylight can enter, the light of candles having been the only means by which the men worked up to this spring, when the proprietor employed Mr. George Walcott, engineer, to erect gas-works, and fit up the slate quarry for gas. These works have been now in operation two or three months, and the quarry-owner says that much more work is done in those places where the gas is in operation than where it is still lighted with candles.

THE ARCHITECTURAL COURSES AT UNIVERSITY COLLEGE, LONDON.

Professor Donaldson has issued his annual reminder, that the courses on architecture and construction at this college are about to commence, and adds an exhortation, which may be usefully printed. He says,—

"An able periodical writer has recently put the following question:—Wherein lay the power and merit of the Greek writers? What had those heathens in common with us? What was the spirit which clothed itself in works, which we moderns after so many centuries of thought propose to ourselves as models and find ever unattainable?

The very same question may be put in regard to Classical architecture, and to the productions of the Mediæval Ages, and does occur to men of even considerable attainments, when noticing the influence of Greece and of the Gothic times upon modern art.

The truth is, that the highest works of every period are covered with a flood of glory. They were the emanations of great minds, and it is only by an intimate acquaintance with them, and by a thorough analysis of the principles which prevail in them, that one can hope to seize the inspiration which guided those artists and men of science, and acquire an instinct, as it were, to grasp their harmony, proportions, and rare excellence, and turn as to gold the precious lessons which those venerable monuments contain.

To impart the elements of sound instruction, worthy of the name of education—to furnish the tools with which to go to the quarry and hew out, so to say, the precious treasures—such is the aim of these courses; for it is the real business of instruction to develop, train, and lead out the natural qualities of a man.

There ought to be no sectarian spirit or empiricism in art or science. Yet men's inner and outer worlds have great influence upon the judgment.

Education, nationality, religion, and one's own position in life give a bias. And by their influences men are carried upon life's stream, like straws and feathers upon the current, unless counteracted by the well-grounded principles of early sound instruction.

The teacher and the pupil has each his duties. The former to lay down first principles, and show how they were carried out in past and present times; to suggest sources of information, and the best mode of turning it to advantage. The pupil has to yield to the impulses of earnestness and zeal; and with patience and ardour to look forward to the good he should endeavour to reach. To be satisfied by no mere superficial acquaintance with those acquirements, which the actual business of future life may, too late perhaps, prove to him to be essential to real success. In fact, to rest assured that no one but he who is thoroughly grounded, can meet the exigencies which arise in the professional career—and that this is best realized before, and not after, he has entered upon the practice of his profession."

PRESERVATION OF STONE.

WATER-GLASS.

In perusing your number for the 2nd instant, I noticed a paragraph stating that water-glass was not a combination of silex and soda; therefore no efflorescence could arise from it when applied to external work; further, that it had been successfully used in Paris on many public buildings. I am fully aware that an efflorescent salt and a deliquescent salt have their own peculiar characteristics; but really if the talent of your correspondents be such as to draw so broad a line of demarkation between the two, I wonder they do not see, what all practical men have seen and regretted for years, that no silicious substance could be applied without its solvent, and that its solvent was of such a treacherous character that it would disappear in the company of the first aqueous influence that presented itself, carrying the devoted silex with it. This fact is patent so far as concerns the silicate of soda, which has for its base an efflorescent salt. Much more is it so with the water-glass or silicate of potash, since, although I grant that efflorescence is not one of *its* characteristics, deliquescence is its still greater demerit; and by what law in chemistry such solution can remain upon an exposed surface without removal by atmospheric influence I am at a loss to conceive, and have yet to learn from your correspondents. I think their letter a decided retrogression from your article in a former number, and trust that the rules you so plainly laid down in that article for the guidance of those who may not be acquainted with the chemistry of the question, may receive from the public the appreciation they deserve. F. W.

METROPOLITAN BUILDINGS ACT.

Marylebone.—Bad Building.—Recently Mr. R. Mann, of Aland-road, Kentish-town, builder, appeared before Mr. Beadon, in pursuance of a summons taken out by Mr. Henry Baker, the district surveyor of St. Pancras, under the Metropolitan Building Act, for erecting two houses in Murray-street, Aland-road, with bad materials.

The district surveyor stated that, on his first survey of the houses in question, he found that the front and back walls, which had to carry the weight of the floors and roof, were being constructed three-fourths of brickbats and rubbish, with a facing of good stocks to the back wall, which was little more than a mere casing. The wall was 13 inches thick, of which this casing was 4 inches, and the remaining 9 inches built of the refuse taken from old buildings. Witness remonstrated; but no attention being paid, he went to the buildings again on the following day, and served defendant with a formal notice to amend the work within forty-eight hours. The men were proceeding with the party walls, and running them up almost entirely of broken old bricks, the walls were further weakened by the insertion of what were called air-flues, but which were mere hollow spaces in the middle of the wall, and not pargetted, as all flues are required to be. On subsequent inspections witness found the work going on rather more favourably; but the portions complained of had not been amended, and as they formed the basis of the structure, his opinion was that every part of the buildings ought to be taken down and rebuilt.

The defendant contended that the walls were solid, and showed no appearance of settlement; that he had partially amended the work complained of; and that there were many other buildings in the parish quite as bad or even of worse description.

Mr. Beadon said that walls must not only be solid when looked at as a mass, but that the materials must be "hard well bonded, and solidly put together;" and it was perfectly clear that broken bricks or bats could not lap over each other and be properly bonded. He considered that it was highly important that the party walls, intended as a security in case of fire, should be especially constructed of sound materials. As the works, however, were now stopped, he would postpone his judgment for fourteen days, to enable the ground landlord's surveyor to examine and report upon the buildings; and in the mean time he hoped the defendant would endeavour to comply with the requisitions of the district surveyor.

THE DUBLIN BUILDERS' ASSOCIATION AND THE OPERATIVES.

Owing to the recent publication of a code of regulations, laid down for the guidance of members of a newly formed community, entitled "The Dublin Builders' Association," an aggregate meeting of the operatives connected with the building trade was held in the Round-room of the Rotunda, on the 11th instant. The meeting was estimated at 2,000 persons. Processions were formed at the various committee-rooms, and business for the day was completely suspended. Shortly after one o'clock, the chair was taken by Thomas Parker, carpenter, and five assistant secretaries were appointed. Mr. Mellon read the report of the association, and the resolution in the same, with regard to which the meeting was convened. It was to the following effect:—"That this association is anxious that all operatives in connection with building, should be paid the *highest* remunerative wages, but that it will not recognize the principle which demands a *uniform* rate for the most inferior as well as the most highly gifted workman, at variance as it is with that emulation, to check which nothing ought to exist among them."

The chairman, amongst other matters, observed that "they had met to consider the best means of meeting the danger that, as he supposed, threatened them. They had seen the manifesto of their employers, proposing, by a pretext of *classification*, a means of *reducing* wages of the working men . . . A workman might be led to think because he was a skilful man he should always get high wages. Suppose a case. He may for a time receive 30s. per week; a change of circumstance takes place, and he, disemployed, seeks for work elsewhere. His new employer says,—'I do not know what you are worth: go to work, and I will see what sort of man you are.' His previous character as a skilful workman may have been established, but he has again to make his present, and he looks back with regret to the time he was receiving his regular wages of 4s. 8d. a-day, and nothing else. When Saturday would come round, the employer might give that workman as little wages as he could, and say,—'I have men in my employment as skilful as you, and I only pay them the wages I give you.'"

Various speakers followed to the same effect, one asserting that the masters charged 6s. 6d. a-day for a man, and paid him but 3s. 6d. It is to be hoped that some effective mediation will take place to prevent the further growth of ill-feeling.

THE FINSBURY PARK QUESTION.

This matter has been again brought before the attention of the Islington vestry, and the committee appointed have recommended the following resolutions:—

"That a memorial from this vestry be presented to the Metropolitan Board of Works, urging the immediate purchase of the land for Finsbury-park.

That a deputation do attend that Board in support of that memorial, &c."

Mr. Cox, M.P. moved—"That this vestry do agree with the committee in their report, and that it be referred back to them for execution."

Mr. Cox reviewed the position of this question, and said that an Act of Parliament had left to the Board of Works the execution of the works; but, since, the matter had been taken out of the hands of the committee, and from period to period it had been delayed. The cause of the delay did not rest with the committee, and he doubted if the Board of Works would proceed. If the Board of Works had meant to proceed with the park, they would not have delayed the purchase of the land, when they could have got it cheap, but have done so before other interests than those of the freeholders had been established. Besides, the Metropolitan Board of Works, in a report of 28th July, 1858, only referred to the subject, stating that the park was partly in Islington, and partly in Hornsey, and to contain 350 acres, at a cost of 216,820*l.* A bill was brought into Parliament in 1848, called "The Victoria Park Approaches Bill," which would entail an outlay of 42,000*l.* He had no objection to such a measure; but what he did object to was, that the Board of Works should, in September, take steps to raise this 42,000*l.* and do nothing for the Finsbury

park. The fact of the Board of Works passing over an undertaking of great importance, was ground of alarm, in his own mind, and in that of the committee. He thought the Board of Works would have been proud to have carried out the Finsbury-park project, but nothing had been done. True, they sometimes interfered with a man when he brought his shop-front out an inch or two too far into the public thoroughfare, and trivial matters of that kind; but, save this, he was not aware that they accomplished anything of public importance. It was of great consequence that something should be done at once. The Board of Works ought to proceed forthwith in the matter, *or say, candidly, that they will allow us to do it ourselves.*

Correspondence.

THE NINE HOURS MOVEMENT.

SIR,—I perceive that "One who knows a Thing or two" has again come forward, and replies to "A Poor Carpenter," whose letter appeared on the 11th ult.

In the first place, he denies being a party to the Masters' Society, or personally known to you, lest injury should be inflicted on your journal. I also am alone responsible for the answers I have written.

Before replying to "A Poor Carpenter," your correspondent thought fit, in his wisdom, to make a general onslaught upon "trades-unions," as he calls them, and lays at their door all the ill-feeling that has been cherished between employer and employed ever since their formation; and would seek to stamp upon their members the stigma of "agitators," instead of being useful and intelligent workmen. What, sir, is your St. Stephen's? What your Church's royal societies? your Temple of Barristers? your clubs at the West-end, but unions for their own parties and particular cases? But woe betide the poor carpenters, or any other branch of trades that unite together to protect themselves by a small contribution weekly. Your clubs provide you members that make your laws; your Church will only admit those that have matriculated at college and have received the imposition of hands by a bishop; and your templars those only but benchers; but poor carpenters who form a body of the many to help the few, must, according to the construction I put upon the language of "One who knows a Thing or two," be a curse upon the land. Oh, poor deluded creatures! you have had a taste of the apple, but be sure you do not suck the juice, for fear you become too enlightened and imitate your betters upon a small scale. You must not meet together and pay your pence into one treasury to insure your tools, or to provide a sum of money to inter you decently, without bringing about that unhappy feeling betwixt your employers and yourselves. If such is the case, your schools have been useless; and well is it said by the poet,—

"A little learning is a dangerous thing."

"One who knows a Thing or two," in reply, "begs to say that 'A poor Carpenter' must be right in saying a resolution was passed at the Stugo Parliament, but how many obeyed the mandate he fails to tell us." I left that question to his own sagacity, not speaking, as he did, personally, as to what happened thirty-five years ago, but from documents put into my hands, which I put a greater reliance upon than memory; for I must call his attention to this fact,—that in the first letter it was "24s. to 27s." "for best man;" in the second, four weeks after, it is, "but till the last four or five years 4s. 6d. and 5s. have been the general wages."

If "One who knows a Thing or two" had applied the "maxim" to himself, he would have spared himself the trouble of writing his letters, and myself from answering them. If I had not read No. 1 over several times, I should never have troubled myself about it; but as it appears it was intended to be a letter of *facts*, so was the answer to prove that (to use a homely expression) "*facts* are stubborn things," and that, if you deal in them one week, do not forget in four weeks that, starting with facts, you are bound to substantiate them. When next advice is tendered about indulging in personalities, be careful that you fall not into the same pit; and as for "irrelevant matter introduced," what, I ask, was irrelevant to the "nine hours movement," which was the question?

If, in answer to the question, "In what part of my letter have I made the rate of wages thirty-five years ago a standard for the present time?" one possessed with a grain of sense might naturally infer that the whole and sole object was to inform employers, as well as the "men," that such was the rate paid then; and you may draw your own analogy between the price of labour and the commodities of life at that time: and the only inference that can be drawn is, that a precedent might be established: what was thirty-five years ago ought to be your guide for the present, taking into consideration the reasonable price of provisions; and upon the admission that it was to prove facts (which were not proven), that our relative position is better than ever it was. "That masters are giving more wages than they can afford to give," is such absurd sophistical reasoning, that I shall not trouble myself to answer it, not wishing to intrude too far upon your valuable space.

Again, I am to apply "the rules or laws of supply and demand to the present question" "upon the glut of men and houses." Certainly your correspondent tells us that "if houses could run, 100 would have to run after one purchaser;" but he also fails to tell us how these houses spring up, and what advantageous offers are made to small capitalists when a landed proprietor has an eligible site to dispose of for building purposes, and what percentage he or they will advance upon finished houses, and, when a panic comes upon the market, how the small capitalist comes off with his bargain. Read poor Henley's case, and then tell me it is the "muffs" that ruin employers, and cause them to figure so conspicuously in the "Bankruptcy and Insolvent Debtors' Courts." I ask, is the cause of ruin "muffs" or trading recklessly? Take a peep at the published contracts, and see the enormous difference between one contractor and the other, and then tell me if one contractor can undertake to fulfil a contract for 2,310*l.* how is it that another can offer to do the same job for 1,787*l.* making a difference of 523*l.* I answer flatly, that one must make a good round sum upon the affair, or the other loses by it,—yet "muffs" ruin employers! And the analogy to be drawn between the former and latter letters is striking, so that "he that runneth may read;" for, in the former, masters get rich by the "ground-rents:" in the latter they cannot find purchasers for "one in a hundred," "yet there is nothing in the article produced to warrant the reduction."

I am quite prepared to admit the axiom, "Charity begins at home," but ought not to end there; and if charity is charity, why should not the carpenters act in that spirit to their suffering brethren; and if, by a reduction in the hours, we give employment to those who are now idle, why should we withhold it?

"One who knows a Thing or two," bursting with the milk of human kindness, says, the "humanity and mental improvement cries are very laudable motives." Now, I would simply ask him if the mental improvement cry is not in the right direction; for what use are your schools of art, your institutions, &c. if the time of a working man is so occupied that he is not able to walk two or three miles to one after his day's labour is over? And further, I beg to tell him a third thing, which, perhaps, he does not know; that it is to those noble institutions that I owe the little mental improvement I am possessed of; so it is nothing to be wondered at that one having received a benefit might wish to extend it to others: my charity began at home first.

The question is asked (by "One who knows a Thing or two"), Why did the deputation wait on the masters to grant the boon? Why did they not go to that abstraction, the public? Now, sir, in calm reason, what is the use of putting such simple questions before the public, when he "Who knows a Thing or two" ought to know also that the only way to create ill feeling between employers and employed, is to alter an established custom without the *mutual consent* of the two parties interested. Why, it would have been rash on our part; and then might your correspondent have said, they are only to be distinguished as "agitators," more than the frequenters of "mechanics' institutions," but the policy is forbearance and mutual understanding. Instead of meaning a "public who patronize a slop establishment to purchase manties," I meant a generous, sympathetic *British* public. Why did not your correspondent attack the Saturday half-holiday movement "agitators?" No, he might exclaim, there are those amongst them that can grapple with me upon the subject, and rank amongst the greatest in the land; but as for the carpenters, I can manage them (having no lord at their back); and away went his pen to vent the venom of his spleen of facts upon the heads of the nine hours "agitators."

In conclusion, I would ask, are we verging upon the old feudal Saxon times, that "One who knows a Thing or two" recommends us, when we seek employment, to take our "indentures" in hand, or a "certificate" (from whom? of "good character and competency?" I put it to me in mind, sir, of a returned convict, with his ticket-of-leave. If your correspondent has to go to the far-famed county of Devon for his fables, I should recommend him to buy "Æsop's Fables," and read the "Dog in the Manger."

I fear I have wearied your patience, and trespassed too far upon your space; and for the future I shall leave "One who knows a Thing or two" to the tender mercies of the Nine Hours Committee, to whom he must address his future epistles, for this is a useless paper warfare, which occupies too much of your space for the information of the one or the benefit of the other. My task is done.

A POOR CARPENTER.

Books Received.

The Geologist; a Popular Monthly Magazine of Geology. London: Simpkin, Marshall, and Co. January to September, 1858.

THE appearance of a popular monthly magazine of geology shows that this modern science must be rising in public estimation. Geology is a noble and interesting science; albeit, there is much more of laborious fact than of satisfactory theory in it as yet,—much more of the requisite elements of induction than of clear and comprehensive general deduction from the accumulation of such elements. In times of old there was rather too much of theory and too little of fact: in recent times, we suspect, there is rather too little of theory and too much of mere fact. Our architects of science are perpetually collecting the stones and the bricks, but they seem to be short of mortar, and, at all events, do not get on very rapidly in the rearing of the superstructure, if indeed they have even settled on the plan, or designed the elevation. Bricks and stones are valuable materials, but architects and builders do not rear noble edifices with them by merely fitting them in one with another, *to see* what sort of elevation will result. Much so is it with scientific facts, we fear, in some sciences: sagacious hypotheses, plans, designs, are wanted ere they can be worked with to any really great purpose; and we cannot for a moment imagine that Bacon himself did not contemplate a pretty free exercise of the speculative faculty in the arrangement of the bricks and stones of which he spoke, as the fact-bases of scientific induction.

Even as it is, however, geology is a noble science. We perfectly agree with Sir John Herschell, in his discourse on the study of natural philosophy, that "geology, in the magnitude and sublimity of the objects of which it treats, undoubtedly ranks in the scale of the sciences next to astronomy." Not only so, but we are decidedly of opinion with Mr. Hopkins of Cambridge, that "the time has arrived when the investigations of geology have begun to exalt themselves into those lofty regions of general physics which *connect them* with the most sublime demonstrations of astronomy." We wish it were fitting for us here to offer some idea of those reasons which induce *us* to think so, independently of the very sufficient reasons, doubtless, which Mr. Hopkins had in view when he penned this well-written passage. All we shall here remark is that the new science, under which the sublime *connections* Hopkins speaks of remain to be developed, and which we take the liberty of christening—Astro-geology,—is a still nobler and more interesting one than geology itself; as an occasional study of it for years has assured the writer; and that we hope "The Geologist" will not limit itself to the mere recording of facts and of more or less partial inductions from them, but will occasionally open its columns to more comprehensive and theoretical speculation on this new and crowning science of geology.

Miscellanea.

ANGLO-ROMANO GAS COMPANY.—It gives us pleasure to find that the opinion we have frequently expressed with reference to the success in lighting Rome with gas continues to be realized, as well financially as otherwise. At a meeting held in London last week, a dividend was announced for the last half-year of 4 per cent. (8*l.* per cent. per annum); and from the report made by the gérant (Mr. James Shepherd) to the meeting, it appears that the progress of the company's operations continues to be very successful.

THE HOUSE OF GEORGE STEPHENSON.—In reference to our paragraph as to the cottage of George Stephenson, the *Gateshead Observer* says, "It is honourable to the memory of George Stephenson that his countrymen hold in reverence the walls which have known his presence; but our contemporary, when making this indignant protest, was possibly unaware that the obliterated house—(to the obliteration of which, by the way, Mr. Robert Stephenson is a party)—was not the birth-place of George Stephenson, but simply one of his places of residence—the house in which his son Robert was born. It was called the birth-place of George Stephenson by a local journal, in speaking of the Memorial School; and hence, probably, the *Builder's* error." We must inform our excellent contemporary that there was no error of the kind on our part. We long since explained to our readers that the cottage in question was distinguished as George Stephenson's residence, not his birth-place; but that does not alter our opinion as to the advisability of preserving it, as we are not aware of the existence of any other residence so closely identified with the early history of George Stephenson as the cottage in question.

CAMBRIDGE SCHOOL OF ART.—A meeting of the committee was held, on Thursday in last week, in the Town-hall (the Mayor in the chair), for appointing a master, and making arrangements for opening the school forthwith. Mr. Robert Harley, of the Department of Science and Art, South Kensington, who had been recommended by the Art Department for the appointment of Art Master at Cambridge, attended the committee, who unanimously elected him. The school will be conducted in the rooms lately given up by the Mechanics' Institute in Sydney-street: the second floor is appropriated for ladies' classes, and the first floor for gentlemen and artizans. The school is to be inaugurated by a *soirée* at the Town-hall on the 29th instant, and opened on the 1st of November.

ACCIDENTS.—A painter was at work on a ladder at Newington-crescent, when it suddenly snapped in two, and he fell upon the spikes below with much violence, the points penetrating his body. He was conveyed to Guy's Hospital in a dangerous state.——A man, while attempting to gain a front seat in the upper gallery of the Surrey Theatre, lost his balance and fell into the pit, across one of the seats. In a few hours he expired. The fronts of theatre galleries ought to be sufficiently railed round to prevent such accidents.——There is a new reservoir making at the Bradford Waterwork, and two men were killed there last week. The driver of a horse and waggon, which run on a line of rails on the embankment of the reservoir, was in the act of running beside the horse, to get it at full speed before the chain was unhooked, when his foot caught under the rail, and caused him to fall under the wheel of the loaded waggon, which passed over his neck. A companion, who was running after, fell over him, and the waggon passed over him also. Death in each case was instantaneous.——A joiner, who was employed at the building of a church, at the corner of Waterloo-street and West Campbell-street, Glasgow, has fallen from a scaffold 20 feet from the ground. He was seriously injured.

THE THAMES TUNNEL.—For the week ending 9th October, the number of passengers was 15,227, and the amount of tolls 63*l.* 8*s.* 11*d.*

THE LATE MR. ROBERT CANTWELL.—We record with great regret the death of this gentleman, long known in the profession as an architect and surveyor. Suffering from deafness, his career was quiet and uneventful; but he enjoyed the esteem of a large number of his professional brethren as a man of unquestioned integrity.

ROEHAMPTON PARK.—The mansion, built by Chambers, the seat of the Earl of Besborough, together with the park, and upwards of 110 acres in extent, have passed into the hands of the Conservative Land Society.

BLINDS.—Sir: By the "Forty Shilling Act," sect. 60, paragraph 7, any person who shall expose for sale, upon, or so as to overhang, any carriage way, or footway, or on the outside of any house or shop; or who shall set up or continue any pole, blind, awning line, or other projection from any windows, parapet, or other part of any house, shop, or other building, so as to cause any "annoyance or obstruction in any thoroughfare," is finable.—VIATOR.

BYRON'S "SEAT" IN HARROW CHURCHYARD.—The state of Peachy's tomb in Harrow churchyard, where Byron said he "used to sit for hours and hours when a boy," is brought under notice by the *Harrow Gazette*, which states that Mr. Murray, the publisher (to whose father Byron spoke of this "favourite spot") has consented to head a subscription list for some 15*l.* or so, to provide an iron railing to protect Peachy's tomb from further dilapidations. Other subscriptions have been promised, and surely little difficulty will occur in making up the sum required.

EDINBURGH.—ALTERATIONS ON THE PARLIAMENT HOUSE.—Some alterations are being made in the position of several of the statues with which the interior of the Parliament House is decorated. The pedestal of Chantrey's statue of Lord President Blair has been lowered by two and a half feet. A similar change is being made in the position of Roubillac's statue of Forbes of Culloden. The statue of the first Lord Melville, also a work of Chantrey's, and which now stands out in the centre line, but near the bottom of the hall, is to be carried back to the wall, and the space thereby more fully opened out to the throngs who, during session, promenade the floor: its distance from the windows will be increased. The statues are to be cleaned.——A meeting of unemployed mechanics was held last week on the Calton-hill, for the purpose of discussing what steps should be taken in order to obtain employment. About 200 men, representing various trades, assembled. After discussing the question amongst themselves, they resolved to deputе six of their number to wait on the Lord Provost, to ask his advice and assistance. The deputation accordingly waited upon his lordship, who stated that at present it was not in his power to do anything for the men, but that he would bring their grievance before his committee, and communicate the result.

OUR RUINS.—Mr. Weld, of the Royal Society, writes:—"I have been much struck, during a recent ramble through Yorkshire, by the great difference in the condition of our ancient ruined edifices and those scattered throughout France. Frequent visits to that country enable me to state that, with scarcely an exception, all old structures which are at all interesting from historical associations or picturesque features, are regarded as *monumens historiques*, and preserved as far as possible by national funds. Happily some of the grandest relics in England of the feudal and monastic ages are the property of men whose large fortunes enable them to gratify a laudable wish to preserve the ruins which they have inherited with their broad acres. Fountains Abbey, for example, is a noble monument of the munificence and taste of Earl de Grey, who is judiciously preserving that very interesting pile; but there are, unhappily, many other ruins which, either from want of inclination or means, are allowed by their owners to perish prematurely. It would be easy but invidious to name several ruins in this category, some of which might be rescued from premature decay by a very slight expenditure of money. This should not be; and if our archæological associations and societies do not think proper to divert any portion of the means at their disposal to the preservation of our ancient historical monuments, preferring rather to expend their funds on publication, it appears to me that we should do well to imitate our neighbours, who, by a small annual grant, intrusted by Government to competent persons, preserve, and, in many cases restore, the numerous historical buildings which instruct and delight the tourist in France."

THE ALBERT ASYLUM COMPETITION.—The committee have selected the design marked "Progress" as the best.

PRIZES OF THE LIVERPOOL SOCIETY OF FINE ARTS.—The council have awarded their historical prize to Mr. F. Goodall's picture, "Cranmer taken to the Tower;" the landscape prize to Mr. Sidney Cooper's "October Evening;" the water-colour prize to Mr. Carl Haag's picture called "The Ruins of Salona;" and the sculpture prize to Mr. Calder Marshall's "Ophelia."

APPOINTMENT OF BOROUGH SURVEYOR FOR ROCHDALE.—At last week's meeting of the Rochdale town council, the chief business was the election of a surveyor for the borough, in the place of Mr. Barton, resigned. The number of applications sent in was thirty-nine. Mr. M'Dougall, an assistant in the surveyor's office at Leeds, was unanimously elected.

WELLINGTON COLLEGE.—This important national undertaking is being rapidly finished. It is proposed to have everything in readiness for receiving the scholars on the 1st of January next. It has been determined to light and ventilate the building by gas-light. Mr. George Walcott, of London, has been appointed by Government as the engineer and contractor for erecting gas-works for the exclusive use of the college, and also to fit up the entire institution for gas. The number of gas-lights that will be used in the college will be about 240, and the site of the works, including dwelling-house for future gas-maker, is distant about 700 feet from the college.

ROAD-MAKING AND ENGINEERING AT THE CAPE.—The *Cape Argus* of August 21 says:—"We are much in want of a civil engineer to supply the official vacancy which has occurred. It is hoped that a really efficient man will be sent out, and not a mere hanger-on of the Colonial Office. Fifty-two thousand pounds—a large sum for us—has been voted for new roads and bridges during the present year. A great deal of our future progress in necessary public works depends upon having an engineer properly up to his work. Railways and other works not provided for in the above sum will also be commenced this year."

THE BIRMINGHAM ARCHITECTURAL SOCIETY.—The first meeting for the present session of the members of this society was held on Monday in last week. The president (Mr. Empson), in opening the business, expressed regret that the papers read before the society were so few in number. Many were doubtless deterred by one great obstacle—the want of a subject; and it would be well, therefore, to inquire if one such subject could not be found applicable to all. A recent occasion had shown that the members had advanced at least a stage, by allowing drawings to leave their private offices for the purpose of forming a local exhibition. Having gone so far, and their chief object being mutual improvement and the advancement of the science, he urged the members to read papers descriptive of the drawings, promising to lead the way in this respect. The subject for consideration at the next monthly meeting is "Competition," the chairman introducing the question.

TENDERS.

For a new church and boundary wall, proposed to be built at the west end of Romford. Quantities not supplied. Mr. J. Johnson, architect:—

Carter, Holloway	£3,750	0	0
J. S. Hammond, Romford	3,543	0	0
Dove, Brothers, Isington	3,465	0	0

Additions to the Homœopathic Hospital, Great Ormond street, Bloomsbury. Henry Jarvis, architect.

Higgs	£2,257	0	0
Gammon	2,225	0	0
Willson	2,124	0	0
Carr	2,080	0	0
I'Anson	2,037	0	0
Piper	1,846	0	0
Carter	1,774	0	0

For erecting new national schools for the parish of St. Nicholas, Nottingham. Mr. Arthur Wilson, architect, Nottingham —

W. Hollingsworth	£1,821	0	0
Bradbury and Son	1,761	0	0
Dermett	1,695	0	0
Haw and Wool	1,670	0	0
Lee, Retford	1,382	0	0
J. Garland (accepted)	1,358	0	0

For a small farmery, for Mr. Richard Hodgson, at Chingford, Essex. Mr. John Billing, architect. Quantities not supplied.

George Barker, Edmonton	£895	0	0
Sibthorpe and Son, Chingford	690	0	0
C. W. Wiggs, Waltham Abbey (accepted)	554	0	0

For repairs at the Crown Hotel, Hyde-park Gardens. Mr. F. G. Widdows, surveyor:—

Wood and Sons	£233	0	0
Sargeant	219	0	0
Herd	217	0	0
Smith	209	0	0

For finishing a house at St. John's-wood, for Mr. Wells:—

White and Mitchell	£247	0	0
Pilgrim	239	0	0

For additions and alterations to a house, and for a new labourer's cottage, at Chiselhurst, Kent, for Mr. G. H. Baskcomb. Mr. F. F. Thorne, Lee, architect. Quantities by Mr. J. Power, of Woolwich:—

	Additions to House.	Laborer's Cottage.	Total.
Coleman	£355 0	£236 0	£585 0
Kent	330 0	239 0	569 0
Thompson	340 0	195 0	535 0
Penny	345 0	178 0	523 0
Marsland	327 0	190 0	517 0
Taylor	310 0	189 10	499 10
Francis and Townsend	279 0	180 0	459 0

TO CORRESPONDENTS.

STONE.—A correspondent, with reference to uses of cross-cut stone asks for information concerning stone capable of resisting white heat.—A. H.—H. K.—H. W. S.—Observer.—Mr. L.—T. H.—J. S. W.—T. B. S.—J. S. H.—C. H.—C. W. K.—S. S. (thanks; next week.)—J. W.—E. and M.—W. S. (next week.)—J. K. C. (ditto)—C. H. S. (ditto.)—W. J. G.—J. S.—K.—S. B. G.—C. F. (we are unable to advise)—B. H. P.—E. D.—G. G., Lambeth (we willingly bear witness to the cleverness of the lines, but are unable to print them)—Mr. H.—J. L. (no news on the subject have been expressed of either of the Bodies alluded to: there is no rivalry in the question)—E. D.—Lightning Conductors (the mode of fastening is indifferent. Beech wood fasteners, mentioned, are beyond cavil; but a common holdfast is thought equally safe)—E. K.—Dr. B.—J. B.—A. W.—A. Q. (It would depend on the wording of the conditions).

"BOOKS AND ADDRESSES."—We are forced to decline pointing out books or finding addresses.

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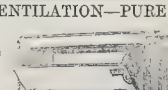

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CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. CLTON, can be had in any quantity, wholesale and retail, at his Manufactory, Upper Thames-street London; and also at the Manufactory, Faversham, Kent.

N.B. These Cements supplied for shipment, on advantageous terms.

MESSRS. FREEN and CO. CEMENT AND PLASTER MANUFACTURERS, AND LIME MERCHANTS, WORKS: CANAL-ROAD, KINGSLAND-ROAD BRIDGE.

ROMAN CEMENT

supplied in any quantity fresh from the Mill, of a quality for which those works have been celebrated for upwards of thirty years.

PATENT PORTLAND CEMENT,

used by eminent engineers to be the strongest and most uniform in colour of any manufactured.

PLASTER OF PARIS

of very superior quality, fresh from the ovens, daily.

GREY and CHALK LIME, by the yard or large. Shipping orders executed upon liberal terms.

CHARLES RICHARDSON, BRUNSWICK WHARF, VAUXHALL, And 6, SOUTH WHARF, PADDINGTON BASIN.

COWLEY and KENT BRICKS, per barge, guide, or delivered in any quantities, direct from Wharfs.

SUPERIOR WHITE SUFFOLK FACINGS, Arches, Dressings, Coping Bricks, Stable Clinkers, &c.

DARK RED FACINGS, Rubbers, Splays, Moulding Bricks, &c.

BRIGHT YELLOW MALM FACINGS, and Malm Bricks, of the best quality. Mean and Pale Malm Seconds, Pickings, Place Bricks, &c.

BLACK HEADERS, Glazed and Unglazed.

BEART'S PERFORATED BRICKS.

STAFFORDSHIRE BLUE VITRIFIED Paving Bricks, and Channelled Stable Bricks. Red, Blue, and Buff Terra-cotta Bricks. Plain Tiles. Plain Ridged, Rolled-top, and Ornamental Crested Ridging, &c. Brierley Tile.

WHITE GLAZED BRICKS.

FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any form Brick, &c. made to order.

TERRA-COTTA CHIMNEY-POTS, Vases, Pedestals, Curb and Border Edging, &c.

SLATES, best quality from the Bangor Quarries.

YORKSHIRE STONE. Tooled Paving, Sills, Landings, Sinks, Coping, &c. Sawn Stone for Hearths, Jambs, &c.

TILES. Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Tiles always kept in Stock.

GLAZED VITRIFIED SEWAGE PIPES, Traps, Pans, Syphons, Stench Traps, &c.

GREY STONE and CHALK LIME.

BLUE LIAS LIME, Ground, or in Lump, to Stockton, Wilmcote, Leicester, or Aberthaw.

CEMENTS. Roman, Portland, Parian, Lias, &c.

PLASTER of PARIS, fine and coarse, of best quality, at reduced prices.

HAIR, Laths, Sand, Ballast, &c.

IMPORTER OF DUTCH CLINKERS

All kinds of Building Materials sent by Rail the same day as ordered

ROAD MATERIALS. Guernsey Granite, Kerb Flints, and Scottish Rag stone, broken and unbroken.

Tenders given, Estimates carefully.

N.B. Loading Wharf and Drawing Dock at Vauxhall.

GREAVES'S BLUE LIAS LIME.—Messrs. GREAVES and KERSHAW beg leave to inform the Trade that they are prepared to deliver GREAVES'S BLUE LIAS LIME, per RAIL or GROUND, direct from their Works, to any part of London, or the neighbourhood either by boats or Railway.

Messrs. Mr. GREAVES introduced this LIME into the London Market, and it has been so extensively used in all the principal public and private Works, which were strong hydraulic. The lias area required, that GREAVES and KERSHAW will be enabled to deliver LIME direct from their Works, at such a price as will ensure its being used in preference to any Works where quality is considered, it being the best and strongest LIME in the London Market.

Works at Stockton near Rugby.
" Hunbury near Southam.
" Wilmcote near Stratford-on-Avon.
Offices at Warwick.
Portland, Lias, Bath, and Roman Cements.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth of the usual time. A finer quality produces a beautiful stone hard Sculptable imitation of Marble. Manufacturers, FRANCIS, BROTHERS, and CO. 17, Nile Place, London.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, Bath and Roman Cements. Blue and White Lias Lime, ground and ground.—KIALLMARK and CO. Dunball, Bridgwater, and 9, North Wharf-road, Paddington.

WHITE and RED SUFFOLK FACING BRICKS, by Messrs. Allen and Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs Caleb Hitch and Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex.

The EWELL deep BLACK RUBBING and BUILDING BRICKS, And the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, AND ESSEX BRICKS, IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON-WHARF, Belvidere-road, Lambeth, and Kent-road Bridge. } SOLE CONSIGNEES.

The usual commission allowed to merchants of the trade from the above prices.

N.B. Every description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pierced Ridge Tiles of different patterns and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different trades. Vitrified Stable Paving, Grooved, of various sizes. Blue Face de Bricks, &c.

J. and W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no colouring. Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster; and Steel street, Liverpool.

KEENE'S and PARIAN CEMENTS for internal uses. These well-known hard Stuccos dry quickly, and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not lose its binding strength. A mass of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster, who prepare one quality only of Portland Cement.

MESSRS. ROSHER and CO. LIME, CEMENT, and BRICK MERCHANTS.

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ALBION WHARF, HOLLAND-ST. BLACKFRIARS, S.E.
MILLBANK-STREET, WESTMINSTER, S.W.
KINGSLAND BASIN, KINGSLAND-ROAD, N.E.
LIMEKILN-HILL, LIMEHOUSE, E.

Wherever can be obtained of the best quality:—
GREY STONE, CHALK, and PEARL LIME
ROMAN, PORTLAND, KEENES, ATKINSON'S, MARTIN'S, and PARIAN CEMENTS
COWLEY and KENT BRICKS
WHITE and RED SUFFOLK FACING BRICKS
YELLOW and PALE MALM-CUTTERS, PICKINGS, PAVIORS, and SECONDS.
STAFFORDSHIRE ORNAMENTAL PAVEMENTS, in RED, BLUE, and BUFF; also GARDEN EDGINGS
TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS, and CLINKERS.
PLAIN and ORNAMENTAL ROOFING and RIDGE TILES
WELSH, NEWCASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES of every description and size
RED and GLAZED STONEWARE DRAIN PIPES, &c.
TERRA COTTA, CEMENT, and RED CHIMNEY POTS.
HAIR, PLASTER, LATHS, SAND, BALLAST, and OTHER BUILDING MATERIALS

Goods forwarded by Rail or Barge to any part of the Kingdom, and delivered at the Railway Stations, Wharfs, or Premises, as may be required.

LIME WORKS, CHALK FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT—CLARK and DENGOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road—Office, 4, George yard, Lombard-street.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
KNIGHT, BEVAN, and STURGE.
Manufacturers only of first class quality, for the home and foreign trade

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise

LONDON WHARF, BELVIDERE-ROAD, LAMBETH.

JAMES R. BLASHFIELD (Late Wyatt, Parker, and Co.),
ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Chimney Pots, Trusses, Copings, &c.; Stone-ware Drain Pipes and Closet Pans.
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

PORTLAND, BATH, and LIAS CEMENTS. First-class quality and lowest price.

GENUINE BLUE LIAS LIME, fresh up from the kilns in Warwickshire daily, at the same price as Grey Lime at Paddington Stations.

TATHAM and CO. 14, South-wharf, Paddington, W.

*** Shipping orders carefully and promptly executed.

THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT.
Messrs. ROBINS and CO.
TO WHOM THE PRIZE MEDAL WAS AWARDED in 1851, and is prepared to SUPPLY ANY QUANTITY OF THE VERY BEST PORTLAND CEMENT, Manufactured by them for all the purposes to which Cement is applicable.
Orders received at Great Scotland-yard, and at the Works.

TO SEWER CONTRACTORS, and the TRADE generally
STROUD and CO.
BLUE LIAS LIME WORKS HARP, HERTFORD ROAD, KINGSLAND.

SCOTT'S PATENT CEMENT, Manufactured only by
WILLIAM LEE, SON, and SMITH, EARL STREET, BLACKFRIARS.
This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

SOHO PLATE-GLASS WAREHOUSE, No. 26, SOHO-SQUARE, LONDON, W.
PLATE-GLASS, Of a superior Quality and Colour, SUPPLIED AT THE LOWEST CURRENT RATES.
Contracts given upon application.

BLOOMSBURY STAINED GLASS WORKS, 36, Bedford-square, London, W.C.—ALEXANDER GIBBS and COMPANY, Practical Artists in Stained Glass, and Ecclesiastical Decorators, invite the attention of the nobility, clergy, architects, &c. to the facilities afforded by their long practical experience in every branch connected with the above art, and respectfully solicit the favour of a personal visit to their show rooms, to inspect their large and varied collection of Cartoons and Water-colour Designs for Church and Domestic Windows—Designs and Estimates forwarded, on application, to all parts of the kingdom.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN SHEET HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

GLASS PAINTING and MURAL DECORATION.—LAVERS and BARRAUD, 43, Southampton-street, Strand, beg to inform the clergy, architects, and others, that they will be happy to submit DESIGNS for STAINED WINDOWS as may be entrusted to them, as also for ecclesiastical decorations. They beg to call their attention to their greatly improved and more expeditious and effective character.—Prices, &c. forwarded on application.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Plate and Fancy Glass of every description.
Estimates and Price Lists forwarded free on receipt of business card; old Prices Low.
R. MITTMAN and CO.
30, PRINCES-STREET, SOHO, LONDON, W.

PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, No. 14, Stafford-row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN STREET, Lincoln's-inn-fields. Estimates given for the making of Pellets, Rosebo, Fonts, &c. &c. Tesselated Pavements with Patent Tesserae. The New Transparent Glass Mosaics. Descriptive Catalogues on application.
N.B. 56, GREAT QUEEN STREET, LINCOLN'S INN.

WINDOW GLASS.

THOMAS MILLINGTON'S NEW LIST of REDUCED PRICES are now ready, and may be had on application.
SHEET GLASS, for the, in 200 feet cases, at 25s. 6d. per case.
" thirds, " 24s. 6d. "
" seconds, " 23s. "
" best, " 20s. "
Boxes of 10 feet each, at 10s. 12s. 14s. or 16s. according to size.
21oz. 26oz. 32oz. and 42oz. in various sizes.

Also, CRYSTAL SHEET GLASS
16oz. and 19oz. Obscured, Matt-Surfaced, Various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from 1 to 1 inch thick

COLOURS, VARNISHES, &c.
Genuine White Lead, 22s. 6d.; seconds ditto, 20s. 6d. per cwt. Linseed Oil, Boiled ditto, Turpentine. Pale Oak Varnish, 7s. 6d.; Carriage extra. Dry and Ground Colours, Brushes, &c.
The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.
LIFT PUMPS and PUMPS FOR DEEP WELLS, PLAIN AND SCREW HANDLE WATER FAUCETS.
Cocks and Valves of every description.
Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in Exchange.
T. MILLINGTON, 87, Bermondsey-street West, London.
Established upwards of One Hundred Years.

PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS
MOULDINGS to any design manufactured at first quality yellow pine, reasonably seasoned by Patent Dessicating Process. A large stock always on hand, as per Pattern list.
FLOORING (dry): a large Stock, of various description.
MATCH BOARDING of any width.
Also,
Timber, Deals, and Mahogany, on either Wharf, or at the Docks.
JOHN BUTTY, 2 Wharf, Praed-street, and 3, Irongate Wharf, Paddington.
Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.'S
WOOD OR IRON REVOLVING SHUTTERS ARE EQUAL TO THOSE OF ANY OTHER MAKER, AND MUCH CHEAPER.
BRASS SASH-BARS, AND STALL-BOARD PLATES, AT A GREAT REDUCTION IN PRICE.
ILLUSTRATED PROSPECTUSES AND TESTIMONIALS POST-FREE ON APPLICATION AT
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CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,
FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT,
BRASS-DRAWN SASH-BARS, BRASS NAME PLATES, DOUBLE AND SINGLE ACTING SPRING HINGES, AND ALL METAL-WORK CONNECTED WITH BUILDINGS.
PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.
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THE PATENT REVOLVING IRON AND WOOD SHUTTERS,
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And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.
ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,
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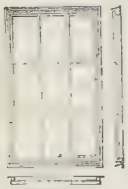
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE CUT-SCREW GEARING, 2s. 6D. PER FOOT,
AT HIS STEAM WORKS, 135, OLD-STREET.
Testimonials from Architects, Bankers, &c of their security and durability forwarded
MANUFACTURER OF METALLIC DRAWN SASH-BARS, STALL BOARD PLATES, &c
Agent for the Crystal Glass Pillars and Sash Bars.

SMITH AND McGAW,
(FROM THE GENERAL WOOD-CUTTING COMPANY)
MOULDING WORKS,
NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.
Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.
Priced List, with every information, forwarded on receipt of One Stamp.



BURT AND POTTS'S
WATER-TIGHT WROUGHT IRON WINDOW AND FRAME,
Registered April 26th, 1858,
FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.
DESCRIPTION AND PRICES ON APPLICATION.
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WATERLOW, DRAPER, AND WEBB,
MANUFACTURERS OF HOUSE AND COTTAGE JOINERY,
TREDEGAR WORKS, BOW, E.
Beg to call the attention of the Building Trade to their extensive Stock of
DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the
WAREHOUSE, 121, BUNHILL-ROW, FINSBURY, E.C.
A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

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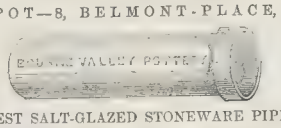
NEAR POOLE, DORSET.
LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.
SALT-GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.
The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.
List of Prices, and any information, may be obtained on application at the Works; or at the Depôt, 8, Belmont-place.

FOREST TREES and SHRUBS. — A CATALOGUE, with price affixed, of FOREST TREES, Evergreens, Flowering Shrubs, American Plants, Roses, and Rock Plants, will be forwarded, free per post, to any address, by application to JAMES SMITH, Darley Dale Nurseries, near Matlock

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany, 1s. 8d.; Wainscot, 3s.; 3-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 15s. 6d.; ½ ditto, 11s. 6d.; 1-inch Yellow, 16s. 6d.; ½ ditto, 13s. Bird's-eye Maple Veneer, 2s. Carriage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

A CORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

PREPARED FLOORING!—W. C. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	⅞	1	1¼	
Spruce	12s.	13s.	15s.	—	per square
White	12s. 6d.	13s. 6d.	15s. 6d.	18s.	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	,,

Delivery within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

ALFRED ROSLING and SONS beg to Inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 12 per cent upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF
BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above-named Premises, where, in connection with his established Yards in Great Peter-street, Westminster, and Eccleston-street, Long-acre, he is always ready to supply from old and well-seasoned stock, Mahogany, Wainscot, Birch, Deals, Elm, Timber, Boards, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertiser I know in London.

Mahogany, in log	from	0 6d.
,, board	,,	0 6
Spruce Deals	,,	2 9
Pine Plank	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11

Prepared Flooring
White ¾ in. 12s.; 1 in. 15s. 6d. Yellow.—1¼ in. 19s.

GEORGE NOKES and CO. Cambridge-street, Goldist Patterns-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES
Books of Designs of Mouldings forwarded on application.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced Prices for really useful sorts:—

¾-inch Prepared Flooring	£0 11 6 per square.
1-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 3 0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3 6 each.
Yellow Battens	11 10 0 per 120.
Mahogany Planks and boards, from 6d per foot.	

All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany
¾-inch Prepared Flooring, 11s 6d per square.
1-inch ditto, 15s per square
Yellow Battens, 11l. 10s. per 120, 12 by 2½.
Yellow Deals, from 2s. 3d. each.
Spruce Deals, from 2s. 6d each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Hollow's Mahogany Plank and Board, from 6d per foot.
Borough-road, Southwark and Elm street, Gray's-inn-lane.

FLOOR BOARDS, &c. R. SLADE begs to Inform Builders and the Trade, that he has now on hand a large assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned and ready for use. Also Mahogany, Wainscot, and all kinds of Timber required for Building Purposes. Address R. SLADE, late E. Simms, Floor Board Manufacturer, Wandsworth-road, London.

TO CARPENTERS, BUILDERS, &c.—THOMAS WILLSTON, Timber Merchant, respectfully [illegible] that he has [illegible] extensive Stock of [illegible] Timber, in readiness for delivery at the Eastern Railway Timber Depôt, Bow, [illegible] Mahogany, Wainscot, Oak, Teak, Deals, Battens, Boards, Flooring, Mouldings, &c. [illegible] Timber [illegible] Mahogany, Mouldings, &c. [illegible] forwarded.
P.S. Country orders executed with prompt attention, and all sawing [illegible] Mahogany [illegible] Mouldings [illegible] this office.

PAPER-HANGINGS. — The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS WHOLESALE WAREHOUSE, 27, GREAT QUEEN-STREET, Lincoln's-inn-fields. The LARGEST and MOST EXTENSIVE Assortment in the Kingdom, AT PRESENT CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

WALTER MACFARLANE & Co

IRON FOUNDERS AND SANITARY ENGINEERS, SARACEN FOUNDRY, GLASGOW,

PATENTEES and MANUFACTURERS of PUBLIC SANITARY APPLIANCES,

For DWELLINGS, SCHOOLS, ASYLUMS, BARRACKS, RAILWAYS, STREETS, &c.

URINALS, Single, Double, and in Ranges.

WATER-CLOSETS, Single and in Ranges.

WASH-HAND BASINS, Single and in Ranges.

WASH-FOOT BASINS, Single and in Ranges.

No. 2, Water-closet Range.

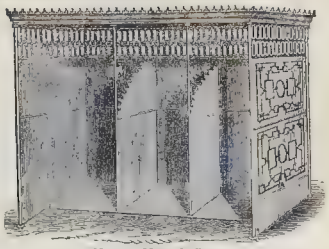
Composed wholly of CAST IRON, now in use in every large Town in the Kingdom, as well as the Colonies, and on the Continent.

LONDON HOUSE,

Mr. THOS. BEGGS, 37, Southampton-street, Strand, General Depôt for Sanitary Articles, and Plumbers' Brass Work.

Agents for the Counties of Northumberland and Durham.

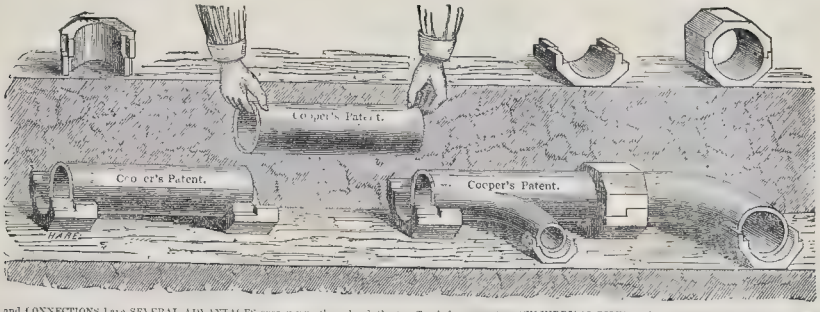
HENRY WALKER AND CO. NEVILLE IRON WAREHOUSE, NEWCASTLE-ON-TYNE.



No. 1, Urinal Range.

COOPER'S PATENT STONEWARE DRAIN-PIPES,

PERMITTING EXAMINATION AND CLEANSING, AND THE DRAIN TO BE REPLACED PRECISELY IN ITS ORIGINAL STATE.



These PIPES and CONNECTIONS have SEVERAL ADVANTAGES over every other plan hitherto offered for establishing CYLINDRICAL PIPES. They are very SIMPLE in their construction, and are respectfully submitted by the Patentee to the inspection of Architects and Builders, as specially adapted to meet their requirements. The following are some of the advantages secured by their use:—

I. They provide READY ACCESS TO ANY PART OF THE DRAIN, FOR EXAMINATION, without disturbing any other part, or joint of the invert of the drain.

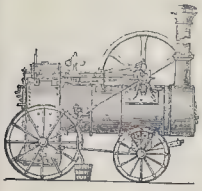
II. The Pipe, being laid ON THE UNDER CONNECTION, with the socket facing towards the outfall, and the spigot at the MIDDLE of the connection. Pipes are thereby rendered PERFECTLY STRAIGHT in the line of the drain, and the spigot of the next pipe is not quite covered by the socket of the pipe it is drawing towards it, so that the ends, when laid on an EVEN SURFACE AT THE MIDDLE OF THE UNDER CONNECTION, will necessarily form AN IRREGULARITY TO THE TOP OF THE DRAIN, thereby obviating the necessity of the use of the rule, and making the invert PERFECTLY FAIR AND EVEN. Having but ONE JOINT to each pipe, and supported on the connection, they are not liable to be obstructed or injured by running sand, sinking of the earth, or the action of external water.

III. By the USE of the under connection SINGLY, THE FULL ADVANTAGE of sockets, single or double, is SECURED TO EVERY PIPE.

SPECIMENS OF THE PIPES AND CONNECTIONS TO BE SEEN AT THE CRYSTAL PALACE.

Orders received by Mr. J. H. RIDDELL, Superintendent of the Court of Inventions, Crystal Palace, and 2, Scott's-yard, Bush-lane, Cannon-street, London, E.C.; by Mr. THOMAS G. COOPER, 12, Alban-square, Old Bethnal-road, E.C.; and by the Patentee, Mr THOMAS COOPER, Brick and Pottery Factory, Wootton, Isle of Wight. — COMMON STONEWARE SOCKET-PIPES, SPLAY and PLINTH BLOCK MADE TO ORDER.

MANUFACTORY: POOLE, DORSET. —— LONDON DEPOT: 66, WAPPING WALL.

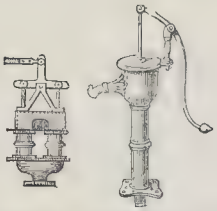


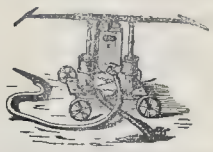
ENGINES, SINGLE & DOUBLE PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.





HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

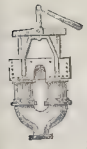
BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth

HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices

MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES.
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

SINKS, URINALS, &c. IN GLAZED STONEWARE.

DOULTON AND WATTS,

LAMBETH POTTERY,

LONDON.

HOPPER BARGES FOR SALE.—FOR SALE, by TENDER, TWO HOPPER BARGES, oak framed, [illegible] and copper fastened by Messrs. [illegible] the Lord Warden and Admiralty Hopper Barges, which are in good repair, were built in the year 1856, and are calculated to hold [illegible] Solid Sailed Tons each. Tenders for the said Barges are to be delivered to the Master of Dover Harbour, at his Office in Dover, on or before the 1st NOVEMBER next, on which Tenders will be opened, in the Lord Warden and Assistants at the Office in the Pier, on the 18th of the same month, at the Lord Warden and Assistants, but not bind themselves to accept the highest or any Tender. The Barges, which [illegible] Plans, Elevations, and Specifications may be seen by application to Mr HOGG, Harbour Master, or Mr. LUCETT, Assistant Engineer, at Dover aforesaid, Offers to be delivered only to the Harbour Master, by whom alone information may be obtained from those Officers, or from T. THOMPSON, Registrar, Dover Harbour.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

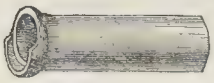
MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S
IMPERIAL POTTERIES, LAMBETH.



S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

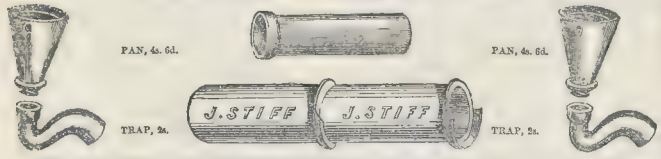
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. KELLAWAY and SMITH'S, Waterloo-bridge Wharf, Greenwich.
Mr. LAVERS'S, Downgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 62, Bridges-street, Covent garden.
Mr. HENRY TURNER, 2, South Wharf, Pratt-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

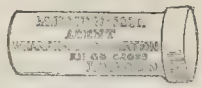
Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Worthy Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	20-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	3s.	2s.	2s. per foot.

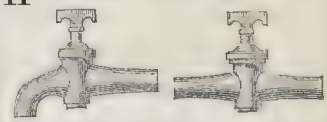
The thickness of each Pipe is commensurate with its diameter.
Connection can be made with the sewer at any time.
And the Pipes guaranteed to stand better than any Brickwork.

BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 103, Drury-lane, and Spa road, Bermondsey.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes—and also Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London.

PRIZE MEDAL, CLASS 9.

HIGH-PRESSURE VALVE COCKS.—

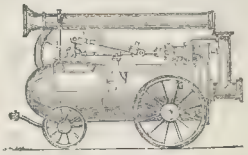
LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under high pressure, varying from 10 to 350 feet, their durability and simplicity of construction [illegible]

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Etruscan Heat, Scalding, and other Closets, upon economic principles, suitable for [illegible] cottages, asylums, &c.

CHARLES LAMBERT and SON,
Brass and Iron Founders, Short street, New cut, Lambeth.



PORTABLE ENGINES, from 4 to 25-Horse

Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without [illegible] in remarkable terms. Apply to T. CRESSWELL, Engineer, &c., Blackfriars road, London.

FOR SALE, SEVEN PORTABLE

STEAM ENGINES, from Eight to Twenty-five Horse Power, Cornwall, at No. 4, Mill place, Commercial-road. For further particulars apply to Mr JOHN HALL, 4, New Law buildings, E.C.

WARNER'S PATENT

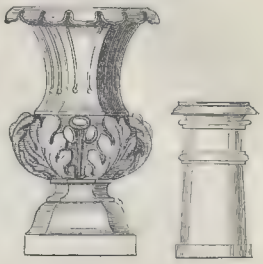
VIBRATING STANDARD PUMPS—PATENT CAST-IRON PUMPS fitted with I. W. and SON'S Patent Improvements and Fasteners, which cannot be lost, for lifting, cottages, and with lead according to

Depth or Length of			£ s. d.
[illegible]	[illegible]	[illegible]	
24 in. short barrel	1 in.	Fitted for lead,	1 16 0
24 ,, long	1	3	2 14 0
3 ,, ditto	1	6	2 8 0
30 ,, with	1	6	2 12 0
1 ,, ditto	2	3	3 3 0
24 ,, short, with 15 feet of iron pipe			
[illegible]			2 14 0
24 ,, long ditto with			2 18 0

The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of copper and cistern warehouses with soft water from underground tanks, cesspools, farmyards, and plant houses, they may be fixed, when desired, under the stairs. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, of of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, vanes, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

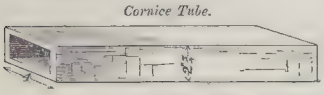
THE AYLESFORD POTTERY COMPANY

Offer to the Public Hollow Terra Cotta Bricks and Tiles, at Prices greatly to the advantage of Architects and Builders, as they can be most beneficially applied to Projections and Cornices of every kind in Brick Buildings where Stone is usually employed. They are relatively stronger, and the Prices are about two-thirds the cost price of Stone, and require no labour to fit them, as they work regularly with Common Bricks.



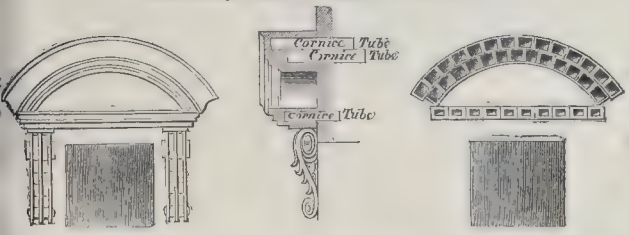
SOLID TERRA COTTA BRICKS MADE TO ANY PATTERN.

Cornice Tube.

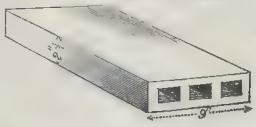


In Lengths, 1 *ft.* 6 *in.*
,, 2 *ft.* 0 *in.*
,, 2 *ft.* 6 *in.*

Sketch, showing Cornice Tubes as used in Construction.

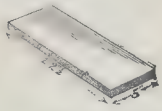


Flat Hollow Tiles, for Projections, Cornices, or Covering to Flues.

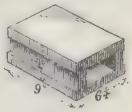


In Lengths:—
0 *ft.* 9 *in.*
1 *ft.* 2 *in.*
1 *ft.* 6 *in.*

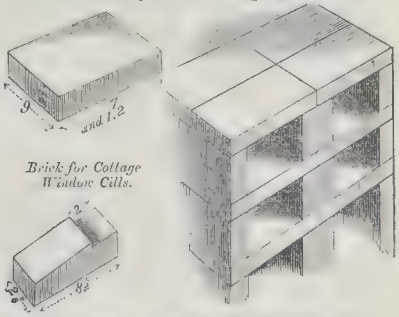
Sole Tiles for Flat Roofs, and Dubbing out Walls or Projections.



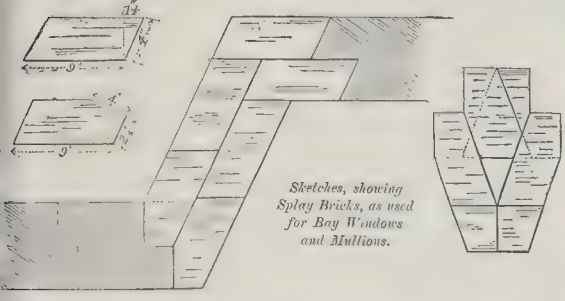
Hollow Brick, for Fire-proof Floor & Cellar Roofs.



Solid Blocks for Flues or Fireproof Floors.



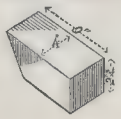
Sketches, showing Splay Bricks, as used for Bay Windows and Mullions.



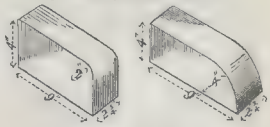
Brick for Cottage Window Cills.

Besides the following Sketches, Copings will be supplied to any Pattern, to suit the taste of the Architect.

Splay Brick for Projections, Cornices, &c.

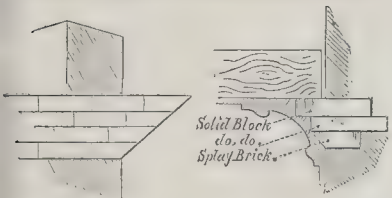


Round-nosed Bricks for Angles of Walls of various Radii.

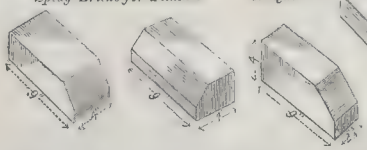


Invert Block for Sewers.

Sketches showing Splay Bricks as used in Projections.



Splay Bricks for Plinths.



Splay Brick for Jambs or Quoins.

Window Splay Bricks, dressed. Plinth Bricks, sunk and plain. Machine-made Best White Bricks. Ditto, Paviors. Ditto, Pink.
Ditto Radiated Culvert Bricks, for Sewers.
SUPERIOR GLAZED STONEWARE DRAIN-PIPES, BENDS, &c. AGRICULTURAL DRAIN-TILES, WITHOUT SOCKETS.
PAVING QUARRIES OF VARIOUS SIZES; also RIDGE TILES.
SPECIMENS OF THE VARIOUS ARTICLES TO BE SEEN AT THE WHARF, BELVEDERE-ROAD, LAMBETH, S.
Applications for Prices and Particulars to be made to
MR. PILTON, Agent at the Aylesford Pottery Wharf, Belvedere-road, Lambeth, S.
MR. FINLAY, Agent at the Pottery, Aylesford, near Maidstone, Kent.

SALES BY AUCTION.

MR. EDWIN WHITE will SELL by AUCTION, at 33, Birdcage-walk, Hackney road, at ELEVEN o'clock, the whole OF Heland Edwards's well-seasoned STOCK of Spanish and Honduras MAHOGANY, WALNUT, OAK, BIRCH; 1,000 dry Pine Planks, 600 Pitch Pine Planks, the Pit Saws, &c. Catalogues at the Auctioneer's, 12, Holborn-bars.

ON TUESDAY, OCTOBER 19, WITHOUT RESERVE.

MR. EDWIN WHITE will SELL by AUCTION, at his ROOMS, 12, Holborn-bars, at ONE o'clock, TWO GENTLE STOCKS of PAPER HANGINGS, comprising about 8,000 pieces of first-class golds, flocks, satins, marbles, &c.; also about 70 statuary, black, and veined marble chimney-pieces.—Catal gues free for a stamp.

FOR SALE by PUBLIC AUCTION, in the SALE-ROOM, at F. K. BARNES and SON'S TIMBER-YARD, CANON'S MARSH, Bristol, on WEDNESDAY, the 20th OCTOBER 1858, at TWELVE o'clock precisely,
FOR ACCOUNT OF IMPORTERS,
55,000 Spruce Deals and Battens, *ex Cargoes per Rufus Choate, Providence, Marie, &c.*
4,000 Quebec Pine Deals and Plank.
5,000 Pr ssian Red Deals
5,000 Cr wn Archangel M.ll sawn Deals and Battens
10,000 Onega Red Deals (new importation)
1,500 Fresh wedish Red Deals and Battens
1,000 Gothenburg Redwood Boards
400 Loads Quebec Yellow Pine Timber.
100 Loads Pr ssian Three Board Timber
50 Loads Large Fresh Birch
200 Loads and Swedish and Finnish Timber.
10 Logs Green Heart and Dantzic Oak Timber.
1,000 Quebec Pine Staves
3,000 West India Puncheon Staves.
10 Pattoons Lathwood.
10,000 Prepared Flooring Boards.
With other Goods
Catalogues will be issued on the week of sale
F. K. BARNES and SONS, Brokers.
Canon's March, Bristol, October 8, 1858.
N.B. The brokers annual buyers, that as these goods will be sold in the Sale-room, it is advisable for them to look over the cargoes the day before the sale.

CAMDEN TOWN.—To BUILDERS, TIMBER and IRON DEALERS, &c.—Extensive Surplus Materials and stores

PULLEN and SON are directed to SELL by AUCTION on the PREMISES, Camden-street, Camden-town, opposite Great Prince-street Chapel, on WEDNESDAY, OCTOBER 20th, at TWELVE, a large quantity of valuable SURPLUS MATERIAL and STORES, comprising about 3 squares of deals and boards, 3 inch to 1¼ inch, 5,000 feet of flooring, 3 in feet lengths, battens, 3-coot feet pale boards and plank, 25 loads of timber in useful scantling, mahogany, and other moulded, new and second doors, panelling and framing, shutters, large folding gates, curves, and turned oak balusters, columns, spandrils, and dressings of a large staircase, 250 scaffold poles, 300 scaffold boards, pulleys, lobbs, trestles, wire spears and sieves, centre turntables, 12 cwt. sash bars, 12 carpenters' work benches, 200 feet of iron rain water pipe and area guttering, drain-pipes, gun-irons and bolts, chimney pots required and other stores, traps, cast iron, pulleys, sashes, sash cords, and a useful building waggon and effects. May be viewed the day previous. Catalogues had of PULLEN and SON, 80, Pe ton-street, Coppegate

Freehold Building Land, Battersea

MESSRS. GLASIER and SON will SELL by AUCTION, on TUESDAY, NOVEMBER 2nd, at the RAILWAY HOTEL, Nine Elms, at SIX for SEVEN o'clock in the evening, in lots, TWENTY SEVEN PLOTS of valuable FREEHOLD BUILDING LAND, in convenient and most eligible situation on the south side of the Lower Wandsworth-road, close to the Eagle, opposite the Royal Park, and near the Chelsea Bridge and Crystal Palace Railway Termini, exceedingly well adapted for erection of family residences.—May be viewed, and particulars with plan had of Messrs. FRED. BOLTON, and FILDER, Solicitors, 1, New-square, Lincoln's-Inn; at Garraway's; and of the Auctioneers, 41, Charing-cross.

GENUINE BUILDER'S STOCK AND PLANT, PUBLICO

MR. F. HALL has been favoured with instructions to SELL by AUCTION, on TUESDAY, OCTOBER 19, at TWELVE for ONE precisely, on the PREMISES, Bull's Wharf, Upper-road, Pimlico, the entire genuine PLANT and surplus STOCK of a Builder, the premises being required for other purposes: comprising new deals, planks, and battens, cut and unent; a large quantity of Spanish and Honduras pieces and boards; a large quantity of dry Spanish cedar; ornamental chimney-pots, drain pipes, tiles and guttering, several tons of new iron, 5 tons of old iron, quantity of new sheet lead and pipe, perforated and other zinc, 1 cwt. of sash fastenings, and doors, sash line, pulleys, sash blocks and rear complete; several crates of new glass, a large quantity of rough plate glass, excellent van, truck, and two 3-horse carts, harness and saddlery, scaffolding poles, ladders, several hundreds of gall iron hoops, two large brass chandeliers, bedsteads, large quantity of cast iron rain-water goods and soil pipes, patterns, bench, vice, adjustable floor shutes, new iron gates and palisading, and every description of building materials, and effects. May be viewed two days preceding and morning of sale, and catalogues had on the Premises, and of the Auctioneer, Chester street, Kennington-l.

KENSINGTON.—A VALUABLE FREEHOLD ESTATE, presenting a rare opportunity for building first-rate ground rents, being convenient to Pleasure-gardens, Railway Stations, and the Parks, and comprising Nos. 1 to 6, Grosvenor-villas, Addison-road, Kensington, and the Mall, Notting-hill, Arnold-pits, and Arnold-place, with 4 large private roadways, with gardens, producing a rental of £182 per annum, which is now below the present annual value

MR. ROBERT REID will SELL, at Garraway's, on FRIDAY, OCTOBER 29, at TWELVE for ONE precisely, in two Lots, a very valuable ESTATE, entirely freehold, except as to a small portion nearly equal to freehold, being copyhold, subject to a nominal quit-rent and fine certain, situate within one hundred yards of the Bayswater-road, being on the east side of the Mall, Kensington Gravel pits, and occupying a frontage of 216 ft. 6 in therein, and a depth on the south of 125 feet, and on the north of 116 ft. 6 in. extending to the Mall, which separates the estate from the beautiful and select residences in Pembroke-gardens. The superior class of residences recently erected, and now in course of construction on the south side of the Mall and the improvements in the immediate neighbourhood of the estate, render it exceedingly favourable for secure investment, and entitles the attention of the capitalist, whether for the creation of freehold ground rents, or for building. The estate may be viewed by permission of the tenants.—Particulars may be had of Messrs. R. T. Bayley and Dixon, Solicitors, 3, Bartlett's-buildings, Gray's-inn; at Garraway's; and of Mr. ROBERT REID, 48, Great Marlborough street.

Clearing-out Sale, at Newman wharf Thames-street, Greenwich, of the Plant, Premises, Lease to-be-had, and Effects.

MESSRS. HUMPHREYS and ROBINSON are instructed to SELL by AUCTION, on the premises, on TUESDAY NOVEMBER 2nd, at TWELVE, the remaining PORTION of the EFFECTS; comprising a valuable 14-horse power horizontal high pressure steam engine and boiler, lifting brass crab, carpenters' bench, black smiths' forge bellows, weighing machines, vices, beam scales, a small steam-engine, with tubular boiler, about 3-horse power, portable cranes, portable iron staircase, iron fencing, drilling machine, and numerous other effects. Catalogues may be obtained of the Auctioneers, at their Offices, 3, London-street, Greenwich.

TO CABINET AND PIANOFORTE MAKERS, BUILDERS, CONTRACTORS, AND OTHERS

MR. LEREW will SELL by AUCTION, on the PREMISES, 42, Union-street, Soho-square, on MONDAY, OCTOBER 18th, at TWELVE, 200 pairs white CHRISTIANA DEALS, 1 and 2-inch Planks, Boards, and Battens, about 6-inch Pine and 3-inch Red Deals, Mahogany, Cedar, and Pine Planks and Boards, Stock of prepared Pedar and white Pine Linings and Bench Plank, 400 feet Mahogany, Rosewood, Yew, and Walnut Quarter-ing, Oak veneers, white, and pine cut Deals and Panel Linings, Seasoning, Carpenters' and Joiners' Benches and Tools, Fittings, and other Effects. May be viewed the SATURDAY prior, and catalogues had on the Premises, and of Mr. GLOVER, Auctioneer, Cardington-street, Hampstead-road, near the Euston-station.

SALES BY AUCTION.

NEWINGTON GREEN and MILDMAY-PARK, in the parish of St. Mary, Islington Freehold Residences, let on short leases, two valuable pieces of Building Land, and well secured Freehold Ground rents, producing together in the names of about £1,800 per annum

MESSRS. DANIEL SMITH, SON, and OAKLEY have received instructions to OFFER for SALE by AUCTION, at the MART, near the Bank of England, on TUESDAY, WEDNESDAY, and THURSDAY, the 16th, 17th, and 18th days of NOVEMBER next, in numerous lots, the whole of the NEWINGTON-GREEN ESTATES, belonging to the late Lady Mildmay. It comprises twenty-two desirable freehold residences, situate on the south and east sides of the Green, let on short leases, at low rents, amounting to about £60 per annum, but of the estimated annual value of about £800. About five acres of freehold land, in the Green-lanes and close to the New River, now used as a hay field, but let on a building lease A valuable pasture field, containing about three and a half acres, well adapted for building purposes, and now let to a yearly tenant, situate to the east of the Green, and near to Mildmay-road. A ground rent of £152, per annum, arising from a valuable piece of building ground, situate near the Green-lanes, and adjoining the New River, containing between six and seven acres, let on an agreement for building semi-detached third rate houses, the leases to expire at Lady day, 1864. Also fresh 11 ground rents, amounting to £287 per annum, well secured upon handsome newly built family residences, dwelling-houses, semi detached villas, four public-houses, &c.; situate close to the New River, now used as a hay field, but let on a building lease terrace, Mildmay villas, Mildmay place, Mildmay-park terrace, Johnstreet, Railway place, Woodville road, Bolingbroke terrace, Mildmay-road, Clarendon-terrace, Clarendon-villas, Lorn-terrace, and nursery ground in the rear; South-grove Lodge, South-grove West, Woodland-terrace, Mildmay-street, ground and workshops in the rear, Mildmay-park, the Mildmay, Clarendon, Radnor, and Fox Taverns, Mildmay-cottage, and houses, grounds and workshops adjoining the New-terrace; plot of ground in the rear of St. Jude's Parsonage and Schools, a large house and premises known as Spring gardens, the Weavers' Arms, &c. The greater part of these valuable properties ground-rents are secured by leases, which will expire at Christmas, 1951; and it is intended to sell the whole in lots to correspond with the leases. The neighbourhood is desirable, and most of access, either by omnibus or railway, a station having been recently constructed on the North London Railway, immediately on this property. Printed particulars (when ready) may be had of Messrs. BRAY, WARREN, HARDING, and WARREN, Solicitors, Great Russell-street, Bloomsbury; Messrs. BENNETT, FIELD, and DAWSON, Lincoln's-inn; Messrs. BLAKE, TYLEE, and TYLEE, 14, Essex-street, Strand; JAMES WICKENS, Esq. 1, Chandos-street, Cavendish-square; Messrs. BOODLE and FARRINGTON, 9, Davies-street, Berkeley-square; Messrs. LEMAN and CO. 51, Lincoln's-inn-fields; Messrs. BELL, STEWARD, and LLOYD, 45, Lincoln's-inn-fields; Messrs. BISCHOFF, COXE, and POMPAS, 19, Coleman-street; Messrs. MERRIMAN and DUNNING, 35, Austinfriars; Messrs. ALDRIDGE and EROMLEY, 1, South-square, Gray's-inn; GEORGE POWNALL Esq. 60, Lincoln's-inn-fields; at the Mart; and of Messrs. DANIEL SMITH, SON, and OAKLEY, Land-agents and Surveyors, 26, Waterloo-place, Pall mall.

Most eligible Building Investments.—Borough of Dorchester.—

TO BE SOLD by AUCTION, in Lots, by

MESSRS. BAKER and ENSOR, at the GUILDHALL, on THURSDAY, the 28th day of OCTOBER, 1858, at ELEVEN o'clock in the forenoon subject to such conditions as will be then and there produced, all that PIECE or PARCEL of PASTURE LAND, known as and being part of New Mistern Field, within the said borough, containing about 4a. 2r. 33p. situate on a gentle slope, and well adapted for building purposes. This land is the property in possession of the Corporation of Dorchester, and is offered for sale on building leases, with the approval of the Lords Commissioners of her Majesty's Treasury, for absolute terms of ninety-nine years, subject to certain fixed ground rents. The houses and offices to be built on the several lots will be divided into classes, to meet the growing requirements of the town, and there is every reason to believe that such a scheme for building as that now offered will be highly remunerative. Plans and specifications for the intended buildings, with the conditions upon which the auction will be held, may be seen on application at the Corporation Office, in Dorchester, on and after the 18th day of OCTOBER instant; and from him or Mr. HENRY HALL, No. 15, Duke-street, Adelphi, London, further particulars may be obtained.

Dorchester, October 5, 1858

Building Materials, On hand at once, near Westminster Abbey

MESSRS. EVERSFIELD and HORNE are instructed by the Governors of the Grey-Coat Hospital, to SELL by AUCTION, on the PREMISES, on SATURDAY next, OCTOBER 16, at TEN for ELEVEN o'clock, the MATERIALS of TWO SMALL HOUSES, Nos. 4 and 5, Orchard-street, Westminster. Catalogues may be had of the Auctioneers, 40, Parliament-street; or Coal Exchange

TO BARGE OWNERS, LIGHTERMEN, AND OTHERS.

MESSRS. EVERSFIELD and HORNE are instructed by the Mortgagees and others, to SELL by AUCTION, at CRANES WAYS, St. Rankside, Southwark, on TUESDAY, OCTOBER 26, at TWELVE for ONE precisely, the undermentioned SAILING BARGES, viz.—*Southampton*, 70 tons; *Leicester*, 70 tons; *Joseph and Maria*, 50 tons, with their standing and running rigging, stores, &c. And the noble Barge called the Peak Dale also, the Barges *Ann and Rebecca*, sailing Barge, and several open barges, suitable for the river and coasting, varying from 42 to 70 tons.—May be viewed four days previously; and catalogues had at the place of sale; also of CHARLES BROWNE, Esq. Secretary of the Whittington Life Assurance Company, 6, Moorgate-street, and of the Auctioneers, Coal Exchange, and 40, Parliament-street.

BUILDERS' PERIODICAL DISTRICT SALES. The BUILDERS' SALE GROUNDS, MARYLEBONE-ROAD, adjoining the Workhouse, are open to RECEIVE Goods for the next Periodical SALES by AUCTION on PRATT-STREET, which are intended for the REGULAR MONTHLY SALES, will be received UNTIL the LAST TUESDAY in each Month, and

SPECIAL NOTICE IS HEREBY GIVEN, THAT

MESSRS. BOOTH and CO. will SELL by AUCTION, on the same Premises, on TUESDAY, the 9th Day of NOVEMBER, 1858, at TWELVE for ONE o'Clock, a Valuable Collection of BUILDERS and ENGINEERS' STOCK, STORES, and TACKLE, selected from the Registers of the Building Materials Registry Office, 19, Eastcheap, E.C. where all communications are requested to be addressed.

The "Builder's Salesman" can be had in application; also Catalogues, at the Auction Mart, Per Post for One Stamp.

TO BUILDERS and OTHERS.—DOVER-COURT NEW TOWN and SPA.—A short distance from the town and port of Harwich, and within a few minutes' walk of the Dover-court station of the Eastern Counties railway, by which passengers are conveyed to the City in an hour and a half, and to the Metropolis in about two hours, by several other trains at short intervals in the day. The best and healthy situation on the shores of the German Ocean, on a plateau of the cliffs sixty feet above high water mark, and embracing other advantages sought for in a seaside residence, including the close proximity to the celebrated Spa. The attention of builders and others is particularly requested to the sites offered in this rising place. Terms for building leases very moderate; and money advanced.—For particulars, apply to Mr. J. H. ROWLEY, Auctioneer, Land Agent, Builder, Real Estate Agent, and Valuer, Harwich, Essex; or to Mr. H. DARKEN, Architect, Harwich and Dover-court.

FREEHOLD GROUND, CHANCERY-LANE

The Commissioners of Sewers of the City of London hereby give notice, that they will meet in the GUILDHALL of the said City on TUESDAY, the 26th day of NOVEMBER next, at TWELVE o'clock at noon precisely, to receive proposals for taking on BUILDING LEASE, for a term of eighty years, at a ground rent, a certain PLOT of FREEHOLD GROUND, situate on the west side of Chancery-lane, and adjoining the Law Union Fire and Life Insurance Office. Further particulars and forms of proposal may be had on application at the Office, where a plan of the ground may also be seen. The Commissioners will receive sealed tenders of the premises for such sum as they shall think fit, but they do not hold themselves bound to accept any proposal unless accompanied by a deposit of £100. Persons making proposals for the said land must attend personally, or by an authorized agent, on the day appointed to open and read the proposals, or no offer accepted will be regarded. The deposit money of the person whose offer is accepted will be required to be made an agreement within

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 7th October, 1858

The extensive Brick, Pottery, and Cement Works of the late Thomas Cubitt, esq. at Burham, on the Medway.

MESSRS. FULLER and HORSEY are instructed to negotiate the SALE, by PRIVATE CONTRACT, of the extensive BRICK, POTTERY, and CEMENT WORKS, formerly by the late Thomas Cubitt, esq. within the last eight years. The Burham works and clay-fields occupy a site of about eighty five acres partly freehold and partly leasehold, on the banks of the River Medway, and free from Medway river dues. The distance from London is about thirty-eight miles, and the Snodland or Aylesford stations on the North Kent Line are within two miles of the property. The surface of the land slopes at an inclination of about 1 in 80 towards the river, and the pits having been formed near the summit, but little haulage is required. The clay is known as the Gault Clay, and extends beneath the entire surface to a depth of about 120 feet, affording a supply more than sufficient for the next century. The Gault clay requires a smaller (partly of coarser) admixture than any clay near London, and the Burham works are nearer to the London markets than any other where the Gault clay is found. The cost of carriage to London is only 6d. per ton. The works were established by Mr Cubitt for his own requirements exclusively, and both money and skill have been unsparingly expended for the purpose of rendering them complete. The principal building is upwards of 400 feet in length, chiefly three stories high There are four pottery kilns within the building, and also drying apparatus consisting of warm water pipes Outside the building, and conveniently placed, are three Suffolk kilns (two for 80,000 each and one for 30,000); two waggon-top kilns, 50,000 each; twelve Scotch kilns, 90,000 each; and three ditto of 60,000 each; also, seventeen open-roofed hack-grounds, in capital order

The plant is capable of producing 2,000,000 bricks per annum, in addition to an almost unlimited quantity of drain-pipes, tiles, and fancy goods of various kinds, and consists of seventeen brick and tile machines, Ainsley's rollers, with Mr. Cubitt's improvements, and the requisite pug-mills, worked by a pair of condensing steam engines, by Tayleur and Field, of 25 horse power, with boilers, seven eight inch main shaft, 530 feet in length, and gearing. There are upwards of 100 different sorts of dies for tubes, pipes, and fancy goods, hollow tiles, chimney pots, and tiles coking ovens, wash-mill, pumps, and pipes worked by a portable steam engine by Clayton and Shuttleworth. There is a separate wharf for the use of the cement works. On the works is a newly-erected residence for general manager, well placed, and surrounded by a large and productive garden. A newly erected house for foreman of cement works, three cottages, stabling, and a mess-room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-acre field of excellent sand for brick-making purposes, and a wharf for landing it As before stated, these works were established to supply Mr Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character; but the facts that the Gault clay is acknowledged to be the best for brick-making purposes, that this field is the nearest yet in existence to the London market, that ceases can be procured with it being subject to City of London clock dues, that all other raw materials can be obtained on the very best terms, that the machinery is of the highest character, most judiciously planned, and that for its working skilled labour is not required, all serve to show that a most profitable and extensive trade may be carried on in the manufacture of bricks, drain-pipes, tiles, and pottery.

For further particulars apply to Messrs. FULLER and HORSEY, Billiter-street.

NORWOOD HILL.—BUILDING LAND TO LET, very cheap, on the high road. Water and gas, with the 4 p.m. train from Cannon-street. A highly attractive part; six minutes' from the Station and Crystal Palace. Money advanced.—Apply to Mr COOK, Lorraine-cres ent, Kennington-park

TO BUILDERS.—Some very eligible FLOTS of LAND at Tules Hill, Lower Norwood, near Roupell Park, suitable for the erection of good ten-roomed VILLAS; also some eligible lots close to the Railway Station at Harrow, suitable for Six-roomed Villas. TO BE LET on Building Leases for ninety nine years. Liberal advances to respectable builders.—Apply at the Office of the United Building and Investment Company (Limited), 29, Poultry

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes situate on Clapham-common, on the high road from Clapham to Wandsworth For particulars apply to JAMES CROWDY, Esq. 17, Serjeants'-inn, Fleet-street, E.C.

MANUFACTURING PREMISES, Belvidere road, Lambeth.—TO BE LET on LEASE, with immediate possession, the extensive MANUFACTURING PREMISES known as Jordan's Patent Wood-carving Works; comprising several workshops, and large warehouse, a noble show-room, capital offices for clerks and principals, dwelling-house, engine and boiler house, stabling, and large yard.—Apply to Messrs FULLER and HORSEY, 13, Billiter-street, E.C.

MANUFACTURING PREMISES, Southwark, TO BE LET, comprising a factory of two floors, engine and boiler house, and two floors above; warehouse, yard, stable, and two workmen's cottages. Rent £85 per annum. The engine, boilers, and shafting on the premises to be purchased by the incoming tenant at a valuation. For further particulars apply to FULLER and HORSEY, 13, Billiter-street, E.C.

AMIAS'S CHARITY.—TO BE LET, on a BUILDING LEASE, in ONE or TWO LOTS, TWENTY ONE HOUSES in George-street, Old-street, St. Luke's. For particulars apply to Mr POWELL'S Surveyor, 10, Lincoln's-inn-fields, W.C. where a plan of the property may be seen.

TO ARTISTS, SCULPTORS, & OTHERS. TO BE LET, a large and well-lighted GALLERY, at the West End, in a leading thoroughfare, peculiarly well adapted for the display of pictures, sculpture, and works of art.—Apply to Messrs BOOTH and CO. 14, Southampton-street, Bloomsbury

TO COUNTRY WORKING CARPENTERS.—That 4 Allotments, in lots of one-fifth of an Acre each, suitable for Building Sites, or Gardens, situate at the Village of BRIGHTON GREEN, near Cuckfield, 10 miles from Brighton, and 40 miles from London, and which are considered very eligible for Investment, several Lots of which will be sold the same, in very convenient Lots, and Lots adjoining at 1 per cent per Month.—Address, Lewes, 79 Street

TO MANUFACTURERS and OTHERS.—EXTENSIVE PREMISES TO BE LET on lease, suitable for Timber Merchants, Builders, Manufacturers, Wharfingers, Coal Merchants, &c. comprising a substantial Warehouse, Counting-house, Yard, Stabling, and Workmen's Cottages, with a Private Dwelling-house, spacious sheds and lofts, veneer rooms, rasping, stages for piling deals, &c. conch house and stable, and a large open yard, with a convenient repair shop for the use of tenants and others.—Apply to Messrs. ELLIS and SON, Auctioneers, 4, South-street, Fenchurch-street, City, E.C.

BUILDING LAND TO BE LET, on Lease for Ninety nine Years, fronting the Great Northern Hotel, Gough-square, St. Pancras, King's-cross.—Apply at 23, Martin's-lane, Cannon-street, City.

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The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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BUILDERS' BENEVOLENT INSTITUTION.—The ELEVENTH ANNUAL DINNER in aid of the Funds of the above named Charity, will be held at the LONDON TAVERN, on THURSDAY next, the 28th instant, Mr. Alderman W. CUBITT, M.P. in the chair—having kindly consented to fill that office, in consequence of the death of the Patriot of the Poor, Mr. Thomas Piper.

STEWARDS.

Armani, Mr. A. N	Looker, Mr. R. B.
Abbott, Mr. James	Lucas, Brothers, Messrs.
Ashby, Mr. P.	Morris, Mr. J.
Bell, Mr. G. S.	Myers, Mr. J.
Bird, Mr. Stephen	Newson, Mr. J. Jun.
Bird, Mr. George [Treasurer]	Nicholson, Mr. D. J.
Bird, Mr. Stanley	Nicholson, Mr. Benj.
Bird, Mr. Joseph	Norris, Mr. W.
Burton, Mr. W. S.	Nutley, Mr. J. H.
Chader, Mr. Henry	Parnell, Mr. H., D.S.
Coles, Shadbolt, and Co. Messrs.	Peters, Mr. William
Collis and Sketchley, Messrs.	Peters, Mr. Joseph
Cowie, Mr. Thomas	Roberts, Mr. Richard
Cullingford, Mr. W. H.	Robinson, Mr. A. A.
Davis, Mr. J.	Rose, Mr. Alderman W.
Dove, Brothers, Messrs.	Sapwell, Mr. J.
Dunthorne, Mr. W.	Stanton, Mr. Alfred
Fish, Mr. Charles	Stanton, Mr. Thomas
Freeman, Mr. J. B.	Stanton, Mr. C. Spencer
Grayson, Mr. G.	Smith, Mr. George
Greaves, Mr. Richard, M.P.	Stephens, Mr. R. J.
Gwilt, Mr. Alfred	Strange, Mr. William
Head, Mr. G.	Stirling, Mr. Thomas
Head, Mr. G. Jun.	Taylor, Mr. James
Head, Mr. R.	Thorn, Mr. J.
Helling, Mr. J. N.	Todd, Mr. William, Jun.
Hogg, Mr. J.	Todd, Mr. E. H.
Howard, Mr. Thomas	Trickett, Mr. S.
Hutchins, Mr. William	Venables, Mr. S.
Jackson, Mr. W. H.	Webster, Mr. John C.
Jacka, Mr. Thomas	Wells, Mr. William
Jay, Mr. John	Weston, Mr. J.
Jennings, Mr. George	Williams, Mr. J.
Langridge, Mr. H.	Yeo, Mr. Robert
Lee, Mr. William	

From whom Tickets may be obtained, 21s. each; also of the Treasurer, Mr. GEORGE BIRD, 38, Bedford-square; the Secretary, at the Office; and at the London Tavern. A. G. HARRIS, Secretary.
Office, 19, Southampton-street, Bloomsbury.

EVENING CLASSES in KING'S COLLEGE, LONDON.
The following CLASSES will be OPENED on MONDAY, OCTOBER 25
Divinity—The Rev. Prof. Plumptre, M.A.
Latin—The Rev. C. U. Dasent, M.A. and J. Lamb, esq.
Greek—The Rev. J. C. Rose, B.A. and J. Lamb, esq.
French—Prof. Marsette, Mons. Stievenard, and Mons. Thibaudin.
German—Rev. Dr. Wintzer
English Language and Composition—Henry Morley, esq., Associate of King's College, London.
History and Geography of England—Dennis Stanfield, esq., B.A. and William Hughes, esq. F.R.G.S.
Mathematics—Rev. T. A. Cock, M.A. and Rev. C. Elsee, M.A.
Arithmetic and Bookkeeping—John Hall Stocker, esq. M.A.
Commercial Contracts and Economical Science—Prof. Leone Levi.
Drawing—Prof. De la Motte
The Elements of Chemistry—Prof. C. L. Bloxam.
The Prospectus, containing full particulars of the subjects for study, the Books to be used, and the Fees and Certificates to be awarded, may be obtained by application to J. W. CUNNINGHAM, esq. Secretary, King's College, London.
R. W. JELF, D.D. Principal.

COMPETITIONS.

HANLEY CEMETERY.—Architects and Surveyors intending to prepare DESIGNS for this CEMETERY, may obtain plans, &c. for 2s. 6d. after OCTOBER 25, by applying to E. and F. N. SPON, 16, Bucklersbury, London; or post free, by sending 2s. 6d. in stamps. The charge made by the Burial Board is 10s.

COMPETITIONS.

SCARBOROUGH.—The Building Committee of the Northern Sea-bathing Infirmary are prepared to receive DESIGNS from Architects for an INFIRMARY, to be erected at Scarborough. 50*l.* will be given for the best, and 25*l.* for the second best plan. The premium of the successful architect to be merged in his employment, provided his plan is adopted; and carried out on the ground, may be had on application to Mr. W. LOWNSBROUGH, 6, Rutland-terrace, the Secretary. It is thought need hardly be added to intending to compete as well as the general Committee, to be sent in (carriage paid) to Mr. WM. ROWNTREE, Newborough-street, Scarborough, not later than SATURDAY, the 13th of NOVEMBER. T. H. CROFT, Hon. Secretary.
Scarborough, October, 1858.

CONTRACTS.

WAR DEPARTMENT WORKS.—To BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Works, Pall-mall, London, by SATURDAY, the 30th day of OCTOBER, 1858, for the ERECTION of NEW STABLES and TAILORS' WORKSHOPS, at PIERSHILL BARRACKS, EDINBURGH. The Plans, Specification, and Conditions of Contract may be seen on and after the 18th instant, at the Office of Works, Edinburgh.
Tenders will be received at the Office of Works, Pall-mall, London, on or before MONDAY, the 25th day of OCTOBER, 1858, between the hours of TEN and FOUR o'clock, (Sundays excepted), and the 26th OCTOBER, 1858. Tenders to be endorsed "Tender for the Erection of New Stables and Tailors' Workshops, Piershill Barracks, Edinburgh, in the left-hand corner of the envelope, and addressed to the Director-General of Contracts.
N.B. The Secretary of State for War reserves to himself the right of rejecting the whole or any of the Tenders.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director-General of Works, Pall-mall, London, on or before FRIDAY, the 26th day of NOVEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY, &c., at Connaught Lines, at the Western Heights, Dover. Drawings and Specification of the works to be executed may be seen (when completed) at the Office of Works, Dover, and at the Royal Engineer Office, Dover, where Tenders must be delivered at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from FRIDAY, the 5th of NOVEMBER, to SATURDAY, the 6th of NOVEMBER, 1858, inclusive, at which time they will be opened. The Party whose Tender may be accepted or the workmen to be required to enter into a bond, with two eligible securities, jointly and separately to be bound in the penalty of Fifty Pounds, for the due performance of the Contract. Tenders for these works to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed, "Tender for Married Soldiers' Quarters, Dover."
N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.
Royal Engineer Office, Dover, October 21, 1858.

ST. MARYLEBONE.—To BRICKMAKERS, DUST-CONTRACTORS, &c.—CONTRACT for BREEZE.—The Vestry of the Parish of St. Marylebone, in the County of Middlesex, hereby give Notice, that they will meet in the Board-room of the Court-house, in the said Parish, on SATURDAY, the 29th day of OCTOBER, 1858, at ELEVEN o'clock in the Forenoon, to receive TENDERS from persons willing to CONTRACT for the BREEZE, ASHES, and DUSTING of the said Parish, from the 1st day of NOVEMBER, 1858, to the 25th day of MARCH, 1859, or until the 29th day of SEPTEMBER, 1860. Payments on account of the Contract money must be made to the said Vestry at the signing of the Contract, and at the end of each and every succeeding quarter during the continuance of the Contract. The Parish is to be divided into five districts for the purpose of contracting for the breeze and dusting; parties may offer for the whole or any of the districts, and the Vestry reserve to themselves the power of accepting the Tender for the whole or any of the districts, and to be the Vestry's Surveyor, Mr. ROBERT SCACE, at the Court-house, from TWELVE till ONE o'clock, to receive the said Tenders, and to deliver a form of Tender to the Vestry Clerk, previous to ELEVEN o'clock in the Forenoon of the said Saturday, 29th OCTOBER, 1858. No Tender will be received after that hour, and no Tender will be received, unless delivered sealed, with a £20 Bank of England note, as an evidence that the same is made bona fide, which will be immediately returned to each person whose Tender is not accepted; but will be retained in the other case until the Bond and Contract are duly signed. The Contractor will be required to enter into such and sufficient sureties with two approved sureties in the sum of £500 each for the due performance of the Contract, the expenses of the Bond and Contract to be paid by the Contractor. The Vestry reserve to themselves the power to refuse any Tender, and the Vestry do not bind themselves to accept any Tender.
By order of the Vestry,
WILLIAM GLENEWELL, Vestry Clerk.
October 14, 1858.

TO BUILDERS. The Committee for the ERECTION of the MARKET-HOUSE at Berkhamsted, are desirous of receiving TENDERS for the Work. Plans, specification, conditions, and form of Tender may be seen, and copies of the same obtained, at the Office of the Architect, Mr. E. B. LAMB, No. 3, Rhodes-street, Monument-square, on and after the 21st inst. Sealed Tenders must be delivered at the Architect's Office on the 4th inst. at ELEVEN o'clock. The Committee do not bind themselves to accept the lowest or any Tender.
Oct. 11, 1858.

TO BUILDERS.—TENDERS are Required for the ERECTION of a GAMEKEEPER'S COTTAGE, in Brickett Wood, and ALTERATIONS to Watermill Farm House, near Watford, Herts. The plans and specifications may be seen at the Office of Mr. W. F. SEDGWICK, Cashio-bridge Farm, Watford, Herts, or Mr. A. B. FREND, Architect, 44, Bedford-row, London, W.C. to whom Tenders are to be sent on or before the 1st day of NOVEMBER.

CONTRACTS.

TO ENGINEERS and SURVEYORS.—TENDERS WANTED for FIFTY MILES of a CHAINED RAILWAY SECTION through [illegible] partly wooded, partly [illegible] miles from London. The Section to be completed at the rate of five miles per week, and security given for its accomplishment. Address [illegible] care of HOOPER and CULL, 16, Lombard-street, London.

TO CONTRACTORS and OTHERS.—WANTED, TENDERS for CLEARING from MUD, the Bed of Ouse and Lake, about [illegible] acres in area, the work to be completed [illegible] days from the date of the acceptance of the Tender. Apply at the Office of Mr. LOWLE JONES, Solicitor, York, on the 26th inst., from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Selby, on the 27th inst., from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Goole, on the 28th inst., from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Howden, on the 29th inst., from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Market Weighton, on the 30th inst., from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Pocklington, on the 31st inst., from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Stamford Bridge, on the 1st of November, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Malton, on the 2nd of November, from the hour of 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Weighton, on the 8th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Pocklington, on the 9th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Stamford Bridge, on the 10th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Malton, on the 11th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Thirsk, on the 12th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Northallerton, on the 13th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Boroughbridge, on the 14th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Ripon, on the 15th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Knaresborough, on the 16th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Wetherby, on the 17th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Tadcaster, on the 18th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Selby, on the 19th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Howden, on the 20th of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Market Weighton, on the 21st of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Pocklington, on the 22nd of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Stamford Bridge, on the 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of Mr. [illegible], Solicitor, Tadcaster, on the 31st of March, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Selby, on the 1st of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Howden, on the 2nd of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Market Weighton, on the 3rd of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Pocklington, on the 4th of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Stamford Bridge, on the 5th of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Malton, on the 6th of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Thirsk, on the 7th of April, from the hour of 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30th of April, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Stamford Bridge, on the 1st of May, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Malton, on the 2nd of May, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Thirsk, on the 3rd of May, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Northallerton, on the 4th of May, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Boroughbridge, on the 5th of May, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Ripon, on the 6th of May, from the hour of [illegible] to [illegible] o'clock, at the Office of Mr. [illegible], Solicitor, Knaresborough, on the 7th

CONTRACTS.

TO BUILDERS and CONTRACTORS.—CARDIFF [illegible] Guardians. The Corporation of Cardiff, [illegible] Borough, is prepared to receive TENDERS for the CONSTRUCTION of TWO CHAPELS, LODGE, and WAITING-ROOM, for forming Roads and Drains, building Boundary [illegible] Plans and Specifications may be seen at the Office of Mr. R. O. THOMAS, Architect [illegible] Office, Newport, Mon., and [illegible] Office, Cardiff. The Corporation will not be bound to accept the lowest or any Tender. Tenders to be delivered at my Office on or before the 2nd day of NOVEMBER next.—By order, MALCOLM JONES, Town Clerk.

TO PIPE-FOUNDERS.—MERTHYR TYDFIL [illegible] Local Board of Health.—Mr. Esther Talbot is desirous to receive TENDERS for a large quantity of CAST IRON SOCKET PIPES [illegible] CASTINGS. Plans and specifications and forms of Tender may be had (price five shillings each) on application to Mr. H. WAKELEY, C.E., 30, Great George-street, Westminster, S.W., on and after WEDNESDAY, the 27th proximo; and sealed Tenders must be delivered at my Office not later than [illegible] NOVEMBER next. By order, J. W. RUSSELL, Clerk to the said Local Board.

PIPE TRENCHING.—The Tottenham Local Board [illegible] to receive TENDERS [illegible] PIPE TRENCHES, [illegible] earth, [illegible] to be made good, and work done [illegible] to be seen at the Offices of the Board [illegible] W. HEATH, Clerk. [illegible], Tottenham.

BOARDING WORKS at the LIMEHOUSE DISTRICT [illegible] MASONS' WORK.—Notice is [illegible] Committee will meet on MONDAY, [illegible] to receive proposals from persons willing to CONTRACT for the [illegible] FOOTPATHS and CHANNELS of certain streets [illegible] The specification [illegible] Board, [illegible] Office, White Horse-street, Commercial-road East, [illegible] names of TEN and FOUR. Tenders, [illegible] Masons' work, Limehouse," must [illegible] WEDNESDAY, the 27th inst., and [illegible] Day. The Board do not bind themselves [illegible] to accept the lowest Tender. The security of two responsible [illegible] will be required for the due [illegible] are to be delivered by the Clerk of the Board, at [illegible] to be received after the [illegible] with the proper [illegible] Instructions.—By order, [illegible] W. RATCLIFF, Clerk of the Board.

CONTRACTS.—TO BUILDERS, SMITHS, and IRONFOUNDERS. [illegible] at South Coast Bathing [illegible] TENDERS for the [illegible] WORKS. Work [illegible] CONSTRUCTION [illegible] Norwood Station Specification [illegible] at the Engineer's [illegible] MONDAY, the 25th inst.; and sealed [illegible] to be delivered to the undersigned not later than Wednesday [illegible] at the London Terminus, enclosing a [illegible] Application to [illegible] PERCY SMITH, Secretary. [illegible]

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER PILLS, Washers, [illegible] Gaskets, and SOCKET RINGS, for [illegible] Water-pipes, Door-springs, and Solid Round [illegible] Elastic Cushions and Rubber Strips cut to any [illegible] Tables. [illegible] and Improved Vulcanized Rubber [illegible] Sheets from three to four feet wide, and [illegible] Pillows and Cushions, Inflating Portable [illegible] of this kind made to any pattern [illegible] Made [illegible] and WOOLEN, Cotton [illegible]

DURABILITY of GUTTA PERCHA [illegible] TUBING.—The attention [illegible] to the Durability [illegible] the Gutta Percha Company have pleasure [illegible] CHARLES RAYMOND [illegible] Engineer, Leeds, dated "March 10th, 1852.—In reply [illegible] I have pleasure in stating [illegible] respecting the Gutta Percha Tubing for Pump Service, I can state [illegible] with much satisfaction, it has [illegible] perfectly. Many builders and [illegible] have used it, and there is not the least [illegible] Tubing [illegible] WORKS, and I am informed that it is now [illegible] generally in the houses that are [illegible] N.B. From the stated [illegible] seen that the CORROSIVE WATER of the [illegible] Water [illegible] Gutta Percha Tubing. THE GUTTA PERCHA COMPANY, PATENTEES, [illegible] ROAD, LONDON.

HOPPER BARGES FOR SALE.—FOR SALE, [illegible] belonging to the Honourable the Lord [illegible] Harbour. The Barges, which are in [illegible] the year 1850, and are each calculated to [illegible] carry [illegible] Sealed Tenders, marked "Tender [illegible] Barges," to be delivered [illegible] on or before the 17th of NOVEMBER [illegible] Trinity House, Deptford [illegible] seen in Dover on the 26th of the [illegible] and Assistants will not bind [illegible] The Barges may [illegible] can be viewed on application to [illegible] CARTER, Resident Engineer, at [illegible] of any further particulars can be [illegible] or from G. T. THOMPSON, Registrar, [illegible]

VENTILATION PURE AIR.

[illegible] admission [illegible] of PURE AIR [illegible] for the [illegible] Borough [illegible]

[illegible] HALL.

With single pulley, from 6s. each; with leading pulley, from 8s. 6d. These [illegible] are recommended [illegible] of air [illegible] of apartment with [illegible] Richardson's [illegible] Patents; and as they are placed [illegible] are [illegible] contant supply [illegible] are manufactured [illegible] WORKS, 109 Manufactories, [illegible] Borough; and of all respectable Ironmongers [illegible]

BAKER and CO.'S is the best Manufactory for SUPERIOR STOVE GRATES, [illegible] TABLE Cutlery, bright Stoves, Mats, Fenders [illegible]

HART AND SON,
MANUFACTURING IRONMONGERS,
MEDIÆVAL METAL WORKERS,
MALLEABLE IRON AND BRASS FOUNDERS,

53 to 58, WYCH STREET, STRAND, London, W.C.

Plans, Drawings, and Estimates for Church Lighting, Warming, &c. on application.

SAVING IN GAS. [illegible] PHILLETT, INVENTOR and PATENTEE. The Metropolitan Registered Gas Chandeliers, [illegible] Lustres, [illegible] Pendants, [illegible] Pillar Pendants, [illegible] Pattern be seen [illegible] Newest Designs [illegible]

D. PHILLETT and CO., High Holborn, London. Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on [illegible] every description [illegible] Pendants [illegible] purpose. The Metropolitan Registered [illegible] Pattern be seen [illegible] Newest Designs.

IS NOW OPEN, YOUNGS IRONMONGERY WAREHOUSE, 25, Dean-street, three doors from Oxford-street, for the supply of builders, carpenters, [illegible] on the [illegible] Trade terms. Hulett's celebrated silvered [illegible] Lights, with [illegible] Pendants, No. 15, Dean-street, Manchester-square, [illegible] Pattern Lustre, [illegible] W.

IRONMONGERY.
PFEIL AND STEDALL.
THE LARGEST STOCK AT THE LOWEST PRICE,
IMPROVED PATENT STABLE FITTINGS of every description.
5 AND 6, BROAD-STREET, BLOOMSBURY.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of [illegible] Also [illegible] Locks, [illegible] Mortise Locks, [illegible] Cabinet Locks, [illegible] Patent Locks of all descriptions; Latches, Closet Work, [illegible] of all kinds, with Patent Shifting Spindles: Dr. Arnott's Ventilator, 4s.; and the New Registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.

J. H. BOOBBYER (late STURCH and BOOBBYER), established [illegible] for the [illegible] of Locks of the BEST MANUFACTURE, at the LOWEST PRICE. 14, Stanhope-street, Clare-market, London.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (Limited), HENRIETTA STREET, [illegible] Street, Pimlico, [illegible] Lamps, Lanterns, [illegible] Lights, [illegible] Sashes, Casements, Lead Lights, [illegible] Patent Lights, [illegible] Zinc Patent Lights of all descriptions; Lattice, Chequer, Wire, and Plain Work of all kinds, with Patent Shifting Spindles: Dr. Arnott's Ventilator, 4s.; and the New Registered Venetian Ventilator, so much admired, &c. 6s. 6d. each.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE [illegible] Boilers, [illegible] Patent Smoke-consuming Apparatus and Regulating Valve, [illegible] Proprietors who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, [illegible]

H. ROGERS'S REGISTERED SEWER, STAPPLE, and TRAIN TRAP.—The [illegible] Government and private establishments, and having had a fair trial, have met with unqualified approval. Prepared only by the Proprietor, H. ROGERS, Ironmongers, and of the General Iron Foundry Company (limited), 44, Upper Thames street, Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Chemical Stoneware, Fire-clay Goods, and all other kinds of Castings for Building, Engineering purposes.

THE AMERICAN STOVE, "EXCELSIOR," at 35s. for Shops or Offices, is the best and cheapest ever offered in London. The trade supplied. ANDREW MILLER, Jun., 10, Islington, Cattle-street.

P.S. A large Stock of other Stoves, Ranges, and all kinds of Castings at the lowest prices, combined with the best design and workmanship.

STUART and SMITH'S PATENT GILL AIR WARMER. Every information may be obtained, and references given to churches, schools, private residences, and business premises, in which it has been long in use, by applying to the Local Manufactory, Roscoe place, Sheffield; or to their London Agent, Mr. B. BARBER, No. 20, John-street, Adelphi.

WARMING and VENTILATING APPARATUS.—TENDERS are requested by the 27th [illegible] for [illegible] parties willing to undertake the WARMING and VENTILATING the NEW CHURCH, [illegible] SMOKE NEWINGTON Causeway, are [illegible] Plans [illegible] Apply at the Rectory, Stoke Newington.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green houses [illegible] effectually [illegible] Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

BATHS and HOT-WATER APPARATUS. J. TAYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. to be had on application. Estimates and Plans for Fitting given. J. TAYLOR and SONS, Manufacturers, Warwick lane, Newgate-street, London.

HEATING BY HOT WATER.

JOHN WEEKS and CO., King's road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS. Built to meet every description, and of the most economical plans, may be checked as warranted by Prof. WILT. JOHN WEEKS and CO. are also supplying their Furnaces of Churches, Dwelling-houses, Warehouses, &c. &c. where they have fixed their Hot-water Apparatus, also to be seen in extensive operation at their Furnaces, King's-road, Chelsea.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS having for many years devoted much time and study to the long-neglected art of Bell Casting, have recently invented and patented a new process, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has [illegible] heretofore [illegible] Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken [illegible]

MUSICAL HAND-BELLS tuned to the Chromatic Scale, with improved Clappers, and pegged on a new system, which give superior [illegible]

The [illegible] Bell, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1856, under their Patent. 8, CRESCENT, Jewin-street, London, E.C.

NAILS and IRONMONGERY from BIRMINGHAM direct. Builders, Contractors, and others, are supplied with Nails, Iron, and Ironmongery [illegible] at the LOWEST BIRMINGHAM PRICES. A complete List of wants will be forwarded on application to FRANCIS BIANCHI (late Lloyd and Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM; and 19, Goodman's-yard, London, E.C.

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Best Iron, Railway Bars, Forge and Engine Work, Cast Iron Girders, and STEWART'S PATENT CAST IRON GAS and WATER PIPES. Office, No. 7, [illegible] London.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.

Drawings and estimates furnished.

Architects' designs accurately executed.

MANUFACTORY, 199, HIGH HOLBORN, LONDON.

PANKLIBANON PATENT VENTILATING REFLECTING and WARM AIR OPEN FIRE-STOVE, [illegible] Drawing-rooms, Dining-rooms, Bedrooms, and others, and [illegible] Prospectuses [illegible] The [illegible] Agent at the PARK Station Pentonville [illegible] Show-Room, [illegible] 28, Hatton-street.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL and SON'S Show-rooms contain a large assortment of brass bedsteads, suitable both for home use and for [illegible] with [illegible] and elegantly [illegible] plain iron bedsteads for servants; every description of wood bedstead that is manufactured, in mahogany, birch, [illegible] which are [illegible] and japanned, all fitted with bedding and furniture complete, as well as every description of bedroom furniture.

HEAL and SON'S ILLUSTRATED CATALOGUE, containing designs and prices of 100 bedsteads, as well as 150 different articles of [illegible] furniture, sent free by [illegible] HEAL and SON, Bedding, Bedstead, and Bedroom Furniture Manufacturers, 196, Tottenham-court-road, W.

PATENT MACHINES for WORKING on WOOD.—These celebrated Machines have been awarded a number of prizes medals by many scientific institutions, and also by the Great Exhibition of 1851, and are extensively used by the Indian, American, and all the principal Governments in Europe; also by eminent Contractors, Railways, Shipwrights, Machine Makers, and other works in wood. Their operations are in every respect perfect, either in hard or soft wood, for planing, sawing up, moulding, tenoning, morticing, grooving, rebating, sawing, and boring, which they perform in a very rapid and superior manner, at a greatly reduced cost.

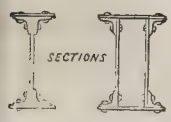
Secured by WILLIAM FURNESS, Patentee, 56, Lawton street, Liverpool, from whom full particulars may be obtained, and all the machines can be seen at work.

IRONWORK.—BRIDGES, GIRDERS, ROOFS, TANKS, RAILINGS, and every description of ORNAMENTAL or CONSTRUCTIVE IRONWORK, in WROUGHT or CAST IRON, designed, estimated, executed, and fixed.

Dealer in L. T. and Bar Iron, Plates, Sheets, Tubes, Rivets, Bolts, Screws, Nails, &c.

Bankers' Hoops and General Castings always on stock. Castings [illegible] cwts.

H. G. COOMBES, 17, Union-street, Borough, London.



WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

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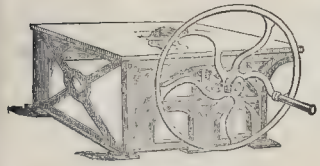

POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT, dated August 24, 1858, being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

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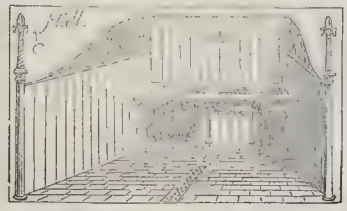

VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

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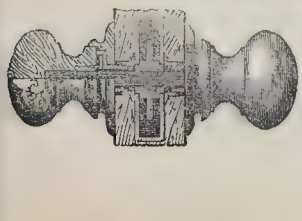

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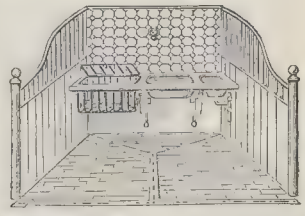
BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY RACK.



These Fittings are now made with the newly-invented Self-acting Hay Rack, which supplies hay to the horse as it is required, preventing waste of hay, and keeping the horse's head free from dust. The Rack, however, can be used without the Self-acting Bar, and is then the best and cheapest Rack ever offered to the public. Loose Box Fittings and Mangers of every description. The New Illustrated Catalogue, just published, with numerous Engravings, forwarded on receipt of two postage stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

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Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

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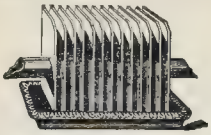

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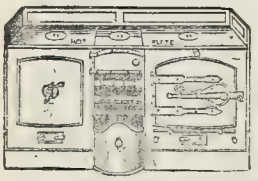

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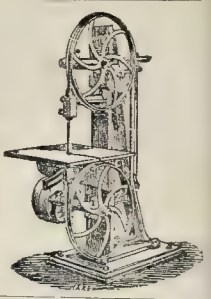

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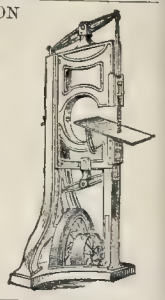

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Saddlecloths, Iron Ammunition Saddlecloths, Iron Shell Horse-clothing, Iron Shot Horse-clothing, Iron Powder Horse-clothing, Iron Ammunition Horse-clothing, Iron Shell Horse-boots, Iron Shot Horse-boots, Iron Powder Horse-boots, Iron Ammunition Horse-boots, Iron Shell Horse-shoes, Iron Shot Horse-shoes, Iron Powder Horse-shoes, Iron Ammunition Horse-shoes, Iron Shell Horse-nails, Iron Shot Horse-nails, Iron Powder Horse-nails, Iron Ammunition Horse-nails, Iron Shell Horse-shoe Nails, Iron Shot Horse-shoe Nails, Iron Powder Horse-shoe Nails, Iron Ammunition Horse-shoe Nails, Iron Shell Horse-shoe Clips, Iron Shot Horse-shoe Clips, Iron Powder Horse-shoe Clips, Iron Ammunition Horse-shoe Clips, Iron Shell Horse-shoe Studs, Iron Shot Horse-shoe Studs, Iron Powder Horse-shoe Studs, Iron Ammunition Horse-shoe Studs, Iron Shell Horse-shoe Screws, Iron Shot Horse-shoe Screws, Iron Powder Horse-shoe Screws, Iron Ammunition Horse-shoe Screws, Iron Shell Horse-shoe Bolts, Iron Shot Horse-shoe Bolts, Iron Powder Horse-shoe Bolts, Iron Ammunition Horse-shoe Bolts, Iron Shell Horse-shoe Rivets, Iron Shot Horse-shoe Rivets, Iron Powder Horse-shoe Rivets, Iron Ammunition Horse-shoe Rivets, Iron Shell Horse-shoe Washers, Iron Shot Horse-shoe Washers, Iron Powder Horse-shoe Washers, Iron Ammunition Horse-shoe Washers, Iron Shell Horse-shoe Nuts, Iron Shot Horse-shoe Nuts, Iron Powder Horse-shoe Nuts, Iron Ammunition Horse-shoe Nuts, Iron Shell Horse-shoe Pins, Iron Shot Horse-shoe Pins, Iron Powder Horse-shoe Pins, Iron Ammunition Horse-shoe Pins, Iron Shell Horse-shoe Keys, Iron Shot Horse-shoe Keys, Iron Powder Horse-shoe Keys, Iron Ammunition Horse-shoe Keys, Iron Shell Horse-shoe Cotters, Iron Shot Horse-shoe Cotters, Iron Powder Horse-shoe Cotters, Iron Ammunition Horse-shoe Cotters, Iron Shell Horse-shoe Split Pins, Iron Shot Horse-shoe Split Pins, Iron Powder Horse-shoe Split Pins, Iron Ammunition Horse-shoe Split Pins, Iron Shell Horse-shoe Linchpins, Iron Shot Horse-shoe 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The Builder.

Vol. XVI.—No. 820.

The Social Science Association and Liverpool.

KNOWING the vigorous band of architects possessed by Liverpool, one might expect to find in the streets there constantly increasing evidence of their existence and skill; nor would the expectation be altogether disappointed, as our own pages have at different times shown. As in Manchester, the tendency is to build extensive warehouses, with bold, and, in many cases, tasteful façades: in Liverpool there appears to be a passion for building blocks of offices under one roof, with a club house aspect. Whether or not this is being overdone, is a question we need not attempt to solve. Those who believe hat the commerce of Liverpool, great as it is, not yet fully developed, and they are not ew, will say there is yet room for many addi- onal buildings of this sort. A large pile of ffices, on the site of the old inn known as The George," in Dale-street, is being com- renced under the direction of Mr. Picton. It ill occupy an area 60 feet in front, and run- ing back 240 feet, though not of uniform width. he façade will be wholly of stone, simple but ppropriate, with polished granite, in panels, nd the whole will cost at least 30,000*l.* in- luding the land, for which, comprising 1,074 quare yards, 17,000*l.* were given. We have efore now spoken of the same architect's ower Buildings, going towards the water; and e has recently erected a pile in Chapel-street, f Venetianized design, with coloured granite anels and pillars in the window openings, for Mr. William Brown, M.P. (to whom Liverpool wes the new public Library and Museum now progress), and Richmond Buildings, an ex- ensive structure, Mr. Brown's own offices. he façade of the latter is of stone, Venetian tone so to speak, satisfactory in effect, and isplays a considerable amount of carving.

Insurance Buildings, now completed from he designs of Mr. Cockerell, R. A. have less inity in the elevation of the flank than might e desirable. The pile consists of three blocks, onnected by recessed portions, containing taircases, and showing the line of the ascend- ng steps externally. Viewed at a glance on aper, the connection of the three blocks would robably be evident; but as seen in reality hey have, from several points, the appearance f separate buildings. The Dale-street front is een from the objection in question. Many of he details are very elegant, worthy of the rchitect of the Branch Bank of England, in he same town,—a building which must be laced amongst the most successful works of ur esteemed and accomplished ex-professor.

Some further knowledge of the value of land n good situations in Liverpool, may be ob- ained from the fact that the ground on which hese buildings stand cost 50*l.* a square yard. The chambers bring correspondingly high rents, for one of the sets, we were told, as much as 75*l.* a year is paid.

Within the walls of Insurance Buildings is an open court, roofed with glass and paved with encaustic tiles, which is remarkable for the amount of light it conveys to the surrounding chambers. This court, a narrow parallelogram, runs north and south. A contrast in this respect is afforded at the, in many respects, fine pile of chambers of which we have before now spoken, called the Albany, where, with a larger court, open to the sky, the surrounding apartments seem to have much less light. The court here runs east and west, an arrangement probably not controllable by the architect. The offices appear to be exceedingly well arranged; but, either through the circumstance mentioned, or from other causes, are not yet occupied to any extent.

A large house of business, with extensive show rooms, has been erected in Church street, for Elkington, the electrotypist, under the direction of Mr. L. Hornblower. It includes a gallery, perhaps 80 feet long and 33 feet wide, very elegantly designed, with upright lantern and sun-burners for night. Externally the treatment is rather less satisfactory. The upper two stories the building is lofty, have small detached polished granite shafts in pairs, banded at about two-thirds of their height, and which suggest rain-water pipes without being so.

The ugly lions and columns, and the sunk area around the flank of St. George's Hall, are all being cleared away,—at a loss in respect of cost, but great gain as regards effect. There will still be a gusset piece of walling in front of the railway station, holding up a level plateau at foot of the flank of the hall, approached by steps at the eastern end. We are strongly disposed to think that this should have come away altogether, and a gradual incline be formed to the foot of the steps of the side portico. As it is, however, the improvement will be so considerable, and will so closely approach what we advocated long ago, that we will not be captious. Who will buy the comical lions? Sir Edwin Landseer should look at them to learn "what to avoid."

The new building for Free Library and Museum, for which it will be remembered designs were sought in competition, is making progress. It stands behind St. George's Hall, is well raised, and includes a hexastyle Corinthian portico, 50 feet in width, and of which the columns are 33 feet in height. The columns are ready for the capitals. A vestibule leads into the Great Hall, intended for paintings and sculpture, 71 feet long by 30 feet wide, with a corridor on each side on two floors, which raise the width to 53 feet, and it is 48 feet in height. The stairs have been removed to the farther end. On the right of the hall is a reading-room, 110 feet by 50 feet, and 35 feet high, covered in part with a dome. Leading out of the general reading-room are a students' reading-room and reference library; and adjoining are class-rooms. On the left of the hall is the museum. On the one pair are other rooms for the museum and library, together with a lecture-theatre. The whole stands on a plot 120 feet wide, and 165 feet in depth. Messrs. S. H. Holmes and J. Nicol are executing the works under the superintendence of Mr. Weightman, the town surveyor. The building, although scarcely up to the mark externally, appears to be well arranged. All honour to the liberal man to whom Liverpool is indebted for it! The building is to be completed, according to the contract, on the last day of June in 1860. The contracts exceed considerably, we believe, the 30,000*l.* Mr. Brown dedicated to this purpose, but he has nobly taken upon himself the responsibility of all the excess.

A report recently issued by the committee of the Public Library, in its [illegible] asserts that, at the present time [illegible] number of volumes are issued from [illegible] period of time than from any [illegible] the kingdom, or, it is believed, in the world. The issues during the past year [illegible] from the reference library, 195,453 volumes, from the lending libraries, 391,413 [illegible] making a total of 586,866 volumes [illegible] increase over the previous year of 112,320 volumes, or about 24 per cent.

An opportunity occurred [illegible] past year by which the committee [illegible] enabled to purchase on very reasonable [illegible] a selection of casts from some of the [illegible] statues of antiquity. These are [illegible] deposited in St. George's Hall, and are intended for the Gallery of Art in the new Museum. Two large paintings, fine copies of the portraits of George III. by Sir Thomas Lawrence, and the Duke of York, by Phillips, in the Town-hall, have been presented to the library by Mr. T. C. Owen, architect.

It is a subject for just congratulation with the committee that the [illegible] of Liverpool, for whose especial benefit the [illegible] libraries have been established, are largely taking advantage of them to improve and perfect their knowledge of the [illegible] tables and ceilings. The number of [illegible] present 7,775, and out of these, [illegible] now chiefly to blind persons using the library, to whom have been lent 441 volumes in embossed type; and although these books are [illegible] expensive, and easily soiled, such is [illegible] them, that no case of injury has [illegible] covered. A man who had lost the use [illegible] some time since, learned to use the [illegible] hours, and he has expressed his [illegible] for the privilege of borrowing these books. He stated his feelings to be [illegible] when first deprived of sight, being obliged to sit day after day without anything to occupy his attention [illegible] and feeling, as he graphically expressed it, as if he were in solitary confinement." Since he has learned to read and obtain books, a new world seems to have opened upon him, and he no longer feels the time [illegible] on his hands.

Amongst the memoirs read at the meeting of the Social Science Association were some illustrating the progress and [illegible] Liverpool, which may be usefully [illegible] Thus Mr. James Newlands, the [illegible] engineer, read a paper on the "Past and Present Sanitary Condition of Liverpool." The writer gave an interesting account of the history of Liverpool up to the present time; alluding to the ratio of increase of population to the area of the town. He pointed out that the [illegible] of the whole built space gave not the [illegible] of the crowding in narrow streets and courts, especially the kind of courts manufactured out of ordinary tenements by covering the back yard with buildings. In explanation of the mode in which this pestilential [illegible] originated, he showed that the system introduced in converting one house into [illegible] buildings, was initiated in the erection of new buildings. Drainage, paving, cleansing, [illegible] had some effect in [illegible] which [illegible] places so over-crowded and [illegible] there was no drainage, no paving, no [illegible]

The great vital law, that [illegible] must have a certain cubic amount of space to live in, was transgressed, and a fearful penalty was exacted: fever took up its abode and dwelt there. In some of these courts, where only [illegible] square yard was allowed to each of the inhabitants, fever prostrated half of the residents yearly. Where greater space was given, the poison was diluted, and the virulence of its action abated: thus, where 4 yards were allowed to each, only [illegible] typhus had fever; and where the area was increased to 14¾ yards to

each, the proportion of fever was reduced to 1 in 26½. Mr. Newlands gave an account of the various measures introduced into Parliament for an Improvement Bill, the great opposition of the owners of property affected by the proposed measure, and the ultimate success of the commissioners who, in 1830, commenced to carry out the sewerage works under the authority of an Act of Parliament, and eventually, in a period of ten years, 20 miles and 341 yards had been fairly completed. As engineer, it became his duty to lay down a plan of sewage, to establish a system of levels, and to arrange for carrying on the paving and cleansing operations; and his views were embodied in a report which he drew up in 1848, and which were adopted by the town council. Mr. Newlands gave an elaborate statistical account of the extensive operations which were originated and carried out by him. Much, however, remained to be done (said the paper), such as the formation of public walks and wide driving thoroughfares through the over-built and badly-ventilated districts. These matters have occupied the attention of the council, and they have now under consideration the formation of a boulevard, connected with the heart of the town by wide radial roads In the present year, too, they have begun on a large scale the demolition of the houses of an entire district in the worst parts of Liverpool. Besides a saving of life, a change has been effected in the habits and moral condition of the people, the result of sanitary education. So adverse now are the labouring classes of the population of Liverpool to the old style of houses, and so anxious are they to secure all advantages of sanitary arrangements of which they have learned to know the value, that builders find it their interest to give more accommodation, and that of a better description, than what the law prescribes. Every day witnesses improvements in structural arrangements, the result of a beneficial competition, urged by the demand for healthy houses.

While drainage and sewerage within the borough had diminished disease, and produced a decrease in the rate of mortality, it appeared to him that the effect was to some extent neutralised by the existence of tracts of unreclaimed and swampy land surrounding the borough. As the suburban districts become occupied by houses, the water-courses are gradually polluted by the drainage, and at length become uncovered sewers.

Mr. Newlands afterwards explained that the decrease of the mortality of the borough was progressive with the extension of sanitary operations. In 1850 the saving of life was 800, while the saving was now 3,750 lives per annum, and the mortality would no doubt be further lessened by increased sanitary appliances.

Mr. Newland tells us that the corporation are now building about fifteen miles of sewer a year. An outfall sewer of very extraordinary character is being constructed. In parts it is 60 feet below the surface, and is cut through the rock. The size of the larger portion of it is 6 feet by 4 feet, and it will be six miles long.

Again, Mr. M'Gowan, in his paper on "Sanitary Legislation," with illustrations from experience in Liverpool, mentioned last week, answered the statements affecting Liverpool, recently put forth by Dr. Greenhow, and submitted statistics to show that Liverpool, instead of being the unhealthiest town in England, has attained a lower death-rate than either Glasgow or Manchester. He also made an elaborate calculation of the saving in money by sanitary regulations in Liverpool during the last eleven years. He put down the cost of sanitary works at 856,287*l*. As such works were estimated to last thirty years, they would continue their operation as life-saving causes during that period. Therefore, having calculated the value of life saved at 617,800*l*. and reckoning it at only twenty-five years' purchase, it would produce 16,437,500*l*. Deducting from this the outlay, and 260,000*l*. to represent the cost of private drainage, there would be a gain of 15,378,113*l*. This was irrespective of the value to each person of his own life, minus the pecuniary value to the community, rather an important item, we should say, to each individual. Mr. M'Gowan exhibited photographs of a court, built before the Liverpool Sanitary Act was passed, and of houses built under the Act; and showed that the rent paid per room for the pest-generating hovels was more than that charged for the decent houses.

Mr. Charles Melly, whose name we have often mentioned, read a paper on Drinking-fountains. He said his attention was first called to this subject during a visit at Geneva, in 1852, by observing the beautiful stone water fountains which are so abundant in that city, indeed in every town in Switzerland, and on the Continent generally. The system for the supply of water for general purposes is on quite a different principle there to what it is in Liverpool. There the water is the property of the town authorities, and is distributed by them to the citizens through the means of large public fountains, free of cost. Formerly every householder was obliged to get all the water he wanted from the fountains, and have it conveyed into his private cistern, either by his own servants, or by regular water-carriers, whom he paid for their labour. This is still the general custom on the Continent, though in some towns the more recently-built houses are furnished with a direct supply of water, which is paid for as in this country.

"In March, 1854, said Mr. Melly, the first granite fountain was erected at the south end of Prince's Dock, and three months later the numbers drinking there, in the course of twelve hours, were carefully counted, and found to be 2,336. This fountain is of polished red Aberdeen granite, consisting of three pieces; first, a small basin projecting from the dock wall 16 inches; secondly, a square slab about 2 feet square, fixed in the wall above it, and resting on it with a bronze head, through which the water flows into the basin; and, thirdly, a small pediment as a finish on the top. The basin is fixed with its lip about 3 feet 8 inches from the ground; this was done on account of the very rough neighbourhood in which it is situated.*

This fountain is supplied by a *continual* flow of water night and day: at first sight this may seem to be a useless expenditure of water, but, *practically*, there can be no hesitation in saying it is the best and the only satisfactory plan. The vast number of persons who use these fountains would (as experience has shown) soon cause the best system of taps to get out of order—the taps would leak, and the water run on the footpath—call forth complaints, and bring the drinking apparatus under the head of a public nuisance.

The best way of economising the water running away from a drinking fountain is to convey it in a pipe to the nearest site where a cattle-trough can be conveniently placed."

The extent to which this means of obtaining water to drink in the streets has been appreciated in Liverpool is shown by the statistics which have been taken from time to time, and which are truly surprising. On the 9th April, 1855, 2,308 persons were counted drinking at the Prince's Dock granite fountain, in twelve hours: on the 22nd June, of the same year, 3,340 persons drank at the iron fountain, George's Dock Bridge, in twelve hours and a quarter, making an average of more than four persons drinking every minute throughout the day.

In other towns drinking-fountains have been introduced with great success. At Leeds, the Corporation have erected six at their own expense. At Hull, Mr. Henry T. Atkinson has placed three; and soon after the water had been turned on to the first one, 3,124 persons availed themselves of it in one day. At St. Helen's, 800 to 1,000 persons drink every day at an iron standard fountain, erected by Mr. Charles Bishop. At Derby, one of the small granite founts has been placed by the Rev. J. Erskine Clarke, in an abutment of St. Michael's Church; and, though it is not in a very populous street, the numbers reach 400 to 500 a day. The design, by the way, is very incongruous.

The movement is an excellent one, and has long had our warmest support. When good pure water can be had, there is less temptation in the public-house. Here, however, we must break off. It will be seen from what we have stated that, both in an architectural and sanitary point of view, Liverpool continues to advance.

* We avail ourselves of the courtesy of the *British Workman*, and give a view of one of these fountains, and of one erected at Chester, by Mr. Eaton.

EXHIBITION OF DESIGNS FOR THE CHELSEA VESTRY-HALL.

Fifteen designs for a new vestry-hall for Chelsea have been on view during the past week, pursuant to the advertisement in our columns. Exhibitions of competitive designs are now matters of frequent occurrence; but, whilst giving credit for what is done, we are not able to discover from these exhibitions that there is yet proper apprehension by authorities in such cases, of what is due to competitors, and calculated to promote the objects of the competition. The drawings in the present instance are few in number, as compared with those in recent cases which have been before us; but the wall-space or other requisite for the examination of, and judgment upon them, by committee and public, is just as ill-proportioned to the occasion as was the whole of Westminster Hall, in a much more important case. The designs for the vestry-hall include 120 drawings, from five to twelve in a set. A room of moderate size has afforded wall-space for about three drawings of each set: the remainder are placed on a structure of chairs and tables in the middle of the room; but some of the principal drawings are too distant for examination by a bad light; and mostly, the drawings are so distributed about the room that a clear impression as to the characteristics of any design is matter of considerable difficulty. Feeling, whatever be the advantage from architects' competitions, that such advantage cannot be derived except with the aid of an exhibition, and one in which the arrangements have some relation to the object, we cannot allow any opportunity to pass without dwelling upon what at least, is essential to the interests on all sides. Whether we conclude that adequate space is not to be had, or whether it be obvious that an ordinary scale for the drawings (say the eighth of an inch to the foot, as in the present case) is too large, and that wide margins should be prohibited, it is clear that architects, if not committees, had better abandon competitions altogether, considering any due return they may expect from them,—unless it can be demonstrated that the want of exhibition-space is to be got over. The want is not merely what relates to the public exhibition: it is impossible that the committee or the judges can discern the merits or the facts of designs, unless the drawings can be placed before the eye with advantages of space, and each drawing in its proper position for conveying the expression of the whole design to the mind.

Pursuing the desired knowledge of the designs under the difficulties we have referred to, we certainly are less impressed with the talent shown than we should have expected to be after evidence of progress in so many recent cases. The competition is, we believe, a "limited" one; and the premiums offered were 50*l*. and 25*l*.—one of these merging into the commission. The site for the proposed building is in the King's-road, opposite Robert-street, and is about 174 feet in depth, by a frontage of 67 feet 3 inches; but the "line of fronts" of the buildings in that part of the road sets back about 25 feet. The cost of the building was not to exceed 4,500*l*. for which the requirements would include a hall for the vestry meetings, of an area of about 24 squares, with private and public entrances; committee-rooms; vestry-clerk's offices; surveyor's offices; medical officer's room; messenger's and waiting rooms; muniment room; lavatories; and cellarage, fire-proof store-room, and accommodation for the hall-keeper, in the basement. The "statement of requirements" was drawn up with greater judgment than such documents are usually, though the motto system was persevered in; but, we may say, where it is thought by a committee that a particular arrangement of plan, in meeting any portion of their requirements, should be adopted, the prepossessed opinion, whilst expressed, should be worded so as to bias, even less than in the present case, the right judgment of competitors, or to prevent the adoption of any plan that might turn out to be really best for the object.

In this instance the hall is directed to be placed "at the rear." Thus, there is a considerable similarity in the greater number of the plans as to general features; though in the details of rooms and passages there is remarkable variety; and in some cases there is ignorance of essentials greater than we could have expected. Even in the best of the plans, it is singular that the importance of covered access to the hall, where there not altogether through the building, (itself an objectionable arrangement, under the circumstances,) has been little thought of. The area of the site is ample, allowing the most frequented offices to be of sufficient size and on the ground floor, as well as allowing part of the frontage to be given up, to

PUBLIC DRINKING FOUNTAINS.

One of the Liverpool Fountains.

Fountain erected in Chester.

ensure light, and get the separate access to the hall. It is, therefore, rather surprising that some of the authors of designs should have given up ground for a garden at the back, to the injury of the building itself. Thus, the design No. 1, "Excelsior," which is in many respects meritorious, has this garden-space and consequent expansion of frontage, and both to the possible loss of the light required in some rooms, and with the allocation of the surveyor's offices on the first-floor (where the committee-rooms also are), with a staircase of ordinary dimensions. The doors to the hall "practicable" for the public, are only one of four feet, internally from the main division of the building, and one of three feet, approached from the front by a side-passage, not, however, without turning. The central corridor leads direct to the staircase-hall and door of the great hall, and the arrangement of the plan in this part, and other points noticeable in the drawings, have a workmanlike character which will draw attention to the design. The exterior is of the Palladian-Italian character, with orders of pilasters, and an attic-like termination to the centre, with open arches and a pilastrade. The interior has been less studied.

No. 3, "Cadogan," includes two designs—Gothic and Italian—to the same plan. The author curiously words his paper of particulars, as though it were an object to cover the whole of a site, and spend a sum of money, a circumstance which illustrates the realiness which, in competitions, architects show to follow, rather than themselves to discover and indicate what are best provisions. The work of the author in the present case, however, should not be depreciated by us on the score alluded to. His plan is amongst those which show the best apprehension of the requirements; though externally, his principal design, the Gothic one, in red brick and stone, with mullioned windows, and too-lofty and prominent cappings to the square angles and octagonal turrets in the plan, is not pleasing. The plan has a central corridor, from which the doors of the chief offices open, as well as one of the doors of the great hall; and the frontage being diminished, there are two entrances to the hall, reached from the street by the side-ways left. Next to the hall, as the section shows, the portion of the building is not carried up to so great a height, so that light is obtained for the passage, which with the light gained at the staircase in another place, is properly provided in this particular. A long central passage being a feature in several of the designs, the exhibition has afforded a good opportunity for the comparison of different devices, and that sort of study which we have taken occasion to recommend in notices of previous competitions, as capable of mitigating, perhaps, their disadvantages. The opportunity, however, is seldom properly taken by either ordinary students or competitors themselves. The Italian design is more satisfactory than the other, at least in general character and outline, and in many of the details.

No. 4, "Utility and Economy," has a plan which seems to advance beyond the general "line of fronts." The exterior is the best part of the design; but the drawing is unfavourable, as a representation. The like is characteristic of many sets of drawings which appear in competitions, even where the design, considered without prejudice, may have considerable merit. Good drawing is not to be lightly spoken of; but almost too much depends upon drawing, or rather, as we mean, upon mere peculiarity or mode of representation,—and that even where architects who would not be deceived by false or highly-coloured representation, are the judges. The point is to be taken into account in the question as to advantages from competitions,—whether they attain the object; or, on the other hand, whether what competitors offer of merit does not sometimes meet with complete inattention? No. 6, "Floreto," is remarkable for misconception of requirements for the particular plan, and of general architectural design. Though stairs, with a centre flight 8 feet in width, and side flights, are thought necessary, leading only to committee-rooms; and though doors or openings of 6 feet between rooms of moderate size and the large hall, are shown; the "muniment room" is a closet of about 3 feet in width; and for "hats and cloaks," and "lavatory," there are *passages* of corresponding dimensions. It would be inferred from such absence of due proportion—if not of regard for uses of things—that corresponding mistakes would be made decoratively: the decorative features have, however, somewhat greater merit, as in the interior of the hall, where an order and a coved and panelled ceiling are introduced. But, the windows of the front are too wide for lintels with only metal shafts as mullions; and, besides, there is nothing which marks the character of a public building—a defect in several of the designs. This latter error is not made in the design No. 7, "West Middlesex," which has a portico, or loggia, on the first floor, extending the full width of the front in three wide openings, each support formed by a pier and two columns. The design also includes a rusticated basement, with arch-headed windows; and the front is shown surmounted by an ornamental balustrade, and a central termination with pilasters, pediment and shield, and panel for inscription. The plan follows the arrangement of central corridor, leading up to the hall, and two other entrances to it from external ways at the sides of the building. The length of the ways, extending to nearly the whole depth of the ground, is, however, unnecessary and objectionable; and, after each outer doorway, the *route* into the hall takes one or two turns which should have been avoided. The hall is here ranged lengthways with the ground, instead of transversely, as in the other designs that deserve attention.

No. 9, "Faith," proposes the central corridor and entrance to the hall, and one side entrance. The design for the front has some good features, as, for example, the rusticated piers at the angles of the lower story, and an Ionic portico of several intercolumns, and having coupled columns at the angles. Uncouthness about other details the effect which seems ever to attend upon the [illegible] use of cement, led us to augur the proposal for such use of that material, a suspicion which we afterwards found justified.

No. 11, "Sic nos non nobis," in combined art and merit, is a design with features of very opposite character. In the front of the principal design (for we think there are two views, though only one is named in the printed list,) there is noteworthy character about the lower story, with rusticated work, vermiculated and plain, in alternating courses; but the upper story has an order, with broken entablature, and trusses on the frieze, altogether treated so as to produce a very clumsy result; and the building receives its climax of distortion from the corner, where the bay-windowed projection is crowned by a cornice, arched over for insertion of the clock, and by scrolls and terminals of pounder as appearance. The porch below, square on plan, with coupled three-quarter columns, is in better taste; but the gateways at the sides again are inelegant. Such merit as there is in the plan consists in a certain amount of care for effect; as, in the introduction of square spaces with recesses, in the central corridor, and in the plan of the hall,—of which last the square would be covered by a hemispherical vault. One of the external sideways leads to a large garden-space at the back of the hall, where it appears intended that the chief entrance should be; but the re-

uirements of the plan, in general, do not seem to be met.

No. 12, "Nothing too much," a carefully executed set of drawings, has a plan in which proper attention has been given to the entrance, and to the dimensions, positions, and the lighting of the rooms. The hall is placed transversely, and is reached by the central corridor of 10 feet, and by the external sideways, which are each 9 feet in width. The [illegible] hall in nearly every other case is here made 22 ft. 6 in. by 17 ft. 6 in., and is, of course, on the ground floor. Light to the corridor is got from the staircase window, and at the entrance to the hall, where there is a vestibule, square below, and formed into a circle above, and terminating in a lantern. The decorative character of the design, externally, [illegible] is not in accordance with the character of the interior. The view of the hall shows an open timber roof of 31 feet span, and a gallery. The latter is carried on wooden posts and arches, and is reached by a separate staircase. Unless in the omission of covered access to two of the entrance doors to the hall, which provision, however, would require greater height of the ground floor, [illegible] to save in cost, with light,—the design is having been selected as common to all the designs; the plan, however, provides, in the best manner, [illegible] of the hall without interference [illegible] to the offices. External character, [illegible] the competitors have placed under no limitations as to style, and view [illegible] has no reference than internal arrangements, in which in our case is concerned, [illegible] of the details and the treatment with moderate use of colour are concerned: the [illegible] grouping of many of the features may be thought unsatisfactory. The mass in the centre is heavy for the columns which carry it; whilst, on the other hand, being terminated by [illegible] lantern and high truncated capping, it has sufficient of the character of a tower to call for complete expression of such character by greater height above the main building and [illegible]. The actual effect is perhaps increased by the character of verticality which there is in the [illegible]. These, on each side, are grouped one story over the other, by projections or pilasters supported and carrying a gablet of peculiar form. The windows generally are [illegible] a shaft and cusped lights, or a pier in the centre; the rain-water pipes are let into recesses which are made ornamental; a good flight of steps is shown to the main entrance; and the side entrances [illegible] by archways. The authors of [illegible] they have given to their design the [illegible] of a public building, while providing [illegible] accommodation.

The author of No. 13, "Tu Ais," has adopted the Elizabethan style. His building would be of red brick and stone, with the peculiar details, and a good porch with arch and columns; but we do not recognize the character desired, or that of a public building. The plan is defective. The [illegible] through the building to the hall, would be not in a direct line; and no doorways are shown between offices which ought to communicate. The roof of the hall is simple, but good in character: [illegible] trusses, on the ordinary queen-post principle, are exposed, curved braces being added below the bar, and to get the form of the [illegible] ceiling takes the slope of the rafters, and is panelled. There is a considerable [illegible] in the treatment of the open roofs in the plans; but [illegible] architecture, though some useful [illegible] have been late made.

Two designs [illegible] well deserve notice remain on the list. No. 14, with a kind of trefoil, or three-[illegible] hall, is [illegible] defective in plan, since it [illegible] communication, and that only through [illegible] to the hall; and the ground [illegible] insufficient. In decorative character, however, there is greater merit, both internal [illegible] externally. The hall is shown with a waggon-headed ceiling, to which there are [illegible] ribs [illegible] from piers, the latter bearing [illegible] arches. A semi-[illegible] window, with [illegible] each end. The character of the front is given by a balcony, which extends the width of the [illegible] portion of the composition,—which has [illegible], and there has an order in the upper [illegible] bed-stead and chord face,—as well as [illegible] roof, ornamented at the [illegible] ceiling at the top,—and also by the [illegible] of the balustraded area and steps to the [illegible]. The lower story is nearly plain. The [illegible] one which occurs in the design at [illegible] is in some others, is a desirable [illegible] whether for effect of the public building, [illegible] required should Chelsea and adjoining [illegible] be constructed on a strong..

The last design, No. 15, "Qui invidet minor est," meritorious in many respects, differs from all the other designs in the principle of its plan, which involves some advantages and some defects. The main building, or the portion of the plan nearest the King's-road, is placed quite to one side of the ground; whilst the hall, which ranges lengthways with the ground, is placed on the centre line. There is a [illegible] sideway, externally to the hall, having a wide entrance; and whilst one of the entrances to the hall, faces, as usual, the corridor of the building, the entrance admitting those who come by the sideway, opens in the same relative position to the hall; and two similar entrances are at its opposite end. The hall is shown with a segmental-arched ceiling, which, as well as the walls, is elaborately [illegible] and [illegible]. A central hall, and an ample staircase are [illegible] provided. From the absorption of space perhaps some results that the rooms are small, and that the surveyor's offices are on the first floor. A wide portico, with coupled columns and lateral columns, is provided at the entrance on the ground story, and in the upper story is a recessed [illegible], with coupled columns and arches. The centre of the front is [illegible] and is finished with a balustrade; and there is a square turret for the clock, with a curved roof. A balustraded area encloses the ground.

INDIAN TROPHIES.

It has always been the practice [illegible] days of the Romans downwards, and [illegible] dates long anterior to their sway, for the victors in war to carry off to their own country trophies and spoil from the vanquished.

This custom answered two purposes: it served to make more impressive the victories gained over the foe, and to decorate the capital of the conquerors.

There may have been, at times, some injustice and wrong in such proceedings; but war takes little cognizance of right, and from its very nature, perhaps, cannot always be expected to do so. The English are more punctilious than their neighbours in such matters, for the march of victory with them was, in truth, a song of triumph, and their capital was one great museum of the works of art of pretty nearly all the countries of Europe. Are not we a little too squeamish in our dealings with the vanquished, and more particularly so in our late Indian wars? Now, if ever there was a time when we might *justly* remove, to our own country, some of the treasures of art with which that land abounds, now is that time.

We have talked of razing cities there to the ground, as a salutary example to the worst of rebels, and there can be no doubt but that such a proceeding would impress these people with an idea, which they have a difficulty in believing, that they have been actually conquered. Now, would not so desirable an object be equally well, if not better, obtained by the removal, before their eyes, of some of those truly elegant objects of art—the work of former sovereigns which they have been for many ages accustomed to look upon with a sort of veneration? How many beautiful specimens of architecture are spread over the country, capable of removal, I need not now enumerate; or how they rival the works of the Alhambra, and in elegance and refinement surpass anything that Europe has ever produced.

What could be more appropriate for decorating that great bare meadow, Hyde-park, than some of those towers, turrets, or pagoda-like structures so celebrated, not only for their costly material, but equally so for the beauty of their form.

What a glorious entrance might be made to one of our parks by those two colossal elephants in the portals of the palace at Delhi? Let us remove altogether that matchless hall of marble and costly mosaic work to the same place. But why enumerate items?—such a galaxy of splendour might be brought over, and justly, too, as would be unmatched in any other country. The difficulty and expense would be much less than was encountered by Mr. Layard at Nimrud. And for labourers, why not make the murderous Sepoys, or the Nena Sahib himself, work at the removal: thus doing us some little benefit for the injury and sorrow they have inflicted on us, and putting themselves to an open shame before their own countrymen.

The present period seems to be a legitimate opportunity of enriching our country with some works of art, of which at present we possess no specimens, and such as might be studied with advantage both by architects and other artists.

T. Baylis.

ST. GEORGE'S, DONCASTER.

In our last number will be found a view of the interior of this church, one of Mr. Scott's best works, recently consecrated. Let us note a few additional particulars of the construction.

The Concrete devolved upon Mr. Cleverley, the clerk of the works. The operation began on Friday, the 18th of November, 1853, and cost about 1,000*l.* not including the value of the gravel taken from Dial Stone Close, previously to its being set apart for the Doncaster Cemetery, and the gift of the town-council. The following particulars have been furnished from an official source:—

	Cubic Yds.	Ft.
Excavating foundations for exterior walls	2,049	13
Ditto, concrete	2,049	13
Ditto, for nave pillars	262	14
Ditto, concrete for nave pillars	80	0

The foundations of these pillars are constructed with solid masonry of large block-stone from Mr. Wrightson's quarries, at Cusworth, 8 feet high upon the top of the bed of concrete, measuring 3,136 cubic feet.

On Monday afternoon, the 27th of February, 1854, the records, coins, &c. were placed in a leaden box, 12 inches long and 9 inches deep, which was soldered up in the presence of Mr. Jackson and Mr. Whitaker, and on the following day it was placed in the concrete beneath the stone. The foundation-stone was laid by Thomas, Lord Archbishop of York, on Tuesday, the 28th day of February, 1854.

For the Prevention of Damp, an experiment was tried in the month of June, 1854, by the introduction of pitch and tar within the walls, so as to prevent the damp from striking upwards from the ground.

The tower was completed on the 3rd of March, 1858. In design it exhibits purposely a considerable departure from the old tower: it is geometrical in style instead of perpendicular, though the general outline of the old tower is preserved.

We give the following more complete statement of the dimensions of the church, than appeared in our last:—

	Ft.	In.
The total length inside	168	10
Nave, west of great pillars	91	0
Transepts	92	0
Chancel	41	0
Clear width of nave, chancel, and transepts (which is more than in several of our cathedrals)	27	0
Width of nave and aisles together	65	1
„ chancel and chapels	33	0
„ North Chapel	25	0
„ Forman Chapel (because of thickened pillars and walls)	23	0
Opening between tower pillars	20	0
Square of tower outside, without buttresses	33	0
Belfry (inside)	23	0
Area (square feet) nearly 1,000 more than Leeds Town-hall, or than the old church	12,100	0
Height of roofs	75	0
„ gable crosses	85	0
„ main walls	54	0
„ aisle walls (same as St. James's)	30	0
Great east window, in height	18	0
„ width	22	6
Height of tower	170	1

The church has 1,227 sittings. The chancel and its adjacent aisles concentrate, as it were, some of the main features of the interior. It is divided into three bays, two of which are on each side pierced by elegant arches opening into the adjoining chapels. These arches are supported on richly-clustered shafts, with elaborately-carved capitals, including the rose, the lily, or appropriate conventional sculpture. In the spandrils of the arches are sculptured busts of the twelve apostles, with their accustomed insignia. Above, and separated from these by a moulded string course, range the six clerestory windows, three on each side, consisting of two trefoiled lights bearing a bi-foiled quatrefoil with carved cusp terminations, the whole being surmounted by a deeply recessed and moulded enclosing arch springing from jambs with attached shafts, with carved caps and moulded bases. The easternmost bay, below the clerestory, is on each side occupied by a pierced opening, with tracery supported on polished Derbyshire marble shafts: the effect of the whole is singularly happy.

The east window, one of the glories of the building, is a noble opening of eight lights, nearly equal in width and height to the east wall of the

church. The openings are grouped in pairs, the two outer ones surmounted by acutely pointed arches, the two inner ones by arches of about equilateral pitch. The reredos, below, is a piece of very elaborate workmanship.

In the lead work of the roof a plan had been contrived, called the Scotch roll, of nailing down narrow slips of lead on to the boards, and folding them over with the sheets, which they then hold up fast enough by friction. But this was open to the objection of a great increase of cost, estimated at no less than 300*l.* for the extra quantity required. Mr. Denison then suggested zinc slips, instead of lead, costing only 30*l.*; and some of the workmen remarked that this plan took quite as little labour as the common one of nailing on wood rolls. It ought to be known, however, that there seems to be no way of leading steep roofs on the south and west sides of a building which does not leave the sheets liable to slip downwards by the alternate expansion and contraction from temperature acting with gravity, unless they are also held up by solder dots. This has been done here in a simpler way than usual, by putting large screws with turned heads through the lead and boards, and soldering over the heads, so that the solder holds both the screw and the lead by a surface two inches wide, fixing two pairs of dots on a sheet about 15 feet long, and dividing it therefore into lengths of 5 feet. The roofs first consist of oaken boards tongued together; then a layer of asphalted felt, on which vertical slips of wood are nailed, so as to leave a space of air, and on them deal boards, which carry the lead; so that the roof consists of five layers of substances. The roof of the nave consists of eleven principals, 11 inches by 13, which form large wooden arches, with the spaces above them filled up with a rising arcade.

The font is the gift of the Rev. Professor Selwyn, canon of Ely, as a memorial to his father-in-law, George Cooke, esq. of Carr House. It consists of a bowl of serpentine, standing on seven marble pillars. It is sufficiently capacious to allow immersion in the water. Its diameter is 3 feet 3 inches, and its depth 11 inches; the height 3 feet 9 inches. It stands on a platform of 6 inches high and 6 feet square, covered with Minton's tiles. This inscription encircles the basin, and above it is a rich cable moulding:—"Except a man be born of water, and of the Spirit, he cannot enter into the kingdom of God."

The cost of the church will be about 40,000*l.* The first contract was taken by Messrs. Ireson: the second by Mr. Dunn. The contract for the woodwork was made by Mr. Ruddle, of Peterborough. The warming of the church was entrusted to Mr. Smith, of Sheffield, patentee of the Gill stove, and the lighting to Mr. Skidmore. The altar-cover, of crimson Utrecht velvet, was supplied by Mr. French, of Bolton. The organ is in course of building by Messrs. Schulze, of Germany. The bells, as we mentioned last week, were cast by Messrs. Warner. Of the stained glass in the windows, and the stone of which the church is built, we may find another opportunity to give some particulars.*

NOTES AND INQUIRIES.

DYER; OPIE; NEWTON.

PERMIT me to request insertion in your journal of the following contribution of Notes and Inquiries.

1. In Ireland's "Picturesque Views on the Upper or Warwickshire Avon" it is said that Dyer, the poet of "Gronger hill," was a painter also, and had studied under Jonathan Richardson. Are there any productions of his pencil extant? One who wrote so elegantly might be expected to have painted pictures of no common kind.

Opie also was both painter and poet. Are there any other recent instances of that very natural union? I know that Michelangelo and Raffaelle were poets; but "there were giants in those days."

2. Every circumstance, however trifling, illustrative of the early life of our great Newton, cannot but be worthy of record. In the rural village of Market Overton, on the borders of Leicestershire and Rutlandshire, there is a small mansion that appears to have been of some consideration, although now sadly dilapidated and poorly tenanted; and a tradition prevails on the spot that Newton, when very young, either resided occasionally or at least was a frequent visitor there. On the ceiling of the principal apartment there is painted a dial, the lines of which radiate from a bow window, and extend over the whole ceiling, the hours being marked on the ceiling on the opposite side of the room.

This curious piece of dialling is traditionally pointed out as having been drawn by Newton's own hand. No one could tell me (at my recent visit) in what way the hour was indicated: of course the usual gnomon would be altogether inapplicable. My idea is, that a mirror must have been fixed in the window-seat, so arranged as to receive the sun's rays and reflect them up against the ceiling. A basin of water would have answered the same purpose.

It was a pleasant fancy to place a dial in this unwonted position, but there is no denying its peculiar appropriateness in the young philosopher's study. Who could wish to replace it with the unmeaning flourishes of a plasterer or a decorator?

The house is fortunately the property of a gentleman well able to appreciate the value of this interesting relic, and no fear need be entertained of its destruction. SYDNEY SMIRKE.

* Those who desire a full account of the proceedings that have resulted in the erection of the church, with a minute description of the building and its accessories, will find both in the local *Gazette* of Oct. 15th, from which we have obtained the chief of the facts above stated.

LONDON SEWERS AND WATER.

IT is to be feared that the recent alarm caused by the condition of the Thames will be attended with more disadvantages than one. In some instances the water necessary for flushing the sewers has been withheld, and in many parts of the metropolis a serious stagnation has taken place, which must sooner or later be remedied. So long as the present system is continued it is evident that the public health in a great measure depends on keeping the sewers clear, and not permitting putrid matter to collect until it is forcibly removed by some violent storm of rain or flushing process at an improper time. In St. Luke's parish, where the population is in many parts immense, the surveyor reports that, before the Act of Parliament was passed which compelled the companies to filter their water and cover their reservoirs, a considerable quantity was allowed to run into the drains, and thence to the sewers: since then the New River Company has become so very stringent about water that the channels of the courts and alleys, the house-drains, and the small sewers are not properly washed down; the house-drains have become offensive in comparison with their former state,—and the sewers also; and a great deal of labour is required to keep these houses clean by flushing. Formerly a head of water for the purpose of flushing could be obtained in half a day: it now, however, takes two days to collect as much, during which time all the sewers above the flood-gate are converted into a stagnant cesspool, not acting as sewers at all; and, when drains that run into them lie low, keeping back the sewage matter in them. At a recent meeting of this vestry a resolution was passed, "That a further supply of water was absolutely essential for the purpose of flushing the sewers," and urging upon the board the great importance of the subject.

Mr. Joseph Morland (member of the Metropolitan Board of Works) said that the water supply was diminishing in proportion to the demand existing for it: he hoped, however, that when the main drainage scheme was carried out, the water would be purer than hitherto, and he looked forward ultimately to the public having an enormous supply of water.

Much dissatisfaction was expressed at the indifferent manner in which the poorer class of dwellings were supplied, and it was suggested that, if the New River Company did not do their duty, a supply of water might be had from the Grand Junction Company, or elsewhere. Mr. Churchwarden Walker was of opinion that there was no question but the evil would increase if steps were not taken. There was no disposition on the part of the New River Company to meet their views; therefore the Metropolitan Board ought to take up the question. "What the Government ought to declare was, let that element which is so essential to the health of a community be free as Nature has given it." It is to be hoped that before long the expectations of Mr. Walker, with regard to the quantity of water supplied, will be fully realised, although the cost of it to such a population as that of the metropolis must always be heavy. It is evident, however, that if the Metropolitan Water Companies do not properly fulfill their mission, we shall one day see a fresh system introduced, which will be as great an improvement as the New River was over the Thames Water-works of the Dutchman. Without entering now into this question, we would direct attention to the necessity which exists of keeping the sewers in good condition, and not allowing any congestion at the approaching spring. Advantage should be taken of the winter, to remove all impurities of this description in such cool weather as will prevent the rising of the gases, which justly cause discomfort, danger, and alarm.

PREVENTIBLE DISEASE.

THE great increase of scarlatina in the metropolis, particularly in certain districts, calls for the care not only of those who have charge of children, but also of the officers of health. The average number of deaths from this disease, for ten corresponding weeks, is 76; whereas the deaths from this cause in last week, amount to 115, or nearly double the average; and all these deaths except 10 occurred to children under ten years of age.

The increase of deaths from this preventible disease had been from 125 to 131, during the previous two weeks, up to the present amount. Six deaths are reported in the east district of Islington, and a number of fatal cases have also been reported in the west district of the same parish, where in many streets the drainage is very insufficient.

Those who have the health of parishes intrusted to them should take careful note of the localities in which fever prevails, and make them during the approaching cool weather the scene of sanitary improvements.

VOTES FOR CHAMBERS.

A CASE of very great importance has been brought under the consideration of the Registrar of Voters, at his court, which has been recently held in the Vestry-hall of St. Pancras. Mr. Huggett, a resident in the Model Buildings in Old St. Pancras-road, which have recently had the name changed from the "Metropolitan Buildings" to that of "St. Pancras-place," claimed in right of his occupation as tenant of a suite of rooms in this group of buildings the privilege of a vote for members of parliament in this division of Middlesex.

Mr. Cooke, the vestry clerk of St. Pancras, called upon Mr. Huggett to produce his receipts for poor-rates. Mr. Huggett said his chambers were precisely in the same position as those barristers occupied in the inns of court. They were of the clear annual value of 10*l.* per annum: he had exclusive control over the key; and he had occupied for a period of twelve months prior to the 31st of July last.

Mr. Cooke said his first objection was, that the occupation consisted merely of a room, and was not of a house, warehouse, counting-house, shop, or other building, within the meaning of the 27th and 30th sections of the Reform Act; and, secondly, that Mr. Huggett did not pay the rates. The building was rated as "The Metropolitan Buildings—a Corporation for Improving the Dwellings of the Industrious Classes." Mr. Huggett said the agent would find in Elliott, 151, that sets of chambers, in inns of court and elsewhere, were, to all intents and purposes, dwelling houses, precisely as if they were dwelling-houses under a separate roof. In the Court of Common Pleas, in the reports of Bacon and Arnold, p. 355, case of "Score *v.* Huggett," apartments were held sufficient; and in another case rooms were so. Mr. Cooke having objected that Mr. Huggett was merely a weekly tenant, contended that this was another ground of objection; but Mr. Huggett said that this objection was so novel, that he must call on Mr. Cooke to point out the clause of the Act which said the payment of rent had anything to do with the qualification:—"occupation" was the basis of qualification. As to the question of rating, he would show that great wrong had been done, not only to himself, but to forty or fifty other tenants, —many of whom had resided seven, eight, nine, and ten years,—in consequence of the *laches* of the overseers or officers of the parish in not complying with the law. Although not rated, he had put in a claim to be rated, on the 20th of September last, and he contended that if there were no other rate, then he was entitled to be placed on the then existing rate, and that under the 30th section of the Act.

Mr. Cooke produced the rate book, showing that Mr. Huggett's claim was not entered, and said, if it were, he could not be on the present list, which was published on the 31st of July.

Mr. Huggett, on hearing this, admitted that he feared he could not sustain his claim to be on this year's register, but he felt bound to endeavour to secure the franchise for himself and others.

NEW CHURCH FOR HOLBORN.—Mr. Hubbard, an ex-Governor of the Bank of England, has commenced the erection of a new church, which is to cost 10,000*l.*, in Baldwin-place, Holborn.

LAMINATED RIBS.

In Mr. Brodrick's description of the roof of the Leeds Town-hall, it is stated that "the laminated rib is the invention of a French engineer, at first suggested for a bridge over the Rhine, in the year 1811." This is not exactly correct, for in the seventeenth volume of the "Archæologia of the Antiquarian Society," p. 57, there is a full description of the dome of carpentry, erected about the middle of the last century, over the Halle au Blé, at Paris, by the Sieur Moulineau, a master carpenter. That dome was very large, framed with ribs in three thicknesses, the spaces between being filled with glazed lights. The extreme tenuity and simplicity of the construction of this roof are said to have struck the members of the Academy of Sciences at Paris with astonishment; and, I think, the carpenter Moulineau was, in consequence, elected a member of the Academy. The original roof was destroyed by fire about the year 1800.

There was also a temporary building of large dimensions, constructed by James Wyatt, R.A. with laminated ribs, in Carlton-gardens, for a grand entertainment given by George IV. when Prince Regent, about the year 1814."

C. H. Smith.

ST. MARTIN'S CHURCH AND ITS ARCHITECT.

We this week lay before our readers a view of the interior of the Church of St. Martin's in the Fields, London. The alterations mentioned in a recent number† have been completed, not exactly as we were disposed to recommend; for, the pedestals of the columns appear with the wooden dado painted white, and a slight cornice—the latter added. The method adopted seems to have been necessary, since the stonework was rough-faced, and would have required veneers to obtain the dimensions and appearance desired in the case of pedestals finished as stone. The shafts and bases of the columns, of stone, have been covered with two coats of copal. Having so recently given some particulars of the building and the alterations, and as the view sufficiently shows what is most worthy of notice, we shall use our present space to most advantage by supplying some particulars of the life and attainments of the architect.

The biography of architects, though certainly no unworked field, has yet to be taken in hand with the degree of research that is required, and the aptitude to glean from it illustrations of the circumstances of art at particular epochs, and deduce lessons for our own guidance—as, for example, in the evolution of a scheme of professional education. We cannot now supply the deficiency, but we may observe that the intellectual character of James Gibbs affords one more piece of evidence that something else than industry and knowledge of models is required to form the true architect. Facts of styles and structural contrivances may be got at with measurable quantity of study; but the difficulty of creating the artist-mind is well enough expressed in the saying as to the poet—that he is born and not made. We do not admit wholly the truth of that, but it is hard to define the line of junction of natural gifts and those belonging equally to the artist, which come of education.

Models alone may never form the artist; genius and study both may be required: still, by circumstances of the time and a surrounding atmosphere of intellect and taste, the mind may have insensibly imparted to it the capacity for art-production,—which thus becomes sometimes erroneously recognized as peculiar to an individual constitution, or to particular nations. This atmosphere it must be the business of architects to produce, by the advancement of art generally, and the education of the public. But, what were the circumstances of architecture in England during the eighteenth century? The costly churches erected in London; the public buildings and country mansions by Vanbrugh, Hawksmoor, the Earl of Burlington, Kent, Paine, Campbell, James, Wood, and Carr, and down to the time of Sir Robert Taylor and Sir William Chambers; many works on architecture that were published,—some of them like the "Book of Architecture," by Gibbs, produced at much expense; and the attention that was given to the study by many amateurs, would seem really to imply an existence of that very power of perception and aptitude of public appreciation which later architects complain that their labours seldom meet with. There is scarcely a public building or a mansion of that date, that does not in some doorway, or a staircase, or the ornamentation of a ceiling,*—bear a character of *art* for which, as we have lately remarked, we look in vain now, where architectural details are profusely used.

It is not easy to grapple with the facts of either that time or our own. In the former case, an exclusive study of one class of models ended in the abrogation of the art-qualities of architecture, though not without the production of many admirable works by the way. In our own day, more remarkable for the number of its buildings claiming the aid of architecture, we have sometimes gone to another extreme, and given variety of style rather than variety of art. That, now indeed, our art probably is in a more hopeful position than it has for many years attained, needs to be shown only by allusion to the buildings which the last few years have produced in our towns, or which are in progress. We have, however to avoid two errors;—one, that of the eighteenth century, the studying only one class of models, to the deadening of art; and the other, that from which we are emerging, and which is equally fatal to art, as also to public recognition of it, the imitation of a great number of styles, under the delusion that we are so affording novelty and variety, or so practising and expressing architecture—the art.

James Gibbs was one of those who had great qualifications in the technicalities of architecture, but not corresponding power otherwise. His steeples, of which he has left several designs besides those which were executed, have less art as well as variety in them, than those of Wren,—although their details are of more choice Italian. His best efforts at St. Martin's Church, the interior and the portico; in the Radcliffe Library at Oxford—its general outline and its interior; and in the steeple of the church of St. Mary-le-Strand, are accompanied by much that is incongruous and with little beauty in itself. The flanks of St. Martin's Church, and indeed the steeple as to its position over the portico, are of this character; and the steeple of the church in the Strand, though far superior to that of St. Martin's, is joined to a building which has disproportionate height without the verticality in details which should coincide with such apparent height—as it does in the Gothic. There is in this building no real grouping of the details, and subordination of them to a general result; there are only a number of parts, and the subordination as regards parts of a story. The industry, and the great abilities also, in many respects, of the architect, are shown by his published designs, in which are included not merely churches and mansions, but a large number of monuments, chimney-pieces, and ornaments.

He was born at Aberdeen—about the year 1674, according to one authority, and in the year 1683, according to another. Having taken the degree of Master of Arts at the Marischal College, in his twentieth year he visited Holland, where he was employed by an architect, and remained till the year 1700. By the advice and assistance of the Earl of Mar, he next visited Italy, where he remained ten years—much of the time at Rome, where, we are told, he studied under one Garroli, an architect. On his return to England, the earl, who was in the ministry, recommended him to the commissioners for building the fifty churches. It was ten years, however, or in 1720-21, ere his first church, St Martin's, was commenced. It was completed five years' afterwards. Meanwhile, or in 1724, he had commenced "The Fellows' Building," at King's College, Cambridge, which is certainly not remarkable for either novelty or elegance. The Senate House, "after a design by Sir James Burrough," but altered by him, had been commenced in June, 1722, and it was completed and opened in 1730. The cost was about 20,000*l*. Nothing is more remarkable in particulars of buildings of the time than the lengthened period they were in progress, and their enormous cost. The Senate House is a simple rectangle on plan,—the interior being 101 feet by 42 feet, and 32 feet in height; and the decorative features are merely pilasters and attached columns,—the latter as centres to the ends and flanks of the building, with pediments in each case,—and ordinary window dressings, and a crowning balustrade. He also erected the Royal Library.

For St. Martin's Church he had first submitted two other and alternative designs, in both of which he adopted the circular plan. The portico is of course traceable to that of the Pantheon at Rome, as precedent, though it omits the very features which give that example much of its excellent character. We refer particularly to the internal columns. The lower base of steps, enhancing the effect of the portico, and the retaining wall to the graveyard, with the expensive and unsightly iron railing, which not only encloses the yard, but the portico also, were added when the levels of the surrounding ground were altered by the formation of Trafalgar-square and Duncannon-street. It will be recollected that on consideration of the scheme for the erection of the National Gallery, so much was thought of the portico of St. Martin's, that the front of the first-named building was arranged to be set back, and the space for pictures was reduced to what has been now found so entirely inadequate On the removal of the paint from the doors of the church, some weeks since, gun-shot were found thickly embedded—a relic, perhaps, of the Gordon or other riots.

The interior is so far superior to the exterior, that it might pass for the work of another hand.

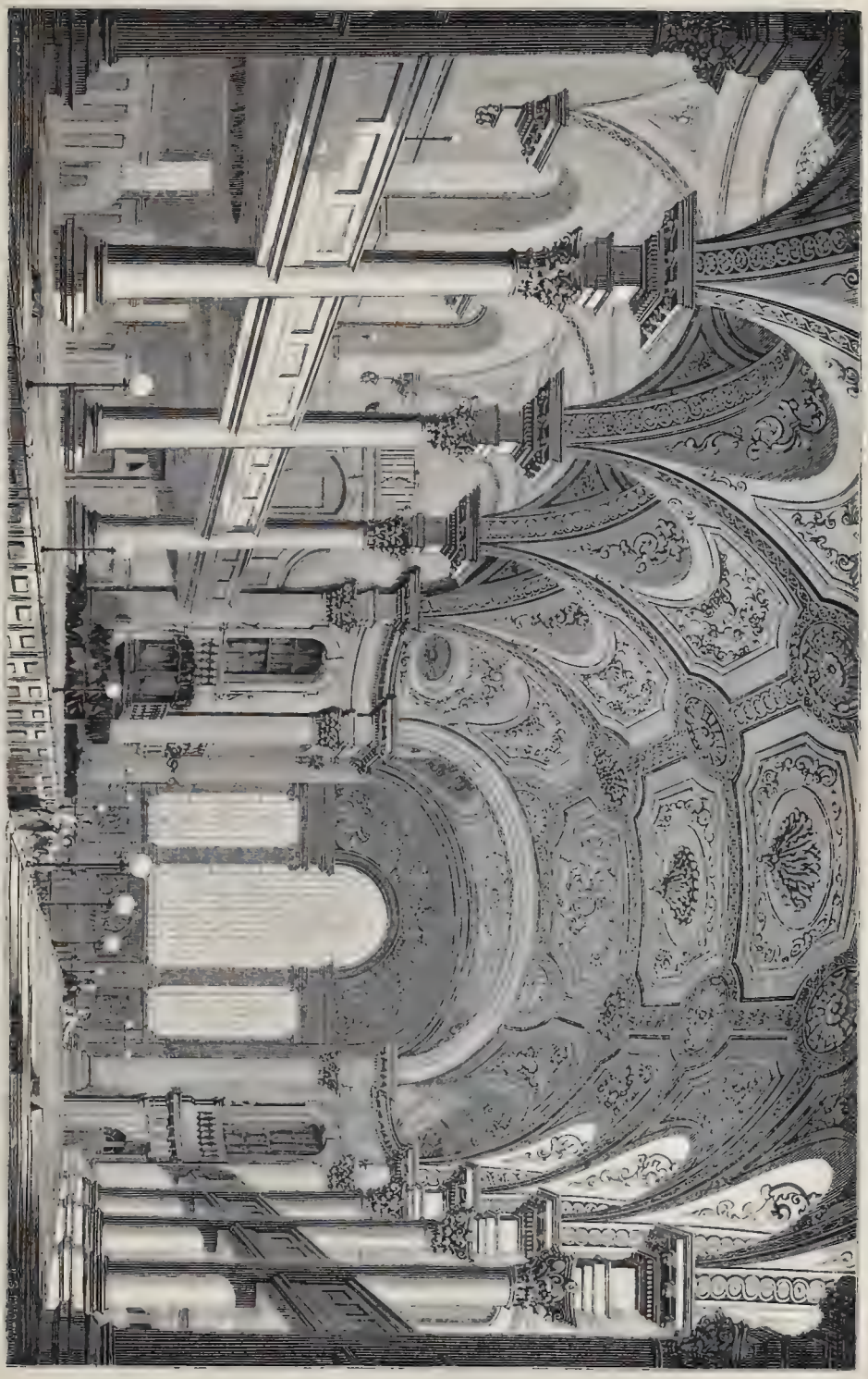
Gibbs also designed the main portion of the steeple of the church of St. Clement Danes. He was the architect of All Saints' Church, Derby (the original tower being left); and of the Marylebone Chapel, and *also* of "the new church at Derby," according to Mrs. Cresy's edition of Milizia. He also designed St. Bartholomew's Hospital, and a considerable number of private houses. Probably his best work, however, is the Radcliffe Library at Oxford, the well-known circular building with a dome, which, in the words of Mr. Gwilt, "in a distant view of the City, connects, with singular felicity, the different and varied public buildings" of the university. Whether it was knowledge of such effect that led Sir Charles Barry to his design for the Public Offices—the style of which, different to that of the Houses of Parliament, as well as the dome in that design, he justified before the committee, and so opened out questions as to the value of contrast which we alluded to in a late article, we know not; but the effect at Oxford, may be borne in mind by those who are disposed to pursue these questions—which are not merely curious, but are of exceeding importance to just views and desired progress. For the effect at Oxford, just spoken of, credit need not be given to Gibbs. The building itself, externally, may have some merit of outline, but is much wanting in elegance of detail. The doorways, and the square windows like those of a mezzanine which he was fond of using, are particularly objectionable. What we should call the *tambour* of the dome is strengthened externally by piers and buttresses, and is carried internally on arches rising from piers with clustered pilasters and entablature. A balustraded front to the gallery intersects between pier and pier. The ceiling, or soffit of the dome, is panelled in hexagons and triangles. The plan has a diameter of 140 feet from outside to outside, and the dome has a span of 105 feet. The building was commenced in 1737. On its completion (in ten years) Gibbs published an account of it.* Some of the monuments in Westminster Abbey, which are remarkable for their use prominently of columns and pediments, or other details architectural, are by Gibbs. Several are creditable to the designer; but we had not them particularly, in view in what we urged some time back as to the use of architectonic principle and architectural detail in monuments by sculptors. Predominant in mere architecture, rather than in the art of the sculptor, they are rather instances of misconception of the fitting use of architectural details and members.

Gibbs's "Book of Architecture" appeared in 1728: it includes his executed works, and with minor subjects, some hundreds of designs—testifying, at least, to his industry. The list of subscribers to a work, chiefly of plans and elevations, may be adduced in evidence that considerable interest was then taken in architecture by the opulent classes. But besides this work, and the other we have named, he published in 1732, with plates, a work entitled "Rules for Drawing the several Parts of Architecture in a more exact and easy Manner than ha been heretofore practised, by which all Fractions in dividing the principal Members and their Parts are avoided." This work came to a second edition in 1738. Gibbs died on the 5th of August, 1754, leaving property amounting to about 15,000*l*. His extensive practice and fame were greatly due to his having introduced the portico of the old Roman style, or a modification thereof, into English architecture. His general manner, unless with the exception of the interior represented in our view, and some other matters of design that we have spoken of, was not characterized by grace, or much invention: in fine, his industry and acquirements fell short of constituting him an artist, and the complete ideal of the professional architect now held in prospect.

* Correspondence on the subject of laminated ribs will be found in one of our earlier volumes.

† See p. 655, *ante*.

* "Bibliotheca Radcliviana," &c. folio, 23 plates. London, 1747.



INTERIOR OF ST. MARTIN'S-IN-THE-FIELDS, LONDON.—James Gibbs, Architect.

ELECTRO-TELEGRAPHIC PROGRESS.

Rumours have just been published (Thursday) that a new message has been received from Newfoundland at Valentia, *viâ* the telegraph worked by Daniell's battery; but that there is still little hope of any message from Valentia reaching Newfoundland, without dangerous efforts, owing to the serious fault which is still recognized, and which has not been amended. The scientific and wonderful fact, of which so much use has been made, that it has been discovered that *the* fault lies precisely 300 miles or so away, ought to be taken *cum grano salis*. Trusting to such a method of detection, a good deal of unnecessary trouble is said to have been occasioned in another case, in which it was eventually discovered that the fault lay close at hand: and so long as the indication of distance depends partially on the unknown *extent*, as well as number, of the hidden faults, and can be simulated in a tub of water by giving an artificial fault sufficient extension, we can hardly see why such indications should be trusted to at all.

After all, however, the chief faults may literally where everybody feared they *would* show themselves, in the defective construction of the cable. Its *safe* deposit astonished every one; and the public dread that it would *not* bear *full* deposited would appear in fact to be justified by the result, even notwithstanding the temporary and apparent success at the outset.

Almost every point of principle in the construction of oceanic cables urged by us some weeks ago has been reventilated and favourably considered. The iron warping wire is voted a worse than useless dead weight, and hempen rope is in the ascendant. The imperfection of gutta percha (and it may be of most or all other substances, be it remembered) as an insulater (there being no absolutely perfect insulater known) has been again brought under notice, and india-rubber, for other reasons, resuggested for new experimentalisation. Even the adequacy of the thickness of the gutta-percha covering, as an insulater in oceanic telegraphs, has again been brought into question, and the extreme fusibility, or liability to soften and melt with small heat (or pressure?) of the substance, also deprecated.

Out of all these and other questions, surely something advantageous will ensue. Our greatest fear lies in the undue confidence which some practical men appear to have in the principle of telegraph cables for the ocean as at present constituted. Mr. Jacob Brett, to whom ocean telegraphy is more indebted probably than to any one else,—though Jacob's blessing (of knighthood) has rested on Esau's head,—one week insists that the Atlantic cable is all right as to principle, repels all suggestion not originating in "the shop," and threatens that "another of the same" will be "cast into the sea" next summer, to brave "the chapter of accidents," and "without questions or doubts;" although he at the same time feels compelled to admit the liability of the present cable to faults; the fact that, how best to get rid of "induced currents," is still a moot question; that even already a discovery has been made, by which the means of insulation have been improved 50 per cent.; that one solid copper-wire would have been much better than seven slender twisted wires; and, also, while still insisting that all this is "well;" that hempen rope will not do (magnetic and electrical disturbance and heavy dead weight of the iron envelope notwithstanding); that the press ought not to offer ("impracticable") suggestions "as if the only solution of ocean telegraphy had yet to be discovered;" and that "we had but to lay cables as" he "had done in the Mediterranean, without questions or doubts of electrical or mechanical impossibilities, and there would be no fear of the means to work through them, as is now *not* proved in the instance of Professor Thomson's," when he, and behold! news comes, *viâ* France and Galignani, in respect to the very "Mediterranean" phœnix itself:—

"*Mr. Brett*, gérant of the Mediterranean Submarine Telegraph Company, *represented* on Saturday to the President of the Civil Tribunal sitting in Chambers, *that the cable* between France and Algeria, *viâ* Sardinia, which had been laid down by the company, and which had been supplied by Messrs. Newall, Siddell, and Gordon, English contractors, *did not work well*—some of the signals transmitted arriving incorrectly, or not at all—and that, in consequence, the French Government had declined to accord the guarantee of interest which had promised for the establishment of a telegraph to Algeria. *He therefore prayed* that *experiments* should be made on the cable and report on *its defects*, and that the contractors should be made to effect all necessary repairs. Messrs. Newall and Co. contended that the application ought not to be granted, inasmuch as they had delivered the cable within a given time, and *it had been laid down and worked well*, which was all they had contracted to do. The court declined to interfere."

What we say is, that practical men such as Mr Brett are too confident in their assurances, and too apt to push *business* hap-hazard, trusting, as we have just said, to the chapter of accidents; and that our greatest peril of having oceanic telegraphy knocked on the head threatens us now in the very quarter whence the noble endeavour originally emanated.

It has been stated, as an example of "what English workmen can do," that "the workers and crews of the Electric Telegraph Works, Greenwich, with their foreman," have "carried a complete communication between Holland and England 110 miles—between the two countries in forty eight hours, and a communication received from land to land, to the astonishment of every one present. It is stated by all scientific men to be a most extraordinary work." It must be remembered, however, that the Atlantic cable was laid [illegible] Gales.

IRELAND.

The new Roman Catholic Church of the Immaculate Conception, for some time in progress of erection at Wexford, has been dedicated. A few years since there was no parochial church, and now there are two within 200 yards of each other, and similar in every respect, except in a few minor details, a circumstance, perhaps, unprecedented. The building we speak of stands nearly in the centre of the old tower, on a declivity, with a fall from west to east, which gives the chancel an appearance of great height, and consists of nave and side aisles, the extremities being screened off to form side chapels, north and south porches, and sacristy, and tower at west end. General dimensions, 100 by 60 feet in width; height to top of spire, about 200 feet. The north and south porches are approached by flights of steps, with open Gothic railings: lofty Pointed arches, springing from chiselled granite columns, separate nave from aisles; and the chancel has screens supported on slender marble shafts, on which rests bold and graceful tracery. A clerestory, with divided transverse windows in couplets, rises above the arches of the nave; and the roof is of open timber-work, panelled, stained, varnished, and having coloured decorations. The eastern window has seven lights, tracery in the head; and is filled in with stained glass, containing subjects of the Crucifixion, the Blessed Virgin, and St. John, and with compartment figures of SS. Celestine, Patrick, Cuthbert, Columbanus, Columbkill, &c. and cost 350*l.*, the gift of Mr. Breen and his sister, of Virginia, U.S. The temporary altar is formed of wood, painted and illuminated with gold and rich colours. In the chapel of the Virgin, at the south side of the chancel, is an elaborately carved altar and reredos, in marble and Caen stone, the gift of J. Devereux, M.P.; as also a stained-glass window, the gift of the Rev. J. Roche, P.P.; and the side window of the lady chapel is the gift of J. H. Talbot, esq. The Countess of Shrewsbury has also been a liberal contributor towards other decorative requirements, and Mr. J. J. M'Carthy, the architect, presented a coronal lamp. The floors of the chancel and side chapels are laid with Minton's encaustic tiles. An organ, by Telford, of Dublin, enclosed in an elaborately-designed Gothic case, has been erected. The walls of the aisles are adorned with various subjects. Mr. Thomas Willis is the contractor; Mr. Sinnot, superintendent of works. Messrs. Hardman supplied the stained glass; Mr. Lane, the altars; and Mr. Earles, of Dublin, executed the decorations on the walls and other portions. Cost, about 10,000*l.*

The new church at Glencraig, in the diocese of Down and Connor, erected on a site granted by Miss Symes, is in the Pointed style, and has a tower 60 feet high. A new church has also been built in the parish of Killievan, diocese of Clogher.

A Scots church is in progress of erection on the new quay at Athlone. It is in the Pointed style, a parallelogram on plan, with tower and entrance at south east angle; and interiorly is 60 feet in length by 21 feet in width, the height to ridge being about 35 feet. In the eastern gable is a three-light window, with tracery and hood moulding; and in the western is a wheel window, with tracery likewise. For the flanks, one wall of an existing building is used, and the new one is *not* pierced with windows, but dormers are introduced in the roof (supported on the purlins), which will be of open timber-work, stained, varnished, and panelled. The tower is flanked with buttresses, and up to the level of their caps is square on plan, but then assumes an octagon shape, and is capped with a deep, bold weathering, which connects it with the spire, which has perforated Gothic openings at the base, and is terminated by a metal vane. The total height to top of spire is about 60 feet. Mr. E. P. Gribbon, architect; Mr. R. Smith, contractor. Expenditure, about 800*l.* Material, punched limestone, with chiselled dressings, &c.

PROVINCIAL NEWS.

Tattersett and Tattersford (Norfolk).—The new church-school which has been erected at Tattersett for the united parishes, was opened on Tuesday, the 5th instant. The visitors, to the number of eighty, amongst whom were many fair ladies and a large number of the clergy, partook of a luncheon in the school, after which there was service in the church, and a collection in aid of the school fund. The building, which contains a school-room, 35 feet by 16 feet; class-room, girls' and boys' porches, and teacher's residence, is built of stone, taken from the neighbouring gravel-pit, with bands and dressings of red bricks. Mr. Lightly, of London, is the architect; and Mr. Turner, of Fakenham, the builder.

Great Yarmouth.—At a recent meeting of the committee for the restoration and completion of the Nelson Monument on the South Denes, Great Yarmouth, it was stated that the subscriptions now amounted to 448*l.*; and that Mr. Morant, the town-surveyor, had prepared plans and estimates. Mr. Morant considered that about 100*l.* would suffice to repair the caryatides and the figure of Britannia, and that about 150*l.* would be required to inclose the enlarged area with an appropriate fence, instead of the present unsightly wooden palings. To these sums it would be proper to add 100*l.* for the expenses of printing, advertising, architect's commission, and other incidents, so that the present deficiency was about 200*l.* It was therefore unanimously resolved, "That the works be commenced by repairing the caryatides, the figure of Britannia, and the stone platform at the base of the pillar; for which purposes the present subscriptions were considered sufficient; that endeavours be made to raise the additional sum required for the completion of the works; and that Mr. Morant be instructed to prepare a plan and detailed drawings of the intended ornamental fence, to be submitted to the general committee.——It is proposed to form a public company, under the Limited Liability Act, for the purpose of establishing public baths and reading-rooms at Great Yarmouth. The site selected is the open space to the south of the Victoria Hotel, adjoining the Victoria-esplanade and Marine-parade, and immediately opposite the west end of the Wellington-pier. The plan comprises in the front, facing the sea, a public reading-room, 50 feet in length by 30 feet in width, to be supplied with newspapers and periodicals, and in which balls and concerts can occasionally be held. On one side there will be a private reading-room, exclusively for ladies; and on the other a billiard-room. Behind the public rooms it is proposed to construct a swimming-bath, 60 feet in length by 40 feet in width, covered by a glass roof, and surrounded by dressing-rooms. It is calculated that the cost will be 3,000*l.* which it is proposed to raise by 150 shares of 20*l.* each.

Lowestoft.—Notices have been issued inviting tenders, from "Lowestoft builders," for the erection of a new townhall here.

Norwich.—During the last six months extensive alterations, restorations, and improvements have been in progress at the Bishop's palace in this city; and on the north side of the palace an entirely new wing has been erected. Mr. Christian, of London, was appointed the architect, and Mr. Espennett clerk of the works. Mr. J. Brooks obtained the contract. Mr. Wiseman is sub-contractor for the bricklayer's and plasterer's work. Mr. Stanley for the stonemason's work, and Mr. Devereux for the plumber's and glazier's work. The palace is now detached from the cathedral a distance of 20 feet. At the north end the palace has been extended by new buildings from east to west a length of 110 feet, and from north to south 85 feet; height, 35 feet, the same as the old building. The new building includes the basement and three stories above. During the progress of the works in the south side of the old crypt a Norman arch was discovered, and it is intended to make a new arch into the crypt. The old walls forming the passage to the north transept of the cathedral have been taken down, so that the north transept is now laid open. The present chapel has been restored and re-roofed, the roof being waggon-headed. There is a new west gable, with a new window, of the same style as the others. The old windows are to be repaired, and new mullions introduced into them. During

the progress of the works archæologists have made some discoveries on the east side of the garden near the chapel. On the occasion of the "roof-raising," the Bishop gave a dinner to the contractors and workmen. About 130 persons sat down to the repast.

Arlsey (Bedford).—The works of the new Lunatic Asylum at Arlsey are progressing. The roofs to the principal building are nearly raised. On the 30th ult. an entertainment was given by the committee of visitors to the workmen and their wives, to celebrate the "roof-raising." Mr. Webster is the contractor, and Mr. Weaver clerk of the works.

Blandford.—The design decided on for the Corn Exchange here has an elliptical roof, the central portion of glass and the lower covered with slate. The principal business-room will measure 75 feet long by 36 feet wide, and from the floor to the glass roof 27 feet. The building will be approached from the Market-place, through the court under the Town-hall, and immediately entered through a short corridor 12 feet wide, thus opening to view from the Market-place through two archways, nearly the whole of the front entrance to the Exchange. The building was designed by Mr. James Green, of this place, who will superintend its erection. Tenders seem to have been applied for from Mr. A. H. Green and Mr. W. Ridout. Mr. A. H. Green's being the lowest, viz. 645*l.* was accepted. The works are to be completed by the 31st of December next.

Cheltenham.—The Battledown estate, occupying the slope of the Cotteswolds to the east of and immediately overlooking Cheltenham, has been recently purchased for conversion into building land, whereon to erect a number of villas suitable for first-class residences.

Wellington.—The new constabulary station erected on part of the Court estate, about equidistant from the railway station and the centre of the town, is about ready for occupation. It is a brick building, containing two lock-up cells, rooms for the resident sergeant of police, out-offices, yards for exercise, &c.; and the first floor is fitted up as a police-court. It is designed to hold the petty sessions, hitherto held in the Town-hall over the Market-house, in the new room. The contractor for the building is Mr. W. Oland, of Wellington.

Stroud.—At a recent meeting of the local Board of Health, the surveyor brought forward his plans and estimate for the drainage of this town. His estimate of the total cost was 8,630*l.* The plans were referred to a committee.

CHURCH-BUILDING NEWS.

Hanley Castle.—The old church here has been partially restored. The chancel, choir, and tower are of brick, and the stone walls of the nave and aisle were covered with plaster. This has been removed, and a curious medley of stone of different sizes has been discovered. The interior walls have been re-plastered. The windows have been scraped and pointed, and new stone inserted where required. A new window has been placed in the south side of the chancel, which is to be filled with stained glass by Miss Lechmere. The principal chancel window is also new, and is to be filled in a similar manner as a memorial to the late Sir E. H. Lechmere, the subject being the "Crucifixion." There are six two-shafted windows lighting the nave and aisle, which it is intended ultimately to fill with stained glass with effigies of the twelve apostles, two in each window. One has already been fixed upon as a memorial window by a resident in the parish. The new south porch is built of stone from Eldersfield and Alvechurch. The north porch is built of English oak, and there are oak ornamental gates to each porch. The nave and aisle ceilings have been taken away, and the open timber roof exposed. The aisle roof was found to be in a state of decay, and a new deal roof has been put in. The roof of the nave was found to be in good condition, and it has been cleaned and plastered between the rafters, as also in the aisle. A new deal panel ceiling is placed in the tower, and a new roof in the chancel, of oak, with oak moulded ribs and boards. A new window has been put in the tower to light the choir. The floor of the nave and aisle are laid with Minton's plain tiles, and Minton's encaustic tiles on the chancel floor are being re-laid. The modern pews, put in about thirty years ago, are all removed, and are being replaced with open seats of oak. The new seating has been prepared by Wyatt, of Oxford, after the old pattern. The whole of the restorations are at the cost of Sir E. A. H. Lechmere. Mr. Street, of London, is the architect. The screens, stalls, pulpit, and roofs, and the masonry, are by Mr. John Griffiths, of Eldersfield; the wood carving by Mr. Chapman, of Oxford; and the stone carving by Mr. Forsyth, of Worcester.

Compton Martin.—On the Feast of St. Michael and All Angels, the parish church of Compton Martin was re-opened, after restoration and repair. All the old square pews have been removed, and new open seats substituted. The old Norman chancel has been restored, and a new stone screen and stone pulpit erected. The whole has been carried out by Mr. Hughes, contractor, of Bristol, after the designs of Mr. S. B. Gabriel, architect. The east window has been filled with stained glass by Mr. Wailes, and consists of three medallions, with a suitable border. The subject of the middle one is the Crucifixion; of the upper, the Ascension; of the lower, the Last Supper. This window has been presented by Mrs. Hardwicke.

Winterbourne.—A new church has been raised here chiefly through the liberality of a family in the neighbourhood. The site is between Winterbourne and Frenchay. The edifice is capable of accommodating over 300 people. It consists of a chancel, nave, and north aisle.

St. Kea (Cornwall).—A school-church has been built within the precincts of the old church of St. Kea. The little building consists of nave and chancel, the former used for a daily mixed school. The roof is open, the rafters resting on granite corbels. The chancel arch is supported on pillars of Bath stone, the capitals wreathed with carved oak leaves and acorns. The floor, raised a step above the body of the building, is of coloured tiles. There are two small lights of stained glass. On the western gable is a bell-turret surmounted with a cross, and there are crosses also on each of the gables.

Gloucester.—The work of restoration at the cathedral is progressing. The great western window of the nave is being prepared for the reception of stained glass, and the mullions and tracery are under repair. The new window is a donation from the Rev. Thomas Murray Browne, and will be erected as a memorial to the late bishop of the diocese, Dr. Monk. The works in the chapter-house are nearly finished: the walls are divested of their coat of whitewash, and the spacious room, about 72 feet in length by 34 feet in breadth, is now to be appropriated to its original purpose—that of a chapter-house for the meeting of the clergy of the diocese. The library, which was first established for the use of the Parliamentary soldiers, is removed to the apartment lately used as the college school, and the public are to have freer access to it than formerly. Several stone coffins were discovered underneath the floor, which is being paved with encaustic tiles.

Uley (near Dursley).—The Church of Uley has been consecrated. The whole outlay of rebuilding a suitable church for 400 persons was calculated at 2,500*l.* This amount has been realised, with the exception of about 200*l.* The church, which is dedicated to St. Matthew, has been built by Mr. C. T. Jackson, of Uley. It is in the Gothic style of architecture, and consists of a nave and aisle, with a tower on the north side, surmounted by a florid pinnacle. The seats are open, and of stained wood, as also is the roof. The floor is laid with coloured tiles.

Forest of Dean. The New Baptist Chapel at Coleford is completed. Mr. Searle, of London, is architect, and M. H. Blanchard, of London, contractor. The cost is nearly 2,000*l.* and the chapel is capable of holding 1,000 persons. The former chapel will be devoted to the purposes of a school-room.

Culmington. — Some restorations have been effected in the village church of Culmington, near Ludlow. The work was entrusted to Mr. Overton, of Corfton, and Mr. T. Pugh, of Munslow. The principal timbers of the roof were freed from whitewash, scraped, and varnished; the pews replaced by stalls, the gallery removed, and an entrance was made at the western end. Two new windows were also opened out, there and two others being of stained glass. A vestry was erected. The total cost was about 200*l.*

Middlewich.—The old parish church of Middlewich, which has been restored, newly arranged and beautified, was re-opened on the 7th inst. The whole of the stone work in the interior has been restored, and the floors levelled to their original position. The bases of the pillars, arches, &c. have also been restored, and the old-fashioned seats supplanted by stalls. The galleries have been removed. A new entrance has been made at the west end, and a window introduced into the basement story of the tower, which latter is made into a baptistry. The Kinderton Chapel has been restored by J. F. France, esq. of Bostoc Hall. The ancient chancel has been restored by Archdeacon Wood. The work has been executed under the superintendence of Mr. S. Faram, builder, from architectural designs by Mr. J. Clarke, of London.

Congleton.—The foundations of St. Stephen's Church, Congleton, says the *Macclesfield Courier*, are now being laid on the site near Brook-street, and the building will soon begin to show itself above ground. It is to be, like St. James's Church, of Early English architecture, with steep roof, and small round upper windows; and is to be so constructed (being rather wide in proportion to the length), as to be capable of having the western end wall removed, and the church enlarged, by being lengthened when required. For this reason, as well as for present economy, the plan does not include a tower. This will probably be hereafter placed near the south-east angle, as there will not be room on the bank where the church is being built to place it at the west end of the building after the enlargement.

Llanrhyddlad.—On the 6th inst. the church here was consecrated. The design is Early English, and the edifice comprises on the ground-plan a nave, the dimensions of which are 64 feet by 27 feet, and a chancel, 22 feet 6 inches, by 20 feet 6 inches over the walls outside, the walls being 3 feet thick. On the south side in the second bay, from the western wall rises a tower, which is 11 feet square, outside dimensions, exclusive of the four buttresses on the south-east and south-west angles, and is surmounted with a broach spire, the joint height of which, and of the tower, is 88 feet. The lower stage of the tower serves as a porch. The roof, which is slated on open timbers, is of a sharp pitch, the timbers, where exposed, being stained of a dark tint. The seats, which accommodate 252 persons, without a gallery, are simply varnished on the timber, so as to bring out the grain. The chancel is attained by three Anglesea marble steps, and is enriched by an eastern window, in three compartments, and crowning tracery, filled with stained glass, by Messrs. Forrest and Bromley, of Liverpool. The design represents our Saviour, in the centre compartment, flanked by St. Peter and St. Paul, the three figures being under canopies. The upper part of the window, in the tracery, is filled in with various devices, including the dove in the highest compartment, with the Alpha and Omega, and the sacred monogram immediately below it. The seats at the west end of the edifice are raised above one another, against the west wall; and a harmonium and the singers are placed on the upper platform. The church is warmed by hot-air apparatus, furnished by Mr. William Burnett, of Liverpool. The cost of the whole will exceed 1,000*l.* The plans have been prepared by Mr. Kennedy, of Bangor, architect, under whose superintendence the works have been carried out by Mr. W. T. Rogers, of Beaumaris, builder.

CAMBRIDGE ROYAL ALBERT SOCIETY'S ALMSHOUSES.

SIR,—Some months ago the committee of this society decided to build eleven sets of almshouses: they accepted the offer of a local architect to supply designs and specifications gratuitously; and they found, as people generally do in the long run, that gratuitous services are worth just what they cost. These gratuitous services, however, singularly enough, included an item of 15*l.* which each competitor was directed, by the specification, to include in his estimate, for working drawings. The committee expressly stipulated that the cost of the building was not to exceed 125*l.* per set. The architect prepared his estimate accordingly, and assured the committee his design could be executed for the sum named. There were numerous tenders, the lowest of which was about 213*l.* per set.

The funds at the disposal of the society not permitting this outlay, the whole of the tenders were rejected, and the architect left to his reflections.

The next step of the committee was to advertise for competition designs, offering the magnificent sum of ten guineas for the one most approved, and *not* guaranteeing to employ the architect to carry out his own design. When I read the advertisement, sir, I looked upon it as an insult to the profession of an architect. How very much I was mistaken is proved by the fact of there being about *sixty* people (let us hope not all architects) who sent in drawings. Surely, sir, the profession must have little to do, when no less than sixty architects (?) are found to spend their time in a competition honestly worth from thirty to forty guineas, for which only ten are offered, with the chance of not being employed to carry out the work after all. And several of the competitors

sent in two and even three elevations, their object evidently being to get a job at any price. This practice cannot be too strongly reprehended. Each architect must know which, under the circumstances, he considers the most suitable design, and should adopt this and no other.

It appears that three of the sixty architects were rash enough to attach their names to their drawings. These the committee rejected at once. But they quite forgot their former lesson, and did not reject the numerous designs which evidently could not be carried out for the stipulated sum of 1,800*l*. In fact, the collective wisdom of the committee suggested the following very simple process:—Each member selected the particular design which, itself, pleased him best. As there were twelve members, of course twelve designs were chosen (it would not have done at all for two people to choose the same design, that would have shown great want of originality); and the local paper tells us, that one chose an elevation because it was nicely coloured, and another one, because it had such beautiful deep shadows—no doubt suggestive of repose to the future inmates,—and another had a pretty spire, and so on. The twelve were afterwards reduced to three, neither of which, I am told, is likely to be executed at the stipulated cost. Whether the author of the selected design be eventually employed to carry it out remains to be seen.

Such, sir, is the history of this very instructive competition: in fact, it is so instructive, that I am induced to ask you to give this narrative a place in your journal. And I should be glad to be informed what are the objects of the Institute of British Architects, and how many of the competitors for the Cambridge Almshouses are numbered amongst its members. OBSERVER.

P.S. I may just say that I am not in any way connected with the Royal Albert Society, am not an architect myself, nor do I even know the name of a single competitor, other than the five published ones.

MAIN DRAINAGE OF LONDON.

THE committee appointed on Friday, 15th, by the Metropolitan Board of Works, called "The Main Drainage Committee," to which have been referred many important questions in connexion with the main drainage of London, met on Tuesday for the first time: eleven out of twelve members attended.

Upwards of one hundred acres of land will be required. The committee had under their immediate consideration the appointment of a special officer, to enter upon the necessary arrangements with the landowners and others, whose property may be required for the important public purposes to which it is to be appropriated. The appointment of the officer was deferred until their meeting on Tuesday next.

The Sewer-rate Payers' Association are making arrangements to hold public meetings in opposition to the course adopted by the Metropolitan Board.

GAS.

IN the spring of the present year, a gas company was formed at Ramsey, in Hunts, under the Limited Liability Act. Mr. Jabez Church, gas engineer, Chelmsford, was engaged by the directors, and the works have just been completed. There are eight ⌂ shaped iron retorts, set in stacks of one, three, and four, to suit the varying consumption of the town. The gas-holder is 28 feet diameter, and 14 feet in depth. The condenser, scrubber, and washer, are all combined in one apparatus. The principal main is 5 inches in diameter, diminishing to 4 inches, with 3 and 2 inch branches respectively. The gas is said to be of good quality. Messrs. Headly and Manning, of Cambridge, were the contractors for the gas-works, and Mr. Isaac Bateman, of Ramsey, builder, the contractor for the buildings.——The Lincoln Gas Company, at their half-yearly meeting, have declared their usual dividend of 10 per cent. with a bonus of 5 per cent. in addition. ——The *Birmingham Journal* speaks of "a new light," which appears to be derived from petrolene, a fluid hydrocarbon, analogous to naphtha, but not explosive, like it and camphine. It is said to yield a pure gas-light, without smoke, smell, or blacks. Petrolene is said to be one-third the cost of sperm oil, while giving double the light. It is prepared by distillation from coal at a low temperature. Was it Faraday who said that the perfection of gas-lighting would consist in the reduction of the lighting agency to a solid state? We have here an approximation to such a state; and we observe, near Middle-row, Holborn, in a lamp manufacturer's, a very pure-looking and clear but rather feeble gas-flame, produced from some liquid hydrocarbon like petrolene, and said to be non-explosive. For lighting small apartments such lamps may be very useful.——The rising and improving town of Burnham, in Somerset, is about to be lighted with gas. The plans, &c. have been prepared by Mr. C. W. Kerby, of Nottingham, gas engineer; and the execution of the works has been contracted for by him for the sum of 1,186*l*. The works are to be completed in December.——We believe the Carnarvon new gas company intend to reduce the price of their gas from 7s. 6d. to 6s. 8d. and reduce the charge for hire of meters; and as they wish to extend the consumption of gas, they mean to afford every facility for its use in all places of business and in dwelling-houses of every description; and should their efforts prove successful in this respect, it is said they will still further reduce the price.—— The contract for lighting the camp at Aldershott during the winter months has been taken, we hear, by Messrs. Defries, of London.

WOODEN SHEDS AND THE METROPOLITAN BUILDING ACT.

The District Surveyor of Bermondsey v. *Groombridge.*—This case was heard at the Southwark Police Court, 12th October, 1858. Mr. Groombridge, a carpenter, had some old wooden buildings in Crimscot-street, Bermondsey, at the west end of which he erected a new shed, 8 feet by 6 feet, and 7 feet 6 inches high to the eaves, and at the east end a shed 12 feet by 7 feet, and the same height. Mr. Hesketh, the district surveyor, required that the sheds, which were open except at the back, where they had wooden inclosures, should be inclosed with walls, in accordance with sect. 12 and the first schedule of the Act. Mr. Groombridge's solicitor objected that the sheds had been erected from twelve to eighteen months ago, and that the magistrate had only power to adjudge in respect of proceedings taken within six months after the offence committed, and contended further that such small sheds were not buildings contemplated by the Act. The district surveyor proved that the works were done without due notice given to him; and so, by the 105th section of the Building Act, the six months' limitation only dated from the discovery, which he made in February last, and that he had served the notice under the 45th section in June last, after repeated promises to amend the works, or to apply to the Metropolitan Board of Works for their sanction, which had ultimately been refused. As to the small size of the buildings, the surveyor admitted it, but showed that, if they should be allowed at all, they might be extended to any dimensions, and that, already being close to two other large wooden buildings, they materially increased the liability of communication of fire to them. The magistrate, Mr. Burcham, said that the district surveyor was clearly within the limited time, and he considered the sheds required walls in accordance with the Act. He made an order, therefore, that the buildings should be put in accordance with the Act in three weeks.

The District Surveyor of Bermondsey v. *Burridge.*—Mr. Burridge had erected similar buildings in Long-lane, Bermondsey, but had begun to amend them since the proceedings had been taken. The magistrate made a similar order to complete the amendments in three weeks.

MASTERS AND MEN.

IT is not in our power to print all the letters we have received from workmen on the Nine Hours Movement, nor, indeed, is it desirable, as they necessarily go over the same ground. Bearing upon the subject, one of them, "J. S." desires to deny that "the employed cherish a bad feeling against the masters." He writer says, "Take the London districts for the last fifteen years: have there been strikes, or turn-outs, or other symptoms of such a feeling? On the contrary, masters and men have generally met each other in an amicable spirit. Witness the four o'clock movement—a question considerably agitated at the time, and I am bound to add, gracefully accorded to us by the masters. Again, take things up to the present time, have we not the free and spontaneous testimony of the employers, that the nine hours question has been conducted in a way that does us credit? Sir, the idea of those who support the nine hours question is, that by reducing the hours of labour of those at work, it would cause men to be set to work who would otherwise be idle, and cause a more equal distribution of wages, and so prevent a great deal of want and destitution. Sir, I think the idea can be greatly worked out by strictly adhering to ten hours per day, doing away with overtime. I am happy to say some of the masters at the conference promised to do so, and have been as good as their word. Take Messrs. Holland and Co. for instance: by stopping the overtime and making a few extra benches, they have set to work some thirty extra men lately. Other builders are doing the same, and by persevering in that course it will give us all a more equal chance of getting a crust."

A MISAPPREHENSION BY LORD BROUGHAM.

WILL the editor of the *Builder* permit the correction of a statement to be found in a portion of one of Lord Brougham's noble addresses, lately delivered in Liverpool, namely, the one in which he discoursed so pleasurably on the advantages derived by the humbler grades of the working public from the cheap literature now so prevalent.

The "working man," whom his lordship mentioned on that occasion as having written a short treatise which would do no discredit to any student of either the English or Scotch Universities, in relation to one of the primary elements in social science, he names as being a "common shoemaker," and hence the error: the writer of that penny pamphlet of sixteen pages, printed in Kettering, and addressed to the shoemakers of Northamptonshire in general, not being a shoemaker himself, but having a brother who wished to become one, the sectional society of the trade in Kettering objected to such admission into their ranks, on the ground that as he was beyond the age at which their rules allowed the coming in of new hands, he could not be instructed in the craft.

Here, then, is the cause of conflict: John Plummer, the writer of the production to which reference is made, is the brother of the youth to whom objection had been taken; and so he turns to his pen as means of redress,—writes out his arguments, and at once gets them printed, under the title of "Freedom of Labour;" and now a second edition of the tract has been issued, with the additional heading of "Dedicated (by special permission) to the Right Hon. Lord Brougham."

Enclosed with a letter from the author, he sends me a copy of this new edition; and in which communication he says, seeing that I, too, thought he was a shoemaker:—"It is my first published effort, but I do not know how far my ideas are in unison with yours. I am not a shoemaker, but I am much connected with the craft: my own trade is that of a stay-cutter. . . . I think our order might do much for themselves if they would follow the example of your friend Petrie. For myself I am self-educated; my school was the dead walls and boardings of the London streets, and my books were the bills posted on them. . . . I do not know whether you are an abstainer, but I am, and if I should visit London (my native place), I should like to see you."

Such, therefore, is a sample of some of the truly praiseworthy revelations which working men as also working women) can make of themselves. It matters but little whether John Plummer is to be consigned to the order of the "gentle craft," or to that of the fabricator of "stays" for the "gentler" sex; though still it is no more than doing a bare right to any special calling, that every section of our industrial "worthies" be seen to blossom in the fulness of its own merit. O'Kelly, the dramatic writer, made stays, and so did the world-famous "Tom Paine," and now John Plummer appears in the rank of authorship, while the distinguished Lord Brougham volunteers his high commendation.

Here, then, there is no need of jealous misgiving,—a Ben Jonson and a Banks handled the trowel; an Allan Cunningham and a Hugh Miller the chisel of the stone-cutter. Thus, these various sections of the eminent or remarkable in the ranks of labour, if but duly mustered and regimented, would make, on the whole—in Napoleonatic phrase—a really "grand army."

J. DAGES DEVLIN.

Books Received.

VARIORUM.

IN the "Weekly Reports of Septimus Gibbon, M.D. the Medical Officer of Health to the Board of Works of the Holborn District," we find it stated that in 46 weeks of the year ending Lady-day, 1859, the registered mortality was below the average, and six weeks only was it above the average. In the whole district there were registered 1,107 deaths, against 1,490 births, during the year. The rate of mortality was therefore 22 to every thousand persons living. In London at large the proportion was 22·2 to a thousand. Last year the mortality was 26·5 to every thousand living in the district, consequently the mortality for the year ending Lady-day, 1858, is less than that for the year ending Lady-day, 1857, by ·45 per cent. The sub-districts are found to stand in the following order, beginning with the most healthy. The Liberty of Glasshouse-yard, Saffron-hill, St. Andrew's Eastern, and St. George the Martyr. The difference between them is much more than it was in the previous year. The natural increase of the population of the district, *i.e.* the excess of births over deaths, was 383. In the previous year it was only 5. Dr. Gibbon advises the Board strongly, not to give licenses for slaughtering in dark cellars, as is too much the practice in other districts.——"The Elements of Inorganic Chemistry. By J. C. Buckmaster, F.C.S." (Longman and Co.), is a very good little elementary treatise, by one who is himself an examiner in chemistry and physics in the Royal College of Preceptors, as well as a teacher of science certified by the Department of Science and Art. It is intended to promote the scientific education of the senior classes in trade schools, and for the use of pupil teachers and schoolmasters generally, as well as for the students of classes in Mechanics' Institutions. It seems well adapted to be useful in the scientific industrial education of the working classes.——Another small educational work of Messrs. Longman, but of rather a different description from the preceding, happens to come along with it for notice. This is "The Soldier's Manual of Rifle Firing," by Captain Thackeray, a

militia officer. The rifle is an important young weapon which not unfrequently puts artillery's grown-up iron nozzle out of joint; and the day may come when young men of every profession may find the militia and the rifle rather interesting subjects. Although we are more accustomed to fire away with pen and pencil, than with such lethal weapons as the rifle; it so happened, once on a day, while listening to the talk of some soldier-friends on their favourite weapon, the rifle, that we stumbled on an idea which seems worth recording. The talk was to the effect that further improvement in the propulsive force of the rifle was worse than useless, because human eye-sight could not distinguish an object so as to aim with any effect at such distances. The idea which immediately suggested itself was, could not a very small "spy-glass" as the sailors call it, like the "eye-glass" or "seeker" of the telescope, be affixed to the rifle, so as to aid the sight and astonish the enemy at what they might conceive to be a very safe distance, even from the rifle bullet? Capta'n Thackeray's little volume is said by competent authority to be "a very clever production, and likely to be of great use to the service." The present indeed is the second edition, the first having been exhausted.

Miscellanea.

London and Middlesex Archæological Society.—A meeting of this society was held on Wednesday last at the School-house, Enfield, when papers were read by several members of the society, and objects of interest in the neighbourhood visited.

Builders' Benevolent Institution.—We are asked to mention that at the dinner to be held on the 28th inst., referred to in our last, in consequence of the domestic bereavement under which Mr. Thomas Piper is suffering, Mr. Alderman William Cubitt, M.P., will take the chair.

The Orphan Working School and Mr. Henley.—Mr. Henley has addressed to us a reply to Mr. Terrell's letter, which appeared in our number for October 2nd; but, as it is a simple denial of the truth of Mr. T.'s statement, and a reiteration of his own previous assertion that he has been very ill-treated by the corporation, we cannot give space for it: it might, moreover, subject us to an action for libel. He wishes it known that his pamphlet may be obtained gratis on application at 14, Victoria-terrace, Camberwell.

Public Park for Huddersfield.—Sir John Ramsden has offered to give 3,000*l.* towards a public park for Huddersfield, provided the inhabitants will raise the rest of the money required, and purchase a certain plot of ground, thirty-two acres in extent, known as the Spring Greenwood estate, for the park, without levying any local rate.

Adornment of Paris.—Along the whole line of the Boulevards, from the Madeleine to the Bastille, 600 trees are about to be removed, and replaced by others of a larger growth. The trenches in which they are about to be placed will be three mètres in width by one in depth, and measures will be adopted to prevent the infiltrations of gas, which have hitherto proved so injurious to the trees.

Railway Compensation. — Captain White *v.* the Hampstead Junction Railway.—This was a question of compensation, tried at the Sheriff's Court recently, before Mr. Burchell, under-sheriff; Mr. Serjeant Hayes, assessor; and special jury: claimed by Capt. White from the Hampstead Junction Railway Company, for a portion of his property which had been taken for a railway station, and other things at Willesden, under an Act recently obtained by the company, his life interest in the property so taken being, as alleged, of the value of 4,500*l.* The property was somewhat singularly placed, having been in the family of Captain White since the Restoration, the lease having been renewed at various times on lives, and on payment of fines by the Prebendary of Willesden, in St. Paul's Cathedral. Of late years, however, the fee simple of the property has been in the hands of the Ecclesiastical Commissioners under the Act of Parliament, giving them control over capitular estates. After hearing the evidence, the jury returned a verdict for the claimant—damages 1,250*l.* the foreman stating that that amount included severance. The jury thus treated the land as agricultural. Mr. Rodwell, who appeared for complainant, suggested that a verdict should be taken for 1,000*l.* for the life interest in the land, and 250*l.* for the severance. That course was adopted and the verdict was so entered.—*St. Pancras Times.*

A Drunkards' Asylum at New York.—The foundation-stone of an asylum for inebriates was laid on the 26th ult. at Binghamton, in the state of New York. The citizens of that town have granted 250 acres of land for it. The idea of an asylum for inebriates is founded in the fact that intemperance, though a vice, nevertheless becomes a physical disease, and needs medical as well as moral treatment.

Coating Metals.—Mr. B. Parker, Hammersmith, proposes the following elastic composition for coating metals and other substances requiring protection:—India-rubber, 10 lbs.; tar, 40 lbs.; pulverised chalk, 48 lbs.; sulphur, ½ lb.; flax, cotton waste, or other material, to give tenacity, 20 lbs.; which, allowing 6 lbs. for waste, gives one cwt.

The Sanitary State of Lincoln.—The local sanitary committee have passed the following resolution:—"That the present state of mortality and sickness in Lincoln calls upon the authorities to take some measures to ascertain the real cause; and it being proved to this committee that the drainage of the city is in a very imperfect and unsatisfactory state, which tends materially to generate fever and epidemics, it recommends to the council that the Health of Towns Act should be adopted and put in force in the city of Lincoln. Resolved, that the town clerk write to each of the physicians and medical men in the city, and request them to attend the council meeting on Friday evening next, and write to this committee before that day with their opinion as to the present cause of the sickness and mortality in the city; and also that the town clerk obtain from the Registrar-General the return of the mortality in the city for the last seven years." As a proof of the poisonous influence attendant upon the exhalation from the river, at Lincoln, it is stated that one medical gentleman in that city has no fewer than forty-one sick patients, all residents by the waterside, under his care at the present time.

Steam Horses in the Government Dockyard.—The Admiralty, desirous of testing the practicability and economy of employing steam power in the place of horses in the Government dockyards, have entered into an arrangement with Mr. Bray for the use of his newly-invented steam traction engine. Their lordships have accepted a contract, at the rate of 50*l.* per month, for the exclusive service of the engine, to be employed in Woolwich Dockyard for one month certain, experimentally, in the removal of timber and other heavy stores hitherto performed by horses. The engine steams into the dockyard and carries out the allotted day's work, passing the windings and acute turnings and discharging its load at the western extremity of the yard. The amount of fuel consumed during the day is said to be 6 cwt. at a cost of 3s. 6d.

Art-Union of Ireland.—A meeting of the committee of this association, recently established under the auspices of the Irish Institution for the promotion of the fine arts and the improvement of taste in Ireland, and which has received the sanction of the Committee of Privy Council for Trade, according to Act of Parliament, 9 and 10 Victoria, cap. 48, was held at the committee-room of the Art-Union, No. 73, Grafton-street, on the 5th inst. Lord Talbot de Malahide, V.P. in the chair, supported by Mr. Maziere Brady, V.P.; Dr. Petrie; and various others. The secretary laid upon the table the memorandum of agreement, which had been duly executed, according to the requirements of the Board of Trade, between the Earl of Charlemont, Viscount Massereene and Ferrard, Lord Talbot de Malahide, Right Hon. Maziere Brady, John Barton, Esq., Serjeant Berwick, Q.C., Colonel Larcom, C.B., and John Edward Pigot, Esq., of the one part; and said Right Hon. Maziere Brady, John Barton, Esq., and Sergeant Berwick, Trustees of the Art-Union of Ireland, on the other part. In this document are set forth the several powers of the association. The principle of the Art-Union, remarks *Saunders's Dublin News Letter*, in reporting the proceedings, is fully recited in this deed,—namely, the system of money prizes,—that of the most successful Art-Union in the three kingdoms, the Art-Union of London, which, in its operations for twenty-two years, has collected and expended nearly a quarter of a million sterling on works of art. In all cases the right of selection by the prizeholder is reserved. The memorandum bears date the 11th of August, 1858, and the ratification of the Board of Trade, under the signature of Sir J. Emerson Tennent, is dated 23rd of September, 1858. Mr. Mulvany read, amongst a number of others, a letter from Colonel Dunne, conveying the Lord Lieutenant's desire to subscribe for ten shares for the current year.

The Westminster Column.—Sir: In the notice of the Westminster Monument, quoted in the last number of the *Builder*, the execution of the sculpture, surmounting the column, is attributed to me. I shall be obliged by your correction of this statement. The work generally has been entrusted to Mr. J. Birnie Philip, sculptor, of the Vauxhall-road, I being simply associated with him in the production of the sculpture alluded to.—J. R. Clayton.

Steam Hammer for the Russian Government.—A steam hammer has just been constructed by Messrs. Morrison and Co. of Ouseburn Engine and Boiler Works, Newcastle, for the Government of Russia. It is said to be the largest ever constructed on the Tyne, and is designed on the principle of Messrs. Morrison's patent. The hammer bar and piston are forged in one solid mass. The diameter of the bar is 13 inches, and that of the piston 31 inches; and the total weight of this portion of the hammer exceeds five tons: it was forged by a two-ton hammer, of similar construction. The cylinder stands on two frames 3 feet in width, and there is a clear working space of 14 feet between them. The total height from the ground to the underside of the frame is 9 feet 4 inches, and the total height of the hammer itself is 18 feet, the hammer-bar having a clean fall of 6 feet.

Ventilation of Public Buildings.—Some strictures on the neglect of ventilation in town-halls and other public buildings appear in the *Leamington Advertiser*. Until within these last five years, says the writer, no public buildings in the provinces had been designedly constructed in accordance with the first scientific requirements for ventilation. We have examined upwards of 200 public halls in Great Britain, where no proper or efficient arrangements exist for ventilation. The Townhall and the other public halls of Leamington belong to the worst class in this respect. . . . We are not aware of more than half a dozen public buildings constructed for effective ventilation, such as St. George's Hall, Bradford; the new Mechanics' Institution, and the splendid Free-trade Hall, Manchester; the new School of Design, Sheffield; the Court House, and the Reading-room of the Young Men's Institute, Cardiff. These structures are so arranged as to carry on an equal discharge of foul and the admission of fresh air without injurious effects being realized. The ventilation of the Free Library in Manchester is very bad: that of Sheffield is worse. In the first case the hall is large and lofty, and a scientific man has arranged the gas-burners with ventilating flues over them, but, for a simple reason, he has failed to remedy the evil. The Sheffield Free Library is in the large reading-room of the Mechanics' Institute, which cost 8,000*l.* in the erection, and although it affords every facility for inexpensive ventilation, the arrangements for the purpose are almost useless. A large majority of our public halls are both expensive and inconvenient, and as the public are poisoned into the bargain, it is high time to speak out against the ignorance or recklessness of architects, for we think that the law should hold a professional man responsible for the proper ventilation of public rooms, and deal with its absence as a public nuisance punishable by fine, in the same way as other nuisances are now dealt with by the statute. Many churches and chapels are also very badly ventilated.

Royal Dublin Society: School of Art Exhibition.—The annual exhibition of the pupils' works in the Art Schools of this Society was recently opened to the public; and though not presenting a number of specimens as on many previous occasions, is not the less meritorious. The collection comprises a variety of drawings from the flat and the round, flower painting, architectural ornaments, designs for new patterns, landscapes, &c. The society has offered prizes of 7*l.* and 5*l.* respectively, for the best and second best studies in oil of figure from the life, and one of 5*l.* for the best landscape in oil taken from nature. Five competitors have entered the list for the first prize, and amongst the works submitted, are "A View of the Bed of the Dodder," by Mr. Crowley; "Woodland Scene," by Miss Almet;" "View near Phibsborough," by Mr. Mayne, &c. Amongst the copies are *three* of a picture representing "A Child with a Helmet and Sword;" of an Italian scene by Leitch; of a landscape, by Williams, &c. Government also gives prizes in addition to the above, and a national medallion for the *best* work of a number to be selected from all the Art Schools in the kingdom. Mr. Bowler, the Government inspector, has visited the exhibition, which is numerously attended every day. Mr. McManus, R.H.A. is head master.

Queen's College, London.—The Council and Committee of Education, with the approval of the Bishop of London as visitor, have elected Mr. W. Cave Thomas to the Professorship of Drawing and Pictorial Art in this Institution, vacant by the resignation of Mr. George Scharf. The classes in landscape drawing continue, as before, under the direction of Mr. Henry Warren. Mr. Scharf has been elected, on his retirement from his professorship, as an honorary fellow.

Llandaff Cathedral.—The following notice has recently been placed in the Cathedral Church of Llandaff, where the work of restoration is making rapid progress:—"The officers of the cathedral are forbidden to receive gratuities, and visitors are requested not to offer them. As the restoration is being carried on by voluntary contribution, the Dean and Chapter will gladly receive any assistance towards the work. Small sums may be placed in the alms' chest: larger donations may be paid to the Dean, or to the National and Provincial Bank, Cardiff, to the credit of the restoration fund."

Burial-place of Robert, Duke of Normandy.—During the restorations which have recently been carried out in the Chapter-house at Gloucester, as elsewhere mentioned, some discoveries were made possessing considerable antiquarian interest. Leland states that several persons of great eminence were buried in the Chapter-house, and mentions the names of six persons painted in black letter on the walls. A correspondent of the *Gloucestershire Chronicle* says:—"On the north wall, in one of the niches, by the removal of the calcareous crust, there can now be traced, though very faintly, the following inscriptions: 'Hic jacet Rogerus Comes de Hereford.' On the south wall, in a panel or niche: 'Hic jacet Barnardus de Novo Mercato. Hic jacet Paganus de Cadurcis.' In the adjoining panel: 'Hic jacet Robart Cortus. Hic jacet Adam de Cadurcis.' Of these inscriptions only three are to be found in the old record, but the additional ones contain the most interesting name of all—we mean that of Robart Cortus, most likely a contraction for Robert Curthose, or Robert, Duke of Normandy, son of William the Conqueror. Tradition is uncertain as to his place of burial."

Oxford.—The University Museum, &c.—The University Museum, the first stone of which was laid by the Earl of Derby in 1855, has made considerable progress during the long vacation, and great efforts are being made to complete it by the next commemoration, when it is understood that her Majesty will be present at the inauguration. The contractors, Messrs. Lucas, Brothers, have finished their contracts for erecting the main buildings, and the workmen are now chiefly engaged upon the internal fittings. According to the *Morning Herald*, the central tower, with its Rhenish-Gothic spires, has been completed, as also the curator's residence at the south-eastern angle of the Museum, where Professor Phillips now resides. Professor Brodie has taken possession of the chemical laboratory, with its lofty octagonal roof and four tall chimneys; and the medical laboratory will be occupied by Dr. Acland. The chief feature of the building, the grand central court, is 128 feet square, surrounded with an upper and lower corridor of 11 feet wide, and will be crowned with a glass roof resting on light iron pillars, ornamented with representations of the foliage of British trees, such as the chestnut, oak, maple, &c. The new roof, designed by Mr. Skidmore, of Coventry, at an estimated cost of 5,000*l.* is being fitted up in Staffordshire. The unfortunate failure of the original roof has somewhat retarded the progress of the fabric. A number of artist workmen are employed in carving the capitals and corbels with foliage, illustrating the natural history of various epochs, climates, and regions, some of which are already finished. On the corbels around the central court will be placed statues of the great founders and improvers of natural knowledge. Five of these figures have been presented by her Majesty, namely, those of Bacon, Galileo, Newton, Leibnitz, and Oersted, and three of them have been already executed in Caen stone by Munro, of London. The undergraduates of the university have presented the statues of Aristotle and Cuvier, and thirty-two are now required to complete the series.——The gymnasium erected for the university from a design furnished by Mr. Wilkinson, of Oxford, and erected by Messrs. Joseph Castle and Co. is 85 feet long, 45 feet wide, and 30 feet high, and the centre of the roof will be of the form of a dome, surmounted by a lantern.——The extensive works of Exeter College, upon which 30,000*l.* or 40,000*l.* have been expended during the last few years, are expected to be finished about Easter next.

The Metropolitan Water-supply.—Dr. R. D. Thompson, F.R.S. it is said, has once more analyzed the London waters, and finds them improving.

The Church in Dover Castle.—We are informed, on what we believe to be good authority, that the statements and sketches published by us a few weeks ago, have not been without effect: no more vandalism in respect of the ancient and interesting church in Dover Castle will be permitted. Let us hope that before long it will be thoroughly restored and appropriated to its proper purpose.

Medieval Farm Buildings.—As your correspondent "T. I." in his interesting letter, with reference to Besford, Eckington, and Bredon, does not allude to the fine timber barn and outbuildings in the farmyard on the west side of the church, I take the liberty of calling attention to these interesting remains of the Middle Ages. The barn is of timber, very lofty, with pillars supporting the roof, and several gables, and, though not so beautiful as the adjacent church, for the comparative scarcity of mediæval farm-buildings even more interesting.—H. P.

Registry of Deeds for West Riding of Yorkshire.—A paper on the statistics of this registry was read at the meeting of the British Association in Leeds, by the deputy-registrar, Mr. John E. Dibb, from which we make a few extracts:—Passing by the years 1704 to 1710, the registry being scarcely developed, it may be noted that while the yearly average of registries from 1711 to 1720 was only 838, the average from 1791 to 1800 had risen to 2,355. And again, taking the average from 1841 to 1850, it rises to 5,138. This increase of transactions in landed property is nearly in proportion to the increase in the population of the West Riding; which in 1801 was 572,168, and in 1851 it was 1,325,495. In 1851, however, this gradual increase was changed for a much more rapid rise. The previous year, 1850, had shown the largest number of deeds registered, namely 5,950: the year 1851, however, reached 8,009. In 1853 the largest number of all was attained, namely, 9,910; but that amount has not been maintained in the subsequent period, down to the end of last year. In October, 1850, the new Stamp Act came into operation, by which the duties payable on conveyances and mortgages were very largely reduced. The increase of registries in 1850 was altogether in the fourth quarter of that year; dating in fact from the very week in which the new rate of duties commenced. While the whole of the succeeding year, and indeed down to the present time, the effect of this reduction in taxation continues to be felt. From 1831, the total number of registries showing conveyances of land to railway companies down to 1857 is 3,186: the smallest number being in the year 1837, 3; the largest, in 1847, only 322. Beginning with 1813, the operations of building societies have gradually assumed some importance. From 31 in the year 1843, they have risen to 637 in 1857; the largest number being 682, in 1855. The total of the last 15 years is 4,608. The distinctive feature of the West Riding registry is said to be, that while any one may search and inspect its records, there is, nevertheless, no exposure of private affairs.

Kirriemuir.—Sir Charles Barry, according to the *Dundee Warder*, has been visiting Ballintore, a Highland estate, purchased some time ago by Mr. David Lyon, of London. Since he became proprietor, large sums have been expended on building, making roads, with other improvements; and the proprietor is about to erect a family mansion, of extensive size, to be richly embellished, and every way finished in a style combining elegance and comfort. It is said the design and plans have been prepared by Sir Charles, who visited the district in order to superintend the staking out of the ground-plan of the building, which will cover an area of 75 feet square. The front building will be 40 feet in height, with lofty towers at each angle, finished in the castellated style. Specimens of stone, squared and polished, from various quarries in the county, have been forwarded to London, to enable the architect to determine from what quarry the hewn work will be taken. From the quantity required (upwards of 700 tons), it will take 10,000*l.* to 12,000*l.* to erect and finish the building. The site selected is an elevated plain, forming an amphitheatre at the base of the western extremity of the lofty Catlaw, nearly 1,000 feet above the level of the sea, commanding a wide range of diversified view, with hill and dale, woods, cultivated land, and a great portion of the fertile valley of Strathmore, studded with family mansions and homesteads; while immediately at its base is the Loch of Lintrathen.

Extensive Contract.—Mr. W. M'Cormick, it is said, has obtained the contract for the construction of the new docks at Birkenhead, which are expected to cost something more than a million and a-half.

T. Smith's Self-acting Water-bar.—The difficulty of keeping out the water with casements that open inwards often prevents the use of them where they would be otherwise desirable. A water-bar, patented by Mr. T. Smith, and which has been tested for some time, will lessen this difficulty very considerably. The bar turns on a centre, and is kept in its place when the casement is open by the weight of the back part of the bar. In closing the casement a catch (which is connected with a spring) is struck against an iron sill-bar, thereby throwing the water-bar over the sill-bar, and preventing the rain from driving under. There is a working model at the Court of Inventions, Crystal Palace.

Dispute as to Building Contract: Cost of Law-suits.—At the County Court, Preston, a case, Hornby *v.* Bracewell, was heard, which is reported at great length in the *Preston Guardian* of 2nd inst. and appears to have excited some local interest,—more, perhaps, from being a matter of private feeling than one in which any special question of importance or interest arises. The subject of contention was a comparatively small balance due on a contract for some 800*l.* due to the plaintiffs, who are builders and timber merchants, from the defendant, who is a manufacturer, and who contracted with plaintiffs for the erection of a weaving-shed and warehouse. The defendant had made no complaint till the work was done, although he closely inspected it daily, and almost continually, as it went on; but being afterwards pressed for the cash, he "became saucy," and made objections, &c. The balance due, defendant maintained, was only 10*l.* or 12*l.* but a tender of 26*l.* odds was made. The action was brought to recover 45*l.* After hearing evidence, the judge said that he had two questions to try: the first was, whether the defendant was entitled to certain deductions, and if he was, whether there had been a legal tender of 26*l.* 13*s.* 9½*d.* Looking at all the features of the offer of that sum, he could not regard it in the light of a legal tender. It had been said that the defendant was overcharged, but it had been shown that he was continually upon the spot, and he thought that the evidence of the witnesses, Cottam and Brennand, two practical men, went a long way towards explaining the true facts of the case. He regretted that the litigation had taken place. He thought it right to state that neither party had in his opinion gone to law with the intention of cheating the other. Taking the plans and specifications in his hands, and looking at the progress of the work, he could not see any substantial departure from the plans and specifications sanctioned by the defendant. The defendant had provoked hostilities by bringing a rival tradesman upon the premises to inspect the work sued for. At one time Mr. Hornby said he would take 10*l.* He might not allow quite so much. The claim had been reduced after payment by the defendant of money into court to little more than 10*l.* He thought that the great weight of the evidence was in favour of the plaintiffs. A verdict, he thought, was due to them. He could entertain no doubt of that. The court was excessively crowded during the hearing. It is said that the costs in the action will probably amount to 200*l.*

Fall of the Clerestory of Horsley Church.—This church has recently been undergoing extensive repairs, and after the completion of the restoration of the spire, the roof had been taken off the nave as a preliminary to new roofing the whole church. Some days before the accident, the attention of the committee had been drawn to the dangerous state of the south clerestory, from its having been very much shaken by the giving way of the pillars. In order to ascertain the state of the foundations, a number of men were employed in removing the soil from the base of one of the pillars, and it became evident that these were much injured by the close contiguity of a number of vaults. The workmen had scarcely arrived at this conclusion, when they began to perceive unmistakeable symptoms of an immediate falling in, and thought it was wise to leave the church with all possible speed: they had no sooner reached the churchyard than the whole of the south clerestory, with the pillars supporting it, fell, dragging down the roof of the south aisle, demolishing a great part of the gallery, and destroying or injuring most of the pews. Several of the monuments suffered injury, whilst the tracery and mullions of the clerestory windows were completely destroyed.

THE ARCHITECTURAL MUSEUM. — Some additions have been made recently which deserve attention. Mr. Scott has presented to the museum three very fine casts from stone slabs, found when underpinning the foundation of a part of Hereford Cathedral. The Art Department has also just placed in the Gallery of the Architectural Museum a fine statue of St. George, from Prague. The original of the St. George is now in the centre of a court yard, in the 'Hradschin,' the palace of the kings of Bohemia: 1378 is, we believe, the date of it.

HOPE FOR THE SELF-TAUGHT. — The Rev. D. Ace, in a lecture to the Clerkenwell Working Men's Institute, observed, that, at the recent competition examination, it was remarkable that the first three prizes for arithmetic, algebra, and mensuration were carried off by a working engineer; the first prizes in chemistry and botany were gained by a self-educated genius; the first prizes in descriptive geography were awarded to a draper; the first prize in English literature was gained by a bank cashier, the second by a timber-merchant, and a third by a grocer; the first prize in Latin, and a certificate, were carried off by a butcher; in English history, the first prize was given to a book-keeper; and certificates were given to a printer, a cabinetmaker, a mason, a porter, a spinner, and a wool-carder.

THE WORKING CLASSES. — The *Times*, referring to the subject of strikes, says: — "We have often had to lecture masters and workmen upon these insanities, which are like those dramatic domestic quarrels wherein the husband smashes the looking-glass and the wife throws down a Sèvres vase, and the scene proceeds through a duet of crashes until the antagonistic parties stand face to face, with every brittle thing in bits about them, and too much out of breath to accomplish evil designs upon the solid mahogany."——The unemployed at Edinburgh have been supplied with food by the magistrates, and referred by them to the House of Refuge, as the City authorities have no funds for behoof of the unemployed. These latter, however, are by no means so numerous as was supposed, only 364 names having been given in as soliciting relief; and of 13 heads of trades, asked to inform the magistrates as to the number of the unemployed, only one appeared for the purpose of doing so.——In Canada, it appears—or, at least, at Quebec and Montreal,—there has been considerable distress from want of employment of late, and the winter is looked forward to with increased apprehension.——A petition to her Majesty from the working men of Glasgow, praying that facilities might be afforded to unemployed artizans and others to emigrate to the colonies, has been referred to the Secretary for the Colonies. ——A contemporary says:—"Mr. A. F. Ridgway, agent to the provincial government of Auckland, New Zealand, who has offices in Leicester-square, London, invites Glasgow weavers, and all other persons of good character and not incapacitated for labour by age or infirmity, to leave England, and settle in a colony where, he says, there are no poor, and where there are no rent or tithes to pay. As an inducement to emigrate to this Elysium, Mr. Ridgway says that he is prepared, on behalf of his government, to give every industrious man or woman in the United Kingdom, likely to form a useful colonist, "a free gift of 40 acres of good land, with 40 acres more for each person 18 years of age, and 20 acres for each child above 5 and under 18 years of age, whom he may take with him to the colony." Nothing seems to be said, however, on the most pressing and essential point as regards the unemployed, namely, how they are to get there.

ACCIDENTS TO PERSON AND PROPERTY.—A telegraph workman has been killed, near Bicester, by a wire which he was displacing having struck him down off a ladder, dislocating his neck. He himself had misplaced the ladder "within instead of without the angle caused by the position of the posts on each side."——Swansea Harbour offices, an extensive range of buildings, which were almost re-erected only eighteen months since, have been completely destroyed by fire. Four other heaps of ruins from fire exist at present in the same street. —At Pilgwenlly, near Newport, in Wales, a whole family, consisting of a man and his wife, with three children, have been suffocated and killed, during their sleep, in consequence of the streets having been a good deal broken up by drainage operations, and either an opening made from a sewer into the house, or a gas-pipe having been broken near it.——A joiner at Glasgow has been seriously injured by falling from a scaffold, 60 feet off the ground, at a church which is being built at the corner of Waterloo-street and West Campbell-street.

VELOCIPEDES AND SELF-MOVING VEHICLES.— The utility of such miniature "carriages" to metropolitan and other workmen living at some distance from their employment—to enable them, in fact, to live in healthful localities though at a distance from their employment—has frequently been suggested in the *Builder*. We feel pleased to observe that some little progress is being made in the suggested direction, as a workman here and there may occasionally be seen on his way to work, mounted on such a vehicle. A postman has just been provided, by subscription, with one, at Bangor, which greatly facilitates his labours along the country roads. Why does not some ingenious mechanic invent a self-moving vehicle of this sort, impelled by a powerful spring that could be wound up by a crank-handle, or by compressed air, india-rubber accumulators, or some such means; so as to save the perpetual movement of feet or hands? Some cheap form of self-moving miniature carriages, it is to be hoped, will ere long make its appearance; and it will then only require the example of a few strong-minded sensible workmen to overcome that repugnance which the least novelty is so apt to excite in weaker minds, against the adoption of even the most manifest improvement in the present and prevalent mode of doing things.

TENDERS.

For two National Schools (one for girls and infants, and one for boys) for district of St. James-the-Less, Bethnal-green. Messrs. Mason and White, architects. Quantities supplied —

Myers, Lambeth	£3,580	0	0
Rivett, Stratford	3,550	0	0
Wood, Brothers, Mile-end	3,329	0	0
Wilson, St. George-in-the-East	3,147	0	0
Hill, Whitechapel-road	3,115	0	0
Conder, Kingsland-road	3,100	0	0
Ashby and Horner, Aldgate	3,031	0	0
Piper and Son, Bishopsgate	2,984	0	0
Brown and Robinson, Finsbury	2,980	0	0
Hack and Son, Poplar	2,974	0	0
Perry, Hackney	2,900	0	0

For new warehouse in Hart-street, Covent-garden, for Mr. R. Rogers. Mr. C. G. Searle, architect —

Higgs	£1,333	0	0
Elnor	1,137	0	0
Macey	1,122	0	0
Howard (accepted)	1,080	0	0

For Stockton Baths and Washhouses. Messrs. Oliver and Lamb, architects. Quantities supplied :—

Morton, Stockton	£983	0	0
J. and J. Brown, Stockton	908	0	0
H. Watson, Newcastle-on-Tyne	890	0	0
Dixon, Brothers, Newcastle-on-Tyne (accepted)	835	0	0
Too late :—			
R. R. Almond, Durham	946	0	0

For building and finishing a house at Brighton. Mr. Robert Dexter, architect. Quantities supplied

Fabian	£972	0	0
Lynn	895	0	0
Patching and Son	848	0	0
Case	827	0	0
Dancy	779	0	0

TO CORRESPONDENTS.

R. D.—One who has suffered by union.—S. M.—A Mason.—T. B.—C. B.—S.—One who knows a thing or two.—G. H.—J. K.—F. J. M.—R. R.—T. L. D.—M. W.—J. B. Piccadilly (we cannot tell without seeing it; at any rate, it must be short).—T. E. S.—Veritas (shall appear).—T. J. (shall hear from us).—H. R. (next week). T. T. Smith.—W. E.

"BOOKS AND ARTICLES." We are forced to decline pointing out books or finding addresses.

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ADVERTISEMENTS.

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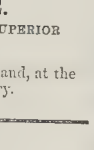

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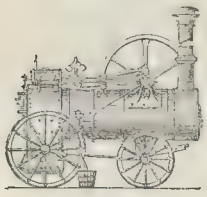

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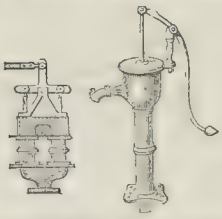

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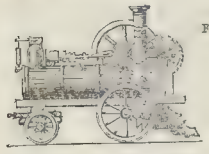

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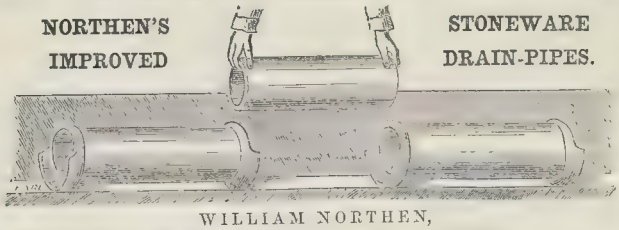

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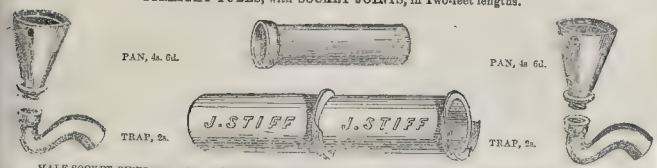

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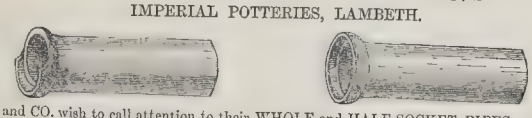
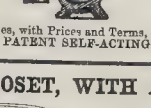
IMPERIAL POTTERIES, LAMBETH.



S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint ...ece from obstructions, and meets the demand for removing Pipes at any point.

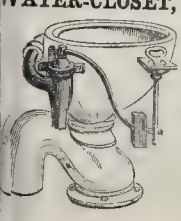
7s. each; ...ff fitted with ...l PATENT ...AIR-TIGHT ...VALVES, ...s. 6d. each, extra.



Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED

AND

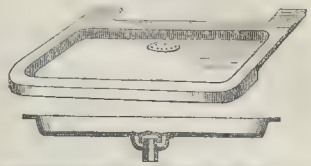
LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

PATENT SANITARY KITCHEN SINK

WITH TRAP.



Manufactured by the Patentees, NEWTON, CHAMBERS, and CO. Thorncliff Iron Works near Sheffield. Size made:—
24 in. long by 18 in. wide by 4 in. deep, 5s. 6d. each.
30 in. long by 18 in. wide by 4 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
42 in. long by 24 in. wide by 6 in. deep, 15s. each.
48 in. long by 24 in. wide by 6 in. deep, 18s. each.
LONDON AGENT, MR. JOHN JONES, 6, BANKSIDE.

LAMBERT'S SELF-CLOSING

LAVATORY AND CLOSET VALVE.

No. 7.

is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 150 to 200 feet; they are found to be extremely durable, and are cheaper than common cocks. Manufactured only by the Patentees,
THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.
N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Trap, complete, 1s. 6d each

BELL'S PATENT TRAPS, for Stables,

Conch-houses, Garden paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 163, Drury-lane, and Spa-road, Bermondsey.

TO WATER COMPANIES AND PLUMBERS.

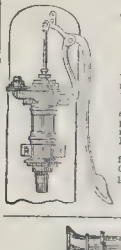
HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

TO BUILDERS AND PLUMBERS.

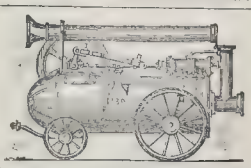


The attention of the Trade is called to
JOHN WARNER & SONS'
PATENT VIBRATING STANDARD PUMP,
which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the cumbrous carriage and expensive stage and gudes are unnecessary, rendering the price considerably less than Pumps made on the old plan.

Deep and Water Engines for raising fluids, from a depth not exceeding 23 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.



PORTABLE ENGINES, from 4 to 25-Horse

Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 12, Blackfriars-road, London.

FOR SALE, SEVEN PORTABLE

STEAM-ENGINES, from Eight to Twenty five Horse Power. Can be seen at No. 4, Mill-place, Commercial road, Limehouse.—For further particulars apply to Mr JOHN HALL, 1, New London-street, E.C.

TO BUILDERS, SHIPOWNERS, &c.—

A 1 WHITE LEAD, 30s. per cwt. Ground Colours, and Dryers, on equally moderate terms, to be had of FORD and CO. Patentees of Satin White, Surrey Steam Colour Mills, Barron's-place, Waterloo-road, S.

SALES BY AUCTION.

Most eligible Building Investments.—Borough of Dorchester—

TO BE SOLD by AUCTION, on Tuesday

MESSRS. BAKER and ENSOR, at the GUILDHALL, on THURSDAY, the 28th day of OCTOBER, 1858, at ELEVEN o'clock in the forenoon (subject to such conditions as will be then and there produced), all that PIECE or PARCEL of PASTURE LAND, in two fields being part of Weston Field, within the said borough, containing about 4a. 2r. 23p. situate on a gentle slope, and well adapted for building purposes. The land is the property in possession of the corporation of Dorchester, and is offered for sale in building leases, with the approval of the Lords Commissioners of her Majesty's Treasury, for absolute terms of ninety-nine years, subject to certain fixed ground rents. The houses and offices to be built on the several lots will be divided into classes, to meet the growing requirements of the town, and there is every reason to believe that such a scheme for building as that now offered will be highly remunerative. Plans and specifications for the intended buildings, with the conditions upon which the auction will be held, may be seen on application at the Office of the Town-clerk, in Dorchester, and after the 18th day of OCTOBER next at the Office of Mr HENRY HALL, No. 15, Duke-street, Adelphi, London, further particulars may be obtained.

Dorchester, October 5, 1858

KENSINGTON.—A VALUABLE FREEHOLD ESTATE, presenting a most eligible site for building, recently granted on lease, being one of the finest in Palace-gardens, and having a frontage of 136 feet to the Mall, at Kensington Gravel Pits, well adapted for two private residences, with gardens, producing a rental of £182 per annum, which is rising below the present ground-value.

MR. ROBERT REID will SELL, at Garraway's, on FRIDAY, OCTOBER 29, at TWELVE o'CLOCK precisely, in two Lots, a very valuable ESTATE, entirely freehold, except a trifling chief rent, and consequently highly desirable and subject to a nominal quit rent and fine certain, situate within one hundred yards of the Bayswater-road, being on the east side of the Mall Kensington Gravel Pits, and occupying a frontage of 216 ft. 6 in therein, and a depth on the south of 125 feet, and on the north of 126 ft. 6 in. extending to the walk which separates the private road of the Mall and carriage-road to Palace-gardens. The compact class of residences recently erected, and now in course of erection on the south end of the Mall, and the many advantages in the immediate neighbourhood of this estate, render it unusually favourable for secure investment, and well worthy the attention of the capitalist, whether for the creation of freehold ground rents, or for building. Thereon may be viewed by permission of the tenants.—Particulars may be had of Messrs. MAUGHAM and DIXON, Solicitors, 4, Raymond-buildings, Gray's-inn; at Garraway's; and of Mr. ROBERT REID, 48, Great Marlborough-street.

TO BARGE OWNERS, LIGHTERMEN, AND OTHERS

MESSRS. EVERSFIELD and HORNE are instructed to SELL by AUCTION, at CARNES WAYS, 80, Rotherhithe, Surrey-side, on TUESDAY, OCTOBER 26, at TWELVE for ONE, the following decked SAILING BARGES, viz.:—*Swan Hampton*, 77 tons; *Enchantress*, 75 tons; *Lucy and Mary*, 70 tons; with their stud and running rigging, sloops, boat and row boats, engaged in the brick trade; also, the *Lord of Rebecca* sailing barge, 70 tons, lying for view in the Isle of Dogs, Victoria Dock. Also *Bell and Anchor*, 61 tons, and several open barges, suited for the river or coasting trade, varying from 15 to 50 tons.—May be viewed by permission, and catalogues had at the Place of Sale; also of CHARLES BROWNE, Esq., Secretary of the Whittington Life Assurance Company, 37, Moorgate-street; and of the Auctioneers, Coal Exchange, and 46, Parliament-street, Westminster.

UNRESERVED SALE.—To TIMBER MERCHANTS, CABINET-MAKERS, BUILDERS, CARPENTERS, and OTHERS

MESSRS. H. FREEMAN and CO. will SELL by PUBLIC AUCTION, without reserve, at the PREMISES, No. 11, Back Hill, Hatton-garden, on WEDNESDAY and THURSDAY, the 27th and 28th days of OCTOBER, 1858, and following day, the remaining well-seasoned STOCK of Mr Charles Sweet, timber and timber merchant, consisting of Spanish and Honduras mahogany, Cuba, Honduras, and Spanish cedar, Honduras rosewood, Cuba and Honduras boxwood, teak, and beech, oak and beech pews, pitch pine boards, planks, battens, scantlings, mouldings, boards, and flooring, Memel, Riga, and Dantzic fir boards, deals, battens, and scantlings, two days previously, and on the morning of sale. Total can be had on the Premises, and of the Office of the Auctioneers, No. 4, Crooked-lane, Cannon-street, City, E.C.

MESSRS. BOOTH and CO. will SELL by AUCTION, on the above PREMISES, on TUESDAY, the 2nd day of NOVEMBER, 1858, at TWELVE for ONE o'clock, a valuable COLLECTION of BUILDERS' and ENGINEERS' STOCK, SPORTING and TACKLE selected from the premises of the Rev. Thomas Rogerley Otter, Lockbridge, Elstow, near Bedford, which will be specially inspected to be sold. The Packing Stores are closed. Catalogues had on application; also Catalogues and full information, per post, for one stamp.

STROUD, KENT, Valuable Freehold and Leasehold Residential Property, the Rev. Henry Owen, deceased.

TO BE SOLD by AUCTION, at several lots, by

MR. JOHN THOMAS, on THURSDAY, the 28th day of OCTOBER, 1858, at SEVEN o'clock in the evening precisely, at the ANGEL INN, Stroud.—Particulars and conditions of sale may be had of Messrs. CARDALE, Coal-exchange, Lawrence-lane; and of Mr WILKINS, Solicitor, Stroud.

TO ENGINEERS, IRON SHIP BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, NOVEMBER 8th, 1858, and following day, at ELDON-wharf, Isle of Dogs, the PREMISES, Midland, Poplar, Docks, with all the valuable and extensive collection of TOOLS and STORES of the Iron Ship-building Yard, late T. Ridgway Lee, comprising lathes, punching machines, angle and plate boring bars, 11 inches and 18 inches diameter, 15 feet and 21 feet in length; four complete sets of Whitworth's tools, viz., up to 6 inches; up to 2 inches; set of Whitworth's gauges, up to 6 inches; set of 35 rimers, plate bending and surfacing planing and notching machines, two cast steel tools, four Haley's 12-feet cranes, three double jib cranes, 3 feet to 10 feet radius, large leather bands, double and single, fan blast, cast steel shaft bearings, two tire coolers, set of punch and shear blocks, 200 feet wrought hose, all leather buckets. A large quantity of assorted patterns, 5 pattern makers' benches, 3 planing machines, 10 wrought iron anvils, 10 rivet-making blocks in lots, assorted rod iron, set of cast bearings, 3 blacksmiths' hearths, 3 cast steel Bunsen boilers, five cwts. English cast steel, sheets, bars, and plates; 50 tons scrap iron, three stone troughs, cwts. of iron castings, wrought nails, boat screws, flagging, rubbing up, and riveting benches, 21 troughs, two lines chain, two large cross head timber, cranes from the Gutta Percha Mills, 6 casting of boat, 6 tons metal, 10 tons coke, 10 tons coal, and other effects. To be viewed on Friday and Saturday prior to the sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

NORWICH FISHMARKET.—TO BE LET by AUCTION, by

MR. WILDE, at the ROYAL HOTEL, on THURSDAY, the 28th of OCTOBER, 1858, at FIVE o'clock in the afternoon, by order of the Body Corporate, the SITE of the old FISHMARKET, with the Buildings, recently pulled down.

Lot 1 Comprises so much of the Old Fishmarket as forms the ground floor, brown, and the Old Fishmarket-street, fronting

Lot 2 Comprises so much of the Old Fishmarket as forms the plan colour pink, and the adjoining house fronting

Lot 3. Comprises a part of the Old Fishmarket on the premises at the back and Little Butchery, as coloured blue and numbered 3, and the buildings in a state of repair.

Lot 4. Comprises so much of the Old Fishmarket and the passage at the back and Little Butchery as are coloured yellow, and the buildings in a state of repair.

Lot 5. The shop and premises lately occupied by Messrs. Barnard and Jay, and the adjoining premises now in the occupation of Thomas Ullyett, and the house and plan coloured purple.

The plans, sections, elevations, and specifications, showing the buildings to be erected on the walk to [illegible] the several biders, may be inspected at my Office, Guildhall, from the hours of ELEVEN a.m. and FOUR, p.m. daily; SATURDAYS excepted.

W. L. SPENDHAM, Town clerk.

Guildhall, Norwich, September 22, 1858.

SALES BY AUCTION.

CROYDON, SURREY.—A substantial detached Residence, with convenient Offices and Garden, well placed and held on Lease

MR. W. E. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on THURSDAY, OCTOBER 28, at TWELVE for ONE o'clock, a detached RESIDENCE, with stabling, coach-house, and ornamental grounds, known as 16 Park-place, situate at Broad green, about half a-mile from the West Croydon Railway Station; six lots of Accommodation Land, containing about nine acres each; twenty-seven lots of Building Land, with frontages on to Benshaw-road, and eleven lots with frontages on to the London-road.—Particulars and conditions of sale may be had of Mr. G. BARRETT, High-street, Croydon; the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale

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NEW MALDEN, SURREY.—For Investment or Occupation.

MR. W. E. WHITTINGHAM is instructed to SELL by AUCTION, at the MART, opposite the Bank of England, on THURSDAY, OCTOBER 28, at TWELVE for ONE o'clock, FOUR semi-detached VILLA RESIDENCES, replete with every convenience, and the most eligible [illegible] New Malden.—Particulars, with conditions of sale, may be had of the Auctioneer, 14, Moorgate-street, London, E.C.; and at the Place of Sale.

AT GARRAWAY'S COFFEE HOUSE, Cornhill, FRIDAY, 29th OCTOBER, at FOUR THREE-QUARTERS precisely (unless previously disposed of by Private Treaty, of which timely notice will be given), about 1,000 loads of first-class Memel DEALS and BATTENS, in good assortment, now afloat in the Victoria Dock, and expected to arrive in a few days, per the *Ann*, from Memel; 200 loads of Quebec and Memel DEALS and BATTENS, per the *Ann*, from Quebec; and 200 loads ditto; with other wood goods.

May be viewed on the Quays, and catalogues had of the Auctioneers, 3, Crooked-lane, Cannon-street, E.C.

BUILDERS' PERIODICAL DISTRICT SALES.—The BUILDERS' SALE GROUNDS, Myrtle-road, Hackney, and the Walk-lane, are OPEN for the Inspection of Timber, Deals, and Battens, for Private Treaty. Goods intended for the regular Monthly Sales will be received until the last Tuesday in each month.—Lotting forms may be had at the City Office, 13, Eastcheap, E.C.

The extensive Brick, Pottery, and Cement Works of the late Thomas [illegible], Esq., Erith, Kent.

MESSRS. FULLER and HORSEY are instructed to SELL by PRIVATE CONTRACT, the extensive BRICK, POTTERY, and CEMENT WORKS, formed by the late Thomas Cubitt, Esq., within the last few years. The Erith Brick-works are chiefly held on the Freehold Estate, partly freehold and partly leasehold, on the banks of the River Medway, also from Midway river runs the Lesnes Abbey Canal, which is about twenty-eight chains in length, and connects the Erith Brick-works with the North Kent Line are within two miles of the property. The Canal is of the best shape at an inclination of about 1 in 8 across the level, and the pits having been formed on the most [illegible] principle for the purpose of excavating the material. The clay is known to be of the finest quality, and [illegible] is beneficially [illegible] to the [illegible] of the kiln, affording a supply more than sufficient for the present [illegible]. The Cement requires no other quantity of ashes than can be had in London, and has been in extensive use in the London trade from one to four years, and is highly esteemed by Builders. The Cement Mills, which are also [illegible] are capable of grinding 1,200 bushels per week. The Works were established by Mr Cubitt for his own private requirements exclusively, and both means and skill have been [illegible] to the purpose of producing the best materials. The principal building is upwards of [illegible] feet in length, with three lofty [illegible] and also drying apparatus capable of containing [illegible] bricks. Under the [illegible] and conveniently placed are three [illegible] kilns, each to hold 80,000 each, and one for 30,000; two waggon-loads [illegible] to each; twelve Scotch kilns, 50,000 each; and three double ditto, 100,000 each; also seventeen acres covered brick ground, in capital order.

The plant is capable of producing 2000 per annum, in addition to which there are [illegible] of clay, chalk, and large beds of various sands, and moulds of excellent brick. All the [illegible] are by rail, with Mr Cubitt's own waggons, and the [illegible] are by steam power, will be sold, wrought iron [illegible] for the longest [illegible] There is upwards of 1,000 [illegible] of rails, [illegible] and [illegible] for the [illegible] railway, [illegible] and five tiles. Near the [illegible] is a wash-mill, [illegible] and [illegible] and [illegible] by wooden troughs with four large malm backs, at the lower part of the [illegible] A range of [illegible] has been erected, which is filled from the Medway every tide, and affords a sufficient supply of water for the several purposes of the [illegible]. The works are intersected by upwards of two miles of iron railways, with [illegible] down, and [illegible] to the [illegible] Wharf, which is about half a mile wall, having space of sufficient depth for six barges to lie alongside.

The Cement Works comprise four well-built kilns for 60 casks each three drying stoves, and nine cooling ovens, wash-mill, pumps, and pipes worked by a portable steam engine by Clayton and Shuttleworth. There are [illegible] for the [illegible] of the Works. On the works is a newly erected machine for grinding and mixing, well placed, and surrounded by a large and productive garden. A newly built [illegible] for foreman of cement, and three [illegible] for [illegible] and a mess room for the workmen, with cooking apparatus. At a short distance, on the opposite bank of the Medway, is a 12-horse [illegible] engine and sand for brick-making purposes, and a wharf for [illegible]. As before stated, these works were established to supply Mr Cubitt's own requirements, and therefore have not been brought into competition with other works of a similar character, but the facts that the Cement they [illegible] to be of first-rate quality, that [illegible] be next to [illegible] to the London market, that coals can be procured at [illegible] Port of the City of London, that all other raw materials can be obtained on the very best terms, that the machinery [illegible] is likewise of the most improved character, most judiciously planned and [illegible], the works [illegible] and extensive [illegible] engaged on, the manufacture of bricks, drain-pipes, tiles, and cement.

For further particulars apply to Messrs. FULLER and HORSEY, Billiter-street.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, about 4 acres, situate on the high road from Clapham to Wandsworth. Particulars apply to JAMES CROWDY, Esq., 17, Serjeants'-inn, Fleet-street, E.C.

MANUFACTURING PREMISES, Southwark, TO BE LET, comprising a factory of two floors, engine and boiler-house, with two [illegible] steam engines and stable, and two [illegible] cottages. Immediate possession can be given, and shafting on the premises to be purchased by the in-coming tenant at a valuation. For further particulars apply to FULLER and HORSEY, 13, Billiter-street, E.C.

GROUND RENTS by PRIVATE CONTRACT. Person [illegible] GROUND RENTS FOR SALE are requested to call [illegible] at the Office of the Equitable Reversionary Interest Society, Limited, 22, Cannon-street. As the Company deal largely in this description of property, they [illegible] to [illegible] purchasers at the full value. A reduction is made in the commission on all property of surveyors and [illegible] employed.

THOS. B. FLEMING, Resident Secretary.

FREEHOLD GROUND, CHANCERY-LANE. The Commissioners of Sewers of the City of London are prepared to SELL by AUCTION, at GUILDHALL, in the said City, on TUESDAY, the 16th day of NOVEMBER next, at TWELVE o'clock precisely, by direction of the Court of Common Council, a LEASE, for a term of eighty years, at a ground rent, of all that piece of FREEHOLD GROUND, situate on the west side of Chancery-lane, [illegible] the Law Life Fire and Life Insurance Office. Further particulars of the proposed premises may be seen on application at the Office, where also plans of the ground may also be seen. The Commissioners will require a plan of the building proposed to be erected to be submitted to them for approval, and should bind themselves to accept any proposal unless deemed objectionable. Persons making proposals for the said land must attend personally, or by an authorised agent, on the above-mentioned day. The party whose offer is accepted will be required to execute an agreement at the time.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 7th October, 1858.

TO POTTERS, DRAIN PIPE MANUFACTURERS, and OTHERS.—TO BE SOLD, contiguous to the river Thames, the LEASE of extensive and valuable PREMISES, containing Two Kilns, together with the Fixtures and Utensils.—Apply to Messrs. C. and H. WHITE, Auctioneers, No. 150, Princes-road, Lambeth, S.

BUILDER'S PREMISES WANTED, in or on the North Side of the City, or a Builder wishing to part with his Business and Premises, if roomy, may hear of a party willing to treat with him.—Address, Z. W. by letter, Mr. Bradshaw's, No. 103, Bishopsgate-street within

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TO BUILDERS and OTHERS.—TO BE SOLD, on more than usually moderate terms, a HOUSE and SIX ACRES of very eligible long leasehold BUILDING GROUND.—Address, J. BOUCHER, Surrey Villas, Camberwell, S.

TO ARCHITECTS and BUILDERS.—TO BE LET, and entered upon at Lady-day next, the compact and convenient BUILDING PREMISES, situated at Quadrant, near Brimscombe, and known as "The Quadrant Building Works," comprising a neat and substantial dwelling-house, with building-yard, workshops, sheds, stabling, and coach-house. A leasehold term of Eighteen Acres of Land. These building works have been established [illegible] forty years, and have [illegible] profitably conducted by the present occupier, and in the books of the Royal Exchange Assurance about four miles from Bridgnorth, eleven from Kidderminster, twelve from Stourbridge, and fifteen from Wolverhampton. The Severn Valley Railway, now in progress, will connect Bridgnorth with Shrewsbury on the one side, and join the Oxford, Worcester, and Wolverhampton Railway on the other.—Apply to the Rev. EDW. GRIFFITH, Quatford-castle, Bridgnorth, Salop.

GAS-WORKS (suitable for a small town, railway station, or manufactory). TO BE SOLD at one-third the cost. Will suit any person [illegible] Works to create. Rials are now having [illegible] erected, but never used.—Apply to Mr. DORSETT, 76, Old Broad-street, E.C.

CITY of YORK.—TO BE LET or SOLD, a good FAMILY HOUSE, and spacious WAREROOMS adjoining, in a central situation. Adapted for any trade or manufacture requiring space.—Apply to Mr. LAYTON, 3, Ogleforth, York.

TO SMALL WORKING BUILDERS or OTHERS.—An UNFINISHED HOUSE, on about half an acre of freehold land, intended for a small business, [illegible] and place of suburban resort, near a market and manufacturing town, forty-seven miles from London, and within a mile of the kind in the neighbourhood; also adjoining twenty-eight acres of Freehold Building Land, eligibly situated for [illegible] Either or both To BE SOLD, or to [illegible] TO BE LET, on a thirty-nine years' lease, and money advanced at 4 per cent.—Address, ESSEX, post-office.

A MIAS'S CHARITY.—TO BE LET, on a Repairing Lease, in ONE or TWO LOTS, TWENTY ONE HOUSES in George-yard, Old-street, St. Luke's.—For particulars apply at Mr. POWSALL'S Office, 20, Lincoln's-inn-fields, W.C. where a plan of the property may be seen.

BUILDING LAND TO BE LET, on Lease for Ninety-nine Years, nearly adjoining the Great Northern Hotel, Old-road, St. Pancras, King's-cross.—Apply at 23, Martin's-lane, Cannon-street, City.

TO CARPENTERS, BUILDERS, and CONTRACTORS.—TO BE LET on LEASE, from CHRISTMAS next, in one or two lots, at the option of the tenant, the valuable PREMISES, Yard, Workships, Stabling, and convenient Residence; nearly eight thousand feet of frontage to the Kingston-road, a site of a century. Commandingly situate at Camberwell, Surrey, presenting a rare opportunity to any person commencing business, or to a large [illegible] from a branch establishment in this [illegible] neighbourhood. The plant and supplies [illegible] Saw, Planing, and other machinery, may be taken or not, at the option of the purchaser.—For further particulars, apply to Messrs. FULLER and HORSEY, 13, Billiter-street, E.C.

TO CARPENTERS and BUILDERS.—TWO PAIRS of well-built CARCASES, at Tulse-hill, Lower Norwood, TO BE SOLD, with advances for completion. Houses in this favourite locality are readily to highly respectable tenants.—Apply at the Offices of the United Building Land and Investment Company (Limited), 29, Poultry.

TO IRONMONGERS.—TO BE DISPOSED OF, in consequence of the failing health of the proprietor, an old established GENERAL FURNISHING IRONMONGERY BUSINESS, [illegible] [illegible] been retained within the last few years, and are [illegible] by a party of [illegible] [illegible] in the trade. The greater portion of the stock is modern, well [illegible] and in perfect order.—For particulars apply to Messrs. BARWELL and CO. Northampton.

TO SCALE-MAKERS, AGRICULTURAL IMPLEMENT MAKERS, and OTHERS.—TO BE DISPOSED OF, the old established BUSINESS of the late Mr. Barchfield, of this favourite locality, having a most respectable and extensive connection in all parts of England. Rent moderate; coming in, about 600.—For [illegible] particulars, apply to Messrs FULLER and HORSEY, No. 13, Billiter-street.

TO PLUMBERS, PAINTERS, BUILDERS, and OTHERS.—FOR DISPOSAL, by PRIVATE CONTRACT, [illegible] [illegible] [illegible] SOLDING TRADE, doing a good business at full profits, and capable of great extension. The premises are admirably situate in a wealthy, populous, and improving [illegible] of the metropolis, and [illegible] [illegible] to meet a [illegible] [illegible] [illegible]

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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ROYAL INSTITUTE of BRITISH ARCHITECTS.

THE Council invite applications, addressed to the Honorary Secretaries, on or before the 31st of November, from intelligent, competent and willing to undertake the OFFICE of LIBRARIAN, which will become vacant at Christmas next. Further information may be obtained at the rooms of the Institute. All letters to be prepaid.

CHARLES C. NELSON, } Honorary
M. DIGBY WYATT, } Secretaries.

18, Grosvenor-street, W. October 25, 1858.

COMPETITIONS.

TO ARCHITECTS, BUILDERS, &c.—COMPETITION PLANS for the WAKEFIELD CHURCH INSTITUTION. The Committee of the above Institution are desirous of obtaining DESIGNS for a BUILDING. The plans to be drawn to a scale of 8 feet to 1 inch. Each set of designs to comprise elevations, plans, and perspective view, with specification and estimate, and to be forwarded to the Rev. JAMES TAYLOR, Grammar-School, Wakefield, free of expense (under motto only, accompanied by a sealed letter, containing the real name and address of the person furnishing the designs), on or before the 1st day of DECEMBER, 1858. A premium of 50*l.* will be given to the person whose design shall be approved by the Committee as the best, and such designs shall be the property of the committee, who shall have to be at liberty to employ the successful person as architect. The unsuccessful designs will be returned to the owners by the usual modes of conveyance, but the committee will not be responsible for their safe delivery, nor for any payment to the owners in respect of such plans.—Tracings of the ground plan of the site, and instructions as to the requirements of the Institution, will be forwarded on receipt of 2s. 6d. in postage stamps, by the Rev. J. TAYLOR.

JAMES TAYLOR, M.A. } Hon. Secs
GEO. JAMES ATKINSON, }

CONTRACTS.

TWO BUILDERS.—TENDERS are required for the ERECTION of a NEW CHURCH at King's Heath, Selly, near Birmingham. Plans and specifications may be seen at the office of the Architect, FREDERICK PREEDY, Sansom Walk, Worcester, and at the Vestry Room at Moseley, on and after MONDAY, the 1st of NOVEMBER next, between the hours of NINE and FIVE o'clock. Sealed Tenders, endorsed "Tender for King's Heath Church, Selly," to be addressed to JOHN HOLBECHE, Esq. 18 Bennetts-hill, Birmingham, before TWELVE o'clock on TUESDAY, the 16th of NOVEMBER next. The Committee do not bind themselves to accept the lowest or any Tender.

By order,
Temple, 28th October, 1858.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE WORKS. The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on or before FRIDAY, the 26th day of NOVEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT OFFICES, at the Western Heights, Dover. Drawings and a specification of the Works to be executed may be seen by persons disposed to undertake the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from FRIDAY, the 5th of NOVEMBER, to SATURDAY, the 20th NOVEMBER, 1858, inclusive, Sundays excepted. The party whose Tender may be accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately in the penalty of 500*l.* for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War office, Pall-mall, London, S.W. and endorsed, "Tender for Married Soldiers' Quarters at Dover."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, October 20, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer, Manchester District, hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, S.W. on TUESDAY, the 16th of NOVEMBER, 1858, from such persons as may be willing to TENDER for the ERECTION of MARRIED SOLDIERS' QUARTERS, OUT BUILDINGS, &c. at the Infirmary Barracks, Ashton. Plans, specifications, and forms of Contract may be seen, and every requisite information obtained, at this Office, on and after MONDAY next, the 1st of NOVEMBER, from TEN to FOUR on any day (Sundays excepted), until SATURDAY, the 13th of NOVEMBER. Tenders to be endorsed "Tender for the Erection of Married Soldiers' Quarters, Out buildings, &c. at the Infirmary Barracks."

Royal Engineer Office, 1, Green street, Dawson street, Manchester, October 26, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-mall, London, on MONDAY, 15th NOVEMBER, 1858 for ERECTING a BUILDING, to contain cooking kitchen, reading room, and school room, at Cumberlidge Barracks, Portsmouth.—Plans and specifications may be seen, and every information obtained, on application at this Office.

Royal Engineer Office, Portsmouth, 25th October, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on MONDAY, NOVEMBER 8, 1858 for CONSTRUCTING LATRINES and EXTENDING DRAINAGE at the Clarence and Cobourg Barracks, Portsmouth. Plans and specification may be seen, and every information obtained on application at this Office, from TEN till FOUR o'clock on week days, between the 25th of OCTOBER and the 7th NOVEMBER, 1858.

Royal Engineer Office, Portsmouth, 22nd October, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-mall, London, on MONDAY, 15th NOVEMBER, 1858, for REPAIRING the STONE BREAKWATER and WOOD PILING between the Spur Redoubt and the Semaphore Tower, at Portsmouth.—Plans and specifications may be seen, and every information obtained, on application at this Office.

Royal Engineer Office, Portsmouth, 27th October, 1858

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE CONTRACT No. 4. To ENGINEERS, CONTRACTORS, and OTHERS.—The Local Board of Health of the District of West Ham, in the County of Essex, hereby give Notice, that they are prepared to receive Tenders from parties willing to undertake the following named contract:—

Contract No. 4. For the supply of contractor's steam engines, boilers, and pumps to lift 1,000 gallons of water 22 feet in height during eight working hours. Also, engine, boiler, and mortar-pan, with rollers to grind mortar. Engine to be 10-horse power. Also, a portable steam engine and pumps for contractor's trench-work. Engine to be say, 6-horse power, lift 10 to 22 feet vertical.

Further particulars may be known on application at the Office of ROBERT RAWLINSON, Esq. C.E. 2, Duncannon-st. No. 34, Parliament street, Westminster. Sealed Tenders, with a written description of the engines, boilers, pumps, &c., proposed to be supplied (which may be taken new or second-hand), stating also the proposed dates of delivery, must be forwarded to my Office, Stratford-green, E. on or before MONDAY, the 8th day of NOVEMBER, 1858, endorsed, "Tender for Engines, &c. Contract No. 4."

N.B. The Tenders may be for one engine, or for two, or for the whole.

WM. JAS. BARSHAM,
Solicitor and Clerk to the Local Board.

Stratford-green, 26th October, 1858.

THE PUBLIC HEALTH ACT, 1848.—To CONTRACTORS and OTHERS.—The Leamington Local Board of Health are prepared to receive TENDERS for the EXECUTION of WORKS required in the CONSTRUCTION and NEW ARRANGEMENT of about 4,800 lineal feet of NEW SEWERS, including the Manufacture of the Concrete, the Forging and Placing of the Footways, the Laying of 2,700 lineal feet of 18 inch Socket-pipes, and the following 1,140 lineal feet of Brick Sewers, under and in the road, according to the plans and specifications prepared by Mr. JOSEPH FOA SHARP, C.E. Surveyor to the Board, which may be seen at the Surveyor's Office, at the Town-hall, Leamington, between the hours of TEN and ONE o'clock, on and after MONDAY, the 8th NOVEMBER, 1858.

Copies of the specification and form of Tender may be obtained on application to the Clerk at his Office, at the Town-hall, on payment of 5s. and to whom Tenders must be forwarded, endorsed "Tender for New Streets," on or before MONDAY, the 22nd NOVEMBER, 1858. The Board do not bind themselves to accept the lowest or any Tender. By order,

R. H. DAVIES, Clerk.

Town-hall, Leamington, 26th October 1858.

CONTRACTS.

TO CONTRACTORS and IRON-BRIDGE BUILDERS. LONDONDERRY-BRIDGE.—The Londonderry Bridge Commissioners will meet in Londonderry, on THURSDAY, the 9th DECEMBER next, to receive TENDERS for the CONSTRUCTION of an IRON BRIDGE across the river Foyle, at Londonderry. Plans and specifications may be seen on and after MONDAY, the 22nd NOVEMBER next, at the Offices of Mr. HAWKSHAW, 33, Great George-street, Westminster. Sealed Tenders, marked, "Tender for Londonderry Bridge," addressed to the undersigned, will be received until ELEVEN o'clock on the day of meeting. The Commissioners do not bind themselves to accept the lowest or any Tender.—By order,

A. H. STEWART, Secretary to the Commissioners.

Londonderry, October 12, 1858.

STRATFORD-UPON-AVON RAILWAY. CONTRACT for RAILS.—The Directors are prepared to receive TENDERS for the SUPPLY of 1,500 TONS of RAILS. Specifications and full particulars may be had on application to CHARLES SANDERSON, Esq. C.E. Stratford-upon-Avon. Sealed Tenders, endorsed "Tender for Rails," may be sent, under cover, to the undersigned, on or before the 12th of NOVEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.

JOHN C. BULL, Secretary.

Stratford-upon-Avon, October 26, 1858.

LIMERICK and ENNIS RAILWAY.—CONTRACT for IRON BRIDGE. The Directors are willing to receive TENDERS for the ERECTION of an IRON BRIDGE across the River Shannon, at Limerick. Persons willing to contract are invited to submit Plans and Estimates for such Bridge, according to Plans and Design, on or before SATURDAY, 20th NOVEMBER, proxo. The Directors will not pay for the plans of the person tendering.—By order,

F. WILLIAM MAUNSELL, Secretary.

Limerick, 25th October, 1858

BROKEN GUERNSEY GRANITE.—The Vestry of the Parish of Clerkenwell will meet at HALF-PAST SIX o'clock on THURSDAY EVENING, the 4th NOVEMBER next, at the Vestry hall, Upper Rosoman street, to CONTRACT until Lady-day next, for the best BROKEN GUERNSEY GRANITE at per cubic yard, carriage to any part of the parish included, and to be delivered and measured on the roads. The granite to be broken to from 6in. to 1 and a half to not exceeding two inches to the square. The party contracted will be expected to find two sureties in the sum of £50. The Vestry do not bind themselves to accept the lowest or any Tender. Principals or their agents must attend at the time and place above mentioned, and send in their Tenders, with samples, before FOUR o'clock on the afternoon, or they will not be received. Tenders to be in a sealed cover, and their nature expressed outside.—By order,

ROBERT PAGET, Vestry Clerk.

MIDDLESEX and ESSEX TURNPIKE ROADS.—Notice is hereby given, that the Trustees of these Roads are willing to receive PROPOSALS, and to CONTRACT for 500 yards of NEW BLUE GUERNSEY GRANITE, free from dust, of the best and hardest quality, broken to a gauge of two inches and one half of a round, to be used in the reparation of these roads, such granite to be delivered by barge at the wharf of Messrs. John Mason and Co. adjoining the River Lea, at Stratford, before the 1st of MARCH next. The granite will be unladen from the barges to the wharf at the expense of the trustees. If such granite be received of the size and sort aforesaid, and at the time aforesaid, payment will be made therefor in the month of APRIL next. Tenders, sealed and indorsed "Tender for Broken Granite," to be sent to this Office, on or before WEDNESDAY, the 10th NOVEMBER next. The Trustees do not bind themselves to accept the lowest or any specific offer that may be made to them. A sample of the Stone required may be seen at this Office.

GEORGE DAGRE, Clerk and Solicitor to the said Trustees.

Turnpike-house, Bow, Middlesex, 25th October, 1858.

TO BUILDERS.—TENDERS are Required for the ERECTION of a GAMEKEEPER'S COTTAGE, in Bricket Wood, and ALTERATIONS to Bricket Farm House, near Watford, Herts. The plans and specifications may be seen at the Office of Mr. W. F. SEDGWICK, Cashio-bridge Farm, Watford, Herts, or Mr. A. B. FRENCH, Architect, Bedford-row, London, W.C. to whom Tenders are to be sent on or before the 8th day of NOVEMBER.

CONTRACT for RAILS.—EASTERN BENGAL RAILWAY.—The Directors of the Eastern Bengal Railway Company are prepared to receive TENDERS for any quantity of RAILS not exceeding 7,000 tons. Specifications and forms of Tender may be obtained upon application at the Company's Office, the fresh-air street, Strand after THURSDAY, the 28th inst. The Tenders are to be addressed to the Secretary, and delivered at the Company's Office, before FOUR o'clock on MONDAY, the 8th of NOVEMBER next.—The Directors do not bind themselves to accept the lowest or any Tender.

October, 1858.

FREDERICK DENT, Chronometer, Watch, and Clock Maker to the Queen and Prince Consort, and maker of the great clock for the Houses of Parliament, 61, Strand, and 34, Royal Exchange.

No connection with 33, Cockspur-street.

NOTICE of REMOVAL. The SOCIETY of WOOD CARVERS respectfully informs employers and others that it has REMOVED to 7, Trenham-street, off HOWLAND-STREET, Fitzroy-square. Where the names and addresses of those members who are unemployed may at any time be seen.

AN ORGAN (suitable for a small church or chapel), with seven stops, in mahogany case, with gilt pipes, nine-fifty tunes, 2 octaves, open diapason, principal, stopped bass, dulciana, and clarionet. Handles down to G with swell and bellows. Portable and very low; apply by letter to H. G. J., Carleton-road, Mudy-vale.

TO PUBLICANS, BUILDERS, and OTHERS.—TO BE SOLD, a large and PUBLIC HOUSE FRONT, nearly new, and to be taken down complete.—Apply at No. 15, Gt. [illegible], Holborn, [illegible], Kent, N.E.

THE BRITISH and FOREIGN MARBLE GALLERIES, 17, Newman-street, Oxford-street.—EDWARDS, EDWARDS, and CO Proprietors, the largest and most superb Stock of Chimney-pieces in Europe on view at the above named establishment—Marmo statuario, Carrara (Italy), Belgian, and 17 Newman-street, London. Estimates for every description of marble work.

TO SCULPTORS, MASONS, BUILDERS, &c. FABBRICOTTI, BROTHERS, of Carrara (Italy), Importers of all sorts of Marble, keep a constant well supplied Stock of Marble, in Blocks, at the under-mentioned Wharf, comprising STATUARY, VENICE, VEINED PAONAZZO, SICILIAN DOVE, &c., all the produce of their own Quarries at Carrara,—Bardilla, Black and Gold, Sienna, Greotte, St. Ann's, Yert des Alpes, Breccia, &c. &c.; Vases, Garden and Gallery Statues, Chimney-pieces, Tiles, and Slabs Cut to any size required. The Trade supplied at the lowest prices. Headstones, ledgers, &c. &c., landings &c. cut on the shortest notice. Country orders promptly attended to.

Carrara Wharf, Thames bank, Pimlico, and 15a, Leadenhall-street, City.

MARKET WHARF, REGENT'S PARK BASIN.—WEST END DEPOT for Yorkshire Paving, Portland and Derby Stone, Ransome's Stone, Slabs, &c. &c. Bricks, Lime, Cement, Plaster, Tiles, Lath, and Fire Bricks. SOILS and WOOD invite the attention of Builders, Masons, and Others, their Stock as above, where everything will be charged at the lowest prices. Headstones, ledgers, &c. &c., landings &c. cut on the shortest notice. Country orders promptly attended to.

THE LIZARD SERPENTINE COMPANY have on view Chimney-Pieces, Columns, Fonts, Vases, &c. superior to any Marble for beauty and durability. 29, Surrey-street, Strand.

HENRY COX, Manager of the Lizard.
FREDK. W. RIPPLE, Agent in London.

THE WESTMINSTER MARBLE COMPANY, from the great encouragement shown in the Production for the introduction of Marble floors, have now greatly EXTENDED their ESTABLISHMENT for EXECUTING all ORDERS with Despatch, to meet the numerous further commands, and have now on view the LARGEST STOCK of CHIMNEY PIECES in London, at unprecedentedly Low Prices.
Address: Earl-street, Holywell-street, Westminster.

VINCENT BELLMAN, SCAGLIOLA MARBLE MANUFACTURER, 14, Buckingham-street, Fitzroy-square, London, (W.) executes in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design, in imitation of the most rare and expensive marbles, of which he has for inspection a large assortment, including the ARCHITECTURAL SCREEN exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. He also executes Plasterer's Work of every description, in the very best manner and on the most reasonable terms. Also Manufacturer of superior and improved Plaster of Paris.

GATES and GEORGE, CAEN and AUBIGNY QUARRYMEN, and GENERAL STONE MERCHANTS, CAEN WHARF ROTHERHITHE. Seasoned Caen Stone always on hand, and a large assortment of Yorkshire Scotch Slab, and other Stone

CAMDEN-TOWN.—STRINGFIELD and COOPER (late W. W. Rawlings), BANGOR WHARF, Kingsroad-terrace, beg to call the attention of Builders and others to their Stock of Bangor Slates, Plaster, Roman, Portland, and Keene's Cement, Basic Lime, Hydraulic and Chalk Lime, Plasterer's Hair, Yorkshire Flags, Paving, and Ridge Tiles, Glazed Sewer Pipes, Closet Pans, and Traps, White Pan bricks, Gravel and Shells for Garden Paths, Ballast, Sand, &c. Materials Landed, Wharfed, and Carted.

BATH STONE OF BEST QUALITY.
RANDELL and SAUNDERS, QUARRYMEN and STONE MERCHANTS, BATH
List of prices at the Quarries and Depôts, also cost for transit to any part of the kingdom, furnished on application to Bath Stone Office, Corsham, Wilts.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplied direct from the Quarries by vessels adapted for the Trade. Direct communication with the principal ports for EXPORTATION. Wharf prices, and estimates for special contracts, including quarry work or other labour, forwarded on application.—Offices, Mill-bank street, London, S.W.

W. ASPINALL, STONE MERCHANT, Camden-town, has always on hand for selection a large stock of STONE from the various quarries in Yorkshire, viz. Tooled York Landings Paving, &c.: Park Spring, Potternewton, Robin Hood, and Harehill, in blocks and slabs, of all the kinds as Scotch and other Stones, in curbing and pitching; Portland and Bath stone in blocks. Country orders punctually attended to, and list of prices forwarded on request.

SAMUEL TRICKETT, VICTORIA WHARF, ISLE of DOGS, E. Merchant and Dealer in all kinds of Stone, Portland, Caen, Bath, Gaxby, Parkspring, Rawden hill, Hare mill, Bramley Fall, Potternewton, and Whadley Landings, Parings, and Steps from Bradford, North and Southowram, Elland Edge, &c. Sawn Slabs, Landings, &c. Rolled head, Hare-hill, Heidgersfield, Parkspring, and Shipley.—The Woolwich boats call opposite the wharf, and in omnibus to and from the wharf and Limehouse station every half-hour.

LITTLE CASTERTON FREESTONE.—Apply for prices, &c. to FRAS. and COTTS. SIMPSON, STAMFORD; and see Specimens at the Office of Messrs. PINDER, SIMPSON, and SONS, 29 Saville-row, London

MANSFIELD STONE. White or Red, in BLOCKS up to Ten Tons, and the beds from 1 to 5 feet thick. Supplied also in sawn Slabs for flooring, paving, landings, hearthing, for steps and sills. Mr ROBERT LINDLEY, Quarry-owner, Mansfield, Nottinghamshire.

GRANITE.—The Welsh Granite Company, Carnarvon, supplies PITCHING or PAVING SETS of this MATERIAL to order. The sets, which have for several years been extensively used in Manchester, Bristol, Leeds, and other large towns, combine in a higher degree than any others, the qualities of roughness in wear and durability.—Address, Mr. JOHN HUTTON.

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall. London Agents—LAPIELLE'S and TAYLOR, 74, Old Broad street. Manager—JAMES J. FRATHAN, Liskeard. The Granite selected for the New Westminster Bridge

RANSOME'S PATENTED PROCESS for INDURATING STONE, CEMENT, BRICKS, &c. to prevent and arrest decay and decomposition by weather, by any known painter, or subsequent results as to it, &c. Does not alter the colour of the natural appearance of the material, and is permanent.
For a practical example inspect the CAEN STONE OF BLOOMSBURY BAPTIST CHAPEL, NOW UNDER TREATMENT, and for estimates, prices of working, &c. apply to
Mr. FREDERICK RANSOME, Whitehall Wharf, Cannon row, Westminster; or Patent Stone Works, Ipswich.

CAEN and AUBIGNY STONE. P. FOTCARD, Stone Merchant and Quarryman. Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Depôts: Granite Wharf, East Greenwich; Lett's Wharf, Waterloo-bridge. Office: No. 245, High-street, Southwark, near the Town-hall.

RANSOME'S SILICEOUS STONE. All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material, at prices not exceeding the ordinary Cements.
Full particulars furnished on application to
Mr. FRED. RANSOME,
Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

JOHN BAZLEY WHITE and BROTHERS, MARBLE MERCHANTS, MILLBANK STREET, WESTMINSTER. Marble of all kinds and in all forms, slabs, in Block and Slab. Marble Mortars, &c.

DUNDRY STONE QUARRIES.—Dundry, near Bristol.—This valuable stone for Architectural purposes may now be obtained in any quantities. Mr C. H. Smith, of London, as well as Messrs. Aroldi and Scott, Manchester, have selected it favourably upon the qualities and durability, and it is now being used for extensive repairs at the Church, Bristol. The price at the Dundry Railway Terminus is 3s. per foot cube, in block. The stone can be had worked at the quarries at prices to be agreed upon if preferred. All further particulars, certificates, and reports, may be obtained on application to GEO. C. ASHMEAD and SON, surveyors and Agents, 19, Small-street, Bristol.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First class Medals at the Paris Exhibition.
Trade imitations of this novel fire material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" is upon each article.
Chimney pieces, Hearthstones, table tops, baths, wall linings, &c. a new Illustrated Catalogue of which can be had at the Patent Slate Works, 29 and 40, Upper Bourne-street, Pimlico, S.W.

VALENTIA SLATE SLABS. The Valentia Slab Company invite attention to their Slabs, now supplied of very large dimensions and superior quality. They have been used at the British Museum, National Gallery, Bethlehem Hospital, Victoria Law Courts, Arsenal, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race stand at Brighton, Portsmouth Barracks, and are kept in stock by the principal Slate Merchants in London.—For wholesale terms, apply to the Company's Manager, at Valentia, Kerry.
4, Trafalgar-square, London, W.C., June, 1858.

TIMBER and SLATES.—To BUILDERS, SLATERS, and OTHERS.—The CHEAPEST HOUSE in LONDON for TIMBER and SLATES is JOHN EADES'S, Regent-wharf, Millwall, Poplar, E. near West India Dock, where he has always on hand a large stock of English and foreign timber, deals, battens, prepared flooring, laths, match-boarding, mouldings, &c. &c. and begs to call attention to the following low prices for roofing slates, slate slabs, &c.

ROOFING SLATES.

Duchess	24 in. by 12 in.	2	10	0	per mille of 1,200
Small ditto	22 ,,	12	9	5	0 ,,
Marchioness	22 ,,	11	8	10	0 ,,
Countess	20 ,,	10	6	15	0 ,,
Small ditto	18 ,,	10	5	0	0 ,,
Viscountess	18 ,,	9	4	10	0 ,,
Ladies	16 ,,	8	3	10	0 ,,

Slate nails, sawn all round and planed on one side, from 5s to 10s feet in each slab, at per foot, 14-in. 6d. 2-in. 6d. 2½-in. 8d. 2½ in 9d. 12 feet and lower, 14-in. 7s. 2-in. 9s. 2½-in 10d. 2½-in 12d.
N.B.—A large stock on hand of very cheap Larch Fencing, ready for fixing

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars, Fleet-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Bricks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity, alongside the Thames.

ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London Established 1834.—TRINIDAD, SEYSSEL, and BRITISH ASPHALTES, manufactured by steam power, and laid in the best manner, or supplied in any quantity for laying by Plasterers, forwarded with Instructions. Persons ordering reference in London promptly attended to. Estimates given for every kind of the above work.

ASPHALTE, FOREIGN and BRITISH, for FLAT ROOFING, and every description of PAVING, especially in damp situations.
FROM 2s. 9d. PER SQUARE YARD.
Country Builders supplied with Asphalte for Footings and Barn Floors, with Instructions for using it.
Apply to JOHN HUMPHERSTON, Roofing and Limmer Asphalte Office, Monument Chambers, 14, Fish-street-hill, London.
N.B. Importer of the PURE ROCK ASPHALTE, from the LIMMER Mines in Hanover.

ASPHALTE—TRINIDAD—rendered of uniform consistency by Steam Power.
PREPARED { for every description of Building, Railway, Shaft, and Agricultural Work.
TEMPERED { for every purpose, situation, and export to every climate.
The Trade supplied on advantageous terms, and estimates given for works of any magnitude, also for LAYING TAR PAVEMENT.
THOMAS HARRISON,
ASPHALTE, WHITING, and PAINT WORKS:—
Limehouse Basin Wharf, Hackney;
Sunderland Wharf, Rotherhithe;
City Offices, 19, London-street, E.C. opposite the Blackwall Railway.

PANTILES, PAVING, and PIPE-TILES.—J. H. ANDREWS, Wisbech, Cambridgeshire, offers Pantiles at 25s. per 1,000, Flat Bricks and Tile Pantiles, at 20s. per 1,000; and Pan Tiles, at 30s. per 1,000, at prices delivered in trucks in London or along the line on the Eastern Counties Railway.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c. Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield-street, City-road Basin, Old-street-road, that the trade term, "TERRO METALLIC" is the exclusive right of the Proprietor, and likewise, that the "Reports of the Juries," page 581, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

TO ARCHITECTS, BUILDERS, &c. Messrs CASENTINI and BARNARD beg to call the attention of Architects and others to their large assortment of MODELS, which comprise centre flowers, friezes, trusses, trophies, bed mould, caps, &c. in every variety of style and order. Different castings may be had in any cement or plaster on the lowest terms. Superior plastering and stuccoing executed by them in the most workmanlike manner and tenders given free of charge. An Album of Photographs of part of the above stock may be seen on application to Messrs. C. and B. superior plaster of Paris manufactured by them, delivered in town or at any railway station, on the lowest terms. Patent Hydraulic for converting Plaster of Paris into a superior Parian Cement, with directions for use, 2s. 6d. per bottle, which is sufficient for 2 cwt. of plaster. This Patent Cement is superior to all others. It sets quickly, does not warp, crack, or efflouresce, and may be painted or polished within a few days after its application. Specimens of the above material, in imitation of a variety of marbles, may be seen at the Offices, 74, Hercules-buildings; or at the South-Western Plaster Depot, Homerstreet, Lambeth.
N.B. This Cement is 25 per cent cheaper than Parian, whilst possesses all its good qualities.

BUILDING LAND TO BE LET, on Lease for Ninety-nine Years, nearly adjoining the Great Northern Hotel, Old-road, St. Pancras, King's-cross.—Apply at 23, Martin's-lane, Cannon-street, City.

TO ENGINEERS, BUILDERS, and Others requiring spacious and commanding Manufacturing Premises. The LEASE of the above class of Premises TO BE SOLD. Rent nominal. Engine, boiler, and shafting to be taken at a valuation.—E. T. C. Deacon's News Rooms, 154, Leadenhall-street.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for Building purposes, situate on Clapham-common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq. 17, Sergeants'-inn, Fleet-street, E.C.

FREEHOLD GROUND, CHANCERY-LANE.—The Commissioners of Sewers of the City of London hereby give notice that they will meet at the GUILDHALL of the said City, on TUESDAY, the 30th day of NOVEMBER next, at TWELVE o'clock at noon precisely, to receive proposals for taking on BUILDING LEASE, for a term of eighty years, at a ground rent, a certain PLOT of FREEHOLD GROUND, situate on the west side of Chancery lane, and at the Law Fire and Life Insurance Office. Further particulars of the Plot of Ground may be had on application at the Office, where a plan of the ground may also be seen. The Commissioners will require a plan and elevation of the premises proposed to be built to be submitted to them for approval, and do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said land must attend personally, or by an authorized agent, on the above-mentioned day, and the party whose offer is accepted will be required to execute an agreement at the time.
JOSEPH DAW, Principal Clerk
Sewers Office, Guildhall, 7th October, 1858.

TO CARPENTERS, BUILDERS, and CONTRACTORS.—TO BE LET on LEASE, from CHRISTMAS next, in consequence of the indisposition of the proprietor, the extensive PREMISES, Yard, Workships, Stabling, and convenient Residence already established as a builder's and stonemason's for upwards of a century, Camberwell-grove-street, Camberwell, Surrey, presenting a rare opportunity to any person commencing business, or to a large firm disposed to form a branch establishment in this desirable neighbourhood. The plant and surplus stock may be taken by valuation, or will be sold by auction.—Apply to Mr THOMAS BROWN, Camberwell-green, S.

FREEHOLD BUILDING LAND.—TO BE SOLD, at a gross sum, or at a fee farm rent, or TO BE LET on building leases for 99 years, very eligible building LAND at Holloway. Apply to Mr BILNEY, 136, Maryle bone-road, N.W.

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TO BUILDERS.—REQUIRED, a SECURITY for a SUM of MONEY. House property, if offered, must be first-rate. Or the money might be lent in several sums for short periods,—three or six months.—Apply to Mr BRADY, 5, Mitre-court, Fleet-street, E.C.

TO BUILDERS.—HAVERSTOCK PARK. BUILDING LAND TO BE LET, on advantageous terms, suitable for a good class of houses. The land is desirably situated. For particulars apply to Mr BRADY, Solicitor, 5, Mitre-court, Temple, E.C.

SALE of GROUND-RENTS.—CITY IMPROVEMENTS.—New Cannon street, Crooked-lane, Tornhill-row, New Earl-street, Broad street, St. Mary-at-Hill, and St. Paul's Churchyard, in the City of London.—The Committee for Improvements within the City of London, hereby give Notice that they will on THURSDAY, the 11th day of NOVEMBER next, at ONE o'clock, at the Guildhall, London, on MONDAY, the 15th day of NOVEMBER next, at ONE o'clock, at the afternoon precisely, receive TENDERS in writing from parties willing to PURCHASE Sundry GROUND RENTS of PREMISES in the above named new Streets, where an Auction is not taken place, with Purchase and further information, can be obtained on application at the Comptroller's Office, Guildhall, London, October, 1858. MERRIWETHER.

TO BUILDERS, CABINET-MAKERS, PIANOFORTE MANUFACTURERS, &c.—TO BE LET, at a low rent, a NEW MANUFACTURING PREMISES, recently erected, consisting of Five Available Floors with basement 50 feet front by The situation is good, being near Camden-square and Oxford-street. Dwelling-house attached, if required.—Apply personally, or if by letter, to Mr. CONNOR, 4, Westmoreland street, Welbeck-street, Cavendish-square

THE SEVENTH YEAR. The CONSERVATIVE LAND SOCIETY, enrolled under 6 and 7 Will. 4, cap. 32, is the CONSERVATIVE BENEFIT BUILDING SOCIETY. The SIXTH FINANCIAL YEAR has been completed, on the 29th SEPTEMBER, 1858, the NEW PROSPECTUS explaining the mode of investment in shares and in the deposit department, and also the terms on which loans and building advances for short or long periods will be granted, is NOW READY, and will be forwarded free of charge, to any part of the world.
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Office, 33, Norfolk street, Strand, London, W.C.

BANK of DEPOSIT, Established A.D. 1844. 3, PALL MALL EAST, LONDON
Parties desirous of INVESTING MONEY are requested to examine the Plan of the BANK of DEPOSIT, by which a high rate of interest may be obtained with ample security.
Deposits made by special agreement, may be withdrawn without notice.
The interests payable in January and July.
PETER MORRISON, Managing Director.
Forms for opening Accounts sent free on application.

LOANS, from 10l. 10s. to 100l. ADVANCED, within 20 miles of London, repayable weekly or otherwise, at 2s per week for every 10l. for 40 weeks, and 1s per week for fifty pounds for 40 weeks, and 2s per week for twenty-five pounds for 40 weeks. Forms, price 2d by post three postage stamps (which are enclosed).—METROPOLITAN LOAN COMPANY, 1, Craven-street, Strand. Established 1839. Office hours from 10 to 4.—CHARLES HOLGATE, Clerk.
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LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Girders, and STEWART'S PATENT CAST-IRON GASand WATER-PIPES. Office, No. 7, Bise-lane, London.

LEAMINGTON KITCHEN RANGES. IMPROVED IN QUALITY AND CONSTRUCTION, and REDUCED IN PRICE.
Manufactured by
MAPPLEBECK and LOWE, BIRMINGHAM
The largest assortment of Stove Grates, Ranges, Fenders, Fire irons, &c. in the Kingdom
Builders' Ironmongery at Wholesale Prices.

POWIS, JAMES, AND CO.

Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (New Patent).—NO MORE BREAKAGE OF SAWS.

POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE; and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW BENCHES, with RISING TABLES,
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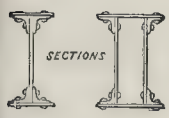
ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.



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For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

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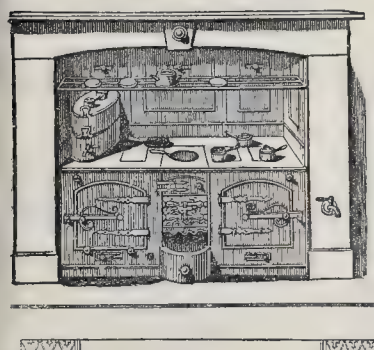
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.



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Invite attention to their extensive suite of SHOW-ROOMS.
STOVES, FENDERS, AND FIRE-IRONS,
THE LARGEST AND BEST SELECTION IN LONDON.
KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c.
for Large or Small Establishments.
CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING,
and every Description of General Furnishing Ironmongery,
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The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851.
Flavel's Prize Kitchener is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.
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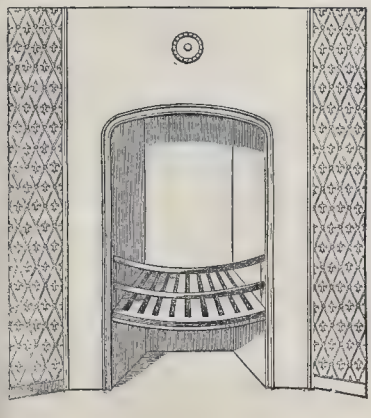
ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM, S.E.



IMPROVED GRATES WITH PORCELAIN SIDES,
of elegant designs, and variegated colours, from 35s. each complete. The advantages of porcelain for ornament over iron or steel arise from its cleanliness, saving of trouble in cleaning, and from its beauty not being impaired by lapse of time.

IMPROVED GRATES WITH STOURBRIDGE FIRE-BRICK BACKS,
from 24s. each, complete. Any one who has experienced the superiority of fire-brick over iron for retaining heat, and radiating it into an apartment, would never consent to have grates with iron backs, which conduct the heat away.

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EDWARDS'S SMOKELESS KITCHEN RANGE,
A perfect cooking apparatus, ensuring the operations of cooking being conducted with cleanliness, economy, and despatch, and the only one for which the first-class medal was awarded at the Paris Exhibition of 1855. This range effects a saving of 40 per cent. in the consumption of coal, it effectually cures any smoky chimney, and obviates the necessity of chimney-sweeping.

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Public buildings and mansions fitted up with stoves, cooking-ranges, steam cooking-apparatus, washing-apparatus, drying-closets, baths, bells, &c.

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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
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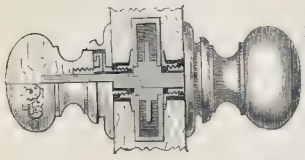
WROUGHT IRON GIRDERS, TANKS, &c.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the neck of the knob. Perfect action guaranteed in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershott, &c. &c. and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

Hobbs and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass foundry, and ironmongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

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WARMING AND VENTILATING COMPANY,
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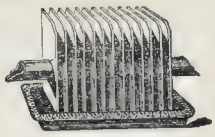
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known means.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and in many churches and other buildings.

Particulars and testimonials forwarded on application.

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Would respectfully call the attention of the above to their Stock of fitted Stoves and Kitchen Ranges, which for strength, pattern, and price combined, cannot be surpassed by any maker in London.

REGISTER STOVES, from 5d. per inch to the best descriptions in Berlin, Black, and Bright, with Ormolu Ornaments, &c.; ELLIPTIC STOVES, from 24s. per inch; KITCHEN RANGES, from 24s. each to the BEST LEAMINGTON KITCHENER, with the latest improvements, and to which W. H. and S. solicit the inspection of every person requiring a thoroughly efficient and economical close, and open fire Range.

Estimates furnished for all kinds of Smith's Work, Heating by Hot-Water or Steam, Gasfitting, &c.

PRICE LISTS FREE BY POST, OR UPON APPLICATION.

W. HARMER and SON, IRONMONGERS, SMITHS, STOVE MAKERS, and GAS-FITTERS,
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ESTABLISHED 1817.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.

ADOPTED BY THE GOVERNMENT.

EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.

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With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;
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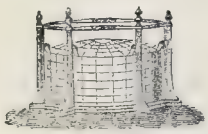
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.



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These Turnstiles were selected for the Entrances of the Great Exhibition, New York.

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A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Chains, Glass, and Wood Furniture of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, 4s.; and the New Registered Venetian Ventilator, so much admired, &c. 6s 6d each.

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Castings and wrought ironwork of every description.
A large stock of patterns for building and other purposes, for use of which no extra charge is made.
Estimates on application.
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SMART'S-BUILDINGS, DRURY-LANE.
Castings of every description at reduced prices.
No charge for the use of Patterns.

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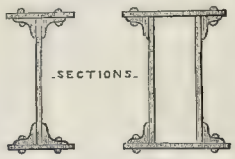
WROUGHT GIRDERS AND FLITCHES,
And all kinds of Smiths' Work.



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The only Maker of Town-cast Self-acting Kitchen Ranges,
247, Tottenham Court-road.
G. BARRETT, Proprietor.

TO ARCHITECTS, &c.—The IMPROVED SELF-ACTING WATER-BAR, for effectually excluding damp and draught from the bottoms of French casements, is made by T. SMITH, of 14, Queen-street, Oxford-street, W. where a working model can be seen, or at the Court of Inventions, Crystal Palace; or a sketch will be sent on application.
N.B. Espagnolette bolts of a superior quality at reduced prices.

IMPORTANT TO ALL.

THE TRADE SUPPLIED.

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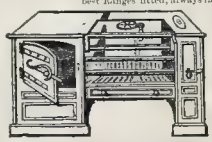

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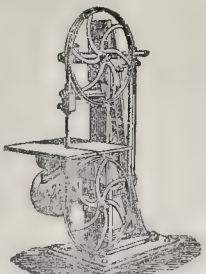

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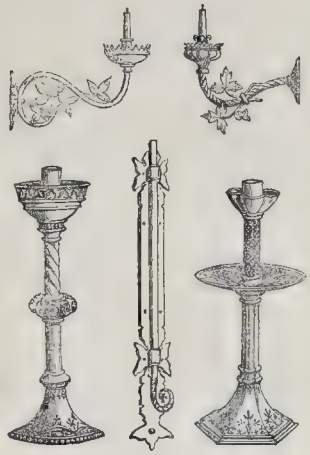

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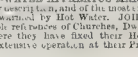
HEATING BY  HOT WATER.
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The Builder.

Vol. XVI.—No. 821.

Architecture in the City of London.

WHILST lamenting recently the fact of the slight infusion of art into buildings, chiefly in the growing suburbs of London, wherein, mainly, it unavoidably was that the character of the national taste in regard to architecture was found expressed,—and also that our profession had, in proportion to the amount of building-work, few opportunities of using, in any manner whatever, the qualifications claimed as possessed,—we, of course, by no means disregarded what had been done of a different description in the country districts and in London, and the provincial towns. Indeed, reference to the great development of art which is going on in connection with buildings of a public character, and the larger mansions, and with some even of the houses of moderate size, has been often made by us when we have been seeking in various ways to contribute to the right and popular appreciation of our profession and of architecture. Further evidence, therefore, to show what might be effected with the co-operation of the public, and by the better diffusion of taste and knowledge, might appear needless; but the truth is, the art-character collectively of the works referred to is very little known: the mind can only gather it from units, numerous, but which are distributed over the land, or hidden in holes and corners. Since the time of Nash—as we have had heretofore occasion to observe—there has been hardly anything in the way of attempt at true street architecture,—that is to say, the kind of art in the buildings of towns, wherein the individual structure, the influence of one building on another, and the general disposition of lines of *route*, and of spaces, and masses on plan, for scenic effect, are elements all thought of as combining to the result, whether general or particular. In this circumstance real inferiority lies; and in it is involved one reason why our architects' works are rated so low as they sometimes are. Not denying that the architectural deficiencies of London are great, we believe that the merits of the works of the last few years—say six or eight,—are not yet appreciated as they deserve to be by the public, and especially by a section of the press, which too readily assumes the inability of architects to answer a national demand. Could there have been the slightest ground for this latter belief, it would be disposed of by recollection of the designs for the Government Offices, at least, in the mind of any one who took the requisite pains to examine that remarkable collection of works,—made, too, on the basis of conditions which were an erroneous statement of the problem, and thereby repeating the falsity of position against which exertions for progression in architectural art have in this country long had to contend.

We maintain that the public encouragement and co-operation do not accord with the professional qualifications and efforts; and that, whilst a system of education in our body, having some reference to the field of an architect's duties, cannot be delayed, it is the popular education and taste in art architectural which require to be looked after most at this juncture, and as essential to the proper condition for cultivation of that very field. The question of this education is one as much deserving the attention of architects as that of the professional education; for, it must be clear to any one observant of the course of art-production in our day, that natural expansion of the qualifications is checked by the necessary considerations on the part of the profession, of self interest, or the leaning towards the opinions or the prejudices,—whether of the clergy, the constituted authority for the time representing the public, or the private speculator, or British householder, who pays the cost, and asserts, therefore, the prerogative of doing what he likes, even though it be to the public injury.

Still, it has happened that a considerable number of opportunities have been afforded of late for the production of architectural art; and, though many of those in our towns, have arisen as much from the increase in the number of public companies—especially insurance companies, which have required as a matter of business a striking character of local habitation—as from any very marked change popularly in the perception of the art,—the circumstance referred to has been valuable; for, it has permitted a demonstration that was wanted, and will itself do much to educate the public eye and taste. In the City of London the building-work of an architectural character latterly has grown to what now comprises a large amount of good art; and whilst we write, many buildings are in course of completion which carry forward the increasing measure of progression. Some of these works have been both mentioned and illustrated in our pages; but, collectively and in many particulars, they now deserve more prominent notice than we have given of them.

Most unfortunate is it for their estimation, and the influence which we have spoken of, that some of the best of the works in the City are placed in situations where it is not easy to appreciate their general effect, or even to see any elaboration or beauty of their details. In Mincing-lane, the front of Clothworkers' Hall, designed by Mr. Angell, is now completed; but, though the site is near to Fenchurch-street, it is impossible to get a proper general view, or to observe, unless by ascending to top-rooms of the houses opposite, much of that which appeared in the illustration in our last volume. The case is much the same as to the offices of the Royal Insurance Company, by Mr. John Belcher, at the corner of Clement's-lane and Lombard-street, also given in our last volume where the building appears very different to the reality, simply because it is impossible for perspective drawing to depict any object as this one presents itself to the eye. The chambers in Mark-lane, by Mr. N. T. Randall, are in much the same case; and so is the warehouse of Messrs. Munt, Brown, and Co. in Wood-street, by Mr. G. S. Clarke, which towers to the height of several stories above the adjacent buildings, and has a *cornicione* with cantilevers, upper members of great projection, and details generally, as those of the frieze with window-openings, of which the character cannot be discovered from any obtainable standing-point. It may be that the site here has led to the uniformity which there is in the windows of the upper stories. The details of the basement and ground-story are excellent; and the doorway—an elaborate work—has considerable merit. It is doubtful whether cornices of very great projection, ever have the effect intended if they stop and return against the flanks at a short distance from the front: it is obvious by well-proved rule of art, that cornices should either stop against some projecting and loftier portion of the building, or encircle the whole mass on plan. In courts such as are common in the City, cornices different in character should be adopted: otherwise the light is much reduced. In the case of street-façades and buildings of great height, the requirement is that there should be the appearance of security—which there is not where the cornice overhangs, without seeming tie or counterbalance. We need not allude to the defects that have been so frequent structurally. With proper consideration, as well in design as in construction, the grand effect of the Italian cornice, as a feature in street architecture, might be generally realized.

It is not only in the second-class streets of the City that the architecture fails to convey its proper result. What are the main thoroughfares, and the chief localities for business, are little better adapted for the sites of lofty buildings—where the upper stories are designed not without regard to possibility of examination of their minute details, and under the idea that these will bear part in the general effect. There are buildings completed lately in Cornhill, and there may be others in progress in Leadenhall-street, in which good art is literally cast in the air for the delectation of the crows, rather than of the other stratum of life, or that current which surges at the terrestrial level. One must be an architect, or such a lover of art as is not the common product of the city of London, to stop at all and strain eyes and neck, to get with pain the effect which, it might be deemed one of the canons of art, requires conditions in the observer the very opposite of these of mind and body. Messrs. Sarl and Sons' new premises, by Mr. John Barnett, and buildings in that particular quarter between the western ends of Cornhill and Lombard-street, including the Colonial Life Insurance Office, by Mr. I'Anson, and the National Discount Company's Bank, by Messrs. Francis, in Cornhill, at the corner of Birchin-lane,—the latter illustrated in our first number of this year, and just completed,—are the whole of those more recent buildings which we are chiefly considering in this article, that can be considered as placed where they can be appreciated. The Discount Company's Bank, indeed, is unusually fortunate, not only inasmuch as there is adequate space in front, but because there is a broad foreground to it of flagged pavement—a feature seldom to be had in crowded cities, but one which is of the utmost value towards architectural character and dignity.

There is, however, one grand exception to the generalization of defects arising from site, of the City architecture—one that, after the remarks just made, the reader will have anticipated us in perceiving. We allude to the cluster of really admirable works—here, indeed, well disposed for architectural effect—which have grown up near the Bank of England. One of the best things that the City authorities have done, was the clearance of the triangular block of buildings in front of the Exchange—merit though there was in details of that work of Sir Robert Taylor,—and the appropriation of the site as a simple area of flagging. Let the effect that results from this simple provision be noted; and let us hope against hope, that at the eleventh hour, the one other chance, at St. Paul's, which there is of a similar character, and adornment to the City, may not be cast aside,—and for the eternal disgrace of the civic authorities, reason how they may. Remove the Globe Insurance Office, a banking-house or two perhaps, and some of the buildings at the angle of Princes-street and Mansion-House-street, and replace them with works of better design; and, after all that is said of "our architecture," there would be in the City of London a collection of structures and an architectural effect worthy of the capital of an empire. To estimate the progress that has been made, recollect that the whole of the works hereabout, except the Mansion-House and the Bank, and the churches by Hawksmoor and Wren, are works of quite recent date: note that imitative cement, and that kind of architecture of which King William-street is an example—where the stock of ideas seems to have been comprised in the disposition of columns "all in a row" on the level of the first-floor, often over the void of a shop-front, are in no degree found in the recent works,—are, it may be said, opposed to the universal principle of the existing art, and would be disused everywhere, if the public demand in some cases did not dominate; recollect that the architectural character of King William-street, of no very distant date, itself was a considerable step; and the conclusion is inevitable that our architecture progresses in spite of what we might almost call direct counteraction by the public, at a rate which does not contrast to our disadvantage with that of any period of history.

In the progress which there is, we find as

ever, that architecture moves or is retarded according as may be the growth of contemporary operations of improvement in other channels. The circumstances of the City of London, or deficient foresight in the authorities, stand in the way of the improvement of the street communications which is needed. The prosperity of the City, if not of the empire, is, we verily believe, in peril, so long as the traffic through and to the centre is increasing as it does enormously, and so long as the widths of streets are kept to what they were during the Middle Ages. The expression of the *architecture* of the City is checked by the same agencies; and the credit of the City, and of our art, accordingly, stands lower than either ought to do, for the efforts which are made, and the actual work that is done.

We propose now to examine what are the features which have become characteristic of the City buildings, and whereby what we regard as progression in architecture, has been lately expressed. It is first to be observed that even difficulties of the sites have tended, as such conditions ever ought to do in art, towards the distinctive character which becomes part of the merit. The largest area of window-surface that is consistent with strength, as well as architectural character in the superstructure co-existently with the shop-front, have been proved to be quite attainable without sacrifice of the commercial objects on the one hand, or the art-expression on the other. Regarding the matter of requirements along with effect, in many of the recently erected offices, the basement story is elevated for the sake of light, so much that its windows become an integral portion of the front; whilst at the same time the plinth and base-mouldings upon which so much depends, are not impaired in effect, but are rather treated so as to contribute in the highest degree to the expression of the whole. So far from area of wall-surface being regarded as essential, all the effect that could be desired is attained by narrow piers, without weakness, or as it is in the National Discount Bank, where the strength is well supplied by the piers of the principal or ground story, formed by three-quarter Doric columns, with rusticated blocks, clustered with pilasters. Frequently the slender piers are carried up to include the windows of several stories, under the same arch or lintel, as in the warehouse of Messrs. Hugh Jones and Co. 109, Wood-street, where the windows themselves are simple openings, with a slight cornice, and are separated from one another in the height by some kind of panelling. The design in this case has no remarkable merit, but the arrangement could be worked upon with advantage. Here we are referring to a range of openings; but in narrow fronts in the more important thoroughfares, where the ground-story is generally a shop, great improvement has been effected by the practice often recommended by us, and which has become general, of including a mezzanine, or an ordinary first-floor, under an arch, as part of what may be considered the shop-front. Not only is this carrying up of the shop-front, even where the brestsummer, without arch, is retained, favourable to the appearance of strength; but the structural arrangement, with the first-floor or gallery, practically increases both the available space and the effect internally, of the shop. Goods are now commonly exposed in these windows of the upper level; or, in confectioners' shops and *cafés*, a refreshment-room is provided there, advantageously. Three stories are treated on the same principle in several cases.

The appropriation of all the upper stories to business rather than to residence purposes, is becoming rapidly characteristic of the buildings in the City. Under the old arrangement, where everything was sacrificed for the frontage of the mere shop, we believe that in the case of many of the lofty premises in chief thoroughfares, the upper rooms were frequently unoccupied, or nearly so, whilst courts and alleys were teeming with the population, whose condition has been from time to time so sadly pictured in our own statements, and in the reports of Officers of Health. Not denying the accuracy of the statements, nevertheless, made to the Commission of Sewers, as to the superior sanitary state of the City, we cannot but desire for the moral health of the residential population which there must always be, that such buildings as include shops, or other business premises in the lower part, were more frequently planned as to the upper stories, for residences,—in fact, on the system of which the premises in Victoria-street, Westminster, are still the only example in the metropolis. In some of the mercantile establishments, the upper floors are appropriated somewhat in the manner referred to, for the people of the establishment; but the system of separate dwellings over shops, might be adopted frequently with advantage. The question of habitations for the clerks, and porters, and the working-classes to whom residence in the City, or ready access to it, is essential, must soon force itself on the attention of the City authorities; and, considering the large amount of unoccupied or unremunerative ground which there is in Victoria-street, the site of the Fleet Prison, Farringdon Market, and Smithfield, and the resources of space in other localities that we could name, the question ought already to have had better attention than we can see it has received. The tendency, however, by the buildings of the kind we have chiefly alluded to, seems to be to reduce the residential population to the *minimum*; and the improvement of the street communications, and the extension of railways, in or to the City, will one day be seen to have an importance, sanitarily and morally, which we have on previous occasions shown, but which seems to be still altogether insufficiently felt.

The existing system in new buildings, as to appropriation of the upper floors for offices with a separate entrance, is favourable to the symmetry and structural character of the front; though it does not diminish that tendency to great height in the buildings, which on some grounds, sanitary and æsthetic, is to be regretted. Messrs. Sarl and Sons' premises in Cornhill cannot, in the centre of the entire design, be much less than 90 feet to 100 feet in height, and would form one of the chief examples of the waste of art which we have referred to, were they not fortunately placed near the large area of which the general advantages have been already dwelt upon. The height of the centre, however, with the horizontal termination, appears to us, rather too great for that of the wings; whilst the massive cornice becomes a prominent exemplification of the error—as regards discontinuance along the return-walls, which we have spoken of. Other errors in this design, appear to us those of the precise equality—whether in the three major divisions of the front, or the subordinate parts filling in those divisions; wherefrom it results that proportion, which has been said to require always inequalities; and grouping, whereof the idea presenting itself is of the same kind, are seemingly not studied as they should have been. Nevertheless, the work is one of unusual merit; and the effort at bringing-in the two adjoining frontages—not unattended with difficulty (as the dimensions and requirements were not the same) is to be commended,—as tending in the right direction regarding the effect of what we have viewed *par excellence* as street architecture. Though the treatment of the shop-front is not precisely the example which we should choose to illustrate what we have said above, the great height of the brestsummer from the street level, and the very peculiarities which, as we have regarded them, are defects in some points of view, deduct from what would be the appearance of weakness. The interior of the shop, with its gallery and staircase and fittings, forms indeed a very successful piece of design: though there is a shop in the Poultry treated on a similar principle, which is almost equally happy in the result; and the chief idea may have been hinted at in shops in Regent-street years ago. In some of these latter cases it was carried into execution, or partly so, by alteration merely: the manner of this structurally is easy and obvious, but the variations in effect procurable are great.

Of the buildings of the City wherein the wall-surface is reduced to the *minimum*, and where yet good effect is obtained, perhaps the best example is that of the building in Fenchurch-street, appropriated to shops and offices, and designed by Mr. T'Anson. We did it hardly sufficient justice in noticing the drawing at the Architectural Exhibition. There are three stories, and an attic in the centre; and the whole front from street-level to cornice, may be described as five arches carried by slender piers having superimposed pilasters and detached shafts, whilst the wide openings are filled in each with a wooden mullion and transom for the window-frame,—the lower stories having also a slight iron column in the interspace. The lower stories have merely entablatures of the orders to separate the window-openings; and the arches of the upper story spring from detached shafts of iron. Somewhat greater strength is given at the angles, and the rain-water pipes are, as in the Colonial Insurance Office, made features in the design. Retaining the opinion that the *minimum* of wall-surface that is consistent with strength and the effect thereof, is here used, we cannot but refer to this design as an excellent illustration of the mode in which the present demands in buildings in the City may be met quite consistently with superior architecture. Suggestions, which we observed might be taken from the Elizabethan buildings, with their large area of window-opening, appear to have borne fruit. There may be good design with almost every sort of structural condition or commercial requirement; and proper study of models and authorities would generally point to something that would permit the reconcilement of all desired ends.

It is because the new buildings of the City manifest this healthful tendency,—that is to say, towards good and original art, co-existently with attainment of the demands commercial and structural—the *summum bonum* of good architecture—that we have thought them worthy of this prominent notice,—and in justification of what is certainly the architecture of our day, and of what we think to be the claims of our sometimes ill-requited, or publicly-maligned profession. In a future number we shall refer to features other than we have mentioned, which seem peculiar to the architecture of the time as exemplified in these new works, and more particularly describe some of the structures we have named, or several which we have had only in our recollection during foregoing general remarks.

THE DWELLINGS OF THE LABOURING CLASSES,

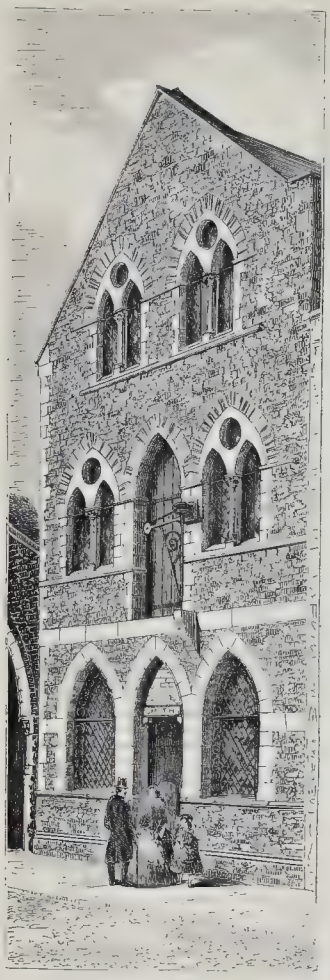
AND ENDEAVOURS TO IMPROVE THEM.

Amongst the papers necessarily curtailed in reading, at the Liverpool meeting of the National Association, on account of want of time, was one by Mr. Henry Roberts, F.S.A. on the dwellings of the labouring classes—their improvement, through the operation of Government measures, by those of public bodies and benevolent associations, as well as by individual efforts. Commencing with an historical sketch of what has been done for promoting this object since the public attention was directed to its urgent necessity, soon after the first appearance of the cholera amongst us in 1832, allusion is made to the suggestions of Mr. Sydney Smirke, published in 1834, and to the investigations into the sanitary state of the metropolis, made in 1837 by Dr. Southwood Smith, Dr. N. Arnott, and Dr. Kay, at the request of the Poor Law Board, which led, amongst other measures taken both in and out of Parliament, to the appointment, in 1842, of a royal commission to inquire into the state of large towns and populous districts.

The reports of this commission, taken in connection with those previously made by the Poor Law Board, formed the basis of various legislative measures.

The services rendered in furtherance of the object in question by the public press are there noticed, amongst which those of the *Times* and the *Builder* are not overlooked.

Passing on to the operations of societies established for improving the dwellings of the labouring population, of which upwards of twenty are named, tabular and other statements, drawn from their reports, are given, in order to show the results arrived at; and these form the basis of practical suggestions offered to those who have the management of such associations.



STREET ARCHITECTURE: WAREHOUSE, BRISTOL.
Mr. E. W. Godwin, Architect.

Mr. Roberts refers to his late residence of
eaearly five years on the Continent, for the recovery
f of health, as having afforded him the opportunity
f of obtaining such information, as well as promot-
ng in other countries the object to which, since
8-844, much of his time has been gratuitously de-
oted. His object, in the paper read at Liverpool,
s to place on record what has been done, in order
o facilitate the investigations of others, and par-
icularly to aid them in referring to Acts of Par-
iament bearing on the subject, some of which,
owing probably to their existence not being
enerally known, have led to no practical results
whatever.

Soiree at the Manchester Athenæum.—A
arge assemblage of the friends of the Manchester
thenæum took place on Thursday evening in
ast week, in the Free Trade-hall. Among the
uests present were Lord Stanley of Alderley
who presided), Lord J. Russell, the Hon. Judge
alliburton, Professor Aytoun, Sir James Brooke,
Mr. Monckton Milnes and various other M.P.s',
Mr. George Cruikshank, the Mayor of Manchester,
and others. A great number of ladies occupied
eserved seats in the body of the hall, and a con-
iderable number of officers belonging to the
egiments stationed at Manchester were also
present.

WAREHOUSE, BRISTOL.

STREET ARCHITECTURE.

This warehouse is built upon the site of one of the Bristol dwelling-houses of the last century, destroyed by fire in 1856. During the removal of the old materials there were discovered one or two fragments of wrought stone (mouldings, &c.), thoroughly Early English in character. The proximity of the Castle, and the frontage to Mareschall-street (now corrupted into Merchant-street), might have contributed to have rendered this locality popular, if not fashionable. Now, although the street, *per se*, is still a good one, most of the buildings are of the lowest, dirtiest, and worst description.

"*Sic transit gloria*" of Mareschall-street. The illustration (taken from a photograph), shows how easily Gothic architecture may be applied to structure of this class. The walls are built in coursed rubble work, with Pennant jambs, piers, bands, &c. and Bath stone arches, cills, and strings. The building is divided into three stories, running the entire depth of the premises (70 feet), and communicating, upon the ground-floor, with a glass-roofed hauling way, and platform of nearly equal extent The contract was taken by Mr. Bryant, at 400*l*. the old materials being used wherever practicable. Mr. E. W. Godwin is the architect.

THE NEW BAZAAR—OXFORD-STREET.

A structure of some pretension architecturally, and which has considerable merit in the design and decoration of the interior, has been completed on a site in Oxford-street, near the Circus, and will be shortly opened as a bazaar, under the name —"The London Crystal Palace." Mr. Owen Jones is the architect. The work combines the character, externally and structurally, of the Crystal Palace style of architecture, so to call it, with, internally, features in the lighting, and in the ornament and coloured enrichments, modified from those of the works to which Mr. Owen Jones has given so much of his attention. The "iron-and-glass" manner of building, in the present case, has been wrought up to an expression considerably nearer to that of true and good architecture than what is found in the building at Sydenham; though, neither as regards good proportion and general architectonic character, nor structurally and as to domestic wants, does it yet offer those universal advantages which were at one time claimed for it. The method of lighting, however, which Mr. Owen Jones has, for the first time in one of his more important works, introduced, is deserving of particular notice in these days, when top lighting—perhaps from the increased occupation of internal courts with buildings—has become so general. The sanitary advantages of the tendency towards such occupation of ground are questionable; but the attendant opportunities in regard to architectural effect are great. Yet it is only very lately that the arrangement of a ceiling with beams and coffers—as the *lacunaria* of the ancient temple—and ornamentally-glazed, has been adapted with any degree of skill. It had often occurred to us that the Saracenic and Moorish method of lighting, by star-like openings in a vault, might be worked on with striking results. The lighting of that part of the "Alhambra Court" at Sydenham, which reproduces very nearly the Hall of the Abencerrages of the *Casa Real*, does not quite exemplify what is meant—though the kaleidescope effect of light and colour is very beautiful. Examples of the arrangement will be recollected by most of our readers. The vault, in these cases, is pierced with openings at considerable distances apart; and they are but small externally, though expanding towards the ceiling, or the intrados of the vault. A subdued light was diffused in these apartments, most of them being baths. A somewhat analogous method of lighting was that wherein use was made, for window openings, of perforated stonework, or of tracery, sometimes of plaster. The openings, or tracery lights, were often glazed with stained glass; and windows of that description are still found at Constantinople. Our readers will recollect the drawings, and a specimen of such work reproduced, which were contributed by Mr. Burges to the Architectural Exhibition. The greater number of these works of Eastern execution, or Byzantine origin—many of them, like the works of Indian manufacture, intricate patterns, are unglazed, as probably were, in all cases, the window openings of early date, as at St. Marc's Cathedral, Venice, and at Ravenna and some places where the Saracenic admixture with Byzantine architecture is found. The windows proper, however, in later works, are usually glazed with coloured glass. Some excellent specimens of perforated stonework were amongst the contributions to the Exhibition of 1851.

The decorative systems in combination—that of the ceiling-lighting through star-shaped openings, and that of the tracery or interlacing—may be said to be used in the building at present under notice. The architect has formed the ceiling of the bazaar as a hemispherical vault, which is covered with a network of ribs arranged as triangles filled in with star-shaped panels, or lights, though subordinately to main ribs corresponding to the principals and purlins. It has been, of course, necessary to design the ceiling for distinct effects to be produced by external daylight and internal artificial light. In the former case the painted enrichment and gold are scarcely perceived, whilst the white and stained glass tell; and in the latter case the glass is darkened in appearance, and the network, colour, and gold, are intended to be prominent. It will be understood, then, that in addition to that which, structurally, the decorative intention in this new work have called forth, originality and peculiar skill have been required in the internal ornamentation.

The plan of the bazaar approaches the form of the letter L; one entrance, not now completed, being from Oxford-street, whilst the main front is in John-street. The site may be known to some of our readers as having at one time been under

consideration for a proposed building for the Architectural Exhibition. The short division of the L in the plan, which is next to Oxford-street, has a much greater breadth than the long arm has, except close to the John-street front, as some adjoining property breaks in awkwardly. This, however, has not been allowed to interfere with the normal idea, which is that of a central vault carried on two tiers of columns, with side-galleries on the first tier, to which there is a coved ceiling. Where the adjoining premises occur, the gallery is necessarily omitted; and the columns, decorated in polychromy, appear merely in face of a sage-green paper-covered wall. In the other part or arm of the plan, there is sufficient width to allow of a quadrangular space, roofed over with angle ribs, and ceiled on the same principle as the hemispherical vault; and this has its own features of effect; whilst the vault of the shorter arm meets that of the longer arm at about two-thirds of its length, the interlacings and perforations being modified to suit the spaces formed by the angle-ribs of that intersection. In the construction, the general framework is iron—cast-iron for the columns and girders; the ribs of the roof are of timber and wrought-iron flitches; the floors and external skylights are of wood; and the whole of the tracery, or interlaced work of mouldings and panels, which would be in stone or plaster in the Moorish or Turkish examples, as well as the ornament itself, is executed in the patent canvas material of Desachy, of Great Marlborough-street. The ornament of the conventionalized foliated character, common to the architecture of the Alhambra, and which is here sufficiently elaborate, is nearly confined to the capitals of the upper shafts. These spread out somewhat in the Byzantine manner, and considerably, for the apparent support of the ends of the girders which form the springing-line of the vault. The capitals are moulded in two halves, which are clasped together over the iron-fitter's work: the joint is scarcely discoverable, and painting can be commenced almost immediately. The same material in the hemispherical ceiling is fixed in pieces of 12 feet by 3 feet, comprising several compartments of pattern of the interlacing; and the star-shaped, and other perforations which there are in each triangular compartment, are formed with rebates for the glass, which is put in from the outside. The ceilings under the galleries, and the cove above, are papered—the pattern being a diaper in red, white, and blue.

The space for stalls is almost wholly on the lower floor, to which the access from the street is by a descent: the gallery, reached by stone staircases, is about 10 feet in width. The John-street front, which includes several stories, has an excellent photographic-room at the top; and refreshment-rooms—one of them private, for ladies, with lavatories and other conveniences,—are provided.

Continuing our particulars of the construction—the flange-plate of the upper tier of columns is bedded immediately upon the flange forming the top of the lower column, and the two flanges are screwed together; the girders of the gallery are laid on the flanges, and connected, end to end, through the columns, by bolts or screws, and the corresponding girders for the roof are laid in a similar manner. In the ribs of the roof, the timber portion is of 4 inches by 8 inches scantling, in segments notched together at the junctions, and the two flitches are of ½-inch wrought iron, bolted through. It is assumed, as generally now in such roofs, that there is no thrust. The purlins are in scantling, 9 inches by 3 inches. They carry the decorative ceiling, and also the fixed sashes, which form the entire roof-covering, except as to spaces over the ribs, which are covered with lead. The sashes are laid in tiers, or with a lap: but it would be necessary to take this portion of the work to pieces to clean the stained-glass within; and this, we apprehend, may be found necessary more frequently than will be convenient—especially considering that, instead of the glass being closely bedded on the bottom rail of the sash, a slight space has been necessarily left to permit the escape of condensed water. The galleries are roofed with corrugated iron. Ventilation is provided for by means of perforated zinc or other metal work (gilt internally) which covers spaces next the ribs, whence the escape is by metal pipes at the summit externally.

To describe the scheme of decorative colour, it should be stated that the plan of the iron columns is what we may best describe as cruciform with the re-entering angles filled up with segments of a circle. This plan allows of the application of two or three different colours in stripes, and their separation by fillets of white. The bands, or other broad divisions of the column, therefore, are gilded and painted light blue (or lilac) and bright red—separated by the thin strips of white. The columns of the lower tier are wholly a dark marone, or duller red,—except as to their capitals, plain in form,—which are light blue and white, with an abacus gilt—the latter being continued as a moulding all round. The gallery is enclosed by a light railing, partly gilded. The capitals, or trusses as they might be called, belonging to the columns of the upper tier, are, we think, chiefly blue and white. In the decoration of the ceiling, the effect by day-light, so far as the chromatic scheme and what makes nearly the whole of the effect, are concerned, may be said to result from the management of the glazed spaces. A number of the triangular compartments in the centre of the ceiling, in each bay, and collectively forming a diamond-shaped combination—have their star shaped perforations glazed with ground, or white glass. The other and similar compartments of the main portion of the ceiling are glazed with yellow and blue glass. Some minor spaces, left as panels, are painted red. To prevent the reflection of colours upon goods, from the direct sun-light, Hartley's glass has been used in the external covering. At twilight, looking from below at the coloured glass, a curious alteration is noticed, the yellow changing first to a greenish hue. For the decorative effect by night, colour and gold on the traceried ribs, come into play. The effect then is chiefly due to the gold; but, as the gilding is applied mostly on narrow beads or fillets of the ribs, and without what to ourselves would have seemed the provision for contrast, the effect is rather inferior to what might have been expected from the quantity of work, chiefly gilding, which there is. The gas-lights resemble those used at the St. James's Hall, that is to say, the jets issue from star-formed branches, and one of these hangs from each of the main ribs, dividing the bays of the ceiling.

The elevation to John-street has sufficient of the outline of one of the ends of a transept of the Crystal Palace, and enough of the general character of filling-in, to bring it within that class of structure and design. But a gable-formed termination is carried above the larger semi-circular light which may be called the feature of the class of buildings, and the gable is crowned with a gilt ante-fixa and acroterial ornaments. The semicircle is filled in with tracery intersecting and mainly Gothic in character. The material of the tracery is wood—pretty nearly flush with the front, as it seems,—Building Act to the contrary notwithstanding. In the remainder of the front the materials are iron and glass—formed in the principal upper stories into ranges of segmental arches, with shafts; whilst in the ground story the windows are set back, so as to leave detached shafts the latter bearing semicircular arches, charged with elaborate ornament and colour, and rising from capitals also highly enriched. Fret-work, or other ornament, also fills in the panels between the stories of windows.

The structure has been completed by Messrs. Kennard, Brothers, acting in the position of general contractors; and the decorative work has been done by journeymen's labour, under Mr. Jones's immediate supervision.

INSTITUTION OF ENGINEERS IN SCOTLAND.

OPENING ADDRESS.

At the opening meeting of the second session, held on the 27th inst. Dr. W. J. Macquorn Rankine, the president, delivered an address, sketching the recent progress and present state of engineering matters. In the course of it the president said,—

The use of coal instead of coke as fuel for locomotives is rapidly spreading, with most beneficial results. The advantage of coal over coke, in point of cheapness, is so well known as to need no comment; and many members of this Institution must have had occasion to observe the great superiority of coal over coke in raising and maintaining a high pressure of steam; the effect of which is, that the same engine which, with coal as fuel, can be worked expansively, so as to economize the heat to the best advantage, requires, when coke is used, to be worked at full pressure; so that, even independently of the higher price of coke, the steam works less economically. * * *

The most perfect example of the prevention of smoke which I have lately seen is at some reverberatory furnaces into which blasts of air are blown by a fan, both above and below the fuel. Before this system was adopted, those furnaces produced smoke almost unequalled for thickness, blackness, and volume; and now there is no smoke whatsoever emitted at any time, and there is a great saving of fuel. The blasts are regulated at the discretion of the workmen who attend to the furnaces. By stopping the upper blast, volumes of black smoke in the old style can be reproduced at any moment; but the re-admission of the blast instantly converts that smoke into flame.

In the administration of the law for the prevention of smoke, the thing chiefly to be avoided is, the giving a preference to some particular method of prevention, and the enforcing it in all cases, without considering whether it is suitable to each particular case. Considering how many different contrivances are available, every furnace-owner ought to be left as far as possible to adopt that contrivance which appears to his own judgment to be the most convenient and suitable. It is not a grievance, that the owners of boiler furnaces, and furnaces of a few other classes, should be prevented from making smoke, if there are parties to whom smoke is a nuisance; but it is a grievance that any particular method of preventing smoke should be forced upon them.

The same principle is true with respect to the application of the law to all branches of practical mechanics. Let every engineer, every manufacturer, every shipowner, every person who makes or uses anything which can cause nuisance, damage, or danger to others, be fully responsible for all the nuisance, damage, and danger that his structures or machines may occasion; but let the means of preventing those evils be left to his own judgment. Any other course lessens his feeling of responsibility, and tends not only to retard the progress of improvement, but to produce the very evils which it is designed to prevent; and such is the effect of all regulation by authority of such matters as the thickness of a boiler, the thickness of the plates of a ship, or the closeness of her ribs. * * * * *

A contribution of almost unequalled importance has lately been made to our knowledge of the laws of the strength of boilers, by Mr. Fairbairn's experiments on the resistance of thin tubes to collapse. In my introductory address last year, I referred to a preliminary report on these experiments, which had been read to the British Association in Dublin. Since the close of our last session, the detailed account of these experiments has been laid before the Royal Society, and will probably be published in the "Philosophical Transactions" for 1858; and an abstract of their results has been read to the British Association. Mr. Fairbairn finds, that the intensity of the pressure required to make a flue or other thin tube collapse is directly as the square of the thickness nearly, inversely as the diameter, and inversely as the length. The diminution of the strength of a flue, as the length increases, is a law never before suspected. For computing the pressure, in pounds on the square inch, which a wrought-iron flue can sustain, the following rule is sufficiently near the truth for practical purposes:—*Multiply the constant factor*, 806,000, *by the square of the thickness, in inches, and divide by the product of the length, in feet, and diameter, in inches.* It is of great importance to strength that the flue should be exactly cylindrical; and as a flue with lapped joints cannot be exactly cylindrical, Mr. Fairbairn recommends that flues should be made with butt-joints and covering-strips. * * * * *

Another important experimental inquiry into the laws of the strength of materials is that of Mr. William Henry Barlow, on the resistance of beams to breaking across. I mentioned in my introductory address last year the general result of Mr. Barlow's first series of experiments; and I have now only to state that his second series of experiments on the same subject has appeared in the "Philosophical Transactions" for 1857. In the same volume, also, is contained an important series of experiments by Mr. Hodgkinson, on the strength of pillars.

Important progress has of late been made in the adoption by practical men of correct principles as to the action of the particles of a beam in resisting fracture, the knowledge of which principles had formerly been confined to a few mathematicians. They relate chiefly to the action of the *shearing force*, and its combination with that of the *bending force*, which latter was at one time the only circumstance considered. One of their results is that the *neutral axis* of a beam, as it is called, is not, as it used to be described, a place of no strain whatsoever on the particles; but is truly a place where, although the strain in a horizontal direction due to the bending force is nothing, the strain due to the shearing force is a maximum, and

consists in a tension in one diagonal direction, and a compression in another, each making an angle of forty-five degrees with the horizon. Mr. Stephenson lately, while referring to this fact, proposed a very ingenious method of verifying it experimentally. On the side of an unloaded beam a series of small circles are to be drawn. When the beam is loaded, each of these circles will become an ellipse, whose dimensions are to be measured. It will be found that near the upper side of the beam each ellipse has its longer axis vertical, and its shorter axis horizontal; that near the lower side each ellipse has its shorter axis vertical, and its longer axis horizontal; that at the neutral axis each ellipse has its longer and shorter axes sloping at angles of forty-five degrees; and that ellipses in intermediate positions have intermediate figures and obliquities.

The construction of iron bridges of great size still continues to be one of the leading features of the engineering of the time. The forms of bridge which have been practically tested may be divided into five classes,—the arch, the suspension-bridge, the tubular girder, the lattice girder, and the bowstring girder,—of each of which I shall cite one recent example;—the arch, exemplified by Mr. Page's Westminster-bridge, which has the broadest roadway in the world; the suspension-bridge, by the bridge of the same engineer at Chelsea; the tubular girder, by Mr. Stephenson's enormous viaduct across the St. Lawrence, at Montreal; the lattice girder, exemplified, in the form invented by Captain Warren, by the Crumlin viaduct, which, constructed by Messrs. Liddell and Gordon, as engineers, and Mr. Kennard, as contractor, crosses the vale of the Taff at the height of 220 feet; and the bowstring girder, exemplified, in a novel and singular form, and on a gigantic scale, by Mr. Brunel's viaduct at Saltash, in which the string of the bow, which, in the original form of the bowstring girder, was a straight tie, is made to take a curved, or rather a polygonal form, and to act as a suspension chain. The great works which I have cited as recent examples of viaducts are interesting in other respects besides the superstructure. The piers of the Crumlin viaduct, which I understand to have been designed by Mr. Kennard, consist of a skeleton framework of iron, being excellently adapted to the purpose of attaining an immense height at a moderate expense. The bases of the piers of the new Westminster-bridge may be briefly described as consisting mainly of cast-iron boxes filled with concrete. Those of the Victoria-bridge, at Montreal, are of massive granite masonry, remarkable for the cost which has been incurred in order to enable the piers to withstand the floating ice of the river. The central pier of the Saltash viaduct is founded by a process originally practised at the new Rochester-bridge, but never before carried out on so great a scale, consisting in the sinking of vertical iron cylinders filled with compressed air, inside of which the excavators and masons work.

The completion of these great structures will furnish important data for settling the question as to the most economic mode of crossing wide valleys at great heights, and of founding heavy structures under difficulties of various kinds.

SYMBOLICAL SIGNIFICATION OF THE PALM-TREE, THE PHŒNIX, AND THE PINE CONE.

The correspondence of religious symbols used by some of the ancient nations with those found on Christian monuments, and still more or less employed, would induce one to believe as much in the original unity of religious doctrine as in the unity of the human species. In illustration of this we may take the palm-tree (*Phœnix dactylifera*), the sacred tree, the tree of life, among the Egyptians, the Assyrians, and the Jews. That the Egyptians, at a comparatively early period of their monumental history, represented the date-palm in this sense, we have a most interesting illustration on a stele in the Berlin Museum, which Dr. Lepsius found in the village of Abousir, near the great Pyramid. From the stem of the tree proceed two arms, one administering, to a figure kneeling below, the fruit or bread of life; the other pouring from a vase the water of life, which the recipient guides to his mouth. This stele is at least anterior to the fifteenth century before Christ. On a more recent stele, and in fact, as far as I am aware, with this exception only, the tree of life, among the Egyptians, is figured by the *Ficus sycamorus*, the sycamore-tree of the Bible; or, occasionally, by the persica, among the boughs of which the goddess Nutpe appears with her hieroglyphical name, "Abyss of Heaven," administering to immortal souls the food and drink of the celestial regions.

The date-palm was largely introduced by the Jews in the decorations of Solomon's Temple, being represented on the walls along with the cherubim, and also on the furniture and vessels of the temple (1 Kings, vi. 29, 31, 35; vii. 36). In the "Song of Solomon," which theologians regard as significant of the love of the Church for Christ, the spouse of the Church, we read, "I said I will go up to the palm-tree, I will take hold of the boughs thereof" (Solomon's Song, vii. 8). In the last chapter of the "Apocalypse" there is a distinct reference to the palm-tree as the tree of life in the heavenly Jerusalem. For the tree here described (Revelations, xxii. 1, 2), "which bare twelve manner of fruits, and yielded her fruit every month, and the leaves of the tree were for the healing of the nations," is evidently intended for the palm-tree, popularly believed to put forth a shoot every month, and the leaves of which were used for writing on. Accordingly, we find the palm-tree figuring in Christian mosaics as the tree of life in Paradise. A very good illustration of this is found in the Apsis of S. Giovanni Laterano. We have here an enclosure, the entrance to which is guarded by an angel; and within appears the palm-tree, on which is perched the phœnix, with a glory of rays, God the Father standing on one side of the tree, God the Son on the other. I have already alluded to the phœnix here placed as the symbol of the resuscitated and glorified body. It is alleged (I cannot speak personally as to the fact), that when the palm-tree has decayed, the Arabs cut it down to the roots, and burn it on the spot, and the ashes being covered with a layer of earth, a new shoot springs up, which in the course of a few years becomes a strong tree. It would seem that we have here the origin of the fabled phœnix rising renewed from the flames that consumed it, as the bird and the tree bear the same name. This is probably the reason why, in Christian symbolism, the phœnix with a glory of rays was employed to signify the glorified body in the resurrection. I have never seen the peacock employed in this way, perched on the tree of life, nor with a glory of rays. But the palm-tree was also represented as synonymous with the cross, and with Christ. This may be seen in the illuminated frontispiece to an Evangelium, probably of the ninth century, in the library of the British Museum. Here the symbols of the four Evangelists, placed over corresponding columns of lessons from their gospels, are shown looking up to a palm-tree that rises from the centre, and on the top of which is placed a cross, having suspended from its arms the symbolical letters, Alpha and Omega.

In Christian iconography the cross is considered as identical with Christ. So we have here the source of the Divine life symbolized by the palm-tree as among the ancient Egyptians before their system had degenerated into idolatry.

These remarks were necessary in order to illustrate the meaning of the pine cone in the hands of the Assyrian winged figures, or personified symbolical principles of Deity, placed on each side of the Assyrian sacred tree on our Nineveh monuments.

It will be observed that the tree here represented is a conventional form of the palm-tree, and it is surrounded by an enclosure of palmettes, or abbreviated forms of this tree, as in a garden of Paradise. The pine cones are held towards the tree as having a significant connection with it. I consider them to symbolize the Divine principle of eternal life, and that they are held towards the tree of life to indicate the source from whence that life is derived. Why the pine cone was selected for this purpose may have been owing to its highly inflammable nature, and the ideas prevalent as to the nature of the Divine principle itself. It is curious that the pine cone should come to have been used as synonymous with the cross, or the tree of life, or Christ, as shown in a compartment of the ivory tabernacle in the sacristy at Sens.

Many of your readers have seen the famous pina that once crowned the mausoleum of Adrian, and of which Dante makes mention in the "Divina Commedia."—

> "Come la pina di San Pietro a Roma:"

it now stands on a sort of terrace in the Vatican garden, between two bronze peacocks. Why the peacocks were placed there, or whence they came, I could not satisfactorily learn, but the circumstance is interesting, as illustrating the same mystery, and in the same way as the tabernacle at Sens.

The Evangelist St. John has sometimes been represented with wings and an eagle's head, not unlike the Assyrian figures on the Nineveh marbles, —*apropos* of which might be quoted the curious fragment of the Zoroastrian oracles preserved by Eusebius (Præp. Evang. l. 1, c. x): "God is he that has the head of a hawk. He is the first indestructible, eternal, unbegotten," &c. &c. According to Dr. Layard, *Nisroch*, in whose temple Sennacherib was slain by his sons, was neither more nor less than such a symbolical personified Deity, as *Nisr*, we are told, signifies an eagle in all the Semitic languages, and the graver's tool might easily confound the head of an eagle with that of a hawk.

Pine cones, it may be remarked, are also held in the hands of the Assyrian winged figures in situations corresponding to those in which the symbolical divinities of the Egyptian theology hold the *crux-ansata*, the well-known symbol of eternal life, with which the pine cone is shown to be synonymous.

Thus we find the same fundamental truth lying at the root of all religious teaching, as indicated by the remains of art, and its records, among Egyptians, Assyrians, Jews, and Christians.

The same thing, though in a diluted form, occurs among the Etruscans and Greeks.

On a silver-gilt tazza in the Etruscan museum of the Vatican, taken from the tomb of a priest at Cerere, the palm-tree occurs along with the winged Assyrian cherubim: thus we have a paraphrase of the doctrine symbolically expressed on the walls of Solomon's temple. The palmette is also a very common sacred symbol on Etruscan funeral vases. The asperge used for sprinkling the holy water in consecration is represented of this form, and is often found held in the hands of the reclining figures on Etruscan sarcophagi, as we may see by those in the Uffizi at Florence.

In the sacred architecture of the Greeks, the palmette occurs as the crowning ornament of their most beautiful temples, and we find it also sculptured on the acroteria of the pediments.

Whoever is curious in the matter of palmettes, and has the time and opportunity to gratify his taste that way, may in the cloister of the Laterau trace every gradation of the form, from its stately origin to its most humble representative, from the majestic palm to the modest *fleur-de-lis*, which, notwithstanding its name, would seem to be a lineal descendant of the palm family.

H. C. Barlow.

A NEW FIELD FOR ART.

In old times the profession of the sign-maker was by no means a contemptible one: rich carving and emblazoning and cunning devices were exhibited by the workers in this department of old English skill; and in times more modern, Hogarth, Morland, and others of note have, like Dick Tinto of famous memory, condescended to paint street-signs.

It is true that the out-air position of street-signs renders such works perishable; but when we consider the enormous sums spent on the decoration of places of business, and the necessity of attraction in the metropolis, it does not seem that it would be a very great piece of extravagance to expend two or three hundred pounds on the fine yet vigorous execution of a street-sign; and it should be remembered that in the present day the means of protection of such works is to be obtained at no great expense by means of plate-glass covering of any required size.

It is true that even in hostelries the good old-fashioned practice of affixing the painted emblems of the house is not so common as formerly. This, however, is easily to be accounted for by the great decline of this kind of art, which has made it a sort of disgrace for the Hogarths and artists of similar standing at this day to be associated with it. And so rather than put up with the miserable daubs which only could be obtained, tradesmen have preferred to describe in letters the nature of their signs. It is, however, likely that a revival may take place; and certainly a first-rate picture on some modern enriched examples of street architecture would not only be a means of gaining notice (and as a matter of course custom), but also of spreading amongst a large number a taste for a good style of art.

We remember the time when artists of ability could not be prevailed upon, at almost any price, to make drawings on wood. Now, however, matters are different; and so it may be with street signs, or other business illustrations; and even if the tradesmen do not restore their signs, it may be that, for the purpose of advertising, paintings and sculpture of a high class may become not only a means of enlivening the dulness of our streets, but also be a source of profit to artists of ability. We have been led to these remarks by the con-

stantly increasing use of illustrations in the advertisements introduced in several journals, at railway stations, and in the streets,—some on a very large scale: most of the railway stations now present something of the appearance of an advertising picture-gallery. The skill of the printer and lithographer has been called into use, producing works which, for brilliancy of colours, though not in artistical design, rival the illuminations of the Middle Ages. Some of these advertisements have cost in their production very large sums of money; but, generally speaking, the artistic quality of the illustrations is not of a very high order: they evidently show the want of taste and appreciation of good art amongst the chief part of the businessmen who require such works. The same may be said of those in railway carriages; and it is extraordinary how little the art of contrast and giving point and concentration to the matter of chief interest has been observed. Considering the cost of these matters, even if not good, the extent of circulation, and the great importance of these advertisements being to the purpose, and attracting attention, it would be worth while to employ talent of the highest order, in the first instance, to prepare designs, which, however, should, to a certain extent, be revised by practical men; for there are many technical difficulties, in working off large numbers with rapidity, clearness, and economy, which have to be provided for.

As to the wall-advertisements, some of them, as regards size, are extraordinary productions: letters of a yard long, and printed in bright colours, attract the eye, and by a comparison dwarf those which would have been considered not long ago monster advertisements. In some of these a species of illustration of a rude and dauby description has been placed, giving the passer-by but little idea of the artistic quality of the exhibitions or publications to which they are intended to direct notice. A marked improvement has, however, taken place in this respect since the plan has been adopted of establishing permanent advertising stations in suitable and prominent situations. Before this the rivalry of bill-stickers caused even the largest and most elaborate hand-bills, if they may be so called, to be rapidly defaced: now, however, it is not unusual for one of these to brave the elements for several months: the consequence is, that more pains are taken; and we have lately seen a disposition to introduce oil-painting of a bold description for the illustration of advertisements on a large scale. The letting of blank walls for this purpose is a source of considerable profit; and it seems probable that this, in consequence of the permanency it gives, may be the means, both throughout town and country, of giving employment to a considerable number of good artists. The invention of an improved food for cattle has already placed in the leading thoroughfares bold representations of the effect of the new food on the various animals: these are, perhaps, more bold than tasteful. They, however, indicate what might be done in this respect; and no doubt the competition of trade and progress of taste will have their sure effect in this direction.

STATUES IN THE HOUSES OF PARLIAMENT.

About fifteen or sixteen years ago, various competitions were called in painting, sculpture, and decoration, for the purpose of assisting "the Royal Fine Art Commission appointed to encourage the Fine Arts in the rebuilding of the Houses of Parliament" in making such a selection of style and of artists as they deemed might best further that object. Shortly after the large competitions in cartoons, sculpture, and other works of art, which took place in consequence,—in all of which it was considered that a creditable response had been made to the national call—that is to say, about fourteen years ago, in the year 1844, a report was called for from the architect "as to the localities in the New Houses of Parliament adapted for the reception of works of sculpture."

His reply, having specified places for 220 statues of what may be called the architectonic or secondary class, went on to point out other situations which might be advantageously occupied by statues of the highest "historic character." For these he indicated—

In Westminster Hall	58	situations.
In St. Stephen's Hall	16	„
In the Central Hall	24	„
In the Corridors.....	87	„
Total	185	situations;

thus affording places in all for not much less than 200 statues of "distinguished personages" connected with the history and honourable reputation of our country.

As an immediate *sequitur* to this, in the following year, that is, in 1845, a sub-committee of the Royal Commission was appointed to select from our annals "a list of the names of various distinguished personages to whose memory statues might be with propriety erected in the New Houses. The result of the labours of this sub-committee was a list, which was duly submitted to the Commission on March 6, 1845, and which was revised and confirmed in the same month. This carefully prepared list, in which the names of nearly all our great worthies appear, being rather a long one to give *in extenso*, I will, to economize your space, merely briefly state that it contained the names of—

10 royal personages,
35 statesmen,
10 divines,
13 military and naval heroes,
6 men great in the law,
14 philosophers and men of science,
18 eminent literary characters,
2 historians,
5 artists,

and a few others not so easy to class, making up in all the number of subjects for individual statues of the highest historic class, in marble or bronze, to 121, towards filling the larger number of situations suggested by the architect. This afforded a prospect considered, I believe, a bright one at the time for British sculpture.

These reports and suggestions were, however, as quoted above, made and confirmed in the year 1845. We are now not very far from the end of the year 1858. Thus, in the interim, thirteen years have passed away; and, out of the 121 subjects originally set forth by the royal commission towards occupying the situations submitted by the architect, but sixteen have been executed. This number has been completed within the present year, and may be seen in St. Stephen's Hall.

Decoration, as we know, has been largely used in the Houses of Parliament: continuous commissions have also issued, to a certain degree, to several painters; but the rumour has not gone abroad of any more sculpture being in the horizon. The brushes of some of our best painters are moving on the walls, but the ring of the chisel is not heard.

The above details as to the number, situations, and subjects for the statues are to be found in the printed reports of the Fine Art Commission, which also contain further suggestions of places for statues connected with this national structure not alluded to in the above remarks. Epsilon.

PRESERVATION OF STONE.

Some time since Mr. B. H. Paul wrote us on the method of preserving stone from decay, for which he has obtained a patent. The object of the treatment he adopts is to render the surface of the stone impervious, by depositing in the pores a substance that is not affected by mechanical or chemical atmospheric influences, and to effect this by the use of one liquid applicable alike to stone before or after the erection of a building, and without danger of in any way deteriorating the appearance of the stone, as regards colour, or otherwise.

The material employed for this purpose is the aluminate of potash, a liquid which is readily absorbed, and in part enters into chemical combination with the mass of most stones, whether calcareous or silicious, producing in the one case aluminate of lime or magnesia, a substance analogous to spinelle, one of the least alterable minerals known; and in the other case, silicate of alumina, corresponding to felspar. There is also a further effect produced by the action of the atmosphere on the aluminate absorbed into the stone. This consists in the decomposition of the aluminate of potash by the carbonic acid of the air, and the deposition, in the pores of the stone, of alumina in a highly compact state, analogous to corundum, emery, &c in being insoluble in acids,—even concentrated sulphuric acid. As a consequence of this character of the alumina deposited, he considers that the stone will be protected from the influence of sulphuric acid and sulphates which in towns and at the sea coast are amongst the chief agents of destruction. The deposition of alumina in the pores of the stone would also, he maintains, "prevent the decay caused by the carbonic acid of the atmosphere, because alumina does not combine with carbonic acid, and is not dissolved by carbonated water, as is the case with carbonate of lime, and even silicate of lime. Moreover, the gradual deposition of material in the pores of stone, and the simultaneous combination of it, to some extent, with the mass of the stone, are, I believe, more calculated to produce that compactness of texture at the surface of the stone, which would permanently prevent penetration of water or moisture, than the instantaneous production of a precipitate. For in the former case, the deposited material, besides being chemically unaffected by atmospheric agencies, is also more coherent, more approaching to the crystalline state, and thus while filling up the pores, renders the mass of the stone more dense, impervious, and homogeneous."

We confine ourselves to a communication of the facts, at present.

WINTER EXHIBITION.

The little Winter Exhibition of cabinet pictures and sketches in the French Gallery, Pall-mall, has been opened for the sixth time, and consists of 131 works. It is not very striking, looked at as a whole, but includes some very interesting items. For example, Mr. Frith sends both the first study for the Derby Day and the finished sketch for the picture. The first study consisted simply of the central incident of what the picture afterwards became, namely, the tumbler and his child, with the open barouche and its occupants on the right. It is a charming little picture, much to be coveted. Mr. F. Goodall, in "A Scene at Wexham Rectory," shows Mdlle. Rosa Bonheur sketching cattle; and the bulls represented being those painted by the lady, and something of her style being adopted, the picture tells its own story strikingly. Stanfield, Cattermole, Linnell, and E. M. Ward contribute: the latter sends "A Scene from Peveril of the Peak," wherein the head of Major Bridgenorth is painted with great vigour of effect. Mr. O'Neill has two soundly painted studies growing out of his successful picture of last year, "The Departure" and "Home Again." Mr. Noel Paton has a striking picture in the melancholy vein in which his genius has run lately, called "The Dead Lady;" Mr. Dobson a charming "Dresden Flower Girl;" and Mr. Eyre Crowe a group of "Steele and his Children," in Ward's early manner of more than ordinary merit. Mr. Holman Hunt, Mr. Calderon ("The Gaoler's Daughter, in small), Mr. Gale, and Mr. Cave Thomas are also amongst the noticeable contributors.

PREVENTABLE DISEASE.

SCARLET FEVER.

It is so very important that no false expectations of the benefits derivable from sanitary exertions should be raised in the public mind, that I venture to trouble you with a few remarks upon the article headed "Preventable Disease," in the last number of the *Builder*. There are, indeed, certain diseases which are not only believed to be preventable, but of which it may be asserted that we can point with considerable confidence to the local conditions by which they are produced. But this does not apply to scarlet fever, the particular disease referred to by your contributor as a preventable disease. No one, so far as I know, has ever been able to trace scarlet fever to any other origin than intercourse, either direct or indirect, with persons already sick with that disease. Its existence in a particular place is, therefore, dependent upon the presence or absence of the poison given off from the bodies of the sick; and this may either be received by inhaling the atmosphere of the sick room, or be conveyed to a distance by means of clothing or of other infected articles. The extension or diffusion of the disease will depend mainly upon the number of persons who, while unprotected by a previous attack, may be brought into relation with the contagion. Perhaps also it may be influenced by some unknown conditions under which either the poison becomes more intense, or persons become more apt to receive it. Thus, although scarlet fever is rarely or never absent from great towns, there are times when (under these unknown influences) the slumbering embers are fanned into greater activity, and the disease assumes, as at present, an epidemic character.

And not only does the *extension* of scarlet fever vary much at different periods, but its *intensity* likewise varies greatly in different epidemics. Whilst, in a particular epidemic, one person in every four or five that are attacked may die, scarcely one case in twenty or thirty will prove fatal on another occasion. Season has evidently much influence either on the extension or the intensity of scarlet fever. The average weekly number of deaths produced by it in London being much larger during September, October, and November than at any other season of the year.

It is also much more prevalent in particular years, as in 1848 and in the present year, during both of which a much larger than the average number of deaths have been produced by it.

Speaking from a professional experience of more than twenty years, I am led to the conclusion that the liability to suffer severely from scarlet fever is due rather to personal, or, perhaps, I should say, to family predisposition, than to external circumstances. I have repeatedly observed that just as certain families are prone to gout or consumption, so are the, in other respects, healthy children of certain parents peculiarly liable to suffer severely from scarlet fever, and that deaths have occurred among the children of the same families, in different epidemics, even where their residence has in the meantime been changed.* On the other hand, every medical practitioner of wide experience will support my assertion that excellency of residence and purity of air afford no certain immunity from this disease in its most malignant form. It is, indeed, by no means certain that those local conditions which are known to produce, or to aggravate, several other diseases, have any influence over the intensity of this disease. No doubt a close, ill-ventilated, over-crowded room, is unfavourable to recovery; no doubt that in such places the emanations from the sick are likely to be more active than in places where proper ventilation dilutes them.

But apart from this indirect influence which scarlet fever does but participate with small-pox—a disease which likewise originates from contagion—and, indeed, contagion excepted, with every kind of illness, such unfavourable circumstances seem to exercise no influence over either its intensity or its course.

I am induced to offer these observations, because it is desirable that correct opinions of the nature of preventable disease should be entertained by the public. I believe that the amount of preventable mortality has not been at all over-stated, but I am likewise of opinion that its causes still demand much careful investigation, and that, with certain exceptions, such investigation must precede any further progress in the art of preventing disease. E. Headlam Greenhow, M.D.

* A similar opinion on the influence of family predisposition over the intensity of scarlet fever has been expressed by Mr. Simon, at page 183 of his "Reports relating to the Sanitary Condition of the City of London;" and more recently, at page 7 of his Introductory Report to my paper "On the different Prevalence of certain Diseases in different Districts of England and Wales."

THE WASTE OF LARGE TOWNS.

A view of one of the colossal dust-heaps which are still to be found in the suburbs of the metropolis leads one to inquire into the uses of what is ordinarily considered the waste of large towns, and one learns with some surprise the value of matters which had been thought to have none. The dust-yards, by the way, are much better managed than they were formerly. They are fewer in number, too, fortunately, and the accumulations are not allowed to remain so long unused. The refuse is sorted almost as rapidly as it is shot from the contractors' carts, and carried away in barges, or otherwise disposed of. Nevertheless, these yards should be banished from towns, and, where permitted, carefully inspected.

On arriving at the depôts, the "dust" collected from the streets and houses is sorted by bands of women, mostly Irish, under the superintendence of foremen. Every morsel of rag, iron, tin, glass, and other matters, which will produce money, is picked out systematically. Vegetable and other substances, suitable for manure, are gathered. The screenings of cinders and fragments of coal, wood, &c. are carefully put aside for brick burning; broken crockery, oyster-shells, and other hard substances for road-making: in fact, every portion is put to use; and when thus divided, a still more minute division takes place. The scrap iron is separated from the cast metal: zinc and pieces of brass, lead, and copper, which might not at first seem worthy of notice, become valuable when collected. Old tin-pots and kettles are not without use: some are gathered up at a small cost by workmen, whose employment it is to restore such as are not too far gone. The iron handles of water-pails, the handles of shovels, &c. are taken off when the remaining parts are unfit for use, and joined to other vessels. We must not forget the bones which unthrifty housewives often slip into the dust-bin; and when all these things are considered, it is easy to believe the story that a London contractor offered the intended husband of his daughter the choice of a dust-heap in Maiden-lane, or 10,000*l.* as a marriage portion. The bride-groom chose the money, but the dust-heap turned out to be of greater value by several thousand pounds.

In other ways, the waste of London is equally cared for: the rag-shops, temptingly placed in even the poorest neighbourhoods, are the means of collecting waste-paper, fat for the candle-maker, and other commodities, which produce an immense yearly sum.* In several parts of London there are wholesale dealers who do business to a great extent with the small shopkeepers. In some of these establishments we are told that 200 and 300 women and upwards are employed in picking the rags, and packing them for the use of hospitals, lint-making, paper-making, and other purposes.

The dealers in hare and rabbit skins actively pursue their work; nor are the skins of cats and dogs overlooked; and so carefully is everything now put to use, that it is seldom that any of their dead bodies are long left in the streets. Other wanderers daily travel many miles of the London streets for the purpose of collecting materials for the tanners of Bermondsey: and so what one man throws away helps to keep another.

In other ways the requirements of such a great and varied community lead to systematic arrangements, and business is regularly carried on in a way which is not generally noticed. For instance, but for management, the heads, hearts, and coarser joints of oxen, sheep, and other animals, would be waste in the fashionable neighbourhoods of London; but merchants prevent this by dealing in these commodities, and supplying the markets at the Brill in Somers-town, Leather-lane, &c. from other districts. The unused joints of cook-shops, taverns, and similar places, are also gathered up for the supply of poorer neighbourhoods; though at many respectable dining-rooms it is a practice each evening for the proprietors to dispose of the remains at a cheap rate to deserving families in their neighbourhood. At Lambeth Palace every scrap is cared for, and made into soup, and distributed gratuitously to the poor who have good character; and it would be well if this excellent plan were more imitated by the gentry who are resident in London; for it is to be feared that in many instances that which would make an excellent meal for a poor family is carried away in the tub of the pig-feeder, who, in his way, assists in transmuting a portion of the waste of London into valuable commodities. By well-planned collections of "the crumbs" which fall from the rich man's table, a great boon might be conferred on certain of the poor, particularly in winter and other hard times. Those who have not thought much on this subject would be surprised at what is considered to be a luxury in the back streets and lanes of White-chapel, and other poor neighbourhoods.

* Some of the rag-shops, in consequence of the bones collected, are in a very unsanitary condition, and do much harm in more ways than one.

IMPROVEMENT OF DUBLIN.

Apropos to our recent and frequent notices of building and other works in the Irish metropolis, we may mention that perhaps one of the most important objects attained towards public convenience is the substitution of a new and commodious bridge for the clumsy and antiquarian structure, two centuries old, which spanned the Liffey, and was familiarly known as "Bloody bridge." This has been rendered doubly desirable, as greatly increased traffic is sure to follow when the projected new street from the Four Courts to the Midland Great Western Railway terminus, at the Broadstone, on one side of the river, and the Grand Parade, 100 feet in width, from Dame-street, to the Great Southern and Western Railway terminus at the other, are carried into effect. The first portion of the former project is being actually executed by the Board of Public Works, in the erection of an additional wing to the Four Courts, and the consequent blocking up of Morgan-place; and the work, which is of costly and substantial character, is far advanced towards completion by Mr. Meade, builder, and will cost, we believe, over 12,000*l.* The requisite demolition of houses for the carrying out of both these projects will rid the city of dilapidated structures and "rookeries" of a very *un*-architectural character, and give some breathing space to the denizens of those over-populated localities. We question if it would not be worth the while of owners of property in these neighbourhoods to set about the work themselves in right earnest, and not depend too much on others. The latter project has actually received the assent of the Irish Government, and Mr. Louch's plan been approved of; but the supplying of the funds remains still an open question. Returning to the new bridge, however, the river at that point, namely, between Silver-street and Watling-street, on either side, being upwards of 100 feet in width, will be spanned by one cast-iron arch, 95 feet in clear of abutments, which will be constructed of seven ribs, with five castings in each, and have a rise of about 9 feet. The roadway and pathways will be 33 feet in width. Mr. George Halpin (engineer to the Ballast Board) is engineer in chief, and Mr. Killew the contractor. We may take this opportunity of referring to the new timber wharfs now in progress at North-wall Quay, from plans furnished by the same gentleman, and which will doubtless prove a great additional accommodation; as also the splendid new graving-dock recently completed by Mr. Dargan, near the point familiarly known as "Halpin's Pool," and perhaps the most important work of its kind in Ireland. We are told that the site for another graving-dock near the same place is decided on, and we feel pleasure in chronicling works which so much display progress. The Board of Public Works—though generally very tardy—are at length aroused to the desirability of removing the present swivel-dock bridges which at certain periods of the day, when the vessels are leaving with the tide, are a perfect nuisance, and at all times both narrow and inconvenient. Several months since we drew attention to the proposed "Goldsmith testimonial;" but we have reason to fear that, like the intended improvement to the College premises, whereat it was to be erected, it has, for the present at least, merged into obscurity.

St. Saviour's Church, Dominick-street (Mr. McCarthy, architect); the Mater Misericordiæ hospital, in Eccles-street (Mr. John Bourke, architect); the new railway terminus in Harcourt-street (Mr. Wilkinson, architect), are approaching completion. We hear that the Kildare-street Club are in treaty respecting a block of houses from Kildare-street to Leinster-street, for the erection of a new club-house of costly character.

The extensive establishment of Messrs. Pim, Brothers, in George's-street, is being newly fronted and otherwise improved, and several works of similar character are being carried out in other portions of the city.

BURNING OF THE AMERICAN CRYSTAL PALACE.

IRON AND FIRE.

The Crystal Palace at New York has been entirely destroyed by fire during an exhibition of the American Institute, and including a vast number of works of art. It seems that the flames spread with fearful rapidity, and darting up through the steps of the staircase above communicated to a large gas chandelier with thirty-one burners, then to a quantity of paints and oils on the second floor, leaped across to some bedding and cabinet furniture, and with astonishing celerity shot up to the dome, which speedily fell, setting fire to the pine floor of the first story. Thence the fire spread in every direction, and in a little over twenty minutes from the time when it was first discovered the entire roof of the palace fell, carrying with it most of the walls beneath.

Among the property destroyed in the palace were several fine pieces of statuary, including Kiss's equestrian statue of "The Amazon," and Marochetti's colossal statue of "Washington."

The *New York Times* says:—"The calamity has struck every one aghast, for the possibility of such an event had never been calculated upon. The peculiar character of the building, constructed as it was almost entirely of iron and glass, appeared to bid defiance to the flames; yet its destruction was more rapid than any building of wood could possibly have been. In less than fifteen minutes from the time the fire was discovered the flames spread with such fearful rapidity that the immense dome, which has so long been an object of beauty towering over the city, and a landmark from every approach, fell, and the work of destruction was complete. It was like a flash. The great fabric of glass and iron and its priceless treasures of art were suddenly wiped out of existence as though they had been mere unsubstantial vapour."

New Machine.—The *Scientific American* says,—David L. Miller has invented a machine embracing the three principles of the wedge, lever, and screw, with which a workman at the Norris Locomotive Works, Philadelphia, weighing 156 pounds, lifted with facility the enormous weight of 37,332 pounds—more than eighteen tons—merely by the application of his strength through his hands to the lever.

THE LIABILITIES OF THE METROPOLITAN BOARD OF WORKS.

Mr. Doulton, the representative for Lambeth, at the Metropolitan Board of Works, has, in an able and practical speech, brought the magnitude of the works which are necessary to be carried out in this great metropolis under the notice of the new and powerful corporation in whose care, to a great extent, the beauty, convenience, and health of this city have latterly been entrusted.

Mr. Doulton shows, that exclusive of the cost of the main drainage, which is estimated at 3,000,000*l.* he found that the Board had actually ordered works, in connection with the metropolis, to the amount of 3,752,000*l.*: in addition to this the ordinary expenses of the Board, including repairs to main sewers, debts, and establishment expenses, amounted to 100,000*l.* per annum · the Board had, besides, under consideration, works amounting to 1,037,000*l.* These, however, are not all, for in these sums account is not taken of the cost of the street from Old-street to the Eastern Counties Railway, which was estimated at 580,000*l.* The Thames embankment must also be carried out in connection with the main drainage, and the formation of the embankment on one side of the river only had been estimated at 583,700*l.* The purchase of Hampstead Heath was estimated at 200,000*l.*; throwing open Southwark-bridge, 300,000*l.*; and Waterloo-bridge, 600,000*l.* "These," said Mr. Doulton, "simply stood still, because no man at the Board was bold enough to ask the Board to carry them out." For the sake of greater clearness, we will put these imposing figures in a tabular form: and it will then be evident that they considerably exceed even the slump sum (7,000,000*l.* and upwards) estimated by Mr. Doulton:—

Main drainage	£3,000,000
Embankment of north side of river	583,700
Works actually ordered	3,752,000
Works under consideration	1,037,000
Opening Southwark and Waterloo bridges	900,000
Street to Eastern Counties Railway	580,000
Hampstead Heath purchase	200,000
	£10,052,700

Mr. Doulton has done well to bring these figures before the public, for it is better to know at once the full extent of any liability than to have a temporary veil thrown over it. When we consider the depressed condition of Spitalfields, the enormous extent of pauperism in Whitechapel and other districts, the state of a large mass of the household property in Lambeth, the high rates of many parts of the metropolis, amounting at present to 5s. and upwards in the pound, we cannot avoid agreeing with Mr. Doulton that it would be difficult, if not impossible, to raise, by direct taxation, and without ill feeling and much inconvenience and resistance, the sum required. Now, the Parliament has repudiated the supply of means for the improvement and adornment of London from the national exchequer, and it is clearly a duty, if not a matter of absolute necessity, for the metropolitan authorities to appeal to the Legislature for leave to resort to those just means which are available, as in other towns, to meet the expenses of improvements, without attempting to enforce so enormous an amount of direct taxation as could not well be borne, if realizable at all.

The national buildings—such as the Houses of Parliament, and other public edifices,—which, although the property of the nation, are still part and parcel of the metropolis, and of the value of at least five or six millions,—if rated for improvements, at the rate of 6d. in the pound, would themselves alone produce about 150,000*l.* a year. Again, Mr. Doulton remarks that the Government has taken for its share of the metropolitan coal duty not less than 159,000*l.*; and "would any one say," he adds, "that this sum should not come into the exchequer of the Metropolitan Board?" Moreover, 165,000*l.* per annum are derived by the Government from the taxes collected in London from omnibuses, cabs, and other vehicles which occasion a very large amount of the wear and tear of the public thoroughfares. These items, if applied to the metropolitan improvements, would produce an annual revenue of not less than 474,000*l.* independent of the general taxation. It is also remarked that a very large amount of goods-traffic connected with the railways, which block up and destroy the thoroughfares, yields no benefit to the metropolis, and might with justice be rendered a source of revenue.

Mr. Doulton expressed that regret which most informed persons at the present day must experience, that Sir Christopher Wren's plan of rebuilding after the fire was not carried out, owing to the want of a central and metropolitan authority endowed with powers similar to those of the present Board, and he also generally alluded to the sad legacy of neglect which had been left to them over the wide surface of this great city, owing to the want of any general and single system of management, and stated that the magnificent improvements which have been made in Paris, Liverpool, and some other places, had been effected by fines, market dues, &c. From 1855 to 1856 the sums obtained in this way at Liverpool alone amounted to no less than 236,377*l.* That, however, was not all: "I can scarcely believe the return which has been placed in my hands," said Mr. Doulton, and from which it appears that for the very same period, in the shape of dock and light dues, Liverpool received no less than 1,294,000*l.*: Plymouth, from similar sources, received 32,081*l.*; and the Corporation of the City of London received in metage-dues, market-tolls, tonnage, mooring-chains, and the fourpenny duty on coals, in one year, 225,000*l.*

Mr. Doulton moved the following instructions to the finance committee to ascertain and report:—

"1. The various sources of revenue available to other corporations for purposes of improvement and public works, including the municipality of Paris and other foreign bodies.

2. The amount of money granted by Government to metropolitan improvements during the present century, stating to what purpose and from what sources.

3. The amount collected annually from the metropolitan area by direct and indirect taxation.

4. Total amount raised by Government and the city from the trade of the port of London.

5. Value of imports and exports of the port of London

6. An approximate estimate of the expenses of the Board, including main drainage, metropolitan communications, parks, Thames embankment, and other improvements.

7. A statement of sources available, in the opinion of the committee, for metropolitan revenue.

8. An estimate of their probable annual amount.

9. Amount of local taxation raised on the metropolitan area."

The motion, having been seconded by Mr. Dalton, was agreed to *nem. con.*

APPLICATION OF PHOTOGRAPHY TO ENGRAVING.

In the *Builder* for September 11th there is an interesting article on the "Application of Photography to drawing on Wood," in which occurs the following paragraph:—

"In engraving on copper or steel it is necessary to produce from a picture or drawing, placed at hand, a copy by means of lines of various form and strength, on a plain surface. The copperplate engraver has not only to prepare his own outline, but he has also to invent the manner of laying on and the quality of the lines. He has to produce his work *without even the help which would be given by a photographic image.*"

With reference to the sentence which I have put in italics, I beg to call your attention to the fact that, nearly two years ago, Dr. Cheetham, of this town [Rochdale], patented a process by which the photographic image may, with the utmost facility, be transferred to metallic plates. An ordinary collodion picture having been obtained upon glass, the film is to be removed by any approved method from the glass and transferred to a copper or other metallic plate, which has been previously subjected to a preparatory process. It is then treated with certain chemical agents, by which the metallic silver, which had been contained in the collodion film, is precipitated upon the plate, and the film removed, leaving the picture beautifully distinct in pure silver upon the copperplate,—in fact, firmly *plated* on it. The wonderful beauty of the pictures thus produced on the metallic surface has been a source of admiration to all who have seen them. All the delicacy of the photograph is preserved; indeed, it appears to come out with even greater distinctness. A great practical advantage connected with this process is, that it may be readily acquired by any person of ordinary intelligence, and it does not require him to be a photographer. The whole of the process may be performed with ease in half an hour, and the plate is then ready for the engraver's hands, having the image drawn upon it with a clearness and fidelity far surpassing the skill of the most accomplished draughtsman. Suppose, for instance, that an engraving was required of any building of elaborate architectural design, such as the Houses of Parliament. By the ordinary method a skilled draughtsman would have to be employed for days, or even weeks, to produce a drawing for the engraver's use, and it would then have to be redrawn upon the plate; and here it is at once seen that the picture ultimately engraved by this tedious process is after all only the mental realization by the engraver of the draughtsman's idea of the original. By the new process a photograph would be taken in a few seconds the exact size of the intended engraving, and in half an hour it would be transferred to the plate, and ready for the engraver;—no ideal representation, but a correct picture, with all the marvellous accuracy of perspective and minute detail which the camera can alone produce. The resulting saving of time, labour, and expense, is known only to those who have some knowledge of the practical difficulties of engraving. As it is not necessary that the metallic surface should be a flat one, the process is applicable to the transfer of designs, to convex or other surfaces, and for rollers: it may also, by a slight modification, be applied to lithography. Many other adaptations of it will suggest themselves to a practical mind; such, for instance, as by the aid of the electrotype process, any surface, metallic or otherwise, may be made use of, plate may be ornamented, or dials enriched, &c.

Having personally assisted Dr. Cheetham in the various experiments connected with this valuable discovery, I can speak of its practicability with certainty; indeed, I feel assured that it only requires to be known to parties interested in such a process, to be largely and profitably employed, for a plan which gives greater accuracy at the same time that it saves time, labour, and expense, is certain to be adopted. It is to be regretted that Dr. Cheetham's professional avocations have hitherto prevented him from bringing it so prominently before the public as it deserves; but I am sure he would be happy to forward you a specimen of the process, or to give you or any of your scientific readers any further information.

R. Harvey.

MONUMENTS AND MEMORIALS.

Monument to Caxton.—A subscription is said to be at length in progress to raise a fund to erect a statue to the memory of Caxton, the printer, near the spot where he lived. The Westminster Palace Hotel is being built on the site of Caxton's house, and it is contemplated to place the statue, by permission of the directors, in some conspicuous part of the hotel.

Temperance "Monument" at Preston.—A monument is now in progress at Mr. R. Picop's, monumental mason, in Chorley, which is intended "to commemorate the cause of teetotalism in Preston," and, when completed, strange to say, it is to be placed in the Preston Cemetery! as if the temperance cause were defunct at Preston instead of alive and flourishing. The design, which is Gothic, was furnished by Messrs. Hibbert and Rainford, architects. The monument is 7 feet 6 inches in width at the base, and will stand 5 yards high. The base has four angular piers, indented with quatrefoils, and moulded: these terminate in capitals, from behind which rises the shaft supporting canopies, and from which springs a spirelet. The cost, including palisading and fitting up, will be about 80*l.*

Monument for Berwick.—Mr. Young, of Neville-street, Newcastle, sculptor, is executing a mural monument to the memory of the late naturalist, Dr. Johnston, of Berwick-upon-Tweed. The *Gateshead Observer* says of it: "The head of the deceased—a faithful likeness (achieved under difficulties)—is carved in white marble in high relief, with emblematical plants on either side—poppy, foxglove, and corn)—and, above, a bird winging its flight onward and upward (the spirit flying away, to be at rest). The monument is to be erected, shortly, in the parish church."

Bas-Reliefs for a Mausoleum, near Edinburgh. There are two works of art now in progress at Rome, says the *Illustrated News*, which deserve attention. They are bas-reliefs by Mr. Gatley, and are being executed for a mausoleum intended to be erected to the memory of Mr. William Henry Millar, lately residing near Edinburgh, a gentleman distinguished by his refined taste and private virtues. The mausoleum will be raised in the grounds about two miles from Edinburgh and one from Portobello. The artist was not limited in the choice of his subject, as it was not desired to be of a monumental character. The mausoleum is to be 35 feet high, and the two bas-reliefs—one on each side—are to be of Carrara marble, each 16 feet in height by 18 feet in length—in surface the largest blocks ever cut, and the bas-reliefs themselves the largest of modern times. One of these reliefs, the subject of which is the passage of Pharaoh through the Red Sea, is making rapid progress. Mr. Gatley has spared no pains to ascertain the costumes and customs of the period, and the countenances are of the true

Egyptian type. The average height of the figures is 5 feet: the average height of the Egyptians, as ascertained by the mummies, is 5 feet 2 inches. The subject for the second bas-relief is the Song of Miriam and Moses. It is a triumphal procession of sixteen figures, with camels and oxen bearing the spoils of the Egyptians. Miriam is attired in the dress of an Egyptian priestess. She advances in a fine attitude, playing on a timbrel, and preceded by female figures bearing olive branches. It will probably be some years before these gigantic works will reach the modern Athens. Mr. Gatley was a pupil of our own Baily.

The Watt Monument at Greenock.—A contribution towards the erection of this monument has arrived from Bombay. It is a block of stone, weighing 8 cwt. and bearing the following inscription:—"This stone, from the railway incline up the ghauts of India, is a tribute from the Bombay Mechanics' Institution to the memory of James Watt, A.D. 1857."

The Dargan Testimonial.—At a meeting of the committee of the testimonial, lately held in Dublin—Lord Talbot de Malahide presiding—preliminary arrangements were made for handing over to the Irish National Gallery Committee 5,000*l.* of the fund; but care has been taken that the principal hall in this national institution will be an appropriate "Dargan Testimonial." There will remain a surplus of about 1,000*l.* which will be disposed of so as best to fulfil the intention with which the money was subscribed.

BUILDERS' AND CONTRACTORS' ASSOCIATION IN AUSTRALIA.

An association has been formed under the title of "The Victoria Builders' and Contractors' Association," for the purpose of obtaining the recognition "of fair and reasonable customs and usages between builders and the general public." Each member is to pay on admission an entrance-fee of 1*l.* and a subscription of 1*l.* per quarter in advance. The Rules, after those forming the Society, are as follow:—

VII. That all Tenders shall be opened by the architect in the presence of parties tendering, and at a time of which due notice shall be given, by being posted in the architect's office, or inserted in the specifications of the work tendered for. That, in all future contracts, contractors tender only in the gross amount; and when it is intimated that the tender of any particular contractor is accepted, then only shall such contractor furnish a full schedule of his prices on being required so to do.

VIII. All description and definition of labour and materials, inserted in specification, to be taken and understood in the usual manner in which such terms are used and understood in the different trades referred to,—and also what obtainable materials are intended to be used, and such as are bought and sold under the terms used in the specification.

IX. That this Association require architects to state exactly in their specification what work is intended to be done, what quality, and how to be performed,—instead of the usual way of stating it, viz.:—"To do everything as the architects shall from time to time direct."

X. That no contract shall be taken unless the details shall be given to at least a 1-inch scale, showing the true intent and meaning of the same, and in such a clear manner as to prevent any misunderstanding as to the nature and extent of the details comprised in such specification.

XI. That all architects or proprietors calling for and receiving tenders for any building or contract, and not proceeding with the same within fourteen days after the tenders have been sent in, shall be required to pay to the lowest tenderer the following per centage, viz.:—Up to one thousand pounds, 1½ per cent.; from one thousand up to five thousand, 1 per cent.; from five thousand up to ten thousand, ¾ per cent.; and upwards, ½ per cent.; provided such person holding the lowest tender be a recognised builder or contractor of this Association,—and that no member of this Association shall tender for the same works again, unless the said per centage be paid.

XII. That all street levels, as well as the exact lines upon which buildings are to be erected, must be furnished by the architects when required, all building fees being paid by the proprietor.

XIII. That architects shall give written orders to builders, contractors or their agents, for any work required, in addition to or alteration from the contract; and that all extra work ordered at any time after the signing of the contract, shall be paid for whenever the said work has been completed to the satisfaction of the architect, or person in charge of the works.

XIV. That the members of this Association do not recognise the right of architects or proprietors to address themselves to, or interfere with, the workmen engaged on works under contract, the foreman excepted.

XV. That in case any architect shall give up a building in consequence of disagreement between himself and the proprietor, another architect shall be authorised by the proprietor to certify, on six days' notice of the contractor, to the completion of the works, and if such last mentioned architect shall refuse to certify, without sufficient reasons to satisfy the committee of this Association that he is acting conscientiously in so doing, then the committee shall be empowered to employ any two architects to examine and certify, and their decision shall be binding on all parties.

XVI. That if any member of this Association, in carrying out, or having completed, any contract, shall consider himself unjustly dealt with, by the architect or proprietor of the building or other works, and shall require advice or assistance from this Association, he shall first state his grievance in writing, to the committee, who shall appoint a deputation to examine the works in dispute, with the drawings and specifications and general conditions of the said works: they shall then wait upon the architects or proprietor, and ask leave to explain and adjust the difference, if possible, or come to some amicable arrangement. That if the deputation shall fail to come to any terms with the architect or proprietor, or they shall refuse to entertain their mediation, they shall then report the same to the committee, who shall obtain a legal opinion before any further proceedings are taken in the matter. That if the legal opinion, as above named, shall be in favour of proceedings being taken, the secretary shall call a general meeting of all the members, and have the case fully explained to them: if put to the vote and carried, that it be tried in a manner determined upon, the costs shall be defrayed out of the funds of the Association.

XVII. Payments to be made to contractors every fortnight to the amount of 85 per cent. on the value of the work performed, until two thirds of the work have been completed, after which payments to be made at the rate of 90 per cent.

XVIII. That in all cases referred to arbitration, the arbitrators shall be chosen from among architects and builders, and no solicitor or barrister shall be employed.

ECONOMY IN LONDON DRAINAGE.

Will you allow me space in your columns for a plan, in reference to the great drainage question, which, so far as I know, has never yet been proposed, but which seems to me calculated to effect a great saving in the cost of the works necessary to accomplish the object in view? I cannot think the question quite settled in its present state, while eminent engineers differ so much as to the ultimate utility of the costly scheme which has obtained the approval of the Metropolitan Board. If you think that any advantage may accrue to the public from the following suggestions, I shall feel obliged if you will insert them, with the view of eliciting an opinion from those more competent than I to judge of their practical utility and economy.

Instead of constructing vast walled-in rivers to intercept not only the sewage of the metropolis, but all the rain which falls upon that extensive surface, and carry it miles away to pour the mass of fœtid filth into the Thames, to the injury of the towns along its banks, and the waste of invaluable manure, I would keep the sewage and rainfall strictly separate throughout. Let every house be furnished with two drains; one, the existing house-drain, to be connected merely with the roofs, yards, &c.; the other a trapped pipe, connected exclusively with the water-closets, sinks, &c. The former, which should convey little else than water, should open, as at present, into the existing sewer in every street: the latter, containing all the *sewage proper*, should open into a large iron conduit-pipe, to be laid along the floor of each sewer in its entire length, through which the liquid might flow, distinct from the rain-water outside, to the river-side. The dimensions of each tube should be calculated for the average quantity of real sewage it will have to carry, which will be found tolerably constant. To provide against occasional pressure, the main conduits should be furnished with conical plugs, or other relief-valves, at intervals.

I contend that, by this construction of, or alteration in, the present sewers, all the great objects in view might be attained, and new outfalls rendered unnecessary. The small size of the conduits would ensure a constant current in their contents, and prevent deposit. The sewage, undiluted, would be far better adapted for the application of a proper process, and might become a most valuable property: the channels, which might be required to convey so small a bulk of liquid out of town, would be comparatively inexpensive, and might run alongside the Thames on each side, without inconvenience; and the river itself would neither be robbed of its tributary rainfall, nor polluted at intervals with an ocean of filth, as cannot fail to be the case with the proposed flood works, if the water and the sewage are not kept distinct and separate.

Frederick J. Money.

COLCHESTER CASTLE THREATENED.

It seems that a great piece of barbarism is contemplated at the ancient town of Colchester—the "Camulodunum" of the Romans—the site of many most interesting Mediæval remains, and renowned for its old castle (partly composed of Roman bricks), where, during the siege, or rather after the town had surrendered into the hands of Fairfax, two of the gallant defenders, Lucas and Lisle, were barbarously shot.

It is proposed to remove the cattle-market (which is now held in the High-street) to the very spot where this act was committed, viz. the Castle Bailey. The corporation have actually passed a vote in favour of this site.

Party squabbles have been going on for years about this question, it seems; and only two or three months ago it was decided by this same corporation to remove the market to a spot which was thought by the majority at that time much more convenient than the present favourite one. What is the more extraordinary is, that the Castle Bailey has actually been tried and objected to by cattle-dealers, owing to the height of the castle walls tending to dwarf the cattle, as well as from the unshapely form of the ground.

At present a delicious green turf surrounds two sides of the castle, and open space around the other sides affords public access; but in the proposed arrangement this public access will be blocked up, and two sides of the castle become portions of the ornamental grounds of a gentleman interested in the property. Surely, when our deans and chapters, our churchwardens, and even our railway directors (in the case of Furness Abbey) are awakening to the public value of these relics of the past, and doing their best to open them up to public inspection, it is too bad to find the influential men of such a town as Colchester voting to shut themselves out from their own relics of antiquity. It is but right to say that one of the newspapers of the town is thoroughly alive to the disgrace, and protests most strenuously. We trust the protest may not be in vain; and if Colchester is not overburdened with public parks, we should recommend the suggestion to form one on this spot to the consideration of those whom it may concern.

GIVE US AIR.

The shaft of truth is sometimes made to fly further, and hit harder, by being feathered with a little nonsense. Twang bow, then, and speed an arrow from an American sheaf:—

O sextant of the meetinouse, which sweeps
And dusts, or is supposed too! and makes fiers,
And lites the gass, and sumtimes leaves a screw loose,
In wich case it smells orful,—worse than lamp-pile;
And wings the Bel and toles it when men dyes
to the grief of survivin pardners, and sweeps pathes;
And for the servases gits £10 per annum,
Wich them that thinks deer, let em try it;
Getin up beloar star-lite in all wethers and
Kindlin fiers when the wether is as cold
As zero, and like as not grean wood for kindlers;
I wouldn't be hired to do it for no some—
But o sextant! there are 1 kermoddity
Wich's more than gold, which doant cost nothin,
Worth more than anything except the Sole of Mann
I mean pewer Are, sextant, i mean pewer Are!
O it is plenty out o dores, so plenty it doant no
What on arth to dew with itself. But figs about
Scaterin leavs and bloin of men's hatts—
in short, its jest "fre as are" out dores.
But o sextant, in our church its scarce as piety,
scarce as bank bills wen agust beg for mi-chuns,
Wich some say is purty often taint nothin to me,
Wat I give aint nothin to nobody) but o sextant,
u shet 500 men, wimmen and children,
Speshally the latter, up in a tite place,
And every 1 on em breethes in & out and out and in,
Say 50 times a minit, or 1 million and a half breths an our.
Now how long will a church ful of are last at that rate,
I ask you, say 15 minits, and then wats to be did?
Why then they must brethe it all over agin.
And then agin, and so on, tell each has took it down,
At least 10 times, and let it up agin, and wats more,
The same individdle dont have the privilege
of brethen his own are, and no ones else;
Each one mus take whatever comes to him.
O sextant, doant you know our lungs is bellusses,
To blo the fier of life, and keep it from
goin out; and how can bellusses blo without wind,
And aint wind *are?* i put it to your conscens.
Are is the same to us as milk to babies,
Or water is to fish, or pendlums to clox—
Or roots & airbs unto an injun Doctor,
Or little pigs unto an ourpath,
Or boys to gurls. Are is for us to brethe,
Wat signifies who preeches if i cant breethe?
Wats Pol? Wats Pollus? to sinners who are ded?
Ded for want of breth? why sextant, when we die
Its only cos we cant brethe no more—thats all.
And now, o sextant, let me beg of you
2 let a little are into our church.
(Pewer are is sertin proper for the pews)
And do it weak days and Sandays tew—
It aint much trouble—only make a hole
And the are will cum in of itself;
(It lays to cum in where it can get warm,)
And o how it will rouze the people up
And sperit up the preecher, and stop garps,
And yawns and figgits as effectooal
As wind on the dry Boans the Profit tells of.

Steam-ships Building at New York.—Two steam-ships, one of 1,300 and the other 700 tons, are building at New York for the navigation of the Chinese waters. There is also building at New York, for the Russian Government, a steam-propeller ship of war, said to be the largest wooden ship in the world. The New York *Herald* thinks it not improbable that the interior rivers of China will soon be dotted with noble specimens of American marine architecture, which, in the shape of river steamers and fleet canal traders, will supersede the cumbrous junks of the Orientals, bringing civilization and trade facilities to their doors.

REIGATE CHURCH.

REIGATE within the last few days has been the scene of an election, when every free Briton present exercised the right of making as much noise as pleased him, and doing as much mischief as the weakness of the police gave him scope for. The town was quiet enough on the day preceding the struggle when accident led us through it, and presented a charming appearance. We have before now spoken of the host of somewhat superior dwellings which have grown up about this town of late years,—varied, picturesque, and comfort-ful. The laying out of the grounds, too, in many instances, is satisfactory, and gives evidence of the employment of skill:—

> "He gains all points who pleasingly confounds,
> Surprises, varies, and conceals the bounds."—*Pope.*

The leaves are falling: greens have turned to brown, and in some cases to a brilliant red; but the period has a beauty and a melancholy grace of its own, moving to soothing thoughts. "A moral character," says Chateaubriand, "is attached to autumnal scenes: the leaves falling like our years, the flowers fading like our hours, the clouds fleeting like our illusions, the light diminishing like our intelligence, the sun growing colder like our affections,—all bear secret relations to our destinies."

Reigate had a church in very early times. Anciently, indeed, it was called Cherchfelle, or Church-field. In 1199, it is known there was a church there, and in the following century the place was called Reygate. It had a castle, destroyed in the seventeenth century, and there are still some very remarkable caverns in the solid rock, one of them nearly 150 feet long. The present church has been called Perpendicular, but is for the most part of a previous period: some of the arches and capitals of the columns separating the nave and aisles are somewhat elegantly ornamented with leafage. The chancel is the handsomest part of the building: it has a fifteenth-century screen, and contains a number of monuments. Against the north wall of the chancel aisle there is an enormous pile of coloured marbles, in the shape of Corinthian columns and entablature, in memory of Richard Ladbroke, Esq. who died in 1730, and of kinsmen up to 1793.

The Banker-poet says,—"Tombs are but the clothes of the dead: a grave is but a plain suit; and a rich monument is one embroidered." This of Richard Ladbroke is certainly very much embroidered, but not exactly in the best taste.

At the east end of this north chapel there is a large monument with figures, much knocked about, in memory of Thomas Bludder, of Flanchford, who died in 1618. Charles Howard, the first Earl of Nottingham, was buried in this church,—that Howard who was "Generall of Queene Elizabethe's Navy Royall at sea agaynst the Spanyards' invinsable Navy in the yeare of our Lorde 1588." He died in 1624 at a ripe age.

Tombs set one thinking. Quite true it is that

> "These are the urns magnificent which hold
> Treasures of profoundest meditation."

All the doings of the Elizabethan period pass clearly through the mind, and we are taken back 200 years without an effort.

Over the vestry door at this end of the church there is a small brass plate with a Latin inscription, full of contractions, recording how that John Skynner, in 1513, as well with 10*l.* for the soul of Richard Knight, and 40*s.* for the soul of William Laker, and other sums, as with 103*s.* 4*d.* of his own, caused that vestibule (the vestry) to be built. It has been pointed to as an interesting example of the execution of a useful work instead of provision for the celebration of masses for the dead, just before the Reformation. The concluding words of the inscription will serve as an example of the extent of the contractions,—

"Q'o'm om'n a'ia'm p'piciet' De'."*

At the west end of the church, against the north wall, a small tablet attracts attention by the charge of the sculptured shield,—a man's leg, couped at the midst of the thigh, the upper part clothed. A small brass plate, below the shield, bears a Latin inscription, which may be Englished thus:—

> Behold! Beneath your feet lie together the bones of two; Anthony Gilmyn and his wife,—whom piety and good faith joined in love, and of whom Charles was the only descendant. The one died on the 23rd of August, 1575; the other on the 25th of December, 1580.

There are several other monumental memorials in the church (which we may note, by the way, is dedicated to St. Mary Magdalene), including five helmets, one of them silvered and gilt; but we cannot stop to note them:—

> —— "All that tread
> The globe are but a handful to the tribes
> That slumber in its bosom."—*Bryant.*

Over the vestry is kept a small collection of books. We are not aware if these are made of any advantage to the public. If we should judge from the refusal on the part of one of the officiating ministers here to allow us to pass the rail to examine the very handsome sedilia—a range of three,—piscina, and niches in the chancel, we should not anticipate that it was the case. The sedilia are polychromed. Considerable works appear to have been done in the church, and many of the window openings are filled with stained and painted glass. Amongst the latter are two by L. Lobin, of Tours, which are specimens of a style not now commonly practised by English glass-painters, being pictures painted on glass, rather than windows of stained glass. One of these, quite recently erected in the eastern window of the south aisle of the chancel, is inscribed to the memory of James W. Freshfield, and represents the Ascension. The figure of the Saviour is the least satisfactory part of the production, but some of the heads on the ground are exceedingly well painted: the whole is highly finished, and on a bright day not ineffective. When the light is not strong, windows of this character approximate more to the appearance of a painted blind than is desirable.

In the churchyard, amongst many other memorials, is a large monument to Francis Maseres, Esq. Cursitor Baron of the Exchequer, who died at the age of ninety-three, in 1824. It was erected by Dr. Fellowes, who affectionately ends the inscription upon it with,—

"Vale, vir optime! Amice vale, carissime," &c.

The church is well placed, and all around smiling Nature gladdens eyes and hearts. Nature! and what is Nature? Carlyle, amplifying Goethe's definition,† answers,—"The time-vesture of God, that reveals Him to the wise, and hides Him from the foolish."

* The inscription is given in full in Brayley's "Surrey."

† "The visible garment of God."

"THE BUILDER'S" LAW NOTES.

Life Insurance.—A creditor effected an insurance in his own name on the life of his debtor, and charged him with the premiums, to which he did not object, although no express contract was made between them as to the beneficial ownership in the policy. It was held (the debtor having died leaving the debt unpaid) that the creditor was bound to pay the surplus of the moneys received upon the policy, after satisfaction of what was due to him, in respect of his debt and the premiums, to the personal representative of the debtor.—*Morland* v. *Isaacs.*

Irish Court of Chancery.—Lands in England.—A decree of the Court of Chancery in Ireland does not determine the validity or invalidity of a will, so far as it relates to lands in England.—*Boyce* v. *Rossborough.*

Rent-Charge.—Distress.—A rent-charge cannot be split, so as to enable the grantee to distrain upon several portions of the lands charged; and if he once distrain, and might have taken sufficient to satisfy the whole rent-charge, but do not take sufficient, he cannot again distrain for the balance of the rent due.—*Owens* v. *Wynne.*

Liability of Owner of Dog.—A dog worried some sheep, and its owner was sued by the owner of the sheep; but it was not alleged that the dog's owner knew of its having vicious propensities. It was held, that the omission was fatal to the action.—*Fleeming* v. *Orr.*

Ancient Lights.—Certain persons having become the reversioners of premises, and being about to diminish their lessee's ancient lights, they were restrained by injunction.—*Herz* v. *Union Bank of London.*

Evidence of Boundaries — Map.—An accurate map of Suffolk was published in 1736, and a new map was published in 1766, said to be from the former, "with corrections and additions." It was held, that this latter map, not from surveys, but from the other map, was not admissible in evidence in a case of disputed boundaries.—*Hammond* v. *Bradsheet.*

ART AND THE PRINCESS ROYAL.

It will interest many of our readers to learn that the Princess Frederick William of Prussia sedulously cultivates her talents as an artist in her new home; and, more, that the Princess still seeks the assistance and remembers the attention of those who were her early instructors. Mr. Edward Corbould, from whom the Princess received her first lessons in art, has just now returned from Babelsberg, where and at Potsdam,—during the temporary cessation of his duties at the palace, at home,—he has been superintending her studies. Recollecting certain absurd but no less vexatious rumours, it is gratifying to receive from an eye-witness evidence of the more than ordinary domestic happiness enjoyed by one whom all Britain regards with affection. The Princess makes practical use of her skill in drawing in the furnishing and decoration of her residence, and is having a studio fitted up in the new palace in Berlin.

Her Royal Highness appears to be a great favourite, and many anecdotes are told to show her kindness. Shall we step out of our way to give one? At the last fair in Berlin, where everything was to be bought that pleases young and old, there was one stall which was filled with things that are comforting and useful, such as felt shoes and slippers, worsted stockings and woollen gloves. The Princess had been looking from the windows of the palace upon the various groups and knots of people in the fair, noting the harmony and contrasts of colour with an artist's eye, when her attention was called to this stall, in which sat a lone woman, to whom none went. The following day the same scene presented itself,—the solitary figure, and no customers. The Princess at last determined that there should be one customer at any rate, and accordingly intimated that her pleasure was to walk. On reaching the bottom of the stairs she told the attendants that they could remain there, whilst she advanced to the gate. Entering the stall, she asked the price of the contents, to which the woman replied that it would far exceed the purse of a young lady—it would amount to "24 thalers." The Princess had but 20 in her purse at the time, but the Prince luckily appeared in sight: four thalers were borrowed, and more old women than one made happy, for the contents of the stall were distributed as soon as bought. The story is told as characteristic of the kind heart of the English Princess.

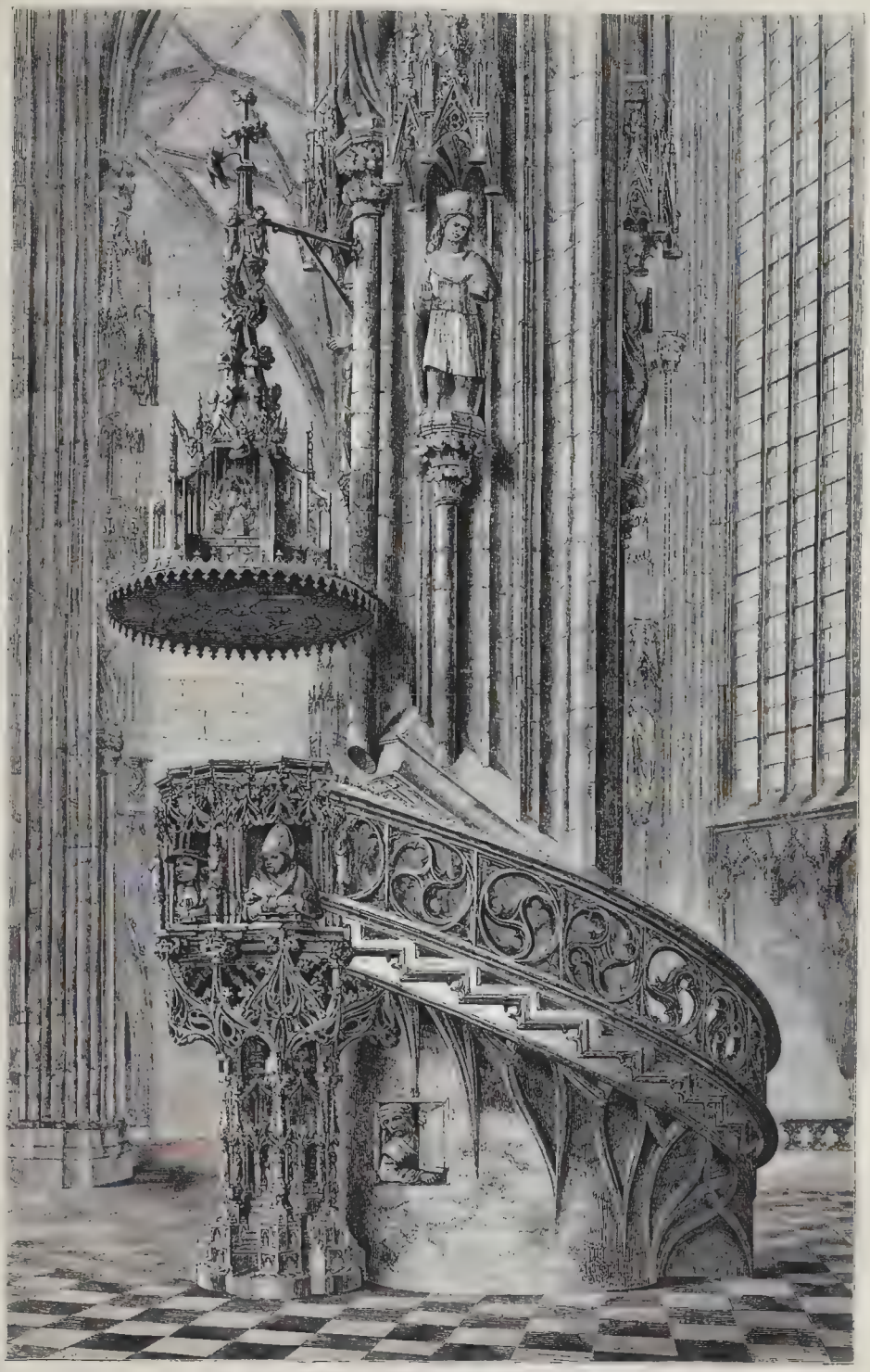
STREET ARCHITECTURE IN BELFAST.

A HOUSE-FRONT in Bridge-street, Belfast, now nearly completed, under the direction of Mr. Thos. Jackson, architect, has attracted some attention, from the circumstance of cast-iron having been used for the pilasters or story-posts, with the arches over them forming the shop-front. Metal has also been introduced for columns with arches, over the windows of the two wareroom floors, and for perforated panels of parapet. The columns stand on a solid stone sill or string. The work generally above the arches of shop-front, and forming a backing to the columns, &c. of warerooms, has been executed of patent perforated bricks, laid in Portland cement, and stuccoed with the same material.

The panels of the spandrils are sunk 2½ inches, having moulded rim round, and bold carved foliage enrichment in centre. The metal castings were prepared in Belfast. The front being comparatively light, suits the very soft and bad foundations. A horizontal tie of wrought iron is continued along the entire front, with ⊣ ends, over each story of arches, and bolted to each of the latter.

CARVED STONE PULPIT IN ST. STEPHEN'S, VIENNA.

EVERY traveller who has visited St. Stephen's in Vienna (the cathedral), must have examined with interest the stone pulpit, with its elaborate carved work, staircase, and sounding-board. In our present number we give an engraving of it. The present church was commenced in 1359, and finished in 1480. Between the aisle of the nave and the north transept is a small organ-loft, under which is carved the portrait of Anton Pilgram, sculptor, and architect of the church. The same bust appears underneath the pulpit, and is seen in our engraving.



CARVED STONE PULPIT, ST. STEPHEN'S, VIENNA.

LAMINATED RIBS.

Remembering the controversy which once before ran its length in our pages as to first users of such ribs, we hesitate as to a possible renewal of it. The subject of laminated ribs, however, is one of considerable interest, and deserves to have light thrown on it. The arrangement was adopted at a much earlier period than that mentioned by Mr. C. H. Smith in our last number. Professor Hosking, writing us on the subject, says that being, on the 26th of August, 1824, up in the great cupola of the church of Sta. Maria della Salute, on the Canal Grande, at Venice, he noted its construction as being of ribs made to the form of the profile of the cupola; each rib, in four thicknesses of board, pinned together, and all stepped into a horizontal circular curb, made up in like manner at the base, or on the drum, being the stereobasis at foot, and all pitching against another curb of the same at the head, the only bracing being the boarding for lead. That church was built entirely after the great plague in which Titian died, and was finished at about the middle of the seventeenth century. Mr. Hosking adds:—He never met with anybody who had noticed this construction, and had never heard or read of it when he saw it.

THE STAGE AND MUSIC.

Royal Princess's Theatre.—Truly, as Mr. Charles Kean says in his introduction to *King John*, Shakspeare, with the inspiration of genius, has converted the histories of our English kings into a series of dramatic poems, impressing the imagination with living pictures of the royal race, who in earlier days ruled the destinies of this island. The manager of the Princess's has sought to make these dramatic poems convey accurate pictures of the times they treat of, and of the commonalty as well as of the king, and has succeeded to an extent which has won for him a wide reputation, in addition to what he justly enjoys as an actor. *King John* has been revived with great excellence. It will not take a place as one of the remarkable series in which Mr. Kean strove to obtain as rigorous chronological accuracy in the architectural scenery as in the other adjuncts, including *Sardanapalus* (picturing Assyrian life), the *Winter's Tale* (Greek life), *Macbeth* (pre-Norman), *Richard II.* (fourteenth century), *Henry VIII.* (Tudor), and some others. Nevertheless, it exhibits some very charming scenes. The room of state, in the first act, is studied to some extent from the hall in Rochester Castle, and other known remains have been looked to. As to the costumes, the habits of many of the principal characters are copied from monumental effigies, "care having been taken that those who outlived King John, and were buried under the sovereignty of Henry III. are not clothed in emblazoned surcoats, which appear on their respective tombs, since no instance of such ornament occurs before the year 1250." The play is admirably acted. In the two principal scenes, both with *Hubert* (very well played by Mr. Ryder), Mr. Kean displays a subtle discrimination of character which needs study for its full appreciation. Mr. Walter Lacy makes an excellent *Faulconbridge*, and Mrs. Kean's *Constance* is as fine a piece of acting as was ever seen. *Macbeth* is to be revived forthwith.

The English Opera Company.—Mr. Harrison and Miss Louisa Pyne, with their company, are singing Flotow's *Martha* with great efficiency and corresponding success. We may now look for the permanent establishment of an English opera-house, where English composers and English singers may have a chance afforded them.

EDUCATION IN ART.

In Mr. Ruskin's paper on this subject, read at the recent Liverpool meeting, the writer urged the advantage of possessing the power of drawing to all classes, the difference in the course which must be pursued with working men and with those in our higher public schools, and thus proceeded:—

It is impossible to make every boy an artist or a connoisseur, but quite possible to make him understand the meaning of art in its rudiments, and to make him modest enough to forbear expressing, in after life, judgments which he has not knowledge enough to render just. There is, however, at present, this great difficulty in the way of such systematic teaching,—that the public do not believe the principles of art are determinable and in nowise matter of opinion. They do not believe that good drawing is good, and bad drawing bad, whatever any number of persons may think or declare to the contrary;—that there is a right or best way of laying colours to produce a given effect, just as there is a right or best way of dying cloth of a given colour; and that Titian and Veronese are not merely accidentally admirable, but eternally right. The public, of course, cannot be convinced of this unity and stability of principle until clear assertion of it is made to them by painters whom they respect; and the painters whom they respect are generally too modest, and sometimes too proud, to make it. I believe the chief reason for their not having yet declared at least the fundamental laws of labour as connected with art-study is a kind of feeling on their part that "*cela va sans dire.*" Every great painter knows so well the necessity of hard and systematized work, in order to attain even the lower degrees of skill, that he naturally supposes, if people use no diligence in drawing, they do not care to acquire the power of it; and that the time involved in wholesome study, being greater than the mass of the people have ever given, is also greater than they would ever be willing to give. Feeling also, as every real painter feels, that his own excellence is a gift, no less than the reward of toil,—perhaps slightly disliking to confess the labour it has cost him to perfect it, and wholly despairing of doing any good by the confession,—he contemptuously leaves the drawing-master to do the best he can in his twelve lessons, and with courteous unkindness permits the young women of England to remain under the impression that they can learn to draw with less pains than they can learn to dance. I have had practical experience enough, however, to convince me that this treatment of the amateur student is unjust. Young girls will work with steadiest perseverance when they understand the need of labour, and are convinced that drawing is a kind of language which may, for ordinary purposes, be learned as easily as French or German, but not more easily, nor on any other terms; this language, also having its grammar and its pronunciation, to be conquered or acquired only by persistence in irksome exercise,—an error in a form being as entirely and simply an error as a mistake in a tense, and an ill-drawn line as reprehensible as a vulgar accent. And I attach great importance to the sound education of our younger females in art, thinking that in England the nursery and the drawing-room are, perhaps, the most influential of academies. We address ourselves in vain to the education of the artist while the demand for his work is uncertain or unintelligent; nor can art be considered as having any serious influence on a nation while gilded papers form the principal splendour of the reception-room, and ill-wrought though costly trinkets the principal entertainment of the boudoir. It is surely, therefore, to be regretted that the art-education of our Government schools is addressed so definitely to the guidance of the artisan, and is therefore so little acknowledged hitherto by the general public, especially by its upper classes. I have not acquaintance enough with the practical working of that system to venture any expression of opinion respecting its general expediency; but it is my conviction that, so far as references are involved in it to the designing of patterns capable of being produced by machinery, such references must materially diminish its utility, considered as a general system of instruction. We are still, therefore, driven to the same point — the need of an authoritative recommendation of some method of study to the public; a method determined upon by the concurrence of some of our best painters, and avowedly sanctioned by them, so as to leave no room for hesitation in its acceptance. Nor need it be thought that, because the ultimate methods of work employed by painters vary according to the particular effects proposed by each, there would be any difficulty in obtaining their collective assent to a system of elementary precept. The facts of which it is necessary that the student should be assured in his early efforts are so simple, so few, and so well known to all able draughtsmen, that, as I have just said, it would be rather doubt of the need of stating what seemed to them self-evident, than reluctance to speak authoritatively on points capable of dispute, that would stand in their way of giving form to a code of general instruction. To take merely two instances:—It will perhaps appear hardly credible that, among amateur students, however far advanced in more showy accomplishments, there will not be found one in a hundred who can make an accurate drawing to scale. It is much if they can copy any thing with approximate fidelity, of its real size. Now, the inaccuracy of eye which prevents a student from drawing to scale is, in fact, nothing else than an entire want of appreciation of proportion, and therefore of composition. He who alters the relations of dimensions to each other in his copy shows that he does not enjoy those relations in the original; that is to say, that all appreciation of noble design (which is based on the most exquisite relations of magnitude) is impossible to him. To give him habits of mathematical accuracy in transference of the outline of complex form is, therefore, among the first, and even among the most important means of educating his taste.

CHURCH-BUILDING NEWS.

Wadhurst.—The church here has been restored and re-opened. The gallery extending along the north and west sides, access to which was obtained by a staircase on the outside of the church, has been removed, and the whole of the accommodation now afforded is on the floor of the church; but the number of seats has rather been increased than diminished, upwards of 200 additional sittings having been made available in the body of the church. The old high-back pew system has given place to stalls of stained and varnished deal. The stonework throughout the church has been restored. The east wall of the chancel had all but given way; so also had a portion of that in the north side: the bases of the capitals were likewise in disorder, and the arch of the chancel separated in many places. These faults have been repaired. The floor has been re-laid with square York slabs. Nearly all the windows have been re-glazed. The ceiling has been newly boarded with inch yellow deal, tongued together, stained, and varnished. A Spanish oak screen, polished, divides the body of the church from the belfry: this will be the vestry. Six stalls have been placed in the chancel, and some movable seats are to be added. The church has now six windows of stained glass,—five in the chancel, and the other at the west end. The two principal windows, one on each side of the chancel, were inserted some time before the restoration: others have just been put in. The whole of them are in memory of children of the vicar. One represents our Saviour with the doctors, and Joseph pursuing his occupation as a carpenter. A smaller one on the other side represents the visit of the wise men and the shepherds at the birth. The third is the offering of the infant in the Temple. The window at the west end has a design of an ornamental character, and is not historic nor figurative in representation. The restoration is from the design of Mr. Slater, of London, the builder being Mr. Smith, of Wadhurst.

Bedminster.—Arrangements are in progress for the erection and endowment of a new church, and the allotment of a district thereto, in the extensive parish of Bedminster. The site of the church has been fixed on the New-cut between Bedminster and Bath bridges. It is contemplated that the building shall contain 1,000 sittings.

Hooton.—On the 5th inst. the foundation-stone of a new church was laid by Mr. and Mrs. Richard C. Naylor, in their park at Hooton, near Chester. The church is to be in the Byzantine style of architecture, of a cross form, and will consist of nave and aisles, with central lantern, supported on stone dome at the intersection of the nave, chancel, and transepts. The chancel will have a circular east-end, supported on polished granite columns, surrounded by an ambulatory or chancel aisles. The extreme length of the building will be about 95 feet; height of nave, 45 feet; and the height of lantern about 90 feet, and will contain accommodation for about 300 worshippers. The walls will be built of the red sandstone from Eastham, with dressings and bands of the white sandstone from Stourton. The architect is Mr. James K. Colling, of London; and the builders are Messrs. Holme and Nicol, of Liverpool. The amount of the contract for the whole work is about 5,000*l.* Mr. Naylor will be at the sole expense of building and endowing the church. The silver trowel used in laying the foundation-stone was presented to Mr. and Mrs. Naylor by the architect and builders.

Chester.—An appeal is being made to the Chester public for the restoration of St. Olave's Church, in Lower Bridge-street. The scheme, according to the *Chester Chronicle*, is to repair the church in a plain and substantial manner, and afterwards to make use of it for the purposes of a Sunday-school for the united parishes of St. Michael and St. Olave.

Crewe.—St. Michael's Church, Crewe, has been consecrated. The church is at Crewe Green, amongst a rural population. It has been built from the designs of Mr. Scott, in a highly ornamented Gothic style of architecture, the materials of the fabric being red and white brick,

with the workings of the windows and the mullions in Hollington stone, decorated with carving and with shafts of polished Derbyshire marble. The church is calculated to contain 250 worshippers, in open sittings. The whole has been completed at the cost of Lord Crewe. Mr. Thomas Stringer, of Sandbach, was the contractor.

Warrington.—Winwick Church, near Warrington, has been restored. The old irregular square pews and a western gallery have been taken out, and the western arch divested of whitewash. The western window has been filled up with stained glass, in memory of the late rector, the Rev. J. J. Hornby, by the parishioners. Two heavy screens of oak and iron, which separated the two private chapels of the Leghs and the Gerards from the nave, have been removed, and new screens of wrought iron, in blue and gold, erected instead of them. Moveable benches of oak are placed in the Gerard chapel, "by courteous permission of its proprietor."

Liverpool.—The chapel at the Liverpool Royal Infirmary has been opened for Divine service. The seats are open, of convenient size, and cushioned, for the comfort of the sick and poor. At the east end is a raised dais, or platform, with the altar-table in the centre, covered with a crimson embroidered cloth, and on either side the reading desk and pulpit, which, as well as the ends of the seats, are carved. Over the altar is a painting of the Ascension.

Manchester.—Some account of the progress of the restorations and alterations at the Manchester cathedral, more particularly in the parish church portion, are given in the local *Courier*. The amount contributed up to the present time is about 11,000*l.*, but this is still considerably short of what will be needed to effect the entire improvements sketched out, anything less than which would be leaving the good work unfinished, and consequently unsatisfactory. On entering the cathedral at the west end the most important alteration is the removal of the feoffees' gallery, which blocked up the view eastwards, as well as on both sides, up to the Trafford and Ducie chapels. The choir organ will be placed in one of the arches of the choir, probably opposite the bishop's throne. It is proposed to open out the view and passage to the choir, which has hitherto been secluded. To effect this the remainder of the gallery will be taken down, and part of the old screen, thus opening the stalls of the clergy. Light will then penetrate through the tabernacle work, and the columns will be visible to the floor of the church. Looking west, the great organ gallery is next destined to be removed. The great western arch, now blocked up, will be opened out, and the large western door will again be opened. The additional length, which will be secured by the removal of the gallery and the feoffees, will be 40 feet, making a length in the nave of 84 feet. The narrow, high-backed pews are to be replaced by wide, low benches. The clerestory windows are being renewed on the north side. Two of those nearest the tower are finished. In the Ducie chapel, on the north side, improvements are contemplated. The chapel will be enlarged, the principal window being carried back some distance. The Derby chapel, on the north side of the choir, will be much altered. The chapel has been thoroughly cleansed. Adjoining is the Ely chapel, which will also be cleansed architecturally, so that every part of the stone-work will appear as when new. A warming apparatus will be put up. The carvings at the side of the Derby chapel are being repaired. Returning to the nave, the pillars and wall surface will be cleaned. The roofs also will be repaired, and a safer substitute placed in the north and south galleries for the sham plaster ceiling which fell down one Sunday during service. As to the time-worn tower, it is admitted by every one that it must be rebuilt some day. The upper part was removed some time ago, and the bells are not allowed to be swung, but are only rung by the swinging of the clappers. The architectural portion of the alterations is entrusted to Mr. J. P. Holden, architect.

Salterhebble (near Halifax).—The new church at Salterhebble, Skircoat, near Halifax, has been consecrated and opened. The church is called All Saints'. The style of architecture is Gothic, of the fourteenth century. Internally it consists of a nave, aisles, transept, and chancel. On the north side is a porch, a tower and spire rising to the height of 120 feet. The arches of the nave are high, but plain. The windows are more or less filled with tracery. The seats are of oak. The pulpit and the font are of Caen stone. The floor is inlaid with tiles. The length of the church is about 90 feet, the nave 58 feet, the breadth of which is 17 feet, and the breadth of the aisles 9 feet. The edifice will accommodate about 450 adults, and 200 children.

Todmorden.—Lydgate Church, Todmorden, has been opened. The church is built in the early decorated style of Gothic architecture, and consists of nave, 60 feet long by 33 feet wide; chancel, 25 feet long by 20 feet wide. There is a bell turret at the south-west angle of the nave, rising to a height of 80 feet. The building throughout is of the freestone of the neighbourhood. The entire cost of the structure is about 2,000*l.* and the accommodation provided is for 400 worshippers. The architect, under whose superintendence the building has been erected, was Mr. J. Green, of Todmorden.

Lytham.—A stained-glass triplet window has just been placed in the chancel of St. John's Church, Lytham, at the expense of a few friends of the church, and of the Incumbent, the Rev. W. H. Self. It contains the following subjects in medallions, viz.:—The Birth, Baptism, Transfiguration, Last Supper, Agony in the Garden, Resurrection, and Ascension. In the centre light is a full-length figure of St. John, under canopy work. In a medallion below is represented the call of St. John to follow Jesus. Between each medallion the space is filled in with Early English ornament, on a ruby ground. The artists were Messrs. R. B. Edmundson and Son, of Manchester.

Laughton-le-Morthen (Rotherham).—The chancel of the church of this place has been lately restored at the sole expense of Mr. A. B. St. Leger, of Park-hill. The east window has had its old tracery reset, and been filled in with stained glass, the work of Mr. F. Barnett, of Edinburgh. The window (which is of Perpendicular character), is composed of five lights. Each light is trefoiled. The tracery in the head is the kind usually adopted in windows of this period (A.D. 1150). The pictorial design embraces in the centre the figure of our Lord in the attitude of blessing. On either side are ranged the effigies of the four Evangelists. All the figures are placed within niches and canopies of varied colourings. The draperies of each figure, which are all diapered, are of different colours. Beneath all the figures is foliage on a geometrical pattern, whilst the tracery is enriched with the Holy Lamb, Vexillum, monograms, &c.

Pendleton.—The Bishop of Manchester has consecrated the new church dedicated to St. George, situated in Whit-lane, Charlestown, Pendleton. The edifice is built of stone, in the decorated style of Gothic architecture, and consists of a nave and chancel, with an aisle on the south side, and is covered with coupled roofs of a high pitch. The nave or highest roof is finished with a temporary wooden bell-cot. This end of the church has been partially filled up with brickwork, in the place of a tower arch, it being contemplated to erect a tower and spire at a future time. The south side of the body of the church contains four windows, with stone pillar or mullion up the centre, dividing each window into two lights or openings, and having the upper part pointed and filled in with stone tracing of a flowing but simple character. The east end of the edifice consists of two gables, the chancel one being filled by a large window divided into five openings by means of mullions, the upper part being ornamented with stone tracery work. The north side of the church has windows similar to those on the south. The nave part of this side is executed in brickwork, with stone pillars and arches over them, built in the wall, it being intended to erect an additional aisle eventually, to correspond with the opposite one. Internally, the nave is separated from the aisle by five sharp-pointed archways on short octagonal stone pillars. The roofs of the nave and aisle are formed of arched ribs over the centre of each pillar and arch; those to the chancel and porch of the ordinary timbers or rafters tied and framed together. The whole of these roofs show the construction of the woodwork, and are stained of dark colour, in imitation of old oak: externally, they are slated. The pews and fittings up throughout are of a simple kind, and are stained similarly to the roofs. The floors of the aisles, where not pewed, are paved with red and black tiles, laid diamond wise. Accommodation has been provided for 199 adults upon the ground-floor, the greater part free. The church being built upon the side of a hill, and the foundations having been obliged to be carried to a considerable depth, have considerably added to the cost of the building. It is heated by hot air, by Messrs. Haden, of Trowbridge. Mr. E. H. Shellard is the architect; and Messrs. Statham are the contractors. The body of the church is 71 feet 6 inches long, by 40 feet 6 inches wide, and 45 feet from the floor to the ridge. The chancel is 27 feet long. The church is built of Yorkshire parpoints, with Peel stone dressings. The cost has been 3,800*l.*

Bradford.—White Abbey Chapel has been considerably enlarged, and the interior re-arranged and decorated, under the direction of Mr. E. Milnes, architect, so that now it forms one of the most spacious chapels in the town, affording accommodation for 1,200 persons. The organ-gallery has also received a new organ. Before the enlargement the chapel afforded accommodation for 780.

Wexford.—We are asked to state that the floors of the chancel and side chapels of the new Roman Catholic church here are laid with Mawe's encaustic tiles.

PROVINCIAL NEWS.

Maidstone.—The Wesleyan New Schools erected in the ground adjoining the Wesleyan Chapel, at Maidstone, have been opened. In addition to the principal school-room, which is 40 feet by 38 feet, and of high pitch, it comprises a committee-room, two class-rooms, and a residence for the chapel-keeper, or for a schoolmaster. The work has been executed by Mr. G. Chambers, sen. builder, the architect being Mr. Rolfe.

Ramsgate.—New schools have been erected and opened at St. Lawrence, Ramsgate, at a total cost of about 900*l.* The schools, which are on the Hereson-road, are intended for 120 children, and their erection was intrusted by the committee to Mr. W. E. Smith. The buildings consist of two rooms, for sixty boys and sixty girls. The rooms are convertible into one; and, by the removal of a partition, a room of 64 feet 6 inches by 23 feet width is obtained for public meetings. There is a residence for the master, and playgrounds are attached.

Dudley.—The new County Court buildings have been completed. Their site is on the north side of Priory-street. The style of the erection is Classical. The front of the building is of white Hollington stone. It is set back some distance from the street, the intervening space being inclosed by an iron railing. The ground-floor is appropriated to the business offices, the court-room being on the first-floor. This room is 57 feet long by 28 feet wide, and 26 feet high. The building has been erected, from designs by Mr. C. Reeves, under the superintendence of Mr. Collett, clerk of the works. The contractors were Messrs. Borket and Nelson, of Dudley.

Stafford.—The South Staffordshire water-works are so far completed and opened. Mr. Boys is the contractor.

Liverpool.—The proposed central post-office and the public offices for the borough, says the *Albion*, are to occupy the plot of ground on the lower side of Dale-street, running from Crossball-street to Sir Thomas's-buildings. The post-office authorities will get the front lot, almost immediately facing the new central police-office and police-court, for the erection of the new post-office; and it is proposed to construct a new cross street, 20 yards wide, starting in North John-street, breaking through Temple-lane, and pursuing a straight course to Manchester-street, where it will debouche, although it is very probable that it may be hereafter carried farther at both of its extremities. This street will divide the post-office from the new public offices. The main internal feature of the new building will be the council-chamber — amphitheatrical in its general outline, and somewhat after the model of the Luxembourg, at Paris. The rest of the building is split off into three leading departments. Provision has also been made for committee-rooms, room for the mayor, retiring-room for the councillors, and a room for reporters. As part of the plan both Crosshall-street and Sir Thomas's-buildings are to be widened. These plans, as yet, are merely provisional, the question of erecting public offices having yet to be determined by the council. —— The foundation-stone of the new Toxteth-park workhouse has been laid. The building will be erected on ground adjoining the Toxteth-park cemetery, in Smithdown-lane. The main elevation will front the west. It will be set back from the cemetery-wall from 40 to 50 yards. The building will be three stories in height, the style, Italian, of a plain kind, except the centre façade, which will have a square tower, 86 feet high. The façade will extend right and left of the centre portion, until it reaches the projections up to the male and female imbecile wards, where two wings will project 35 feet, the whole frontage to be 411 feet in length. Extending backwards from the centre building, will be the kitchens, dining-hall, and other domestic offices, one story

only above the ground. The plan of the building is an approximation to that at Chorlton, near Manchester. The buildings will cost about 18,000*l.* exclusive of fittings, roads, the main drain, and the infirmary. The designs have been furnished by Mr. Culshaw, under whose superintendence the works are now proceeding, the contractors being Messrs. Kilpin and Montgomery, who have engaged to complete the works in ten months.

Leeds.—The operations towards the completion of the town-hall tower have been resumed. The statue of her Majesty has been removed into the great hall, and part of the steps at the front of the building have been taken up to allow of the passage of stone and materials.

Middlesborough. — The foundation-stone of a clock-tower, to be erected in the Market-place, High-street, has been laid here. The tower is being built of brick and stone to the base of the clock, which is 47 ft. 6 in. from the ground line, the outside of the tower to correspond with the present Town-hall. The top of the tower is of cast-iron, weighing nine tons. It commences at the base of the clock, and terminates in a spire. The bell is cast off the pattern of the one fixed for her Majesty at Balmoral, and weighs nearly 10 cwt. It will be fixed at the height of 60 feet. The clock will have four dials, and will be seen from the four principal streets, in the exact centre of which the tower is placed. It will be lighted in the night time with gas-lamps placed at the outside. The plans and designs are by Mr. Dunning, the borough surveyor, which obtained the premium offered some time ago by the council, and were selected from a number sent in by various architects. Messrs. Cochrane and Co. have cast the ornamental iron top: Messrs. Fidler and Law are the contractors for the brick, stone, and tower work; and the clock is supplied by Mr. Robson, of Shildon. The work is to be finished at the latter part of the present month.

Broughton.—The first stone of a new bridge over the river Irwell has been laid by Mr. J. P. Fizgerald, of Castle Irwell, for the purpose of connecting his estates in Broughton, Pendleton, and Agecroft. Mr. Fitzgerald, says the *Manchester Courier*, selected as its name "Waterford Bridge," in remembrance of his estates in the sister country, and as appropriate for a structure that was to serve the purpose of the "ford" over the "water." The bridge will be of stone and iron, and will consist of two arches of about 50 feet span each, to be crossed by flat cast-iron girders. The piers will be of stone, 15 feet wide, and the roadway 12 feet clear. It will be constructed to carry 30 tons. At present the bridge will be a private one, but eventually it will be made public. The structure will be raised at the sole cost of Mr. Fitzgerald. Messrs. Statham and Son have contracted for the bridge; Messrs. Galloway supplying the ironwork.

Shipley. -St. Paul's Church Schools, Shipley, have been opened. The schools and master's residence have been built from the designs of Mr. S. Jackson, of Bradford, architect, by Messrs. Ingram, Lapish, and John Ives, of Shipley; and have cost 2,258*l.* The school buildings comprise two school-rooms, for boys and girls, each room 60 feet long and 18 feet in breadth; two class-rooms, each 15 feet by 13 feet; two entrances, each 6 feet wide, in which the children have water and lavatories; a covered playground underneath the boys' schoolroom, and an intended infant school, not yet finished, underneath the girls' school.

Carlisle.—Preliminary steps have been taken for the establishment of a theatre in Carlisle, the requisite funds to be raised by means of shares of 1*l.* each, to the amount of 2,500*l.* or 3,000*l.* It is thought the building might be so constructed as to be available for a circus, or as a concert or assembly-room, when not in use for theatrical representations. The want of a theatre in Carlisle, according to the local *Journal*, has been long felt.

Caxton.—Six tenders for the new rural police-station were lately delivered, when the lowest, by Messrs. Gray, of Cambridge and Wrestlingworth, was accepted, at 750*l.* The work will be commenced immediately. Mr. Clark, architect.

Oxford Museum.—Sir: Who is going to pay the 5,000*l.* additional expense, caused by the defective roof? The architects, or the builders, or the University? Here is one little amount beyond the stipulated sum of 20,000*l.* Only a quarter more! I see also that the contracts for the Liverpool Library "exceed considerably the 30,000*l.*" about which so much has been written. Another agreeable termination to competitions!

W. P.

IRELAND.

The Roman Catholic Parochial Church at Malahide, county Dublin, has been recently completed internally, and some alterations from its original arrangement made. The foundation-stone was laid by the late Archbishop Murray, and the building dedicated when in a very unfinished state; but the recent works comprise the substitution of a triple lancelated window in the northern gable for a single light, the fitting up of the chancel window with stained glass, a wrought wood panelled screen separating the sacristy from the sanctuary, and the general sitting arrangements with a view to increased accommodation. The structure is of Gothic but ornamental character, has five lancet windows in each of the flanks, and an open timber roof stained and varnished. Messrs. Michael and Scott are the contractors.

A meeting of the council of the Irish Archæological and Celtic Society was held on the 11th inst. the Marquis of Kildare in the chair. Lord Talbot de Malahide, Drs. Petrie, O'Donovan, Todd, and Reeves, and Messrs. Curry, O'Callaghan, and Gilbert (honorary secretary) were also present. It was stated that considerable progress had been made in the printing of the second part of "The Book of Hymns" of the Ancient Irish Church. The first portion of the Society's Miscellany is already printed. The publication for 1859 is intended to be "A Treatise on the Ogham or occult Forms of Writing in use among the ancient Irish," by the Rev. Charles Graves. The history of the wars of the Irish with the Danes has been undertaken at the Government expense under the editorship of Dr. Todd.

The annual general meeting of the Institution of Civil Engineers in Ireland, has been held at the Society's Rooms, Upper Sackville-street, Mr. Gibbons, V.P. in the chair. The report was read, adopted, and ordered to be circulated. The following officers for the ensuing session were then elected: — President, Mr. Mullins. Vice-Presidents.—Messrs. Gibbons, R. Mallet, and J. Bower. Council, Messrs. Lanyon, J. Godwin, J. B. Farrell, Stoney, Neville, Tarrant, Anderson, Hill, Frith, and Williamson. Secretary, Mr. Tate. Auditors, Messrs. Brazill and Russell. *Ex officio* Members of Council, Sir R. Griffith, bart. and Mr. Hemans, as past presidents.

The first Presbyterian Church Schools, at Armagh, of which the foundation-stone was laid about three months ago, are now being roofed. The ground-floor story, 13 feet 6 inches high, is executed in rubble masonry, to be finished in Portland cement, rusticated, with limestone base, strings, and dressings. From string to eave is built in red and white Belfast perforated bricks. The eave, projecting 2 feet 6 inches, is supported with coupled trusses, and, over centre of principal front, forms a pediment, with 6 inches extra projection. Within the pediment is to be set an open Bible, with text wrought on ribands round the same, in limestone. The design, by Mr. W. J. Barre, of Newry, was chosen from eleven submitted in competition. The work is being carried out by Mr. Farr, builder, Armagh.——The Precentor's House at Armagh is to be completely remodelled under the architect last named; the existing wall round it to be removed; and the enclosure thrown into the road and carriage-way at Cathedral-gate.

SCOTLAND.

Edinburgh.—The site of the immense tenement (of ten or twelve stories or so in height, if we rightly remember), at the head of the mound, which crosses Prince's-street-gardens, is about to be occupied by another large building, but of a different description. The designs have been prepared by Mr. David Cousin, the city architect, and the new tenement is to be a composition of the Scottish baronial style, embracing the features characteristic of the close of the sixteenth and beginning of the seventeenth century. It will occupy the entire area of the old buildings, being intended to extend from the gable of the remaining or uninjured portion of the old tenement on the east, to the stairs immediately adjoining the Free Church College on the west. Rising to a height of seven stories—and, in fact, at one point a few feet higher than the lofty old gable adjacent, which reaches an altitude of 101 feet—the new edifice, with its turrets, oriels, and characteristic ornamentation, will form a conspicuous mass of architecture. The principal aim, in a utilitarian sense, has been to obtain ample accommodation for the Edinburgh Savings' Bank, which will occupy the whole area or lower portion of the structure. In the ruins of the old building a picturesque effect was produced by the towering central stone staircase. In the new design the architect seems to have taken a hint from this, as he has broken up the front of his composition in a somewhat similar manner. Variety in the new front has been aimed at by introducing a bold projecting turret in the centre of the façade, rising a story above the general height. This turret forms not only the centre of the composition, but what may be termed its main feature.

Dundee -In laying before the dock trustees the drawings of the masonry of the new dock to be constructed at Dundee harbour, the engineer, Mr. Ower, accompanied his plans by drawings for iron dock-gates, of the usual construction; but he afterwards submitted plans for lock-gates, suitable for carriages passing over as well as foot passengers, at little if any additional expense, he alleges. The dock-gate will be of malleable iron, and will float, so as to be easily removeable, for repair in the graving-dock. The cost of a separate swing-bridge for carriages, at a heavy cost, will thus be saved. The plan was approved of by the trustees, and remitted to their committee of works, with powers.

Inverness.—A new Ragged and Reformatory School has been opened at Farraline-park. It is of simple design. The architect was Mr. Ross, of Inverness. There are separate rooms for boys and girls, and dormitories for the children sleeping on the premises. The building contains a suite of rooms for the master; matron's rooms, committee-room, &c.; and hot and cold baths have been provided.

RECENT BUILDING PATENTS.*

An improved Pot for Chimneys and Ventilation. (A communication.) Dated Jan. 28, 1858. -*W. Spence.* -This consists in manufacturing chimney-pots, so that the mouth for the exit of the smoke or air may be protected, and the smoke or air within the pot receive an upward tendency from the action of the wind. This is effected by providing the pot with an upper or outer lip or cap projecting above, and at a small distance from, the inner shaft, and placing around such inner shaft a space or a series of spaces so situated in reference to an inclined surface below that the wind will be deflected upwards.

Improvements in Apparatus for Measuring Water, Gas, and other Fluids. (A communication.) Dated Jan. 29, 1858.—*R. A. Brooman.*—This consists in the employment of a pendulum in, or in connection with, apparatus for measuring fluids, so that the vibrations of the pendulum shall be regulated in extent by the rising and falling of a float, and shall be indicated upon suitable dials, the hands of which are moved by clockwork under the control of the pendulum.

Improvements in the Manufacture of Metal Pipes, and in the Apparatus employed therein. (A communication.) Dated Jan. 28, 1858. —*J. H. Johnson.*—This relates to lead and other soft metal piping, and consists in applying a coating or lining of tin during the manufacture. The pipe itself is produced by a press, which forces the metal continuously through a die in the ordinary manner; but, to effect the internal tinning of the pipe, it is proposed to employ an internal fixed mandril of a fixed construction. As the pipe exudes from the die, the melted tin passes out through perforations at the bottom of the mandril, and fills the annular space between the pipe and the middle portion of the mandril, thereby depositing a coating on the inside of the pipe as fast as it comes from the die. This coating is smoothed off by passing over the enlarged collar at the head of the mandril, which also acts as a soldering iron, compelling the tin to adhere to the interior of the pipe.

Improved Machinery or Apparatus for Breaking Stones, Minerals, and other analogous Substances. (A communication.) Dated Feb. 8, 1858.—*W. E. Newton.*—The patentee claims—1. The arrangement of machines for the breaking of stones, &c. by having a hammer fixed to a revolving shaft connected to a spring, by the action of which the hammer is lifted up immediately after having struck the stones, which are introduced in a suitable mortar, whereas the hammer is at suitable intervals thrown down on the material by a cam or tappet fixed to an arbor, receiving motion from the main arbor driven by a prime mover.

Invert Blocks used in the Construction of Sewers and Drains. Dated March 26, 1858. —*H. Doulton.*—This invention consists in applying a projecting lip at one end of each of such blocks below the upper surface, and to remove a

* Selected from the condensed lists in the *Mechanics' Magazine* and *Engineer*.

portion of the partition or partitions which divide the under hollow part of such blocks into separate hollow channels, so as to form a recess to receive the lip of the next block.

Hoods or Tops, and the Footsteps and Bearings of Ventilators. Dated March 29, 1858.—*W. Chadwick.*—This invention consists in making the ventilating vanes in diagonal and standing directions, so that the current of air or smoke in passing through the ventilator imparts a rotatory motion to the hood or top: the accumulation of soot in the ventilator and in the flue or chimney are also said to be thus prevented. The improvements in the footsteps and bearings of ventilators consist in making them of glass or other vitreous material.

ARCHITECTURAL SOCIETY OF NORTHAMPTON.

THE PRINCIPLES OF RESTORATION.

At the autumn meeting of this society, held at Northampton on the 20th, Lord Alwyne Compton in the chair, the Rev. T. James, the secretary, read his usual report or address. Speaking of the restoration at Oakham Church, he said:—

"One of the most difficult questions of arrangement, as all church-restorers know, is the position of the prayer-desk. Its correct position is, without doubt, within the chancel, but this, from the narrowness of the chancel arch, or from the projection of the easternmost responds of the nave into the body of the church, is often a most inconvenient position. This latter objection was the case at Oakham, and the difficulty has been met by what seems to me the best arrangement under such circumstances. The ritual chancel has been brought out into the nave, by retaining the level of the chancel about 6 feet westward of the chancel arch, and enclosing that projection by a low screen, within which, on each side, is a prayer-desk: thus the principle of the chancel is maintained, at the same time that the convenience of the congregation is consulted."

As to restoration generally:—

"One important point which the committee have always endeavoured to enforce upon restorers is the danger of over-restoration. A few years ago it was thought one of the highest compliments to bestow on church restoration, that you could not tell the new work from the old. In a better spirit it is now required that the distinction between the new and old should be visible at the first glance. A restorer should be content to take as his own neither more nor less than he has actually done. All splashing, therefore, of new stonework and staining of woodwork should be strictly eschewed. No workman can really imitate the gentle touches of Time; and if he succeeded, it would be only succeeding in deception. A safe rule seems to be to restore nothing which is not required for constructional safety. All ornamental work is far better left in the time-worn state in which we find it. A restored church should not look like a new one, and to all who regard the inner spirit more than the outer surface, the very mutilations which tell of bygone faith and forms are more precious than the trimmest and neatest renovation."

Mr. James described somewhat fully the works at his own church, Theddingworth.

The meeting, by a resolution, endorsed a memorial to the First Commissioner of Public Works, requesting that the new Foreign-Office it was proposed to erect should be built in the Gothic style, both as being more national and more consistent with the site.

An interesting discussion ensued on the principles involved in the address, which were warmly disputed, but led to no resolution.

VENTILATION OF PUBLIC BUILDINGS, AND RESPONSIBILITY OF ARCHITECTS.

Your last number has kindly enlightened its readers on this important subject, by the opinion of a writer in the *Leamington Advertiser*, that "it is high time to speak out against the ignorance or recklessness of architects; for we think that the law should hold a professional man responsible for the proper ventilation of public rooms, and deal with its absence as a public nuisance punishable by fine." This is a specimen of the manner in which some persons will write without thinking first. Will the writer kindly inform me what is the *proper ventilation* of a room? and who is to be the judge that a room *is* properly ventilated? Architects are not so *ignorant*, or so *reckless*, as it is too often asserted that they are. For instance, Dr. Reid, the scientific ventilator, has failed in making the 200 or 300 rooms in the Houses of Parliament satisfactory after a frightful outlay, when, if they had been left to the architect in the first instance, all would probably have been agreeable in temperature. Now the natural system is in vogue there. But let an architect suggest the use of that system, and at once he is told, by the highly competent judges on the committee, that he is not to interfere, being only an architect, and consequently not a scientific man. I see, however, that the writer above mentioned confesses that in one instance "*a scientific man* has arranged the gas-burners with ventilating-flues over them, but, for a simple reason, he has failed to remedy the evil." It would have been charitable to have given "the simple reason" which was beyond the mind of this "scientific man," and thereby caused the failure of the "proper ventilation" of the room.

Having myself read a great deal of what has been written on ventilation, I have become very lenient to any failure, believing that such failure is more often caused by the inattention of the parties connected with the mode adopted, than with the mode itself. Need I remind your readers of the quarrel between scientific men on the ventilation of some hospital in the north part of London,—one side insisting that more per cent. of patients recovered during the use of the system than did before its introduction, while the other side maintained that the system was not efficient? Was this attributable to "the ignorance or recklessness of architects?"

A Younger Member.

PUBLIC DRINKING-FOUNTAINS.

I am happy to read weekly, in your excellent journal, of the public fountain movement, and can fully appreciate your sentiments of the desirability of having erected public fountains. I believe with you that, by furthering such a scheme, the cause of temperance would be advanced. You suggest that the temperance societies ought to agitate for them, and I think there are others who would be willing to help in such an undertaking. I would suggest how the temperance societies might assist the movement. I am informed that there are from 300 to 400 teetotal societies in London and suburbs. Most teetotal societies are managed by a committee numbering twelve in general. Now, if each committee-man were to give one shilling, and each such committee-man were to obtain another shilling from a friend, and by other means that I will suggest, I think the thing could be soon done. Say 350 societies, with twelve in each committee, and twelve friends each, at one shilling each, would be 420*l*. Further aid might be rendered by a penny subscription in the workshops, the same as was adopted for the Patriotic Fund, which was so readily responded to. And might not this with propriety be called a patriotic fund? As a working man, I shall be most happy to contribute my mite, and can further state in behalf of the society (the St. James's, 58, Castle-street, Oxford-street), to which I belong, that in the event of a committee being formed to carry out the scheme, they will subscribe the twelve shillings for the committee, and twelve shillings for their friends. I think that if such committee were to arrange to have subscription boxes at the principal institutions, such as the British Museum, National Gallery, &c. there would be a general reponse made to the call. S. C.

A "FAST" LINE TO THE PERSIAN GULF.

Sir,—A paragraph in your excellent paper concerning a railway across the Atlantic has suggested to me the propriety of communicating with you concerning a scheme which I conceived some time back, and which I believe might be accomplished without any very great difficulty. It has been said that railways are only in their infancy, which I understand to mean that the present railways are infants when compared with the railways that will be, as much as the ships in which Columbus discovered America were infants when compared with the *Leviathan* of the present day. Therefore, I am about to suggest the propriety of constructing a full-grown and vigorous railway, that would bear us with the swiftness of an arrow from the western to the eastern extremities of Europe; or, in other words, from the German Ocean to the Persian Gulf in sixteen or eighteen hours. If a line be drawn from London to Basra, at the head of the Persian Gulf, to pass through Ostend, Vienna, and Constantinople, the distance will be in round numbers 2,800 miles: it will pass through some of the finest and most populous districts of the Danube, Euphrates, Rhine, Meuse, and Scheldt. Let there be a railway similar to the Great Western of England, as straight as possible, with the double gauge. Let the engines be thrice the size of the Great Western engines, with wheels thrice the diameter, and carriages in proportion: then it is obvious that if those large wheels revolved as fast as the wheels of the engines on the Great Western do, they would convey the train thrice as far as the latter do in the same time; or, in other words, the train would be propelled 150 miles in one hour, and convey thrice the number of passengers the Great Western can in one train. Of course the wheels would run on the outside rails of the double gauge, and so render trains unable to pass each other. As each of these trains could convey between one and two thousand passengers, only one or two would be required to run each day: thus the small trains could run the short distances on the single gauge in the intervals, and the large trains could run the long distances, such as from Ostend to Vienna, or Constantinople, and from Constantinople to Basra; or even if the train did not stop till the whole distance from Ostend to Basra was accomplished, this line would pay better than any line in the world, as it would absorb all the passenger-traffic between England, Austria, Turkey, India, China, Australia, and the islands in the Pacific; and between America, Austria, Turkey, India, China, and Australia, as well as give an impetus to this traffic. As to the cost of constructing the line, it is useless for me to speculate on that point, as some sections would cost a considerable deal more than others; but as the greater part of it would pass through a comparatively flat country, the expense would not be so overwhelming as might be at first supposed, and certainly is not to be compared with the dearly-bought English railways. T. J. Smith.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

The second meeting of the members of this society was held on Wednesday night, the 20th instant, Mr. H. P. Horner, president of the society, took the chair. Mr. Stubbs acted as secretary. Mr. Picton congratulated the society on the testimony borne by the visitors recently in Liverpool to the architectural and sanitary state of the town. It was satisfactory to the society, who had something to do with the architecture of the town, to know that they were looked upon favourably by such men. He urged this in justification of his observations on a lecture recently delivered at the Collegiate Institute, by Professor Blackie, upon the subject of "Beauty and Taste." The professor had come to quite a different opinion in reference to our Liverpool architecture. The professor had passed a severe adverse criticism upon the external structure of St. George's Hall.* It was the first systematic attack he had ever heard on the external beauty of the hall; for, whatever internal faults it might have, the external elegance of the structure had never before been found fault with. He pronounced it one of the finest things in Great Britain; and he considered Professor Blackie was only ventilating his own ignorance and want of taste. Out of respect to the memory of a worthy man, he (Mr. Picton) thought it right to make these remarks on what he considered an unfair and unworthy attack.

A conversation took place in reference to a piece of boulder pavement, said to be Roman, found in an excavation near Garston. Mr. Chantrell, who had inspected the pavement, said he would give some information respecting it at the next meeting.

A paper was read, "On Bitumen and its Application to Building Purposes," by Mr. George Atkin; and some discussion followed on several points suggested by the paper.

* Professor Blackie is reported to have said, speaking of congruity as an essential of beauty, that many public buildings, by their transgressions of this rule, assisted to prove its universality. St. George's Hall, in that town, was the most incongruous building that he had ever seen. Its style united the parallelogram, or square box form, of the Greek temples, with the rounded ends of the early cathedral style, destroying the harmony of the whole. Its exterior was a confusion of pillary and plain surfaces, on which no fixed idea was expressed. If it had been surrounded with pillars it would not have had the undefined character; as, for instance, in the Parthenon, where you had pillars on every side, and could not escape from the idea thus irresistibly conveyed. The southern portico of St. George's Hall, as it appeared externally, was a complete abortion. The idea was undoubtedly borrowed from the Greek temples, in which a portico, surmounted by an entablature with inscriptions, and, it might be, a sculptured pediment, formed the chief entrance. But the south end of St. George's Hall was no entrance, for a plain stone terrace stopped the way, and if it were in its proper condition, the colonnade entrance in Lime-street was so grand and massive that it completely obscured the right entrance. It would never be perfect until the colonnade was knocked down and it had an entrance all round. The dead wall of the attic which surmounted the colonnade was also completely incongruous: in fact, an outrage upon the harmony of Greek architecture. It was like dressing a woman in flounces and furbelows below, and making her stiff and prim as a Quakeress above. The building wanted a man of taste to reduce it to one-half its size, and give it a character of compactness. It was the custom to praise it as the finest building of the kind in the country, nay, in the world; but there were many which could be named as far superior in architectural purity: as an instance, he might mention the Church of the Madeleine, at Paris.

BUILDING STONES IN LONDON.

THE HOUSES OF PARLIAMENT.

I was much interested to observe, on reading Mr. Papworth's communication a few weeks back, the variety of building stones, of late years, introduced in London, each appearing to possess every good quality but that of durability. The difficulty of selection still remains, and the unhappy attempts to arrest the crumbling of our new Houses of Parliament give little satisfaction. Great pains, we know, in this particular instance, were taken to find the most excellent material. Men of skill were appointed with the architect to select a proper stone, aided by those best qualified to analyse: every quarry and every building of note or antiquity was carefully examined; and in their valuable report they recommended, unhesitatingly, a stone from the neighbourhood of Bolsover Moor, in Nottinghamshire, instancing the perfect stonework of Southwell Minster as a proof of their correctness; and the ancient records of that chapter pointing to Mansfield as the source whence the stone was procured, quarries were immediately opened in that neighbourhood, that had been closed for centuries: as much stone was taken as built the river front of the new palace up to the top of the area windows, and the remaining upper part, to my wonderment, was built of stone obtained from Anston, in Yorkshire, a stone not even alluded to in that report. Concluding in my own mind the commissioners had made a mistake that the Mansfield stone was bad, I have with interest watched the result.

I find the upper stonework decaying rapidly; those beautiful carvings, by Thomas, almost obliterated; and I find the small portion in the lower part still as fresh as when put in: cemented also with lime prepared from fragments of the same, the whole is now as hard as the parent rock.

If the selection of a stone for building a national palace had been a mere matter of opinion, the subject might pass; but it was determined upon after actual experiment and careful analysis. The collection of so much practical and scientific evidence, as the report of the commissioners contained, should have made it a text-book for the profession. Will not the publication of this little fact tend to dissipate the want of reliance upon it by proving its correctness? and will it not even now enable the architect to use sculptured stones freely without the mortification of resigning his scarce completed work to the hands of a Soluble Glass Company, and their all preserving paint-brush?

VERITAS.

PROPOSED NEW ASSIZE COURTS FOR SALFORD, MANCHESTER.

Sir,—The very fair view you always take of matters relating to the competition question, and the able manner in which you have at all times held up the professors of our craft as members of a profession, which ought to be regarded by magistrates and boards of guardians as an honourable and liberal one, induce me to write you as to the proceedings at the Salford sessions, held to determine as to the site of the proposed new Assize Courts for this district, when some of the bench expressed their views relative to architectural competition—maintaining that it was unnecessary to employ the author of the selected design. I believe this mistaken idea emanates rather from want of information than from any disposition to depreciate the body of architects; but such an impression ought, if possible, to be removed.

Surely the magistrates, in inviting plans, ought unquestionably to offer the commission to the man who shall produce the best plan, unless he can be shown to be in some respect incompetent or objectionable, and no body of gentlemen ought to expect a profession of educated and cultivated men to respond to an invitation holding out a mere premium as an inducement, when the value of every design submitted can hardly be less than 100*l.* if it be at all worth the consideration of the bench.

I have been induced to draw your attention to this before the conditions of the competition are determined, as a few lines in your widely-read journal might very likely have the effect of changing the aspect of the instructions when officially published.

LOOKER-ON.

Presentation to an Engineer.—Mr. John Hocking, jun. of Redruth, Cornwall, had presented to him a silver cup and salver, at Wombridge Colliery, near Wellington, in Salop, on the completion of a contract there, by Messrs. Hocking and Loam, for the erection of a pumping engine.

CLERKS OF WORKS AND ARCHITECTS.

Sir,—Much is said in your Journal about the proceedings of architects and others connected with the building craft; but there is one subject you do not appear to discuss, that is, the relation of architect and clerk of works, one to the other.

Some three or four weeks ago the Burial Board of the borough of Wakefield advertised for a "Clerk of Works" to superintend the erection of new cemetery chapels about to be built there; and it was to be expected they really did want such a man. But what was my surprise in reading the report of the proceedings to see that they and their advisers were content to accept the "spare time" of the person who professes to be clerk of the works at the parish church restorations now in progress in that town. Now (with all deference to our London architects and the church restoration committee), if I had that important work in hand (where some thousands of pounds are being spent on one of the finest parish churches in the kingdom) I should consider nothing less than the constant hourly attendance of the "clerk of works" his first and greatest duty, be his abilities ever so great. The system of one man attempting to effectually superintend the detail construction of two or more buildings a distance apart is against all sound doctrine, and it is surprising to see it supported by those from whom the country expects the greatest artistic skill and durability of construction.

Architects who have reputation to gain would do well to see to their own interests in these matters, for it is on *them alone* the blame falls if, after they have, in blind confidence, certified the works to be "completed to their satisfaction," some fault reveals itself which no superficial observer can detect at the time work is newly finished and cleaned down. The instance quoted is only one amongst others I have noticed in the West Riding of Yorkshire, and I am surprised to see it repeated. I do not know what service the second architect and committee can expect from a man who has already engaged faithfully to serve another. It is nothing more than a name, and I call upon all who would uphold the integrity of our art to aid in repressing such a system.

A Yorkshire Subscriber.

Correspondence.

THE OLD GRIEVANCE.

Sir,—The incompetency of those who arrogate to themselves the task of selecting for their betters what their betters are too modest or too apathetic to select for themselves, is one of the most crying grievances that our profession is subject to.

Of what earthly use are the architect's expenditure of unstinted time, ample talent, indomitable energy, and hard-earned money in the preparation of elaborate designs for a public building; fulfilling all stipulations, providing all requirements, and, in short, answering all reasonable expectations in those who issue the invitation to competition, when his just claims may in a moment be superseded through the ignorance and obstinacy of a talking member of committee, whose absurd opinions upon matters of taste are as likely to be followed and adopted by his more modest coadjutors, as his schemes of petty parochial management or measures of parish finance?

How easily are the uninitiated led by the nose in matters of art and taste, and what mischief and misery are caused to the unhappy artist by such deviation from "the path of *virtu!*"

Only fancy the mental anguish of young Inigo, who has had but three hours' sleep each night for the last six weeks, and has produced really a capital Italian design for a new vestry-hall, and who, anxious to elicit the "sense" of his judges, has placed himself within listening-distance of his pet plans, at hearing his fate sealed by the verdict of Mr. Solder, the plumber,—that "that *Greek* design should be put out of sight at once!" Or of young Wykeham, who has concentrated his hopes and ability in the production of a handsome domestic Continental Gothic design, with a well-digested plan, on receiving his *quietus* in the sentence pronounced by Mr. Last, the shoemaker,—that his design is "*too much like a church*, and that, in his opinion, such things should be wiped out altogether"! Or, finally, imagine the general dismay of all the architectural aspirants present at seeing Mr. Prune, the grocer—the great talking man of the vestry—walk up to No. — (by Messrs. Canvas and Push), a bald and bare likeness of an old-fashioned chapel-of-ease, of the "hole-in-the-wall" style, and hearing him acquaint Mr. Diaper, the draper, that "*that* is in his opinion the design best adapted to the wants of the vestry, *having no gingerbread about it!!*" Only imagine, I say, what disgust such ill-advised opinions must occasion, not only amongst the more immediate sufferers by the injustice, but also amongst that large and enlightened portion of the public who not only show good sense in forming judgment upon works of art, but better still, in keeping such opinions to themselves, and leaving choice and selection to those who alone are competent to the task.

No! So long as committees persist in doing for themselves what should be done for them by an unbiassed professional tribunal, so long will opportunity be thrown away, art frustrated, and architectural jobbery perpetuated.

Observer.

Books Received.

A Guide to the Cathedrals of England and Wales; their History, Architecture, Traditions, &c. By Mackenzie Walcott, M.A. London: E. Stanford, 6, Charing-cross. 1858.

The diffuse and wordy descriptions, and minuteness of detail, which abound in local guides and hand-books, have induced Mr. Walcott to prepare a more terse and condensed guide to all our cathedrals, in one small volume, suitable for the pocket or the hand. Those objects only which are considered to be most worthy of observation are described, and the whole appears to form a clear and faithful companion, based on trustworthy and recent authorities. It might have been a little fuller with advantage.

Our cathedrals are not valued and visited as they ought to be; and it not unfrequently happens that even lovers of art who are versant with the treasures of architecture, sculpture, and other art works abroad, are by no means familiar with the architectural treasures of their native land. It is seldom so with foreign visitors in England: they bring along with them a knowledge of what has been done in their own countries, and are hence better able to appreciate the respective merits and demerits of both, by mutual comparison.

There is no sublimer work of man upon the face of the earth than a grand cathedral. One of the very purposes of its construction was to excite a feeling of awe akin to devotion, and preparative to its deeper and more essential purposes. Our readers, like those of Mr. Walcott, will readily recall the well-known lines of Milton on surveying a cathedral; or the fine expression of Coleridge, so full of a deep, and philosophical as well as religious meaning:—"I am filled with devotion and awe: I am lost to the actualities that surround me; and my whole being swells into the infinite: earth and air—nature and art, all swell up into eternity; and the only sensible impression left me is,—I am nothing."

In Mr. Walcott's little volume, small as the scope is for any display of feeling or of admiration, and strictly and remorselessly as he keeps his mere skeleton purpose in view, it is easy to see how full he is of his subject, and how capable of enlarging on it. The nature of his moderated aspirations towards the physical glorification and perfectment of our cathedrals may be gathered from the following remarks, made while describing Rochester Cathedral:—

> "While we rejoice in our simpler worship—
> In beauty of holiness with ordered pomp,
> Decent and unreproved—

we cannot be insensible to the loss which has accrued to the effect of the vast interiors of our cathedrals, by the removal of altars, and hangings, and lights. There is a coldness too perceptible in the grand naves, which can only be taken away by supplying the windows with stained glass, peeling off the disfigurement of whitewash, and still better, by the use of them for special services and frequent sermons. We have happily been ridden of the tinsel and glitter, and having no lamps or burning of incense, which render the churches of the Continent warm and pleasant, we must thus, by constant acts of adoration, throw life and vigour into the buildings which are our precious inheritance. The tesselated colours on the floor, the frescoes blazoned on the roof, the variegated marbles, and gilding on the wall, the chequered mosaic, the blaze of bright stained glass in the storied windows, now happily introduced gradually into our churches, will be an appreciable increase of beauty, while they will not diminish the intrinsic majesty, nor be out of harmony with the character of our daily services, to which music, in its highest form, lends grandeur and sublimity. We shall only feebly represent the divinely-ordered worship and architecture of the Tabernacle and the Temple.

> When we enter the nave of Rochester, remarkable for its severe character, how the words of the poet rise upon our memory!—
>
> 'All is hush'd and still as death. 'Tis dreadful!
> How reverend is the face of this tall pile,
> Whose ancient pillars rear their marble heads
> To bear aloft its arch'd and ponderous roof,
> By its own weight made steadfast and immoveable,
> Looking tranquillity! It strikes an awe
> And terror on my aching sight: the tombs
> And monumental caves of death look cold,
> And strike a chilliness to my trembling heart.'"

Mr. Walcott gives an interesting account of the ancient coronation-chair in Westminster Abbey, which we may quote, as a specimen of his more descriptive and matter-of-fact style, rather than from any special novelty in so ancient a subject :—

The ancient coronation chair, 6 feet 9½ inches high, 2 feet 2 inches broad, was constructed of some hard wood by Walter the painter, for Edward I. in 1300. The back is pedimented and crocketed : four lions crouch at the base : birds and shields, foliage and birds, once rendered it worthy of its destination—to hold the slab, or Jacob's Pillow. This relic, the Innisfail, or stone of fortune, is of rough reddish-grey sandstone, 26 inches long, 16 wide, 11 deep, fixed by iron bars to the chair. Simon Brek, grandson of Cecrops, says the legend, brought it from Compostella to Ireland : from Tara, in the reign of Fergus, it was removed to Scotland : on the morrow of St. Botolph, 1297, the monks sang Te Deum here, for it was then laid by Edward at the shrine of St. Edward. When King James I. took his seat on it as King of Great Britain, the good wives of Scotland declared the prophecy fulfilled, that where the chair of Scone was, there should the Scots bear rule. The second coronation chair was set up by William and Mary. We almost hear Sir Roger de Coverley seated on the witching-stone, and demanding the authority for stating that the patriarch Jacob was ever in the land of cakes, disconcerted when he had to pay his forfeit, and then smiling at the recollection of incorrigible Will Wimble coaxing a tobacco-stopper out of one of the chairs, and whispering his suspicions in the ear of the spectator ; or Goldsmith's citizen moodily retiring with the growl that could he see one of the old kings seated in the chair, or Jacob's head laid on the marble, there might be something curious in the sight."

The Law relating to the Public Health and Local Government, in relation to Sanitary and other Matters. By William Cunningham Glen, of the Middle Temple, Barrister-at-Law, and of the Poor-Law Board. London: Butterworth.

Nothing is more characteristic of our social progress than the attention which has been directed of late years to sanitary enactments. It is now universally recognised, both in theory and practice, that moral and physical degradation are ever coincident and coextensive, and that the general happiness and advancement of the community are in proportion with the possession by each individual of the *mens sana in corpore sano*, which are mutually dependent one on the other. These ideas first assumed a definite and tangible form in this country in 1847, when Her Most Gracious Majesty was pleased to appoint commissioners, who, in her name, recommended certain measures of sanitary reform to the earnest attention of the Legislature. These measures became established as law by "The Public Health Act, 1848," which has since received further modifications and extension by "The Local Government Act, 1858." The importance of these Acts to the architect, the surveyor, engineer, and builder, is evident on their slightest perusal. Some knowledge on the subject is evidently necessary to the various branches of the architectural profession, and the profession will, therefore, be ready to welcome a work which will, in a convenient and accessible form, furnish a lucid and informing guide and commentary to the statutes in question. Such a desideratum is adequately met in the work under notice. Mr. Glen is already well known as the editor of many similar works. The objects of the volume cannot be better illustrated than by a brief quotation :—"The sanitary condition of the people is a subject which all must look upon as of the first importance to the well-being of the nation ; for it is certain that there can be no more efficacious means of stopping the progress of epidemic, endemic, and contagious diseases, than by attending to the drainage and sanitary condition of towns. * * * This work aims to furnish to those engaged in the administration of the law, and in the advancement of sanitary reform, a practically useful treatise of the laws relating to public health and local self-government, as they exist on the statute-book, and as they are expounded by the courts of law."

The work is divided into three parts. The first part treats of the formation of the districts of the local boards of health, their constitution, election, and general powers. The second part treats of the powers of these boards as to sanitary matters and local self-government. This part is, perhaps, the most interesting to architects and surveyors. It includes chapters on "House Drainage, Sewerage, and Purification ;" "Paving, Lighting, and Improving Streets ;" "Highways ;" "Regulation of new Buildings ;" "Public Baths and Washhouses ;" "Common Lodging-houses ;" "Establishment of Markets ;" and "Slaughter-houses." The third part treats of the powers of the boards as to rating, raising money on mortgage of the rates, purchase of lands, audits of accounts, contracts, arbitrations, legal proceedings, and bye-laws. All these subjects are treated with conciseness and perspicuity. The law affecting each of them is clearly defined and laid down, and they are illustrated by very numerous and recent decisions.

The work concludes with the statutes of 1848 and 1858, and the incorporated Acts, and is, moreover, furnished with a very complete table of the cases referred to in the body of the volume. It will serve as a rule to the builder or contractor, to keep him within the limits of the law ; and, armed with this little talisman, the surveyors who may be appointed under the Act will be enabled to visit their districts thoroughly prepared to establish their directions or to support their objections. And literally having the law at "the fingers' ends," they may effectually terminate all controversy by appealing to this volume.

Our attention to this work has been in some measure bespoken, by the fact that it is inscribed by its author to "Thos. L. Donaldson, Ph. D. Dean and Professor of Architecture, University College, London, and for ten years chairman of the late Court of Sewers for the City of Westminster and part of the County of Middlesex."

The Master-builder's Plan ; or, the Principles of Organic Architecture, as indicated in the Typical Forms of Animals. By George Ogilvie, M.D. Lecturer at the Aberdeen University. London : Longman and Co. 1858.

The object of this volume is to give, in a popular form, the views now generally held by philosophical naturalists in regard to a common plan of construction, traceable in each of the primary divisions of the animal kingdom. Obviously the organic creation is constructed upon a great systematic plan : it is not to be compared to an overgrown village, in which the houses—commodious and well constructed as they may be, each in itself—are scattered about without any order, every man having built as was good in his own eyes : it answers rather to our notion of a well-planned town, with the houses in regular streets, in each of which a certain uniformity prevails, while the streets themselves are arranged in that particular order which to the founder of the City seemed the most appropriate.

"In the art of architecture," remarks the author, "even as applied to individual buildings, one might trace many parallels to the typical forms existing in nature. For just as we distinguish various styles of *Musonic* architecture,—Egyptian, Greek, Gothic, &c. ; so, in the construction of animals, we have what we may term different styles of *Organic* architecture—vertebrate, articulate, molluscan, and so forth. And, to continue the parallel, just as the Greek style appears in several modified forms, Doric, Ionic, Corinthian, &c. ; and the Gothic in such as Norman, Pointed, and Perpendicular ; so we have the Annelidan, Insect, Crustacean, and other modifications of the articulate type, and in the case of the vertebrate, those characteristic of the four classes contained in that division of the animal kingdom. In both cases, too, we find that any particular style may be employed in constructions for very different purposes, without losing its own proper character. Thus we may have churches and halls, castles and private houses, in any of these styles of architecture, somewhat as we have seen the Mammalian type adapted to the flying bat, and to the fish-like whale, as well as to ordinary land animals."

"The Master-builder's Plan" is very attractively sketched in this instructive little volume, which is also enlivened by some illustrative engravings.

VARIORUM.

The new number of the *Quarterly* opens with an interesting article on Fresco Painting and Fresco Painters, *apropos* of the works of the Arundel Society, wherein the writer very justly denounces the treatment which noble works of art have received in Italy :—

"Talk of London smoke! why, Italian neglect, indifference, and ignorance have done more to deprive the world of some of its noblest and most precious monuments of art than could be accomplished by the atmospheres of ten Londons! The able and careful editors of the last edition of 'Vasari's Lives' have indicated in foot-notes the fate of the works mentioned by the biographer as existing in his day. The extent to which the work of devastation has been carried is amazing. Half, if not more than half, of the great frescoes of the fourteenth and fifteenth centuries are hopelessly and curtly described as 'sono periti,' 'appena rimane qualche vestigio,' 'dato di bianco,' 'la chiesa fu disfatta.'"

Coming down to the present time, the writer shows—what our readers have not now to learn for the first time—that the frescoes in the Houses of Parliament are, for the most part, failures :—

"A foolish notion seems to have spread amongst our painters that it is unworthy of their position to be subservient to the architect. They forget that this subservience is so far absolutely necessary when the two arts are combined that the work of the one must harmonize with that of the other. It was by constantly keeping this principle in view that the great painters of the Middle Ages—themselves frequently no less distinguished as architects—carried out their grandest and most effective conceptions. We have shown how it was their purpose to blend into one complete and harmonious whole, painting and architecture, colour and carved ornament. Nor have those artists who have hitherto been employed in the Houses of Parliament, with one exception, understood and applied the peculiar properties and quality of fresco."

The exception is Mr. Watts ; and surprise is expressed that "no important part of the decoration of the New Houses of Parliament should have been confided to a man of such remarkable powers and so eminently qualified for the task." Praise is given to him for the decoration he is executing at one end of the new Hall of Lincoln's-inn :—

"The artist has selected for his subject an ideal representation of the great lawgivers of the world, collected together in one grand and solemn company, as best befitting the place, and as an introduction to a series of frescoes illustrative of the principal events in the history of English law. In his composition he has followed, to a certain extent, the mode of treatment chosen by Raphael for his 'School of Athens,' adapting its arrangement to the Gothic form of the building. Beneath these allegorical statues of Religion, Justice, and Mercy, are assembled on spacious steps those who, from the earliest times and in all lands, have given laws to mankind ;—noble figures ! each by individuality of expression and action and by appropriate costume typifying his race and country."

——The *Edinburgh*, in an article on "Binocular Vision," treats at some length of the stereoscope, its varieties and possible adaptations, and gives to Professor Wheatstone the honour not merely of having originated the idea on which every form of the stereoscope is based, but of having developed all its most important applications.

Miscellanea.

Preparing and Indurating Plaster.—Mr. Mariano Casentini, Westminster-bridge-road, in preparing plaster, takes of muriatic acid half a pint, American potash, 1 lb. and mixes with eleven pails of water. This solution he mixes with the plaster, and applies and moulds it in the ordinary way. Sometimes he mixes 1 lb. of glue with the plaster for every six pails of water used.

The London Mechanics' Institution.—This parent institution of its kind has, for thirty-five years, afforded instruction, in various branches of science, art, and literature, to more than 700 students annually. Much greater results might have been attained had it not been for the heavy expenses to which the institution is subject, and of which the principal is the rent of its buildings (229*l.* per annum). The lease is of long duration, and it empowers the institution to purchase the reversionary interest and extinguish the annual rent for 3,500*l.* To this end it is proposed to raise at least 1,500*l.* by public subscription, and it is believed that of the remaining sum required a sufficient amount can be borrowed on the security of the property to be purchased, and on favourable terms. The fact of the London Mechanics' Institution having been the first of the kind established in England, and the parent of more than 600 similar institutions now in existence, gives it a peculiar claim on the liberality of the friends of education. Donations are received by Messrs. Hanburys and Co. 60, Lombard-street ; and Messrs. Ransom, Bouverie, and Co. 1, Pall-mall East. Lord Murray has subscribed 100*l.* ; and, in all, the subscription hopefully opens with various contributions, ranging from 30*l.* down to half a guinea, the whole amounting to about 400*l.*

The New Temperance Hall at Birmingham.—This new edifice has just been opened. It consists mainly, says the *Journal*, of the large room to be used as a meeting-hall, arranged not only for transactions of the temperance society, but available for public meetings, concerts, &c. The external elevation to Temperance-street is arranged in two stories, with five openings to each story, the central one of the lower openings forming the principal entrance, and the windows on either side giving light to staircases, lobbies, &c. The upper story (divided from the lower one by a cornice) consists of five semicircular windows, with pilasters, having enriched capitals, architraves, and key-stones, with swags of fruit and flowers. The elevation is completed by an entablature enriched with dentils, and modillions, and a balustrade. This elevation is worked in white brick, Bath stone, and Portland cement, and is 50 feet high and 50 feet wide. The interior consists of a hall 70 feet long and 48 feet wide, and secondary ones at the back, with lobbies, staircases, &c. Galleries are provided on three sides, and platform on the fourth, which is available as an orchestra. In the rear of the platform are committee and retiring rooms, &c. Underneath the hall is an extensive basement suitable for a warehouse. Inside, the hall (which is left for future decoration) is divided by a series of pilasters into bays, with a covered ceiling, and is lighted by panels in the centre of the ceiling and the upper range of windows to Temple-street. The cost was 2,000*l.* Mr. H. R. Y. Thomason was architect ; Mr. J. Browning, the builder ; and the warming apparatus was provided by Messrs. Mitton and Co.

Royal Institute of British Architects.—The first ordinary general meeting of the session will be held on Monday evening next, the 1st of November, in the old rooms at Grosvenor-street, when the following paper will be read:—"Observations on the recent Discoveries of the Remains of the Mausoleum at Halicarnassus," by W. Tite, fellow, M.P. We may mention that the office of librarian is vacant, and that the council are seeking a competent person to fill it.

American Institute of Architects.—At a meeting on September 7, after the reading of several interesting communications from foreign members, the librarian reported the receipt of numerous works on Art, presented to the Institute. The general business of the evening being attended to, upon suggestion from the chair, a debate ensued concerning the restoration of the City Hall, wherein was shown the desirableness of making the support to domes apparent *externally*; in other words, that the substructure of domes should form a marked feature in the façade, the absence of which is too often to be regretted.

Shoreditch Survey.—Immediately before the sitting of the Court of Quarter Session at Westminster on Saturday last, the Eastern Counties Railway Company abandoned their appeal, and paid upon Mr. Paine's valuation of the terminus works and station in Shoreditch, namely, 4,250*l.* the former valuation being 2,650*l.* On the previous survey of the entire parish of Bethnal-green, the valuation of the goods station, granary, and lines of railway was also determined after appeal on Mr. Paine's valuation. Bethnal-green contains about 15,000 distinct properties; Shoreditch, nearly 19,000.

Moulded Brick.—The advertisement from the Aylesford Pottery Company, which appeared in a recent number, affords so full an answer to inquiries often made of us in respect of splay bricks, tile cores, and moulded copings of the same material, that we think it desirable to direct attention to it, and recommend its preservation. The cornice tubes and other tiles for projections will be found very useful and satisfactory.

A Material for Road-making. — A new system of road-making has just been substituted for the ordinary roadway on a part of the Place du Palais Royal, at Paris. A quantity of concrete, about 5 inches in thickness, is first spread out, and on that is applied a layer of bitumen reduced to powder, and in a boiling state. On this latter, which is also about 5 inches in thickness, a quantity of river sand is sifted, and then the surface is pressed down by a heavy cast-iron roller, weighing about 2 tons. In a few hours after the road thus made may be passed over by the heaviest waggons without the slightest impression being left by the wheels. The same system is now being applied to part of the Rue St. Honore, comprised between the Palais Royal and the Rue de Richelieu, and in the latter street as far as the end of the Théâtre Français.

The Value of the Alhambra Palace.—Recently an adjourned special sessions was held at the Vestry-room to determine the appeal of Mr. E. T. Smith against the rating of the Alhambra Palace, Leicester-square, by the parish officers of St. Martin's-in-the-Fields. Mr. Holl, as counsel for the appellant, stated that the property was rated at 1,890*l.*, and Mr. Smith appealed against this rating on the ground of its being excessive. The property was purchased for the sum of 9,000*l.* and the rent, taken at six per cent. on this amount, would be 540*l.*: the ground-rent was 910*l.*, making together 1,450*l.* as the gross annual value. From this amount is to be deducted 220*l.* paid for insurance, and 50*l.* for repairs, making the net annual value of 1,180*l.* Mr. Chinnock, auctioneer, stated in evidence that he valued the property in 1856, for the council of the Royal Panopticon Society, and estimated it to be of the value of 11,000*l.* He offered the property for sale at the Auction Mart, and Mr. Smith bought it at the reserve price of 11,000*l.*; but the property was in Chancery, and difficulties arose on the part of Mr. Smith as to the completion of the purchase; and, considering the difficulty of finding a purchaser for such a property, and the liability of the frightful ground-rent, he advised that the sum of 9,000*l.* be accepted for the property, which was accordingly done. The fixtures included in the purchase were of the value of between 4,000*l.* and 5,000*l.*, and of these about 1,000*l.*, being useless to Mr. Smith, were sold. The ground-rent was 910*l.* and the property was insured for sums amounting to 25,000*l.* at 18s. per 100*l.* for premium and duty. In his opinion the annual value was 1,160*l.* Mr. Dangerfield, the vestry clerk of St. Martin's, supported the rating of the parish officers. The rating was reduced to 1,550*l.*

The Cathedral at Florence.— Endeavours are being made to raise money by subscription to complete the west end of the cathedral at Florence, in accordance with the designs of Arnolfo da Lapo and Giotto.

Glasgow Architectural Society. — On Monday night, this society, which already numbers about 100 members, held their first meeting of the first session, in the Scottish Exhibition Rooms, Bath-street; Sheriff Strathern in the chair. The learned sheriff delivered an inaugural address. Mr. Thomas Gildard subsequently read a paper on "Some of the Causes which affect architectural Design."

Ventilation and Healing. — Dr. Bouisson, Professor of Clinical Surgery at Montpellier, has addressed to the Academy of Sciences a paper in which he recommends ventilation as a speedy and effectual means of healing sores and ulcers. This may serve as a further enforcement of the necessity of attention to our observations on the arrangement of hospitals.

A Well at Romford.—A well has been sunk at Romford for a brewing firm. The excavation is 80 feet deep and 50 feet over. Upwards of 100,000 bricks were used in its formation, and its cost is said considerably to exceed 500*l.* Nearly all the wells in the town are suffering from a deficient supply of water, in consequence, it is alleged, of this new brewery well.

An American Steam Excavator. — In completing the embankment on the Cleveland and Erie-road, at Girard, a steam excavator is now in operation. One locomotive and a number of cars are required to each excavator. Temporary ways are laid from the embankment to the excavators, with a siding and switch near the latter, so that the empty cars can be run up to the machine for the load, when they are turned out to the main line, and instantly another car is run up to the excavator, loaded, and sent down the line to the locomotive. The time required to run up the car, load it, and send it down the main line does not exceed twenty seconds, and it is said that four cars per minute are loaded. The depth to which the machine cuts is about 12 feet.

Lecture on Architecture at Birmingham. —Mr. J. H. Chamberlain, the recently-appointed Professor of Architecture of Queen's College, delivered the opening lecture of his course on the 21st inst., in the College theatre, in the presence of a large and influential audience. The lecturer addressed himself mainly to the subject of the office and duties of architecture, and the necessity of their being more generally understood. Tracing the progress of building from the earliest times, he showed how, at last, by cultivating science and the beautiful, it was elevated to the dignity of architecture. He defined the duty of the architect to be, to design not merely beautiful, but commodious and healthy habitations, and to provide for their proper combination into streets and cities. We had now no really national architecture. Architecture did not take its place as the most prominent of the arts; but this state of things he hoped would not be allowed to continue. Mr. Chamberlain enforced on the historical student and the public generally the necessity of the study of architecture.

Gas.—The Wisbech gas consumers being dissatisfied with the gas contractor who supplies the town, have had a public meeting and resolved to form a new company, of limited liability, under which they hope to be able to give a better supply at a considerably reduced price. Mr. Malam, the contractor, by his agents, has announced a reduction in price from 5s. 10d. to 5s. commencing on the 15th of December. The new gas company, however, we hear, have agreed with almost all the existing gas consumers (who have signed an undertaking to take gas of the company for seven years) at 4s. 6d. per 1,000; and the company further undertake, after dividing 8 per cent. amongst the shareholders, to distribute the surplus profits as a bonus to the gas consumers. The new company will make the trade in fittings entirely free. There is said to be no reason to believe that any reduction of price on the part of Mr. Malam will induce the promoters of the gas company to relax their efforts.——The Evesham Gas Company have resolved to reduce the price of their gas to 7s. 6d.——A gas company is being formed for the purpose of lighting the increasing town of Codnor.——There being an escape of gas in the "Beethoven Concert Room," in Harley-street, Cavendish-square, a gas-fitter stupidly inserted a light under the boarding of the floor above, and an explosion took place, blowing down the ceiling of the concert room and smashing the chandelier, besides injuring other rooms.

An India-rubber Hotel.—A curious "Yankee notion" has recently been imported to this side of the Atlantic. It promises to settle the long controversy of hotel discomfort, by—carrying your hotel with you. The *hôtel à la tortoise* contains three rooms—parlour, bedroom, and kitchen. The utensils for cooking, &c. are separately boxed. It is warranted weatherproof, and arrangeable in ten minutes.

The Local Board of Worthing and their Surveyor.—A committee having reported to the Local Board at Worthing on some alleged acts of insubordination and disrespect on the part of their surveyor, Mr. S. E. Hyde, and recommended his dismissal; and a letter having been read from Mr. Hyde on the subject; it was resolved, by a majority of four out of seven, that the surveyor be retained.

Architectural Photographic Association. —The committee of this association state, in a circular, that they have made arrangements by which the second exhibition of photographs will be opened at the Gallery of the Old Water-colour Society, in December next, at which subscribers can choose without restriction the prints which they may wish to possess, and that to enable subscribers in the country to make their selections, illustrated catalogues of the subjects will be given to the local honorary secretaries. It appears that in addition to photographs from almost all the former contributors, and from other artists, the whole architectural collection of Macpherson, of Rome, and Cimetta, of Venice, will be exhibited. The committee expect that both an earlier distribution of the subjects selected and greater certainty in the printing will be ensured.

Electro-telegraphic Progress.—A project for overland telegraphic intercourse between London and New York is said to be progressing. It is to be so organised that the sanction of the Governments of England, the United States, and Russia, will alone be necessary. The lines now in use as far as Moscow will be used, thence wires will be established direct to Behring's Straits, with repeating stations at proper distances. The entire length of the telegraphic line will be about 8,000 miles, and it is estimated that communication will be made between the termini in four hours and a half—that is, between New York and London. From Behring's Straits it is to proceed from island to island to Vancouver's Island and San Francisco. The entire marine distance will be under 2,000 miles, and no length of submarine wire will exceed 500 miles.——The French engineers, it seems, positively declare that "no telegraphic communication whatever has ever taken place between Valentia and Newfoundland." "The French engineers," however, are by no means so sceptical as our own Lieut. Higginson, who declares that the line never was laid.——It is understood that Government are seriously entertaining the question of laying a cable from our shore to Gibraltar in one stretch, a distance of 1,000 nautical miles, and thence to Malta, there to join the existing Malta Corfu line.——Ceylon is now joined to India by a submarine cable, and before the end of 1859 the gap between Corfu and India will probably be supplied by electric cable, so that London and Peshawur will be within speaking distance.

A Gas-meter for St. Paul's.—A great meter has just been fixed in St. Paul's Cathedral, in order to register the gas supplied for the illumination of the dome area from above during the evening services, after the 17th of November next. The meter will, it is estimated, pass 6,000 cubic feet of gas per hour, and it is nearly 20 feet in circumference. The corona of the dome is already fitted with pipes, having several thousand projecting nipples from which jets of flame will issue, these being the same as were originally laid round the plinth of the Whispering Gallery for the Duke of Wellington's funeral.

Birkenhead Docks. — Sir: I beg to correct the inference to be drawn from a statement which has been going the round of the papers, that Mr. Wm. McCormick had succeeded in taking the contract of the Birkenhead Docks, which would amount to one-and-a-half million of money. The contract taken by Mr. McCormick is only for the excavations, at a schedule price of 1s. per cubic yard, which will in all probability be under 200,000*l.* The whole of the extensive masonry-work is carried on under the superintendence of Mr. John B. Hartley, C.E. by day-work, and the men are paid by the Mersey Harbour Board. The contract for the excavations for deepening the great float was completed last May, by Messrs. G. Thomson and Co. with great credit, and three months before their specified time.

W. B.

BUILDERS' BENEVOLENT INSTITUTION.—The dinner in aid of this institution took place, as announced, at the London Tavern, on Thursday last, and passed off very satisfactorily. We shall give a report of the proceedings in our next.

RENEWAL UNDER BISHOPS' LEASES.—It may be useful to note the fact, that on the 27th of last month a case was heard before the Sheriff of Middlesex, at his Court in Red Lion-square, in which the question of tenant's right of renewal under Bishops' Leases came in question. The case was that of White against the Hampstead Railway Company. Valuable evidence was given. Mr. Tite and others were examined. The question involved, though often discussed, is not yet actually decided.

SUCCESSFUL WORKING OF THE BESSEMER PROCESS OF STEEL MANUFACTURE.—From a letter in the *Daily News*, written by a Swedish ironmaster, Mr. G. F. Goransson, it appears that the Bessemer process of converting molten pig iron into steel without additional fuel, and in a few minutes, by the infusion of an air blast, has, after various costly failures, been successfully put into practice on the great scale in Sweden, and precisely as Mr. Bessemer proposed or instructed. Mr. Goransson, when the news "spread like a huge wave over the whole Continent of Europe," hurried over to England, witnessed Mr. Bessemer's experimental exhibition at Baxter House, and on his return home immediately set to work, and allowed no failure to daunt him till the process became familiarized to his workmen and himself; and "so completely have we accomplished this object," says he, "that we now make several hundred large ingots of cast steel in succession without a single mishap or failure of any kind. The steel can be made either hard, medium, or soft, at pleasure. It draws under the hammer perfectly sound and free from cracks, flaws, or faults of any kind, and has the property of welding in a most remarkable degree. Steel so made has now been manufactured into cutlery of the first quality, and into every variety of tools for the engineer, as well as for boiler plates of large dimensions. Our firm has now entirely given up the manufacture of bar iron, which it had carried on for so many years, and our blast furnaces and tilt mills are now wholly employed in making steel by the Bessemer process, which may, therefore, be now considered an accomplished commercial fact, which can no longer admit of question on theoretical grounds; and it is both with pride and pleasure that I find that our firm in Sweden has been the first to have carried out Mr. Bessemer's invention to its fullest extent, by producing ingots of cast steel of most excellent quality from the molten crude iron, within ten minutes of its leaving the blast furnace, wholly without manipulation or the use of fuel, and also without ever having had recourse to any one of the numerous plans that have been patented by others, under the idea of improving Mr. Bessemer's most simple and effective process. The loss of weight, including the carbon and other impurities given off, varies from 12 to 15 per cent. or about one half of the waste incurred in the old system of making bar iron in Sweden." By its means he can "produce annually more than 1,000 tons of so valuable an article as cast steel with the same quantity of fuel only as is now consumed in the production of 500 tons of bar iron by the process now in general use."

TENDERS.

For schools at Southall, for the parish of Marylebone:—

Denton	£10,795	0	0
Higgs	10,500	0	0
Rawlance	10,482	0	0
Wood	10,339	0	0
Mathews	10,287	0	0
Nye	10,226	0	0
Roper	10,100	0	0
Ebles and Son	9,975	0	0
Adamson	9,893	0	0
Walker and Neeve	9,884	0	0
Longmire and Burge	9,800	0	0
Hill	9,721	0	0
Hack and Son	9,650	0	0
Stuff and Co.	9,489	0	0
Rowe	9,436	0	0
Stevenson	9,323	0	0
Bowley	9,150	0	0
Mc Lennan and Bird	9,120	0	0
Rudkin	9,100	0	0
Dove	8,897	0	0
Sherren	8,859	0	0
Parkiss (accepted)	8,691	0	0

For alterations and additions to the Castle Tavern, corner of Gresham-street and King-street, for Mr. John Crawford. Messrs. Tillott and Chamberlain, architects. Quantities not supplied:—

Hawtrey and Son	£951	10	0
Wells	933	0	0
Brass	808	0	0
Brown and Co.	786	0	0
Day	783	0	0
Lawrence and Sons (accepted)	769	0	0

For the erection of four warehouses at the west end of Cheapside, for Messrs. Faudel and Phillips. Messrs. Tillott and Chamberlain, architects.

Rider	£6,100	0	0
Holland and Co.	5,549	0	0
Brass and Son	5,437	0	0
Patrick and Son	5,345	0	0
Ashby and Sons	5,250	0	0
Holmes	5,210	0	0
Piper and Son	5,087	0	0
Myers	4,987	0	0
Nicholson and Son	4,940	0	0
Lawrence and Sons	4,940	0	0
Brown and Robinson	4,875	0	0
Jay (accepted)	4,686	0	0

For the erection of general market and shops, Aldershott. Mr. T. Goodchild, architect, Guildford:—

G. Myers	£2,417	0	0
Speakman and Haines	2,122	0	0
Galsworthy	2,012	0	0
Martin	1,700	0	0

For alterations, 2, Queen-street, Mayfair, for Mr. John Heath. Mr. George Morgan, architect —

Piper and Son	£1,430	0	0
R. Lawrence	1,395	0	0
Dove, Brothers	1,375	0	0
Jackson and Shaw	1,279	0	0
I'Anson	1,244	0	0
Macey	1,185	0	0
Stevenson	1,150	0	0

For a detached house on the Conservative Land Society's Estate, Ealing, for Mr. Fielding. Mr. George Morgan, architect —

Harding (New-cross)	£698	0	0
Brunsden (Brentford)	570	0	0
Pool (Hounslow)	563	0	0
Wakelin (Ealing)	537	0	0
Grover (Ealing)	518	0	0
Gray	495	0	0
Mildwater	477	0	0
Easton (Hounslow)	470	0	0
Nye (Ealing)	429	0	0
Hancock (Ealing)	415	0	0
Kent (Bermondsey)	410	0	0
Walker	389	0	0
Bray	370	0	0
Webb (Stratford)	328	0	0

For a cottage at New Malden, Surrey, for Mr. C. Buckler. Mr. W. P. Griffith, architect:—

Fowler (London)	£290	0	0
Gilbert (Malden)	265	0	0
Patman (Kingston)	247	0	0

For alterations and painting at the offices of the East London Union, No. 1, Devonshire-square. Mr. H. Jarvis, architect —

Heath	£280	0	0
Pickering and Co.	279	0	0
Ashby and Sons	261	0	0
Ashby and Horner	250	0	0
Nind	238	11	0
King	230	10	0
Heeps (accepted)	222	10	0

TO CORRESPONDENTS.

R H C. E H—W O M. J W (let us know the date) H and P.—E. R. R.—J. P. G. M—M. J—J. H.—W. B.—Genl. P—R J L.—J T T G R P—A H B (Perhaps we may reply—W P (we have already expressed our opinion on this question.

"BOOKS AND ARTICLES."—We are forced to decline pointing out books or finding addresses.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c. should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

Post-office Orders and Remittances should be made payable to Mr. Morris R. Coleman.

ADVERTISEMENTS.

TO ARCHITECTS, ENGINEERS, COUNTY, BOROUGH, and DISTRICT SURVEYORS.—MR. L. FLOWER, C.E. and Architect, transacts TOWN AGENCIES as to Assistants, and undertakes PROFESSIONAL and general Surveys, Sections, &c. Maps, Plans, Drawings and Tracings. Perspectives drawn or tinted, &c. by the first artists only.—26, Charles street, St. James-square, London, S.W.

RADNORSHIRE TURNPIKE ROADS. SURVEYOR WANTED. The Radnorshire County Road Board will, at an adjourned Meeting to be held at Presteigne, on SATURDAY the 14th day of NOVEMBER next, at ELEVEN o'clock, proceed to the ELECTION of a SURVEYOR of the Turnpike Roads of the County. Candidates for the Office are requested to send testimonials of their qualification to the Clerk of the Board on or before the 8th of NOVEMBER. The salary will be £60 per annum, and the person appointed will be required to devote his whole time to the duties of the office. Responsible sureties in the sum of £600 will be required. Due notice will be given to those candidates who will be required personally to attend.

WM. STEPHENS, Presteigne,
October 21st, 1858. Clerk to the Board.

SURVEYING DEPARTMENT of the CONSERVATIVE LAND SOCIETY.—Applications for the SURVEYING DEPARTMENT, accompanied with Testimonials, must be addressed to the Directors' Committee, under cover to the Secretary, CHARLES LEWIS GRUNEISEN, Esq. 33, Norfolk-street, Strand, W.C. on or before MONDAY, the 15th of NOVEMBER.

A MASTER BUILDER is in want of an ENGAGEMENT. He is possessed with a thorough practical and extensive knowledge of the business, and can give first class references.—Address, AVON, Post-office, Oxford.

WANTED, a DRAWING CLERK, in a Decorator's Office, who understands Gothic Detail. He would be required to do bookkeeping, as well as assist in making designs.—Address, stating age and salary required, to H. W. Office of "The Builder."

WANTED, a sober, steady PERSON, accustomed to WORK MILL-SAWS viz. circular saws, rack and pinion, hoisting machinery. He must be competent to grind, hammer, sharpen saws, and rack the saws, and direct the management of the machinery and the mill generally.—Address, C. D. Post-office, Lisson-grove, Carpenters-walks, entry-gates.

TO BUILDERS, &c.

WANTED, by a Young Man, who is practically acquainted with bricklaying, and who has a thorough knowledge of drainage works, a SITUATION as FOREMAN. Good testimonials and references.—Address, X. Z. Crawford Arms, Baker-street, Clerkenwell

TO ARCHITECTS, SURVEYORS, &c.

WANTED, by the Advertiser, a RE-ENGAGEMENT. Has been seven years in the profession. Salary no small object as employment.—Address, X X Office of "The Builder."

TO BRICKMAKERS FOREMEN.

WANTED, a FOREMAN, with a thorough practical knowledge of BRICKMAKING and all its branches, to undertake the management of a Brickfield in the South of Europe. Apply by letter, stating full particulars, to C. P. 39, Doughty-street, London, W.C.

WANTED, a respectable stout LAD, 14 years of age, as IN DOOR APPRENTICE to the business of TURNER IN GENERAL, and where all description of builders' turning is done. He will have full employment, and work under the care of the master. Premium required. Mr. PROCKTER, 19, Deanstreet, Westminster, near the Abbey.

WANTED, a good PAINTER, GLAZIER, and PAPER-HANGER. A steady hand may hear of a good situation by sending full particulars, by letter only, addressed to M. B. care of B. Rowell, esq. 18, Lincoln's-inn fields.

TO BUILDERS' FOREMEN

WANTED, an experienced Man, to SUPERINTEND the ERECTION of a BUILDING in London; he must have a general knowledge of the several trades.—Address, O. F. Office of "The Builder."

WANTED, in the Office of an Architect and Surveyor in the country, a young gentleman as junior ASSISTANT or IMPROVER. He must be competent to make a fair drawing and assist in the usual routine of a country practice. As it is necessary he should board and lodge in the house, no salary will be given.—Address W. W. 2, Millman-street, Bedford-row, W.C.

WANTED, in a small Mechanical Workshop, a Person to TAKE CHARGE of the STORE ROOM, issue materials, keep time, keeping their tools in order, and make himself generally useful.—Apply by letter only, stating age, previous occupation, and salary expected.—Address, S. and M. Office of "The Builder."

TO SAW-SHARPENERS

WANTED, to work, in the Brighton Saw-Mills, a respectable MAN, who thoroughly understands his business, and can sharpen upright or circular saws and take charge of a bandsaw frame.—Apply to J. IRELAND, builder, Ewhurst-street, Brighton, stating age and terms

WANTED, a young or middle-aged MAN, as STOREKEEPER and YARD FOREMAN, and to Superintend the converting of Timber, &c. A first-rate character is indispensable.—Apply to M. Q. Office of "The Builder," stating age, where last in, leaving, and wages required.

WANTED, in a Builder's Office, a CLERK, well acquainted with builders' day-books and accounts.—Apply by paid letter, to H. B. at Mr. Falkner's, 69, St. Martin's-le-Grand.

TO CROWN AND SHEET GLASS-CUTTERS.

WANTED, a thoroughly practical GLASS-CUTTER, in a large West-end Warehouse. Applicants must state where last employed, age, and wages required.—Address, M M. care of Mr. H. D'Alcorn, 18, Rathbone-place, W.

TO CIVIL ENGINEERS, &c

WANTED, a SITUATION, by a well-educated and respectable young Man, who has served a pupilship of four years with a Civil Engineer, and since had an engagement with an Architect. Salary no object. Good references and testimonials.—Address, C. E. 8, Stockbridge-terrace, Pimlico, S.W.

TO BUILDERS.

WANTED, a SITUATION as FOREMAN or TIMEKEEPER to the above. Could make up spare time at the bench. Wages not so much an object as a permanence for twelve months.—Address, J. C. care of Mr. Weeks, 5, White's-row, Chapel-terrace, Islington.

WANTED to APPRENTICE a Youth to the CARPENTERING. Moderate premium.—Apply to J. L. 2, Wilmot's Walk road, Hackney

WANTED, by a steady married Man, aged 25, a constant SITUATION as a good BENCH HAND. No objection to jobbing, either in town or country.—Address, R. A. Z. Office of "The Builder."

WANTED, by a Young Man of good character, a SITUATION as STOREKEEPER or TIMEKEEPER, or both if required, in an Engineer's or other Factory. Has had four years' experience as above.—Address, M. B. at Farrett's Library, 14, Pulteney-row-road, Lambeth, S.

TO BUILDERS AND OTHERS.

WANTED, by an experienced, steady Man, aged 41, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN, or CLERK of WORKS. Well acquainted with all the trades in building. Good reference.—Address, A. Y. 15, Brunswick place, City-road, London.

WANTED, by an experienced CLERK of WORKS, a RE-ENGAGEMENT, having just completed extensive works, with the highest reference from late employer.—Address (post-paid), A. B. C. Office of "The Builder."

TO ENGINEERS, CONTRACTORS, AND OTHERS

WANTED, by an experienced SUB-CONTRACTOR, the SUPERINTENDING or otherwise of IRON BRIDGES, TANKS, ROOFS, and BUILDINGS of every description.—References to any amount.—Address, A. B. 5, Vincent-street, Lincoln's-inn, London.

WANTED, by a practical and confidential MILLWRIGHT, a SITUATION. Understands all sorts of machinery, mill work, sluices, and foundations, and will be found useful to any employer.—Address, T. W. 42, Coldbath-square, Clerkenwell, London.

TO BUILDERS AND OTHERS

WANTED, a SITUATION, by a middle-aged Man, as CHALK LIME FOREMAN, or to Superintend Work on a Gentleman's Estate. He has been engaged under some large and well-known firms for several years, and can produce the highest references for character and ability.—Address, X. X. X. Nos. 8, Luard street, Caledonian-road, N.

TO BUILDERS.

WANTED, by the Advertiser, a SITUATION as CLERK, &c. Has a practical knowledge of building, a good draughtsman, acquainted with accounts and the usual routine of office duties. References can be had to gentlemen for whom he has acted.—Address E. W. Mr. Bringloe, Surgeon, Cold Harbour-lane, Camberwell, S.

WANTED, a SITUATION, by a practical and experienced FOREMAN of MASONS, well acquainted with Gothic work. Has held engagements under London architects and builders. Good references. No objection to the country.—Address, H.D. Mr Wallace, 42, Warwick-street, Pimlico, W.

WANTED, by the Advertiser, who is thoroughly acquainted with the routine of the building business, a SITUATION as CLERK or MANAGER in a Builder's office—salary a secondary consideration. Satisfactory references. Security given, if required.—Address, M. 1, Wilton-street, New North Road, N.

TO BUILDERS, PLUMBERS, &c.

WANTED, EMPLOYMENT by a thorough practical Plumber, where a steady, experienced man is required. No objection to glazing or gas fitting. Five years' references.—Address T. M 24, Brompton-square.

TO RAILWAY COMPANIES, ENGINEERS, CONTRACTORS, AND OTHERS.

WANTED, by a respectable Person, who has been employed on, and had sixteen years' experience in the Construction and Working of Railways under eminent contractors, a SITUATION as STOREKEEPER, MANAGER, or any similar employment. Most satisfactory testimonials and reference as to ability and character can be given, and security, if required.—Direction to go abroad.—Address, W. M. Mr. Osborn's, 20, Green-street, Cambridge-road, London.

TO BUILDERS.

WANTED, by a young Man, a SITUATION in a Builder's Office. He understands drawing, is competent to keep accounts, and has a practical knowledge of the business. For particulars, apply to G. G. Mr B. Gillett's, Builder, Crewkerne, Somerset.

TO MASONS.

WANTED, by a young married Man, a SITUATION as STONEMASON and LETTER-CUTTER.—Apply to A. T. Post-office, Basingstoke.

WANTED, by a young Man, 23 years of age, a SITUATION as CLERK and TIMEKEEPER, and to make himself generally useful.—Apply to H. F. Post-office, Kingsbridge, Devonshire.

WANTED, by a Young Gentleman, an ENGAGEMENT, in an ARCHITECT'S OFFICE, as DRAUGHTSMAN, COPYIST, &c.—Address, by letter, to J. S. 2, Southampton court, Russell-square, W.C.

TO BUILDERS.

WANTED, by a Young Man, an ENGAGEMENT as CLERK. Can make working drawings, and to cast quantities. Unexceptionable references.—Address, B. B. B. Rodney-street, Pentonville, N.

TO ARCHITECTS AND BUILDERS.

THE Advertiser, an experienced Person in preparing working and detail drawings, estimating, measuring and writing out specifications, accounts, &c. is desirous for a RE-ENGAGEMENT. References first-class.—Address, J. W. Post-office, Upper Baker street, N.W.

TO ARCHITECTS.

THE Advertiser, who has served his articles, wishes for an ENGAGEMENT in an ARCHITECT'S OFFICE. Small salary required.—Address, B. F. 6, Victoria-place, Canterbury.

TO GENTLEMEN, BRICKMAKERS, &c.

THE Advertiser wishes to ENGAGE by CONTRACT, the entire MANAGEMENT of a BRICK, TILE, and PIPE YARD. Unexceptionable reference can be given as to character and ability.—Address, W. B. Post office, Debenham, Suffolk.

TO ARCHITECTS AND BUILDERS.

THE Advertiser, who has had many years' experience in some of the best London offices, is desirous of meeting with a Gentleman who may require the services of an efficient and confidential ASSISTANT; he is a clever draughtsman and pictorial, practically acquainted with construction, measuring up, estimating, and taking off quantities. References and testimonials of the highest character. Terms moderate.—Apply, A. B. Mr. Wilson's, 3, Lisson-grove North, New-road.

TO BUILDERS AND OTHERS.

THE Advertiser, of considerable experience in builders' accounts, desires an ENGAGEMENT as CLERK, or to take CHARGE of a BUSINESS, in the absence of the principal. No objection to the country. Good references.—Address, G. J. B. Mr. Hall's, Office of "The Builder."

TEMPORARY ASSISTANCE.—A Young Architect, who is accustomed to prepare perspective, finished, working, and detail drawings, specifications, take out quantities, measure artificers' work, &c. is desirous of rendering TEMPORARY ASSISTANCE to ARCHITECTS, either at their own Offices or his own.—Address, R. B. 43, Southampton-row, Russell-square, W.C.

TO SURVEYORS, CONTRACTORS, AND BUILDERS.

THE Advertiser is desirous of meeting with an active PARTNER, who has business connection among surveyors, contractors, and builders, to join him in an old established business, most conveniently situate on the River Thames (city side). For further particulars apply, Mr. PULLEIN (Messrs. Harding and Pullein), 4, Lothbury.

TIMEKEEPER WANTED, in an ENGINEER'S WORKS. No reply will be noticed unless the applicant has filled a similar situation. Address, stating salary, &c. to A. Z. Office of "The Builder."

THE Advertiser, a person of considerable experience, having two or three days a week disengaged, wishes to note his desire to MEASURING, TAKING OUT QUANTITIES, or ESTIMATING. Terms very moderate.—Apply, G. R. Mr. Davis, 2, George street, Wyndham-road, Camberwell.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser, who has been ten years in the profession, is a good draughtsman and colourist, and thoroughly understands detail and constructions, is desirous of an ENGAGEMENT—Address, H. H. News-rooms, 66, Cheapside.

TO STONE AND MARBLE MASONS.

EMPLOYMENT WANTED, by a Young Man. Is a good stone or marble mason, and letter cutter. Testimonials given, if required.—Address, G. H. 1, Orange-street, Kennington.

TO CARPENTERS AND JOINERS.

RESPECTABLE Young Man, aged 18 (a good draughtsman), wishes to gain a practical knowledge of measuring and Joining, and would be willing to ARTICLE himself for two years to any respectable tradesman, to whom he would also be willing to make himself generally useful.—Address, B. Q. Mr. Tapping, News Agent, Compton-street, E.C.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT, who has lately been in an eminent office in London, and has been accustomed to the preparation of drawings, both in the Classic and Gothic styles, is desirous of a RE-ENGAGEMENT.—Address O. W. Willey's Royal News Office, Birmingham.

TO FOREMEN OF PAINTERS.

A FEW POUNDS will be given to any one procuring for the Advertiser, a respectable young man, CONSTANT EMPLOYMENT. Two years' reference to present employer.—Address, M X W Office of "The Builder."

TO BUILDERS, SURVEYORS, &c.

A YOUNG MAN, aged 22, wishes to obtain a SITUATION as ASSISTANT, or CLERK, in a builder's, or surveyor's, or valuer and agent's office. Has had draughtsman and surveyor. Address, A B Post office, Spalding, Lincolnshire.

TO MASTER PLASTERERS.

AN active and intelligent Young Man, having had great experience, a wish for an ENGAGEMENT. Can with confidence undertake to execute any kind of work in the plastering business.—Direct W. T. G. Office of "The Builder."

TO LAND SURVEYORS, ESTATE AGENTS, &c.

A YOUNG MAN, of considerable experience, and competent to undertake any of the duties of the above professions, is desirous of obtaining a RE-ENGAGEMENT as an ASSISTANT. Unexceptionable references.—Apply, S. care of Mr. W. Shapcott, Melksham, Wiltshire.

AS FOREMAN of SMITHS.—The Advertiser, who has for several years been engaged in the above capacity, with one of the largest builders in London, where, in addition to smith's work, the engineering, as respects the machinery, &c. was executed on the premises, and under his direction, is desirous of meeting with a RE-ENGAGEMENT. The highest reference as to ability, sobriety, &c.—Direct to B. W. care of Mr. Smith, 11, Russell-court, Drury-lane.

TO ARCHITECTS, LAND AGENTS, AND SURVEYORS.

A GOOD DRAUGHTSMAN and COLOURIST is desirous of obtaining an ENGAGEMENT. Can survey with or without the theodolite level, and make working, finished, and perspective drawings, also highly finished maps of estates, &c. Age, 23 years.—Address, A. B. Post-office, Old Charlton, Blackheath.

A YOUNG ARCHITECT and SURVEYOR OFFERS his SERVICES to the PROFESSION, in preparing drawings, &c. at their offices or at his own chambers. A temporary engagement in the country would not be objected to. Remuneration moderate. References unexceptionable.—Address, ARCHITECT, City News rooms, Cheapside, E.C.

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECT'S ASSISTANT, of ten years' varied experience in the profession, desires a RE-ENGAGEMENT, in town or country. Is accustomed to prepare specifications, perspective, finished, working, and fo sized drawings, and is fully acquainted with land surveying. Terms moderate.—Address, WM. B STEWART, 10, Baker street, Portman square, London, W.

AN ASSISTANT ARCHITECT is desirous of obtaining an ENGAGEMENT in London; he has a perfect knowledge of the details of the various styles, is a ready designer and neat draughtsman (geometrical or perspective), has been accustomed to arrange constructive detail, and is competent to write specifications, take out quantities, survey, and level.—Address, D. P. R Messrs. Davies and Co. Advertising Agents, Finch-lane, London.

TO ARCHITECTS

A GENTLEMAN, of twenty years' experience in all branches of the profession, a draughtsman, surveyor, measurer, &c. fully competent to manage a practice, wants an ENGAGEMENT. Terms moderate.—Address, M. B. 4, Hornton-street, Kensington.

TO ARCHITECTS.

AN efficient DRAUGHTSMAN, experienced in perspective, mediæval and classical design and detail, and in general work, will be glad to be at liberty to accept a RE-ENGAGEMENT, temporary or otherwise, in town or country. Is fami iar with the tasteful execution of competition and exhibition drawings.—Address, L. L. L. 12, Queen's-terrace, Queen's-road, Bayswater, London, W.

TO ARCHITECTS.

A GENTLEMAN, who has had twelve years' experience, wishes to ENTER as ARCHITECT'S OFFICE, as CHIEF CLERK, with the view of becoming a partner. Testimonials and references, if required.—Address, G. J. 29, Regent-street, S.W.

TO ARCHITECTS, BUILDERS, &c.

AN ASSISTANT is open to an ENGAGEMENT. Is a good draughtsman, can make sections, finished and working drawings, perspectives, &c. Has a correct knowledge of taking out quantities. Salary moderate.—Address, M. A. Mr. Smedley's, Bookseller, Sleaford.

TO TIMBER MERCHANTS.

A YOUNG MAN, aged 25, requires a SITUATION as ASSISTANT SALESMAN. First class testimonials.—Address, M. S. 61, Old Broad-street, E.C.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, and SOCKET-RINGS, for Hot Water Pipes. Vulcanized Rubber Door-springs, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT Second Testimonial.—"March 19th, 1858.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES, 18, WHARF ROAD, CITY-ROAD, LONDON.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

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JOINERY of EVERY DESCRIPTION.

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SHOP-FRONTS, SASHES AND FRAMES, DOORS, &c.

Of well-seasoned materials and superior workmanship, supplied at the lowest possible prices, by

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Late Shop-foreman to Messrs. Lawrence and Sons.

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JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

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TO BE SOLD, the FITTINGS of a GINSHOP, nearly new, consisting of a neat circular mahogany counter, with black tin, drip pan &c. fitted, four brass tap cocks, with pipes, unions, taps, &c. to ditto; also two modern mahogany cabinets to match.—a neat, compact lot.—For price and particulars, apply to Mr JAMES PURDY, Builder, Railway-road, Lynn, Norfolk.

FOR SALE, ONE-PAIR 13-inch FOLDING SASH-DOORS, 7 feet 11¼ inches by 2 feet 9½ inches wide, glazed, with plate glass, 348 inches by 224 inches, with patent floor springs. Apply at 230, Upper-street, Islington.

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SASHES AND FRAMES, DOORS, MOULDINGS, SHOP FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERS' WORK, ON THE SHORTEST NOTICE AND AT THE LOWEST PRICES.

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JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London.

When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

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Staircases, Shop-fronts, Fittings, &c. of well seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp.—Workshops, 3, Commercial-road, Lambeth.

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TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL,

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SUPPLIES COCOA-NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c.

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PRIZE MEDAL LONDON EXHIBITION, 1851.

FIRST-CLASS SILVER MEDAL PARIS EXHIBITION, 1855.

GRAINING by KERSHAW and BELLAMY'S PATENT To House Painters, Decorators, Builders, Railway Companies, Merchants, Shippers, &c. Messrs. KERSHAW and BELLAMY having for several years devoted much time and capital in perfecting and rendering practical a Patented Apparatus for the Imitation of the various descriptions of Woods, are now ready to supply the trade with the tools whereby the Imitation of woods of the most choice and elaborate description are produced on painted wood-work, deal, or other surfaces. The above Patent Graining Tools are supplied Wholesale and Retail, direct from the Manufactory, 33, HIGH STREET, MARYLEBONE, LONDON, where they have opened a show-room, with specimens of Graining in imitation of woods by the patent process, for public inspection. Prospectuses forwarded upon receipt of stamped directed envelope.

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COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 7d.; Turpentine, 3s. 4d.; Boiled Oil, 2s. 10d.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Copal, 14s. per gallon. Dry and Ground Colours, Brushes, &c. &c. for Cash.

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IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.;

Linseed Oil, 2s. 6d per gallon; Boiled Oil, 2s. 10d. per gallon;

Turpentine, 3s. 3d. per gallon;

Fine Pale Oak Varnish, 7s. 6d. per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, 45, Colshill-street, Pimlico.

Every article for the Trade at the lowest price.

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GREENSLADE'S PATENT GROUND-PAINT, DUSTING, and VARNISH BRUSHES, are highly recommended, combining many important improvements, both in usefulness and durability. GREENSLADE'S Painters' Brushes of all descriptions are made in two qualities—good, and superlatively good. The latter are of the very best materials, and worthy of the attention of those who desire a really good Brush.—Manufacturers, E. A. and W. GREENSLADE, Thomas-street, Bristol.

VARNISHES, COLOURS, and PAINTS. WILKINSON, HEYWOODS, and CLARK, Manufacturers, Battle-bridge, London, N.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather. Price 6s per gallon. Varnishes for W. NAYLOR'S Stains may be had at the Factory, 4a, James street, Oxford-street, also Manufacturer of Improved Knotting and Decorative Varnishes.

FLOORING.

	Spruce.	Yellow.	White.	
¾ inch	11s. 6d.	13s. 6d.	12s. 6d.	per square
¾ ,,	13s. 0d.	14s. 6d.	13s. 6d.	,,
1 ,,	15s. 0d.	16s. 6d.	15s. 6d.	,,
1¼ ,,	19s. 6d.	21s. 6d.	18s. 0d.	,,

DELIVERED FREE WITHIN THREE MILES.

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PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	1	1¼	
Spruce	12s.	12s.	15s.	per square
White	12s. 9d.	13s 6d.	15s. 6d	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	,,

Delivered within three miles free of charge.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany

¾ inch Prepared Flooring, 11s. 6d. per square.
1-in. ditto, 13s. per square.
Yellow Battens, 11f. 10s. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Pine Planks (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each
Mahogany Slabs, Planks, Flank and Board, from 6d. per foot.
Berthage, road, Southwark and Elm street, Gray's-inn-lane.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned and ready for use. Also Mahogany, Moulding, Walnscot, and all kinds of Timber required for Building Purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton road, Pimlico.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0	11	6 per square.
¾-inch Prepared Flooring	0	13	0 per square.
1inch Prepared Flooring	0	15	0 per square.
Good Yellow Deals	0	3	3 each.
Spruce Deals	0	3	0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0	3	6 each.
Yellow Battens	11	10	0 per 120.

Mahogany, planks and boards, from 6d. per foot.

All sawn goods delivered within three miles free of cartage.

ALFRED CARTER, Old Bethnal-green-road, N.E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 2s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5d.; ¾-inch White Battens, 9d. 10s.; Yellow, 11f. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 3d. Cartage free to any part of town.

T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

A CORN TIMBER WHARF and SAW-MILLS,

CANAL BRIDGE, OLD KENT-ROAD, LONDON.

A Monthly Price Current forwarded on application.

RICHARD MAY, Proprietor.

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BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above-mentioned Premises, where, in conjunction with his other established Yards in Great Peter street, Westminster, and Endell street, Long acre, he is always ready to supply from a large and well-assorted Stock, Mahogany, Walnscot, Birch, Beech, Oak, Elm, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised house in London.

Mahogany, in log	from	9d.
,, ,, board	,,	6 6
Spruce Deals	,,	2 9
Pine Plank	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11

Prepared Flooring:—

White—¾ in. 12s.; 1 in. 13s. 6d. Yellow—1¼ in. 19s.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.

Books of Designs of Mouldings forwarded on application.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 206, TOOLEY STREET, of the South Eastern Railway Company, adjoining their Terminus, London-bridge, where, in connection with his established premises in King street, Borough, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S. Country orders executed with prompt attention, and all sawn goods (Balk Timbers excepted), delivered free of cartage within three miles.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.

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PADDINGTON STEAM SAWING, PLANING, and MOULDING MILLS.

MOULDINGS of any design manufactured of first quality yellow pine, thoroughly seasoned by Perkins's Patent Desiccating Process. A large Stock always on hand, as per Pattern list

FLOORING (dry); a large Stock, of various description.

MATCH BOARDING of any width.

Also,

Timber, Deals, and Mahogany, on either Wharf, or at the Docks.

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Orders from the country delivered to any of the Railways in London immediately, if accompanied with remittance or Town reference

SOLID PARQUET FLOORS.

ARROWSMITH'S PATENTED,

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Supplied in any quantity fresh from the Mill, of a quality for which these works have been celebrated for upwards of thirty years.

PATENT PORTLAND CEMENT,

proved by eminent engineers to be the strongest and most uniform in colour of any manufactured

PLASTER OF PARIS

of very superior quality, fresh from the ovens, daily

GREY and CHALK LIME, by the yard or barge. Shipping orders executed upon liberal terms

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GENUINE BLUE LIAS LIME, fresh up from the kilns in Warwickshire daily, at the same price as Grey Lime at Paddington Station

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Messrs. ROBINS and CO.

TO WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to

SUPPLY ANY QUANTITY OF THE VERY BEST PORTLAND

Manufactured by them for all the purposes to which Cement is applicable.

Orders received at Great Scotland-yard, and at the Works.

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BLUE LIAS LIME WHARF, HERTFORD ROAD, Kingsland.

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This Cement is highly recommended for Internal or External Plastering, Brickwork, &c

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STAFFORDSHIRE ORNAMENTAL PAVEMENTS, in RED, BLUE, and BUFF; also GARDEN EDGINGS
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KNIGHT, BEVAN, and SturgE,

Manufacturers only of first class quality, for the home and foreign trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise

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ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.

Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Chimney Pots, Trusses, Copings, &c.: Stone-ware Drain Pipes and Closet Pans

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COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from Wharfs.

SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door-Jambs, Coping Bricks, Stable Clinkers, &c.

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BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.

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BEART'S PERFORATED BRICKS.

STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles Plain, Flanged, Rolled-top, and Ornamental Grooved Ridging, &c. Broseley Tiles.

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FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any Pattern Brick, &c. made to order.

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SLATES, best quality from the Bangor Quarries.

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TILES, Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Goods always kept in Stock.

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BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.

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PLASTER of PARIS, fine and coarse, of best quality, at reduced prices.

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All kinds of Building Materials sent by Rail the same day as ordered.

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Tenders given for any quantity.

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Since Mr. GREAVES introduced this LIME into the London Market it has been so extensively used in all the principal public and other works wherever strong hydraulic lime has been required, that its quality is well known. By the arrangements now made Messrs GREAVES and KEESHAW will be enabled to deliver LIME direct fresh from their Works, at such a price as will ensure its being used in all works where quality is considered, it being the best and strongest LIME in the London Market

Works at Stockton near Rugby.
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PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one fourth of the usual time. A finer quality produces a beautiful hard Scagliola imitation of marble.—Manufacturers, FRANCIS BROTHERS, and POTT, Nine Elms, London.

WHITE and RED SUFFOLK FACING BRICKS,

by Messrs. Allen and Co. Bullingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS by Messrs. Caleb Hitch and Co. Ware, Herts

The YELLOW and PALE MALM CUTTERS and FACING BRICKS and the MALM and BRIGHT-COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex.

The EWELL deep BLACK RUBBING and BUILDING BRICKS, And the EWELL and CHALFONT dark and bright RED RUBBERS

COWLEY, KENT, AND ESSEX BRICKS, IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE.

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The usual commission allowed to merchants of the trade from the monthly price-lists.

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STAFFORDSHIRE PAVEMENTS and RIDGING.—Blue, Red, and Buff Terro-Metallic Paving Tiles various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles different pitch, and Grooved Ridging, with Crest Ornaments, in Green Blue, and Red, for the different periods. Vitrified Stable Paving Grooved, of various sizes. Blue Facing Bricks, &c.

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KEENE'S and PARIAN CEMENTS for internal uses. These well known hard Stucco as dry quickly and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-stree Westminster.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural Cements with the additional advantage that it greatly excels them in its cementitious properties; that it is not affected by frost, and does not deteriorate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institute of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who prepare one quality only of Portland Cement.

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FRANCIS & CO.'S

WOOD OR IRON REVOLVING SHUTTERS ARE EQUAL TO THOSE OF ANY OTHER MAKER, AND MUCH CHEAPER.

BRASS SASH-BARS, AND STALL-BOARD PLATES, AT A GREAT REDUCTION IN PRICE.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS POST-FREE ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN.

CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,

FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT,

BRASS-DRAWN SASH-BARS, BRASS NAME-PLATES, DOUBLE AND SINGLE ACTING SPRING HINGES, AND ALL METAL-WORK CONNECTED WITH BUILDINGS.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

CLARK AND CO. ENGINEERS, 15, GATE-STREET, LINCOLN'S-INN-FIELDS, LONDON.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

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PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE CUT-SCREW GEARING, 2s. 6D. PER FOOT,

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FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

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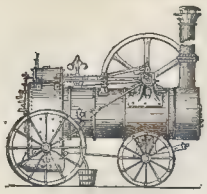

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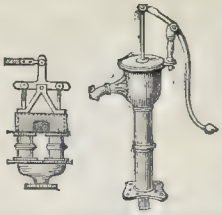

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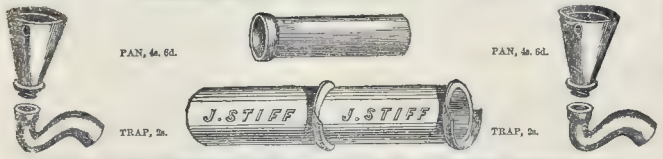

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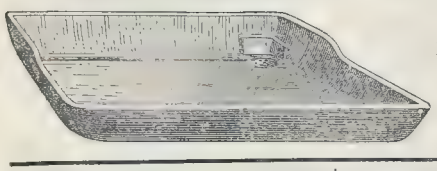

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P.S. Up any of the Canals on payment of Dues extra.

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In consequence of ARCHITECTS having of late years specified the YELLOW FACING BRICKS for their works, the accumulation of PALE SECONDS, MALM PICKINGS, &c. has become so very large, that Messrs EASTWOOD are now selling these Bricks, from different makers, at greatly reduced prices.
Messrs EASTWOOD are prepared to engage them in large quantities, at the present price of Bright Stocks
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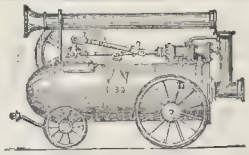

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Diameter of Barrel.	Length of Barrel	£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead, 1 10 0
2½ ,, long	3 ,,	gutta percha 1 14 0
3 ,, ditto	3 ,,	or cast iron 2 8 0
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4 ,, ditto	3 ,,	as required. 3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing		2 14 0
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The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant Houses, they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

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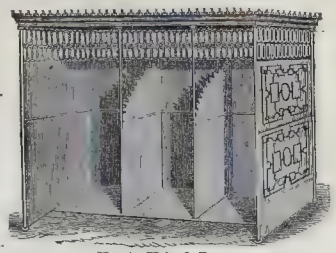

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W. N. solicits an inspection of his IMPROVED WHITE ENAMELLED STONEWARE CLOSET-PANS, being an entire new description of stoneware, perfectly vitrified and highly glazed, far surpassing anything of the kind yet offered to the public.
SAME PRICE AS BROWN STONEWARE—Closet and Trap, 6s. 6d.; Close 4s. 6d.; Trap, 2s.

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BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.
SALT-GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
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Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

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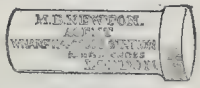
are the strongest in the London Market.



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A HANDSOME DISCOUNT IS GIVEN,

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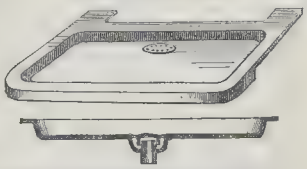
30-inch.	2 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s	9s. 3d	8s. 6d.	5s. 6d
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	12-inch.
5s.	4s. 3d.	3s.	2s per foot.

The thickness of each Pipe is commensurate with its diameter.
Connection can be made with the sewer at any time.
And the Pipes guaranteed to stand better than any Brickwork.

PATENT CAST-IRON SANITARY

KITCHEN SINK, WITH TRAP.



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48 in. long by 20 in. wide by 4½ in. deep,	12s. each.

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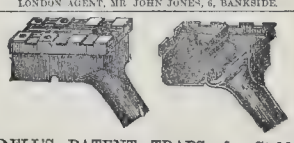

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Coach-houses, Garden-paths, Wards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

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HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 350 feet; their efficiency and durability is by experience established.

The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

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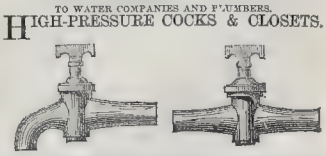
Brass and Iron Founders, Short street, New-cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

SALES BY AUCTION.

UNRESERVED SALE.—To TIMBER MERCHANTS, CABINET-MAKERS, BUILDERS, CARPENTERS, and OTHERS

MESSRS. H. FREEMAN and CO. will SELL by PUBLIC AUCTION, without reserve, on the PREMISES, No. 11, Back-hill, Hatton-garden, on WEDNESDAY, 3rd NOVEMBER, 1858, and following day, the upper and well-seasoned STOCK, of Mr. Charles Snewin, mahogany and timber merchant, consisting of Spanish and Honduras mahogany, in logs, planks, boards, and veneers; cedar, rosewood, and walnut wood, dry walnut, maple, oak, birch, ash, and beech, dry yellow pine, planks and boards, cut deals, Baltic staves, match and flooring boards, &c. pit and frame saws, trucks, and all kinds in trade, &c. To be viewed two days previous to, and on the mornings of sale. Catalogues to be had on the Premises, and at the Office of the Auctioneers, No. 3, Crooked-lane, Cannon street, City, E.C.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, NOVEMBER 17th, 1858, and following day, at ELEVEN o'clock each day, at SMITH'S WHARF, near Charlton Pier, Kent, in lots, by direct run of the Ravensbourne, the PLANT and MACHINERY of a CONTRACTOR, including one iron frame saw frame, nearly new, three circular saw benches one self-acting frame and circular saws, 10-horse power direct-acting steam-engine now in 1858 and Cornish boiler, in fast long, 3 feet 9 in. diameter, steam pumping engine and boiler, lift pump, an excellent screwing machine to screw up to 24 inches, two back-geared slide-lathes, 11 inch at rest, vices, bench etc., taps and dies, steel tools, 250 feet 3-quarter shafting, leather and gutta-percha bands, riggers, 10 ton over head travelling crane, 4 foot span, with timber framing, one new manual 10 purchase crab and barrow, for 6 cwt. head crane, six sash frames, three anvils, fan blasts, four pair smiths bellows, three 1 ton rail tools, five rails, sliding plate and pit, new pile engines with monkeys, five 3 inch screw jacks, 10 feet long, 3 feet iron in barrel

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 822. NOVEMBER 6, 1858. PRICE FOURPENCE. *Stamped, 5d.*

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ARCHITECTS' BENEVOLENT SOCIETY.

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The List of Subscribers and the Thirty-first Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq., St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 26, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

THE ARCHITECTURAL EXHIBITION

will NOT OPEN at SUFFOLK-STREET, in DECEMBER, as heretofore; but will in future take rank with other Fine Art Exhibitions in March, April, May, and June, at the New Galleries now erecting as part of the premises for the Architectural Societies, at No. 9, CONDUIT-STREET, REGENT-STREET. The committee will find room for Art manufactures to one extending the architectural exhibition, and the galleries, by their means, or through the Architectural Union Company, will probably be open three or four months of the year with an exhibition exclusively of MATERIALS, MANUFACTURES, PATENTS, and INVENTIONS connected with architectural Art or construction; arrangements for which will be made public as soon as they can be matured.

JAS. FERGUSSON, F.R.A.S. Langham-place,
JAS. EDMESTON, Hon. Sec. Architectural Union Company, Crown-court, Old Broad-street. } Hon. Secretaries.

LECTURES to WORKING MEN.

GOVERNMENT SCHOOL of MINES, Jermyn-street.—The first COURSE of SIX LECTURES on the objects of interest in the collection of FOSSILS in the Museum of Practical Geology, by THOMAS H. HUXLEY, F.R.S., Professor of Natural History, will be commenced on MONDAY EVENING, the 15th instant, at Eight o'clock. Tickets for the course may be obtained by working men only, upon payment of a registration fee of 6d. on and after Monday, the 8th instant, from Ten to Four o'clock. Each applicant is requested to bring his name, address, and occupation written on a piece of paper, for which the ticket will be exchanged.

TRENHAM REEKS, Registrar.

COMPETITIONS.

TO ARCHITECTS, BUILDERS, &c.—COMPETITION PLANS for the WAKEFIELD CHURCH INSTITUTION.—The Committee of the above Institution are desirous of obtaining DESIGNS for a BUILDING. The plans to be drawn to a scale of 8 feet to 1 inch. Each set of designs to comprise elevations, sections, and perspective view, with specification and estimate, and to be forwarded to the Rev. JAMES TAYLOR, Grammar School, Wakefield, free of expense (under motto only, accompanied by a sealed letter, containing the real name and address of the person forwarding the designs), on or before the 1st day of DECEMBER, 1858. A premium of 20*l.* will be given to the person whose design shall be approved by the committee as the best; and such designs shall be the property of the committee, who shall not be bound to employ the successful person as architect. The unsuccessful designs will be returned to the owners by the usual modes of conveyance, but the committee will not be responsible for their safe delivery, nor for any payment to the owners in respect of such plans. Tracings of the ground plot of the site, and instructions as to the requirements of the Institution, will be forwarded on receipt of 2*s.* 6*d.* in postage stamps, by the Rev. J. TAYLOR. JAMES TAYLOR, M.A. } Hon. Secs.
GEO. JAMES ATKINSON, }

COMPETITIONS.

WAKEFIELD CHURCH INSTITUTION.—Architects intending to compete for the above, may obtain PLANS of SITE and Particulars, by sending Twelve Postage Stamps to Messrs. SPON, Bookbinders, after NOVEMBER 12th. The time for sending in the Designs is extended to JANUARY 1st, 1859. The Charge made by the Committee is 2*s.* 6*d.*

NORWICH.—HEIGHAM NEW CHURCH.—To ARCHITECTS. Architects are invited to furnish DESIGNS, with ESTIMATES and SPECIFICATIONS for a CHURCH, to be erected in the parish of Heigham, near Norwich, to accommodate 960 adults and 360 children, without galleries. The cost not to exceed 1,500*l.* inclusive of the charge for architectural examination, clerk of the works, &c., a tower is not contemplated at present, but if any should appear in the design, a separate estimate to be given for it. No architect's name to be admitted. A plan of the site may be seen at the Office of "The Builder," and a tracing obtained by application to the Rev. C. C. HOSTE, Rector of Heigham, including 2*s.* 6*d.* in stamps. Plans to be drawn to a scale of 8 feet to the inch, and to comprise elevations, sections, and perspective view to be forwarded to the offices of Messrs. WINTER and SON, Solicitors, St. Giles-street, Norwich, on or before WEDNESDAY, the 5th day of JANUARY, 1859. A premium of 50*l.* will be given for the design chosen by the Committee, and the author of it may be engaged to carry out the work; the drawings, in that case, to become the property of the Committee. A premium of 15*l.* will be given for the next approved design.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that such BUILDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, on or before FRIDAY the 26th day of NOVEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT OFFICES, at the Western Heights, Dover. Drawings and a specification of the work to be executed may be seen, for perusal, at the Office of the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from FRIDAY, the 5th of NOVEMBER, to SATURDAY, the 27th NOVEMBER 1858, inclusive, Sundays excepted. The party whose Tender may be accepted for the works will be required to enter into a bond, with two sufficient sureties, jointly and severally to be bound under a penalty of 500*l.* for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War Office, Pall-mall, London, S.W., and endorsed, "Tender for Married Soldiers' Quarters at Dover."

N.B. The War Department reserve to themselves the right of rejecting any Tender.

Royal Engineer Office, Dover, October 20, 1858.

NOTICE to BUILDERS.—The Commanding Royal Engineer, Manchester District, hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, S.W., on TUESDAY, the 16th of NOVEMBER, 1858, from such persons as may be willing to TENDER for the ERECTION of MARRIED SOLDIERS' QUARTERS, OUT BUILDINGS, &c. at Sheffield Barracks. Plans, specifications, and forms of Contract may be seen, and every requisite information obtained, at the Office, on and after MONDAY next, the 1st of NOVEMBER, from TEN to FOUR each day (Sundays excepted), until SATURDAY, the 13th of NOVEMBER. Tenders to be endorsed "Tender for the Erection of Married Soldiers' Quarters, out buildings, &c. at Sheffield Barracks."

Royal Engineer Office, 1, Green-street, Dawson-street, Manchester, October 20, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-mall, London, on MONDAY, 15th NOVEMBER, 1858, for ERECTING a BUILDING, to contain cooking kitchen, reading room, and school rooms, at Cambridge Barracks, Portsmouth. Plans and specification may be seen, and every information obtained, in application at this Office.

Royal Engineer Office, Portsmouth, 26th October, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-Mall, London, on MONDAY, NOVEMBER 8, 1858, for CONSTRUCTING LATRINES and EXTENDING DRAINAGE at the Clarence and Colewort Barracks, Portsmouth. Plans and specifications may be seen, and every information obtained on application at this Office, from TEN till FOUR o'clock on week days, between the 25th of OCTOBER and the 7th NOVEMBER, 1858.

Royal Engineer Office, Portsmouth, 22nd October, 1858.

TO GAS-FITTERS, &c.—Notice is hereby given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on MONDAY, NOVEMBER 22, 1858, for PROVIDING GAS PIPES and FITTINGS in certain portions of the Barracks at Portsmouth.—Plans and specifications may be seen, and every information obtained, on application at this Office.

Royal Engineer Office, Portsmouth, November 3, 1858.

TO GAS FITTERS, &c.—Notice is hereby given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on MONDAY, the 22nd of NOVEMBER, 1858, for PROVIDING GAS PIPES and FITTINGS for the BARRACKS at WINCHESTER. Plans and specifications may be seen, and every information obtained, on application at this Office, between the 9th and 20th NOVEMBER, 1858.

Royal Engineer Office, Portsmouth, November 3, 1858.

CONTRACTS.

TO BUILDERS.—Notice is hereby given that TENDERS will be received at the Office of the Director-General of Contracts, War Department, Pall-mall, London, on MONDAY, 15th NOVEMBER, 1858, for REPAIRING the STONE BREAKWATER and WOOD PILING between the Spur Redoubt and the Sunk Pier Tower, at Portsmouth. Plans and specifications may be seen, and every information obtained, on application at this Office.

Royal Engineer Office, Portsmouth, 27th October, 1858.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE.—CONTRACT No. 4.—To ENGINEERS, CONTRACTORS, and OTHERS.—The Local Board of Health for the District of West Ham, in the county of Essex, hereby give Notice, that they are prepared to receive Tenders from parties willing to undertake the following-named contracts:

Contract No. 4. For the supply of contractor's steam engines, boilers, and pumps to lift 1,000,000 gallons of water 22 feet in height during eight working hours. Also, separate, boiler, and mortar-mill, with horse to grind mortar. Engine to be (say) 6 horse power. Also, a portable steam engine and pumps for contractor's trench work. Engine to be (say) 8 horse power, lift (say), 20 feet vertical.

Further particulars may be known on application at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster. Sealed Tenders, with a written description of the engines, boilers, pumps, &c., proposed to be supplied (which may be either new or second hand), stating also the proposed times of delivery, must be franked to my Office, Stratford-green, E. on or before MONDAY, the 8th day of NOVEMBER, 1858, endorsed, "Tender for Engines, &c. for Sewerage."

N.B. The Tenders may be for one engine, or for two, or for the whole.

WM. JAS. BARSHAM,
Solicitor and Clerk to the Local Board.

Stratford-green, 26th October, 1858.

TO BUILDERS.—The Guardians of the Strand Union will meet at 6, Bow-street, on TUESDAY, 9th NOVEMBER, at SIX p.m. to receive TENDERS for the CONSTRUCTION of NEW WATER-CLOSETS, at the Workhouse, Cleveland-street, St. Pancras, where the drawings and specifications may be seen, and where all particulars can be obtained between the hours of TEN and FOUR. Sealed Tenders, endorsed "Tender for Water closets," to be sent to me at 6, Bow-street, not later than FOUR p.m. on the day above named. By order,

JAMES KILNER, Clerk.

TO STONE-MASONS, PAVIORS, and OTHERS.—The Vestry of the Hamlet of Mile End Old Town will meet at the Town House, Mile End road, on WEDNESDAY, the 10th day of NOVEMBER next, at SEVEN p.m. precisely, to receive TENDERS for repairing certain streets or roads in the said hamlet, and will at that or a subsequent meeting, take the same into consideration. The works are to be done according to the terms of a specification, which may be seen at the Office of the Surveyor, at the Town-house, between the hours of TEN and ONE. The works to comprise 50,000 feet of pavement, more or less. The contractor will be required to enter into a contract, to be prepared by the Clerk to the Vestry, at the expense of the contractor, not to exceed 6*l.*, and to find two sureties in 300*l.* for the due performance thereof. Tenders containing the names and addresses of proposed sureties, are to be delivered at my office, before THREE o'clock of the afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Town-house, Mile-end road, October 28, 1858.

TO STONE MERCHANTS, CONTRACTORS, and OTHERS.—The Vestry of the Hamlet of Mile End Old Town will meet at the Town House, Mile End road, on WEDNESDAY, the 10th day of NOVEMBER next, at SEVEN p.m. precisely, to receive TENDERS for the SUPPLY of 300 Tons of BLUE GUERNSEY BROKEN GRANITE, according to the terms of a Specification, which may be seen at the office of the Surveyor, at the Town-house, between the hours of TEN and ONE. To be delivered, free of all charges, at Limehouse Gardner's Wharf, Regent's Canal, Mile End-road. The Contractor will be required to enter into a Contract, to be prepared by the Clerk to the Vestry, at the expense of the Contractor, not to exceed 6*l.*, and to find two sureties in half the amount of his Contract for the due performance thereof. Tenders containing the names and addresses of proposed Sureties, endorsed "Tender for Granite," are to be delivered at my Office, before THREE o'clock of the Afternoon of the day of meeting. The Vestry do not bind themselves to accept the lowest or any Tender.

THOMAS PRICE, Clerk to the Vestry.

Town-house, Mile End road, Oct 28, 1858.

TO BUILDERS.—Persons desirous of CONTRACTING for the ERECTION of a HOUSE and PREMISES, at Peterston super-Ely, near Cardiff, may see the Plans and specification at Mrs. MORGAN'S, New House, near Peterston. Tenders to be delivered to Mrs. MORGAN, on or before 12th NOVEMBER. The lowest Tender will not necessarily be accepted.

THE PUBLIC HEALTH ACT, 1848.—To CONTRACTORS and OTHERS. The Leamington Local Board of Health are prepared to receive TENDERS for the EXECUTION of WORKS required in the CONSTRUCTION of SEWERAGE of about 4,800 lineal feet of NEW STREETS, including the Macadamization of the Carriage-ways, the Flagging and Paving of the Footways, the Laying of 3,000 lineal feet of Stoneware Socket-pipes, and the Construction of 1,800 lineal feet of Brick sewers, under and adjacent, according to the plans and specification prepared by Mr. JOSEPH FOX SHARP, C.E. Survey to be seen at the Board Room, with copies of the materials to be used, may be seen at his Office, at the Town-hall, Leamington, between the hours of TEN and ONE o'clock, on and after MONDAY, the 8th NOVEMBER, 1858.

Copies of the specification and form of Tender may be obtained on application to the Clerk, at his office, at the Town Hall, on payment of 2*s.* and to whom Tenders must be forwarded, endorsed "Tender for New Streets," on or before MONDAY, the 22nd NOVEMBER, 1858. The Board do not bind themselves to accept the lowest or any Tender. By order,

R. H. DAVIES, Clerk.

Town Hall, Leamington, 26th October, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

TO BUILDERS.—TENDERS are required for the ERECTION of a NEW CHURCH at Kings Heath, Moseley, near Birmingham. Plans, &c., may be seen at the Office of the Architect, FREDERICK PEPPERY, Suffolk-street, Worcester, at the Austin Hotel, at Moseley, on and after MONDAY, the 1st of NOVEMBER next, between the hours of NINE and FIVE o'clock. Sealed Tenders endorsed "Tender for King's Heath Church, Moseley," to be addressed to JOHN HOLBECHE, Esq., 18, Bennett's Hill, Birmingham, before TWELVE o'clock on TUESDAY, the 30th NOVEMBER next. The Committee do not bind themselves to accept the lowest or any Tender.

Temple, 28th October, 1858.

TO MASONS, CONTRACTORS, and OTHERS.—The Board of Works for the Hampstead District are prepared to receive TENDERS for about 2,000 FEET of TOOLED GRANITE KERBING, plain and circular, measuring 12 inches by 6 inches, and in lengths of about 4 feet. The Tender to state at what price per foot, plain and circular, including the fixing; the contractor to find it at any part of the parish of Plumstead. Any further particulars may be obtained of the Board's Surveyor, Mr. H. A. FISHER, Rose-street, Plumstead. Tenders endorsed "Tender for Kerbing," to be supplied to Mr. MILSTED, Vestry Clerk, Plumstead, on or before SATURDAY, the 30th instant. The Board do not bind themselves to accept the lowest or any Tender. By Order,

CHARLES AUGUSTUS SMITH, Clerk to the Board.

November 1st, 1858.

TO CONTRACTORS and IRON-BRIDGE BUILDERS.—LONDONDERRY-BRIDGE.—The Londonderry Bridge Commissioners will meet in London, by an adjournment, on THURSDAY, the 18th NOVEMBER next, to receive TENDERS for the CONSTRUCTION of an IRON BRIDGE across the river Foyle, at Londonderry. Plans and specifications may be seen on and after MONDAY, the 1st of NOVEMBER next, at the offices of Mr. HAWKSHAW, 6, Great George-street, Westminster. Sealed Tenders, marked, "Tender for Londonderry bridge," addressed to the undersigned, will be received until ELEVEN o'clock on the day of meeting. The Commissioners do not bind themselves to accept the lowest or any Tender. By order,

A. H. STEWART, Secretary to the Commissioners.

Londonderry, Oct. 22, 1858.

GLOUCESTER POLICE STATION.—To BUILDERS.—Persons desirous of CONTRACTING for sundry ALTERATIONS and ADDITIONS to PREMISES, situate in Berkeley-square, Gloucester, for the purpose of converting the same into a police station, may see the plans, specifications, and conditions, at the office of the County Surveyor, on and after MONDAY, the 1st of NOVEMBER. Tenders, sealed and endorsed, "Tender for Gloucester Police Station," to be sent under cover to the Clerk of the Peace, Shirehall, Gloucester, on or before MONDAY, the 15th of NOVEMBER. The lowest Tender will not necessarily be accepted, nor any, unless satisfactory.—Clarence-street, Gloucester, Oct. 22, 1858.

STRATFORD-UPON-AVON RAILWAY. CONTRACT for RAILS.—The Directors are prepared to receive TENDERS for the SUPPLY of 1,500 TONS of RAILS. Specifications and full particulars may be had on application to CHARLES VENDERSON, Esq., C.E., Stratford-upon-Avon. Sealed Tenders, endorsed "Tender for Rails," may be sent, under cover, to the undersigned, on or before the 13th of NOVEMBER next. The Directors do not bind themselves to accept the lowest or any Tender.

JOHN C. BULL, Secretary.

Stratford-upon-Avon, October 26, 1858.

TO BUILDERS, DECORATORS, and OTHERS.—The HOUSE and PREMISES, No. 9a, Wardour-street, to be REPAIRED (for the freeholder) as per specification, to be seen on the PREMISES, on the 14th, 11th, and 12th instant, from TEN to FOUR o'clock. Tenders to be delivered, Mr. JOSEPH TUCKER, care of Mr. Amos, No. 30, Wardour-street, and to be delivered on or before the 15th instant. The Advertiser does not pledge himself to accept the lowest or any Tender.

TO BUILDERS, &c.—RAMSEY CEMETERY, HUNTS.—Persons desirous of TENDERING for the ERECTION of TWO HEARSE HOUSES, and BOUNDARY WALL, about 150 lineal feet in length, on the Ramsey Cemetery, may see the plans and specifications at the Office of Mr. ROBERT HUTCHISON, Ramsey, and Mr. JOHN BRAY, the Sexton, on and after MONDAY, the 1st day of NOVEMBER. Sealed Tenders to be delivered at my office, at Ramsey, on or before MONDAY, the 22nd day of NOVEMBER, 1858. The lowest or any Tender not necessarily accepted.

JOHN SERJEANT, Clerk to the Burial Board.

Ramsey, Nov. 2nd, 1858.

TO SMITHS and OTHERS.—ST. LUKE, CHELSEA.—Notice is hereby given, that the Guardians of the Poor of this Parish will, at their Meeting, to be held on WEDNESDAY, the 17th day of NOVEMBER instant, at the Board-room, Chelsea Workhouse, receive TENDERS from parties who may be willing to CONTRACT for COVERING the ROOF of one of the SHEDS in their Stone-yard in Milman's-row, Manor-street, Chelsea, with Corrugated Galvanized Iron. The requisite plans and conditions of contract may be seen at the office of Mr. Pritchard, Chelsea-park, between the hours of TEN and FOUR o'clock, where also Tenders are to be delivered, on or before TUESDAY, the 16th NOVEMBER instant.

W. L. DIGGENS, Clerk to the Guardians.

Chelsea, November 3, 1858.

TO BUILDERS and OTHERS.—The above Parties desirous of TENDERING for the WORKS required to be done in the ERECTION of a CONGREGATIONAL CHAPEL to be built at Peterborough, in the county of Northamptonshire, may see the plans and specifications at the Office of Mr. HOLT, Surveyor, Peterborough, on and after the 1st day of NOVEMBER, 1858. Tenders, sealed and endorsed "Tender for Chapel at Peterborough," under cover, addressed to the Rev. ALEXANDER MURRAY, Congregational Chapel, Peterborough, on or before the 20th of NOVEMBER. The Committee of Management do not bind themselves to accept the lowest or any Tender. Quantities may be had upon application to the undersigned. Peterborough, 1st November, 1858.

R. MOFFAT SMITH, Architect to the Limited Congregational Building Society.

TO ENGINEERING SURVEYORS.—TENDERS are required for the SURVEY (by chain) and LEVELS of about SIX MILES of GROUND, a short distance from town. Address to Z. Z., 28, Wandsworth-road, Pimlico, S.W.

TO LITHOGRAPHERS.—TENDERS for LITHOGRAPHY, of about SIX MILES of RAILWAY PLAN and SECTION, to be sent in by the 8th instant. Work may be sent to LITHO, 72, Winchester-street, Pimlico, S.W.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mouldings:

1-inch Prepared Flooring, 11s. 6d. per square.
1¼-inch ditto, 15s. per square.
Yellow Battens, 2½ by 3, per 120, 12s. 9d.
Yellow Deals, 6 by 3, 3s. each.
Spruce Deals, 6 by 3, 3s. each.
Fine Planks (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Handsome Mahogany Planks and Boards, from 6d. per foot.
Borough-road, Southwark, and Eagle-street, Gray's-inn-lane.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for useful sorts:

1-inch Prepared Flooring	£0 11 6 per square.
1¼-inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 13 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 3 0 each.
Fine Planks, Dry, 12 ft. 3 by 11	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mouldings, Skirtings, and Joists at low prices.

A saving of 25 per cent. on the above prices. Cartage.
ALFRED CARTER, Old Broad-street Road, N.E.

TO BUILDERS and Gentlemen building their own Mansions, who think it important to lay the floors of the principal rooms and landings with PINE of square of 1¼ by 7 white BATTENS, in prime condition, prepared and stacked three years.—Apply to C. F. SMYRK, Stamford House, Church street, Camberwell, S.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 8d.; 2½-inch White Battens, 9d. 6s.; Yellow, 1¼, 10s.; 1-inch White Flooring, 12s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 10s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Cartage free to any part of town.

T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

A CORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.
BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above extensive premises, where, in connection with his old established Yards at Great Peter street, Westminster, a Finished Stock of the best qualities is always ready to supply from a large and well-seasoned Stock, Mahogany, Wainscot, Birch, Beech, Oak, Pine, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised to be in London.

		from £ s. d.
Mahogany, per foot		0 0 8
" " board		0 6
Spruce Deals	"	2 9
Pine Plank	"	3 3
Yellow Deals	"	3 3
Yellow and White Battens	"	1 11

Prime Flooring Boards—
White.—¾ in. 12s.; 1 in. 15s. 6d. Yellow.—1¼ in. 19s.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST REMUNERATIVE PRICES.
Books of Designs of Mouldings forwarded on application.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, No. 90, GOODY-STREET, of the South Eastern Railway Company, adjoining the Terminus, London Bridge, where, in connection with his old established premises in King street Borough, he is prepared to supply, from things and well-seasoned stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S. Country orders executed with prompt attention, and all sawn goods (Back Linners excepted), delivered free of cartage within three miles.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark bridge Wharf, Bankside, S.E.

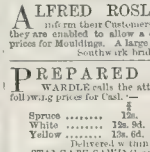
PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	½	¾	1	1¼	
Spruce	12s.	13s.	15s.		per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s.	"
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	"

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

FOR SALE, Forty Dozen new PUTLOGS, At 10s. per dozen
Also sundry glazed Ship Sash and Door Lights, and Paneling, very cheap.
Apply to JAMES TUCKER, adjoining the Surrey Canal Entrance, Rotherhithe.

TO BE SOLD, at less than half-cost, a TWO-HORSE POWER PORTABLE STEAM ENGINE and BOILER, with feed pump, &c. &c., in good repair, standing on its own base plate, without brickwork. Can be fixed in a few hours.—Apply, by letter, Mr. EDWARD FIELD, 10, Hart-street, Bloomsbury, who will show the same at work.



JOHN PARKIN (late Blake and Parkin),
STEEL WORKS, HARVEST-LANE, SHEFFIELD,
Manufacturer of Cement Saws, machine forged, Mill Saws, Circles Saws, Cross Cut, or Ribbon Saws, of cast steel, temper without joints. Machine Plane Grooving, Moulding, and Mortising Irons, Saw Files, &c.
Agent for London, Mr. CHAS. BADGER, 1, St. Augustine, Westminster-road.

THE AMERICAN STOVE, "ENCLESIOR," 2 Gs. for Shops or Offices, is the best and cheapest ever offered in London. The trade supplied at ANDREW MCLAREN and SONS', 10, Upper Thames-street.
P.S. A large Stock of other Stoves, Ranges, and all kinds of Castings at the lowest prices, combined with the best design and workmanship.

STUART and SMITH'S PATENT GILL AIR WARMER.—Every information may be obtained, and references given to Churches, Schools, private residences, and business premises, in which it has been long in use, by applying either to their Manufactory, Roscoe-place, Sheffield; or to their London Agent, Mr. E. BARBER, No. 20, John street, Adelphi.

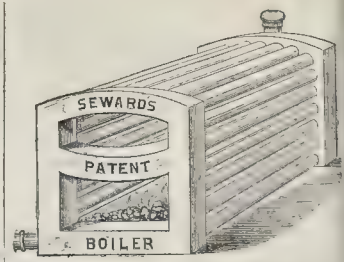
ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green houses from a sitting room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys.
Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

BATHS and HOT-WATER APPARATUS. J. TYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. To be had on application. Estimates and Plans for Fitting given. J. TYLOR and SONS, Manufacturers, Warwick lane, Newgate-street, E.C.

HEATING BY HOT WATER.

JOHN WEEKS and CO. King's-road, Chelsea, HOT-WATER APPARATUS MANUFACTURERS. Publishers of an illustrated Catalogue of the most extensive Stock ever exhibited, warranted by Hot Water. JOHN WEEKS and CO. call attention to their Specialities of Cottage, Conservatory, Vinery, Pinery, &c., where they have fitted the Horticultural Buildings in the Royal Botanic Gardens, Regent's-park, and extensive operations at their Premises, King's-road, Chelsea.

PANKLIBANON PATENT VENTILATING, FIRE-LIGHTING, and WARM AIR, OPEN FIRE STOVE for the Dining Room, Drawing Room, Bedroom, and Library. Invented and manufactured by the Panklibanon Patent Stove Company, Limited, Baker-street.



HOT-WATER HEATING. SEWARD'S PATENT BOILER will be found the cheapest and most effective, and is constructed so as to consume its own smoke. SEWARD, of Preston and Lancaster, Manufacturers of Hot water and other Heating Apparatus, will be glad to receive orders for heating buildings of any description.—Testimonials supplied, &c.

BELL AND BRASS FOUNDERS TO HER MAJESTY.
JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS having of late years devoted much time and study to the long-neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has hitherto been accomplished.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peals

TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND-BELLS tuned to the Chromatic Scale, with improved Clippers, and pegged on a new system, which give superior tone and facility for ringing.

The great Act-on Bells, for the Houses of Parliament, was made by JOHN WARNER and SONS, 1856, under their Patent.

8, CRESCENT, Jewin-street, London, E.C.

PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (limited), HENRY ROGERS, Manager. Iron Wharf, and No. 64, Upper Thames-street, London. These Windows combine the advantage of great strength with lightness and cheapness, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and lunatic asylums, and also for expectation, as this large article is to be had from stock. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE.—The Valve is the simplest and cheapest of all the inventions yet introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces. Testimonials, of the highest possible character are gladly given to the parties who have them in operation.—Price, No. 1, 3l. 3s.; No. 2, 5l. 5s., for 14-inch door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN-TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and Private establishments, and have had a fair trial, have met with the highest approval. These traps may be had in any size, of the General Iron Foundry Company, limited, 64, Upper Thames-street, Makers of Gas and Water Pipes, Hydrants, Pipe and Cistern Heads, Chimney and Sun-pipes, Furnace Bars, and all other kinds of castings, for manufacturing and building purposes.

REDUCED PRICE OF CAST STEEL BELLS.
MESSRS. NAYLOR, VICKERS, and CO.'S PATENT CAST STEEL BELLS, for Churches, Schools, Farms, &c., from as low as 6 cwt. 0 qrs. 10 lbs. in weight, and about 1 foot in diameter, to 2 tons 0 cwt. 0 qrs. 0 lbs. in weight, and about 6 feet in diameter.
SOLE AGENTS,
MESSRS. WHITE and BATES, 10, ZELL'S-STREET, BIRMINGHAM.
Specimens can be seen by application. They are only one third the price of bronze bells, but are used, and have the power in the purity and melody of their tone, and in their total inability to break.

PEALS OF FOUR.	FOUR.	FOUR BELLS.
Weight about 2 cwt. 2 qrs. 25 lbs.	3 cwt. 2 qrs. 0 lbs.	6 cwt. 0 qrs. 0 lbs.
The Tenor 36 in. Key B flat.	42 in. Key G.	52 in. Key E.
Price about 1871.	184l.	280l.
PEALS OF FIVE.	FIVE.	FIVE.	FIVE BELLS.
Weight about 3 cwt. 2 qrs. 25 lbs.	3,500 lbs.	4,500 lbs.	7,000 lbs.
Tenor 42 in. Key B.	42 in. Key G.	48 in. Key F.	60 in. Key E.
Price about 197l.	184l.	224l.	280l.
PEALS OF SIX.	SIX.	EIGHT.	EIGHT BELLS.
Weight about 4 cwt. 2 qrs. 25 lbs.	6,500 lbs.	8,000 lbs.	12 cwt. 0 qrs. 0 lbs.
Tenor 42 in. Key G.	48 in. Key F.	54 in. Key E.	64 in. Key D.
Price 224l.	280l.	336l.	504l.

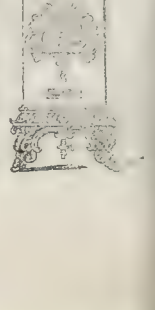
Single Church Bells, 31 in. diameter and about 4 cwt. 0 qrs. 0 lbs., 84l.

FOR SALE, ROBERT TROW'S improved double-purchase BUILDERS' CRABS, price 5l. 5s.
No. 14, HUNTLEY-STREET, Tottenham-court-road, W.C.
N.B. Tackle kept on hand for hire.
November 2, 1858.

NO CHIMNEY WANTED for RICKETT'S PATENT CALORIFERE GAS STOVES in CHURCHES, HALLS, or SHOPS;

And for those Offices, or any other Apartments, a Pipe can be attached to carry away the Vitiated Air.

RICKETT'S CHEAP GAS STOVE, Price £1 15s.



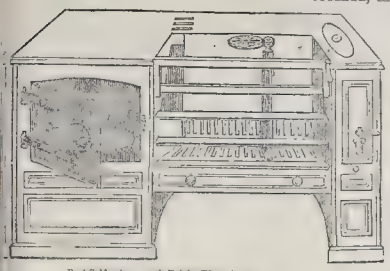
Made of Steel, and Ornamental Fire Brasses, Bright Steel Fenders, &c.
MANUFACTORY, AGAR-STREET, STRAND, LONDON.
Liberal Discount to Builders.

CLARK AND HUNT,

IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,

159, SHOREDITCH.

A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Register Stoves, with Solid Bars, per inch, 8d.
Improved New Pattern Circular Cheek Register, with strong Bars and Traverse, 3s per inch
Best Solar ditto, with Fine Iron Bars, per inch, 1s6d.
Bright Stoves, with Two Bars, 30s to 100s. each.
Best Cut Clasp and Rose Nails.

1½ inch	2 inch.	2½ inch.	3 in
16s	14s 6d.	13s	14s 17s per cwt.

Best Sheet Cut Floor Brads, 12s 6d per cwt.
Best Cut Lath Nails, 17s per cwt.

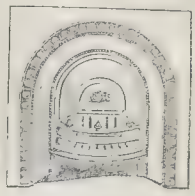
2 in.	2½ d.	3 in
1s6d.	1s	1s 3d. per yard

Cast Rain water Pipe
Cast Gutters, 4 in 8d per yard.

4 in	4½ in.
O G Gutters,—1s.	1s. 2d. per yard.

2	3	4	5	6

Patent Lute.—3s 6d. 4s. 5s. 7s. 9s per gross.
Each Bell Ward Mortise, with Best Primrose and Patent Spindles, 2s. 6d. each. Light Elliptic and Register Metal, 1s. 6d. per wt.
Dr Arnott's Vent Inlets, 4s each.
Back Mouth Kept in Stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12s. PER CWT.



IMPROVED PATENT FINE-CAST SMOKELESS STOVE,
8s. 1 inch.

Best Self-acting, with Bright Wrought Bars.

34 inches	5s.
36 ,,	5s6.
38 ,,	5s.
42 ,,	6s.

Self-acting Cottage, with Oven and Back Boiler

30 inches	20s.
32 ,,	24s.
34 ,,	27s.
36 ,,	29s.

Best Japanned Registers, 4s., Berlin Black, with Bright Mouldings, 6s.: Bright Fronts, with Ornamental Cheeks and Two Sets of Bars, 7s.; Improved Coal Mangers, with Wrought Iron Back and Water trough, fitted, 4s.

AN ILLUSTRATED BOOK OF PATTERNS WILL BE SENT ON RECEIPT OF POSTAGE STAMP.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

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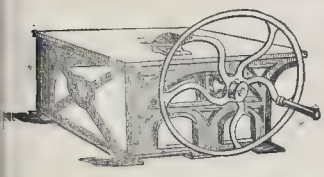
Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (NEW PATENT).—NO MORE BREAKAGE OF SAWS.



POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT (dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE; and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW BENCHES, with RISING TABLES,
AND PATENT PLANING, TONGUEING, GROOVING, AND MOULDING MACHINES.

Letters and Applications for Machinery to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, LONDON, E.C.

THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

36, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known means.

The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and in many churches and other buildings.

Particulars and testimonials forwarded on application.

NAILS and IRONMONGERY, from BIRMINGHAM direct.

Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES.

A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth and Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM; and 16, Graham street, London, E.C.

SAVING IN GAS.

D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and pure lighting, equalising the pressure and preventing any irregularity in the height of the flame.

D. HULETT and CO. 35, High Holborn, London, Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and price-list, 10s.—Nos. 35 and 36, High Holborn.

BAKER and CO.'S is the best Manufactory for SUPERIOR STOVE GRATES, equal to SHEFFIELD MAKE at HALF the COST, bright or black. Mitre Foundry, Bishop-street, Birmingham.

PIERCE'S STOVE GRATE MANUFACTORY AND SHOW-ROOMS,

5, JERMYN-STREET, REGENT-STREET.

IMPORTANT IMPROVEMENTS IN WARMING AND VENTILATING,

For which the Prize Medals of the Great Exhibitions of London and Paris, also the large Silver Medal of the Society of Arts, in 1849, were awarded to PIERCE, the Inventor and Manufacturer of the healthful

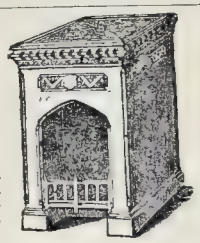
Fresh Air Warming and Ventilating Pyro-Pneumatic Stove Grates,

For Churches, Chapels, Schools, Class-rooms, Public Buildings, Galleries, and Entrance-halls, or any situation in which wholesome Warmth with continuous Self-acting Ventilation may be desirable.

Pierce's Unrivalled Pyro-Pneumatic Warming and Ventilating Stove-Grates,

Specially constructed for Warming and Ventilating Churches, Chapels, Entrance Halls, Staircases, and large Rooms in Public Buildings, &c. being the only pure Warm-Air Stove yet invented that is constructed entirely of Fire Lump, without any heating surface of Iron.

This Stove Grate possesses the cheerful open Fire; the air warmed by it continues healthful, and is not rendered unfit for respiration, as is the case with all close Stoves that are constructed of Iron; and from the novelty of its principle, economy in use, and elegance of design, this Stove Grate is far superior to any other. Prices, from 7l. 10s. to 21l. in plain design; and may be had of ornamental character, either Grecian, Italian, Elizabethan, or plain and enriched Gothic Patterns, &c.



Pierce's Celebrated Fresh Air Fire-Lump Grates,

FOR WARMING AND VENTILATING INFIRMARIES,

INFANT SCHOOLS AND CLASS-ROOMS,

Wards of Hospitals, Dormitories, and Sleeping Rooms,

Have now been in use for several years in all the various Wards of the London Hospital, Mile-end-road, at the County Hospital, Huntingdon, the Infirmary of the Guildford Union, the Lecture and Class-Rooms of the Philological Schools, corner of Lisson-grove, New-road; at the Chantry Schools, Frome, the Training Colleges of Saltley and Bishop Stortford, the General Artillery Hospital at Woolwich Arsenal, the New Corn-Exchange at Sleaford, &c. &c.

At prices from 75s. to 150s.

PIERCE'S PRIZE-MEDAL FIRE-LUMP GRATES

FOR WARMING TWO ROOMS FROM ONE FIRE, SPECIALLY ADAPTED FOR COTTAGERS,

As by using this Grate the fire used in the Living-room is made to warm the Bedroom above, or another room at the back. This Grate is most Economical in use, giving off a large portion of radiant heat, has the advantage of two large Trivets, and good Hobs well adapted for Cooking.

Made in two sizes, 29 inches and 32 inches wide, price 30s. and 35s.

HEALTH, WARMTH, COMFORT, AND ECONOMY,

ARE COMBINED IN

PIERCE'S ORIGINAL FIRE-LUMP, RADIATING AND VENTILATING FRESH AIR, REGISTER GRATES.

(Established in public favour upwards of 30 years, from their great superiority over all other grates.) These Fire-lump Grates, specially constructed for giving out a powerful degree of warmth, with a very moderate consumption of fuel, are manufactured after the most Elegant Designs in the various styles of Architecture, for DRAWING and DINING ROOMS, LIBRARIES, BED-ROOMS, &c.

A Large Assortment, with Fenders and Fire-irons, *en suite*, on View.

PIERCE solicits attention to his IMPROVED METHOD of WARMING CHURCHES, MANSIONS, GALLERIES, STAIRCASES, ENTRANCE-HALLS, &c by HOT WATER, from One Small Boiler and Furnace FIXED in the BASEMENT, whereby Warmth, combined with Ventilation, safety from all danger of fire, and the great comfort obtained by its use, have fully established its reputation KITCHENS, LAUNDRIES, and DRYING ROOMS, fitted with every improvement in the most economical manner. WARM BATHS on the BEDROOM FLOORS supplied at all times from the BOILER of the SERVANTS' HALL or BUTLER'S-ROOM GRATE, and are thus ready for use at a minute's notice

*** These newly-invented Stove Grates have received the most favourable notices of the entire public press, which, with numerous testimonials from parties having them in use, and an illustrated prospectus with detailed particulars of their efficiency, economy, and healthfulness, will be forwarded on application, and every information afforded by

PIERCE, No. 5, JERMYN-STREET, REGENT-STREET.

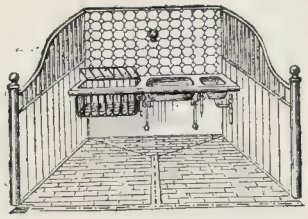
IMPORTANT TO ALL. THE TRADE SUPPLIED.

G. J. FELLOWS,
GAS-FITTING
AND LAMP MANUFACTORY,
111, GRAY'S-INN-LANE,
Ten doors from Holborn.
ESTIMATES SUBMITTED FREE OF CHARGE.

TO IRONMONGERS, BUILDERS, &c.

PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.
HULETT and CO. 85, High Holborn.

BARTON'S PATENT SAFETY STABLE FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY RACK.



These Fittings are now made with the newly invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity therein, producing an effect in connection with these Fittings hitherto uncompliabed, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all Kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of four postage stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

HOOD and SONS' REGISTERED RETAINING STABLE FITTINGS,

Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed box; and combine the most perfect safety with the greatest economy, both in cost and use.
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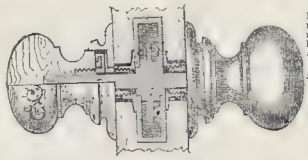

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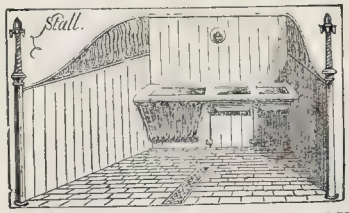

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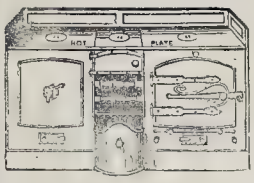

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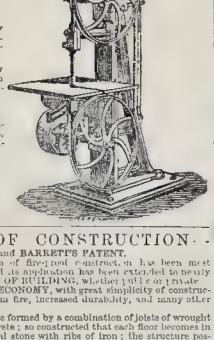

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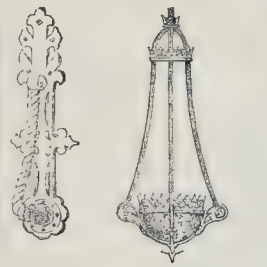

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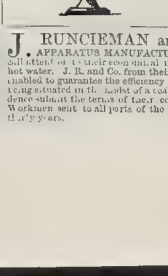

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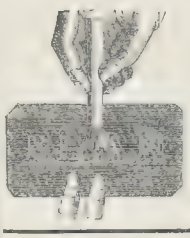

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The Builder.

VOL. XVI.—No. 822.

ocial Science in Islington.— The Struggling Classes.

EW know what is actually around and about them. On the 21st of last month, Islington held a Social Science Congress. Mr. Robert Hanbury, M.P., presided, and several spirited addresses were made to a large audience, with the view of securing their co-operation "in the efforts now making for the welfare of the working classes." The chairman objected to the term "lower classes," and was not quite contented with the expression "working classes," since labour was the lot of all. He was glad there was much more sympathy between classes now than at any previous time. Sure he was that nothing could be done to improve the moral and spiritual condition of men without first alleviating their physical condition: and he dwelt on the saving of life effected by sanitary measures. The worthy vicar, who followed, took for the subject of his observations, "the l of sympathy between the various classes ociety," and urged, wisely, that a distinction ald be drawn between those who honestly independently lived by manual labour, and e who were in a condition of indigence and perism through extravagance and intem- ance. These latter did not really belong the working classes, and he believed that sympathy with such persons was pro- tive of great harm. Working men had ds as hard and hearts as sound as theirs, many of them were twice as intelli- t as some above them were. The vicar mentioned several ways in which their pathy with the working classes might find tical manifestation: baths, savings' banks, early closing. He had found out one thing connection with the working classes that had ttled him a little, viz. that while irreligion one of the causes that kept people away n church, it was by no means the most eral cause. They didn't choose to come to tared at in the middle aisle. He should s an Islington Exeter-hall, and believed one ht easily be erected for 2,000*l.* or 3,000*l.* ch would answer every purpose. The Rev. eph Haslegrave spoke on "the duty of pro- ing places of recreation and instruction for working classes;" and in the course of his ervations, told a story of a man who had nded a tea-meeting given at St. Peter's to parents of the school-children. On the fol- ing Sunday he was at Church, and on one his acquaintances expressing surprise, said, Well, you see, he was so kind and familiar other night at the tea-meeting, that I dn't help giving him a turn."

hen the secretary of the Mutual Provident sociation showed very clearly the usefulness hat and similar institutions; and the secre- of the Religious Tract Society discoursed a the circulation of useful literature amongst working classes," and urged the increase of library of the Working Man's Institute. ny very proper sentiments were expressed, l as tending to form public opinion, this eting, and all similar meetings, will be use

No distinct object for immediate attain- nt, however, was held up; no local in- nces of the evils resulting from wants pointed by the speakers were given; and we are pted, accordingly, to supply the deficiency, and give two illustrations, one in support of the speaker who urged the duty of providing means of wholesome recreation for the working classes and those beneath them; and the other, as an evidence of the want of knowledge on sanitary matters or thoughtlessness in respect of them, which exists amongst the very leaders and teachers themselves, and of the necessity for an extension of such knowledge.

It is a remarkable circumstance that, notwithstanding all that has been said on sanitary matters, vast numbers of houses are rising up every month in this metropolis built with a view to their occupation by single families, which, even from the time they are finished, are let in tenements to two or three. West of the Caledonian-road, in the parish of which we are speaking, are several streets recently built, one of nearly half a mile in length, in which not a dozen of the houses are let to single families. It may be, that the ground landlord, who has the power to partition out the land, may, in his anxiety for uniformity, make such requirements as prevent a builder from erecting any houses except on the old plan: if so, this may be worthy of consideration, but is not our present point.

A stranger visiting the neighbourhood would be surprised in the evening at the thickness of the population: in one street here only newly-built, we believe there is as much of poverty and over crowding as in some of the worst old districts. When the next return of the Registrar-General is made, the population of this and other similar districts will surprise many. Well, behind some of these houses near the North-London Railway is a waste piece of land, once meadow, but now covered with various materials. In one part are rows of one-storied cottages, without plan, and of such a description as would not now be allowed to be built within the metropolitan district; and here, while the bells of the neighbouring churches are ringing, may be heard the loud voices of various dealers, and may be viewed such groups as our engraving shows.* When the sketch was made, the proprietors of swings and roundabouts were busy, and pitch and toss, shooting at targets for nuts, card playing, and other modes of gambling were being carried on. This Sunday congregation includes within it various classes, the worst of which contaminate the rest. Some will perhaps ask, why such gatherings are permitted by the police; but to this we need not reply. We are simply viewing it as an evidence, to some extent, that if the means of innocent recreation at proper times be not afforded to the struggling classes, and they are not led up to have some self-respect and fear of opinion, they will make unwholesome recreation for themselves.

Trace some of these to their miserable "homes," and then say if sympathy, guided by knowledge, be not needed to bridge a way for them out of the slough. Shamefully has society neglected its duty, and high is the price it has to pay for the neglect.

The struggling classes in London are very various, and are only to be understood by personal investigation: endeavours to aid them, without knowledge of all the circumstances, will fail. The manner in which those who practise certain trades sink gradually lower and lower, irretrievably, is very curious. We went not long ago, one Saturday afternoon, into the house of a manufacturer of bird-cages, of different sizes and patterns, and more or less ornamental. It was not far from Clerkenwell-green, and nothing could be imagined worse than the sanitary condition of the house. It was a scene of confusion too: the family consisted of a man and his wife, two daughters of about fifteen and eighteen years of age, several boys, from four to thirteen, and an infant: all, with the exception of the child, were actively at work. Some were staining and colouring the commoner description of cages; one was boring holes for the wires; another threading and fixing them; the father was cutting and arranging the woodwork; others were polishing; the unfinished cages were strewed about the beds, and the odour in the apartment was bad in the extreme. We were told that, owing to competition, from the number of similar manufacturers, after paying for materials, the united exertions of the family, taking one week with the other, did not realize more than from 20s. to 25s. a week, and that the prices were constantly declining, so that they had to work more hours for the same sum.

In another place we found a man whose entire occupation was to carve a plain scroll on the upper rail of chair-backs. The wood was supplied by the wholesale chair-maker, and it was surprising with what rapidity the man cut in the familiar device: the sand papering and polishing up he left to his family. He complained that when the times are bad, the warehouse-men get overstocked, and then the work fails; but those who have capital, and can afford to wait, say to the men, "I don't want rails, but if you like to make a certain number at half-price, you may: it will be better than doing nothing;" and then it is the old story over again of the Spitalfields weavers and the needle-women: "We are obliged to buckle to, by working harder, to earn a crust; but the prices never get up again!"

A maker of barometers remarked that some excellent workmen—men not very thrifty, and at times therefore out of money—were obliged to take their work, perhaps incomplete, to a person who dealt in that way, and he, knowing their need, drove a good bargain, and by that means reduced the price of the labour of others.

We might enter into particulars to show that japanners, and many other craftsmen who work at home, complain of their inability to hold their position against capital, and, although they use slighter work,* cannot make a sufficient income to enable them to support their families.

But we are being led away. Let us get back to our evidence that knowledge of sanitary laws is wanting where it might be looked for. And we show it in the shape of a view of an infant school not far from the site of the Sunday gathering. We do not willingly draw attention to it, for all the parties concerned in it are guided by the best intentions, and have to labour under very great difficulties. It is, however, absolutely necessary that such errors should be noticed, because they are full of danger, and by directing attention to the eagerness with which education is caught at, it may cause renewed exertions to be made to enable the founders of infant and other schools in poor neighbourhoods to provide apartments of sufficient size to admit of breathing in. The health of infant children is of as great importance as the amount of instruction which can be given to them. In this school from seventy to eighty children assemble morning and afternoon, spending altogether five hours in two rooms thrown together, each of which is 12 feet long by 12 feet wide, and 7 feet 6 inches high. In summer time a current of air can be passed through the room, but at the time of our visit—a rather chilly autumn morning, the windows were closed, and the air, as a matter of course, was polluted to such a degree that it was violently poisonous. Both pen and pencil will fail to give an idea of the overcrowded state of this school, and cheerfully and well, under the circumstances, as the teacher was doing her duty, it was evidently not easy to preserve order amongst so many children so closely packed. To make matters worse, the drainage of the neighbourhood is imperfect, and the houses have either open cesspools or such as are simply disguised.

There are many schools which are no better situated, and we would strongly advise those who may be engaged in planning new schools, beginning in a humble manner, to have careful advice as to the drainage. If possible, pairs of the small and ordinary dwelling-houses should be avoided. It is better to have some disused carpenters' shop, which, even with a coat of

* See p. 739.

* A japanner, who exhibited some good specimens of his work, which contrasted curiously with the slight effects he was turning off at the time, reminded us of the story of the artist who was engaged to paint battle-scenes on tea-trays at so much a dozen. At first long rows of cavalry and infantry might be observed clearly delineated; but, as the dealer lessened his price, the artist put in more smoke and fewer figures, and so earned as much money; and this went on, till the dealer, on a day putting on his spectacles, found that there were no figures visible, and said,—"Why, sir, there is nothing left but smoke."

whitewash, may be less sightly, but is infinitely more wholesome.

It would be difficult to estimate the amount of disease and misery engendered by such a state of things as is presented by the infant school we have illustrated, and we would have it clearly understood that our sketch is in no way "doctored," but is a faithful representation of the scene. Air once breathed is poison. Breathed more than once, it becomes surcharged with carbonic acid gas and other waste excretions of the body. "When the surcharge of impurity," says Dr. M'Cormac, "amounts to 10 per cent. of carbonic acid gas, the respired air will take up no more waste. Here the waste is retained in the system, and if the evil process be continued, eventually leads to disease." One result of this, it is maintained, is *consumption*. It is quite true what Rousseau says, —"*L'haleine de l'homme est mortelle à ses semblables.*" Let us, then, call upon the estimable persons who interest themselves in the instruction of children to see that they have ample breathing space, and, amongst the things taught, let the rules necessary for healthful existence not be forgotten.

We may dry up many sources of crime by education, and by the same means lessen the amount of sorrow and lengthen life. Here are good wages to be had for good work.

A FEW FACTS ABOUT MODERN WATERWORKS.

The unprecedentedly dry seasons of 1857-58 have tested most of the waterworks in Great Britain, and with scarce an exception, artificial storage reservoirs have run short. This has been the case at Edinburgh, at Newcastle-upon-Tyne, at Manchester, at Liverpool, and throughout Lancashire generally; at Bristol, and at many smaller places. All the calculations and "averages" of engineers have been made of no avail, as the drought has continued about three times as long as any calculated average would give. But there are other causes of failure in modern works to account for the scarcity of water. Some of the largest reservoirs are imperfect: there are leaks which cannot be readily stopped, and embankments and culverts which cannot easily be made good. This is the case on the great reservoirs connected with Liverpool and Manchester.

Hydraulic works are amongst the most difficult connected with the civil engineer's profession, as water is ever active and equally powerful in the thinnest seam as in the broadest sheet. In round numbers, each foot vertical exerts about ½ lb. of pressure per square inch, and this in all directions. The slightest crack or hole may therefore be a means of vast injury. Indian architects adopt the utmost precautions in their use of the arch and dome; because, say they, "an arch never sleeps." How much more true is this of water. Mr. Robert Stephenson said, at a recent meeting of engineers, that any man who brought forward an account of his failures did more good than merely detailing his successes. A man is, however, seldom found to do this. Who shall give the profession correct and faithful details of the failures at Liverpool and at Manchester, for instance? Fearlessly, honestly, and correctly stated, they would instruct and warn; and this would be the use indicated by Mr. Stephenson. The respective engineers could do it with the best grace and with the most effect, because there could not be any invidious charges made against them, which could and which also would be made against a stranger or other professional man. To fail, is not necessarily to merit disgrace, although the world frequently jumps to this conclusion, and some evil-disposed persons may countenance the imputation.

A full list of modern engineering failures will, however, leave few safe stone-throwers amongst the men who have been engaged in useful works. This must be left to little men, and to vested class interest publications.

No man can vaunt a failure, and a modest man will not even boast of a success; but an honest man may defend his character if invidiously assailed. The question of water supply is of the greatest possible importance, and requires to be discussed in the most full and liberal manner. It is quite clear, views more enlarged must prevail, as pure water in abundance is the greatest modern necessity. The recent changes in the metropolis, great and beneficial as they have been, only leave the question an open one. Think of the vast populations on the Thames and its tributaries *above* the new points of abstraction of water for metropolitan use, and the sensations are not satisfying. The sewage of nearly one million persons finds its way, more or less diluted, to the streams in question, as is shown in the Royal Sewage Commissioners' report. The river Thame, above Birmingham, is far worse polluted, and there are many smaller streams equally objectionable. Water must be obtained; but whence and how? This will be one of the most important questions to settle for some time to come. Newcastle, Liverpool, Manchester, Birmingham, London, Bristol, and numerous lesser places, cannot remain as they are. In some cases more water is required: in other cases water of a purer quality must be obtained. Glasgow is setting the example, by going to a large mountain lake, and no doubt the lakes of Cumberland will be utilized, as also the districts of North and South Wales. Bala Lake has been proposed for Liverpool and Manchester, and the present generation may even see such a work carried out. At Liverpool the corporation are obliged to continue all their old pumping stations, although the new works were to supersede them. At Manchester the corporation cannot pay their water compensations. Population is, however, increasing rapidly in both districts. Water supply and sewerage are the questions of the day.

CONSTRUCTION AND DECORATION OF THEATRES: NOTES THEREON.

The new theatre in the Whitechapel-road, lately noticed by us,* was opened on the evening of Saturday last. It can hardly be called complete; as the decorative work of the proscenium is barely commenced; the enrichments of the gallery-front are not finished; much has to be done in painters' work and furnishing to the boxes; and several matters about the entrances and staircases, which might have led to inconvenience had there been an excessive crowd on the first night, are as yet defective. However, in a few days, the arrangements of the house—though not all that we have argued for in theatres—will be better than are to be found in many similar cases; or they may prove to be the best that the site admitted of. There is a door of egress from the pit, at the eastern side, into Baker's-row, as we mentioned; and there is one from the gallery to the box-staircase, on the opposite side of the house—these doors being additional to the doors of entrance. The doors of egress are, as we understand, for use "in case of fire;" we would, however, suggest that they should be in constant use, in order that they may be certainly available when wanted. We would suggest, too, that the external steps from the pit-door of egress, and which, widened, also serve for the doorway to the gallery entrance, should be altered. In the case of egress, the absence of a landing at the commencement of the descent, would be a frequent cause of accident. The direct passage-way to the stalls, we are glad to see, has been provided.

The rapidity with which the work has been carried forward, appears to have induced apprehensions which diminished the receipts on the opening nights. Fears of this kind generally are without reason; whilst it would be far more to the purpose that the public should be led to set proper value upon preliminary design, and the arrangement of plan,—essentials to safety, which are not supplied by mere structure,—and should thus in effect, require of those interested in theatre property or management, as well as in the case of dwelling-houses, or other buildings, that which cannot be given at a later stage,—or require, if necessary, the abandonment of a project where the site, or the external conditions of the design, are manifestly inadequate. Without the demand be expressed in this way, or by such authorities as are deputed to protect the interests of the public, the landlord or proprietary class will be excused for supplying the least that can bring in rental; though the truth is, it could be shown that ultimate gain, or avoidance of losses to the landlord, would be secured by the higher standard of design and practical architecture, as much as would the comfort of the tenant, and the improvement of the people.

As regards the construction of public buildings—especially places of public amusement, and in regard to their entrances and staircases—it is clear that the public are not adequately protected,—admitting that considerable improvement has taken place—as from the requirement stipulating for fire-proof staircases. Actual fire, however, lately, has not so much been the cause of accident, as the apprehension of it, or of some other danger; whereby the slightest error in position of a doorway, or of a step, or the attachment of a hand-rail, has killed or seriously injured scores of individuals. It is obvious, then, that these details of plan and structure, the most attention and greatest care should be directed. But, in our recent examinations of theatres, we have observed that there is little attention, as regards the staircases, to any recognised principles, in plan and dimensions. At the Pavilion Theatre, the staircase to the gallery,—for 1,2 persons at least, as we have already given the number, or for 1,300 to 1,400, as we are told,—has no greater dimensions than an ordinary staircase which it resembles in having the open well-hole and iron baluster-rail. "Winders," however, in the plan, are properly omitted. In the Opera house, Covent Garden, on the other hand, the gallery staircase, for at most 800 persons, as made out in our notice,* has a width of ascent which must be double that in the Pavilion and other theatres; whilst at every turn of the stairs, the largest dimension of landing is given—or, we think, without the arrangement of one or two steps separating quarter-pace as in the Pavilion. A little consideration will show that at neither theatre does the arrangement as a whole, completely meet the requirements of crowd. The object is to get the gallery, or other portion of the house, filled with as little struggling in the ascent as possible. Mere width of staircases and doorways does not secure this. What appears to be a gain in space, should the crowd be excessive may in some degree tend to increase the confusion. If it could be so managed that with sufficient area, the pressure should be wholly in a forward direction, nearly the whole difficulty would, perhaps, be overcome,—that is, provided the final entrances or *queues* were long enough, or in proportion to the attraction of the performance. It is to be inferred, therefore, that number of staircases—the principle adopted in Drury-lane Theatre—rather than great width, is required; or, in event of the latter sort of provision, that some method should be devised for preventing the side pressure. As regards the arrangement of a solid or walled-up well-hole, that method in a narrow staircase would, perhaps, be more inconvenient than the baluster-rail — dangerous though this has often proved. The planning of staircases for buildings for purposes of public amusement, however, is by no means so ordinary a matter as appears to have been considered.

The most serious accidents have arisen at the barriers, or at the street-entrances; and the defects of these, even at theatres where area of entrance and staircase-way may have been otherwise the subject of careful attention, are great.

We are not now prepared to suggest details of arrangement for meeting all the difficulties. But, we consider it is sufficiently clear, that the means of reducing chances of accident, at least two staircases of ascent, as in Drury-lane Theatre, if not more for descent, and with their doorways in the street widely apart from one another, should be provided in the case of any gallery for such a number of persons as one thousand; and that the same principle of separating the crowd into different streams should be adopted in every division of the house. The practice adopted at the eastern theatres, of admitting persons to the boxes by the stage-door before the house opens, though made a source of profit, should not exist in the case of a well-contrived house.

Admitting that the whole defect of principle cannot be corrected by the architects of theatres, we shall be glad if we shall have succeeded in drawing the attention of our professional readers to the consideration of certain details which deserve further study, and respecting which shortly opportunity for improvement may be afforded. On the general question of entrances and exits, ways, and of staircases in buildings of the class under notice, whether or not requiring a radical change in the principle of the selection of site,—a change to be advocated from reasons of architectural effect and the security of adjacent property from fire,—we cannot help concluding that the present control is completely inadequate. It appears that, besides the supervision of structure under the Building Act, some kind of control is exercised by the Lord Chamberlain, on whose behalf a survey of a theatre is made before the license is granted. The inspection, however, we believe, is not made by a professional architect, and it seems to be, for the object of the public safety, little more than nominal; though useful suggestions, such as one at the Pavilion Theatre

* See pages 644 and 654, *ante*.

* See the "Estimate of the accommodation provided," &c.—page 345, *ante*.

A SUNDAY-SCHOOL IN ISLINGTON: NINETEENTH CENTURY.

"Teaching the young Idea how to shoot."

AN INFANT-SCHOOL NOT FAR FROM IT.

"The Breath of Man is fatal to his Fellows."

of a loftier rail to the gallery front, are occasionally made and required to be attended to.

Some statements as to the Pavilion Theatre in the journals have appeared, whence it would be supposed that the stage had an area second only to that of La Scala at Milan, and that the pit was ill-planned for seeing the stage. These accounts are incorrect. The theatre was more accurately described in our own notice. The charges for admission are, however, much reduced from those first intended.

In the stage portion of the theatre the "flys" are carried by the proscenium wall and back-wall of the building, and by an intermediate suspending rod from the roof-truss, the span being trussed over from those points of bearing. One side of the painting-room is carried by a truss formed of boards, bent into an arch, with bolts and struts filling in the spandril spaces.

The fronts of the boxes, of the usual form of section, are finished in light lilac, or cream-colour, and white with gilded ornaments, and with crimson as a background to the gold in spaces at regular distances. The arm-rest, or capping, is covered with crimson figured velvet: the curtains to the private-boxes are of the same colour, and the woodwork of the ordinary dress-boxes is the same colour stained. The ceiling over the pit is papered and painted by Wright, in distemper, in radiating compartments, with representations of the seasons and other allegorical subjects, separated by floral ornament. Though the subjects themselves are not wanting in merit, the effect of colour is crude and inharmonious; and a mimic balustrade encircling the space, is in very bad taste. In fact, as a whole, the ceiling is a preposterous mistake. A glass chandelier of festooned drops, by Defries, hangs in the centre. The "act-drop," representing Neptune and Britannia, with allegories of Peace and War, and Shakspeare's Cliff in the distance, is pleasingly painted by Wright.

The columns temporarily placed, two each side, at the splayed sides of the proscenium, or where the stage advances into the house, are quite out of proportion; and they will be more so—altered as appears to be proposed. It is remarkable that ordinary attention is not given to structural character, and to the matter of proportion of architectural members and details in the interiors of theatres generally. Theatres, during late years built or remodelled, and that once attracted much public attention for their internal decoration and effects, have no longer the appearance represented in our engravings: by successive alterations they have passed from the state in which they had character of art—that is in this case, a character structural and architectural—into mere showman's and paperhanger's work, with, perhaps, liveliness and variety enough, but with misshapen forms and details, and defects in members structural whilst decorative, which must strike every eye, and produce an effect the very reverse of that intended.

In a former notice of the Pavilion Theatre we alluded to an intended feature in the design, a ceiling without apparent support; and the defect as to this, is now observable. But defects generally, of the kind referred to just now, are common in theatres that have got out of the hands of the original architect into those of the theatrical decorators or scene painters, who, able to offer in works on the stage, much that is suggestive to architects, would seem to cast first principles of architecture to the winds when they are called to practice in front of the curtain. It were much to be desired that the decorative work of theatres were of longer endurance. But at the Opera House in the Haymarket, and the Princess's, where the decorations happen to have been in better taste than usual, whilst also works of large cost, they have not required renovation or alteration, either from disfigurement or the desire of novelty.

Managers of theatres do not seem to be aware of the fact,—but we are confident of it,—that whatever the public may know of technical architecture, there are faults of proportion and errors against the structural idea in architecture, which every eye will take in. The result on the mind and opinion of the observer is modified by these visual impressions,—by a process unknown or unfelt by the individual. The errors alluded to, therefore, are most inconsistent with the intention of an elaborate proscenium-front, ceiling, or other matter of the so-called decoration. And let it be understood that the painted imitations of balusters, mouldings, or other architectural members, which may be resorted to behind the curtain, and rightly as subsidiary to the art-dramatic, have no proper place either in front of the curtain, or anywhere in good work of art-architectural. Indeed, proper apprehension of the offices and appliances of each of the arts is all that is required to show that such imitations are neither architecture, nor pictorial art, but only make-believes for architecture: as such they have been getting into disuse in public buildings and private houses, ever since, a dozen years ago, we wrote against them, as others had written; and their use (except as accessory to the drama) must not at this day be tolerated in any place where the education of the public eye and taste can be influenced as it can be so largely in theatres. The distinctions between surface ornament, moulded or relief enrichment, and pictorial art as accessory, are perfectly easy of comprehension; and could we be absolute in this free country, we would banish the painter-stainer's shams from every pie-shop where the multitude "do congregate," and look for good art-architectural, and for the other art truly pictorial, and yet economical, as to be had, and certainly to be desired, in those places not the less. The Department of Art is doing, we believe,

much; but there is a vast field to which their influence has not penetrated, and it is for them to show that there may be art good and attractive, and yet moderately cheap. We may be told that brain-labour cannot be low-rated. Perhaps so; but, peradventure, the poor man might have the beauty and the art for the same sum he now gets the tinsel and the glare.

PREVENTABLE DISEASE.

SCARLET FEVER.

In our last number we inserted a communication from Dr. Headlam Greenhow on the non-preventability of scarlet fever, which appears to show a vagueness and uncertainty of view on sanitary subjects prevailing among many able and excellent members of the medical profession. Although in no wise connected with that profession, we are backed by much experience in all that concerns the sanitary improvement of towns and dwellings, and have directed our attention, amongst other things, to the question of children's diseases, and to their origin and spread.

The question as to the cause of these diseases is one of evidence, which any person with ordinary opportunities and powers of observation can decide, whether he be in or out of the medical profession; and from what we know, we could feel nothing but surprise when we read the following passage in the communication in question: "No one, so far as I know, has ever been able to trace scarlet fever to any other origin than intercourse, either direct or indirect, with persons already sick with that disease."

This is not sanitary doctrine, and would be sustained, we venture to say, by no careful sanitary observer.

But, if Dr. Greenhow's view be correct, then, considering the fatal nature of scarlet fever, and the many hopes it has blighted, the public can but arrive at one conclusion as to the method of preventing it, viz. a quarantine of the most unrelenting nature upon affected towns, houses, rooms, and even persons. The quarantine ought to extend, above all, to members of the medical profession itself, who are the most constantly in communication between the sick and the healthy, between persons affected and unaffected with this disease.

If scarlet fever spreads in the way stated by Dr. Greenhow, then the conclusion is inevitable that medical men are the great agents in propagating the disease, and should be dealt with as such for its prevention.

In regard to what is said as to the non-exemption of families of the rich from this fatal disease, it is too true. But has Dr. Greenhow ever considered whether the way in which children, even of the rich, are in too many cases brought up, and the state of their sleeping-rooms, are such as to require no improvement? Has he ever estimated the probable effect upon health of the air in the dormitories of public schools, from which institutions so much of the scarlet fever among the children of the higher classes proceeds?

The fact is, that children's epidemics have this peculiarity—that young people appear to become liable to them from sanitary defects, which produce comparatively little evil to grown-up people.

It never appears to occur to the advocates of specific "contagions" that there must have been a *first* case in the world, which could not have received its "infection" or "contagion" from any other case; and hence, according to Dr. Greenhow's doctrine, the Supreme Being must have directly inflicted it. In the absence of all proof of this, it is a far more rational thing to consider children's epidemics as belonging to the category of mitigable and preventable diseases, arising from the infringement of certain laws, either known or unknown. If they are known, and those influencing children's epidemics *are* to a great extent known, they ought to be obeyed. If they are unknown, we should endeavour to discover and obey them. It would show more common sense to do this, than to put medical men in quarantine, and draw cordons round all infected houses, rooms, and persons, which is the only logical result of the "contagion" doctrine.

"So far as we know," we are satisfied that children's epidemics of all classes are mitigable or preventable; and the lay public, with their present advance of sanitary knowledge, will support this view. The cure for "infection," if there be "infection," is cleanliness and fresh air. And this, notwithstanding Dr. Greenhow's assumption to the contrary, and we say it with due respect for him, is the only remedy consistent with common sense.

THE MAUSOLEUM OF MAUSOLUS.

THE BUDRUM MARBLES.*

Within the last few months the authorities of the British Museum have temporarily arranged the fragments of the ruined buildings lately excavated at the expense of the nation, by Mr. C. T. Newton, Her Majesty's Vice-Consul at Mytilene, or obtained a few years since by the exertions of Lord Stratford de Redcliffe. They have been transported to this country with a motive similar to that formerly guiding our rulers in the acquisition of the Elgin, the Lycian, the Assyrian, and the Egyptian antiquities. The new marbles thus added to our matchless collections, which are known by the name of "The Budrum Marbles," were obtained from the ruins of the far-famed Mausoleum of Halicarnassus, a monument so eminent and so universally admired in ancient times, that it was classed amongst the Seven Wonders of the World. There are so many circumstances connected with the history of this monument, both as a work of art and as a mute testimony of the fate of nations long since swept from the face of the globe, that I have ventured to think it a befitting subject for our consideration; and though these remains were found in a distant country, they are remains of very deep interest to the scholar, the archæologist, and the antiquary.

At the commencement of the present century both the educated and the uneducated inhabitants of Western Europe had alike forgotten the memory, in Asia Minor, of a highly-developed state of civilization, antecedent to that of the brightest period of the Greek, or any portion of the Roman history, and the existence of even the ruins of the great cities of that region was hardly suspected by the scholiasts or the commentators on the most ancient treatises on the history of art. Some well-known passages in Pliny and in Vitruvius, had indeed given rise to much debate amongst the more learned authors of the sixteenth and seventeenth centuries; but they contented themselves with abstract and theoretical disquisitions; nor, perhaps, in the then disturbed state of the East, was it likely that a mere love of antiquity would have induced any one to encounter the dangers of a personal investigation of the scene which had witnessed such "strange eventful histories." Sylvestre De Sacy published, about the end of the last century, a work on the antiquities of the Sassanaid kings of Persia, and on the ruined cities of Asia Minor; and Mr. Moritt seems to have visited the very ruins of Budrum, and to have spoken of them in glowing terms to Dr Edward Daniel Clarke, who mentions the fact in his "Travels," published between the years 1810 and 1823. In 1811 Captain Beaufort contributed some valuable information to the Dilettanti Society on the antiquities of Asia Minor; and from that period the number of labourers in the field rapidly increased. Messrs. Cockerell, Donaldson, Texier, Flandrin, Coste, and finally Sir Charles Fellows, have, of late years, successively brought to light the relics of the extinct nations of this region, and have revived the interest in their history. The very remarkable discoveries of the gentleman last named excited, indeed, so much attention at the time of their publication, that it was felt to be desirable immediately to continue the operations which had led to these discoveries being made, and the Architectural Society, of which I had the honour at that time to be president, sent a deputation to Lord Palmerston, then Secretary of State for Foreign Affairs, for the purpose of impressing upon him the importance of obtaining the existing sculptures at Halicarnassus, and of bringing them to England. The Institute moved also. This took place in 1841; and subsequently the work of excavation was begun under the directions of Mr. Newton and Captain Spratt, until, at length, in 1857, the sculptured fragments, now arranged in the British Museum as "The Budrum Marbles," were shipped for England.

The works thus executed at Budrum, under the personal superintendence of Mr. Newton, have produced some curious illustrations of the danger of following the interpretations of ancient texts made by closet commentators. The actual site of the Mausoleum which has been thus laid open, is not in accordance with any of the theories hitherto propounded in illustration of the passages of Strabo, Pliny, or Vitruvius; and the various ground-plots of the building which have been suggested by the learned and ingenious travellers who preceded Mr. Newton, differ so remarkably from the *real plan* of the edifice, that I have had them drawn, for the express purpose of showing how easy it is for the most able men to be mistaken in their interpretation of a mere verbal description. I am happy, however, to exempt from this remark the marvellous restorations of my friend Mr. Cockerell. By his kindness I am able to introduce for your inspection, as an illustration of this lecture, a copy of his very beautiful drawing, exhibited at the Royal Academy, which is a work certainly of the highest art and intelligence. But the result of Mr. Newton's excavations has been of far greater importance to the history of art than merely thus teaching to the learned a lesson of modesty. They have actually laid bare the area or platform on which the Mausoleum was built; and he has discovered a sufficient number of relics to enable him to restore the whole building with tolerable certainty, and thus really to confirm the accuracy of the accounts handed down to us by the ancients. Many of the most characteristic specimens of the sculpture, and of the architectural details, of this monument, have been sent to this country, together with some fragments bearing inscriptions, terra-cotta figures, lamps, tesselated pavements, &c. of other periods in the history of Halicarnassus,—the ancient city, the birthplace of Herodotus, which occupied the position of the small modern Turkish village now called *Boudroum*.

Budrum is itself situated at the head of a bay of the same name, on the south coast of Asia Minor, known to the ancients by the name of the Bay of Cos, or the *Sinus Ceramicus*. It made a conspicuous figure in the history of the great struggle between the East and the West, which took place during the Middle Ages, for the Knights of St. John of Jerusalem had there one of the most important of those strongholds by means of which the Latin Christians endeavoured to maintain possession of Syria. But in those times which were even yet more ancient, the city of Halicarnassus seems to have been of still greater importance than it was during the period of the Crusades, for it was then the capital of a kingdom enjoying a species of *quasi* independence under the protection of the Persian monarch, long after it had ceased to be perfectly free. This part of Asia Minor was, at a very early historical period, invaded by one of the Dorian colonies, and a distinct nationality was created by them under the name of *Caria*. A short time before Cyrus the Great established the supremacy of Persia in this region, Cræsus the Lydian seems to have overthrown the power of the Doric tribes, and in a manner to have superimposed on the Doric civilization the more elegant and more effeminate styles of Ionia. At any rate, Cræsus overcame the Doric tribes which occupied the ancient Caria, to succumb, in his turn, before the prosperous invasion of the Persians. Cyrus, however, seems to have thought that it would have been safer for him to establish in the remote provinces of his empire dynasties of native princes, directly responsible to himself, than to administer these provinces directly in the usual Persian style of satrapies, or provincial governments. We thus find that a race of indigenous kings was established for the government of the province of Caria, subsequently to the overthrow of Cræsus by his great rival, and that they retained their power until the Macedonian conquest swept aside the whole of the governmental organisation of the Ionic tribes, which it had suited the convenience of the Persians to retain during their short-lived empire, under Cyrus and his successors.

One of the most famous of these native Ionic Princes of Caria was Mausolus, the son of Hecatomnus, who married his own sister Artemisia, and died without children about the year 353 B.C. Mausolus left his kingdom to his wife, and she endeavoured to console herself for the loss of her dear relative by the construction of that celebrated Tomb, which was subsequently considered to have been one of the Wonders of the World. but which was not finished during her life, Artemisia, in fact, followed her husband to the grave within two years, leaving the kingdom to a brother of Mausolus; who, in his turn, left the throne of Caria to his wife Ada The latter was driven from Halicarnassus by Pixodarus, the surviving brother of Mausolus; and Ada then sought the assistance of Alexander the Macedonian against her rival, who adhered to the Persians in the struggle then raging, and had received a Persian garrison under the command of a satrap sent by the court of Persepolis. Alexander, under these circumstances, naturally assisted Ada, and he besieged and took, after a vigorous resistance, the citadel of Halicarnassus; whereupon he reinstated Ada in the nominal sovereignty of Caria, but retained for himself and his successors the possession of the citidel, the most important

* The substance of a paper read by Mr. Tite, M.P. at the Royal Institute of Architects, on Monday last, as elsewhere mentioned.

military position. The Macedonian princes of Syria, however, did not long respect the independence of Caria, for Antiochus the Great incorporated that kingdom with the rest of his possessions; and, subsequently, upon the first appearance of the Romans in Asia Minor, Caria was divided between Eumenes, king of Pergamos, and the Rhodians; to be absorbed shortly afterwards into the Roman Empire. The Saracens overran this district very soon after their appearance upon the stage of the world; and, though the Knights of St. John for a time maintained themselves at Budrum, even long subsequently to the destruction of the Latin kingdom of Jerusalem, the Turks, under Solyman the Great, succeeded in finally wresting from the Christians this last vestige of their power in the East, about the year 1522. As might naturally have been expected, the tomb of Mausolus suffered greatly during all these different wars and sieges; but from certain passages in the Byzantine historians, Eudocia and Eustathius, it would appear to have remained in a tolerably perfect state so late as the twelfth century. At some unknown subsequent period, the ruin of this monument appears to have been caused by an earthquake; but its final demolition was effected by the Knights of St. John, who pulled it down for the purpose of obtaining building materials for the castle of St. Pietro, which they erected about the year 1404.

Such, in a very rapid survey, is the story of a tomb which has given a never-dying name to all the greatest monuments which have since existed. But beyond this narrative there is something exceedingly romantic and touching in the conduct of Artemisia in erecting, as she fondly believed, an eternal memorial of her dear relation; and it furnishes a remarkable parallel to the conduct of Margaret of Austria in more modern times, from which perhaps you will allow me to draw some inferences. Artemisia mourned like one who "mourned without hope," and, therefore, the memorial which she raised was dedicated solely to the commemoration of him whom she had so deeply loved, and to her own sorrow. She spent, in fact, great treasures on a tomb of such surpassing magnificence, that its very name has become in all civilised nations synonymous with any great sepulchral monument. And here it may be worth while to remark, that the "winged word," however insubstantial it may appear to be in itself, seems likely to be more lasting and endurable than any monument of marble or bronze; thus justifying the proud boast of Horace, when he declared that he "had erected a monument more durable than brass." The mere word mausoleum, indeed, seems likely to remain as a perpetual testimony of the abiding affection of the Queen of Caria, long after even the very ruins of the tomb which she erected shall altogether have perished. But be this as it may, the monument raised by Artemisia was, with all its artistic merits, "of the earth, earthy;" and it pointed to nothing beyond the grave: it served no spiritual purpose, nor did it minister in any way to the consolation of other griefs than her own. This was exactly the view which even the heathen Lucian took of the memorial, when he introduced it in his "Conferences of the Dead." He there makes Diogenes say to Mausolus—"As to your monument, and the costly marble of which it is built,—the inhabitants of Halicarnassus may certainly have reason to show it to strangers, and to think much of themselves; but, my comely gentleman,—what sort of enjoyment you should have of it I cannot see. You should then say only that you bear a heavier load than the rest of us, since you have such an enormous heap of stones lying upon you."

The Christian princess, on the other hand, under a similar affliction, sought her consolation in the erection of a church, for the service and glory of Him who is called "the God of the *living* and not of the *dead!*" And, without at all entering on the discussion of the relative merits of the Classical or of the Gothic architectures, I cannot refrain from saying that the church of Notre Dame de Brou, at Bourg-en-Bresse, erected by Margaret of Austria to the memory of her deceased husband, Philibert Emmanuel of Savoy, is as infinitely more beautiful as a mere monument, as the tone and character of her grief were more pure and holy, than were the monument or the grief of Artemisia. It is, however, singularly remarkable, that the history of Artemisia, and the fame of the mausoleum which she erected, have gone forth to the ends of the earth; whilst those of the sacred edifice built by Margaret are, comparatively speaking, almost unknown;—so capricious is history! so false, in many instances, is the appreciation of the world!

I said that there was something touching about the story of Artemisia's grief; and, indeed, after allowing much for the exaggeration of poets and historians, and for the peculiar circumstances of her times and position, the term so used can hardly be considered exaggerated. The body of Mausolus was burned in accordance with the usual custom of the Ionians; for it is to be observed that the Dorians, and, generally, all the ancient Greeks, interred the bodies of the deceased; and that the practice of burning the dead prevailed only in the later periods of the Hellenic civilization. The ashes of Mausolus were then carefully collected, and it is said that his widow actually drank them daily, mingled with her wine. All the great artists of the day were engaged in the execution of the tomb, which Artemisia designed as a record of her affection and of her sorrow. The architect who had erected the temple of Minerva at Priene—whose name I have not been able to discover—and the sculptors Bryaxis, Timotheus, Leochares, Scopas, and Pythis, were employed upon this most genuine labour of love. Nor did Artemisia confine the expression of her feelings to monuments of any material, howsoever lasting they might be presumed to be made, for she is recorded to have invited all the most literate persons then existing to compete for the prizes offered for the best panegyrics on her lamented Mausolus. We learn from Aulus Gellius and Eusebius, that Theodectes obtained the prize of his poem, entitled "Mausolus;" and that Theopompus obtained another prize for a prose oration on the same subject, having amongst his unsuccessful competitors the great Isocrates. All her affectionate care and bounty were, however, bestowed in vain; for, as we have before seen, Artemisia died, if we may believe history, of a broken heart, two years after her husband. How "one touch of nature makes the whole world kin." How strangely do we sympathise with the tale of these beating hearts stilled by the cold hand of death more than two thousand years ago; and how infinitely more does the tale of Artemisia's grief affect us than even the restored magnificence of the monument upon which she concentrated such means, such wealth, and such artistic skill.

Mr. Tite then gave a series of extracts from ancient classical authors, for the purpose of supplying a convenient view of the contemporaneous evidence on which are founded the modern history and description of the ever-memorable monument of Mausolus. In the course of it he said,—

I have availed myself of the elaborate and interesting series of authorities contained in an erudite paper by Mr. Charles Newton, M.A. "On the Sculptures from the Mausoleum at Halicarnassus," printed in the fifth volume of "The Classical Museum," for April, 1847. He commences by considering the topography of the ancient city, as described in the following passage of Vitruvius, in which the actual site of the monument is determined:—

"Cum enim—animadvertisset Halicarnasso locum naturaliter esse munitum, emporiumque idoneum, portum utilem, ibi sibi domum constituit. Is autem locus est theatri curvaturæ similis. Itaque in imo, secundum portum, forum est constitutum; per mediam autem altitudinis curvaturam præcinctionemque platea ampla latitudine facta. In qua media mausoleum ita egregiis operibus est factum, ut in Septem Spectaculis nominetur."—*De Architectura*, lib. ii. cap. viii. 37, 38.

In the preface to his seventh book, sect. 8, the same author preserves the names of the architects and sculptors of the tomb, calling it the mausoleum of Satyrus and Phyteus.

"Namque singulis frontibus," he continues, "singuli artifices sumpserunt certatim partes ad ordandum et probandum, Leochares, Bryaxes, Scopas, Praxiteles, nonnulli etiam putant Timotheum; quorum artis eminens excellentia coegit ad Septem Spectaculorem ejus operis pervenire famam."

But the most valuable ancient description of this erection now extant is the following account given by Pliny in his "Natural History;" on which, as Mr. Falkener properly observes, are founded the various theories that have been proposed for the restoration of the monument. In this passage Pliny is treating of the finest specimens of sculpture in marble, and the most excellent of the artists who were employed on them, which leads him to enumerate those who executed the figures on the monument of Halicarnassus, and then to describe the building itself:—

"Scopas habuit æmulos eadem ætate, Bryaxin et Timotheum, et Leocharem; de quibus simul dicendum est, quoniam pariter cælavere Mausolo Cariæ regulo, qui obiit Olympiadis cvi. anno secundo. Opus id ut esset inter Septem Miracula, ii maxime artifices fecere. Patet ab Austro et Septemtrione, sexagenos-ternos pedes; brevius à frontibus: toto circuitu pedes quadrigentos undecim: attollitur in altitudinem viginti quinque cubitis: cingitur columnis triginta-sex, 'Pteron' vocavere. Ab Oriente cælavit Scopas à Septemtrione Bryaxis, à Meredie Timotheus, ab Occasu Leochares. Priusque quam peragerent, Regina Artemisia, quæ mariti memoriæ id opus exstrui jusserat, obiit. Non tamen recesserunt, nisi absoluto jam, id gloriæ ipsorum artisque monumentum judicantes: hodieque certant manus. Accessit et quintus artifex. Namque supra Pteron, pyramis altitudine inferiorum æquavit, viginti-quatuor gradibus in metæ cacumen se contrahens. In summo est quadriga marmorea, quam fecit Pythis. Hæc adjecta centum quadraginta pedum altitudine totam opus includit."—*Hist. Nat.* lib. xxxvi. cap. v. sect. 9.

The text of the preceding extract is taken from the accurate edition of Hardouin, which differs in many particulars from the ordinary and older versions; and it will be found also materially to vary from the following diffuse, though very characteristic, translation of Philemon Holland:—"To returne againe unto Scopas, he had concurrents in his time, and those who thought themselves as good workemen as himselfe, to wit, Bryaxis, Timotheus, and Leochares; of whome I must write joyntly together; because they joyned all foure in the graving and cutting of the stately monument Mausoleum. This Mausoleum was the renowned tombe or sepulchre of Mausolus, a pettie king of Caria, which the worthy ladie Artemisia, sometime his queene and now his widow,—caused to be erected for the said prince her husband, who died in the second yeare of the Hundredth Olympias: and verely so sumptuous a thing it was, and so curiously wrought by these artificers especially, that it is reckoned one of those matchlesse monuments which are called 'The Seven Wonders of the World.' From north to south it carrieth in length sixtie-three foot: the two fronts east and west make the breadth, which is not at all so large, so as the whole circuit about may contain four hundred and eleven foot. It is raised in height five and twentie cubits, and environed with six and thirtie columns. On the east side Scopas did cut: Bryaxis chose the north end: that side which regardeth the south fell to Timotheus; and Leochares engraved at the west end. But the Queen Artemisia—who caused this rich sepulchre to bee made for the honour and in the memoriall of her husband late deceased,—happened herselfe to depart this life before it was fully finished. Howbeit, these noble artificers, whome shee had set a-worke,* would not give over when shee was dead and gone, but followed on still, and brought it to a finall end; as making this account;—That it would be a glorious monument to all posteritie, both of themselves and also of their cunning: and in truth at this day it is hard to judge by their handy-worke who did best. There was a fifth workeman also came in unto them; for, above the side wall or wing of the tombe, there was a pyramus founded, which, from the verie battlements of the said wall was carried to the heighth of the building underneath it. The same grew smaller still as the worke arose higher; and from that heighth, at everie degree (step), which in the whole were four-and twentie, was narrowed and taken in; until at last it ended in a pointed broche; in the top whereof there is pitched a coach with foure horses, wrought curiously in marble; and this was the worke of Pythis for his part. So that reckoning the chariot with the sharpe spire, the pyramis under it unto the battlements, and the bodie of the sepulchre founded upon the firme ground;—the whole worke arose to an hundred and fortie foot in heighth."

Nowithstanding all the difficulties and discrepancies which both architects and commentators have found in the preceding passage, it still remains the most explicit and copious description extant of the tomb of Mausolus.

* * * * *

The speakers in the twenty-fourth of Lucian's "Conferences of the Dead," are Mausolus and Diogenes, whose dialogue incidentally supplies some few curious particulars of this tomb. When the philosopher inquires why the Carian prince assumes so much importance, he concludes his reply by saying "The principal reason is, that I have a prodigious monument raised over me at Halicarnassus, which for magnitude and beauty has not its equal in the whole world; and is decorated with the most exquisite figures of men and horses, all carved to such a degree of perfection,

* "And he"—Solomon—"set three thousand and six hundred overseers, *to set the people a-work.*"—2 Chron. ii. 18.

and in such exceeding fine marble, as you will not easily find even in a temple."

After having given these classical authorities, Mr. Newton proceeds to remark that there are other "ancient writers, from time to time alluding to the Mausoleum as one of the 'Seven Wonders of the World,' and as still existing. It is thus noticed in the second century by Pausanias; in the latter end of the fourth by Gregory of Nazianus; by Constantine Porphyrogenitus, in the tenth; by Eudocia, in the eleventh, who must have been misinformed as to its site, for she describes it as built on a mound in a marshy lake; and again in the twelfth century by Eustathius, who speaks of it as still existing Θαῦμα καὶ ἦν καὶ ἐστι—it was and is a wonder." Mr. Newton adds also a very interesting narrative of the discovery and spoliation of the tomb in 1522.*

Turning now to the consideration of the Mausoleum itself, as we are able to assert that it existed, our first observation is, that the very style of its architecture bears witness to one of the great revolutions which had passed over the country where it was erected. The style and even the order adopted were Ionic, and no traces of the Dorian element of Caria are to be discovered in it; whilst the existence of a complicated system of galleries and subterranean chambers, beyond the platform of the monument itself, recalls the system of interment which seems to have prevailed amongst the Pelasgic predecessors of both Dorians and Ionians, if we may class the Nuraggis of the Island of Sardinia, and the tombs of ancient Etruria, amongst the reliques of that remarkable race. The traces of Pelasgic art may further be observed in the construction of the Mausoleum, if Lieutenant Smith's restoration be received, as I think it may be; for the horizontal arch, by means of which he supposed that the pyramid of steps, and the colossal group of sculpture at its summit, were supported, would have been constructed in the same manner as the well-known Pelasgic monument, the treasury of Atreus; whilst it would have been in marked contrast to the usual Hellenic method of covering spaces, namely, by means of large flat stones.

There is not, however, the same amount of certainty with respect to the manner in which the pyramid was supported, which appears to exist with respect to the general character of the Mausoleum; for Messrs. Newton and Smith's excavations have so closely confirmed the most important parts of Vitruvius and Pliny's descriptions of this monument, as to justify them in the restoration of the parts still wanting from the remainder of those descriptions. The utter overthrow and the dispersion of the materials of the tomb have indeed rendered it impossible for us to discover, beyond dispute, what the design originally was. But the fragments are so numerous and so characteristic, the accounts handed down to us from antiquity are so clear, and the analogy of other sepulchral monuments of the same date leaves so little room for doubt of the correctness of Messrs. Newton and Smith's suppositions, that it may fairly be said that these gentlemen have set at rest satisfactorily, and for ever, the discussion as to the general outline of the building, as they unquestionably have done with respect to its position.

The Mausoleum, then, may be described as having been erected upon a platform, partly excavated in the natural rock, and partly consisting of artificial construction, about 126 feet long by 107 feet broad. On this was raised, in the style of the monumental sepulchres of the ancients, a lofty, solid base, similar to the bases of the very remarkable Xanthian tombs also in the British Museum; or like those of the celebrated tombs of Constantina in Algeria, or of Ooran in Phrygia, given by Mr. Falkener, in a learned paper on the subject we are now considering, printed in the "Museum of Classical Antiquities" for 1851. This base was in all probability ornamented with sculptured friezes, as in the case of the Xanthian tombs; for a great number of slabs, sculptured in *bas-relief*, and occasionally bearing fragments of mouldings, have been discovered. There is a curious passage in Pliny, with reference to the execution of this part of the Mausoleum, which shows that, after all, Artemisia had not lost sight of economy in the construction of her husband's tomb. He says, lib. xxxvi. cap. 6:—"I am not sure whether the art of cutting marble into slabs be not the invention for which we are indebted to the inhabitants of Caria. The most ancient instance of this practice, so far as I know, is to be found in the palace of Mausolus, at Halicarnassus, the walls of which are of brick, covered with marble of Proconnesus." Thus "there is nothing new under the sun," and the questionable sham of marble facings to brick buildings has not even the merit of novelty. However, there seems little reason to doubt that the four celebrated sculptors already mentioned, Bryaxis, Timotheus, Leochares, and Scopas, were employed respectively to carve the friezes of this portion of the building; and it is to be observed that there is a sufficient difference in the scale of some of the figures, and in their mode of treatment, to warrant the supposition of their having been the productions of different artists. From the fragments now placed in the Museum it would appear that these sculptures represented the favourite subject of the Amazonomachia; but I confess that I can hardly perceive its reference to the history of the king whose memory was thus to be immortalized.

The square base was crowned, no doubt, by an ornamental cornice, according to the restoration of Messrs. Newton and Smith, and upon this was a stylobate or plinth, on which the columns rested, measuring about 114 feet by 92 feet. On this was erected a single row of columns of the Ionic order, thirty-six in number, placed so as to present the somewhat singular arrangement of an uneven number of columns on two of the faces of the monument. The columns were of the Ionic order, and, according to Pliny's account, the height of the whole order was 37½ feet: the diameter of the columns, as ascertained from the actual remains, was 3 feet 5 inches, and the space between them seems to have been about 7 feet 4 inches; proportions which, it may be as well to observe here, by way of confirmation of the restoration, are the same as those observed in the Temple of Minerva at Priene, which was built by the architect who is supposed to have been engaged upon the Mausoleum. Upon the cornice of these columns was placed a pyramid of marble steps, put together with great skill, as you may perceive by the enlarged drawing on the wall. There were twenty-four of these steps, the lowest of which measured on the edges 108 feet by 86 feet; and, as the rise of the steps was 11½ inches, and the width of the treads respectively 1 foot 9 inches and 1 foot 5 inches, a platform was left at the top of about 24 feet by 18 feet, to receive the colossal group which crowned the whole monument. This group is said to have been the work of Pythis, and to have represented Mausolus, and perhaps Artemisia, in a quadriga, or four-horse car. In the excavations near this tomb there were discovered some reliques of other colossal statues, but I am not able to discover the precise positions which they occupied in the building.

The details of the capitals, and of the other ornamental parts of the architecture of this monument, do not certainly seem to bear the same stamp of elegance which may be observed in the buildings of Attica, or of Ionia, erected about the time of Pericles; though they were still superior to those of the buildings of Asia Minor erected in subsequent ages. The same remark may be made with respect to the sculpture; for the colossal figures, especially, seem to have been characterised by the pains lavished upon the execution of the drapery, by the violent movements, and by the mixture of different coloured materials, which prevailed when the arts had lost the severe grandeur of their best epochs. It is tolerably certain that even Phidias himself was addicted to the bad practice of polychromic decoration of sculpture; but his works would at least have been irreproachable if left of their natural colour. His successors, however, exaggerated this unfortunate error of which he was guilty, and the colossal figures from Budrum seem to have depended greatly on their colour for their effect. This little fact in the history of art also bears a moral lesson; for it shows that when a people lose their moral and political independence, they also lose their intellectual grandeur; and that as the *national mind* becomes enslaved, the *national taste* becomes debased. In this very Mausoleum there is indeed nearly as much of barbaric pomp as there is of Grecian refinement, if we may judge from the remains which have come down to us. One of the fragments of sculpture now in the British Museum merits, however, rather more than the casual notice which we have given to the rest. I allude to the colossal statue of Mausolus himself, which has been reconstructed under the superintendence of Mr. Edward Hawkins, keeper of the antiquities, with upwards of fifty pieces. I may, however, describe it most characteristically by quoting the words of that able and enthusiastic antiquary:—"In this figure, executed about B.C. 350, we have probably the most ancient example of Greek portrait statuary which has as yet been discovered. Nor are its merits as a work of art inferior to its interest as an historical monument; for, whether we regard the grandeur and simplicity of the conception, the admirable composition of the drapery, or the skilful combination of the ideal with the individual in the treatment of the features, it is equally deserving of the admiration of every student of sculpture." To this description I have to add only that it bears too evident signs of having been painted.

It is probable that these colossal statues were placed in or about the *cella*, or the small temple under the pyramid, which *cella* seems to have served as a kind of chapel. It was, according to Messrs. Newton and Smith, about 63 feet long by 41 feet wide, and was constructed of polished marble. The knights of St. John do not appear to have respected either the monument or its ruins; for they actually resorted to it as to a quarry, and employed the materials in building their temporary stronghold. In some instances this was a fortunate spoliation, for they turned the sculptured faces of the friezes inwards, and so protected them from the weather and the destructive hands of the Turks; but the whole proceeding does but little honour to either the taste or education of these military monks. But without dwelling on this subject, it will be more worthy of our attention to observe, that it was on account of the great distance between the centres of the columns and the walls of the *cella* that it became necessary to introduce the horizontal Pelasgic arch, to which allusion has been already made. It was required to support the mass of the Pyramid; and, indeed some such contrivance must have been adopted, for the space to be covered—22½ feet from the centres of the columns to the walls of the *cella*—could not have been spanned by any of the materials used in Asia Minor, in the form of large stones used as lintels or beams.

In closing this address, I am not inclined to review the philosophy of the subject too curiously, nor to moralise too much on the various sermons to be found in the stones of the world-famed ancient tomb, thus lately brought for the inspection of the busy citizens of our mighty Babylon. But they *do* bear lessons: and if we read them aright, we—

> "Could emblems see
> Wherewith perchance to make a pleasant rhyme,
> One which may profit in the after time."

They teach us that man's greatest works are all perishable; whilst human feelings and human affections will last as long as Adam's race shall tread on "earth's sepulchral sod." They teach us that *words* are often more durable than *things*; that peoples and empires pass away without "leaving even a wrack behind;" that wealth, civilisation, and political grandeur at one period, are no guarantee of even national existence at others; and that the merits of kings or rulers cannot uphold nations which are themselves devoid of moral worth. May we take these lessons to ourselves! and let us hope, that when the imagined New Zealander may come here to seek, in the cradle of his race, for antiquities wherewith to adorn the museums of the southern hemisphere, to be erected two thousand years hence, he may find not only traces as noble and as beautiful, of the holiest and best private affections amongst our rulers, as those observable in the marbles of Budrum, but also that which has not been hitherto discovered in Greece, Asia Minor, Egypt,—with the exception of the buried cities in Italy—traces of the individual worth, energy, and moral power, of the private citizens of our land. Sooner or later the empire must pass away from us; and it seems to me, whilst musing on the fate of the sculptures of the Mausoleum, that it behoves us seriously to inquire whether we, as a nation, are leaving our impress on the records of time for good, or for evil.

THE ROYAL ASYLUM COMPETITION, CAMBRIDGE.—The author of the selected design, marked "Progress," is Mr. Young, of Derby. A question arose as to the possibility of carrying it out for the stipulated sum, and the architect undertook to find a respectable builder who would contract to do so.

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† The researches and discoveries of modern travellers and antiquaries relating to the ruins of this ever enduring edifice, are lastly to be noticed. They consist of the following papers, with the titles of which the present appendix may be appropriately closed; including, however, an important extract from the very interesting descriptive report of Mr. Edward Hawkins on the Antiquities from Budrum now deposited in the British Museum. "On the Sculptures from the Mausoleum of Halicarnassus." By Charles Newton, esq. M.A. Classical Museum, vol. v. 1848; art. ix.; pages 170—201. "On the Mausoleum or Sepulchre of Mausolus at Halicarnassus." By Edward Falkener, esq. Museum of Classical Antiquities, vol. 1, 1851; art. xv.; pages 157—189. Papers respecting the Excavations at Budrum: presented to both Houses of Parliament by command of her Majesty, 1858.

PROPOSED ARCHÆOLOGICAL MUSEUM AT ATHENS: COMPETITION.

The following further instructions have been issued to competitors, in reply to questions for information addressed to the Greek Government.

In proposing this competition, the Greek Government are desirous to possess for the future a complete design for an edifice, which may contain not only all the fragmental antiquities now existing at Athens, but also all future antiquities produced by subsequent excavations, or by gifts.

At present, however, a part only of the building will be erected.

1. The nature and number of the drawings should be such as may fully explain the edifice in all its parts. Thus, there should be a plan for every story—a general plan, and one more detailed, upon a larger scale, of the part proposed for immediate execution.

The general plan should be accompanied by the several elevations, and with one or more general sections. The plan is to be to the scale of $\frac{1}{150}$, and the elevations and sections $\frac{1}{250}$, or double the other.

The plan of the part proposed to be executed at once should be accompanied by one elevation and two sections, the one longitudinal, and the other transverse; the plan to the scale of $\frac{1}{100}$ (or 5 millimètres to a mètre); the elevations and sections $\frac{1}{100}$.

Descriptive particulars should accompany the drawings: or there may be explanatory marginal notes on the drawings. There should be an estimate of the cost of the whole design, and particularly of the part to be immediately executed, and these estimates should be sufficiently detailed to prove that they are not fictitious.

2. The Government desire to leave the fancy of the architects free without restrictions, so that no style is excluded, not even the Polychromatic style, which, too, is now recognised as that of the Greek style.

The artist is, therefore, at full liberty to make out his drawings of the form and colour that he may like to employ. But, to ensure uniformity in the plans, they must be tinted only in Indian ink.

3. The competition will be closed in a year from the date of the signature of the Royal Ordonnance,—the 12th July, 1858, till midnight on the 12th July, 1859.

4. The designs are not to bear the name of the author, but a motto or symbol. They are to be sent in tin tubes, and to be remitted to the Greek consuls residing in the country of the artist, and accompanied by a sealed letter, having on the envelope the motto or symbol, and within the envelope the name, residence, &c. of the author.

After the decision the drawings will be remitted to the respective consuls, in order to be claimed by the authors. All the cost of conveyance from the office of the consul to Athens, and of their return, will be borne by the Greek Government.

No letters will be opened but those of the successful competitors.

5. The antiquities and detached fragments of the ancient monuments, now possessed by the Government, are not very considerable, but each new excavation brings to light new discoveries, and eventually Greece will be the richest nation in the world for its museum.

Taking these facts into consideration, and to fulfil the wishes of one of her worthy sons, who set the project on foot, the Greek Government declares that it cannot at present lay out, for the proportion to be immediately erected, a sum exceeding 200,000 or 250,000 drachms (from 7,500*l.* to 9,375*l.* about).

But the entire building may cost 1,500,000 drachms (about 55,000*l.*).

The total superficial area for the general project will be about 8,000 square mètres (86,000 square feet), the portion at present to be appropriated for the part to be now executed, 1,500 square mètres (16,125 square feet).

The part to be immediately erected, although a proportion only of the general design, must in itself be a monumental whole, and almost complete.

6. It is to be assumed that the surface of the area is level, solid, and isolated, on all sides. The artists, therefore, will have to arrange the lights to the galleries in the manner most favourable to the sculpture, whether small or great. It is, therefore, unnecessary to indicate any particular orientation, as has been required by some of the proposing competitors.

7. The materials usually employed at Athens are a hard calcareous stone of the rocks in the neighbourhood of Athens, and extracted from the quarry. It is used for the walls, which are afterwards covered with a stucco, composed of a marble dust, lime, and sand. There are also the grey marble of Hymettus, and the Pentelic marble. Good bricks, timber, and iron must be imported from abroad.

The mètre cube (35¼ cubical feet English) of ordinary masonry costs about, 8 drs. (11s. 3d.), all included. The external stucco, above alluded to, in three or four coats, 5 drs. (3s. 9d.); external stucco, of lime and sand, 2½ drs. (1s. 10½d.) the square mètre (10·75 feet).

The mètre cube of Hymettus marble costs 100 drs. (3*l.* 15s.); that of Pentelicus twice as much (1 mètre cube = 35¼ cubical feet English).

The price of foreign materials must be known to the competitors, who will only have to add the cost of transport.

A marble carver for capitals, cornices, columns, &c. gets from 6 to 7 drs. (4s. 6d. to 5s. 3d.); a mason, or bricklayer, 4 to 5 drs. (3s. to 3s. 9d.); a carpenter, from 5 to 6 drs. (3s. 9d. to 4s. 6d.).

It has been asked of the Government that the jury should be known beforehand; but the time for that has not yet arrived. It must be sufficient for the competitors to know that all interests will be represented, and all styles appreciated.

Taking into consideration the suggestions made by many competitors, as to the difficulties of absenting themselves from their usual places of residence, should the prize be awarded to them, and their desire that premiums should be awarded commensurate with the importance of the subject to two or three of the best designs, the Greek Government has decided:—

That the Government shall reserve to itself the right of giving the execution of the design in its entirety, or in part, either to the artist declared to be the first in merit, or to any other it may select. The former shall have always the preference, if he expresses the desire to settle at Athens, to superintend the works.

1st Prize. The remuneration in the former case, which would naturally be the 4 per cent. as a pecuniary recompense.

In the latter case, if another artist were charged with the execution, the first prize would obtain an honorary recompense; and, besides, in both cases, a library of books of art, to be selected by himself, of the value of 5,000 drs. (182*l.* 10s.), bound at the expense of the Government.

2nd Prize. A sum of 5,000 drs. (187*l.* 10s.)
3rd „ „ 2,000 „ (75*l.*)

Both these last being independent of the remuneration for execution, if either should be selected to superintend it.

A public exhibition of the designs will take place at Athens, both before and after the decision.

The Government, having thus answered all the remarks submitted to it and deserving attention, and persuaded besides that the artists have no need of further information in order to produce designs worthy the occasion, will decline to reply to any further questions that may be asked.

The Minister of Public Instruction
and Religion,
Ch. Christopoulos.

Athens, 13th October, 1858.

THE EFFECTS OF A WALL PAPER.

It was related, a short time ago, that a person who had been afflicted with a fever failed to recover in the manner to be expected, and this was in a great measure attributed to certain numbers which seemed so fixed on the mind, that they interfered with other ideas: so many up—so many down—so many across, seemed impressed like a species of monomania on the patient, and created such a degree of nervous excitement, that it was supposed the delirium of the fever had permanently shattered the senses. It was, however, fortunately discovered that the numbers of the peculiar and distinct patterns of the paper of the room corresponded exactly with those which so much affected the memory of the sick person, who was forthwith removed, and the illusion gradually departed.

Phrenologists will observe of this case, that the organ of numbers was peculiarly developed, but it is certain that the generality of disorders which affect the nervous system must be to some extent affected by the images which are presented for a lengthened period without change to the disordered brain. The writer some years ago was stricken with scarlet fever, and for many days the recollection was lost; but on the approach of that terrible forgetfulness, and the gradual return of reason, the patterns of the wall paper assumed sometimes horrible and fantastic shapes, and the geometrical figures seemed to blend into picturesque and rugged landscapes, rocks and stormy seas, and sometimes sweet pleasant places, decked with flowers, with the sun-light glistening through green branches. But when the fever had passed away, and left a sense of utter prostration, the monotonous repetition of the lozenge, &c. of the small pattern became painful in the extreme.

Although we do not pretend to that extent of medical knowledge which would authorise us to venture a positive opinion of the extent of the effect which the matters presented to the sight have on fevers and other similar diseases, common sense dictates that the constant fatigue which must be caused by inharmonious and harsh colours and forms must produce a considerable amount of irritation, and suggests the propriety of colouring bed-rooms with such a description of diaper as will present a harmonious whole, or some simple yet refined tint which will please the eye without distracting the attention.

THE MEMORIAL CHURCH AT CONSTANTINOPLE.

On the 19th of October Lord Stratford de Redcliffe, in the presence of some of the British residents, laid the first stone of the Memorial Church in Constantinople, which is to be erected from the designs of Mr. W. Burges, architect. The site is a fine one, the ground falling towards the Port, and giving a view of the Seraglio point and the opening of the Bosphorus. Lord Stratford, at whose request the Sultan gave the land, made an address before laying the stone. In the course of it he said:—

"Oh God, how full of wonder are Thy ways! The tempest goes forth in destruction, but the skies are cleared by its appalling energy, and nature, soon reviving, repairs its ravages with increased fertility. War, which is but too often the tempest of human passions, is also an agent of destruction; but its course awakens our highest energies, and in its final consequences the hand of a wise and benevolent Providence may not unfrequently be traced.

To that war, which was lately an object of such intense anxiety to all of us during many successive months, we are indebted for the plan which our Memorial Church is destined to accomplish.

The Sultan's grant of the land required for it is a link in the long chain of munificent concessions which have distinguished his reign. It is a part of that far greater and more comprehensive act of justice which crowned the results of the war, in so far as moral principles, apart from mere political questions, are concerned, by establishing liberty of conscience in religious matters throughout the Ottoman dominion."

Under the stone were laid English and Turkish coins, and the following inscription, which was composed in England by the Committee of the Memorial Church:—

"In Sanctissimæ et individuæ
Trinitatis
Gloriam Sempiternam
Hujusce Ecclesiæ
In urbe Constantinopoli
Ritibus Anglicanis et adventis
Britannicis paratæ
In Memoriam Pacis et Justitiæ
Per arma in Crimea
Vindicatæ
Militum Britannicorum
Omnium strenue dimicantium
Nonnullorum fortiter occumbentium
Voluntariis conciviun sumptibus
constructæ
Lapidem Angularem
Dei veneratione motus
Posuit prænobilis vir Stratford
Vicecomes
Stratford de Redcliffe
XIX die mensis Octobris
A. D. MDCCCLVIII.
XXI. Anno Victoriæ Britanniar. Reg.
Abdul Medjid Khan
qui solum munificenter
Imperante largitus est."

The name of the excellent and distinguished nobleman who officiated at the ceremony is duly recorded, and very properly; but we see with astonishment,—shall we not say (in the interest of our art and our artists) indignation?—that the architect's name does not appear in the inscription, as published. Considering the wide appeal made by the committee to architects, the response that invitation elicited, and that Mr. Burges's design was selected under such circumstances, the committee owe to the profession an explanation of that omission.

The extreme dearness of all things in Constantinople, as compared with England, has necessitated considerable reduction in the design, as published by us in a previous volume:* it will even now cost 18,000*l.* we understand. All the main features of the design, height, &c. with the omission of the projecting part of the transept and one bay, are preserved.

* Vol. xv. pp. 150 and 151.

STATUES AND FRESCOES IN WESTMINSTER HALL.

I HAVE understood that one of the principal points in Sir Charles Barry's original plan for the Houses of Parliament, which gave his design the preference over the others, was that he provided a main entrance through Westminster Hall. This was no doubt a fine thought, and it is finely realized up to a certain point; but why should it not go further? Why should the old hall itself—that fine relic of old time—remain undecorated, and comparatively neglected, while the other portions of the building are receiving elaborate art enhancements? It still remains far the most spacious, if not the finest apartment in the palace, and surely offers advantages for the reception of historic art, equal if not superior to those afforded in any other part of the building.

The hall itself (Westminster Hall) has been the scene of various important historic events, of which it would be interesting to have a list drawn out from our archives. Various of these will occur to your readers; and these might most appropriately form at least a portion of the subjects for those frescoes which should occupy the walls. I can hardly fancy anything that would be more interesting or instructive, or that could more truly subserve the just objects of historic art, than pictures in Westminster Hall, of various great events that have taken place there. How many associations would they awake, and how impressed they would be on the mind by their being presented on the very spot of their occurrence?

No one can view these walls without perceiving how suitable they would be for a series of such works. These would of course be divided into compartments, in accordance with the divisions of the roof, the lines of the hammer-beams being extended down the wall, with some architectural devices, so as to afford these separations. I am sure all will feel how very much such additions would enhance the popular entrance to our great deliberative palace

The hammer-beams also, of which the situations point out suitable dimensions for the pictures on the walls, would readily, in addition, assist in indicating positions for a series of statues, also of an historic character, in a broad avenue from one end of the hall to the other. The hammer-beams are terminated, if I recollect, with angels' heads and hands, holding shields. Beneath each of these might be the statue of some distinguished person. There are plenty of precedents for avenues of statues of this character. Germany, I believe, in the decoration of her edifices, affords several, and the scheme is as old as the avenue of sphinxes leading to the Temple of Karnack. Therefore I am laying no claim to originality in this treatment, but am only suggesting its adoption in this case in Westminster Hall. Moreover, I think I have heard it whispered before now, even in reference to this very spot.

While I am on this subject I may as well make another suggestion, viz that a statue of Alfred would seem appropriate in the centre of Palace-yard, near where Marochetti's *Cœur de Lion* was erected for a time. That hard-hitting king—a bad son and worse monarch, who left his country to take care of itself, for the pious purpose of slaughtering infidels—of course could not form a judicious introductory work of art to our houses of deliberation, and, therefore, was justly removed. But the very consideration which would indicate him as an injudicious emblem in such a situation would point out Alfred as the fitting one. Forming as he does the commencement of our regular line of monarchs, at once philosopher and king, and from whom traditionally came our trial by jury, no one would so aptly occupy this place as he. And this reminds me that in the original cartoon competition there was a very fine composition of the "First Trial by Jury," by Mr. Cope, R.A. Why are we not to see this in fresco, and what could be a more suitable subject for Westminster Hall? It was universally, I believe, approved as a cartoon, and would be no doubt still more so as a fresco. The subject is a noble one, and the treatment did not fall short of it.

But I was speaking about statues. The series would well begin with Alfred outside, and then the avenue through the hall might contain various of our great men and worthies, so that we should walk up to the Houses of Parliament, through Westminster Hall, with representations in marble of these great men on either side of us, and some of our most important historic facts farther to the right and left, portrayed on the walls. This would form a noble introduction to the palace beyond, and would appear a very worthy enhancement of Westminster Hall, also without in the least interfering with its present cherished features; only, indeed, carrying them out.

In looking at the reports of the Fine-Art Commission, also, the other day, I noticed that at the time when the subjects for the statues in St. Stephen's Hall were recommended, which are now executed,—indeed in the same report,—that a pair of statues, that is, one of Nelson and one of Marlborough, were equally suggested for the square landing, on the top of the first flight of stairs, at the end of Westminster Hall, which connects this with St. Stephen's Hall, thence leading to the central hall and the Houses of Peers and Commons. As I see you inserted the list I sent you last week, from the Fine-Art Reports, of the number of the statues originally recommended for the Houses of Parliament, perhaps you may not think these remarks out of place in your pages.

EPSILON.

PREVENTION OF FIRE AT SEA.

THE disastrous accident by fire which has so recently destroyed the *Austria* has led me to consider whether it may not be possible to obviate such occurrences in future; for it certainly seems strange that, with the most powerful machinery inside a ship, and the whole ocean outside (water being the only element required to extinguish fire), it should so frequently happen that vessels are burned down to the water's edge, in spite of the best exertions of hundreds of able-bodied men.

To excite a movement, then, among those whom it especially concerns, on so momentous a subject, I throw out the following suggestions:—

Let an aperture, sufficient to admit an influx of an overwhelming supply of water, be made in the bottom of a ship. Let this aperture be of a circular form, and a foot or more, according to the size of the vessel, in diameter. Let it be closed by a strong circular scuttle, or valve, opening outwards, water-tight, and moving on a strong hinge. From a point on the inside of the scuttle, immediately opposite to this hinge, let a metallic rod pass, perpendicularly upwards, terminating in a handle above the water-line of the surrounding ocean, and attached below by means of a screw and groove to the scuttle, so as to open and shut it at pleasure. Let a perpendicular cylinder or pipe surround the scuttle, including its opening rod, and being made strong and water-tight throughout, let it rise in the ship to within a foot of her water line, and terminate at top in a cistern, 3 or 4 feet square, the sides of which must be from 2 to 3 feet high, so that although the end of the pipe at the bottom of the cistern is below the water line, the top of the cistern will be from 1 to 2 feet above it. Safe means are, by the apparatus above described, provided for commanding an unlimited supply of sea water, conveniently placed within the ship, as high as the level of the surrounding ocean; for we have only to open the scuttle by turning the handle of the rod, and water from below will immediately rush up through the pipe and fill the cistern to the depth of 2 feet. Now, without additional power we can, by means of hose, conduct this water to any part of the vessel below the water line, and many important compartments, as the engine room and furnaces, the spirit room, the powder magazine, and part, at least, of the cargo (often consisting of inflammable materials), are so situated. We might, even, as a friend, an engineer of eminence, has suggested to me, have permanent metallic pipes laid on from the cistern to such localities, and their ends might be fitted with taps of gutta percha, which would soften if exposed to heat, and thus render such pipes self-acting when most needed. To extinguish a conflagration occurring above the water line, the usual appliances of fire-buckets, pumps, and fire-engines, with their hose, would be conveniently fed from the cistern, and worked, whether by hand, or, when available, by steam power; and it would be no small advantage that there should be an abundant supply of water in a reservoir conveniently placed, and easily approachable in all weathers, and this, too, at a height already more than two-thirds of that which would, under any circumstances of dangerous fires breaking out in the hull of a ship, be required. By a tap near the bottom of the pipe, inserted in its side, it might, when full (the scuttle being previously closed), be discharged into the ship's bilge, thence to be pumped out of her in the usual way. The weight of water in the pipe and cistern, however, even if always kept there, would probably not exceed a ton and a half; and, if we assume the apparatus to weigh as much as the water, the whole, in working condition, would not equal the weight of a 32-pound gun, with its carriage and tackle. I have only to add, that for the sake of more perfect security, there should be two such apparatus, both in the median line of the ship, but one in the fore and one in the after part. It appears that steam is applicable to the purpose of extinguishing fires on board ships, but this method, however efficacious, can only be employed in steamers; and even in them, fires occasionally break out in the engine-room, and cut off all access to the engines. This method, therefore, does not supersede the necessity for considering mine, and I therefore invite your readers to ponder over my suggestions, and either to favour them with approval, or to propose some other, better calculated to effect the important object in view.

B. G. B.

OPENING MEETING OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE first ordinary general meeting of the session was held on Monday evening last, at 16, Grosvenor-street, Grosvenor-square, when there was a very full attendance of members and visitors.

Mr. Hakewill, fellow, occupied the chair.

Mr. C. C. Nelson, hon. sec. read the minutes of the last meeting, which were confirmed, and also a list of donations, including 100 shares in the Architectural Union, purchased for and presented to the Institute by Mr. Tite, M.P.

Mr. M. D. Wyatt observed, that the council of the Institute were deeply sensible of the gratitude they owed to Mr. Tite for his handsome gift, and that it would be gratifying to them if, as in the case of Lord de Grey's gift, some gentleman not connected with the council would move a vote of thanks to the hon. gentleman.

Mr. Godwin said he had much pleasure in moving that the thanks of the Institute be voted to Mr. Tite for his handsome donation.

The resolution having been seconded, was carried by acclamation.

Mr. Tite, in acknowledging the compliment, observed that when he entered the room he had no idea that he should have had the happiness of responding to so gratifying a testimonial as the resolution just passed. The shares which he had purchased were entirely at the service of the Institute, and he hoped that the new building in which they were soon to meet would be a greater credit to them than the humble apartments in which they were then assembled. He was happy to think (although without being aware of the circumstance until that evening) that he had followed the example of their excellent president, Earl de Grey; and he earnestly hoped that the Institute, when domiciled in its new house, would continue to be as prosperous as it had been in the old.

Professor Donaldson, as honorary secretary for foreign correspondence, forwarded a copy of additional instructions issued by the Greek Government in respect of designs for the proposed Museum at Athens, and a translation of which we have printed.

Mr. Wyatt having read a communication announcing the death of M. Montferrand, corresponding member, of St. Petersburg, and the architect of the celebrated church of St. Isaac in that city,—

Mr. Godwin said he had no doubt a few particulars relating to this distinguished associate would be acceptable to the Institute. M. Montferrand went to St. Petersburg in the year 1816, and the next year was successful in getting his plans accepted for building the St. Isaac's Church—a work which had been originally commenced by Peter the Great. On this immense work he laboured uninterruptedly for forty years, and in May last, on the day of the consecration, he went home to his bed, labouring under a boil or carbuncle in the neck, which required to be cut. It would seem that in the completion of the St. Isaac's Church he had accomplished his earthly mission, as he expressed himself perfectly resigned at the prospect of death; and in twenty-eight days from that event, passed to his rest. He left behind him a reputation which will long survive. In private life he was most estimable, showing glad hospitality to all foreign artists who arrived in St. Petersburg. This was shadowed out in an inscription which he caused to be placed in the entrance-hall of the dwelling he had erected for himself. The legend was in Latin, but it might be translated thus:—"A small house; but, small as it is, it is open night and day to friends!"

Mr. Papworth produced an ordinary street plan of the city of Paris, showing, in blue lines, all the improvement in contemplation, and in red those which had been already executed by the municipality, under the directions of the Emperor. He had been informed that these works, which might be described as boulevards rather than streets, had paid the expense of their construction, within one

year from their completion. If this were so, it might be desirable that the system should be tried in London, where metropolitan improvements were so urgently required. He ventured to call attention to the subject, in the hope that some gentleman present might be able to throw some light on it.

Mr. Tite expressed an opinion that it was undesirable at that moment to open up so wide a field for discussion. He was also of opinion that his friend, Mr. Papworth, was misinformed. As far as he (Mr. Tite) could gather from personal experience and documentary evidence, he had arrived at the conclusion that Parisian improvements were not carried out on any better system than those of London. The same fault was found with regard to the expenditure of the money: juries were employed to assess the value of houses and lands, the same as in England, and as far as his knowledge of the subject went, confirmed as it was by the *résumé* which appeared in the *Moniteur*, the result was very similar to that in London. The *Moniteur* gave all the figures, and all the facts, and showed that all the municipality got back was one-third of the cost, and no more. He would suggest, that as the question was one of much gravity and importance, its discussion should be postponed to a future day, on which occasion he would pledge himself to produce the documents which he had in his possession on the subject, and which he had submitted to a select committee of the House of Commons.

Mr. Wyatt said he had received a communication from Mr. I'Anson, to the effect that he would early in January or February favour the Institute with a communication on the subject of these improvements. Under these circumstances, he suggested that that would be the most convenient time for taking the discussion.

The consideration of the subject was accordingly adjourned to a future evening.

Mr. Tite then proceeded to read a paper, entitled "Observations on the recent Discoveries of the Remains of the Mausoleum, at Halicarnassus," printed in our present number.

At the conclusion of the paper, which was warmly applauded, and at the request of the chairman,—

Mr. Westmacott said he had little to add to the erudite and eloquent paper just read by Mr. Tite, except to say that the trustees of the British Museum had confided to him the task of mending (for he was no friend to "restoring" works of ancient art) the colossal statue of Mausolus, and also a female figure. There were sixty-seven pieces or fragments of the colossal statue, and it appeared marvellous with what ingenuity the persons engaged upon the work had succeeded in making a very fine statue from them. He scarcely knew any statue which had so many excellent points worthy the attention of the artist, especially with reference to the drapery. That portion especially under the arm of the female figure had an effect almost marvellous, and he only regretted that a greater number of artists had not been to study it. He confessed to the gratification it had afforded him to meet Professor Cockerell in connection with this interesting subject. Mr. Hawkins, the curator of this department of the British Museum, was of opinion that the statues had originally been coloured, but he (Mr. Westmacott) was bound to say, that he could find nothing on which to ground that belief. There was, to be sure, a little red under one of the lions, which might have been caused by oxide of iron or some other cause, but that was not sufficient to satisfy his mind that the marbles had ever been purposely coloured. There was one other point to which he would wish to refer, and that was to the remarkable fact, that in all Greek equestrian statues the legs of the horses were in action. The great Greek sculptors would appear never to have done any thing from caprice, but to be governed by one guiding principle. They appeared to act upon the principle that, as the figure of the horse and man upon it were necessarily of great weight, it was undesirable to place them upon four straight columns, but rather to make the legs of the horse branch out as it were. By adopting this principle they also prevented the quadruped having the appearance (from certain positions) of a biped, as some modern horses had which he could mention. The fragments of the horses sent from Halicarnassus were very imperfect. Only two half trunks had, in fact, been deposited in the British Museum, and to these he had been asked to put legs. In the course of this duty he had turned the trunks in every conceivable position, and it became quite clear from their anatomical construction that the entire number of horses must have been represented originally standing, and not in action.

Professor Cockerell said he was so much impressed with the eloquence and charm of the address they had just heard, that he was not prepared to express more than his admiration of it. He had had the honour of receiving a polite invitation to be present that night, but he could not help thinking, that if he was to be called upon to speak in the presence of a member of that illustrious House to which Mr. Tite belonged, and of which he was so great an ornament, some notice ought to have been given him of the set-to appointed. He was afraid when he came into the room he might, in workman phraseology, get "pitched into," for interfering in a work which had occupied so many able and earnest minds. He was, however, greatly relieved as his honourable friend proceeded with his address, to find that he had got off so easily, and also much gratified at the handsome manner in which Mr. Tite had spoken of his restoration of the Mausoleum. He regretted, however, that Mr. Tite had not favoured them with his own ideas of the restoration. He (Professor Cockerell) confessed that he had been warmly attached to the monument, as one of the most novel and interesting specimens of architecture which it was possible to conceive. With regard to the plan of the reconstruction, he was disposed to agree in the main with his friend, Mr. Newton, whose antiquarian knowledge and perseverance had tended to throw so much light on this interesting subject. The diameter of the column having been found, it was, of course, easy to determine the height. The cornice was also found, and the position of the lions' heads upon the latter determined the intercolumns. It was therefore necessary to make it one diameter more, or to accept the intercolumns as he had laid them down. The order being found, and the entire columns found, there were certain data on which to proceed. The steps found had, however, he feared, misled Mr. Newton, as he (Professor Cockerell) apprehended that they were only intended to raise the platform on which the horses and car (quadriga) stood, so that the horses' feet might be seen. With regard to the Pelasgic arch as a mode of spanning the space between the outer row of columns and the cella, he could not admit that theory for a moment, for in his opinion it would not bear an instant's consideration. The more he considered the subject, the more his mind was made up to the conclusion that the theory would not do at all, and was quite out of the question. Another cargo of marbles was, however, on its way to England, and when they arrived, it might be possible to ascertain some fresh fact; but in the absence of any positive evidence, he could not subscribe to the theory of the Pelasgic arch.

Mr. Vaux said that from what he had been able to gather, not only from the descriptions of Mr. Newton but also from several private letters, he entertained no doubt but that the colossal horses and the larger specimens brought from the Mausoleum had been buried at a very early period, and had remained for ages covered with the silt or washings from the mountains. He was also of opinion that the tomb had been destroyed by an earthquake, probably in the second or third century of the Christian era, and that the materials which the Knights of St. John removed was the solid substratum on which the horses and car stood.

Mr. Tite remarked, that when the Knights of Rhodes carried away the materials to build the Castle of St. Pietro, they took away a quantity of the friezes which they used as building stones, but that most fortunately they placed the sculptured portion inside. It was the discovery of these friezes that led to the subsequent discovery of the Budrum marbles, and their conveyance to England.

The Rev. R. Burgess observed that he would not presume to pass any opinion upon what might be strictly called the professional part of the question, but would merely glance at the earlier portion of Mr. Tite's admirable paper, which might be described as the literary and antiquarian part. Whatever light the researches of the learned might throw upon that subject, it was clear that it must divest the story of King Mausolus and Queen Artemisia of a considerable portion of its romance. It was upon that account, no doubt, that Mr. Tite had not referred to aught that related to the private life of the monarch to whose memory this splendid tomb had been erected. Mr. Tite had naturally enough dilated with eloquent admiration upon the fond female tenderness displayed by Queen Artemisia for him, but he had omitted to state what kind of husband he was. It was quite certain that had King Mausolus lived in modern times, a monument to perpetuate his memory would have been about the very last thing his subjects would have thought of erecting. It appeared from the most trustworthy historians of the period that his Majesty of Halicarnassus passed the whole of his life in the dignified and ennobling pursuit of scraping money together: neither was he very scrupulous as to the means by which he accomplished that object, for it is recorded that on one occasion he declared that it had become necessary to defend the town and harbour of Halicarnassus with a strong wall and other works, for which a very large sum of money would be required. His subjects found the money and deposited it in his hands, but finding that nothing had been done towards erecting works of defence, the necessity for which the king had pronounced to be so urgent, a deputation waited upon him to learn the period when his Majesty was going to make a commencement. The answer of the monarch was characteristic, if not satisfactory. He said that the gods did not approve of his commencing them at that time, and, what was more, that he did not know when they would. Mr. Tite had told them that Queen Artemisia offered prizes for the best funereal epigram upon the greatness and virtues of the deceased monarch, and he stated that the poet had received the first prize; but he omitted to state that the same poet had previously written a biographical memoir of the king, in which he described him as having been the greatest rascal under the sun!

Mr. Wyatt observed that he also had closely examined the marbles in the British Museum, and was unable to trace any sign either of pigments or of gilding. He had examined the corners and crevices of the drapery, where, if there had been any remains of colour, it would have been visible, but had not discovered the slightest vestige of it. The statue of King Mausolus was one of the most dignified portrait statues he had ever seen. With regard to the fragments of the horses, he had certainly come to the conclusion that the animals were represented in a state of repose. He begged in conclusion to move a cordial vote of thanks to Mr. Tite, for his extremely interesting and erudite paper.

Mr. Ashpitel, in seconding the resolution, said it was to be regretted that the Government had not sent either an architect or a sculptor to Halicarnassus, as an officer of engineers was not the most appropriate person to conduct archæological explorations. With regard to the speculations with reference to the Mausoleum as restored, he could not conform to the theory that so vast a superincumbent weight could be carried upon the arch shown, with such slender columns as those represented, and placed 10 feet apart.

Mr. Tite said, that as no traces of a second row of columns were discovered, there certainly appeared to be some difficulty unexplained, but he could scarcely accept the arrangement suggested by Mr. Newton. He was not prepared at the moment to give any opinion as to the manner in which the architects had dealt with this part of the subject.

The next meeting of the Institute will be held on Monday, the 15th instant.*

THE NEW PARKS AT ISLINGTON.

A LARGE number of houses have been erected in the neighbourhood of Islington within the last year or two, and some of them of very good character architecturally. In Highbury New Park, especially, there are many substantial and good-looking houses. This park is the property of Mr. H. Rydon; and plots were first let to various builders, who erected houses from designs by the architect to the estate, Mr. C. Hambridge, who afterwards took a large portion of the land himself; and, with a gradual increase of style and ornament, he has erected a number of detached and semi-detached houses, the fronts ornamentally treated with coloured bricks and freestone dressings to the windows, doors, caps, and corbels. The carving in some of the houses is very carefully and elegantly executed. Coloured tiles are judiciously introduced here and there in the fronts. We believe it is the intention to erect here a large crescent. A church will also, in the course of time, be built on the estate. A design for it by Mr. Hambridge was in the last exhibition of the Royal Academy. This park will join the New Finsbury Park, when it is made. The longer the new park is delayed, the more houses will there be built, and

* On the table were some exceedingly well executed models, including a Gothic font, and part of the Midland Institute, at Birmingham, by J. and C. H. Mabey, of Princes-street, Westminster. The elder Mabey was engaged for many years as a modeller at the new Houses of Parliament.

the greater will be the expense to those who will have to pay for the Finsbury Park in the shape of compensation. Up to this time there seems to be no lack of purchasers in Highbury New Park, and the larger the houses are, the greater is the demand. The road, which is about a mile and a quarter long, is very wide, exclusive of spacious forecourts to each house.

In Aberdeen Park, adjoining Highbury New Park, there are some very large substantial and commodious houses, built by Mr. Timewell, of Islington.

BAYON'S MANOR.

In these days, when a taste for beautiful and perfect architecture is happily very prevalent, I think that your readers who may have a morning or afternoon to spare at Lincoln will be glad to learn that, within an hour's railway ride of that city, one of the most beautiful modern baronial residences exists. I allude to Bayon's Manor, situated on the Lincolnshire wold, about five miles from Market Rasen. It is the seat of the Right Hon. C. T. d'Eyncourt, and was built almost entirely from that gentleman's designs. But independently of its architectural excellence, it possesses considerable historical interest. It is described in Domesday Book as Bayeux, a manor in Tealsby, assigned by William the Conqueror to his brother Odo, Bishop of Bayeux. When forfeited by him, it was held under the Crown as a barony, until the accession of Edward II. In the twelfth year of that king's reign it was granted to Henry Lord Beaumont, and the manors of Bayon and Tealby eventually became united, and devolved on Francis Lord Lovel and d'Eyncourt. To this nobleman the famous distich applied—

> "The cat, the rat, and Lovel that dog
> Doe rule all England under the hog."

The cat being Catesby; the rat, Ratcliffe; the dog, Lord Lovel; and the hog, Richard III. The lines, by the way, cost their author, Colingbourne, his life, for he was executed by the king's orders.

The architecture of Bayon's is of different periods in the Middle Ages. The keep, eastern tower, the curtain, the large central flag-tower, and two of the gates, are admirable examples of their various styles. The great banqueting-hall is filled with interesting specimens of ancient armour, flags, and heraldic ornaments; and one of the state bed-rooms is tapestried with ancient arras, and contains an extremely curious bed, ornamented with bugles, which came from the ducal palace at Venice. In this room, by the way, the present secretary to the colonies wrote his historical romance of "Harold."

Perhaps, however, the most singular room at Bayon's is that at the summit of the barbican tower. The tower is approached by means of a curious staircase and drawbridge, and the room is entered through an old oak chest, the lid of which rises when your foot is on the upmost stair, and falls when you pass from the stair into the room; leaving you in considerable perplexity as to the mode by which you gained access to the apartment.

The interior of this fine residence abounds with valuable objects of art, the result of judicious collecting during a long period. Among the pictures is a very interesting portrait of Francis, Lord d'Eyncourt, who unsuccessfully defended Sutton, the mansion of the d'Eyncourts, in Scarsdale, against the Parliamentary forces, in 1643. There is a tradition that after leaving England he was made prisoner in Barbary. On quitting Sutton he divided a gold ring with his wife. After many adventures abroad, he contrived to find his way back to his English home in the guise of a beggar. Demanding admission, he was informed that his wife was about to be married, upon which he desired that the fragment of the ring which he possessed might be shown to her. She recognized the gold, and, as the legend runs, died mad, and he of grief. A superstition is prevalent at Bayon's that the Saxon thane, dispossessed at the Norman Conquest, winds his horn on certain nights, and, in form of a spectre, demands admission to his ancient inheritance, seized by Odo, the Conqueror's brother.

The views from the park around Bayon's Manor, commanding the undulating wolds and wide-spreading plains now covered by prosperous farmsteads and rich crops, are extremely fine.

For the disappearance of the fenmen, "a kind of people (says Camden) who, walking high upon stilts, apply their minds to grazing, fishing, or fowling," is of no very ancient date. A writer, who lived in the fen country, thus described the state of the land only about half a century back:—

> "Nothing grew beneath the sky,
> But willows scarcely six feet high,
> And osiers barely three feet dry;
> And those of only one year's crop,
> The flood did fairly overtop."

And he adds, "I have times out of number seen cows loosed out of their hovels, and swim across a river, with nothing but their faces and horns above water, and then take footing at mid-rib deep, or less. I have also known, in the whole parish of Dockdyke, not two houses communicable for whole winters round, and sometimes scarcely in summer, which was, in some measure, the case of all the waterside quite up to Lincoln. We used to carry the sheep to pasture in a flat-bottomed boat, clip them in it, and fetch them away in the same conveyance."

Indeed, as lately as fifty years ago, Lincoln-heath was illumined by a beacon erected on the top of Dunstone pillar, 70 feet high; and when the late Lady Robert Manners wished to visit Lincoln from Bloxholm, a groom was despatched to examine and report upon the state of the tracks.

The Lincolnshire fens, we may mention, were first drained by a company of adventurers in the reign of Charles I. A tax was levied on the county for the execution of the work, which was so unpopular, as to lead to the destruction of the gates, dams, and dykes. The king, however, being made aware of the great advantage accruing to him from the improvement of the land by draining, by which the rental increased from 4d. an acre to 10s. caused a Bill to be passed for the relief and security of the drainers, and the good work then went on. Many years, however, elapsed before fens and fenmen gave place to farms and farmers, but now only one decoy exists in Lincolnshire, whereas a few years ago these curious wild-fowl traps were extremely common throughout the eastern part of that county. C. R. Weld.

FINE ARTS AND SINGING-ROOMS.

CANTERBURY HALL GALLERY.

It is curious to note the endeavours which are being made to add extraneous attractions to taverns. Thus, in one of those places near King's-cross, for instance, the curious traveller who may peep in, will find an Italian-looking saloon—blazing with gas-light—filled with sad objects of humanity and large collections of specimens of natural history. There are the skulls and tusks of phants, stuffed sharks, and other strange fish; the place, in fact, looking more like a museum than a hostelry. In other parts it may be noticed that "mine host" is endeavouring in other ways to attract custom by some kind of intellectual pleasure.

In Holborn, Covent-garden, and elsewhere, rooms of great size and costliness have been erected, and music and singing are made to lend their attractions. All these arrangements, however, are thrown into the shade by the proprietor of Canterbury Hall, in the Westminster-road, who has built, in addition to a very large apartment for musical entertainments, a handsome picture-gallery, at an expenditure of 5,000*l.* and filled it with pictures which have cost him 10,000*l.*

The hall, built in 1854, is 91 feet long, by 45 feet wide, and 31 feet high. The picture-gallery is 80 feet long, by 22 feet wide, and 27 feet high. The glazed coffers in ceiling contain about 341 feet superficial, or about one-fifth the area of gallery; and it is said this proves sufficient for the pictures. There is an ante-hall 58 feet by 23 feet, and 28 feet high, lighted in a similar way. There is also a supper-room, 30 feet by 23 feet, and 19 feet high.

The present works have been very satisfactorily executed by Mr. Reynolds, builder, of Westminster. Mr. Samuel Field was the architect on both occasions.

The pictures and drawings, which are mostly by modern masters, include "Noah's Sacrifice," by Maclise; "Death Purifying the Soul," by Horace Vernet; "A Danish Family Reading the Bible," by Madame Baumann; "Mountain Scenery," by Callcott; "Marcus Curtius leaping into the Gulf," by Haydon; "The Advent of Spring," by F. Danby; and others, by Frith, Lance, Cooper, Poole, Uwins, Anthony, Sant, Wallis (Henry Martin in Chepstow Castle), Wilkie, F. Stone, and others. The proprietor says, in a preface to the catalogue,—"Although almost every other class of the community is represented at the Canterbury Hall, his chief supporters are to be found among the working classes. If, then, while providing for them the innocent and enlivening enjoyment of music in the hall, the fine-arts gallery can be made the medium for raising in their minds ennobling and refining thoughts, and of creating and fostering a taste for the beautiful, the proprietor feels that his establishment can prefer a fresh claim to public support. Nor, he believes, will those who regard this fine-arts gallery from an art-educational point of view, be inclined to regard lightly, or without its true significance, an effort which is designed to raise the character of entertainments in this country, to leave healthy impressions on the mind, and thus awaken a desire for pure and elevating pursuits." This is new language from such a source, and not without its import. The attraction of the tavern, "pure and simple," must be fading, since it is necessary to add others of an intellectual character.

THE ELLESMERE MEMORIAL, WORSLEY, LANCASHIRE.

On a previous occasion (p. 499, *ante*) we gave some particulars of the designs submitted in competition for a memorial of the late Earl of Ellesmere. The first stone of the selected design (by Messrs. Driver and Webber) will be laid in a few days, by Fereday Smith, esq.; and we have engraved a view of the design. Some trifling alterations are to be made in carrying it out; but these are principally in the detail, and will not affect the general design.

The memorial is composed, it will be seen, of an octagonal shaft, rising 132 feet from an enriched base, which is approached by bold stone steps, forming a spacious platform and footing to the whole, 49 feet square. On the four sides of the base enriched panels are sunk, and bordered by breadths of coloured tiles. On one of these panels will be carved the arms of the late earl, with an inscription to his memory engraved below. The shafts of detached columns are formed of marble, with carved caps and moulded bases. Above are arches of blue and red brick, surmounted by a crocketed and finialled canopy. Between each pair of buttresses is an arcade, with marble shaftlets and trefoiled heads: and at the four angles, over the buttresses, rise detached moulded pedestals, bearing carved lions and gilded vanes. At the bottom of the octagon, on each face, is a window, surmounted by an enriched canopy crocketed and finialled, the spaces being filled in with trefoils and carvings. The shaft itself is pierced with trefoiled lights, and the spiral curve of an internal cast-iron staircase is marked on the outside by bands of coloured tiles, which, while they enrich and enliven the exterior, at the same time denote the internal construction. At the top of the shaft a room is constructed, and lighted on each face by deeply-recessed windows. This room commands an extended view, and may be used with advantage as an observatory, if desired. The shafts of the windows are of marble, and a wrought-iron railing surrounds the balcony. The finial and vane are also of iron, the spindle being brought through the top stone, and bolted to a cross-bar. It is intended to make use, as far as possible, of the local marbles for the shafts to the various openings before described.

We may repeat that the monument will stand on a gently rising ridge, and be seen from a considerable distance. It will be a conspicuous object from the Liverpool and Manchester Railway, from which it will be distant a mile and a half to the northward, the surface of the site being at an elevation of 130 feet above the level of the line. It will not be in a part of the country very much traversed by road, but a vista will be cut in the belt of wood that lies immediately to the north of the site, so as to enable the structure to be seen from the higher land beyond. Worsley Church is situated about half a mile to the east of the proposed site, Worsley Hall lying between, and equidistant from each. The architecture of the Hall, illustrated in an earlier monument, is Elizabethan, with a large square tower; and that of the church is early English, of the later or transition style.

Lunatic Asylum for the City of London.—The committee of justices for the City have been taking steps for erecting and maintaining a lunatic asylum for the pauper lunatics of the City. The site fixed on for erecting the asylum is in the parish of Stone, near Dartford, where the committee have entered into an engagement for the purchase of 32 acres of land for 3,200*l.* Mr. Bunning, the City architect, is now engaged in making plans and drawings for the building, which will be capable of accommodating about 300 lunatics. As soon as the plans are completed, an estimate of the expense will be made, and the building commenced.

THE PROPOSED ELLESMERE MEMORIAL, WORSLEY, LANCASHIRE. —Messrs. Driver and Webber, Architects.

THE IMPROVEMENT OF THE WORKING CLASSES.

SIR,—The moral and physical condition of the working classes is a subject on which so much has already been said and written, that he must be a bold man indeed who would venture on such ground without having first taken the precaution to pave the way with an apology. As an old workman, however, having during forty years felt the pulse of that section of society, I may be allowed to know something of the subject, and to take some interest in the class to which I belong.

Whether it may arise from the manners of the class as such, or whether it is only due to our natural repugnance to everything rough and dirty, I may not stay to inquire: it is, however, pretty certain, that actual operatives are, and have been, from time immemorial, viewed with something like contempt. Among the other degradations of the Roman triumph, not the least of Cleopatra's terror appears to have been the dread of mixing with—

> "Mechanic slaves,
> With greasy aprons, rules and hammers, their thick breath
> Rank with gross diet," &c.

In the "Midsummer Night's Dream" we are told of—

> "Vile mechanicals,
> Who work for bread upon Athenian stalls."

And *Hamlet*, in his instructions to the players, warns them against those who act so badly that one might think "That one of Nature's journeymen had made them, *and not made them well*;" a hint by no means obscure that workmen are but dolts, who are not expected to work as well as their masters. In "Household Words," No. 440, p. 258, we are treated to the following description of a tradesman:—"He was a common, cunning-looking man, *with a good deal of the mechanic in his appearance*," &c. Even the learned James Hervey, author of the "Meditations," speaks of "Mechanics and beggars" in the same breath and sentence, and seems to class them in one category.

Accepting, then, this conclusion, that workmen are low down in the social scale; the question is—how are they to be raised, and placed in a better position?

Here I cannot avoid expressing my regret, that those good-natured gentlemen who sometimes seem to manifest so strong an interest in the welfare of the working community do not contrive to make their practice square with their professions. If there be any truth in your remark,—"As the home so the people," one might at least expect that the physical comforts and decencies of a couple of hundred or so of working men would be one of the many cares which a large employer would willingly encounter; but it is rarely so. I have spent the greatest part of my life in workshops, ill constructed, worse ventilated, and often situated close to the roof, where, in summer, the action of the sun on the tiles raises the temperature to a suffocating heat; while in winter, the snow drifts in and covers the benches, so that to make any progress with work is almost impossible. The closets are often filthy dens into which no human being ought to enter; never swept, rarely whitewashed, and the walls like Ezekiel's chamber of imagery, covered with abomination. Here, in the midst of festooned cobwebs, and filthy brothel jests, scrawled sometimes in wretched doggrel, it seems impossible to reconcile one's mind to the fact that I am really on the premises of that worthy gentleman who stood the other day on the platform, and made so brilliant a speech, and said so many sweet things, animated by the waving of white handkerchiefs and the clapping of soft palms.

Doubtless, the literary and mechanics' institutions have done much to benefit working men; but not enough. They are too few and far between, and, withal, too expensive. A tired operative will not walk a mile and a half through the snow to hear a lecturer descant on the apochryphal story of Romulus and Remus, or to bring to light the values of our amazingly shy acquaintances $x \times y^2$. Therefore, as it seems difficult to bring the workman to the institution, we ought to try to bring the institution to the workman; and for this purpose I should propose to split a large society into fragments, and instead of one building in the centre of a district, the better plan, in my judgment, would be to hire, say half a dozen rooms, in different parts of a parish, so as to make instruction more easy of access; and with a contribution of about 2s. per quarter such a scheme would, I believe, become self-supporting, and furnish an abundant supply of books and newspapers.

The working classes, I believe, read more at present than ever they did; but their reading is chiefly confined to trashy romances in the penny periodicals. I willingly admit that in the fiction of the present day may be found a healthier tone than in that of fifty years ago; but the objection is, that it occupies time that might be much better employed. And here I cannot but express surprise that no enterprising publisher seems to have thought of a cheap re-issue of the standard works of English literature, such, for instance, as Milton's "Paradise Lost," Addison's "Spectator," Johnson's "Rambler," Boswell's "Life of Johnson," Young's "Night Thoughts," Thomson's "Seasons," &c.; books which never tire us, and seem to possess an unfading charm. If it be objected that such writings can only be appreciated by men of taste, I answer that taste ought to be regarded as well-informed judgment rather than inspiration, and that in proportion as the powers of the mind become enlarged by extensive reading of various authors, a man will have less relish for the dregs of literature, and the cheap Sunday newspapers, with their endless tirades against ministers—political and ecclesiastical—will be superseded by works of a more solid and enduring character.

In addition to a better class of books, an advantage beyond all calculation to workmen would be, a better class of wives. If the shade of the great Archimedes were to revisit the earth, and demand of me a fulcrum by which to raise the artisan world, I should recommend him to a well-instructed woman. The very few fortunate men of my acquaintance who have met with superior women have become superior men. The mystic influence of a clever companion has been visible in their whole appearance, manners, and opinions; more especially, perhaps, in their notions of the sex founded on the domestic model; for

> "Th' attentive mind
> By this harmonious action on its powers
> Becomes itself harmonious."

Such cases form, however, a very small minority. As a rule, an educated woman will not consent to a union with a workman. The refinement produced by instruction shrinks from contact with the rough and ready. Even natural impulses are made to give way to conventional traditions, and the promptings of inclination are often silenced by the stern dictates of *caste*. When a man is despised for his vices, he has at least the dismal satisfaction of knowing that this is as it ought to be, and that his rebuke is quite in accordance with the rule of right; but to be shunned because he has rough hands and a blue shirt, is one of the mortifications to which even the self-taught artisan will be obliged to submit; and this state of things will continue until either educated women give up their prejudices, or workmen are compelled to educate their own daughters so as to become fit and proper wives for men of their own class.

I use the word *compelled* advisedly; because I am fully aware, that the voluntary system has been weighed in the balances and found wanting. A man who neglects the education of his children inflicts a wrong on future generations. Unhappily, however, the claims of the future are scarcely heard amidst the clamours of the present. He who has to fight his way through the world, in the awkward companionship of a narrow income and a spreading family, must—to use a mechanical phrase—"bring in all the short stuff;" and hence a workman's daughter, as soon as she can read and write, and sometimes before, leaves home to obtain her own living in service, after which she learns nothing, and one day becomes a wife, in a state of profound ignorance of everything except the local news of the neighbourhood. Who can wonder that a half-educated man flies from home?

Education, however, is a vexed question. *Compulsory* education is said to be a great infringement on the liberty of a subject. The Dissenter objects to his children being crammed with creeds and catechisms: the professed Churchman will have no evangelical "improving;" while the man who swears "strange oaths,"—one of a large family, I regret to say,—has a great horror of having his children taught to read the Bible at all. We cannot, however, but acknowledge, that instruction by compulsion is better than none; and, in the midst of so many conflicting opinions, it seems not impossible to adopt a compromise that would meet the case, and satisfy, if not all, at least the majority, which is, perhaps, as much as we can hope to accomplish.

On the subject of a workman's income, I may be pardoned for saying a few words, inasmuch as it seems to be a matter about which there is some misconception. I have met with people who have been much surprised that an artisan should ever be in difficulties, considering his wages; and as this notion is pretty universal, it may not be out of place to inquire what this immense revenue really amounts to. The customary income of a mechanic is about 30s. per week; but it must be borne in mind, that he is paid only as long as he works, and that if he remains idle only one hour, he is mulcted of one hour's pay. There are national holidays, as at Christmas, Easter, Whitsuntide, &c. There are days when a man is too ill to work; and there are times of commercial depression when he has no work to do; so that it will be no extravagant calculation to say that he is likely to lose four weeks out of the fifty-two; and a workman who can always ensure forty-eight weeks' work in the year will be more fortunate than many. Forty-eight weeks at 30s. will amount to 1,440 shillings, which, being divided by 365—the number of days in a year—will give 3s. 11d. and a small fraction per day.

House-rent, for a family, will not be obtained for less than 6d. per day; and as the average production of each marriage is four children, a mechanic bold enough to face the difficulty has a fair prospect of having to provide for the wants of six persons, clothing, fire, food, and physic, on three shillings and fivepence per day.

Here we are furnished at once with the reason why a workman should be backed and supported with the talents of a good and efficient chancellor of the exchequer. A shopkeeper is supposed to be something of a clerk, and the booking and balancing of accounts form part and parcel of his occupation; but an operative, whose whole time is employed in the prosecution of his craft, stands in need of a prudent secretary, who, by "making the figures add up," is able to solve the grand domestic problem, how to keep her house full of furniture, herself and children well clothed, and her husband out of debt. For it may be observed that a workman, once in debt, is often in debt for life. The first batch of broadcloth and muslin obtained on credit forms the nucleus of a frightful excrescence, which soon grows large enough to overshadow all his little spots of sunshine; and, with an income so small and wants so many, it is almost impossible, by the most strenuous endeavours, to recover lost ground.

After this somewhat discouraging view of the matter, it will be no more than just if I admit that there are to be found workmen who, by a course of the most unflagging industry during their single state, by the powerful co-operation of a prudent mate, the assistance of building societies, good conduct, good management, and good luck, have contrived to raise themselves, if not to affluence, at least to that measure of competence that will enable them to look with easy indifference on the fluctuations of trade, the chances of sickness, and the approach of age.

PELHAM.

FOUNTAIN AT HOLYROOD.

WORKMEN have commenced to inclose the area on which the erection of the proposed fountain is to take place. The design, the papers say, is taken from the fountain which stood long in the grounds of Linlithgow Palace: "it will be an octagon, surrounded by a basin of 25 feet in diameter, from which it will rise to a height of 35 feet. The elevation will be divided into three tiers, surrounded by various quaint figures." Mr. Thomas is employed to model the principal figures; and the Messrs. Beattie, of Edinburgh, are the contractors for the whole work. Taking the statement for correct, we must express our regret that money and skill should be wasted on the reproduction of such a mongrel affair, interesting enough, as it originally stood, the autograph of a particular period, but unworthy of the nineteenth century. Is it too late to induce Lord John Manners to alter the intention? The cost is 1,400*l*.

DINNER FOR THE BUILDERS' BENEVOLENT INSTITUTION.

THE anniversary festival of this excellent charity was held on Thursday (the 28th ult.), at the London Tavern, Mr. Alderman Cubitt, M.P. in the chair. About 170 gentlemen sat down to a very excellent repast, including Messrs. C. and T. Lucas, W. Lee, A. Smith, W. R. Rogers, H. Parsons, M. Feetham, S. J. Stephens, Freeman, Bros.; G. Spencer Smith, R. Watts, E. Capps, D. Myers, J. B. White, Geo. Bird (treasurer), S. Bird, J. Bird, W. Bird, A. Bird, W. Hutchons, G. Head, G. Head, jun.; R. Head, T. Cozens, T. Stirling, W. Stirling, R. Roberts, T. Ryder, Dove, Bros.; J. Taylor, Coles, Shadbolt, R. Yeo, S. Trickett, D. Nicholson, jun.; G. Bell, C. Fish, J. Thorn, &c.

On the removal of the cloth,—

The Chairman, in proposing the health of her

Majesty, expressed his gratification at seeing so numerous an attendance, especially of young men, associating themselves for purposes of benevolence. Had they lived in the troublous times which many gentlemen in that room remembered, they would be able fully to appreciate the happiness of that nation who lived under a Sovereign whose constant care it was not only to govern well, but in a manner satisfactory to her subjects, and in accordance with the laws of the land. The country ought to be proud of such a Sovereign, and it was his, as he was sure it was their, fervent wish that her reign might be long, happy, and prosperous.

The Chairman next proposed the health of the Prince Consort, the Prince of Wales, and the other members of the royal family. The hon. gentleman observed that while the Prince Consort had shown himself anxious to promote the prosperity of the country in all that relates to art and science, the younger branches of the Royal Family were, from the example set them by their illustrious parents, most likely to adorn the elevated station to which they were called.

In proposing the toast of the "Army and Navy," the chairman referred to the long period of peace which the country had been permitted to enjoy preparatory to the Crimean War, and observed that the example set by our troops during that memorable campaign showed that they had lost none of their ancient bravery. We had happily passed through that crisis with credit to our arms, and he trusted that, as regards continental powers and America, no occasion would ever occur to bring us in collision with either. A new power had sprung up in our day to which we might fairly entrust the future settlement of international disputes. He referred to the periodical press. He believed that in times to come battles would be fought with the weapons of reason and argument, and that the conflict would be sustained, not with cannons and engines of destruction, but with steel pens. We were, however, in his opinion bound to keep up an armament in an effective condition, and not to allow it to sink to so low a level as that at which we found it when forced to go to war with Russia.

The chairman again rose and said, that the toast which he had now to propose was the toast of the evening, "Success to the Builders' Benevolent Institution," on behalf of which they were assembled that evening. He was gratified beyond measure at having the privilege of addressing so numerous a company as that now before him. He wished he could speak of the Builders' Benevolent Institution in the terms most applicable to it, for he felt it was a charity which was entitled to receive a large measure of public support. He wished his voice could reach the tens of thousands who were blessed with adequate means to assist it, but who were perchance unaware of its existence. It would, he knew, be bad taste in him to endeavour to obtain from those who then heard him a larger measure of support than that which they were prepared to extend when they entered the room. They had no doubt estimated what they could afford to give, and they were present that evening to evince how deep and earnest was the interest they felt in the prosperity of the institution; but if his voice could reach the hearts and heads of others so disposed out of doors, he should be glad. He said the hearts and heads of the public, because he could not only recommend the institution as having especial claims as a work of charity, but because he felt he could appeal to the hearts and understanding of the people of England on behalf of a work of a truly comprehensive and philanthropic nature, and which had for its object the extension of assistance to a great mass of persons engaged in a pursuit which found employment for a larger class of persons than any other trade in the country. The building trade was liable to many vicissitudes. There were periods when a great deal of work was to be done, and then persons were stimulated to enter largely into the business, in the hope that prosperous times might continue, and many entered it for the first time. But then came periods of commercial depression and other circumstances of an exceptional character, and many who had been induced to commence business on their account were compelled to fall back again into the ranks. There were also other causes which brought distress upon individuals, among which might be mentioned such calamities as the failure of employers, the breaking of banks; and, in fine, persons engaged in the building trade were exposed to a greater number of vicissitudes than those engaged in almost any other branch of industry in the country. For these reasons, those connected with the trade had greater claims upon society than almost any other class of persons in the community. It would therefore afford him gratification if his feeble voice could be heard so as to touch the hearts of the public; for the more he knew of the subject the more he felt how deeply society was indebted to the builder, and how strong a claim he had upon the sympathy of society. The persons more immediately connected with the trade were, however, deeply interested in the success of the institution, because it was one of their own. It was as yet scarcely developed (for the man who originated it was in the room), but they had an active and enterprising treasurer, who worked in its behalf with unabated energy, and who now, after eleven years of active exertion, was as persevering as ever in his efforts on its behalf. He also saw present another gentleman of the same name as the treasurer (Mr. Joseph Bird), who had worked out a great amount of good for the institution; and these gentlemen had not only worked in an official capacity, by giving up their time and attention from other pursuits, but they had subscribed large sums of money to the charity. He confessed that although others had at first come forward to promote the institution, he was himself one of those who had hung back. When the charity was first contemplated he was applied to, and he said he was afraid it would not do, as there were so many charitable institutions already: he subsequently, however, consented to come forward, and now, after an interval of eleven years only, he found the room filled with gentlemen, all anxious to promote the welfare of the charity. He saw around him the sons, and even the grandsons, of many old friends, and foremost among these friends was Mr. Spencer Smith, whom he was glad to see near him. He was also glad to see so many young faces amid the middle-aged and more mature; and he thought they might all congratulate themselves that the society was enabled to pension no fewer than thirty deserving persons; although he cherished a hope, that before many years were over, they could admit a much larger number to its benefits. This desirable object could be achieved without any increase of expense to the institution. The staff was efficient enough for the discharge of more onerous duties. They had an excellent treasurer and collector, and an efficient working machinery, which could do ten times the work if the public would only give them the means of doing it. They were now distributing between 800*l.* and 900*l.* a year, and there was no reason why they should not distribute as many thousands, if the public would but give them the opportunity. He could show that they had a good cause worthy of support, and his experience taught him (for a man could not live in the world nearly seventy years, as he had done, without acquiring experience), that with a good cause success was certain. Time would eventually do much towards the prosperity of the charity, and, with the aid of the periodical press, in a few days the fact would be placed within the reach of all, that the largest public room in the City of London was filled with persons, all met together in support of a charity which, in their opinion, was deserving of public support. Depend upon it, the publication of that fact would redound to the advantage of the institution; and they might rely upon it, that in a very few years the Builders' Benevolent Institution would be what it ought to be, one of the foremost charities of this great metropolis. (Applause.) He would not detain them any longer, but propose, as he did with all his heart, "Prosperity to the Builders' Benevolent Institution."

The toast having been responded to with much cordiality, —

Mr. Charles Lucas observed, that no man in the building trade had attained to so high a position as the honourable gentleman who now filled the chair; and he (Mr. Lucas) was sure that every one present would agree with him that no man better deserved that position. Although the elevated station which their chairman enjoyed imposed upon him many important duties, he still found time to assist with heart and hand a good cause like the institution they now met to commemorate, and nothing he could do could more eloquently attest the goodness of his heart or the excellence of his disposition. He had heard it said that Mr. Cubitt not only never failed in fulfilling any engagement he might make, but that one might always rely upon his doing something more. It was no doubt this trait, in addition to his high character, and the perseverance which he always exhibited, which tended to place him in the high and honourable position which he now held. He was sure that the building profession must be proud of such a man as Mr. Cubitt belonging to it. He therefore begged to propose, with great sincerity, the health of their chairman, coupled with the hope that he might long live to maintain the high position which he now filled.

The Chairman, after acknowledging the compliment, said he was now about to propose the health of a gentleman who was well known to them all, and who, wherever he was known, was respected for the excellence of his heart and the amiability of his disposition: he referred to their president, Mr. Thomas Piper. He was sure they all deeply regretted the cause which accounted for the absence of that gentleman. He (the chairman) was one of those who had enjoyed the friendship of the father of their president, who had been lately called away; and he could say of him that he was largely endowed with the excellent qualities which his son had inherited. It might be said of him, that he filled a large space among the builders, and he hoped his sons would long live to perpetuate the example their father had set them.

The Chairman next proposed the health of the patrons and vice-presidents of the Institution, and observed that he had much pleasure in associating with the toast the name of Mr. William Lee, a warm friend of the society, to whom they were much indebted for coming among them, and countenancing their proceedings.

Mr. William Lee replied on behalf of the patrons and vice-presidents, and said he believed that the society only required to be known to be well supported; and, when he remembered the great number of influential houses more or less connected with the trade in this great city, he was convinced that it would not be allowed to decline for want of funds. He was much obliged for the manner in which his health had been drunk, and he would only say in conclusion that he would do all in his power to promote the welfare of the Builders' Benevolent Institution.

The health of the trustees being drunk,—

Mr. G. S. Smith briefly returned thanks.

The Chairman then proposed the health of Mr. George Bird, their treasurer, and said—I have already alluded to the kind and cordial manner in which he has exerted himself for the benefit of the Institution, and it must be extremely gratifying to him to see the manner in which his exertions have been responded to. I need not detain you further, as I know he has something to say in connection with his office which will be far more interesting than anything that I can say for him.

Mr. George Bird said he was deeply sensible of the kind manner in which the toast of his health had been responded to, but that as short speeches were generally considered most acceptable after dinner, he would not attempt to throw discredit upon the assertion by making a long one. He thought they had reason to be indebted to the chairman for the kind manner in which he had come forward to get them out of a dilemma in which they had been placed by the death of their worthy president's father. He was also happy to say, that through the agency of Mr. Smith they were enabled to get their dividends very regularly; and he believed that through the exertions of that gentleman they would be able to get the income-tax off, which would be equal to 60*l.* in their exchequer. He had now to announce that a letter had been received from Mr. Joseph Peters, of Rochester (addressed to Mr. Thomas Piper), stating that circumstances prevented him from attending the annual dinner, but that he was prepared to subscribe fifteen guineas to the institution, provided nine other gentlemen would come forward with similar amounts. This was a fair challenge, and he (Mr. Bird) would be very glad to receive any cheques in conformity with the suggestion of Mr. Peters. He hoped the challenge would not be allowed to fall to the ground, as in that case the institution would lose the benefit of Mr. Peters' good intention.

Mr. Harris (the secretary) then read a long list of subscriptions and donations.

After the list had been read,—

The Chairman again rose and said, it would ill become any society of builders to forget the architects. The metropolis of the country, and the country itself, were largely indebted to that distinguished body of men; but the present company were bound to drink to their health on other grounds, as, from the moment the institution was originated, it had been warmly supported by many influential gentlemen connected with that profession. He would connect with it the name of Mr. Godwin, who had been a constant friend of the institution in more ways than one.

Mr. Godwin, in replying to the toast, said he was extremely obliged for the hearty and genial manner in which the mention of his name had been received, and for the kind reference made to

im by the chairman,—an allusion for which he as indebted solely to the excellent heart of the hairman himself. He was sure that the archi- ects of the kingdom would hear with pleasure of ry recognition of their services and merits on the art of a body so numerous and eminent as that of ne builders. There was, he was happy to say, a ght and proper understanding between the archi- ects and the builders, and he believed that they ntertained a feeling of mutual respect for each ther. From his own experience, he could say hat the architects had the utmost dependence pon the builders as a body: there might, of ourse, be some exceptions, as there were in all rades and avocations; but, as a body, the archi- ects had perfect confidence in the builders to arry out their designs and deal fairly by their lients. He believed that the architects of Great ritain were entitled to the respect of the com- unity. He was aware that in some organs of ublic opinion it was the custom to pooh-pooh nglish architects, but whether they would look at he Halls of Liverpool and Leeds, Doncaster Church, ne new theatre in Covent Garden, or the altera- ons making in the streets of London, they would ee that talent existed, in the country, which, properly developed and seconded by the builder, ould give a character to the architecture of the ineteenth century so that in future history it ould take its proper place. Several years had assed since he first had the privilege and gratifi- ation of aiding in the advocacy of the institution ne festival of which they were then commem- orating. He believed he was amongst the first who had done so. Sincerely he wished it an bundant measure of success, and he hoped that ne institution would always be presided over by s clear a head and kind a heart as they had in ne chair that evening.

The chairman then gave "The Health of the Directors and Stewards," coupling with the toast the name of Mr. Thomas Cozens, the founder.

Mr. Cozens responded to the toast, and said he eally had no words to describe how sensible e was of the honour done him. It was deeply ratifying to him, and he was sure to all who eard him, to find that the promoters of the in- titution had worked for so good a purpose. They ere met that night to assist those poor creatures who could not assist themselves. Those who now eard him were in circumstances of compara- ive affluence, but they did not know what might e their ultimate destiny. He hoped they would ill continue in prosperity, so as to be able to spare ut of their abundance something towards the aintenance of those upon whom fortune had ot smiled so favourably.

Mr. George Bird then announced that as trea- urer he was in receipt of donations amounting to 1127. 12s. 6d.*

The chairman having given "The Brighton Branch of the Institution, and prosperity to it," proposed the toast of "The Press," taking occa- ion to remark not only upon the ability with hich the periodical press was conducted, but pon its increasing influence upon the destinies of ations, and its means of usefulness in promoting he happiness and contentment of free nations.

The toast of "The Ladies" was subsequently iven, and responded to by Mr. Joseph Bird, after hich the company separated.

PROPOSED MONUMENT TO THE LATE GEORGE STEPHENSON.

At a large meeting of the promoters of a monument to the late George Stephenson, to be erected in Newcastle-upon-Tyne, held recently, it was determined that a prominent part of the memorial shall consist of a statue of Mr. Stephen- son, and that the whole work shall be given into the hands of one artist of eminence, and not be submitted to competition—against which latter course several strong objections were stated. It was left to the committee to select a sculptor: Mr. Gough, as connected with the town in early life, and as having already made a satisfactory statue of Stephenson, was prominently named in the

* Amongst the donations announced were Ald. W. Cubitt, W. Cubitt and Co. 10*l.* 10s. each; W. R. Rogers, *l. l.* 5s.; Thos. Piper, 5*l.* 5s.; G. Spencer Smith, 10*l.* 10s.; Geo. Smith, 5*l.* 5s.; R. Watts, 5*l.* 5s. each for two grand- sons; Thos. Jackson, 5*l.* 5s.; Jas. Weston, 5*l.* 5s.; Henry Hodd, 5*l.* 5s.; Coles, Shadbolt, and Co. 5*l.* 5s.; Richard Veo, 5*l.* 5s.; Robert Yeo, 3*l.* 3s.; Wm. Hutchons, 2*l.* 2s.; Hutchons, Grissell, 5*l.* 5s.; Lucas, Bros. 10*l.* 10s.; Lee, Son, and Smith, 10*l.* 10s.; George Myers, 5*l.* 5s.; J. Bazley White, Bros. 10*l.* 10s.; Widnell and Trollope, 5*l* 5s.; F. Manley, 2*l.* 2s.; Dove, Bros. 5*l.* 5s.; S. Trickett, 5*l.* 5s.; J. I. Parsons, 2*l.* 2s.; R. Roberts, 5*l.* 5s.; T. Ryder, 5*l.* 5s.; —. J. Stephens, 2*l.* 2s.; A. A. Robinson, 3*l.* 3s.; Collins and Stanbury, Birmingham, 10*l.* 10s; G. Westacott, *l. l.* 5s.; E. H. Todé, 3*l.* 3s.; G. Godwin, 2*l.* 2s.; Fred. Willis, 2*l.* 2s.; Smith and Hill, 2*l.* 2s.; Jas. Taylor, 2*l.* 2s.; T. Stirling, 2*l.* 2s.; Wm. Stirling, 2*l.* 2s. &c. &c.

debate. Some, who are interested, think there should be something more than a statue, with which, looking to the general run of our portrait statues—sad things most of them—we fully agree. The editor of the *Gateshead Observer* taking this view, says,—

"Were we bound down to a statue and mere pedestal, it might be well to give the whole matter to one single artist. But we are not so limited, and see not why we should have but the sculptor's aid. If there be a statue of Stephen- son in existence—as it seems there is—a good and satisfactory work of art, there may be no objec- tion, but great advantage, in adopting it at once; but, surely, the architect, apprised of the facts—seeing the statue for which a home is wanted—may frame the fitting shrine? Competition, we know, has its perils; but it also has its glories. Where, without it, would have been the Scott Monument, or the Martyrs' Memorial? And, let us say, some kindred structure the present cir- cumstances seem to suggest."

PREMIUMS AWARDED BY THE INSTI- TUTION OF CIVIL ENGINEERS.

The Council of the Institution of Civil Engi- neers have awarded the following premiums:—

1. A Telford Medal to J. Atkinson Longridge, and a Council Premium of Books to C. H. Brooks, for their paper "On Submerging Telegraphic Cables."

2. A Telford Medal to G. Robertson, for "An Investiga- tion into the Theory and Practice of Hydraulic Mortar."

3. A Telford Medal to J. Henderson, for his paper "On the Methods generally employed in Cornwall, in Dressing Tin and Copper Ores."

4. A Telford Medal to R. Jacomb Hood, for his paper "On the Arrangement and Construction of Railway Stations."

5. A Telford Medal to Major-General G. B. Tremen- heere, for his paper "On Public Works in the Bengal Presidency."

6. A Telford Medal to Alfred Giles, for his paper "On the Construction of the Southampton Docks."

7. A Watt Medal, and the Manby Premium in Books, to Lindsay Molesworth, for his paper "On the Conversion of Wood by Machinery."

8. A Watt Medal to T. Spencer Sawyer, for his paper "On the Principal Self-acting and other Tools employed in the Manufacture of Engines, Steam-boilers, &c."

9. A Council Premium of Books to F. C. Webb, for his paper "On the Practical Operations connected with Paying-out and Repairing Submarine Telegraph Cables."

10. Ditto to H. Conybeare, for his paper, "Description of Works recently executed for the Water Supply of Bombay, in the East Indies."

11. Ditto to S. Alfred Varley, for his paper "On the Qualifications requisite in a Submarine Cable, for most efficiently transmitting Messages between distant Sta- tions."

12. Ditto to R. Carden Despard, for his paper "Descrip- tion of Improvements on the Second Division of the River Lee."

13. Ditto to Alexander Wright, for his paper "On Lighting Mines by Gas."

14. Ditto to J. Brunlees, for his "Description of the Iron Viaducts erected across the Estuaries of the Leven and Kent, in Morecambe Bay."

A list of subjects for which the council are pre- pared to award premiums has been published. Copies of it may be obtained on application at the Institution.

EDINBURGH.

A paragraph in your paper last week, under the head of "Scotland," reminds me of a question that has frequently presented itself to me on visit- ing Edinburgh; and never more strongly than the last time I was there, early in September.

I mean this—How far do the various architec- tural works that have been carried out in the Scottish capital of late years increase the peculiar beauty it derives from its picturesque situation and the magnificent hills that rise in and around it?

In such a city, from the contour of the ground surface, any building of importance will probably form a prominent object in some of the best views of the city. Take as an instance that looking westward from above the railway station in Princes-street. There the Castle and its Rock form a noble termination to a grand town scene. But I question if the predominance of these objects (which the picture requires) is made more striking by the towers of the Free Church College, or the buildings on the mound beneath. And other views might be named, in which, I think, the works of man are placed so as to mar, more or less, the impressiveness of the magnificent works of God, which give the city, in my eyes, its peculiar charm.

I raise no question as to the merits of the build- ings themselves: I only wish to call attention to their effect on general views of the city; and if the recent controversy about the works at the Castle be any index of public feeling, the Edin- burgians are not indifferent to the value of these,—only I fear beauty of design may sometimes lead them to sanction works which, when executed, they may find cause to regret, for the reason I have indicated. Is the effect of his building, in a general view of a town or landscape, a point gene- rally enough studied by the architect? Is he not sometimes apt to exalt and make it conspicuous, to the serious injury of a fine prospect? R. J. J.

IRELAND.

It has been decided, we understand, to erect the proposed National Gallery for Ireland on the premises of the Royal Dublin Society, according to amended plans submitted by Capt. Fowkes, and at a cost of about 17,000*l.* The chief alterations made in the original plans refer to the interior, and the Dargan-hall will be a prominent feature, and have colossal pictures and busts, with appro- priate inscriptions of the originator of the great Industrial Exhibition of 1853. Exteriorly, the style will harmonize with the corresponding wing.

The first sod of the Dublin and Meath Railway, which opens up direct communication with Navan, has been turned by his Grace the Duke of Leinster, to whom a beautiful spade of solid silver, with the "arms of Trim" engraved thereon, and having a staff of black oak finely carved; as also a wheel- barrow of Irish oak, with silver mountings, orna- mental handles, sides, &c. were presented. After- wards a grand *déjeuner*, at which Lord Dimsany presided, was given in a shed at the market-place, at the foot of the imposing ruin known as King John's Tower. Earl Darnley, Lord Otho Fitz- gerald, the Hon. Major Jocelyn, Sir F. Stanhope, bart.; Messrs. Corbally and McEevoy, M.Ps.; Sir John McNeill (the engineer), and others, were present. Messrs. Patrick, John, and Edward Moore, are the contractors.

A new church, entitled St. Ann's chapel of ease, has been recently erected by the Right Hon. Lord Viscount Lifford, in the townland of Carrick- magrath, parish of Donoughmore, and consecrated by the Lord Bishop of Derry. Style, Gothic. The building is capable of accommodating upwards of 100 persons, and the internal fittings are said to be skilfully and tastefully arranged. Lord Lifford has also allotted a piece of ground for burial purposes. Mr. Armstrong was the builder of the church.

The subscriptions to the Hogan Fund have reached the sum of 1,253*l.* 5s. Her Majesty has granted a pension of 100*l.* per annum to Mrs. Hogan.

One of the bas-reliefs for the Wellington testi- monial is being modelled by young Hogan, the late sculptor's son, at Rome.

Sir John McNeill's assistants are surveying for the proposed railway from Monaghan to Clones. It is also projected to form a line from Clones to Cavan.

The Dublin papers are literally teeming with complaints against the exposed state of the land- ing-place at Kingstown; and it is proposed to construct a tramway from the pier to the railway, and to cover in a portion of the jetty. Light is also greatly wanting, for on dark and severe nights accidents frequently take place.

The Wexford Embankment Company are about laying out 4,600*l.* in the reclamation of slob wastes.

The Dungarvon and Clonmel Railway will be 28 miles in length, at a cost for construction of 7,000*l.* per mile.

New Turkish Baths are to be erected at Lincoln-place, Dublin, from designs by Mr. Barter.

St. Mary's Church, Cork, is to be completed forthwith. A new colonnade and façade are to be added.

The new Roman Catholic Church of St. Mary's, Mayheral, near Rathfriland, was consecrated on Sunday, October 17, by the Right Rev. Dr. Leahy, coadjutor Bishop of Dromore. The build- ing, which occupies a site immediately adjoining the old one, is designed to meet the requirements of a country parish church, consisting on plan of nave, chancel, sacristy, and west and south entrances. The aisles are laid with black and red tiles, and the chancel with Minton's encaustic tiles. The open roof, with seats, communion-rail, pulpit, &c. of deal, stained and varnished. The granite of the neighbourhood is used throughout, including tracery of windows, dressings, &c. and for the walling, built in random, with rough rock face. Mr. W. J. Barre, of Newry, architect.

Water for Dogs.—Observing in your journal drawings of drinking-fountains, it occurs to me to request you will advocate, in any future erec- tion of such fountains, that a trough be inserted underneath, and out of the way of feet, for the poor thirsty dogs. I think the lords of the crea- tion ought, in our kindness to our fellows, not to forget the poor friend of man, who often suffers so much from thirst. There need be no waste of water, and the additional expense would be well bestowed.—J. W.

METROPOLITAN BOARD OF WORKS.

REPORT ON MAIN DRAINAGE.

At the usual weekly meeting of the Board, on the 29th ult. Mr. Woolrych, the clerk, read the following report from the committee on the main drainage question:—

"1. That they have considered the proper steps to be taken for obtaining the lands required for the construction of the northern high-level sewer and the main outfall sewer from the River Lee to Barking, which lands are shown on the plans accompanying the report, and are of opinion that it will be expedient that the Board should at once proceed to obtain the consent of the Secretary of State for acquiring the lands in question, and for that purpose they should issue the advertisements and give the notices prescribed by the Metropolis Local Management Act, describing the works and other requisite particulars, and stating that the Board are willing to treat for the purchase of such lands, and as to the compensation to be made, which course they accordingly recommend.

2. That they have directed their attention to the preliminary steps to be taken with a view to the erection of the pumping engines required for the main drainage; and recommending that the Board should invite tenders from not more than twenty, nor less than twelve, of the principal engine manufacturers for the designing, construct ing, and erecting boilers, engines, and pumps, to be erected within the metropolitan district, capable of lifting continuously the requisite amount of sewage water.

3. That the committee be empowered to obtain some competent chemical opinion as to the materials to be employed in the construction of the main intercepting sewers."

The several clauses of the report were gone into separately, and were unanimously adopted. Some difference of opinion was elicited as to the advisability of giving much heed to chemical opinions on the question of materials. Mr. Alderman Humphery recommended the use of paviors, having himself used some millions of them in the construction of his docks.

On Wednesday last the Main Drainage Committee met at the offices, Greek-street, for the purpose of appointing a surveyor to value the land required for the northern high level sewer. There was a full attendance of members. Fifteen applications were received from surveyors of the metropolis, which were eventually reduced in the usual way, by show of hands, to Mr. John Oakley, of the firm of Daniel Smith, Son, and Oakley, and Messrs. Haslam and Buckland, of Cannon-street West. The final show of hands gave a majority of one vote to Mr. Oakley, who was declared elected. Advertisements for tenders for the construction of the sewer will appear in a few days.

THE NINE HOURS MOVEMENT.

SIR,—The following is a copy of a memorial, sent by the operatives of the building trades, to their employers, asking for a diminution in the hours of labour. This being a public question, the trades will feel obliged if you will please to insert it in your valuable paper.—On behalf of the committees, GEO. POTTER, Secretary.

To the Master Builders of London and its Vicinity.

GENTLEMEN,—We, the operative carpenters and joiners, stonemasons, and bricklayers, beg to lay before you this memorial, praying for a reduction in the hours of labour.

From daily experience in our avocations we are convinced that, owing to excessive hours of labour, our worth as artisans is depreciated, both in a mental and physical point of view.

We justify ourselves in taking this position on the ground of our having an equal right to share, with other workers, that large amount of public sympathy which is being now so widely extended in the direction of shortening the hours of labour.

The fact is well known that the present hours for working are too many, to afford either rest from exhaustion, or time to improve the intellect, so as to acquire the knowledge and skill requisite for the rapid progress of invention; that continuous exertion without recreation must engender those evils we deplore,—that owing to this continuous exertion, premature incapability must necessarily ensue, whereby our value in the field of labour is materially affected, and we ourselves are eventually left a heavy burden upon the public.

Further, gentlemen, your memorialists regard this question as a purely public one; a question which does not in the remotest degree affect the employers' profits, other than it has a tendency to increase them, and the public benefiting as it does, by the introduction of machinery, will not, we feel assured, deny to us under your sanction a like participation.

The object we are desirous of attaining by this memorial is a concession from our employers of one hour per day; *and the present rate of wages to continue:* by such a concession you will relieve your memorialists from the evils they at present suffer, and yourselves from those future evils consequent upon our own.

We beg leave also to suggest that the employers will do well to have regard in all their future contracts to the *nine hours per day*, for we are so sanguine as to consider the consummation of our desires inevitable.

Trusting, gentlemen, that our memorial will receive that consideration which is due to our wants, is the wish of yours respectfully, the Carpenters and Joiners, Stonemasons, and Bricklayers.

Signed on behalf of the Trade Committees

Carpenters and Joiners.—Matthw. Benn, Chairman.
Geo. Potter, Secretary.

Stone Masons.—Edwin Daniel, Chairman.
R. W. Grey, Secretary.

Bricklayers.—William Blackburn, Chairman.
Henry Turff, Secretary.

London, October 7th, 1858.

Books Received.

Memoirs of the Geological Survey: Mining Records: Mineral Statistics for 1857. By ROBERT HUNT, F.R.S. Keeper of Mining Records. Longman and Co. 1858.

THESE valuable records are always welcome to the public, and scarcely call for the apology made by Sir R. Murchison for unavoidable delay, which only tends to mature the statistics collected in them.

Reviewing the conditions of the year 1857 in connection with previous years, Mr. Hunt, in his introductory remarks, adduces some points of more special interest in the mineral or metallic statistics of the kingdom. On the subject of copper, it appears that the purchases of the copper companies in Cornwall, for 1857, show a decrease of 1,414 tons, and those in Swansea, a decrease of 840 tons, upon the previous year. Our importations exhibit an increase of ore from 71,678 to 75,832 tons, and of regulus from 11,124 to 19,262 tons; and our exports an increase of metallic copper from 22,863 tons of the declared value of 2,648,259*l.* to 25,241 tons, value 2,815,831*l.*

The produce of British lead mines, in 1855, was 69,529 tons: in 1856, it was 73,129 tons; and in 1857, it fell again to 69,266 tons. Our importations of lead also exhibit a falling off of about 3,000 tons.

British zinc ores are more eagerly sought for, and command an improved price. Smelting processes, which promise both economy and despatch, are being introduced.

The unfortunate position of the iron trade towards the close of 1857, when about eighty blast furnaces were extinguished, naturally led to a belief that the falling off in the make of pig-iron would have been very considerable; but it is found that in 1857 we made, of pig-iron, 3,659,447 tons, against 3,586,377 tons in 1856. Up to the crisis in October, enormous quantities had been made in some works, and thrown into the market at greatly reduced prices.

Of coals, we produced and sold 66,645,450 tons in 1856, but in 1857 only 65,394,707 tons.

The values of the metals, as obtained from the furnaces at the market prices of the year 1857, have amounted to the following sums:—

Tin	£867,680
Copper	2,166,900
Lead	1,523,852
Silver	133,216
Zinc	450,000
Pig-iron	12,838,560
Other metals	125,500
	£18,105,708

The value of the whole mineral produce of the United Kingdom in 1857, except clays and stones, which do not appear in the present volume, was 25,961,649*l.*

The Progress of Carriage Roads and Water Conveyances, from the Earliest Times to the Formation of Railways. London: Houlston and Wright, Paternoster-row.

THIS thin octavo contains a section, complete, of "Philp's History of Progress in Great Britain." It comprises much interesting matter, and some amusing illustrations and anecdotes.

VARIORUM.

In "The Sanitary Reform of the British Army"; by Φιλοστρατιώτης (Hatchard and Son, Piccadilly), the author shows up the radical defects under which our military hygienne labours; and, besides urging the removal of barracks from crowded districts and their general improvement in plan, with other remedial measures, strongly advises, what we have often urged,—the useful employment of our idle troops. Even as a mere invigorator of the physical frame of the soldier this is desirable; much more for the habits of industry which it would induce; and more than all, perhaps, for that education of the hands which would not only remove the reproach of helpless handlessness from British soldiers in the camp and the field, but provide them frequently with a means of livelihood for their after-years, which would greatly tend to raise the status and respectability of the soldier, and improve the public feeling in favour of enlistment. The author recommends a small extra payment for labour done, the proceeds to accumulate till the soldier's time expires, so as to provide him with a small capital to begin civilian life again with. Perhaps, however, as a stimulus, a part of such extra pay should be given him weekly, according to the amount of extra work done.—— In "The Defence of our Coasts; by Colonel A. G. Hyslop, late Madras Artillery" (Coutanche St Helier, Jersey), one immense field for just such extra work as that desiderated for the soldier is opened up in the proposal of "a simple general method which will retard, if not altogether resist an invading army;" that is, the intersection of as many points as possible of our coasts, in course of time, by hedge, ditch, and wall, bank, and knoll, so intricately mixed up and arranged as to present the greatest possible protection to the defenders, and the most numerous and discouraging obstacles to invaders. This author urges the useful employment of the soldier on these and other works, and does not hesitate to maintain that one of the greatest causes of the dire mortality among even our finest and best-cared-for troops is a gross fulness of eating and drinking, accompanied by an insufficiency of work for head and hands, beyond the mere irksome, unamusing, and monotonous routine of military duties in peace. As remarked, in connection with this subject, the French and Russian troops seem to use the shovel and pickaxe with much more willingness and ease than the British do; and it is evident that our troops are not quite the self-dependent, useful, hardy men they might be for all kinds of work in the field. —— "Cassell's Illustrated Almanac for 1859" contains, for sixpence, a great variety of useful information, interspersed with showy illustrations, which render the whole much more attractive than a mere almanac is usually felt to be.——A simple and useful little lesson-book for young historical readers has been prepared by Mrs. Edmonds, author of "English History," &c.—under the title "Elementary Notes on the History of France." (Tallant and Allen Paternoster-row.)

Miscellanea.

ARCHITECTURAL ASSOCIATION.—At an ordinary meeting of the association, held on the 29th ult., a paper by Mr. T. W. Goodman, on "Normandy," was read.

RUPTURE OF THE TELEGRAPH BETWEEN DOVER AND CALAIS.—The submarine telegraphic communication with France has been interrupted. The cause is not yet precisely ascertained, but it appears certain that the cable is broken, all four of the wires having failed. It was thought that the rupture has occurred near Dover, and that the dragging of some anchor had occasioned the accident.

THE LEEDS TOWN-HALL. The large room of the Town-hall, says the *Intelligencer*, must be regarded as eminently successful for musical effect. The notes, whether vocal or instrumental, seemed to acquire increased volume and freedom in the ample space, and are perfectly heard in every part of the room. But the resonance which enhances the effects of music is unfavourable for oratory. At the meeting of the British Association two methods of amendment were tried, one consisting of a sort of parabolic sounding-board, looking very like a niche for the speaker to stand in; the other of a large screen at the back of the platform, with as large a canopy projecting forward over the heads of the speakers. The latter was the more effective, but by no means satisfactory. A similar screen and canopy, with a *movable* platform, if placed in the middle bay on one side of the room, would enable any tolerably good speaker to make his words distinctly audible. His distance from the most remote of his audience would be little more than half the length of the room, and the resonant qualities of the semicircular roof would be less excited. This arrangement would have the further advantage, in any crowded meeting, of converting the orchestra into a gallery for a large number of hearers.

MASTER BAKERS' ASYLUM.—About two years since a plot of about three acres, in the Lee Bridge-road, was purchased, for the purpose of erecting thereon an asylum for the reception of decayed masters of the baking trade. The first portion, or centre wing, the foundation-stone of which was laid about fifteen months since, having been completed, the new building has been inaugurated. The portion of the new wing erected comprises ten dwellings, and is the first portion of fifty-four dwellings. It is from the design of Mr. T. E. Knightley, of London, architect. The style is rustic Italian; material of light-coloured brick, relieved with quoins and dressings of Ancaster stone. In the first floor is a room in the centre intended as a board-room and chapel, and there is also a committee-room. The whole of the design has been carried out by Mr. E. Clarke, of Tottenham, contractor.

INSTITUTION OF CIVIL ENGINEERS.—The first meeting of the new session will be held on Tuesday next, the 9th inst.

REFORMATORY, OR RAGGED SCHOOLS, NOTTINGHAM: COMPETITION.—The committee, after consideration upon the merits of the numerous designs sent in for this competition, decided upon those with the motto, "I take aim for the mark;" the author of which, upon opening the envelope accompanying them, was found to be Mr. Charles H. Wright Edwards, of Camden Town and Nottingham.

BRISTOL SCHOOL OF PRACTICAL ART.—The first general meeting of shareholders of this school was held in the new building, Queen's-road, on Thursday in last week. Mr. P. W. S. Miles, who presided, said the school had now been in operation five years, and the report showed that great credit was due to the master, Mr. Ferrier, for the way in which he had carried it on, because he had not had so much support as might have been given him. When the school was first established there were 32 pupils, but now there were 150 artizans, and 150 ladies, making 300 students in all. This school was the seventh among the central, and second in the list of public schools, having 1,736 children under instruction, the metropolis, which alone exceeded it, having only 2,725. The Bristol school among the local medals was fifteenth in the list, and among the national, eighth. In April last 18 medals were awarded to pupils of the Bristol school, and 152 prizes were granted to the different schools connected with it, being under instruction. He hoped people would not believe that these medals and prizes were gained too easily, for he was acquainted with one of the examiners, who had assured him that these rewards were *bonâ fide*, and not given unless the students thoroughly deserved them. He then adverted to the industrial exhibition which had been held, and of which that was the last day. It had been visited, from first to last, by nearly 10,000 persons, and at times from 500 to 600 had been in the room at one time.

"PODOSCAPHS."—M. Ochsner, of Rotterdam, is said to have invented a mode of walking on water, and he has been called "the first podoscapher." The "podoscaphs" are a species of sabot, about 5 feet long and 9 inches high (or deep). Standing erect, the podoscapher, provided with a pole flattened at the end (for paddling), and 12 feet long, can advance, turn, or recede with great swiftness in water not deeper than the length of the pole. M. Ochsner won a wager by ascending the Rhine, from Rotterdam to Cologne, in his podoscaphs in seven days. The novelty of such a mode of progression on water, however, is not so unprecedented as appears to be imagined. About thirty-five years since, the writer witnessed a decidedly less clumsy and more ingenious mode of walking, treading, or riding on water, in the harbour of Leith. This consisted of a machine not unlike a velocipede, but mounted on water-tight floats instead of wheels. The inventor, mounted on this machine, with hinged paddles on his feet, made rapid progress over the surface of the water. The floats, in the present instance, were superseded by the "sabots;" but while these latter are no less than 15 feet long, the former were little more than as many inches in length and depth: there were three of them, one before and two behind, and the apparatus floated by them was of slight iron rods, on which a saddle was fixed which the water-treader bestrode.

THE NOTTINGHAM SCHOOL OF ART.—The annual meeting of the Nottingham Government School was recently held, in the Exchange-hall, Nottingham. In the absence of the Duke of Newcastle, who was prevented from being present by illness, Lord Belper was called upon to preside. Among the objects in the exhibition of drawings in connection with the school, were a series of designs by Mr. Simpson, architect, of a proposed new building to be erected on ground granted for that purpose by the corporation. The site is in the locality of the Arboretum, near the corner bounded by Peel-street and Waverley-street. The style is modern Italian. The façade is about 127 feet long, and two stories high, the lower of which comprises elementary and geometrical schools, conservatory, and porter's residence. On reaching the second story, and passing through an arcade entrance, we come to the reception-room and library, beyond which, on both sides, are the male and female studies, while the foreground is occupied by a rotunda for the reception of classic models. The whole of this story is lighted from the ceilings, and it is intended to serve as a picture gallery, affording nearly 6,000 feet of space for that purpose. There is also a museum adapted for the exhibition of natural history specimens.

CONCRETE.—Having often observed the insufficiency of the methods adopted, no whole stones should be used—all fractured. The common method of shooting it in a trench for a foundation is insufficient. I have invented (in idea) a travelling machine, on wheels. By means of two windlasses, draw up a cylindrical vessel containing concrete, to be let fall at any given height, drawn up by two endless chains, and well mixed by the motion.—T. G.

WATER FOR ROME. — Notwithstanding the abundance and salubrity of its waters, only three of the fourteen aqueducts required for the luxurious *thermæ* and fountains of the ancients are at present in use at Rome. It is now under contemplation to restore the Marcian aqueduct, which, according to Frontinus, derived its source from a spot on the Equicolan hills, near the Via Valeria, thirty-three miles from Rome. This water was considered by the ancient Romans the best that came into the capital, and was especially reserved for drinking. The pope has authorised M. Moraldi, the architect, to commence the necessary surveys.

A CLERKS' LIBRARY AND LITERARY ASSOCIATION AT THE GENERAL POST-OFFICE.—A movement is in progress for the establishment of a library and reading-room at the General Post-office, St. Martin's-le-Grand, for the clerks and other officers, but not including all ranks seemingly, which we think is a pity, since the clerks and other higher officials might thus greatly aid in the enlightenment and moral elevation of their inferiors. A literary association is also to be founded, the whole to constitute "an institution that shall be open to every clerk or higher officer of the General Post-office without distinction of department." Surely the library might be thrown open to the lower officers as well as the higher, at all events, on payment of some very small contribution from all who desire it. Otherwise, the movement is a very commendable one. Connected with the institution there will be a news-room, and occasional lectures, conversazioni, and general meetings.

THE CHAPEL ROYAL OF ST. GEORGE, WINDSOR. —During the absence of the Queen from the Castle, the services at St. George's Chapel have been suspended, by order of the dean and canons, nearly two months, for the purpose of introducing Messrs. Price and Co.'s system for correcting the tendency to damp, and maintaining a temperature of about 50 deg. Fahrenheit during the coldest weather, the congregation having hitherto suffered much from the coldness of the chapel during the winter months. This operation has been accomplished by the combined use of hot-water pipes, and an extensive range of heating surfaces, the former being placed in flues running through the entire aisle of the chapel, and the latter fixed in a chamber beneath it. The fresh air is introduced from the outside of the chapel, and warmed in its passage through the chamber; it is afterwards distributed throughout the chapel by the flues beneath the floor.

AUTHORS OF THE AGE.—Under this title Mr. S. C. Hall, the esteemed editor of the *Art-Journal*, has been putting together his memories (from personal acquaintance), of great men and women of the epoch, in the shape of two lectures. The first will include notice of Hannah Moore, Lady Morgan, Moore, Scott, Amelia Opie, Rogers, Jane Porter, Bowles, Crabbe, Maria Edgeworth, Montgomery, Elliott, Leigh Hunt, Lamb, Wordsworth, Coleridge, and Southey. The second—Burns, Professor Wilson, Allan Cunningham, Hogg, Felicia Hemans, Cooper, Washington Irving, Lady Blessington, Mary Russel Mitford, Banim, Horace and James Smith, Laetitia Landon, Barbara Holland, Campbell, Hook, and Hood. Mr. Hall says truly, "It will be obvious that there are not many to whom this task is possible:—to have been personally acquainted with a large proportion of those who head the epoch, infers a youth long past, yet a youth familiar with them, and that under circumstances so peculiar as to have been enjoyed by few. Many of whom I shall speak had 'put on immortality' before the greater number of my auditors were born: one generation has passed away, and another has attained its prime, since the period to which I shall take you back." We "happen to know" how much he "happens to know" of those who have filled the world's eye for the last quarter of a century, and can say with certainty that the lectures will possess no common interest, and afford no ordinary pleasure. Mr. Hall has upheld honourably the *status* of a man of letters for a term approaching forty years, and is entitled to the warm sympathy and support of all labouring in that profession, if on no other grounds.

FOREIGN HONOURS.—The Academy of Fine Arts at Copenhagen have elected as Honorary and Foreign Members of their body, Sir Charles Eastlake, President, R.A.; Sir Edwin Landseer, R.A.; Sir Charles Barry, R.A.; C. R. Cockerell, Esq., R.A.; and Professor Donaldson.

THE EGYPTIAN RAILWAY.—There is now not above ten miles of the Egyptian railway unfinished. When it is completed the expense of conveying the India and China mails will be reduced 20,000*l.* a year. The sum paid by the Admiralty for conveying seaborne mails is at the present time 1,040,940*l.* a year.

WHY WILL A PAIL OF WATER, SET IN A NEWLY-PAINTED ROOM, REMOVE THE SMELL OF PAINT?—Because water has a tendency to absorb gases: hence those which are emitted by paint are *drawn from the atmosphere* by the water.

THE STREET FOUNTAIN MOVEMENT. — The Preston town council have accepted an offer, by Mr. Joseph Livesey, of that town, to erect six drinking-fountains in the borough. —In Blackburn there are now many drinking-fountains, and more are proposed to be erected. Mr. Alderman Cunningham, although a brewery proprietor, has proffered the front of his house in Mary Ann-street, for the erection of a drinking-fountain, provided those who erect it will prevent the water from penetrating through the front wall into the interior of the house. A drinking-fountain has been erected at the corner of Salford-bridge, in memory of the late Mr. George Dewhurst, an old reformer. It is similar to the one against the Market-house.——Colonel Baker, of Grosvenor, has offered a donation of 5*l.* towards the erection of a drinking-fountain in Bath; and others of the same nature are anticipated.

BEDFORDSHIRE ARCHÆOLOGICAL SOCIETY.—The annual general meeting of this society has been held at Bedford. After the council's report was read and adopted, and new office-bearers elected, the Rev. J. Mendham read a paper on the life and labours of Dr. S. E. Castill; and the Rev. W. Monkhouse, one on the Ethnography of the County of Bedford. A paper by the Rev. J. F. Dawson, on Clapham Church, was then read. After describing the old work still extant, explaining the present condition of the building, and the many disfigurements and plasterings with which this interesting relic had been abused, some wall decorations which had lately been discovered were described, together with the scanty but mischievous "repairs" which had been bestowed on the church, and the unsatisfactory condition, bad arrangement of the interior, and insufficient accommodation for the growing population. The writer, then referring to the proposed restoration, said:—"A brighter future, however, is, I trust, at hand. Plans are now under the consideration of Mr. Scott, the architect, the object of which may be briefly stated as follows:—Whilst carefully preserving the character of the more ancient style of architecture—to provide additional church room by a judicious enlargement of the present structure—to insert new windows to construct new roofs, and new beams, floors, and bell-frames within the interior of the tower—to provide new sittings and internal fixtures upon a uniform plan—and thoroughly to renovate the entire fabric, both internally and externally—as well as to enclose the tower and church within a greatly-extended churchyard."

GLASGOW ARCHÆOLOGICAL SOCIETY. — The annual meeting and conversazione of this society was held on the evening of Monday, the 1st inst. In the unavoidable absence of Sir Andrew Orr, president of the society, Mr. Sheriff Steele occupied the chair. The secretary read the report of the council, from which it appeared that the progress made during the past session had been most satisfactory. Arrangements had been made for printing some of the most interesting papers, and the first part of the transactions, it was expected, would soon be in the hands of the members. The nucleus of a collection of antiquities had been formed, and suitable premises secured for their reception, and a balance of upwards of 10*l.* remained in the hands of the treasurer. The chairman, in an interesting speech, moved the adoption of the report, which was seconded by Dr. Strong. The office-bearers for the ensuing year were then elected, and several applications for admission intimated. The subject for the evening was, "The History of Glasgow," illustrated by a large collection of maps, books, MSS., engravings, and antiquities of every kind, which were arranged round three sides of the hall. Addresses, illustrative of the various objects exhibited, were delivered during the evening by Messrs. Baird, Connal, Neil, and Hart.

THE HULL DRAINAGE QUESTION.—At a recent meeting of the Local Board of Health, when about fifty members were present, a debate took place on the drainage question for the west district—which occasioned a discussion of about four hours, and resulted in the almost unanimous adoption of the plan proposed by Mr. Butler, the assistant engineer of the Board, for effecting the drainage of the whole district without having recourse to pumping—thus setting aside the successive plans and reports of Messrs. Clarke, Newman, Marillier, and Hawksley, civil engineers. Mr. Moss pointed out in course of the discussion, that while there had been years of debate as to the adoption of "deep" or "shallow" drainage, there was in this debate a contest of only a few inches between the depth of the sewer proposed by Mr. Hawksley, and that of Mr. Butler; and Mr. H. Lambert explained, that whereas Mr. Hawksley obtained 6 feet fall from York-street to the outfall, Mr. Butler obtained 8 feet, and in like manner, while Mr. Hawksley secured a fall of 1 in 1,800 Mr. Butler had a fall of 1 in 1,300, and consequently the water would pass more rapidly through Mr. Butler's sewer, and keep the sewer more clean.

COLOUR IN VEGETABLE STRUCTURES. Colour, by varied dispositions of quantity, and diverse degrees of intensity, may materially alter the general appearance. As a general principle, colour is used to assist form, and also by its enchantments to add to the beauty of the organism. In vegetable structures the primary colours, viz. blue, red, and yellow, are exhibited sparingly, occurring almost exclusively in flowers of a more or less diminutive character when compared with the entire organism. Secondary colours are widely diffused—at least, the secondary colour, green, which is remarkably cheering and grateful. The tertiary colours are also prominent in the general effect of nature, and, if not in their maximum intensity, they are exhibited in their tints and hues. Although the general colour of vegetable nature is green, which is a secondary colour, nevertheless this green only appears as such when near the eye of the spectator; for not only is there an opacity in the atmosphere, which must necessarily change the green into a hue or shade of that colour, but the atmosphere is also more or less blue, which, added to the green, as the spectator recedes, causes the green landscape to become more and more blue; and as one equivalent of blue added to green makes a compound of these, which would be an extremely blue-green, it follows that the aspect of the distant landscape is that of a blue-green, and not green proper; and as the opacity of the atmosphere tends towards white or light during the day, the distant landscape will become a tint of blue-green, and as evening dawns, the white aërial vapours, mingling with the evening twilight, will give a more neutralized effect, the real darkness, or absence of light, giving a shade to the blue-green, while the vapours, adding white, give a tint which, mingling, cause a neutral aspect, tinged with blue-green.—*Art-Journal.*

HEXHAM ABBEY CHURCH.—The state of this fine old edifice is brought under notice by a correspondent of a Northumberland paper, called *The Daily Chronicle*. He first points out what has been done by the Hexham people. The galleries which occupied the spaces between the pillars of the choir have been removed, and the clustered pillars themselves restored from base to capital. Whitewash has been carefully taken from the walls of the choir, and the noble mouldings of the arches, inclusive of triforium and clerestory, displayed in their original condition, and mutilated stones replaced by new. The original rood-screen now remains alone at the west extremity of the choir, and beneath the easternmost of the four lofty arches which carry the tower. The floor of the choir has been lowered sufficiently to discover the bases of the pillars. Benches of modern construction have been designed in place of the old pews, and oak pulpit and reading-desk of an ornamental character substituted for those hitherto in use. The large transept is still disfigured by whitewash. The effect of the four lofty arches beneath the tower is marred by the projection of a wooden belfry below the point of each arch. The existing doorway, erected by the Company of Mercers, presenting a wonderful combination of the Italian and Greek, not to say the Mercers' styles of building, is an eyesore. A few other requisites are—a new communion-table, and raised daïs of encaustic tiles, oak screens to mark out each side of the chancel, lead casements to the windows, and the windows themselves supplied with stained glass, a new organ, and numerous other accessories.

TENDERS.

For re-building chapel, High-street, Deptford. Mr. F. Pouget, architect :—

Lester	£4,395	0	0
Mansfield	4,180	0	0
Jenkins	3,980	0	0
Smith	3,945	0	0
Rider	3,680	0	0
Thompson	3,434	0	0
Downs	3,396	0	0
Wood and Son	2,893	0	0

For Warehouses, Newgate-street, for Mr. Wm. Hayne. Messrs. Tillott and Chamberlain, architects :—

J. Perry	£3,373	0	0
J. Jay	3,299	0	0
Wm. Brass	3,271	0	0
Ashby and Sons	3,200	0	0
Axford and Co.	3,180	0	0
Lawrence and Sons	3,180	0	0
G. Myers	3,171	0	0
Hawtrey and Son	3,120	0	0
Piper and Son	3,067	0	0
Browne and Robinson	2,890	0	0

For building a Mechanics' Institute at Norwood. Mr. E. B. Lamb, architect :—

Adams and Co.	£2,9?8	0	0
Seagrave and Co.	2,785	0	0
Alfred Deacon	2,671	15	9
Patman	2,584	0	0
Gresswell	2,415	19	0
McLennan and Bird	2,443	0	0
Adamson and Sons	2,399	0	0
Myers	2,293	0	0
Garnham	2,238	0	0
Colls and Co.	2,172	0	0
Jackson and Shaw	2,150	0	0
Mark Deacon	2,100	0	0

For the erection of three houses and finishing three others, in Southampton-street, Camberwell, for Mr. W. Neates. Mr. J. Thomas, architect :—

Wells	£1,675	0	0
Crawley	1,650	0	0
Thompson	1,640	0	0
Fisher	1,625	0	0
Jacobs	1,600	0	0
Colls and Co.	1,497	0	0
Farmer	1,452	0	0
Keast and Moon	1,333	0	0
Turner	1,230	0	0
Thornhill and Son (accepted)	1,198	18	6
Stevens (withdrawn)	956	10	0

For erecting and finishing a house at Bexley-heath Mr. Henry S. Lanchester, architect :—

Coleman	£1,524	0	0
Hart	1,450	0	0
Fish	1,295	0	0
Furnival	1,145	0	0
Purkiss	1,125	0	0
Paul (accepted)	1,115	0	0

For new Portland stone front to the Church of England and University Life Office, Strand. Messrs. Tress and Chambers, architects :—

Sneezum	£749	0	0
Fowler	715	0	0
Coleman	694	0	0
Brass	678	0	0
Ashby	629	0	0
Macey	587	0	0
Brown	570	0	0

For alterations and additions to a house, No. 29, Albemarle-street. Mr. A. Richards, architect :—

Arnold	£759	0	0
Foxley	625	0	0
Parkiss (accepted)	588	0	0

For repairs and alterations to four houses, Nos. 3, 4, 5, and 6, Caroline-street, Commercial-road East, for Mr. H. D. Welton. Quantities taken out by Mr. James Barnett :—

Wm. Hill	£518	0	0
Taylor (bricklayer)	449	0	0
J. Glenn	439	0	0
Jackson and Shaw	420	0	0
Hall and Son	375	0	0

For alterations and additions to No. 24, Cornhill. Mr. William Lee, architect

McLennan and Bird	£293	0	0
Macers	285	0	0
Wills	275	0	0
Newman and Mann	245	0	0
Felgate	239	0	0

For repairs and alterations to house, No. 2, Vernon-place, Bloomsbury :—

Williams	£450	0	0
Partridge and Crutch	437	0	0
Cooper	428	0	0
Patman	395	0	0
Scott	368	10	0

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S. E. M.—Grand B.—W. J. S.—Mr. D.—G. H.—N. and M.—W. E. L.—J. C. W. H.—Lull would be the Surveyor to the Westminster Board of Works for a report on the subject just seen by him.—F. D. P.—J. D.—J. W.—G. D. (with such a clause profit is not claimable).—Marine Subscriber.—J. C.—C. B. M. (no machine sufficiently simple).—H. T. W. (pitch an arrangement to bring out the new not the common).—T. G. We cannot reply without seeing it).—Practical.—J. W. S.—D. and T.—W. H.—A. G. H.—P. D.—Nemo (in type).—J. F. F. (ditto).—W. and P.—H. G. (shall be made use of).—T. B.

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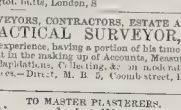

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Portland, Lias, Bath, and Roman Cements.

SCOTT'S PATENT CEMENT,

Manufactured only by
WILLIAM LEE, SON, and SMITH,
EARL-STREET, BLACKFRIARS
This Cement is highly recommended for Internal or External Plastering, Brickwork, &c.

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(Late Wyatt, Parker, and Co.),
ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS.
Plaster of Paris, Bricks, Lime, Hair, Laths, Sand, Tiles, Chimney Pots, Trusses, Copings, &c.: Stone-ware Drain Pipes and Closet Pans
No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON.

TO SEWER CONTRACTORS, and the TRADE generally

STROUD and CO.
BLUE LIAS LIME WHARF,
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PARIAN CEMENT for INSIDE WORK.

With this material houses may be finished and occupied in one-fourth of the usual time. A finer quality produces a beautiful and hard Scagliola imitation of marble. Manufacturers, FRANCIS, BROTHERS, and PUTT, Nine Elms, London.

WHITE and RED SUFFOLK FACING BRICKS,

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The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs. Caleb Hitch and Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT-COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex.

The EWELL deep BLACK RUBBING and BUILDING BRICKS. And the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, AND ESSEX BRICKS,
IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE
JOHN and WM. EASTWOOD, } SOLE CONSIGNEES.
WELLINGTON-WHARF, Belvidere-road, Lambeth, and Kent-road Bridge.
The usual commission allowed to merchants of the trade from the monthly price-lists.

N.B. Every description of the Building Goods of the Trade always in Stock.

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Blue, Red, and Buff Terra Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles of great variety. Plain Rolled, Capped, and Panelled Ridge Tiles of different pitch, and Grooved Ridging, with Crestings, ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

J. and W. EASTWOOD,
Belvidere-road, Lambeth; and Kent-road Bridge.

PALE MALM FACING BRICKS.

IMPORTANT TO BUILDERS!

In consequence of ARCHITECTS having of late years specified the YELLOW FACING BRICKS for their works, the accumulation of PALE SECONDS, MALM PICKINGS, &c. has become very large, that Messrs. EASTWOOD are now selling these Bricks from different makers, at greatly reduced prices. Messrs. EASTWOOD are prepared to engage them in large quantities, at the present price of Bright Stocks.

Belvidere Road, Lambeth, 30th October, 1858.

PORTLAND, BATH, and LIAS CEMENTS.

First-class quality and lowest price

GENUINE BLUE LIAS LIME, fresh up from the kilns in Warwickshire daily, at the same price as Grey Lime at Paddington Station.

TATHAM and CO. 14, South-wharf, Paddington, W.

*** Shipping orders carefully and promptly executed.

THE PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.
Messrs. ROBINS and CO.
TO WHOM THE PRIZE MEDAL WAS AWARDED in 1851,
are prepared to
SUPPLY ANY QUANTITY OF THE VERY BEST PORTLAND CEMENT,
Manufactured by them for all the purposes to which Cement is applicable.
Orders received at Great Scotland-yard, and at the Works.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater, Hydraulic, Portland, Bath and Roman Cements, Blue and White Lias Lime, Limeand ground. KIALMARK and CO. Dunball, Bridgwater, and 9, North Wharf road, Paddington

PORTLAND CEMENT WORKS,

NORTHFLEET, KENT.
KNIGHT, BEVAN, and SUTTCRE,
Manufacturers only of first-class quality, for the home and foreign trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise.

LONDON WHARF, BELVIDERE-ROAD, LAMBETH.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 6, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.

N.B. These Cements applied for shipment, on advantageous terms.

HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE-PACKING, both round and flat, as SOCKET RINGS, for Hot-water Pipes. Vulcanized Rubber Bearing rings, and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Bagatelle Tables

Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Vulcanized Rubber in Sheets from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and Articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in giving publicity to the following letter, FROM SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—Second Testimonial.—"March 10th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders and other persons have lately examined it, and there is not the least apparent difference since the first laying down, now several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
18, WHARF-ROAD, CITY-ROAD, LONDON.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.

H. PIGGOTT,
115, Fore-street, City, Manufacturer, by appointment, to her Majesty's Honourable Board of Ordnance.

CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,

FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT,

BRASS-DRAWN SASH-BARS, BRASS NAME-PLATES, DOUBLE AND SINGLE ACTING SPRING HINGES, AND ALL METAL-WORK CONNECTED WITH BUILDINGS.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

CLARK AND CO. ENGINEERS, 15, GATE-STREET, LINCOLN'S-INN-FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.'S

WOOD OR IRON REVOLVING SHUTTERS ARE EQUAL TO THOSE OF ANY OTHER MAKER, AND MUCH CHEAPER.

BRASS SASH-BARS, AND STALL-BOARD PLATES, AT A GREAT REDUCTION IN PRICE.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS POST-FREE ON APPLICATION AT 84, GRAY'S INN LANE, HOLBORN.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

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PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE CUT-SCREW GEARING, 2s. 6D. PER FOOT,

AT HIS STEAM WORKS, 135, OLD-STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC DRAWN SASH BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

WILLIAM SANDS,

CURSITOR-STREET, CHANCERY-LANE.

MANUFACTURED JOINERS' WORK, AND MOULDINGS OF EVERY DESCRIPTION, ON THE SHORTEST NOTICE, AND AT THE LOWEST PRICES, PACKED AND FORWARDED TO ALL PARTS OF THE COUNTRY.

Lists of Prices and Estimates forwarded on application.

WATERLOW, DRAPER, AND WEBB,

TREDEGAR MOULDING MILLS, BOW, E.

BEG TO CALL THE ATTENTION OF BUILDERS AND CARPENTERS TO THEIR SUPERIOR

STEAM-STRUCK MOULDINGS,

Which are fit for the immediate use of the Joiner. A large Stock always on hand, at the Warehouse for House and Cottage Joinery, 121, Bunhill-row, Finsbury.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

The only White Zinc Works in the United Kingdom.

HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Painters and Decorators have never had really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no comparison with the genuine article by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns lighted by gas. It first loses the gloss, and ultimately mixes up with the water and washes off.

But still greater prejudice is created by their having been supplied with the paint manufactured in France and in America. Both are

Hubbuck's Patent Process completely resists London atmosphere, bilge water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.

N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

GREAT REDUCTION IN THE PRICE OF BRICKS, TILES, DRAIN-PIPES, &c. &c.

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THE CRYSTAL PALACE AND SUBURBAN BRICK AND TILE COMPANY (Limited),

WORKS: LORDSHIP LANE, DULWICH,

One mile from the Forest Hill Station, have on SALE, BRICKS and TILES, DRAIN PIPES of various sizes, and other CERAMIC Wares, of very superior quality, and at prices much lower than those usual in the trade; great economy being effected by this patent mode of burning. For prices and particulars respecting them, apply to Mr J. LIEN DENIS, the Manager, at the Works, or at the Offices of the Company 86, KING WILLIAM STREET, LONDON, E.C. where Samples and Specimens may be inspected.

PATENT CONTINUOUS BRICK FURNACES, for BRICKS, TILES, DRAIN PIPES, &c. &c.—THE CRYSTAL PALACE and SUBURBAN BRICK and TILE COMPANY (Limited) Works, Lordship-lane, Dulwich, one mile from the Forest Hill Station, are prepared to grant Licences for the use of their Patents for drying, burning, and cooling Bricks, Tiles, Drain Pipes and other Ceramic Wares, whereby a considerable saving in fuel and the year, irrespective of locality or climate; also perfectly free from nuisance, being self-smoke-consuming, and is to be seen daily in operation. For terms and particulars apply to Mr JULIEN DENIS Manager, at the Works; or at the Office of the Company, No. 86 King William-street, City, E.C.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire bricks, Lumps and Tiles of every description (seventeen years with James Newton, Falcon Dock, Bankside), beg to solicit the patronage of Consumers Gas Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire Bricks, Clay Retorts, &c. Sanitary Pipes Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch

WARRANTED IMPERISHABLE.

W. GILBERT'S SUPERIOR BLUE BRICKS and TILES.

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Artizans made to design.—Cheap Freights to all parts of the kingdom, daily.

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PRIZE MEDAL LONDON EXHIBITION, 1851

FIRST CLASS SILVER MEDAL PARIS EXHIBITION, 1855.

GRAINING by KERSHAW and BELLAMY'S PATENT TOOLS. House Painters, Decorators Builders, Railway Companies, Merchants, Shippers, &c. Messrs KERSHAW and BELLAMY having for several years devoted much time and attention to perfecting and rendering practical a patent by which the Graining of the various descriptions of Wood are now ready to supply the trade with the tools whereby the Imitation of wood in the most elegant and elaborate description are produced on painted wood-work, deal, or other surfaces. The above Patent Graining Tools are supplied Wholesale and Retail, direct from the Manufactory, 33, HIGH STREET, MARYLEBONE, LONDON, where they have opened a show room, with specimens of Graining in imitation of woods by the patent process, for public inspection. Price lists forwarded upon receipt of stamped directed envelope. N.B. Graining colours prepared for the various woods, sold in bottles, requiring only thinning; also a superior assortment of Graining Brushes.

COLOURS and VARNISHES at REDUCED PRICES.

Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s. 2d.; Turpentine 3s. 2d.; Boiled Oil, 2s. 8d.; Pale Oak Varnish, 7s. 6d.; Carriage, Kegs, 1s per gallon. Dry and Ground Colours, Brushes, &c. &c. Cash

F. LANGTON'S, 143 and 144, Whitecross street, St. Luke's, E.C.

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s 6d per gallon; Boiled Oil, 2s 10d. per gallon; Turpentine, 3s. 3d. per gallon;

Fine Pale Oak Varnish, 7s. 6d per gallon.

For cash, at EDWARD PRICE'S Oil and Colour Warehouse, Coleshill street, Pimlico.

Every article for the Trade at the lowest price.

VARNISHES, COLOURS, and PAINTS WILKINSON, HEYWOODS, and CLARK, Manufacturers Battle-bridge, London, N.

A SUBSTITUTE for PAINT and at HALF the COST. STEPHENS' DYES or STAINS for WOOD. Mr. STEPHENS has been kindly permitted to make public the following extract from a letter addressed to him by the Rev. R. CHICHESTER, of Chittlehampton, near South Molton—

"The effect is produced by the Stain and Varnish has given such entire satisfaction, that the parishioners have requested me to procure five times the quantity now paid for, in order to finish the church."

54, Stamford-street, London.

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GREENSLADE'S PATENT GROUND PAINT, DUSTING, and VARNISH BRUSHES, are highly recommended, combining many important improvements, both in usefulness and durability. GREENSLADE'S Paints or Brushes of every description are made in the quantities required, and I respectively guarantee. The latter are of the very best materials, and worthy of the attention of those who desire a really good Brush.—Manufacturers, E. A. and J. GREENSLADE, Thomas street, Bristol.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPER-HANGINGS is CROSS'S WHOLESALE WAREHOUSE, 29, GREAT PORTLAND STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom, THIRTY PER CENT CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

THE AYLESFORD POTTERY COMPANY

OFFER TO THE PUBLIC

HOLLOW TERRA-COTTA BRICKS AND TILES

AT

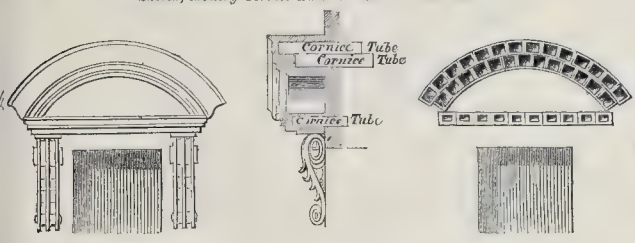
Prices greatly to the advantage of Architects and Builders, as they can be most beneficially applied to Projections and Cornices of every kind in Brick Buildings where Stone is usually employed. They are relatively stronger, and the Prices are about two-thirds the cost price of Stone, and require no labour to fit them, as they work regularly with Common Bricks.

SOLID TERRA COTTA BRICKS MADE TO ANY PATTERN.

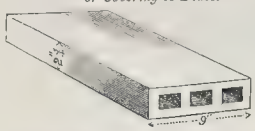
Cornice Tube.

In Lengths, 1 *ft.* 6 *in.*
,, 2 *ft.* 0 *in.*
,, 2 *ft.* 6 *in.*

Sketch, showing Cornice Tubes as used in Construction.

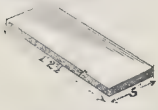


Flat Hollow Tiles, for Projections, Cornices, or Covering to Flues.

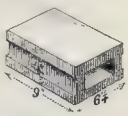


In Lengths :—
0 *ft.* 9 *in.*
1 *ft.* 2 *in.*
1 *ft.* 6 *in.*

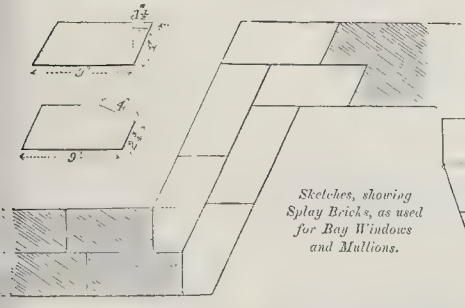
Sole Tiles for Flat Roofs, and Dubbing out Walls or Projections.



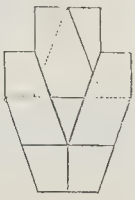
Hollow Brick, for Fireproof Floors & Cellar Roofs.

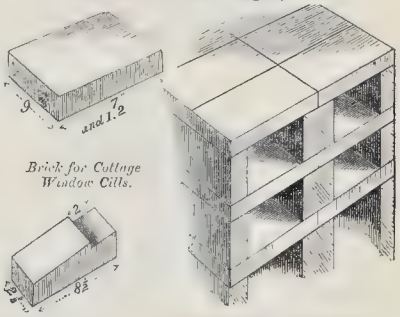


Solid Blocks for Flues or Fireproof Floors.



Sketches, showing Splay Bricks, as used for Bay Windows and Mullions.

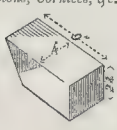




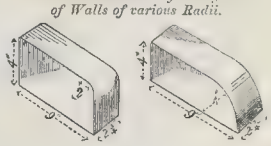
Brick for Cottage Window Cills.

Besides the following Sketches, Copings will be supplied to any Pattern, to suit the Taste of the Architect.

Splay Brick for Projections, Cornices, &c.

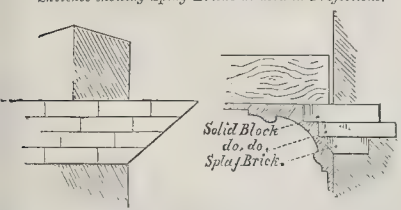


Round-nosed Bricks for Angles of Walls of various Radii.

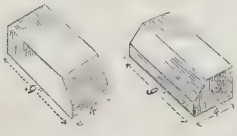


Invert Block for Sewers.

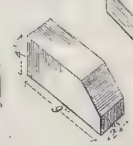
Sketches showing Splay Bricks as used in Projections.

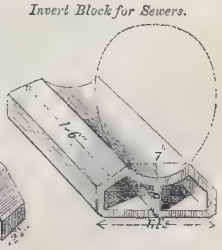


Splay Bricks for Plinths.



Splay Brick for Jambs or Quoins.





Window Splay Bricks, dressed. Plinth Bricks, sunk and plain. Machine-made Best White Bricks. Ditto, Paviors. Ditto, Pink.
Ditto Radiated Culvert Bricks, for Sewers.
SUPERIOR GLAZED STONEWARE DRAIN-PIPES, BENDS, &c. AGRICULTURAL DRAIN-TILES, WITHOUT SOCKETS.
PAVING QUARRIES OF VARIOUS SIZES; also RIDGE TILES.
SPECIMENS OF THE VARIOUS ARTICLES TO BE SEEN AT THE WHARF, BELVEDERE-ROAD, LAMBETH, S.

Applications for Prices and Particulars to be made to
Mr. PILTON, Agent at the Aylesford Pottery Wharf, Belvedere-road, Lambeth, S.
Mr. FINLAY, Agent at the Pottery, Aylesford, near Maidstone, Kent.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c adapted for any depth.

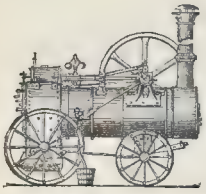
HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double Branch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

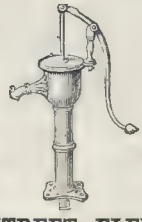


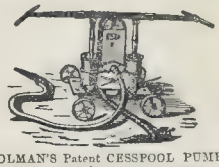
ENGINES, SINGLE & DOUBLE PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.





HOLMAN'S Patent CESSPOOL PUMPS.
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER & CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.

Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

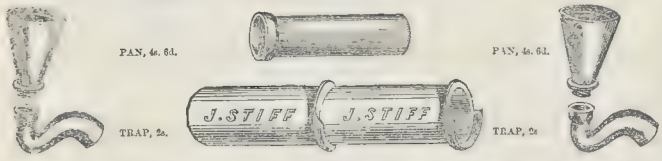
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St James's at Thorpe Hall Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVELESS, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

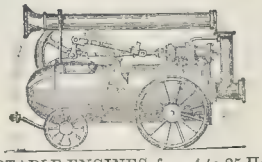
DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED

AND

LAMBERT'S HIGH-PRESSURE VALVE-COCK.

WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without Machinery, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars-road, London.

TO BUILDERS AND PLUMBERS.

The attention of the Trade is called to JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP, which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the valve-box cover and extension chamber are made unnecessary, rendering the same more durable than Pumps made on the old plan.

Barrel Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all works, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from packing, and applicable for all purposes, and fashions. Patent Closet and Basin, with supply valve for attaching direct to main pipe, without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin street, London.

IMPORTANT TO PLUMBERS.

REGISTERED CAST IRON CHIMNEY-HOPPER and CHIMNEY-BAR COMBINED, ensuring a perfect draught to the fire, and preventing smoke in any part of the house. One trial will cause their adoption in every building.

Price for 8 sets of each description of size.

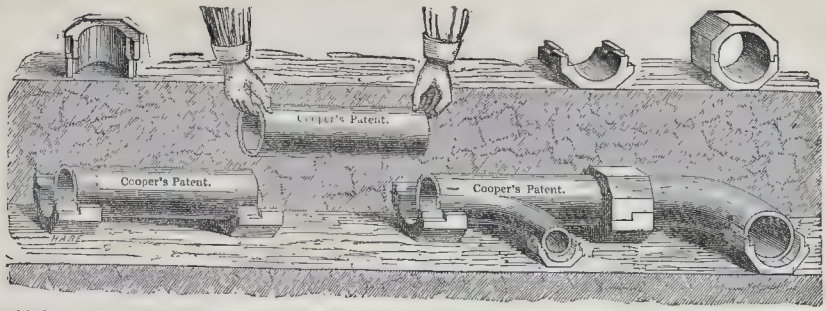
IRON GIRDERS and COLUMNS to MODEL or DRAWING.

IRON PIPES and connections of best make and lowest price.

EAVE WATER PIPE and LAVATORIES, of all descriptions. Also, DOG GRATES, Sash weights, STABLE FITTINGS, Lamp brackets, Chains, Pulleys, Sinks, and COLUMNS, with Caps and Bases, and every kind of Builders' Castings, in stock, at LYNCH WHITE'S Iron Wharf, Upper Ground street, London, near Blackfriars Bridge.

COOPER'S PATENT STONEWARE DRAIN-PIPES,

PERMITTING EXAMINATION AND CLEANSING, AND THE DRAIN TO BE REPLACED PRECISELY IN ITS ORIGINAL STATE.



These PIPES and CONNECTIONS have SEVERAL ADVANTAGES over every other plan hitherto offered for connecting CYLINDRICAL PIPES. They are very SIMPLE in their construction, and are respectfully submitted by the Patentee to the inspection of Professional Men, as especially adapted to meet their requirements. The following are some of the advantages secured by their use:—

I. They provide READY ACCESS TO ANY PART OF THE DRAIN, FOR EXAMINATION, without disturbing any other part, or point of the invert, of the Drain.

II. The Pipe, being laid ON THE UNDER CONNECTION, butts the adjoining Pipe at the MIDDLE of the connection; the Pipes are therefore kept PERFECTLY STRAIGHT in the Drain.

III. Should any Pipes be not quite exact in size, arising from the difference of the shrunk in burning (which is often the case), their being joined on an EVEN SURFACE AT THE MIDDLE OF THE UNDER CONNECTION, will necessarily throw any IRREGULARITY TO THE TOP OF THE DRAIN, thereby obviating the necessity of the use of the mop, and making the invert PERFECTLY FAIR AND EVEN. Having but ONE JOINT to each pipe, and supported on the connection, they are not liable to be obstructed or injured by running sand, sinking of the earth, or the action of external water.

IV. By the USE of the under connection SINGLY, THE FULL ADVANTAGE of half sockets, single or double, is SECURED TO EVERY PIPE.

SPECIMENS OF THE PIPES AND CONNECTIONS TO BE SEEN AT THE CRYSTAL PALACE.

Orders received by Mr J. H RIDDELL, Superintendent of the Court of Inventions, Crystal Palace, and 5, Scott's-yard, Bush-lane, Cannon-street, London, E.C.; by Mr. THOMAS COOPER, 12, Albert-terrace, Commercial-road, E.C.; and by the Patentee, Mr. THOMAS COOPER, Brick and Pottery Factory, Wootton, Isle of Wight. — COMMON STONEWARE SOCKET PIPES, SPLAY and PLINTH BRICK MADE TO ORDER.

MANUFACTORY: POOLE, DORSET. —— LONDON DEPOT: 66, WAPPING WALL.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S

IMPERIAL POTTERIES, LAMBETH.

S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7 7s. each; f fitted with PATENT AIR-TIGHT VALVES, s. 6d. each, extra.

Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN's and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

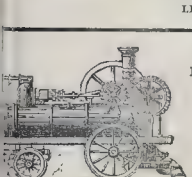
GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.

LISTS OF PRICES FORWARDED ON APPLICATION.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

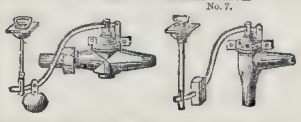
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

N.B. Steam-power, with Workshops, to Let.

LAMBERT'S SELF-CLOSING

LAVATORY AND CLOSET VALVE.

No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under continuous pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.

Price, complete, 12s. 6d. each.

UNDERHAY'S PATENT

REGULATOR CLOSETS for constant or intermitting supply, dispense with Cisterns, Service Boxes, Valves, Levers, Cranks, &c. &c.; much time is saved in fixing, and a better flush of water obtained in use.

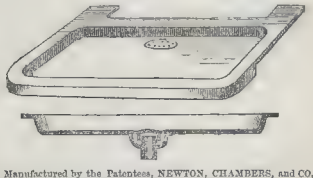
Pan, Valve, Self-acting, and Servants' Closets, on this principle, may be seen at the Works. They are very cheap, their efficiency is guaranteed. 5,000 of them have been sold, and no instance of failure has occurred.

These Stool valves are cheaper, stronger and more ornamental, than any other. Many thousands are in use, and greatly approved of.

Manufactured by
CHARLES BOTTEN and SON,
Brass Founders, Crawford-passage,
Clerkenwell, London.

PATENT CAST-IRON SANITARY

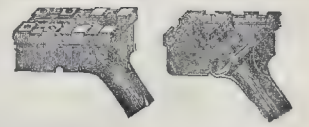
KITCHEN SINK, WITH TRAP.



Manufactured by the Patentees, NEWTON, CHAMBERS, and CO. Thorncliffe Iron Works, near Sheffield. Sizes in use

24 in. long by 18 in. wide by 4 in. deep, 5s. each.
30 in. long by 18 in. wide by 4 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
42 in. long by 20 in. wide by 4½ in. deep, 10s. 6d. each.
48 in. long by 20 in. wide by 4½ in. deep, 12s. each.

To be had in London only, of Mr. JOHN JONES, 6, BANKSIDE.



BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

SALES BY AUCTION.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, NOVEMBER 17th, 1858, and following day, at ELEVEN o'clock each day, at SMITH'S WHARF, near Charlton, Parr, Kent, in lots, by direction of the Executors of Mr. E. Smith, deceased, the PLANT and MACHINERY of a Contractor, including one iron timber sawing frame, nearly new, three circular saw benches, one self-acting feed and straddle saw, by large power, great engine and engine new in 1855) and Cornish boiler, 18 feet long, 7 feet 6 in. diameter, steam pan pine engine and 1 boiler, lift pump, an excellent 3-rowing machine to screw up to 24 inches, two block-makers' benches, two lathes, vices, hot fires, taps and dies, 250 feet wrought-iron shafting, leather and gutta-percha bands, riggers, 10-ton over-head travelling crane, 40-feet span, with timber framing, the new main fall purchase gin and carriage for over head crane, six saddle forges, three anvils, fan-blasts, four pair on the bellows, three fire-bed tools, five crabs, shoeing-plate and pit, five pile-engines with monkeys, five ladders, grindstone, four 2-horse power ladder engines, one spring cart with Collinge's axle, timber trolly, four strong hand-trucks, sixty navvy-barrows, two pair new cart-wheels, brick and crushing harrows, chain, and numerous other effects. Two timber trucks, two crushing-rolls, with 4 feet iron edge-runners and shafting nearly new, ring mill, gravel screen, twenty-six painters' trestles, mortising-machine, cast-iron roller 3 feet 6 in. long, 2 feet diameter, shop sashes and frames, five leather-purchase lifting jacks, one Hailey's screw jack, folding trestles and steps, fifty lanthorns, 150 picks, one ton 5 cwt. of hammers, chain slings, 5-ton chain, water-pipes, hose, desks, tools, rammers, 800 feet granite, Bramley fall and Caen stone, one block of veined marble, 10,000 radiated bricks, 600 sewage and drain pipes, bends, junctions, traps, &c. portable office, screens, office fittings, desks, tables, &c. and numerous other effects. To be viewed on Tuesday next prior to the sale, when catalogues may be had at the Wharf, of Messrs. NEWBON, EVANS, and NEWBON, Solicitors, Wardrobe-place, Doctors'-commons, E.C.; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

TO ENGINEERS, IRON SHIP BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, NOVEMBER 22nd, 1858, and following day, at ELEVEN o'clock each day, on the PREMISES, Millwall, Poplar (all in, without any reserve the valuable and extensive collection of TOOLS and STORES of the Iron Shipbuilding Yard, late J. S. Russell and Co's, including one very superior self-acting boring lathe, 11 inches and 18 inches diameter, 15 feet and 21 feet in length; four complete sets of Whitworth's stocks, dies, and taps, up to 2 inches; set of Whitworth's gauges, in case; set of 28 lathes, planed and ground surface plates, 30 ratchet braces, five tons cast steel tools, four Haley's 12-ton jacks, three double purchase jacks, 5,000 feet double angle leather bands, in good condition; five tons cast and shear steel tortons, two fire engines, 800 feet 4 in. leather hose, 250 feet canvas hose, 31 leather buckets. A large and valuable assortment of patterns 50 pattern-makers' benches, nearly new machine, 90 wrought iron anvils, 18 rivet-making blocks, 10 tons smiths' coal tools, 20 cwt hammers, 10 tons cast iron, planing plates 10 tons steam hammer tools, the crane ladder, eight chain ladders, 100 lamp flasks, 1 in. rings and plates; 50 tons scrap iron, three of the trucks, crabs, 10 tons Kentledge boiler-makers' tools, boats, screws, flogging, hoisting, and riveting hammers, 15 trolleys, five hundred chain, 100 loads good sound timber, salvage from the fire at the Saw Mills, consisting of about 20 tons of useful machinery, and numerous other effects. To be viewed on Friday and Saturday previous to the Sale, when catalogues may be had on the Premises; and of Messrs. FULLER and HORSEY, Billiter street, E.C.

Steam Engines, Wood planing Machine, Lathes, &c.

MESSRS. FULLER and HORSEY are instructed to include in the SALE of TOOLS at the YARD, MILL-WALL, on MONDAY, NOVEMBER 22nd, following days, at ELEVEN, SIX HORSE-POWER, including a 6-inch cylinder horizontal engine, by Clayton, Shuttleworth, and Co. nearly new; a 6-horse table condensing engine; a 6-horse table high-pressure engine; two double oscillating engines, by Penn, cylinders 24 inches and 4 inches diameter, a small oscillating steam engine, 4½ inch stroke, a powerful wood planing adzing, tongueing, and grooving machine, 4 lathing (two screw-cutting); 3 self-acting slide lathes, 10½-inch, 11-inch, and 15½-inch centres, with gap beds, 12 feet, 16 feet, and 21 feet long; self-acting cross-surfacing motions, &c.; 2 portable cutting and punching machines; two 10-ton hydraulic presses; 10-ton warehouse crane, &c. To be viewed with the other effects, and catalogues had, of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO ENGINEERS, CONTRACTORS, SHIP BUILDERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by the Executors of Mr. E. Smith, deceased, TO SELL by AUCTION, on MONDAY, NOVEMBER 29th, 1858, and following days, at ELEVEN each day, at the ST. GEORGES WORKS, St. George's-square, Portsea, and Playhouse yard, Commercial-road, Landport, all the valuable MACHINERY, PLANT, and IMPLEMENTS of a Contractor, including a 16-inch self-acting screw-cutting lathe, by Whitworth, new three years since; Whitworth's self-acting planing machine, to take in 6 feet by 2 feet 6 inches; a very powerful 9-inch self-acting screw-cutting lathe, with 9-feet bed, by Sharp, Hill, and Spink, nearly new; an 11-inch centre self-acting screw-cutting lathe, with 15-feet bed, by the same makers; a 9-inch back-geared slide lathe, with 12 feet bed; a 9-inch self-acting slide lathe, with 6-feet bed; three smaller lathes, a capital cutting and punching machine, by Nasmyth; screwing machine, to cut from ¼ inch to 2½ inches; two vertical drilling machines, seventeen vices and benches, cast-steel tools, six surface plates, grindstone, nut bed brazes, blocks and fails, 2 ton weighing machine, bench, drills, fine smiths' forges, seven anvils, bellows, large cranes, three tons top and bottom tools, fan-blast, boiler makers' tools, shaping plates and block erection of plate furnace, 6 horse power direct-acting steam engine, Cornish boiler, 15 feet long, 5 feet diameter, 36-feet tube; 200 feet shafting, riggers, gearing, leather bands; 4-horse power oscillating steam engine and boiler, nearly new), 3 horse power Otto's patent engine and boiler, 5 horse power pumping engine and boiler, with pair of 6 inch pumps; gearing for working an engine hoist, 25 horse power condensing machine steam engine, a capital three-circular saw bench, with saws; one drill, unfinished, an 8-gun boiler, 15 feet long, 3 feet 6 inches diameter; sixteen railway trollies, narrow gauge; eight ballast waggons (end and side tip), 100 navvy barrows, four-wheel water-carriage, 25 tons coal and bar iron, two four-cast steel and 3 later steel, forty-eight new railway ballast waggon wheels, two dozen files, 1,100 gross brass and iron screws, 35 dozen brass and iron hinges, store of various sizes, 100 sash cords and frames, 100 lbs. screw and dry deals and battens, quantity of dry boards, sixteen carpenters' benches, steam glue-kettle, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had on the Premises; of Messrs. NEWBON, EVANS, and NEWBON, Solicitors, Wardrobe-place, Doctors-commons; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TIMBER SALE OF GREAT IMPORTANCE.

MR. ALFRED COX, Laying sold the estate, will, by order of the Vendors, SELL, on JANUARY 4, at the ST. KATHERINE DOCKS, the whole of the TIMBER and TIMBER LIKE TREES, SAPLINGS, and POLLARDS, standing on the Allo sheets of Estate, situate about a mile from Swaffham, in the Great Northern line, consisting of 1,600 fine and valuable oak-trees, with their tops and limbs; 200 beech, 70 ash, and 100 elm trees, with their tops and tops, and 2,000 oak and other saplings. At the owner's offices, 64, New Bond-street.

TO BUILDERS, CARPENTERS, AND OTHERS.

MR. LEREW will SELL by AUCTION on the PREMISES, 49, Union-street, Somers-town, on MONDAY, the 15th of NOVEMBER, at TWELVE, 2,000 WHITE CHRISTIANA YELLOW and PINE PLANKS, DEALS, and BATTENS, 5,000 feet of wide pine board, 200 sprues of prepared yellow and white flooring, 5,000 feet of quartering, 500 yellow, white, and pine cut deals and planks, a brick cart, 10 ladders, 2 scaffold poles, 20 forms, and sundry effects. To be viewed the morning of the sale, when catalogues may be had, on the Premises; and of the Auctioneer, Cardington-street, Hampstead-road, near the Euston Station.

EDMONTON—T. Richers, Gentlemen Planting, and Others.

MR. A. RICHARDS will SELL by AUCTION, on the PREMISES Langlade Nursery, Upper Edmonton, on MONDAY, NOVEMBER 8, and two following days, at ELEVEN o'clock, the GREATER PORTION of the valuable NURSERY STOCK of Mr. C. Woollen, who is making extensive alterations, comprising an immense quantity of evergreens, ornamental trees, and deciduous shrubs, fruit and forest trees, roses, &c.—Catalogues on the Premises, and of the Auctioneer, Tottenham.

SALES BY AUCTION.

TO CONTRACTORS, BUILDERS, and OTHERS—Important Sale of Surplus Plant, Horses, Waggons, and Stores.

PULLEN and SON are directed to SELL by AUCTION, at the PREMISES, Britannia fields, Queen's Head-lane, Islington, on WEDNESDAY, the 10th of NOVEMBER, 1858, without reserve, the TWELVE Excellent Horses and valuable SURPLUS PLANT, Tools, Materials, and Stores of a large CONTRACTOR: comprising seven overhead travelling cranes, from 5 to 10 tons, 18 to 30 feet span; a most expensive steam travelling-crane, lifting 8 tons, 32 feet span; a capital portable steam mortar mill with 8 horse power high pressure steam engine and extra winding apparatus to raise 5 tons; two other mortar-mills complete, two stone-polishing mills, 8 feet diameter; a portable crane, with crab; eight pile-driving engines, with monkeys 15 to 32 cwt.; a wrought tubular steam boiler, 11 feet 6 long; and a portable tubular steam boiler on iron wheels; spur rigger, and grooved wheels and shafting, ten large portable saw-frames, twenty-five wrought-iron sawing-machines 6 3 by 3 3, ten tons of new 1½-angle iron, wire rope, iron girders, planing, slotting, and punching machines, 3 feet 6 in. by 2 feet 6 in., 12 cedar saw benches, forges and bellows, anvils, pile, bolt, and other Merrell's mortar mill and shaft; lathes, 1 useful mortar-mill, about 15,000 feet of fir boat and other boards, &c. Twelve first-rate horses, 30 sound bodies and bellows, 5 four feet square iron and wood safes, 3 capital boards, put up sliding pulley and large arm kitchen, 40 feet long; mortar boards, buckets, pails, &c. trucks, 30 waggon sheets, 50 ladders, 20 pug-mills, 2 large guns and framing for tunnelling, 2 bonded portable offices, 11 capital feet of York and Portland stone, 3 capital 3-ton travelling cranes, 1 ditto 2 ton, 1 ditto 1 ton, 2 cedar saw benches, forges and bellows, iron sliding, tool, and other gates, ring, oak planks, iron pipes, 20 carpenters' benches, large quantity of patterns and centres, trestles, 20 fathoms of fire-wood, navvy barrows, and numerous other valuable effects. To be viewed the day previous. Catalogues had of PULLEN and SON, 8, Fore-street, Cripplegate.

TO BUILDERS, BRICK AND RUBBISH CARMEN, & OTHERS

PULLEN and SON are directed to include in their SALE, at Britannia fields, Islington, on WEDNESDAY, NOVEMBER 10th, and following days, at TWELVE, eleven capital cart horses, sets of harness, 11 timber carts, 2 timber trucks, 4 iron wheel ditto, and two 4-inch wheel ditto, two strong rack wheels at one axle, iron axles, and one set of rack wheels and struck; 1 rack wheel timber waggon, 11 timber carts, 2 timber waggons, the dung pressings. Catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

BRITANNIA FIELDS, ISLINGTON—Building Materials of a large Residence and Cottage adjoining, spacious Workshops, ranges of Stabling, Timber, and Premises.

PULLEN and SON are instructed to SELL by AUCTION, on the PREMISES on MONDAY, the 15th of NOVEMBER, at TWELVE o'clock, to clear the ground for building purposes, the whole of the valuable BUILDING MATERIALS of the extensive ranges of workshops, stabling, sheds, timber, and other sheds, and a large dwelling-house and cottage adjoining; comprising a large quantity of good sound brickwork, 20,000 pantiles, 30,000 plain tiles, lead gutters, and pipes, rough oak and fir timber in roofs and floors, sashes, doors, and other joinery, grates, &c. warmed air, kitchen apparatus, 1,000 feet of York and Portland stone, large entrance-gates, iron railing all the York granite, and pebble paving of yard, racks, mangers, and stable fittings, large stone and fir tanks, wood fencing, stoves, ranges, and a great variety of useful fittings-up. May be viewed the day prior, and Catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

NOTICE.—To TIMBER MERCHANTS, MAHOGANY MERCHANTS, CABINET-MAKERS, and OTHERS.—The next LIVERPOOL MAHOGANY, WOOD AUCTION SALES, comprising two extensive Honduras BAY WOODS, in carg. Ody St. Ives; MAHOGANY, all of which are now landing, and Spanish Mahogany, Cuba Cedars, Rosewoods, and other Furniture Woods, &c. will take place on THURSDAY, the 11th, and FRIDAY, the 12th, NOVEMBER next, beginning each morning at Eleven o'clock punctually, at the Commercial Salerooms, Brunswick and Temple Docks, Liverpool. Catalogues, containing full details of the particulars, may be had on application to EDWARD CHA. GOULD, Wood Broker and Measurer, No. 6, East side Queen's Dock, Liverpool.

TO ARCHITECTS, BUILDERS, DECORATORS, AND OTHERS.

MR. EDWIN WHITE, on WEDNESDAY, NOVEMBER 10 at ONE for TWO, will SELL by AUCTION (without reserve), at his ROOMS, 1, Hobart-place, opposite Pimlico Inn, a stock of about 8,000 PIECES of first and second-class PAPER HANGINGS, of gilts, lambs, flocks, damasks, sandtints, and Sienna marbles, &c.; and upwards of eighty choice statuary black and veined marble chimney-pieces recently purchased, and to be sampled on View, by private engagement only, which catalogues may be had

CITY OF LONDON, LUDGATE HILL. Highly important and extensively valuable Freehold Land.

FRANCIS FULLER and CO. have received instructions to SELL by AUCTION, at the MART, opposite the Bank of England, on THURSDAY, November 25, at TWELVE (if not previously disposed of by private contract), a valuable FREEHOLD ESTATE, containing an area of 2870 feet superficial, situate together with the extensive range of buildings, comprising the Milton Club House, with stabling in the rear, dwelling-house, and shops fronting Ludgate-hill, in the occupation of Messrs. Hall, Bankers, and several other thoroughfares, and forming a desirable site for the erection of a first-class hotel or club, warehouses, manufactories, dwelling-houses, or shops, in the direction of which the large quantity of frontages arising from the present buildings will be available. The whole estate comprises:—No. 14, Ludgate-hill, a substantial erection, known as the Milton Club, with the messuage, and the tenement, range of warehouses, stabling, coach-houses, and small dwelling-house, together with superior shops, and large brick and stuccoed dwelling-house; two small shops, and dwelling-house, together with the Coin public house, in St. Martin's-court, Ludgate-hill; eleven dwelling-houses, in Evangelist and Meeting-house courts, Ludgate-hill; three dwelling-houses, with shops, in Wardrobe-place, Doctors'-commons; and the capital dwelling-house, Ippotts Apothecaries Hall, together with, and appertaining thereto, a house lately known as the Union Tavern There is a rent-charge on a portion of the premises of 7s. per annum, and the whole is let on yearly tenancies, but can be let on short terms on equal sum. The several properties may be inspected by permission of the respective tenants.—Plans and particulars of 28 lots, and conditions of sale will be ready ten days prior to sale, and may be had of the Secretary, at the Milton Club, Ludgate hill; of JOHN BENNET, Esq. Solicitor, 35, Ludgate-hill; at the Auction Offices, and the Tavern Hotels, Manchester; at Radley's Hotel, and the Exchange News-rooms, Liverpool; at the Queen's Hotel, Birmingham; of Messrs. FULLER and WITHALL, 81, Parliament-street, Westminster; at the Mart; and of the Auctioneers, 10, Cornhill, E.C.

WIMBORNE MINSTER, DORSET.—To ARCHITECTS, BUILDERS, CLERGYMEN, and DEALERS in OLD OAK and ANTIQUE CARVING.

MESSRS. WATERMAN and HABGOOD will SELL by AUCTION, on the PREMISES, situated behind the New Hall, in the West Borough, on TUESDAY, the 16th of NOVEMBER, 1858, at ONE o'clock, the following valuable CHURCH FITTINGS, lately removed from the chancel of the last for erecting of a quantity of Elizabethan, decorated, perpendicular, oak and deal fittings, large and elaborate screen, deal pulpit, lofty open sittings, in oak and deal. May be viewed at any time previous to the Sale, between the hours of Ten and Four, and catalogues had, by applying to the Auctioneer.

THE BUILDERS' SALE-GROUNDS, 23, MARYLEBONE ROAD, W. are OPEN DAILY, to Receive Goods of any description connected with Mechanical Trades, for the next and future SALES by AUCTION or PRIVATE TREATY. Lots, Forms, Terms, and Printed Cards may be had on the Premises, or at the CITY OFFICE, 11, EASTCHEAP, E.C. per post, for one stamp, also, Catalogues of the Monthly Sales, which take place on the first Tuesday in every Month.

WANTED to PURCHASE, a FREEHOLD ESTATE of about Thirty Acres of Land, with a small modern house, with stabling, within 40 or 50 miles of London, and near a railway station.—Particulars to JAS. EDMESTON, Esq. Architect, 5, Crown-court, Old Broad-street, E.C.

LAND TO BE LET, for a Public-house and Private Houses and Cottages, overlooking Victoria-park, for about 18 acres at Homer Lane, Tetchill-st., and Fairfax-road, Hoxton at Clapton. Apply to Mr KNIGHTLEY, 26, Cannon street, City.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq., 17, Serjeants'-inn, Fleet-street, E.C.

FREEHOLD GROUND, CHANCERY-LANE.—The Commissioners of Sewers of the City of London hereby give notice that they will meet in the GUILDHALL of the said City on TUESDAY, the 16th day of NOVEMBER next, at TWELVE o'clock at noon precisely, to receive proposals for taking on BUILDING LEASE, for a term of eighty years, at a ground rent, a certain PLOT of FREEHOLD GROUND, situate on the west side of Chancery-lane, and adjoining the Law Institution. Further particulars and forms of proposal may be had on application at the Office, where a plan of the ground may also be seen. The Commissioners will require a plan and elevation of the premises proposed to be built on the said ground thereof for approval, and do not bind themselves to accept any proposal unless deemed advantageous. Persons making proposals for the said premises must attend personally, or by an authorized Agent, at the said meeting, and the party whose offer is accepted will be required to sign an Agreement at the time.

JOSEPH DAW, Principal Clerk.

Sewers Office, Guildhall, 7th October, 1858.

SALE of GROUND-RENTS.—CITY IMPROVEMENTS.—New Cannon-street, Crooked-lane, Turnwheel-lane, New Earl-street, Broad-street, St. Mary-at-Hill, and St. Paul's Churchyard, in the City of London.—The Commissioners for Improvements in the City of London hereby give Notice, that they will sell at the GUILDHALL, London, on MONDAY, the 15th day of NOVEMBER next, at ONE o'clock in the afternoon precisely, LEASEHOLD TENEMENTS, arising to the parties as under PURCHASE, subject to GROUND-RENTS of PREMISES in the above streets, &c. Particulars and conditions of sale, with forms of tender, and further information, can be had on application at the Comptroller's Office, Guildhall, London, October, 1858. MERE WETHER.

CHAPEL and SCHOOL.—A LEASE of the PREMISES, in CUMBERLAND STREET, Curtain road, Shoreditch, in the immediate neighbourhood of the Eastern Counties Railway Station, may be obtained, comprising a spacious chapel, with galleries, school attached thereto, and a residence. They occupy a large area, and are most applicable not only for the purposes of a religious body, but for any similar purpose of worship. For particulars, apply, personally, to Mr. JOHN YOUNG, Jun. Architect, 33, King street, Cheapside.

WANTED to RENT, a BRICK and TILE WORKS, or Five to Ten Acres of good BRICK-EARTH for a manufactory, with easy entrance to the London market by water or railway. If fencing and shed on the spot, would be preferred.—Apply to W. Hasnell's Ironmongery, Maidstone, Chelmsford, Essex.

TO ARCHITECTS and BUILDERS.—TO BE LET, and entered on at Lady-day next, the compact and commodious BUILDING PREMISES, situated at Quatford, near Bridgnorth, and known as "The Quatford Building Works," comprising a neat and substantial dwelling-house, with building-yard, workshops, sheds, offices, smithy, stabling, &c. together with about 20 Acres of Land. These buildings have been successfully conducted upwards of 30 years, and have always been successful, and the position is unrivalled, in the banks of the River Severn, and close to the half miles from Bridgnorth, eleven from Kidderminster, twelve from Stourbridge, and fifteen from Wolverhampton. The Severn Valley Railway, now in progress, will connect Bridgnorth with Shrewsbury on one side, and join the Oxford, Worcester, and Wolverhampton Railway on the other.—Apply to the Rev. EDW. GRIFFITH, Quatford Castle, Bridgnorth, Salop.

TO BUILDERS, CABINET-MAKERS, PIANOFORTE MAKERS, &c.—TO BE LET separately or as a whole, in low rent, eligible MANUFACTURING PREMISES, recently erected, consisting of five available floors, with lease, about 50 feet frontage. The situation is good, being near Cavendish-square and Oxford-street. Dwelling-house or part attached if required. Apply, personally, or by letter, to Mr CONNOR, 4, Westmoreland-street, Welbeck-street, Cavendish square.

LONDON CRYSTAL PALACE, Regent's-circus, Oxford-street, and Great Portland-street.—This magnificent BUILDING will be OPENED to the PUBLIC on WEDNESDAY, DECEMBER 1st, 1858, for the SALE of all kinds of USEFUL and FANCY ARTICLES. It will contain the largest number of first-class exhibitors of any building in Europe. The Photographic Establishment is the finest in London. The winter, conservatory, general refreshment rooms, and ladies' private refreshment room, with retiring room attached, will be replete in their several departments. Applications for the remaining space are requested to be made forthwith

ROYAL POLYTECHNIC INSTITUTION. Patron H. R. Highness the Prince Consort. The Special Wonder of the Age.—Moule's Photographic Light—the Rival of the Sun. Exhibited and Lectured on by Mr. R. V. Gardner, daily at Half-past Three, and Monday, Wednesday, and Friday Evenings at Half-past Seven. Musical Sketches of Popular Composers by Mr. Williams and Miss Bypp, every evening, in addition to all the other novel treasures and amusements.

Managing Director—R. J. LONGBOTTOM, Esq.

TO IRONMONGERS.—TO BE DISPOSED OF, in consequence of the failing health of the proprietor, an old established GENERAL FURNISHING IRONMONGERY BUSINESS, in one of the principal towns in South Lincolnshire. The shop and premises have been recently rebuilt within the last few years, and are particularly adapted and situated for carrying on an extensive and lucrative trade. The greater portion of the stock is modern, well selected, and in perfect order.—For particulars apply to Messrs. BARWELL and CO. Northampton.

A WELL-ESTABLISHED BUSINESS in the METAL TRADE, situate in a first-rate London thoroughfare, to be DISPOSED OF, in consequence of the proprietor having conducted it successfully for fourteen years, being about to retire. A capital of from 1,000l. to 1,500l. would be required to carry on the business to advantage. The trade is nearly all ready money. First-rate references will be given.—Particulars of Mr. DEBENHAM, 80, Cheapside.

TO ZINC WORKERS.—TO BE DISPOSED OF, the RIGHT of MANUFACTURING a CHIMNEY-CAP, of an original and attractive form.—Apply, by letter, to Mr PURNESS, 40, Brewer street, Golden square, London, W

FRESCO.—Enamelled and Encaustic Painting of Walls and Ceilings.—Mr FREDERICK SANG, DECORATIVE ARTIST, at 42, Charing-cross, S.W. (late of 58, Pall Mall), decorator of the leading West-end Clubs, the Royal Exchange, the Coal Exchange, her Majesty's Theatre, and numerous mansions of the nobility and gentry, begs to inform his patrons that he has returned from the Continent, and is prepared to execute orders in Fresco or enamel, in accordance with the different ages and in every style. Also Church Decorations in strict keeping with the character of the architecture.—Apply at Mr. SANG'S STUDIO, 42, Charing-cross, S.W.

LONDON: Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen street, Lincoln's-inn-fields, in the Parish of St. Giles-in-the-Fields; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," No. 1, York street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, November 6, 1858.

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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LECTURES on EDUCATIONAL SUBJECTS at the SOUTH KENSINGTON MUSEUM.

November 18: "On Reading Aloud," by the Rev. W. H. Brookfield, M.A. one of her Majesty's Inspectors of Schools.

November 23.—"On Plants, as the Ultimate Source of Food to Man," by Dr. Lankester, F.R.S.

November 29.—"On the Classification and Geographical Distribution of the Class Mammalia," by Richard Owen, Esq. F.R.S. &c.

December 6 and 7.—"On the Art of Teaching Systematic Botany," by Professor Lindley, Ph.D. F.R.S. &c.

December 13.—"On the Apparatus for Teaching Mechanics in Schools," by Professor Willis, M.A. F.R.S.

December 20.—"On Important Results by Simple Means in Chemical Lecture," by Professor H. Enan, Ph.D. F.R.S. &c.

The Lecture Theatre will hold 450 persons, 3 seats will be reserved exclusively for schoolmasters, schoolmistresses, pupil teachers, & who, upon registering their names, will obtain tickets of admission for the whole course. Tickets for the remaining 150 seats will be issued at 2s. each, for the course, or 6d. each lecture, when there may be room in the theatre.

Tickets may be obtained at the Museum and Offices, and at Messrs. CHAPMAN and HALL'S, 193, Piccadilly.

By order of the Committee of Council on Education.

THE ARCHITECTURAL EXHIBITION

will NOT OPEN at SUFFOLK-STREET, in DECEMBER, as heretofore; but will in future take rank with other Fine Art Exhibitions in March, April, May, and June, at the New Galleries now erecting as part of the premises for the Architectural Museum, at No. 9, CONDUIT-STREET, REGENT STREET. The committee will find it to their interest to avail themselves of the outstanding claims of this institution, and the galleries, by their means, or through the Architectural Union Company, will probably be open three or four months of the year with an exhibition exclusively of MATERIALS, MANUFACTURES, PATENTS, and INVENTIONS connected with architectural art or construction; arrangements for which will be made public as soon as they can be matured.

JAMES FERGUSSON, F.R.A.S. Langhaplace,
JAS. EDMESTON, Hon. Sec. Architectural Union Company, Crown court, Old Broad street. } Hon. Secretaries.

NEW CHURCH, KING'S HEATH, near Birmingham.—SURVEYOR'S QUANTITIES will be SUPPLIED, on and after the 20th NOVEMBER, at ONE POUND per Copy, on personal application, at the Office of the Architect, FREDERICK PREEDY, Samson walk, Worcester, or by post-office order payable to him

CONTRACTS.

HAMPSTEAD.—CONTRACT for ROAD MATERIALS.—The Vestry of the Parish of St. John, Hampstead, are ready to receive TENDERS for a supply of the following ROAD MATERIALS, to be delivered at such places within the said parish, at such quantities and at such times during the period of one year from the date of the contract as the Vestry may from time to time require, viz.—Broken Guernsey Granite, Broken Markfield Granite, Broken Mount Sorrel, Broken Kentish Ragstone, Broken Pit Flints, good clean Stone Screened, and good screened Gravel or Sharp. All the materials to be of the best quality. Tenders specifying the price per cubic yard of all or any of the above-mentioned materials, are to be delivered or sent under cover, endorsed "Tender for Road Materials," to me on or before THURSDAY, the 18th day of NOVEMBER instant, after which day no Tenders will be received. The Vestry do not pledge themselves to accept the lowest or any Tender. The contractor will be required to execute a written contract, the form of which may be seen at the vestry-room, Holly-road, Hampstead Workhouse, any day between TEN and FOUR, and to enter into a bond, well, two approved sureties, in £50 for the due performance of the contract. THOMAS TOLLER, Vestry Clerk.

Vestry Offices, Hampstead Workhouse, 8th November, 1858.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War office, Pall Mall, London, on or before FRIDAY, the 26th day of NOVEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT OFFICES, at the Western Heights, Dover. Drawings and a specification of the Works to be executed may be seen by persons desirous to tender to take the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from FRIDAY, the 5th of NOVEMBER, to SATURDAY, the 20th NOVEMBER, 1858, inclusive, Sundays excepted. The party whose Tender may be accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of £607. for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall mall, London, S.W. and endorsed, "Tender for Married Soldiers' Quarters at Dover."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, October 29, 1858.

CONTRACT for CAST-IRON STREET LAMP-POSTS.—Parish of St. Pancras, in the County of Middlesex.—Department of Works. To IRONFOUNDERS, &c.—The Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras, will meet at the Office of the Department of Works, 19, Edward street, Hampstead road, on MONDAY, the 15th day of NOVEMBER instant, at SIX o'clock in the afternoon, to open and consider TENDERS from persons who are willing to supply ONE HUNDRED CAST IRON STREET LAMP POSTS, agreeably to the terms of Contract No. 5 (Style 1), required for the due performance of the contract. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made on one of the printed forms, which, with the terms and conditions, can be purchased at the Office, by or before TWELVE o'clock at noon, on the said MONDAY, the 29th day of NOVEMBER instant. By order,

WM. BOOTH SCOTT, Chief Surveyor.

Department of Works, 10, Edward-street, Hampstead-road, November, 1858.

CONTRACTS for GUERNSEY and OTHER GRANITES, and for KENTISH RAG STONE.—Parish of St. Pancras, in the County of Middlesex.—Department of Works.

Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras, will meet at the Office of the Department of Works, Edward-street, Hampstead-road, on MONDAY, the 29th day of NOVEMBER next, at SIX o'clock in the afternoon, to receive TENDERS for CONTRACTS to SUPPLY the said Vestry with the following MATERIALS, broken, "ring small," and in lump, viz.—Blue Guernsey, Mount Sorrell, Groby, Markfield, and Bardon Granites, and Kentish Rag Stone, all of the best and hardest description, to be delivered in such quantities during the said period, as and alongside of the Regent's Canal, at Acton Town, near Sussex-street Bridge, and other places, in the said parish. Sealed Tenders to be sent in, signed by the persons tendering, with the names and description of two sufficient sureties for the performance of the Contract, to the Office of the Department of Works, by or before TWELVE o'clock at noon, on the said MONDAY, the 29th day of NOVEMBER instant. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made out on one of the printed forms, which, with the terms and conditions, can be purchased at the Office as under, where further particulars may be obtained. By order,

WM. BOOTH SCOTT, Chief Surveyor.

Department of Works, Edward street, Hampstead road, November, 1858.

CONTRACT for MASONS and PAVIORS' WORK.—Parish of St. Pancras, in the County of Middlesex.—Department of Works.—The Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras will meet at the Vestry Office, Holly-road, on MONDAY, the 29th day of NOVEMBER instant, at SIX o'clock in the afternoon, to open and consider TENDERS from persons willing to CONTRACT for MASONS and PAVIORS' WORK in FOOTWAYS and ROADWAYS in the Parish, agreeably to the conditions of contract No. 4, required, which, together with the form of Tender, may be purchased at the Office of the Department of Works, 19, Edward-street, Hampstead-road. Sealed Tenders to be sent in, signed by the persons tendering, with the names and description of two sufficient sureties for the performance of the Contract, to the Office of the Department of Works, by or before TWELVE o'clock at noon, on the said MONDAY, the 29th day of NOVEMBER instant. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made out on one of the printed forms, which, with the terms and conditions, can be purchased at the Office as under, where further particulars may be obtained. By order,

WM. BOOTH SCOTT, Chief Surveyor.

Department of Works, 10, Edward street, Hampstead road, November, 1858.

CONTRACT for GENERAL WORKS to SEWERS.—Parish of St. Pancras, in the County of Middlesex.—To BUILDERS, SEWER CONTRACTORS, and OTHERS.—The Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras will meet at the Office of the Department of Works, 19, Edward street, Hampstead road, on MONDAY, the 29th day of NOVEMBER instant, at SIX o'clock in the afternoon, to receive TENDERS from parties who are willing to CONTRACT for the EXECUTION of the GENERAL WORKS and REPAIRS to the SEWERS, GULLIES, DRAINS, &c. in the said Parish, at or under, or above, a schedule of prices, which, together with the form of Tender and Contract, may be inspected at the Office of the Department of Works, who to further particulars may be obtained. Sealed Tenders to be sent in, signed by the person tendering, with the names and description of two sufficient sureties for the performance of the Contract, to the Office of the Department of Works, by or before TWELVE o'clock at noon, on the said MONDAY, the 29th day of NOVEMBER instant. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made out on one of the printed forms. By order,

WM. BOOTH SCOTT, Chief Surveyor.

Department of Works, 10, Edward street, Hampstead road, November, 1858.

CONTRACTS.

CONTRACT for SUPPLY of FLINTS, GRAVEL, HARD CORE, and other ROAD MATERIALS.—Parish of St. Pancras, in the County of Middlesex.—Department of Works.—To CONTRACTORS.—Notice is hereby given, that the Highways, Sewers, and Public Works Committee of the Vestry of the Parish of St. Pancras, will meet at the Office of the Department of Works, 19, Edward street, Hampstead road, on MONDAY, the 29th day of NOVEMBER instant, at SIX o'clock in the afternoon, to receive TENDERS for CONTRACTS to supply the following Materials, viz.—GRAVEL, FLINTS, HARD CORE, THAMES BALLAST, and other MATERIALS, of the best description, to be delivered as follows.—Either on the Wharf adjoining the canal in Agate of the Regent's Canal, at Agar town, near Hawley street bridge, or in the yard attached to the Department of Works, or on the roads in the Parish, as may be required. Sealed Tenders to be sent in, signed by the persons tendering, with the names and description of two sufficient sureties for the performance of the Contract, to the Office of the Department of Works, by or before TWELVE o'clock at noon, on the said MONDAY, the 29th day of NOVEMBER next. The Vestry do not bind themselves to accept the lowest or any Tender. No Tender will be received or accepted unless made out on one of the printed forms which, with the terms and conditions, can be purchased at the Office, as under, where further particulars may be obtained.—By order,

WM. BOOTH SCOTT, Chief Surveyor.

Department of Works, 10, Edward street, Hampstead road, November, 1858.

TO SEWERAGE CONTRACTORS.—WIVELSCOMBE with SEAFORTH LOCAL BOARD of HEALTH.—The above Board are prepared to receive TENDERS for the CONSTRUCTION of about 3000 yards of MAIN BRICK SEWERS, within the district, according to the plans, sections, and specification prepared by their surveyor, which may be seen at the Office of the Local Board, Mr. Cornelius Read, Waterloo, on application to Mr. W. A. RIBBANS, Surveyor, Ashbrittle, on Saturday, the 20th, from TWELVE to one, and from THREE to FIVE, p.m. Sealed Tenders, endorsed "Tender for Sewerage," to be addressed to the Chairman of the Local Board, Bindon House, Wivelscombe, Somerset, and delivered, on or before TWELVE o'clock on MONDAY, 22nd instant. The Board do not engage themselves to accept the lowest or any Tender.

By Order, JOSEPH MASON, Clerk to the Board.

Post Office, Waterloo, 2nd November, 1858.

TO BUILDERS.—WOLSTANTON CHURCH.—Parties desirous of CONTRACTING for the REBUILDING and RE-PEWING of the PARISH CHURCH of ST. MARGARET'S, at Wolstanton, in the county of Stafford, may inspect the plans and specification, and obtain any further information, at the Office of Mr. Healey, in the Statfordshire Sentinel Office, Hanley, on THURSDAY, the 2nd day of DECEMBER next, at which day the Tenders are to be delivered to the said Committee, at the schoolrooms, and properly endorsed. The lowest Tender will not necessarily be accepted.

Hanley, Staffordshire, Nov. 3, 1858. WARD and SON, Architects.

NOTE.—Wolstanton Church is about a mile from the Burslem Station of the North Staffordshire Railway, also about a mile and half from the town of Newcastle-under-Lyme.

TO BUILDERS and OTHERS.—The above Parties desirous of TENDERING for the WORKS required and specified in the ERECTION of a CONGREGATIONAL CHURCH proposed to be erected in the Asylum road, Old Kent road, London, can see the plans and specification at Mr. HERE PATH'S, 71, Hornsey road, Holloway, on TUESDAY and FRIDAY, the 9th and 12th day of NOVEMBER, 1858. Sealed Tenders, endorsed "Tender for Church," to be sent, under cover, addressed to Mr. HERE PATH, as above, on or before the 6th day of DECEMBER. The Committee do not bind themselves to accept the lowest or any particular Tender. Quantities may be had upon remitting 5s. in postage stamps to R. MOFFAT SMITH, Architect, &c., Lee-road, Blackheath.

WATER-WORKS, BURY ST. EDMUND'S.—The Commissioners for Lighting, Cleansing, and otherwise improving the town of Bury St. Edmund's, in the County of Suffolk, are desirous of CONTRACTING with any Company or person, for a SUPPLY of WATER for Public or Municipal Purposes, for a term of years, to be delivered at such places in the town as the said Commissioners shall determine upon. And the Commissioners will give to such contractors all facilities for laying down mains and maintaining a short of supply of such water, in accordance with the Act of Parliament, and also for the supply for private consumption. And the Commissioners will be ready to pay a sum not exceeding [illegible] per annum, for the supply of such quantities of water as they shall require for watering and cleansing streets, flushing of sewers, and any other public or municipal use.—The specification of the terms of contract for the supply for the use of private houses and consumers, and of the conditions to be observed by a Company or other person willing to undertake the domestic supply, will be to be seen by persons at the Office, No. 7, Hatter-street, Bury St. Edmund's, where Tenders are to be delivered, on or before the 1st DECEMBER next.

JAMES SPARKE,
Solicitor and Clerk to the said Commissioners.

TO GAS-FITTERS, &c.—Notice is hereby given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall Mall, London, on MONDAY, NOVEMBER 29, 1858, for PROVIDING GAS PIPES and FITTINGS in certain portions of the Barracks at Portsmouth.—Plans and specifications may be seen, and every information obtained, on application at this Office.

Royal Engineer Office, Portsmouth, November 3, 1858.

TO GAS-FITTERS, &c.—Notice is hereby given, that TENDERS will be received at the Office of the Director of Contract Work Department, Pall Mall, London, on MONDAY, the 29th NOVEMBER, for PROVIDING GAS PIPES and FITTINGS for the Barracks at Winchester. Plans and specifications may be seen, and every information obtained, on application at this Office, between the 5th and 20th NOVEMBER, 1858.

Royal Engineer Office, Portsmouth, November 3, 1858.

[For remainder of Contracts see next page.

CONTRACTS.

METROPOLITAN BOARD OF WORKS.—MAIN DRAINAGE of the METROPOLIS.—NORTHERN HIGH LEVEL SEWER.—TO BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works do hereby give Notice, that the Works will meet at the Crown Chambers, Guildhall, in the City of London, on FRIDAY, the 17th day of DECEMBER next, at TWELVE o'clock at noon precisely, when they will then be prepared to open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of MAIN BRICK SEWERS, 8 miles 4,295 feet or thereabouts in length, and for the execution of other works in connection therewith, to extend from the River Lea to Mansfield-road, Gospel Oak fields, near Hampstead, and for the maintenance of such works for a complete repair for twelve calendar months. Plans, Sections, and a Specification of the Works, together with Forms of Tender, may be inspected, and other particulars obtained, at the Office of the Board, No. 1, Greek street, Soho square, between the hours of NINE A.M. and FOUR P.M. until the 16th DECEMBER next. The Engineer will attend at the Office of the Board on the 18th instant at TWELVE o'clock at noon, to afford further explanations to parties desirous of tendering, and to make arrangements for making out the quantities. Tenders addressed to the Metropolitan Board of Works, must be delivered at the Office of the Board, before FOUR o'clock on the 16th day of DECEMBER next, and no Tender will be received after that hour. The Board do not bind themselves to accept the lowest or any Tender, and the party whose Tender shall be accepted, will be required to provide two sureties for the due performance of the works.

E. H. WOOLRYCH, Clerk of the Board.

No. 1, Greek-street, Soho-square, Nov. 10, 1858.

TO BUILDERS and OTHERS.—The above Parties desirous of TENDERING for the WORKS required to be done in the ERECTION of a CONGREGATIONAL CHAPEL to be built at Peterborough, in the county of Northamptonshire, may see the Plans and Specification by applying to Mr. LOUCH, Narrow street, London, after the 8th day of NOVEMBER, 1858. Tenders, sealed and endorsed "Tender for Chapel," to be sent, under cover, addressed to the Rev. ALEXANDER MURRAY, Newgate, Peterborough, on or before the 30th of NOVEMBER. The Committee do not bind themselves to accept the lowest or any particular Tender. Quantities may be had upon sending the drawings to package stamps to E. MOFFAT SMITH, Architect, 42, Lough street, Cooper-street, Manchester.

TO BUILDERS, &c.—RAMSEY CEMETERY, HUNTS.—Persons desirous of TENDERING for the ERECTION of TWO CHAPELS, LODGE, and BOUNDARY WALL, together Laying out and Draining of the Ground, may inspect the plans and specification, at the office of Mr. ROBERT HUTCHINSON, Architect, Huntingdon, on and after MONDAY, the 8th day of NOVEMBER, 1858. Sealed Tenders to be sent to my office, at Ramsey, on or before MONDAY the 22nd day of NOVEMBER, 1858. The lowest or any Tender will not necessarily be accepted.

JOHN SERJEANT, Clerk to the Burial Board.

Ramsey, Nov. 3rd, 1858.

THE PUBLIC HEALTH ACT, 1848.—To CONTRACTORS and OTHERS.—The Leamington Local Board of Health are prepared to receive TENDERS for the EXECUTION of WORKS required in the CONSTRUCTION and SEWERAGE of about 4,500 lineal feet of NEW STREETS, including the Macadamization of the Carriage ways, the Flagging and Paving of the Footways, the Laying of 2,700 lineal feet of Stoneware Socket-pipes, and the Construction of 1,430 lineal feet of Brick Sewers, under and adjacent, according to the plans and specification prepared by Mr. JOSEPH FOX SHARP, C.E. Surveyor to the Board, which, with samples of the materials to be used, may be seen at his Office, at the Town-hall, Leamington, between the hours of TEN and ONE o'clock, on and after MONDAY, the 8th NOVEMBER, 1858.

Copies of the specification and form of Tender may be obtained on application at the Office of the Office, at the Town-hall, on payment of 5s., and to whom Tenders are to be delivered, endorsed "Tender for New Streets," on or before NOON, the 22nd NOVEMBER, 1858. The Board do not bind themselves to accept the lowest or any Tender.—By order,

T. WELLS, Leamington, 25th October, 1858.

THE GREAT SIXTEEN-TON BELL for the HOUSES of PARLIAMENT at the FOUNDERY of the BELLS was cast by JOHN WARNER and SONS, Patentees of Improvements in the Manufacture of large Bells.

"I do certify that I have, at the request of Mr. Denison, [illegible] examined by Messrs. WARNER and SONS, for the Clock Tower [illegible] and find it provided with a variety of combination [illegible] in stating that they are [illegible] and accurate in tune in perfect [illegible]

Chester Square, [illegible] December 22nd, 1858.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS have for [illegible] years devoted much time and study to the Improvement of Bells of large size, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, similar in form, and has [illegible] Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, singly or in peal.

TUNED BY MACHINERY.

Stock and wheels ready for hanging. Old Bells recast or taken in exchange.

MUSICAL HANDBELLS tuned to the Chromatic Scale, with improved clappers, and [illegible] on a new system, which give superior tone and facility for ringing.

8, CRESCENT, Jewin-street, London, E.C.

FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW-ROOMS. They contain an assortment of Fenders, Stoves, Ranges, Fire-irons, and General Ironmongery, such as cannot be [illegible] either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright stoves with [illegible] of bars, 47.14s. to 13l. 13s.; ditto, with [illegible] bars, 5l. 5s. to 33l. 10s.; ornamental [illegible] Fenders, 7l. 7s. to 31l.; ditto, with rich [illegible], 10l. 10s. to 45l.; Bronzed Fenders, 2l. 2s. to 10l.; ditto, with rich [illegible], 3l. 3s. to 15l.; Fenders, with standards, 1l. 1s. to 5l. 5s.; Fire-irons, from 1s. 6d. the set to 5l. 5s. The BURTON and all other PATENT STOVES, with radiating hearths.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis and post free. It contains Lists of Prices and Sizes of his [illegible] Electro-plate, Nickel Silver and Britannia Metal Goods, Lamps, Gasaliers, Baths, Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bedroom Furniture, Kitchen Utensils, Tin Plate Goods, Turnery, Iron and Wire Goods, Brushes, Mats, &c., with Engravings and Prices of his Stock of Fenders, Stoves, Kitchen Ranges, Lamps, Gasaliers, Table Cutlery, Baths, Tea Trays, Japanned Goods, Iron and Brass Bedsteads, Bedding, Bedroom Furniture, Kitchen Utensils, Tin Plate Goods, Turnery, Iron and Wire Goods, Brushes, Mats, &c., with Engravings and Prices of his Stock, sent free by post.

Rooms at 39, Oxford street, W.; 1, 1a, 2, and 3, Newman-street; and 4, 5, and 6, Perry's place, Oxford-street.—Established 1820.

FIRE RESISTED.—ROBBERIES PREVENTED.—PRICE'S PATENT FIRE-RESISTING and THIEF-PROOF SAFES, Chests, Boxes, and Fronts for Doors, Cash boxes, Deed boxes, Japanned Tin Boxes, &c. 50, Southwark-bridge, London, E.C. Works, Wrexham. Limited Price List gratis.

WANTED, the best TILE-MAKING MACHINE. Makers of such machines will oblige by sending drawings and price (for each) of such as they make; also, BRICK MACHINES. ROBERT TAYLOR, Manager for the Lord Bishop of Natal, South Africa.—Natal, Sept. 9, 1858.

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MONUMENTAL BRASSES AND STAINED GLASS WINDOWS.

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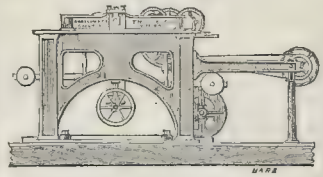
S. WORSSAM and CO.'s IMPROVED MOULDING MACHINE.



S. WORSSAM and CO. beg to call the attention of the Public to the new machine for sloveltailing, sash making, and other important additions to wood cutting machinery: comprising, among others, the moulding machine represented above, which cuts all four sides at once, top and bottom mouldings up to 11 inches in width, sash bars, &c.); Grist's patent cooperage machines, well adapted for all large brewing establishments; Waine's patent dovetailing machine, recently ordered by the Bath artificers for Deptford dockyard; machines for railway carriage building, timber frames, pick handles, rounding and chain planing machines, &c. of which a full description is given in their illustrated catalogue.—Apply at the Works, 301, King's road, Chelsea, S.W.

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Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.

IMPROVED VERTICAL SAW,

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Sheets, corrugated, and plain; Fencing and Telegraph Wire, Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tinned Sheets or Tiles prepared.

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PLAIN or CORRUGATED, and CURVED, of all Gauges.

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All kept in Stock.

Also Galvanized Water and Gas Tanks, Steam-pans and Moulds, Gutters, Wire, Wire Netting, Hooping, Nails, Rivets, Pails, Bowls, Skips, &c.

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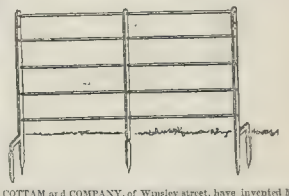
IRON HURDLES, FENCING, &c. made by MACHINERY.



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Plans, Drawings, and Estimates for Church Lighting, Warming, &c. on application.

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HEAL and SON'S EIDER-DOWN QUILTS, from One Guinea to Ten Guineas. Also, GOOSE-DOWN QUILTS, from 12s. 6d. to 42s. List of prices and sizes sent freely post. HEAL and SONS new Illustrated Catalogue of Bedsteads, and Price List of Bedding, sent post free.—196, Tottenham-court-road, W.

TO BE SOLD, a 12-HORSE PORTABLE ENGINE, nearly new, with mill-stones for grinding lime, and pan, with base runners, for grinding mortar.—Apply to Mr. DIGGLE, Dover. The engine will be sold separately, and is from Garrett and Co.'s.

A PORTABLE CREOSOTING MACHINE, FOR SALE, comprising a 12-inch air-pump, and a force-pump, with cylinder and wood valves. The whole are mounted on four wood travelling wheels, with horse shafts. Complete. Price and particulars, apply to T. CRESSWELL, 12, Blackfriars road, where the same may be seen at work.

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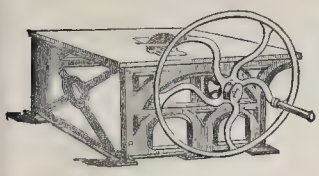
ENDLESS BAND SAWING-MACHINES (NEW PATENT).—NO MORE BREAKAGE OF SAWS.



POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT (dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

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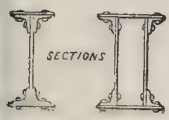

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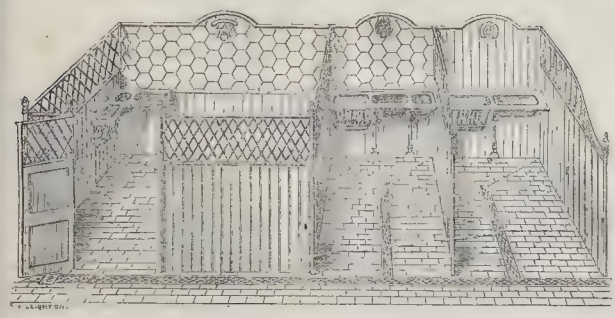

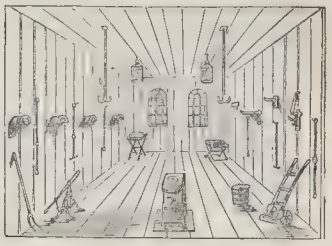

SECURITY FROM ACCIDENT by the use of the Patent Halter Guide and Improved Curved Top-plate; PROMOTION of HEALTH, COMFORT, and CONDITION, by the cleanliness and power of resisting infection of the Mangers and Troughs; and also of the Patent Drop Cover, to curtail the quantity of water to be imbibed. ECONOMY in the USE of FOOD, from the improved formation of the Fittings, and by means of the Patent Portable Seed-box, are some of the peculiar recommendations of Cottam's Patent Componised, Enamelled, and Galvanized Iron Fittings for Stalls and Loose Boxes.

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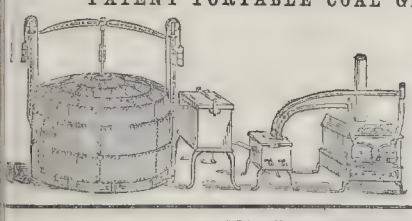

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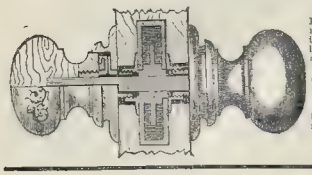

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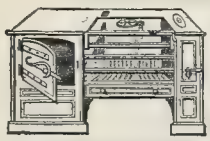

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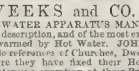
HEATING BY  HOT WATER.

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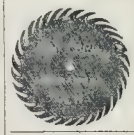

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Vol. XVI.—No. 823.

Works in Paris.—A Country House.—The Channel Telegraph.

PARIS, as regard the improvements and works going on there at this time, certainly offers many subjects for inquiry and speculation, and we look forward to the promised discussion at the Institute of Architects as likely to be instructive. An enormous amount of work has been done, immense sums of money have been spent, and great improvements effected. But there are two sides to the picture, both in point of financial return and of artistic effect; and it is desirable that both should be looked at. We are not about to forestall the discussion, but to jot down for the information of our readers some notes of what is doing there. The demolition of the "Pont au Change," noticed by us some time since,* proceeds with a rapidity which astonishes even the Parisians who witnessed the rapid execution of the "Pont St. Michel." All the arches have been cleared away and the materials removed: the piers are taken down to about a half their height. The advancement of these works is due to the means employed for simplifying the ordinary work. Two tramways are erected on light framework, over the spaces formerly occupied by the footpaths of the bridge, and on these travelling-crabs work backwards and forwards, lifting the heaviest blocks, and transferring them to carts for removal. It is expected that the new bridge, which is to be in the axis of the Chamber of Notaries and the new Boulevart, opened before the Palais de Justice, will be complete for circulation on the 15th of August next, the Emperor's *fête*, at the same time as that portion of the Boulevart which unites the two new bridges, and which enforces the demolition of the houses in the Rue de la Barillerie. The first portion of this street, close to the Marché des Fleurs, was anciently denominated La Rue de Saint Barthélemy, on account of the parochial and royal church there situated. The second portion, near the Pont St. Michel, was called, after the year 1280, Barilleria. The poet Guillot at that period called it La grand' Bariszeria. In 1398 it was termed Rue du Pont St. Michel; and about thirty years ago there still existed at the houses Nos. 22 and 24 a cornice and a very high wall, which formed the boundary-wall of the palace. At the corner formed by this street and the Rue de la Vieille Draperie, stood the house of Jean Chatel. After the assassination of Henry IV. this house was razed to the ground, by order of the Parliament of Paris, and on its site a pyramid was raised, which existed till 1655, when it gave place to a fountain, since suppressed. Criminals were exposed to public gaze and punishment on the *place* opposite the Palais de Justice. The new Boulevart, absorbing the Rue de la Barillerie, will annihilate a portion of the Passage de Flore, which has four streets leading into it, and will cause the demolition of the Salle de Bal de Prado, which celebrated hall has been successively a chapel, a chapel of St. Barthélemy, a theatre, the theatre of the *cité*, and a grand lodge of Freemasons.

The works of decoration of the Fontaine de la Place du Chatelet are drawing fast to a close. At present they are giving the last touch to the four sphinxes surmounting the basin which surrounds the monument, and all the space formerly occupied by the chestnut plantations has been laid down in granite pavement. Opposite the Pont au Change a space has been left vacant. This spot is not to be planted, for an obvious reason. Once the enlargement of the Rue de la Barillerie accomplished, the spectator, placed on any point of the roadway which unites the two sections of the Boulevart Sebastopol across the Seine and the *cité*, can embrace at one view the fountain of the Chatelet and that which is destined to serve as a *pendant*, and is already commenced on the left bank, close to the Pont St. Michel.

The barracks erected at the angle of the Rue du Faubourg du Temple and the Boulevart Saint-Martin are completely finished, the last scaffolding being about to disappear. This vast edifice, calculated to accommodate 3,500 troops, covers, altogether, 9,630 square mètres, 5,500 of which are built upon. The frontage on the Boulevart side is 114 mètres, and consists of a half-underground story, an *entresol*, and two stories, the upper of which is crowned with a roof 4 mètres high. Four pavilions, ornamented with pilasters, occupy the corners. A pediment adorned with appropriate sculptures marks the principal façade, in front of which it is proposed to establish handsome plantations, into which full-grown trees will be transplanted.

Fire lends its aid to clear away. On the 2nd inst. a conflagration occurred at the Paris terminus of the Lyons railway, in a range of offices standing in the No. 2 court, at the left wing of the building. Prompt assistance was obtained, and the police were, after much exertion, enabled to confine the ravages of the fire to the offices wherein it had originated. These were utterly destroyed, as also the cash-boxes and safes of the *chefs de bureau*. Some gold and silver were dug out of the ruins; but the details of loss have not been stated. An over-heated flue of one of the stoves is asserted to be the cause.

On the day before this occurrence, All Saints', Paris, was more than ordinarily alive, and the sight to a stranger was an interesting one. As is the custom on All Saints' Day, an immense crowd of persons of all grades and denominations, the youngest children and the oldest men, visited the different cemeteries in Paris where their relatives were interred. On the eve of that day the visitors were numerous, many remaining all night, watching and praying over the remains of their friends. At the Eastern Cemetery, that of "Père la Chaise," much attention was directed to the last resting-places of Mademoiselle Rachel and of the poet Alfred de Musset. The tomb of the *tragédienne* is on the right-hand side at the entrance of the Jewish Cemetery. A small chapel in the Grecian style has been erected on the spot, and over the doorway the name of Rachel is delicately carved, with two wreaths and a diadem interlaced.

Alfred de Musset's tomb is in the middle of the grounds to the left of the large avenue which leads to the chapel. On an antique plinth is placed a marble bust of that favourite author and poet. The following lines from one of his works have been engraven on the eastern side of the monument:—

> "Mes chers amis, quand je mourrai,
> Plantez un saule au cimetière,
> J'aime son feuillage éploré
> La pâleur m'en est douce et chère
> Et son ombre sera légère
> A la terre où je dormirai."

His wish has been complied with; a willow overhangs the grave.

Public works, it seems, are not to flag during the winter, for the Prefect of the Seine is making extensive preparations for giving a lively impulse to them. An English company, it is said, has presented itself for the immediate execution of the Prince-Eugène Boulevart, which is proposed to start from the Chaussée d'Antin to the Saint Germain railway station. Continental papers assert that this company is backed by the firm of Devaux, of London. Another company proposes to execute, on certain conditions which will perhaps require the co-operation of the town authorities, the continuation of the Rue Lafayette as far as the Rue Cadet: and certainly the frequent accidents happening at the summit of the Faubourg Poissonnière render the execution of the project one of extreme urgency.

The works for the completion of the terminus of the "Chemin de Fer du Nord" will shortly commence too. Mr. Rothschild has made considerable purchases of land in that neighbourhood. The project of advancing this station to the Bazaar of Bonne-Nouvelle, on the boulevart which bears that name, though described as most ingenious, has been abandoned on account of the expenses being of a magnitude sufficient to deter the company from putting the idea into execution at present.

Two new barracks are to be erected; one on the site of the old houses attached to the Luxembourg garden, marking the view, and stretching along the Rue d'Enfer; the other in the Rochechouart quarter, on the spot occupied by the abattoirs. Splendid cavalry accommodation is to be afforded in both places.

If the "*octroi*" walls of Paris are removed to the fortification lines, as purposed to be done, the labourers and artisans who have been driven outside the *mur d'enceinte* by the demolition of houses, and who fare economically outside the barriers, will find their daily consummation of necessary food augmented, not in quantity, but in *price*. The step, therefore, certainly requires much deliberation.

Since the execution of the great works in the Champs Elysées, and in all the part west of Paris, the population has extended itself there, and the embellishments of the Bois de Boulogne have spread nearly to St. Cloud, the favourite residence of the Emperor. All the roads have been lined, with Aladdin-like rapidity, with little rural retreats,—nests, as it were, sheltered under the leafage of the wood. Sophisticated enough these are for the most part, but must be regarded as a step towards the English system of separate dwellings as opposed to the "flat" system. Our sketch represents one of these "boxes" situated at Auteuil, at the entrance of the Bois de Boulogne.* The little turret, which is the staircase, terminates in a sort of observatory, whence are seen Paris and the windings of the Seine. Our own windings, however, must be here brought to an end; and we cannot put a better tag to the yarn than an intimation that the telegraphic cable between Dover and Calais, which it was feared would never be in working order again, is in a fair way of recovery. It is well known that the injury proceeded from a ship's anchor, which broke the line. The company sent a tug-boat, the *Douro*, Captain Monsor, with twenty-one workmen, to commence at Dover, and underrun the cable. After an inspection, interrupted frequently by rough weather, one end was found after running up thirteen miles, and a buoy was attached to it. The same operation was repeated at Calais, where the *Douro* stopped twenty-four hours. On Wednesday in last week the inspection commenced, and at 2½ miles from Sangatte the other end was found literally sawn across, unravelled, and scarcely to be recognised. The communication between the *Douro* and Calais was perfect, so that there was no other fracture, and the junction, which was speedily effected, has placed the line in effective working order. Let us hope that the fault in the Atlantic cable will be as easily discovered and remedied.

THE CHRYSANTHEMUM.

The importance of uncovered ground in London; the necessity for extending rather than diminishing space devoted to parks and squares; the value of trees and flowers to bodily health, derived even through the sight; are points which we have often brought before the notice of our readers, as connected, not merely with the sanitary welfare, but thencefrom with the morals of the people. Also we have argued that arborescent and floral objects, and the other elements forming the beauty of nature, having value in enhancing the beauty of art, had their own expression, if possible, heightened by contrast with works of sculpture and architecture,—or rather, perhaps, with these gave birth to a new combination. We have doubted, indeed, whether architectural beauty, as influence on the perceptions, could be said to exist unless by contrast, actual, or at

* Page 666, *ante*.

* See page 759.

least referable to the natural objects. Every effort, therefore, however slight, to improve the foliage or the flowers in London squares and gardens, merits notice, and specially so in this sunless month, when architecture is deprived of the results of clear air and brilliant light.

The success that has attended the cultivation of the *chrysanthemum* in the gardens of the Inner and the Middle Temple, and at Lincoln's-inn-fields, and as shown by the exhibition at the Crystal Palace on Saturday and Monday last, points towards more that might be done in a similar manner to improve the aspect of London in this cheerless period. As the smoke-nuisance is diminished, both the air and the soil will be favourable to the growth of a considerable number of trees, shrubs, and flowers; but, even at present, vegetation thrives in a manner unknown in the manufacturing towns of Lancashire. There are fine trees in the squares, as Mecklenburg-square and Lincoln's-inn-fields; in the gardens of Gray's-inn and in the grave-yards of the City: the number and the kinds of trees might be greatly increased; and there are many flowers besides the *chrysanthemum* which could be grown by attention to the renewal of the soil, and by compensating the want of those dews, which are not experienced in towns as in the country. Watering may be effected in towns more easily than in the country; all that is necessary being to lay pipes to plugs in the garden, to which hose could be attached. Town-gardens, however, form a particular branch of the horticultural art.

The *chrysanthemum* happens to be peculiarly well adapted for growth in towns; and when all other flowers, the leaves of the trees, and the summer verdure of the grass, have passed away, this flower is in its full beauty. There are some thousands of varieties, differing from one another in size and form of the flowers, and height of the plant, and by the colours, which include crimson, golden yellow, white, violet, and others in every sort of hue and variegation. In five-and-twenty years the flower has assumed a character differing from its former appearance as much as the dahlia differs from the dandelion. The varieties of form are at present classed, according to Mr. Broome, of the Inner Temple-gardens, as the "'incurved,' or having the petals turned inward; 'reflexed,' with the petals curved in the opposite direction; and 'anemone-flowered,' with a guard or fringe of reflexed or quilled petals, and a centre like a German aster."* The "anemone-flowered" appear to be less common than the other varieties; but there were some beautiful specimens at the Crystal Palace. Besides the *chrysanthemums* with the ordinary-size flowers, there is the variety to which perhaps most attention has been given lately, that is to say, the *pompone*, a small tufted button-like flower, as the name, from the French, implies.

In the training and grouping of these numerous varieties great scope is afforded for effect. The species grow to different heights, up to six or seven feet; so that the plants can be arranged as a bank of flowers; or, as in the Middle Temple garden, in circular beds, the colours can be massed together in divisions. Generally speaking, in beds, the effect is somewhat too party-coloured. The plants are also grown in pots. Sometimes they are trained in a manner to resemble the appearance of the standard rose, and often the head has a large circumference profusely covered with flowers. Mr. Morgan, of Lincoln's-inn-fields; Mr. Dale, of the Middle Temple; and the gardener of the Inner Temple, deserve the thanks of Londoners. One or more of them claim to have aided in social improvement by the development of a new taste amongst the working classes; and were we to judge from the crowds who have visited the Temple gardens, we should admit that the view of this tendency of floriculture may be not unreasonable, even with town gardens as at present they can be made. Much more, even in the space of a balcony, however, might be done than is generally attempted or understood, and the effect *architecturally* of houses, could be improved by such means. The "anemone-flowered" variety of *chrysanthemum*, modified or conventionalized, could be well adapted in ornament.

* "Culture of the Chrysanthemum as practised in the Temple Gardens; to which is added a List of Plants suited to the Atmosphere of London and other large Towns, with Hints for their Management." By Samuel Broome, F.H.S. Gardener to the Hon. Society of the Inner Temple. Second edition. 1858.

"On the Chrysanthemum, with particular Reference to its Cultivation in or near large Towns; to which is added, a suitable Selection of large and Pompone Varieties." By J. Dale, Gardener to the Hon. Society of the Middle Temple. Second edition.

See also on the general subject we have entered upon, "The City Garden and its Management," &c. by the last-named author.

AN ARCHITECT'S SKETCH-BOOK OF THE THIRTEENTH CENTURY.

Once upon a time (1230-1260?) there lived an architect named Villars d'Honnecourt, probably so called from the village of that name situated near Cambray. Concerning this architect but three facts are known with any certainty: firstly, that he lived somewhere in the first half of the thirteenth century; secondly, that he made a long stay in Hungary; and thirdly, that he is the author of a sketch-book at present preserved in the Bibliothèque Impériale at Paris. This sketch-book has just been published in *fac simile*, at the public expense, under the able direction of the late M. Lassus, and enriched, after his decease, with additional notes, by M. Darcel.

Now both the book and the execution of the old architect's sketch-book are very different from those splendidly-bound volumes, with gilded backs and tinted paper, in which we more luxurious moderns are accustomed to deposit our memoranda of old buildings, often made at the rate of one is afraid to say how many per day.

Villars d'Honnecourt had probably but this one book, which, from internal evidence, must have lasted him for a very considerable time. In shape it resembles a large pocket-book, bound in pig's-skin, now become about the same colour as a very-much used saddle. The inside contains thirty-three leaves of by no means first-rate vellum, which are fixed to the cover by threads going right through the back, and encircling very stout bands of leather on the outside: these bands are thus real and constructive, and not shams and delusions, as in our modern bindings, where we attach a heavy book to a heavy binding by three or four thin threads, which the first fall causes to break, and thereby affords fresh work for the bookbinder.

From the researches of M. Lassus, aided by the two paginations of the thirteenth and fifteenth centuries respectively, it would appear that we only possess thirty-three leaves out of fifty-two, or only about three-fifths of the original work. Upon these leaves of vellum Villars d'Honnecourt first of all drew the object he wished to represent with some substance resembling the black-lead of the present day; in all probability it was a lead or silver point, or even the common black stone used by the masons. The most obvious instance of the employment of this substance occurs in the back of the bear, plate vi.; which marks, however, we know not why, are omitted in the *fac simile*.

Villars d'Honnecourt was the possessor of a bow pencil, but not of a bow pen, for all these circles, as well as all the straight lines (with very few exceptions) were inked in by hand; at least, they appear to have been so, as far as I myself could ascertain from a very careful examination of the original. The general form being thus indicated, our architect went over all the lines with a pen and ink. The ink, by the strangest coincidence, exactly resembles the indelible brown of the present day, and like it, where it has been used thickly, becomes a very dark rich brown; where, on the contrary, employed more sparingly, it presents a light yellowish brown.

Some of the inscriptions, however, have been added in a very much darker ink, nearly, but not quite black. The manipulation of the ink lines is curiously in unison with the stern, severe local character of the thirteenth-century architecture of Flanders and Picardy. Villars evidently made up his mind exactly as to where the lines were to be drawn, and drew them in a firm decided manner, generally at once, but occasionally going over a line to give it greater uniformity. With a crow-quill and indelible brown a better imitation of this style of drawing can be obtained than with a goose-quill; for the crow-quill being of less strength than the goose-quill, soon gets its point worn away and softened, and thus makes an uniformly thick line, whereas the goose-quill takes a longer time to arrive at the same stage, and is more liable to make blots.

The great feature in all the drawings under consideration is their precision; every line was considered before it was drawn, and then drawn energetically. It is to be regretted that the *fac-similes* are very deficient in this particular, more especially the earlier ones, *e. g.* the second plate, containing the figures of the Twelve Apostles, its ragged and painted lines giving but little idea of the original.

It is very evident that the present binding must have been the second, for, in two instances, parts of the drawings of one page appear on another. We are, therefore, induced to believe, either that the drawings were made at different times in a bound book, and that the book having got loose from frequent use, and requiring re-binding, these two sheets, which were originally the inmost ones of the quires, got transposed, and placed between others; or, secondly, that all these drawings were drawn at one period from other sketches, and the artist having the one sheet of vellum flat before him, forgot the limits of the page, and produced his lines. At the present day it is almost impossible to say which was really the case, for in the state we have them, the pages representing figures and architecture are quite mixed up; and those showing the chapels at Rheims, which M. Lassus thinks were the first executed, are among the very last in the volume.

And now having seen how Villars drew, let us see on what subjects his industry was expended, and what deductions respecting his history M. Lassus has derived from them. These subjects may be divided into three great divisions, viz. architecture, figures, and mechanics. And to begin with architecture as the more important: here we find drawings of existing buildings, designs for roofs, designs for stall-work and furniture, designs for ornament; and, lastly, solutions of some of the more difficult problems in stone cutting. The copies of existing buildings are exceedingly curious, more especially if we compare them with the originals, as M. Lassus has enabled us to do, by means of additional plates; and the first thing which strikes us is their extreme inaccuracy and contempt of detail; but this becomes less surprising when we consider why he sketched them. It was not to make a collection of sketches with an eye to publication, but because there was something in the general arrangement which, with alterations, might come in useful for the work he might have in hand at the time: he therefore drew it, with the addition of his own improvements. Thus he thought the windows at Chartres presented too much solid surface, so he gives a turn to the inner wheel of the window, and pierces quatrefoils in the extra spandril space thus obtained.

In the outer ring of all he changes the small quatrefoils into trefoils, the latter working into the spandril better. As to the detail he did not want that, for he was perfectly convinced that the detail of his own time was better than anything before it; and as he had it at his fingers' ends, he could supply it without any reference. It is a singular thing, that whenever Mediæval architects had to copy earlier work, although they might imitate the general shapes, yet they almost invariably used their own detail, as in the instance of the nave of Westminster. Villars also gives us his idea of the rose window at Lucerne, which, by the way, is very much altered, and by no means an improvement upon the original; also the tower of Laon Cathedral, which he says is the most beautiful he has ever seen,—"En aucun liu orques tel tor ne vi com est cele de Laon;" also, a very full and complete study of one of the apsidal chapels of Rheims Cathedral,—this time with sections of the pillars, mullions, &c. In another part of the book, we find one of the nave windows of the same church: this, he tells, he drew because he liked it. Among the plans we find the choir of the church at Vaucelles, of St. Etienne de Meaux, and of Notre Dame de Cambray. From the similitude of this latter with the plans of the Rheims chapels, as well as from the notification, that if the chapels are ever finished, they will be like those of Rheims, M. Lassus concludes, that Villars was probably the architect employed at Cambray: that he was employed there from the beginning of the works in 1230 (previous to which he made the studies of Rheims), until its completion in 1250; when, as he tells us, he drew the nave window of Rheims before going to Hungary. In that country his annotator is inclined to give him the credit of the church of St. Elizabeth, at Cassovia, on account of the resemblance of its plan with that of the church of St. Yved de Braine, of which also he conjectures he was the architect. Another reason brought forward, is the veneration of St. Elizabeth for Notre Dame de Cambray. Finally, we know that he returned home, for he draws some pavements which he saw in Hungary, in which country he tells us he remained many days. Of course, a great deal of this is pure conjecture; but, at least, it has the merit of probability, and until we have something better to substitute, it will do as well as anything else.*

W. Burges.

Bristol.—The office of surveyor for one of the districts in this city has become vacant, by the death of Mr. Wm. Armstrong, who had held the office for thirty-four years.

* In an ensuing number we shall give examples of the sketches, and a continuation of these observations.

COUNTRY HOUSE AT AUTEUIL, NEAR PARIS.—*M. Danjoy, Architect.*

A. Dining-room.
B. Saloon.
C. Vestibule.
D. Staircase.
E. Staircase for kitchen.
F. Terrace.
G. Bed rooms.
H. Water-closet.
I. Dressing-room.

ADULT EDUCATION.

In watching carefully the growth of institutions which have for their object the advancement of the great masses of the community, there are few evidences of decided progress which afford us more pleasure and seem more pregnant with important results than those educational establishments for youth and adults which are rising up in all the districts of the metropolis. In these places, many of them humble enough, lectures are delivered on popular and instructive subjects by men of ability and respectable position. Classes of the most rudimentary and more advanced description are formed, where those who have been unfortunately neglected in younger years may, with pleasure to themselves, and without loss of self-esteem, acquire the mechanical means of education.

When we consider that, although a great amount of good results from the working of the national schools, it is not one scholar in ten who obtains what may be called a sufficient, plain education;—that is to say, good skill in English reading, a thorough knowledge of the first leading rules of arithmetic, the principles of grammar, and the faculty of writing a fair and legible hand,—the necessity for such schools as these is evident.

The failure in the useful education of the thousands of the children of the industrious and poorer classes, who depend on what is called the national system, is not to be so much attributed to imperfections in the system itself as to the want of regular attendance of both boys and girls; and yet, after very careful observation, we are forced to say, that although those who have been regularly at school, say from seven to thirteen years of age, have acquired a large amount of general knowledge, such as the principles of astronomy, natural history, geography, &c.; yet a far too large proportion are deficient in those simple acquirements to which we have alluded, which should be made the basis of all education; for if either a boy or a girl be able to read well, to write well, and with correct expression, and be master of the first five rules of arithmetic, that scholar has, at his first start in the world, the key to a vast amount of knowledge, which, if he or she have ability, only requires to be properly used to ensure both profit and satisfaction. Allowing the acquirement of this condition to be the chief object which should be sought by the schoolmaster, we do not underrate the value of that information on common things which opens out such a wide field of pleasure to the mind, and is useful both for the purposes of health and social comfort. A writer in an influential journal lately remarked, in connection with one of these schools, which was attended by the children of the very poor, that it was ridiculous for the teacher to exhibit and explain the functions of the human stomach to those who were needing and anxious for food. We do not agree with this; for, independent of other considerations, it is a matter of life and death that those having families, and in poor circumstances, should have a knowledge of the principles of health. This knowledge is a species of education of the greatest value.

A few years ago, when the submarine electric telegraph had been laid from Orfordness to the Hague, bands of workmen were engaged in long lines passing the magical wires over the wilds of Suffolk. The country people assembled in knots, and gazed with wonder and some fear, and eagerly asked questions of strangers as to the object of such a work. It was in vain, however, to attempt explanation: they were totally ignorant of the simplest kind of knowledge, and it would have been perhaps more difficult to make them understand than if they had been so many American Indians. There is something terrible in this extent of ignorance in a civilized country, and which is unfortunately to be met with in other English districts besides Suffolk, and is a disgrace which cannot be too soon removed. The clergy of the last generation have something to answer for in this respect.

The large number of those imperfectly educated who crowd to these adult schools which have so suddenly sprung up, shows that a good spirit exists amongst the youth of our large towns, and it will be promoted and increased by example; and we strongly urge those who have been the most neglected, in many instances by no fault of their own, to seek out these working men's educational institutions, and not to be ashamed to begin in the most simple way, and patiently acquire the power of reading and writing, and at the same time get general knowledge by the means of lectures and in other ways. Let these remember with encouragement that George Stephenson could not read a letter in a book until he was eighteen or nineteen years of age and grown to the stature of a man. Many other instances might be given; we must, however, be content at present with mentioning the case of a man in a northern provincial town, who from the most humble condition raised himself to become the proprietor of extensive glassworks, where numerous clerks and workmen were for years actively and usefully employed. We well remember the gentlemanly bearing and excellent management of great concerns by this man, and yet he was barely able to write his own name, and could not read a letter. So greatly did this manufacturer regret this imperfection, particularly when children began to spring up around him, that almost at middle age he commenced his own education.

We would urge upon the young men who are in attendance at the adult schools, to bend the strength of their minds to the means of obtaining the information and tasteful skill and knowledge required in their own business; remembering that the concentration of mind on a particular subject is a main secret of success. Sir Isaac Newton, on being asked how he accounted for the acquirement of his knowledge, said, that when he determined on a subject it at first seemed dim and dark, but that by constantly keeping it in his mind, he gradually saw light. In architecture, engineering, painting, and other arts and sciences, that concentration of attention, and distinctness of purpose, may be pointed to in hundreds of eminent instances as the cause of success.

CHELSEA OLD CHURCH.

Within the last twelve months this very interesting and ill-used old structure has undergone much internal alteration. In the autumn of last year it was found necessary to reconstruct the gallery. This gave a great increase of light and ventilation, and rendered much lost space available. During the last two months the body of the church has been entirely repewed, the pulpit and reading-desk placed on the south side, and a new altar-piece provided. New stoves have been fixed in niches in the north and south walls, with an appliance for supplying fresh air, warmed by being made to pass between the inner and outer cylinders of the stoves, and thus obviating excessive local heat.

The old Bible and Prayerbook, fastened with chains to prevent removal, have been restored and placed with the chains and old clasps in a new case, with lectern designed for their reception.

During the progress of the works several interesting relics of the past were discovered. Upon removing the decayed panelling which served as altar-piece, the words "Jesus Christe the same to daye et yesterdaye et for ever," were discovered, written with black distemper colour, and in old church text. This inscription is supposed to date shortly after the Reformation.

In the south wall of the chancel was found the remaining half of the piscina, and on the north side of the altar a small closet (*armarium* or ambry), that probably received the vessels used in the services.

It may be remembered that this church has two chapels—one on either side the altar, both of which are private property: that on the north side, called the Laurence Chapel,* has been slightly repaired,

* Some fragments of stained glass of the sixteenth century were found in this chapel.

whilst that built by Sir Thomas More on the south side has been repewed by its owner. The painting of the plaster in imitation of marble is to be regretted. Though ugly and grotesque of form, this quaint old church contains many interesting monuments of the sixteenth and seventeenth centuries, including one to a member of the Stanley family, recently restored at a considerable expense; and one to Jane Dudley, Duchess of Northumberland, and mother of Queen Elizabeth's Dudley. The above works were carried out under the direction of Mr. H. H. Burnell, architect to the trustees. Messrs. Todd, of Chelsea, were the contractors. Some praise is also due to Mr. Dover, clerk of the works, for his care of the monuments and other objects of interest.

WHAT IS A VENTILATED ROOM?

Truly "A Young Member" (he does not tell us of what, but I conclude, from certain marks, one of the honourable profession paid for their services by a per-centage "on the outlay" of other people's) has enlightened your readers on somewhat more than he tells us the quotation from the *Leamington Advertiser* did. I suppose you have plenty of letters by this time from the said honourable profession to deny it is quite such a quackery as their indiscreet "Young Member" has made it appear; but they might save their pains. The Leamington lay writer, poor innocent, thought it "high time to speak out against the ignorance and recklessness of architects." Time, indeed! Yes, and a good deal *past* the time, my dear Leamingtonian. "High time" at any time this last century or two. High time, when the land began to be cumbered and cursed with the works of these gentry, and rather too late now it is covered with them. High time, as soon as good Mr. Bull began to learn the memorable "Five Orders of Architecture;" as soon as the demons of pride and pedantry began whispering him "Johnny, have a taste;" as soon as he was honoured with the acquaintance of a single member or a single bill of the Per-cent.-on-the-Outlay fraternity; and rather too late now that we are an "Institution" of his poor old realm,—an "Interest" as established as lawyercraft or any other trade interest,—the one kind of thing that, as he well knows by this time, is too strong for him, and can defy him, be it big or little, from the "West-Indian Interest," or "Solicitors' Interest," to the Shoeblack Interest. Yes, Mr. Bull, you're too late. We're in, and need not condescend to argument. Ventilate now *if you can*, John. Drain if you can. Get fitness or durability, or dignity, or aught that buildings ought to have, if you can. Don't think I am at all fool-hardy in thus defying great Mr. Bull. His favourite architects have ten times the effrontery. What say you to Mr. Scott* penning him this passage:—"To get into a healthy state, we [architects] ought to work out the problem afresh; but *as this is impossible*, let us take," &c.? Only think of the confidence in his readers' perfect muddle,—the certainty a man must have before writing thus, that not a single mouth he need care for will exclaim "O high and mighty *architectonicus professor*, if to do what all builders of all other times and regions did, be to you *impossible*, may we not find some men to whom it is *possible?*" But no: Mr. Scott knows with whom he deals, better than the "Young Member."

Poor Mr. Bull's Leamington spokesman thought "that the law should hold a professional man responsible for the proper ventilation," &c. that is, that when costly works are finished, and forthwith found to have had such designing as renders them public nuisances, the circumstance should make some shade of difference, not only as at present, to those *paying for* the said "designing," but those *paid* for it. The idea was far from new; older, indeed, than outlay-paid designing by many an age, seeing that "our master," Vitruvius, descants on the benefits that Ephesus and sundry other cities had derived from laws of the kind long before his time. Such arrangements, we know, are not for Mr. Bull. Their bare mention would raise [illegible] horrible spectres, paternal government, centralization, "Englishman's house is his castle," and the lords know what. However, our "Young Member," superfluously cautious, like the American barrister, "smells a rat, sees it brewing in the storm, and will nip it in the bud." So, to hinder a truth that there is not the remotest danger of his encountering out of the safe regions of talk (so sensitive is the nose of an "interest," to the very wind of a bit of passing truth), he raises the difficulty, "What *is* a properly ventilated room?" and will thank the Leamington writer to inform him. As there seems no particular reason why the latter should stumble on this request in your columns, will you let me attempt a solution of the "Young Member's" perplexity?

Does he know the difference between a properly-*drained* and an improperly-drained courtyard? If not, I will explain as briefly as possible. It is that if you fill the former with water (or anything denser than air), it will all run out, but if you fill the latter, it will not *all* run out; some will lodge somewhere, and remain till it evaporates. Now, when our "Young Member" has so far observed and mastered the laws of this phenomenon, as to know one yard from the other at sight, he may equally know the "properly ventilated room," without experiment: thus—Let him stand upon his head, or effect in any other way an equivalent inversion of the visions thereof, and fancy the ceiling of every room the floor of a courtyard. He will then find just the same distinction among these as among those; namely, that *light, upwardly* pressed fluid, poured *up* into one kind of receiver, will straightway all flow out to the upper sky, while in another it will not *all* (and in the majority of our architects' works not *any*) flow out, but some (or in our case *all*) will be caught and kept, unable to budge one hairbreadth as long as it retains the smallest *upward* tendency,—unable I say, till it shall, in place of that tendency, have acquired a *downward* one; till, in short, the stuff, originally lighter, shall have somehow become *heavier* than air; even as the lodged water in the undrainable yard can by no means be coaxed, by "Young Member" or fifty learned institutes of old members, to move itself aright, till it shall, from being heavier, have become *lighter* than air, and then, be it perfume or muck, you shall drink it; nor can all the queen's horses and all the queen's men remove it from 'twixt the wind and her nobility.

Now the water, we know, may be some days or weeks in acquiring the lightness thus requisite for its own self-return up into the air whence it fell. But as for the *upwardly*-drained poison, collected by the architect and his work, if the "Young Member" will just turn to a still unanswered argument you did me the honour to reprint in your volume for 1852, p. 592,* he will find it proved (I have a right, observe, to say *proved* as long as it stands published and undisputed) that this refuse neither is nor can be in any case *half a minute*, nor under our level ceilings *half a second*, in cooling so far as to acquire the *weight* that will directly cause *its* own self-return *down* into the air whence it *rose*, and into the lungs it last left. (So that, unlike the drainage, it must be disposed of at once or never,—by the structure itself or by nothing,—by the architect or by nobody.) And if you allow me, sir, I would now wish to say, that pending the examination of those arguments, I intend soliciting of the French Academy, I shall be much obliged to any man of science in this country who will point out in them any flaw to invalidate the conclusion that ventilation of the structures of modern European architects is *impossible*;—that their pretended art renders the very simplest sanitary conditions an impossibility, and the discussion of them by "sociologists" a farce;—that this one cause, the multiplication of noxious building (*necessarily* noxious while designed by creatures so circumstanced, so paid, as to have no interest in making it innoxious) is by the most obvious laws of nature, and of human nature, amply sufficient cause, *alone*, for all the extra-natural death-rates disclosed by statistics in any country.†

If the "Young Member" has patience for another illustration, he may distinguish the "properly ventilated room" in another way equally simple. Imagine any room, without its floor, used as a diving-bell; either the water rising into it will displace *all* air, or *some* air will be pent up and unplaceable. The former will happen with every public room, I have heard of, remaining still covered from any age between the times (both inclusive) of the Roman bath-builders and our monks, or those Mahomedans of Spain who nourish Mr. Owen Jones; and if I may venture a guess, probably all those of equally "barbarous" and unarchitected nations to this day. The latter will happen with all the copies and adaptations of the former, in "Five Orders," Romanesque, Early English, Early Anything, or Anything-esque, be it never so "correct,"—all the 300 rooms whereby (according to the "Young Member") Sir C. Barry has baffled the ingenuity of Reid and all ventilators-general,—and the other 300 times 300 works of poor dear Mr. Bull, since he fell into the company of the Outlay-paid. The test is infallible, more so than Saxon "Long-and-short Work," or a Tudor arch. I'll tell you by it whether a piece of work is Pre-Raffaellite or Post-Palladian, and prove it against the whole Archæological Society. It is as true a test of civilization as Liebig's consumption of soap,—this absence or presence of homicidal building,—I beg pardon,—of rooms that would do for diving-bells, or wouldn't. What!—I hear your reader exclaim,—if so, it is a singular coincidence. Oh no, dear reader, not the least singular; the simplest thing in nature. Any deviation from it would be contrary to all known laws, at least of human nature. The innoxious works are innoxious, because their designers *knew* all the pneumatic facts on which innoxious building depends. They are no matters of modern science. *Everything necessary to work any art* HARMLESSLY *has been perfectly knowable ever since the art was necessary.* Noah received, and Noah needed, no more revelations about ark ventilating than Sir C. Barry. But now observe: while it is a law of nature (*i.e.* of human nature) that they who design for themselves, be they monkish or secular, bond or free, and build for themselves,—or for such masters as the ancient Romans,—invariably *know* all these things; it is equally a law of nature, as sure as gravitation, that your *outlay-paid* designer never knows them, never did, and never will, Mr. Bull, though you bray him in Solomon's mortar. He will not know them though you get them thundered from every teacher's chair between the Schools at Oxford and the ragged school. He will not know them if you put them in the Church Catechism, and new Morning and Evening Prayer, and keep them there till A.D. 3000. He will not know them if the whole race of parrots and jackdaws have then come to cry them hereditarily without teaching. *They* may be taught to know and act upon laws, but no *outlay-paid* animal can. Never while he *is* an outlay-paid animal. Know them! Why on earth should *he* know them? What business are they of his, an outlay-paid animal? Men and animals *know* what concerns them; and these things may concern his masters, but certainly not him.

First, then, he must cease to be allowed to be an outlay-paid animal. By a rational mode of remuneration, it must be brought to pass that whatever is his employer's business is his business. So then innoxious construction will be his business if it be his master's. But how is it to be made his master's? Ay, there's the rub. Glad to leave this animal, I will, if you please, attempt hereafter to solve that question also. E. L. G.

THE INTRODUCTION OF NOVELTIES.

Many in our own day recollect the introduction of new things, and the adverse opinions which were given on many matters of acknowledged utility, and which are now so common as to attract no particular notice. On looking further back, we notice many things still in use without which, according to our present views, it seems impossible to carry on the ordinary affairs of life;—spectacles, for instance, an instrument which philosophers began to wear in the earliest times, and which were the germ of the wonderful telescope and the forerunner of the microscope and photography. It would be a mighty loss to science, art, and literature, if we were now to be deprived of our spectacles; and yet we are not able to discover the particulars of their first modern introduction, or to whom we are indebted for the invention. The Chinese wear enormous old-fashioned-looking spectacles, and probably did so long ere they were prevalent in the West; and we know that Dr. Layard discovered burnt clay tablets at Nineveh with characters inscribed on them so minutely that a microscope was requisite for their perusal; and that a microscope was actually also discovered there.

Umbrellas, although in use by the Pharaohs in the land of Egypt, in India, Assyria, &c., are not of old date in this country; and many yet living will remember the time when it was considered as an evidence of great effeminacy and foppery for a gentleman to carry an umbrella; and it is only recently that working people began to avail themselves of the use of this covering from the weather. He must have been a man of some nerve

* "Remarks on Secular and Domestic Architecture, Present and Future," a capital book for quick readers, and which, but for a few such passages as this, might pass for an architect's work.

* See also the testimony of "D." p. 711, last paragraph, and the fair controversy he raised on some minor points, pp. 717, 718, 755, &c. *passim*.

† It will of course follow that all Mr. Scott says of [illegible] applies to [illegible] own words on other plastering) "a simple *abomination*."

who first carried an umbrella in wet weather in the streets of London! Probably the introducer of this article was an India nabob who was rich enough to laugh at public opinion.

The lucifer-match is as it were a thing of yesterday, and, notwithstanding that it is now familiar over the chief part of the civilized world, it may be remembered with what terrors the phosphorus box, and matches, which preceded the "lucifer," were looked upon by even good housekeepers. The lucifer was not all at once kindly taken to, but now the old flint and tinder-box are scarcely to be met with, except among Parisian smokers, who sometimes use an elegant modernization of the old articles, which may also be occasionally seen in the shops of the London cigar-sellers and tobacconists. We have inquired in many parts of England for a specimen of the old apparatus, but have not been able to meet with one complete; and yet twenty years ago millions of them were in use.

Great is the difficulty in many instances of introducing novelties. Many years ago coal proprietors preferred taking the coals, &c. along uneven roads instead of the comparatively level and easy tramways. People did not take kindly to steam-packets, and it is known to the world what trouble there was to coax people into the use of the locomotive. The jolting pavement of the London streets may for a time be preferred to the proposed tramways, but who can say whether or not both these and even the locomotive may be managed so as to provide for the safety of wayfarers as well as Stephenson took care of Farmer Giles's cows? We are not quite so bad as the Medes and Persians, but are very obstinate to move from old-established things, even if they should be proved nuisances. Remember, for instance, how we have stuck to our town and city graveyards and undrained districts. Ragged-schools, although so necessary, are yet novelties and not properly appreciated; and many say, in spite of the statistics furnished by these places, that reformatories for those born in and accustomed to crime from no fault of their own are not proper for encouragement.

The Brompton Museum presents the novelty of an institution devoted to instruction in art and general knowledge, being opened to the working classes in the evening, the only leisure period which they have, and which, in some instances, for the want of opportunity, is not often very beneficially occupied. We hope that before long there may be more of these novelties provided for the use of the British public; and from the spirit which is shown by the present management of the British Museum we are convinced that the opening of that place, reading-room and all, in the evening, is only a matter of £. s. d. More numerous attendants would be required, for it would not be fair that those who so civilly perform their functions in the various departments of that national establishment should be kept for unreasonable hours.

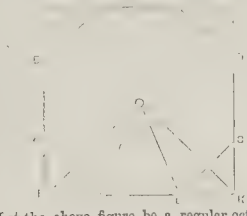
It is to be hoped that the coming year may bring such a novelty as certain means of destroying London smoke, and that it will be as generally adopted as the lucifer-match. Things are moving in the right direction, and we would advise those in authority to use actively the means which are in their hands of stopping an evil of which all complain; and as the old proverb says, "Necessity is the mother of invention," who knows but that we may discover, by the aid of ingenious men, a means of not only saving fuel, but also preventing the smoke from the thousands of dwelling-houses, the wash-houses, and other institutions; and that in the metropolitan squares we may have an atmosphere at times as brilliant as that of Italy, pleasantly varied by grey haze? And then we may be able not only to improve health, but also add to the beauty of the appearance of this famous city.

It will be a novelty to be rid of our November and December fogs; nor is this impossible, for as the marshes get drained these gloomy strangers from the damp lands, which obscure the light of the sun and make the gas-lights look like "Will-o'-the Wisp," will, like many other formerly often-seen things, become novelties for comment.

ROYAL SOCIETY OF ARTS.—The 105th session of this Society will commence on Wednesday next, the 17th instant, when will be read an introductory address on the opening of the 105th session, by the chairman of council, Mr. C. Wentworth Dilke. On this evening the medals which were awarded by the council for papers read at the weekly evening meetings during the last session, and for articles submitted to the society's committees, will be distributed.

TO FIND THE ORTHOGRAPHICAL REPRESENTATION OF AN OCTAGON.

THE following is a solution of a problem of frequent recurrence, and I have never seen any other method of effecting it than the troublesome one of making the plan. It is a simple method of finding the orthographical representation of an octagonal object, the diameter being given, and without having recourse to constructing a plan.



Let the above figure be a regular octagon, of which O is the centre: produce the sides A B, C D to meet the side H G, produced in I and K respectively: join I O, O K, also O H and O G.

Then the angle O I K or O K I = half a right angle = 45°. Also the angle H O G = one-eighth of four right angles = 45°, therefore the angle H O G of the triangle H O G, is equal to the angle O K H of the triangle O K H, and the angle O H K is common to both, therefore the angle O G H is equal to the angle H O K; but the angle O H G is equal to the angle O G H, therefore the angle O H K is equal to the angle H O K, and therefore O K is equal to H K: in the same manner O I or O K may be shown to be equal to I G. From the above investigation the following construction will appear evident:—

Let I K be the diameter of the octagon (the same letters refer to the same parts on both figures): bisect I K in D; draw D O perpendicular to I K, and make D O = D K or D I, join I O and O K—make I G and K H equal to I O or O K, if lines be drawn through the points I, H, G, and K, perpendicular to I K, they will give the orthographical representation required.

Or in practice it may be reduced to a very simple construction thus:—Having drawn the two perpendiculars to I K through the points I and K, set off, on either of them, one half of I K, and from the point where the extremity of I K, bisected, falls on either perpendicular, place one leg of the compasses, open the other leg until it falls on D, the point of bisection of I K, and from the points I and K, lay off this length on I K, which will give the points G and H as before.

JOHN JUSTICE.

ST. PAUL'S CATHEDRAL.

DUTIES OF THE OFFICERS IN RE-BUILDING THE EDIFICE: A MODEL OF THE CHURCH: PROFESSIONAL REMUNERATION.

LOOKING through the volume of the Harleian MS. No. 4,941, and meeting with a statement of the "officers employed in rebuilding the cathedral of St. Paul, in London, their employment and salaries," I beg to forward a copy, as it serves to elucidate what were the duties of professional men in former times: the spelling in this copy is modernised.

"1. Sir Christopher Wren, surveyor-general, who draws all the designs of the building, hath the universal care thereof, gives all directions to workmen and other officers, examines all accounts, agrees for the prices of workmanship, materials, &c. His salary is 200*l.* per annum.

"2. Mr. John Oliver, assistant surveyor and purveyor, who is constantly attending the work, giving directions to the workmen according to Mr. Surveyor's directions given to him; he measures all the masons' work, buys in all materials that are to be had without travelling into the country, keeps an account of what *stores* are delivered to the storekeeper, and also an account of what *stones* are brought into the church; assists Mr. Surveyor in making of contracts, and examines all accounts, &c. His salary is 100*l.* per annum.

"3. Lawrence Spencer, clerk of the works and paymaster, attends the service of the work, to take care that carpenters, labourers, &c., who work by the day, be employed in such business as the surveyor hath directed to be done; takes an account, together with the assistant surveyor, what *stones* are brought into the work: he receives and pays all the money for workmanship and materials according to a list of debts directed by Mr. Surveyor. He keeps and makes up all accounts, is chargeable with all the *stores*, and inspects the delivery thereof to the workmen: he is also clerk to the commissioners, and enters all orders and contracts, &c. His salary is 100*l.* per annum.

"4. Thomas Russell, clerk of the 'cheque.' He calls over all the labourers, carpenters, bricklayers, &c. who work day-work, three times a day, viz. at six in the morning, at one in the afternoon, and at six at night. He is constantly going from place to place in the work, to keep these men to their business: he keeps likewise an account of materials brought into the work, for that both the purveyor and he are 'cheques' upon the clerk of the work in his account. His salary is 50*l.* per annum."

Like a vast number of the MSS. in question, there is no date to the document, but as John Tillison was clerk of the works in 1685, I presume that this statement is earlier. I may also add, that if the respective amounts of the salaries be multiplied by at least three times, the result will be a near approximation to the value of these offices in the present day.

Reading "His Majesty's Commission for the rebuilding the Cathedral Church of St. Paul's, in London," dated 1673, I see the following passage:—"We have caused several designs to that purpose to be prepared by Dr. Christopher Wren, surveyor-general of all our works and buildings, which we have seen, and one of which we do more especially approve, and have commanded a model thereof to be made, after so large and exact a manner that it may remain as a perpetual and unchangeable rule and direction for the conduct of the whole work." The model here referred to is, of course, *not* the one now in the Kensington Museum, and which still remains in its damaged condition, after all that has been said in promise of its restoration. What, then, has become of the model referred to in the commission? Was it ever made?

An equally interesting paragraph relating to Sir C. Wren I observed in another MS. It also refers to the question of 5 per cent. payment. The amount is connected with the "rebuilding of churches in London under Sir C. Wren, surveyor for the rebuilding of the churches demolished by the late fire—moneys as hath been received and paid by him—from 1670-73."

"By allowances to the officers of the works for the management of the whole, at xiid. per lib. for all moneys received and paid."

It would appear that Sir Christopher Wren by this arrangement acted as receiver of money, surveyor, and paymaster, and was paid 5 per cent. *on both*, as payment for all expenses in the matter. This mixture of offices shows that great confidence was reposed in him; but it was not an exception, as down to the end of the last century the architect usually received the money from the client, and paid the workmen. WYATT PAPWORTH.

DRINKING-FOUNTAINS.

MUCH surprise has been expressed that the authorities of St. Pancras should have refused the offer of Mr. Gurney, to erect at his own cost, a fountain for the use of the multitude of passengers in the neighbourhood of King's-cross. There can be no doubt of the need for such fountains, in the great thoroughfares of the metropolis, for the use of both human wayfarers and animals. Considering, however, the evil condition of water procured from the bowels of this wide district of populated earth, it is not to be desired that street fountains should be supplied from this source, but with the filtered and best water from the different companies' mains.

Considering the large sum which has been charged to parishes for the supply of water in certain cases necessary for health and convenience, it is to be feared that the charge for the annual supply of street fountains would be very large; and it has been said, that this large payment would be necessary for free public fountains, because the erection of them would be likely to damage, in some measure, the revenues of the companies. We can scarcely think that this will be the case; for, although some of the water-starved poor may rush from their courts, in the same manner as they do from Gray's-Inn-lane to the pump in Gray's-Inn-square, and draw a bottle or jug of water, the street fountains would in no

way interfere with the extent of the water-supply of the houses. It has been suggested, that provided well-disposed and benevolent individuals were to erect street fountains in necessary places, the water companies, without being much out of pocket, might grant the necessary supply free. It would only be during the summer months that they would be in great demand.

Nearly all the wells of the metropolis have been closed as a matter of necessity, and a poor person may travel for long distances without being able to say that his "water is sure."

In former days the conduits of London, and of most of the old towns of England, formed important architectural features; and this is their characteristic on the Continent at the present day. It is to be hoped that, in the erection of these new works, the best architectural and sculptural skill may be employed; so that the fountains may be made not only a great public accommodation, but also things of beauty in the streets.

The immense extent of the traffic in the public thoroughfares will, as a matter of necessity, prevent in many instances the placing of these objects in the centres of the streets; but if the bustle of the metropolis demand that some of the fountains be made of small size, and out of the way, they need not be inartistic and ugly.

The Government might do good service in this movement, by placing drinking-fountains in the parks, and in connection with such national establishments as the British Museum. In front of this building there is an excellent site for the purpose.

OPENING OF THE BRITANNIA THEATRE, HOXTON.

In our last number we offered to our readers some notes relative to the construction and decoration of theatres, supplementary to others on the same subject, and on the tendencies of the dramatic art as they are at present exemplified.* Another theatre of those, the building of which led to the consideration of certain points that we took up, and one which we have in great part already described—the Britannia Theatre, Hoxton was opened on Monday evening last, in a manner which is in many respects creditable to all parties concerned. In our present number we give the interior of this building, so far as representation can be conveyed; for, perspective drawing, it is right to say in repetition of what we have remarked once before of late, must fail to show what the eye really receives at a near view. The eye is not able to take in the whole of an object except through an infinite number of observations, whilst the theory of perspective starts with the idea of a fixed station-point. The discrepancy between the actual impression and a drawing, is from these causes, most marked in the case of an interior; and lines circular on plan, or far more so those which are, as in the present instance, elliptical, may, in contradistinction to the case of an object seen from some distance, be regarded as impossible of representation as they are seen—or taking in an ordinary field of view. Our particulars printed may however, we hope, be depended upon better than those of our contemporaries, who, one and all, in addition to their mistakes in the dimensions of the Pavilion Theatre, describe its proscenium and other parts as completed. Our chief illustrated contemporary is, by some accident, so wide of facts in his view of the interior of that theatre, as to represent three tiers instead of showing the pit extending underneath the boxes or principal tier of the two (boxes and gallery,) which alone exist except close to the stage where there are private boxes. The writer of the account in the same publication, says that the *elegance* "somewhat takes off from the impression" of the size, and characterizes this as "a proof of taste rather than otherwise,"—criticism such as every tourist has been repeating these fifty years, since some one said the same thing of St. Peter's at Rome, and which doctrine we shall now never hope to get exterminated, even though we should show every week, what is obvious to any thinker, namely, that actual size non-apparent, is simply lack of effect, and to the extent in question, therefore waste of brick or stone.

It would be useful, however, to ascertain the reason of the apparent magnitude of the theatre last opened. The effect may, perhaps, be due to the number of its divisions, and to the great amount, comparatively, of detail and ornament, or generally to contrast, as much as to the extra 10 or 12 feet of width on the ground. The curtain-opening is somewhat smaller than that of the other theatre we have named,—the dimensions being 35 feet across and 37 feet in height, as set against the 40 feet and 42 feet, which form probably what have been observed in the existing arrangements in that other case.

The plan of the Britannia Theatre is, as we have shown, peculiar, and one which is deserving of a certain amount of attention by architects who have to endeavour to meet the difficulties of theatre-planning—those which, as we observed, occur in the portion of the "auditory" at either side next the proscenium; and which, usually appropriated in part to private boxes, in most cases has a number of seats, whether in the pit or the ordinary boxes, most inconveniently located for seeing the stage. The *datum* generally for a description of the decorative effect in theatres, would be the line, or curve, defined on the plan by the box-fronts, with which the circular plan which is most common for the ceiling, may or may not correspond. The relative advantages of the forms for seeing, however, would apply only as regards front seats, unless the whole number of seats took the same outline as *datum*, which is not usual in the pit of a theatre, nor yet in the boxes at the sides. Under any of the existing methods as to plan, extreme width in the pit area, as contrasted with the ordinary proscenium opening and the mode of setting the scenes, inevitably involves a number of bad places in the parts of the house referred to; and the objection can only be overcome by dispensing with those seats, the space being given wholly to staircases, or to dressing-rooms and accessories of the stage—unless it be preferred to enlarge the proscenium opening, or make such an alteration in the scenes as would perhaps inconveniently restrict the area, if not the depth, of the stage. The area required for the pit-audience being thus to be provided in depth, subject to a limitation of distance from the stage,— or as regards any inconvenience as to hearing, or otherwise, from being under the boxes,—the position of the back wall of the pit, the distance of the best seats of the boxes from the stage, and the distance of those of the upper boxes and gallery have to be determined, —as to all which points there are conflicting difficulties. For, if the line on plan which appears to be best for the lower boxes, be followed throughout, the result in a lofty auditory will be a gallery looking too much down upon the stage. In all respects, therefore,—both as to plan and section,—we see no reason for altering our opinion that greater approach than has yet been made to the semicircular form and descending *cunei* and seats of the ancient theatre, would be desirable,—albeit it would have to be not forgotten, that the business of the ancient drama in great part went on in the orchestra, or at the centre of the auditory itself, rather than within the depth of the stage, as in the modern drama—probably more than the other characterised by perspective and scenic effects. The principle of arrangement in part was attempted by the late Mr. Beazley, by the provision of the *balcon* to the boxes in the Lyceum Theatre, a feature which also will be found in the new Adelphi Theatre,—to which building we shall return in a future article.

It will be recollected that the *datum* of plan, as above referred to, in the case of the Britannia Theatre, is an ellipse with the major axis parallel with the front of the stage (and of about 50 feet, between the box-fronts, across the house;) and that the form is exactly followed in the ceiling, and deviated from only in the box-fronts at those parts which impinge upon the opening of the proscenium. At these places, slight curves of contrary flexure are introduced, with good decorative effect, to meet the angles of the splayed sides of the proscenium, in which splays there are private-boxes, being in the Britannia the only ones in the house. The opening of this part of the proscenium, that is to say, of the splays, and the consequent deviation just at those parts, from the ellipse of the plan, is less than we expected: consequently, although the private-boxes do not look so much *from* the direction of the stage as in the alternative case, there are unquestionably bad seats in the pit and boxes. It is true, these are few in proportion to the general area, and, perhaps, considering mere number, they are few in comparison with what there are in many theatres: but they result directly from the principle of the plan, no less than any advantages which there are in the auditory generally; and the simple consequence of having such seats is what we noticed on Monday night, either that they are not occupied at all, or that they are occupied in a manner which leads to interruption of the performance.

It is apparent, however, that, besides advantages as to some of the seats, the oval form chosen, and carried into the decoration of the ceiling, is the chief source of the effect which there is in the house as seen from those boxes described as otherwise unfavourably situated. The gallery, it is proper to remind our readers, occupies great space as well in height and frontage at the curvature of the ellipse, as in the depth to which it extends backwards. It takes in space beyond the general auditory, by being made to extend over the refreshment-room of the boxes. When crowded on Monday with "the unwashed," at 4d. and 3d. a head, it formed a curious sight, not altogether in harmony with the decorations. These last, however, may help to induce habits—the want of which is the chief cause of any prejudice against what are called the lower classes, or at least so help when the means of cleanliness are adequately supplied in towns. In our former article* we stated what was the estimated number of the whole audience, and what were the charges for admission then proposed; but probably 3,500 persons or more were collected in the ample space of the theatre on Monday night. Here then is a school for 500,000 or 600,000 persons annually, where instruction, evil or good, is conveyed, and whether considering the agency employed, or the class, and the age in great part of the pupils, is conveyed in the manner which will leave the deepest impressions, and will most powerfully operate on the moral and social condition of society at large. We are amongst those who believe that the mere decorative features of places of public amusement, if marked by propriety and taste, are not wholly without influence, though silent and unseen perhaps, in mollifying the manners of whatever the class, or in standing between what we are told, in the same language, is a brutalizing tendency to which humanity is open, and which, it is said, arts or learning suffer not to prevail. We look hopefully for better civilization of our fellows, from every occupation for the eye and ear—from every amusement and every *art* that addresses itself to either entrance, whether painting and sculpture, or music and the drama, or from architecture and decorative and ornamental art.

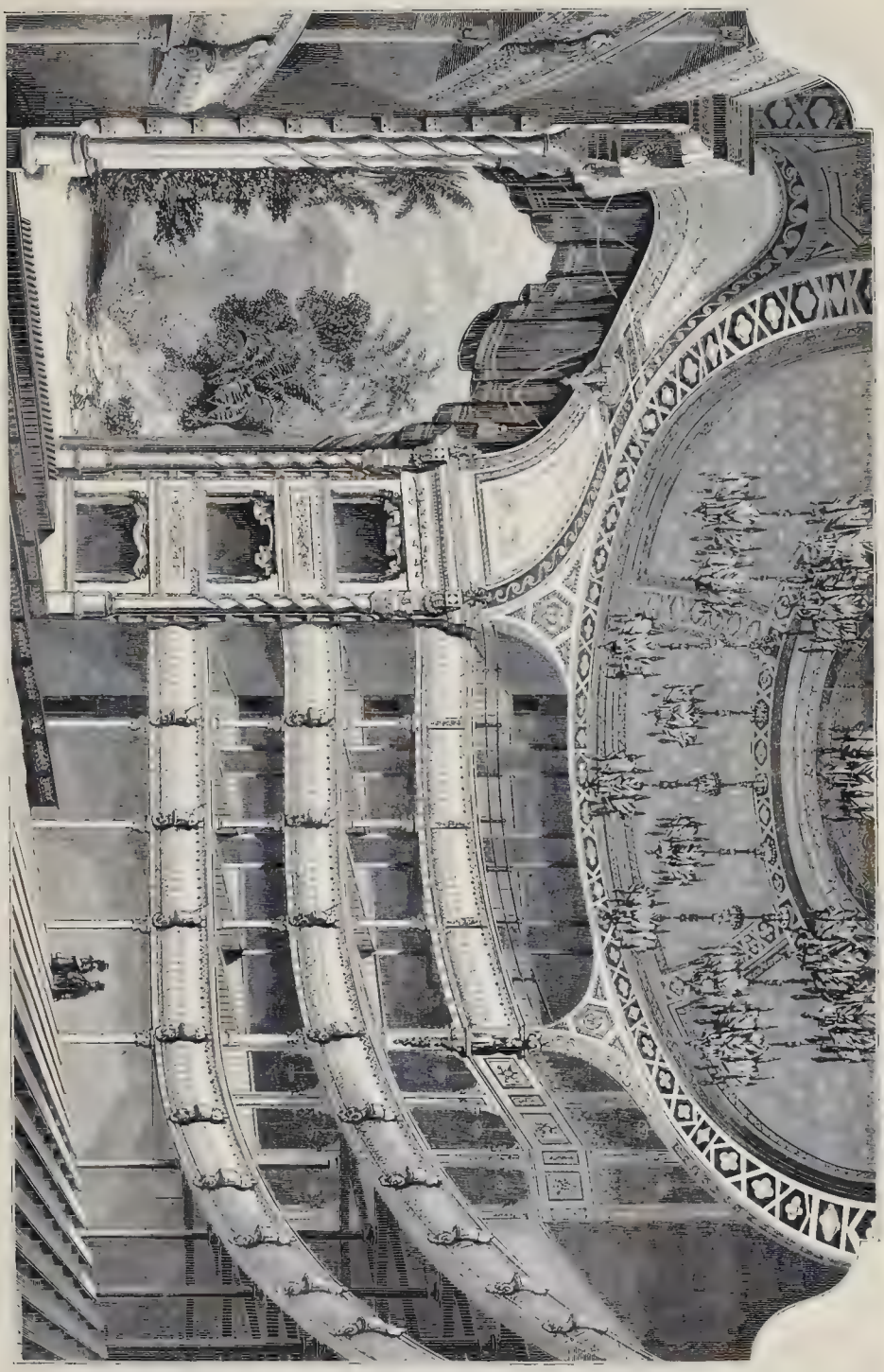
But we are enthusiastic enough not to disregard, the equal importance of attention to comfort and convenience of the classes we have referred to, in places of their resort, as also in their homes, nor to treat the arrangements for the safety of life as less called for in building for one class than for another.

In the Britannia Theatre the architects have provided an amount of entrance and staircase accommodation exceeding what is usual. Their plan affords five staircases mentioned in our former article, added to numerous openings between the *promenade* or corridors and the pit, and has certainly much better entrance and exit-ways for the street communication than are common. There are, it appears, two of the staircases that can be used for the gallery part of the house. The arrangements on the opening-night, however, whether resulting from the plan of the house or other cause, were hardly such as we should wish to see observed. One of the staircases was not used at all for the gallery. Handrails to walls were not fixed in time, where the omission might have been serious. The principal staircases have very long flights, with great width of stairs: that is to say, space may be ample, but *plan* to ensure safety is open to question. There will probably be some difficulty in having what is necessary for safety, and in keeping up the distinctions between the divisions of the audience. It is not sufficiently the practice to consider these distinctions, or as to admission-money, as the basis, and to design the whole plan thereupon, with entrances and staircases in no way interfering with one another; though we have allowed, the arrangement required would often demand conditions of site different to those of the present case. The charges on the opening-night appear to have been on the whole lower than was at first intended, and distinctions between the side-boxes and those of the centre did not seem to be observed. The charge for the boxes and stalls (in communication with one another) was 1s.; whilst to the pit, and box-slips on the O P side, it was 6d. The slip-boxes on the opposite side being connected with the staircase used for the gallery were appropriated accordingly. We hope the details of these arrangements—part and parcel of what is required towards public safety — will be very well-considered. We were not able to get into the gallery; but in the box-slips, ventilation certainly appeared to have been attended to with unusual success.

Our observations having extended further than we first proposed, we must postpone the descriptive particulars of the decorations till next week.

* See page 738 *ante*, also pp. 644 and 654.

* Page 644.



THE BRITANNIA THEATRE, HOXTON.—Messrs. Finch Hill and Paraire, Architects.

MINERS AND WASTE OF LIFE.

A RECENT parliamentary paper shows that there are no fewer than 230,000 persons employed in the coal-mines of Great Britain. A marked improvement has taken place in the manners and extent of knowledge of this useful body of workers, and it is gratifying to learn that in the Wakefield and Methley district a combination of the men has been made for the purpose of raising funds for investment in coal mines and other safe ventures, the proceeds of which are to provide for sickness, and such other ills, to which this class of men are more liable than some others. The necessity of means of relief in case of sickness or violent death is shown by the following figures:—In 1851, the number of lives lost was 984; in 1852, 986; in 1853, 957; in 1854, 1,045; in 1855, 963; in 1856, 1,027; in 1857, 1,119. *Seven thousand and eighty lives lost in seven years!*

It is noticeable that no class of men have so often differed with their employers on the matter of wages as the coal-miners of Northumberland and Durham, and it is feared that these have not been for the benefit of the workers. The men, however, say that the colliery proprietors had themselves set the example of combination by forming a sort of corporation to limit the quantity of coal wrought in certain districts. The duration of the lives of the pitmen is short, and the great per-centage of what are called accidental deaths shows the necessity of provision for families; and it is stated that at the present time those who work in the deep darkness of the mines, in an unwholesome atmosphere, are paid for all this risk of life at the rate of 3s. 6d. per day during six days in the week. This seems a small payment for the amount of skill which is required, and the danger. It is, however, clear that in this description of labour, as in others, the rate of wages will be regulated by the proportion supply bears to the demand.

The number of accidental deaths is a matter for the serious consideration of all; and it has been hinted to us that if the lives lost in the coal-pits were charged to the owners in the same way that accidents are laid to the charge of railway companies, instead of the thousand lives lost each year in the coal-mines, we should have but a tithe of their number of deaths.

Mr. Richard Bayldon urges, in a pamphlet recently published, the further association of the miners for mutual aid.

EXPERIMENTS AS TO THE COST OF GAS IN THE STREET-LIGHTING OF WESTMINSTER.

Two important reports have been issued by authority of the Westminster District Board of Works on this subject, one by Mr. R. R. Arntz, surveyor of the board, and the other by Mr. Hughes, a member of that board, and one of the honorary secretaries to the managers of the metropolis gas inquiry. The experiments were made upon twenty lamps, namely, twelve of the Chartered Gas Company's 832 lamps; four of the Equitable's 75 lamps; and four of the Western's 182 lamps. Each company is bound to supply light equal to ten spermaceti candles, burning 120 grains per hour, from sunset to sunrise, or twelve hours daily on the average. The Chartered alone is bound to supply a certain number of cubic feet per hour, viz. 2½, and of cannel coal gas. The Western also supply cannel, but at their own option apparently.

It was found that the Chartered lamps in no instance had a supply at twelve p.m. of more than 1¾ cubic foot per hour, and sometimes less than 1 cubic foot, the deficiency beginning at the early hour of nine p.m. The Equitable, which, it is shown, ought to burn at the rate of 5 cubic feet per hour of common coal gas, was found to supply, at the highest rate, only 3¾ feet at 12 p.m. one light at 10 p.m. having been found burning only 3·2 feet; while at 2 a.m. the quantity burnt was only 2¾ feet, or scarcely more than half the proper quantity. The Western was found to be much more equitable than either of the others in the supply given. The rate at which the Chartered were charging for the supply actually given was no less than 10s. 2d. per 1,000 cubic feet! and even had they afforded the requisite supply, their charge of *4l.* 7s. 6d. per lamp would have been equivalent to 6s. 9¼d. per 1,000 cubic feet. The Equitable, also, were charging in excess of the price to private consumers, as well as in excess of their own actual supply. The price per lamp contracted for by this company is *3l.* 2s. 6d. The mean price charged by the Western Company (*4l.* 10s. 6d. per lamp) was found to be about equivalent to 6s. per 1,000 cubic feet, being the same charge as that made on private consumers.

Mr. Arntz maintains it to be wrong in principle to charge so much for the wholesale consumption of public lamps as for the small quantities required by private consumers in general. He also points out that from the practice of reducing the pressure as the night advances, without any readjustment of the burners, the companies *must* either burn their gas greatly to waste in the early part of the evening, or the lights must become seriously deficient as the night wears on; and that some system of readjustment of the burners is absolutely requisite to a proper system of lighting under present circumstances.

Mr. Hughes's report shows that the total amount of actual imposition on the district by the three companies is 2,012*l.* 6s. 1d. per annum, the lion's share of which (1,750*l.* 13s. 4d. on 832 lamps) was that of the Chartered Company. The Board actually pay 2*l.* 2s. 1d. per lamp to this company for the gas they give (or rather for the gas they do not give) over and above the heavy charge of *4l.* 7s. 6d. to which they are entitled by contract. Computing the common gas to be supplied at 3s. 3d. per 1,000 feet, the price which the Phœnix Company state, in a parliamentary return, as their charge for public lamps; and assuming 4s. 4d. as a proportionate price for cannel gas, the price which the Chartered Company ought to charge, per lamp, is 2*l.* 5s. 5d. for the supply actually given; that of the Equitable, under like circumstance, 3*l.* 3s. 1d.; and that of the Western, 3*l.* 9s. 9d.

PROVINCIAL NEWS.

Ventnor.—The foundation-stone of the new National Schools at Ventnor was laid on the 25th ult. by Mrs. Albert Hambrough, of Steephill Castle. The design for the building is by Mr. C. Turner, of Southampton, architect. The building will comprise boys', girls', and infants' schools, with apartments for the master and mistress. The frontage will be 50 feet. Mr. H. Rooke is the contractor.

Gloucester.—The first sod of the reservoirs at Witcomb has been turned by the mayor. They form the conclusion of the comprehensive system of water supply adopted for this city. Mr. Bateman, the engineer of the Manchester works, recommended the construction of these reservoirs at Witcomb, to receive and store a supply during the winter months sufficient for all the requirements of the citizens throughout the summer. The site is a deep ravine, formed by Birdlip and Cooper's Hills, down the centre of which the brook intended to be penned up flows. An embankment, or dam, with wings at each end, will be thrown across the valley, thus forming the receiving reservoir; and some distance farther down the dell a second embankment will be constructed, forming a second reservoir, from which the town will be supplied direct. The gathering ground will exceed 1,000 acres: the depth of the water in some places will be 40 feet; and the reservoirs are estimated to contain a sufficient supply for six months for a population of 30,000 persons. At a meeting of the Local Board of Health, held previously to the laying of the first sod, the contracts for constructing the reservoirs and supplying the pipes and other necessary ironwork, were decided on. The estimate of the surveyor, Mr. Hanvey, for the construction of the reservoirs, conduits, and attendant's house (contract A) was 14,205*l.* 13s. 2d.; and the following tenders were received:—Messrs. Hamill and Foulkes, London, 13,820*l.* 2s. 5d.; Mr. J. Thompson, Gloucester, 13,908*l.* 2s. 9d.; Mr. J. Aird, London, 14,668*l.* 11s. 9d.; Mr. T. Parry, Gloucester, 14,822*l.* 13s. 7d.; Mr. J. Blinkhorn, Gloucester, 15,477*l.* 3s. 4d.; Mr. W. Easted, Baldock, 16,147*l.* 8s. 4d.; Mr. W. Tredwell, Gloucester, 18,000*l.*; Mr. W. Webster, 18,232*l.* 4s. 2d. For contract B—pipes, bends, and junctions—Mr. Hanvey's estimate was 492*l.* 16s. 3d. The tenders were:—Messrs. Varley, Liverpool, 469*l.* 6s. 6d.; Butterby and Co. 484*l.* 12s. 3d; Spital, Newport, 498*l.* 1s. 9d.; Bayly and Co. London, 502*l.* 0s. 11d.; J. M. Butt and Co. Gloucester, 502*l.* 9s. 11d.; Cochrane and Co. Dudley, 503*l.* 16s. 3d.; Savory and Son, Gloucester, 508*l.* 12s. 9d.; Kirby, Birmingham, 508*l.* 13s. 9d.; Barrell, Staveley, 534*l.* 0s. 5d.; M'Clean and Co. Glasgow, 544*l.* 14s. 6d.; Chandler, Preston, 572*l.* 12s. 3d.; Sharpe, Lancaster, 575*l.* 10s. 9d.; Oaks and Co. London, amount not mentioned. It was stated that Oaks and Co., Cochrane, Butterby and Co., and Sharpe, had not complied with the specification. For contract C—cast-iron sluice valves Mr. Hanvey's estimate was 330*l.* 10s.; and the tenders were:—Savory and Son, Gloucester, 180*l.* 15s.; Sharpe, Lancaster, 186*l.* 10s.; Blakemore, Wednesbury, 247*l.* 10s.; Jennings, London, 253*l.* 1s.; Guest and Grimes, Rotherham, 305*l.* 7s.; Cochrane and Co. 309*l.* 5s.; Stoddart and Co. 319*l.*; Bayly and Co. 372*l.* 2s. Mr. John Aird, of London, was accepted as the contractor for the construction of the reservoirs, at the amount of the surveyor's estimate, namely, 14,205*l.* 13s. 2d. The contract for supplying the requisite cast-iron pipes was given to Messrs. Varley, of Liverpool, for 469*l.* 6s. 6d.; and that for supplying cast-iron sluice cocks and valves, to Messrs. Savory and Son, of Gloucester, for 180*l.* 15s. The question of the duties of the surveyor was discussed at some length. To save expense, the Board decided on employing their surveyor as engineer to the works about to be commenced at Witcombe, with extra remuneration, while he was to provide a person, in order that his ordinary duties might not be neglected. Ten years ago there was not a worse drained city in England than Gloucester. At that time, however, the Board of Health Act was brought into operation; and besides laying down a complete system of drainage, the streets have been macadamised, and a new market and a new corn-exchange erected. In all these improvements an outlay of 100,000*l.* has been incurred.

Grimley.—The new schools here, for the education of the children of the working classes, have been opened. The cost of erecting these schools has been borne by the present High Sheriff of the county, Samuel Baker, esq. of Thorngrove. The school-house is situate within a short distance of the parish church, and has one large room or hall for the tuition of both boys and girls in number about 120. The building is constructed of brick. There are three windows of large size to the school-room. The building is from the design of Mr. Baker, the donor. It has been erected by Mr. Taylor, of Grimley, the carpentering work being executed by Mr. Hayward, also of Grimley.

Stockton.—The following were the tenders for the erection of the Stockton Bath- and Wash-houses. Messrs. Oliver and Lamb, architects. Quantities supplied:—Morton, Stockton, 983*l.*; J. and J. Brown, Stockton, 968*l.*; H. Watson, Newcastle-on-Tyne, 890*l.*; Dixon, Brothers, Newcastle-on-Tyne (accepted), 835*l.*

Rotherham.—The foundation-stone of the Wesleyan new day-schools, in course of erection in Talbot-lane (on ground purchased of Thomas Badger, esq.), has been laid. The schools will be Elizabethan in character. They will consist of an infant school, 33 feet 6 inches by 22 feet, with one class-room attached; also a school-room for boys and girls, 63 feet by 22 feet, and two class-rooms. Both schools are estimated to give accommodation to upwards of 300 pupils. There will also be a teacher's residence, and playground for the girls and infant pupils. The design was selected in competition, and is the production of Mr. Wm. Blackmoor, architect, Rotherham, under whose superintendence the work is being carried out. The estimated cost of the buildings, fittings, and ground, is 1,758*l.*, a portion of which is to be obtained from the committee of Council on Education.

CHURCH-BUILDING NEWS.

Ely.—The Wesleyan chapel and schools have been completed. Their site is on the north side of St. Mary's-street. The front of the buildings are of white local bricks and stone. They are set back some distance from the road, and enclosed by walls and iron railing. The cost of the works amount to 1,250*l.*, which has been obtained by subscription. The works have been carried out by Mr. Freeman, of Ely.

Ospringe (Kent).—The church edifice restorations here having been completed, the edifice was re-opened for service on October 19, by the Archbishop of Canterbury. The new works, which have been conducted under the superintendence of Mr. Blackburne, architect, of London, comprise a re-seating of the church, with substantial oak seats, new roof to the chancel and south aisle, new screens, new pulpit, and an entire re-paving with Minton's tiles, &c. A new memorial window, by Willement, has also been inserted in the Decorated South Chapel. The contractors for the works were Messrs. Day and Whiting, of Ospringe.

Sleaford.—The estimate of Mr. E. Browning, for cleaning and restoring the nave, clerestory of the nave and aisles of Langtoft Church, and restoration of the west windows, with fittings to the chapel, &c. has been approved of.

Moreton-in-March.—The alterations to the parish church are progressing towards completion. Messrs. Young and Co. are the contractors employed to carry out the plans of Messrs. Poulton and Woodman. The contributions received amount to nearly one thousand pounds towards the requisite sum for completing the work.

Ottoxeter. — The foundation-stone of a new ch, at Marchington Woodlands, was laid on 26th ult. The site for this church, as well as ining land to form part of the endowment, has n presented by Mr. Webb, of Smallwood Manor. structure is being raised by subscriptions, d by grants. A school for the children of the rict is also in contemplation. Mr. A. D. Gough, ondon, is the architect; and Mr. W. Evans, of stone, the builder.

Queniborough.—Of the church here, the *Leicester Advertiser* says,—This sacred edifice, the e of which is the towering landmark in the ey of the Wreake, has undergone a thorough air and partial restoration in the interior, under direction of Mr. Goodacre, architect, of this n. The old pews or boxes had been suffered to into a dilapidated state. Attention must soon aid to the south aisle wall, which is now ped up by unsightly thick buttresses. The s and arches have been scraped, repaired, and ored. Accommodation has been made for 150 shippers by having open seats, which are of red , stained and varnished. In the chancel a new has been laid in black and red quarries, and w altar-rail put up. These and other improvests have been carried out under the superinndence of Mr. Goodacre; and the works have e executed by Mr. Gibson and Mr. Yates, of ester, and Mr. Sherwood, of Hungarton.

Blackfordby.—The new chapel here, erected a design by Mr. H. I. Stevens, of Derby, itect, consists of a chancel, nave, and broach attached to the south side. The style of itecture, generally, is of the Early Decorated od. The stone walls are pitch-faced. The r part of the spire forms a porch, with two lows. The seats are open, with square ends, will accommodate about 280 persons. The l is formed of hammer-beams, braces, and struts. west window comprises two lancet lights, trefoiled heads, and a circular sex-foiled ning above between them. Some more windows be wanted in the north wall, for which there spaces, when the others are filled with stained s. The roof of the chancel is inferior to that e nave. The only two monuments in the old el have been preserved in the new. The estid cost of the building was 1,315*l.* On the t ult. the chapel was opened for the performe of Divine service.

Church Lench.—A sum of 1,400*l.* has been exded on the restoration of Church Lench Church, r Worcester. Mr. F. Preedy, of that city, was architect employed. Mr. Hunt, of Evesham, uilt the chancel; Mr. Cheesman, of Redditch, orated the roof; Mr. Walker, of Evesham, ored the body of the church; Mr. Moysen, of mingham, executed the carved work; Mr. Rimington, of Skipton, fitted up hot-air apparatus; Messrs. Brown and Thomason, of Birmingham, Mr. Leaver, of Maidenhead, supplied the ngs for artificial lighting. The chancel has a almost entirely rebuilt; the walls of the nave aisle made good; the old wood roof of the er being thrown open, after being strengthened beautified by new work; and a new roof put the aisle. The walls, constructed of rough ble, have been coloured over again, while from r exterior the roughcast has been removed and joints pointed. A new south porch, of stone, been erected, also a new vestry, north of the ncel. The tower has been repaired, the top of it being renewed, with battlements, keted pinnacles, &c. Perhaps the most proent feature of the decorations is the painted dows. The east window of the chancel is a one, of three lights, with Decorated tracery, contains the subject of "The Crucifixion." A h window in the chancel was inserted by the or,—subjects, "The Raising of Lazarus," and e Death of St. Joseph," from Overbeck. A nd window on the same side contains "Simeon Anna praying in the Temple;" a third, "The man taken in Adultery," and "Mary Magdalen inting Christ's Feet." The north window of chancel contains "The Agony in the Garden" "Christ Washing the Disciples' Feet." All chancel windows have two lights except the ern one. In the aisle a memorial window has n raised,—subject "The Resurrection," with the disciples approaching the sepulchre, also the women bringing spices to embalm the body, the angel pointing upward to the risen iour. Hard by is a little window, given by a untary subscription of the poor,—subject, "The low's Mite." In the north wall of the nave memorial window. This is an old Perpenular window restored,—subject of painting, the Ascension." The clerestory windows oppo- want subduing. The western window of the aisle and that underneath the tower also require stained glass. The sanctuary, or easternmost part of the chancel, has its roof powdered with stars, the sacred monogram, emblems of the passion, &c. in gold on a blue ground; and the remaining portion of the chancel roof, the fleur-de-lis, roses, &c. on a light buff ground. The walls, both of chancel and nave, bear "chosen sentences" in old church text. The reredos consists of tiles, arranged lozengewise, and in the centre one large slab of slate, on which is painted, "Christ meeting the Disciples at Emmaus," presented to the church by the artist himself.

Llandwrog.—The first stone of the new parish church of Llandwrog, near Caernarvon, has been laid. Mr. Kennedy is the architect.

Newport.—The cemetery for this town is making progress, according to the *Shrewsbury Chronicle*. The lodge at the entrance, and the chapel in the middle of the ground, are in the Gothic style. The lodge rises to an elevation of 32 feet from the ground to the summit of the ridge, and will be ornamented by a Gothic tower over the porch. The chapel, from the bell-turret to the top of the spire, is 34 feet. It is about 30 feet in length and 16 feet wide. The buildings, under the superintendence of Mr. Sugden, of Leeds, architect, are being erected by Mr. W. Williams, of Shrewsbury.

AUSTRALIAN NEWS.

The electric telegraph from Adelaide to Melbourne is in full work. The line northward from the latter capital to Sydney is in a state of forwardness, the work being in progress on each side of the border; the junction to be at Albany. When completed, the colonies of New South Wales, Victoria, and South Australia, will have the benefit of rapid communication to the extent of nearly a thousand miles.

The new lighthouse at the entrance of Port Jackson is being finished. It stands on the edge of the cliff forming the inner South Sea-head, at an elevation of 60 feet above sea level.

St. Francis Xavier's Cathedral Church, Victoria-square, Adelaide, has been dedicated. It is a very extensive edifice, built from designs furnished by Mr. Charles Hanson, of Clifton, by Mr. Kingston.

Amongst the various public buildings of Melbourne, the new Free Public Library is one of the most remarkable. The entrance-hall is decorated with Corinthian columns and entablature, enriched ceiling, and a pavement of tesselated marble. A grant of 20,000*l.* has just been given for adding a new wing to the structure. The arrangement of the books is said to be excellent: 5,000*l.* were voted for new books last year, and a similar sum this year.

The new Houses of Parliament, at the same place, are not yet completed. The interior decorations are said to be very gorgeous; and the structure, when completed, will cost little less than a million sterling. The suburbs, such as Collingwood, Brighton, Richmond, and St. Kilda, have more than kept pace with the progress of the city, and are being studded with beautiful villas, terraces, &c. There are three very good theatres, —the Royal, the Princesses, and the Olympic, as also a Cremorne. Shops and public buildings of considerable architectural pretensions have everywhere arisen. Gas has been introduced into the streets and several public and private edifices.

WORKMEN AT LINGFIELD, SURREY.

On paying a visit to Lingfield some few days since, we found the greater part of the flooring of the church turned up for the purpose of laying down pipes for warming. Being admirers of art, whether ancient or modern, we were greatly pained and angered to see that no care whatever had been taken to preserve the handsome monuments, brasses, &c., from heedless damage of masons, plumbers, and labourers. On the interesting alabaster tomb in the side aisle, there lay a trowel and mason's chisel; and the altar-tomb opposite, which carries the large brass effigy of one of the Lords of Cobham, was unapproachable, from the dirt and sand upon it, which was also heaped up beside it, covering another brass. Surely, a few boards, a piece of matting, or some old sacks, could have been found to spread over these invaluable memorials, which date back upwards of 400 years!

If we are unable to leave any worthy testimonials of our own time as a legacy to future generations, we should at least be careful to transmit to them, as uninjured as possible, those heirlooms which the greater skill of our predecessors has bequeathed to our care; and we ought to consider ourselves merely as stewards of them, and as bound to give an account of our stewardship. We fear the present incumbent of Lingfield will have some sins of omission to answer for in this respect, however worthy a man he may be in others. When it was somewhat strongly represented to him that there would "soon be no brasses left, if the workmen were allowed to treat them thus," he calmly replied, "Oh! they won't hurt them much." "*Much!*" As if hurting them *at all* were not an unpardonable sin.

Nor was this interference, on the part of a stranger, impertinent, or uncalled for: one of our party remembered an additional piece of the label proceeding out of the mouth of Master John Knoytt, one of the masters of Lingfield College, which has disappeared since 1846, but which is copied in his rubbing; and also some portion of the hair of another effigy.

We walked over the floor-joists to see the two incised tiles, mentioned some time since by you, which are almost unique specimens, and found *both* very much shattered; whereas, when we saw them last autumn, the larger one was almost perfect.

But to return. Do, pray, put a few strenuous words of rebuke into your powerful paper, against such ruthless destruction of these and similar treasures, which, once lost, can *never* be replaced, and thus earn the lasting gratitude of

Three Rubbers.

OUR STREET ARCHITECTURE.

Sir,—I am glad to find you are pursuing the subject of our street architecture, and, with your permission, would add a few words on the subject.

We are in the habit of comparing the architecture of London and Paris, and the comparison will assist me in a remark or two I have to offer. What, I would ask, is the predominating character of Parisian architecture? I should say the *horizontal principle:* the buildings of Paris being erected in large masses of a uniform character, this principle can be carried out with great effect. In London, on the contrary, the prevailing feature is, *or ought to be,* the *vertical character,* in consequence of the narrow frontages of most business fronts, the great value of land, which leads to the erection of very lofty buildings, in order to make the most of our ground, and, I may add also, from the absence of any controlling power compelling us to uniformity in our streets. (?)

I have said that the prevailing feature of London street architecture *ought to be its vertical character,* but, unfortunately, we find that in the great majority of cases our houses are built upon the opposite principle, however narrow and however lofty they may be. And what is the result? Look at the houses in Cheapside, for instance: surely no one will contend that the general effect is satisfactory. Whereas, had they been built upon a more *natural* principle, with gabled roofs, and treated generally upon the vertical principle, we should have had a pleasing and picturesque effect, notwithstanding the "infinite variety" and varying heights of the buildings. In proof of this, I need only refer to some of the old continental towns, or to some few of our own old towns, such as Chester.

Though the adoption of gabled fronts does not necessarily involve the use of Gothic architecture, still I should like to see this style introduced into our London streets, and I am much surprised that our architects, who are so strong in their assertions of the universal applicability of Gothic architecture, do not reduce their theories to practice, and favour us with a few Gothic buildings in the City of London.

I quite concur with you in reprobating the enormously heavy cornices and projections now so much in vogue, and I think that we might in this respect take a useful hint from our Paris brethren, of whose works you have recently given us some examples.

I hope to see the more general adoption of relieving arches over shop fronts, which give a stability both in appearance and in fact much wanted. The practice of piling up masses of brick and stonework, without any *apparent* support suitable for the weight to be carried is very prevalent. Thus we frequently see fronts apparently carried by some light attenuated iron columns utterly inadequate for the task, the real duty being done by some *concealed* bressummers.

Architects in general seem completely to neglect the sides of their buildings in street architecture. We continually meet with most elaborate *fronts* over-crowded with ornament, while the return walls and chimneys are constructed of the meanest materials, and, in fact, perfectly neg-

lected. A notable instance of this may be seen in the British Museum—likened by *Punch* to a gentleman with a very fine waistcoat and a very shabby coat. I should like, also, to see a little more of the roofs of buildings, instead of their being hidden by clumsy and expensive balustrades.

One word on the use of coloured bricks and tiles. Would it not be well to limit the use of materials of a different colour from the mass of the buildings to the constructive features, such as the arches, &c. It is a common practice, where red or black bricks are used, to stripe the building all over with one of these colours, a practice for which I can see no reason, and which is anything but pleasing in appearance. Let all our ornament as much as possible grow out of the construction. Thus, in a building of rubble or flint-work, bonding courses of freestone would be both necessary and appropriate. Coloured tiles, where used, should not, I think, be of very bright colours. There are some instances in the City which are quite alarming. NEMO.

THE CHATEAU OF DRAVEIL, FRANCE.

IN our number for October 2nd (p. 662), we gave some illustrations of the Château of Draveil, which is situated on the right bank of the Seine, about fifteen miles from Paris. It was originally built in the time of Louis XIII. with a mixture of brick and stone, in the style of the period. The entrance staircase, the two turrets, and the chapel, are modern additions, under the direction of M. Canissié. The turrets are used for the ventilation of the building, but serve also to recall, in idea, the campanile at the other extremity, and connect them with the chapel. The gallery, forming a covered way from the summer-room, I, to the chapel, has the double advantage of giving also on the first-floor a communication between the chapel and the principal apartments, and of tying together the two buildings in elevation. The following references will explain the plans :—

Ground-floor.	*First-floor.*
A. Orangery.	M. *Salon.*
B. Hot-house.	N. Vestibule.
C. Chapel.	O. Dining-room.
D. Bath.	O'. Small Dining-room.
E. E. Kitchen.	P. P'. Apartments of the Tutor.
F. Washhouse.	Q. School-room.
G. Cellar.	R. Children's Apartments.
H. Larder.	S. Spare Bed-room.
I. Summer-room.	T. T. Chambers of the Proprietors.
K. Wood-house.	
L. W. Closets and Ventilation-Tower.	

IRELAND.

NEW lines of railway are proposed from Londonderry to Letterkenny,—by Farland Point and Newtown Cunningham, a distance of about twenty-four miles; also a connecting line between Newry and Mullingar, on the Midland Great Western Railway, and thence to Galway, thereby ensuring by twenty-three miles the most expeditious route from Belfast to Galway. This latter will pass through the rich grazing counties of Meath and West-meath. We understand that since the successful commencement of "the Lever Packet route," the directors of the Midland Great Western Railway have resolved on constructing the branch line from their Dublin terminus, at the Broadstone, to the North Wall Quay, where goods and passengers arriving in the Irish metropolis, with America as their destination, can be instantly transmitted from ship to train, and thence reach Galway without change of conveyance.

A new iron bridge is to be constructed across the river Foyle at Derry.

Steps are being taken towards the erection of a new church at Rathgan, county Dublin, the present accommodation being found insufficient, and an architect has tendered his professional services gratuitously.

We hear that, in addition to the improvements in Dublin lately particularised in the *Builder*, it is intended, by the Board of Public Works, to remove the block of houses from Morgan-place (at the side of the Four Courts), to Church-street, including the extensive premises of the Angel Hotel, and to erect on the site thereof a new building as a Record-office, &c., in connection with the Four Courts.

Extensive works are to be done at the Church of Aughrim, county Galway, according to plans by the architect to Ecclesiastical Commissioners

The Athenry and Tuam railway, sixteen miles in length, is to be constructed immediately, and tenders are sought for.

The Church of Ratheline, Lanesborough, county Langford, is to be rebuilt. Mr. Welland, architect. A portion of St. Patrick's Cathedral, Dublin, having recently exhibited an inclination to fall, immediate steps had to be adopted to take down some of the piers and reconstruct them, but all is now said to be satisfactorily completed. Other restorations are believed to be necessary.

The alterations and additions to Kilmainham gaol, Dublin, are progressing under the direction of Mr. John McCurdy, architect.

Improvements are being made at the Royal College of Surgeons, in Stephen's-green, Dublin, according to plans furnished by Mr. Darby, architect.

LECTURES AT THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM.

LECTURES have been arranged for and will be delivered in the Theatre on the following Wednesday evenings, December 8th, by Mr. Beresford Hope, M.P. on the Common Sense of Art. Dec. 29, by Mr. William Burges, on the Conventional Ornament of the Thirteenth Century. Jan. 19, in next year, by Mr. F. P. Cockerell, on the Painting of the Ancients. Feb. 2, by Mr. Crace, on the Application of Art in Manufactures. Feb. 16, by Mr. Octavius Hudson, on the System of applying Colour during the Thirteenth and Fourteenth Centuries. March 2, by Mr. Joseph Clarke, F.S.A., Hon. Sec., to the art-workmen, on the Application of Ornament. March 16, by the Rev. J. L. Petit, on Refinement in Architecture. March 30, by Mr. George Scharf, jun. F.S.A. on the Application of Colour to Form, and their distinctive Properties.

The prizes offered to art workmen during the present year will be distributed on the last-mentioned evening.

Cards for the course of lectures will be presented to art workmen, on their applying, on and after Thursday next, to the attendant in the Gallery of the Architectural Museum; by letter to the Honorary Secretary, Mr. Joseph Clarke; or at the Office of the *Builder*. The committee promise an early issue of cards to subscribers. The list ensures some most interesting evenings. We are glad to be able to add, and it will probably surprise many, that the number of annual subscribers to the museum has *considerably increased* during the present year.

RECENT BUILDING PATENTS.*

IMPROVEMENTS IN THE PREPARATION OR TREATMENT OF CARTON PIERRE, PAPIER MACHÉ, AND SUCH LIKE PLASTIC SUBSTANCES, AND IN THE APPLICATION OF SUCH MATTERS TO WALLS, CEILINGS, AND OTHER INTERNAL PARTS OF BUILDINGS, SHIPS, AND OTHER STRUCTURES. Dated Feb. 6, 1858.—*W. White and J. Perlby.*—This consists in producing direct from moulds forms of such materials in colours. For this purpose, having given the desired colours to the material to be employed, the patentees first place the portions of such colours in the desired parts of the mould, and, having pressed them therein, apply to them the general surface of that which is to constitute the general ground. The moulds are previously coated with a mixture of a greasy nature, to prevent the material adhering thereto. The improvements relate also to the treatment of such *carton pierre, papier mâché*, &c. to produce inlaying or imitation of inlays. For this purpose the moulds are formed to produce recesses in the surface of the material where the inlays are to be obtained, and into the recesses thus formed they introduce others of the material referred to, having the colour desired. In using plaster as a coating inconvenience is occasioned, from the long time required before it becomes sufficiently dry for painting. And the object of one part of these improvements is to substitute for such damp plaster dry blocks, or sheets of the composition referred to, strengthened with paper or other fibre, if desired; being previously moulded into the forms desired with the surface thereof decorated in relief.

DIVERS ANTI-NITROUS CEMENTS, ALSO APPLICABLE TO RENDERING DAMP SURFACES IMPERVIOUS, AND TO FLAGGING AND SIMILAR PURPOSES. Dated Feb. 6, 1858.—*L. E. Candelot.*—One of the compositions consists of a solution of boiled oil, colophany, turpentine, wax, stearine, liquid india-rubber, and a powder consisting of glass or silex, chalk, grey oxide of zinc, talc (or preferably sulphur), and lime. This composition may be modified, and several others are described.

A COMPOSITION FOR UNITING WOOD AND OTHER SUBSTANCES, FILLING UP SEAMS, AND FOR USE AS A WATERPROOF COMPOSITION GENERALLY. Dated Feb. 1, 1858. (No. 186).—*W. J. Hay.*—This composition is to be run in and fill up the seams in wooden and other structures, also to be used as a glue to unite pieces of wood, as a waterproof composition for roofs, floors, iron ships, and other iron work, &c. The composition is formed of the following ingredients:—Asphalte or Trinidad pitch, vegetable tar, and oil naphtha, with or without the addition of caoutchouc. Or instead of naphtha the patentee uses rough creosote, spirit of turpentine, or any other spirit or essential oil, or he combines two or more of these ingredients, and mixes them with asphalte or Trinidad pitch and vegetable tar.

IMPROVEMENTS IN PAINTING UPON GLASS, AND IN PROTECTING PAINTINGS UPON GLASS. Dated Feb. 6, 1858.—*W. Potts.*—In producing some paintings upon glass the patentee first lays on a ground colour, and then removes the marginal colour from the outline of the design, by which means transparency of effect is produced. He paints some portion of the design on the face of the glass and other portions on the back. The patentee protects the painting by placing a sheet of glass upon the glass painted upon, and with a marginal line of varnished paper between the two plates. He then hermetically seals the edges. The back of the glass painted upon is covered by a sheet of gutta percha, and that is backed up by plaster of Paris, on which the glass carrying the design is securely embedded.

THE PRODUCTION OF A NEW PAINT OIL. Dated Feb. 4, 1858.—*W. Rhodes and H. Nyer.*—This consists in mixing with rosin-oil two per cent. of soda ash, distilling and then mixing the product with half its weight of rosin.

DOOR AND OTHER LOCKS. Dated Feb. 28, 1858.—*G. F. White.*—This invention has for its object improvements in door and other locks. For these purposes each lock is constructed with two bolts, which are capable of being connected or geared together in such manner that when one is pressed back or unlocked the other is pressed out from the lock. Ordinarily only one bolt is used, and so long as such is the case the lock acts as an ordinary lock with one bolt, but when it is desired to prevent the lock from being opened by a correct key, or a pick-lock, introduced through the key-hole from the exterior, then the two bolts are connected or geared together, so that any action to unlock or move back one bolt will have the reverse effect on the second bolt, and cause it to be moved out of the lock as the ordinary bolt is moved into the lock, and the lock can only be unlocked by separating the two bolts. Locks thus constructed with two bolts may be arranged with wards or tumblers and other parts to increase the security thereof in like manner to other locks where only one bolt is used to each lock.

* Selected from the condensed lists in the *Mechanics' Magazine* and *Engineer*.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

COURT OF QUEEN'S BENCH.

The Queen (on the Prosecution of Lahatmondier, appellant v. Addison, Respondent.—Mr. Quain, on the part of the respondent in this case, said he appeared under the following circumstances:—In 1856 a notice under the Building Act was served upon Mr. Addison, requiring him to take down or repair certain premises, which were alleged to be in a dangerous condition. In consequence of his neglecting to do so, and to attend to a summons issued by a police magistrate, the commissioners proceeded to repair the houses in question, and thereby expended the sum of 49*l.* 3*s.* which they then sought to recover under the process directed by the Act. Mr. Jardine, whose decision was now complained of, dismissed the case, upon the ground that the commissioners had neglected to enforce their claim within six months after the cause of complaint had arisen, inasmuch as the repairs had been completed in January, 1857, and the proceedings were not instituted until May, 1858. The question for the Court, therefore, was whether the cause of complaint had originated when the work was completed, or when the demand for payment was made. The learned counsel then proceeded to contend that the cause of complaint arose upon the completion of the work, and therefore the application was not made within the six months specified by the Act

Mr. Hawkins having been heard on the other side,

Lord Campbell said that, no liability having been incurred by Mr. Addison before a demand for payment was made, the cause of complaint could not have originated until such demand had been made, and therefore the proceedings had been instituted within the time mentioned by the Act. The decision of the magistrate must therefore be reversed.

The judgment of the Court below was then reversed, and the case was remitted back to the magistrate with that intimation.

"THE BUILDER'S" LAW NOTES.

Rebuilding and Repairing.—A person in his will directed, amongst other things, that out of rents and profits, the mansion-house and all other buildings and messuages be kept in good repair, and that any farm buildings which might require it should be rebuilt. It was held that the direction to repair applied only to the mansion-house, but that the direction to rebuild, applied to the farm buildings and farm houses. "Good repair," in the case of a barn was held to mean such repair as to make the barn properly useful to a tenant, although not ornamented, as perhaps an owner would have it. The Vice-Chancellor ordered that the surveyor should state the value of the timber required for repairs, and for rebuilding.—*Cook v. Cholmondeley.*

Master and Servant—Incapacity.—A person

who represents himself able to do certain work may be discharged before the end of the time agreed upon, if he be found incompetent, even though he thought himself competent, and therefore had not been guilty of a false pretence. Misconduct is a justification of discharge, and the Court of Common Pleas has held that there is no material difference between a servant who *will not* and a servant who *cannot* perform the duty for which he was hired.—*Harmer* v. *Cornelius.*

Unlicensed Broker.—An unlicensed broker was employed to purchase scrip certificates of shares in a public company. He bought the shares, and paid the price to the seller. It has been held that he was only entitled to be paid the money he had advanced, and was not entitled to commission as a broker. Six judges, in a court of appeal, held this view, and one judge dissented.—*Lindo* v. *Smith.*

Builder's Contract.—Although it is usual to insert in builders' contracts a stipulation that, if there be any dispute, the admission or disallowance of claims is to be determined by the architect alone; yet if it be shown that any circumstances occurred calculated to bias his judgment, the contractors are not bound to submit in all things to his decision.—*Kemp* v. *Rose.*

Bankruptcy.—A tenant covenanted not to sell or carry off any hay or straw from the land, without bringing back a load of manure. He became bankrupt, and it was held that his assignees were bound by the same covenant.—*Re Collins.*

Auctioneer. — A person who calls himself an auctioneer, occupies an office, with his name and business on the door, and circulates cards to that effect, is a trader within the bankruptcy laws.—*Ex parte Parkins.*

IN A RUIN.

I am sitting quite alone—
On a column'd moulded stone
For a cold impromptu throne—
Ruling kingdom of my own,
In the air.
The ivy-leaves are glinted
With the moon-beam, by the breeze,
And the haggard walls are tinted
By the shadows of the trees,
Gaunt and bare:
While the wanton gems of light
Dance about in wild delight,
Vis-à-vising with the zephyrs fresh and fair,
Here and there,
Playing soft Æolian ditties, tuned upon their golden hair.

The dead are round me lying,
And the wither'd leaves a-dying;
While the autumn wind is sighing
At the loneliness around;
And I cannot cease from feeling
That a something is revealing
Dread similitudes profound:—
How the heart of many a poet,
Though they leave us nought to show it,
Knew Apollo, and was crown'd.
Surely this is more than seeming—
Sure I am not only dreaming,
Or surmising?
For their skeletons, uprising,
Wake and sit upon the tombs!
And a lambent light is glowing,
Every look and action showing,
And the picture, in the moon-beam, most distinctly, lives and looms!

* * *

J. F. F.

BUILDING CONTRACT A DEMISE.

The Marquis Camden v. *Batterbury—Common Pleas.*—The Marquis Camden claimed to recover rent of some property at Camden-town, and the trial took place in Surrey, before Mr. Justice Willes, when the verdict was for the plaintiff for 24*l.* Mr. Bovill, Q.C. now moved to enter a verdict for the defendant, and stated the following circumstances:—On the 4th of February, 1853, the marquis granted a building contract, which included the property in question, to Mr. Elliott, who, on the 31st of January, 1854, assigned the contract to the defendant, and he, in his turn, assigned it to Mr. White on the 23rd of May, 1857. The rent now claimed had accrued due after the defendant had assigned it to White. The defendant's case was that the building contract amounted in law to a demise, and that he, having assigned it, was freed from liability. The marquis's case, however, was that the contract was not a demise, and that the defendant was liable as a tenant from year to year. Under these circumstances the principal question for the Court was whether the building contract amounted to a demise.—Rule granted.

A School of Art for Bridgwater.—At a public meeting held in Bridgwater, it has been unanimously resolved to establish a School of Art in that town, and a committee has been named to carry out the resolutions of the meeting.

Books Received.

The Local Government Act, 1858, and the Acts incorporated therewith; together with the Public Health Act, 1858. By Tom Taylor, Esq. Barrister-at-Law. London: Knight and Co. 90, Fleet-street. 1858.

This is a textual work, containing, not, like some previous works, merely an analysis or account of the new Act referred to in the title, but the Act itself, and all that it incorporates with it, in the form of Appendices, &c. The Act comes into force from the 1st of September, 1858, in districts already under the Public Health Act of 1848, and in other places at the expiration of two months from the date of its adoption. By the adoption of this Act, boroughs, towns, and places possessing known and defined boundaries, may obtain powers for their own government and improvement without recourse to the central executive or to Parliament. Its provisions do not extend either to Scotland or to Ireland; nor do they apply to or affect any place within the metropolitan limits. This edition of the new Act is accompanied by a useful running commentary and a full index, as well as forms of schedules and other appendices. Mr. Tom Taylor's name gives assurance of correctness.

VARIORUM.

Under the title of "Marine Sanatoria: their Objects and Requirements, with especial Reference to the Northern Sea-bathing Infirmary at Scarborough," Dr. T. Morley Rooke argues strongly against the intention of the committee to plant the new building in a confined and low neighbourhood. "On a small flat," he says, "scarcely above the level of high-water mark, and immediately at the foot of an almost perpendicular declivity, the surface drainage of which must necessarily gravitate to the lowest level; flanked on either hand by large buildings, at not more than a few feet distance, if not absolutely adjoining; having, it is true, the sea and intervening sand in front, but on the same level with, and removed by but a few roods from, the harbour and that part of the shore where, in hot weather at low tide, more senses than one are often so painfully affected that a feeling of absolute nausea is the result;—in such an ill-chosen spot, I repeat, has it been determined to erect the new Sea-bathing Infirmary of Scarborough." It is to be hoped that the governors, who are widely scattered, will give consideration to Dr. Rooke's pamphlet, and interfere to prevent what, if the statement be correct, would prove to be a most cruel and expensive mistake.——Dr. M'Cormac, in a Letter on "The Theory of Consumption," addressed to the Imperial Academy of Medicine at Paris (Longmans), reurges his very able and convincing arguments in favour of the idea, which he claims to have discovered, that want of pure air, especially in bed-rooms and by night, is an invariable adjunct in the development of consumption, whether in the form of tubercular waste unconsumed in the lungs by the scavenging action of pure air, or in scrofulous outbreaks of the same unconsumed waste in other parts of the body, acquiring different names, as if different diseases, according to the place where it happens to break forth, as at the knee in white swelling, in the glands of the neck as king's evil, or "the evil," &c. In some comments on the mortality among the Guards, Dr. M'Cormac rightly characterizes the late disclosures as equivalent to the result of a grand experiment on the power of foul air, to kill the very *élite* of the soldiery, who are the picked men of the three kingdoms. The author strongly insists on the necessity of a never-ceasing renewal of fresh air to health, and especially in bed-rooms, and most especially of all by night, when doors and windows are far more usually and continuously closed than through the day. The very law of the very breath of life in man's nostrils is, that air shall only once be breathed, till its vital power be renewed by nature's processes, otherwise the seeds of disease are being laid in the system. Where these seeds assume the fell shape of tubercle in the lungs the very fountain of life and health begins to be choked as well as polluted. The access of tubercle disables the lungs from taking sufficient advantage of the scavenging power of the oxygen of the air, whether it be pure or impure. The evil thus accumulates in a rapidly accelerating ratio, and but too often not only a deadly consumption, but a galloping one, is the result. If, while tubercle is accumulating, the air which still continues to be habitually breathed be foul air or air already breathed and rebreathed ere it has had time and opportunity for the renewal of its vital oxygen, the consumption cannot but be rapid; and, on the contrary, Dr. M'Cormac has uniformly found that a recurrence to pure air as the habitual pabulum of life will not only arrest the accumulation of the carbonaceous refuse called tubercle, but open a way for the removal of what has already been deposited, and so cure that heretofore "incurable" opprobrium of the medical faculty, tubercular consumption.——The first edition of "The New Zealand Handbook, or Emigrant's Bradshaw," was exhausted, it appears, by the sale of its 5,000 copies in a few weeks; and now a second and improved edition of this interesting account of the "Britain of the South" has been issued by Stanford, of Charing-cross.

Miscellanea.

Warminster Athenæum.—This building, erected under the direction of Mr. W. J. Stent, has been completed and opened. The elevation is a considerable improvement on that which was first proposed. On the ground floor are two useful offices, 18 feet by 18 feet; a lecture-hall, 56 feet by 26 feet; and a class-room; while above is a good reading-room, 30 feet by 18 feet, with two class-rooms. It promises to be a very useful institution. Praise has been given to Mr. Stent for his share in founding it.

The Leeds Crimean Monument.—A renewed effort to increase the fund (100*l.*) already subscribed for this monument, it appears, has been commenced. It is proposed to erect a much more elaborate and costly one (in the parish church), than was at first contemplated, and hence the necessity for a larger sum being subscribed than that which is already in hand. The monument will be of white marble and Caen stone, with one or more full-length figures, the whole being 12 feet high, and the names of all the natives of Leeds and the neighbourhood who fell in the Crimea will be engraved on it. The cost will be about 250*l.* The design is by Messrs. Lee and Welsh, of Leeds.

Inauguration of the South Staffordshire Waterworks.—The works at Walsall and Lichfield have been inaugurated by Lord Ward. At the Pleck, reached from the Walsall station, an extensive open reservoir, covering six acres of land, 21 feet deep, and calculated to hold thirty millions of gallons of water, has been constructed. The reservoir, which is situated on the top of the Moat Hill, is almost circular in form, and is surrounded by a wide footpath; it has occupied about two years in formation, and its cost is about 8,000*l.* At Sandyfield, on the way to Lichfield, the pumping engines are erected. They are placed in a building erected by Messrs. Branson and Gwyther, of Birmingham, and are two in number, of 150-horse power each, manufactured by Messrs. James Watt and Co. of Birmingham, at a cost of 20,000*l.* The engines were started by Lord Ward. The reservoir at Lichfield is of enormous extent, occupying fifteen acres, and being capable of storing fifty millions of gallons of water, at a cost of 15,000*l.* in construction. The districts to be supplied are those of Walsall, Wednesbury, West Bromwich, and Dudley. The length of the cast-iron main between the engines at Lichfield and the town of Wednesbury is about 12½ miles. The branch of the Walsall reservoir is about half a mile, and to Wednesbury reservoir about the same, making a total length of 13¼ miles. This has been laid by Messrs. Cochrane, of Woodside Ironworks, Dudley. The first five miles of pipes are 2 feet diameter, eight miles are 22 inches, and half a mile is 18 inches in diameter. About 7,000 of these pipes have already been pumped through, and only two defective ones had to be replaced. The weight of main laid is upwards of 7,000 tons, and when the branch mains to West Bromwich and Dudley are completed, the total length of main will be about twenty-five miles; through the whole of which the engines at Lichfield will pump the water, which is mainly derived from a tunnel of more than a mile in length, driven through sand-stone rock teeming with water, and from shafts and borings sunk in the tunnel, as well as from surface drainage of soft water. The reservoirs in all hold about 90,000,000 gallons. The present works are capable of distributing 2,400,000 gallons daily, and double that supply can be had if required. At the lowest rates known, the revenue from the present plant, if all the water is sold, will realise 20,000*l.* per annum; and at that rate the cost to the humblest cottage will only be one farthing for a barrel of water containing thirty-six gallons. Mr. R. McClean is the engineer.

St. Paul's, Bermondsey.—The new school-room in this parish has been opened. The building has been erected at a cost of 600*l.* and is capable of accommodating 200 boys. The site, which had been intended for a new parsonage, was given up, on account of the more urgent demand for a school, by the Rev. W. D. Long, incumbent of the parish.

The Drainage of Stroud.—At a recent meeting of the Stroud Board of Health the surveyor laid his plans before the Board, and the total estimated cost of the works was about 9,000*l.* A committee was then appointed to inspect the plans in detail, and to report to the Board thereon. Their report recommended the carrying out of the surveyor's plans, except that a reduction in the size of the tanks at the outfall was recommended, by which a saving of about 1,000*l.* would be effected. This report was unanimously adopted, and instructions were given to apply to Government for powers to borrow money to carry out the works. It is intended to construct the outfall and one of the main sewers, borrowing sufficient capital for that purpose, and leaving the rest till another time.

A Theatrical Movement in a Cathedral City.—A theatre is now building in the city of Gloucester. About a year ago a gentleman named Blinkhorn, a railway contracter, purchased the old theatre, a miserable barn, and ever since workmen have been employed in converting the shell into what the owner is determined shall be a first-rate establishment. The edifice has been rebuilt from the ground more than once, and the interior altered again and again, in order that the theatre may be rendered comfortable in the highest possible degree as regards seeing, ventilation, and every other respect. In this the proprietor, it is said, has succeeded. The house is described as having a capacious stage, two tiers of boxes, the seats of which will be cushioned, and a large gallery and pit, the seats in the latter having backs, and every seat in the house commands the stage. The house is so far advanced towards completion that it is about to be painted; and Mr. Beverley, the scene-painter, is likely to undertake its decoration, for which he will receive from 300*l.* to 500*l.*

The London Tavern, Bishopsgate.—The great room and other parts of these well-known premises have been decorated at some cost, but not quite so effectively, it seems to us, as might be desired. We speak more particularly of the large room, where surely artistic direction has been wanting. Its inharmonious effect struck more than one of those who were gathered in it on the occasion of the Builders' dinner. A sickly pink, white, and green, are the predominant colours; and the effect, especially at the end above the chairman's seat, is at night very much that of coloured sugar-work on a twelfth-cake. The lighting, comprising a sun-burner in the centre, is very good.

Accidents to Property and Person.—At Falmouth, through the incautious removal of a prop some time since, which was not replaced, one of the floors in the upper story of the bonded warehouse, which was heavily laden with wheat, fell to the next floor, and broke through that into the lower one. The second floor was filled with Indian corn, and it all went into the lower one, which was stored with wine and spirits. Fortunately the accident occurred when the men who had been landing the Indian corn were at dinner, and no lives were lost.——At Bath, a house floor lately fell at the Wells-road, suddenly, and without any indications that such a catastrophe was imminent: the joists gave way, and precipitated a woman into a cellar below. The floor seems to have been of stone. When extricated, the skull of the poor woman was found to be seriously hurt, and her person otherwise much contused.——A serious accident has occurred at the theatre erecting in West Blackhall-street, Glasgow, by which several persons have been dangerously, if not fatally, injured, and others have escaped in a miraculous manner. It appears that a number of labourers were at work on a scaffolding erected in the inside of the building, along the upper tier of the front wall, over a portion of the house intended for a music-hall. Suddenly the erection gave way, and the unfortunate men were hurled to the bottom of the building—a distance of about 70 feet. Several sustained injuries of a very serious character: some had their arms and legs broken, and others their ribs fractured, besides other injuries. Five or six were conveyed to the infirmary. One man, finding the scaffold moving from under him, sprang to the top of the wall, and escaped. The descent to the bottom was through a layer of joists intended for the floor of the hall. One man got on a joist and escaped unhurt.

The open Space, Cheapside.—Sir: Notices of widening streets, throwing open vacant spaces, &c., are eagerly welcomed by all friends of social progress: how great then is the disappointment when we find that what we had flattered ourselves was a public gain turns out the reverse! I, with dozens of friends, and I venture to assert the public generally, expected the boarded-in space at the west end of Cheapside was ultimately to be thrown into the thoroughfare from St. Martin's-le-Grand to St. Paul's. It has been repeatedly stated in the papers, that when the lease of the toy-shop at the corner of Paternoster-row was out the improvement would be effected. Have we been labouring under a delusion? Can any of your readers let us know the true state of the case?

Vigilans.

Epworth Memorial Chapel Competition.—The committee appointed for the erection of a chapel to the memory of the Rev. Alexander Kilham, founder of the Methodist New Connection, received several designs in competition, and have selected the plan submitted jointly by Mr. H. J. Paull, of Cardiff, and Mr. R. C. Sutton, of Nottingham. The building is to be erected at Epworth, in Lincolnshire (Kilham's birth-place), and will be commenced forthwith, and carried out under the superintendence of the architects. Epworth was the native place also of John Wesley, the founder of the sect which takes his name.

Desecration of the Dead in St. Pancras.—The inhabitants of the district about St. Martin's Cemetery, Camden-town, have been aroused into a state of great excitement, leading to breaches of the peace, by alleged doings in that burial-ground, where, it has been said, dead bodies have been chopped to pieces and flung pell-mell into large holes, and the putrifying remains, in a fluid state, thrown over the wooden hoarding which encloses the ground, for the purpose of defiling the hands of those looking on. Proceedings have been taken for the prevention of such proceedings and the punishment of those concerned, and it is alleged that a faculty was obtained, by frand or misrepresentation, to enable the authorities to profit by the removal of bodies deposited within the last five if not three years, in the conversion of the ground for building purposes, as a substitute for burial fees formerly reaped by the vestry. A public meeting has been held on the subject, and great indignation expressed. An account of previous proceedings in the matter will be found at p. 604, *ante*.

Jullien's Concerts.—Cheap concerts are amongst our educational levers, and those of M. Jullien in particular. Confined to a small theatre on the present occasion (the Lyceum), he has brought together the best of his band, and, with Miss Vinning as solo singer, and a violin-player of extraordinary excellence, M. Wieniawski, is pursuing a flourishing course. The promenade on the stage is pleasingly decorated, and from the ceiling are suspended a number of chandeliers, including a large one over the orchestra, executed by Messrs. Defries, who appear just now to reign supreme in this sort of work.

Slaughter-houses, Camberwell.—Sir,—You will greatly oblige an old inhabitant of Camberwell by inserting the following most inconsistent proceedings of the Camberwell vestry in the matter of granting a slaughter-house license to an inhabitant of the High-street. The premises consist of a small and confined yard, for the joint use of two houses, 4 feet below the level of the road: the dimensions are only 8 feet by 16 feet, with no other entrance for the animals than through the house. The yard is surrounded on all sides by high walls. The stench in hot weather from the blood and offal is insupportable. It was condemned by a former board of health. Last year a license was refused; but this year, to my great astonishment, the vestry have granted a license, to the great danger of the public health.

A. S.

Donors to Builders' Benevolent Institution.—Sir,—In your notice of the meeting held at the London Tavern, in aid of the funds of the Builders' Benevolent Institution, you append a foot-note, which gives a list of the principal subscribers; but you omit a name almost as familiar as a household word. Mr. George Jennings has for several years given us ten guineas per annum, and, in other respects, tried to promote the interests of this institution. This is noteworthy, if only as an example to others. By rectifying this in your next number, you will oblige friends of the Institution, and—

J. B.

Hammersmith.

*** The list came to us officially. The omission was, doubtless, accidental.

Strike for Beer.—Four hundred shipwrights on the Wear are on strike, the question in dispute being a daily allowance of a pint of beer to the men, which the masters have discontinued. The masters may think that the men are better without the beer, but it is shabby in them to pocket the proceeds, which, in fact, are part and portion of the men's wages: they ought to pay the twopences, and erect drinking-fountains for the men.

Elephants employed in Brickmaking.—The *Ceylon Observer* contains an account of some brickmaking works recently visited by Sir Henry Ward. The works, which turn out about 20,000 bricks a day, are only six miles from Colombo. The clay for brickmaking is prepared by elephants. The wild and tame work together, and both attempt to shirk their work by endeavouring to put their feet in old footprints, instead of in the soft, tenacious, untrodden mud. This is rather odd too, for elephants are very fond of wallowing in mud; but that is play, not work, and this no doubt the sagacious elephant very well knows.

TENDERS.

For sewers, &c. at Cardiff:—

Webb and Sons	£11,075	0	0
D. Jones	10,765	2	0
Moore and Griffiths	10,055	0	0
Gibbs	10,739	0	0
Chambers and Thomas	9,989	10	0

For the works of the Cardiff Cemetery, including chapels and vestries, boundary walls and fences, lodge and waiting-room, roads, paths, and drains; laying out and planting. Mr. R. G. Thomas, architect; Mr. Thomas Waring, C.E.:—

Laurence B. Moore, Newport	£6,507	7	0
John Webb, Cardiff	6,030	0	0
John and Thos. Thomas, Cardiff	5,993	0	0
Alfred Chambers, Newport	5,898	18	0
Benjamin Farmer, Bristol	5,200	0	0

For the restoration of Bletsoe Church, near Bedford. Mr. Edward Browning, architect, Stamford:—

Bryant and Barker, Bedford	£2,069	13	9
Webster, Wyberton	2,017	0	0
Lawson and Joy, Bedford	1,978	0	0
Freshwater, Bedford	1,735	0	0
Reynolds, Bedford	1,679	0	0
Bradshaw, Stamford	1,714	0	0
Wilson, Grantham	1,580	0	0

For a house to be built at Forest-hill, for Mr. G. J. Cockerell. Mr. Henry Jarvis, architect:—

Coleman	£1,856	0	0
King, Burton, and Hipperall	1,840	0	0
Rider	1,798	0	0
Brown, Robinson, and Co.	1,690	0	0
Carter	1,644	0	0
Lucas, Brothers	1,620	0	0
Crawley	1,620	0	0
Downs	1,593	0	0
Willson	1,579	0	0
Thompson	1,442	0	0

For the erection of Bedfont Lodge, Isleworth, for Mr. W. Carter. Mr. William Roe, architect:—

C. H. Davis, Deptford	£1,075	0	0
G. Burchett, Isleworth	1,043	0	0
T. Chamberlen, Hammersmith (accepted)	998	0	0

For second portion of works at No. 18, London-wall. Mr. Charles Laws, architect:—

Piper and Son	£850	0	0
Browne and Robinson	776	0	0
Glenn	620	0	0
West (accepted)	530	0	0

For new shop-fronts, &c. to No. 24, Cornhill and Change-alley, for Mr. Daniel Grant. Mr. Wm. Lee, architect:—

Wills	£450	0	0
Felgate	446	0	0
Macers	443	0	0
Lemon	414	0	0
Newman and Mann	398	0	0

TO CORRESPONDENTS.

Preventable Disease.—We have received from Dr. Greenhow a reply to the observations in our last, but must postpone the consideration of it, with several other communications on the same subject, for a week.

Price Books (the prices given cannot be for the same work: in the one case they include sawing and setting to beds and joints; in the other not. Even then the lowest are extremely low.—J. D.—W. R.—R. G. T.—J. L.—Dr. G.—C. B.—R. G. (Institution of Civil Engineers is in Great George street, Westminster).—F. J.—O. V. H. (unobjectionable: R M water under pressure may be heated sufficiently to lead to conflagration. Fires from that cause have occurred).—S. W.—H. P. H.—F. Y.—W. H. S.—J. H. (the question is not clear).—C. K.—C. R.—R. W. (we cannot re-state heights of buildings already given more than once in our pages).—C. T.—T. W. (a cement for aquariums will be found in a previous volume).—Y. W.—A Subscriber (next week).—N. W.—R. S.—W. R.—J. W. P.—C. H.—L. W. C.

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BUILDERS, CONTRACTORS, &c. requiring TEMPORARY ASSISTANCE in Posting their Books, making out Accounts, Measuring Work, &c. may have the SERVICE of the Advertiser on reasonable terms.—Address, X. Y. 12, Queen's-road, Notland-square, W.

LOUGHBOROUGH LOCAL BOARD of HEALTH.—APPOINTMENT of SURVEYOR.—The Loughborough Local Board of Health hereby give Notice, that the Office of SURVEYOR to the Board will shortly become vacant, and they are prepared to receive APPLICATIONS from Candidates for the OFFICE, the salary of which will be under £200. The person appointed will be required to superintend the repairs, where necessary, lighting, and cleansing of the streets and roads in the district, and the laying-out and completing of new streets, and to keep the accounts; make the payments, and transact all matters connected with any of the foregoing departments; to see that the drainage works, both public and private (all of which are now being carried into execution under plans, sections, &c. to carry out all building, sanitary, and other regulations, from time to time made by the Board, under the provisions of the Local Government and Public Health Acts), are properly executed and maintained; and to perform such other duties as may be attached to the office of Surveyor by the said Acts. The person appointed will be required to reside in Loughborough, but the duties of the office will not require the whole of his time. Applications for the Office, accompanied by testimonials and references, are to be sent to me on or before the 3rd day of DECEMBER next.

W. J. WOOLLEY, Clerk to the Board.

Local Board of Health Office, Lenton Lodge, November 10, 1858.

REQUIRED, an ASSISTANT. State qualifications, salary expected, and when at liberty.—Address, ARCHITECT, Messrs. Waterlow's, London Wall, City.

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THOS. BURNELL, Secretary.

Gresham House, Old Broad-street, November 4th, 1858.

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DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in stating that they have received the following Testimonial from SIR RAYMOND JARVIS, Bart. VENTNOR, ISLE of WIGHT.—"March 30th, 1852.—In reply to your letter, received this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, that it answers perfectly. Many Builders and other persons have lately examined it, and there is not the least apparent change in it after having been several years, and I am informed that it is to be adopted generally in the houses that are being erected here."

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20	£0 17 8	£0 18 9	£1 15 10	£1 11 11
30	1 1 3	1 2 7	2 2 5	2 0 7
40	1 5 0	1 6 9	3 0 7	2 14 10
50	1 14 1	1 19 10	4 6 8	4 0 11
60	3 2 4	3 17 0	6 12 9	6 0 10

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These additions may, in the option of the assured, be applied thus:—
1. They may be added to the sum payable at death;
2. They may be commuted into a present payment; or,
3. They may be applied in reduction of the future premiums.
The following was the position of the Society at 1st MARCH, 1858:—

Amount of Existing Assurances	£4,857,144
Annual Revenue	182,177
Accumulated Fund	1,099,400

Copies of the last Report may be had at the Head Office, or from any of the Society's agents.
Head Office, 26, St. Andrew-square, Edinburgh.
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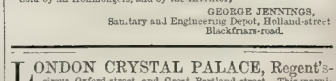

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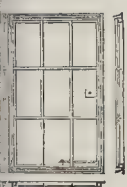

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¾ ,,	13s. 0d.	14s. 6d.	13s. 6d.	,,
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(*Near the Church*).

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 206, TOOLEY-STREET, of the South Eastern Railway Company, adjoining their Terminus, London-bridge, where, in conjunction with his old-established premises in King street, Borough, he is prepared to supply, from a large and well assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S Country orders executed with prompt attention, and all sawn goods (Balk Timbers excepted), delivered free of cartage within three miles.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾-inch Prepared Flooring, 11s. 6d. per square.
1-inch ditto, 15s. per square.
Yellow Battens, 11f 10s per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Fine Plank (dry), 12 ft. run by 11 in from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d. per foot
Borough-road, Southwark, and Elm-street, Gray's inn-lane.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from ¾ inch to 1¼ inches thick, seasoned and ready for use. Also Mahogany, Moulding, Wainscot, and all kinds of Timber required for Building Purposes.—Address, R. SLADE (late E. Simms), Flooring Manufactory, Wilton-road, Pimlico.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	¾	1	1¼	
Spruce	12s.	13s	15s.	—	per square
White	12s. 9d.	13s 6d.	15s. 6d	18s.	,,
Yellow	13s. 6d.	14s. 6d	16s. 6d.	19s. 6d	,,

Delivered within three miles free of charge.

STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

¾-inch Prepared Flooring	£0 11 6 per square.
¾-inch Prepared Flooring	0 13 0 per square.
1-inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 3 0 each.
Fine Planks, Dry, 12 ft. 3 by 11	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, planks and boards, from 6d. per foot.

All sawn goods delivered with in three miles free of cartage.

ALFRED CARTER, Old Bethnal green-road, N E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s 3d; Spruce, 2s 9d; Fine Plank, 3s. 6d.; Mahogany and F. Walnut, 5d.; ¾-inch White Battens, 9f. 10s.; Yellow, 11f. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 13s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town

T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

A CORN TIMBER WHARF and SAW-MILLS

CANAL BRIDGE, OLD KENT ROAD, LONDON.

A Monthly Price Current forwarded on application.

RICHARD MAY, Proprietor.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.

BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general, that he has taken the above capacious Premises, where, in conjunction with his other established Yards in Great Peter-street, Westminster, and Endell street, Long acre, he is always ready to supply from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Elm, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised house in London.

Prepared Flooring	from	9s 9d.
,, ,, board	,,	0 6
Spruce Deals	,,	2 9
Fine Plank	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11

Prepared Flooring:—

White.—¾ in. 12s.; 1 in. 15s. 6d. Yellow.—1 in 16s.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.

Books of Designs of Mouldings forwarded on application.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.

South wark-bridge Wharf, Bankside, S E

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S E. Fire bricks, Lumps, and Tiles of every description (seventeen years with James Newton, of Falcon Dock, Bankside), beg to solicit the patronage of Consumers, Gas Companies, Engineers, Builders, &c. &c. Depôt for Rumsey's superior Newcastle Fire-bricks, Clay Retorts, &c. Sanitary Pipes, Chimney Tops, Dutch Clinkers, &c. at the lowest prices. Shipping orders executed with despatch.

WARRANTED IMPERISHABLE.

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GILBERT'S TERRA-COTTA BRACKETS and BUSTS.
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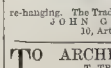
GILBERT'S BLUE, RED, BUFF, WHITE and DRAB BUILDING GOODS, in countless variety.

TIVIDALE CLAY MANUFACTORIES, near Birmingham.

Articles made to design. Cheap Freights to all parts of the kingdom, daily.

DRAUGHTS and DUST round Doors and Windows EFFECTUALLY PREVENTED by GREENWOODS' PATENT INDIA-RUBBER MOULDINGS, the neatest, most simple, and effectual method of making air tight joints to joiners' or cabinet work, OLD or NEW. Self acting spring Stops, for the bottoms of doors. The most imperfect door can be made air-tight without re-hanging. The Trade supplied on liberal terms



JOHN GREENWOOD, PATENTEE,
10, Arthur street West, London-bridge.

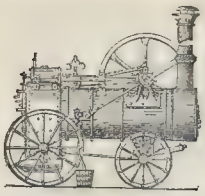
TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL,

Manufacturer,

SUPPLIES COCOA-NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c.

of the best quality on the most reasonable terms.

Warehouse, 42, Ludgate-hill, E.C.



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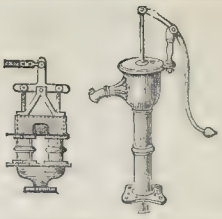

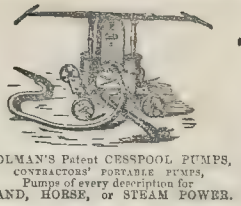

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CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

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PORTABLE
STEAM
ENGINES,
FOR
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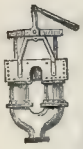
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.



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OF EVERY DESCRIPTION, IN
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Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS,
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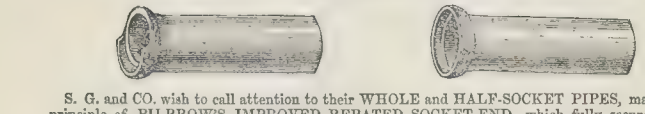
R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

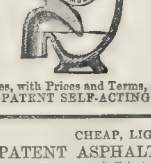
JOHN DOULTON, BROTHERS, AND CO.
LIVERPOOL POTTERY,
ST. HELEN'S.
STORES—70, SOHO-STREET, LIVERPOOL.
MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.
STEPHEN GREEN AND CO.'S
IMPERIAL POTTERIES, LAMBETH.



S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.



Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN's and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required for roofs, as it is but very little heavier than canvas, weighing only about 32 lbs. to the square of 100 feet, the cost of carriage is small.—4th Under slate, metal, or tiles, it is a most effective non-conductor.

INODOROUS FELT, for [illegible] Price ONE PENNY per Square Foot.
(Roofs [illegible] and CO.'S PATENT FELTED SHEATHING, [illegible] PITCH, &c. and
DRY HAIR FELT, for Covering Steam Pipes, Pipes for [illegible] of Heat, saving 50 per cent. of Fuel, and deadening [illegible]

Samples, testimonials, and full [illegible] application to
CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

The only White Zinc Works in the United Kingdom.
HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Painters and Decorators have never had really good Zinc Paint. The Manufacturers so generally sold to them as Zinc Paint bear no comparison with the genuine article.

But not a greater proof of genuineness is required by their having been supplied with the paint manufactured in France and in America. Both are made by the Patent Process, which is not at present the simplest or best known to the trade, whereby the oxide is combined with the water and weighed.

Hubbuck's Patent Process [illegible] entirely resists London atmosphere, brine water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.

N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

PRIZE MEDAL LONDON EXHIBITION, 1851.
FIRST CLASS SILVER MEDAL PARIS EXHIBITION, 1855.

GRAINING by KERSHAW and BELLAMY'S PATENT. To House Painters, Decorators, Builders, Railway Companies, Merchants, Shippers, &c. Messrs. KERSHAW and BELLAMY having for several years devoted much time and capital in perfecting and rendering practical a Patented Apparatus for the Imitation of the various species of Woods, are now ready to supply the trade with the same, whereby the Imitation of woods of the most choice and elaborate description are produced on painted wood work, deals, or other surfaces. The above Patent Graining Frame is supplied Wholesale and Retail, direct from the Manufactory, 33, HIGH STREET, MARYLEBONE, LONDON, where they have opened a show-room, with specimens of Graining in Imitation of Woods by the patent process for public inspection. Prospectuses forwarded upon receipt of stamped directed envelope.

N.B. Graining colours prepared for the various woods, sold in bottles, requiring only thinning; also a superior assortment of Graining Brushes.

VARNISHES, COLOURS, and PAINTS. WILKINSON, HEYWOODS, and CLARK, Manufacturers, Battle-bridge, London, N.

COLOURS and VARNISHES at REDUCED PRICES.
Genuine White Lead, 32s. per cwt.; Linseed Oil, 2s 5d.; Turpentine, 3s. 2d.; Boiled Oil, 2s. 8d.; Pale Oak Varnish, 7s. 6d.; Carriage, 12s.; Copal, 14s. per gallon. Dry and Ground Colours, Brushes, &c. &c. fo Cash
F. LANGTON'S, 143 and 144, Whitecross-street, St. Luke's, E.C.

STAINING DEAL TO IMITATE ALL KINDS of WOOD. It requires NO SIZING, and will stand the exposure to the weather. Prize Medal Varnishes for W. NAYLOR'S Stains may be had at the Factory, 2, Mason-street, Oxford-street; also Manufacturer of Improved Knotting and Decorative Varnishes.

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GREENSLADE'S PATENT GROUND-PAINT, DUSTING, and VARNISH BRUSHES, are highly recommended, combining as they do the utmost in economy, durability, and [illegible] GREENSLADE'S Patent Grounds for all descriptions are made in two qualities, viz. [illegible] The latter is one of the very best materials, and will [illegible] of the whole recently [illegible] Manufactured by J. E. ANSELL & W. GREENSLADE, Thomas-street, Bristol.

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OAK GRAINING in OIL, 4½d. per yard, in quantities of not less than 60 yards: above 100, 4d.; or by the [illegible] Maple, satin, and walnut [illegible] Reference given—Apply to [illegible] PETTER, 12, Mosshill, Lisson-grove.
N.B.—Country orders attended to by [illegible]

IMPORTANT to BUILDERS and PAINTERS.—Genuine White Lead, 31s. per cwt.; Linseed Oil, 2s. 4d. per [illegible] Turpentine, 3s. per gallon.
Fine Pale Oak Varnish, 7s. 6d. per gallon;
For cash, at EDWARD [illegible] Varnish Warehouse, 64, Chiswell-street, Finsbury.
Every article [illegible] of the highest quality.

PRICE'S PATENT CANDLE COMPANY (LIMITED) beg to call attention to the following testimonial in favour of their [illegible] PATENT MINERAL OIL, which they believe to be the [illegible] to the Wax or Sperm Candle, [illegible] Reference [illegible] to Wax or Sperm Candles. Mr. FRANCIS, F.R.A.S. &c. has prepared an improved reflecting stereoscope, to [illegible] of the rooms of the Institution, [illegible] BELMONTINE MINERAL OIL, [illegible] SONS, Lamp Manufacturers, Wellington-street, Newgate-street, [illegible]

"SMITH, BECK, and BECK, 6, Coleman-street, Oct. 6, 1858."

It will [illegible] for lighting [illegible] and even in one of the [illegible] and [illegible] especially for use in those [illegible] above, each [illegible] bearing a label with the name, "Price's Belmontine Oil, Price's Patent Candle Company (Limited)." The oil and lamps [illegible] of all [illegible] dealers, and the oil, at [illegible] PRICE'S PATENT CANDLE COMPANY (LIMITED), Belmont, Vauxhall, [illegible]

The Patent Stearine [illegible] now supplied in 1s. and 1s. 6d. tins. It will be found [illegible] for cleaning [illegible] removing grease, stains, and as a general cleaning agent, and to have a much pleasanter smell. To be had retail from all druggists, perfumers, &c. and wholesale from Belmont, Vauxhall, London.

ARLEY POTTERY AND FIRE-BRICK COMPANY LIMITED.

ARLEY WORKS, UPPER ARLEY, NEAR BEWDLEY.

(RAILWAY STATION, KIDDERMINSTER).

MANUFACTURERS OF DRAIN-PIPES IN SALT-GLAZED STONEWARE,

WITH SOCKET OR HALF-SOCKET JOINTS,

BENDS, JUNCTIONS, TRAPS, &c. &c.,

IMPROVED ENAMELLED CLOSET-PANS, SINKS, AND URINALS,

TERRA-COTTA CHIMNEY-POTS,

VASES, BRACKETS, ORNAMENTAL FLOWER-POTS, &c.,

HOLLOW AND PRESSED BRICKS

FOR CORNICES, PLINTHS, JAMBS, COPINGS, &c.,

ROOFING, FLOORING, AND DRAINING TILES,

FIRE-BRICKS, LUMPS, FIRE-BACKS, &c.

Lists of prices and every information may be obtained on application to the Manager at the Works.

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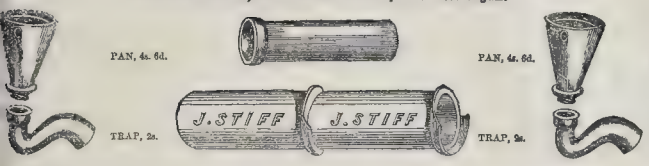
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Fedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITHS, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs COLWILL (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

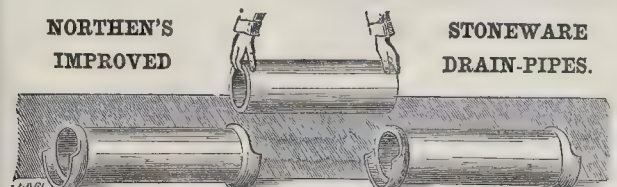
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.

Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,

UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect an other drain, as every alternate pipe can be taken up with out interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of easy access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

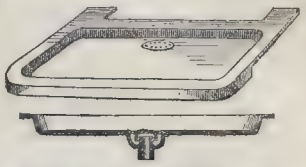
Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.

PATENT ASPHALTE ROOFING FELT,

a cheap, durable, and perfectly waterproof roofing, one penny per square foot. Patent Inodorous Felt for damp walls, Ship Sheathing Felt, and Dry Hair Felt for steam boilers. Most liberal terms allowed to agents. D ANDERSON and SON, Manufacturers, 23 and 23½, Billiter-street, London.

PATENT CASTIRON SANITARY

KITCHEN SINK, WITH TRAP.



Manufactured by the Patentees, NEWTON, CHAMBERS, and CO, Thorncliffe Iron Works, near Sheffield. Sizes made

24 in. long by 18 in. wide by 4 in. deep, 5s. 6d. each.
30 in. long by 18 in. wide by 4 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
42 in. long by 20 in. wide by 4½ in. deep, 11s. 6d. each.
48 in. long by 20 in. wide by 4½ in. deep, 13s. each

To be had in London only, of Mr. JOHN JONES, 8, BANKSIDE.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Prices, each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCKS are recommended as a cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 9

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 350 feet; their efficiency and durability is by experience established.

The Excelsior Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.

THOMAS LAMBERT and SON,

Brass and Iron Founders, Short-street, New-cut, Lambeth.

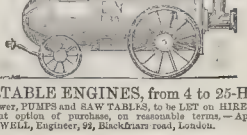
WARNER'S PATENT

VIBRATING STANDARD PUMPS—PATENT CAST-IRON PUMPS fitted with J. W. and SONS' Patent Buckets and Sucker, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in.	short 1 ft. 7 in	Fitted for lead,	1 10 0
2½ „	long 3	gutta percha	1 14 0
3 „	ditto 3 6	cast iron	2 8 0
3½ „	ditto 3 6	Jointed pipe,	2 12 0
4 „	ditto 3 6	as required.	3 3 0

2½ „ short, with 15 feet of lead pipe attached, ready for fixing 2 14 0
2½ in long ditto ditto 3 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in Lot, Frame, and plant houses, they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.



PORTABLE ENGINES, from 4 to 25-Horse

Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars road, London.

SALES BY AUCTION.

TO CONTRACTORS, BUILDERS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on WEDNESDAY, NOVEMBER 17th, 1858, and following day, at ELEVEN o'clock each day, at SMITH'S WHARF, near Charlton Pier, Kent, in lots, by direction of the Executors of Mr. E. Smith, deceased, the PLANT and MACHINERY of a CONTRACTOR, including one iron timber saw frame, nearly new, three circular saw-benches, one self-acting Frame and circular saws, 10-horse power direct-acting steam-engine (new in 1858) and Cornish boiler, 36 feet long, 5 feet 6 in. diameter, steam pumping-engine and boiler, lift pump, an excellent screwing-machine to screw up to 24 inches, two lock geared slide lathes, 13 inch centres, vices, benches, taps and dies, steel tools, 250 feet wrought-iron shafting, leather and gutta-percha bands, jiggers, 10-cover head travelling crane, 20 feet span, with timber framing, one new mansfold purchase-crab and carriage for over-head crane, six smiths' forges, three anvils, fan-blasts, four pair smiths' bellows, three tons rod tools, five crabs, shoeing plate and pit, five 3-ton screw throw-levers, five ladders, grindstone, four 15 ton timber trucks (one leath new), one spring cart with 4 change-axles, timber tool, four strong canal trucks, sixty navvy-barrows, two pair new cart wheels, brick and screening barrows, elm plank and boards, two strong covered hand trucks, two crushing-mills, with 3-feet iron edge-runners and shafting, nearly new, pug-mill, gravel-screen, twenty carpenters' benches, hoisting-machine, cast-iron steam-cupboard, steam glue kettle, thirty oak puddle-and frame, five double purchase lifting jacks, one Harry's screw-jack, folding trestles and steps, fifty lanthorns, 150 picks, one ton screws, asphalte, chain slings, blocks and falls, one crab, water tub, 120 feet new 4-inch hose, 8 feet gas pipe, Brinkley's drill and Caen stone, the block of carved marble, 12,000 rubbed bricks, 600 sewage and drain pipes, bench, punch, vices, &c. portable office, screws, office-fittings, desks, tables, &c. and numerous other effects.—To be viewed on Tuesday previous to the sale, when catalogues may be had at the Wharf, of Messrs NEWTON, EVANS, and NEWTON, Solicitors, Wardrobe place, Doctors'-commons, E.C.; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

TO ENGINEERS, IRON SHIP BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, NOVEMBER 29th, 1858, at the following days, at ELEVEN o'clock each day, on the PREMISES, Millwall, Poplar, in lots, the valuable and extensive collection of TOOLS and STORES of the Iron Ship Building Yard, late J. S. Russell and Co.'s, including two very superior self-acting boring bars, 1 to bore 18 inches diameter, 11 feet and 21 feet in length; four complete sets of Whitworth's stocks, dies, and taps, up to 2 inches; set of Whitworth's gauges, up to 6 inches; set of 33 rimers, straight and grummet; five plate, 3 ratchet braces, five tons cast steel tools, four Haley's 12 ton jacks, three double purchase jacks, 5 ton feet double and single leather bands, in good condition; five tons cast and three steel turnos, two fire engines, 500 feet 3-inch leather hose, 280 feet canvas hose, 31 leather buckets. A large and valuable assortment of patterns, 20 pattern-makers' benches, mortising machine, 60 wrought iron anvils, 10 steel-grating blocks, 10 tons smiths' rod tools, 20 cwt hammers, 100 tons cast iron shaping plates, 11 tons flat and hammer bars, five crane lashes, eight shank bolts, 1,000 tons flanks, loam rings and plates; 50 tons scrap iron, three stone tanks, cross, 15 tons Kentledge boiler masons' tools, beam, screws, flogging, holding up, and riveting hammers, 10 trollies, five tons chain, 100 feet gas pipe, 3 cranes

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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LECTURES on EDUCATIONAL SUBJECTS at the SOUTH KENSINGTON MUSEUM.

November 18.—"On Reading Aloud," by the Rev. W. H. Brookfield, M.A. one of her Majesty's Inspectors of Schools.

November 22.—"On Plants, as the Ultimate Source of Food to Man," by Dr Lankester, F.R.S.

November 29.—"On the Classification and Geographical Distribution of the Class Mammalia," by Richard Owen, esq. F.R.S. &c.

December 6.—"On the Art of Teaching Systematic Botany," by Professor Lindley, Ph. D. F.R.S. &c.

December 13.—"On the Apparatus for Teaching Mechanics in Schools," by Professor Willis, M.A. F.R.S.

December 20.—"On Important Results by simple Means in Chemical Lecture," by Professor Hoffman, Ph. D. F.R.S. &c.

The Lecture Theatre will hold 459 persons, 300 seats will be reserved exclusively for schoolmasters, schoolmistresses, pupil teachers, &c. who, upon registering their names, will obtain tickets of admission for the whole course. Tickets for the remaining 159 seats will be issued at 3*s* each for the course, or 6*d* each lecture, when there may be room in the theatre.

Tickets are to be obtained at the Museum and Offices, and at Messrs CHAPMAN and HALL'S, 193, Piccadilly.

By order of the Committee of Council on Education

GILBERT SCOTT, A.R.A. Treasurer

JOSEPH CLARKE, F.S.A. Hon. Sec.

THE ARCHITECTURAL MUSEUM.

SOUTH KENSINGTON MUSEUM, W.—SESSION 1858-9.—Lectures will be delivered on the following Wednesday Evenings:—

December 8.—"On the Common Sense of Art," A. J. B. Beresford Hope, esq. M.P.

December 22.—"Conventional Ornament of Thirteenth Century," William Burges, esq.

January 19.—"Painting of the Ancients," Frederick P. Cockerell, esq.

February 2.—"Application of Art in Manufactures," J. G. Crace, esq.

February 16.—"System of Applying Colour during Thirteenth and Fourteenth Centuries," Octavius Hudson, esq.

March 2.—"To the Art Workmen on the Application of Ornament," Joseph Clarke, esq. F.S.A. Hon. Sec.

March 16.—"Refinement in Architecture," Rev. J. L. Petit, M.A.

March 30.—Presentation of Prizes; Lecture on "Form and Colour," George Scharf, jun. esq. F.S.A.

Cards will be sent to subscribers.

Art Workmen may obtain cards of the Art Union in the Gallery of the Architectural Museum; or at the Office of "The Builder," or by letter, to the Honorary Secretary, at his Straffan Lodge, W.

GEO. GILBERT SCOTT, A.R.A. Treasurer

JOSEPH CLARKE, F.S.A. Hon. Sec.

THE ARCHITECTURAL EXHIBITION

will NOT OPEN at SUFFOLK-STREET, in DECEMBER, as heretofore; but will in future take rank with other Fine Art Exhibitions in March, April, May, and June, at the New Galleries now erecting as part of the premises for the Architectural Societies, at No. 9, CONDUIT-STREET, REGENT-STREET. The committee will include an Exhibition of Manufactures, Patents, Inventions, &c. connected with Architectural art or construction.

Application for space to be made to

JAS. FERGUSSON, F.R.A.S. Langham place,
JAS. EDMESTON, Hon. Sec. Architectural Union Company, Crown-court, Old Broad-street. } Hon. Secretaries.

CHELSEA VESTRY-HALL.—The Vestry

of the Parish of Chelsea take this opportunity of expressing their thanks to the fifteen competing Architects who favoured them with designs, and of informing them that the premiums of 3*l* and 2*l* respectively, have been adjudged as follows—The first to W. W. Pocock, esq. of No 10, Trevor-terrace, Knightsbridge, the author of the design with the motto "Cadogan;" and the second to Messrs. Nelson and Innes, of No. 6, Whitehall, the authors of the design with the motto "Utility and Economy." The other designs will be returned to their respective owners, upon application at this Office.—By order,

CHARLES LAHEE, Vestry Clerk.

Vestry Offices, 111, King's road, November, 1858.

COMPETITIONS.

MIDDLEWICH CEMETERY.—

TO ARCHITECTS.—The Middlewich Burial Board are desirous of obtaining Plans and Estimates with Specifications and Quantities, for the ERECTION of TWO CHAPELS, and fencing each three, without underground, the cemetery as constructed does not contain more than 3 acres. The cemetery is to be laid out by the Burial Board will not pay any expense whatever for preparing plans, &c. The party whose plans &c are approved, will be required to superintend the carrying out of the same, and be paid a commission of 5 per cent on the amount of the expenditure. Every information will be given by the CLERK to the said Burial Board, to whom the plans, estimates, and specifications to be sent in, on or before the 31st day of DECEMBER next.—By order of the Board,

CHARLES FREDERICK BARKER, Clerk.

Middlewich, November 11, 1858.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE

WORKS. The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War-office, Pall-mall, London, on or before FRIDAY, the 26th day of NOVEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT-OFFICES, at the Western Heights, Dover. Drawings and a specification of the works to be executed may be seen by persons fully competent to undertake the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from FRIDAY, the 5th of NOVEMBER, to SATURDAY, the 20th NOVEMBER, 1858, inclusive, Sundays excepted. The party whose Tender is accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of £600, for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed "Tender for Married Soldiers' Quarters at Dover."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, October 30, 1858.

TO GAS-FITTERS, &c.—Notice is hereby

given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on MONDAY, the 22nd of NOVEMBER, 1858, for PROVIDING GAS PIPES and FITTINGS for the Barracks at Winchester. Plans and specifications may be seen, and every information obtained, on application at this Office, between the 9th and 20th NOVEMBER, 1858.

Royal Engineer Office, Portsmouth, November 3, 1858.

TO GAS-FITTERS, &c.—Notice is hereby

given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on MONDAY, the 22nd of NOVEMBER, 1858, for PROVIDING GAS PIPES and FITTINGS for the Barracks at Winchester. Plans and specifications may be seen, and every information obtained, on application at this Office, between the 9th and 20th NOVEMBER, 1858.

Royal Engineer Office, Portsmouth, November 3, 1858.

GOVERNMENT CONTRACT.—WAR

DEPARTMENT.—The Director of Contracts will receive TENDERS for ADDITIONS and ALTERATIONS at the REGIMENTAL SCHOOL, in Green hill, at Weedon Barracks. The drawings may be seen, and copies of the specification, terms of contract and form of Tender may be obtained at the Local Engineer Office, Artillery Barracks, Weedon, on and after TUESDAY next, 23rd instant. TENDERS will be received up to FRIDAY, the 26th NOVEMBER, 1858, at or before FOUR o'clock in the afternoon of that day, and must be marked "Tender for Additions, &c. to Regimental School, Weedon." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Weedon, 13th November, 1858.

GOVERNMENT CONTRACT.—WAR

DEPARTMENT.—The Director of Contracts will receive TENDERS for GAS FITTINGS, &c. to the General Hospital at Woolwich. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender, may be obtained at the Royal Engineer Office, Grand Depôt, Woolwich, on and after TUESDAY, the 23rd NOVEMBER, up to FRIDAY, DECEMBER 3, between the hours of TEN a.m. and FOUR p.m.

The Tenders are to be delivered, or forwarded, prepaid, to the Director of Contracts, War Office, Pall-mall, S.W. at NOON, on MONDAY, the 6th DECEMBER next, marked "Tender for Gas Fittings, &c. for General Hospital, Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich, 18th November, 1858.

NOTICE to BUILDERS.—The Command-

ing Royal Engineer of the Manchester District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-Mall, London, on WEDNESDAY, DECEMBER 1, 1858, from such persons as may be willing to TENDER for the ERECTION of MARRIED SOLDIERS' QUARTERS, OUTBUILDINGS, &c. at the Infantry Barracks, Salford. The specifications, plans, and terms of Contract may be seen, and every possible information obtained, at this Office on and after MONDAY next, 22nd instant, each day from TEN to FOUR, Sundays excepted, until MONDAY, 29th instant. Persons Tendering will be required to enter into the Erection of Married Soldiers' Quarters &c. at the Infantry Barracks, Salford."

Royal Engineer Office, 1, Green-street, Dawson-street, Manchester, November 16, 1858.

TENDERS are required for SUPPLYING 250,000 SOUND, HARD, WELL BURNT STOCKS. They are to be delivered at the Office of Mr JOHN ASHBY, 14, Carlisle street, Soho, between the hours of NINE and FOUR o'clock, from the 22nd to the 26th inst. together with a fair sample brick. The lowest Tender will not necessarily be accepted.

CONTRACTS.

WEST HAM LOCAL BOARD of HEALTH—SEWERAGE.—CONTRACT, No. 5.—To CONTRACTORS and OTHERS. The Local Board of Health for the District of West Ham, in the County of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following Sewerage Contract:—

CONTRACT, No. 5.—For the supply of Materials, and for the Execution of a River-Wall, certain Main Outlet, Brick Sewers, Manholes, Temporary Pumping Station, and other Works, as under:—About 100 Lineal Yards of River-Wall, complete; and about 1,400 Lineal Yards of Brick Sewer, from 5 feet 3 inches and 3 feet 6 inches, to 3 feet, and 9 inches thick; also about Seventy-three Lineal Yards of Iron Pipe Sewer.

The specification may be seen, and Forms of Tender, schedules of prices, &c. may be obtained, on and after MONDAY, the 22nd day of NOVEMBER next, at the Board Room, Temporary Pumping Station, and other Works, as under:—About 100 Linear Yards of River-Wall, complete; and about 1,400 Lineal Yards of Brick Sewer, from 5 feet 3 inches and 3 feet 6 inches, to 3 feet, and 9 inches thick; also about Seventy-three Lineal Yards of Iron Pipe Sewer.

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Further information may be seen, and Forms of Tender, schedules of prices, &c. may be obtained, on and after MONDAY, the 22nd day of NOVEMBER next, at the Board Room, Temporary Pumping Station, and other Works, as under:—About 100 Linear Yards of River-Wall, complete; and about 1,400 Lineal Yards of Brick Sewer, from 5 feet 3 inches and 3 feet 6 inches, to 3 feet, and 9 inches thick; also about Seventy-three Lineal Yards of Iron Pipe Sewer.

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Further information relative to the contract may be obtained. Sealed Tenders to be delivered at the Clerk's Office, Stratford-green, Essex, on or before MONDAY, the 13th day of DECEMBER next, endorsed "Tender for Sewers and River-Wall, Contract, No. 5."

(Signed) W. J. BARSHAM, Clerk to the Local Board.

Stratford-green, November 15, 1858.

TO BUILDERS.—Persons desirous of

TENDERING for the ERECTION of a SCHOOL-HOUSE and MASTER'S RESIDENCE, at Saint Mary Bourne, Hants, can inspect the plans and specification, on and after the 17th inst. at the Schools, in Saint Mary Bourne aforesaid. Tenders will be sent to the Rev. W. TEMPLE, Burstcombe Priors, Whitchurch, Hants, on or before the 22nd of DECEMBER. The lowest or any tender will not necessarily be accepted.

November 11, 1858.

TO BUILDERS and OTHERS.—The above

parties desirous of TENDERING for the WORKS required in the Rebuilding of the CONGREGATIONAL CHURCH proposed to be erected in the Avenue Road, Queen's park, London, may see the plans and specifications at Mr HEREPATH'S, 71, Bloomsbury-square, between the hours of TEN and FIVE o'clock, on Thursday, the 25th day of NOVEMBER, 1858. Tenders sealed, and endorsed "Tender for Church," to be sent, under cover, addressed to Mr HEREPATH, as above, on or before the 6th day of DECEMBER next. The Committee do not bind themselves to accept the lowest or any particular Tender. Quantities may be had upon sending Seven Postage Stamps to R. MOFFAT SMITH, Architect, 42, Lippencott Manchester.

METROPOLITAN BOARD of WORKS.

MAIN DRAINAGE of the METROPOLIS—NORTHERN HIGH LEVEL SEWER.—TO BUILDERS, CONTRACTORS, and OTHERS.—The Metropolitan Board of Works hereby give Notice, that they will meet at the Council Chamber, Guildhall in the City of London, on FRIDAY, the 17th day of DECEMBER next, at TWELVE o'clock at noon, to receive Tenders for the proposed open TENDERS by parties who may be willing to CONTRACT for the CONSTRUCTION of MAIN BRICK SEWERS, 8 miles 4,295 feet or thereabouts in length, and for the maintenance of the same, for a period of twelve calendar months, in the Parishes of Hackney, Shoreditch, Islington, and Stoke Newington, in the County of Middlesex, and Parishes of Walthamstow, Leyton, and Low Leyton, in the County of Essex, and for the construction of certain Bridges, Culverts, Sluices, Gratings, Manholes, Lampholes, and other Works connected therewith

CONTRACTS.

METROPOLIS LOCAL MANAGEMENT ACT.—The Board of Works for the Hackney District.—CONTRACT for SEWERS.—The Board of Works for the Hackney District will meet at the TOWN HALL, in Charles-street, Hackney, on THURSDAY the 11th day of DECEMBER next, at FIVE o'clock in the Afternoon, and CONTRACT for the SUPPLY of BRICK and PIPE SEWERS to be constructed wholly in Stoke Newington, Clapton, South Hackney, and the Business Town.

CONTRACTS

No. 6 will comprise about 2,000 feet of Brick and Pipe Sewer in Stoke Newington Parish.

No. 7 will comprise 1,450 feet of Pipe Sewer in Newington and Clapton.

No. 8 will comprise 2,500 feet of Brick and Pipe Sewer in Dalston and Dalston Town Parish.

No. 9 will comprise 2,500 feet of Pipe Sewer in Hackney and Shacklewell Hackney.

Plans and Specifications may be inspected, and Forms of Tender obtained at the Surveyor's Office, in Mare-street, Hackney, between the hours of Ten and Four, on and after MONDAY, the 15th day of NOVEMBER next; and Tenders, addressed to the Board, and endorsed "Tender for Sewers," must be delivered at the Clerk's Office, Board of Works, Hackney, on or before Twelve o'clock at Noon on WEDNESDAY the 8th day of DECEMBER next. The contractor, or contractors, whose Tender may be accepted, will be required to enter into a Bond with sufficient Sureties, in the penalty of Two Thousand Pounds, for the due performance of the Contract.

The Board do not bind themselves to accept the lowest or any Tender.

By order of the Board,
JAMES HARD ELLIS, Clerk to the Board.

Dated this 3rd day of November, 1858.

LONDON and NORTH-WESTERN RAILWAY.—CONTRACT for WROUGHT-IRON GIRDERS.—The Directors are prepared to receive TENDERS for the supply of WROUGHT-IRON GIRDERS, Bars, and Specials, from persons on application at the Secretary's Office, at the Euston-road Station, Euston-square, Middlesex. Tenders are to be delivered at the Secretary's Office, Euston-square, on or before WEDNESDAY, the 24th NOVEMBER, 1858.—By order,
CHAS. E. OLIVEART, Secretary.

Secretary's Office, Euston-square, N., 5th Nov., 1858.

MIDDLESEX and ESSEX TURNPIKE ROADS.—CONTRACTS for BROKEN GUERNSEY GRANITE and GRAVEL BALLAST.—Notice is hereby given, that the Trustees of the Turnpike Roads in the Counties of Middlesex and Essex intend to CONTRACT for the SALE, to persons desirous of purchasing the same, of the Whole of the Broken Guernsey Granite, of the best description, produced by their Granite Yard at Mile-end, and also of the Gravel Ballast, now lying on the Turnpike Roads in the Parishes of Stratford Langthorne and West Ham, in the County of Essex, which will be ready for delivery on the 1st day of February next.

The Granite will be broken to the size of Two Inches in Gauge, and the Gravel Ballast will be screened.

A sample of the Granite may be seen at the Office.

The Trustees are willing to CONTRACT for the SALE to them of 1,000 Cubic Yards of screened GRAVEL BALLAST, that has been once passed through a sieve, 22 inches square in the clear, containing 30 wires to the yard lengthways and crossways, and the other 1,000 Cubic Yards of the same material that has been twice passed through the same sieve, containing 30 wires to the yard lengthways and crossways.

The Granite will be delivered at the Yards at the Toll-gates, or at the Wharf at Mile-end, on the Regent's Canal, and the Gravel Ballast will be delivered at the Yards at the Toll-gates, or at the Wharf at Stratford Langthorne, on the River Lea, at the option of the Contractor.

The Granite will be delivered at the Yards at the Toll-gates, or at the Wharf at Mile-end, on the Regent's Canal, and the Gravel Ballast will be delivered at the Yards at the Toll-gates, or at the Wharf at Stratford Langthorne, on the River Lea, at the option of the Contractor.

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Payment will be made for the Broken Granite, and for the Gravel Ballast, on the 1st day of April next.

Persons desirous of tendering for the Granite, or Gravel Ballast, or for both, are to attend at the Office, on or about THURSDAY the 9th DECEMBER next, for the Trustees do not bind themselves to accept the lowest or any Tender.

GEORGE DAVIS, Clerk and Solicitor to the said Trustees.

Turnpike Office, Bow, Middlesex, 12th November, 1858.

CONTRACT for LOCOMOTIVE ENGINES and RAILS.—The Victorian Government are in want of TEN LOCOMOTIVE ENGINES of 120 TONS RAILS, Sleepers for the engines to be made complete, with Bolts, Nuts, Keys, and all the fastenings complete. Tenders will be received at the Office of the Engineering Department, 18, Brunel-terrace, Westbourne-terrace, Paddington, on or before FRIDAY, the 26th inst., when they will be opened at Three o'clock precisely. Specifications, Plans, &c., may be seen at the Office, on and after MONDAY, the 29th inst. We do not bind ourselves to accept the lowest or any Tender.

JAMES PEASE AND SONS.

TO BUILDERS.—TENDERS are hereby invited for NEW TEACHER'S RESIDENCE, about to be added to the School-building at Great Berkhamsted, Herts. The drawing, specification, and form of tender may be seen on view at the Office of Mr. PENROSE, A., Architect, 7, Lisle-street, St. Paul's, London; and at the School-house at Great Berkhamsted.

CRYSTAL PALACE.—To CONTRACTORS.—The Directors are prepared to receive TENDERS for the following RE-FRAMING in the West part of the Grounds:—Plate, with Cast-iron Columns, Wrought-iron Girders, &c. Offices MONDAY, TUESDAY, and WEDNESDAY, the 22nd, 23rd, and 24th INSTANT, at TWO o'clock. Tenders must be sent in to the Secretary, at the Palace, by FRIDAY, 26th INSTANT. The Directors do not bind themselves to accept the lowest or any Tender.—By order,
GEO. GROVE, Secretary.

TO GARDENERS, NURSERYMEN, and OTHERS.—A small GREENHOUSE (erected about three years), with Boiler and Apparatus complete as fixed, TO BE SOLD THAT DAY, cheap. Apply, personally, to Mr. STEVENS, Auctioneer, Clapham, S.

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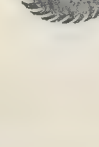
TENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAMS'S ILLUSTRATED SHOW-ROOMS. They contain an assortment of Register, Stove, Kitchen, Fender, and General Ironmongery, unequalled for extent, variety, and cheapness, in the Metropolis. Bright Stoves, with all the Improvements, 30s. each. Bronzed Fenders, with standards, 10s. each. Fire-irons, 2s. 6d. per set. Kitchen Ranges, with Oven and Boiler complete, £3 15s. Copper Coal-scuttles, 1s. 6d. each. Tea-trays, set of 3, 12s. 6d. Japanned Tea-trays, 6s. 6d. set. Dish-covers, 6s. 6d. the set of 6. Block Tin Hot-water Dishes, 12s. each. Britannia Metal Hot-water Dishes, 7s. 6d. each. Stoves, Fenders, Kitchen Ranges, Fire-irons, Lamps, Gaseliers, Tea-trays, Japanned Goods, Turnery, Cutlery, Baths, and Toilet Ware, Deane's Table Cutlery, Bedsteads, Bedding, Bed-hangings, Kitchen Furnishing Ironmongery, Culinary Utensils, Garden Tools, Rustic Work, Iron and Wire Hurdles, Gates, Palisading, Wire-work, &c. Every article is marked in plain figures, at the lowest possible price for ready money, and the whole of the Stock is arranged in Three Large Show-rooms, so that purchasers may make their selection without the annoyance of being pressed to buy.—WILLIAM S. BURTON, General Furnishing Ironmonger, 39, Oxford-street, 1, 2, 3, and 4, Newman-yard, and 4, 5, and 6, Perry's-place, London. Established 1820.



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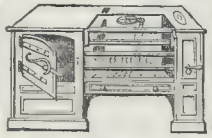

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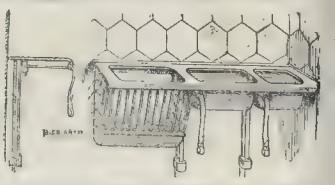

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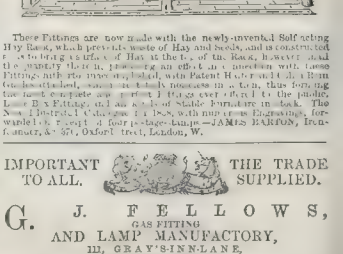

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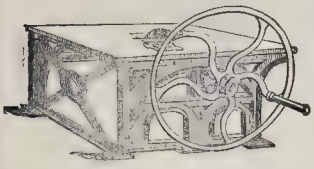

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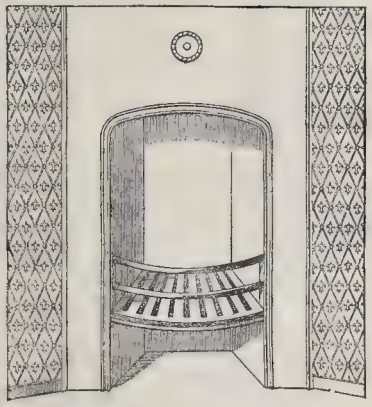

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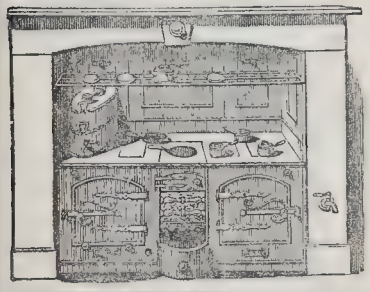

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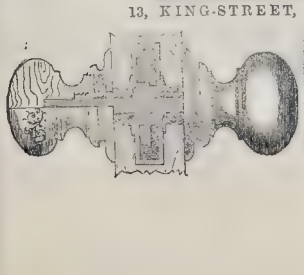

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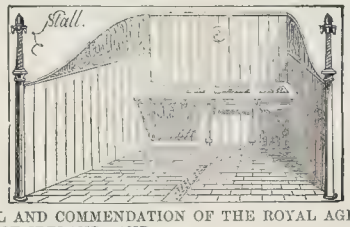

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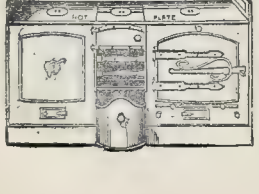

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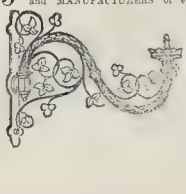

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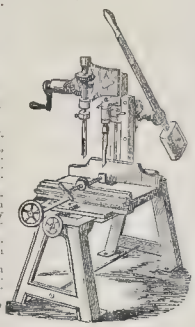

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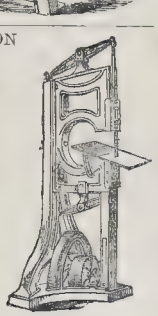

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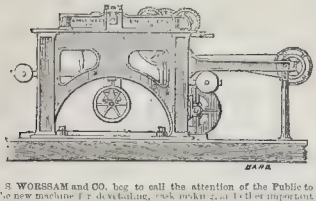

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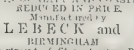
HEATING BY  HOT WATER.

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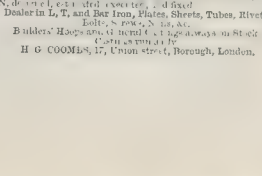

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JUROR (CLASS XXVI.)

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The Builder.

VOL. XVI.—No. 824.

Sanitary Improvements v. *Contagion. Discussion with Dr. Greenhow.*

NOW is certainly not the moment for sanitary reformers to be drawing back, and qualifying opinions which are beginning to be appreciated and work momentous good. In the paragraph which seemed sufficiently erroneous to Dr. Greenhow to induce him to caution us against the teaching, we simply pointed out* the great increase in the metropolis of scarlatina, which we called a preventable disease, and urged that those to whom the health of parishes is entrusted should note carefully the localities in which fever prevails, and make them the scene of sanitary improvements during the cool weather. Dr. Greenhow surely cannot wish it to be inferred, from his communications in reply to this advice on our part, that it is not desirable to follow it? We feel certain he does not; nor do we think, although he talks somewhat slightingly of "sanitary amateurs," that he desires to disparage their efforts: but we would ask him to recollect how greatly the cause has been advanced by many who may be thus designated, and how desirable it is not to weaken their hands, but to strengthen them,—how important it is not to afford further pretences to the foes of sanitary improvement. We grieve sincerely that Dr. Greenhow should have been led to do so, and can assure him that many of his medical brethren agree with us, five or six having written to us to that effect. The medical officer of St. George the Martyr, Southwark, for example (Mr. Rendle), says,—

"I was surprised to see in your columns, a week since, a letter from Dr. Greenhow, who is so justly respected by us all. In this instance I fear he misleads us The parish to which I act as medical officer has been severely visited with scarlet fever, and I have made it a feature of my quarterly report, just delivered to the vestry (an unwilling vestry so far as the majority goes). I beg to hand you a portion published in our local journal. You will also see how a vestry, acting for one of the sickliest parishes in London, can hesitate as to sanitary improvement."

Dr. Greenhow goes on to say that a close, ill-ventilated, over-crowded room is unfavourable to recovery, and that the emanations from the sick are likely to be more active than in places where proper ventilation dilutes them; but, he continues, apart from this "indirect influence," "such unfavourable circumstances seem to exercise no influence over either its intensity or its course." We can scarcely reconcile the two statements, and what does Mr. Rendle say in his report?—

"Putrid complaints are undoubtedly very fatal among us, and each week brings news of their progress. Typhus does not abate. *Scarlet fever*, measles, complications known as diptheria, putrid sore throat, and the like, increase: they affect localities where putrid emanations arise with all their usual disease-producing accompaniments: they concentrate, become more putrid, and then shift their seat to some other spot more or less favourable to the untoward influences."

And, again:—

"Providence does not intend that reservoirs of stinking putrid matter shall stand so close to the poor man's door as to infest him at bed and at board: truly these diseases may come by other agencies than putridity, and may happily give immunity for the future, as they most of them occur but once; but when they enter where foul air is, they become too often deadly, and those epidemics now visiting us point this truth out in a remarkable manner."

So, too, the medical officer of Clerkenwell, in a recent report, says, speaking of three deaths from scarlet fever which occurred in one family, that it was found that the children had been sleeping in a damp kitchen, or rather cellar, several feet below the ground, in contact with a cesspool filled with foul filth. The children in the upper part of the house recovered. Statements to the same effect are numberless, and are consistent with our knowledge of the rise and spread of fevers generally.

In reply to our previous observations on his letter, Dr. Greenhow has favoured us with another communication, which we now print:—

Having had practical experience (says the Doctor) of the evils arising from exaggerated expectations of the benefits derivable from sanitary exertions, I ventured to send you an article on scarlet fever. In that communication I said, "No one, so far as I know, has ever been able to trace scarlet fever to any other origin than intercourse, either direct or indirect, with persons already sick with that disease." To this doctrine you demur. You allege that it is not sanitary doctrine. Now, unhappily for sanitary progress, sanitary doctrine is of two kinds: on the one hand, there is a doctrine of sanitary amateurs; on the other hand, there is the doctrine of the medical profession, which has devoted its attention to the cure and prevention of disease. My doctrine is of the latter class, and I confidently appeal to medical experience for its confirmation. By way of elucidating the matter to those who are unacquainted with medical science, I beg to state an example of the kind of facts from which we, who are skilled in the study of disease, draw the opinion contained in the above-quoted extract from my previous communication. It is true the disease to which my illustration has reference is not scarlet fever; but the expression I used is equally applicable to measles and small-pox as to scarlet fever.

In mid-ocean, between the Orkney Islands and Iceland lie the Färoe Islands, a dependency of the Danish crown. Remote from the ordinary track of commerce, the inhabitants of these islands have but little intercourse with the outside world. The population of the islands amounted to nearly 8,000 persons in 1845. The public health of Färoe is singularly good, for (excluding the deaths of children under ten years of age), the largest mortality takes place between the ages of eighty and ninety years, and of every 1,000 deaths, 319 are deaths of persons who have passed their seventieth year. From their isolated position, the inhabitants of Färoe have escaped for long periods the ordinary contagious diseases. Small-pox last prevailed in 1705, and then with such severity that the entire population of one island was swept away. Scarlet fever has never been introduced into Färoe. Measles prevailed in 1781, and not again until 1816, when it was introduced by a person from Copenhagen, who arrived in Färoe with the disease in its incubative stage. Between the 4th of April, when this person first manifested unequivocal symptoms of measles, and the 17th of September following, when the last case occurred, nearly 6,000 persons were affected by the disease, being very nearly all those then alive who had not had the disease in 1781. Some old people who had escaped in 1781, suffered from measles in 1846, and a few younger persons resisted the contagion, although constantly exposed to it. Of the elderly people who had suffered from measles in 1781, not one was attacked in 1846. Upwards of 100 persons died of the epidemic, and the average annual death-rate of 15·4 per 1,000 was raised to 32·1 for the first eight months of 1846. The mortality of sexagenarians in that year was raised five-fold, but the mortality rapidly declined after the sixtieth year, as Dr Panum—the Danish sanitary commissioner, from whose report this account is derived—very justly observes, not because the epidemic was less fatal to persons of more advanced age, but because those elderly people who had had measles in the earlier, altogether escaped in the later visitation.

Thus, then, these contagious diseases chiefly prevail among the young in this country, *not* as you assert, because "young people appear to become liable to them from sanitary defects, which produce comparatively little evil to grown-up people," *but* because almost every person is once in life, but usually only once in life, susceptible to their contagion, with which most persons in this country are brought into direct or indirect relation at an early age.

It is the characteristic of preventable diseases that they are partially distributed. In some districts they are almost unknown: in other districts they produce a large mortality. Even you, as a popular observer, may recognise the broad difference between the two classes of disease. Typhoid fever, cholera, the convulsive diseases of infants, and certain pulmonary diseases, for example, are partially distributed, producing here a large and there a comparatively small mortality, and their prevalence can be connected with well-defined local influences. Measles, scarlet fever, and, except for vaccination, small-pox prevail everywhere in England; and I contend that their prevalence cannot be referred to any local cause. These diseases are, indeed, frequently absent from particular districts for longer or shorter intervals; but such immunity, as in the case of the Färoe Islands, is liable to be compensated by their wider diffusion when they re-appear. An example of this recently came under my personal observation. Small-pox, measles, and scarlet fever produced no death in Conway or the adjoining parish of Gyffyn during the septennial period 1851-7. Scarlet fever, which had been prevailing in the neighbourhood towards the end of 1857, and early in the present year, was introduced into Conway early in April. Between its introduction and my visit in September last, this disease caused a mortality fully equal to 8 in each 1,000 inhabitants; and neither the cases nor the deaths were confined either to the most filthy and overcrowded dwellings, or to the poorer classes of the community. Some sanitary amateurs have been charged with exaggeration, and I think they cannot altogether free themselves from the charge so long as they maintain that these contagious diseases are to be classed in the same category with diseases which are the produce of local impurity.

I commenced my former communication with the following assertion: "It is very important that no false expectations of the benefits derivable from sanitary exertions should be raised in the public mind." I here repeat that assertion, and I do so because such false expectations are likely to retard sanitary progress. In a town with which I am acquainted, works of drainage and water-supply were constructed by an eminent sanitary engineer. It was supposed by the local authorities and rate-payers that the contagious epidemics so often spoken of by sanitary amateurs as preventable diseases would disappear after the completion of the sanitary improvements. When, however, the works of sewerage and drainage had been for some time in confessedly successful operation, scarlet fever broke out among the younger portion of the inhabitants. This produced much discontent, and notwithstanding that I believe the public health of the town in question has materially benefited by the operation of the sanitary works, I doubt whether the shock which the sanitary cause received from the non-fulfilment of these false expectations has been altogether overcome.

E. HEADLAM GREENHOW, M.D.

We must confess that this communication does not seem to us to advance the subject, and does not even pretend to give a proof that it would be useless for medical officers to note, as we have urged them, the localities in which fever prevails, and to make them the scene of sanitary improvements. Certainly it does not in any way alter or improve Dr. Greenhow's position. His anecdote about the introduction of measles into the Färoe Islands, like many other similar anecdotes, bears doubt on the face of it. The usual refuge of contagionists, in default of direct evidence of the introduction of disease, is to create what is called "incubative" importation, that is, disease in its unformed state. This has been often done; but it is utterly futile. All such alleged facts require to be tried by the ordinary rules of evidence, and when so tried, they fail. Dr. Greenhow must be well aware that the Färoe case, and other similar cases, admit of quite another explanation. Moreover, there are well-observed instances of both scarlet fever and small-pox being self-developed in particular spots, and no appearance even of spreading by "contagion" having ever existed.

Dr. Greenhow says that scarlet fever is as liable to attack those living in palaces as others in more humble dwellings: figures will, however, show that the average number of deaths

* See page 709, *ante*.

from scarlet fever is beyond comparison great in neighbourhoods conditioned as are Lambeth, Bermondsey, and parts of Spitalfields, when compared with better neighbourhoods. In the course of our inquiry into matters of health we have found that in neighbourhoods where the drainage is bad, where people are too closely packed together, where great poverty stops the proper supply of food, such complaints as we refer to are increased and aggravated to an extraordinary extent, and we have the opinions of eminent medical men to the same effect.

At the Fever Hospital in Islington no cases of fever (either scarlet, typhus, or typhoid) have been communicated to the surrounding neighbourhood. At this hospital, in one instance, the nurses were attacked by fever: it was, however, found, we are told, that the drainage at that time was out of order. Except on that occasion, no fever has been communicated either to the medical officers or the nurses of this establishment. One eminent authority, whose name, if we were permitted to use it, would carry conviction with it and shorten the discussion, says distinctly:—"Had Dr. Greenhow ever practically watched the causes of scarlet fever (and other children's epidemics, measles, &c.) growing up under his eyes, in poor (and other) dwellings, he could not have put forth the papers he has lately printed."

We cannot venture to occupy space in discussing "contagion." The medical profession is itself divided, wide as poles asunder, on the question. As practical men, we have to deal with the prevention of disease. And we do happen to know that the liability to children's epidemics, of all kinds, can be most materially diminished by sanitary means. The application of these, then, it is that we demand; and surely Dr. Greenhow is not the man to try to persuade parish vestries that we are wrong.

With regard to the appearance of scarlet fever in drained towns, we are not aware that any sanitary reformer ever expected that towns would be put in a good sanitary state solely by drainage and water-supply. These were never considered in any other light than as a basis for improving the dwellings of the working classes. The improvement of the houses in ventilation, lighting, free circulation of air in courts and alleys, diminution of overcrowding, &c. have yet to be embodied in Acts of Parliament, or to be carried out by private exertion. When these things have been done, and have failed, we shall have time to discuss with Dr. Greenhow the propriety of putting a quarantine on medical men and others coming from infected houses, which, as we formerly stated, is the only logical result of his doctrine, a doctrine which, we must take the liberty of repeating, will be made use of by the opponents of sanitary measures to the harassment of right-judging and earnest men, and the retardation of vitally important improvement.

AN ARCHITECT'S SKETCH-BOOK OF THE THIRTEENTH CENTURY.

CONTINUING our notice of Wilars* de Honecort's Sketch-book. Among his own inventions we find a plan of a Cistercian church, square-ended, as they always were; the apse of the church at Cambray, and another, which he says is the result of a discussion between himself and another member of the profession, Pierre de Corbie. In woodwork he presents us with a small drawing of a bridge, and a larger one of a clock-tower, most probably an erection inside some church, like that now to be found at Beauvais. That at Beauvais dates from the commencement of the fourteenth century, and has been repaired late in the fifteenth. The lower part is in stone, and takes the shape of an octagonal tower, thus allowing space for the cords and weights. Very likely there was a similar stone basement to the one under consideration. He also gives us two or three roofs, all without tie-beams: one of these, evidently intended to be boarded to the underside of rafters, presents us with an ogee cradle roof, thus anticipating the almost unique example in the house of Jacques Cœur, at Bourges. On another page we find an elevation of a stall, and the mass of perforated foliage generally employed to finish the canopies of a set of stalls at the extremities: this foliage, which he calls a *poupée*, is repeated elsewhere, and more carefully drawn. It is really a very beautiful piece of composition, and evidently constructed upon the right principle for all woodwork, viz. making the elevation very thin, and getting solidity by the depth of the perforation: the same principle is carried out to perfection in the wonderful Flamboyant stalls at Amiens.

Another very curious fact connected with the woodwork of our author is, that the group of wrestlers, so carefully rendered from the life in the album (plate 16), occurs sculptured in wood on the stall at Lausanne. This fact, connected with the drawing of the rose window of the cathedral, would almost lead us to believe that Wilars de Honecort had something to do with the design of the stalls. If he had, they certainly do give but little credit, for, according to M. Ramé, the whole execution is barbarous in the extreme.* Scattered up and down in the album we find sundry other sketches of ornament, all well drawn and some very ingenious: witness the two heads sprouting out in leaves.

In stonecutting our author is by no means very clear; indeed, his problems upon this subject, as well as upon mechanics generally, must be regarded more as hints or memoranda for his own use than as clearly-defined directions for the instruction of others. Thus, in the very first of the problems, viz. how to take the size of a column from a part only of the circumference, he gives us two figures. In the first we see a compass with an arc and three legs; but he does not tell us that the middle leg should have a double motion upon the arc; and then, in the completion of the problem in the second figure, he merely draws a circle, marking the centre and the three points in the circumference; but he says nothing as to how the centre is to be found from these three points, either considering the solution too well known to require demonstration, or viewing it as a secret of his craft. Upon the whole, after wading through the very ingenious explanations of M. Lassus upon this portion of Wilars's work, I do not see that we learn anything beyond what is already known to almost every architect and mason, to say nothing of the doubts which occasionally arise as to whether M. Lassus has really hit upon what our author meant. Thus it is doubtful whether the equilateral arch was called the "*clef de tiers point*," or the drop arch, or whether the name was common to all pointed arches whatever; and after all I really do not think it very much matters what the arch was called. All it concerns us to know is, that drop arches of various proportions are almost universally employed in the best architecture of the thirteenth century, to the exclusion of equilateral ones, and that no work will be satisfactory in execution where the artist tries to supply his want of eye and feeling by stiff geometrical rules.

If we look at the way in which Wilars renders his architecture, we find that everything is simplified: the capital consists invariably of a necking, two horns ending in rounded points, and a perfectly simple and flat abacus. Now it is by no means to be inferred from this, that having a capital to execute, he would confine his detail to the simplicity of the drawing, but quite the reverse. The drawing was merely his short-hand for a capital of any size; for he doubtless had all the additional details at his fingers' ends.

His weak points, however, are the perspective of his architecture and the anatomy of his figures; both which sciences would appear to have been neglected during the Dark Ages and had to be revived by slow and painful efforts until they obtained their perfection in the sixteenth century; but then, unfortunately, the religious arts of the Middle Ages had departed. It is yet to be seen whether the wondrous nineteenth century (for wondrous it has hitherto been with regard to sciences and human progress) will be successful during its latter half in uniting the two.

If we examine the figures of Wilars de Honecort, two things especially strike us: the first is the very large amount of space occupied by representations of men and animals; and the second, his attempts to employ geometry to the drawing of them. Various treatises have been made by far more distinguished artists than our Picard architect upon this subject; witness the books of Albert Durer, Leonardo da Vinci, and our own Flaxman. There is also a book by a Dutchman, published, I think, in the last century, which goes very deeply into the matter. Thus one of the diagrams shows how the figure of a greyhound can be changed into that of a woman; but all that is really useful can be learnt in about half an hour, and I am afraid the rest of the elaborate measurements must be placed in the same category as most architectural books, viz. of being useful to those only who can do without them.

If our friend Wilars had studied the human or animal skeleton, instead of seeking to get his outlines by means of impossible squares and triangles, he would, doubtless, have been a better artist, and *à fortiori*, a better architect.

The figures found in the album may be divided into four classes: first, those drawn from the life; secondly, those copied from the antique; thirdly, compositions for, and copies of, contemporary mediæval subjects; and, fourthly, those which are drawn to show the art of "portraiture." Among the groups from the life, we may mention that of the wrestlers already referred to, the two workmen playing at dice, and the two figures in plate 42. These latter are nude, and of course display all the faults which a man ignorant of anatomy would naturally fall into; and the patella is round, and the clavicle goes up the side of the neck. However, the figure holding the vase, in plate 21, which was probably copied from an antique, is rather better; but both in this case and in the standing figure in plate 42, finding some difficulty in drawing the hips, the artist has gone round the figure, and shown the glutei muscles, which it was perfectly impossible to see in the original position, but which of course were easier to draw. The other sketches from antique remains are those from the sepulchre of a Saracen (probably a Byzantine or Gallo-Roman tombstone), and the combats of men and animals, possibly derived from some consular dyptich: these latter are very fairly drawn, as indeed are all the draped figures throughout the book. M. Lassus, *inter alia*, supposes the Descent from the Cross, plate 25, to be a design for a painting; and the woman, plate 24, a composition in stained glass; but perhaps the finest of all the drawings are the seated figure of Our Lord, forming plate 31, and the two kneeling figures in plates 32 and 45.

It would be neither a very easy nor a profitable matter to follow our author through to his system of drawing the figure by geometry. His more usual plan is to set the body into two isosceles triangles, which cross one another. Their apices determine the length of the legs, and the bases are placed upon half the breadth of the shoulders. A common way of making his first thoughts of a composition is to draw a triangle which forms the torso, and the legs and arms are added by means of single lines. This, if viewed as an aid to composition, is much better than the former, but still it is very unsatisfactory for the side views, and usual way of drawing the figure by lines and dots is still better. Among animals we find representations of the bear, the swan, the crawfish, the cat, the grasshopper, &c. all of which are very fairly drawn: indeed, at one time it would appear that Wilars had had the run of a menagerie, for we have a porcupine and two representations of the lion, which he assures us were drawn "*al vif*." He applies his geometrical theory to all animals, as well as human figures,—if, indeed, it is really a theory, and not a way of drawing a complex form by dividing it up into several simple geometrical ones.

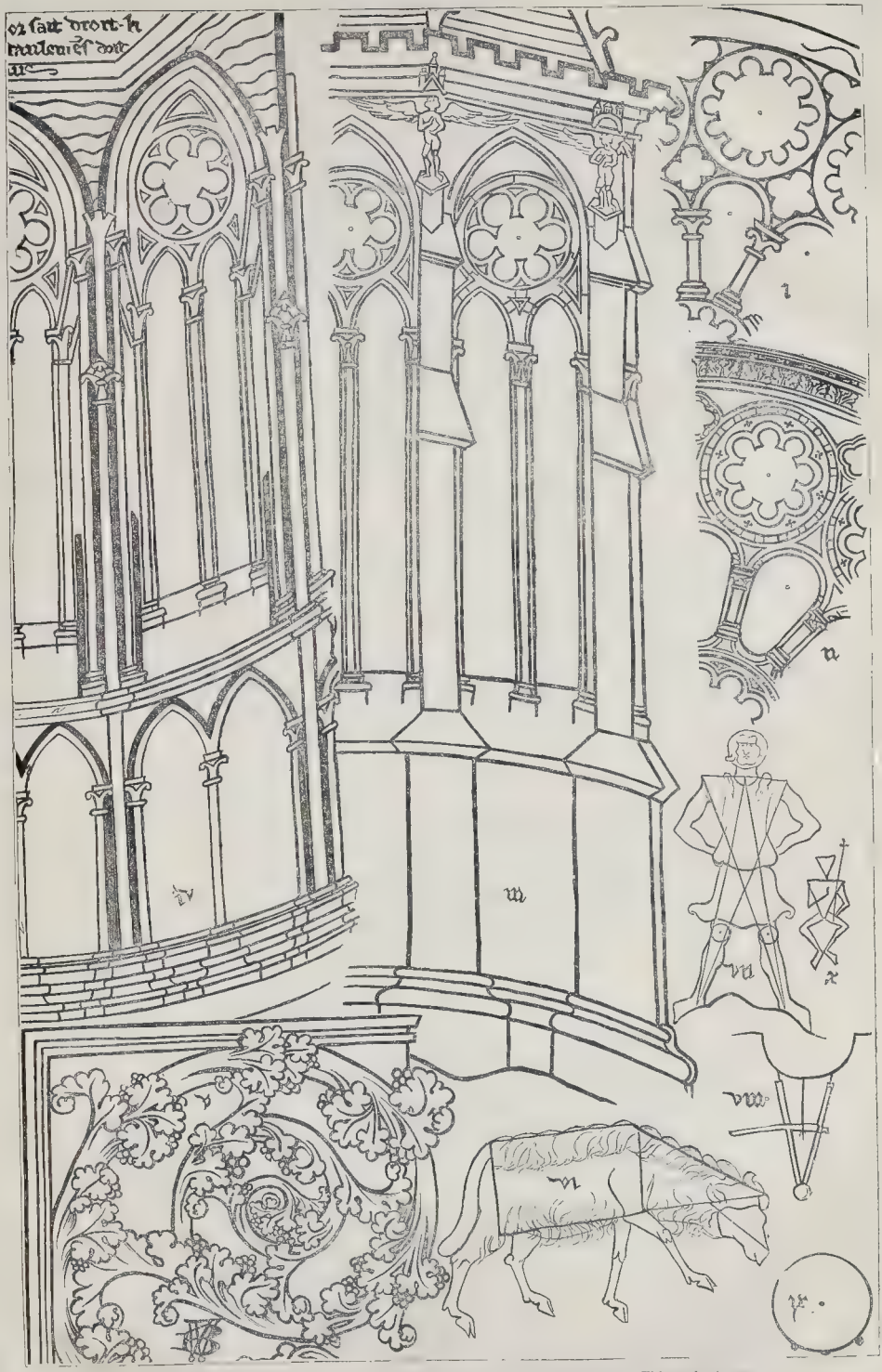
The last series of subjects to which I shall allude are the mechanical devices, known in the thirteenth century, which were certainly better and more advanced than we generally give it credit for. Besides telling us the way by means of which the great leaden angels at the ends of the cathedrals and chapels were made to revolve in the twenty-four hours, and how a lectern may be made so that the eagle shall turn his head when the Gospel is read, he shows us how to construct a saw-mill, a machine to raise stones, and the *trébuchet* (the mediæval cannon), besides giving us his idea of perpetual motion.

As this notice has already run to a greater length than I intended, I must dismiss this part of the subject, which I do with the less regret, as Mr. Parker has promised us an English version of the work, with annotations by Professor Willis than whom he could not possibly have made a more fitting choice. Under his skilful investigations the ill-drawn perspectives and the some what misty interpretations will become clear and straightforward, and we shall then have what has been long a desideratum, viz. a good account of the state of the mechanical sciences in the thirteenth century.

I would only suggest whether drawing Wilars

* See page 758, *ante*. I much regret that I have misspelt the name of our author in the former part of this paper. He calls himself Wilars de Honecort. This M. Lassus has changed into Villard de Honnecourt. The orthography of the village has doubtless changed since the thirteenth century, but at the same time we ought to give so accomplished a man as our author the credit of spelling his own name correctly.

* See "Annales Archéologiques," vol. 16, page 50, where this question is discussed. There are also illustrations of the stalls.



FROM THE SKETCH BOOK OF WILARS DE HONECORT. —*Thirteenth Century.*

machines in good perspective, with the omitted parts in the original represented by dotted lines, would not be a desirable addition to the forthcoming work. W. BURGES.

The following is an explanation of the woodblock:—

Fig. 1 is a portion of Wilars's drawing of the western rose of Chartres Cathedral.

Fig. 2 is a portion of the same window as it actually exists. It will be perceived that the principal differences arise from the desire of Wilars to make more perforations, so as to get a larger amount of light.

Fig. 3 is part of the perspective, showing the outside of one of the eastern chapels at Rheims. The sloping roofs, with their leaden crockets, deserve particular notice, as well as the creteaux, both features having disappeared, if indeed they ever existed; for although we may suppose that Wilars copied from the actual working drawings, yet from other sources, *e.g.* the wheel window at Chartres, we know that he always copied with the addition of his own improvements. Thus he has supplied the places of the angels, on the top of the buttresses, with naked winged figures, his object being probably to get the altitude, and the position of the limbs, and not simply the folds of the drapery.

Fig. 4 is part of the inside perspective of the same chapel, and, considering all things, is tolerably correct. Violet le Duc, in vol. ii. pp. 472, 473, of his "Dictionnaire d'Architecture," gives drawings of the exterior and interior of these chapels. I should also remark that in both cases Wilars has drawn the circular portions of his perspective with the compass.

Fig. 5 is part of the large drawing of the *poupée*, or stall-end.

Fig. 6 shows the geometrical lines for drawing a sheep. It is a well-known fact that the bodies and legs of many quadrupeds are contained within a square; the difference between them consisting in the height of the line of the belly. Now, that line in the sheep very nearly divides the square into half, thus giving a parallellogram of two squares to the body. Wilars has drawn this correctly, but either he did not know that the legs would be contained within another similar parallellogram, or he has designedly given us but half of the rule.

Fig. 7 is the application of his system to the human figure.

Figs. 8 and 9 show the plan of taking the diameter of a column when access can only be obtained to a portion of the circumference.

Fig. 10 is taken from the design to a wheel of fortune: it shows his way of expressing the action of a figure by a few lines.

I must also mention that the accompanying wood block does not contain *fac similes* of the drawings, *i.e.* the lines are not thickened exactly where they are in the original. Had I done so, I should have lost all the spirit of the MS. besides exaggerating the inequalities. Upon the whole, I have thought it better to draw the illustrations in the same manner as the old artist himself would have done. Thus careful tracings from the book were transferred to the wood by means of chalk, and afterwards gone over by hand with a crow-quill and common ink; no instruments whatever being employed. W. B.

DECORATIONS OF THE BRITANNIA THEATRE.

FROM the view and particulars given in our last number, and our former notices,* the peculiarity of the arrangement of the "auditory" of the theatre at Hoxton, will have been in great part understood. The ellipse on plan is divided into four parts, whereof one, of the longer dimensions, is given to the proscenium opening, and the opposite division of similar extent to the principal boxes and galleries, whilst the smaller divisions at the ends are given to boxes in several tiers. The splayed sides in the proscenium, containing the private boxes, should be considered as external to that portion of the plan governed by the ellipse. In the other three divisions, or the auditory, the separations (as radii from the foci), are formed structurally by partitions throughout the height of the tiers above the pit. These partitions are prominent features in the effect. They have large openings partly filled with iron railings, and panels decorated in colour. From the four points of apparent support the cove of the oval ceiling is carried on low elliptical arches and pendentives. Then the main divisions in the vertical measurement of 49 feet from the level of the floor of the orchestra to the highest part in the centre of the ceiling would be five in number, whereof one belongs to the pit, and the fourth takes in the elliptical arches carrying the cove and ceiling. In the smaller divisions of the ellipse of the *plan* there are in each case three tiers of boxes, whereof one is comprised within the space of the elliptical arch, added to the height of the proscenium entablature, with which its front ranges. That last tier corresponds in position as to height with the upper gallery of the major division of the ellipse on plan; though whilst one is fronted as a tier of boxes, the upper gallery extends the raking line of the lower gallery, so as to take in the space, 13 feet, over the saloon or refreshment-room of the principal tier of boxes. The lower gallery ranges, as to the design of its front, with what may be called the second tier of boxes. This, and the principal tier of boxes, 10 feet each, and similarly in three divisions on plan (the floors behind the uniform front being at somewhat different levels), and the pit (12 feet in height from the orchestra floor) form our other divisions of the height. The private boxes in the proscenium range with the pit, with the principal tier of boxes, and with the second tier at the sides, each to the other respectively, the elliptical-arched ceiling of the proscenium of course corresponding with the arch over the slip-boxes which are at the sides. The rise of this arch is 6 feet, and the height of the cove above, with its rim or base of mouldings, is 5 feet 3 inches. The box-fronts are 3 feet 6 inches, except those at the top, which are 4 feet. The whole height from our datum level of the orchestra floor (which is 4 feet 6 inches below the street level, to allow of the desired inclination of the pit-floor) is, to the apex of the roof, 72 feet. The stage-floor, at the front, thus nearly corresponds with the street level.

The two main tiers (boxes and gallery) have fronts of the inverted ogee form of section: they are thickly covered with ornament, and have at intervals corresponding with each of the columns and trusses, or divisions of the boxes, figures of Britannia, with gilt spear and shield, seated partly in a niche, bordered with ornament, and coloured blue as to its background. The predominant effect of colour in the fronts generally is that of salmon-colour and white, a somewhat deeper shade of red being given to the lower part, on the swell of the bow. The fronts of the slip-boxes are vertical in section: they are ornamented, but are without the figures of Britannia. The cove and oval centre of the ceiling of the auditory is divided by broad bands into four outer and the one central compartment. The centre is filled with good ornament, left as open-work for ventilation; and the outer compartments, or of the cove, are coloured blue in graduated tint, and have a kind of widely-spersed diaper of rose, thistle, and shamrock leaves. The ribs are formed into coffers of regular and elongated octagons and hexagons, varied, and filled with rosettes. The colouring is chiefly light salmon-colour and white, with the darker rose-colour and blue, the latter colour applied to the centres of the rosettes: but crimson is introduced in small quantities with good effect. The auditory is lighted by sixteen small clusters of lights with glass lustres, hanging from the rib of the oval centre of the ceiling. They were supplied by Defries and Son, according to the design of the architects.

The general result of the features we have described, certainly, is now in great part what we hoped for, rather than expected, in our former notice, viewing the artistic capabilities of the leading forms. The details are not equally satisfactory. The sides of the proscenium have, we regret to see, been little altered since we saw the design. The mixture of Gothic pateras (gilt, on a blue ground) with other details different in character: the partly twisted shafts by which the first notion given, is that of the gilder having stopped short in his work, and their peculiar capitals, have quite the result that we expected—one of mingled caricature of style, or suggesting feebleness of the effort. Work of less originality, even though it be called imitation "slavish," is better than invention of this kind: and it is a relief to look at some intermediate panels which there are here filled in with good scroll-work, such as may have been copied from the antique or Cinque-cento ornament. We demand novelty, but first and foremost, the beauty equal to or corresponding with what has been attained in the old models. Anything short of that is not good art. A heavy, Elizabethan kind of pendant in the ceiling of the proscenium is in some degree a mistake, and for like reasons. The general enrichments and the covering to the plain surfaces (as panels) of the ceiling, in lieu of plasterer's work, have been executed in *carton-pierre* and *papier mâché*, by Messrs. White and Parlby, whom we have before mentioned. Had the architects been allowed time to give proper attention to design, their work would doubtless in the details have been as successful as it is in the more prominent features and the general effect.

The panels of the ceiling of the proscenium, and some of those of the two partitions dividing the side boxes from the centre portion of the house, are tastefully enriched with borders of leaves painted by Honnaman, who has executed the general decorative painting. The main pendentives bear the names "Shakspear," "Byron," "Sheridan, and "Garrick," in gilt letters, with dates. The divisions of the boxes and much of the ordinary woodwork are stained brown, and varnished; and the brickwork internally, which would show, not being plastered, is painted a dull red, with narrow black stripes. Voussoirs are marked on a similar principle to the arches. The general effect as a background is good. The division between the pit and stalls is wood-framed with open-work panels in iron. Generally the appearance of comfort, and actual comfort, with exceptions as to the parts of the plan we spoke of, and which we see have led since to trouble, and a case at the police-court, have been provided in the auditory, and at moderate cost. The floor of the pit has an unusual inclination—we believe as much as 1 in 12—which must conduce to its advantage for seeing. The refreshment-room to the boxes, the dimensions of which we should have stated approximately as 50 feet by 13 feet, we may say has, like many parts of the tavern and entrances, a floor of rolled-iron joists 2 feet 6 inches apart, and hollow bricks of the same dimension in their length as the filling-in, the whole being covered with 6 inches of concrete.

The stage-floor inclines 1 inch in 5 feet; and it contains twelve of the "slides" (formed by pieces of battens on canvass, and moveable by means of windlasses), required to be removed for the passage of a scene through the stage. For these purposes the space below the stage descends at the back to a depth of 18 feet. The height of the "mezzanine," or floor where the traps are worked, is 6 feet. There are nine spaces left for traps, small and large. The supports to the stage are of the usual kind; and the "flys," with ordinary queen-post trussing, have been mentioned before. The dressing-rooms are partly below, and for the ladies are at the side The painting-room is to the north, external to the general plan. Also external, are refreshment-rooms, one on each side. The "act-drop" has been painted, in his usual style, by Mr. Wm. Beverley, and the general scenery by Mr. Richard Cooper, assisted by Mr. Muir. The whole appointments of the theatre—as dresses, are of a superior kind; and the actresses and actors, several of them, worthy of what they may think a better stage or audience.

Let us hope that the management of the theatre will be conducted with ideas other than those of *mere* profit; and that the engine, potent for evil or good, will hold its sway under what we have chosen to call the "mollifying" action of art-dramatic, and in improvement rather than degradation of the classes to whose amusement it administers. Whether *The Brigand's Secret*, which we tried to see, but could not, on the opening night,—and which according to the bill, exhibited "exciting combats," "the pursuit of vengeance," "love and suicide," and so forth,—has the same likelihood of benefiting the audience that it appeared to have of enriching the treasury, we can hardly trust ourselves now to speak.

Let us add that the building has been erected for Mr. Samuel Lane, who is manager, and whose wife is evidently an actress of ability. The architects, Messrs. Finch Hill, and Paraire we have already named. Messrs. Hollands and Hannen succeeded in completing the work within the appointed time, of barely four months (including taking down the old building, and clearance of the site), notwithstanding the difficulties with their men; and certainly the work, especially the brickwork, is well executed. Their contract was for 12,120*l.* for the theatre and tavern, made up of 9,373*l.* for the former, and 2,747*l.* for the latter. That amount, however, would not include the more elaborate decorative painting: this, with the fittings and appliances to open the house (but exclusive of scenery and stage-machinery), it is estimated will bring the total expenditure to 15,000*l.* Of this, it is considered that 4,000*l.* would be the cost of the tavern and its fittings, the private residence, the theatre-entrance-ways, and the refreshment-courts. Thus the cost of the theatre proper, would be 11,000*l.*

* See pp. 644, 654, and 762, *ante*.

THE THAMES TUNNEL.—In the week ending November 16, 19,492 passengers passed through, and paid 81*l.* 4*s.* 4*d.* in tolls.

ON THE CONSTRUCTION OF BUILDINGS IN REFERENCE TO SOUND.*

It is proverbially customary to commence an address before any audience with some preface soliciting an indulgent hearing. Seldom is there so good a reason for such solicitations as my topic affords.

It is confessedly one of immense importance, and yet shrouded in great obscurity; and the natural philosophers to whom we have a right to look for information and guidance, while investigating the vibrations of violin-strings and plates of glass with the utmost nicety, have left all but untouched the investigation of the laws that influence the transmission of sound in large buildings. Few experiments have been made—still fewer principles are laid down, and it has been a matter of considerable difficulty to ascertain even what authors have touched at all on the subject.

This obscurity, however, on an important subject like this, only increases the desirableness of our both knowing whatever is known, or supposed to be known, and our endeavouring to add to the stock of facts, and become for ourselves experimenters, observers, and discoverers,—more especially in the present day; for now so large a proportion of the buildings which engage the attention of an architect are places of worship, or places of public assembly or public amusement, in which a number of persons are intended to hear either speaking or music or both, that it must frequently occur to every one of us to have to ask himself, — "If this room is arranged in such and such a manner, will it be good for sound?" and, more,—there are few of us who may not expect, sooner or later, to be consulted about some church or public room (happy if it is not one of our own design), planned with the intention that an audience should be able to hear in it with ease, but so built actually that some are annoyed by echoes, others perplexed by reverberation, and others unable to hear at all; showing that either no thought had been bestowed on the acoustic properties of the room, or that the calculations of the architect had somehow failed to secure their aim.

The feeling of the importance of our acquaintance with the laws of sound it was, and not the consciousness that I had any new views or even new observations and experiments to advance, which moved me to venture upon this subject, convinced that it cannot fail to be of advantage to turn attention to the views already held, and facts already ascertained, as far as they have become known to me, and full of hope that the discussion of the subject may elicit something of value, and may induce some of us to embark on its further investigation.

I lay especial stress upon the desirableness of obtaining fresh information, since our stock of published facts is miserably small, while many gentlemen known in our profession, and who have never in any way published the results of their experience, have practically proved, either by a signal triumph in some one conspicuous instance, or by a uniform success in many, that they are not working entirely in the dark. And I believe that the architects of such buildings as the Free-Trade Hall, in Manchester, or the Music-Hall, in the Surrey Gardens, could teach us something not generally known in our profession, if they would themselves lay before us the principles that guided them in the design of these buildings, and show us how these principles have been applied in their various parts.

One word, however, ere we begin to discuss theories, upon the amount of dependence to be placed upon them. Do not misunderstand me, when I speak of the desirableness of rules and principles: they do not now, and they never will supersede the necessity for intelligence, judgment, and tact—almost instinct, in their application.

Practical architectural acoustics will always be in a position very much analagous to the practice of medicine. The physician, after he has gained all the knowledge of disease and of medicines which books can furnish, is still quite unfit for actual practice, unless he have the skill and intelligence to know how to vary his mode of treatment, and to apply his laws and principles to the different circumstances of each case, and the different constitution of each patient; and he must, moreover, possess a large stock of isolated facts relative to cases which do not seem reducible to any known general laws, nay, which even run counter to them. It is so with sound. The most successful architects will tell you that their judgment of the probable acoustic effect of this or that arrangement is as much or more the result of a sort of instinct—a kind of internal perception of what will do, or what will not do, as it is the application of a code of laws, or a set of rules—and your knowledge (to be of much value in this department) must, I believe, be associated with this sort of tact, not to say instinct, which is not to be gained at once or easily, nor without making the subject one of constant observation and thought when visiting existing buildings, or when preparing or examining designs for new ones.

The varieties of rooms where sound has to be studied are considerable. All large rooms where public meetings or concerts may at times be held, whether in private houses, hotels, or the offices of public companies, lecture theatres, town-halls, courts of justice, concert-rooms, club-rooms, theatres, churches, chapels, crystal palaces, mechanics' institutes, school-rooms, class-rooms; and in museums, libraries, reading-rooms, and hospital wards, when *quiet* ought to be maintained, an attention to the means of *preventing* the propagation and re-enforcement of sound is of importance. Some of these, particularly theatres, have been the subject of distinct treatises, and one of the best short tracts on the subject, that of Rhode, is devoted mainly to the arrangement of theatres. A good treatise on ecclesiastical acoustics would be, in the present day, of great value.

It may be more fitting now than further on to enumerate the principal sources of information which can be consulted on the subject of sound. Much of what I have been able to glean has, however, been derived from hints kindly furnished by two or three of those to whom the subject is most practically familiar, and to whom I owe acknowledgments for their courtesy.

On sound generally, there are several good treatises. A small manual, forming part of Chambers's Educational Series, contains a compendious account of acoustics. Several of the encyclopædias contain more complete articles. That in the "Penny Encyclopædia is good. There is an interesting article, partly by Professor Leslie, in the "Encyclopædia Britannica;" and a masterly and comprehensive one by Herschel, in the "Encyclopædia Metropolitana."

In French, the "Traité d'Acoustique," by Chladni; a treatise by Mons. Biot, in his "Précis Elémentaire de Physique;" and notably a series of papers by Mons. Savart, published in various volumes of the "Annales de Chimie," are the most conspicuous; but they all strangely ignore the most practical of all the possible applications of acoustic science, namely, the one now under consideration.

Chladni, however, refers briefly to the construction of buildings. On this special subject I can mention two small works, one in French, "Acoustique et Optique des Salles de Réunions Publiques. Par Théodore Lachez;" and one in German, "Theorie der Verbreitung des Schalles für Bankünstler" (Theory of the Propagation of Sound, for Architects). By J. G. Rhode. Berlin, 1800. In English nothing of much value has come under my notice, except "A Treatise on Theatres, including some Experiments on Sound," by Saunders; chapter in Dr. Reid's book on ventilation; and some manuscript notes kindly lent me of a paper read eleven years ago before the Institute of British Architects, by Mr. Scott Russell. This paper, unfortunately, was not printed, and is not among the manuscripts of the Institute, a loss the more to be regretted that I believe it to have contained some of the most valuable hints and observations yet brought before the profession.

Let us now, as a preliminary inquiry, revert to the nature of sound, and the mode of its propagation; and in doing so, we must leave entirely unnoticed the many interesting and beautiful observations, with the abstruse theories based upon them, which are to be found in the writings of those natural philosophers who have investigated the phenomena and theory of musical vibrations.

Sound may be said always to be the result of either one shock, when it is quite instantaneous, as the report of a gun, or of vibrations, conducted through any medium capable of transmitting them; or, in other words, through any medium which, being elastic, has the power itself of vibrating, to the ear of the hearer. If the vibrations recur at regular intervals of time, the result is a *sound*, or note; if they are irregular, we hear a *noise*.

The gravest sound perceptible to the human ear is, according to Euler, that made by a body vibrating thirty times in a second. The sharpest we can detect, he states to be one due to 7,500 vibrations in a second.

It is, however, nearly certain that sounds sharper than this exist in nature, and are audible to insects, when we cannot detect them; and it is even possible that some animals can detect graver sounds than we can. Different ears vary in their compass, and some persons can hear a sound too sharp to be detected by others, whose hearing is less delicate; while too, one hearer will be distinctly conscious of an audible though extremely grave sound, where others can only perceive a confused whirring.

Sound can be, as we have observed, conveyed through any body, capable of transmitting vibrations, or in other words, through any body, possessed of elasticity, as through the earth, or through a log of wood. It is more frequently conveyed through the air than through any other medium, and it is almost entirely with its propagation through the atmosphere that we shall have to do in this paper.

The rate at which sound traverses the atmosphere is uniform for all descriptions of sound whatsoever, though it varies slightly with the density and temperature of the air at the time. It is ordinarily 1,090 feet per second, with the thermometer at 32 degrees. At 62 degrees, the standard temperature of the British metrical system, it is 1,124¼ feet in a second.

If you drop a stone into a pool of water, and watch the gradually extending circles of waves spreading from the point where the stone falls, you will have a familiar and a very correct illustration of the mode in which the waves of sound spread themselves from a sonorous body, remembering always that the waves of sound are not mere rings on one plane, like those on the surface of a pool, but that if they have free scope, and no disturbance, they spread in every direction upwards and downwards, as well as sideways, resembling something the coats of an onion.

Light, as well as sound, spreads by means of waves radiating through space from an exciting centre; but the analogy between waves of *light* and waves of sound is not quite so accurate as between waves of *water* and of sound; for light traverses a perfectly elastic medium, while sound in air, or waves on water, only traverse an imperfectly elastic one. We shall have occasion to bear in mind this difference, as the neglect of it has led to misapprehension in a very important point, namely, the reflection of sound, which is not, as has been sometimes erroneously stated, entirely similar to that of light.

The law regulating the reflection of light is that the angle of reflection is equal to the angle of incidence; that is to say, that if you stand exactly opposite to a mirror, with a lantern that has a bull's-eye to it, and throw a ray of light upon the mirror, it will be reflected back to you again; but if you move to one side and then throw the light obliquely upon the mirror, the image will not now be reflected back to *you*, but obliquely off to the other side; and the more you get round to one side with your light the farther round to the other side will the reflected image be thrown.

Now let us see if it is so with waves in water. If the pool we have referred to has a clearly-defined straight bank (say it is the lock of a canal), you will find that the wave which first touches this bank is reflected back again towards the spot where the stone was dropped; and that as the outer wave reaches portions of the bank farther and farther on, it for a time gives rise to reflex waves, obeying the law just referred to, of the angle of incidence being equalled by that of reflection; but after a time, should the wave be distinct enough, you will notice that the portion of it which falls very far away upon the bank, and, consequently, very obliquely, ceases to be reflected back into the pool again, but travels along the bank till it has quite lost all its strength.

It is so with sound. When sound impinges upon a reflecting surface, it is reflected back in the direction prescribed by the law above named—so long as it falls at right-angles, or at an angle larger than from 15 to 30 degrees, *but no longer*. So soon as it comes upon the wall or reflecting surface, at an angle more acute than 30 degrees, instead of being thrown back into the room, it is conducted along the wall or reflector until it has quite spent all its force, which it will not do for some considerable distance. This observation is due to Mr. Scott Russell.

Sound, like light, diminishes in power constantly and rapidly as it travels farther from the point at which it is first roused; the sounds which travel farthest are not necessarily the loudest, but the most *intense*. The distance to which the human voice can be heard seems to vary very much with varying circumstances, and some extraordinary instances of hearing at great distance are on record, but the power of ordinary voices in the open air seems limited to less than 100 feet. It was made the subject of investigation by

* Read by Mr. T. R. Smith at the Architectural Association, on Friday, Nov. 12.

Saunders, who, in his book on theatres, describes his experiments as follows:—

"In all of them a calm day was chosen for the purpose, and an open plain; the positions of speaker and hearer were alternately changed, and the notes made by each compared. A book was made use of for this purpose, as the voice was less liable to be altered by reading.

Exp. 1. Having traced a circle of 100 feet in diameter, I placed the speaker in the centre; the distance, therefore, was the radius of 50 feet every way. The hearer, moving on the circumference of this circle, heard most distinctly when in front of the speaker, not much less so at each side, but scarce at all behind.

Exp. 2. In the same circle I placed the speaker at 25 feet from the centre, which was three-quarters of the diameter, or 75 feet to the front, and 25 feet behind. He was heard best at the sides, and indifferently in front and behind.

Exp. 3. On repeating these experiments, and changing the situation of the speaker, I found the voice reached the circumference most equally when he was placed 17 feet from the centre. I then, without regarding the circle, traced the *extreme* distance at which the voice could be heard every way. The extent from speaker to hearer will be 92 feet in front, 75 feet on each side, and 31 feet behind. (*This, observe, is the extreme limit of hearing, not that of comfortable hearing.*)"

He goes on to observe—"The difference of the form made by the voice, and that made by fixed sound (which is circular), is evidently occasioned by the voice being pushed forward from the mouth, and this difference will always be in proportion to the exertion of the speaker, and subject to very little variation.

He goes on to narrate other experiments going to prove that sound descends rather more readily than it ascends; and others to show how readily any impediment coming between the speaker and hearer will destroy sound, especially if the impediment be close to the auditor.

The subsequent observations are of inferior interest, and some of the conclusions based on them, more particularly those relative to echo, would seem to be incorrect. We have, however, one pretty-distinctly established fact proven by Mr. Saunders's experiments, as to the limit to which we may with safety depend upon purely radiated sound. Inside a curve similar to the curve he obtained, only giving the limit of perfectly distinct hearing, we can draw a parallelogram with the speaker at one end of it, which will be about 70 feet long, and might be nearly as wide as it is long. If we have a square room to build, these then may be taken as the extreme limits within which we may expect direct radiation, alike undisturbed and unassisted, to convey sound distinctly to the auditors. If this parallelogram was not quite so deep from back to front, it might be very much extended sideways, an arrangement little followed in this country, but very common in churches in Scotland, where the minister's pulpit is frequently placed in the centre of the longer side of the church.

It appears from this, that if we wish to inclose a space not exceeding 70 feet in length, by a somewhat smaller breadth, we should be quite safe in presuming that the natural radiation of the human voice would reach all the audience with no assistance, provided always we were able to insure that no echo from any part of the walls should interrupt. Should our building be much larger than this size, it will become desirable to assist, if practicable, the voice of the speaker. We may, then, lay it down as one rule for our guidance, than when the room is smaller than about 70 feet by 50, the principal duty of the architect will be to avoid all disturbances, and leave the sound to act for itself by direct radiation. In buildings of larger size he must equally seek to avoid disturbance, but he will need to endeavour artificially to assist the sound as well. Attention to this, which I think is a well-founded difference, will facilitate the work as regards all small or moderate-sized rooms, where the task is merely to *keep* harm away; and this difference also seems to indicate a division of the subject into two heads,—first, the construction of rooms of a size within the limits of distinct direct radiation; secondly, that of rooms beyond those limits.

These two general divisions are recognised particularly in the little work by Rhode. In the first, the labour of the architect is confined to preventing impediments to free radiation, and preventing disturbances from echo. In the second (that of rooms where the sound has to be assisted), the same care has to be taken to prevent disturbances; but dispositions for preserving or reinforcing sound, must be added.

In the first division, that which relates to the prevention of disturbances, we have three causes of interference to obviate—first, echo; secondly, auditors coming before one another; thirdly, extreme resonance.

1. I believe the greatest obstacle to hearing well in any room of moderate dimensions, by which term we will understand one not more than 70 feet by 50 feet or 60 feet, to be *echo*. This is a direct reflection of the sound back from some hard substance against which it strikes, and takes place partly from the side walls, the floor, and the ceiling, but most notably from the wall facing the speaker. The sound of the voice is thrown so directly against that wall, that all or nearly all the sound which arrives there will, if the wall be flat, be thrown back among the audience; and, as the distance from the speaker to the wall, and back to an auditor in the middle of the room, is much greater than from the speaker direct to such auditor, it follows that the echo, having farther to travel, will be heard some sensible time later than the original sound, and in this way will produce confusion. In reference to the echo from an end wall, Herschel, in the "Encyclopædia Metropolitana," observes, as follows:—

"When ten notes succeed each other in a second, as is often the case in modern music, the longitudinal echo of a room 55 feet long, will precisely throw the second reverberation of each note on the principal sound of the following one, wherever the auditor be placed, which (so far as it is heard) will produce only discord."

An example of this description of interference exists in Exeter Hall—a building unfortunate enough to have been a good illustration of several descriptions of acoustic defect.

In the centre of the hall, a distinct echo exists from the straight, broad front of the gallery facing the orchestra; and a person sitting there can distinctly distinguish the echo of every conspicuous note in a piece of music reaching him from behind, the very instant after the note itself has reached him from before.

Where the front of a gallery is not, however, such as to occasion an echo, I believe its existence at that end of a room which faces the speaker or musicians is often acoustically advantageous, if it be not too deep. The front of it should either be entirely open, as at St. Martin's Hall, or made of a curved contour, as at the Free-Trade Hall, in Manchester, or inclined backward.

If it be near the floor, it will diminish the echo thrown forward by the wall beneath itself, and if none is occasioned by its own front, a gallery will pretty effectually destroy the disturbing echo from the end wall, since the sound thrown back by the wall *above* it will not cause much disturbance, as it will also be thrown upward to the ceiling, and there lost.

The echo from side-walls and roof in a room of moderate size is not usually productive of interference, still less so is that from the wall behind the speaker. It reaches the auditor so nearly at the same moment as the original sound, that it more usually acts as a reinforcement than anything else. Where, however, rooms of any size (even down to small apartments) are very lofty in proportion to their width, and have flat ceilings, an echo is almost always disagreeably perceptible.

The precautions which it seems necessary to take, then, with regard to echo in rooms of these dimensions, are ceilings rather low if flat, or if lofty, curved—coved or panelled, end wall screened by a gallery, or broken up by windows (glass is a bad reflector of sound), recesses, or arcades; or else curved or plain doors, covered with cloth, or curtains hung up.

Where rooms exceed this size, other precautions to prevent the absorption, or loss of sound, are desirable, but none of those against echo are to be neglected. Where echo has been found annoying, it has frequently been diminished by covering the floor with some soft carpet, or by hanging curtains in front of some of the walls, or even from the ceiling. The new British Museum Reading room is an instance of a precaution of this description, employed to diminish as much as possible the disturbance caused by sounds: not only is the floor covered with a soft substance, but the reading-tables, desks, &c. are all covered with leather, which serves the double purpose of causing little noise, and helping to deaden whatever is raised. I should think where an obstinate echo is found to exist in a room, that leather might be successfully employed as a lining to the walls, or even ceiling. Felt, when that was admissible, would, in all probability, answer well.

Having referred to a gallery as sometimes affording a successful obstacle to echo, I ought not, perhaps, to pass on without observing that it very frequently also affords an obstacle to direct radiation of sound; and deep galleries render many churches difficult to fill with the voice, or, which is much the same thing, difficult to hear in, for I believe it holds good that every room which contains seats whose occupants cannot hear, is difficult to fill with the voice; and *vice versâ*, those rooms difficult to speak in, are so because they contain spaces (whether devoted to the auditory or not) to which the voice does not penetrate.*

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE second ordinary general meeting of the present session was held on Monday evening last, at 16, Grosvenor-street; Mr. Hussey, V.P., in the chair. Amongst the donations announced were three volumes (for 1854, 1855, and 1856) of the Revue Générale de l'Architecture et des Travaux Publics, by M. César Daly; from Mr. C. H. Smith, honorary member, a collection of outline working drawings, by the late James Wyatt, R.A.; an engraving of the north elevation of the tower and spire of Bow Church, Cheapside, from Mr. John T. Christopher; and a study, in plaster, by Mr. E. Richardson, of a tomb executed by him, and erected by the Marchioness of Ormonde, to the memory of the late marquess, in the south transept of St. Canice Cathedral, Kilkenny.

Professor Donaldson, in referring to the elaborate work of M. César Daly, recommended the volumes to the attention of the members, as they contained much that was curious and interesting. They contained some fine illustrations of ancient mosaic, and also some polychromatic drawings, which proved the advance making in France with respect to publications of that description. He also wished to call attention to the admirable and highly-finished illustration of the tower of Bow Church, Cheapside, the original drawing of which had carried off the prize at the Royal Academy. In the production of this drawing Mr. Christopher had devoted much time and considerable expense, having erected a scaffolding to the spire, in order to get the dimensions accurately. The church was one of the best works of Sir Christopher Wren, that distinguished architect having laboured to make it a striking object among the congregation of spires which surrounded it. It was impossible not to be struck with its graceful proportions, or not to admire the skill with which the architect had realized his design. The drawing of Mr. Christopher showed the sections and the thickness of the walls, and was in all respects an admirable work, which could not be adequately described except as a credit to the English school. With regard to the drawings presented by Mr. C. H. Smith, they contained the reflex of a thinking man, who held a high position in the profession to which he belonged. He begged, in conclusion, to propose a vote of thanks to the several donors of the various gifts. Carried unanimously.

Mr. Nelson said the Institute had forwarded a copy of their "Transactions" to the Institute of Architects at Victoria, and that the gift had been acknowledged in a letter, in which the secretary of the Institute expressed the obligations of the body which he represented, and promised to reciprocate the compliment whenever the Institute was in a sufficiently advanced state to publish its transactions.

Mr. Penrose said he wished to make one or two observations with reference to the debate which had taken place on the last evening of meeting, respecting the discoveries at Halicarnassus. He found, on referring to the report of what had taken place on that occasion, that Mr. Ashpitel had stated that no architect had been attached to the exploring expedition. He (Mr. Penrose) begged, however, to state that an architect (Mr. Pullen) was attached to it, mainly, he believed, at the instance of the Dilettanti Society, but at a later period, perhaps, than that to which Mr. Ashpitel had referred. Mr. Pullen remained a year with Mr. Newton, assisting him in his researches; but the result of his investigations had not yet been published. He had been very successful in his discoveries, and had found a magnificent lion, 10 feet long, which would shortly be conveyed to this country. It had also been said, at the last meeting, that no remains of colour had been detected in the marbles deposited in the British Museum; but Mr. Pullen had reported that he had scraped blue and red from the background of the small friezes and other portions in sufficient quantities for purposes of analysis.

* To be continued.

The Chairman said he could certainly discover no trace of colour.

Mr. Penrose said he also had minutely examined for traces of colour, but had not been successful in finding them.

Mr. Ashpitel remarked, that his observations had reference to the marbles which had arrived in this country, and that he was justified in saying that no architect had gone out with the expedition, which was under the charge, not, certainly, of a captain of Irish dragoons, but a captain of engineers. He had something more to say upon this subject, but that he could not think of trenching upon the time to be devoted to the discussion of the interesting paper about to be read. All he should therefore add was the expression of his hope, that Mr. Penrose would give him credit for believing that he had grounds for the statement he had made on the last evening of meeting.

Mr. Digby Wyatt (honorary secretary) observed, that when the second cargo of marbles arrived, Professor Cockerell had kindly promised to bring the subject again under the notice of the Institute.

Professor Donaldson said that the lion referred to by Mr. Penrose had nothing to do with the monument of King Mausolus, and that it had not been found at Halicarnassus.

Mr. Penrose said that such was the fact. He did not mean to infer that it was one of the lions supposed to have surmounted the tomb of Mausolus.

Mr. H. B. Garling (Fellow) then proceeded to read a paper, entitled "Some Remarks on the Contents of the Album of Villard de Honnecourt, on the Occasion of its Presentation to the Library."

Our readers are already acquainted with the work, and in our present number will be found further particulars, together with engraved illustrations.

At the conclusion of Mr. Garling's paper,

Mr. Burges, being called on, remarked that he had very little to add to that which he had already communicated to the *Builder*. He purchased M. Lassus's work at Paris, and had carefully compared it with the manuscript. The conclusion to which he arrived was, that Villard de Honnecourt had made his drawings with something like a lead pencil—propably a lead point; that he had drawn in two circles, and had subsequently gone over the whole with a crow-quill. The fluid which he used with the quill was most probably an indelible brown ink, as in some cases the lines nearly approached to black, while in others they were a light yellow. With reference to the figures depicted by geometrical lines, he fancied that Villard de Honnecourt merely used the lines as a medium for copying, by which means he was able to dispense with a knowledge of anatomy. But for all that, he drew his figures better than they were usually drawn by architects in the present day. By the present system, figure drawing appeared to be completely put on one side. A man was put into an office, and told to pick up all he could, and, instead of getting one work on which he could display all the resources of his genius, and all the energy of his mind, he was forced to get up fifteen or sixteen little churches.

The Chairman inquired whether the lithographed copies in the work of M. Lassus were faithful representations of the original drawings.

Mr. Burges said he had compared several of the lithographed copies with the originals, and that they were in fact too correct, inasmuch as many of the ragged lines had been copied in *fac simile* fashion, which imparted a certain weakness to them. In fact, Villard de Honnecourt's drawings were executed with a firmer hand than was shown in the copies.

Mr. J. W. Papworth observed that Mr. Garling had set the Institute an example, which might be followed with advantage by others who made donations to the library, namely, giving an explanation of what these works contained. With regard to the work itself, it was far more interesting than the preface which M. Lassus had written as an introduction to it. One main fault of that preface was the author's insisting upon claiming for France the merit of all the great architectural works out of France. The only merit, in fact, which the preface contained, was that which was borrowed from "Pugin's True Principles." He (Mr. Papworth) leaned to the opinion that architects now-a-days knew a great deal too much of everything, and not enough of their own particular profession. They were expected to make their own drawings, to be good painters and sculptors, and, in addition, masters of all the handicrafts incidental to the vocation of building.

Mr. Digby Wyatt observed that the paper read by Mr. Garling was extremely interesting in an historical though not in an esthetic point of view. The work of Villard de Honnecourt established the fact that, in certain instances, the architect, the designer, and the sculptor were one and the same person; that they studied from nature, and that the entire tendency of Mediæval art was extreme simplicity. This was shown to be the case in all the sketches, and there could be no more interesting sequel to the paper read by Mr. Garling, than if he were to direct attention to the working drawings of the architects of the Mediæval period, with the view of showing that their style, which they practised with so much success, could be made really practicable in the present age. With regard to the drawing of the Mediæval period, many very interesting specimens were in existence in various parts of the Continent, including France, Spain, Belgium, and Germany. At Rheims, it was discovered that the register of deaths was written on sheets of parchment, which contained some interesting drawings, one of them representing the great façade of a church, drawn with a masterly line, but with extreme severity, proving that the architects of that day were content to obtain simple effects without troubling themselves with elaborate details.

Mr. Ashpitel observed, that whatever diversity of opinion there might be about the merits of M. Lassus's work, there could be but one opinion as to the thanks which were due to Mr. Garling for his extremely interesting and carefully-prepared paper. He begged to move a vote of thanks to Mr. Garling.

Mr. G. G. Scott seconded the motion, and observed, that it was extremely interesting to see, however little of, the interior of an artist's studio of a great period. The little peep which Mr. Garling had afforded them into the inner life of an architect of the thirteenth century was in his (Mr. Scott's) opinion interesting and suggestive, although he feared that some gentlemen in the room were not disposed to agree with him in that declaration. But if they were really, as they ought to be, artists and architects, they would feel an interest in it. Looking at the question merely in an historical point of view, it was one which had many claims upon their attention. The idea as enunciated by Lassus, that Villard de Honnecourt was the man who imported French Gothic architecture into Germany was an interesting subject of inquiry. The grounds upon which Lassus argued were certainly very slender, but still there was something in them. But putting aside the conjectures of Lassus, with regard to the origin of Villard's mission into Hungary, which appeared to be veiled in obscurity, and upon which the artist had not himself thrown any light, it was interesting to trace the manner in which he seized everything he saw, as likely to aid him in his art, and with what marvellous facility he recorded it on paper. He (Mr. Scott) fancied there were not five members of the Institute who could draw figures as well. Mr. Burges no doubt could do so, but speaking generally, he did not believe architects of the present day could produce anything of the kind so good. Well, he should like to see a day appointed on which the architects would try and draw as well. It seemed to him that the architects of the Mediæval period drew as they wished their works to be executed, while architects of the present day drew, not works which could be carried out but, works for which they would like to get commissions. The old architects did not, it was true, make pretty pictures, but they made designs from which the works could be executed, while our architects often made drawings which the workmen could not carry out.

Professor Donaldson said, that although there was a good deal of querulousness in the language used by Lassus, there was still a good deal of truth and much suggestive matter in his pages. He (Professor Donaldson) had read the work twice, and had arrived at the conclusion that it was the production of a thinking mind. He could not go the length of saying that the preface was to be disregarded altogether by the student of architecture.

Mr. Marrable confessed that in his mind the drawings of Villard de Honnecourt were not capable of conveying any practical knowledge to the student. He also felt inclined to differ with Mr. Scott, who contended that architects of the present day could not make working drawings from which the men could work, as his experience led him to an opposite conclusion. With regard to the question before the chairman, naming a vote of thanks for the paper read that evening, he was of opinion that the votes of the Institute should be given with discrimination, and that, as a matter of form, a vote of thanks should not necessarily follow the reading of every paper. With every desire to acknowledge the great care and ability involved in the preparation of Mr. Garling's paper, he felt bound to express his regret that so much time and labour had not been employed upon a subject of greater interest to the Institute as architects. It seemed to him that the paper was entitled to credit rather in an archæological than an architectural point of view.

Mr. Digby Wyatt reminded the meeting that that which was the history of art to the student was also his best lesson. There was certainly an important historical lesson involved in the records of Villard de Honnecourt, which must possess attractions for that portion of the profession which was interested in the legitimate revival of mediæval art.

Mr. Penrose remarked that he was disposed to agree in a great portion of what had fallen from Mr. Wyatt and Mr. Marrable. He was of opinion that too much prominence had been given to archæological papers, but that read by Mr. Garling did not, he thought, come within the category, because, although old, it was not, strictly speaking, archæological, it was a matter of living importance, and he thought the Institute ought to be extremely thankful to Mr. Garling for his communication.

The chairman said that, in his opinion, they were much indebted to Mr. Garling for the example he had set by explaining the contents of the volumes he had presented to the Institute.

The vote of thanks was then passed *nem. con.* and the proceedings terminated.

TEMPERATURE IN EUROPE.

The following was the temperature on the 4th inst, at eight o'clock a.m. as received by telegraph, at the Imperial Observatory, Paris, reduced to Farenheit:

	Deg.	Min.		Deg.	Min.
Dunkirk	38	1	San Fernando (3rd)	59	2
Mezières	24	8	Rome (3rd)	39	2
Strasbourg	22	1	Turin	37	2
Paris	30	1	Florence (3rd)	42	8
Havre	38	8	Brussels	31	9
Brest	37	2	Vienna	34	1
Napoleon Vendée	32	9	Lisbon	48	7
Limoges	27	2	St. Petersburg	37	0
Bayonne	33	8	Moscow (3rd)	14	0
Avignon	32	5	Nicolaief (3rd)	30	9
Lyons	29	5	Warsaw (3rd)	24	4
Besançon	36	7	London, Hyde-park, at 9a.m.	48	0
Algiers (3rd)	63	3			
Madrid	32	2			

Thus our metropolis has had a higher temperature than nearly all Europe, except Florence and Lisbon. Madrid was colder than St. Petersburg, as were also Paris, Lyons, Mezières, Strasbourg, Limoges, Bayonne, Avignon, Besançon, Turin, Brussels, and Vienna.

INSTITUTION OF CIVIL ENGINEERS.

RAILWAYS IN PORTUGAL.

The first meeting of the session 1858-59, held on the 9th inst. Mr. Bidder, V.P. in the chair, was occupied by receiving a "Description of the Line and Works of the Lisbon and Santarem Railway," by Mr. J. S. Valentine.

The author then proceeded to remark that railways in Portugal were entirely under the control and protection of the Government; the method of granting concessions, as well as the general supervision exercised over the works during construction, being similar to the French system. The ruinous competition, and the costly Parliamentary contests, the result of the English system, were therefore avoided; but, on the other hand, the constant interference of the Government officers with the practical execution of the works, as well as that which might be apprehended in the working of the traffic, was attended with many and grave disadvantages, of which the author narrated several striking instances.

The land required for railway purposes might be purchased either by private agreement, or by legal expropriation; but the latter process was generally found to be necessary, on account of the difficulty of ascertaining that all rights and interests in the property were extinguished. The paper then proceeded to describe minutely the expropriation system, which was not an expensive process, nor did it occupy much time. When the parties could not agree as to terms, arbitrators were appointed; but should dissatisfaction still be felt, an appeal could be made to the superior courts in Lisbon. This system, although good in principle, and simple and expeditious in practice, was liable to great abuses; consequently, the cost of the land for the Santarem Railway proved

much greater than was expected, in some cases exorbitant prices having been demanded and obtained.

The author then narrated the successive stages which resulted in the Central Peninsular Railway of Portugal, to the first section of which, from Lisbon to Santarem, a distance of forty-five miles, he was appointed engineer; not, however, until the contract had been determined between the Government and the company.

The works were inaugurated on the 17th of May, 1853, and shortly afterwards a company was formed, the capital of which was 800,000*l.*; the contract for the entire execution of the works, and for furnishing the rolling stock, being taken by Messrs. Waring, Brothers, and Shaw.

This line was constructed along the northern side of the valley of the Tagus, skirting, and in places passing through, the high grounds which bounded it, and which, in several localities, especially at Lisbon and Santarem, terminated in high cliffs on the river itself.

The total length of the line was nearly forty-five miles. The gradients were for the most part good, upwards of thirty miles being pratically level, and the steepest inclination being 1 in 111. The curves were also equally favourable, and the works were generally of an easy character. The earthworks averaged 45,535 cubic yards per mile, the cuttings being principally in a dry loam, intersected by thin beds of hard rock, composed of marine shells. The embankment along the margin of the Tagus at Lisbon, which consisted of soft, black mud, was formed of clay and rock from the cuttings, the latter affording an admirable protection to the outer slope, which, by the action of the waves between high and low water, gradually assumed a form resembling a natural beach. The fiscal engineer insisted that a heavy retaining wall of masonry should be constructed, but this demand was successfully resisted, and the result had justified the expectations of the author. The bridges were neither numerous nor large; the only ones considered worthy of notice in the paper being those over the public road from Lisbon to Pogo do Bispo, at Xabregas, and over the river Sacavem. The former consisted of one skew opening (at an angle of 32° 30') 22 feet 4 inches in width on the square, and of three arches, each 22 feet 6 inches span, and one 9 feet span in the east abutment. The principal part of the work was executed in dressed ashlar masonry, with rubble backing, the arches being turned in brick, and the superstructure of the main opening being formed of cast iron. The Sacavem bridge consisted of two side arches, each 25 feet span, and of a centre opening 100 feet span, crossed by two wrought-iron box girders, each 108 feet in length, 8 feet in depth, and 2 feet in width across the top and bottom plates; thirty-five transverse girders, each 25 feet 6 inches in length, 15 inches in depth, and 6½ inches across the top and bottom flanges, rested upon the bottom flanges of the large girders. The centre breaking-weight of one iron girder was 303 tons, and of the bridge, equally distributed, 1,212 tons. The total weight of the iron work was eighty tons.

The permanent way was composed of a single-headed rail, weighing 60 lbs. to the yard, transverse timber sleepers, and ordinary cast-iron chairs, which were attached to the sleepers by compressed oak trenails. The ballast consisted, for the most part, of a coarse red grit, which set well, and being porous, formed a good road.

FOREIGN ENGINEERING AND OTHER INTELLIGENCE.

On Saturday, the 30th October, the left bay of the Suspension-bridge, over the Rhone, at Pouzin, was carried away, at mid-day, by a gust of wind: it was nearly 100 mètres span. The two other bays have not suffered, nor were the telegraph wires broken. The flooring of the bridge being under water, all communication was for a time intercepted between Drôme and Ardèche, at a point much frequented, owing to the neighbouring forges and the Loriol and Aveyron railway stations.

According to the *Courrier du Bas Rhin*, last week, M. Birkel, a landed proprietor, had a new wine-barrel inoculated with *eau-de-vie*, and placed in a barn. This done, the cooper introduced, as is usually done for the sake of purification, a lighted sulphur match into the barrel, and bunged it up. Some instants afterwards, the head of the barrel was blown to atoms with a fearful report. A jet of flame (no doubt, alcoholic vapour ignited) seized all inflammable substances, which were heaped up in the building, and in a few minutes the whole barn and contents were in ashes.

A prospectus has been issued by the "Compagnie Universelle du Canal Maritime de Suez," founded (as it states) by a decree of his Highness the Viceroy of Egypt, as follows:—

"M. Ferdinand de Lesseps, concessionist of the Suez Canal, in execution of a mandate which he has received from the Viceroy of Egypt, opens a public subscription after having assured himself of the concurrence of leading financial authorities of Europe. The Suez Canal is destined to re-establish that abbreviated communication between the two worlds, which the discovery of the Cape of Good Hope (!) had caused to be abandoned. In order to preserve, for this work, that character of magnitude and universality which belongs to it, M. de Lesseps calls upon all the capitalists of every nation to participate therein." The views and expected commercial advantages, privileges, &c. are then set forth.

The inauguration of the railway which unites Luxembourg with the rest of Belgium took place on the 27th ult. by the King Leopold. This new line traverses twenty leagues of mountains and valleys—some embankments being 60 feet high, and cuttings, 40 feet: the summit level is 450 mètres above the level of the sea. In the section from Aye, near Marche, at Recoque, at the most elevated point in Luxembourg, near the *baraques* of Fraiture, the greatest struggle took place between human power and natural obstacles. 300,000 kilogrammes of powder were here used for blasting purposes, and the beholder is astounded at the enormous heaps of blocks and fragments which remain as witnesses of extraordinary labour and perseverance.

INSTITUTE OF CIVIL ENGINEERS IN IRELAND.

An ordinary general meeting of this body took place on the 9th instant at Dublin;—Mr. M. B. Mullins, the recently elected president, in the chair. The chairman expressed his gratitude for the honour conferred on him, and announced his intention of bringing at an early moment before the body "some memorial notices of distinguished Irish engineers," and a general history of the profession itself.

Messrs. Kelly, of Madhopoora, Punjaub, India, and John Harchen, of Hollywood, Belfast, were admitted as members.

Mr. Bower read the first of a series of papers descriptive of works on India, designated "Indian Engineering Notes," accompanied with a large map illustrated, which he presented to the Institute. On this are shown the various lines of railway, both guaranteed and projected, and other great works now in course of erection. It appears by this that 7,115 miles are projected and 4,543 guaranteed, but only 346 open for traffic as yet. Guaranteed capital, 27,514,000*l.* The paper further detailed the great works on the Indian Peninsular line, the tunnels through basalt, bridges 160 feet high, cuttings 80 feet deep, &c. &c.

The other works described comprehended the Godaverry weir, 4 miles long and 30 feet high (the Calcutta drainage and sewerage cost 4,673,000 rupees), Mr. Clark, C.E.; the Bombay waterworks now completed, Mr. Conybeare, C.E.; the intended lighthouse on the Great Basses Rock of the South Coast of Ceylon; the irrigation works of the river Canvery, and the proposed great reservoir of the Neilgherry Hills, with the valuable addenda of schedules of prices, and notes of the value of labour in India and Ceylon.*

RESTORATION OF STATUARY, LINCOLN CATHEDRAL.

Having observed several inaccuracies in the notice which has been taken, in a provincial paper, of the recent restoration of ancient statuary on the exterior of Lincoln Cathedral, I hope you will accept a few remarks in reference to the subject.

The three figures have been regarded, perhaps, without sufficient authority, as those of King Edward I. and his queens, Eleanor of Castile and Margaret of France.

They form part of a grand series, and there is an evident connection between the two royal figures on the south-east buttress.

There is no heraldic device to lead to their identification. The ample folds of the girt tunic and mantle of the warrior king conceal the chain mail, except upon the hand and arm, on which rests the plain heater-shaped shield, and on the feet, which trample on a prostrate foe.

The companion figure is clad in a kirtle, fastened with a girdle, which appears beneath a cyclas, or sleeveless tunic and mantle.

A sceptre, of which traces remained, was held in the left hand. The heads of both figures have been destroyed, although indicated by Carter in his etchings of ancient sculptures.

The third figure, on one of the southern buttresses, conjectured by some writers to be intended for Queen Eleanor, whose aspect is so familiar, from the matchless effigy in Westminster Abbey, and the statues on the crosses erected in her memory, has no especial attribute of royalty, nor any apparent connection with the statues at the south-east angle, before described.

The remains of the head, which fell a few years since, through decay, have been happily preserved. The features are extremely beautiful: the hair, though free, is not long and flowing, but appears in a few graceful curls issuing from beneath a veiled diadem, as was customary with ladies of rank in the thirteenth century, and not very different in effect from that represented in the effigy of a lady of the Fitzalan family, in Bedale Church, Yorkshire, figured in Hollis's Monumental Effigies.

Charles A. Buckler.

* We shall feel great pleasure in chronicling the proceedings of "The Irish Institute of Architects" likewise. We see no reason why that also should not hold instructive conversazioni.

THE FOUNTAIN FOR HOLYROOD.

BRITISH ARTISTS.

Sir,—In your notice regarding the fountain about to be erected in front of Holyrood, a copy of the one at Linlithgow Palace,—and which perhaps you justly enough call a "mongrel affair,—"you ask if it is not too late to induce Lord John Manners to alter his intention. Perhaps it may not be, if you will be so good as propose a better design, to be in harmony with the old palace of Holyrood. It is very easy to find fault, but look at what has been done in Trafalgar-square. There is a taste springing up in this country for fountains, and a hint from you might be of service. What say you to a copy of the fountain of Latona at Versailles for Prince's-street Gardens, Edinburgh? Of course it would be quite out of harmony for Holyrood.

A Subscriber.

**** What say we? Why, that it would be a ridiculous insult to our artists. Let the proper steps be taken, and there will be no difficulty in obtaining a satisfactory design for a fountain either at Holyrood or Princes-street Gardens. We repeat our protest against the absurdity of reproducing the ugly anomaly, formerly at Linlithgow, for Edinburgh, and invite the art-lovers of that beautiful capital to make an endeavour to prevent it. To copy at all for such a matter is preposterous, but to copy mongrel ugliness is the conduct of untaught savages. Our architects, in every open foreign competition, carry off the palm: we spend thousands every year in schools of design; and when the governing powers of the country want a fountain they go back to an ugly specimen of the art of a debased period, and copy that,—to say nothing of throwing obstacles (as we are in a condition to prove they do) in the way of individuals anxious to give opportunities to British artists to distinguish themselves and adorn their country! We can scarcely write of it with common patience.

SCOTLAND.

New General Register House, Edinburgh.—Government has just entered into contracts for the erection of additional accommodation at the Register House, and the work will be at once proceeded with. The site immediately adjoins the north-west corner of the present Register Office. The new building will occupy an area of 130 feet square. This new portion will present two façades, one towards Prince's-street, and the other towards Register-street. The style adopted is Italian. The building will be 70 feet in height, and will consist of three stories and a basement floor. The centre portion will be decorated with two tiers of coupled columns and pilasters, resting upon a rusticated base, the whole surmounted by a cornice. The chief entrance from West Register-street will lead directly through a spacious hall into the principal record-room. This apartment will form the great feature of the interior arrangements. It will occupy an area of 75 feet in diameter, and rise to a height of 75 feet, the centre portion being surmounted by a dome and cupola, lighted by a series of circular-headed windows in the former. The room will be surrounded by four tiers of galleries, in which accommodation will be provided, by extensive book-cases for the register of births, marriages, and deaths, and other public records. Opening from the entrance-hall, corridors conduct to numerous public offices connected with the Court

of Session and other public departments. The plans have been prepared by Mr. Matheson, of Her Majesty's Board of Works. The contractor for the work is Mr. D. Rae, and the building, which will cost about 26,000*l.* will be finished in two years.

Houses for the Working Classes.—A meeting at Edinburgh, of gentlemen interested in the formation of an association for the erection of houses for the working classes, was lately held, when various suggestions were made; and Mr. Muirhead, of Muirhead and Sanderson, builders, according to the local *Post*, stated that the financial result of building a range of brick tenements at New Broughton was that, for houses with two or more apartments, rents averaging 9*l.* 5s. had been obtained, and that the interest on the capital expended was not less than 10 per cent. Mr. Muirhead thought brick houses quite as comfortable and warm as stone erections, while they could be built at a considerably less cost. Dr. Begg suggested the building of cottages similar to what was done at Birmingham. Mr. Allan having read a prospectus of the proposed association, it was remitted to a small committee to report on the same to a future meeting.

Corn-Exchange for Kirkaldy.—At a recent meeting of the Town Council, a minute was read regarding the appointment of Mr. Smith, Mr. Hay, and Mr. Cousin, architects, to send in plans for a new Corn-Exchange, and the plans were laid before the council, viz. those of Mr. Hay and Mr. Smith: Mr. Cousin did not compete. The plan by Mr. Hay was estimated to cost from 1,600*l.* to 1,800*l.*; and that of Mr. Smith, 1,800*l.* A plan by Mr. Forfar, of Edinburgh, was also sent in.

Arbroath.—The Royal Bank of Scotland has, for the purpose of building a bank, taken a piece of ground situated on the east side of the High-street, Arbroath. The contracts by the different tradesmen are now sent in. Messrs. Peddie and Kinnear, of Edinburgh, are the architects. Other business-premises are about to be erected.

Perth.—A Perth baker, Mr. Sharp, left 15,000*l.* for educational purposes in that city. The trustees have commenced to erect a large building in Methven-street, to be called Sharp's Educational Establishment.

CHURCH-BUILDING NEWS.

Oakham.—The church of All Saints, at Oakham, Rutland, has been restored and re-opened. A new chancel roof, of oak, panelled in the Decorated style, has been reared. The roofs of the nave, aisles, and transept have been restored with English oak, and all covered with new lead. The ceiling of the south chapel is in oak-moulded ribs and carved bosses at the intersections, with traceried panels. The western door is now made the principal entrance, the ringing chamber being constructed over the archway. New oak frames have been introduced for the bells, two of which have been re-cast by Messrs. Mears, of London. A new clock, with quarters, by Dent, of London, will shortly be erected in the tower. A new five-light east window has been introduced into the chancel, and corresponds with the Decorated architecture of that part of the church. The interior shafts of the window are composed of Derbyshire marble, polished. The edifice has been denuded of galleries, and re-seated with open seats of wainscot, with moulded ends, having carved terminations. A low wainscot screen divides the chancel from the nave, and is filled in with open tracery, carved. The panels of the pulpit, which is of oak, are filled in with tracery. Screens separating the aisles from the chancel have moulded tracery, with embattled cornice. The sedilia is of oak, and has carved elbows occupying a portion of the south screen. The stalls and reading-desks in the chancel have foliage representing the holly, oak, vine, and hop on the terminations. The altar-rail is of oak, with lozenge-formed compartments. The old south doors have been renovated in accordance with their original features. The west and north doors are of oak, and framed in small compartments, covered with rusticated boarding, and have ornamental hinges, &c. The floor of the body of the church is laid with black and red Staffordshire quarries. The chancel and sacrarium are paved with encaustic tiles, from designs furnished by Lord Alwyne Compton. The windows have been entirely re-glazed with cathedral glass, in a small lozenge pattern. The interior stone-work has been denuded of whitewash and brought to its original colour, the whole of the carving being restored. The old Norman font has been cleaned, restored, and fixed at the western entrance. The old stoves have been removed, and a new hot-water apparatus, supplied by Messrs. Roper, of Westminster. The edifice is lighted with brass gas standards, furnished by Mr. Skidmore, of Coventry. The work has been carried out by Mr. Ruddle, of Peterborough, the contractor. The masonry has been executed by workmen in the employ of Mr. Thompson, of Peterborough. Mr. Geo. Clarke, who has the supervision of Lincoln Cathedral, has been acting as clerk of the works. Mr. Scott was the architect employed. The actual cost of the restorations will, it is thought, amount to upwards of 6,000*l.*

Whitchurch.—The church of St. Mary, Whitchurch, Oxon, has been restored and re-opened. The edifice has been almost entirely re-built, from the designs of the architect, Mr. W. Woodyer, of Guildford; the builder being Mr. Thomas Carter, of Oxford. The building now consists of the restored nave, from which the gallery has been removed; a chancel, which has been beautified; and a new north aisle, communicating with the nave by a stone arcade of four moulded arches: the aisle is prolonged, so as to form a chancel chapel. The floor within the altar-rails is paved with tiles, and the reredos is formed of embossed tiles. At the west end of the nave is a wooden arcade of three arches supporting the tower and spire, which have been rebuilt, and covered with oak shingle. The walls externally are of flint, with Bath stone dressings. The Tudor porch on the south side has been restored. The new aisle has an entrance to the north, on which side it is lighted by three windows, and three small lancets in the chancel chapel. The large window at the east end of the aisle is filled with Hardman's glass, by the officers of his regiment, to the memory of Captain E. S. Powys. A memorial of stained glass is to be placed in the west window of the aisle, and the three lancets will be memorials. Another monumental window will be placed in the aisle, and the east window of the chancel will be filled with glass from Messrs. Hardman, to whose care all of the windows have been entrusted. The seats of the church generally are of oak, and all open, low, and uniform. They are of stained deal, excepting the chancel, which is divided from the nave by a low screen and gates of oak. The roof of the chancel is waggon-shaped. There is a gain of seventy sittings for the poor.

Ware.—Christ Church, Ware, erected on the Amwell side of the town, at the cost of Mr. R. Hanbury, of Poles, has been opened for divine service. The edifice is of the Early English style of Gothic architecture, and consists of a nave, north and south aisles, chancel, vestry on the south side, with organ gallery over, north and south porches, and a tower with broach spire. The exterior of the building is of Kentish ragstone, in regular courses, with quoins and Bath stone dressings; and the internal walls are faced with light coloured bricks, rubbed down, and pointed. From the short round stone columns of the nave, spring arches, formed of splayed bricks, which are relieved by the introduction of yellow malm bricks. The roof, which is plastered, is sustained by open timbers of deal stained and varnished. On each side of the church, there are six two-light pointed windows, glazed in coloured quarries; and at the western end of the north and south aisles there are similar windows. In the chancel there is a three-light window, with a geometric window above, and at the western end of the nave a three-light window, with a small pointed oval window above. All these are glazed in coloured quarries. The aisles are paved with Yorkshire stone, the chancel with black and red Staffordshire tiles, and the space within the communion railing with tiles. The seats and fittings of the church are all of deal, stained and varnished. The church is seated for 800 adults. The seats, of which 400 are to be free, are open, and low. The building is heated by hot water, and the arrangements for this and ventilation have been carried out by Messrs. Benham and Son. The parsonage is built of red bricks, relieved by white. The centre of the ground, between the church and the parsonage, will form a site for schools. The works have been executed by Messrs. Dove, Brothers, builders, of Islington, under the superintendence of Mr. J. Brown, clerk of the works. The glazing has been done by Messrs. Powell, of Whitefriars. The architect is Mr. N. E. Stevens, of London.

Tonwell.—A new chapel has been erected in the hamlet of Tonwell, parish of Bengeo, between Ware and Hertford. The style of the structure, says the *Hertford Mercury*, is Plain Gothic, its relation to Gothic being shown in the roof and gables. The edifice is built of red bricks with white brick rustic quoins and window-dressings, and oak-mullioned window-frames, with iron casements. The inside walls are stuccoed and jointed, and the principals of the roof are open, stained, and varnished. The seats and internal fittings are of white deal, sized and varnished. The chapel stands east and west, and at the east end there is a small chancel. At the west end the building extends in the form of a transept to the south, this portion being, on week-days, separated from the chapel by a partition, and used as a school. In that portion of the edifice which may properly be called the "chapel," there are seats for 120 persons, independently of the space at the west end, where there is accommodation for 150 children. The cost of the building, exclusive of the site (which has been given by Mr. Smith, who also defrays the entire cost of the erection) exceeds 900*l.* The architect was Mr. Morgan, of Hertford, and the builder, Mr. Sheffield, of Bengeo.

WHAT IS A WELL-VENTILATED ROOM?

When putting this question in a previous page, I tried to express the generally-felt want of a reply, and was greatly grieved on reading "E. L. G.'s" remarks in the last number, wherein the subject has been treated in so light a manner. Having read that portion of his long and somewhat irrelevant observations which refers to the question, I gather the answer that a well-ventilated room is ——; or, to use his own words, that an ill-ventilated room is like a diving-bell!! Being always obliged for even the smallest amount of information, I return my thanks for this ——, and again put the question,—"What is a well-ventilated room?" The answer (if any one of authority on the subject will take the trouble to reply) will, I am sure, not be worded in the off-hand manner used by "E. L. G." nor need the question serve as a handle for an attack upon the profession, for which "E. L. G." appears to deem it so peculiarly applicable. I have always understood that the ensuring a well-ventilated room depends on many points: as 1, an outlet for foul air; 2, an inlet for fresh air; 3, the position and proportion of these openings; 4, the warming or cooling of the air according to the season; 5, the mode of regulating the admission of air subject to the number of persons, or the heat, in the room; with other important and relative subjects. *When* all these points are settled by the doctors, *then* we shall know "what is a well-ventilated room." At present, if I use A's system, B says it is bad; if I use C's, B says the same; if I use the natural system, the doctors suggest it is hurtful to the body; and so on.

"E. L. G." *may* flatter himself at not having had his fact doubted; but was it worth a line either way? As "E. L. G." imagined, I have the honour to belong to the profession, and acknowledged myself one who charges on the outlay-system; and for the best of all reasons—*it is most satisfactory to myself and to my clients.* They know at once what the architect's charge will be. It is also most satisfactory to myself, as there is no grumbling after my duties are over. Now for the other side. How does "E. L. G." charge? Does he get paid by the job? agreeing with his clients beforehand if required? if so, how does he calculate the time and labour that should be bestowed upon it? This must be guess work. Then if he finds the job takes longer time, does he shirk it, or get less profit? Say this is not the plan adopted, but that he charges by the time *the work has taken.* Well, he knows the time, say three days two hours: at what rate does he charge his time? two, three, four, or five guineas, per diem? How does he prove his time to be worth what he estimates it at? Will the client be satisfied with the architect's appreciation of the value of his own time? How can "E. L. G." even prove to his client that he has fairly spent the time stated on the work? This mode I hold is a suspicious way of making out an account, and it is due to the architect's position, especially, to be placed above all suspicion. The solicitor's charge is generally made out piecemeal, as all those who have had the misfortune to consult them well know. I for one would gladly have a bill, "To carrying your claim for 50*l.* through the County Court," or whatever the case may have been, "at 20 per cent.—10*l.*" and have done with it, than to receive a long affair of some three or four pages of foolscap, ending with the same amount.

The architect can certainly get more money out of a client not disposed to quarrel with a detailed account, but I believe those who so charge are seldom applied to a second time, the clients preferring the outlay-paid system, whatever may be the per-centage agreed upon. But what happens if the client be disposed to quarrel with the amount? Does "E. L. G." accept less, or go to law for the difference? After all that may be said against the outlay mode of remunerating the

professional man, if he perform his duties in carrying out a work of 200*l.* cost, and agrees to do so for, say 10*l.*,—well, is it not 5 per cent. on the outlay? say 20*l.*,—well, is it not 10 per cent.? and so on. I again repeat my conviction that a detailed bill for services is not *agreeable*, either to the professional man or to the client; and I think the length of time the system has been acted upon proves the point.

I trust that "E. L. G.," in the remarks he proposes to send you on this subject, will temper his language somewhat more in accordance with that respect due to his brethren, who at least are gentlemen, whether they happen to agree with his views or not. Should the language be otherwise, I for one shall decline to enter with him upon the consideration of this highly important subject.

A YOUNGER MEMBER.

ST. PAUL'S CATHEDRAL AND THE EVENING SERVICES.

THE arrangements for the evening services, to be commenced, we believe, on the 28th inst. are being forwarded. A temporary pulpit, of large size, standing on twelve small columns, has been erected at the east end of the nave, on the south side, and near it, on the floor level, an organ has been built. The floor under the dome is covered with the elastic floorcloth called Kamptulicon (by Messrs. Treloar), which serves as well to produce comfort as to lessen noise.

The arrangements for warming, made by the London Warming Company, of Great George-street, Westminster, consist in the placing in the crypt of six of their stoves, and opening connection with the nave by gratings. By means of these, cold air will be taken from the nave, and warmed air supplied to it. The stove, as our readers know, is that patented by Mr. Gurney, and consists of a plain interior cylinder, and a series of perpendicular radiating wings; the whole placed in a pan of water, the water being regulated in depth to produce any required amount of evaporation. The vapour passes, in conjunction with an ascending column of air, over the external surface of the stove, rising up between the wings, and by this means prevents the stove from being over-heated, and the air from being over-dried or burnt. The entrances to the cathedral for the evening services will be, we believe, by the two aisle-doors at the west end.

ARCHITECTURAL EDUCATION.

THE SKETCH-BOOK OF VILLARD DE HONNECOURT.

As I find that some remarks I ventured upon, during the discussion at the Institute upon this curious relic, were misunderstood, through my having expressed my meaning imperfectly, and as my intention was not to give offence, but to call attention to what has long struck me as the great defect in our architectural education, I would beg your permission to explain my meaning more clearly.

It seems clear, from all the evidence we have, that, during all the great periods of our art, the artistic powers and education of the architects (whether greater or less) were directed wholly to the *perfecting of their actual works*, and scarcely at all to making pictorial representations of them. I will not say that the converse holds good with ourselves, but I do strongly think that, in our artistic education, far too great a prominence is given to making pleasing pictures of our works, whether completed or in prospect, and far too little to the cultivation of the power of designing, in a really artistic manner, the decorative portions of our works themselves, and so impressing upon them that stamp of art and imagination which delights us in the works of many former periods.

Our modern power of drawing the buildings themselves pictorially, and in true perspective, is a most valuable accomplishment, and far be it from me to underrate it. There is no doubt that it ought to be a means of facilitating the actual designing of our buildings: our working drawings, also, of the construction, and of all the more mechanical forms, in our designs, are probably fully equal to those of any former time: what I referred to in my remarks was the *decorative* portion of our buildings, and my object was to call attention to the importance of so directing our artistic studies, and those of our pupils, as to ensure to ourselves the power of inventing, and directing others in the execution of those more imaginative and unmechanical parts of our buildings, rather than allowing our art-education to be absorbed wholly, or in too great a degree, in picture making, which I cannot but think has been very much the case, and that to the great detriment of our works *as works of art*.

Now, we see this old architect, Villard de Honnecourt, though ignorant of perspective, unskilled in making pleasant views of buildings, and having little opportunity of viewing the works of classic sculptors, nevertheless taking more pains in fitting himself to direct his art-workmen than is customary at the present day. We find him sketching and designing sculpture in a manner which, however quaint, would shame most of ourselves; drawing animals, birds, insects, &c., from nature; actually going to menageries, and sketching wild beasts, not only while at rest, but when in a state of excitement, and afterwards, as it would seem, designing martyrdoms, and fights with beasts, for his sculpture, with the help of the lessons thus learned; making sketches of any persons, scenes, &c., which happened to occur to him as aiding his art, such as wrestlers, gamesters, soldiers, &c., &c.;—in fact, taking every means of aiding the artistic embellishment of his works, while evidently unable to make pictures of the buildings themselves.

What I wished to suggest was that, while not neglecting that in which we do excel, we should do well to follow the older architects in studying more carefully the means of thus perfecting our own *actual works*; and I heartily wish that we could institute a school of architectural art, having that express object.

GEORGE GILBERT SCOTT.

MR. CHRISTOPHER'S ILLUSTRATION OF BOW STEEPLE.

WE have elsewhere printed a warm eulogium, by Professor Donaldson, of the view, plans, and section of the tower and spire of Wren's Bow Church, which have been well engraved by Mr. J. H. Le Keux, from drawings made from actual admeasurement by Mr. John T. Christopher, and to which the silver medal of the Academy, it will be remembered, was awarded. We must, nevertheless, add our own commendation of the work, which forms a sheet well adapted for framing for an office or library. This careful, measured illustration of Wren's best steeple, is one of those things a man seldom does completely more than once in his life, and it serves as a special piece of training, and an evidence to be pointed to thereafter of his skill and perseverance.

The extreme height of the steeple is 221 feet 8½ inches; the width on the ground, 31 feet 11 inches. It was commenced in 1671, finished in 1680, and cost 7,388*l.* 8s. 7d. Amongst the memoranda on the sheet, a view is given of the upper part of the spire before the restoration by Mr. Gwilt, and it is noted that a metal cramp, at about 20 feet down from the top of the stonework, expanded from ½-inch to 1½-inch, and threw the stonework above out of perpendicular. There ought not to be any occasion to publish further instances of this sort, but there is. We trust that Mr. Christopher will find a sufficient number of admirers of the works of Wren, or of the ecclesiastical structures of the metropolis, to repay his outlay and exertions.

HORLEY CHURCH, SURREY.

MR. EDITOR,—Do go and look at the interior of this edifice, and point out to the authorities that it is not exactly as we now expect to see a church. It is in a miserable state: such carpenter's Gothic! And the railing of the tower, *inside* the church, is the most comical "screen" you ever saw: it is just like the frontage to a poultry-yard or a large bird-cage. Poked out of the way, covered up behind pews, and smothered with whitewash, is a very fine full-sized effigy of an armed knight, the legs *not* crossed, feet resting on a capital lion: the whole body is covered with chain armour, and over it are a breastplate and helmet: his left hand holds his shield, which lies beside him; and the right arm reclines passive at his side. The chimneys of the stoves in the church are supported on iron rods, which run yards and yards along the aisles, till at last they find their way out, with a huge elbow-piece, through the middle of the windows. Just imagine it, in these enlightened days, too. There is an interesting brass of a female here, under a wonderfully fine canopy.

A TRAVELLER.

FALL OF A HOUSE IN SPITALFIELDS. On the 15th inst. one of a row of old houses in Palmer-street, Spitalfields, gave way, and a lofty stack of chimneys fell through the roof and floors, killing two persons and injuring several others. The adjoining buildings have since been shored up.

ARCHITECTURE AND CHARITY.

THE PROPOSED RAGGED SCHOOL, IN NOTTINGHAM.

THE selection of a design by a London architect, Mr. Edwards, already mentioned, has produced a controversy in the local journal, objectors asserting that the invitation of the committee was solely to the architects of Nottingham. The selected architect replies that most of his boyhood was spent in Nottingham, that his family have long been connected with the town and country, and makes the following curious remark:—

"Indeed, had it not been for the illiberal and extremely uncharitable spirit of several architects of the town, I could not have met with my present success. For, I should very much have regretted the illiberality of the Nottingham architects, in refusing to compete amongst themselves (when *very generously* invited to do so by the committee), because these gentlemen *very properly* required that the successful architect should refund one-half of his commission towards the funds of this very deserving and excellent charity. It is, therefore, with extreme pleasure I find myself unknowingly coming to the rescue; and thus prevent the reputation of my profession from being injured—as it would have been a lasting slur upon these architects, in showing a lamentable want of an ordinary spirit of charity to an institution which, of all others, requires assistance from every one who, in the least, has it in his power to lend a helping hand to those ragged and wretched outcasts of society who are so utterly incapable of helping themselves."

If a refusal to assent to such a *very* generous invitation is to be "a lasting slur" upon architects, we shall soon have a similar condition imposed in the case of every hospital, school, dispensary, almshouse, and church about to be built, to which of course the reasoning equally applies. Does each member of the committee propose to tax himself to the same amount as is coolly required from the architect who *succeeds*, saying nothing of the profitless tax paid by the whole of the unsuccessful competitors in the same cause? This is a sort of charity which architects ought to be very careful, for the sake of others, in advocating. The editor of the *Nottingham Journal*, commenting on Mr. Edwards's letter, says, with a better appreciation of an architect's services than is usually found,—"If there be any want of charity in the matter, it is the committee,—who required the architects to give up one-half of their commission,—whoare deficient in that virtue. To insist upon the architect giving up half his commission was a great *injustice*, and consequently opposed to charity, for charity cannot be unjust."

TOMB ERECTED FOR MR. BERENS, IN NORWOOD CEMETERY.

THIS tomb, recently erected from the designs of Mr. Edward M. Barry, occupies a commanding site immediately opposite the entrance of the Episcopal chapel, and stands within an enclosure of its own, 25 feet long by 18 feet wide. The tomb itself is 15 feet long, and 8 feet 6 inches wide, and measures 16 feet 6 inches to the top of the cross. The base is of red granite, polished, and the superstructure is entirely of marble, with the exception of the sculptured portions, which are of Portland stone. The twisted columns and cornice over them are of Sienna, and the bases of red marble. The remainder of the structure is chiefly of black marble, by means of which a sombre effect is produced. The doors to the vault, the crosses, and the ornamental cresting are of bronze, manufactured by Mr. Potter, who also carried out the railing surrounding the tomb. The sculptures (by Mr. Thomas Earp) are many and varied. The *bas reliefs* at the sides and end represent the principal events connected with the life of our Saviour, beginning with the Annunciation, and ending with the Ascension. The carved cornice is composed of flowers, such as lilies, sunflowers, passion flowers, &c. bearing a symbolical reference to the subjects below them. The figures at the corners are the four Evangelists, and the emblems of each are displayed in the adjoining capitals.

The shields bear the arms of Mr. Berens, and above the same is his motto "Deus protector meus," is given by Minton's tiles let into the black marble. Below the *bas reliefs* a similar mode of treatment is adopted, and the tiles show alternately a crest, and a device formed by the letter B. The bronze doors at the end lead into the burial vault, which is lined with stone and black marble in alternate courses, and has a marble pavement with a large inlaid cross. The doors are divided into square panels, containing each a quatrefoil and a perforated cross. The enclosure round the tomb is formed of black marble and stone, disposed in a chequered pattern. Mr. Field, of Parliament-street, is contractor for the work, the cost of which, we understand, will be about 1,500*l.*

TOMB ERECTED FOR MR. BERENS, IN NORWOOD CEMETERY.—Mr. E. M. Barry, Architect.

DRAUGHTS *versus* VENTILATION.

SIR,—I am convinced that a writer in your suggestive paper was correct who maintained that the true secret of getting rid of draughts consisted in the fullest freedom of ventilation possible in all directions, consistent with comfort in our varying climate; and that another of your correspondents is also right who urges the advisability of using every endeavour, in all sorts of forms, grave or gay, to produce just such a public opinion in favour of ventilation as has now long existed against draughts. Go where you will, even amongst the lowest and most ignorant of the community, one now finds (unless it be in the abominable old omnibuses of the L. G. O. C. as they call themselves), a fixed opinion (and a very correct one, too, in its way,) that draughts are a very bad thing. So much is this the case, that I, who am in the habit of keeping my bedroom window a little open, summer and winter, had the other day a well-meant and friendly piece of advice given me by our coalman's man,—that I oughtn't to keep my winder open in that there way: it was werry bad for the constitooshin. The advice was as kindly received as I felt it was really kindly meant; a little counter advice, as politeness prompted, however, being offered by way of balancing accounts with the coal-merchant's assistant. But "when Greek meets Greek, then comes the tug of war." I began to see that sanitary reformers had hard work to do, and tough customers to do it with. I must write to the *Builder*, thought I: "every little helps." Much as you are accustomed, Mr. Editor, to enter into personal contact with the London poor in their close and unwholesome homes; even you, perhaps, can hardly have an adequate idea of the general and obstinate opinion which prevails amongst them, on the one hand against draughts, and on the other against ventilation. And indeed there *is* some difficulty in the reconcilement of these two points, even in the minds of far less ignorant men than the coalman. Nevertheless, there are ways of promoting the formation of a new public opinion, even through such as he, on these subjects: there are *argumenta ad homines*, for example, just such as I do think I at last succeeded in planting the seeds of in the sagacious noddle of my well-meaning adviser. "Don't you see," said I, "that for the like of you to go about in this way giving such advice is bad for trade? A shrewd fellow like you ought to see that the more windows are open, winter and summer, as mine is, the more coals and coke we must all burn to keep us snug." I distinctly observed the light of candid, infantile conviction spreading, and just about to settle, over his culmly countenance; but it never would have done for a long-headed oracle, such as he clearly considered himself to be, all at once to give way to the weakness of convincibility, and he only shook his head into its wonted state of wise-looking pendulation, while an equivocal grunt concluded the argument *pro tem.*: henceforth, however, I am persuaded we have a new and out-and-out advocate of ventilation in the coalman.

But here, after all, *is* the difficulty with the poor: how are *they* to have free and perpetual ventilation, *plus* sufficient warmth in winter, and *minus* draughts? It is to be hoped, however, that our chief sanitary reformer, the *Builder*, will at all events be able at length, by its unremitting exertions, past, present, and future, to initiate just such a strong, decided, and obstinate public opinion in favour of ventilation as now, and very properly, exists against draughts. The grand secret of draught-riddance does probably consist in full and free ventilation, though it may not be so easy to persuade the poor of this, or at least that economy in coals is at all promoted by it, as it may be to persuade the coalman that the coal trade would be thus promoted.

That was really a rich and exquisite morsel of Yankee "nonsense-poetry," if we can so callit, which you lately gave us in the *Builder*, under the title "Give us Air." Were I sure it was as genuine as it really seemed to be on a first perusal of its skilful and humorous composition, I should say, "Look here," as the Yankees themselves do: there is proof positive that already, in America at least, the lowest and most uneducated are having their plastic minds infused and interpenetrated with the very public opinion of which the *Builder* speaks! And so enthusiastic are they about it, too, that it seeks stilted, excited, and quasi-poetic utterance,—in the most grotesque and whimsical forms certainly,—but at the same time earnestly and seriously, crying aloud for redress, even out of the awful depths of slumland itself.

"Give us *are*, O Sextant!—*peer* are!"

There is a rude and comical pathos about this and its context, and there are flashes of lurid light in the midst of its ludicrous but piquant foil of grammatical darkness, which cannot but be felt, enjoyed, and sympathised with by every mind not too stupid or too gross for its appreciation, either as a real or as a mock appeal, to that great, glorious, and omnipotent, but still, it must be confessed, a little negligent, referee and inspirer of the Yankee muse,—the "Sextant." It is too clever, I fear, however, to be genuine, although it is one of the best things of the kind I have seen for some time; and the skill of the writer is so wide awake as not only to deceive the unwary but to scarcely anywhere betray the hand of the true writer. It reminds me, by the way, of another capital joke which I remember also reading in the *Builder*, about "Paddy on Vintilashin," in which an Irish navvy, straight from Tipperary, was described as having been found by his overseer in a trench (where he had been set to work at excavation), smashing the gaspipes right and left; and when called to task for doing so, the astounding reply that came straight from the bog with a rich and racy flavour that excelled the brogue itself, but inimitable along with it, was,—"Is it thaise, yer honur? Shure an' thaise needs vintilashin. Put yer honur's nose to thim: feint a thing's in thaise, yer honur, but stink!"

Yes, truly, I fear, there is more hope of poor, polite Paddy's enlightenment on the subject of "vintilashin," straight from his draughty, windy, healthy cabin in Tipperary though he be, than of the like desirable result in the close and musty slums of London. Yet it *is* just by the spread, under all kinds of guises and in all sorts of ways, of such a public opinion as shall reach even Paddy in the bogs and the poor Yankee exhorter of the "sextant of the meetin'-'ouse,"—an opinion which the whimsical and amusing productions referred to in both cases at all events shadow forth and anticipate as ideas, if they do not notify and record as actualities,—that ventilation *will* finally be promoted to that fixed and established favour in the minds of the poor and the humble which already prevails among them (to rather too great an extent, and to the decided prejudice of ventilation) on the as yet antagonistic subject of draughts.

S. R.

ILL HEALTH A CAUSE OF DESTITUTION.

ILLNESS, even among the prosperous members of society, who can not only obtain the comforting adjuncts of life, but can avail themselves of the best medical treatment, the attendance of servants, and the attention of *friends* (who flock round the sick rich, but are seldom to be seen at the bedside of the poor and destitute, when prostrated by ill health), is irksome and painful. If so with them: how much more so must it be with the poor? A writer of the name of Bosanquet, who published a work in 1841, on "The Rights of the Poor," a book, little, if at all known, and probably never well circulated, yet a sterling production, has some pertinent remarks on this important subject, deserving the attention of all; especially those having the means to render aid to their less fortunate fellow-creatures, who, in many instances, have produced the wealth enjoyed by their wealthier brothers and sisters. At page 105, in a chapter devoted to illness and its effects, he says, "The frequency of illness among the working classes, and the extent of the distress occasioned by it, ought to be understood. The feebleness of constitution, and liability to disease, consequent upon habitual deficiency of food among the already distressed, is great; but, with those who have sufficient employment, illness is often the immediate cause of destitution." Dr. Howard has said, "that the mortality among the labouring classes is frequently aided by too long continued toil and exertion, without adequate repose and insufficient clothing, exposure to cold and other privations to which the poorer class of labourers are subjected: unwholesome dwelling-places are also a fertile source of illness." Thus we see the causes of ill-health: let us now note the consequences. With the majority of employers of the *present* generation, if a servant is unable to attend to his employment, he gets no pay until able to resume it: some will keep the situation open until the sick servant recovers, either doing with less hands, or taking on a substitute: others, and it is to be feared a large proportion, will not wait for the space of a few weeks, or even days: a solitary instance, now and then, may be met with where an employer will allow the amount of wages that the invalid servant would have earned if at work; but such cases are chiefly to be met with where a servant has worked many years for an employer, and more often where the grade is that of a clerk, or a shop assistant, and amongst the upper and better class of masters employing these latter. Under the present system, if unfit to labour from ill-health, and thus deprived of employ, a large majority of the people either disinclined to save, or unable to do so from insufficient wages, and the frequent expensive casualties that attend the hard-working classes, rapidly descend to a state of pauperism, misery, and death. In the case of single persons, the case is even worse than with the married, for the latter often obtain charitable help from private sources, which relief is denied to the former on the absurd supposition that having only themselves to look to, they may easily make shift: *how* they are to do so, however, is not explained. Soldiers, sailors, and policemen, when suffering from illness, are better off than the working classes generally, for their pay is not stopped, neither are they turned adrift to starve and die: besides, they receive the best of medical advice and help, and this, too, gratuitously. True, there are hospitals liberally endowed that are accessible, but only for *severe* illness; and they do not provide for the families rendered destitute by the head of the family being unable to labour: they also present other disadvantages easily comprehended. Society is cursed in these so-called enlightened days by an *irreligious* looking to self alone, or, at least, nearly so,—losing sight of the great truth that if we *all* sought *each* other's comfort and happiness, none could go unlooked to or forgotten, as they now are; besides the increased zest given to life from the knowledge that we were doing good to others, and storing up an amount of bliss in a life to come beyond this (even at best). Trials are a preparatory state of existence. It is not only a necessity, but would be an act of simple justice, if employers were compelled to contribute so much per week from the commencement of a service towards a fund for sickness and old age, &c. in proportion to the amount of wages given, allowing for the same out of the money paid for service; so that it would come out of the pockets of the workers in reality, although it would tend to raise wages in many cases to a juster level.

W. D. M. M.

THE NEW VESTRY-HALL, CHELSEA.

A SPECIAL meeting of the Vestry of the parish of St. Luke, Chelsea, was held on Tuesday last, for the purpose of receiving the third report of the Committee of Works and General Purposes, and to award the premiums for the best designs for the new Vestry-Hall.

Mr. Miles occupied the chair.

Mr. Charles Lahee, the vestry clerk, read the report of the Committee of General Purposes, which detailed the progress which had been made to obtain early possession of the site of the new premises for the Vestry-Hall, &c. With regard to the selection of designs for the proposed building, the committee reported that fifteen designs had been sent in, to compete for the two premiums of 50*l.* and 25*l.* to be awarded to the successful competitors, and that the committee had selected six of the number as most meritorious. The designs so selected were—

No. 1. With the motto "Excelsior."
„ 3. Signed "Cadogan."
„ 4. With the motto "Utility and Economy."
„ 5. A Monogram.
„ 7. Signed "West Middlesex."
„ 14. Inscribed with a device.

The committee, having discharged the duty assigned them, by the above selection, now left the matter in the hands of the general Vestry, to select the two designs which they might consider most deserving of the prizes.

On the motion of Mr. Rabbits, the report was received and agreed to.

Mr. E. O. Symons explained that, although he differed from the committee with regard to two of the designs, still, as he stood nearly alone in his opposition, he had conceded his opinion to that of the majority. He was bound, however, to say that he did not think designs Nos. 12 ("Nothing too much") and 14 should have been sent out of the room, while two designs were suffered to remain which were not fit to be compared with them. He presumed that, having agreed to the report of the committee, the next business was to select two designs out of the six remaining, to which the prizes should be awarded. He hoped that, in arriving at a conclusion on this point, the Vestry would be guided by the announcement made to the architects when inviting them to submit designs, namely, that convenience of arrangement was of more importance than beauty of exterior design. Entirely

subscribing to that wise principle, he begged to move that No. 1 be not approved of. There were, in his opinion, several objections to the design: the entrance was not good, and there was no uniformity between the entrance-hall and the staircase. In the basement there was great loss of room; and the surveyor's office being upstairs was, he submitted, a great drawback to the design. Moreover, the elevation was in compo, a material which, he confessed, he disliked very much, when brick or stone could be had. He objected to compo for this reason—that in a climate like ours it soon became black. Then there was no other alternative but to colour or paint it, and this being once done, it became necessary to repeat the operation at stated periods. The expense might, therefore, be said to be continuous, so that in twenty years the probability was that brick or stone would be the cheaper of the two.

Mr. John Todd also objected to No. 1, and contended that the plan of the hall was not convenient, as the shape should have been oblong.

Mr. Tite, M.P. submitted that, as a matter of convenience, it might be desirable to take a general view of the subject, which might comprise a short discussion with regard to the advantages or disadvantages of all the selected designs. The reason he was induced to suggest this course was that, in all probability, whatever design was adopted would have to undergo considerable revision. It appeared to him that the conditions laid down by the Vestry were wise and prudent, and that convenience of plan and economy of execution were to be preferred to beauty of external design. It would, in his opinion, require some tact to carry out any of the designs for the money which the Vestry proposed to vote; and they should also bear in mind that there were other charges to be defrayed, in addition to the 4,500*l.* which it was proposed to expend on the building. There was, for instance, the architect's commission, and the cost of fixtures and furniture; so that, in point of fact, the Vestry must expect to disburse some 400*l.* or 500*l.* over and above the contract price of the building, before it could be used. Under these circumstances, he suggested that, instead of proceeding at once *seriatim* through the designs, they should in the first instance endeavour to elicit from gentlemen present a general view of the objections to which the six designs now submitted for approval might be open. They could afterwards arrive at a more satisfactory conclusion with regard to the two which might be considered worthy of the prizes.

Mr. Leete (churchwarden) inquired whether it might be possible to take the internal arrangement of one plan and the elevation of another. He was of opinion that one prize might be given for elevation and the other for internal arrangement.

Mr. Tite again urged the necessity of looking more to the plan than to the elevation. It would be easy, when they had got a good plan, to modify the elevation in accordance with the vote of the Vestry, so as to combine economy of expenditure with convenience of design and substantiality of materials. He quite agreed with Mr. Symons in his strictures upon compo, which he considered to be very ill adapted to the building they had in view. He suggested, as the most prudent course, to decide upon a plan according to its merit in regard to convenience and arrangement, and not on account of the beauty of the design.

Mr. Rabbits observed that, in the main, he agreed in the observations which had been urged against plan No. 1. The plan which he approved of was No. 3, marked "Cadogan," which, in his opinion, had the largest number of excellencies and the fewest defects. The hall and entrances were good: the committee-room was 46 feet by 32 feet, and contained four times as many square feet as two of the designs now exhibited. There was also another strong argument in its favour, and that was, that it would not entail any large annual expenditure for repairs.

Mr. John Todd objected to the design of No. 3.

Mr. E. O. Symons said that, taking it all in all, No. 3 was, in his opinion, the best design of the six.

The Vestry then passed to the consideration of No. 4, "Utility and Economy."

Mr. John Todd said he preferred this plan to No. 3, because the basement was excavated, and because he considered the arrangement of the offices superior to that of any of the others.

Mr. Rabbits observed that, in his opinion, No. 4 was next in point of merit to No. 3. The diminished size of the committee-room, as compared with No. 3, was, however, a fatal objection. The narrowness of the hall in proportion to the width, the dimensions being 74 feet by 30 feet, was also a grave objection, as a room so constructed would be not only inconvenient in case of any large attendance of the public, but extremely ill-adapted for public speaking. He felt, however, that the meeting must not be too critical in their taste, as, if so, it would be impossible to agree in any result. There were persons who considered that there was not a single perfect building in the metropolis, and that even the Royal Exchange, which would long remain a monument to the genius of their gifted friend, Mr. Tite, was not what it ought to be.

Mr. E. O. Symons agreed with the last speaker in thinking that No. 4 was the next best plan to No. 3. There were good side entrances, which he considered most important in a municipal building, which might have to accommodate a very large number of persons.

Mr. Hall observed that, although the competing architects had not, of course, given their names, still it had oozed out, somehow or other, who many of the architects were. This circumstance would lead him to regard with some circumspection the eloquence or fervour of gentlemen who advocated in any marked manner particular designs.

The Vestry then passed to the consideration of plan No. 5.

Mr. E. O. Symons observed that there were grave objections to the plan. He objected, in the first place, to the elevation, as the top of the portico was 21 feet above the range of any other portion of the building. It would be also necessary to go down seven steps, and then to mount fifteen in order to reach the hall. This, without the other objection, was, he presumed, sufficient to induce the Vestry to pass the design.

After some desultory conversation on other designs,

Mr. Tite observed, that he was unwilling to detain the meeting by any observations, but that he felt that some opinion was naturally expected from him, and that he was bound to offer the Vestry the benefit of the experience which many years of professional life had given him. He felt that they were indebted to many of the gentlemen who had spoken on the subject, and whose remarks showed that they had devoted much time to the consideration of the various designs. Although he admired design No. 1 very much, still, he thought the objections stated were fatal to it; and that, although it had many merits, the deficiency in the arrangements were sufficient to justify the Vestry in passing it over. With regard to No. 3, it had, undoubtedly, very great merit as a plan. The objections urged against it were, however, valid, as the passage would be long and dark; but this defect might be remedied. With respect to No. 4, it also had considerable merit, and his impression was that the Vestry would have to choose between it and No. 3. As for No. 5, he confessed that he hated "shams" as much as any one. The pomp of the portico might, no doubt, be well bestowed upon large municipal buildings, in cases were there was plenty of money to pay for them; but he confessed that in the present instance he feared that, if the Vestry selected the portico, they might expose themselves to the charge of wasting the public money upon what was not wanted. With regard to the next design, he had nothing to say; but he thought well of No. 15, although it was open to one serious objection, namely, that the crowd attending the hall would have to rush through the centre of the building, to the manifest detriment to the public business. There was, no doubt, a certain amount of economy in Gothic architecture, but, then, it had also a certain amount of incongruity, to which he, for one, always objected. He liked to see plenty of light and air,—the windows opening down from the ceiling, if necessary, and so constructed that when they got out of repair a common carpenter could put them to rights. He had not the slightest idea with regard to the names of the architects who had sent in designs; but he had no doubt that if the Vestry elected the architect of No. 3 to carry out their object he would modify his plan, and suggest an elevation which could be carried out in brick.

Mr. Rabbits then moved that No. 3 have the first prize, and No. 4 the second.

Mr. Watkins moved, as an amendment, that the order of prizes be reversed; that No. 4 should have the first, and No. 3 the second prize.

Mr. Lawrence, Mr. Bury, and other gentlemen having stated their views,

Mr. Tite said, that if he felt they were committed to the style of No. 3 he would not vote for it; but it appeared to him, that as there was to be only one elevation to the street, there could be no difficulty whatever in altering it.

The Chairman then put the amendment, when, upon a show of hands, there appeared—

For	17
Against	16
Majority in favour of the amendment, and of No. 4	1

A division was then called, when the numbers appeared—

For the amendment	17
Against	18
Majority against	1

The original motion, that 50*l.* be awarded to No. 3, and 25*l.* to No. 4, was next put, when the numbers were -

For	17
Against	16
Majority in favour of No. 3	1

In reply to a question, it was stated that the chairman had not exercised his privilege of giving a casting vote, as there was a majority without.

The motion that the second prize be awarded to No. 4 was carried *nem. con.*

A short discussion took place with reference to appointing the architect of No. 3 to be the architect of the proposed building, but no decision was arrived at.

THE ARCHITECTS OF THE NORTH, AND THE SOUTH SHIELDS INSTITUTE COMPETITION.

At a meeting of architects resident in Northumberland, Durham, and Newcastle-on-Tyne, convened by a provisional committee, consisting of Mr. Dobson, F.I.B.A. Mr. Wardle, Mr. Walker, Mr. Watson, Mr. Green, Mr. Johnstone, Mr. Austin, Mr. Dunn, Mr. Higham, Mr. Thompson, Mr. Oliver, and Mr. Lamb, held on the 13th instant, at the Central Exchange Hotel, Newcastle-on-Tyne, to take into consideration the terms and conditions of the advertisement addressed to them by the honorary secretaries of the South Shields Literary Scientific and Mechanical Institution, at which were present Mr. J. Wardle, sen. Newcastle; Mr. J. P. Pritchett, Darlington; Mr. J. Howison, Durham; Mr. T. Moore, Sunderland; Mr F. R. N. Haswell, North Shields; Mr. Johnson, North Shields; Mr. T. Austin, Newcastle; Mr. S. Oswald, Newcastle; Mr. R. Mawson, Durham; Mr. A. M. Dunn, Newcastle; Mr. M. Greene, Sunderland; Mr. A. B. Higham, Newcastle; Mr. G. Walker, Newcastle; Mr. T. Oliver, Newcastle; Mr. J. G. Brown, Sunderland; Mr. T. Prosser, Newcastle; Mr. R. Lamb, South Shields; Mr. J. Hogg, Newcastle; Mr. J. Wardle, jun. Newcastle; and Mr. M. Thompson, Newcastle, the following resolutions were unanimously agreed to.

In the unavoidable absence of Mr. Dobson, Mr. J. Wardle, sen. was called to the chair.

Letters from Mr. Wilson, Alnwick; Mr. Robson, Durham; and Mr. J. E. Watson, Newcastle, were read, regretting their inability to attend, and their concurrence in the objects of the meeting

It was moved by Mr. Austin, seconded by Mr. Walker—

That although, in the opinion of this meeting, the sum of 50*l.* is a fair remuneration to the author of the successful "design," the further services expected from the successful competitor are of such a nature as to render the awarded premium utterly inadequate, as a remuneration for the additional labour and expense incurred.

Moved by Mr. Pritchett, seconded by Mr. Thompson,—That the condition which gives "no preference" to the author of the selected design in carrying it out is unjust both to the architect and his design.

Moved by Mr. Thompson, seconded by Mr Brown,—That this meeting most respectfully informs the committee, that the copyright of drawings is in all cases the property of the architect and not of the employer.

Moved by Mr. Dunn, seconded by Mr. Johnson,—That this meeting considers it unjust for the committee not to bind themselves to accept any design, or to be responsible for the drawings whilst in their possession.

Moved by Mr. Moore, seconded by Mr. Haswell,—That holding the views expressed by the above resolutions, this meeting respectfully declines to enter into the competition on the terms and conditions offered by the Institution.

Moved by Mr. Greener, seconded by Mr. Higham,—That Mr. Oliver be requested to forward a copy of the foregoing resolutions to the honorary secretaries of the South Shields Mechanics' Institute.

THOMAS OLIVER, Honorary Secretary.

The advertisement says,—

"A premium of 50*l.* will be given for the design which may be approved of and chosen by the Institution, and the successful candidate, in consideration of that premium, will be under a binding obligation to furnish, without any additional remuneration, detailed and proper working drawings, specifications, and quantities, which, together with the original and the copyright of the whole pen-and-ink drawings, are to be the property of the Institution; such premium to be paid so soon as the working drawings, specifications, and quantities are furnished, and tenders are

ccepted, and contract entered into, for the execution of a ilding, at a cost of not exceeding 2,000*l.* But the suc-ssful competitor will be entitled to no preference for mployment as an architect, or otherwise, in the inspection superintendence of the works during their progress."

The architects of the North have acted very ghtly in protesting against this beggarly and njust proposition.

EMPLOYERS AND WORKMEN IN IRELAND.

Mr. Meade, an extensive builder, and at pre-nt the contractor for the new wing to the Four ourts and other large works noticed in the *uilder*, was, with John McNamara, his foreman, ummoned to the Dublin police-office by several icklayers recently in his employ, for causing to p published in the *Freeman's Journal* a certain alicious libel, charging the complainants with aud, in having taken money to which they were ot entitled.

It appeared that the men were employed by r. Meade on the building above named, and, ccording to the custom of the trade, were llowed, during the months from May to Novem-er, one hour, viz. from two to three o'clock, for nner; but after that date the hour was not llowed, as nightfall came on earlier. On the 8th October the foreman told the men they ould work during their dinner-hour, or 2*s.* per eek would be deducted from their wages. The en, however, left off working on these terms on e following Saturday. A newspaper contro-ersy then ensued, in which Mr. Meade stated ublicly, "that the men had left his employment ecause he refused to discharge workmen that he id employed upon other contracts, and to whom was paying the same rate of wages;" also, hat the complainants had been *told* to work the ne for *which they had been paid*, and refused to so, therefore taking money which they had no ight to." The men sought for this imputation b be removed, as they might find it difficult to tain employment elsewhere.

The magistrate suggested that the matters in pute should be settled by the respective coun-, Messrs. Sydney and Curran, with an umpire; . Gray, proprietor of the *Freeman*, who hap-ned to be in court, being selected as such. On half of Mr. Meade it was alleged that he was mmd, under a penalty of 25*l.* per week, to have rtain works completed, and that the men com-ced to prevent the fulfilment of his contract.

The parties retired to the magistrate's room, d after a delay of an hour, returned into court, hen Dr. Gray announced that an amicable rangement had been arrived at, viz. that the rkmen withdrew the charge of Mr. Meade not ving full rate of wages, and Mr. Meade also ithdrew his imputation as to their receiving oney improperly. Mr. Meade would not pro-d with the summonses for combination, but ssented to receive back into his employment ch workmen as were willing to return.

LINGFIELD CHURCH WORKS.

SIR,—My attention has been called to the *ilder* of the 13th of November containing article on page 765, headed, "Workmen at ingfield, Surrey."

I fear the temper of the "Three Rubbers" must e been rather soured by their disappointment being prevented for that turn pursuing their ourite avocation.

never read anything more calculated to convey unfair if not an injurious impression. It is ete true I can accuse myself of many "sins of ission," and not the least of one in which I ank your correspondents will be able to sympa-ze,—the sin of not always practising that rity "which suffereth long and is kind; envieth ; vaunteth not itself; is not puffed up; doth behave itself unseemly; seeketh not her own; ot easily provoked; thinketh no evil;"—but I not accuse myself of want of care of the sacred ects which have been committed to my charge the character of incumbent.

My former parish church of Sompting, Sussex, s witness to the contrary in its perfect resto-on under the late Mr. Carpenter, as the last of my incumbency; in which, as one of a com-ttee of four, I bore (to me) a considerable cost supplying the deficiency of funds: but it was e for God, and to Him be the glory that the k was brought to so satisfactory a termination.

My present church of Lingfield, which I have occupied three years and a half, bears nument indications of the same care. That e of the brasses and monuments are shame-ly injured is a matter of fact; but whether done by careless or covetous rubbers and amateurs I am unable to say: the mischief was done before my incumbency: they are all in the same state in which we found them, to the best of my belief. But we have enlarged our church accommodation by moving the organ into its present position, and have restored in massive carved oak-work an entire compartment of the beautiful screen.

I am thankful to feel that my fitness for my position does not depend upon the opinion of your correspondents; but we have, at Lingfield, church-wardens who are unusually attentive to their duties in all matters relating to the parish church.

As to the present work of which your correspondents complain. The disappointed amateurs happened to come just as the workmen had opened their excavations to lay down a complete course of hot-water pipes. It is quite true that some of the mould and pavement had been put on one side for future use as required in filling up again, and had carefully been placed upon some of the brasses. Who ever heard of a brass being injured by carefully placing on it for a day or two a heap of dry mould? I should think it much more likely to be loosened and eventually lost by the practice of rubbing; and beg to suggest this idea to your correspondents. I can assure your readers that, a few days after this meets their eye, all will be quite clean and uninjured.

It is only just to Mr. Attwood (of Lewes) and his workmen, to add that they have exercised the greatest care in doing their work. If, instead of a light tool being placed "on the interesting alabaster monument," your correspondents had found them chipping it with the chisel, they could have scarcely been more indignant. When they remark that I replied "I did not think they would *much* injure them," I meant, in a good-humoured manner, to express the idea they would not be *injured at all*; and of this I am fully assured; and I cannot help feeling that it would have been a great deal better if they had waited to see if *any* injury were done before they made such a communication.

Even if the writers of that article were connected with the parish, or if they had connection by descent with some one of the persons whose brass monument is in Lingfield Church, we think it would have been unjust to write in such terms before they had ascertained that some injury (however slight) had been done; but some persons are so inconsiderate that they think the length and breadth of a church can be excavated in the narrow space between pew and pew a sufficient depth to lay down a double course of hot-water pipes, and the earth disposed of as easily as *three amateur brass-rubbers can stand by and find fault*.

I really have not time to answer such communications; but it is only just to Mr. Attwood and his men to assure your readers, on *the authority of a careful inspection*, that no injury has been done; but that, on the contrary, the work has been conducted, and is likely to be finished, in a manner to give a well-grounded hope of perfect satisfaction in *every particular*.

JAMES FRY,
Incumbent-Curate of Lingfield, Surrey.

*** All lovers of ancient memorials will thank our correspondents of last week for their protest and the good result. The correctness of what they stated is confirmed as well by the excellent incumbent's reply as by another letter from a visitor to the church. Mr. Fry has called Christian Charity into the field, but, in truth, she has never been absent, for our correspondents' letter is couched in most courteous terms, and simply asks for the covering up of the memorials. We are very glad to hear from the incumbent that, notwithstanding the omission, the brasses have not been damaged. We may add that we have since received a letter, amongst others on the subject, from Mr. Attwood, of Lewes, by whom the work is being done, to the same effect as Mr. Fry's, and complaining of the "meddling" of our correspondents. If there had been a few such "meddlers" in times gone by, there would be less cause to grieve in visiting our parish churches than is now found. The authorities at Lingfield have some exceedingly interesting memorials, and are bound to preserve them for the advantage and information of posterity.

STEAM SLEDGE.—At Irkoutsk, in Russia, a steam sledge has been invented. It consists of a locomotive and a carriage, the ice serving in place of rails. The inventor expects shortly to have the model completed, and to put two trains into regular service, one on the Amour road, and another on that of Moscow.

THE NINE-HOURS MOVEMENT: GREAT MEETING IN EXETER-HALL.

On Thursday evening, the 11th, a very numerous meeting of building operatives, including carpenters, joiners, stonemasons, and bricklayers, was held in Exeter-hall, to obtain a reduction of the present hours of labour, with a continuance of the present rate of wages. The hall was crowded.

Mr. R. W. Grey, stonemason, was called to the chair, and in opening the proceedings congratulated the meeting on the aspect that the movement had assumed since they last met in that hall. Then the joiners and carpenters were alone, while the masons were advocating another short-time movement; but now they had the masons, plasterers, and bricklayers with them. They now assembled in weekly conference, representing their respective trades. Its proceedings augured well for the cause; and, if they had full faith and confidence in the conference, they would carry the nine-hours movement. The conference was a gathering of the building trades such as had never before taken place in London or in England; and, if an isolated body of the trade could carry the point, what could they not do if they were all united? The nine-hours movement was agitated from April, 1853, to 1854, by an isolated body of the trade, and the employers tendered an extra sixpence as an instalment; but now they wanted the nine hours and the sixpence too. He trusted that no one would move an amendment, as it would be quite unnecessary at this stage of the proceedings, for he fully expected that their employers would concede the nine-hours movement. If that were to be so, there would be no necessity for a further meeting; but if they gave a negative answer, another meeting would certainly be required, and ulterior measures would have to be taken. Their employers, he expected, would not only do this, but they would also abolish systematic overtime. A large number of those who originated the movement in 1853 had gone to Australia, where the masons had been successful in obtaining eight hours in Victoria; but all they wanted in London was a reduction of one hour.

Mr. Robson, joiner, proposed the first resolution, as follows:—"That this meeting, after a calm deliberation on the nature of the various obstacles that arise, and in consequence retard the progress of the artisan of this country in his pursuit of scientific knowledge, is of opinion that the number of hours we devote to labour is too great to allow us sufficient time for mental improvement, and for the development of the inventive genius with which the working classes are so largely endowed." The subject of the nine-hours movement was too well known (he said) to require any exposition; but the object of the resolution was to obtain a remission of the hours of labour, and thereby obtain opportunities for mental improvement and beneficial pursuits. There was a great deal of twaddle in the present day about the dignity of labour; but where was the dignity of the working man recognized? The progress of those reforms that would be beneficial to the trade was retarded from want of education. Although they were not properly represented in the legislature, they had to contribute constantly to the exchequer. The benefits to result from the shortening of labour would be the taking away the surplus labour of the market. destitution would be decreased, consumption of food and of manufacturing commodities would be increased, and periodical crises in the trade and commerce prevented. They were told that, if they consulted their employers' interest, they would best consult their own; but that was cant and humbug.

Mr. Wynne, a plasterer, seconded the motion. He denounced the present system as worse than the Spanish mines in Mexico, and the conduct of the privileged classes, the landlord and the capitalist, who arrogated to themselves the right to employ labour, and gave the working classes no time for instruction. Unless they could improve themselves so as to take a part in the great questions about to be brought forward in the course of next year, they would not be able to perform their duty to themselves or their country. He believed, for his own part, there was more honour and integrity in the working classes of this country than all the rest put together. The masters were in the habit of taking low contracts, and then placed some tyrannical foreman over the working classes, in order to make them work like slaves against each other. In his opinion, there ought to be a standard of measure and value, and then every man would know in a moment what really a day's work was.

The resolution was then put and carried.

Mr. Meade, joiner, then moved—"That, in the opinion of the meeting, the benefits resulting

from the proposed reduction will improve, socially, all persons in connection with the building trade, and the advantages accruing to the public generally from the introduction of machinery will fully compensate for any extra outlay which shall be made in consequence of the period of labour being shortened." By the proposed reduction they would improve all persons socially connected, not only with the building trade, but with others unconnected with it. The building trade numbered some 32,000 men, and if they introduced the hour per day less, they would bring from the surplus-labour market between 3,000 and 4,000 hands into a condition of work and bread. Mechanics' institutions were a failure, because the working man had no time to go to them. If their average rate of wages of 25s. 7½d. were increased, the public would derive the benefit of it, for they would have more to spend in food, and in physical as well as mental requirements.

Mr. Warne, a mason, seconded the resolution. Machinery, as hitherto conducted, had in its effects been baneful and destructive, and had crushed human nature; but, if well regulated, it would be a vast blessing. What they wanted was a fair day's wages for a fair day's work.

The resolution was put and carried unanimously.

Mr. Noble, bricklayer, then moved, and Mr. Fisher, plasterer, seconded, the third resolution:—"That this meeting pledges itself to support, and by the use of all constitutional means to carry out, the principles embodied in the memorial, viz. the reduction of the hours of labour by one hour per day, at the present rate of wages."

The resolution was put and carried by acclamation.

Mr. Creamer, joiner, proposed that it was expedient to a speedy, effectual, and permanent realisation of the objects in view, that a United Building Trades Association should be formed; but, on a suggestion from the chairman, to the effect that the proposition was superfluous, the "conference" already formed fully meeting the object in view, the motion was withdrawn, and the best thanks of the meeting having been given to the chairman for his ability in presiding, the assembly separated.

IRELAND.

THE necessary plans are being made out for the construction of the Banbridge and Lisburn Railway, by Mr. Blakiston, C.E.

The proposed corn-exchange and markets at Dundalk, for which first and second premiums were awarded respectively to Mr. Murray and Mr. John Neville, of that town; afterwards to be built according to the designs of Messrs. Bellamy and Hardy; and, thirdly, we believe, under the directions of some other gentleman, are again on the tapis, and tenders are sought for.

A new station-house and goods store are to be erected at Enniskillen, according to plans prepared by Mr. Wm. Murray, architect to the company.

We understand it is definitely arranged that Messrs. Deane and Woodward are to be the architects to the new club-house for the Kildare-street Club, to be built at the junction of that street with Nassau-street.

CRYSTAL PALACE.

ON the 25th of November Mr. Pepper enters upon his daily duties here when the various collections of art and nature at, the Palace will be popularly illustrated; independent chemical and scientific lectures being also introduced. The success with which Mr. Pepper developed the resources—both for amusement and instruction—of the Polytechnic Institution is well known, and is a guarantee for still greater success in the Crystal Palace, the contents of which are so much more varied. The Handel Commemoration of June, 1859, is now closely occupying the attention of the committee of the Sacred Harmonic Society, as well as the officers of the Crystal Palace Company. The society, as before, undertakes the musical arrangements, and is already preparing the list of performers for this display. The publicity given to the 1857 Festival, and the wide-spread renown it gained, has already enormously increased the number of applicants, anxious to take part in the orchestra. The acoustical arrangements to render the Great Transept of the Crystal Palace favourable for the transmission of sound, want even more consideration than has yet been given to them. In the Tropical Department of the Palace will take place the great show of canaries and other birds, on the 22nd inst. and two following days. An important step for extending railway connection with the Palace has lately been taken, which promises the happiest results. A company has been created to form a junction of about two and a half miles in length, between the West London line at Kensington (that much ill-used line), and the West-end at Wandsworth. When this is done, the Crystal Palace will have direct communication with the Great Western, the North-Western, the Great Northern, and the Eastern Counties Railways. To the north of London, especially, this line will be a great convenience.

METROPOLITAN BOARD OF WORKS: MAIN DRAINAGE QUESTION.

AT the last weekly meeting of the Board, Mr. Bristow brought up a report from the main drainage committee, specifying the names of the engine manufacturers who had been asked to tender for the designing, constructing, and erecting boilers, engines, and pumps, within the metropolitan district, for lifting the requisite amount of sewage-water. The clerk read the report, which stated that the committee had addressed communications to fifteen of the principal manufacturers in the kingdom, furnishing them with the requisite information, and inviting them to tender. The names of the fifteen were:—Messrs. Boulton and Watt, Soho Works; the Butterley Company, Alfreton Works, Derbyshire; Messrs. Forrester and Co. Liverpool; Messrs. Hick, Bolton; Messrs. Simpson and Co. Pimlico; Messrs. Maudslays and Co. Lambeth; Messrs. Rennie and Co. Holland-street, Blackfriars; Messrs. Humphery and Co. Deptford; Mr. Laurie, Glasgow; Mr. Harvey, Hayle, Cornwall; Messrs. Napier and Co. Glasgow; Messrs. Hawkes, Crawshay, and Co. Gateshead; Messrs. Whitham and Sons, Kirkstall-road, Leeds; Mr. Kay, Bury, Lancashire; Messrs. Hawthorn and Co. Newcastle-on-Tyne. On the suggestion of Mr. Moreland, the names of Messrs. Easton and Amos were added; and, at the suggestion of Mr. Legg, those of the engineers who drained the Haarlaem Lake. Mr. Bazalgette, the engineer, stated that he had devoted as many hands as possible to the completion of the new copy of the subterranean survey, but with his present limited staff he did not expect that much progress would be made with it until the contract drawings for the main drainage were completed.

LIABILITY OF DISTRICT BOARDS OF WORKS.

Steel v. *The District Board of Works at Greenwich.*—This was an action brought in Court of Exchequer by the plaintiff, the owner of two houses, for injuries sustained by the leakage of the sewers into his cellars. The question was the liability of the present Board for works constructed by their predecessors.

Mr. Baron Martin held that they were liable, and that the question for the jury was, whether the defendants had used all possible diligence in repairing the sewers.

The jury returned a verdict for the plaintiff, damages 50*l*.

RATING WATER-MAINS.

The Churchwardens of Hampton v. *The West Middlesex Waterworks Company.*—The question for the consideration of the Court in this case (tried at the Queen's Bench on the 6th), was, whether the West Middlesex Waterworks Company were liable to be rated for the relief of the poor, for that portion of their watermain passing through the parish of Hampton. The company obtained their water-supply from the Thames at Hampton, through which parish their mains run, but from which they derived no profit. The respondents claimed the right of rating the mains in reference to the profit derived by the parish through which the water was conveyed; but the appellants contended that they ought to be rated only in respect to the land actually occupied by them, and not with regard to the profits derived by the company from the mains.

Mr. Lush, on behalf of the parish, submitted that the simple question was, whether in rating the mains they ought to take only the value of the land through which they passed, without reference to the purposes for which it was used, or whether the profits ultimately derived by the conveyance of the water through the mains should not be taken into account. The right principle, he contended, to adopt, was to take the whole profits made by the company, and to divide them in proportion to the land occupied by the mains for the conveyance of the water.

Mr. Bovill having been heard on the part of the company against the rate,

Lord Campbell said the Court had no doubt that the main pipes were rateable, but the principle upon which such rating was to be made was a very important question, and required consideration. Under these circumstances judgment would be deferred.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

RAILWAY BUILDINGS.

AT the Marylebone Police-court, before Mr. Long, a case was heard on the 6th inst. "Mr. Baker, District-Surveyor of St. Pancras, *v.* Hack and Son," under section 41, for neglect to give notice.

Mr. W. L. Donaldson, who attended as solicitor for the district-surveyor, said, that although the summons was for a penalty for not giving notice, it was well understood between the parties that it was to try the question whether the building in dispute was exempt or not from the superintendence of the district surveyor. The facts of the case were:—The North-London Railway Company, for the purpose of forming their railway, purchased property in Camden-town, and amongst other, some houses in Little Randolph-street. Some of the houses were pulled down and the railway was formed over the ground. The other houses remained standing, including the house in question, No. 32, Little Randolph-street. This house had recently been gutted by fire, and the works in question were done without any notice, under section 38 of the Act. It understood that it would be contended that the house in question was exempt under section 6, and under the 12th paragraph. The 6th section declared, that certain buildings and works should be exempt from the operation of the first part of the Act, and paragraph 12 included, "The buildings belonging to any canal, dock, or railway company, and used for the purpose of such canal, dock, or railway, under the provisions of any Act of Parliament." Now this house, although belonging to the railway company, was not used for the purpose of the railway, and it contended that a building must be actually used for the purposes of the railway to render it exempt.

Mr. Brown, counsel for defendants, said there was no disagreement as to the facts as stated; but he considered the true construction of the clause rendered the word distributive, or disjunctive: and that as well buildings belonging to a railway company as buildings used by them were exempt. It would otherwise lead to the anomaly:—The company might a month hence put a station-master in the house: it would then be used, and be exempt, and if now held not to be exempt, it would one month be exempt, and the next not. The engineer of the company were doing the works in question for the company, that is what the Building Act contemplated that the buildings should be under their superintendence. The Act intended that the buildings once under the operation of it should continue so; but in this case, if his view were not adopted, this building would at one time be under the operation of the Act, and at another not. He considered that the house, having been purchased for the railway, though not actually used, was exempt. If the magistrate held otherwise, he should request a case to be stated for a superior court, as it was a question of considerable importance to the railway company.

Mr. Long said, if he stated a case he should state the fact that the house was not used for the purposes of the railway. He was clearly of opinion that it must be used to render it exempt.

Mr. Brown.—If that were so, his clients would submit to a judgment against them, as he was afraid that they would not gain anything by contending on a case so stated.

The magistrate gave judgment for the district-surveyor and costs, the defendants undertaking to do the work required by a notice served by the district-surveyor.

COVERING OVER YARDS.

AT Marlborough-street Police-office, on the 11th inst. Mr. Higgs, Charles-street, was summoned for an alleged infraction of the Building Act.

Mr. Jennings, district surveyor of Marylebone, appeared in support of the proceedings; Mr. Tarrin, architect, was for the defendant.

The facts of the case appear to be these:—The defendant has thrown a skylight over the yard at the back of the house, shutting in the place up to the first floor, but leaving space for ventilation from the skylight. The 29th section of the Building Act says,—"Every building used, or intended to be used as a dwelling-house, unless all the rooms can be lighted and ventilated from a street or alley adjoining, shall have in the rear or on the side thereof an open space, exclusively belonging thereto, to the extent, at least, of 100 square feet," and it was contended that the covering over the yard, even though there was no deficiency of light or ventilation, was an contravention of the Act.

Mr. Jennings proved that at the back of the house in question there was no open space, as required by the Act.

After a good deal of technical discussion, and several attempts to arrive at a common understanding as to the meaning and effect of various clauses of the Act, which was condemned on all sides as contradictory and confused,

Mr. Beadon said he would take till Monday to consider his judgment.

On that day accordingly,

Mr. Beadon said,—this case is before me as to the construction of the 29th section of the 18 & 19 Vict., c. 1 the Building Act, and is certainly a question of great importance, as stated by the district surveyor, Mr. Jennings, inasmuch as my decision will affect a very large amount of property in Charles-street, and that neighbourhood, where most of the houses are being converted into warehouses or shops on the whole of the ground floor, whilst the upper parts are used as dwelling-houses, and the real question to be decided is, whether the word "dwelling-house" in that section must necessarily comprise the whole of this building. The house in question is entirely lighted from Charles-street on the front, and from the first story upwards well lighted at the back. The ground floor in front is a shop for pianos exposed for sale, communicating with a small room which originally was about two-thirds of this court, bounded by high external walls, but having a small area to the east side. That area is now recently covered in, the small room and small area being converted into one warehouse room, amply lighted by a large skylight, and I am to decide whether this is so to be considered part of the "dwelling-house" as to oblige Mr. Hills to leave an open space in the rear or side of this warehouse equal to 100 square feet, for the purpose of ventilation and air. Now I apprehend that this section of the Act was intended to apply to "dwelling-houses," where the inmates would probably neglect it, and would, therefore, the value and comfort of the house; but in this case there would be no necessity for such ventilation, as I should be ample for all such purposes, and the area left might be a useless *cul de sac*, and the reception of nothing but dirt. Now, it is admitted that this room is not, nor is it intended to be used as a dwelling-room; and, though the words of the section refer to every room, I do not think I shall be straining the fair and liberal construction of a very stringent Act, by deciding that the words mean every room in the dwelling-house, and that this new room is, and is intended to be, a warehouse, and forms no part of the dwelling-house. The summons will therefore be dismissed.

Books Received.

A Handbook for Travellers in Kent and Sussex; with Map. London: John Murray, Albemarle-street. 1858.

We are glad to find Mr. Murray, of late, turning with the tourist-tide upon our own shores, inlands, and uplands: it is to be hoped his volumes will lead many to "discover" their own country. The present volume, with its various projected routes, will be found of special interest to metropolitans, both from the proximity of the ground gone over, and on account of its interest, historical and artistic, as well as geological and botanical, and the varied beauty of its physical aspects generally. Much care has been taken to suit the convenience of the tourist, and enhance his interest in the descriptions of the many routes and tours pointed out, and which, it is stated, have been drawn up from a careful personal exploration of the country, and the most recent information that could be obtained. Revision, however, may still be usefully attempted. We are disposed to think, indeed, that some part of the MS. must have been prepared longer ago than the rest, and adopted without correction. For example, taking a morsel of Sussex which has at different times had notice in our pages, Sir Alexander Cockburn is named as the tenant of Wakehurst Place, although it is several years since he had anything to do with it; and in speaking of Lindfield Church, it is said to contain a mural painting of the Decorated period, but this was whitewashed over eight or nine years ago. The "unusual sepulchral effigy impressed or incised on three glazed tiles," mentioned as being in this church, is not there, but at Lingfield (Surrey), and is described in our notice of that interesting church.* Again, in the notice of Horsted Keynes (which is essentially a Norman church, not Early English), Archbishop Leighton is said to be recorded by a slab bearing his name only; but in truth an altar-tomb, fully inscribed to his memory, has been recently erected in the churchyard, on the south side of the chancel. These, however, are points which will be rectified in a fresh edition.

The Introduction gives at some length an interesting account of the extent and history, antiquities, products and manufactures, geology and traveller's view, of both the counties treated of, with numerous skeleton tours, the last of which, "an artistic and antiquarian tour," we may print as a specimen:—

"*Kent.*—Rochester Cathedral and Castle. Pictures at Cobham. Maidstone Church and College. Leeds Castle. Faversham Church. Davington Priory. Canterbury Cathedral and St. Augustine's College. Churches of Minster and St. Nicholas at Wade. Roman remains at Reculver and Richborough. Town of Sandwich. Church of St. Margaret's at Cliffe. Barfreston and Patrixbourne churches. Dover Castle. Hythe Church. Saltwood Castle. Ruins of the Manor-house at Westenhanger. Roman remains at Lymne. Tunbridge Castle Penshurst. Penshurst. Pictures at Knole. The Moat House, Ightham. Penshurst Place, Plaxtole.

"*Sussex.*—Remains of Archbishop's Palace at Mayfield. Battle Abbey. Monuments in St. Thomas's Church, Winchelsea. (Collections at Ashburnham Place, not at present shown.) Hastings Castle. Pevensey (Roman walls of Anderida and Mediæval Castle). Hurstmonceux Castle. Lewes Castle. Churches of Old and New Shoreham. Sompting Church. Broadwater Church. Steyning Church. Arundel Castle (pictures in the castle not known). Amberley Church and Castle. Parham, pictures, armour, and various collections. Climping Church. Chichester Cathedral. Bosham Church. Goodwood (pictures at). Boxgrove Church. Up-park (pictures, busts, &c.). Ruins of Cowdray. Petworth (pictures and sculpture).

"In Section I, of the body of the work, we have what is divided into eleven fully described routes, including, —the Thames—London by Greenwich, Woolwich, and Gravesend, to Margate. London to Chatham (rail). The Isle of Sheppey, Chatham to Canterbury, Rochester to Maidstone, London to Reckenham and Bromley to Sevenoaks; Dorking; Westerham, Reigate by Godstone, Hever, Penshurst, Tunbridge, Ashford, and Folkestone, to Dover. Ashford to Canterbury, Canterbury to Margate. Canterbury, by Deal and Walmer, to Dover. Canterbury, by Barsham-down, to Dover.

"In Section II, the other moiety of the volume, Sussex is divided into nineteen routes similarly treated of, comprising Tunbridge to Hastings, Hastings to Ashford, London to Brighton, London by Lewes, to Hastings; Brighton to Chichester, East Grinstead to Hastings, Horsham to Petersham, Godalming by Petworth and Midhurst, to Chichester.

"The book is seasoned with the result of much antiquarian reading. As an example we may give the effect of the author's account of

*Vol. XV. p. 569. Our correspondents of last week, "Fleece Rubbers," elsewhere referred to in the present number, spoke of damage done to two other tiles of the same kind in the same church, Lingfield.

The Ironworks of Sussex.—"The oldest *existing* article of Sussex iron remains in Burwash Church, and is a cast-iron monumental slab, with a cross, and an inscription in relief. It is of the fourteenth century, and probably unique. The inscription, in Longobardic letters, is 'Orate P. Annema Ihone Coline,' Mistress Joan Collins having possibly been an 'iron-mistress' at Socknersh furnace, in Brightling, where the Collins family was settled. Andirons and other articles of the fifteenth century are still found in some numbers in old mansions and farmhouses; and work of the sixteenth century is comparatively common. Some of the banded guns of wrought iron preserved in the Tower of London, and dating from the reign of Henry VI. were of Sussex manufacture. A mortar, formerly remaining at Erdige Green, in the parish of Frant, is said to have been the first made in England; and it is probable that most of the pieces employed in our continental wars of the fourteenth and fifteenth centuries were manufactured in Sussex. These hooped guns were superseded by cannon cast in an entire piece, and bored, as at present. The first of these iron cannon ever produced in England were cast at Buxted, by Ralf Hoge, or Hogge, in 1543 (35 Hen. VIII.). At the commencement of his work he was assisted by French and Flemish gunsmiths, but afterwards 'made by himself ordnance of cast iron of diverse sorts.' The Hogge family resided at Hog House, near Buxted Church; and over the door of their ancient dwelling their rebus, a hog, with the date 1581, may still be seen. The name seems to have become confounded with that of Huggett; since at Huggett's furnace, between Buxted and Mayfield, the first iron ordnance is said by tradition to have been cast:

'Master Huggett and his man John,
They did cast the first can non'—

runs the local rhyme. Many Huggetts still carry on the trade of blacksmiths in East Sussex.

The trade increased rapidly during the sixteenth century, when many Sussex families, enriched by it, assumed the rank of gentry."

John Norden, in his "Surveyor's Dialogue" (1607), asserts that there were in Sussex nearly 140 hammers and furnaces for iron, each of which consumed every twenty-four hours from two to four loads of charcoal. But there was, he thought, some doubt whether the clearance was altogether hurtful, since "people bred among woods are naturally more stubborne and uncivil than in the champion countries."

"The Sussex iron varied in quality. 'Some,' says Camden, 'was more brittle than the Spanish iron;' but that worked at the Ashburnham forges excelled in quality and toughness, 'and I have been assured by smiths who have used it,' says Mr. Lower, 'that it was no wise inferior to the Swedish metal, generally accounted the best in the world.' The casting of brass was extensively carried on, and bell-founding successfully practised. (A new peal for Eastbourne was cast at Chiddingly in 1631. the bells of Hailsham were cast on Bell-bank, a spot near the town.) Steel was manufactured at Warbleton (where is a place called 'Steelforgeland') and at Robertsbridge. The site of an iron-work was chosen near to beds of ore and to some available water-power. Artificial ponds were generally constructed by dams of earth against the stream, with an outlet of masonry for the supply of water, by means of which the wheel connected with the machinery of the hammer or the furnace was set in motion. Many of the finest sheets of water in Sussex are thus due to the iron-works. Other meadows, once converted into ponds and pools, have again been drained.

The trade reached its greatest extent in the seventeenth century, and, as late as 1731, the iron manufacture was still considered the chief interest of the county, but the decline had already commenced. The vast consumption of wood rendered the production of iron in this district more expensive than in the localities where coal mines and iron-ore are close together: hence competition with them became hopeless, though the works continued as late as 1750. Farnhurst, in West Sussex, and Ashburnham, in the eastern division of the county, were the last places at which they were carried on. The Ashburnham furnace was in work at the end of the last century."

One other relic of the Sussex works should here be mentioned: the balustrades round St. Paul's Cathedral, weighing, together with seven gates, about 200 tons, were cast in the parish of Lamberhurst, at a cost of 11,202*l.* 0s. 6d. A furnace near Mayfield disputes this honour, which really, however, belongs to "Gloucester Furnace" at Lamberhurst, where the annual consumption of wood was 200,000 cords.

VARIORUM.

"A Guide to Typography, literary and practical; or the Printer's Hand-book, and the Author's Vade-mecum;" By Henry Beadnell, printer (Bowering, 211, Blackfriars-road, and 3, Raquet-court, Fleet-street), is a small work, in course of issue, in fourpenny numbers. The first of these only having as yet been published, of course little or nothing can be said as to the merits of the work as a whole; but sufficient already appears to show that the author is not a mere compiler, but is one who brings original thought as well as ability, learning, and experience to his task; so that this little work cannot fail to be a most useful one, not only to printers, but to all who desire to possess a critical knowledge of the English language and the preparation of MSS. for the press.

Value of Land in Gloucestershire.—At a sale held by Mr. H. Allen, of Marshfield, at Cromhall, lot 2, comprising 3a. 3r. 28p. of pasture-land, the yearly rental of which was 8*l.* was sold at 400*l.* or fifty years' purchase, and to a man having no other property near.

Miscellanea.

Provident Dispensaries.—A meeting of the members and friends of the Coventry Provident Dispensary was held on the 21st ult. in that town, the Mayor in the chair, when various resolutions were unanimously agreed to in favour of such institutions, demonstrative of the success of that at Coventry, and recommendatory of the establishment of similar institutions elsewhere, and especially at Warwick, where a movement is afoot for the purpose. Mr. Smith, the founder of provident dispensaries, spoke at some length, and alluded to the formation of a society for the extension of such self-supporting dispensaries.

London Vegetation.—Travelling a few days since through some of the London squares, the near approach of Christmas was evident by the bareness of the branches—scarcely a leaf remaining. Having need, on the same day, to visit the neighbourhood of the Crystal Palace, the contrast was striking, for there the leaves had a thick coat of rich russet hue, which, although a fading glory, was pleasant to the eye. Breathing the clear bracing air, although it was November, and comparing it with the atmosphere which hangs over the metropolis, we could not but reflect that, like the leaves of the trees in large towns, the life of man falls short, and many thousands die before their natural time.

Painted Glass for the University at Sydney.—The *Court Circular* of the 16th says—Messrs. Clayton and Bell had the honour of submitting to the Queen and Prince Consort specimens of painted glass executed by them for the windows of the University at Sydney, New South Wales. Sir Charles Nicholson, provost of the University, was present to explain to Her Majesty the plans of the building. We may add that the portions submitted, of their large commission for the University of Sydney, filled the whole of the windows of the throne-room, and comprised life-size portraits of royal personages, founders of Oxford colleges, founders of Cambridge colleges, and several of our great worthies of literature and science, executed in stained glass.

Memorial of the late Lord Sefton.—A mural tablet, foliated (four foils out of a square), has been erected in Sefton Church, Lancashire, to the memory of the late Lord Sefton. A sculptured border follows the line of the tablet: within it is a "cross moline," on a black ground, with a shield upon it, inscribed, "Here is buried Charles William, 3rd Earl of Sefton. This tablet is placed here by his sorrowful wife and children, who love to cherish the memory of his warm and noble heart. He died August 2, 1855, aged 59." Encircling the cross are the words "Thy will be done." The materials of the memorial are a fine sandstone and marble. It is 3 feet 6 inches in diameter, and was executed by Mr. George Shaw, Upper Mills, Saddleworth.

The Threatened Closure of Colchester Castle Grounds.—A map has been forwarded to us showing the proposed enclosure of the Castle of Colchester in private grounds and appropriation of part of the Bailey as a cattle-market. No wonder "the ghost of Philip Morant," the Essex historian, protests, in the *Essex Standard*, against the threatened desecration of a spot so sacred in local history and tradition as the Bailey and the Castle of Colchester. A counter movement for the formal conversion of the locality into a public park or recreation ground, with a few ornamental adjuncts, appears to be the best possible way to take the wind out of the corporation sails and arrest their progress cattle-market-wards.

Another "Palace of the People."—It is proposed, say advertisements, to erect and furnish at Muswell-hill, Hornsey, a structure not much unlike that at Sydenham, but more easily reached by a great portion of the people who dwell on the left or Middlesex side of the Thames. An estate of 450 acres, it is said, has been obtained by the promoters, who have registered a prospectus under the Limited Liability Act, and they contemplate selling 300 acres for the erection of dwelling-houses, villas, &c. On the remainder "The Palace of the People" is to be raised. This palace and its grounds will be appropriated to various educational and recreative objects. There will be departments of English history, geography, astronomy, geology, and mining. Refreshment-rooms and accommodation for musical entertainments will be provided. Attached to the main building will be a nursery ground, model farm, and model cottages. Archery, cricket, and equestrian exercises will be arranged, and space for promenades, &c. will be set apart. The whole of the objects contemplated by the projectors of this scheme can, they assert, be executed at less than half the cost of the Crystal Palace.

CAST-IRON COLUMNS.—Twelve cast-iron columns, said to be the largest in the United States, are now in process of construction at Cincinnati. They are each 50 feet in height, 4 feet 2 inches in diameter, weigh between 200 and 300 tons, and will cost about 30,000 dollars. They are designed for the State House, Madison, Wisconsin.

STEELING OF ENGRAVED PLATES FOR PRINTING.—The specification of an important invention was recently filed by Mons. Jacquin, the patentee. The invention consists of the application of a facing of iron, by means of electricity, on to copper and other metallic printing surfaces. The coating may be removed when it has become a little worn, and a new one given, without injury to the plate operated upon. This may be repeated as often as may be required; so that for all practical purposes a plate may now be rendered almost indestructible. A lecture upon the subject is to be delivered before the Society of Arts, by Mr. F. Joubert, who is carrying out the process under the patent for this country.

WATER FOR DOGS. A correspondent in your last number suggests that, while drinking-fountains are being erected, it will be well to think of the poor dogs, and let them have a chance of a draught of water. Allow me to say that this has been done at two fountains which have been erected in the town of Derby. It is easily effected, and without any expense. The water from the basin above is conducted into a trough below, which does not project from the wall, and from that trough it runs into the sewer, instead of running into it at once from the basin. It is very pleasant to see how much these dumb creatures appear to enjoy a cool and refreshing draught in hot weather, and the large numbers who stop to drink prove how much it is appreciated by them. —J. L.

ARCHITECTS AND CHANCERY.—SIR,—Would some of your readers be good enough to throw light upon the following occurrence:—A house belonging to a ward in Chancery wants repairing: an architect is called in, and makes a full report upon the alterations necessary to make it habitable for a good tenant, and to preserve the building from going to decay, and furnishes complete drawings, showing the entire scheme, with a probable estimate. The whole is submitted to a lawyer, in order to be laid before the Lord Chancellor for his sanction; but the lawyer says it is all useless,—that what is required is, that a builder (not an architect), should make an affidavit that certain repairs are necessary, and that such only would be allowed for, thus entirely setting at nought the architect's trouble, and ignoring his studied opinion. Would not the architect's assurance in his report obviate all this procedure? I want to know, can this be? If so, it is the legal profession paying the architectural profession a compliment with a vengeance. It is, in fact,—"I don't know you."—JAMES BLAKE.

ELECTRO-TELEGRAPHIC PROGRESS.—The forlorn hope of the Atlantic cable now appears to be an offer made by Mr. Hughes, an American patentee, to try it with his printing telegraph, which, by a nice adjustment of instruments at both ends of a telegraph, prints each letter of a word by a single impulse; that it may afford less opportunity for the interference of the magnetic storms and earth currents, by which the mass of iron-wire covering of the Atlantic cable is now admitted to have bemuddled the signals, than by any method which requires more than one transmission for each letter. The directors have not, however, as yet accepted the offer. Meantime they are having the shore end laid down at last at Valentia, and perhaps they await the result before considering Mr. Hughes's offer. There is talk of our Government having already caused soundings to be taken for the laying of another cable, but we cannot trace the rumour as yet to any reliable authority. The *Dundee Advertiser* urges a trial of Mr. Lindsay's singular idea of a telegraph without a cable at all. It is quite true that Mr. Lindsay succeeded in telegraphing across Portsmouth harbour by means of electricity, and without a crossing cable; but something short of the Atlantic, we suspect, should be Mr. Lindsay's next stretch. It is by means of a sort of electrical collector, stretched along the coasts on each side, and at right angles or so to the crossing path, that Mr. Lindsay proposes to form submarine telegraphs without crossing cables. It is said that a "British and Canadian Submarine Telegraph Company (limited)" is in course of formation. They propose to cross the Atlantic from Galway to Quebec. The capital of the company is set down at 750,000*l*. The cable is to contain six to nine conductors, and a dividend of nearly 15 per cent. is calculated on.

NEW BUNHILL-FIELDS BURIAL-GROUND, ISLINGTON.—CAUTION TO CONTRACTORS, &c.—At the Clerkenwell Police-court, on Wednesday, the 17th instant, Mr. Fordyce, a contractor, and Chinnery, a carter, were convicted and fined under one of the "annoyance" clauses in the Islington Local Act, for carrying through Brewers-yard, Islington, a quantity of rubbish, and shooting it into the old burial-ground. Mr. Warr, the sanitary inspector, and Mr. Butterfield, the registrar, were called as witnesses; the cases were conducted by Mr. Layton, the vestry clerk.

COVERING BACK YARDS IN METROPOLIS.—*Imprimis*, the clause in Building Act, 1855, refers to new buildings; the Act also does not define "on what floor or level" the open area is to be left, just the same want of definition as is apparent all through the Act. This might be on flat formed over ground-floor (roof). We must, however, if we want anything intelligible, revert to the Act of 1844, schedule K, page 148: this allows back-yards to be covered in, if they can light and ventilate from any area to extent of three-quarters of a square above level of second story. In most cases of shops, however, if these can be lighted and ventilated from street, it should be allowed that yards may be covered in: it resolves itself into a question simply of amount of light and ventilation. It is a hardship where a shop is small, and is sought to be enlarged, to urge objections to enlarging it, as ventilation, if not light, is often improved by such enlargement. —VIGILANS.

THE DRINKING-FOUNTAIN MOVEMENT.—At a vestry meeting of the parish of St. Andrew, Holborn, held on 9th inst., Mr. S. Gurney, of Lombard-street, made an offer to erect, at his own cost, a drinking-fountain, to be placed on Holborn-hill. It was unanimously resolved to accept the offer, the rector and churchwardens being requested to fix the site. A fair example to all the other metropolitan districts is thus being set by Holborn, and it is to be hoped that St. Pancras will have the solitary glory of representing the pot-house interest in London.——At the Court of Common Council for the City of London, held on 15th instant, Mr. Anderton gave notice of the following motion:—"That it be referred to the City Lands Committee to examine and report upon the desirability of erecting, for the benefit of the working and labouring classes, public drinking-fountains within the City of London, with powers to confer with the Commissioners of Sewers thereon, and if necessary the Metropolitan Board of Works; and should the same be found desirable, then to ascertain the sites where they would be most convenient and useful; also the probable cost of the erection of each of such fountains, and the probable annual expense of maintaining the same when erected, and to suggest the means for defraying the costs and charges of erecting and supporting the same, whether by voluntary contributions or otherwise; and if by voluntary contributions, that this court do subscribe towards the same such sum as the court may hereafter in its wisdom think fit."——The committee to whom the Leicester council referred the subject of drinking-fountains report that their sub-committee advise the erection of a mural fountain of white Sicilian marble on the gaol wall in Highcross-street, at a short distance from the opening in Freeschool-lane, according to a design submitted to them. The cost will be about 12*l*. or 13*l*.; and as the site appeared to be unobjectionable, the committee recommended that the construction of this fountain be at once proceeded with, leaving the site and design for other fountains for further consideration.——It appears, from the proceedings of the Stockport Town-council, that the mayor has received a communication from Mr. R. H. Greg, of Noreliffe, near Styal, in which that gentleman offers to furnish a number of drinking-fountains for the use of the inhabitants of this borough, leaving the selection of sites for their erection to the General Purposes Committee.

EPITAPH IN MIDDENHAM CHURCHYARD.—I inclose you a little bit of rustic verse, truly from the heart, and not from the head, which I saw in this pretty churchyard, in Oxfordshire, near the the Thames. It is on the tombstone of a young mother who died, leaving her husband and one child. If they are half as touching to you as they are to me, I am sure you will insert them:—

"Blossoming rose, blooms with the morning sun,
Just looks gay, withers, and then is gone.
Pardon my sins, Almighty God, I pray,
Forgive them me, and take me hence away.
Husband, farewell, my life is past,
My love for you so long did last.
I pray no sorrow for me make:
Love my child for my sake."

EPSILON.

COLONIAL MINING JOURNAL.—The first number of a new journal so named has been forwarded to us from Melbourne. It is devoted to mining, railway, and share matters, and promises well, although the price (1*s.* 6*d.*) in these golden regions is rather beyond what we are accustomed to in the old country. We are glad to see such familiar traits in its advertising columns as "Doulton's glazed stoneware," with the well-known drainage and water-pipes, for sale at Melbourne. The number contains various interesting maps and sections of auriferous districts.

METROPOLITAN DRAINAGE.—It is sincerely to be wished and hoped for, that as the winter is now approaching, and gives good time for steady reflection, that the ratepayers generally of London and the suburbs will open their eyes to the great fact that upwards of ten millions sterling will soon be thrown amongst the large contractors and property-holders *for dispersion*. But will the public of the metropolis be benefited by it?—and if so, will it be permanently, or is it to be only a make-believe, resulting in increased and extended annoyances, and the loss of valuable time and opportunities of doing good permanently and effectually by well-matured practical plans? If the ratepayers continue sleepy or lethargic, they must not grumble at future consequences.—PRACTICAL.

THE PROPOSED FINE-ART GALLERY FOR LEEDS.—An influential meeting of gentlemen desirous of forming a Fine-Art Gallery in Leeds has been held in the Town-hall there, to consider what means should be adopted to carry out the project. The mayor (Sir Peter Fairbairn) presided. It was decided, says the *Intelligencer*, to form an association, to be called "The Leeds Fine Arts Association," with the object in view of decorating and ornamenting the Town-hall with paintings, statuary, and other works of art, and a committee was chosen to confer with a committee to be appointed by the Leeds Town Council, as to the necessary steps to be taken to further the object contemplated.

MONUMENTS.—A movement is being set on foot to secure the erection of a building commemorative of the genius of Josiah Wedgwood, at Burslem, the town of his birth.——A public meeting has been held in the Chester Music Hall, under the presidency of the mayor, to consider the best means of perpetuating the memory of the late Rev. Matthew Henry, the celebrated Bible commentator, who spent twenty-five years of his life in that city, and whose chapel still remains there. It was resolved that a subscription should be set on foot to erect a statue in the city, to found one or more scholarships at Oxford and to print a cheap edition of his commentary. ——It is proposed to erect a colossal equestrian monument to Washington, in the centre of Washington-square, Philadelphia, at a cost of 75,000 dollars. This monument is to be of bronze, upon a massive granite pedestal, standing in a miniature lake, 6 feet deep, fed by fountain-jets, and surrounded by a massive iron railing.

LABOUR IN AUSTRALIA.—There are still many men unemployed. The railway works have been much interrupted by strikes, caused partly by the unfair treatment of the contractors, and partly by a foolish attempt on the part of the men to force from them a higher rate of wages at a time when this was impossible, as labour is still much in excess of the present demand. The contractors have, we think prejudicially to their future interest, taken advantage of the temporary superfluity of labour, not only to keep men working at the very lowest scale of remuneration but otherwise so to treat them as to keep the men in a state of constant dissatisfaction. The *Melbourne Argus* says, "Before many months are over the contractors and their workmen will have changed positions, much to the loss and inconvenience of the former. The eight hours' movement is still gaining strength here. The wish of the smiths, boiler-makers, and other workers in iron to labour but for eight hours a-day, instead of ten, was opposed by some employers, who tried hard to frustrate their object, but eventually had to give way. In this case the public sympathy was altogether on the side of the workmen, who when craving this boon, did not attempt to gain it at their employers' expense. They were quite along willing to submit to a proportionate reduction in their wages, and for eight hours' work only asked to receive eight hours' pay. Some of the large employers refused to accede to the desire of their workmen as long as there was the least probability of their being able to stop the movement; but now eight hours' work a day is the rule in this, as it has long been in many of the out-of-door trades."

THE LEICESTER SEWAGE.—The committee of the Leicester Town Council who have charge of the sewage department report that they have requested the Sewage Company to state the terms on which they would be willing to continue the contract for lifting and disinfecting the sewage for a further term, and they have received a reply offering to accept 1,000*l.* a year for two years, free from all rent-charge and local taxation, the local Board making over to the company the contracts for emptying cesspools; and if there should be any profit on the year's work, then half of such profit to go in diminution of the 1,000*l.* The committee were of opinion that it was not expedient to accept these terms, and that it would be preferable to allow the company at once to surrender to the local Board the buildings, machinery, and plant now on the premises.

TENDERS.

For rebuilding Nos. 43 and 44, Duke-street, and No. 1, Princes-place, St. James's. Mr. Francis H. Fowler, architect. Quantities taken out by Mr. Morris Evans :—

Clemence	£1,200 0 0
Nottley	4,145 0 0
Burton	4,132 0 0
Nixon	4,106 0 0
Tyler	3,990 0 0
Tanson	3,981 0 0
Rider	3,960 0 0
Patman and Fotheringham	3,970 0 0
Piper and Sons	3,935 0 0

For building Methodist chapel at Newark, Nottinghamshire. Mr. M. Sharper, architect. Quantities supplied by Mr. P. Bunting :—

Simpson	£3,874 0 0
Barefoot	3,421 0 0
Sherwood	3,420 0 0
Aaron and Son	3,207 0 0
Lark and Nightingale	2,968 0 0
Snewin and Co.	2,799 0 0
Balistock	2,637 0 0
Smart	2,589 0 0
Sedgwick	2,070 0 0

For alterations of No. 11, Queen's-buildings, for Messrs. Goding and Co. Mr. F. Edwards, architect. Quantities not supplied :—

Smith	£535 0 0
E. G. Symons	492 0 0
G. Todd, jun.	487 0 0
Patrick	460 0 0
Chutter	444 0 0

For new school-house, Burton-street, St. Pancras. Messrs. Burnel, architects :—

Wagstaff and Son	£475 0 0
Wm. Piper	463 0 0
Nicholson and Sons	450 0 0
Piper	448 0 0
Geo. Mansfield and Son	443 0 0
Little and Son	439 0 0
J. and W. Sanders	430 0 0
Longmire and Barge	418 0 0

For the erection of a new farmstead at Timberland, Lincolnshire. Mr. Thomas Page, architect :—

Johnson and Retsey, Egsworth	£1,190 0 0
Stiles, Navenby	917 0 0
Fox, Lincoln	900 0 0
Bavin, Metheringham	898 5 0
Foster and Conyers, Saxilby	816 16 0
Pattinson, Ruskington	812 10 0
Huddleston, Lincoln (accepted)	700 0 0
Rollinson, Kirton Lindsey	656 0 0

For the erection of a villa residence at Hawkhurst, Kent. (Fittings not included.) Mr. H. H. Collins, architect. Quantities supplied by Messrs. Pearson and Dougmery :—

	Stone Dressings.	Brick ditto.
J. D. Cowland, Notting-hill	£2,594 ..	£2,534
Jackson and Shaw	2,525 ..	2,500
J. Pickard	2,487 ..	2,474
W. Harvey, Hawkhurst (accepted)	2,329 ..	2,279

TO CORRESPONDENTS.

M and S.—A. B., Hull (apply for the rules of the Societies. To state what you ask would require more space than we can give. Index (these who regulate their course by the consideration of what will please the majority at the moment will find at the end of their career that it has been a tortuous one).—J. T. B.—E. E.—J. H.—J. F.—T. P.—Sussex.—P. D. (next week. Thanks).—T. M. R.—J. F. F.—A. and Co. C. F.—Magistrate of Surrey.—T. R. W.—(formerly V. W. in type) —L. and B.—J. W.—A M. (apply to the surveyor of the local Board of Health).—E. L. G.

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Gresham House, Old Broad-street, London, October 9th, 1858.

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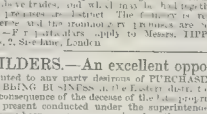

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MATTHEW FORSTER, Secretary.

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CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 6, Upper Thames street London; and also at the Manufactory, Faversham, Kent. N.B. These Cements supplied for shipment, on advantageous terms.

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ASPHALTE.—GERVASE FOOTTIT, TRINIDAD ASPHALTE WORKS, Rotherhithe, London. Established 1834.—TRINIDAD, SEYSSEL, and BRITISH ASPHALTES, manufactured by steam power, laid down in the best manner, or supplied at any station. Information or estimates forwarded with the utmost Packing orders or reference will be promptly attended to. Estimates given for every kind of the above work.

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FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive stock of Prepared Flooring, Deals and Mahogany.
¾ inch Prepared Flooring, 11s. 6d. per square.
1 inch 11s. 6d. per square
Yellow Battens, 1¼ by 3 per 120, 12½ per 24.
Yellow Deals from 3s. 9d. each
Spruce Deals, from 2s. 9d. each
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 10d. per foot.
Broad-road, Southwark, and Blackfriars-road, Surrey side.

FLOOR BOARDS, &c.—R. SLADE begs to inform Builders and the Trade, that he has now on hand a large Assortment of FLOORING and MATCHED BOARDING, from 4 feet to 24 feet in length, kept constantly dry for use. Also Mahogany, Moulding, Dressed, and all kinds of Timber required in Building Purposes.—Address R. SLADE, late E. Seaton, Parker's Matchboard Factory, Wilton-road, Pimlico.

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	¾	¾	1	1¼	
Spruce	12s.	13s.	12s.	—	per square
Wainscot	12s. 6d.	13s. 6d.	15s. 6d.	18s.	,,
Yellow	14s. 6d.	14s. 6d.	16s. 6d.	19s. 6d.	,,

Delivered within three miles free of charge
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¾-inch Prepared Flooring	£0 11 6 per square.
1-inch Prepared Flooring	0 15 0 per square.
Best Prepared Flooring	1 1 0 per square.
Good Yellow Deals	0 3 3 each
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Pine Planks, Dry, 12 ft. 3 by 11	0 3 6 each
Yellow Battens	11 10 6 per 120.
Mahogany, Planks and Boards, from	9d. per foot.

All sawn goods delivered within three miles free of cartage.
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A Monthly Price Current forwarded on application.
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BENJAMIN JAMES HUDSON begs to call the attention of Builders and the Trade in general that the best sawn goods (Deals, Battens, &c.) are always to be obtained on this wharf, where an assortment of Flooring Boards, Lining Boards, Pulley-stiles, Sashes, Doors, &c., is kept ready for use, and may be supplied from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Elm, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as was advertised house in Parliament.

Mahogany, in log	from 6s. 6d.
,, ,, board	,, 0 6
Spruce Deals	,, 2 9
Pine Plank	,, 7 3
Yellow Deals	,, 3 4
Yellow and White Battens	,, 1 11

Prepared Flooring—
White.—¾ in. 12s. ; 1 in. 13s. 6d. Yellow.—1¼ in. 12s

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Books of Designs of Mouldings forwarded on application.

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Country orders promptly attended to.

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	Spruce.	Yellow.	White.
¾ inch	11s. 6d.	13s. 6d.	12s. 6d. per square
¾ ,,	13s. 0d.	14s. 6d.	13s. 6d. ,,
1 ,,	15s. 6d.	16s. 6d.	15s. 6d. ,,
1¼ ,,	19s. 6d.	21s. 6d.	18s. 0d. ,,

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Patronized by
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And by the most eminent members of the Royal Engineering Corps, to whom it has been submitted, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's Show, in Hanover-square.
Stock and roof and a full assortment of the Patent Felt always on hand.
PENNY PER SQUARE FOOT for the, without fixing, and from that to 2d. per foot, according to the description of roofing required.
The Felt is of such a nature that it will not crack or perish in any part of the town or country. A Dry-hair Felt, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully informed that the Patent Felt is now ready for sale, and may be obtained at the Manufactory, 4, Lamb's Buildings, Bunhill Row, E.C., as the only place where it is manufactured, and by which alone it can be obtained genuine, and ultimately cheapest to the consumer, as it is the best article for the trade. They have also a Patent for PREVENTING DAMP WALLS, and will undertake to keep any cellar or room perfectly dry, by laying the Felt on the inside of the walls, and fixing a wood lining over it. Apply at 4, Lamb's Buildings, Bunhill Row. Roofs covered with the Felt to be seen at the Factory, and also at Vauxhall Gardens, and the passages and offices leading to Westminster Hall, and other buildings of the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

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EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
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For a practical example inspect the CAEN STONE OF BLOCKS at BURY BAPTIST CHAPEL, NOW UNDER TREATMENT, [illegible]
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24 by 12	8 14 6	,,
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Duchess	24 in. by 12 in.	£10 15	0	per mille of 1,200
Small ditto	22 ,, 12	7 3	0	,,
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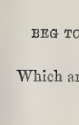

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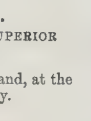

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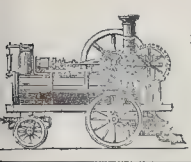

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MINTON and CO.'S ENCAUSTIC and other PATENT TILES, for Churches, Entrance Halls, Conservatories, Balconies, &c.; Antique, Geometrical, and Alhambric Mosaics, manufactures of a highly decorative character, and extreme durability. Slabs and Tiles for Fireplaces and Hearths, Copings for Grates, Door Furniture, White Glazed and Ornamental Tiles for Baths, Dairies, and Kitchen Ranges, may be had, in great variety, at their Warehouse, 9, Albion place, Blackfriars-bridge, London; and at their Manufactory, Stoke-upon-Trent, Staffordshire.

GARRETT, BROTHERS (late H. and R. Haywood), Manufacturers of METALLIC TILES, PIPES, &c.—Blue, red, and buff paving tiles, of various designs, for churches, entrance-halls, schools, dairies, &c. Italian, Grecian, plain, and ornamental roofing and ridge tiles in great variety; blue facing and paving bricks, vitrified stable pavers and kerbers, lamp and pocket pipes, grids, channel bricks, coping, fireproof flue linings, &c. all of a very superior quality, with numerous other articles, together with Lists, Illustrations, Prices, and other particulars of the same may be obtained of GARRETT, BROTHERS' Manufactory, Brown-hills Tileries, Burslem, Staffordshire; or their London Depot, 13, South Wharf, Paddington.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floors of their perishable coverings. MAW and Co.'s Pattern book, designed by M. Digby Wyatt, esq. together with a set of designs and estimate of cost adapted to any extended area of hall, passage, conservatory, verandah, floor, &c. will be sent on application to Benthall Works, Broseley, Salop.

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PANTILES, PAVING, and PIPE-TILES.—J. H. ANDREWS, Wisbech, Cambridgeshire, offers Pantiles at 50s. per 1,000; Floor Bricks and 6-inch Pavings, at 40s. per 1,000; 8-inch Pavings, at 55s. per 1,000, cash prices. Delivered in trucks in London or along the Line on the Eastern Counties Railway.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield street North, City-road Basin, N. 2ndly, that the trade term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and 3rdly, that the "Reports of the Jurors," page 681, Class 9, Class Exhibits 1, note the grant of a First class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

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URINALS, Single, Double, and in Ranges.
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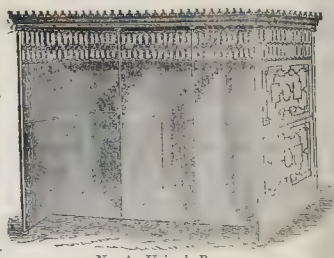

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PORTABLE STEAM ENGINES,

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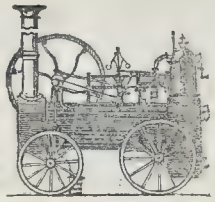

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OF EVERY DESCRIPTION, IN

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Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.

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Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices.

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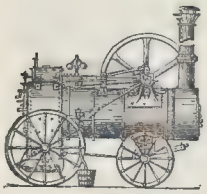

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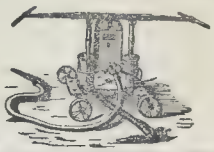

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CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
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LIVERPOOL POTTERY,

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STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

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DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

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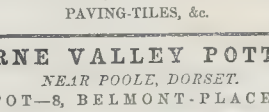

BEST SALT-GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

SALT-GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

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The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained on application at the Works; or at the Depôt, 8, Belmont-place.

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The attention of the Trade is called to

JOHN WARNER & SONS'

PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard, the working carriage and expensive fittings and guides are unnecessary, reducing the price considerably less than Pumps made on the old plan.

Engines, Water Engines for raising fluids, from a depth not exceeding 28 feet, also Garden Engines constructed on the same principle.

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PARTIES having STEAM-ENGINES, BOILERS, MACHINERY, PLANT, &c. FOR SALE, may secure [illegible] without expense, by sending particulars to P. M. PARSONS, Patent-office Agent for the sale of Patents, Machinery, &c. for the Trade. His REGISTER, which is published Monthly, is [illegible] widely advertised, and enables [illegible] to find the [illegible] customers, and the Purchaser [illegible] the Bargain. [illegible] arrive on the 27th instant. [illegible] only [illegible] effected.

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HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, cloth, round and flat, and SPECIAL FABRICS, for Hot-water Pipes, Valves, Rubber Composition, and Soft Inelastic Rubber Cord of all sizes and qualities. Red and Colour-proof Rubber Sheeting, patent for Lasting de Dubbs.

Drawn Brass of superior make, and Improved Vulcanized Rubber Supply-pipes for ditto

Vulcanized Rubber in Sheets from three to four feet wide, and of any length. Also India Rubber and Canvas Driving Belts, Plain Rubber Rings, Hot and Cold Water Valves, and other Articles of this and many other kinds too [illegible]

N.B. All communications are [illegible] attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many instances might be adduced to prove the Durability of Gutta Percha Tubing, the Gutta Percha Company have only to refer to the following letter from Mr. THOMAS RAYMOND JARVIS, East Cowes, ISLE of WIGHT:—"March 10th, 1852.—In reply to your letter, received this morning, respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many builders in other towns have been established, and I have had the opportunity of observing the first erected down for several years. I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

THE GUTTA PERCHA COMPANY, PATENTEES,
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DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.

Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

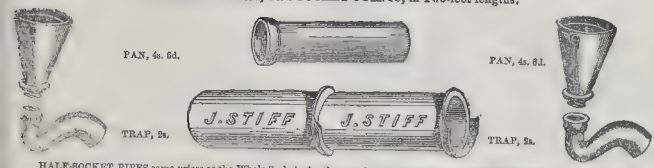
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz :—

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Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dongate Wharf, Canal-road, Hoxton.
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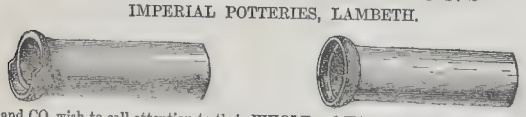
DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S
IMPERIAL POTTERIES, LAMBETH.



S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

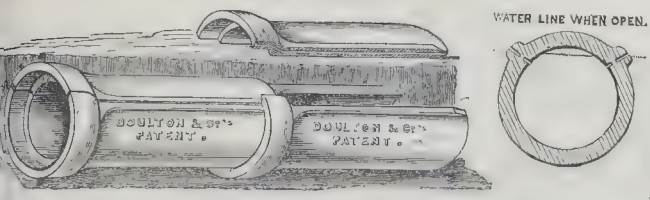
Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

DOULTON'S PATENT OPERCULAR, OR LIDDED PIPES,

Permitting Examination and Cleansing without Disturbing any Part of the Invert of the Drain, or Lessening its Capacity.

SOCKET JOINTS.



WATER LINE WHEN OPEN.

ADVANTAGES.

I. The Pipes may be laid whole as ordinary Socket Pipes, and the covers need only be removed should it necessity arise.
II. On the removal of the lids the drain is laid open throughout its entire length, and may be cleaned without disturbing any part of the invert.
III. The advantages of inspection are obtainable without any imperfect joints or other complications, which would allow either the escape of the liquid contents of the Drain, or the entry of the earth around it.
IV. The capacity of the Drain is not lessened when under examination, as is shown by the cross section.
V. The introduction of junctions is facilitated.
VI. The upper part of each lid forms an inspection Pipe with the Pipe, fits with a perfection and accuracy only possible by this peculiar mode of manufacture, and it cannot shift laterally.
VII. Perfect truth of form is secured, and increased strength obtained.
VIII. Simplicity of construction, and consequent cheapness.
IX. They may be laid alternately, or at any intervals, with ordinary Socket Pipes.

Manufactured by HENRY DOULTON and CO.

Offices—HIGH-STREET, LAMBETH, LONDON. Manufactories—HIGH-STREET, LAMBETH ROWLEY REGIS, STAFFORDSHIRE; and SMETHWICK, near BIRMINGHAM.

HEAL and SON'S EIDER-DOWN QUILTS, from One Guinea to Ten Guineas. Also, GOOSE-DOWN QUILTS, from 8s. 6d. to 24s. List of prices and sizes sent free by post. HEAL and SON'S new Illustrated Catalogue of Bedsteads, and Priced List of Bedding, also sent post free.—196, Tottenham court road, W.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES are the strongest in the London Market.

CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

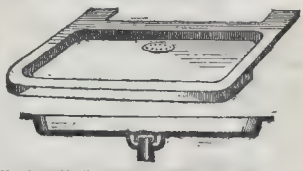
A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, socketed:—

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
27-in.	8s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time.
And the Pipes guaranteed to stand better than any Brickwork.

PATENT CAST-IRON SANITARY KITCHEN SINK, WITH TRAP.



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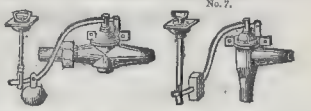
30 in. long by 18 in. wide by 4 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
48 in. long by 20 in. wide by 4½ in. deep, 10s. 6d. each.
48 in. long by 20 in. wide by 4½ in. deep, 12s. each.

To be had in London only, of Mr. JOHN JONES, 6, BANKSIDE.

BELL'S PATENT TRAPS, for Stables, Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury lane, and Spa-road, Bermondsey.

LAMBERT'S SELF-CLOSING LAVATORY AND CLOSET VALVE, No. 7.



is adapted for high or low pressure, and for any kind of BASIN. Many hundreds are in use under constantly pressure of 100 to 200 feet; they are found to be exceedingly durable, and are cheaper than common cocks. Manufactured solely by the Patentees,

THOMAS LAMBERT and SON,
BRASS-FOUNDERS AND ENGINEERS,
Corner of Short street, Newcut, Lambeth, S.

N.B.—No. 7, as here shewn, with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced. Price, complete, 15s. 6d. each.

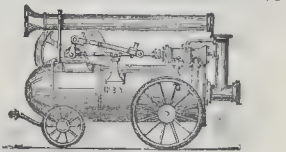
TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with a apply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 12, Blackfriars-road, London.

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UNRESERVED SALE OF PAPER-HANGINGS, AT THE FACTORY.

MR. EDWIN WHITE will SELL by AUCTION, without reserve, at the FACTORY, in the rear of No. 56, Great Russell-street, close to the passage leading to the White Hart Tavern, on WEDNESDAY, NOVEMBER 24, at TWELVE precisely, the Stock-in-trade, Implements, and Effects, of a Modern PAPER-HANGING Manufactory, comprising

Auction Offices, 11, Hatton-garden.

TO ENGINEERS, IRON SHIP BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on MONDAY, NOVEMBER 22nd, 1858, and following days, at ELEVEN o'clock each day, on the PREMISES, Millwall, Poplar, in lots, without any reserve, the valuable and extensive collection of TOOLS and STORES of the Iron Ship-building Yard, late J. S. Russell and Co.'s, including two very superior self-acting lathes, by Whitworth, 18 inches and 18 inches centres, 10 feet and 6 feet in length, four compound surface planes, by Whitworth, 24 inches and 12 inches; set of 36 rimers, planed and ground surface plates, 30 ratchet braces, five tons cast steel tools, four Haley's 15-ton jacks, three double purchase jacks, 5-ton, four double and single leather bands, ingot of cauldron; five tons cast and shear steel turtons, two fire engines, 800 feet 3-inch leather hose, 280 feet canvas hose, 31 leather buckets. A large and valuable assortment of patterns of pattern makers' benches, mortising machine, 6-in wrought ironwork, joint-making blocks, 10 tons assorted rod tools, 52 cwt. blacksmiths' tools, 10 tons cast-iron plates, two steam hammer tools, five crane ladles, eight shank ladles, 100 tons flasks, loam rings and plates; 50 tons scrap iron, three stone trucks, crabs, 10 tons flatledge boiler-makers' tools, bears, screws, roughing, lifting jib, and riveting hammers, 10 drillers, five tons cranes, 10 tools good smiths' tools, surface planing machine, two Punching Mills, cutting shears, punches, self-acting machine for nuts, two other effects—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had on the Premises, and of Messrs FULLER and HORSEY, Billiter street, E.C.

Steam Engines, Woodplaning Machine, Lathes, &c.

MESSRS. FULLER and HORSEY are instructed to include in the SALE of TOOLS at the YARD, MILLWALL, on MONDAY, NOVEMBER 22nd, and following days, at ELEVEN, Six Steam-engines, including a 13-inch cylinder horizontal engine, by Clayton, Shuttleworth, and Co. nearly new; a 10-inch table condensing engine; a 6-horse table high-pressure engine; two double oscillating cylinder engines, by Penn, each 12 inches by 24, and 4 inches diameter; a small oscillating steam engine, 4½ inch stroke; a powerful wood planing, sawing, tenoning and grooving machine, 4 lathes (two screw-cutting); 3 self-acting slide lathes, 16, 20, and 30 inch centres, with 4 feet bed, 10 feet bed, also 25 feet long, self-acting cross-surfacing machines, &c.; 2 portable drilling and punching machines, to work by hand or steam; a new warehouse crane, &c.—To be viewed, with the other effects, and catalogues had, of Messrs FULLER and HORSEY, Billiter street, E.C.

TO ENGINEERS, CONTRACTORS, SHIP-BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Executors of Mr. E. Smith, deceased, TO SELL by AUCTION, on MONDAY, NOVEMBER 29th, 1858, and following days, at ELEVEN each day, at the ST. GEORGE'S WORKS, St. George-square, Pimlico, and Flaxman-road, Chelsea, the Steam Engine and Boiler, the valuable MACHINERY, PLANT, and IMPLEMENTS of a Contractor, including a 16-inch self-acting screw-cutting lathe, by Whitworth, new three years; two Whitworth's self-acting screw-cutting lathes, to take in 6 feet by 2 feet 6 inches; a very powerful 2-inch self-acting screw cutting lathe, with 24-feet bed, by Shepherd, Hill, and Spark, nearly new; self-acting screw-cutting and screw-cutting lathe, with 16-feet bed, by the same makers; a 9-inch back-geared slide lathe, with 12-feet bed; a 9-inch self-acting slide lathe, with 6-feet bed, three smaller lathes, a capital cutting and punching machine, by Naylor; screwing machine, to cut from 1 inch to 2½ inches; two vertical drilling-machines, seventeen vices and benches, counter-shafting, overhead plate, grindstone, and 4 forges. Locks and bars, 2 ton, weighing machine, bench drills, nine smiths' forges, seven anvils, bellows, four fore-crabs, three tuns bad and bottom coals, fire-clay, boiler-makers' tools, sheets and plates and block, trucks, 2 plate-furnace, 6-horse power hot air engine, Cornish boiler, 15 feet long, 5 feet diameter, 4-feet tube; 200 feet shafting, riggers, pendant, leading pulleys; 6-in screw coupling, self-acting steam engine and boiler nearly new; 10-horse power Gough's patent engine, 8 feet, 3-horse power engine and boiler, with 9 feet bed; 4-horse power engine, 4-inch cylinder, 4 feet long, 25-horse power condensing engine, by Napier, on 3-pillar saw-bench, with saws, one ditto, unfinished; an egg-end boiler, 15 feet long, 3 feet 6 inches diameter; sixteen railway trollies, narrow gauge; eight ballast waggons (one end side tip), 100 navvy barrows, four wheel water carriage, 2 tons coal on trolley, bunting, 60 feet and 40 feet, and blister steel, forty-eight new railway ballast waggon wheels, 10 dozen tiles, 15 cwt. gas brass and ironwork, 37 lengths and 11 lengths of 8 feet of various descriptions, 1 pair wide-seated frames, 10 dry deals and battens, quantity of iron bands, sixteen carpenters' benches, straight bits, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had on the Premises; of Messrs NEWSON, EVANS, and NEWSON, Solicitors, Wardrobe-place, Doctors-commons; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO BUILDERS, STONE AND MARBLE MERCHANTS, ENGINEERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Executors of the late Thomas Cubitt, esq. to SELL by AUCTION, on MONDAY, DECEMBER 6, and following days, at ELEVEN for TWELVE precisely, at the WORKS, Grosvenor-road, Pimlico, in lots (a portion of the premises being let), a portion of the valuable fixed MACHINERY and TOOLS: including eight very superior circular saw benches, with plane bit and table, with plane or falling spindle; 12 inch and 18 inch self-acting tenoning frame, one ditto planing machine, powerful rack bench, one radial drilling-machine for wood, fifteen joiners' benches, three column mortise benches, a very superior self-acting screw-cutting lathe, by Whitworth, with 36-feet bed; self-acting planing machine, by Whitworth, to take in 4 feet 3 by 22 inches; two self-acting machines, by Whitworth, a wall-drilling machine, a very powerful self-acting slotting machine, nine engine-turning lathes, principally back geared, and with slide rests, powerful lever punching press, several cutting and punching press, 69 vices, large planed and grooved surface-plates, with stands; steel tools, benches, thirty vices, 500 feet wrought-iron shafting, 2½ to 5 inches, principally turned, with bearings, couplings, riggers, &c. cones, pipes, brackets, castings of machines, ten smiths' forges, tuyeres, troughs, bellows, anvils, swages, top and bottom tools, capital fore crane, showing plate of teeth, grand 3-inch iron cranes, to take in a block 10 feet by 4 feet 6 inches; saws, cranes larger to take in a block 10 feet by 4 feet 6 inches; saws, cranes straighten ing tube, two 30-inch punch-plate, punch, pair of turned paint-crushing rolls, with stands, grain for ditto, two tube-machines, twenty gravel and sand screens, three metal-grinder's stones, grinding and polishing spindles with lops, drag bench for zinc tube, two lay-brass presses, 6 cwt. anvil, three thirty-pound, 14-lb. and 7-lb. travelling crane, 45 feet span; powerful blocks, lifting jacks, 100 plummer block with brasses, two try-steam valves, fitted, 1 pair open-rigged and lune wheels, several tons useful machinery, twelve iron strake frames, ten tons crane at Pimlico, three tons quantity of second hand building materials, and numerous other effects.—To be viewed on Friday and Saturday previous to the sale, when catalogues may be had, at the yard without which no person will be admitted; on the premises, and previously of Messrs FULLER and HORSEY, Billiter-street, E.C.—Note: Approved Bills, at three months' date, will be taken from purchasers to the extent of 50*l.* and upwards.

STEAM ENGINES, BOILERS, &c.

MESSRS. FULLER and HORSEY are instructed by the Executors of T. Cubitt, esq. deceased, to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, Pimlico, a pair of marine condensing STEAM BEAM-ENGINES, of 80 horse collective power (nominal), now fixed and at work, with metallic pistons, expansive gear, massive geared spur fly-wheel, 17 feet diameter, cold-water pumps, &c.; a horizontal high-pressure steam engine, with 12½ inch cylinder, 3-inch stroke, 10-feet band fly-wheel and shaft; a Cornish boiler, by Hodge, 30 feet long, 6 feet diameter, with 3-feet tube and mountings; two small cylindrical steam-boilers; one small portable multitubular boiler; a second hand marine boiler, five steam boats, &c. To be viewed with the other effects, as [illegible] and catalogues had [illegible]

SALES BY AUCTION.

Stoves, Ranges, Hot plates, general Stoves, Ironmongery, &c.

MESSRS. FULLER and HORSEY are instructed by the executors of the late T. Cubitt, esq. to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, Pimlico, a large quantity of KITCHEN RANGES, several wrought iron sideboiler, and one second hand ditto, six large hot plates and oven, adapted for six large kitchen fires; eight smaller hot plates, with gas stoves, two wrought iron ovens and hot closet, steam dresser, with planed top, and hot closet under, two Arundel stoves, Rumford stoves, three dining-room gasaliers, thirty tons castings in stove metal, root doors and frames, mangers, balusters, railing bars and standards, balcony panels, furnace bars, rafter shoes, cake peel cups, one barrow and truck wheels, 150 patent wrought-handle, tinned sink-traps, 3 to 10 inches, ten tons rolled bar iron, one ton steam copper tube, bolts and nuts, coach screws, washing and brewing coppers, cast and blister steel, gas fittings, elbows, bends, sockets, T's, &c. new gas pipe, various, and miscellaneous stores.—To be viewed with the other effects and catalogues had. No private treaty before sale.

Twelve handsome Marble Chimney pieces, Table Tops, Marble, Slate, &c.

MESSRS. FULLER and HORSEY are instructed by the Executors of the late T. Cubitt, esq. to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, Pimlico, on this, TWELVE MARBLE CHIMNEY-PIECES, of modern design and beautiful workmanship, in statuary, Sienna, Italian, and other marbles, slate slabs, black marble, black and white slab and blocks, forty granite stone bases, 500 feet rough granite, 1000 ft. granite trim, 150 ft. Swedish and Irish granite, 40 block; twenty York landings, two Grecian columns, a [illegible] stone, and rough granite columns, quantity moulded granite, &c.—To be viewed with the other effects, and catalogues had. See [illegible] advertisement.

Iron Pipes, Tiles, and Bricks.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on FRIDAY, 3rd DECEMBER, 1858, at ELEVEN o'clock, at the WORKS of the Central Patent Land and Brick and Tile Company, Limited, East Dulwich, within a short distance of the Forest-hill Railway Station, in lots, the STOCK of DRAIN PIPES and TILES: including 800,000 drain-pipes, from 1½ inch to 6 inches diameter; 25,000 plain cornice and moulded tiles, coloured and splat bricks, 4,000 9-inch and 12-inch paving and 12 by 6 paving tiles. To be viewed on Wednesday and Thursday previous to the sale; when catalogues may be had at the Works; of Messrs. VALLANCE and VALLANCE, 20, Essex-street, Strand; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

READING, BERKS.—Valuable Freehold Building Land, and Two Small Freehold Dwelling Houses for immediate Sale.

CHARLES HAWKINS will SELL by AUCTION, at the CREAM JUG'S COFFEE HOUSE, Cornhill, London, on WEDNESDAY, the 24th NOVEMBER, at ONE o'clock precisely, (except the Premises held on lease for ninety-nine years), Messrs. Lewis and Gilchrist, and with the concurrence of the Mortgagee, in one lot, a desirable Plot of about Five Acres of BUILDING GROUND, situate at the Whitley, near Reading, and within a mile of the railway station, having a good frontage to the Shinfield-road, commanding the most extensive and delightful views, and in proximity to newly-erected buildings of a first-class character, and forming the most eligible site for the erection of villa residences or private institution. And in two lots, a Freehold brick-built COTTAGE, and Garden, at West Heath, Tilehurst, and an allotment of BUILDING GROUND on Calleva tree common, Whitley, near Reading.—For particulars apply to W. SLOCOMBE, Esq. Reading: Messrs. ALDRIDGE and BROMLEY, 2, South-square, Gray's Inn; Mr. KINNEIR, No. 2, Great Knight Rider-street, Doctors' commons: the Upper Ship Hotel, Reading; and of the Auctioneer, 5, Great Knight Rider-street, Doctors' Commons.

PRELIMINARY NOTICE.—To Builders, Contractors, Material Dealers, and others.—Valuable Materials of the Whitechapel Workhouse, comprising

JOHN HIND is directed by the Guardians of the Whitechapel Union to SELL by PUBLIC AUCTION, on the PREMISES, in Whitechapel-road, on THURSDAY, the 16th day of DECEMBER, 1858, and following days, the VALUABLE MATERIALS of the Old Workhouse, comprising the range of buildings, having a frontage to the said road, by a depth of 65 feet [illegible] capable of being converted into a [illegible] dwelling-houses, or be [illegible] the whole together, the valuable Materials thereof. Catalogues may be had [illegible] of G. A. FARR, Esq. Clerk to the said Guardians, at his Office, in the Workhouse; at the Offices of Messrs. [illegible] Town and Country Mitchell, Bow Arcade, Cheapside; of Messrs. Great Prescott-street, Whitechapel; and of JOHN HIND, Auctioneer and Estate Agent, [illegible] Commercial-road East.

Valuable Land and Quarry at Otley, Yorkshire.—TO BE SOLD by AUCTION, by

MR. JOHN DACRE, at the WHITE HORSE INN, in Otley, on THURSDAY, the 2nd day of DECEMBER, 1858, at THREE o'clock in the Afternoon precisely, subject to such Conditions of Sale as will be then produced, All those parcels of FREEHOLD PASTURE LAND, called Bishop Crosses and York Gate Allotments, situate on Otley Chevin, in the township of Otley, containing forty-eight acres or thereabouts. The allotments contain a [illegible] stone of first-class quality, which, from its extensive [illegible] and [illegible] from its [illegible] and [illegible] [illegible] [illegible]

The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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THE BUILDERS' BALL, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, is fixed to take place at WILLIS'S ROOMS, St. James's, FEBRUARY 10, 1859.

JOSIAH BIRD, Hon. Secretary.

10, Hanover Cottages, Regent's park.

THE ARCHITECTURAL EXHIBITION will NOT OPEN at SUFFOLK-STREET, in DECEMBER, as heretofore; but will in future take rank with other Fine Art Exhibitions in March, April, May, and June, at the New Galleries now erecting as part of the premises for the Architectural Societies, at No. 9, CONDUIT-STREET, REGENT-STREET. The committee will include an Exhibition of Manufactures, Patents, Inventions, &c connected with architectural art or construction.

Application for space to be made to JAS. FERGUSSON, F.R.A.S (umpiam place,) JAS. EDMESTON, Hon. Sec. Architectural Union Company, Crown court, Old Broad street. } Hon Secretaries.

COMPETITIONS.

MIDDLEWICH CEMETERY. — To ARCHITECTS.—The Middlewich Burial Board are desirous of receiving plans, accompanied with specifications and estimates, for the ERECTION of TWO plain, neat CHAPELS, adjoining each other, but not under one roof, the same to be so constructed as to form one entrance to the cemetery. The estimate not to exceed 1,000*l*. The Burial Board will not pay any expense whatever for preparing plans, &c. The party whose plans, &c. are approved, will be required to superintend the carrying out of the same, and be paid according to the usual per-centage. Every information will be given by the Clerk to the said Burial Board, to whom the plans, estimates, and specifications must be sent, on or before the 31st day of DECEMBER next.—By order of the Board,

CHARLES FREDERICK BARKER, Clerk

Middlewich, November 11, 1858

TO ARCHITECTS. — HIGHAM NEW CHURCH, NORWICH (see Advertisement of 6th instant).—EXTENSION of TIME.—Designs must be delivered, free of expense, at Messrs WINTER and TOMS Offices, St. Giles-street, Norwich, on or before the 1st of FEBRUARY, 1859

CONTRACTS.

CONTRACT for LOCOMOTIVE ENGINES and RAILS.—The Victorian Government require TEN LOCOMOTIVE ENGINES and 4,500 TONS of RAILS. Specifications of the engines may be seen on and after THURSDAY, the 18th instant, and of the rails, on and after FRIDAY, the 19th instant, at the Offices of the Inspecting Engineer, I. K. BRUNEL, Esq. 18, Duke-street, Westminster. Sealed Tenders, properly endorsed, and addressed to me, are to be delivered at our Office, 30, Finsbury place, before THREE o'clock on MONDAY, the 29th inst.—We do not bind ourselves to accept the lowest Tender.

DE PASS and SONS.

CONTRACTS.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for ADDITIONS and ALTERATIONS to the REGIMENTAL SCHOOL on Green-hill, at Woolwich Barracks. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender may be obtained at the Royal Engineer Office, Grand Depôt, Woolwich, on and after TUESDAY, the 23rd NOVEMBER, up to FRIDAY, DECEMBER 3, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered, prepaid, to the Director of Contracts, War Office, Pall-mall, London, S.W. at NOON, on MONDAY, the 6th DECEMBER next, marked "Tender for Additions, &c. to Regimental School, Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Woolwich, 16th November, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for GAS FITTINGS, &c. to the General Hospital at Woolwich. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender, may be obtained at the Royal Engineer Office, Grand Depôt, Woolwich, on and after TUESDAY, the 23rd NOVEMBER, up to FRIDAY, DECEMBER 3, between the hours of TEN a.m. and FOUR p.m.

The Tenders are to be delivered, or forwarded, prepaid, to the Director of Contracts, War Office, Pall mall, S.W. at NOON, on MONDAY, the 6th DECEMBER next, marked "Tender for Gas Fittings, &c. General Hospital, Woolwich." The War Department reserves the right of rejecting all or any of the Tenders

Royal Engineer Office, Grand Depôt, Woolwich,
18th November, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for CONTRACTING a GAS METER-HOUSE, and providing and laying GAS-MAINS to the Royal Artillery Barracks and Royal Military Academy at Woolwich. The drawings may be seen, and copies of the specifications, terms of contract, and forms of Tender, may be obtained at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, on and after MONDAY, the 29th instant, up to TUESDAY, the 7th of DECEMBER, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered, or forwarded prepaid, to the Director of Contracts, War Office, Pall-mall, London, S.W. at Noon, on FRIDAY, the 10th DECEMBER, 1858, marked "Tender for Gas mains, &c. at Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich,
24th November, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the ERECTION of a GUARD-HOUSE, &c. at the General Hospital at Woolwich. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender may be obtained, at the Royal Engineer Office, Grand Depôt, Woolwich, on and after MONDAY next, 29th NOVEMBER, up to TUESDAY, the 7th of DECEMBER, 1858, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered or forwarded, prepaid, to the Director of Contracts, War Office, Pall-mall, London, S.W. at NOON, on FRIDAY, the 10th of DECEMBER, 1858, marked "Tender for Erecting a Guard-House, at Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich, Nov. 23rd, 1858

NOTICE to BUILDERS.—The Commanding Royal Engineer of the Manchester District, hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-Mall, London, on WEDNESDAY, DECEMBER 1, 1858, from such persons as may be willing to TENDER for the ERECTION of MARRIED SOLDIERS' QUARTERS, OUTBUILDINGS, &c. at the Infantry Barracks, Salford. The specifications, plans, and terms of Contract may be seen, and any requisite information obtained, at this Office, on and after MONDAY next, 22nd instant, each day from TEN to FOUR (Sunday excepted), until MONDAY, 29th instant. Tenders to be endorsed, "Tender for the Erection of Married Soldiers' Quarters, &c. at the Infantry Barracks, Salford."

Royal Engineer Office, 1, Green-street, Dawson-street,
Manchester, November 16, 1858.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that Sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, in or before THURSDAY, the 23rd day of DECEMBER, 1858, from Persons disposed to CONTRACT for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT OFFICES, at Dover Castle. Drawings and a specification of the work to be executed may be seen by persons duly competent to undertake the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from TUESDAY, the 7th of DECEMBER, to TUESDAY, the 21st DECEMBER, 1858, inclusive, Sundays excepted. The party whose Tender may be accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 400*l* for the due performance of the contract. Tenders for the above are to be addressed to the Director of Contracts, War office, Pall-mall, London, S.W. and to bear the words, "Tender for Married Soldiers' Quarters at Dover Castle."

N.B. The War Department hereby declares that it reserves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, November 24, 1858.

TO BUILDERS. Notice is hereby given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, on WEDNESDAY, 8th DECEMBER 1858, for CONSTRUCTING WATER-CLOSETS, IMPROVING LATRINES, PAVING, DRAINAGE, &c. at Anglesey Barracks, Portsea; which will specify the works to be done, and every information obtained, at the Royal Engineer Office, by TEN till FOUR o'clock, between the 24th NOVEMBER, and the 7th DECEMBER.

Royal Engineer Office, Portsea, 19th Nov. 1858.

CONTRACTS.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE.—CONTRACT, No. 5.—To CONTRACTORS and OTHERS.—The Local Board of Health, for the District of West Ham, in the County of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following named Contract:—

CONTRACT, No. 5.—For the Supply of Materials, and for the Execution of a River Wall, certain Main Outlet, Brick Sewers, Manholes, Temporary Pumping Station, and other Works, as under. About 100 Lineal Yards of River-Wall, complete; and about 2,800 Lineal Yards of Brick Sewer, from 5 feet 3 inches and 3 feet 6 inches, to 2 feet, and 9 inches thick; also about Seventy-three Tons of Castings, in Pipes, &c.

The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on and after MONDAY, the 22nd day of NOVEMBER instant, on payment of Five Guineas. Application at the Office of WILLIAM JAMES BARSHAM, Solicitor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, 34, Parliament street, Westminster, where plans of the proposed works may be seen, and any further information relative to the contract may be obtained. Sealed Tenders to be delivered at the Clerk's Office, Stratford-green aforesaid, on or before MONDAY, the 14th day of DECEMBER next, endorsed "Tender for Sewers and River-Wall, Contract, No. 5."

(Signed) W. J. BARSHAM, Clerk to the Local Board.

Stratford green, November 10, 1858.

COUNTY of STAFFORD.—Parish of Kinver or Kinfare.—Nuisances Removal Committee.—CONTRACT for SEWERS.—Notice is hereby given, that the above Committee are prepared to receive TENDERS, on or before the 10th DECEMBER next, for LAYING DOWN a LENGTH, not exceeding 2,000 feet of 3 by 2 HALF BRICK SEWER, with requisite gullies, branch drains, and flushing sluice complete.—Plans and specifications may be seen on and after the 22nd NOVEMBER, at the Offices of Mr. JOHN MILLWARD, Engineer, Union Chambers, St. Stephen's. The Committee do not bind themselves to accept the lowest or any Tender. (Signed) THOS. YARD, Chairman of the Committee.

Kinver, near Stourbridge, Nov. 10, 1858

METROPOLIS LOCAL MANAGEMENT ACT. The Board of Works for the Hackney District.—CONTRACT for SEWERS.—The Board of Works for the Hackney District will meet at the TOWN-HALL in Church street, Hackney, on THURSDAY, the 9th day of DECEMBER next, at TEN o'clock in the Forenoon precisely, to CONTRACT for the supply of BRICK and PIPE SEWERS, to be constructed chiefly in Stoke Newington, Church, South Hackney, and Dalston Town

CONTRACTS.

No. 6 will comprise about 5,300 feet of Brick and Pipe Sewer (in Newington parish.

No. 7 will comprise 4,100 feet of Pipe Sewer (in Newington Common and Clapton)

No. 8 will comprise 5,200 feet of Brick and Pipe Sewer (in Homerton and South Hackney).

Plans, Sections, specifications, and conditions and the form of Tender of the works may be seen daily, between the hours of NINE and FOUR, at the Offices of Mr. JAMES LOWERY, Surveyor to the Board, at the Town hall, Church street, Hackney. Sealed Tenders to be delivered to the Clerk to the Board, at the Office, Town hall, Hackney, on WEDNESDAY, the 8th of DECEMBER, between the hours of TEN and ONE o'clock precisely. None but persons duly authorised agents, will be required to attend the Board on the 9th day of DECEMBER, at TWELVE o'clock at noon. The Board do not bind themselves to accept the lowest or any other Tender, and will any Tender be accepted that is not on one of the printed forms.—By order of the Board,

RICHARD ELLIS, Clerk of the Board.

Dated 24th November, 1858.

TO MANUFACTURERS, WAREHOUSEMEN, CARRIERS, and OTHERS.—WHITECHAPEL WORKHOUSE.—WHITECHAPEL ROAD.—The Guardians of the Poor of the Whitechapel Union will meet at the Workhouse, Whitechapel road, on TUESDAY, the 21st day of DECEMBER, 1858, at TWO o'clock in the afternoon precisely, to receive TENDERS from persons desirous of taking a PUBLIC LEASE of that portion of the GROUNDS and BUILDINGS forming the east side of the Whitechapel Workhouse premises, containing in the whole about an acre and a half, or thereabouts, distant from the Whitechapel Road 65 feet, or thereabouts, and more particularly shewn on the plan hereafter mentioned, having a frontage and right of way west on St. Mary-street of about 27 feet, and bounded on the north by the Whitechapel Road, and on the east and south by the premises belonging to Messrs. Marshall and Snelgrove, and Messrs. Bland, having the most eligible site for the erection of Warehouses, Workshops, Stabling, &c. The Ground Rent will be £150 per annum, clear of all deductions, and the Lease will be granted for the term of 21 years, subject to the following covenants, conditions, and restrictions, viz.:—That the Lessee shall, within two years from the date of the Lease, erect and complete upon the said piece of ground, in a substantial and workmanlike manner, and to the satisfaction of the Guardians, or their Surveyor for the time being, a building or buildings, to be used as Warehouses, Workshops, Stabling, &c. only, and of the value of not less than £3,000, and shall not at any time during the said term of 21 years, erect or suffer to be erected upon the said piece of ground any building or buildings of a less value than £3,000, or to be used for any other purpose than as Warehouses, Workshops, Stabling, &c. only, without the consent in writing of the Guardians, or their Surveyor for the time being, first had and obtained. That the Lessee shall not at any time during the said term of 21 years, erect or suffer to be erected upon the said piece of ground any building or buildings, or any part thereof, of a greater height than 40 feet from the ground level, without the consent in writing of the Guardians, or their Surveyor for the time being, first had and obtained. That the Lessee shall not at any time during the said term of 21 years, erect or suffer to be erected upon the said piece of ground any building or buildings, or any part thereof, within 20 feet of the Whitechapel Road, without the consent in writing of the Guardians, or their Surveyor for the time being, first had and obtained. That the Lessee shall not at any time during the said term of 21 years, erect or suffer to be erected upon the said piece of ground any building or buildings, or any part thereof, within 20 feet of the premises belonging to Messrs. Marshall and Snelgrove, and Messrs. Bland

CONTRACTS.

TO BUILDERS. — WOLSTANTON CHURCH.—EXTENSION of TIME.—Parties desirous of CONTRACTING to REBUILD and RE-ERECT the PARISH CHURCH of ST. MARY, Church at Wolstanton, in the County of Stafford, may inspect the plans and specification, and obtain any further information, at our Offices, at Hanley, in the Staffordshire Potteries, from this day till THURSDAY, the 9th day of DECEMBER next, on which day the Tenders must be delivered, under cover, addressed to the Rev. [illegible] Vicar of Wolstanton, Newcastle-under-Lyme, Staffordshire, not later than Twelve o'clock at noon of the same day, at which hour the Tenders will be opened in the presence of such Contractors as may be present.

WARD & LOUIS, Architects.

Hanley-street, Stoke-upon-Trent, Nov. 8, 1858.

Note.—Wolstanton Church is about a mile from the Burslem Station of the North Staffordshire Railway, and about a mile and half from the North of New Station of that Line.

EASTERN COUNTIES RAILWAY COMPANY.—TENDERS To Direct from the Eastern Counties Railway Company are invited to send in TENDERS for the ERECTION of a STATION and STATION BUILDINGS at Ipswich. The necessary Plans, Specifications, Sections, and Quantities, in the form of Tender may be obtained on application at the ENGINEER'S OFFICE, Stratford, between the hours of TEN and FOUR, on and after MONDAY, the 22nd instant, and until MONDAY, the 6th day of DECEMBER. Tenders, sealed, and endorsed "Tender for Ipswich Station," are to be sent to the Secretary at the Company's Bishopsgate-street Station, not later than the 9th DECEMBER, 1858.

N.B.—The Directors do not bind themselves to accept the lowest or any Tender.

By Order of the Board,

J. B. OWEN, Secretary.

Bishopsgate Terminus, 19th November, 1858.

METROPOLITAN BOARD of WORKS. — CONTRACTORS' BUILDERS, &c.—OTHERS. The Metropolitan Board of Works hereby give Notice, that they will meet at the Council Chamber, Guildhall, entrance in Basinghall-street, London, on FRIDAY, the 3rd of DECEMBER next, at TWELVE o'clock at noon precisely, and will be prepared to receive SEALED TENDERS for the following MATERIALS, and the execution of the various works mentioned, during the WORKS of the Board, in respect of the Sewers and Metropolitan Improvements connected therewith, within the Districts hereinafter described, and may be inspected at the Office of the Board, 1, Greek-street, Soho-square. The Tenders are to be open for the space of a schedule of prices subject to be modified as hereinafter specified, for one year from the date of the contract, subject to certain conditions in the manner stated in the conditions. Parties desiring to submit Tenders must apply personally at the Office, and obtain printed forms, with general conditions, particulars, and schedules, on application at the Office of the Board, between the hours of NINE and FOUR p.m. Sealed Tenders must be delivered at the Office of the Board before THURSDAY, the 2nd DECEMBER, at FOUR o'clock, precisely, and not to be received after that hour, and any Tender which contains a less printed and valid Notice of the Board, and signed by the party or parties tendering, will be rejected. Any party whose Tender shall be accepted will be required to enter into a bond with sufficient sureties, to be bound jointly and severally in the penal sums for the due performance of the contract. The Board do not bind themselves to accept the lowest or any Tender.

By Order of the Board,

L. H. WOOLEYCH, Clerk of the Board.

Office of the Metropolitan Board of Works, 1, Greek-street, Soho-square, Nov. 22, 1858.

METROPOLIS LOCAL MANAGEMENT ACT.—Notice is hereby given, that the Vestry of PADDINGTON are ready to receive TENDERS from parties willing to contract for the CONSTRUCTION of about 1,000 FEET of BRICK SEWER, and the fixing of NEW INVERTS, in Manor Hall Ward, Lisson Ward, with other Works incident thereto. The Tenders to be sent, sealed, and directed, "To the Vestry," and left at the Vestry Hall, Harrow Road, on or before MONDAY, the 13th day of DECEMBER next; and no Tenders sent in Tenders are required to be in all reliance on the following morning, TUESDAY, at TEN o'clock precisely. Specifications, plans, and sections, may be seen, at all reasonable hours, obtained from the Surveyor, at the Vestry Hall aforesaid, between the hours of TEN and TWELVE, AM. The party whose Tender may be accepted will be required to give wide sureties for the due performance of these works. The expenses of the contract to be paid by the Contractor. The Vestry do not bind themselves to accept the lowest or any Tender.—By Order,

FREDERICK AVELING, Vestry Clerk.

Paddington, November 20th, 1858.

CONTRACT for RAILWAY ROLLING STOCK.—VICTORIAN RAILWAYS.—TENDERS are invited for the following articles:—

9 Passengers Six wheeled Carriages
16 Second-class do. do.
4 Luggage Vans.
[illegible] Waggons.
4 Carriage Trucks.
[illegible] Horse-boxes.
2 Mail Waggons.
All the necessary Iron-work for
4 First-class Six wheeled Carriages.
[illegible] Second-class do.
[illegible] Waggons
2 Luggage Vans
Wrought Iron Axles, Axle boxes and Springs
[illegible] for two Model Engines

Specifications and drawings may be seen at our Office, No. 20, Tavistock-place, Euston-square, information will be given at the Offices of the Inspecting Engineer, I. K. BRUNEL, Esq., No. 28, Duke-street, Westminster, to whom all Tenders must be addressed, and delivered in at our Office, before Tenders are to be addressed, and delivered in at our Office, before THREE o'clock on the 3rd day of THURSDAY, the 2nd DECEMBER, 1858.

DE PASS and SONS.

London, November 24, 1858.

EXCELLENT OPPORTUNITY.—TO BE SOLD, the Lease, Goodwill, and STOCK IN-TRADE of a Builder, Plumber, Glazier, and Painter's Business, well established, situate in a thriving neighbourhood of London, five miles from the City. The premises are held at a low rent, and admirably adapted for the business. Apply to THOMAS FOX, Auctioneer, House, and Estate Agent, 93, Bishopsgate-street Within, E.C.

FOR SALE, EIGHT VEIN MARBLE CHIMNEY-PIECES.—Two at 3*l.* 5*s.* each are truss ones, with Shelves 11 inch thick, at 2*l.* 8*s.* each, have 5-inch jobs, open 3 feet. Also a CARVED STATUARY MONUMENTAL URN, partly covered with drapery.—Apply by letter, to Mr. MASON, No. 7, Charlotte-st. Euston-square.

TO SCULPTORS, MARBLE MASONS, and OTHERS.—JOHN LOVEY, Agent to Count NICOLAO LAZZONI and SON, of Carrara, begs to state that he has on hand a large assortment of Statuary Marble, of different colours and sizes, and has now at the wharf of the quarry, in Carrara, the large quarry that produced the block used for the statue of His Majesty in the new Town Hall, Leeds; a fine block of statuary of about the following dimensions, viz.—Length in English feet 11 feet 8 inches, by 5 feet by 4 feet, equal to 180 cubic feet.—Applications are requested to state the dimensions required in the block, in its present size, would not admit of its being shipped from Italy.

THE WESTMINSTER MARBLE COMPANY, from the great encouragement shown by the Profession for the introduction of Marble Work, have greatly EXTENDED their ESTABLISHMENT for EXECUTING ORDERS with unparalleled promptitude, and continue to add further commands, and have now on view the LARGEST STOCK of CHIMNEY PIECES in London, at unprecedentedly Low Prices

Address—Earl-street, Holywell street, Westminster.

MARKET WHARF, REGENT'S-PARK BASIN.—WEST-END DEPOT for Yorkshire Paving, Portland and Derby Stone, Bangor Slates, Slabs, &c. Also Bricks, Lime, Cements, Plaster, Tiles, Laths, and Fire Goods. SCOLES and WOOD invite the attention of Builders, Masons, and Others, to their stock as above, where everything will be charged at the lowest prices. Headstone, ledgers, steps, landings, &c. cut on the shortest notice.

Country orders promptly attended to.

TO SCULPTORS, MASONS, BUILDERS, &c.—FABBRICOTTI BROTHERS, of Carrara (Italy), Importers of all sorts of Marbles, keep a constant well-supplied Stock of Marble, in Blocks, at the marble Steam Wharf, comprising STATUARY, VEINED VEINED PANAZZO, SICILIAN, DOVE, and all the produce of their own Quarries at Carrara, —Bardilla, Black and Gold, Sienna, Greeste, St. Anna, Vert des Alpes, Jaune, &c. &c. Vases, Garden and Gallery Statues in marble executed in Italy, and take Contracts for the above sorts of Marble to any extent connected with the Trade.

all the above sorts of Marble to any extent connected with the Trade.

Carrara Wharf, Thames-bank, Pimlico; and 150, Leadenhall-street, City.

THE BRITISH and FOREIGN MARBLE GALLERIES, 17, Newman-street, Oxford street

EDWARDES, EDWARDS, and CO. PROPRIETORS,

the largest and most superior Stockof Chimneypieces in Europe on view at the above-named establishment.

Manufactories:—Carrara (Italy), Belgium, and 17, Newman-street, London.—Estimates for every description of marble work

BATH STONE OF BEST QUALITY.

RANDELL and SAUNDERS, QUARRYMEN and STONE-MERCHANTS, BATH.

List of prices at the Quarries and Depôts, also cost for transit to any part of the kingdom, furnished on application to Bath Stone Office, Colerain, Wilts.

DUNDRY STONE QUARRIES.—Dundry, near Bristol. This valuable stone for Architectural purposes may now be obtained in any quantities. Mr. C. H. Smith, of London, as well as Local Architects of eminence, have reported most favourably upon its qualities and durability, and it is now being used for extensive repairations at the Cathedral, Llandaff, and St. Mary Redcliff Church, Bristol. The price at the Bristol and Exeter Railway Termini is per foot cube, in block. The stone may be had worked at the quarries, at prices to be agreed upon if preferred.—All further particulars, certificates, and reports, may be obtained upon application to GEO. CASHMEAD and SON, Surveyors and Agents, 19, Small-street, Bristol.

BATH STONE OF BEST QUALITY

COMBE DOWN and HAMPTON DOWN.

For the best BATH FREESTONE, apply to

ISAAC SUMSION, Quarryman and Stone Merchant, Bath Stone Office, Wells road, Bath

VINCENT BELLMAN, SCAGLIOLA MARBLE MANUFACTURER, 14, Buckingham-street, Fitzroy-square, London, (W.) executes in the most workmanlike manner, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. in any design. In imitation of the most rare and expensive marbles, of which he has for inspection a large assortment, including the ARCHITORIAL SCREEN exhibited at the Great Exhibition of 1851, and for which a Prize Medal was awarded. He also executes Plasterers' Work of every description, in the very best manner and on the most reasonable terms. Also Manufacturer of superior and improved Plaster of Paris.

GATES and GEORGE, CAEN and AUBIGNY QUARRYMEN, and GENERAL STONE MERCHANTS, CAEN WHARF, ROTHERHITHE.

Seasoned Caen Stone always in hand, and a large assortment of Yorkshire sawn Scaly, and other Stone.

MANSFIELD STONE, White or Red, in BLOCKS up to Ten Tons, and the beds from 1 to 5 feet thick. Supplied also in Sawn Slabs, for floors or grave-stones, and in Sexpilling, for steps and sills. Mr ROBERT LINDLEY, Quarry-owner, Mansfield, Notts, guarantees

GRANITE.—The Welsh Granite Company, Cwmerron, supplies HITCHING or PAVING SETS of this MATERIAL to order. The sets, which have for several years been extensively used in Manchester, Bristol, Leeds, and other large towns, combine in a higher degree than others the qualities of toughness and wearing durability. Address, Mr JOHN HUTTON

GRANITE.—The Cheesewring Granite Company (Limited), Liskeard, Cornwall

London Agents—DIEDERICHSEN and TAYLOR, 54, Old Broad street.

Manager—JAMES J. TRATHAN, Liskeard.

This Granite selected for the New Westminster-bridge

RANSOME'S SILICEOUS STONE.—All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material, at prices not exceeding the ordinary Cements.

Full particulars furnished on application to

Mr. FRED. RANSOME,

Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

W. ASPINALL, STONE MERCHANT, Camden-town, has always on hand for selection a large stock of STONE from the various quarries in Yorkshire, viz. Tooled York landings Paving, &c.; Park Spring, Potterneeton, Robin Hood, and Harrill, in blocks and slabs, of all thicknesses; Scotch and other Granite, for kerbing and pitching; Portland and Bath Stone in blocks. Country orders punctually attended to, and list of prices forwarded on request.

CAEN and AUBIGNY STONE. F. POTCARD, Stone Merchant and Quarryman. Cargoes shipped to order from Caen to any port. Contracts taken for any quantities. Depôts: Granite Wharf, East Greenwich; Lett's Wharf, Waterloo-bridge. Office: No. 248, High-street, Southwark, near the Town-hall.

JOHN BAZLEY WHITE and BROTHERS, MARBLE MERCHANTS, MILLBANK-STREET, WESTMINSTER. Marble of all kinds and of best quality, in Block and Slab. Marble Mortars, &c.

W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessel or railway. Direct communication with the principal ports for EXPORTATION. Wharf prices, and estimates for special contracts, including quarry work or other labour, forwarded on application.—Office, 27, Millbank street, London, S.W.

SAMUEL TRICKETT, VICTORIA WHARF, ISLE of DOGS, E. Merchant and Dealer in all kinds of Stone, Portland, Caen, Bath, Gaeby, Parkspring, Rawden hill, Harehill, Bramley Fall, Pottemewton, and Whitby; Landings, Paviors, and Steps from Bramley Fall, Penmaen, and Southowram, Halifax Edge, &c.; Sawn Slabs, Landings, &c.; Basin-head, Hare-hill, Huddersfield, Parkspring, and Shipley.—The Woolwich boats call opposite the wharf, and an omnibus to and from the wharf and Limehouse station every half hour.

LITTLE CASTERTON FREESTONE. Apply for prices, &c. to FRAS. and CHARLES NEVILL, STAMFORD; and see Specimens at the Office of Messrs. PINDER, SIMPSON, and SONS, 20, Saville row, London.

RANSOME'S PATENTED PROCESS for INDURATING STONE, CEMENT, BRICKS, &c. to prevent and arrest decay and stop porosity. Can be worked by any person, painter, or labourer as readily as paint, &c. Does not alter the colour or the natural appearance of the material, and is permanent.

For a practical example inspect the CAEN STONE OF BLOOMSBURY BAPTIST CHAPEL, NOW UNDER TREATMENT, and for estimates, prices of solutions, &c. apply to

Mr. FREDERICK RANSOME, Whitehall Wharf, Cannon-row, Westminster; or Patent Stone Works, Ipswich.

VALENTIA SLATE SLABS.—The Valentia Slab Company invite attention to their Slabs, now supplied of very large dimensions and of superior quality. They have been used at the British Museum, National Gallery, Bethlehem Hospital, various Lunatic Asylums, the Ordnance Works, Model Prison, Fentonville, and other Penitentiaries; Malting Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stand at Brighton, Portsmouth Barracks, and are kept in stock by the principal Slate Merchants in London.—For wholesale terms, apply to the Company's Manager, at Valentia, Kerry.

4, Trafalgar-square, London, W.C., June, 1858.

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two First-class Medals at the Paris Exhibition.

Trashy imitations of this beautiful material are being palmed upon the public. Architects are therefore requested to see that the name of "MAGNUS" appears in each article.

Chimney-pieces, billiard tables, table tops, baths, wall-linings, &c. a new Illustrated Catalogue of which can be had of the Pimlico Slate Works, 39 and 40, Upper Belgrave place, Pimlico, S.W.

TO BUILDERS, CONTRACTORS, &c.

SLATES for SALE PRICES, for not less than Four Tons, at NINE ELMS STATION.—

BEST QUALITY.

24 by 12	£10	13	3 per mille.
22 by 12	8	14	6 "
22 by 11	7	19	6 "
20 by 10	6	10	0 "
18 by 10	5	3	0 "
18 by 9	4	2	6 "
16 by 10	4	4	0 "
16 by 8	3	5	0 "
14 by 8	2	10	0 "

SECOND QUALITY.

24 by 12	9	8	6 "
20 by 10	5	18	0 "

Apply to T. and L. B. NICHOLSON, Merchants, &c. Gloucester.

TIMBER and SLATES.—To BUILDERS. SLATERS, and OTHERS.—The CHEAPEST HOUSE in LONDON for TIMBER and SLATES is JOHN EADES'S, Regent-wharf, Millwall, Poplar, E. near West-India Soth. Dock, where he is always on hand a large stock of English and foreign timber, deals, battens, prepared flooring, laths, match boarding, mouldings, &c. &c. and begs to call attention to the following low prices for roofing slates, &c.

ROOFING SLATES.

Duchess	24	in. by	12	m. £10	15 0 per m.lle of 1,200
Small ditto	22	"	12	8	5 0 "
Marchioness	22	"	11	8	10 0 "
Countess	20	"	10	6	15 0 "
Small ditto	18	"	10	5	0 0 "
Viscountess	18	"	9	4	10 0 "
Ladies	16	"	8	3	15 0 "

Always on hand, a large Stock of Slate Slabs, and Williams's Patent Roll Ridging. Slate Cisterns made to order.

N.B.—A large stock on hand of very cheap Larch Fencing, ready for fixing.

O. M'CARTHY, CARMAN, and SAND and CEMENT MERCHANT, Whitefriars Wharf, Whitefriars-street, City. Sand from above or below Bridge, delivered by the yard or per barge. Ballast, screened or unscreened, by the yard or per barge. Stocks, Lime, and Old Bricks. Dry Rubbish delivered, per barge, in any quantity, alongside the Thames.

GREAT ECONOMY IN GAS EFFECTED BY MEANS OF HART'S PATENT ECONOMISING GAS BURNER AND ILLUMINATING POWEL-DIFFUSER. Price 2*s.* each, sent on receipt of twenty P. stage stamps.

No regulator is required, neither will any regulator diffuse the illuminating power, but on the contrary, check its development.

THIS very simple and complete apparatus is the result of considerations of the age for gas consumers. It can be attached to any gas chandelier, stand, or bracket, in a few minutes by the most unpractised hand. It is impossible for it to get out of repair.

The saving effected by it is from 5 to 35 per cent. at the same time promoting an illuminating power far superior to any other burner, varying from 10 to 150 per cent. as proved by experiments made with photometer (relieving its own cost in from one to three months), which must be seen to be believed, and can be demonstrated to any gas engineer, or other scientific man, at one moment's notice, on application at the Depôt,

69, FLEET STREET, LONDON

To be had of all Gasfitters and Ironmongers in the country.

TESTIMONIAL

"I have Mr. Hart's Gas Economising Burner fitted to every branch in my house, and can speak in the highest terms of its success. The light is perfectly steady, and the flame more brilliant, with perfect combustion, so that the air is by no means oppressed as formerly. The colour have no chance of being blackened, and the gilt frames and furniture cannot now, as before, be injured. I most warmly recommend their adoption

"WILLIAM V. PETTIGREW, M.D. F.R.C.S. of England.

"7, Chester-street, Grosvenor-place, Pimlico, Nov. 3, 1858."

TO CONTRACTORS AND OTHERS.

A PORTABLE STEAM-ENGINE and CREASOTING MACHINE, mounted on wood travelling wheels, with horse shaft and chimney complete.—Apply to T. CRESSWELL, 92, Blackfriars road, S.

TO CONTRACTORS.—FOR SALE, a MORTAR MILL, complete, with revolving pan, 8 ft. diameter, together with large power beam engine attached, and with boiler.—To be seen by applying at the Carlton Tavern, Carlton road, Kentish Town, London.

TO CONTRACTORS and OTHERS.—The London Dock Company having completed their extensive works at Shadwell, are desirous of DISPOSING OF the SURPLUS PLANT now lying there. It comprises a powerful pumping engine, bucket and plunger pumps, side engine steam pile driver, crabs, stone trucks, mortar mills, lime-grinding stones, fittings of workshops, cranes, blocks, planks, and other plant. The plant may be inspected, and other particulars known on application to Mr A. T. ANDREWS, Resident Engineer, London Docks, Shadwell

THOMAS CHANDLER, Secretary.

London Dock House, November 23rd, 1858.

IMPORTANT TO ALL CONSUMERS OF CANNEL COAL GAS.

HART'S PATENT ECONOMIZING GAS-BURNER is indispensably necessary to prevent all disagreeable flickering and smoking of the flame, by effecting perfect combustion. Price 2*s.* each. Sent on receipt of 30 stamps

No REGULATOR REQUIRED, neither will any REGULATOR DIFFUSE the ILLUMINATING POWER, but, on the contrary, CHECK its DEVELOPMENT.

DEPOT, 69, FLEET-STREET.

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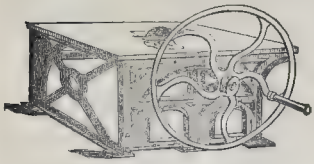
Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (NEW PATENT).—NO MORE BREAKAGE OF SAWS.



POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT (dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. This PATENT only requires to be seen AT WORK TO BE FULLY APPRECIATED.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE; and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW BENCHES, with RISING TABLES,
AND PATENT PLANING, TONGUEING, GROOVING, AND MOULDING MACHINES.

Letters and Applications for Machinery to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, LONDON, E.C.

WROUGHT-IRON GIRDERS
For BRIDGES and BUILDINGS,
MANUFACTURED AND GUARANTEED AS TO STRENGTH;
CAST-IRON GIRDERS FOR BRIDGES.
Wrought-iron Doors, Boiler, and General Smiths' Work.
BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.
SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS,
BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.
CONTRACTORS' PLANT, RAILS, EARTH WAGGONS,
and IRON-WORK for WOOD WAGGONS, &c.
MATTHEW T. SHAW, 64, CANNON-STREET.
Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

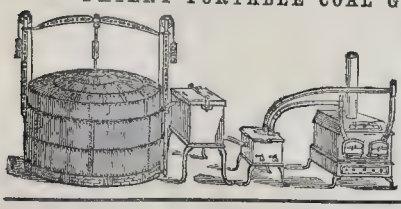
IS AS
CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.
CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO
THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.
ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.
THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.
MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

STEVENS AND SON,

ENGINEERS,
IRON AND BRASS FOUNDERS AND MANUFACTURERS,
CONTRACTORS
FOR THE
ERECTION OR ALTERATION OF GAS-WORKS, FROM TWENTY LIGHTS UPWARDS,
With Buildings, Mains, Meters, Service-Pipes, Lamp-Posts, Lamps, and Gas-Fittings;
WATERWORKS FOR THE SUPPLY OF TOWNS,
WITH BUILDINGS, STEAM-ENGINES, PUMPS, MAINS, SERVICES, &c.

Gas Stoves for Heating Churches, Chapels, Lecture Halls, and Public Buildings of all kinds. These have been recently fixed at New College, Oxford; St. George's Catholic Cathedral, Southwark; and numerous Churches, Chapels, &c.
Gas Cooking Stoves and Ranges on the most improved principles.
GAS-FITTING IN ALL ITS BRANCHES.
GAS CHANDELIERS OF ALL SIZES, IN BRASS OR IRON, FROM TWO TO TWO HUNDRED LIGHTS.
DEVICES FOR GAS ILLUMINATION.
IMPROVED REGISTERING TURNSTILES FOR TOLL-BRIDGES, EXHIBITIONS, PUBLIC GARDENS, BATHS AND WASHHOUSES, &c.
These Turnstiles were selected for the Entrances of the Great Exhibition, New York.
PATENTEES OF THE SEMAPHORE RAILWAY SIGNAL.
Signals for communication between Guard and Engine Driver. Railway Stores and Lamps of every description.
DARLINGTON WORKS, 16 to 19, SOUTHWARK-BRIDGE-ROAD, LONDON.

BRIDGES, AUBURY, AND CO.'S
PATENT PORTABLE COAL GAS APPARATUS
(FREE FROM NUISANCE).

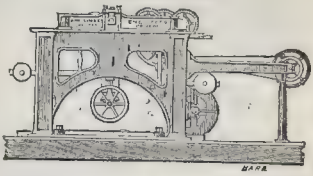


The Patentees have now been manufacturing the above for several years, and a great number being at work in different parts of this country, and also abroad, it being by its simplicity of construction and also of management, admirably adapted for exportation, and which are giving entire satisfaction, they are in a position to confidently recommend the same for lighting the mansions of the Nobility and Gentry, also for small Private Residences, Farm Buildings, Churches, Chapels, Railway Stations, Workshops, Small Villages, and other places where not lighted with gas. It is economical and durable, and can be had in various sizes, from 7 to 200 lights.
Full Particulars, Testimonials, &c. upon application to the Patentees, at their Works, 1, LOWER KENNINGTON-LANE, NEWINGTON-BUTTS, S. where an Apparatus, by means of which they light their own premises, may be seen in full operation.

JAMES HAYWOOD, Jun.

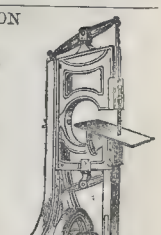
PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

S. WORSSAM and CO.'S IMPROVED
MOULDING MACHINE.



S. WORSSAM and CO. beg to call the attention of the Public to the new and useful Machine for moulding, backing, and other important additions to wood cutting machinery; comprising, among others, the moulding machine represented above (which cuts all four sides at once, top and bottom moulding cutters to 11 inches in width, sash bars, &c.); Grist's patent cooperage machines, well adapted for all large brewing establishments; White's patent dovetailing machine, recently ordered by the authorities for Deptford dockyard; machines for railway carriage building, timber framing, pit benches, roller and chain planing machines, &c. of which a full description is given in their illustrated catalogue. Apply at the Works, 204, King's-road, Chelsea, S.W.

THOMAS ROBINSON
and SON,
ROCHDALE, near MANCHESTER,
PATENTEES,
AND
Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20*l.*



Drawing sent on application.

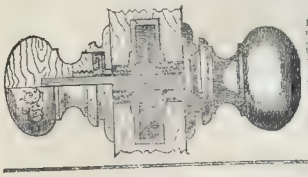
TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c.—The Trade supplied on the best terms with Hat-pegs, Zinc Tube, and Copper Wire Gas Pendants, Brackets, and Joints of all descriptions for Gas-fitting, in Brass and Iron; Tin, Composition, Iron, and Brass Tubing; Cornice Poles, Rings, and Loops for Cross Tube for Picture Rods, Desk-rails, &c. &c.
Superior Rolled Brass for Engravers, Castings in Fine and Common Brass, Gun Metal, &c. &c.
RICHARD EVERED'S Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charles street, Long-acre, London.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanized ditto, for Water; High-pressure cocks, &c. Manufacturers of Dr. Arnott's Improved Ventilators.
HULETT and CO. 55, High Holborn.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

13, KING-STREET, SNOW-HILL, LONDON.



THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the front of the knob. Perfect safety is afforded in both Locks and Furniture, as the bolts are of an even temper HARD. It has been used exclusively in the Royal Palaces, and private works, in Her Majesty's Camp at Aldershott, &c. &c. and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. to any design.

H. Hall and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass foundery, iron-mongery, required for buildings, of the best quality manufactured, at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

HOBBS'S LOCKS

The attention of Architects and Builders is respectfully invited to

HOBBS'S NEW MORTISE LOCKS,

Which are now manufactured by PATENT STEAM MACHINERY, and, while superior to any other locks in the market, are sold at a price which defies competition. The plates are made of Number "Twelve Gauge" Iron, and being so thick, the parts cannot be loosened by the constant jarring of the door. The security consists in four double acting levers, while to secure unusual freedom of motion, and prevent the wear of the parts

HOBBS'S PATENT FRICTIONLESS FOLLOWER

Is also applied. The retail price of these Locks is 10s. from which a liberal discount is allowed to the trade.

HOBBS'S NEW MORTISE LOCKING LATCHES FOR STREET DOORS,

AND

HOBBS'S NIGHT LATCHES, RIM OR FLUSH, PRICE 10s.

Are also recommended, together with every description of lock required for house and cabinet work. Lists of prices will be forwarded, on application, post free.

N.B.—A complete assortment of FIRE and BURGLAR-PROOF SAFES (Milner's Patent), fitted with HOBBS'S PATENT PROTECTOR LOCK, POWDER-PROOF.

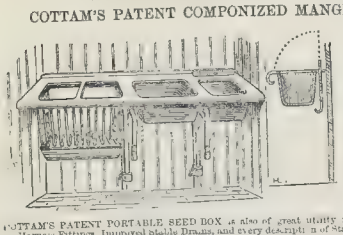
ALSO, STRONG-ROOM DOORS, CASH AND DEED BOXES, &c.

Address—HOBBS, ASHLEY, and CO. 76, CHEAPSIDE, E.C.

MANUFACTORY, ARLINGTON-STREET, NEW NORTH-ROAD.

PATENT IMPROVEMENTS IN STABLE FITTINGS.

COTTAM'S PATENT COMPONIZED MANGERS, WATER OR GRUEL TROUGHS.



The application of this NEW PATENT METHOD of LINING IRON MANGERS being inexpensive, will greatly increase their adoption. They possess all the advantages of Cottam's celebrated Enamelled Mangers, are equal in appearance, cleanliness, and durability; the Lining is warranted to stand any amount of fair wear, and will neither chip nor change its colour by use

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER for the above, is a most essential addition to their fittings; it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

The NEW CROSS BAR TOP PLATE, to prevent the horse wasting the hay by tossing it out of the rack, and the IMPROVED CURVED FRONT PLATE, by which means all sharp projections are obviated, likewise COTTAM'S PATENT NOISELESS HALTER GUIDE and COLLAR REIN, with the NEWLY INVENTED SWIVEL RING, for allowing the strap free work in any position, are most important inventions for the horse's safety and comfort.

COTTAM'S PATENT PORTABLE SEED BOX is also of great utility in these Fittings. The above, as well as the Patent Loose Box and Harness Fittings, Improved Stable Drains, and every description of Stable Furniture, can be seen at the Manufactory and Show Rooms of

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ILLUSTRATED CATALOGUES ON APPLICATION.

THE LONDON

WARMING AND VENTILATING COMPANY,

LIMITED,

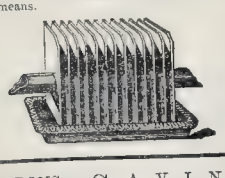
36, GREAT GEORGE-STREET, Westminster, S.W.

MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known means.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and in many churches and other buildings.

Particulars and testimonials forwarded on application.

FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of Fenders, Stoves, Ranges, Fire irons, and General Ironmongery as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisiteness of workmanship. Bright stoves, with ormolu ornaments and raised plate, from 1l. 15s. to 9l. 10s.; bronzed fenders, with standards, 7s. to 5l. 12s.; steel fenders, 2l. 15s. to 11l.; ditto, with rich ormolu ornaments, from 2l. 13s. to 18l.; fire-irons, from 2s. 3d. the set to 4l. 4s.

The BURTON and all other PATENT STOVES, with radiating hearth plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his unlimited Stock of Electro and Sheffield Plate, Nickel Silver, Britannia Metal goods, Dish covers and Hot water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays and Kettles, Tea Urns, Clocks, Table Cutlery, Razors and Pocket Knives, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c. &c. with Lists of Prices and Plans of the 8 enormous large Show Rooms at 39, Oxford street, W., 1, 1a, 2, and 3, Newman street, and 4, 5, and 6, Perry's-place, London.—Established 1820.

SAVING IN GAS. D. HULETT, INVENTOR and PATENTEE. The Mercurial Gas Regulator is the only efficient instrument for insuring wholesome and uniform lighting, equalizing the pressure and preventing any irregularity in the height of the flame.

D. HULETT and CO. 85, High Holborn, London,

Manufacturers of Gas Chandeliers, Glass Lustres, &c. &c.

TO IRONMONGERS AND THE TRADE GENERALLY.

D. HULETT and CO. Manufacturers of GAS CHANDELIERS, HALL LANTERNS, GLASS LUSTRES, &c. &c. A large assortment of the newest designs always on show, every article marked in plain figures. Patentees and manufacturers of the Mercurial Gas Regulator. Complete Pattern-book and price-list, 10s.—Nos. 85 and 86, High Holborn.

IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 24, Davies-street, three Doors from Oxford street, for the supply of Builders, Carpenters, Upholsterers, Smiths, Bedhangers, and the Trade in general at wholesale prices in connection with his old establishment, No. 18, Blandford-street, Manchester-square, running out of Baker-street, Portman square, London, W.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL and SON'S Show-rooms contain a large assortment of brass bedsteads, suitable both for home use and for tropical climates; handsome iron bedsteads with brass mountings and elegantly japanned; plain iron bedsteads for servants; every description of wood bedstead that is manufactured, in mahogany, birch, walnut-tree woods, polished deal and painted, all fitted with bedding and furniture complete, as well as every description of bedroom furniture.

HEAL and SON'S EIDER-DOWN QUILTS, from One Guinea to Ten Guineas. Also, GOOSE-DOWN QUILTS, from 8s. 6d. to 24s. List of prices and sizes sent free by post. HEAL and SON'S new Illustrated Catalogue of Bedsteads, and Priced List of Bedding, also sent post-free.—196, Tottenham-court-road, W.

CHUBB'S LOCKS, with all the recent Improvements. Strong Fire-proof Safes, Cash and Deed Boxes. Complete Lists of Sizes and Prices may be had on Application.—CHUBB and SON, 57, St. Paul's-churchyard, London; 28, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley-fields, Wolverhampton.

A PRIZE MEDAL for SUPERIOR LOCKS was awarded to J. H. BOOBBYER, at the Great Exhibition of 1851, who invites the attention of Builders, &c. to his Stock of Ironmongery, Brass Foundry, Nails (wrought and cut), Copper, and Zinc; Patent Locks of all descriptions; Chimney Pieces, Grates, and Kitchen Furnishers of all kinds, with Patent Shifting Spindles; Dr. Arnott's Ventilator, 4s.; and the New Registered Venetian Ventilator, so much admired, &c. &c. 6d. each.

J. H. BOOBBYER (late STURCH and BOOBBYER), established nearly 200 years, for the supply of Goods of the BEST MANUFACTURE, at the LOWEST PRICE

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GLOVER, BROTHERS, FOUNDERS, ENGINEERS, and SMITHS, 168 DRURY-LANE, And Works also at SPA-ROAD, BERMONDSEY.

Castings and wrought ironwork of every description.

A large stock of patterns for building and other purposes, for the use of which no extra charge is made.

Estimates on application.

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HAWKINS'S REGISTERED SASH CHAIN, in Tinned Iron, and Copper Wire, is greatly approved for its strength, durability, and facility in running over pulleys, and is allowed to be one of the most useful and efficient inventions for hanging window sashes, of any weight, up to 4 cwt. Also, his Registered Chain, for Lamps, Chandeliers, &c. Sold by every respectable Ironmonger in the kingdom.—Manufactory, 27, Dale End, Birmingham.

The GREAT SIXTEEN-TON BELL for the HOUSES of PARLIAMENT and the FOUR QUARTER BELLS were cast by JOHN WARNER and SONS, Patentees of Improvements in the Manufacture of large Bells.

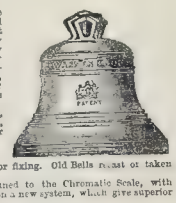
"Copy of Certificate" from Mr. JAMES TURLE, Organist, and Master of the Choristers, Westminster Abbey.

"This is to certify that I have, at the request of Mr. Denison, heard the Quarter Bells just completed by Messrs. WARNER and SONS, for the Clock Tower of Westminster; after a trial upon them of a variety of combinations, I have great pleasure in stating that they are, in my judgment, very satisfactory in tone, and as regards tune in perfect accordance with another."

Cloisters, Westminster, September 22nd, 1858.

BELL AND BRASS FOUNDERS TO HER MAJESTY.

JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.



J. W. and SONS having of late years devoted much time and study to the long-neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and at less cost than has hitherto been accomplished.

Bells for Churches, Chapels, Colleges, Schools, Turret Clocks, &c. cast for any size, note, or weight, or in any key.

TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells raised or taken in exchange.

MUSICAL HAND BELLS tuned to the Chromatic Scale, with improved Clappers, and hegged on a new system, which give superior tone and facility for ringing.

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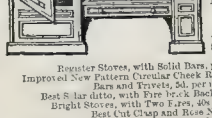
CLARK and HUNT'S IRONMONGERY, STOVE, and METAL WAREHOUSE, 169, Shoreditch.

A great variety of Elliptic, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.



Improved Self-acting Cottage Ranges, with Large Oven and Boiler,
39 32 34 36 inch.
29s 28s. 30s. 32s

Best Self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars—
34 36 38 42-inch.
54s. 56s 58s. 60s.

Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2½d.

Register Stoves, with Solid Bars, per inch, 5d.

Improved New Pattern Circular Check Register, with strong Bars and Trivets, 5d. per inch.

Best Similar ditto, with Fire brick Back, per inch, 10d.

Bright Stoves, with Two Fires, 40s. to 100s. each.

Best Cut Clasp and Rose Nails.

1¼-inch.	1½ inch.	2-inch.	2½ inch.	3 inch.
16s.	15s 6d.	15s	14s	13s per cwt.

Best short Cut Floor Brads, 12s. 6d. per cwt.

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Cast Rain-water Pipe, { 2 2½ 3-inch.
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1s. 1s. 2d. per yard.

	2	3	4	5	6
Patent Line.....	3s. 6d.	4s.	5s.	7s.	9s. per gross.

6-inch Red. Ward Mortise, with best Furniture and Patent Spindles, 2s. 9d. each. Light Elliptic and Register Metal, 13s. 6d. per cwt.

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Brick Mouths in stock. Any size made to order.

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LIGHTNING CONDUCTORS. R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices.—

Three-eighths-inch diameter	1s. 6d	per foot.
Half-inch diameter	1s. 9d.	"
Five-eighths inch diameter	2s. 0d.	"

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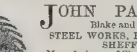
JOHN PARKIN (late Blake and Parkin), STEEL WORKS, HARVEST-LANE, SHEFFIELD, Manufacturer of Circular-Saws *machine-turned*, Mill Saws, Endless Band, or Ribbon Saws, of tough temper, with fine joints. Machine Plane, Grooving, Moulding, and Mortising Irons; Saw Files, &c.

Agent for London—Mr CHAS. BADGER, 1, Stangate, Westminster road.

FIRE RESISTED. — ROBBERIES PREVENTED.—PRICES. PATENT FIRE RESISTING and THIEF-PROOF SAFES, Deed Chests, Doors and Frames, Cash Boxes, Unpickable Locks, &c. City depot, 21, St. Swithin's lane, London, E.C. Works, Wolverhampton. Illustrated Price Lists, gratis.

IMPORTANT TO ALL.  THE TRADE SUPPLIED.

G. J. FELLOWS, GAS-FITTING AND LAMP MANUFACTORY, 111, GRAY'S-INN-LANE, Ten doors from Holborn, ESTIMATES SUBMITTED FREE OF CHARGE.

LOSH, WILSON, and BELL, NEWCASTLE ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast Iron Goods, and STEWART'S PATENT CAST-IRON GAS and WATER PIPES. Office, No 7, Bear lane, London.

NAILS and IRONMONGERY, from BIRMINGHAM direct. Builders, Contractors, and others, supplied with Nails, Iron, and Ironmongery, of every description, at the LOWEST BIRMINGHAM PRICES, A complete List of which will be forwarded upon application to FRANCIS BIANCHI (late Blyth and Bianchi), Nail Manufacturer and General Factor, BIRMINGHAM; and 16, Gresham street, London, E.C.

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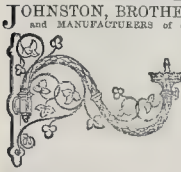
PATENT WROUGHT-IRON WINDOWS, manufactured by the GENERAL IRON FOUNDRY COMPANY (limited). HENRY ROGERS, Manager. Lyon's Wharf, and No. 43, Upper Thames street, London. These Windows combine the advantages of great strength with lightness and elegance, and they have been very highly approved by many of the most eminent architects of the day. They are peculiarly well adapted for factories, railway stations, prisons, and lunatic asylums, and also for exportation, as it is impossible to break them by fair means. Lists of prices can be had on application.

"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE.—This Valve is the simplest and cheapest of all that have been introduced, for the purpose of effecting more perfect combustion of fuel, in all kinds of furnaces Testimonials, of the highest possible character are gladly given by the parties who have them in operation.—Prices, No. 1, 3l. 3s.; No. 2, 3l. 10s. for furnace-door complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with an unqualified approval. These articles may be had of all Ironmongers, and of the General Iron Foundry Company (limited), 43, Upper Thames street, Makers of Gas and Water Pipes, Hot-water Pipes and Connections, Chemical and Soap pans, Furnace bars, and all other kinds of Castings, for manufacturing and building purposes.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIÆVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished.

Architects' designs accurately executed.

MANUFACTORY, 190, HIGH HOLBORN, LONDON.

WANTED, the best TILE-MAKING MACHINE. Makers of such machines will oblige by sending drawings and price (for cash) of such as they make; also, BRICK MACHINES. ROBERT RYDER, Manager for the Lord Bishop of Natal, South Africa.—Natal, Sept. 3, 1858.

IRONMONGERY.

PFEIL AND STEDALL. THE LARGEST STOCK AT THE LOWEST PRICE. IMPROVED PATENT STABLE FITTINGS of every description. 5 AND 6, BROAD-STREET, BLOOMSBURY.

BAKER and CO.'S is the best Manufactory for SUPERIOR STOVE GRATES, equal to SHEFFIELD MAKE, at HALF the COST, bright or black. Mitre Foundry, Bishop-street, Birmingham.

THE PATENT AMERICAN KITCHENER. The cheapest and most perfect COOKING RANGE ever invented, which will cook for a large family at a cost for fuel of one shilling per week. May be seen in operation daily at the AMERICAN STOVE WAREHOUSE, 24, Cannon-street, E.C.

ARNOTT'S SMOKELESS GRATES, with BOILERS, are peculiarly adapted for heating green-houses from a sitting-room fire, as they will continue burning without attention for many hours, or even during an entire night. They are also an effectual cure for smoky chimneys Manufactured by D. and E. BAILEY, 272, High Holborn, W.C.

NO CHIMNEY WANTED for RICKETS'S PATENT CALORIFERE GAS STOVES in CHURCHES, HALLS, or SHOPS; And for Conservatories, or any close Apartment, a Pipe can be attached to carry away the burnt air.

RICKETS'S CHEAP GAS STOVE, Price £1 15s. Made of polished Iron, suitable for Bedrooms, Small Offices, Boudoirs, Cellars, &c. MANUFACTORY, AGAR-STREET, STRAND, LONDON. Liberal Discount to Builders.

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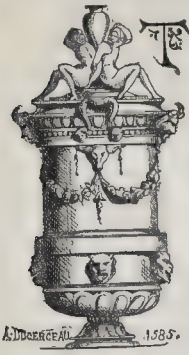
Some Account of the Works to be undertaken in construction of the Northern High-level Sewer. Main Drainage of London.



THE drawings and specification of the first portion of the work of the metropolitan main drainage are in the hands of surveyors, who are taking out the quantities, in order that tenders may be received on the 16th of next month; and, considering the great importance structurally, of the works which will be in progress in all parts of London during the next year, and that the details of their execution may deserve to be referred to as precedents, our readers will perhaps be glad to have such particulars as we have been able to gather. The work now specified comprises construction of the Northern High-level Sewer, from the point of temporary outfall on the River Lea, at Old Ford, to Southampton-road, near Hampstead; of a shorter sewer, branching from the main line, northward, at a point near the outfall, and extending thence, partly along the course of the present Hackney-brook sewer, to High-street, Homerton; and of a sewer in the Lower Clapton-road, besides the river-wall at the outlet, tumbling-bay and storm-outlets, overflow and penstock chambers and buildings, side-entrances, ventilators, and other matters of detail, as well as the removal of surplus earth to the ground eastward of the Lea on the line of the main outfall-sewer—of which the works in chief will be the subject of a future contract. The Metropolitan Board have given notice, by advertisement, of their intention to proceed with these latter works; and the drawings and specification are expected to be ready in March next. The whole of the works of the metropolitan drainage, it will be recollected, were to be divided into eleven contracts, seven of the number being for as many sewers within the populous district, and the other contracts being for the reservoirs and the outfall-sewers.*

The Northern High-level Sewer Works, the subject of present attention, were roughly estimated to cost, with land and compensation, 150,000*l.*; and they will extend over 8 miles 4,295 feet, or thereabouts, of ground; the main line being somewhat more than seven miles, and the shorter line, called the Wick-lane Branch, rather more than one mile. The outlet will be close to that, at present, of the Hackney-brook, which discharges itself into the Lea at a bend of the stream near to Old Ford-road. The two branches nearly encircle the Victoria Park, with other ground; and the Wick-lane branch, at its upper end, will touch the North London Railway at a point little over 1,600 feet distant eastward from the Hackney station, where the main line of sewer will cross under that railway.

Nearer to the point of outfall the railway intersects each branch: Sir George Duckett's canal also intersects; and a portion of one branch being carried above the level of the ground in an embankment, and at the railway so that the sleepers supporting the rails will be about on a level with the crown of the arch of the sewer (the brickwork to be brought up to support the ends of iron girders upon which the sleepers are to rest, whilst the traffic of the railway is not to be interrupted), we may well suppose that some of the anticipated difficulties of metropolitan drainage will be exemplified. Generally speaking, the lines are made to coincide with those of existing streets and roads, and there appear to be but four or five houses which will require to be taken down and rebuilt.

On the completion of the outfall to Barking-creek, the sewage will pass the River Lea by means of an aqueduct. At the point which, in the interim, will be that of outfall, and where there will be always provision for the escape of storm waters, or at Old Ford Coal-wharf, there will be constructed, on and adjoining the bed of the river, a paved channel, extending 30 feet outwards, and of about 30 feet in width. It will be protected by a permanent dam of guide-piles, sheet-piles, and walings; whilst beyond and in front of it, for about 30 feet, the bed of the river is to be dredged, and filled in again level with concrete and stone-pitching. Also, a retaining wall and return walls, with counterforts, are to be constructed: the former to be 56 feet in extreme length, 15 feet 9 inches in height, and from 3 feet 9 inches to 1 foot 6 inches in thickness, built with picked "stocks" in Roman cement, on a piled foundation, and also protected by sheet-piling; and the return-walls to be of similar construction, extending 15 feet from the bank, or backwards into the land. Concrete in the foundations and as backing, and "puddle" behind the wall, will be employed. For these works a coffer-dam will be required.

From the retaining-wall above described, a double "storm-outlet" channel is to be formed for present use, and eventual use as may be required. This outlet-channel is to be 180 feet in length; and in construction of the work the foundations are to be got in, the walls brought up, and the arches turned, to form part of the future outfall-sewer over the River Lea. At the end of this length of outlet-channel, the two double lines of sewer, upper and lower, will commence [we shall follow the line, upstream]; and they are to be built in conjunction with each other for a length of 1,070 feet. In each of the lower sewers, and about 670 feet from the outlet-channel, a tumbling-bay is to be formed. The lines of sewers are to be constructed across and under the North-London Railway, as just mentioned. Under the railway, and in a field adjoining, a double overflow chamber is to be built, 138 feet in length, 70 feet of which at the upper end is to be 40 feet 6 inches wide; and within that space walls are to be brought up at the sides and in the centre to form weirs, over which the water will flow and relieve the High and Middle Level sewers when overcharged. York-stone landings, in a double course, with rubbed joints, set with Portland cement, breaking-joint and made as nearly water-tight as possible, are to be used for the floor of the chamber and the bottom of the outlet-channels. At the end of, and in conjunction with, this chamber, three penstock chambers are to be constructed. A false bottom or floor is to be formed to two of these chambers, with open iron gratings on a level with the inverts of the sewers, and between which and the floor of the outfall-channel two flights of steps are to be constructed. In conjunction with the southernmost penstock-chamber and the High-level Sewer, a length of 26 feet of the Middle-level Sewer is to be constructed—terminated by a head-wall westward, and having an opening to communicate with the High-level Sewer, in which a penstock is to be fixed. Five cast-iron penstocks are to be fixed in the overflow chamber: two of them, 9 feet 6 inches in height by 12 feet in width, are to be fixed at the junction of the High and Middle-level Sewers with the overflow-chamber; and one of the same dimensions, in the wall dividing the two sewers; and the other two, to be each 6 feet in height by 12 feet in width, are to be fixed in the lower chamber. These penstocks are to be worked by chains and counter balance weights. The Wick-lane branch sewer, it appears, will join the storm-outlet sewer, or lower down, near the river— furnished with a flap and small penstock.

The main line of sewer from the chamber above described will continue westwards, along and under a field, and bearing slightly north, through Victoria-park, for a length of 2,740 feet. In this distance, the dimensions of the sewer, in the clear, will be 9 feet 6 inches in height, and 12 feet in width; the invert will be two bricks in thickness, built with blocks in cement; the side walls will be two and a half bricks, with footings; and the arch will be two bricks thick—both the last built in Barrow lime mortar. A portion of sewer which will form part of the new line, under Sir George Duckett's canal, is already constructed. The line continues along and under Hackney-common, crosses Cassland-road, and under No. 3, Cassland-terrace, thence along West-street and the Darnley-road, and under Nos. 1 and 2, Paradise-row; crosses Albion-road to the northern end of Fox's-lane, and turning more westward, passes under No. 1, Church-street, by the railway-station, crossing Church-street just where the railway also intersects. For the distance last described, or 4,540 feet, the sewer will be in the clear 10 feet in height, and 10 feet 9 inches in width, and will have 18-inch invert and arch, and 2½ brick side walls. Where it crosses Church-street it will be in cement, with footings running through, and counterforts—the whole being surrounded with concrete.

From Church-street, Hackney, the sewer will continue along and under a line of road to a point opposite Dalston-lane, for a length of 1,440 feet. It is here a barrel sewer of 18-inch brickwork, and 9 feet 3 inches in the clear. From Dalston-lane it will continue along and under Amherst-road, the Rectory-road (there nearly northerly), the roadway, Newington-common, and High-street, Stoke Newington, to the present open brook at the foot of Stamford-hill, a length of about 6,460 feet, as a 9-feet barrel sewer, in 14-inch brickwork. From near Stamford-hill-bridge, the sewer will pass through pasture and garden-ground to a point in the Manor-road; the length is about 1,210 feet, and the size 8 feet 9 inches, with 14-inch brickwork. Thence turning westerly, and somewhat south, the sewer will follow the Manor-road, cross Lordship's-lane, and pass through meadow land to the Green-lanes for 4,050 feet, with 8 feet 6 inches diameter in 14-inch brickwork; thence south-westerly under the New River, to the centre of Blackstock-lane, length about 1,810 feet, diameter 8 feet 3 inches, and brickwork 14-inch; thence along a new road called King's road, to a point eastward of the embankment of the Great Northern Railway, length about 1,790 feet, diameter 8 feet, and brickwork as before; thence under the embankment and to the centre of the Hornsey-road, distance 1,520 feet, diameter 7 feet 6 inches; next along Tollington-road, to a point near the Holloway-road for 1,130 feet, the size 7 feet 3 inches. From the Tollington-road, the line turns sharply round, and continues in a north-westerly direction along the Holloway-road,—the sewer being, for the distance of 830 feet, up to the Seven Sisters'-road, intended to be of 7 feet diameter, in 14-inch brickwork; and for 220 feet beyond, reaching to the Tuffnell-park-road, of 6 feet 6 inches diameter, in 9-inch brickwork. At the Tuffnell-park-road, the line again turns sharply round, and the sewer will continue in a due westerly direction along that road, and across meadow-ground, to the Highgate-road, near St. John's-park Academy, Kentish-town; the length, 1,230 feet, being of 6 feet 3 inches diameter, and 9-inch brickwork; and the lengths of 1,470 feet, 1,500 feet, up to the intersection of Maiden-lane and the Junction Road, and thence 1,730 feet to the Highgate-road, being of 6 feet, 5 feet 9 inches, and 5 feet respectively. Thence crossing the Hampstead Junction railway, to the arch of the Fleet sewer in Mansfield-road, Gospel Oak-fields, the length of 1,220 feet has a diameter of 4 feet 6 inches; and the farthest portion at present proposed, passing along and under the Mansfield-road, to join the sewer already constructed opposite the end of Southampton-road, and in the line leading to South End-green, Hampstead, a length of 1,800 feet, is to be 4 feet in diameter, and, as in the other cases, of 9-inch brickwork.

The Wick-lane Branch, or *low-level line* (so called in the specification), it will have been understood, is to branch from the line of the storm-water outlet. It will then pass across

* See page 682, *ante*.

meadow-land, and take the line of the brook, passing the canal at the existing culvert; it will continue to White Post-lane, and thence along Wick-lane and Park-street to a point where Homerton-lane and the Cassland-road intersect. The length is about 4,510 feet, and the sewer is to be a 6-feet barrel sewer, in 9-inch work. Thence due westward along Wick-road, and lastly turning north, it will join the existing sewer of Bridge-street, Homerton, at a point on the line of railway before mentioned, the length being about 3,290 feet, and the dimensions of the sewer 4 feet in the clear height, and 2 feet 8 inches in the width, with 9-inch brickwork. From a point near the junction of this sewer with the storm outlet channel, the "low-level" line is to be continued "with a drop under the invert" of that channel, 2 feet 6 inches by 3 feet in the clear, in 14-inch work, resting on footings and concrete; and at the same time two chambers are to be constructed, one for a penstock, and the other for a flap.

The works, besides what we have named, include alterations to branch sewers; the required provision for water-courses; 100 ventilating shafts, and other matters. In some cases, where the brickwork of the arch of the sewer would be above the surface of the ground, 6 inches of concrete is to be added over the brickwork, and 6 inches of suitable material from the trenches to be placed on that.

Of the materials to be used, the bricks are to be the best description of picked "stocks," and those for the upper or inner ring of the invert are to be the best description of Staffordshire blue bricks, to be built in Portland cement. Both are to be equal to samples at the office of the Board, and no broken bricks are to be allowed on the works. The bricks are to be well wetted before being used. The joints are not to exceed three-sixteenths of an inch in thickness next the interior surface. For the lime, Barrow lime is specified, unless other blue lias lime should be sanctioned. The Portland cement is to be of not less weight than 106 lbs. to the bushel, and the Roman of not less than 76 lbs. to the bushel; and the former is to be mixed two of cement to three of sand, and the latter two of cement to one of sand. In certain cases, however, the cement will be used neat.

Besides surplus earth to be deposited in the line of the present brook, portions will be required on the main line near the Lea, and on the opposite side of the river. The earth in such cases is to be deposited in layers not exceeding 6 inches in thickness, mixed with water, and to be punned and levelled down. The foundation for the construction of the outfall sewer to Barking Creek will be so formed.

The conditions bind the contractor to finish the whole of these works within fifteen months after the receipt of the engineer's order to commence, or to pay 50*l.* as liquidated damages for every day over the time. Ten thousand pounds are to be allotted for possible extra works. The specification includes a schedule of prices, wherein digging, with every expense of shoring, carting, &c. is set down at 2s. 6d. per yard cube; and concrete (six of ballast to one of ground blue lias lime) at 6s. 6d., unless the ballast be got from the trenches, when the price would be 3s. 6d. Brickwork, *of the blocks* of "stocks" and Portland cement, is put at 13 guineas a rod (half-brick being 15 guineas), whilst in Roman cement it is put at 15*l.* The work with Staffordshire blue bricks is put at 20*l.* (that is, with Portland cement), and in Roman cement it is at 19*l.* Ordinary brickwork in Barrow lime mortar is put at 11*l.* per rod, and in blue lias lime at 10 guineas. "Fir timber, left in trenches," is set down at 2s. 7d. per foot cube, whilst Memel or Riga, provided and driven in piles, &c. is 4s. 6d. The "articles of agreement," wherein the specification and general conditions are embodied, occupy thirty-five printed pages, and refer to twenty-two, or twenty-three, sheets of drawings.

INSTITUTE OF BRITISH ARCHITECTS.—At the next meeting, to be held on Monday evening, the 29th of November, the following paper will be read:—"On the Greek Canon of the Proportions of the Human Figure quoted by Vitruvius," by Mr. Joseph Bonomi.

ON SOME OF THE RELATIONS OF MODERN ARCHITECTURE TO THAT OF ANTIQUITY.*

IN its widest sense, the relation of modern architecture to antiquity comprises the whole question of transmitted and adopted styles; of the growth and development of the originals; of the climates, the social, political, and local circumstances under which they were developed; of the general and special material aids at the command of their cultivators, and of the state of practical science during the period of their growth; all referred, with many other such particulars, to the usages, requirements, and appliances of our own day.

I need hardly say that it is not my aim, in a short paper, hastily prepared, to fill in some measure an unexpected blank in our series of communications, to enter into all or even many of these questions: such a scope of subject would well employ many such essays as we are accustomed to here; and, if at all fully treated, would occupy a volume, and an important one, in any course of architectural history.

A few only of these relations it is my intention briefly to notice, with no idea of exhausting, but in the hope rather of promoting, discussion on them; and if upon any of them I should express opinions which seem at all paradoxical, it will be from no love of paradox, and will at least provoke debate in a manner not likely to attend a mere utterance of truisms.

General history has been defined as "philosophy teaching by example," and the weight and value of the definition rest on the axiom, that mankind have ever been the same in their natures and passions, subject to the same feelings and moved by like influences in all ages and countries. The particular parts of human character chiefly displayed, and the motives principally acting on them, vary of course; but the nature, the impulses, the passions, are always in existence, and capable of being called into exercise, if there exists the fitting motive. That this is no mere theory, is proved by the universal applicability to all races, and all generations, of the one divine religion, and the fact can be safely acted upon in dealings in secular affairs.

Such being the case, it may be soundly argued that, in their purposes and feelings with regard to architecture, using the term in its largest sense, as comprising all that is beautiful and excellent in construction, mankind will at all time have been similarly influenced, and that peculiar architectural results must be referred rather to the preponderating action of some one of these co-existent motives, than to the influence of some feeling peculiar to the time, and not to be found even latent among ordinary human motives at all times.

It is not, I think, the practice among critics, to keep this fact, as I consider it to be, sufficiently in view; and in consequence, some of the relations existing between modern and ancient architecture are lost sight of or slighted, and false reasoning ensues, by, perhaps, unintentional exclusion of certain phases of architectural usage from the category of characteristic architecture, and with such critics the scope is at once limited for that adaptation,—or, if you will, imitation,—which, with regard to architecture as an art, in common with all others, will ever, more or less, mark the practice of all men who are in possession of ancient types. Taking this view, I can never see substantial grounds for condemning an architectural work merely because founded on some exotic type of unusual adoption, the real questions for the critic being the applicability of such type, whether largely or slightly varied from the original, to the expression of the ideas which the artist desires his building to convey. This I am aware will be held a very unorthodox and unduly catholic creed by those who are wedded to the idea of exclusively cultivating some one style in our modern practice of architecture, be that exclusive style our national Pointed, the Venetian Pointed, or any other; but I do not hesitate to say that high as are the attainments, and signal the success of the works of some who advocate this exclusiveness, they, in my opinion, damage their great and comprehensive art, and injuriously narrow their own field of design, while they lay the foundation of bigotry and dogmatism among those who know much less and assume far more than themselves.

In judging, however, of the fitness of any style of antiquity to modern uses, the question of its expressing duly the ideas aimed at will be largely affected by the manner in which its adoption requires modern materials and modern science to be applied, as the associations with these, varying with the growth of knowledge in construction, and local or national peculiarities as to material, may interfere seriously in the effect produced on general observers; a fact in no way militating against the axiom I have named on the universal similarity of the human mind and its affections and tendencies.

Now, as to material; the most serious errors in the adoption and naturalization of exotic styles have generally occurred in its choice, to the extent often of ignoring practically one main source of the effect of the ancient originals. For instance; no style of antiquity is more fitted to express to the utmost the valuable qualities of stability and repose than the Attic Greek; but then these qualities are connected inseparably with the known and evident sufficiency of the compact marbles used in their construction to endure the stress they are placed under, in the bearings of the entablatures from column to column; and wherever a material is used confessedly or evidently very inferior in strength to such marbles, one leading point of expression is at once lost, and the building seems to say instead, "I am a debased and unscientific copy."

Scarcely a town in England of any importance is without evidences of this kind of error. Liverpool abounds with them, and the violent fever for Grecian imitation which raged in the first quarter or more of this century was fruitful in exhibiting, wherever the opportunity offered, how thoroughly the true character of a great original could be lost by adopting its forms irrespective of its principles.

With regard to these principles, be it remembered, that while the Greeks founded their style for public buildings evidently and incontestably on a system closely akin to timber construction, the proportions, bearings, and connection of the parts were distinctive of stone in the highest degree; and I think very probably the result of experiment and calculation by that subtle and intellectual people. Had the material been less solid and tenacious than Pentelic marble, we should, I imagine, have had very different dimensions figured in Stuart's drawings; and where, as is commonly the case in modern construction, a sandstone or limestone of only moderate tenacity can be adopted, the Greek principle is lost, while its forms are copied; nor do I think that the character of Greek construction could be arrived at in ordinary building-stones, except by experimental comparison of these with the marbles of Greece, and the adoption of proportions bearing the same relations to the ascertained strength of the former as those of the Parthenon or Erectheum to the last. I once thought that artificial hidden accessory supports, say of cast or wrought iron, would be a desirable and very admissible means of surmounting this difficulty in the adoption of the Greek style on any considerable scale in modern work. I think so no longer; for I am convinced, that whenever the fact is apparent to an architect or an untechnical observer, that the material used in any architectural structure is not strong enough of itself to bear the burden it seems to support, the impressions of repose and dignity are at once destroyed, and the fact of imitation beyond the fair limits of the power at command becomes written indelibly on all such compound adaptations.

It will be apparent that I am raising a question touching generally the effect upon the beholder of every adaptation of a style in material in any way inferior to that used in the original, and in doing so, I advance a plea for real design on the part of architects, adapted to the conditions under which they have to carry out their works; while at the same time I unequivocally maintain the impossibility of avoiding mental reference to familiar types, however different the condition of their construction may have been; and, indeed, the progress of human knowledge would be of little avail, and the constitution of the human mind in an important characteristic inoperative, were the necessity of *absolute* origination—a condition of architectural design. Pursuing a little further what I have said on the subject of proportioning architectural elements to the strength of the material employed, it will be evident, that in the use, on such a principle, of those of inferior tenacity or resisting power, on any considerable scale, in adaptations of such a style as the Grecian Doric, a limit will, probably, very soon be reached, at which it will assume a cumbrousness, and disproportion of solid to void, which will be very ungraceful, and practically inconvenient; and, supposing the principle of design I have suggested be admitted, an approach

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* Read by Mr. H. P. Horner, president, before the Liverpool Architectural and Archæological Society, November 3rd, 1858.

will have been made to a law for determining the scope within which such a style can be aptly applied in modern practice.

Such a limit being supposed, it will follow that where it seems expedient to an artist that his building, to express its special character, should follow with greater or less strictness the Greek type of design, and on such a scale as to bring into force, under the exigencies of its material construction, the objection of extreme massiveness if of the Doric order, the designer must have recourse to some variety of the other and lighter orders, in which the less ponderous dimensions of the entablature do not press so severely on the stone lintels or architrave blocks, and where the taller proportions of the columns will admit of their arrangement at distances small enough to meet the considerations of strength in the architrave, without themselves encumbering the plan or losing the character of grace, without which massiveness becomes oppressive.

Had our St. George's Hall, on its present scale, been designed of the Grecian Doric order (as was the separate design for the Assize Courts by the same artist), I have no doubt whatever that the effect, the relations of bearing to strength of material being truly observed, would have been exceedingly heavy, while now, with the small proportionate intercolumniation, the Corinthian colonnades express dignity and power, combined with grace; and in this building it must be remembered a sandstone of extraordinary tenacity gives a freedom in respect of bearing which few other materials of that kind could; the Darley Dale stone being classed in the experimental tables of stone tested for the New Palace at Westminster as among the highest in quality for resistance to fracture, and solidity of its constituent parts. I may be perhaps excused, if, in passing, since I have been led to mention St. George's Hall, I allude to the criticism recently published on it by Professor Blackie, of Edinburgh.

I am glad to see that, given entire, this proves far less sweeping and dogmatical than as first reported, though still marked by the aim to refer consistency to mere imitation; and while, as I have stated in print already, I claim no absolute perfection for Elmes's great work, I will here further say that the objections to the varied treatment of the two ends of the building are, in my opinion, groundless; and that I believe that a Greek architect dealing with such a building of varied use of parts would have been very likely to adopt some similar arrangement: the plain portions flanking the square columned wings will, I am convinced, whenever, as I hope, at no very distant day, the sculpture intended by the architect has been added in the panels and intercolumns, prove most valuable as a foil to their richness, and a point of rest between these portions and the south and north ends. The proportions of the south portico I consider need no vindication; and, while I coincide in considering the northern apse, as it has been called, and the windowed parts on the west, the least successful parts of the design, I hold the architect entitled to great merit in preserving, under great difficulties of plan, so much of general unity; the building as viewed at each angle, presenting a different combination, but in all arranging into a grand monumental mass. The south portico is not the inaccessible and merely decorative feature supposed: it is an entrance, though not a chief one; and, while every architectural critic must wish that it had been at least of parallel importance with that on the flank, I hold any objection to the latter, on the ground of its departure from Greek practice, that is in their temples, to be futile; and the attic mass I maintain, because I feel it to be a grand and appropriate culmination of the design. To the internal plan of the building this critique does not extend; and, while I uphold the necessity of consistency to the utmost between external and internal design in architecture, I claim for external composition and treatment their own independent need of praise. It is most satisfactory to find that the expectation entertained of the improved effect of this building by opening up the space on its flank, is likely to be fully realised, and our thanks are due to those who have, amid much apathy and against considerable opposition, fought perseveringly the battle of sound sense and good taste in this behalf. Lest, notwithstanding my profession of architectural catholicity, my extended remarks on the adaptation of Grecian style should cause my being ranked, according to the phraseology of the day, among the "Classicists," I proceed to say something on the relations which appear to me to exist as regards construction between the Mediæval Pointed styles and their modern adaptations.

As with respect to the Classic, so as to what is called the Gothic manner, the first attempts in, as I may say, renaturalizing it, consisted in trite imitation of parts, with little reference to consistency or suitableness of material; and, as such a composition of the Classic kind as the building I have last dwelt upon is not to be looked for but as a rare product under the circumstances of modern architectural study and practice, so a fine and original treatment of the Pointed styles is no more to be expected but as a happy exception to the general triteness of design in a revived style, certainly at least during the early years of its re-introduction. With regard to material, however, those designers of buildings in the Pointed styles who imitated in wretched plaster the vaulting and carving of the noble Mediæval originals had far less excuse than those who used ordinary stone in imitating the forms and proportions used in the Grecian marbles. Less excuse, I say, because, had they but well considered the case, they would have discovered (should, perhaps I ought to say) that the effect of these originals, in many essential respects, and those in many cases involving least cost, could be obtained with almost any of the materials generally used among us in honest but substantial, and what I may call sincere buildings. The eager desire to realise, in mere outward feature, the elaborate details of a style which in its fullest development must involve very great outlay, proved in my opinion a barrier for a long time to legitimate adoption of whatever of its essential character was within the scope of our ordinary rate of expenditure in buildings of a useful description. For, if mouldings enriched with ball-flower and strawberry-leaf, if foliated corbels and clustered bosses could be had at so much the dozen from the plasterer's mould, who would descend to the meaner pretensions of well-considered splays and mere geometrical trefoil-heads to be had only at the cost, too, of the heavier labour of the mason. I have often found the opinion prevailing that this plastic revival of Gothic detail tended to make the style popular: it may have popularized it as a very cheap means of producing showy buildings, but would as surely in the same proportion be inimical to the application of its substantial and sober reality. The leading error in the treatment of the Pointed styles on their first revival was a common one among dealers with the mere surface of architecture at all times; viz. the mistaking the ornamentation as an essential and not as an accessory,—albeit a most important one in the final effect. That ornamentation is in all styles to be regarded as holding the same relative value to the total impression produced I am very far from asserting; but I hold that style or phase of a style is the most noble which is most independent in its grandest effects (such effects as are felt at the greatest distance from the work, and under the most generalizing circumstances) of accessional aid from decoration, however characteristic or fine that may in itself be. And here I must recur for a moment to Classic architecture to observe on the frequent confusion apparent in relation to ornament in architecture as distinct from added sculpture. No buildings afford so good an illustration of this distinction as the Greek temples. The battles of the centaurs in the metopes of the Parthenon and the panathenaic procession on the frieze within the colonnade, though incorporated with the structure, were strictly the work of the sculptor, provided for by the architect, and deriving effect from their disposition in the parts of his work; while the acrotoria, antefixæ, and similar features were as essentially architectural; and the dictum which has of late been too often accepted, that architecture consists simply in providing opportunity for building in sculpture (in this sense confounded with decorative carving) would exclude architecture altogether from the category of fine arts; and such an assertion evinces either a defective sensibility to many of the greatest architectural effects, or a recklessness of all consistency in the desire to startle with paradoxes, and to lay claim to the discovery of novel axioms.

As, in speaking of the adaptation of the Greek styles, I have expressed an opinion on the relation of parts to the strength of material,—not simply to its ultimate strength or breaking weight, but to a large access of strength beyond that limit, as conducive to the expressions of stability and repose; so, in respect of the Pointed styles, while displaying in this respect a much wider range of scale, I would say that all the most effective examples exhibit proportions very much more massive than would be necessary to mere security; so much so, that even in cases of sunken foundations or deeply decayed masonry the inertia of the supplementary material often retains a building in security which, if constructed originally of proportions more nearly approaching its mere structural necessities, would undoubtedly have fallen into ruin.

Such examples as the Lady Chapel at Salisbury and others, approaching that in lightness of proportion, may possibly occur to your minds as opposed to this view; but I firmly abide by it, as I consider these extraordinary efforts of constructive skill to come within the condemnation generally applied to the pedantry of design displayed in such vaultings as those of Henry VII.'s Chapel at Westminster and King's College Chapel at Cambridge, where the attention is rather challenged to the difficulty of the task and the apparent risk of the stability of the work than to any legitimate architectural effect which should include impressions of durability and stability opposed to all such feats of mere masonic dexterity. It may appear that such an argument as this is opposed to economy of material and to the due exercise of skill in constructive design. Without admitting this, I will assert that neither of these conditions is essential to architectural effect in its artistic sense. Where grandeur and durability of aspect are desired, a lavish solidity of structure is essential; and, except where great loftiness of composition is adopted, this in itself simplifies the constructive labour of the designer. Under such conditions, however, far higher powers of architectural design are called into use in giving to such masses a decorative character redeeming them from heaviness, and yet not opposed to the leading expression of durability and inert strength.

This character of massiveness, as an element of successful design, in even the more decorative varieties of the Pointed style, is now, much more than a few years back, recognised in original works, and there are indications of its gradual adoption, consequently, in modern designs in the same. The new parish church at Doncaster, by Mr. Scott, is, evidently, from the dimensions published of its constructive parts, an example of this recognition; and without in the least advocating extravagance in the use of material, I think few of my hearers will not concur in my opinion that nearly all of our modern examples in these styles would bear with advantage an addition of mass, bringing them more into a parallel, in that respect, with the original examples I have referred to. I am obliged to touch but lightly on each head of my subject in such a sketch as this; but before I proceed further would reiterate the opinion which I have at other times expressed, that no existing style of ancient architecture can with prudence or advantage be excluded from the field of study of an architect, or that without virtually denying the human intellect the right of free scope in all phases of legitimate design can discredit be thrown on any style in which the essentials of construction, whether trabeate or arcuate, and the principles of beauty in general, and detailed form, are duly recognised.*

ON THE CONSTRUCTION OF BUILDINGS IN REFERENCE TO SOUND.†

The second hindrance to successful radiation, is the auditors being placed too much one before another; or having, in some other way obstacles before them. The bad effect of this is self evident. In order that the direct radiation of sound may effectually reach an audience, it is necessary that the auditors should be so placed that each row should sit clear of the heads of those in front of them. This requirement is even more essential for good seeing than for good hearing, and to effect it in the most perfect manner, it is necessary to arrange the seats on a curved section, which was first indicated by Mr. Scott Russell, and is described by him in the *Edinburgh New Philosophical Journal*, vol. 27, for 1839, and afterwards in his lecture to the Institute. It has more recently been given by Mons. Lachez, in his pamphlet. If you proceed to draw the section of a lecture-room on this plan, commence by drawing the lecturer, and the seat of the first auditor; then draw, from the mouth of the lecturer, a straight line passing over the top of the head of the first auditor, and at a proper distance behind, fix the seat for the second auditor, so that this ray shall at least reach his eye, or fall below it, and repeating the process, you will have Mr. Russell's eisacoustic curve; and it is worth remarking that the Roman amphitheatre, at Nismes, presents much the same arrangement of seats. This curve varies with the height of the speaker above the first auditor and his distance from him, but it

* To be continued. † See page 773, *ante*.

always possesses, when complete, the same slight fall near the speaker, and then a constantly increasing rise. It may not always be possible or desirable to adopt it entirely, but partially it may often be employed.

In theatres something of this sort is practically adopted in the rise generally given to the back of the pit, and the rising rows of seats in dress-circle, galleries, and boxes, but the actual arrangement of an unbroken series of seats rising from the level of the auditor to the highest range is, I think, only employed by ourselves in lecture-rooms, and class-rooms, and the like. It was the system of all Roman and Greek theatres, and besides possessing great advantage in giving each auditor his direct ray of sound and line of sight unimpeded, is one remarkably free from echo, for any echo that might arise, either from the front of an empty line of seats, or from the back wall, will be thrown above the heads of any auditors in front of it, and so lost.

Mons. Lachez acutely points out the desirableness of making the sides of such an amphitheatre radiate, by calling attention to the appearance which a lecture-room always presents when half full. The body of auditors always arrange themselves in a wedge shape, and it is only when all the back seats are filled that the front places at the extreme sides get occupied. A lecture theatre built with side walls radiating from a point behind the lecturer, with the wall facing the lecturer curved, and with seats arranged on Mr. Scott Russell's curve, would probably be the best room for sound that could be built, and would contain fewer inferior seats than any other possible room; it would also bear to be extended far beyond the limits of direct radiation, as the diverging walls, especially if the ceiling over the speaker were kept low, would act as reinforcements to the sound, like the sides of a speaking-trumpet. This form seems as if it might be well adapted for the requirements of a court of justice.

It may not unnaturally occur to any one wishing to obviate the difficulty of hearing, and seeing too, which occurs wherever the floor on which the audience is placed is level, and the speaker is only a little raised above them, that by placing him on a higher elevation every one would be able to look and listen clear of his neighbour's head; and in point of fact this plan was very extensively followed in churches built in the last century where the pulpits are of great height. It does not, however, answer well; and I believe the reason is to be found in the fact that both speakers and singers throw their voice nearly straight forward. It is far more natural to speak or sing upwards than downwards, and if any effort of voice has to be made, the very action of throwing back the chest and head, which will send the voice *up*, seems needful to give play to the lungs: and further, of the sound thrown downwards, almost every particle not heard would be absorbed by clothing, benches, cushions, and so forth, which would prevent the upper part of the building being properly filled by the sound.

I believe if the speaker is to be placed high, he should be very high—near the ceiling, or under a very large sounding-board. Those who have frequented the oratorios in Rome during Lent, may remember that the orchestra is high up,—almost close to the ceiling, and the sound seems to flood down upon the auditory in a fine way, reflected downwards by the ceiling as well as radiated downwards from the instruments. Under ordinary circumstances, however, those who have most experience, advise that the floor of a pulpit, or that of the front of an orchestra, shall be kept quite low.

3. The *third* obstacle to distinct radiation of sound is excessive *resonance*.

A room where a series of echoes from points near the sounding body or sympathetic vibrations occur, so that without exactly clashing with the primary sound, a re-echoed sound prolongs the original one without any perceptible interruption, is said to produce resonance. Almost all our cathedrals possess this property in a marked degree, and it is of great value to the effect of most sorts of music—perhaps of all music; but it is not so advantageous to speaking—consequently many good music-rooms are not good rooms for public speaking. This property is considerably diminished when it exists in an empty room, by covering the floor with carpet, or still more so by filling it with people. The sound which had been beaten back from side to side and from floor to ceiling, is, by carpeting the floor and putting people on it, robbed of one of its reflectors. The floor no longer throws back what falls upon it. The difference between carpeted and uncarpeted floors is familiar to most persons, from the curious effect produced by taking up the carpets in an ordinary dwelling-house. Sounds seem to acquire a new intensity and a prolonged duration, and the stroke of a hammer or the closing of a door rings and reverberates through the whole house.

This quality of resonance is one to which we shall have occasion to revert again when treating of the means which may possibly come to be employed to reinforce the human voice. Should resonant chambers or sounding-boards, or any such contrivance, be ever adopted, they will have to be placed near the speaker, as the resonant body of a violin is near the strings.

Where, however, a whole room, or the air in it, is resonant, this quality is almost always fatal to distinct speaking; it is far less injurious, and even advantageous, to effective music; and hence many good music-halls are very indifferent rooms for public meetings or lectures. It is very much, I think, due to the vibrations of the floor where it exists; consequently many music-rooms which are admirable when full, are noisy, indistinct, and full of unpleasant reverberation when empty. This is emphatically the case with the Free Trade Hall at Manchester.

I believe that besides the use of elastic materials, such as wood, and the existence of vacant spaces behind them, causes of resonance exist in the form and proportions of the rooms themselves; but beyond indicating the probability that this is the case, and mentioning that the experiments of Mons. Savart seem to show the possibility of investigating very minutely the vibrations of the air in apartments of various sizes and shapes, I am not able to bring forward any distinct rule or any series of observations or measurements tending to enable us practically to make use of the idea if a true one.

II. We now pass to the second branch of our subject, namely, rooms beyond the dimensions of distinct radiation. On visiting any very large and acoustically-good room, as for example the Surrey Music Hall, where from 13,000 to 14,000 persons have been known to be accommodated, we shall find that the human voice can be heard in it to a much greater distance than in the open air, and that, too, with so much distinctness, as to show that the superiority, is not merely caused by the complete stillness of the atmosphere, but that there is something in the arrangement, form, or materials of the hall itself, favourable to the propagation of sound, not simply allowing it to spread to its natural limit of distinctness, but aiding it to travel beyond that limit. This brings us to investigate the artificial reinforcement of sound, most required in rooms of large size, though of course the same means which tend to the reinforcement of sound in large rooms, are not inappropriate to smaller ones. In large rooms, however, we still have to consider precautions against disturbance, or loss of sound, as well as aids to its propagation; but the most essential additional points to be attended to, are the avoidance of large vacant spaces, especially near the speaker; secondly, the preserving unbroken, and of good materials, those surfaces which can with advantage reflect sound; thirdly, the destruction of the wave that will roll along the wall at a distance from the speaker; and, fourthly, the artificial reinforcement of sound by other means besides echo.

1. First, the avoidance of large vacant spaces. It may be laid down as a leading principle that rooms low in proportion to their width, are good for sound. If possible they should be lower above the speaker than elsewhere, and the less air above and behind him required to be set in motion by his voice the better. Should circumstances render a lofty roof indispensable, it will be much more likely to be successful if not wide. The ordinary section of a church with nave and side aisles, illustrates what I mean. Here the width between the outer walls may be great, and the height of the central roof great also, but the side aisles cut off by their low roofs, a great deal of the space which would have exhausted part of the force of the speaker's voice, had there been a flat ceiling from wall to wall, as high as the ceiling of the nave. In buildings of a different class, it is often possible to put the orchestra, or platform, under a sort of alcove, so as to diminish the amount of empty space behind and above.

2. *Reflection.*—The side walls and the ceiling will usually not produce confusion by reflecting the sound; but will rather intensify it, for the sound echoed from them will be travelling in the same direction as the original sound, and will not be heard *perceptibly* after it. The wall behind the speaker will assist to throw the voice forward, and its material will probably influence the quality of tone in the voice. The side walls and ceiling play something the part of the sides of a speaking trumpet. These, then, ought to be rendered good reflectors, that is to say, ought to be tolerably smooth and little broken up by openings or unevennesses (of their materials we will say a word presently). Among these reflectors the most important is the ceiling, and it is found that its form and height exercise a more perceptible influence over the acoustic qualities of the room than those of the side walls; and this is easily to be understood when it is remembered that every reflected sound from the ceiling will be thrown down straight upon some one of the auditory, while the larger part of the sounds reflected by the side walls pass over the heads of the hearers, and those that do not will only be thrown sideways among the heads of a crowd who are all placed nearly on a level, and of whom, consequently, few will be much benefited by them.

To determine the best forms of ceiling, let us consider for a moment what occurs with a flat ceiling. Those waves of sound which proceed upwards and straight forwards from the speaker and strike the centre line of the ceiling, are reflected down upon the line of auditors right before the speaker. Those that strike at all to the right and left are reflected still more right and left till we reach a point where the reflected sound, having been more and more rapidly deflected, and consequently more and more spread and weakened, is at last thrown against the side walls, and if it reaches the floor at all, only does so by double reflection. Hence it appears that the centre of the room is most benefited by a flat ceiling, and the sides of such a ceiling are of little or no use, and that the intensity of reflected sound from the ceiling goes on diminishing as the seats recede right and left from the centre line. The simplest remedy for this is to have a ceiling flat in the centre, and with the sides inclined. This has been adopted at St. Martin's Hall, and tends to make all the reflected sound from above available. A polygonal-sided ceiling, with the inclination of the sides regulated to throw the voice evenly over the floor would be better, and perhaps a flat ceiling, with the sides either sloped, polygonal, or curved, is more advantageous, from its avoiding interferences of reflection than one curved or polygonal throughout. Open roofs cannot be regarded as favourable to sound; in fact, the steep inclination of the reflecting surfaces, and the various breaks and interruptions caused by the timbers, are equivalent for the most part to the entire loss of the ceiling, as a means of reinforcement. I am of opinion, therefore, that, at least in all buildings which much exceed in size the limits of direct radiation, an open roof had better be avoided. Should a curved ceiling be adopted, it ought to be flattish. The best of all, theoretically, would be a parabolic curve, which would reflect every sound coming up to it from its focus straight down. These surfaces which are needed to reflect, namely, the side and back walls and the ceiling, ought to be but little broken up. Deep panels in the ceiling (as in the original ceiling of Exeter Hall) are objectionable; and columns, pilasters, and deep recesses, are all to some extent unfavourable to the perfect action of those walls which ought to reflect. The treatment of the wall which ought *not* to reflect has already been considered.

3. We have now, thirdly, to consider a point to which Mr. Scott Russell draws attention, and one which, so far as I know, has been overlooked by every other writer on this subject—namely, conduction of sound—the effect of that property of sound alluded to at the outset, that it is only reflected imperfectly from surfaces upon which it falls at an angle less than 45 degrees, and not at all when the angle becomes as acute as 30 degrees. In these cases the sound runs along the surface it falls against, and may be quite imperceptible to a listener a very short distance away from that surface. The best known instance of this conduction is the Whispering Gallery at St. Paul's, where the sound runs round the wall, and a whisper becomes audible to any person putting his ear close to the wall, though quite inaudible a foot or two off. Now this conducted sound is of no benefit to the auditors away from the wall; and it is even less so to those within its reach, for it has a rolling, confused, broken character. It ought, therefore, to be destroyed and got rid of. If, then, the room is so long that there is a danger of the sound which reaches the side walls at the portion of them remote from the speaker being conducted instead of reflected, means should be taken to dissipate it, such as employing columns, pilasters, recesses, curtains, and the like; and the same sort of treatment should be adopted for the end wall facing the speaker, since reflections from it can do

quite as much harm as in rooms within the dimensions of distinct radiation. The sound may perhaps be less powerful, but as the space over which it can travel is larger, reflections from the back wall, if they occur, will be heard by at least part of the auditory at a greater interval after the original sound, and consequently in a more confusing manner, the larger the room.

The Free Trade Hall in Manchester, one of the largest, and one of the most acoustically successful rooms in the country, embodies all these principles.

It is on plan a parallelogram, with a semi-circular sweep at the end opposite the orchestra. The wall behind the orchestra is flat, so as to throw forward the sound. The proportions are low, compared with the width and length; and the sides of the ceiling bend down on to the walls, with a cove of unusual height. The side-walls are arranged to help the reflecting power of the ceiling; the lower part of them (which we have shown to be the most important) is perfectly plain and unbroken, and the upper part decorated with engaged pilasters only. These, however, are only continued as pilasters so long as the wall can be of use as a reflector. At the remote end, and along the semicircular sweep, where conduction along the walls would commence, the surface is broken up, so as to dissipate and destroy the conducted wave. Columns take the place of the pilasters. Deep, open recesses, used as a sort of private boxes, are formed between them and balconies thrown out on corbels; while below are placed the cloth-covered entrance-doors. A narrow gallery runs up the sides, and becomes deep across the end of the hall; its front being not flat, but curved in reflex curves, so as to obviate the possibility of echo; while the most dangerous echo—that from the end-wall is reduced to a minimum by its curved plan, and by the simple expedients for destroying reflecting surface which I have described. This room when full, is a perfect room for sound. When empty, the resonance is increased so much by the floor as to be confusing to the last degree.

Now, as to the materials most proper for the walls, ceiling, &c. There can be no doubt that these, and the fact of their being solid or having a hollow space behind them, must exercise an influence upon the quality of sound as well as its distinctness, just as a musical string set in motion will give one description of tone when merely stretched tight in air, another when stretched in front of the sounding-board of a pianoforte, and another when stretched in front of the wonderful, hollow, vibrating body of a violoncello; and here the subject of reflection gradually mixes itself up with our fourth point—reinforcement by sympathetic vibrations.

4. It is painfully evident that we know but little on the subject when one attempts to seek for opinions, or the reasons of them, on this point. I think, however, experience seems to point rather to this rule, viz. that when there is a hollow space behind the reflecting surface—as, for example, above a ceiling—that surface is best and most useful when of wood. If there is a solid wall, then that face is best which is the smoothest and hardest procurable—say stone or good plaster —and the reason seems to lie in the difference between the space full of air, which will be sure to vibrate sympathetically, and the dead wall, which will not vibrate.

A wooden lining to a wall would itself be inclined to vibrate; but would be checked by the deadness of the wall behind it: it would neither have the reflecting quality proper to plaster, nor the vibratory one proper to itself. Stretched over a vacant space it is free itself to vibrate and to communicate vibration to the air behind.

A coat of plaster, on the contrary, partakes of the hard nature of the wall, and renders reflections perfectly well. Employed instead of wood in a ceiling, it, if thick and stiffy backed up, may act in the same way, and perhaps an increase in distinctness might be the result, but probably at the expense of a loss of tone; while, should the air above such ceiling be capable, by its vibrations, of doing any sustaining or reinforcing duty, the plaster ceiling seems less fitted than is the wooden one to transmit any such vibrations. I am inclined to believe that a wooden surface, hollow behind, is likely to be of service when the speaker stands in front of it, and that it will act somewhat as the sounding-boards of old-fashioned pulpits do. Glass appears to have little reflecting power, and therefore spaces filled with glass are of little value for reinforcement, and of little danger in respect of echo.

A perfect reinforcing reflector, or sounding-board, is one which will vibrate in unison with every note that is sounded near it. The original sound gains more in *intensity* than in loudness by such reinforcement; the difference between intensity and loudness may be illustrated by comparing a bell and a gong. When sounded close to you, the gong will in all probability be far the loudest; but there is a far smaller mass of metal vibrating than in the bell, and the sound would not be heard to anything like so great a distance, nor would it penetrate through so many obstacles as the note of the bell. The same advantage that the additional amount of vibrating metal gives to the bell, may be secured for the reinforcement of a vibrating string, by placing close to it a body which will vibrate in sympathy with it. And of two similar strings stretched before two different sounding-boards, that one will give the most intense sound which has the most vibratory sounding-board, as may be understood by comparing the notes of two violins of different excellence—they will sound equally *loud* if not equally good in tone while you are close; but go into an adjoining room, or an adjoining house, and the notes of the best violin will penetrate through the walls and doors long after you have ceased to be able to hear the bad one.

Now, as this added intensity is as much a property of the shortest and most rapidly executed notes, as of sustained ones, I cannot but think that some arrangement of vibrating materials may be devised, which will intensify the power of the human voice without diminishing at all its distinctness. Vitruvius, it is well known, refers to reinforcing vases as forming a part of the arrangement of ancient theatres, and we are much in the habit of regarding them as simply absurd. Does not the reference rather teach us that the ancients had reduced to practice an idea which we are as yet hardly prepared to admit even in theory, and hold out a prospect to the scientific architect of a revival of means once practised, now forgotten, which might increase the natural power of the human voice to an extent which would render the adoption of any other means of ensuring acoustic effect comparatively needless? This unquestionably affords a promising field for research where at present we know simply nothing.

The twenty-fourth volume of the "Annales de Chimie" contains much relative to reinforcement of sound from the pen of M. Savart.

Some of the writers on buildings, and Mr. Scott Russell among them, lay great stress on the desirableness of the length, breadth, and height of rooms being of simple numerical proportions, if they are to convey sound well. I think this is probably the case, but it would be interesting to test it by actual measurement. If it turns out to be true there is another illustration of the beauty of those mathematical systems of arrangement which exist in the plans and sections of ancient Mediæval churches. The cause of the desirableness of such proportion may be sought for in the fact that every empty room may be considered as a huge organ-pipe, having a note of its own, which note you may distinctly hear if you put the air into vibration; and should the dimensions of the room be such that the length of the vibrations going from side to side does not bear any simple relation to those going from end to end, a confused blending of two notes may be the result. The existence of this key-note in rooms is well known to some practised public speakers, and those who have an acute and musical ear will catch this note, and either speak in it or in a tone at an exact and consonant interval above or below it, and by so doing will succeed in avoiding a disturbance which in some rooms is very annoying.

We have now briefly gone through the nature of sound, the distance to which it will travel unassisted, and the necessary arrangements for its promotion in rooms of small size, and in those of larger dimensions. Under the first head we have considered echo, the interference caused by auditors being in front of one another, and that due to excessive resonnance. Under the second head, we have added to these some remarks on large vacant spaces in the room; secondly, on the reflecting and absorbent surfaces of walls, floor, and ceiling; thirdly, on the conduction of sound; fourthly, on reinforcement.

It only remains to invite you to enlarge the bounds of our acquaintance with this recondite subject, and to suggest that, in addition to conducting experiments where practicable, one of the best means of doing this would be by keeping observations, tabulated, upon the dimensions, the proportions, and the disposition of all actually existing examples remarkable either for excellence or for defects to which any of us have access: by so doing, we may both acquire much of the practical tact and skill so desirable if our own designs are to be successful, and may also help to raise this department of our profession from the position of one governed chiefly by empirical laws and the "rule of the thumb" to the dignity and certainty of a practice surely and safely conducted according to sound scientific principles, and guided by well-ascertained laws, resting for their foundation on the careful observation and consideration of natural phenomena.

T. Roger Smith.

THE LATE MR. EDWARD CRESY, ARCHITECT.

We record, with great regret, the decease of one of the most earnest and industrious members of our profession, Edward Cresy, architect, of South Darenth, Kent, which took place on the 12th instant. Although better known personally among our elder than our younger readers, having retired from active practice, he had earned for himself, long since, a reputation which may even be called European.

Mr. Cresy was a pupil of Mr. James Parkinson, to whom was confided the laying out of the Portman Estate early in the present century; and after the termination of his articles, feeling desirous of perfecting himself in the financial branches of his profession, he served two years with Mr. George Smith, of Mercers' Hall. Having availed himself of every opportunity of acquiring a thorough training, he devoted himself to a careful examination of the monuments of his own country, performing almost the whole tour of the island on foot, making careful notes of all that attracted his attention, and never failing to record most accurately the *dimensions* of every object of his study. The discipline of hand and eye, together with the development of physical strength, consequent upon such a training, qualified him next to undertake, what used to be called, the grand tour, in company with his old friend and colleague, Mr. G. Taylor. They traversed together the greater part of France, Italy, Sicily, and Greece, and amassed an immense number of sketches, drawings, and measurements, forming the basis of the elaborate and costly works they subsequently published on the Roman antiquities and the architecture of the Middle Ages in Italy. Great as was the labour involved in the published results, these were by no means the entire fruit of their exertions. Fully as much, if not more, remains in their portfolios, and would long since have been given to the public had sufficient encouragement been afforded. They had even already engraved several plates illustrative of the palaces and villas of Italy, and of St. Peter's, forming part of a great projected work on the architecture of the Renaissance; but the ill reception of the published parts compelled the suspension of the work

Mr. Cresy's entry into the active duties of his profession was made at an unfavourable time. Returning from his continental tour, enthusiastic in his admiration of the works of the greatest masters, he encountered the vapid taste, the cold heartlessness, of the relics of the regency, and accepted, perhaps, too hastily, a professional engagement in Paris; the results of which cast a shade over his whole career, notwithstanding the success that ultimately attended the undertaking.

Mr. Cresy's practice in this country was almost entirely of a private character. He was an early opponent to the evils of the system of open competitions. Combining, in his own person, a thorough knowledge of the science of construction with the study of the best models of antiquity, he was strongly averse too, to the separation of the professions of the architect and engineer, and was in the habit of referring to early masters in the art—from Ictinus to Sir Christopher Wren—as at once an example and a reproach to our days. In his treatise on the "Theory and Practice of Bridge Building," he compared the science displayed by the architects of our Mediæval cathedrals with that of our best modern constructors. The encouragement afforded by the public to the undertaking was insufficient to allow him fully to develop his views, but had the advantage of enabling Messrs. Longman to discern his fitness for the authorship of their "Encyclopædia of Civil Engineering,"—a work to the utility and importance of which the pages of the *Builder* have already borne full testimony, both on its first appearance, and on its attaining the distinction of a second edition.

An ardent student of the past, Mr. Cresy was by no means insensible to the necessities of the present. He was one of the earliest friends of the movement for sanitary reform. His evidence before the Health of Towns and Metropolitan Sanitary Commissions were valuable contri-

lutions to a branch of engineering then all but unknown, but which has since assumed very important dimensions; and, as a superintending inspector under the General Board of Health, he may claim to share the honour of having initiated principles fertile in advantages to the public health.

The subject of this notice was an enthusiastic antiquary, combining an ardent admiration of Classical with a zealous study of Mediæval antiquity. His various essays, extending over a period of many years, lie scattered through the volumes of the "Archæologia" and memoirs of different societies. We especially cite two, read at the Congress of the British Archæological Association, at Winchester and at Gloucester, on the cathedrals of these cities—detailed notices of which appeared in our pages.

During his latter years his attention was more especially devoted to an attempt to elucidate the principles of proportion, deriving his cue from some obscure intimations in the writings of Vitruvius and his commentators of the period of the Renaissance. He was led to believe, as some others do, that certain absolute mathematical relations had existed from the earliest period, between the several dimensions of every building, varying with each successive style, yet absolute for each; in fact, that certain archetypal ideas had ever existed in the minds of successive architects, finding their development in their several works. He had, in the course of a most laborious investigation, amassed an immense collection of very curious facts bearing upon this theory; but, nevertheless, however rigidly his inductions might have been performed, the crucial instance was ever wanting. No disappointment ever discouraged him in his favourite pursuit, and death found him still busy at his post. Seated in his library, his "Vitruvius" open before him, he fell from his chair, pen in hand, ceasing his work only when he ceased to live.

HEROES AND HERO-WORSHIP: THE HERO AS ARCHITECT.

SIR,—I am requested to introduce to the favourable notice of the *Builder's* public a very interesting young friend of mine, who desires to give tongue in the good cause. After the spirited act of the Imperial Government of France, by which the world of artists is put in possession of a *fac simile* reproduction of the marvellously artistic album of Wilars de Honecort, my amiable friend says he can keep silence no longer.

My interesting friend is the only son and pupil of the late Mr. Tompkins, commonly called Vitruvius Tompkins, of the Pentagon, Camden Town, District Surveyor for Limehouse Reach. But he has not seen fit to follow in the footsteps of his respected (however classical) parent. He has been led by powerful convictions of duty to address himself to the cultivation of the Mediæval mind. To adopt his own imaginative language, he has "repudiated all Classical Tee-square-totalism, and devoted himself to the Mightinesses of great Norse Thought, Scandinavian Crookednesses —Things that do not tally." You will be interested to know that he has grown a magnificent bricked beard, like the beard of Thor himself, or of Skrymir, the big Earth-demon. He has cast away also the old door-plate of his progenitor, which told for fifty years in the Pentagon of "Mr. John Tompkins, Architect and Surveyor," and has substituted an inscription in enamel, of inscrutable Scandinavian design, according to which he is—

John de Camden Town,
Master of ye Works.

He holds, moreover, with Mr. Burges, that a great artist-architect must only have one "job" in hand at a time; and the job (for instance) at present in hand with him is the fitting up of a tailor's shop, in the ultra-mediæval or Scandinavian manner, and the designing of a book of patterns for the garments which are to be fabricated in that establishment (name of Scroggyngs), from examples in the Missals and the pictures lately added to the National Gallery; so that my young friend bids fair for immortality.

Having now determined to make his voice heard in the land through your columns, it remains for me only to explain that the question has given him vast anxiety what style of utterance to adopt. Black-letter writing he prefers, but is apprehensive the printer's devil would object to it. Old English simulation he does not favour, having the fate of Chatterton before his eyes. He agrees, again, with Mr. Burges, moreover, that the nineteenth century should *combine* itself, and us more, with the spirit of happier and crookeder times. He, therefore has, at length, he says, after much research, selected the style following as suitable for the expression of great Norse Thought, and recommends its adoption to all great Norse Thinkers as a basis for progress in Scandinavian writing.

I have only to add, that I am not to be held responsible for my interesting young friend's sentiments, and remain, &c., R K.

The Hero as Architect.

Much as I revere Great Thomas, and his dealings with the Heroes and Hero Worship, yet have I marvelled exceedingly that he has forgotten the Hero as Architect. As Divinity he has him, as Prophet, Poet, Priest, Man of Letters, King; but not as Architect, I say, which is astonishing. Why astonishing? He will reply: This year of Grace is 1858; in year of Grace 1840, when I dealt with the Hero in this manner, where was your Hero as Architect? Thus Thomas; and truly—I must acknowledge. The Crookednesses were not in favour then. But now I can supply the blank: the Crookednesses are now in the Ascendant—big Norse Ideas that do not tally. Derision of the Symmetries.

Now, here have I been full of great Thoughts on this matter,—the Soul's Boiler of me bursting with such. Safety-valve loaded like Safety-valve of Mississippi high-pressure Engine; Skipper resolved to Do or Die; and what to do I knew not. Comes up presently a Hero so heroic that he makes an end of it. Straightway, Soul's Boiler bursts; Safety-valve, with swift shriek of despair, flies to the Everlasting No; Thought rushes into Utterance; John de Camden Town is no longer silent; Wilars de Honecort, Thirteenth Century Wilars, is too much for him.

Imperial Majesty Louis Napoleon, K.G., F.S.A., pays the Piper. Cock's shrill clarion by mouth of a Lassus, proclaims its loudest. Incredulous Burges carries keen Scandinavian eye to Bibliothèque Impériale and criticizes Wilars; is enamoured hugely. Royal Institute of British Architects, Vice-President grandly in the chair of it, takes up the matter; learned Garling in the tribune, makes Wilars honourable, magnifies his Crookednesses. Parker of Oxford, bookish amongst bookish persons, will translate Wilars into John Bull speech, and re-print his Inebriate Forms; Willis make notes upon his Things that do not tally. Sufficient honour to Thirteenth Century Wilars, all this; creditable to middle of Nineteenth Century, I take it.

Builder engraves a sheet of Wilars's Sketches; *Builder*-public goes mad about it; Run upon *Builder*,—no more copies to be had; discontent accordingly; in the Recess, by good fortune, or Beresford-Hope would bring it up.

A certain man, at meeting of Royal Institute, looking upon those three-and-thirty sheets of old Wilars, remarks (privately) that *he* would have them put *behind the fire!* Would he? *Rubbish*, says this Scoffer further: amazed, he said he was, that Garling should lend himself to such a Mockery, and Digby Wyatt damn it with faint praise. A base mechanical person this; a Tee-square person; no eye in him for the Crookednesses. I withhold his name, for decency's sake. Majority, perhaps, of the meeting of Scoffer's opinion, I am told; Scandinavianism, I reply, hugely disdains Majorities.

Academy Lecturer stands up, though. Not five members of Royal Institute, says Academy Lecturer, could draw figures so well as Wilars! Burges and self would be two; would like a day to be appointed for other three to be found! A man of good taste this; shall have Gold Medal for it. Where is Royal Institute now? Of its three hundred grant but three—to make a new Thermopylæ! who will compete with Wilars? Give Royal Gold Medal rather to him or Wilars! Grasshoppers, Crawfish, Porcupines—Wilars draws all these. Architectural front elevations of Lion, King of Beasts; of noble animal the Horse; hind-legs visible between fore-legs,—tail of him visible, too, between hind-legs: who shall draw like Wilars? Human subjects, the Drapery of them Buckram, Tin, Scandinavian ice, great Norse icicles upon Rime's beard; the No-drapery of them making Man hideous: where are your three men, Royal Institute? Saw-mills, Catapults, Wheels of Fortune, does old Wilars draw; right primitive Carpentry, work of old Hatchets and Adzes,—scorning your Jack-planes, Triangles, Mortise-and-tenon-apparatus, Tenpenny-nails, Tee-square-totalism, Elegancies, Symmetries, Peter-Nicholsonisms. Lucid directions also, gives old Wilars, how to subdue a Lion ("if you wish to know," he says), and how to make a Lectern, "so that the Eagle shall turn his head when the Gospel is read." A notable heroic Man, old Wilars.

A poor ignorant Thirteenth-Century person, says Scoffer; and very much of an Ass at that. No Criterion of his Day at all. Even a plodding Ass copies, and copies badly, Tom, Dick, and Harry's drawings, and the like, as they come in his way, good, bad, and indifferent; makes small efforts of his own, in a poor constrained manner, readily discernible; at an age, when all one's Goslings are Cygnets, binds up his two-and-fifty bits of this Rubbish in pig-skin boards; in after years, no longer such an Ass,—no longer deems Geese to be Swans, cuts out a leaf of his Album as occasion requires, for some pipe-lighting business; best of them gone, probably, in this manner,—best of the bad, so little were they thought of. So says Scoffer. And a Majority of people, says he, a thousand to one, will say the same. A base, mechanical, ribald, person, I say again; he and his thousand to one unworthy of any answer.

On the contrary, a right brave and manly Spirit, say I, a right sturdy and immovable Man, as I gather, this same Wilars. No Simulacrum; no man of Elegancies; a Fellow of infinite despite of Pairs of Compasses, parallelism of Rulers, Tee-square conventionalities, Symmetries. Venting the mighty mediæval Soul of him in strong Norse Crookednesses; Inebriate Forms; Matters awry; Things that do not tally,—never did tally, from the old days of Thor and Odin, and the great Norse-giants, Jotuns, to the latter day of great Wilars himself, and of Imperial Majesty, his Patron: Things that never will tally but in the Strabismus and Albino-sight of your Dilettanti, Stuart-and-Revettian persons; Simulacra, Tee-square-totallers, bibbers of the unfermented liquors of the Elegancies, *soups maigre* of the Symmetries, having no palate for the Roast Beef and Ale of the Crookednesses. A comrade for Ruskin in the Shades, this same Wilars. A pair of big-fisted Fellows there. Fists clenched to smite down all Tee-square Jotuns. "I expected to be Pitched-into," said Classical Cockerell one day. Fists clenched, I say, therefore, for the Pitching-into and Punishment of Classical-Cockerell Jotuns; Halicarnassian Tites; Roman Ashpitels; Donaldsons, Ph. D.—Philhellenist Donaldsons, that is; Owens Jones, Digbies Wyatt, Crystal Palace Jotuns; old effete Jotuns of Saint Paul's, Whitehall, Somerset House, and other Wren-Jones-Chambers work; Vitruvian, Palladian, Cinquecentine, Michelangeline Jotuns,—the Noses of them knocked awry, demolished, so that they are no longer Noses, but No-Noses, by better than Torregianine mallets, by knuckles of big-fisted Norse Fellows; Barries, too, Westminster Jotuns; Pugins, even, Jotuns of Short-coming, who failed to dig deep enough into the Crookednesses, and have hearts, therefore, that would not fill a nutshell! Fists clenched, I say, for pitching into all such Tee-square-totallers. Feet elevated for the kicking of such, and their projection into other Shades. Faces gnarled with contemplation of the Crookednesses, Inebriate things awry, that do not tally. Laughter welling up from joints and marrow of these Fellows, from toes and roots, and old boots of them, in derision of the Symmetries, shaking the impenetrable places of old Echo and black Night. "*If you would know*," says Wilars, "*how to tame a Lion!*" As if Thor said, "If you would know how to take Hymir's Cauldron, that the Gods may brew Beer." Thor takes the Pot, makes him his Hat of it; the handles of the Pot reach down to his Heels. Wilars takes the Lion; chains him to a Post; beats before Lion a little Dog. Lion is tamed. A versatile Man, a many-sided heroic person, this Wilars.

Mark the three solemn Facts of the history of him. He was Wilars de Honecort,—one Fact; he made this Album and bound it in pig-skin,—another Fact; he went to Hungary,—third Fact. *Nothing more.* Archæological science supplies the rest. Tell me the length of a man's Nose, and I will tell you his Religion, says Society of Antiquaries. We take our three Facts; put them into Hymir's Pot; brew them into Beer. Who was Wilars, do you say? Master of the Works to Cambray (because it is near Honnecourt); a Thirteenth-Century man, therefore (because Cambray was then built); architect of S. Elizabeth* Church at Cassovia, in Hungary (because of his going to that country); architect too of S. Yved de Braine (whose plan is similar). "*Of course*," says Mr. Burges, "*a great deal of this is pure conjecture; but it will do as well as anything else!*" A right manly and Scandinavian Sentiment this; a great big Norse Thought that does not tally!

* I have seldom been so amazed as in finding Mr. Burges writing *St.* Elizabeth, *St.* Etienne, *St.* Yved. If repeated, I shall pronounce him a No-Scandinavian.—J. de C. T.

What took Wilars into Hungary, if not to be Master of the Works to S. Elizabeth Church? Impecuniosity, replies Scoffer; he fled from Bumbailiffs. Why will not *this* do as well as anything else? A ribald person, we have no answer for him. Where are the memorials of S. Elizabeth's, or S. Yved's, or Cambray, in his Album? further demands Scoffer. Or of aught else to represent any work he ever did? he continues. A most ribald person; we have ceased to regard him.

Youth!—Study old Wilars. Dig deep into the Crookednesses of him; his Things that do not tally. Learn to draw like Wilars. Nature throw to the Dogs. Elegances, Symmetries, Tee-Square Simulacra, have none of them. Perspective, Photography, Proportion, Common Eyesight, put far from you, and stick to grand old Norse Thoughts and Things awry.

A poor frenzy of the day's fashion, says Scoffer, your Scandinavianism and Worship of the Crookednesses; a Mania to be laughed at in twenty years like the Cochin-China-Chicken Mania. A very ribald person.—A Whimsey of the Inebriate class of minds. A very ribald person, I say again.—Already over the Head and long Ears of it in Ludicrousness; and on the miserable Wane. An unutterably ribald person; we will have done with him.

John de Camden Town,
Master of ye Works.

OAKHAM CHURCH.

The church of All Saints, Oakham, has been extensively restored, as was mentioned last week. It is a cruciform church, lofty and spacious, and one of considerable interest both to the architect and ecclesiologist. The transepts have the unusual arrangement of a double aisle, and the nave and chancel have each of them an aisle on either side, co-extensive with their whole length. The exterior presents a good outline, and the interior is remarkable for its superiority both in general effect and details. The south-west external view, comprising an engaged tower surmounted by a spire of considerable height, and a nave and chancel with projecting porch, transept and vestry, is pleasing: the three gables, too, give a grand eastern termination; but the interior features chiefly merit attention. Upon taking our stand within, at the south-west corner, the two arcades of the nave, with the transverse combination of those of the transepts, and the further extension of the nave arcades by those of the chancel, furnish a beautiful perspective. In this situation we lose the minutiæ of the somewhat inferior work between the southern aisle and the chancel; and, looking beyond the heavier basement of the steeple, the view is very imposing. The bases, clustered shafts, and pictorial capitals, of the supports of the arches of the nave are, in design and proportions, of the very best description, and deserve the careful noting of the architectural student; whilst the arcade on the northern side of the chancel, of a date some century and a half later, gives a magnificent and not unworthy prolongation of that of the nave. The Perpendicular windows, which occupy almost the whole circuit of the building, are a matter of regret, as their inferior style does not well agree with the truly ecclesiastical character of the rest of the interior. The main east window, previously a modern botch, has not been designed to correspond, but to harmonize with the general effect of the church inside, which is that of a Decorated edifice of the purest period. The only conspicuous interruption to this effect now is in the flat-panelled roofs, which seem to have been called for by the walls upon which they rest, and the Perpendicular clerestory. The ceilings of the chancel aisles are peculiarly good; and the transformation, by putting to flight the previous lumber, and substituting ecclesiastical benches and fittings, is most striking.

This church, as is commonly the case, tells its own history in its architectural remains of various periods. Some efforts, it would seem, were made to erect a good edifice, or rather to enlarge a previously existing church, in the reign of Henry II., about the time that the Castle hall, near to it, was built; but the only remains that give evidence of it are the south doorway and the font. Some thirty years afterwards, all but the above was made to give place to a more extensive building, comprising the area of the whole of the present church, excepting the chancel aisles. Of this alteration, the remains are the outer walls of the nave and transepts; and the eastern end of the chancel,—in some instances, the lower parts of them only, and in some only the inner sides. The piers and arches of the tower, and the greater part of the porch, are of the same period,—possibly the arch and sub-arch of the south doorway. In less than another century the church seems to have been nearly rebuilt: the pillars and arches of the interior, with the exception of those supporting the tower, being demolished, and the existing ones of the nave and transepts being substituted, probably a decorated east window was then inserted. In a short time afterwards the tower would be completed up to the present parapet, and refaced and altered in the lower part. The arcade and chapel on the north side of the chancel may be dated about 1450. The clerestory and most of the windows in the church are of a similar date, and the spire is of the latter half of the same century. The arcade and south chapel adjoining the chancel, with some other windows and minor portions, are as late as the beginning of the sixteenth century. The relics interesting to the ecclesiologist are not a few. In the eastern wall is a niche for a reliquary. On the north side of the chancel stands a high tomb, on which a wooden sepulchre for the eastern ceremonies would formerly take its place. At the back of the south transept chantry altar-piece there is an Early English large shallow recess, trefoil-arched, which, we presume, contained a painting or sculpture. In the northern transept is a canopied niche, large enough to have tabernacled a Virgin and Child. The above antiquities, with piscinas, stoup, ambries, &c. have all been preserved.

The parish church at Oakham has now received a substantial restoration, and we trust that it will long remain, a treasure to the antiquary and to the Christian.

NEW CONGREGATIONAL CHURCH, WOOLWICH.

On the 3rd inst. the foundation-stone of the above church was laid by Mr. G. A. Lloyd. It is from the selected design furnished in competition by Messrs. Lander and Bedells, architects, and is in the Decorated style. The contractors are Messrs. M'Lennan and Bird, who are to complete it at a cost of about 3,000*l*. It comprises accommodation for public worship, Sunday-schools, and benevolent societies. The tower, with spire, will occupy the centre of the principal front, and will be in advance of the main wall of the chapel. Under this is the chief entrance. Right and left of the entrance are the porches, and from these the staircases lead to the galleries. The roof will span the whole width between the walls. The materials are Kentish rag, with Bath stone dressings.

ARCHITECTURAL LECTURE AT CREWE.

Mr. E. A. Davidson, the head-master of the Chester and Crewe Government Schools of Art, delivered a lecture at the Town-hall, Crewe, on Saturday evening last; the subject being, "Beautiful Forms, as exempified in the Architecture of all Ages." Mr. J. Ramsbottom, president, took the chair; and, after introducing the lecturer, expressed his satisfaction at the success which had attended the school of art established in the Mechanics' Institution in August last, at the opening of which Mr. Davidson had given a lecture on "Useful Art, as applied to Mechanical Forms." In the course of the lecture Mr. Davidson said,—"Let but the architect feel the responsibility of his noble profession, let him feel that it is his privilege to write a page in the history of the human family, more lasting than that of a Goldsmith or a Macaulay; that by *his* work will generations yet unborn judge of the habits and modes of life of the present period, as we do now of nations long since passed away. But even this is not the whole of the responsibility of the architect: it is his mission to contribute not only his assistance to the future, but he has the comforts, the healths, nay, the very lives of thousands of his fellow-creatures in his keeping. It is to the noble and humane spirits of our architects of the present day that we owe our widened streets, and our well-ventilated dwellings: they have torn down the rookeries in which the poor were huddled in misery and suffocation, and have raised the commodious and healthy dwellings for the labourer: *they* have constructed the noble piles such as we see in St. Paul's Churchyard and New Cannon-street, in London, instead of the unhealthy and close warehouses and narrow streets of former days, and must not these efforts alone entitle them to the thanks of the people of this country? But we must educate our workmen,—we must teach them, that science and art knowledge will enable them the better to execute the work entrusted to them: we must show them that the more they understand of the *construction* the better will they carry out the plan. Let us improve their homes, and elevate their social position, then will their spirit be in their occupation, and it will become a labour of love.

THE 1861 EXHIBITION.

In the address delivered at the opening meeting of the Society of Arts, by Mr. Wentworth Dilke,—a comprehensive and lucid statement,—the intention of the council to devote much of the session to the inquiries touching the proposed exhibition of 1861, was expressed. Reasons were given in favour of its desirability. Mr. Dilke said, referring to the value of the catalogue and jury reports of 1851:—

"The catalogue of another exhibition would present all the features of a timely revisal of a work which has proved of more than ordinary use to mercantile men. The council, however, whilst considering the subject generally, arrived at the conclusion that two new features ought to be introduced, viz. music and painting; and that every article exhibited should mark progress, and be exhibited in classes, and not in nations, as in 1851. Those, for example, who wish to study silks, should have all silks brought at once before their view, and not be obliged to run from one end of the exhibition to the other, from Spitalfields to Genoa, and back to Lyons; those, again, whose trade is in ribbons, should be able at once to study the combinations of Coventry and the colours of Switzerland. The questions which will naturally arise, and which it will probably fall to the province of the council to solve, will be the management to which the exhibition should be confided, and the means of raising the necessary funds. The first step will, of course, be to ascertain how far the Commissioners of the Exhibition of 1851 are willing or able to carry on such an undertaking, or if not, how far they will assist and support the proposed exhibition."

We are informed that a guarantee fund has been subscribed to a considerable amount, and that the Commissioners of 1851 will head it to the extent of 50,000*l*. If this be correct, as we have every right to believe it is, it may be considered settled that there *will* be a Great Exhibition in 1861. The project will have our warmest support; and we hope we shall have to announce before long that the question as to site has been decided in favour of Brompton.

A suggestion by Mr. John Deane, to the effect that the French Government should commission a certain number of our best artists (without the intervention of third parties, so that the commission should be a mark of honour), to execute pictures and sculpture, with a view to a similar step on the part of the English Government with French artists, is said to have found favour abroad. The object would be to put on record by an enduring series of works the exact point of excellence which art had reached at a particular period in the two countries. The idea is a good one, and might be connected with the Exhibition of 1861, and carried out with other countries hereafter.

RAILWAYS IN IRELAND.

INSTITUTION OF CIVIL ENGINEERS.

On the 16th inst. the paper read was, "On the Railway System in Ireland, the Government Aid afforded, and the Nature and Results of County Guarantees," by Mr. G. W. Hemans.

Ireland, in 1836, was a blank, as far as regarded railways, as it possessed, at that time, only the line from Dublin to Kingstown, about six miles in length. An extract was then given, from an official document, to show the then depressed condition of the country, which resulted in the appointment, in 1836, of a Government Commission, consisting of Sir John Burgoyne, Mr. Barlow, and Mr. (now Sir) Richard Griffith, "to inquire into the manner in which railway communications could be most advantageously promoted in Ireland." The report was laid before Government, but no steps were taken to carry out its recommendations. Speculation languished for nearly six years, only two lines—the Ulster, and the Dublin and Drogheda—being slowly made. When, however, the railway mania attained its height in England, it extended to Ireland, and then the country began to make for itself, and with little regard for anything like a national system, the various lines now in existence, almost all of which were originated in 1845 and 1846. But the panic arose, and subsequently the famine of 1847, which stopped enterprise for a time; and although, as an alleviating measure, the Government were strongly urged to assist Irish railways, at which period only 123 miles had been opened, the Acts having been passed for 1,500 miles, yet the proposition was rejected, and instead, the people were fed without giving any labour in return, or were employed in the mockery of useless road-making. About eight millions sterling were so expended, none of which, although originally intended as a loan, had, the author believed, ever been returned to the Imperial Treasury. Subsequently aid was given to the railways to a considerable extent, in another

form. More than two millions sterling were lent to Irish Companies, who had obtained Acts of Parliament, through the agency of the Public Works Loan Commission; and although the rate of interest—in most cases 5 per cent.—was, in the author's opinion, too high, the railway system had been materially assisted and promoted, and not one bad debt had been incurred. Only one line had been executed on the principle recommended by the commissioners in 1838, that of charging a low rate of interest, secured on the guarantee of a local rate, in aid of the profits of the line, with an additional rate, commencing ten years after the opening of the line, and payable by the company, as a sinking fund, to replace the whole amount of the loan. The guarantee system had in this instance proved highly beneficial.

At the end of 1856, there had been constructed, in Ireland, 1,056 miles of railway, rather more than one-half of which were single line, though the works were for double way. The cost had amounted to 14,000,000*l.* the average per mile having been less than 15,000*l.*; but lately this had been reduced to from 6,000*l.* to 7,000*l.* per mile. The average receipts were 21*l.* per mile per week: the dividend amounted to 4¼ per cent. nearly, and the working expenses to 39 per cent. In England, these figures were,—receipts 60*l.* per mile per week, dividend 3·56, and working expenses 49 per cent. respectively; the cost per mile having reached 40,000*l.* The favourable result here indicated was attributed to economy in construction and in working.

INAUGURATION OF CORN EXCHANGE HALL, DUNDEE.

The inauguration of the new Public Hall and Corn Exchange, in Bank-street, Dundee, took place on the 18th instant. The Hall was crowded. The chair was occupied by Lord Panmure, lord-lieutenant of the county, who was supported by Lord Kinnaird, the Earl of Airlie, Sir John Ogilvy, M.P., Sir David Brewster, the Duke of Argyle, Rev. Dr. Guthrie, Viscount Duncan, M.P., the Lord Provost of Perth, the Bishop of Brechin, Mr. Charles Edward, the architect of the building, and many others. In all, there were probably 2,000 persons present.

The meeting was addressed by Lord Panmure, the Duke of Argyle, Lord Kinnaird, Dr. Guthrie, and other gentlemen.

ST. MARY'S AND ST. JOHN'S, HULME.

St. Mary's Church, Hulme (Manchester), situated at the junction of Upper Moss-lane and Boston-street, has been consecrated. The style of architecture is the Early Decorated. On plan, St. Mary's forms a parallelogram, 140 feet long by 69 feet wide, divided into a nave and chancel with north and south aisles. There is a tower and spire, engaged, at the west end of the north aisle, and porches to the north and south aisles. The nave is 82 feet 9 inches long by 25 feet 9 inches wide, and is 69 feet high inside measurement. The chancel is 48 feet long by the same width as the nave, and the aisles are 15 feet 3½ inches wide. The nave is divided from the aisles by arcades having octagonal piers 20 feet high, surmounted by acutely-pointed arches, and from these rise the clerestory having coupled two-light windows. In the chancel arcades the columns consist of a central main shaft surrounded by smaller ones connected therewith by moulded bands placed at regular intervals. The clerestory of the chancel has single two-light windows, combining with an arcade externally, whilst internally it is furnished with jambs, shafts, and hooded arches. At the east end of the chancel is the great altar window of six lights. It is 19 feet wide and 45 feet high. At the west end of the nave is a five-light window 15 feet wide and 40 feet high. Both these windows have traceried heads of geometrical design, moulded. At present the east and west windows are of plain glass. The aisles have three-light windows, the tracery being of varied design. The nave and chancel and their aisles are separated by three arches, the great arch being 52 feet by 24 feet in the clear. The chancel is separated from the nave by a rood screen, of geometric design, of a light open character. The roofs are open timber ones, with bay principals, &c. The tower is 24 feet square at the base, and rises with the spire surmounting it to the height of 241 feet above the level of the ground. The tower is in four stages. The tapering spire has four ranges of lucarnes or spire windows. The nave is filled with low open seats; 300 appropriated, but the remainder, both in nave and aisles (about 700), are free.

On the ground for the foundations being excavated to the depth thought requisite, a quicksand from ten to twelve feet in thickness was met with. This difficulty at first appeared insurmountable; but it occurred to the architect, that by putting a thick bed of concrete on the surface of the ground where all the walls and piers were to come, they might build safely on the sand. This plan was adopted with regard to the whole of the church, with the exception of the tower, and the result is said to have been successful. Owing to the great height to which the tower was to be carried, it was thought advisable to excavate to the solid clay, a depth of fourteen feet below the surface of the ground. In order to do this a coffer-dam had to be constructed, from which the water had to be pumped whilst the foundations were being put in. After the foundations had been put in they were allowed to remain for twelve months, in order to consolidate previous to proceeding with the superstructure. It was supposed that the settlement of the tower and spire would be about three inches; but the actual settlement has only been seven-eighths of an inch. From the great height of the spire it was thought desirable to adopt some means to prevent any excessive motion during high gales of wind, or from the action of bells, and therefore a long chain, of great strength, has been attached to the top stone of the spire, and been brought to the point from which the spire springs, where there is attached to it a ball of stone four feet in diameter, the object of which is to bring the centre of gravity as low down as possible.

The organ, which was built by Hill, of London, cost about 500*l.* and is placed at the eastern end of the north aisle.

The architect for the church was Mr. Crowther, of Manchester. Messrs. Ellis and Hincheliffe, of Manchester, were the builders. The joiner's work has been executed by Mr. Foggett, of Cheetham. Mr. T. R. Williams was the sculptor employed. Mr. Robert Donaldson acted as clerk of the works.

The newly-erected church of St. John the Baptist, situated in Renshaw-street, Hulme, has also been consecrated by the Bishop of Manchester. The edifice has been erected from designs by Mr. E. H. Shellard, architect. It is a stone building, 119 feet 6 inches long (including the chancel) by 49 feet wide, built in the decorated Gothic style of the fourteenth century. It contains 650 sittings, half of which are free. The principal entrance is through a deeply-recessed pointed doorway through the tower, which is at present carried up only so far as to form a porch, but it is intended at some future period to surmount this with a spire 192 feet in height. The gable end of the chancel is principally decorated by a large pointed window, the upper part of which is filled in with ornamental pierced stone-work. Internally, the church has an unusually lengthy appearance, owing to the narrowness of the site. Looking from the entrance-porch it presents a vista of six pointed stone arches upon either side of the spectator, terminating in a slightly-raised chancel, a large decorated window filling up the extreme end. The building has been erected by Mr. Froggatt, at a cost of about 5,000*l.*

THE DOVER TOWN COUNCIL AND THEIR SURVEYOR.

At a meeting of the Dover town-council on the 9th, the following motion was proposed,—"That from the 1st of January, 1859, the surveyor's salary be reduced to 100*l.* per annum (now 150*l.*); that the payment to him of 2½ per cent. upon the private drainage and water-fittings be abolished; and that he be not permitted to take private practice, but be required to devote his time and service exclusively to the duties of his office as surveyor to the board."

This provoked a sharp discussion. The surveyor, Mr. Rees, indignantly reprobated this side-wind mode of getting rid of him, as un-English and unjust, and showed very properly that as to the charge of injustice for requiring 2½ per cent., if it were a good one, it was good not against himself, but against the local board, who decided this mode of payment for his services, and upon the faith of which he had engaged clerks to do the required work. The motion was, nevertheless, carried, and we have received letters from two or three parties, inquiring if it is likely that local boards will be properly served if they behave thus to their officers. Whether or not Mr. Rees properly discharges his duties we are not in a position to say, but it does appear to us, as impartial observers, that the mode pursued was improper and unjust, and should be protested against even by those who are not personally concerned. An officer may have given up an appointment of a certain value, say 120*l.* a year, to take one of 150*l.* and surely it would be most unjust, when the first year or two's work of arrangement and preparation are over, to tell him the salary would thence be 100*l.*? He either is or is not fit for the office. If not, the board has its remedy, openly and straightforwardly to dismiss him. But if he be fit, they would certainly be acting most unjustly, if not illegally (after alluring him to their service, and out of his previous channels), in refusing to pay the salary they had held out as an inducement. The sooner the Dover town-council reconsider their position the better.

STAINED GLASS.

Boston.—The Laughton memorial window has been erected on the south side of the south-west chapel of the parish church here, recently restored by the citizens of the American Boston; the design having been furnished by Mr. John Thomas, of Alpha-road, the sculptor of the Houses of Parliament; and the execution by Messrs. Ballantiue, of Edinburgh, the same artists who were appointed to execute the stained-glass windows in the House of Lords. The window consists of three lights, containing the following subjects from our Lord's history:—1. The Saviour as a youth with the doctors in the temple. 2. The Saviour taking a little child and setting him in the midst of his disciples. And 3. The Saviour laying his hands on the heads of little children, and blessing them. The tracery of the window represents three angels bearing scrolls, with inscriptions. The base of window consists of three compartments, containing respectively, the lamb and flag, the symbol of the Holy Trinity, and the sacred monogram, with the inscription at the base.

Boughton Malherbe.—The little church of this place has just had the addition of two stained windows. One of them is a memorial window placed in the north side of the church, by Mr. J. D. S. Douglas, in memory of his late wife. The illustrations are three resurrection subjects, namely, "The Raising of the Widow of Nain's Son," "The Raising of Jairus's Daughter," and "The Raising of Lazarus." The other window is the gift of the Rev. E. Moore, and is less in size. It is placed in the south side of the church, near the seats of the school-children, to whom it has some reference. The subjects are, "Christ blessing little Children," and "St. Ann teaching the Virgin Mary to read."

Flaxton.—A stained-glass window has just been placed in the west end of Flaxton Church. It is a lancet of one opening, about 16 feet long. The design is of a geometrical form, having quatre-foiled straps of ruby, intersected with blue, the interstices between the straps being embellished with the leaves and flowers of the hawthorn on a reticulated ground, the whole being done on thick rolled cathedral glass. The style is of the fourteenth century, as is the architecture of the church. The window is placed there by Mr. John Thompson. It is the production of Mr. John Knowles. He was originally one of the pupils of the York School of Art, and has for some time past studied the profession of glass-staining.

Newport.—A stained window has been erected over the D'Orsey monument in St. Thomas's Church, Newport, according to the *Poole Herald*. The subjects in the various compartments were designed and painted at Bordeaux by M. Joseph Villiet. That in the central window is "The Good Shepherd," life-size: in the side windows, right and left, are St. James and St. John the Evangelists, also full-size: in the compartment over the centre is a representation of our Saviour in the garden of Gethsemane, weeping over Jerusalem; the Temple in the background. The subjects in the compartments over the other two windows are angels bearing the cross and cup. The reredos of the altar is also just being finished.

East Brent.—The Lord of the Manor of East Brent has caused an "In memoriam" window to be placed in the chancel of Burnham church. The window was procured from Messrs. M. and A. O'Connor, of London, and erected under the supervision of Mr. Robert Salisbury, builder, of Burnham. The style principally resorted to in architecture is the Early English, and in subjects, a transition from the Decorated to the Perpendicular. It is upwards of 16 feet in length, and 9 feet in breadth, divided into three compartments, each containing three different designs connected with resurrectional subjects. The tracing at the top or Gothic part consists of four cherubim and other smaller designs. The top or upper tier represents our Saviour in the centre holding a palm-branch, sitting upon a tomb. Upon the right is a Roman soldier, and behind him are full-length

figures of the three Marys. On the left is another Roman soldier, and behind him are figures, full-drawn, of St. Peter and St. John the Evangelist. The bottom or lower tier contains representations of three miracles of our Lord. The first to the left is the raising of the widow's son: in the middle is the raising of Jairus's daughter: the last is Christ raising Lazarus from the grave. The church itself is undergoing some repairs.

Claverley.—A new east window, as a memorial, has just been erected in the church of Claverley, near Bridgnorth. The window is of the Decorated style, with five lights, which are filled with stained glass, subject, the Te Deum; the whole designed and executed by Mr. F. Preedy.

Radford. Three painted windows have been erected in Radford church. The chancel of this church is an apsis, containing three windows of two lights each, together with tracery in the upper portions. In the centre window there are two paintings, one of the Crucifixion, and the other of the Resurrection. The two side windows are filled with tracery, each light containing the sacred monogram. Mr. Clutterbuck, of Stratford, designed and executed the work.

Manchester.—A new stained-glass window has been erected in Manchester Cathedral, by the designers and manufacturers, Messrs. R. B Edmundson and Son, of this city. The subjects were selected by the Dean of Manchester. The window, which is placed on the south side of the chancel nearest to the east end, is of four principal lights, with tracery of the Perpendicular style. In each light is represented a scene in the life of Christ. In the light to the left is the Presentation, containing figures of Simeon, with the infant Jesus in his arms, and the prophetess Anna looking on, while Mary and Joseph are kneeling in the front, Mary having in a basket the two turtle doves "for a sacrifice." The second light contains the Baptism of our Lord by St. John. The third light represents our Lord's first miracle by turning water into wine at the marriage in Cana. The fourth light is Christ blessing little children. Each subject is surmounted with tabernacle canopy work. The tracery openings are filled in with angels, some standing and others kneeling, and with monograms and ornamentation. The window is the gift of a native of Manchester, and once a chorister of the church. The window is the first of two ordered by the same individual. The second window, containing the progressive history of our Lord, is being executed by Messrs. Edmundson and Son.

Redcar.—Christ Church, Coatham, has received the addition of an east window of stained glass, the gift of the founder, Mrs. Newcomen, of Kirkleatham Hall. Four windows in the nave and three in the chancel were already filled with stained glass, all of which were gifts from friends of the church, and the present window completes the staining of the chancel. The subjects chosen for the principal windows are events in the life of Christ. The middle light of the east window represents the Ascension; the south light, the Saviour's charge to St. Peter; the north light, the incredulity of St. Thomas; the wheel at the top of the window, the dove with a glory; and the two eyelets, each three angels. The window was executed by Messrs. Fussell and Clowser, London, from a design by Mr. G. W. Terry.

Glasgow.—A memorial window, executed by Mr. James Ballantine, of Edinburgh, has been put up in the crypt of Glasgow Cathedral by the Rev. John Hamilton Gray, of Carntyne. The window commemorates three of the Protestant archbishops of Glasgow, from whom Mr. Gray and his family are lineally descended.

EDINBURGH.

The New Industrial Museum.—The designs for the erection of this new museum, on the area occupied by Dr. Alexander's Church, the Trades' Maiden Hospital, and the grounds belonging to the hospital, extending to the east side of Argyle-square, are now in preparation. The building, according to the local papers, will be three stories high, will cover about 200 square feet, and will contain a large lecture-room adapted for lectures to mechanics, class-rooms, laboratories, libraries, &c. The museum proper will be 180 feet long, by 65 feet broad, with open timber roofs; and there will be a bridged communication between the new building and the present Natural History Museum in the College. The principal elevation will be to North College-street. The estimated cost of the whole is 40,000*l.* of which 10,000*l.* have been already voted by Parliament. The style is Elizabethan. There will thus, in the course of a short time, be three Government works of considerable magnitude going on in the city together, viz. the new Post-office, the Industrial Museum, and the new Register House.

Workmen's Dwellings.—The new association for erecting workmen's houses has now been organised. The prospectus of the association has been drawn up by a committee appointed for that purpose. The capital proposed to be raised is 10,000*l.* in shares of 10*l.* each, deposit 10s. a share. In the selection of tenants, such working men as hold shares will have the preference. It is a chief object to induce workmen to become the owners of their own dwellings. The association, however, propose to sell as they build, and with the money thus recovered erect additional houses. They have no doubt that a return will be obtained sufficient to make the effort remunerative, even as an investment, whilst a great boon will be conferred on working men. No risk will be incurred beyond the capital subscribed.

FROM FRANCE.

The exhibition of 1859 occupies at this time the whole attention of the artists of Paris. Considerable progress has been made in the erection of a museum in Amiens, the Musée Napoleon III. The sum of 20,000*l.* was raised by lottery for it, and the Emperor gave the ground on which the edifice is being built.

The society *Des Amis des Arts*, of Lyons, will open their annual exhibition on the 17th of December next. The purchases made by the society (an Art-Union) last year, joined with those of amateurs, amounted to 1,760*l.* The society propose to give a medal, on the present occasion, to the authors of the more remarkable works, the purchase of which may not be permitted by the funds of the society.

Nearly all the best works in the exhibition now open in Rouen have been purchased by the Art-Union there, including forty-one pictures.

At Havre the municipal council have authorized the purchase of several pictures from the exhibition there, now open, for the museum of the town. The sales, including these purchases, amount to 1,200*l.*

At Auxerre, out of 103 works sent by the artists of Paris, twenty-one were sold.

The embellishment of the Emperor's residence at Compiègne is proceeding with great rapidity. Ten marble statues, after celebrated models of antiquity, have been placed on their pedestals in the gardens of the palace.

Marseilles is erecting a Bourse of great importance, and to which sculpture will lend its aid to a great extent. Corinthian columns, groups of figures, bas reliefs, and a richly-ornamented vaulted ceiling are items in the description.

By an imperial decree a credit has been opened by the French Government to the extent of 3,960*l.* for the restoration of the Church of St. Anne, in Jerusalem.

HARDENING ENGRAVED PLATES.

SOCIETY OF ARTS.

On Wednesday, the 24th, M. Joubert read his paper on "Rendering Engraved Plates capable of producing a greatly increased Number of Impressions," mentioned in our last, prefacing it with an interesting sketch of the history of engraving, and, at the close, exhibiting the new process in action.

It appeared that, in March last, M. Jacquin, of Paris, took out in this country a patent for a method of coating plates with iron, which had already been successfully applied in France, and of which the merit is due to M. Henry Garnier, of Paris, with whom M. Joubert had had the advantage of co-operating in the development of the invention. The principle is this:—

If the two wires of a galvanic battery be plunged separately into a solution of iron, having ammonia for its basis, the wire of its positive pole is immediately acted upon, while that of the negative pole receives a deposit of the metal of the solution. This is the principle of the process, which has been named "acierage."

The operation takes place in this way: By placing at the positive pole a plate or sheet of iron, and immersing it in a proper iron solution, the metal will be dissolved under the action of the battery, and will form an hydrochlorate of iron, which, being combined with the hydrochlorate of ammonia of the solution, will become a bichloride of ammonia and iron; on a copper-plate being placed at the opposite pole and likewise immersed, if the solution be properly saturated, a deposit of iron, bright and perfectly smooth, is thrown upon the copper-plate.

It is important that a ferric solution should be employed which will not dissolve or corrode the plate intended to be coated, for if it be attempted to use such a solution, though the iron will be precipitated, it will not only be in a non-coherent state, but the engraved surface itself will be liable to be attacked and injured. It was further shown that the coating of iron admits of being removed from a printing surface of copper without injury to the original plate: hence the original plate may, after being coated and used for some time, have the worn coating removed, and then be recovered with an iron coating as often as may be required. The inventor mentioned that electrotype plates could not be employed because of their softness; but in future, by the application of the invention, it would only be necessary to multiply electro casts to such an extent as might be necessary to ensure the production of prints or impressions with the requisite speed. At the same time an original engraving on copper would become, when treated according to the invention, more lasting than if engraved on steel.

After M. Joubert's experiments, an interesting discussion ensued, in which the chairman, Mr. Doo, Mr. Godwin, Mr. Winkworth, Mr. Jenkins, Mr. Humphris, and others, took part.

THE ABBEY OF MEELICK, ON THE SHANNON.

About two years ago, having had frequent occasion to visit the military towers and stations on the upper Shannon, I have often leaned over the rail of the graceful *Lady Burgoyne* steamer as she wended her way between the low banks of that broad river, and gazed on the ancient memorials of the days that are passed, which at intervals present themselves to the tourist's view,—now in the shape of feudal residences, then in that of decayed palaces, but more frequently in the venerable garb of ecclesiastical ruins; and often have I regretted official duty prevented me from remaining to explore the ivy-covered cloisters and moss-grown walls of the Seven Churches where repose in peace the bones of the noble departed whose battles are fought and "whose swords are rust."

Of the many ruins on the banks of the Shannon there is none more interesting to the antiquary than the old abbey of Meelick, which lies about three miles from Eyrecourt, and four miles from the pretty and quiet town of Banagher.

At a point in the river near the abbey, marked by a rude obelisk, the counties of Clare, Tipperary, and Galway meet; and near to this spot is a lock on the canal, erected some years ago, under Sir John Burgoyne, for the purpose of clearing the rapids and enabling the steamers to pass the extensive ford which long interrupted the navigation of the river at this place. A strong and modern martello tower guarded this important pass, and would have prevented a hostile force from crossing the ford or injuring the lock gates, thereby destroying the canal; but was lately given over to the Shannon commissioners to be converted into a mill.

The abbey was founded by O'Madden, dynast of the adjacent country, for conventual friars, and in 1203 William de Burgo made it a garrison for his troops, and at the dissolution it was granted to Sir John King, from whom it passed to the Earl of Clanricarde. In the Cromwellian war it was occupied by a few determined men of the Irish army, who held it for some time against a superior force stationed in an island in the Shannon, from whose guns the abbey suffered severely, as is seen to this day; and here commences that portion of its history which is interesting to the practical builder, and which has induced me to trespass on the pages of your valuable journal. During a heavy cannonade from the island, the pier, which supported two adjacent arches, was carried away by a shot; but the arches, nevertheless, did not fall, and remained suspended by the mortar. The aperture is 21 feet in the clear, and the walls are about 3 feet thick; therefore, several tons of masonry have been sustained in the manner described over 200 years, and yet it shows no indication of falling. The mortar appeared to be of a coarse description, and such as is used at present in the country; but whether its extreme hardness and durability are caused through any peculiarity in its formation, or from its great age, cannot easily be ascertained.

C. L.

Athens Lighted with Gas.—A letter from Athens states that the gas-works of that city are nearly completed, and that in a few weeks the classic town will be lighted *à l'Anglais*.

THE CATHOLIC APOSTOLIC CHURCH, DUNCAN STREET, ISLINGTON.—*Mr. Truefitt, Architect.*

THE CATHOLIC APOSTOLIC CHURCH, DUNCAN-STREET, ISLINGTON.

This edifice has lately been almost rebuilt, from the designs of Mr. George Truefitt, architect; for, with the exception of the old floor, and some walling, the nave is entirely new, while transepts, vestries, and front lobbies, have been added. The chancel arch was taken down, and made much larger: a new arch has been added between chancel and sanctuary, and those to chapel and vestry are new. The nave roof is now upwards of 40 feet span, and for an open roof, without tie-beams, has a remarkably small quantity of timber in it. The architect has endeavoured to treat the whole building as simply as he could, the means at his disposal being very limited. The effect of the greater part of the new work may be seen by the engraving which we give this week. Messrs. Evans, builders, have carried out their work in a satisfactory manner. The stained glass, designed by the architect, has been executed by Messrs. Lavers and Barraud. The tiles are from the Poole Pottery Company. The carving is by Mr. T. Earp. Hartley's rough glass, in large sheets, fills the windows. The whole of the works were done in three months, for a sum much below what we should have estimated it at.

PARIS STREET ARCHITECTURE.

HOUSE IN THE PLACE VINTIMILLE.

Situated at the north-western extremity of Paris, the Place Vintimille has been chosen by artists as a place of retreat and of quiet. The centre is occupied by a pleasant square, displaying flowers and verdure, in the middle of which stands a marble statue of Napoleon I. The houses which surround the Place have a certain air of originality, and include the residences of artists, *ateliers*, and some houses of smaller extent.

The residence, erected from the design of M. Navarre, architect, and of which we give a view in our present number, is distinguished by the variety which the architect has introduced in a small space, the frontage being 24 feet. The object being revenue, the space upwards was utilised, and it may be well to notice the regulations which govern the height of houses in Paris. Buildings erected in the main streets and boulevards may have their cornice at a height equal to 57 feet 6 inches. At this height, marked by the line D A, fig. D, a projection, A B, of 1 foot 8 inches, is permitted, and all the construction must be enclosed within an angle of 45 degrees, B C, terminating where it meets the line from the middle of the building. If the construction be of brick, the projection of the cornice must be only 6 inches.

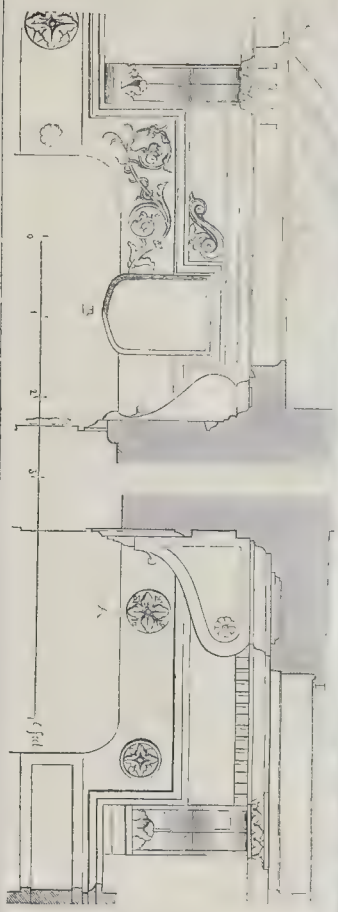
In streets of less size the height is regulated accordingly.

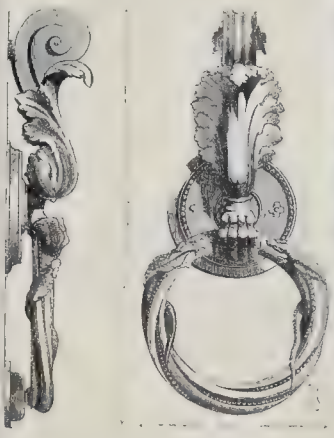
Fig. A represents the cornice which supports the balcony, and the window-frame of the *entresol*.

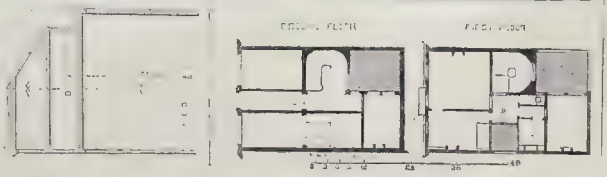
B shows the window-frame and head in the centre of the first-floor.

We add an engraving of the knocker in bronze, which displays delicacy in drawing and workmanship, whatever one might have to say as to fitness in design.

Fall of a Church.—The church of Genck, in the province of Limburg (Holland), which has just been rebuilt at a cost of 79,000fr., fell to the ground a few days ago with a tremendous crash. Several men, who were engaged in the completion of the works, were severely injured.







PARIS MODERN STREET-ARCHITECTURE. — *House in the "Place Vintimille."* — *M. Navarre, Architect.*

FOUNTAIN FOR HOLYROOD.

SIR,—Although I have long ceased to be one of those concerned in what the late Lord Cockburn called "the best mode of spoiling the beauty of Edinburgh," I still feel much interest in "mine own romantic town," and take leave to offer you another suggestion for a fountain for Holyrood, far preferable, in my humble opinion, to either that of Linlithgow, as proposed by Lord John Manners, or that of Versailles, as suggested by "A Subscriber," in your last impression. This fountain, a front view of which I have engraved, as a vignette for my little local work, "Summer Life on Land and Water," may be seen also in profile in Mr. Drummond's privately-printed folio, "Noble British Families."

WILLIAM WALLACE FYFE.

*** What we said to the previous propositions will apply to this. To reproduce such an incongruous piece of seventeenth-century weakness as the dial fountain at Dundas would be preposterous. If the nineteenth century wish to erect a fountain, the nineteenth century can design one.

SUBURBAN DWELLINGS AND CITY RAILWAY.

NOTHING daunted by delays and disappointments, Mr. Pearson has again come forward to advocate his favourite scheme of connecting the heart of the City of London by railway with the northern suburb. In furtherance of this desirable object, he has called on the Lord Mayor to request him to convene a meeting of those interested in the well-being of the metropolis, in order to consider the carrying out of a plan which will not only be the means of giving the greatly needed facilities of conveyance, but also be likely to lead to the erection of dwellings in healthy spots which will be suitable to the means of the large number of workmen who with their families are pent up in the narrow courts and alleys of London.

The Lord Mayor remarked that the crowding of the streets caused a serious loss of time to men of business and many accidents, and that the experience of the Mansion-house proved the great need there was for exertions to be made in providing a better class of dwellings for the industrious and poorer inhabitants of the City. In a case lately brought before him it appears that six families, numbering in all about fifty persons, were crammed into a six-roomed house. He would gladly call a city meeting, but thought that, for the convenience of men of business, it should be held at mid-day, and that another should be summoned at such an hour in the evening as would enable the working classes to attend and take part in proceedings in which they are interested.

After some further remarks by Mr. Dakin and other gentlemen, a committee was unanimously appointed, and we hope that, before long, the locomotive may not only pass along the valley of the Fleet, but also be the means of connecting the various lines of railway, and thus preventing a very great amount of inconvenience.

We trust that this movement will be vigorously supported, not only by the merchants of London, but also by the numerous body of workmen who so much need better homes. If these were built at short distances in the country, no doubt the reduced price of the land, and probably lower poor-rates, would enable the promoters of the movement to erect wholesome houses, to let in two or three rooms each, including railway ticket, for about the same amount that is charged for rent in places pent up and dangerous to health in the City. Any association which may be formed for the erection of such dwellings would do well to consider the advisability of adopting the principle to be acted upon by a similar association at Edinburgh, in selling the dwellings they erect, to workmen and others, and with the proceeds erecting others, repeating the process as frequently as possible.

The first meeting will be held at the London Tavern on Wednesday, 1st December, at one o'clock.

The Lord Mayor provides a room at the Mansion-house, and Mr. Pearson a staff of clerks for the committee.

"SPECIFICATIONS FOR PRACTICAL ARCHITECTURE."—Under this title a volume is in course of preparation, by Professor Donaldson, which will contain (re-arranged) all the practical matter in the work of the late Alfred Bartholomew, together with recent specifications for churches, barracks, lunatic asylums, schools, townhalls, workhouses, prisonhouses, bridges, stations, and hotels, erected by various architects.

HEIGHT OF WATER-TROUGHS FOR ANIMALS.

I REJOICE to observe the benevolent movement made in many towns for the erection of water-fountains and troughs, but I venture to make one remark concerning the height of the latter; for it must be borne in mind, that the natural mode of an animal's drinking is to hold his head down on a level with the stream, which may be lower, but always as low, as the ground; and anatomists will, I believe, second me in saying that the throat of a horse is so formed that this position is necessary, in order that the water should lave those parts of the throat which particularly need such refreshment.

It may be urged that it is more convenient for a horse in harness to have the water brought up to him, instead of his having to lower his head to the water; but such is not the case. When the bearing-rein (that painful relic of barbarism) is unloosed, a horse has no difficulty in putting his head to the ground—witness horses taking their bait as proof; and the heat and pressure of the collar in drawing render the thorough washing and cooling of the throat more than ever acceptable.

Besides the benefit conferred on horses and cattle by cutting down the cisterns to a reasonable proportion, they would be made available for the lesser animals, and the continual flow of the water would keep them well replenished. A. B. C.

ST. PAUL'S, STEPNEY.

ST. PAUL'S CHURCH, Stepney, was consecrated on Saturday, the 30th ult. by the Bishop of London. A crowded church bore witness to the interest taken in the work.

The excellent founder, Mr. William Cotton, has provided that all the sittings shall be free for the use of parishioners; and the expenses of the church will be met by an endowment of 50*l.* per annum especially set apart for that object, and by the weekly offertory.

Some colour is introduced in decorations executed by Mr. Castell, especially in the chancel. The east wall surrounding the large window (shortly to be filled with stained glass, for which a sum amounting to 500*l.* has already been contributed) is ornamented with stencilled figures. The pulpit, executed by Mr. Scale, is of Caen stone, in shape octagonal, with columns of Devonshire marble at the corners, between which are panels carved in alabaster. The font is of polished alabaster and serpentine, and was executed by Mr. Peter White.

The architect is Mr. M. Rhode Hawkins. Mr. Peter Duval was clerk of the works. The builders were Messrs. T. and T. Willson Piper. The materials used were Kentish rag, with Box ground stone dressings. The heating by water-pipes has been executed by Mr. Rosser. The style is the Geometrical.

A road is now being formed (70 feet wide) from the Commercial and East-India Dock roads to the Victoria-park, which will pass close to the west end of the church. A number of houses are about to be built on the estate.

The church is fitted with gas in a satisfactory manner by Messrs. Deville, of the Strand.

PROVINCIAL NEWS.

Colchester.—The use of steam-power is becoming general in this town. Within the last few years the proprietors of the flour-mills in the town and liberties have adopted it, in addition to wind and water power. A steam printing-press has also been erected by Mr. Benham, publisher. The rectory-houses of St. James's and All Saints' are being rebuilt. The latter will stand between High-street and Culver-street, on the site of the old house. It is to be of red brick, diapered with black headers. The windows will have obtusely-pointed heads, and consist of one light each. The house will have three gables next Culver-street, and two next High-street. The architect is Mr. Henry W. Hayward. The contractor for the brickwork is Mr. Lissimore, and for the timber-work, Mr. Seex, all of this town. The cost will be between 1,200*l.* and 1,300*l.*

Reading.—New assize courts for Berkshire are about to be commenced here. Plans having been approved by the county magistrates, tenders were invited for the work, and the committee have accepted the contract of Messrs. Myers, of London, builders. The designs and plans have been furnished by Mr. Clacy, of Reading, architect. It is proposed to have the building in connection with the central station for the Berks constabulary, and it will be situated in the Forbury, adjoining the ancient gateway of the Reading Abbey. The elevation will consist of a recessed centre, with projecting wings, faced with freestone, the lower order of the Roman Doric being surmounted with the Ionic. The contract of Messrs. Myers is for 12,229*l.*

Worplesdon (Surrey).—Extensive repairs and improvements are now in course of execution at the rectory-house, which had been allowed to fall into decay. The south wing has been pulled down and rebuilt; the north wing partially pulled down and enlarged. The roof is being stripped, repaired, and retiled. The architect is Mr. T. Goodchild, and the contractors are Messrs. J. Moon and Son, of Guildford.

Manchester.—The site of the new post-office has at length been settled by the authorities having determined upon adopting the Queen's Theatre site, bounded by Spring-gardens, York-street, Fountain-street, and Marble-street. This selection has been made, after purchasing another site, in deference to an agitation got up by the principal merchants and manufacturers, and, it is said, will give great satisfaction. An Act will be applied for next session to take the required plot of ground, where private arrangements cannot be effected, by assessing the value by a jury. It is now proposed to group all the Government offices together on this plot, including Post-office, Money-order Office, Inland Revenue-office, Stamp-office, and offices for the Commissioners of Assessed Taxes and the Income-tax, all of which are at present in buildings widely separated.

Leeds.—The Leeds Corporation accounts for the year ending on the 1st of September show an income for the twelve months of 57,816*l.* and an expenditure of 61,037*l.* The expenditure during the year on the new town-hall is put down at 32,663*l.* The whole building is to be called the "Town-hall," and the large room the "Victoria-hall." A "Crimean monument" is to be placed, if the necessary funds (250*l.*) are forthcoming, in the parish church. Messrs. Lea and Welsh, of Woodhouse-lane, have prepared a design. If the amount required be subscribed, it is proposed to erect a monument of white marble and Caen stone, with one or more full-length figures. The whole will be 12 feet high, and the names of all the natives of Leeds and the neighbourhood who fell in the Crimea will be engraved on the monument.

Miscellaneous.—Contracts have been issued for the construction of separate buildings for married soldiers and their wives at Sheffield and Dover barracks, also for the formation of a kitchen on the improved principle of military cooking at Cambridge barracks, Portsmouth, and the construction of reading-rooms and libraries. The War-office is about to carry out similar improvements for the comfort of the soldiers at all the principal barracks in the kingdom.

CHURCH-BUILDING NEWS.

Great Grimsby.—The parish church, after two centuries of neglect, has had various works done of late towards its complete restoration. A committee was formed in April, 1857, and Mr. Charles Ainslie, of London, architect, was consulted. He was of opinion that 1,300*l.* would cover the cost. This amount was raised, and the work of improvement was commenced in July, 1857. The arches were cleared of rubbish that they were built up and disfigured with: the old pews in the nave and aisles were torn up: the gallery at the south end of the nave was taken down; and the shattered remains of the old rood loft and chancel screen, which had been turned into a clock gallery, were removed. This portion accomplished, the proportions of the church were seen to advantage. The edifice has been replaced with seats uniform in character, giving altogether 800 sittings, nearly 400 free. A new bell-chamber and bell-gallery has been erected, the transepts nearly rebuilt, and re-roofed at their original pitch; and a relieving arch added to a weak part of the tower. A new vestry has been built, and the nave aisles, chancel, and transept have been repaired with encaustic tiles. Every window in the church has been enlarged, and the church has been warmed with Perkins's hot-water system, at a cost of about 180*l.* The works connected with the restorations have been executed by Messrs. Browne, Hayes, and Stanley, the contractors; and, including necessary extras, the cost will be about 2,000*l.* With the exception of about 290*l.* the amount has been raised.

Great Yarmouth.—At a meeting of the general committee of St. John's Church, Mr. Hakewell, the architect of the edifice, has announced that a relative of the late Miss Maurice desired to perpetuate her memory by adding another aisle to the church, the expense, 350*l.* to be borne by the

family. The additional space thus afforded will accommodate about eighty persons. The church is already far too small for the number of beachmen, fishermen, and sailors, who attend the services.

Blestoe (Beds.)—For the restoration of Blestoe Church, the following tenders have been opened:—Bryant and Barker, Bedford, 2,060*l.* 13s. 9d.; Webster, Whyberton, 2,017*l.*; Lawson and Joy, Bedford, 1,978*l.*; Freshwater, Bedford, 1,725*l.*; Reynolds, Bedford, 1,879*l.*; Bradshaw, Stamford, 1,714*l.*; Wilson, Grantham, 1,580*l.* The successful tender will not be announced till after the return of Lord St. John (the patron of the church), to Melbourne. Mr. Browning, of Stamford, is the architect.

Moreton-in-Marsh.—The parish church has now been re-opened. The building originally had a flat ceiling, Grecian columns, and Roman arches, with heavy and ill-contrived galleries—one of them quite across the east end and *over* the communion table, and the pews were irregular and inconvenient. The renovated structure will accommodate a greater number than the old, a large proportion free. As altered, the church gives an appearance totally different, both inside and out, from the old building. The Early Decorated period has been adopted by the architects as the most appropriate. The nave is 20 feet wide, and 56 feet long, and it is separated by piers and arches from the north and south aisles, which are respectively 13 feet and 9 feet wide. The roofs of nave and aisles are of simple construction. There are galleries in each aisle, and across the west end. The galleries were unavoidable, in order to procure the necessary accommodation; but they are kept clear of the piers and arches. The old belfry floor has been removed, and the ceiling of the next stage has been boarded, and divided into compartments, with moulded intersecting ribs. The pews are low, and the fittings are stained and varnished. The chancel is 20 feet long, and 16 feet wide, and is separated from the nave by a lofty arch, with splayed members, springing from carved stone corbels. The east window has four lights, with tracery. All the church windows have been filled with stained-glass, by Lavers, of London. The east window represents in the four lights, respectively—the "Birth," "Baptism," "Crucifixion," and "Resurrection" of our Saviour: the "Ascension," also, is shown in the upper part of the tracery, and other portions are occupied with emblems. One of the side windows of the chancel forms a memorial window. The contract for the works amounted to 863*l.* 10s. The total cost of the building will be about 1,000*l.*

Taunton.—The chief stone of the new church of St. John the Evangelist, Taunton, was laid on the 9th instant. The building will cost about 7,000*l.*, the whole of which will be defrayed by the Rev. F. J. Smith, whose son, a boy, laid the stone. The design of the edifice is by Mr. Scott, and the builder is Mr. H. Davis, of Taunton, the contractor for re-building St. Mary's Tower. The site of the intended structure is at the western part of Shuttern, the district of Tangier, Stepswater, and other portions of Bishop's Hull. The design of the building is Early English, and the material to be employed for the external walls, Westleigh stone, with Ham stone dressings; the interior walls being composed of Monkton ragstone. The spire will be of Ham Hill stone. The roof will be covered with plain tiles of Bridgewater manufacture. The interior consists of two aisles (north and south), and a nave, with transept on the north side, divided by arcades with alternate clustered and round columns, and carved capitals. In the treatment of the arches and columns, coloured material will be introduced. The open timber roofs, like the seats or benches, will be of stained deal; and the paths or gangways are to be inlaid with encaustic tiles. The tower is placed at the south-east end of the south aisle, opening into the chancel by a lofty arch. The dimensions, as nearly as possible, will be as follows:—The nave 66 feet in length, by 22 feet wide, by 44 feet high, from the floor to the under side of the ridge; the aisles 67 feet, by 14 feet 6 inches, by 36 feet in height; chancel 30 feet by 20 feet, by 40 feet high; and transept 15 feet by 15 feet. The tower will be 13 feet square, and its height, including spire and vane, 161 feet. It will seat about 600 persons.

Harborne.—The new church, dedicated to St. John the Baptist, at Harborne, has been consecrated by the Bishop of Lichfield. The edifice, which is of the Early Decorated style of architecture, is from the design of Mr. Yeoville Thomason, and was built by Mr. Wilson. It consists of nave, 80 feet by 25 feet; north and south aisles, of nearly equal length; chancel, 28 feet by 24, with vestry on the south side of chancel; and a bell-turret at the south-west angle of the nave, 80 feet in height. Externally, the elevations are worked chiefly of white brick, with dressing of Bath stone and moulded red brick. The west elevation consists of the principal entrance, having a recessed doorway, with two orders of columns, and enriched capitals. Above this is the west window, of five lights, filled in with geometric tracery, the whole surmounted by a gable cross. At the south-west angle is placed the turret, or spirelet, with staircase to the only gallery. The north and south elevations have windows of two lights, filled in with tracery. Internally, the nave is separated from the aisles by an arcade of five arches, worked in two orders, supported on octagonal piers with richly-moulded caps and bases. The chancel is separated from the nave by a lofty arch in two orders, on semi-octagon piers; as before, the whole of the piers and arches being worked in Bath stone. The roof is open-timbered. The aisles have roofs of a similar character. The chancel-roof is formed of a series of trussed principals. The whole of the woodwork is stained and varnished. The roof is a double one, the rafters that are observed below not being those upon which the slates are fixed, the latter being fastened to another series arranged above them; the object of this being, firstly, strength, and secondly, a better means of resisting the inclemency of the weather. The seats are all open, and without doors. The passages are paved with blue and red tiles. The east window is of stained glass, with medallions and borders, and was the gift, as well as the design and workmanship, of the Misses Simcox. The cost of the edifice is somewhat over 3,000*l.*

Liverpool.—The New Congregational Church at "The Quinta," the seat of Thomas Barnes, esq. has been opened for divine service. The church, which is of small size, stands at a short distance from the road, within the grounds of the Quinta, and has been erected, at the sole expense of Mr. Barnes, to supply a necessity much felt in the neighbourhood. The design is Flowing Middle Pointed, of the fourteenth century, and consists of nave, 56 feet by 24 feet; choir, 15 feet by 10 feet; vestry, at north-east of nave, 9 feet 6 inches by 8 feet; south porch, 9 feet by 5 feet 6 inches. At the south-west angle is an engaged turret, with ringing chamber below, recessed into an octagonal stone belfry and spire, the whole height being 60 feet. The roof is waggon-headed. The principal trusses are supported by arched ribs footing upon moulded stone corbels. The sittings, which accommodate 231 persons, are finished in pitch-pine, having cut and moulded stall ends of suitable design, the most prominent having carved poppy-heads and elbow bosses. An ornamental screen separates the choir from the nave. The aisle floors are laid with octagonal red, buff, and black tiles, in patterns. The ornamental locks, hinges, pulpit-lights, &c. have been supplied by Messrs. Hart and Son, London. The church is warmed by a circulation of hot air in fire-clay tube, on a simple and inexpensive system. The whole work has been executed by Messrs. Hugh Yates and Edward Hughes, of Liverpool, the contract being for the sum of 1,030*l.* The church has been erected from the designs and under the superintendence of Mr. Thomas D. Barry, of Liverpool, architect.

Seacombe.—The first stone of a new Wesleyan chapel was to be laid here last week. The site is an angle formed by Brighton-street, Seacombe, with a new street named Epworth, and the buildings consist of the chapel, with vestries and class-rooms, an infants' school, a mixed boys' and girls' school, playgrounds for each sex, and a teacher's residence. The style of architecture is English, ecclesiastical and domestic. The ornamentation is comparatively subdued, except in the chapel itself, which is of the Decorated period of Gothic, especially the south front, which, besides the moulded entrance, has a large six-light window, filled in its upper portion by cusped tracery of various forms, and is surmounted by a belfry and spirelet. The schools are planned in form of a T, whilst the chapel presents its ornamental elevations to the two streets and closes in the whole. A low stone boundary wall protects the external arrangement. The schools are on one level: that for infants is 43 feet by 18 feet, the mixed school, 65 feet by 22 feet. Both school-rooms are easily united for large meetings. The cost of the schools, which were opened in 1856, was 2,200*l.* The chapel presents an interior, 80 feet long by 40 feet wide, and about 48 feet high; the roof in one span, without pillars. Seat-room is provided on ground-floor and gallery for 700. The north end of the chapel forms a chancel, ornamentally enclosed, and raised one step above the general level of the floor. A circular window lights the orchestra. The roof is prepared to receive two sunlights, and these lights, together with the belfry, which is suitably constructed, will discharge the vitiated atmosphere, whilst fresh air will be admitted at the floor, from conduits prepared beneath the aisles. Vaults and chambers are constructed in the basement, to receive heating apparatus when the funds permit. The entire buildings are of stone, from Flaybrick hill, the ornamental portions being of white Stourton stone. The cost of the chapel and land, when completed, is expected to be 3,200*l.*: about half this sum remains to be raised. The architects of the entire buildings are Messrs. J. W. and J. Hay, of Liverpool, and the contractor is Mr. Pooley, of Peterborough.

Stockton.—The church here has been lately under restoration, superintended by Mr. T. C. Whitmore. It is of Norman foundation, and considerably defaced by alterations and additions. The whole of the walls have been bared and re-dressed, and the windows re-inserted throughout. The windows in the small transepts have been filled in with stained glass. The ceiling in each of the transepts has been taken down, and raised to the same pitch as the nave ceiling. The latter is of arched boarding grained in oak, and divided into compartments by ribs, with central droppers springing from carved oak principal corbels. The pews, which were very high, have been lowered, and afford increased accommodation. The gallery, which formerly disfigured the lower end of the church, has been removed, and a pointed arch restored, thus throwing open the tower to the nave. The roof of the chancel is recovered, the old pinnacles removed, and a new coping with gable caves, and a stone cross, replacing the old wooden one, added. Two new angle buttresses are also erected. The tracery has been laid bare of an original Norman circular-arched window with separate lights, which is to be restored. The exterior walls both of chancel and nave undergo a complete restoration. The interior walls of the tower have been dressed down to show the stone work. The works, which are being executed by Mr. W. Brown, of Bridgnorth, are getting near completion. The stone used for the repairs is a sandstone, obtained from Mr. Whitmore's estate on the west side of the Severn.

Newcastle-upon-Tyne.—The foundation-stone of a new church, to be erected on the conspicuous site in Blackett-street, where it joins Grey-street, has been laid, according to the *Gateshead Observer* (a prior structure, occupied by the Independents, having been removed). The style is to be Anglo-Italian. The architects are Messrs. Oliver and Lamb, and the builders Messrs. Scott and Reed.

——The Bishop of Durham has consecrated the cemetery of St. Andrew, near Brandling-place, and the cemetery of St. John, in Elswick-lane. The St. Andrew's buildings were designed by Mr. Pritchard, of Darlington, and erected by Messrs. Kyle. The contractors for those of St. John were Messrs. Scott and Reid and Mr. W. Foggin, the designer being Mr. J. Johnstone (architect of the Town-hall buildings).

SCHOOL-BUILDING NEWS.

Bath.—The Batheaston national schools, Bath, are to be built on a piece of ground facing the St. Catherine's-brook, and the Church-lane near the Vicarage, and will present one front towards the brook and Stambridge footpath and another towards Church-lane. The plan comprises a boys' school 45 feet 6 inches by 18 feet, girls' school 46 feet 2 inches by 18 feet, and infants' school 46 feet by 18 feet, with a class-room, 18 feet by 15 feet, attached to each, and a residence for a teacher. The entrance to the girls' and infants' schools will be from Church-lane, under a tower, or bell-turret, the lower part of which will form a porch to these schools. The tower is to be about 35 feet in height, and will be finished with a cornice moulding, and tiled spire surmounted by gilded vane. The upper part of the tower will form a belfry. The style chosen for the schools is that usually designated as the Tudor; and the whole of the buildings are to be constructed of the local walling-stone, with ashlar quoins and dressings, and are to be covered with the Staffordshire tiling. The boys' school will be lighted from each end by a large six-light square-headed and tracerried window, the two central lights rising considerably higher than those on either side. The girls' and infants' school will have square-headed windows, of four bays each, with

arched lights, without tracery, and each school will have, in addition, a large, four-light, traceried window; that to the girls' school being arched, and that to the infants' school square-headed. Provision will be made for ventilation by casements and gablet ventilators in the roofs. The interior of the buildings will be plastered, and ceiled under the rafters, the timbers of the roofs being stained and varnished. The two principal fronts are to be considerably varied in their outlines, arrangement, and details. The architects are Messrs. Davies and Tew, of Chesterfield. The estimated cost is about 1,750*l*. Mr. Melmoth Walters has given the site. The first stone has been laid.

Leeds.—The foundation-stone of new schools in connection with St. Luke's Church, Leeds, has been laid, by the Rev. Dr. Hook, vicar of Leeds. The new building is intended to supersede the present school-room, which is inadequate, and, being underneath the church, is not entitled to Government aid and inspection. The cost of the new schools will be about 1,400*l*. There still remains a considerable sum to be contributed. The site, which is adjacent to the church, has been presented by the Pious Use Trustees. The plans and drawings have been prepared by Messrs. Perkin and Backhouse, architects.

Willington Quay (*Newcastle-upon-Tyne*).—The ceremony of laying the foundation-stone of the Stephenson Memorial Schools took place on the 16th instant, the birth-day of Mr. Robert Stephenson. These schools are being erected upon the site lately occupied by the cottage so famed as the residence of George Stephenson, and the birth-place of Robert. The site contains a quarter of an acre, with a good frontage of 100 feet towards the river, and was the present of the corporation of Newcastle. The buildings, says the *Shields' Gazette*, consist of schoolrooms for boys, girls, and infants, with a house for a master and mistress attached, and a large library and reading-room for the use of the neighbourhood. The boys' school-room is 58 feet by 20 feet, and will accommodate about 150 boys, and is arranged to be used as a lecture-room when required. It is entered in the front by a carved stone doorway, surmounted by a panel in which is a representation in stone of a locomotive engine, and underneath, upon a scroll, "Robert Stephenson, born November 16th, 1803." The infants' school is about 36 feet by 18 feet, and will contain upwards of 100, and over it is the girls' school, of the same dimensions, lighted by a large traceried window, which on the outside is combined with a niche to contain a statue of George Stephenson, and forms one of the principal features in the front of the building. The roofs are covered with open timber, stained and varnished, and over the centre of the boys' school is an octagonal bell-turret, the sides being filled in with traceried panels, the top covered with ornamental lead-work, and supported in the inside upon four arched ribs resting in carved stone corbels. The buildings are designed in the Gothic style, with a great deal of moulded brick, in red and blue, with stone dressings. The contractors are Messrs. Gibson and Stewart; the carpenters' work being taken by Messrs. Waite and Howard. The total cost will exceed 2,000*l*. The plans have been approved by the Government, who assist the scheme by a grant. Mr. A. M. Dunn is the architect. The stone was laid by Mrs. Potter, the wife of a gentleman who employs a number of the parents of the children for whose behoof the schools are to be erected. Mrs. Potter made a little speech on the occasion, with rather "tremulous utterance."

AMERICAN AND CANADIAN NEWS.

Since 1830 nearly 27,000 miles of railroad have been formed in the United States, which have cost on an average about 35,000 dollars per mile, or 945,000,000 dollars.

St. Patrick's new church at Montreal will accommodate about 3,000 persons. It will be the next in size and importance to the Cathedral, which is capable of holding 8,000 people.

The Commissioners of Health at New York are about rebuilding the hospitals in that city, at a cost of 300,000 dollars. It is to be hoped they have proper plans.

The basement walls are being built of the People's College at Havana, Steuben Co., N.Y. The building will contain chambers for 200 students, each large enough to accommodate two persons; also sixteen lecture-rooms, and apartments for a president and professors, with the other usual arrangements. It is to be built at a cost of about 175,000 dollars.

A new theatre is being erected at Madison: it is said to be quickly progressing, and will be the best structure of the kind as yet erected in Wisconsin.

The new cathedral of Three Rivers, Canada, was consecrated on the 29th of September. The town-hall, bank, hotel, and some private buildings at Waterbury were destroyed by fire on the 8th ult. The loss is estimated at 25,000 dollars.

MUSEUM FOR BUILDING MATERIALS IN MELBOURNE.

Under this designation an edifice is about to be constructed on land adjoining the offices of the Public Works Department, for the purpose of exhibiting standard examples of workmanship and conducting various tests and experiments in connection with materials used in building. It is proposed to raise a structure containing two ante-rooms and a lofty hall, measuring 60 feet in length and 30 feet in breadth, inclosed in a fenced space of considerable size. Every portion of the erection—walls, roof, columns, plaster, decorations, and fencing—is to be rendered subservient to the primary object, viz. the exhibition and practical trial of building materials. Persons interested in building operations have been invited, by advertisement emanating from the Public Works Office, to contribute samples of "stone, bricks, timber, slate, tiles, lime, and similar articles, the produce of this or the neighbouring colonies;" and of this heterogeneous collection, duly marked and catalogued, will the building be composed. The outer walls of the Museum are to be divided into numerous panels, each panel being formed of a different description of material, and in similar fashion are to be arranged the decorations of the interior. No one post of the fence will, if it can be avoided, resemble its neighbour: the mortar will be of diverse kinds, and, in fact, throughout, the leading idea of practical experimentalising will be carried into effect.

A local paper says:—"Cases are not unfrequent at present in which the terms of a contract are misunderstood by the contractor, and at or near the termination of a job it is discovered that the term applied to a certain description of work by the architect has been interpreted by the contractor to mean some other and perhaps inferior kind. To prevent mistakes of this sort occurring, it is proposed to refer in contracts of importance to such and such a sample of work, as numbered at the Museum. In this way one fertile source of disputes and lawsuits will be removed."

The idea of constructing a building of this description originated with Mr. J. G. Knight, the president of the Victorian Institute of Architects, and was first brought prominently forward in his inaugural address, delivered at the opening meeting of the society in 1856. It was backed by a subsequent representation emanating from the Contractors' and Builders' Association.

"WHAT IS A VENTILATED ROOM," &c.

THE OUTLAY-PAID SYSTEM.

Sir,—As the "Younger Member" is scandalized at my "light" treatment of his question, I hope that of the broader one to which it appertains, now in your hands, will, should you deem it fitting a place, be grave enough for his taste.

He only read, it seems, "that portion" of my observations (about two-thirds in space) which referred directly to the question; and as only one-sixth of his rejoinder relates to it, and I certainly *do*, like the lay public, deem it peculiarly disgraceful to, and hence applicable "for an attack upon" his *soi-disant* "profession," he must not be surprised if the space it directly claims, from "small by degrees" grow "beautifully less." He finds ventilation to depend theoretically on five points, of which the outletting of foul air is only one. Well, let him build without preventing and rendering impossible this *one*—this which he deems not "worth a line either way,"—and I or "the doctors" will deal with the other four for him, *gratis*, in all his buildings, and he shall charge his commission on our outlay as on that of all other parties concerned.

Next, about A, B, and C's systems, new buildings have no business to require mending with anybody's system. If they do, they can have had no architect, or a sham one. And what that "*natural* system" may be which "the doctors suggest is hurtful to the body," I know not who can tell us, unless it be the Greek minister, who says the successful drawer of the prize in his lottery will *naturally* receive a commission of so-and-so on the outlay.

On this, which, by the space occupied, is plainly the more important and interesting question to our "Young Member," I must beg to refer him to your editorial remarks in the *Builder* for 1846, p. 61, where he will find that if I am ever so unfortunate as to have to go to law for my charges, I can at least recover them, which he *cannot*, the mode he has had (for the first time, I believe, in this country) the audacity to defend publicly having been most properly and distinctly condemned as *illegal*. Those same courts that have ruled for the "customs" of nearly all trades when those customs amounted even to pure and simple swindling—that have decided if you employ, for instance, a plumber, without previous contract, he can charge you for the same materials thrice over,—these courts have never proceeded the length of sanctioning this outrageous "custom" of the building-agency trade, now self-styled the "profession of architecture." Of course this is a merely moral, and no practical argument, while there are, as the "Young Member" only too truly repeats, whole classes of clients to whom, no less than to their creatures, the mode is the *most satisfactory*, and another *not agreeable*. He is quite right that "the length of time the system has been acted upon" (namely, ever since these nations have produced a reasonable building, or one that would bear looking in the face) "proves" *that* point; and to meet such a state of things, of course it is not enough for the abominable collusion and joint fraud on the public to be declared *illegal*, unless it were also *penal*.

Now for the questions about my modes of charging. The best I can frame for the present, you gave in the *Builder* for last year, p. 570; and, had only a single architect so far respected himself and his brethren as to give the questions raised the consideration that I believe the self-respect of *any other trade whatever* would have enforced, I should, for his sake, have treated the whole "profession," if not exactly as "brethren," at least with that respect I was brought up to yield all honest men, and which the "Young Member" claims for "gentlemen."

The "job" method is the next best; but on this he wants to know if I do not sometimes "get less profit." I get no profit at all (unless he is one of those super-subtle economists, who must have the profit on the dinner I "advance" to myself, or the sheet of paper I "advance" my client, reckoned); and I will thank him to learn from some dictionary the distinction between *wages* and *profit*, before he again treats an artist, *or any other labourer*, with the insolent insinuation that he is a *tradesman*, and makes profit. No conceivable functions are so utterly incompatible as those of trader and artist. They cannot coexist, be the trade ever so lawful and honourable; but still less if it be a fraudulent and utterly illegal one, as that of the outlay-paid building-agent, now known as an "architect." Next, he would know, how do I prove to my client that he has 10*l*. worth of my work? Precisely as a sculptor or painter proves to his client that such a stone or canvas contains 10*l*. worth. I prove it, if required, by saying "You know what you want, sir; and there are more artists at hand: *go and get it for as little as you can.*" This he thinks "a suspicious way." I would remind him that there is such a thing as being *below*, as well as "above" suspicion; that in our form of society there is, among what one of your cleverest correspondents once called the "seven lamps of making a living," one—the "lamp of humbug," that he described as a quasi-open cheating, on the strength of the victim's willingness rather to be cheated than say he is, or his knowledge that he *must* be cheated, whatever way he take to his goal.

The comparison to a supposed solicitor who should charge by a percentage on what he *recovers* his client, is exquisite! "*Lucus a non lucendo.*" A commission on what you bring a man in is fair, and why not one on what you spend for him? Income-pay, and therefore outlay-pay!!

Adieu. E. L. G.

P.S. And people are to read the *Builder*, of which every page since it started rings with lamentations over some new-found but simply necessary result of this idiocy,—to groan in every key at the thousand symptoms of one disease, and never touch the disease itself! Look at the very column on which our "Younger Member" finishes! (p. 778.) There is Mr. Scott, who has just discovered a contrast between thirteenth and nineteenth-century architects' drawings, that the former "seem" made with a view to a good *building*, the latter to a good *commission*. "*Seem?*"—and pray, Mr. Scott, do either of them seem anything but what they are? What on earth should "Younger Member" draw for but a good commission? and what should Villard

d'Honnecourt draw for but the "means of perfecting his actual works?" Before you can see "a school of architectural art having that express object," you must have men whose "express object"—whose breeches-pocket interest—it is; and then you need not trouble to "institute" such a school—it will institute itself.

The architect of Villard's time was like our ideal solicitor, paid a percentage on what he brought *in*, not what he laid *out*; not the means, but the effect—the "actual work." He was commonly a monk, or ecclesiastic, that is, a shareholder in the concern for which he was architect; he was situated nearly as Mr. Scott would have been if the first committee that employed him had had the wit and honesty to impose such conditions as these—"The architect whose design is adopted (and who will receive both the first, second, and all other 'premiums,' it being evident that, whoever merits the first is *a fortiori* entitled to any other that we have to spend, and that the money, being our constituents', and entrusted us expressly to sharpen designers' wits by inducing more than one to compete, and diminishing each one's facility to get chosen, we dare not employ any portion of it in counteracting that effect),—the architect employed, we say, to have the following portions of his pay advanced to him:—On the signing of contracts for the whole work, £ s. d. (the least on which he can possibly live till the next payment); on the whole being brought above ground, £ s. d. (the least possible, as above); on the whole being brought 10 feet above ground, £ s. d.; on the whole being covered in, £ s. d.; on its being opened for use, £ s. d.;—all these advances to be deducted from his final premium, which is to be * * * per cent. of all moneys collected by us in the church, from its opening till the first drop of rain shall penetrate therein, from which moment the architect's connection therewith will cease and determine."

Those are about the terms (translated into modern English) on which one would have had to build a cathedral in Villard d'Honnecourt's time. Now, will Mr. Scott deny that, if he had always had this kind of remuneration, the public would from the first have had better churches from him,—in other words, that he would have been a better architect?—better absolutely, though lower in relative rank among his contemporaries, many more of whom would have equalled or excelled him than now do so? I know perfectly that he is too honest to deny either of these assertions. Well, then, if the possible S produced by these suppositive "circumstances" (as poor Robert Owen would have said) would have been superior to the actual S, and yet the country would have had more architects excelling even that supposed S, than it now has excelling the actual S, it follows that the nation would have had many times more architectural ability at its command than it now has; and whoever, client or architect, by supporting an idiotic system, deprives the country of this, its natural share of good architecture, *defrauds* it.

E. L. G.

ZOOLOGICAL GARDENS AND BRITISH MUSEUM.

On looking in the other day we could not but greatly admire the care which is taken of both the grounds and animals at the Zoological Gardens in the Regent's-park. Those who have not been there lately will not only be pleased with the skill of the management, but also the munificence of the individuals who have brought together so many animals from all parts of the world. The lions here exhibited are noble specimens, and seem in excellent health. The roamers of the forest and plain, and other living things, mixed with so many beautiful features of landscape gardening, are an unwearying source of amusement and delight. Is it not possible, however, to do something in the way of purification of the atmosphere of the house in which the monkeys are kept? At the time of our visit it was not good for either man or monkey. With the recollection of the free and beautiful forms of nature which are assembled in these gardens, those who have occasion to visit the galleries at the British Museum will find the contrast very unpleasant. The giraffes look almost hairless, and stiff and stalk in attitude: the lion is a most indifferent and shabby example, worse than one we remember to have seen in Regent-street: the buffaloes and the shot-riddled walrus, seem in the first instance not to have been remarkable for their good style of preservation, and are now mildewed and ancient looking. It is important that in an institution of this character the most important examples should not be such as to excite the risible faculties of those without much knowledge, and the regret of those of more taste and information. We have rather unwillingly directed attention to some of the worst features, but in other parts the specimens need weeding out and replacing; and it is to be hoped that care will be taken in these renewals to give expression to the natural forms of the various creatures.

PILLARS IN PLAYHOUSES.

Sir,—By your perspective view of the Britannia Theatre, I see that there are, as usual, pillars in front of the boxes. Can you tell me, who am no architect, why these cannot be dispensed with? I go to the "play" with wife and family occasionally—perhaps comparatively often. We generally go to the Princess's Theatre, not only when we wish to see, or to see again, one of Mr. Kean's Shakspeare revivals, but on other occasions. For instance, if we saw only one pantomime, it would be there. We are induced to go, as a matter of preference generally (without reference now to the performance), by the circumstance that there are no pillars to interfere with the view of the stage. I think that this is a real advantage with regard to the comfort of the audience, and believe that many other persons think so too.

One of the Public.

METROPOLITAN BOARD OF WORKS.

SOUTH SIDE SEWER.—OFFICES.—NEW MAIN STREET.

At the last weekly meeting of the Board Mr. Bazalgette, the engineer, explained that the plan and specifications for the low level sewer on the south side of the Thames would not be ready before May next. It was resolved that the General Purposes Committee be instructed to consider the requirements of the Board and its offices, and to order the architect to prepare the necessary plans for erecting the building on the site of Berkeley-house; and that the committee report thereon and submit the plans to the Board at the earliest possible period. On the subject of the proposed new main thoroughfare from the east to the west of the metropolis, and in reply to a question by Mr. Wright, Mr. Bazalgette said that if the sewer was carried on in connection with this line of street, difficulties, to a certain extent, would be removed, as the construction of the two works together would make a great difference in regard to the purchase of property; and Mr. Marrable, the superintendent architect, stated that the net cost of making this line of street would be 626,908*l.*, but with the expense of paving, &c. added, the gross cost would be 771,000*l.* The cost of that part of the street required by the engineer—the net cost—would be 437,678*l.*, and the gross cost 550,873*l.* Mr. Wright then moved that the Main Drainage Committee confer with the Works Committee, and that they present immediately a joint report upon this subject. After a long discussion a division took place, when the numbers were:—For the motion, fifteen; against it, twelve; majority, three.

HOW SHALL I INVEST?

Having a small property at my disposal, I am anxious to invest it in such a way as to derive fair interest for my money, and at the same time to do some little towards advancing both the temporal and spiritual interests of my poorer brethren. To this end I have been for some time anxiously seeking information as to the best means of accomplishing my purpose. I have been in communication with the Labourers' Friend Society, and have the pamphlet published by the hon. secretary of the Society for Improvement of the Dwellings of the Labouring Classes, and other works. Still I am desirous of obtaining further information, and if any of your subscribers could kindly furnish me with suggestions as to the best means of employing the funds at my disposal so as best to carry out my intention, I think many persons besides myself would be glad to profit by the information. What rate of interest may be expected from capital invested in homes for the working classes, homes which should be healthy and comfortable, not miserable hovels into which a sportsman would scorn to put his dogs, but *homes* which may be in some degree worthy that hallowed name? The locality in which I reside is one of our densely peopled manufacturing towns, but one in which, I believe, at present, both labour and materials are cheap, and cottage houses are much wanted.

Clericus.

SANITARY CONDITIONS AND CONTAGION.

Sir,—It is fortunately too late in the day for medical men to get up any mystery as to what particular kinds of fever and disease may be favoured or not by bad sanitary conditions. A few years ago, Dr. Greenhow's sorry attempt might have been attended with infinite mischief. The object is now too transparent, and the pens of earnest sanitary reformers like yourself will be ever ready to expose the fallacy.

Dr. Greenhow appeals to medical experience to confirm his doctrine. The question lies within very narrow limits. Surely every medical man will admit that a child already sickly and debilitated is less likely to survive an attack of scarlet fever or small-pox than if it were in robust and vigorous health. Every medical man will also surely admit that bad sanitary conditions do produce this general low state of health, especially predisposing those who are living under such conditions to the attacks of whatever disease may happen to lurk in the locality. Admitting these facts, medical experience disperses Dr. Greenhow's doctrine to the four winds of heaven. Denying them would ignore the whole sanitary question.

I, like yourself, Sir, have struggled many years in the sanitary cause, and desire in the strongest terms to protest against Dr. Greenhow's mystifications, and at the same time to thank you as earnestly for exposing them. I am not a medical man, so I suppose I must be content to sign myself

"A Sanitary Amateur," of many Years' Hard Practice.

Correspondence.

THE CHELSEA VESTRY-HALL COMPETITION.

Sir,—Perhaps the discussion that ensued in the Chelsea Vestry upon the reception of the Third Report of the Committee of Works and General Purposes in the matter of the designs for their new vestry-hall, may be more instrumental in opening the eyes of the profession to the danger of putting implicit trust in fair promises, than fifty essays upon the theme of architectural competition in the abstract.

Fact is often stranger than fiction; and the fact of a rejected design containing all that is found wanting, and being deficient in all that is considered objectionable, in those that are selected for their superior merit, is enough to shake the confidence of the firmest believer in official invitation, and convince him how insubstantial is the phantom that periodically beckons the architectural pilgrim to a land of promise which in all probability he will never reach.

The discussion starts with the question, by one of the ablest practical men of the committee, why two particular designs 12 and 14, should be rejected, whilst two others "*in every way inferior*," were placed amongst the selected six. He then proceeds to propose that No. 1 should be rejected on account of great loss of room in the basement; inconvenient position of the surveyor's office, on the one-pair; inadequacy of the entrances; smallness of the committee-room, and disadvantage arising from a compo front, as involving a constant outlay. To the latter objection Mr. Tite, M.P. fully subscribed.

No. 3 seemed to give general satisfaction, one dissentient voice only being strenuously raised against it, for the purpose, as it would seem, of superseding it by No. 4, although a strong objection was raised to the latter on account of the disproportionate narrowness of the hall to its length, and the inadequate size of the committee-room, it being much smaller than that of No. 3. There was a good hall in No. 3, with separate entrances, and a passage leading to all the offices. There was also a committee room of more ample proportions than in any of the other chosen plans, and in addition to all this, "*a good elevation of honest brick and stone.*"

A merit in No. 4 was a more extended excavation of the basement.

The selection of No. 5 seems to have created general astonishment, even amongst themselves, the upper 21 feet of the elevation being properly designated as a "sham;" of itself, as another member observed, "sufficient to warrant its rejection," independently of the fact of the approach to the hall being by a descent of seven steps, followed by an ascent of fifteen.

For No. 7 is there nobody found to urge a word of commendation? Is there nobody found to say anything about it at all? Yes! Mr. Tite remarks that "he has nothing to say about it!"

The main objection to No. 15,* Mr. Tite remarked, was the want of separate entrances to the hall, by which the passage of the public to and fro was likely to interfere with the transaction of business in the other departments of the building.

And now having called attention to the six designs that were chosen, let us inquire why No. 12, with the motto, "Nothing too Much," was *not* included in the selected few. Mr. Tite urged upon the vestry the importance of considering plan rather than mere elevation, as the latter might, to a great extent, be modified to suit the former, and might be economised in point of ornament or material, to suit the means of the vestry without doing violence to the design proposed.

Upon plan, therefore, let us first proceed. If the various features alluded to in the foregoing sketch constitute the merits or demerits of the six chosen plans, and it can be proved that No. 12 possesses the one, and is deficient in the other, how is it that its claims have been superseded by plans open to as much stricture as commendation? Nay, by some whose title to distinction has not been proved at all?

The chief points to note, as observed by a vestryman, were the size of the hall, and principal committee-room. If size and proportion of hall were a merit in No. 3, so are they in No. 12; the hall there provided being second to it only in size, and similar to it in proportion, and with the extra advantage of a strangers' gallery. The feature, too, of separate entrances, so much approved in No. 3, is equally conspicuous in No. 12. As to the superior size of the principal committee-room, let the following relative table speak for itself:—

		Super. Contents.
No.	1. Excelsior	357
,,	3. Cadogan	1,380
,,	4. Utility and Economy	940
,,	5. A Monogram	336
,,	7. West Middlesex	590
,,	15. Qui invidet minor est	682
,,	12. Nothing too Much	1,046

Ample independent entrances into the hall are another feature, by which interference with the general business is entirely prevented. The surveyor's office is situate on the ground-floor, and the medical department and accountant's office are on the upper floor. The whole of the basement is excavated, and furnishes accommodation for the hall-keeper—a strong room, independently of the muniment-room on the ground-floor—the remainder being set apart for stores, &c. It seems, then, that the superiority of the first premiated design, over that of No. 12, is in the increased dimensions of the principal committee-room, as all the requirements appear to be provided that are commended by the vestry in the successful plan; but No. 12 has the extra advantage of the whole of the basement being shown excavated, and the want of which has

* In our report last week, No. 14 was accidentally placed in the list instead of No. 15.—Ed.

been commented upon in Nos. 3 and 4. So much for plan—already urged as being even of more consequence than elevation. And now for elevation. Style can surely be no objection as liberty in this respect is expressly allowed, and the power of altering elevation, to suit the requirements of the vestry, applies as much to one competitor as to another. As regards materials, all contend that brick and stone ought to be employed in preference to compo.

The objection urged by Mr. Tite to the Gothic style, as involving small windows, and consequent want of light and air, may be best combatted by the fact, that the glazed portion of the windows of No. 12, would be found to contain as large a surface as those of so-called classical design.

Should the open-timbered roof to the great hall of this design have been considered an objection, is not the *use* of the space contained between ceiling and rafters, instead of its *waste*,—a good argument for its adoption in a building where a limited expenditure renders economy of space a desideratum? And why should not the constructive timbers be *seen* as well as *imagined*, behind their apparently unsupported screen of lath and plaster, with its embellishments of wreaths, scrolls, and mouldings? Surely honesty in a roof is as desirable as honesty in a front. And should any doubt have arisen as to the acoustical properties of such roof, the evidence afforded, under parallel circumstances, in a church, must dispel any reasonable fear upon the point.

There is little doubt that but few of the designs submitted could be carried out for the sum stipulated, such sum, in point of fact, being inadequate to the erection of a building equal to the requirements contained in the instructions to architects, and of the requisite importance for so large a parish as that of Chelsea. We know you cannot be expected to find a place for the arguments of every rejected competitor, but, on the ground that our plan has been most unfairly treated,—proved by the fact that it meets all the requirements pointed out by the vestrymen as wanting in several of the selected plans, and that two monstrous designs, asserted (without contradiction) by the most practical man on the committee to be notoriously inferior to ours, are in the selected list,—on this ground, we say, we do hope you will afford space for this statement from

THE AUTHORS OF NUMBER TWELVE.

Books Received.

Manual of Sepulchral Memorials. By the Rev. EDWARD TROLLOPE, F.S.A. London: Piper, Stephenson, and Spence.

Monumental Memorials: being Designs for Headstones and Mural Monuments. By J. W. HALLAM, Architect. Part II. London: Masters.

MR. TROLLOPE'S volume has been compiled with the view of aiding mourners in choosing designs for sepulchral memorials and epitaphs, more suitable than the majority of those to be found in modern churches. The designs, nineteen in number, are for the most part studies for ancient slabs and incised stones, and are suggestive rather than sufficient. The volume contains a large number of Scripture sentences, selected as appropriate for epitaphs, together with some poetical inscriptions culled from the works of Milton, Cowper, James Montgomery, Gerald Griffin, Mrs. Hemans, Keble, and others.

Mr. Hallam's more vigorous drawings set forth eighteen designs for headstones and wooden upright memorials, and five for mural monuments, of simple and inexpensive character. His wooden memorials are very good: there is a squareness of outline in some of the other designs, No. 28 for example, a panelled cross, which is less pleasing. No. 31 is a suggestion for the advantage of those who, without means and skill, would yet erect some tribute of love and remembrance over the body of a departed friend. By crossed poles planted in the ground, and carrying longitudinal poles, the outline of a coped tomb is formed, over which flowers and creepers may be trained. Mr. Hallam has avoided in his second number the union of iron and stone, suggested in his first, and to which we pointed out objections.

Things not generally Known familiarly explained: Curiosities of Science; a Book for Old and Young. By JOHN TIMBS, F.S.A. London: Kent and Co. Fleet-street. 1858.

THE author of thirty volumes of the "Arcana of Science," and "Year-books of Facts," has here collected many of those curiosities of science with which his extensive reading must have made him familiar. The present volume is a new one of the series of "Things not generally known familiarly explained," a series well suited both to old and young, and we cordially recommend it. A cursory perusal of the curiosities of science in the present volume, happens to lead to a suggestion which may here be worth noting. On page 49, it is incidentally mentioned that Boyle "had seen a glass-blower blow bubbles of glass which burst and displayed the varying colours of the rainbow, which were exceedingly vivid." The writer is thus reminded of some little experiments of his own a few years ago, on the production of beautiful effects by cheap and simple means. He had been seeing an exhibition of specimens of a new invention, by a Miss Wallace, now deceased, consisting of gilded and other ornamental forms, enclosed in glass, and formed into picture frames, and other house decorations. The effect was very good, and, indeed, in some cases quite brilliant. The idea struck him that, if it were possible to blow glass so thin as to yield colours, such as those of the soap bubble, and lay it over the back of thin brass plates, perforated with small round holes, the effect in front would be like precious stones, of great variety and brilliancy; and this it was thought could readily be done by heating the plates, laying on the iridescent glass immediately when blown, and perhaps only gradually allowing the whole to cool. Not having glass-blowing apparatus nor perforated plates at hand, some experiments were tried with perforated cards and iridescent varnish, laid first on the surface of water. The effect even of these materials was excellent, and, though frail, was all that he anticipated. The writer suggested the experiment to Miss Wallace's manager, but with what result he never heard. He now resuggests it, *pro bono publico*, and hopes to see it bear good fruit, even though (as in not a few other instances), he may not then dare, without exciting sneers, to claim the suggestion as having been first made public in the *Builder*.

Sir Gardner Wilkinson on Colour and Taste.

WE have to notice the publication of a work by Sir J. Gardner Wilkinson (Murray), titled, "On Colour, and on the Necessity for a general Diffusion of Taste among all Classes; with Remarks on laying out Dressed or Geometrical Gardens." The second moiety of it—that on the necessity of a diffusion of taste among all classes—is an elaboration of a series of articles published in our own pages in 1851. The work is one of considerable interest and value. We shall find an early opportunity to speak of it at greater length.

Miscellanea.

HER MAJESTY'S DOCKYARDS.—It is understood, on good authority, that the officers, clerks, and men, of 65 years and upwards, are to retire on the 31st of March next, the end of the financial year, although the order or circular has not yet been officially promulgated, and the provisions are being made in the Navy Estimates, now in course of preparation, for carrying out these arrangements.

PIGMENTS.—In producing a substitute for oil to be used with, and in the preparation of, pigments, Messrs. Roberts and Dale, Manchester, use products from gas or other tar, mineral oil for instance, and resin, or such other substances as are analogous thereto: these they combine together, and pigments may be mixed therewith, according to the colour of paint required. In preparing pigments, they grind them with a portion of the above compound.

A TESTIMONIAL.—The plasterers and other trades of the firm of Messrs. W. Cubitt and Co. met at the Queen's Head, Acton-street, Gray's-Inn-road, on Wednesday evening, in last week, to present a token of their regard to Mr. W. Mead, late foreman in the plasterers' department. Mr. Isaac Sainsbury, senr., who presided, rose, as did all present, and, in the name of the workmen, presented to the recipient a handsome purse, bearing a suitable inscription, expressive of the esteem in which he was held, and made some appropriate observations. Mr. Mead assured the donors that he should ever preserve their testimonial as a memento of their good feelings towards him; and after several speeches the meeting separated.

IMPORTANT MOVEMENT AT FALMOUTH.—We are glad to see that our Falmouth friends have ceased to call on Jupiter, says the *Cornish Telegraph*, and are now about to put their shoulder to the wheel. Notice has been publicly given of the intention to apply to Parliament for making docks at Falmouth. The estimated expense of the entire work is under 300,000*l.* which embraces a tidal harbour of 12¼ acres, a half-tide basin or floating dock of 8 acres, and a large floating dock of 23 acres, with all necessary conveniences, such as dry dock slips, &c. &c. The position of the works will be at, and to the west of, Bar Point, inner harbour, extending to the Fish Strand. The dock entrances will be 80 feet wide, or nearly double the size of those at Southampton. The shares will be 25*l.* each, deposit 50s. per share. A public meeting has been held at the Polytechnic-hall, to receive the report of the committee, and to take the necessary steps for carrying out these important works.

TESTIMONIAL TO MR. E. CHEESEMAN, FOREMAN OF CHATHAM DOCKYARD.—Mr. Cheeseman having just retired from Chatham Dockyard, after a period of service extending over half a century, has been presented by the workmen with a handsome timepiece, and also with a massive silver goblet from the officers, as a token of the high esteem in which he is held by all classes employed in Chatham Dockyard.

SANITARY INTERFERENCE IN SCARLET FEVER.—At Marlborough-street the owner of No. 10, Grosvenor-mews was cited before Mr. Bingham, upon a summons which set forth that "there existed upon certain premises, situated at No. 10, Grosvenor-mews (of which he was the owner), the following nuisance, that is to say, that certain apartments there were in a dirty state, and infested with scarlet fever," and therefore dangerous to the public health. Dr. R. Drewit, of Mayfair, physician, and medical officer of health for the district of St. George's, Hanover-square, deposed that, acting upon information he received, he found the place in a very dirty state. This was on the 21st ult. when two children had died in the house from scarlet fever, and one in a room particular adverted to, and occupied by a large family. The house contained fifty or sixty persons. The defendant, as superior landlord, was told that the rooms required thoroughly cleansing, purifying, and whitewashing, but peremptorily refused to attend to the suggestion. Disease had broken out in the neighbourhood, and it was indispensable that cleanliness should be insisted on. Mr. Sheldon said the dirtiness alluded to was more in the habits of the inmates than the place itself. Mr. Bingham said that the family should be got rid of, and the premises then put in a clean and habitable condition. He adjourned the summons for a fortnight, the necessary work to be performed in the interim

FARM ARRANGEMENTS.—In the West Midlands a model farm has been constructed by Mr. Joseph Beach, of the Hattons, near Wolverhampton. Mr. Beach has received the prize offered by the Staffordshire Agricultural Society in this department. The farm lies near the eastern boundary of the southern division of the county, and about six miles N.N.W. of Wolverhampton, and eleven miles S.W. of Stafford. The Liverpool and Chester Junction Canal runs through the farm; also a good high road, on each side of which the fields are conveniently arranged, and of a proper size and shape for the farm. Mr. Beach, in his description of his farm, says:—"All the hay is steamed for the horses, which are in the stall ten months in the year. During the summer, vetches and clover are brought to them. The turnips are cut for the feeding sheep: they also have steamed chaff, with Indian corn or peas and oilcake. The troughs are moved twice each day. Of permanent improvement, I have stocked up most of the old hedges on the farm, and planted new ones; have built a steaming and chaff-cutting house, which, together with steam-engine, cost upwards of 500*l.* Many other improvements I have also made. The entire expense of all has been paid by myself. The farm I hold on a yearly tenure."

COVERING BACK YARDS, UNDER BUILDING ACT.—The district surveyor concerned in the case we reported last week wrote to us as follows, too late for appearance in that number:—"I think it may be desirable for you to be informed as to the argument on the case, which involves a most important question, and must be again considered when any new Act is introduced. The 7 and 8 Vict. required an open space above the ground-floor, and did not require that the space should belong to the house: the present Act says that the space shall be at the rear or on the side of the dwelling house, and shall belong exclusively thereto. The argument used by the builder was, that the shop carried out on the ground-story was 'an attached building, not exceeding the height of the ground-story,' and not part of the dwelling house; that all the dwelling-rooms, that is, bed-rooms, were lighted and ventilated from an area of 100 feet; that as all the separations between the rooms can be removed, the whole of the rooms can be lighted and ventilated from the street, although they are not. The want of a thorough ventilation through the basement story is, no doubt, a great evil; but the impediment to trade, which an area of 100 feet left open on the ground story would occasion, must make every architect thankful that the clause does not necessarily bear a construction which materially differs from that of the 7 and 8 Vict. and that district surveyors cannot be called to account for allowing the whole ground story to be covered with the building.

JOSEPH JENNINGS."

Society of Antiquaries.—This society has moved into the rooms at Somerset-house lately occupied by the Royal Society. The first meeting of the present session was held on Thursday, the 18th, when the president, Lord Stanhope, gave a history of the negotiations which had resulted in the change. The rest of the evening was occupied by an account, by Mr. Reeve, of the recent explorations at Rome; illustrations of some of which have been given in our pages. The remains of a basilica on the Viâ Latina, opened some time ago, were described.

A Sanitary Query.—Sir: Pardon the liberty I take in trespassing on your valuable space, but I wish to know if there is any law to prevent landlords' agents from emptying cesspools into a hole dug in your garden, in close proximity to the pump which supplies you with water. Such is the practice followed out (even during the daytime) on the premises which I occupy. If such scenes are allowed, I am at a loss to know of what use are all our sanitary improvements for the preservation of the public health.—A. M.—*New Peckham.*

Laying Stone of Marylebone Workhouse Schools.—The foundation stone of industrial training schools for the pauper children of St. Marylebone, at Southall, was laid on Thursday in last week. The schools are intended to accommodate between 600 and 700 children. Mr. Scace, the board's surveyor, is the architect, and Mr. W. T. Purkiss, of Kentish-town, the builder. The building has been progressing for the last three weeks.

Accidents.—The wall of a timber-yard, in London-road and Stafford-street, Liverpool, has suddenly given way, killing a boy and injuring two women and another boy. Excessive pressure of timber against the wall is believed to have been the cause.——At Blaenafou, according to the *Hereford Times*, some green arches connected with new premises for a public-house, near the railway station, were being prematurely struck, when the three men employed in doing so were buried in the ruins of the arches, which fell while the centres were being removed. Two were killed, and the third severely injured.

Monuments, &c.—The foundation stone of the Ellesmere monument, at Worsley, of which we lately gave an engraved view, was laid on the 17th inst.——The Anglesea column, erected to the late Marquis of Anglesea, who distinguished himself at Waterloo, is to be surmounted by a full-length statue of the marquis, for which a commission has been given to Mr. Noble, the sculptor. The column is erected close to the Britannia Tubular-bridge. ——The statue of Dr. Isaac Barrow, a companion statue to those of Lord Bacon and Sir Isaac Newton, has been erected in the ante-hall of the chapel of Trinity College, Cambridge. The Marquis of Lansdowne presented the statue, though he did not suggest the individual to be represented. The work was executed by Mr. Noble. Like the statue of Lord Bacon, it is in a sitting posture, and is executed in the finest Carrara marble. Dr. Barrow is represented with a pair of compasses in one hand, and a volume of sermons in the other.

The Urban Club at St. John's Gate.—Some of our readers will like to know that at the old gate of St. John's, Clerkenwell—a place of many interesting associations—a literary society has been formed by men connected with arts and literature, with a view to the conversational discussions of subjects rendered familiar to them by their pursuits. The old hall in which the club meets is that in which the *Gentleman's Magazine* was printed, and whence Sylvanus Urban for many years issued this the oldest of our periodical publications. In consideration of this, the club has been called the "Urban Club." At a recent meeting, Mr. Heraud, Mr. Stirling Coyne, Mr. Blanchard, Mr. Henry Marston, and a number of other workers in the field of literature, assembled. In the course of the evening Mr. Heraud remarked that the chief interest of literature does not lie in the popularity which it might evoke—not in the echoes of applause which might flatter a man's empty vanity, here and there—but in the discipline which it gave to the mind of the literary man himself. It was a maxim of Plato, that "Euclid" was not intended for shipwrights, but it was quite clear that shipwrights would derive benefit from "Euclid." It was quite clear that, if the ship's carpenter had learned his demonstrations, he might accept the results, and with much benefit apply them to his craft. But the highest end of mathematics was not merely their application to mechanical arts or mere material good in the world, but it was the moral act upon the mind of the scholar himself.

New Fine-Art Society.—We have been informed at different times of the progress made in the formation of a new society for the encouragement of the Fine Arts, without, however, any real enlightenment on the subject. We prefer, therefore, to learn its real objects and plan before making any other announcement.

Remains at Dunwich, Yeoxford.—There are a gateway and small entrance from the public road to an old ruin here (monastery of Grey Friars; date, according to inscription, 1224), worth notice. The mouldings are beautifully set out and cut; not a "cripple" to be seen after 600 years: some of the stones in the moulded jamb are not more than 2½ inches thick. The stones in the Gothic head are larger and less decayed than the straight jambs. The proprietor deserves credit for using means to preserve the ruins. Dunwich (Suffolk) is still a borough (disfranchised by the Reform Bill), and was at one time an important place; comprised fifty churches within its jurisdiction; now only has the wreck of one, within fifty yards of the cliff by the sea-beach. The sea has washed it nearly out of existence. Within the last two years the sea has carried off acres of the beach. There is a fine old ruin within about four miles, called Leiston Abbey: shame to say, it is made convenient for farm offices, even to fowl-house and pig-sty. I am but a working mechanic, and beg your indulgence.—J. C.

Grand Trunk Railway of Canada.—Messrs. Peto, Brassey, and Betts, the contractors for the Victoria Bridge at Montreal, belonging to this company, have progressed during the past summer at a rate that gives hope they may be able to open it for traffic in October, 1859, instead of on the 1st of January, 1860, in accordance with the terms of their last contract. It is estimated that if these two or three months can be gained they will probably make a difference in the receipts of the company for the second half-year of 1859 of from 70,000*l.* to 80,000*l.* The number of hands at the work on 1st October was 3,281, apportioned as follows:—Fitters and smiths, 153; riveters and platers, 121; carpenters, 280; masons and stonecutters, 326; painters, 19; labourers, 1,331; raftsmen, 49; boys, 75; crews of steamers and barges, 450; men employed at the Canada works, Birkenhead, in the construction of tubes, 477. There were also employed on the bridge 142 horses. The bridge consists of twenty-three spans of 242 feet each, and one in the centre of the river of 330 feet. The spans are approached on each side of the river by a causeway, each terminating in an abutment of solid masonry 240 feet long and 90 feet wide. The causeway from the north banks is 1,400 feet long, that from the south bank is 700 feet. The total length of the bridge is two English miles, less 150 feet.

The Remigius Window for Lincoln Cathedral.—A memorial widow has been substituted for one of plain glass at the west end of Lincoln Cathedral. It was presented by the Right Hon. C. T. D'Eyncourt, of Bayon's Manor, to record the foundation of the church by Remigius, first bishop of Lincoln, at the close of the eleventh century. The form of window, as described by the *Lincoln Chronicle*, is a cinque-foil, and is central at the apex of the interior arch of the roof. Remigius erected the first cathedral, whereof the chief remaining portion is comprised in the west front, in the centre of which, and above what is so attributed to Remigius, is the window now appropriated to his memory. The curious leaden plate, mentioned and depicted by Dugdale in his "Baronage," and now preserved in the cathedral library, was discovered in a tomb near the west door in 1670. The Latin inscription, translated, is as follows: "Here lyeth William, son of Walter de Eyncourt, cousin of Remigius, Bishop of Lincoln, who built this church. The aforesaid William was of royal descent, and while receiving his education in the court of King William, son of the great King William who conquered England, died on the 3rd of the kalends of November." When Mr. D'Eyncourt proposed to follow the example of Sir Charles Anderson, Mr. Fytche, Mr. Apthorp, and others, who have recently presented memorial windows to this cathedral, the recorded consanguinity of Remigius and the D'Eyncourt family naturally suggested to him the propriety of dedicating this conspicuous window to the illustrious prelate Remigius. The work has been executed by Mr. Crace. The figure of the bishop, in his pontifical garments, occupies the centre of the window. Round the figure is the inscription:—"In memoriam Remigii Fundatoris, S.S. Carolus de Eyncourt, de Bayons, P.C. Anno Domini MDCCCLVIII." [S.S. and P.C. are to be rendered thus: "Suo sumptu, ponendum curavit."]

Cambridge Architectural Society.—The second general meeting of this society was held November 11, the Rev. W. J. Beamont in the chair, when Mr. Maples, of Clare College, read a paper on the parish church at Fulbourn, Cambridgeshire, illustrated by rubbings of all the brasses which still exist there.

The Profits of the London Graveyards.—It has been stated that, exclusive of the seventy parishes within the City boundary, forty-seven other parishes of the diocese of London have suffered loss by the prevention of intramural interments. St. Giles-in-the-Fields has suffered a loss of 700*l.* per annum, and others, in various proportions, from 350*l.* downwards; and supposing, as it has been stated to have been the case, that the expense of working, let us say, St. Giles-in-the-Fields, amounted to 300*l.* a-year, and this independent of the cost of ground, it will be seen that a sum of money has been paid for interments which ought, even in a money point of view, to be sufficient to prevent desecration and removal of remains.

Londoner.

Proposed Excavations at Wroxeter.—A subscription has been entered into by the Shropshire and North Wales Antiquarian Society for undertaking systematic excavations on the site of the ancient Roman city of Uriconium, at Wroxeter, near Shrewsbury. The Duke of Cleveland, as lord of the soil, has given his permission to excavate, and a committee for carrying out this object has been formed. Uriconium was one of the oldest and most important of the Roman towns in Britain. The walls of the Roman city may be traced by the continuous mound which covers the foundations round a circuit of about three miles, including an area of about 1,100 acres, in which no excavations of any importance have been made.

Open Spaces and the Building Act.—In reference to a recent decision, which seems to have been founded on the assumption that the "dwelling-house" commenced on the first floor, I do not find there was any inquiry as to whether the basement was used for domestic purposes, if a servant slept there, &c. This, I think, is of some little importance as to ventilation, especially in cases where the front area is entirely closed in with rough plate glass—a common practice now.

Q.

The Preston Sewerage.—An embarrassing difficulty, says the *Preston Guardian*, has arisen between the town council and Mr. Henry Pratt, one of the contractors for the construction of main sewers. Mr. Pratt, it appears, has held several contracts, two of which have turned out very disadvantageous to him. In the Lodge-street main (Marsh-lane) he found great difficulties, owing to the existence of a quicksand. The result of the operations there was serious injury to adjoining property, to the owners of which he will have to pay a large sum by way of compensation. He met with no better fate in Wharf-street. No borings were taken, and it was expected that the nature of the ground would not be such as to offer any impediment to the progress of the work. The amount of the contract for this length of sewer was 1,000*l.* Mr. Pratt has, however, met with such obstacles from quicksand that he finds it impossible to proceed, unless at an enormous loss, and he has therefore thrown up the contract. He states that he has already lost 470*l.* and he has declined to proceed further with the work, which is scarcely one-third finished. The Sewerage Committee met, and gave him forty-eight hours' notice, according to the terms of his contract, to go on with it. He declined, and another meeting of the committee took place. The result is, that he will forfeit the amount due to him on account of the work done,—namely, about 90*l.*; and the council will have to re-let the job. Mr. Pratt's sureties, two gentlemen in Halifax, will be liable for any loss which may accrue, to the extent of their bond. His contract in Lodge-street is not quite finished. Well, a bond is a bond, according to that first-rate authority, the late Mr. Shylock.

The Memorial Church at Constantinople.

Sir,—My notice has been called to some observations in your paper upon the omission of Mr. Burges's name in the inscription upon the foundation-stone of the Memorial Church at Constantinople. In justice to our admirable architect, I beg to assure you that the omission was purely accidental, arising out of the speed with which arrangements had to be made to enable Lord Stratford de Redcliffe to lay the first stone. We trust that the needful addition may still be made on the plate itself. Mr. Burges enjoys, as he deserves, our highest confidence and respect.

A Member of the Committee.

THE LEICESTERSHIRE ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—The members of this society residing in the neighbourhood of Melton, having formed themselves into the "Melton section," and made arrangements for a series of public meetings, at which papers having a local interest should be read by members, opened their proceedings on Monday last, when Mr. T. North, of Leicester, read his first paper upon "The Mowbrays, Lords of Melton." The meeting was held in the News-room, at the Corn Exchange.

OXFORD ARCHITECTURAL SOCIETY. — At a meeting held on November 17th, Mr. J. H. Parker in the chair, a paper was read by Mr. E. G. Bruton, architect, "On the Planning and Arrangement of Mortuary Chapels and Cemeteries." The paper, after glancing at the state of the law upon the subject, and sketching the working thereon, described the results as instanced in the failure to erect chapels at Banbury and elsewhere. The manner of grouping the chapels, with tower and archways, to form one building, as at Worcester, Gloucester, and Paddington, was considered; and the writer suggested how,—if grouping the chapels was considered desirable and the number of instances in which it was attempted, showed their isolation was not thought satisfactory, — some method more to be preferred than the formal symmetrical one used in these instances might be adopted. The Bede House Chapel and Hall at Higham Ferrers were cited as an ancient instance of the junction of a secular to a consecrated building. A lich gate or house, a vesting-room, and a chamber for the reception of a corpse awaiting burial, were considered a necessary portion of the buildings to be provided for a cemetery; the latter because the removal of a corpse from the crowded dwellings of the poor might prevent the spread of a contagious disease.

GAS.—The Great Central Gas Consumers' Company, at their last half-yearly meeting, had the announcement of a dividend of 5 per cent. for the half-year made them by their directors.——At a meeting of the Gas Company for Crawley, on the 25th ult. their solicitor attended to arrange the legal forms prior to inviting five contractors to forward their tenders. The company's surveyor produced the plans and specifications of the works, the site of which will be at the Clappers, at the north end of the village. 1,000*l.* have been raised on 10*l.* shares.——In the spring of this year a new gas company, called the Penistone, Thurlstone, and Oxspring Gas-light Company, commenced operations in Penistone, with a view to light that town with gas. It is expected that, at Christmas, the company will be in a position to supply the town. The gas-works are near the station, on land belonging to the Sheffield Infirmary. The gasholder is in course of erection, and when completed will hold 14,000 feet of gas. The price is to be 5*s.* per 1,000.

ORNAMENTING METALS.—Messrs. Doley, Biggin, and Worrall, Smethwick, have provisionally enrolled some improvements in ornamenting metals. They first draw upon glass the pattern or design to be produced upon the metallic surface, and draw the said pattern or design upon a sheet of glass with a composition of beeswax, tallow, and lamp-black. They then etch or sink the uncovered parts of the glass with hydrofluoric acid; afterwards they stop the composition from off the glass; and coated the said glass in plaster of Paris on a slate or tile. They next fill up the sunken parts in the glass with a composition of beeswax, shellac, tar, Spanish, and gas-black, and take an impression from the glass plate, prepared as last described, upon unsized impression being taken on unsized paper. They damp the paper, and place it face downwards upon the metallic surface to be ornamented. They press the paper upon the article with an indiarubber roller, and afterwards wash off the paper with warm water and soap. They place the metal plate, prepared as described, in a cistern or tank filled with dilute acid, and afterwards wash with a solution of potash, lime, soap, and water. They sometimes take a thin sheet of metal and coat it with a composition of wax, tallow, and pitch. They draw the pattern upon the coated plate by means of a fine point, and bite out the said uncoated parts with the acid; or cut out the said plate with the pattern, and use it to produce a stencil plate. They coat the surface to be ornamented with the composition of wax, tallow, and pitch, and afterwards wash it over with a mixture of whiting and water. When they have the metal stencil plate upon it, they brush it with oil through the cut-out parts. The subsequent brushing removes the composition from the parts to be acted upon. After well washing with water and water the article is subjected to the acid bath, as before described.

SUNDERLAND ORPHAN ASYLUM COMPETITION.—On Tuesday, the 16th inst. a meeting of the principals of the above Asylum was held for the purpose of selecting plans for the proposed new Asylum, when the eligible plans submitted by competing architects were considered, and the following, we are informed, were selected:—The design of Mr. T. Y. Kimpton, of Hertford,—motto, "Spes;" and that of Messrs. Childs and Lucas, of London,—motto, "Utilitas."

LIGHT WANTED.—Complaints often come to us respecting the darkness of the third-class carriages which travel to the Crystal Palace, both from Pimlico and London-bridge. In these carriages, for the want of light, respectable persons, many of whom cannot afford to pay the extra fare, are exposed to annoyance; and when we consider that a very large source of the revenue of both the Crystal Palace and railway is derived from those who travel in the third-class carriages, surely a light should be provided in the carriages. The lighting on other lines, even in the first-class carriages, is, as we have often pointed out, very insufficient. Reading is seldom possible. It is our fate to waste many precious hours in consequence, and so it is of course with thousands.

TENDERS.

Corrected List of Tenders.

For rebuilding premises Nos. 43 and 44, Duke-street, and Nos. 1 and 2, Princes-place, St. James's. Mr. Francis H. Fowler, architect. Quantities supplied by Mr. Morris Evans. Opened in presence of the parties:—

Clemence	£4,290	0	0
Notley	4,145	0	0
Burton	4,132	0	0
Nixon	4,100	0	0
I'Anson	3,984	0	0
Rider	3,980	0	0
Patman and Fotheringham	3,970	0	0
Piper and Sons	3,935	0	0
Tyler	3,900	0	0
Fish (accepted)	3,740	0	0

For new premises at Aldershott. Messrs. Francis, architects:—

W. Higgs	£1,888	0	0
Keyes and Head	1,718	0	0
Myers	1,534	0	0
Martin (Aldershott)	1,457	0	0
Speakman and Haines	1,390	0	0

For finishing five shops at Upper Holloway, for Mr. A. Jones. Mr. J. Thomas, architect. Quantities supplied:—

Thompson	£1,675	0	0
Tarrant	1,654	0	0
Paull	1,650	0	0
Easy	1,630	0	0
Colls	1,549	0	0
Cowland	1,498	10	0
Jacob	1,489	0	0
Payne	1,247	6	0

For schools and master's residence, about to be built at Redcar, Yorkshire, for the Right Hon. the Earl of Zetland. Messrs. Walton and Robson, architects:—

Wilson	£1,570	0	0
Jackson	1,213	0	0
Pearson	1,147	0	0
Moore (accepted)	1,025	0	0

For rebuilding premises in Friar-gate, Derby, for Messrs. J. Schweppe and Co. of London. Messrs. Giles and Brookhouse, architects, Derby:—

G. Thompson	£1,479	0	0
Wood	1,459	0	0
E. Thompson	1,385	0	0
W. M. Cooper	1,350	0	0
R. Bridgart (accepted)	1,298	13	0

For shop and show-rooms for Messrs. Ellis and Son, Maidstone. Messrs. Peck and Stephens, architects:—

Sutton and Vaughan	£1,196	6	0
Sutton, Walter, and Goodwin	1,158	0	0

For gas-fittings at the new workhouse, Chatham. Messrs. Pack, architects:—

Ryott	£478	13	5
Ralph	422	2	6
Naylar	341	0	0

For alterations and new shop-front for Mr. Humberstone, at the "Royal Mail," Upper-street, Islington. Mr. C. Foster, architect:—

Sinclair	£267	0	0
Hambrook	240	0	0
Tubby	215	0	0
Haynes	199	10	0
Tolley	197	0	0
Pearson	185	0	0
Palmer	168	14	0
Boreham	168	10	0
Hewitt	152	16	0
Amber	148	14	0

For two chapels, lodge, boundary-wall, &c. at the new cemetery, Ramsey, Hunts. Mr. Robert Hutchinson, architect:—

	For Chapels, Lodge, &c.				Laying out Grounds and Drainage.		
Bennett and Son, Whittlesea	£1,720	0	0	..	—		
Phillips, Ramsey	1,793	2	4	..	£68	0	0
Bateman, Ramsey	1,697	0	0	..	222	14	0
Dearing, Whittlesea	—			..	210	0	0
Ellis and Son, Peterborough	1,530	0	0	..	225	0	0

TO CORRESPONDENTS.

L. H. C. (under some such arrangement as you mention the structure could not be considered as "attached to the freehold," and could therefore be removed).—W. J. G.—C. G. and C. C. (wrought iron, without doubt).—T. J. (thanks. Not desired).—C. L. (in type).—Epsilon (next week).—J. H. (the construction described might be made sufficiently strong, but would be very ugly, if exposed, and would require care and arrangement as to bonding).—W. S. B. (certainly not).—A Struggler.—W. H. S.—W. W.—T. O.—W. H.—W. B.—R. B. E.—Mr. B.—A.—W. S.—Fenink (if there be no chimney, such a stove is very hurtful: and it is not easy to suggest any remedy).—G. L.—W. L. S.—H. D.—W. K.—W. L.—J. M.—J. C. (the process of steaming has a good effect).

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A PIANOFORTE MAKER, in the City, has an OPENING for an OUT DOOR APPRENTICE: a Youth, with medium ability preferred. For particulars, apply 171, Bishopsgate-street, E.C.

AN ARCHITECT and SURVEYOR requires an ASSISTANT, well acquainted with street architecture and town buildings generally. He must have good ability in design, perspective, geometrical, and detail drawings; competent to prepare specifications, quantities, and estimates, and have a thorough knowledge of building materials and construction. A married man preferred.—Apply, by letter only, to F. P. Messrs. Reveand Mayhew, Solicitors, 10, Tokenhouse-chambers, Tokenhouse yard, Lothbury, London, E.C.

CLERK of WORKS WANTED, immediately, for the Forester National Schools. Applications, with testimonials, to be sent on or before WEDNESDAY, 1*st* DECEMBER 1*st*, to the Hon. Secretary, CHARLES FOWLER.
Whitelands, Bicester, Nov. 23, 1858.

THE ASSOCIATION for the PREVENTION of STEAM BOILER EXPLOSIONS, and for EFFECTING ECONOMY in the RAISING and USE of STEAM.—President, WILLIAM FAIRBAIRN, Esq., C.E. F.R.S. &c. &c.

TO ENGINEERS.—WANTED, by the Association, an active, intelligent, and well educated ENGINEER, theoretically and practically acquainted with the properties of steam, and thoroughly conversant with the details of steam-engines and boilers, to act as Chief Inspector under the Managing Committee. Salary, 500*l.* per annum, with railway expenses allowed.—Applications to be made to the undersigned, specifying age and qualification, accompanied with testimonials or references, on or before the 10*th* day of DECEMBER next.—By order, HENRY WHITWORTH, Secretary
Manchester, 12, Corporation street, 16*th* November, 1858.

THE MERTHYR TYDFIL LOCAL BOARD of HEALTH are desirous of receiving APPLICATIONS for the APPOINTMENT of SURVEYOR to the said Board. He will be required to give the whole of his time to the duties, inspect all new buildings, inspect and measure all work done by the Board and their contractors, make out accounts and generally perform the duties required by the Local Government Act. Applicants will state for the amount of salary they require.—Applications to be addressed to Mr. JAMES WARD RUSSELL, Clerk to the said Board, on or before the 18*th* day of DECEMBER next.—By order of the Board,
J. W. RUSSELL, Clerk.
Merthyr Tydfil, November 23, 1858.

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30	1 1 3	1 2 7	2 5 5	2 0 7
40	1 9 3	1 6 9	3 0 7	2 14 10
50	1 14 1	1 19 10	4 6 8	4 0 11
60	3 2 4	3 17 0	6 12 9	6 0 10

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Annual Revenue	189,717
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PLASTER MILLS, Bridgwater, Somerset. The attention of Contractors and Builders in the South and West of England, and in Ireland, is respectfully solicited to the above mills, where every variety of PLASTER is prepared on a large scale, and at very moderate prices: special rates of carriage over all the railway lines.—For prices, &c. apply to ALFRED G. BARHAM, Plaster Mills and Mine Owner, Bridgwater.

WHITE and RED SUFFOLK FACING BRICKS, by Messrs. Allen and Co. Ballingdon, near Sudbury.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs. Caleb Hitch and Co. Ware, Herts.

The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT-COLOURED STOCKS, from the fields at South Shoebury, Rochford, Essex.

The EWELL deep BLACK RUBBING and BUILDING BRICKS. And the EWELL and CHALFONT dark and bright RED RUBBERS.

COWLEY, KENT, AND ESSEX BRICKS, IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE.

JOHN and WM. EASTWOOD, WELLINGTON-WHARF, Belvidere road, Lambeth, and Kent-road Bridge, } SOLE CONSIGNEES.

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N.B. Every description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING—Blue, Red, and Buff Terro-Metallic Paving Tiles of various designs. Blue and Red Plain and Ornamental Roofing Tiles in great variety. Plain Rolled, Capped, and Pinnacled Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c.

J. and W. EASTWOOD, Belvidere-road, Lambeth; and Kent-road Bridge.

PALE MALM FACING BRICKS. IMPORTANT TO BUILDERS!

In consequence of ARCHITECTS having of late years specified the YELLOW FACING BRICKS for their works, the accumulation of PALE SECONDS, MALM PICKINGS, &c. has become so very large, that Messrs. EASTWOOD are now selling these Bricks, from different makers, at greatly reduced prices.

Messrs. EASTWOOD are prepared to engage them in large quantities, at the present price of Bright Stocks.

Belvidere Road, Lambeth, 30th October, 1858.

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. HILTON, can be had in any quantity, wholesale and retail, at his Wharf, 9, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent.

N.B. These Cements supplied for shipment, on advantageous terms.

CHARLES RICHARDSON, BRUNSWICK WHARF, VAUXHALL. And 6, SOUTH WHARF, PADDINGTON BASIN.

COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from Wharfs.

SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door Jambs, Coping Bricks, Stable Clinkers, &c.

DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c.

BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Mean and Pale Malm Seconds, Pickings, Paviors, &c.

BLACK HEADERS, Glazed and Unglazed.

BEART'S PERFORATED BRICKS.

STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles. Plain, Flanged, Rolled top, and Ornamental Grooved Ridging, &c. Bressley Tiles

WHITE GLAZED BRICKS.

FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any Pattern Brick, &c. made to order

TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c.

SLATES, best quality from the Bangor Quarries.

YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c. Sawn Slab for Hearths, Jambs, &c.

TILES. Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Goods always kept in Stock.

GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c.

GREY STONE and CHALK LIME.

BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.

CEMENTS. Roman, Portland, Parian, Lias, Bath, Keene's, &c.

PLASTER of PARIS, fine and coarse, of best quality, at reduced prices.

HAIR, Laths, Sand, Ballast, &c.

IMPORTER OF DUTCH CLINKERS.

All kinds of Building Materials sent by Rail the same day as ordered.

ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken. Tenders given for any quantity

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It is now TWENTY YEARS since Mr. GREAVES introduced his BLUE LIAS LIME into London, and from its very superior quality, it has been used during that period in most of the LARGE WORKS that have been constructed in and near the METROPOLIS and THROUGHOUT THE COUNTRY, especially for RIVER, SEA, and DOCK WALLS, for TUNNELS, VIADUCTS, and RAILWAY WORKS, AND VERY GENERALLY FOR CONCRETE, in all which works it has given great satisfaction, and has been found the BEST BLUE LIAS LIME that can be brought into the LONDON MARKET.

Messrs. GREAVES and KERSHAW can deliver it to ANY PART OF LONDON, by RAILWAY OR WATER CONVEYANCE, and it is only to be had GENUINE (NO OTHER LIME BEING KEPT) at their

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L. M. TATHAM, Agent.

WORKS—HARBURY, near Southam.
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WILMCOTE, near Stratford-on-Avon
OFFICE—WARWICK.

GREAVES'S PORTLAND, BATH, and LIAS CEMENTS.

These CEMENTS are manufactured by Messrs. GREAVES and KERSHAW, from the natural CEMENT STONE OF THE LIAS FORMATION, are EMINENTLY HYDRAULIC, and possess every CEMENTITIOUS property, they have been LARGELY SUPPLIED IN LONDON for SEVERAL YEARS past, and there is a constantly increasing demand for them.

The LIAS CEMENT resembles BATH STONE in colour, is very superior in quality, and can be sold at the SAME PRICE AS ROMAN CEMENT.

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No. 14, SOUTH WHARF, PADDINGTON, W.

ABERTHAW BLUE LIAS LIMESTONE, FREE on BOARD at CARDIFF, at the LOWEST PRICE.

ABERTHAW BLUE LIAS GROUND LIME, to any Railway Station in the Kingdom; also at my Wharfs, at a price to ensure its use in preference to any other Lime, its cementitious qualities being superior to any of the Lias Limes.

CHARLES RICHARDSON, 6, SOUTH WHARF, PADDINGTON, and BRUNSWICK WHARF, VAUXHALL, LONDON.

*** This superior Hydraulic Lime weighs 85 lbs. to the imperial bushel.

TO SEWER CONTRACTORS, and the TRADE generally.

STROUD and CO. BLUE LIAS LIME WHARF, HERTFORD-ROAD, Kingsland.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth of the usual time. A finer quality produces a beautiful and imperishable imitation of marble.—Manufacturers, FRANCIS, BROTHERS, and POTT, Nine Elms, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT.—CLARK and BENSOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

KNIGHT, BEVAN, and STURGE,

Manufacturers only of first class quality, for the home and foreign trade.

Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tubs, work, or otherwise.

LONDON WHARF, BELVIDERE-ROAD, LAMBETH.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, at **2s.** per Foot.

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BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

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CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,

FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT,

BRASS-DRAWN SASH-BARS, BRASS NAME-PLATES, DOUBLE AND SINGLE ACTING SPRING HINGES, AND ALL METAL-WORK CONNECTED WITH BUILDINGS.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

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THE PATENT REVOLVING IRON AND WOOD SHUTTERS,

MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

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PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE CUT-SCREW GEARING, 2s. 6D. PER FOOT,

AT HIS STEAM WORKS, 135, OLD-STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

MANUFACTURER OF METALLIC DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

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WATER-TIGHT WROUGHT IRON WINDOW AND FRAME,

Registered April 26th, 1858,

FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

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WATERLOW, DRAPER, AND WEBB,

MANUFACTURERS OF HOUSE AND COTTAGE JOINERY,

TREDEGAR WORKS, BOW, E.

Beg to call the attention of the Building Trade to their extensive Stock of

DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

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A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

FLOORING.

	Spruce.	Yellow.	White.	
¾ inch	11s. 6d.	13s. 6d.	12s. 6d.	per square
¾ "	13s. 0d.	14s. 6d.	13s. 6d.	"
1 "	15s. 0d.	16s. 6d.	15s. 6d.	"
1¼ "		19s. 6d.	18s. 0d.	"

DELIVERED FREE WITHIN THREE MILES.

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The only White Zinc Works in the United Kingdom.

HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Painters and Decorators have never had really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no comparison with the genuine article.

But still greater prejudice is excited by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns lighted by gas. It first loses the gloss, and ultimately flakes up with the water and washes off.

Hubbuck's Patent Process completely resists London atmosphere, bilge water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.

N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

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British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Flatted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price Lists forwarded free on receipt of business card addressed to

R. METTAM and CO

30, PRINCES-STREET, SOHO, LONDON, W.

WINDOW GLASS.

THOMAS MILLINGTON'S NEW LIST of REDUCED PRICES are now ready, and may be had on application

SHEET GLASS, fourths, in 200 feet cases, at 26s. 6d. per case.

"	thirds,	34s 6d.	"
"	seconds,	40s.	"
"	best,	80s.	"

Boxes of 100 feet each, at 10s. 12s. 14s. or 16s. according to size.

21oz. 26oz. 32oz. and 42oz. in various qualities.

Also, CRYSTAL SHEET GLASS.

16oz. and 21oz. Ground, Matted Glass of various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast, &c. Rolled Rough Plate, from ⅛ to 1 inch thick.

COLOURS, VARNISHES, &c.

Genuine White Lead, 32s 6d: seconds ditto, 30s 6d per cwt. Linseed Oil, Boiled ditto, Turpentine. Pale Oak Varnish, 7s 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c.

The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.

LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER CLOSETS.

Cocks and Valves of every description.

Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in exchange.

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Established upwards of One Hundred Years.

GLASS PAINTING and MURAL DECORATION.—LAVERS and BARRAUD, 256, Southampton-street, Strand, beg to inform the clergy, architects, and others, that they will be happy to submit DESIGNS for such WINDOWS as may be entrusted to them, as also for ecclesiastical decorations. They beg still to call attention to their grisaille and quarry glass, of an inexpensive but very effective character.—Prices, &c. forwarded on application.

STAINED-GLASS WINDOWS for the MILLION.—Instead of staining the glass, we stain a transparent material, easily applied by any person. By this method, with equal permanency, we obtain superior finish, richness, and brilliancy, at a tithe of the cost. Ecclesiastical, Gothic, Armorial, and French Designs, for church, hall, or conservatory windows, hall-lamps, window-pictures, &c. Descriptive books, 6d. free.—GEORGE ROWNEY and CO. Manufacturing Artists' Colourmen, 51 and 52 Rathbone-place.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of glass, of the best manufacture, at the lowest terms

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PLATE-GLASS,

Of a superior Quality and Colour,

SUPPLIED AT THE LOWEST CURRENT RATES.

Contracts given upon application.

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PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, No. 14, Stafford-row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public, are respectfully informed that the MOSAIC WORKS are REMOVED to 56, GREAT QUEEN STREET, Lincoln's-inn-fields. Estimates given for the painting of Plate, Rooms, Fronts, &c. &c. Tessellated Pavements, with Patent Tesserae. The New Transparent Glass Mosaic. Descriptive Catalogues on application.

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GLAZIERS' DIAMONDS TO BE HAD OF THE WHOLESALE MANUFACTURER, JOHN EDWARDS, 20, SHARP'S ALLEY, WEST SMITHFIELD, London, E.C.

PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is CROSBY'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND-STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the Kingdom THIRTY PER CENT. CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

THE AYLESFORD POTTERY COMPANY

OFFER TO THE PUBLIC

HOLLOW TERRA-COTTA BRICKS AND TILES

AT

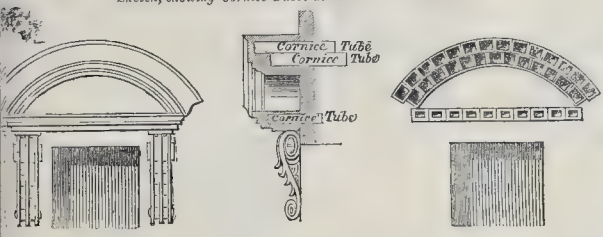
Prices greatly to the advantage of Architects and Builders, as they can be most beneficially applied to Projections and Cornices of every kind in Brick Buildings where Stone is usually employed. They are relatively stronger, and the Prices are about two-thirds the cost price of Stone, and require no labour to fit them, as they work regularly with Common Bricks.

SOLID TERRA COTTA BRICKS MADE TO ANY PATTERN.

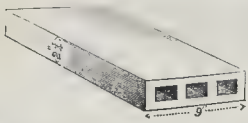
Cornice Tube.

In Lengths, 1 *ft.* 6 *in.*
„ 2 *ft.* 0 *in.*
„ 2 *ft.* 6 *in.*

Sketch, showing Cornice Tubes as used in Construction.

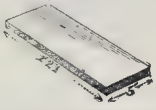


Flat Hollow Tiles, for Projections, Cornices, or Covering to Flues.

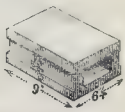


In Lengths —
0 *ft.* 9 *in.*
1 *ft.* 2 *in.*
1 *ft.* 6 *in.*

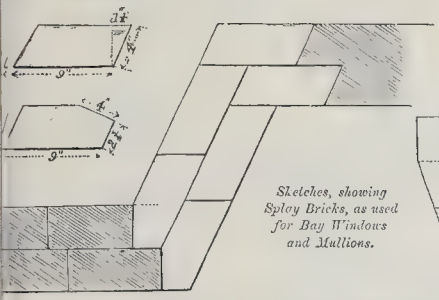
Sole Tiles for Flat Roofs, and Dubbing out Walls or Projections.



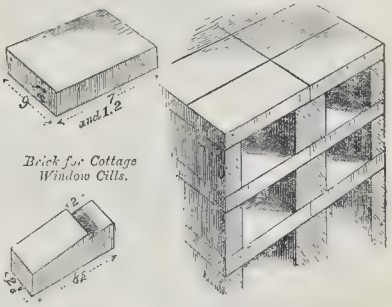
Hollow Brick, for Fireproof Floor & Cellar Roofs.



Solid Blocks for Flues or Fireproof Floors.

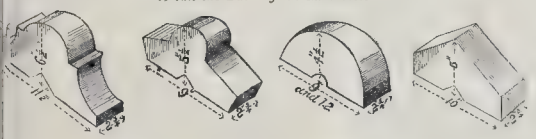


Sketches, showing Splay Bricks, as used for Bay Windows and Mullions.



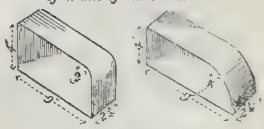
Brick for Cottage Window Cills.

Besides the following Sketches, Copings will be supplied to any Pattern, to suit the Taste of the Architect.



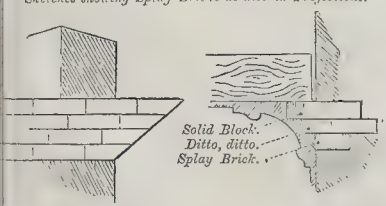
Splay Brick for Projections, Cornices, &c.

Round-nosed Bricks for Angles of Walls of various Radii.

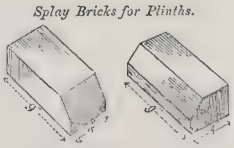


Invert Block for Sewers.

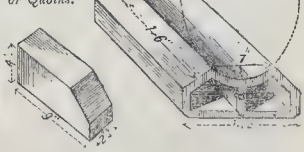
Sketches showing Splay Bricks as used in Projections.



Splay Bricks for Plinths.



Splay Brick for Jambs or Quoins.



Window Splay Bricks, dressed. Plinth Bricks, sunk and plain. Machine-made Best White Bricks. Ditto, Paviors. Ditto, Pink.
Ditto Radiated Culvert Bricks, for Sewers.

SUPERIOR GLAZED STONEWARE DRAIN-PIPES, BENDS, &c. AGRICULTURAL DRAIN-TILES, WITHOUT SOCKETS.
PAVING QUARRIES OF VARIOUS SIZES; also RIDGE TILES.

SPECIMENS OF THE VARIOUS ARTICLES TO BE SEEN AT THE WHARF, BELVEDERE-ROAD, LAMBETH, S.

Applications for Prices and Particulars to be made to

MR. PILTON, Agent at the Aylesford Pottery Wharf, Belvedere-road, Lambeth, S.

MR. FINLAY, Agent at the Pottery, Aylesford, near Maidstone, Kent.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Slops, Barges, Well-sinking, &c., adapted for any depth.

HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12 inch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

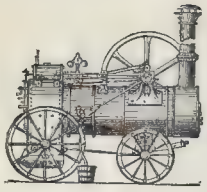
R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.

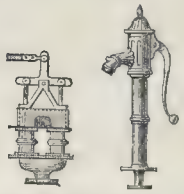
ENGINES, SINGLE & DOUBLE PUMPS,

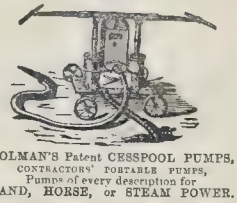
OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.







HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER AND CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.

TUDOR-STREET, NEW BRIDGE-STREET, and GRAND JUNCTION WHARF, WHITEFRIARS (*not BLACKFRIARS*).

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,

ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied, by any unpractised person.—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, tasbal, or tiles, it is most effective and economical.

INODOROUS FELT, for damp walls and for damp floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.
CROGGON and CO.'S PATENT FELTED SHEATHING, for covering Ships' Bottoms, &c. and
DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. preventing the radiation of Heat, saving 25 per cent of Fuel, and deadening Sound.

Samples, testimonials, and full instructions, on application to

CROGGON and CO. 2, DOWGATE-HILL, London; and 2, GOREE PIAZZA, Liverpool.

FLOORING and DEALS, at the LOWEST CASH PRICES. SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾ inch Prepared Flooring, 11s. 6d. per square.
1-inch ditto, 15s. per square.
Yellow Battens, 11/ 10s. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 3d. each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d. per foot.
Borough-road, Southwark, and Elm-street, Gray's-inn-lane.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¾	1	1¼	
Spruce	12s.	13s.	15s.	— per square
White	12s. 9d.	13s. 6d.	15s. 6d.	18s. ,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d. ,,

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful deals:—

¾ inch Prepared Flooring	£0 11	6 per square.
1-inch Prepared Flooring	0 13	0 per square.
Inch Prepared Flooring	0 12	0 per square.
Good Yellow Deals	0 3	3 each.
Spruce Deals	0 3	0 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3	6 each.
Yellow Battens	11 10	0 per 120.

Mahogany, planks and boards, from 6d. per foot.
All sawn goods delivered within three miles free of carriage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.

BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above capacious Premises, where, in conjunction with his other established Yards in Great Peter-street, Westminster, and Dale-street, Long-acre, he is always ready to supply from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Deals, Oak, Elm, Timber, Deals, Seasoned Flooring, Match Board & Mouldings, as low as any advertised house in London.

Mahogany, in log	from	0s. 5d.
,, ,, board	,,	0 6
Spruce Deals	,,	2 9
Pine Plank	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11

Prepared Flooring:—
White.—¾ in. 12s.; 1 in. 15s. 6d. Yellow.—1¼ in. 19s.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s 9d.; Pine Plank, 3s. 6d.; Mahogany and F. Walnut, 5dd.; 2¼-inch White Battens, 9/. 10s.; Yellow, 11/. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 16s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Carriage free to any part of town.
T. FORMAN, 1, Walnut tree walk, Walcot place, Lambeth.

A CORN TIMBER WHARF and SAW-MILLS,
CANAL BRIDGE, OLD KENT-ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
Books of Designs of Mouldings forwarded on application.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 206, TOOLEY-STREET, of the South Eastern Railway Company, adjoining that Terminus, London-bridge, where, in connection with his well-established premises in King-street, Lowerch, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.
P.S. Country orders executed with prompt attention, and all sawn goods (Balk Timbers excepted), delivered free of carriage within three miles.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

JOHN EMERY,
No. 14, GRAY'S-INN-LANE, W.C.

SASHES AND FRAMES, DOORS, MOULDINGS, SHOP FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERY WORK, ON THE SHORTEST NOTICE AND AT THE LOWEST PRICES.

Lists of Prices and Estimates on application.

SOLID PARQUET FLOOR ARROWSMITH'S PATENTED,

from 1s. per foot. The "W... Mosaic," ¾ inch thick thro... but (not recommended for ... and Reception rooms, rende... them, if desired, available ... fancy or otherwise. A... oil and intrinsic border... Turkey and other carpets, ... cases, panelling, &c.; also ... round the Altar and Fo... Churches being much war... Minsters, and Establishm... Lords, St. Gregory's, Chel... ham, &c.

80, NEW BOND STREET.

JOINERY of EVERY DESCRIPTIO STAIRCASES,
SHOP-FRONTS, SASHES AND FRAMES, DOORS, &c.
Of well seasoned materials and superior workmanship, supplied at lowest possible prices, by

J. MILLS,
110, Broadwall, and 7, Princes-street, Stamford street, Lambeth.
Late Shop Foreman to Messrs. Lawrence at Lords.
By enclosing a postage-stamp, a full list of prices will be returned.

JOINERS' WORK in all its branch... EXECUTED with despatch, and cheaper than any house in London.

JEFFS, BROTHERS,
48 and 49, Cornwall-road, and 72, Stamford street, Lambeth, S.
N.B. Price-list on application.

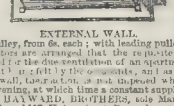
WHITE and MITCHEL... JOINERS
AND SASHMAKERS TO THE TRADE,
No. 11, Commercial-road, Lambeth.
Staircases, Shop fronts, Fittings, &c. of well-seasoned material ... superior workmanship. A List of Prices sent on receipt of a post... Stamp.—Workshops, 2, Commercial road, Lambeth.

NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHO... SHOP SHUTTERS are SHOD and SECURED by the abo... at HALF THE COST of the UNSIGHTLY and DESTRUCTI... SHUTTER-BAR. Shops referred to in every public street in Lond... When ordering the above, send FINISHED THICKNESS ... Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland-st... Blackfriars-road.

TO CARPENTERS, BUILDERS, a... CHURCH-DECORATORS.—FOR SALE, a handsome Corinth... LECTERN or ALTAR PIECE, with four columns, capitals, pedim... and ornamental carving, worked in any building of the Gree... style. Also TWO OIL PAINTINGS, "Moses" and "Aaron," ... other Materials. Apply to G. A. CARTHEW, Esq. Churchward... East Dereham, Norfolk.

VENTILATION—PURE AIR.



Sheringham's Ventilator for the admissio... of Pure ... through s...

EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from 6s. ... These Ventilators are arranged that the requisite quantity of ... may be admitted for the due ventilation of an apartment without ... draught, and gradually by degrees, and as there are pla... in the external wall, the action is not imposed when the house ... closed for the evening, at which time a constant supply of fresh a... may be required. HAYWARD, BROTHERS, sole Manufacturers, ... Blackfriars-road, and 117, Union-street, Borough; and of all respe... able Ironmongers, Builders, &c.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

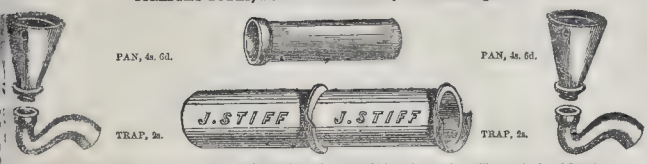
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 22, Bryd ges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S
IMPERIAL POTTERIES, LAMBETH.

S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 8s. 6d. each, extra.

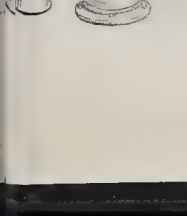
Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

GREAT REDUCTION in PRICE of STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,
Begs to call the attention of Surveyors, Contractors, Builders, and others, to a very great REDUCTION in the PRICES of his GLAZED STONEWARE DRAIN-PIPES.
LISTS OF PRICES FORWARDED ON APPLICATION.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.



DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

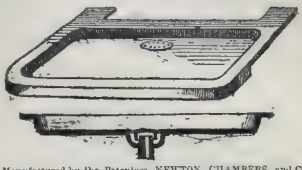
DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED
AND
LAMBERT'S HIGH-PRESSURE VALVE-COCK.
WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.
Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

TO ARCHITECTS and BUILDERS.—

T. TRELOAR, 42, LUDGATE-HILL,
Manufacturer,
SUPPLIES COCOA NUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c
of the best quality on the most reasonable terms.
Warehouse, 42, Ludgate hill, E.C.

PATENT CAST-IRON SANITARY

KITCHEN SINK, WITH TRAP.



Manufactured by the Patentees, NEWTON, CHAMBERS, and CO. Thorncliffe Iron Works, near Sheffield. Sizes made—
24 in. long by 18 in. wide by 4 in. deep, 5s 6d. each.
30 in. long by 18 in. wide by 4 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
42 in. long by 20 in. wide by 4½ in. deep, 10s. 6d. each.
48 in. long by 20 in. wide by 4½ in. deep, 12s each
To be had in London only, of Mr. JOHN JONES, 6, BANKSIDE.

BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and Spa-road, Bermondsey.

PRIZE MEDAL, CLASS 9.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.

These Cocks have, during the last five years, been extensively and most successfully used in many towns under continuous high pressure, varying from 100 to 350 feet; their efficiency and durability is by experience established.
The Equilibrium Ball-valve is simple and certain in its action, and is cheaper than the common Cocks now in use.
Enamelled Iron, Self acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.
THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

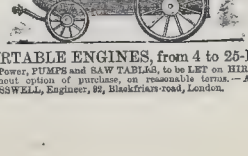
LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

WARNER'S PATENT VIBRATING STANDARD PUMPS.—PATENT CAST IRON PUMPS

fitted with J. W. and Sons' Patent Buckets and Suckers, which cannot clog in action, for farms, cottages, and walls not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2¼ in. short	1 ft. 7 in.	Fitted for lead,	1 10 0
2½ ,, long	3 3	gutta percha	1 14 0
3 ,, ditto	3 6	or cast iron	2 8 0
3½ ,, ditto	3 6	flanged pipe,	2 12 0
4 ,, ditto	3 6	as required.	3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.



PORTABLE ENGINES, from 4 to 25-Horse

Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 82, Blackfriars-road, London.

SALES BY AUCTION.

TO ENGINEERS, CONTRACTORS, SHIP-BUILDERS, AND OTHERS.

MESSRS. FULLER and HORSEY are instructed by the Executors of Mr. E. Smith, deceased, TO SELL by AUCTION, on MONDAY, NOVEMBER 29th, 1858, and following days, at ELEVEN each day, at the ST. GEORGE'S WORKS, St George's square, Portsea, and Flathouse-yard, Commercial road, Landport, in lots, the valuable MACHINERY, PLANT, and IMPLEMENTS of a Contractor, including a 16-inch self-acting screw-cutting lathe, by Whitworth, new three years since; Whitworth's self-acting planing machine, to take in 6 feet by 2 feet 6 inches; a very powerful 20-inch self-acting screw-cutting lathe, with 20 feet bed, by Sheffield, Hill, and Spink, nearly new; an 11-inch centre self-acting screw-cutting lathe, with 15-feet bed, by the same makers; a 9-inch back-geared slide lathe, with 12-feet bed; a 9-inch self-acting slide lathe, with 6-feet bed; three smaller lathes, a capital cutting and punching machine, by Nasmyth; screwing machine, to cut from ¼ inch to 2½ inches; two vertical drilling-machines, excellent; screw and benches, cast-steel tools, six surface plates, grindstone, ratchet braces, blocks and falls, 2-ton weighing-machine, bench drills, nine smiths' forges, seven anvils, bellows, four forge cranes, three tons top and bottom tools, fan blast, boiler makers' tools, shaping plates and block, erection of plate-furnace, 6-horse power direct-acting steam-engine, Cornish boiler, 25 feet long, 5 feet diameter, 3-feet tube; 200 feet shafting, riggers, gearing, leather bands; 6-horse power oscillating steam-engine and boiler (nearly new), 5 horse power Gough's patent engine and boiler, 2-horse power pumping engine and boiler, with pair of 6-inch pumps; gearing for working an incline hoist, 25 horse power condensing machine beam engine, a capital iron circular saw-bench, with saws; one ditto, unfinished, an egg-end boiler, 15 feet long, 3 feet 6 inches diameter; sixteen railway trollies, narrow gauge; eight ballast waggons (end and side tip), 100 navvy barrows, four wheel water-carriage, 23 tons rod and bar iron, two tons cast shear and blister steel, forty-eight new railway ballast waggon wheels, 150 dozen files, 1,000 gross brass and iron screws, 35 dozen brass and iron hinges, stores of various descriptions, 100 new sashes and frames, 100 dry deals and battens, quantity of dry boards, sixteen carpenters' benches, steam glue-kettle, and numerous other effects.—To be viewed on Friday and Saturday previous to the Sale, when catalogues may be had on the Premises, of Messrs. NEWBON, EVANS, and NEWBON, Solicitors, Wardrobe-place, Doctors-commons; and of Messrs. FULLER and HORSEY, Billiter-street, E.C.

TO BUILDERS, STONE AND MARBLE MERCHANTS, ENGINEERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by the Executors of the late Thomas Cubitt, esq. to SELL by AUCTION, on MONDAY, DECEMBER 6, and following days, at ELEVEN for TWELVE precisely, at the WORKS, Grosvenor-road, Pimlico, in Lots (a portion of the premises being let), a portion of the valuable fixed MACHINERY and TOOLS—including eight very superior circular saw benches, with planed iron tops (one with rising or falling spindle); two ditto, with wood tops; one timber sawing-frame, one adzing machine, powerful rack bench, one radial drilling-machine for wood, fifteen joiners' benches, three cabinet makers' benches, a very superior 18-inch self-acting screw-cutting lathe, by Whitworth, with 26-feet bed; self-acting planing-machine, by Whitworth, to take in 4 feet 3 by 22 inches; two vertical drilling-machines, by Whitworth; a wall-drilling machine, a very powerful self-acting slotting machine, nine engine turning lathes, principally back-geared, and with slide rests, powerful lever-punching press, eccentric cutting and punching press, fly press, large planed and ground surface-plates, with stands; steel tools, benches, thirty vices, 500 feet wrought-iron shafting, 2½ to 5 inches, principally turned, with bearings, couplings, riggers, &c. cones, hydraulic proving pump, the fittings of two smiths' forges, tuyeres, troughs, bellows, anvils, swages, top and bottom tools, capital forge crane, shoeing plate and curb, grand-stones in iron frames, marble moulding bed, two powerful sawing machines, the larger to take in a block 10 feet by 4 feet 6 inches, saws, saw-straightening table, two 33-inch paint-mills, peg-mill, pair of turned paint-crushing rolls, with sieve; drain tile press, two tile-machines, twenty gravel and sand screens, three metal-grinder's stones, grinding and polishing spindles with lap, new trench for zinc tube, two hydraulic presses, set of 6-inch three-throw pumps, 18-ton over-head travelling crane, 45 feet span; powerful blocks, lifting jacks, 100 plummer-blocks with brasses, twenty steam-valves, fitted; 100 loose spur rigger and line wheels, several tons of useful machinery, twelve iron fluted columns, ten tons crane and sling chain, large quantity of second-hand building materials, and numerous other effects. To be viewed on Friday and Saturday previous to the Sale, when catalogues may be had, at the yards, without which no person will be admitted on the premises, and previously of Messrs. FULLER and HORSEY, Billiter-street, E.C.—Note: Approved Bills, at three months' date, will be taken from purchasers to the extent of 50l. and upwards

STEAM-ENGINES, BOILERS, &c

MESSRS. FULLER and HORSEY are instructed by the Executors of T. Cubitt, esq. deceased, to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, Pimlico, a pair of marine condensing STEAM BEAM-ENGINES, of 90 horse collective power (nominal), now fixed and at work, with double pistons, expansive gear, massive geared spur fly wheel, 17 feet diameter, cold-water pumps, &c.; a horizontal high-pressure steam-engine, with 12½-inch cylinder, 30-inch stroke, 10 feet hand fly-wheel and shaft; a Cornish boiler, by Hodge, 30 feet long, 6 feet diameter, with 3-feet tube and mountings; two small cylindrical steam-boilers; one small portable multitubular boiler; a second-hand marine boiler, five steam-chests, &c.—To be viewed with the other effects, and catalogues had.—See preceding advertisement.

Stoves, Ranges, Hot-plates, general Stores, Ironmongery, &c.

MESSRS. FULLER and HORSEY are instructed by the executors of the late T. Cubitt, esq. to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, a new 5-feet 4-inch KITCHENER RANGE, with wrought-iron backboiler, and double action smoke-jack, &c.; the large hot plate and oven, adapted for an hotel, two hot-plates, with charcoal stoves (one with gas stove), adapted for a large kitchen, two hot-plates, with gas stoves, two wrought iron ovens and hot closets, steam-dresser, with planed top, and hot closet under, two Arnott's stoves, Rumford stoves, three dining-room gasaliers, thirty tons castings in stove metal, soot doors and frames, mangers, balusters, railing bars and standards, balcony panels, furnace bars, rafter shoes, gate-post caps, 2.30 barrow and truck wheels, 1,150 rainwater heads, three tons round sink-traps, 5 to 16 inches; 1 ton round and bar iron, one ton stout copper tube, bolts and nuts, coach screws, washing and brewing coppers, cast and blister steel, gas fittings, elbows, bends, sockets, T's, &c. new gas pipe, various, and miscellaneous stores. To be viewed with the other effects, and catalogues had.—See preceding advertisement

Twelve handsome Marble Chimney pieces, Table Tops, Marble, Stone, &c

MESSRS. FULLER and HORSEY are instructed by the Executors of the late T. Cubitt, esq. to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, Pimlico, in lots, TWELVE MARBLE CHIMNEY PIECES, of superb design and beautiful workmanship, statuary, Siena, black and gold, and veined marble, table tops, black marble, in slab and blocks, forty granite stone bases, 500 feet rough granite, 18 by 10; granite tram, 18 by 9; Swedish and Cornish granite, in block; twenty York landings, two Greenhithe, in Portland stone; six rough granite curbs, quantity moulded granite, &c. To be viewed with the other effects, and catalogues had.—See preceding advertisement

Drain Pipes, Tiles, and Bricks.

MESSRS. FULLER and HORSEY are instructed to SELL by AUCTION, on FRIDAY, 3rd DECEMBER, 1858, at ELEVEN o'clock, at the WORKS of the Crystal Palace and Suburban Brick and Tile Company, Hamlet's End, Dulwich, within a short distance of the Forest-hill Railway Station in lots, the STOCK of DRAIN PIPES and TILES: including 800,000 drain-pipes, from 1½ inch to 6 inches diameter; 35,000 plain corrugated and moulded tiles, new patterns, ridge tiles, 9 inch and 12 inch pavers, 1 1/2 ft. 3 in. quarries.—To be viewed on Wednesday and Thursday previous to the sale; when catalogues may be had at the Works; of Mr. VALLANCE, 27, Lees, feet, Strand; and of Messrs. FULLER and HORSEY, Billiter-street, London, E.C.

Standing Timber, 1,930 fine Oak, Beech, Ash, and Elm Trees, besides 2,000 Oak and other Saplings.

MR. ALFRED COX will SELL, on JANUARY 4th, at the Sun Inn, Hitchin, at TWELVE, the whole of the TIMBER on the Hitchobury Estate, near Stevenage Station on the Great Northern Line, fifty miles from London. Much of large growth, and the finest quality, chiefly oak. Turret, six in the field.—Auctioneer's Offices, 95, New Bond-street.

SALES BY AUCTION.

Valuable Land and Quarry at Otley, Yorkshire.—TO BE SOLD BY AUCTION, by

MR. JOHN DACRE, at the WHITE HORSE INN, in Otley, on THURSDAY, the 2nd day of DECEMBER, 1858, at THREE o'clock in the Afternoon precisely, subject to such conditions as will then be produced, all those parcels of ARABLE and PASTURE LAND, called Feldstone Cross and York Gate Allotment, situate on Otley Chevin, in the township of Otley, containing forty eight acres or thereabouts. The allotments contain a thrown grit-stone of the first class quality, which, from its extensive face thickness and freedom from fissures, can be easily got in large blocks suitable for heavy works, and can be readily conveyed to the Arthington Station of the North-Eastern Railway, with which the proposed Wharfdale Railway is to communicate, or to the Leeds and Liverpool Canal, and from thence to all parts of the country. The stone has been tested by several eminent engineers and architects, and has been used for coping at the London Docks. The portions of Feldstone Cross and of York Gate Allotment, formerly held under lease from the Archbishop of York, having been recently enfranchised, the whole is now freehold, and the stone can be quarried without payment of any royalty. There is a considerable local demand from this quarry for building stone, curb stones, pitchings, fire-grates, &c. as it stands exposure both to heat and frost.—Further particulars may be known on application to Mr CHRISTOPHER DRIVER, Otley; or to Messrs. POWELL and SONS, Solicitors, Knaresb. rough.

TO TIMBER MERCHANTS, PACKING-CASE MAKERS, CABINET MAKERS, COACH-BUILDERS, BUILDERS, AND OTHERS

MR. MARCH has been favoured with instructions from the Trustees of Alfred Rolfe, under a deed assignment, to SELL by AUCTION, with a reserve, on MONDAY, NOVEMBER 29, 1858, at ELEVEN for TWELVE precisely, on the PREMISES, 3, Pitman-street, Mount Pleasant, Clerkenwell, the first portion of the DRY STOCK of TIMBER MERCHANT: comprising 1,600 pine, 600 spruce, 300 white and yellow, in planks, deals, and battens; 20,000 feet quartering, 600 squares planed floor and matched boards, 5,000 feet Spanish and Honduras boards and planks, with panelled lids and other goods.—Particulars in catalogues issued, and viewed Thursday preceding Sale; and obtained of Messrs. DYER and QUIRK, 27, Ely-place, Holborn; Messrs. W. and A. COOPER, 12, George-street, Mansion-house; Garraway's Coffee-house, Change-alley, Cornhill; and of the Auctioneer, 5, William-street North, Stepney.

Building Materials, Westminster.

MESSRS. EVERSFIELD and HORNE are instructed by the Chartered Gas Company to SELL by AUCTION, on the PREMISES, St John's wharf, Millbank-street, Westminster, on WEDNESDAY, DECEMBER 1, at TEN for ELEVEN, the MATERIALS and FITTINGS of TWO HOUSES and WAREHOUSE, of the usual description.—May be viewed, and catalogues had on the PREMISES, and of the Auctioneers, 40, Parliament-street, S.W. or Coal Exchange.

23 and 24, MARYLEBONE-ROAD, W. (adjoining the Workhouse).—To BUILDERS, SHOPFITTERS, SMITHS, ENGINEERS, FOUNDERS, and OTHERS.

MESSRS. BOOTH and CO. will SELL by AUCTION, on TUESDAY, DECEMBER 7th, 1858, at ONE for TWO o'clock, on the PREMISES as above; STOCK at TOOLS, comprising a quantity of parquet flooring, deals and cant, new and second-hand sashes and doors, partitions, bench, shop stoves, forge bellows, a brass founder's furnace and crucibles, and a large quantity of engineer's and founder's patterns, a pulpit and reading-desk, a handsome oak sounding board, mahogany desk, &c. a capital covered truck. Catalogues may be had on the premises, where the goods are on view, the day previous, and at the Auction Offices of BOOTH and CO. 13, Eastcheap, City, E.C. and Mollond House, Hackney-road, N.E.; or by post for one stamp on receipt of address.

TO TIMBER MERCHANTS, CABINET MAKERS, CARPENTERS, &c.

MR. TINDALE will SELL by AUCTION, on the PREMISES, 6, Hoxton Old Town, Shoreditch, on TUESDAY, the 30th of NOVEMBER, at ELEVEN o'clock, the entire STOCK of a TIMBER MERCHANT consisting of upwards of Spanish and Cuba Mahogany, in logs and planks, 16,000 feet of Honduras Mahogany, consisting of counter-top and handrail planks; 500 prime Yellow Deals; 1,200 dry Pine Planks and Deals; dry wide Pine; 17,000 feet of Italian Walnut Woods; Spanish Curl Logs, Wych and Mahogany Veneers, and other Woods.—May be viewed the day previous and morning of Sale. Catalogues to be had on the Premises and of the Auctioneer, Portland-place, Commercial-road East.

LARGE MANUFACTURING PREMISES, with steam power, near Lond n TO BE LET, with immediate possession Convenient for railway and water carriage Apply to Messrs. ABBOTT and WRIGGLEWORTH, 26, Bedford-row, Gray's-inn.

TO BE LET or SOLD, the original STEAM-ENGINE FACTORY, in KING'S LYNN, NORFOLK.—The Premises are very commodious, and have been largely arranged for a small engine factory; they are situated in the centre of the town, and attached to them is a comfortable dwelling-house. The plant upon the premises can be had for less than £600; including a seven-horse high pressure steam-engine, ready for work, with shafting, &c., complete. There is an excellent smiths' shop, and a fitters' shop, with two country houses, model-room, and shedding. The buildings are in good repair, and immediate possession given if required.—The premises can be viewed, and further information obtained, on application to Mr. CHARLES WILLETT, King's Lynn, Norfolk.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham-common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq. 17, Sergeants' inn, Fleet street, E.C.

TO BE SOLD, the LEASE of a Nine-room Detached HOUSE, and three acres of GARDEN GROUND, full of young trees, having a frontage in the Harrow-road of 40 feet, and a side frontage of 600 feet by 130 feet deep, for building or other purposes. Lease, eighty-five years: ground-rent, 12l. 10s. Price, 1,000l. 350l. can remain at five per cent.—Inquire at the Post-office, Sudbury, Harrow, N.W.

TO MARKET-GARDENERS and OTHERS.—TO BE LET on LEASE, 100 ACRES, or part, of fertile LAND, for growing potatoes, &c. for the London market, being close to a railway station and near a shipping port, and where labour is cheap. This is a favourable opportunity for a respectable tenant, and the required manure will be treated with by the owners of liberal terms.—Apply by letter, post paid, to Messrs. MANSELL and ELLIOTT, 10, Cornhill, London

FREEHOLD HOUSE WANTED.—WANTED to PURCHASE, a small FREEHOLD HOUSE, with a piece of ground at back. Must be within five miles of London-bridge, Kingsland, or Stoke Newington preferred.—Address, M. A. H. Newsholme, 65, Cheapside, E.C. stating lowest prices, and where situated.

GROUND-RENTS WANTED, on Freehold First-class Property, well secured, in amounts of purchase not less than 2,500l. each, to the extent of 15,000l.—Full particulars to Mr. PILCHER, 43, Great Tower street, London.

SOUTHWARK, near the DOVER ROAD.—EXTENSIVE MANUFACTURING PREMISES, with Steam Power, suitable for a Distiller, Brewer, Engineer, &c. They occupy an area of 25,000 square feet, with 85 feet frontage, and comprise a counting-house, warehouse 60 feet by 30, with three floors, and four rooms each, with fireplaces, and numerous other conveniences. Also, an excellent RESIDENCE, containing nine rooms, detached from the premises, with a garden adjoining. A large portion of the purchase-money may remain on mortgage, if required. TO BE LET, or the LEASE for fifty-four years, at a ground-rent of 120l. TO BE SOLD.—Apply to Mr. DEBENHAM, 80, Cheapside, or on the Premises, Trinity street, Borough.

LAND TO BE LET, on BUILDING LEASES, in HACKNEY, KINGSLAND, and CLAPTON.—For Particulars apply at the MANOR OFFICES, Church street, Hackney.

RIVER SIDE.—LAND TO BE LET, on LEASE, adjoining the river Lea, at Clapton, within FIVE miles of BLACKWALL.—For particulars apply at the MANOR OFFICES, Church-street, Hackney.

TO PUBLIC COMPANIES, CARRIAGE BUILDERS, PIANOFORTE MAKERS, CONTRACTORS, AND OTHERS.

MR. LEREW is directed to LET or SELL, with immediate possession, those extensive manufacturing premises, near the Goods Station of the London and North Western Railway, known as the CAMDEN WORKS, eligibly situate in Hawley-crescent, Camden-town, on the banks of the Regent's Canal, with good lay-by and excellent wharf; consisting of a spacious and lofty fire proof hall, 120 feet long by 40 feet wide, two engine-houses and stacks, very extensive workshops and store-rooms, admirably arranged, and spacious surrey offices. These most substantial and eligible works will be found worthy of the inspection of any manufacturer of extent.—For further particulars, and orders to view, apply to Mr. LEREW, Auction Mart, Cardington-street, Hampstead-road, near the Euston station, N.W.

TO BE LET, on Building Leases for Ninety-nine Years, some most eligible BUILDING SITES at Neyland New-town, adjoining the South Wales Terminus, and fronting Milford Haven. Terms from 1s. to 8s. 6d. per foot frontage. Also, some most desirable plots elsewhere adjoining the South Wales Station at Haverfordwest, where at Tenby and Saundersfoot, most delightfully situated.—For plans and particulars apply to Mr. W. H. LINDSEY, Architect, or to Messrs. GOODE and OWEN, Haverfordwest

BUILDING LAND in the CITY.—TO BE LET on LEASE for 78 years, the remaining portion of the BELLE SAUVAGE YARD, Ludgate-hill, the property of the CUTLERS' COMPANY, consisting of 58 feet by 47 feet (with double frontages, and 86 feet by an average of 50 feet, admirably adapted for warehouses, &c. Apply to Messrs. BEAUMONT and THOMPSON, Solicitors, 15, Lincoln's-inn-fields; or Messrs. TRESS and CHAMBERS, Architects, 27, Queen street, City.

RICHMOND, SURREY.—TEN ACRES of eligible FREEHOLD LAND, at Richmond, Surrey, land-tax redeemed, close to the railway station, and in the line of the intended direct road from the station to Richmond hill, TO BE LET or SOLD on BUILDING LEASE, by Tender, in one lot or in several lots.—Particulars, with plans, may be had of Messrs SMITH and SON, Solicitors, Richmond; of Mr. JOSEPH HOLMES, Surveyor, Twickenham; and of Mr. JAMES LONG, Richmond.

CHISLEHURST, Kent.—TO BE LET, on LEASE, or the FREEHOLD TO BE SOLD, healthful and picturesque SITES for BUILDING, in large or small plots, selected from an area of 900 acres, close to the Chislehurst Railway station, Mid-Kent Railway, ten miles from London, with ten trains daily.—For particulars, apply to Mr. R. P. BROWNE, Royal-place, Greenwich, and 13, Birchin-lane, London; or to Messrs. HARRISON and FINCH, 2, Gray's-Inn-square, London.

CHANCERY-LANE.—TO BE SOLD, a valuable PLOT of FREEHOLD LAND, at the corner of Carey-street, with an extensive frontage, both on Chancery lane and Carey-street, and an entrance from Star-yard. The property presents unusual advantages, both as to light and access, and is particularly eligible as a site for a goable building, for offices, or for the erection of extensive business premises.—For particulars, apply to Mr. BELLAMY, 8, Charlotte-street, Bedford-square; or to Mr. POWNALL, 80, Lincoln's-inn fields.

CLAPHAM PARK.—LAND TO BE LET, on Building Leases, most desirably situated in the best parts of the Park Rent moderate. Direct from the freeholder.—Apply to Mr WILLIAM HILL, Builder, &c Brixton-hill.

PADDINGTON.—BUILDING LAND TO BE LET, on Lease, suitable for the erection of First-Class Buildings, and is the only piece that remains to be covered. The adjoining property is all finished and let. Road and sewers made. For further particulars apply at Mr. RAMSAY's Office, Westbourne-square, Paddington, or to Mr. H. M. RAMSAY, Surveyor, Southwood-terrace, Highgate, N.

BUILDING GROUND TO BE LET, near the Bricklayers' Arms, and close to a church now building. It consists of space sufficient for four small houses. The situation will always command respectable tenants; long term, ground-rent moderate. Apply to Mr. THOMAS SCOTTOCK, 16, Buckingham-square, New Kent-road

ON THE RIVER LEA.—TO BE LET, on LEASE, FIVE ACRES of FREEHOLD BUILDING LAND, situate at Hackney wick, near Victoria-park station, possessing valuable frontages to the Lea Navigation and Sir George Duckett's Canal, to which an extensive wharf is already formed, with a capital lay-by for barges. The land abuts upon a good road, and is most eligible for the erection of warehouses of any kind, or for a ship or boat builder. The railway crosses a portion of the land from which a siding can be formed. Also TO BE LET, some eligible BUILDING LAND for small houses or manufacturing premises, within a few minutes' walk of Bow station.—Apply to Mr. DEBENHAM, 80, Cheapside, where a plan may be seen.

TO BRICKMAKERS, BUILDERS, AND CONTRACTORS.

TO BE LET, at a low Royalty, a BRICK-FIELD, in the parish of Dovercourt, near Harwich, close to the flourishing new town of Dovercourt, where there is a great local demand for bricks of all descriptions, containing from five to twenty acres of first-rate earth, situated close to a spacious free quay, where Bricks can be shipped for the London market at a small cost, and chalk, ballast, &c. can be landed close to the field, and within a quarter of a mile of the new town now building, eight to ten millions of bricks may be made annually.—Applications to be made to the Proprietor, JOHN PAGDEN, Portland and West-Rock Roman Cement Manufacturer, Dovercourt, near Harwich. The Trade supplied with a genuine article, at the lowest price possible, by Barge alongside in the River Thames, or to any other port.

WAREHOUSE BUILDING GROUND TO BE LET.—CITY of LONDON.—PARISH of ST. MARY, ALDERMANBURY. The Vestry hereby give Notice, that they are prepared to receive PROPOSALS for taking, on a building lease for ninety years, a most eligible and extensive PLOT of FREEHOLD GROUND, at present occupied by workhouses, situated Nos. 18 and 19, Addle-street, at the corner of Love Lane. Plans and specification of the property may be inspected, on application to Mr. EDMUND WOODTHORPE, Architect, 28A, Basinghall-street; or to Mr. CHARLES WILSON, 15, Bucklersbury, Vestry Clerk of the Parish, to whom Tenders, addressed to the Churchwardens, shall be sent.

VERY EXTENSIVE newly erected PREMISES, situate in the vicinity of High Holborn, admirably adapted for manufacturing purposes requiring great space, or for subletting; comprising about 40,000 feet of floor area, with a frontage of upwards of 200 feet to the principal street, and an unexpired term of dry, valuable building ground of about 60 feet by 100 feet, for ninety years to come.—Apply to Messrs. TAYLOR and SON, 70, Bedford-row, W.C. TO BE LET, TOGETHER or SEPARATELY, or the LEASE DISPOSED OF.—Apply to Mr. DEBENHAM, Estate Agent, 80, Cheapside. [Fol. 2,342

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The List of Subscribers and Annual Report may be obtained of the Hon. Secretary. Subscriptions will be received by WILLIAM TITE, Esq., St. Helen's-place, the Treasurer; or by Mr. GOULD, the Collector, 72, Great Ormond-street, W.C.

J. TURNER, Hon. Secretary, 15, Wilton-street.

THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM, W.—On WEDNESDAY next, at EIGHT P.M. precisely, Mr. BERESFORD HOPE, M.P., will LECTURE on "The Connexion between Fine Art and Workmen may obtain Tickets, and Catalogues of the Attendant in the Gallery of the Architectural Museum; at the Office of "The Builder;" or by Letter to the Hon. Secretary at 13, Stratford-place, W.

GEORGE GILBERT SCOTT, A.R.A., Treasurer.
JOSEPH CLARKE, F.S.A., Hon. Sec.

COMPETITIONS.

MIDDLEWICH CEMETERY.—TO ARCHITECTS.—The Middlewich Burial Board are desirous of receiving plans, accompanied with specifications and estimates, for the ERECTION of TWO plain, neat CHAPELS, a Sparate each, other, but not under one foot, the same to be so constructed as to form one entrance to the Cemetery. The estimate not exceed £2,000. The Burial Board will not pay any expense whatever for preparing plans, &c. The party whose plans, &c. are approved, will be required to superintend the carrying out of the same, and be paid according to the usual per-centage. Every information will be given by the Clerk to the said Burial Board, to whom the plans, estimates, and specifications are to be sent, on or before the 31st day of DECEMBER next.—By order of the Board,

CHARLES FREDERICK BARKER, Clerk.

Middlewich, November 11, 1858.

MANCHESTER ASSIZE COURTS.—To ARCHITECTS.—The Justices of the Peace for the County of Lancaster are desirous of receiving DESIGNS for the proposed MANCHESTER ASSIZE COURTS, LODGINGS for Her Majesty's Judges, Offices, Lockups, and all other accommodation which may be necessary or convenient for carrying on the civil and criminal business usually transacted at courts of assize. A premium of £200 will be given for the best design; £300 for the second best; and £100 for the third best. The various buildings are to be of Strangeways Hall, stone in Bury New road, or Great Ducie-street, Manchester. A plan and section of the site, and full printed particulars may be obtained on application, by post or otherwise, to the undersigned, with which the designs must be left on or before the 1st day of MARCH, 1859, at his Office, 37, New Bailey-street, Salford.

FREDERICK C. HULTON,
Clerk to the Manchester Assize Courts' Committee.

Salford, November 20, 1858

ARCHITECTS and OTHERS, desirous of forwarding PLANS or MODELS of NEW TABERNACLE for the congregation of the Rev. C. H. Spurgeon, on the site near the Elephant and Castle, Newington, may obtain plan of site and particulars on application, by letter, postpaid, addressed to Mr. THOMAS COOK, Hon. Sec. Building, Battle, South Lambeth. Previous to 30th and 20th. Designs to be sent in on or before JANUARY 31, 1859

CONTRACTS.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the ERECTION of a GUARD-HOUSE, &c. at the General Hospital at Woolwich. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender may be obtained, at the Royal Engineer Office, Grand Depôt, Woolwich, on and after MONDAY next, 29th NOVEMBER, to TUESDAY, the 7th of DECEMBER, 1858, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered or forwarded, prepaid, to the Director of Contracts, War Office, Pall-mall, London, S.W. at NOON, on FRIDAY, the 10th DECEMBER, 1858, marked "Tender for Erecting a Guard-House, at Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich, Nov. 23rd, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for Constructing a GAS-METER HOUSE, and providing and laying GAS-MAINS to the Royal Artillery Barracks and Royal Military Academy at Woolwich. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender, may be obtained at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, on and after MONDAY, the 29th instant, up to TUESDAY, the 7th of DECEMBER, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered, or forwarded prepaid, to the Director of Contracts, War office, Pall-mall, London, S.W. at NOON, on FRIDAY, the 10th DECEMBER, 1858, marked "Tender for Gas-mains, &c. at Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich,
24th November, 1858.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the CONSTRUCTION of a SCHOOL HOUSE, on Woolwich-common, and the CONVERSION of the COTTAGE SCHOOL int SCHOOLMASTER'S QUARTERS. The drawings may be seen, and copies of the specification, terms of contract, and forms of Tender, may be obtained at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, on and after MONDAY, the 6th inst., to THURSDAY, the 16th DECEMBER, 1858, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered, or forwarded prepaid, to the Director of Contracts, War Office, Pall-mall, London, S.W. at NOON on TUESDAY, the 21st DECEMBER, 1858, marked "Tender for Erecting School House, &c. Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich,
1st December, 1858

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War office, Pall-mall, London, on or before THURSDAY, the 9th day of DECEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT-OFFICES, at Dover Castle. Drawings and a specification of the work to be executed may be seen by persons fully competent to undertake the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from TUESDAY, the 7th of DECEMBER, to TUESDAY, the 21st DECEMBER, 1858, inclusive, Sundays excepted. The parties whose Tender may be accepted for the work will be required to enter into a bond, with two sufficient sureties, jointly and separately to be bound under a penalty of £600 for the due performance of the contract. Tenders for the above Work to be addressed to the Director of Contracts, War-office, Pall mall, London, S.W. and endorsed, "Tender for Married Soldiers' Quarters at Dover Castle."

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, November 23, 1858.

NOTICE to GAS-FITTERS.—The Commanding Royal Engineer of the Dover district hereby gives Notice that sealed TENDERS will be received at the Office of the Director General of Contracts, War office, Pall mall, London, S.W., on or before THURSDAY, the 9th day of DECEMBER, 1858, from such competent persons as may be desirous of CONTRACTING with the Secretary of State for War, for LAYING on GAS to the several BARRACKS at Walmer, Canterbury, and Hythe. The work will be required for on a printed schedule of prices, and only one contractor will be accepted for the whole or the greater part or even of the above stations, viz. Walmer, Canterbury, and Hythe, and the parties tendering must state on each schedule, according to the printed directions thereon, the rate at which they are willing to perform the work; but the rates of per centage may be different for each station, should it be deemed expedient, and the Contractor at any one of the above stations may be required by any competent person, Printed schedules, and every part relating thereto, may be had on application at the Royal Engineer Offices at Dover, Walmer, Canterbury, and Hythe, any day (Sunday excepted), between the hours of TEN and FOUR o'clock from THURSDAY, the 2nd of DECEMBER, to WEDNESDAY, the 8th of DECEMBER, 1858, after which time none will be issued. Tenders for the said Gas-fitting to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed "Tender for Gas-fittings" at Walmer, Canterbury, or Hythe, as the case may be. No Tender will be attended to which is not filled up exactly according to the instructions as stated in the printed schedules, nor will any offer be accepted but from such person or persons as may be considered competent to perform the work for which they may Tender.

N.B. The War Department reserve to themselves the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, November 27th, 1858.

TO BUILDERS.—Notice is hereby given, that TENDERS will be received at the Office of the Director of Contracts, War Department, Pall-mall, London, by NOON on WEDNESDAY, 8th DECEMBER, next, for CONSTRUCTING WATER-CLOSETS, IMPROVING LATRINES, LAYING DRAINAGE, &c., at Anglesey Barracks, Fort Clarence. Plans and specifications may be seen, and every information obtained, on application at the Office, from TEN till FOUR o'clock, between the 24th NOVEMBER, and the 7th DECEMBER.

Royal Engineer Office, Portsmouth, Nov. 20, 1858.

CONTRACTS.

WEST HAM LOCAL BOARD of HEALTH—SEWERAGE.—CONTRACT, No. 5.—To CONTRACTORS and OTHERS.—The Local Board of Health for the District of West Ham, in the County of Essex, hereby give Notice, that they are prepared to receive TENDERS from persons willing to undertake the following described

CONTRACT, No. 5.—For the Supply of Materials, and for the Execution of a River-Wall, certain Main Outlet, Branch Sewers, Manholes, Temporary Pumping Station, and other Works as under:—About 100 Lineal Yards of River-Wall, complete; and about 3,300 Lineal Yards of Brick Sewer, from 6 feet 3 inches and 3 feet 6 inches, to 2 feet, and 9 inches thick; also about Seventy-three Tons of Castings, in Pipes, &c.

The specification may be examined, and forms of Tender, schedules of prices, &c. may be obtained, on and after MONDAY, the 22nd day of NOVEMBER instant, on payment of One Guinea, at the Office of WILLIAM JAMES BARSHAM, Solicitor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 34, Parliament-street, Westminster, where plans of the proposed works may be seen, and any further information relative to the contract may be obtained. Sealed Tenders to be delivered at the Clerk's Office, Stratford-green aforesaid, on or before MONDAY, the 13th day of DECEMBER next, endorsed "Tender for Sewers and River-Wall, Contract, No. 5."

(Signed) W. J. BARSHAM, Clerk to the Local Board.
Stratford-green, November 16, 1858.

TO MANUFACTURERS, WAREHOUSEMEN, CARRIERS, and OTHERS.—WHITECHAPEL WORKHOUSE, WHITECHAPEL-ROAD.—The Guardians of the Poor for the Whitechapel Union will treat with a Person for the New Workhouse, Circles-street, Mile End New Town, on 15 FRIDAY, the 21st day of DECEMBER, 1858, at TWO o'clock in the afternoon precisely, to receive TENDERS for [illegible] to PURCHASE that portion of the GROUNDS [illegible] fronting the rear of the Whitechapel Workhouse premises, commencing at the distance of about 85 feet, or thereabouts, [illegible] the Whitechapel road, more particularly shown on the [illegible] hereunto annexed, having a frontage and right of way [illegible] extent of about 297 feet, and bounded on the north by the Whitechapel Society's school premises and by the burial [illegible], 300 feet east, by adjoining stables, 150 feet, and on both by the premises belonging to Tavistock's Wharf, and the grounds and buildings [illegible] the first portion of the said Workhouse premises, 222 feet, containing an area of about 17,800 superficial feet. On part of the site there are two ranges of [illegible]-constructed Four-story Warehouse Buildings, being together in length about 150 feet by a depth of 81 feet, having for the most part windows on both fronts; there are also some One and Two-story Buildings, and also large and convenient Yards. The plans can be seen, and forms of Tender obtained, on application at the Offices of Mr. H. E. S. MIRFIELD, Vestry Clerk's Offices, 5, Great Prescot-street, Whitechapel, or Mr. JOHN HUDSON, Architect and Surveyor, of 40, Leman-street, Whitechapel; and at the Workhouse, on the Premises. The Guardians do not bind themselves to accept the highest or any Tender. By Order,

19th November, 1858. G. ADAMS FARR, Clerk.

TO BUILDERS and OTHERS.—Persons desirous of TENDERING for the ERECTION of the PASSENGER STATION and other Buildings for the Valley of Clwyd Railway, at Denbigh, may see the drawings and specifications, and obtain the necessary information at the Company's Office, and offer THIS DAY, the 2nd of DECEMBER next. Sealed Tenders, endorsed "Tenders for Railway Station," to be sent, under cover, to me, by TEN o'clock on MONDAY, the 13th of DECEMBER.

R. LLOYD WILLIAMS, Architect.

Denbigh, November 24, 1858

BOROUGH of READING.—LOCAL BOARD of HEALTH.—Notice is hereby given, that the Local Board of Health for the district of the borough of Reading are prepared to receive TENDERS from persons desirous of undertaking the PUBLICATION of the MAP of the BOROUGH, belonging to the Board. The map, together with the conditions upon which the Board are willing to allow the use of it for this purpose, may be seen at the Office of Mr. J. B. MARSHALL, the Surveyor to the Board, 74, Oxford-street, Reading. Sealed Tenders, endorsed "Tender for Publication of Map," must be sent to me on or before TUESDAY, the 14th day of DECEMBER, 1858. The Board do not bind themselves to accept the highest or any Tender. By order of the Board,

THOMAS ROGERS, Clerk.

14, Friar-street, Reading, November 26, 1858

TO STONE MERCHANTS.—BOROUGH of CAMBRIDGE.—The Cambridge Improvement Commissioners are desirous of receiving TENDERS for a supply of about [illegible] of YORKSHIRE HARDEST DOUBLE FLAGS, full 3 inches thick, delivered on the lighters at Lode Reach. Sealed Tenders stating the time of delivery after receipt of order, ensured [illegible] for Paving stone," to be delivered at the Office of the Town-clerk of Cambridge, on or before the 11th day of DECEMBER, 1858.—By order,

FREDERICK RANDALL, Clerk.

TO BUILDERS.—WOLSTANTON CHURCH.—EXTENSION of TIME.—Parties desirous of CONTRACTING for the RE-BUILDING and RE-PAVING of the PARISH CHURCH of ST. MARGARET'S, at Wolstanton, in the county of Stafford, have inspected the plans and specifications, and obtained further information, at the Office of Mr. Hanley, in the Potteries, from this date till THURSDAY, the 9th day of DECEMBER next, on which day the Tenders must be delivered to me, under cover, to the churchwardens, and properly endorsed. The lowest Tender will not necessarily be accepted, and the contractor will have to provide sufficient and substantial sureties. Bills of quantities, &c. [illegible] at a charge of 5s per set.

WARD and SON, Architects.

Hanley, Staffordshire, Nov. 3, 1858.

NOTE.—Wolstanton church is situate on a branch from the Berkswich of the North Staffordshire Railway, and about a mile and half from the town of Newcastle-under-Lyme.

[For remainder of Contracts see next page.

CONTRACTS.

TO BUILDERS.—Persons desirous of CONTRACTING for the RESTORATION of a PORTION of the CHOIR of LIMERICK CATHEDRAL can inspect the drawings and specification at the office of the Architect, Mr WILLIAM SLATER, 1, Carlton-chambers, Regent-street, S.W., on and after MONDAY, DECEMBER 20th. Tenders to be sent to Mr SLATER on or before JANUARY 10, 1859. The lowest or any Tender will not necessarily be accepted.

TO ENGINEERS and OTHERS.—The Guardians of the Parish of Camberwell, Surrey, will at their meeting to be held on WEDNESDAY, the 8th of DECEMBER next, be ready to receive TENDERS for CONSTRUCTING and FITTING complete in the Workhouse, TWO STEAM BOILERS, for supplying Warm Water apparatus and Wash-Coppers in their Workhouse, Hot-houses, Conservatories, Baths, &c. Plans and specifications may be obtained on application; and the present boilers, which are to become the property of the Contractor, may be viewed on the Tender, with Forms of the Work to be done. Sealed Tenders, endorsed "Tenders and Steam Boilers," are to be delivered at the Workhouse, Camberwell-green, on or before the hour of TWELVE o'clock on the aforesaid day, and the parties tendering will be required to be in attendance at FIVE o'clock.—By order of the Board of Guardians, ALEXANDER LODE IRVINE, Jun., Clerk.
Vestry-hall, Camberwell, November 24, 1858.

BUILDERS and CONTRACTORS who may be desirous of TENDERING for the Works required to be done in the ERECTION of the UNION CHAPEL proposed to be built in Market-street, King's Lynn, Norfolk, are hereby informed that they may see the plans and specifications at the Workhouse, King's Lynn, on the other MONDAY, the 6th of DECEMBER, 1858. Tenders, sealed and endorsed "Tenders for Chapel," to be sent, under cover, addressed to Mr. JOSEPH KERKHAM, 82, High-street, King's Lynn, on or before the 20th day of DECEMBER next. The Committee do not bind themselves to accept the lowest or any particular Tender. Quantities may be obtained on paying five shillings and sixpence to R. MOFFAT SMITH, Architect, 42, Lloyd-street, Cooper-street, Manchester.

CONTRACT for RAILWAY FENCING. The Directors of the LONDON, BRIGHTON, and SOUTH-COAST RAILWAY are prepared to receive TENDERS for the supply of 12,500 MORTICED POSTS, 12,500 PEELED POSTS, and 25,000 RAILS scarped at ends, and to cut from sound Larch, Scotch, or Spruce Fir. Further particulars and forms of Tender to be obtained on application to the Storekeeper, Mr W. WALKER, Brighton Terminus. Sealed Tenders, endorsed "Tenders for Fencing," to be delivered to the undersigned, not later than WEDNESDAY, the 8th DECEMBER, 1858. FREDERICK SLIGHT, Secretary.
London Bridge Terminus, Nov. 20, 1858.

REDUCED PRICE OF CAST STEEL BELLS.

MESSRS. NAYLOR, VICKERS, and CO.'S PATENT CAST STEEL BELLS, from 30 lbs. to 8,000 lbs. in weight; and also in peals, as at foot, may be obtained of their
SOLE AGENTS,
MESSRS. WHITE and BATES,
OZELLS-STREET, BIRMINGHAM.
Specifications, &c., on application. These Bells are manufactured of the finest cast steel, and are guaranteed to be equally pure in the quality and tone of their metal as Bells cast in bronze.

PEAL OF FOUR		FOUR	FOUR BELLS.
Weight about	2,240 lbs.	3,136 lbs.	5,600 lbs.
Tenor to be in Key B flat.		42 in. Key G.	52 in. Key E.
Price about		£270.	£370.

PEALS OF FIVE	FIVE.	FIVE.	FIVE BELLS.
Weight about	2,800 lbs.	4,480 lbs.	7,000 lbs.
Tenor to be in Key D.	42 in. Key G.	48 in. Key F.	54 in. Key E.
Price about	167	280	380

PEALS OF SIX.	SIX.	EIGHT.	EIGHT BELLS.
Weight about	6,720 lbs.	8,960 lbs.	17,360 lbs.
Tenor to be in	52 in. Key F.	54 in. Key E.	64 in. Key C.
Price about	350	520	1,000

Single Church Bells, 30 in. diameter and upwards, 10d. per lb.

VULCAN IRON FOUNDRY,
8, MARY-LE-BUILDING, DRURY LANE
Castings of every description at reduced prices.
No charge for the use of Patterns.

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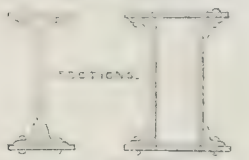
WROUGHT GIRDERS AND FLITCHES,
And all kinds of Smiths' Work.

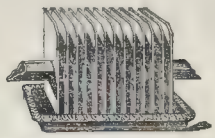


STOVE and RANGE MANUFACTORY.
The only Maker of Ironmongers' Self-acting Kitchen Ranges, 25, T. tenham Court Road.
G. BARRETT, Proprietor.

MIRAMS, COWELL, and CO.
WHOLESALE AND RETAIL
IRONMONGERS,
RANGE AND STOVE MAKERS,
20, CHISWELL-STREET, FINSBURY,
Beg to call the attention of the Building Trade to their
IRONMONGERY AND BELL-HANGING MATERIALS,
PIPES, GUTTERS, &c. &c.
At very low Prices.
A full List of which can be obtained on application, by enclosing a card.
N.B. A LIBERAL DISCOUNT TO THE TRADE.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c.—The Trade supplied on the best terms with Hollow-ware, Jet, Tube and Copper Wire, Pendants, Brackets, and Joints of all descriptions for Gas-fitting, in Brass and Iron. Tee, Compression, Bow, and Brass Bracket Cocks. Pillar, Ridge, and Lamp Cocks. Patent Self-acting Bracket Joints. Also Superior Bedroom Furniture, Escutcheons, Castings in Fan and Common Brass, Gun Metal, &c. &c.
RICHARD EVERITT'S Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charlotte-st., Leicester-square, London.

TO IRONMONGERS, BUILDERS, &c.
PATENT WROUGHT-IRON WELDED TUBE for GAS; Galvanised ditto, for Water; High-pressure Tube, &c. Manufactured by the Advertisers for Lloyd's Registry.
HULETT and CO. 55, High Holborn.



THE LONDON
WARMING AND VENTILATING COMPANY,
LIMITED,
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MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known means.

The Horticultural student will find here in an instrument of new and important powers.

The Apparatus may be seen in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and in many churches and other buildings.

Particulars and testimonials forwarded on application.

JAMES HAYWOOD, Jun.
PHŒNIX FOUNDRY AND ENGINEERING WORKS,
DERBY,
MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
WROUGHT IRON GIRDERS, TANKS, &c.

CHUBB'S
WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,
Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at
57, ST. PAUL'S CHURCHYARD.

TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.
ADOPTED BY THE GOVERNMENT.
EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.
THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.

FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of Fenders, Stoves, Register Fire-irons, and General Iron Mongery as cannot be had elsewhere, either for variety, novelty, beauty of design, or combination of the two. Bright steel and ormolu fenders, with standards, 3 ft. 6 in. to 4 ft. 6 in., 3 guineas to 8 guineas each; bronzed fenders, with standards, 3 ft. 6 in. to 4 ft. 6 in., steel mounts, 2l. 2s. to 3l. 3s.; ditto, with rich ormolu ornaments, from 2l. 12s. to 8l.; fire-irons, from 2s. 6d. the set to 2l. 2s.

The BURTON and all other PATENT STOVES, with radiating hearth plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, or forwarded post free. It contains upwards of 400 Illustrations of his illustrated Stock of Electro and Sheffield Plate, Nickel's Silver and Britannia Metal goods, Dish-covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays and Kettles, Tea-trays, Urns, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c. &c. with Lists of Prices and Plans of the Sixteen large Show Rooms at 39, Oxford-street, W.; 1, 1a, 2, and 3, Newman-street; and 4, 4a, and 6, Perry's place, Oxford-st. Established 1820.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.
RAIN-PIPES, &c.—F. A. TIDDEMAN and CO. St Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keep a large Stock of Rain Pipes, Heads, Shoes, Elbows, &c.; Half-round and O Gutters, Socket Pipes for Water or Gas, Drain Pipes, Hot Water Pipes and Connections, Sash Weights, and other Castings; Iron-work for Bakers' Ovens of every description, fitted complete, or be sent in Parts. Prices and Patterns on application. Contracts taken to any extent. Goods landed. A powerful Crane.

TO ARCHITECTS AND BUILDERS
THE BEST SPRING yet introduced for SINGLE and DOUBLE ACTION DOORS, is
THE PATENT CLIMAX.
The advantages over all others are the great power obtained with durability, it is not liable to get out of order, may be had of all respectable Ironmongers in town and country, and of the manufacturers, JAMES CARTLAND and SON, BIRMINGHAM.

FIRE-PROOF CONSTRUCTION.—FOX AND BARRETT'S PATENT
This improved system of fire-proof construction has been most extensively adopted and is now in use in the largest and best warehouses recently erected in London, Liverpool, Manchester, Glasgow, and other towns.
EVERY DESCRIPTION OF BUILDING whether public or private, may be rendered fire-proof by the adoption of this system, which possesses the following important and unquestionable advantages:
The floors and roofs are formed by a combination of joists of wrought iron, rolled in peculiar forms, and arched brickwork, so arranged as to effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire-proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or tiles, or asphalte, or Portland cement.
Some of the largest and most important buildings that have been or are now in course of erection in London, which it would be impossible to the public to allow us to state, are being constructed upon the principles of this system, and the following, the great desideratum of most persons building, viz., a fire-proof dwelling-house, can be constructed by us, within the reach of every one.
Further information may be obtained from the Proprietor of the Patent,
Mr. BARRETT,
12, YORK BUILDINGS, ADELPHI.

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HART'S PATENT ECONOMIZING GAS-BURNER is the greatest invention to prevent all the evils attending the use of Cannel Coal Gas. Pamphlets of perfect testimonials free. Price 2s. each. Sent on receipt of 30 stamps.
N.B. REGULATOR BURNERS, for Cannel and REGULATOR DIFFUSE the ILLUMINATING POWER, but, on the contrary, CHECK its DEVELOPMENT.
DEPOT, 61, FLEET-STREET.

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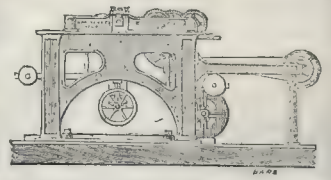

S. WORSSAM and CO. beg to call the attention of the Public to the new Machine for dovetailing, rebating, and grooving; recent additions to wood cutting machinery; comprising, among others, the following:—Improved double vertical moulding machine, for working at once, top and bottom mouldings up to 11 inches in width, sash bars, &c.); Orlet's patent cooperage machines, well adapted for all large brewing establishments; Whine's patent dovetailing machine, recently ordered by the authorities for Deptford dockyard; machines for railway carriage building, for planing, tongueing, and grooving, and chain planing machines, &c. of which a full description is given in their illustrated catalogue. Apply at the Works, 204, King's-road, Chelsea, S.W.

THOMAS ROBINSON
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ROCHDALE, near MANCHESTER,
PATENTEES,
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Makers of Sawing, Planing, Moulding, and other Woodcutting Machinery.
IMPROVED VERTICAL SAW,
For Cutting out Sweeps and Circles.
Price 20l.
Drawing sent on application.

STEAM TRAVELLING-CRANE, and STONE-HOISTING MACHINE, also large TANK FOR SALE.—STEAM TRAVELLING CRANE for SALE, power 7 horses, seven tons, with shafting balance-weights and gear complete; STONE-HOISTING MACHINE, [illegible] Lords; large circular CAST-IRON TANK, in plates fitted with bolts and nuts, to hold about 7,000 gallons, 23 feet in diameter by 8 feet [illegible]. Inquire of Mr. E. WILLIAMS, 1, Russell place, Fitzroy-square.

TO PROPRIETORS of SAW-MILLS and OTHERS.—TO BE SOLD, an IRON SAW FRAME, in good working order. May be seen at work, and particulars had of Mr. BOWLER, Old Jamaica Wharf, Upper Ground-street, Blackfriars.

PIERCE'S STOVE GRATE MANUFACTORY AND SHOW-ROOMS,

5, JERMYN-STREET, REGENT-STREET.

IMPORTANT IMPROVEMENTS IN WARMING AND VENTILATING,

For which the Prize Medals of the Great Exhibitions of London and Paris, also the large Silver Medal of the Society of Arts, in 1845, were awarded to PIERCE, the Inventor and Manufacturer of the Healthful

Fresh Air Warming and Ventilating Pyro-Pneumatic Stove Grates,

For Churches, Chapels, Schools, Class-rooms, Public Buildings, Galleries, and Entrance halls, or any situation in which wholesome Warmth with continuous Self-acting Ventilation may be desirable.

Pierce's Unrivalled Pyro-Pneumatic Warming and Ventilating Stove-Grates,

Specially constructed for Warming and Ventilating Churches, Chapels, Entrance Halls, Staircases, and large Rooms in Public Buildings, &c. being the only pure Warm-Air Stove yet invented that is constructed entirely of Fire Lump, without any heating surface of Iron.

This Stove-Grate possesses the cheerful open Fire; the air warmed by it is entirely healthful, and is not rendered unfit for respiration, as in the case with all close Stoves that are constructed of Iron; and from the novelty of its principle, economy in use, and elegance of design, this Stove-Grate is far superior to any other Grate, from 7 lbs. to 21 cwt. in plain design; and may be had of ornamental character, either Grecian, Italian, Elizabethan, or plain and enriched Gothic Patterns, &c.

Pierce's Celebrated Fresh Air Fire-Lump Grates,

FOR WARMING AND VENTILATING INFIRMARIES,

INFANT SCHOOLS AND CLASS-ROOMS,

Wards of Hospitals, Dormitories, and Sleeping Rooms,

Have now been in use for several years in all the various Wards of the London Hospital, Mile-end-road, at the County Hospital, Huntingdon, the Infirmary of the Guildford Union, the Lecture and Class-Rooms of the Philological Schools, corner of Lisson-grove, New-road; at the Chantry Schools, Frome, the Training Colleges of Saltley and Bishop Stortford, the General Artillery Hospital at Woolwich Arsenal, the New Corn-Exchange at Sleaford, &c. &c.

At prices from 75s. to 150s.

PIERCE'S PRIZE-MEDAL FIRE-LUMP GRATES — HEALTH, WARMTH, COMFORT, AND ECONOMY,

FOR WARMING TWO ROOMS FROM ONE FIRE, SPECIALLY ADAPTED FOR COTTAGERS,

As by using this Grate the fire used in the Living-room is made to warm the Bedroom above, or another room at the back. This Grate is most Economical in use, giving off a large portion of radiant heat, has the advantage of two large Trivets, and good Hobs for well adapted for Cooking.

Made in two sizes, 29 inches and 32 inches wide, price 30s. and 35s.

ARE COMBINED IN

PIERCE'S ORIGINAL FIRE-LUMP, RADIATING AND VENTILATING FRESH AIR, REGISTER GRATES.

(Recently Reduced in Price for our own use of 10 years, from the great superiority over all other grates.)

These Patented Grates, as fully explained by testimonials, possess essential advantages in point of economy, moderate consumption of fuel, are manufactured after the most Elegant Designs in the various styles of Ornamental Furniture, for DRAWING and DINING ROOMS, LIBRARIES, HALL, &c.

A Large Assortment, with Engravings of Fire-Lumps, to be had on View.

PIERCE is also desirous to call attention to his IMPROVED METHOD of WARMING CHURCHES, MANSIONS, GALLERIES, STAIRCASES, ENTRANCE HALLS, &c. by HOT WATER from one Small Boiler and Furnace FIXED in the BASEMENT, warmly Warmth, combined with Ventilation, safety from all danger of fire, & large amount of comfort obtained by steady, long-fully established principles in

KITCHENS, LAUNDRIES, and DRYING ROOMS, united with the ever-required Ventilation by the patent principle. WARM BATHS in the BEDROOM FLOORS supplied at a trifling cost from the BOILER of the SERVANTS' HALL or BUTLER'S-ROOM GRATE, and are thus ready to use at a moment's notice.

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IRONMONGERS, FACTORS, AND GENERAL MERCHANTS,

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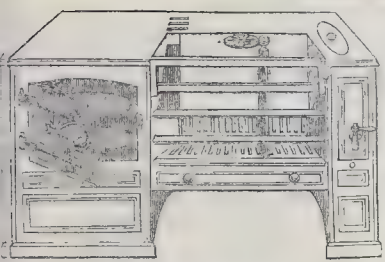
A LARGE ASSORTMENT OF BAR, SHEET, AND HOOP IRON, RANGE AND STOVE METAL; ALSO A GREAT VARIETY OF ELLIPTIC, REGISTER, COTTAGE, AND OTHER RANGES, FITTED, ALWAYS IN STOCK.



Register Stoves, with 8-in. Bars, per inch, 5d.
Improved New Pattern General Check Register, with strong Bars and Trivets, 6d. per inch
Best Solar ditto, with Fire-brick Back, per inch, 10d.
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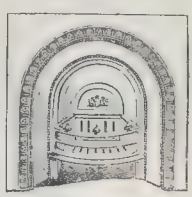

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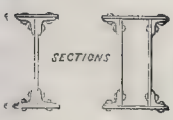

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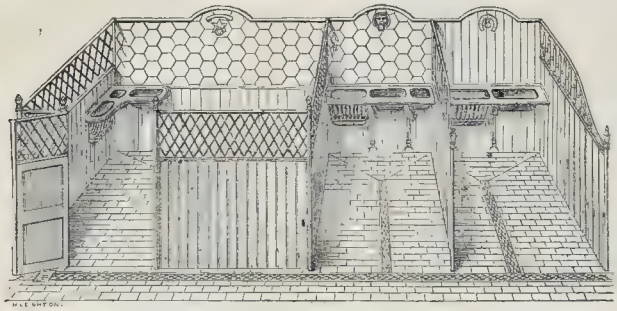

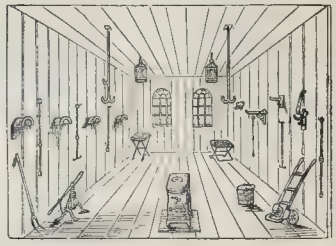

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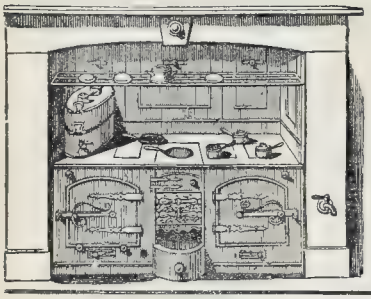

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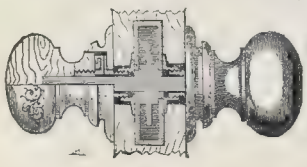

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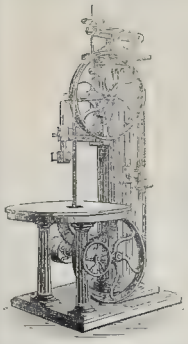

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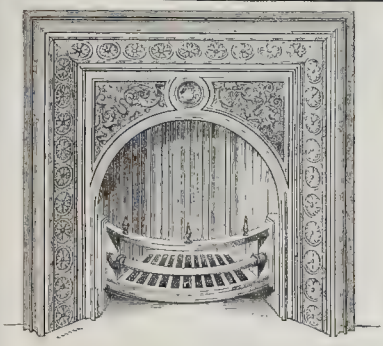

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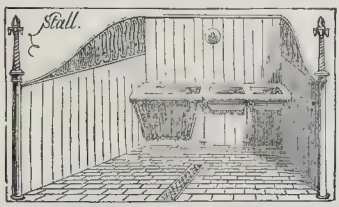

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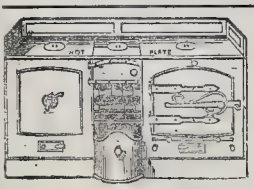

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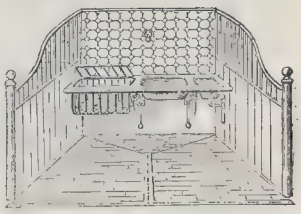

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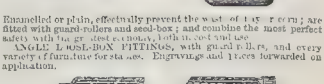

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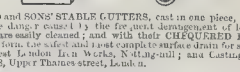

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LIFE OF JAMES WATT.

(THE INVENTOR OF THE MODERN STEAM ENGINE.)

Incorporating the most interesting passages from his Private and Public Correspondence.

By JAMES P. MUIRHEAD, M.A.

"James Watt, the great name in the roll of English inventors, left behind him a large store of [illegible] [illegible] published [illegible] [illegible] [illegible]

The Builder.

VOL. XVI.—No. 826.

The Architecture of our Day,—in London.

IN drawing attention lately to the prevalence of bad art,—as in the houses of the London suburbs,—as well as to the neglect elsewhere, of many of the elements requisite to effect of true *street*-architecture,—and in claiming, nevertheless, on the evidence, credit to our architects, for having made advances themselves, and for having achieved works which really did not compare unfavourably with those of some of the celebrated periods of art-history, and gave hope and promise of a brilliant future,—we were not unprepared for a charge of inconsistency, and for denial of our main conclusions by some of those who form their opinions on their prejudices, who are impenetrable to evidence from all but one side, or who have not that faculty—most rare, whilst essential to any value of opinion—the power rallying with itself the virtues of sincerity and humility, needed to the duly weighing of facts all and several, and the noting from them how the real preponderance lies. Not to all, indeed, are given the qualities that are called for in the office of the judge: yet, art would gain greatly, even through exercise of opinion of the multitude, could there be diffused a sense higher than what now prevails, of the obligation, we may say morally, to examine before the expression of an opinion whether it is that which is really felt. Even those who admit that they know nothing of art, but so generally assert that they know what pleases them, are amongst the class who make the obstacle to progress: for, such persons do not *know* to the extent they suppose; at least, their emotions are not worth an hour's purchase, and are no indication of conclusions after the exercise of thought, and after ocular observations repeated during years, which are what the artist has to cater for.

Art is not the matter of capricious belief and different to science—unstable and not demonstrable—as the House of Commons was lately told: the fact is not that the art and the artist fail; but that force of words cannot describe the higher operations of mind—only too subtle for weight and measurement. Who, however, shall doubt that the good art is created and can be appreciated by laws which are as much of nature, and eternal, as those of science and philosophy, and that it is as much within the range of the human understanding to feel and to act upon the one, as it is to read and expound and to carry forth the purpose of the other? Architecture, especially, as a field, is not dependant upon chance, incapable of being appreciated as living art, in its contemporary works, and these works enduring in their merit, by the public. Perfect convenience; adequate strength—actual, and absolutely apparent; that treatment of materials and features which eschews every pretence, and yet admits and requires every added grace of decoration and consistent ornament: these qualities, necessary to the existence of art in architecture, though, may be, not forming the whole of it, are not beyond the recognition of the public; and if estimated, they alone would preserve us from the greater part of such bad architecture as prevails. Errors on the part of architects—such as the exaltation of what is only style, or of *mere* structural truth as though *ipso facto*, beauty and art; or of *mere* novelty as beauty,—we admit: certain controversies in our ranks—some of which, one would think impossible, were the simple qualities which we have stated duly recognised and understood—are unfavourable to our *prestige* with the public; yet withal, the growth of the good principles is clearly apparent where architects are employed, and least influenced or interfered with, as in the case of buildings for municipal and commercial purposes, some of which in the city of London were mentioned, or alluded to, in our last article.*

To the multitude of writers who never will see that architecture in our day has produced, or can produce anything of excellence—whose aspersions come forth so glibly, because to condemn is held a sign of superior judgment, and because of an absolute opacity visually or intellectually to the beautiful in one of its phases,—to mere mediævalists, or those who see beauty in one sole style, and in no works that are out of it; or to those who will not recognise a good feature should there chance to be also a defect, we could have no hope of demonstrating that the balance is really tending in the desired direction. We would not, indeed, ourselves lay claim to any superior powers of discernment; yet it is possible, from the nature of our duties, that we may be favourably situated for receiving facts from opposite sources, as that we are not unpractised in the examination and estimation of them.

Concluding that there is, in the works of our day, every encouragement to perseverance, we do not, however, the less feel the necessity for understanding those counter-checks or even retrograde movements which characterize the course of our art. The difficulty herein, occurs mainly during the actual incidence of the operations of either kind, progressive or retrogradatory; for, at the end of half a century, it is easy to measure the alterations made in architecture, just as it is to appreciate the fact of advance in public health, contrasting the present state of mortality with that of any portion of the Middle Ages, when plague or "black death" prevailed. The test of actual position is this: Should we do well to exchange the experience that has accrued in half a century, and our prospects thereby, for any period of art that our own is occasionally contrasted with? If the answer be in the negative, that is tantamount to approval of our position, so far as the future is concerned, and as our means and exertions have to operate in the eventual trial.

The Duke of Argyll has been lately, at Dundee, asking the parallel question, or one in which our own is comprised,—Is there at present, advancement going on in civilization? For ourselves we may ask,—Even looking at the state of liberty in France, and the circumstances which have led to the prosecution of M. de Montalembert; at the excesses of the Anglo-Saxon race in new countries, and the degeneracy of it physically, as stated, in America; or at the positive destruction of certain interesting races before the tide of civilization, and the vices which it seemingly brings with it,—who, after all, reading dispassionately the history of the world, can lightly question that,—

"—— through all the ages, one increasing purpose runs;"

or wish in art, even were it possible, to revive the circumstances of the past, and relinquish hopes such as *we* will not repress. Art is but *one* of the agents of civilization. It is possible that the development of one agent—say that which dates from the invention of printing—may have caused less attention to be paid to another agent, and, therefore, what may seem to be a retrograde movement in some point of view. If, however, such movement do occur sometimes in our art, it is merely prefatory to a fresh start, aided by every other of the agents, and to the attainment ultimately of a higher position—correspondent to the accrued gain in civilization itself.

What is now wanting on the part of architects is an effective leading of the public taste in lieu of that habit with them of deference, which has come to warp, in innumerable, if in isolated cases, their own real belief—so constituting them part of the public, as falling into the same error and custom of self-delusion. We are, however, justified in saying that there are two very opposite lines of influence taken in the body of what are comprehended by the public as architects,—one sort of influence such as becomes abundantly manifest in the professional societies, in many contributions to our own journal, and in the class of buildings we have last spoken of,—as generally in the prevalence of sound views on points connected with materials and structure, which we have specified, and which may be due in great part to the lesson from the Mediæval architecture,—the other, an influence of those calling themselves architects, or usurping the functions of designers without the abilities, and an influence whether of these or of the public, whence result the bad architecture of the suburbs and the general London streets, all the pretences in material and the deformities in ready-made ornament, and a common absence of art, as even in the modern exhibition of that Mediæval style itself, whence so much of value has other ways been derived.

There are two sorts of forces at work—either, in point of fact, claiming to exemplify the office of living architecture; yet either, we doubt not, able to supply us with a majority of adherents in assent, to the views on the side where the truth lies. For, it is the practice of architecture, in certain cases, rather than any real prevalent principle, which requires to be amended. With a demand for good art in the homes of the people, an order of talent which is now confined nearly to public buildings would be sought for; or the inferior order, by whatever professional or trading designation it may now be known, would qualify itself or ensure supply of the needed article.

We trust we succeeded lately in awakening attention—not previously very apparent—to the amount of building-work going on in the suburbs of London, in which hardly any evidence of what we might now assume to be admitted principles in our art and our profession could be discerned. As a public question—for such we doubt not it will become—it must be matter of indifference by whom the art is supplied. The public interest can only be as to the existence somewhere of qualifications for the supply; and the course for architects claiming the first rank, and the only available course, is to educate the public to the discrimination of these qualifications, and to secure permanently the superiority in their own ranks. At present we hold that professional abilities of a high order have been demonstrated in certain important works. It is for the architects of such works to discover by what operation on opinion, or whether by any modification in their own calling, they can extend the domain of architecture over the mass of town and country building. If the way cannot be found, there are sufficient evidences that their legitimate calling will be further invaded by others.

It is not unimportant to the question we are adverting on, to observe that several of the recent buildings of the City, which we had in view in our last remarks, appear to have been in some degree commercial speculations by their architects, and those not men very widely known to fame. It is to be observed that the art in these works—certainly of a character betokening advancement—is part of the investment, and that all the aims, architectural, structural, and commercial, seem to be reached at once. To what extent the like agency might be resorted to by the profession in common house-building, we will not now examine; but, clearly, by the present race of speculators, even what are now the demands of the public are not supplied, either in regard to art, or to structure and convenience.

We have already mentioned some of the features which have entered into the recent architecture of the City: we have noted the good art growing from the very difficulties of site, and have perceived that superior expression has been obtained under conditions, as those of a shop-front, or of a large area of window-opening, which sometimes had been thought fatal to all architectural expression. We have seen where there has been some approach to the scenic effect, or that of true *street-architecture*, which we have desired: as well as that symmetry, with structural character, has been newly cared for, as in the larger buildings lately erected. We have regretted that the scenic

* See page 717, *ante*.

effect and that of individual structures were not duly reached, owing to neglect of plan in the streets and spaces, and to the absence of area adequate to the simple observation of the buildings. We have also adverted to an occasional error in the treatment of cornices, even where good effect by projection might otherwise, and safely, be obtained. We may mention on some other occasion points of treatment further, where skill is shown. But we may now remark that much ingenuity is displayed in getting sufficient light from the open areas in the midst of buildings; and the lantern lights to ground-floor rooms are usefully suggestive of variations in other cases very favourable to decorative effect. Actual effect also is attained in the staircases, (though confined these sometimes are,) by the treatment of the top-light, the goodness of the work, as in the stone steps and massive hand-rail, and by the candelabrum, or elegant standard-light which is placed as the newel.*

But what chiefly characterizes the architecture of the City is the now common use of stone, and with it not only elaboration, but greater study in details than ever seemed possible in imitative cement. Coloured materials are used, in some cases, in buildings in the main thoroughfares; but then sparingly. Polished red granite in some part of the lower story, or in shafts, is applied with best effect: tiles are used with skill, but any examples of their use are exceptional. It is doubtful whether colour should be used in exteriors of buildings otherwise of white stone, except most sparingly. Its tendency is to attract the eye from those features of the building in which colour is not used, as mouldings and ornaments, which may have been intended really as the leading forms. In brickwork, doubtless, greater use may be made of colour, without sacrifice; but recent attempts have not been very successful, and produce what Sir Charles Barry has well called a Tunbridge-ware-like appearance.

Both on the use of colour, and on the architecture in masonry, of the City buildings, we shall have other opportunities to offer some remarks that appear necessary to the completion of our subject.

* One internal court is covered with white porcelain tiles, elaborately cut to all breaks and projections.

SPECULATIONS PUBLISHED ON THE SEWAGE-DISINFECTION QUESTION.†

The case of the Clyde, as regards the sewage which it receives from the City of Glasgow, so far resembles that of the Thames and London, that the experiments or measures of remedy that may be adopted in the one case, are worthy of particular attention as regards the other. There is, moreover, this difference, that the Clyde is embanked, and without mud-banks,—in other words, it is in the condition which is partly relied on as a means of combatting the nuisance in London,—whilst the stench, notwithstanding, is great. We were aware that, some time back, prominent attention had been given at Glasgow to the question of *deodorizing*—as the phrase is, for want of an accurately descriptive word—as the means of attaining the object, that is to say, without the construction of intercepting sewers, themselves not absolutely certain cures or removers of the evil; indeed, it will be recollected that Mr. Bateman's evidence before the Committee of the House of Commons, touching this point, was noticed by us at the time.‡ We have since been looking hopefully for the information we were led to expect. The present Report, however, recently come to hand, dated in the same month as the evidence was given, is merely provisional, though it may be usefully referred to, to show the line of action being acted on at Glasgow, and respecting which we shall doubtless have to chronicle further results, bearing upon the case of London.

The Report first disposes of the question as to use of lime, alum-sludge, and other substances,—finding the processes not merely unremunerative commercially, but doubtful in operation as means of getting rid of the sewage—unless at ruinous cost. Dr. Anderson and Mr. Bateman "have no hesitation in asserting" that the problem of removing the valuable constituents after they have been largely diluted with water, does not admit of an *economic* solution." But they think, whilst there is "no prospect of a successful result" from any of the processes of precipitation as now proposed, "the idea that chemical agency cannot be usefully applied must not be hastily adopted," and "any engineering operations which would effectually remove the sewage from the river Clyde, would be so expensive that a considerable annual loss resulting from the chemical purification of the water would be considerably under the interest of the engineering outlay." None of the methods of deodorizing sewage appear to them to go to the root of the matter, because hampered with the condition of recovering the valuable matters, which renders necessary the application of some process at the sewer outlet.

For the reasons which led us to a similar conclusion in the case of London, they conclude that at least in all large towns where decomposition of the sewage before reaching the outlet, is possible, "deodorization" should take place in the sewers themselves. Theoretically, they seem to think, the perfection of such an arrangement would be to have each house supplied with a reservoir of some deodorizer. But since it is obvious that such a system could not be worked, they look to the nearest approach to it, the division of the city into districts, and convergence in each case to a point where the deodorizer could be thrown in. This, we may observe, need not involve the cesspool, or sump system: indeed, the object is the avoidance of any storage.

The most important consideration thus is as to the substance to be employed as disinfectant or deodorizer; and therefore the question in the hands of Dr. Anderson and Mr. Bateman, has reached a point identical with that at which it was left in our recent articles.* We were well aware at that time, of the claims put forth on behalf of the disinfectant of Dr. R. Angus Smith and Mr. M'Dougall, of Manchester; but were not satisfied on some points; and we have been left since in the same uncertainty. The powder, which is the only form of the disinfectant that we have had the chance of experimenting upon, is manifestly not adapted to the requirements. It would increase deposit in the sewers. There is difficulty, too, in satisfactorily experimenting with the powder; for, the smell of the carbolate immediately diffuses itself about the place where the powder is applied, and it is not easy to say from perceptible difference, whether the original stench has been got rid of. We will, therefore, leave the point as to the value of the disinfectant, in abeyance for some time longer. Judging from testimonials, and positive statements to us, the powder is well established, and has no need of our recommendation. Dr. Sanderson, medical officer of health for Paddington, stated last year that he had employed it, in bags suspended, for the disinfection of gullies, and at a cost of 1s. for each gully, the powder retaining its efficacy for six weeks at least. The proposal as to the sewage of towns, however, is to apply the disinfectant in the liquid form, or merely the sulphurous and carbolic acid—without the bases, lime and magnesia. If the disinfectant, by the sulphurous acid, destroys the noxious exhalations, and, by the carbolic acid, preserves the manure in a state fit for use, the only questions are as to the mechanical contrivance for application, and the cost. The former have been considered; and the inventors are but anxious for the opportunity to make a practical demonstration. As, however, we shall probably have to recur to the subject, we now merely state that we are in possession of their suggestions as to the application, the mode of which does not appear to involve any engineering difficulty. The point then left would be as to cost. This, for all London, the inventors have estimated at 13,000*l.* per annum.

Aware of the arguments in favour of the particular disinfectant of Dr. Smith and Mr. McDougall, Dr. Anderson and Mr. Bateman have had prepared for them in the course of this year a large quantity of the material, for the purpose of testing the process on a large scale. We shall probably be able to inform our readers shortly of the result. The statement now before us is that they were waiting till the Kelvin was in a state that would afford satisfactory proof of the effect that the agents would produce. They did not expect that any process could convert the Clyde into a pellucid stream.

After all, however, they are inclined to go much further, and to express belief that the principle of sweeping away the refuse of towns by abundance of water cannot be effectually carried out, and is radically wrong. They see that the imperfect success is the consequence of that system which renders individual precautions less a duty than they were under the older arrangement, and reverting to the "preventable contamination" which they hold should never be allowed to flow into the sewers, and should be utilized without the interfering difficulty of the copious dilution with water, they are of opinion that the existing closets are quite behind the age, and that had the ingenuity given to them, been given to the application of dry deodorizers, "the result, in a sanitary point of view, would have been quite as good, probably better," and the product might have been converted into a manure, to sell at about 3*l.* per ton.

The *conclusions* in their Report, however, do not seem to have been modified by any views of the kind just mentioned,—views which (although we now express no opinion on the subject) we need not say are held by some other authorities—amongst whom Mr. W. Bridges Adams is of opinion that fire rather than water might afford the effectual means of getting rid of *excreta*, and that perhaps we may gradually displace water-closets, and substitute oil-closets and fire retorts heated by gas jets.*

Experiments with floats in the Clyde, tended to results as to the very slow progress of sewage towards the sea, similar to those arrived at in the case of the Thames; and the reporters sum up their inquiry with the conclusions,—1st, that deodorizing by precipitation can be carried out by several processes, but that the outlay would be large, and without return; 2nd, that engineering works to carry the sewage to the lower part of the Clyde would be expensive and difficult, from the requirement as to very great distance; and 3rd, that the advisable plan would be the use of such a deodorizer as would not precipitate, and would admit of the sewage being run into the river without nuisance. The last plan, although possibly involving greater outlay than that estimated by Dr. Smith and Mr. M'Dougall, is that which they think is likely to be carried out at the smallest expense, and with best chance of return eventually.

The plan put forward by the writer of the second pamphlet consists of the collection of the excreta from each closet with as little water as possible, in a small vessel; afterwards collecting in underground vessels—one in the centre of a district—to be emptied periodically; and the final reception, in reservoirs, together with elaborate chemical means for obtaining valuable products, as sulphate of ammonia. The access of the excreta would be "carefully and *completely excluded from the sewers*," which would be "*kept for their legitimate and proper uses.*" The closet apparatus includes the small vessel, under the pan, for the purpose of "*accumulating*" to a certain extent the *excreta*, and giving time for disintegration of the solids; and Dr. Letheby is quoted to show that, "under ordinary circumstances," the solids do "not ferment in less than three or four days." But we apprehend that if Dr. Letheby had been quoted further, doubt would have been thrown on the success of such an arrangement as that here proposed, and because the circumstances in that arrangement would not be the "ordinary" ones; but rather, the vessel would exist under circumstances like those in the sewers themselves, where noisome putrefaction in new sewage is at once set going by their previous condition. The author has given great attention to the chemical part of the question, but he does not satisfy us that in any part of his arrangements he would avoid nuisance.

† "Report on the Means of Deodorizing the Sewage of Glasgow, addressed to the Sanitary Committee of the Town Council." By Thomas Anderson, M.D. F.R.S.E. Regius Professor of Chemistry in the University of Glasgow, and John Frederic Bateman, C.E. 8vo. pp. 26, and Appendix, pp. 9. Glasgow (printed at the University Press), July, 1858.

"Town Excreta; its Utilization. London Sewage, shall it be wasted? or economized? Being a Plan for the Collection and Treatment of the Fæcal Matter of Towns, for purifying the Sewers and Rivers, and removing the Chief Impurities which render them dangerous to the Health of Communities; with especial and immediate reference to the Metropolis, the River Thames, and the Board of Works' Main Drainage Scheme." By Charles F. O. Glassford, F.C.S. Manufacturing Chemist; late Manager of Pontifex and Wood's Chemical Works, London. 8vo. pp. 32. London: Effingham Wilson. 1858.

‡ See p. 476, *ante*.

* See page 525, *ante*; also pages 514, 494, and previous articles. See also the notice of Dr. Letheby's Report, page 615.

Exhibition of 1861.—A correspondent seems to have fallen into a mistake. If he will read our article again, he will see that the first step decided on by the Council of the Society of Arts is, as stated by their Chairman of Council, to inquire whether Her Majesty's Commissioners for the Exhibition of 1851 will themselves conduct the Exhibition of 1861.

* "Journal of the Society of Arts," April 24th, 1857.

The Grave-Stone of John Britton, Norwood Cemetery.

THE GRAVE-STONE OF JOHN BRITTON, NORWOOD CEMETERY.

IT will be remembered that the Royal Institute of British Architects have placed a brass, in memory of the late Mr. Britton, in Salisbury Cathedral, and that the Wilts Archæological Society have erected a memorial window in the church at the place of his birth, Kington St. Michael. His widow, nevertheless, naturally desired that the place of his interment, in Norwood Cemetery, should be appropriately marked out. Professor Hosking kindly gave his assistance, and a drawing was made, founded on a design submitted by Mr. Britton for a monument to Chatterton. Prudential reasons, however, induced Mrs. Britton to relinquish this idea, and Mr. Hosking suggested the erection of an upright stone, similar, in notion, to those at Stonehenge. This has been done, and the accompanying engraving represents its appearance.

The coffin was exhumed, and a structural foundation formed. Upon this is laid, at the level of the ground, a 6-inch York ledger, 5 feet square, and upon that is set a plinth of Bramley Fall stone, of the same superficies, and 8 or 10 inches thick. This plinth is wrought all round, and weathered at top from the base of the upright or monumental block, which is also of Bramley Fall stone, standing on the plinth, and tenon-joggled 4 inches into it. The monumental block is 3 feet 6 inches by 2 feet 4 inches, or thereabouts, at the base, 11 feet high, diminishing slightly on all sides, and is about 5 tons weight. The upright stone—the monument—is not wrought, but is as it was rent out of the quarry, with no mark of a tool upon it beyond that of the spalling-hammer, which was used to throw off some rougher irregularities. There is no other inscription than the dates of birth and death, cut into the base of the wrought plinth, nothing whatever on the upright block itself.

Some time after the work was commenced, Mrs. Britton received a communication from Mr. Cunnington, the honorary secretary of the Wilts Archæological Society, to the effect that the subscriptions towards the window were more than required for that purpose, and that, at a meeting of the committee, he had proposed that the surplus money should be offered for her acceptance. The sum was about 70*l.* and this Mrs Britton accordingly appropriated to defray the expenses of the "Monument" at Norwood Cemetery.

MEMORIAL TO ROBERT OWEN.—A committee has been organized to raise some permanent memorial of the late Robert Owen.

ON SOME OF THE RELATIONS OF MODERN ARCHITECTURE TO THAT OF ANTIQUITY.*

As regards the relations in which the *uses* of modern architecture place it to that of antiquity, I will first observe, that nothing in the antique strikes me more than the general simplicity and unity to be observed as to typical form in the chief public buildings both of Classic and Middle-age antiquity. I mean not only as respects each age in itself, but of each to the others. Thus the Classic temple, with its internal colonnades and the method of lighting, most probably, suggested a few years ago by Mr. Fergusson, viz. an inward slope of roof to the base of the upper internal order, seems to have suggested the basilica, sometimes with two, and sometimes with four, internal colonnades.

The basilica converted into churches gave the rule for the general design of such structures, and the substitution of the arcaded for the colonnaded division of the interior marked the first step towards the familiar arrangement of aisle arcades. The pointed arch followed the semicircular, and the adoption of the cross as a typical plan preserved the principle, though it enriched its resources; and the most elaborate cathedral interior can thus, in my view, be traced back to its origin in one of the simplest of architectural types—the Classical temple. The adherence of the Mediæval designers to this arrangement of nave and aisle, of aisle arcades and clerestory lights, in buildings not ecclesiastical, is strikingly evidenced by the remains, as at Peterborough and Ely, of the hospitals attached to the cathedral establishments. That at Peterborough, the remains of which I examined last March, when deluded to add one to the crowd who in the vain hope of witnessing an annular eclipse flocked to the "Golden Fleece," as the Railway Hotel was aptly renamed by a friend of mine,—so much resembled a small but elaborate church that, without previous description or later explanation, for which I was indebted to Mr. E. Sharpe, it would most likely prove a subject of difficulty to any but a very practised antiquary. The supposed arrangement was that the patients occupied the aisles, and the attendant monks the nave, from which screens, placed like those in our cathedral choirs, divided the aisles, while a detached portion, in position resembling a chancel, but communicating with the nave only by a doorway, served the purpose of a chapel for the convalescents. Such unity of type in buildings of dissimilar uses proves certainly its ascertained applicability to various purposes; when, at the same time, as was certainly the case in the great ecclesiastical establishments of the Middle Ages, imposing effect was an object; and it is very remarkable in how many cases the mind recurs to something like this arrangement, as affording a simple and dignified means of spanning a large space, and obtaining ample light and air.

I do not believe that in this country a preference will ever grow up for any other arrangement for a place of worship on a great scale; and though we are not likely to build more cathedrals, on the scale of those existing, while the principles of the Reformation hold their ground, the reconstruction of decayed churches of great size and importance will of necessity be occasionally undertaken; and I do not myself think that any proof has been given that where due judgment is used in placing the preacher or reader, and fair pains taken on his part for proper elocution, any real difficulty exists in making a voice distinctly audible to 1,500 or 2,000 hearers.

The processional uses, however, to which the naves of cathedral and collegiate churches were put before the Reformation, find no parallel under our own forms, and it would be absurd to adhere to any specialty of plan, originating with an obsolete ritual; but unless the objections to this plan for an auditory be better established than heretofore, I cannot see why, in churches of large size, other arrangements should be sought, and I feel strongly the force of association in favour of the old one, and the high expediency of preserving distinctions as to structure between our Houses of God and secular lecture-halls.

In churches of smaller dimensions, and in special cases of larger ones, the roof in one span will prove desirable, and I do not myself think that the forms in which it can be applied, consistently with architectural and ecclesiastical effect, and good external and internal proportions, have by any means received the attention they deserve.

The great halls of the Mediæval palaces were certainly examples of this arrangement on often a vast scale, and that they were so has been urged as an argument against its use in churches, as secular in its associations; but, as I have said, I think that study would afford results consistent with all the characteristics our worship can demand.

The varied secular purposes of a public kind for which buildings are now demanded, seem beyond all comparison with either Classical or Mediæval antiquity. Palaces, temples, theatres, baths, and courts of law, almost include the whole of what could be esteemed public buildings even under the luxurious Romans; their bridges, aqueducts, harbours, and the like belonging to another class of public works.

In hospitals, colleges, schools, museums, libraries, scientific institutions, and the like, we cannot look for pattern, example, or precedent among the works of heathen antiquity, nor except to a limited extent among those of Middle Age Christian communities. I do not mean to say that, in any class of structures, reference to antique types as to the letter of their treatment is desirable; but as we have recorded for us, in the remains of ancient architecture, the results of long experience among bygone races of men, we are fools if we despise or disparage their study, on the false ground of the different circumstances of our own times, and the different standard of practical knowledge and skill which we now possess. The careful preservation of ancient remains of at all an important character marks every civilized and cultivated people, and the destruction of such, unless on the most urgent necessity, cannot be too severely deprecated. That one of the finest remains of Roman building in Spain, the bridge of Alcantara (a name, I believe, literally meaning "the bridge," in Arabic), has been destroyed during the present year, is to be greatly regretted, as in that class of works the noblest examples of construction, and the most signal instances of durability, have been left by the conquerors of the world,—works which are most resembled in modern practice by those among the great viaducts of our railways in which their authors, happily, as I think, have adopted the semi-circular arch as their typical form.

I might enlarge, did the occasion serve, to almost any extent, on the subject of material, but will only further say that in the relation of our works and their details to the material used, much instruction is to be had from ancient remains. This is more particularly the case in the Pointed styles; and no greater mistake can easily be made than to adopt, in working materials of a rigid and resistant character, details which we find exemplified in old works where more tractable ones have been at command.

* See page 790, ante.

The impression of severe human labour is injurious to the effect of any structure. Grace, ease, moderate but not too laboured finish, repose, stability, dignity,—these are the qualities to be sought in architecture as an art, and many of them are common to all the fine arts; and in any of these, I, without any hesitation, assert that the idea once conveyed of a result produced by excessive labour, half the pleasure they can afford is negatived, and the highest effects are afforded in all by works which, however studied (and study, not labour, is the field of art), convey an impression of having been produced with comparative ease to the artist and his helpers. As to the relation in which we stand to the ancients in the practice of architecture as respects materials with which they were not conversant, it is undeniable that such bring, into all questions of adaptation of their styles, conditions which must, more or less, modify the form in which we adopt them, as the exclusive or predominant use of such materials in any structures is calculated to give them a character remote from all we have remaining of ancient works, whether that character be one genuinely architectural or otherwise, which is often a wide question.

Referring to what I have said as to plaster imitation of Gothic work, as bearing also on the folly of imitating, in that or some equally fragile material, the solid masses of ancient stonework as we find practised in the apparent cross entablatures of many so-called Classical interiors, I come to the now much discussed question of the adoption of iron as an integral and evident element in strictly architectural design.

A distinction must, in my opinion, be made here between what is, as I have said, strictly architecture and mere construction or engineering design; not to disparage the latter, but to separate it from considerations of artistic effect, with which, as concerned mainly with considerations of mechanical or physical utility, it has evidently little or no connection.

For introducing this topic, as touching a point on which our modern is related to antique practice, one of my reasons is, that I am of opinion that in the rare cases in which, as I think, simple adaptations of the Greek style can be at all successful, the difficulty of dealing with the interior, as respects the roof, has never been more happily met than in the use of cast iron in the Walhalla by Von Klenze; and since on the scale on which such adaptations can generally be accomplished the division of the interior or "cella" into three widths by the massive columns of an internal order would greatly cramp an apartment necessarily limited in comparison to the external dimensions of such buildings, such a treatment, where the style is appropriate, is well worthy of consideration for preserving that solidity of effect which belongs to the style in its general aspect. Cellular principals, consisting of tie-beams, backs, and uprights, of two separate castings of iron, bolted together at some distance apart, connected with diagonal bracing of the same on the soffit, and the spaces between the constructive lines filled in with allegorical figures and foliage, all evidently and confessedly metallic in treatment, and of such a massiveness of general appearance as to harmonize with the solidity of the supporting walls and antæ, seem to me to exhibit much such a mode of treatment as the Greek architects would themselves have adopted had they had the use of cast iron, and aimed at covering in a space in one span, and preserving the effect of repose and stability proper to their practice.

In adapting to our modern practice in the Pointed styles the use of iron, two or three conditions, which I will name, seem to be essential to the preservation of architectural character. First,—That, whether cast or wrought, it should of course always appear as metal; and also, if for any purpose it is necessary to give it an ornamental surface-coating, such should be always of a kind appropriate to metal, and remote from all that characterizes stone or timber. The nature of iron, as regards strength and the forms and proportions which that nature dictates, will, if this rule be neglected, lead to impressions of misstatement of whatever the material it may be made to resemble; a result most injurious to all consistency of architectural effect. Secondly,—Where used for adding strength, do not conceal it, whether cast or wrought; otherwise the parts of your structure so secretly assisted will, to a practised eye not informed of the fact of this support, appear weak, and an opportunity also be missed of treating in an original manner a material too often dealt with by architects as if fit only for treatment constructively by the iron's under. Thirdly,—In using cast iron, do not give it the duty to perform usually intrusted to stone; and especially, I should say, avoid its use as piers to an arcade. Its absolute brittleness and subjection to the action of fire are, to my own mind, both objections to such an application; and, in addition, its entire disproportion in necessary mass to any stone work it may carry in the form of an arcade will scarcely admit of harmonious or apparently stable proportions being adopted in their union. Rather use it, and that as I have said openly, to support minor parts of a building, as galleries, stairs, and the like; and as its strength in the form of brackets is often an important consideration, in all such aim at metallic treatment and freedom of design. In the support of timber roofs of large span, by dividing their bearing, at the line of the aisles for instance in churches, this material is applicable, and its relative proportion in respect of mass to what it would so support need not be inharmonious, and its union with the timber, by bracketing out in two, three, or four directions, will give the opportunity of very consistent and, to a great degree, rich effect. In wrought iron work the same will, I think, apply; and the examples we have in the hinges and similar works of the Middle Ages suggest the manner in which, with our more advanced constructive knowledge, the same material can be applied in assisting our ornamental carpentry. That this combination can be adopted too in works of Italian or of Classical character I have on other occasions stated my opinion; and I think it would be a very wholesome exercise of the ability of our student members to produce a design for a public hall of some kind of Italian or Grecian character, with an open timber roof visibly aided by wrought iron strapping.

Fine and original effects I am certain can be gained by such treatment, and I would venture to recommend the consideration, not only to those professedly pursuing only the study of architecture, but those more advanced students, as all should be, who are and perhaps have long been engaged in its practice.

I said that it was often a wide question whether the exclusive or dominant use of iron, as a building material, be consistent with true architectural effect. It may be presumed from my starting the question that I doubt this, which is the case. Repose and self-reliant stability are essentials to the character of fine architecture. Wrought iron, used alone, is certainly inimical to this result. The tied-up and merely restrained exercise of dynamical force, which the use of this material suggests, is very unlike the impression produced by the balanced and self-gravitating vault, or the massive and buttress-fenced timber roof. The forces at work in sound architecture should not be self-destructive, and in those I have last named they are not: mutual compression of parts tends to bind the whole together, and even decay, as I have before observed, will often not occasion ruin. The atmospheric action on iron is, we know, destructive of its strength: ties of wrought iron are subject to this, and are by degrees becoming weaker, while the outward thrust of the low-pitch roofs they are adapted to is constantly exercising its disintegrating power; and the knowledge of the action of these obvious forces meets the mind in its attempt to associate the idea of repose with this kind of structures. Cast iron, where used in a manner consistent with the self-securing action of well-opposed gravitation, as in arched bridges such as the Southwark, Sunderland, and others, is free from this effect, so detractive from the impression of durability, while still the fact of its suffering much more rapidly from atmospheric action than the more usually selected materials of external architecture remains as an element of effect injurious to architectural impressions. This comparison between the results of construction in wrought and in cast iron applies with great force to such structures as tubular bridges, like those over the Menai Straits and the river Conway; and, though the former has the great advantage, by its continuity of connection over all the piers between the two shores, of one length or bearing always balancing the next under its varying load, still the effect of gravitation is there destructive and not preservative, as would have been the case in the tubular-arched bridge of cast-iron sections, with which Stephenson wished, at a much cheaper cost, to have spanned this well-known channel.

This character of self-constituted stability is, in my opinion, of so much importance in architectural design, when anything beyond temporary endurance is desired, that I must claim for it a foremost consideration among the most valuable resources for effect, and would remind you that it is the absolute possession of the quality that I thus plead for in modern works that has at once given one chief point of value to, and transmitted to our times, and secured for our study, so many great structures of antiquity. This quality is of the highest dignity, and special, or nearly so, to architecture among the arts; and small as can be the term of existence of our greatest works compared with such periods as we are led to contemplate in the great phenomena of the universe, as, for instance, by the vast meteor which has so lately left our skies, registering, as it were, a date in the book of eternity, yet immortality is the sublime attribute of humanity, and a character akin, though remotely, to that which should ennoble himself, must ever have its effect on man when not sunk in barbarity or debased by grovelling vice.

Many of the materials now commonly in use among us might be mentioned in the same category of those unknown to antiquity. Glass, for instance, as we have it, of a purity and on a scale which seems not to have been dreamt of by even our own ancestors. How should this affect our design in styles adapted from their days? Certainly we should endeavour to harmonise its use in the forms of utmost convenience to whatever of such styles we wish to appropriate. Numerous are the directions in which we might be led to consider the bearings of this question.

One only I will touch upon, viz. the use of glass for windows as distinguished into those to be looked out of, or those merely to afford light. In the former, belonging almost exclusively to domestic architecture, the large plates, sheets, or squares, which the manufacturer supplies at a moderate cost now, are fitly applied, and without interfering with the successful result of Pointed design when treated with judgment and reference to due character; and several instances could be quoted: one I will name,—Mr. Scott's new houses near Westminster Abbey, in which the application seems harmonious and perfectly consistent. I have seen instances in which the effect of this use of large glass was very offensive. In buildings in which light only, and not view, is the purpose of windows, the subdivision of the glass into much smaller parts seems in every respect rational and artistic. On the score of effect, the lozenge or quarry form prevalent in the Middle Ages approaches that of diaper, and affords excellent opportunity for actual application of diaper pattern, often the more desirable from the large size of the window openings in our churches and similar buildings, which eminently demand some such treatment, for the purpose of relief and division of the mass of light transmitted. The cost of repair in such glass is also very trifling, and unless where stained glass of good design, and not aiming to present a transparent imitation of opaque painting, can be afforded, I hold still by the quarry treatment of church glass. The baldness resulting from the forms used for glazing in the Renaissance churches and other buildings of the date, both in this country and others, is generally admitted; and whatever the cause, whether economy, or indifference, or evil example, it was insufficient; as, without incurring great cost by the use of large surfaces of glass, very agreeable effects could be obtained by division into well-considered geometrical patterns, something like those of Moorish trellis-work.

Beautiful patterns of this kind were adopted in Mr. Owen Jones's very original design for St. George's Hall, one of the most striking among all submitted; and I am glad to learn that a step in somewhat the same direction is to be made with respect to the windows of St. Paul's Cathedral, under the safe direction of its official surveyor, Mr. Penrose.

I had proposed to myself, when commencing this sketch, to say a word or two on the relations of modern architecture to antiquity as regards climate,—a very fruitful subject, and one open to large discussion. Space and time have forbidden my entering as I could have desired into this topic, but a very little I will venture upon. That must surely be but a poor architecture whose value and applicability are confined to the climatal region in which it originated or grew up. Egypt, Arabia, Greece, India, have all contributed to enrich our national resources in this respect, and where treated with artist-like feeling, most happily when caricatured, or adopted pell-mell, without heed to the specialities of each country, the effect is ludicrous, and has been held up to contempt by abler pens than mine; but where graceful and effective arrangement of parts and characteristic conventionalities of detail are harmonised, as in some cases, with the forms necessary to our various applications of architecture, the art gains by such eclecticism, and I will instance the treatment of the square columns and their intervals at St. George's Hall, and the form of the cupola in the

new town-hall at Leeds; the first as pointing to Egypt, and the latter to Northern India, as suggestive respectively of their arrangement and outline. The materials applicable in different climates must influence (independently of the question of strength, which I have previously noticed) the manner in which an exotic style can be adapted; but it by no means follows that they make such adoption impossible. The Greek marbles would probably soon lose their surface in our changeful seasons and keen winters: we cannot, however, work in these, for other reasons than this; and, in our treatment of the style in which they prevail as its material exponent, we must adapt our details to our conditions, not only of material but of atmosphere; and I believe it by no means necessary for the preservation of what is desirable of Greek character in our designs in that manner that we should slavishly copy their mouldings, or the section of their enrichments; indeed, I am convinced that under our less brilliant sun and with our coarser surface of material we can scarcely take a surer course for losing the very character we profess to aim at. In like manner, our adoption of any characteristics of the Pointed styles of Southern Europe should be marked by a careful avoidance of whatever in detail or treatment can be held effective only under its native sky; and such I hold to be the introduction of varied marbles in panels, medallions, and the like. These will speedily lose their distinctive effect with us; and, having in our own and the Northern European styles the beautiful system of foliation and moulding with which we are all familiar, it seems a vain departure from good precedent to seek variety by recourse to so perishable a decoration.

Though I find my subject grow upon my hands, and I may say upon my mind, I must hasten to a conclusion for the present, while I feel tempted, were it only for my own satisfaction, to pursue it at some other time. I have ventured to support the now much-combated theory of the liberty of the architect to draw material for his designs from any source of sound supply, to many of which I have however not even alluded. I have endeavoured to point out, however slightly, some of the errors we are prone to in such a course, and some of the limits we should prescribe to ourselves; but I can never give my assent to any proposition for closing to our minds any of those noble fields of study which, albeit remote in character and dissimilar in climate from that in which we have to labour, are the great stores of ancient architectural lore, and among the noblest bequests of the sages of ancient art to us, who in this our day would fain, in our turn, leave some works of note to those who in time to come shall find their lot cast in the same path. H. P. HORNER.

COMMERCIAL HOMICIDE AND ITS REMEDY.

SIR,—The question I promised to consider—"How the healthiness of buildings may be made their owners' business,"—takes us into a widerfield. The registrar-general's advice to the opponents of capital punishment, to turn from the executions that so shock them—and of which last year witnessed thirteen,—to the lives sacrificed without trial or known fault, to the tune of 6,000 in one provincial town, is very fair. But when, after thus each quarter ringing some neat new change on the now familiar truism that of all his cyphers, so many alone representing the natural mortality, the rest are "preventable" deaths (as the last improvement in polite diction has it), he winds up with the equally familiar and constant sting in the tail, that these results are due to "widespread ignorance of the conditions," &c., &c., I doubt if this kind of "lecture to the working classes" be not far more disgusting and dangerous than to say bluntly, without this mocking at them, "We've got you, that is, the warren in which you must live and multiply, and will make the most of it, by you or your brood—'Use'em up and get more' (which no Legree was ever idiot enough to say), *we* say, because to get more of you costs nothing. So, quick!—'Get ye to your burdens' and your graves."

Ignorance!—Is it thought men are ignorant that they cannot live their natural span, fifty or twenty on a square perch? If the registrar would condescend to quote a word out of Mr. Ruskin's excellent Manchester lectures to the non-working classes—the "stern impossibility" among them, "of getting anything understood that requires a few minutes' fixed attention,"—he would be much nearer the mark than by all this talk of "widespread ignorance." There will be attention, though, some day. When all faces from the south to the north shall gather blackness, and the joints of reins be loosed, and knees smite one against the other, attention will be forced to all these things, and their reasons. And whenever there may be what is now so much talked of, a people's parliament, they will have attention little dreamt of now. In some proportion to the delay and the blood shed first, which will be much—ay, much, if it were only a week first,—much, not on battle-fields, but in the deadlier whited architectural block, not by gun and barricade, but by poison-holding roof and cesspool,—so will be the attention bent on these things then, not to understand them, perhaps, but to take the wild justice of revenge, or what will be thought so.

It is now common to see parish Radicals (perhaps ignorantly inspired by designing rogues of opposite principles) making this subject ridiculous by calling the cypher of artificial deaths in some local return so many "murders" in that district and period.* This is one great dodge of the enemy, to suppress truth by getting it mixed with hyperbole. They are not "murders" in any sense the word bears in Scripture or English law. And yet there is much *architectural* homicide now, that I believe must strictly come under that blackest category, and cannot, consistently with the legal distinctions made in other modes of killing, be reduced to mere manslaughter. It is true Blackstone reduces to this all "unlawful killing of another without malice, either expressed or implied;" but a highwayman who shoots a traveller he never saw before, for his purse, surely does so without malice, express or implied? So far is he from desiring the death of A or B, that he would rather kill nobody; his object is not the injuring any one, but simply ours—the architect's or engineer's—to get money. Yet this is held murder; and so, we are told, is the *accidental* killing of a man by any act which is *malum in se*, as shooting at a tame fowl with intent to steal it; while, if it were but *malum prohibitum*, as shooting at a wild-fowl by an unlicensed person, it would not amount to murder. Now, in whatever way all this may be interpreted to bear on the selling as lozenge what the seller believes to be gypsum, and is really arsenic, and on the question, what possible difference the latter fact can make to the nature, name, or degree of the offence, our lawyers must not forget that precisely the same bearing will it obtain, in popular common sense, on the selling or letting for hire (for instance) as a *bridge*, what the sellers or lessors know to be a working and wearing out *machine*, consuming its substance invisibly, unfed and unfeedable, deprived of some by every passing load or swing, till a load comes that must, without warning, consume the last portion necessary to its own passage, and be destroyed. Do they say, the last passengers are a sacrifice to the general good of their predecessors? Then, pray, messieurs bridge-builders, who invested *you* with the sacrificial knife? Most public-spirited Druids, let us first suppose the work a public legacy, the bridge of some noble Appius or Fabricius, or some blessed toiling order of "Brethren of the Bridge"—have the brethren, then, a dispensation to immolate an unknown life to the public good? Has Appius or Fabricius any right to make Rome a present out of another citizen's blood? Poor heathens! they fancied they had none; otherwise, do you think they could not (in the nation that stretched awnings without prop over the Coliseum, and built the bronze and copper roofs of Antonine's baths, rivalling the Pantheon) have made suspension-bridges, ay, iron ones, as well as you? But Christian light eclipses their dim ethics, indeed! *Is* the foredoomed final load a sacrifice to the "public," after all, or to the original speculators' pockets? Compare the tolls on Waterloo, the costliest English bridge, and Hungerford or Chelsea, whichever may be the cheaper substitute for one, and you will see.

Most enlightened Christendom! if the money saved to the builders—I don't mean between these particular two cases (a monument of extravagant—however imbecile and effectless—pomp, and a simple convenience), but between what any company, when they bribe out of any ruler a bridge-building *privilegium*, are understood popularly to mean by the old-established word "bridge," a passive *way*, and what they afterwards construct and leave under that name, an active *machine* of rubbing-parts;—if this differential sum, I say, be in any less exact sense blood-money, than Iscariot's thirty pieces—if it be coined out of anything else than "innocent blood," I will thank the "successors" of that gentleman's colleagues to tell us of what.

* We allow our correspondent to have his say, even though it may seem, as in this case, directed against ourselves.

Or take, in place of this largest, the simplest possible case of the kind: What is the money saved on each coal-cellar of Chesham place, by making a single stone do duty for vault, spandril-filling, and paving, but so many shillings coined out of the life and limb of those persons, born or unborn, who, treading on each slab, shall wear away the last particle necessary to its own and their support? Does the contractor, miserable dupe, think his business is over till after *this* transaction, and all accounts thereto appertaining, shall have passed the Great Surveyor's office?

Now, why am I, sir, if I only adopt a less modern and less fashionable mode of coining this sort of base money—a mode not peculiar to, or so characteristic of this age—one not drawing bills on futurity, or mortgaging our successors, if I go a journey armed, and meeting with a fellow-traveller unarmed, who objects to assist me with his money or his life, I take both, why am I to be singled out for punishment? Is sauce for armed traveller never to be sauce for lozenge-dealer, nor sauce for bridge-dealer, house-dealer, or church-dealer? Why is it thus *infinitely* greater an offence, in passing through a public place like this world, to help myself at the expense of *one* present, than of *any* number of following passengers?—to injure *one*, than (for the same temporary self-help) to sow the place broadcast with traps, pitfalls, plagues, and pestilences, for those who follow; to be as "a madman that casteth firebrands, arrows, and death" to unknown ages; and, named or nameless, an abiding active curse after one's very dust is dissipated? nay, rather, with what we now know of the influence of *precedent* in architecture (and it is not a jot less blind, observe, in that called "engineering" than in any of the "Five Orders") to be a bane, by one's own works or those they influence, to the remotest generations; so that, while the world standeth, were it for ever and ever, mankind must pay in blood for the fact that in any past age, historic or forgotten, an adile offender was born!

But, leaving these grossest architectural felonies (which can only be checked by penalties proportioned to those of any other), our business is with the lower and lowest degrees of adile and other commercial homicide, that show themselves in the registrar's tables, that are implied in the terms "preventable" or "unnatural" (therefore *artificial*) mortality, and are such a partnership affair as to be utterly incapable of being fastened on any one offender or body. How can *they* be limited?

There is a code of some antiquity and celebrity in which I find legislation against a form of architectural homicide we should hardly, if at all, recognize as any offence, being far milder than such as I mean by the lowest forms:—"When thou buildest a new house, then thou shalt make a battlement for thy roof, that thou bring not blood upon thine house if any man shall fall from thence." —Deut. xxii. 8. It is rather curious that what is here called "bringing blood upon thine house" is not the doing or omitting anything in a way to be knowably injurious—not aught that *must* injure or shorten life, observe, but only an omission that, added to the victim's carelessness, *may* be the occasion of doing so,—the passive occasion, not active cause; for it is not the giving your accessible flats a sham battlement, but leaving them without any; and the possible occasion, at some time or other, not constantly, inevitably, and to all alike, as is the case (for instance) with anti-sanitary malformations.

However, let us see how the same code deals with the exact cases we are upon—deaths demonstrably by act of man, though it cannot be identified by whom, by how many, or with what degree of culpability between murder and pure accident, or, rather, between murder and the above unrecognized bringing of "blood upon thine house,"—for I take it, in our case all will allow that no known or definite neglect ever pointed out as conceivably affecting those registrar's figures is so venial as that battlement omission. Hear, then:—"If one be found slain in the land . . . lying in the field, and it be not known who hath slain him" . . . nor whether by murder, man-slaughter, chance-medley, excusable or justifiable homicide, all which degrees, observe, the Mosaic code distinguishes quite as nicely as ours,—nay, whether it be by modes even more innocent than "bringing blood upon thine house"—by pure accident, "as when a man goeth with his neighbour to hew wood, and his hand fetcheth a stroke with the axe, and the head slippeth from the helve, and smiteth his neighbour that he die,"—so that the ignorance here implied is strictly the same as ours in the case of the

Liverpool Registrar's 6,000)—"and it be not known who hath slain him; then thy elders and thy judges shall come forth, and they shall measure unto the cities which are round about him that is slain: and it shall be, that the city which is next unto the slain man, even the elders of that city shall take an heifer, . . . and the elders of that city shall bring down the heifer unto [two words uncertain] which is (*or* shall be) neither eared nor sown, and shall strike off the heifer's neck there in the ***: . . . and all the elders of that city that is next unto the slain man shall wash their hands over the heifer that is beheaded in the ***: and they shall answer and say, Our hands have not shed this blood, neither have our eyes seen it. Be merciful, O Lord, unto thy people Israel, whom thou hast redeemed, and lay not innocent blood unto thy people of Israel's charge. And the blood shall be forgiven them." *Them*, observe,—the nation or elders.

There seems to be much uncertainty about the words our Bible renders by "a rough valley,"—but no question that it was some portion of ground (and the word may be an areal measure, like *acre*) which was *henceforth* to be uncultivated. There is nothing to imply it was a desert before. Maimonides tell us the "309th negative precept" is, "Ne colatur neque seminetur in valle horridâ, *sc.* in quâ, propter ignotum homicidium, fuit decollata juvenca, sicut dicitur, *Deut.* xxi. 4. In quâ *non coletur, neque seretur*." Now this "horrid valley," or horrid something, say "perch," would most naturally apply to the perch (or whatever it be) on which the body was found; but whether so or not, it was part of somebody's estate, and the owner was to forfeit the tillage of it for ever. Thus, then, two fines were exacted for the unnatural or preventable death: a heifer from the local authorities, and a piece of ground from somebody's land, in accordance with another peculiar maxim of that code, "For blood it defileth the *land*:" [not any other chattel, observe, as the weapon, but the landlord's *land*] "and the *land* cannot be cleansed of the blood that is shed therein but by the blood of him that shed it."—*Numb.* xxxiv. 33. So that, according to this code, (which some of our fathers supposed to have something divine in it), a landowner would appear to be bound *coroner* on his own estate! and if he cause or suffer, employ or let loose, any agent (say an outlay-paid animal called an architect) to do on his land any work that knowably (however unknown) causes it to "eat up the inhabitants thereof," then, as long as that agent goes loose, the land, call it Bedfordbury, Belgravia, or what not, goes "defiled," and debited with that innocent blood; and if the noble owner die without catching and ridding the world of the manslayer, the animate or inanimate offender, his grace carries into eternity the burden of all that blood-stained land. What a load!—a bloody estate; heavier even than a stolen estate, of which a Dervish once said to a Khalif, "Before you complete the formalities on this poor man's field, will your majesty assist me to remove this sack of earth?"—"Willingly; but, O holy man, we cannot lift it!"—"Then how, O commander of the faithful, will your highness alone bear the whole field in That Day?"

And such are the burdens (if our fathers believed right) whereof some 30,000 Englishmen now resist the removal of any portion from their own heads! resist the sharing with any more, the accountability for all the plagues of Britain!

Well; it will be shared among more, and whenever it is, the popular rulers, depend on it, however wicked their intentions, will be found to legislate far more like the enditer of those laws than parliaments have hitherto. For instance, do you think that for every one of these slain, "found" by the registrar "lying in the field" of his cyphered pages, the Treasury under such rule will not receive its *heifer's-worth*, as surely as ever those Levites did their heifer? Do you ask how? The machinery is ready made. First, let us remember that, beyond question, an early measure of such governors would be the transferring (as it is called) the burden of taxation back to the land. This would be done under the unholy idea of reprisals,—of the cheated having their turn to cheat their cheaters. Now we must stop, to show that this malice would be utterly futile,—that there would be no reprisals but in their fancy, for that, had there never been any cheating in the matter, justice would allow, and true economy *require* this very thing; that I and some 30,000 more are the sole 30,000 in this island from whom any taxes ought to be collected. "To be collected," observe, because in mistaking these words lies the root of a fallacy now working most awful mischief, viz., that to *collect tax from* such or such persons, is to *tax* them in particular.

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Let us consider, then, how, with our modern data, this all-superseding land-tax would probably be assessed. Would it be proportioned to acreage, to rent, to anybody's valuation, corn crops, or what?

To the crop of ARTIFICIAL DEATHS each registrar, in place of the materials for all that "zymotic," and other Greek-English jargon, will be directed only just to enter on whose ground each death took place; or, if in a public institution, from whose the deceased was brought there. When the returns are cast up, the number of *natural* deaths will be found thus:—Each of what are called the forty-four registration counties may fairly be held of equal natural salubrity throughout, if only North Lancashire be severed from South and united with Westmoreland (although Rutland, from its smallness, should be attached to Leicestershire); in each of these forty-three, then, that sub-district (there are 117 sub-districts in Middlesex) which has given in the average of ten years the lowest death-rate will have its rate in the last of those years applied to the whole population of the county, thus giving the natural deaths for that year and county, and this, deducted from its total actual deaths, leaves the artificial and taxable number. The extension of registration to Ireland will enable this number to be had for the whole kingdom. Then, the next year's estimates being agreed upon, the entire debate on ways and means is reduced to this:—"Mr. Speaker—The expenditure of £ so-and-so, being now agreed upon for 1860, and the return of taxable deaths in 1858 being so-and-so, it appears, on dividing the former by the latter, that the death-unit for the ensuing year's taxation will be so-and-so."

Now this "death-unit" being always (even at first, before the mortality begins to be checked) a sum large enough for division at least into thousandths, the natural death-rate for any estate's population will be reckoned to at least three decimals; so as to leave, when deducted from the actual deaths, a remainder with three decimals. And as no estate can pay tax in the year after a year in which no death thereon has been returned, whether it pays any after a death will depend on whether this has made the whole mortality *since the last payment* excessive. Take an instance: I have a freehold on which dwells a population of twenty; and the death-rate of the healthiest sub-district in the county, deduced from ten years, is 15·4 per 1,000—say it is found this year 15·5, next year 15·2, the next (being a cholera year) 17·1, and the next three years 14·8, 15·7, 14·9. Suppose my estate paid tax last year, and no death occurs on it for three years, but one in the fourth; the death-rates above taken for the natural one of the county, for those four years together, amount to 62·6 per 1,000, that is 1·252 per twenty persons, and my twenty having but one death, there is nothing to pay. In two years more another occurs. The natural aggregate for the six years has been 93·2 per 1,000, or 1·861 per twenty; the actual two make a mortality then, since last payment, excessive by 0·136 parts of a life, and the estate must pay 136 thousandths of the average death-unit appointed in the budgets of those six years. This infrequency and falling in a lump of the tax on very small estates (but always with ample notice, as a full year at least must intervene between any deaths and the operation of a budget founded on the annual return of them) would make small owners provident, and as interested in "social science" as large ones

E. L. G.

IMPROVEMENTS OF PARIS.

THE quarter of the capital anciently called *La Cité*, near the cathedral church, for a long time preserved its sombre and old-fashioned character, and the old buildings there were of very inferior material, and the streets very narrow; but what has taken place here, as in many other quarters, namely, the widening and paving of the streets, the letting in light, the building houses with superior materials to the old ones, the construction of the quays, the supply of water and the planting of trees, have effaced from many parts its former dark and unhealthy aspect. The cathedral of Notre Dame from many points may be seen; but there are houses still standing too close to it. Its restoration is, and has been for years, an incessant occupation. Some say it can never be finished. There was, in the olden time, a fine spire, that surmounted the centre of the transept, which was taken down, or struck by lightning: another is now begun to be erected in its place. The new bridges afford an increased facility to the traffic of the population, and are ornaments to the Seine. The sculpture and architecture of the south façade of the Tuileries are being repaired and restored. The cements used by Government, here and in other works, are those of *Pouilly* and of *Molême*: combined they produce most delicate sculptures, and in the restoration of the façade of that interesting building, the *Hôtel-de-Ville*, in 1835, they were employed with great success. The gardens of the Tuileries, by well-conceived designs and by well-directed labour, are quite metamorphosed: they have undergone a very superior change. The graceful vases and the copies of famous ancient statues, and statues by the most eminent French sculptors, have been better placed, are viewed to more advantage, and have been fixed on more elegant pedestals. Every one admires the newly-introduced *asphalte comprimé*, which is laid in such a perfect level, rolled, and of so smooth and glossy a surface, that it quite throws into the shade the former carriage-paving, though that was very good. The first specimen was executed in the road before the gates of the *Palais Royal*. The French continually show their passion for trees and avenues: the Exchange has been flanked with several large ones, which were transported, one at a time, from some neighbouring forest or place, where they could be spared for the streets of the city. There is now in course of erection a new bell-tower between *St. Germain l'Auxerrois*, to serve as one to that new church, and a new building, which causes a great sensation, and gives rise to much conversation. It is a sort of caricature of the style of its neighbour, *St. Germain*. It may find admirers among the lovers of novelty, but its beauty is injured by too great a display of ornaments, which are forced and glaring, and its architect seems to have determined to distinguish it by a coquetry of decoration. The too free and frequent use of ornament, and too great a number of details, often spoil French buildings, and take away from them all expression of energy. French buildings are generally distinguished, as a national characteristic, for beauty, but are often spoiled from abuse of ornament. Members of architecture, intended to be plain and unworked, in order to convey strength, and support a number of smaller mouldings, are seen cut up into a range of niches or flutes, and the massy breadth which that member ought to have is entirely frittered away. This is the capricious use, or rather excess, of French Renaissance. Many monuments of the end of the fifteenth and beginning of the sixteenth centuries, as well as of the present day, are disfigured by them. In the seventeenth century there was an architect, Openord, who corrupted the pure style of architecture by all kinds of ridiculous ornaments, which resembled nothing in nature, and were always ill-placed. They were named *rocailles* and *rococo*. This was equally bad, let us mention, as it was of an English architect to introduce in a nobleman's house at Windsor, as ornaments, stars and garters. Much more might be said on the works of public utility, and the embellishments which are now in progress in Paris; but even a few words written on the spot may be interesting to some of your readers.

F. L.

THE PONTIFICAL RAILWAY CARRIAGE.

THE GALVANO-PLASTIC PROCESS.

A PIECE of gutta-percha, softened by hot water, and the heat of the hands which knead it, takes readily the form of any relief-work desired to be reproduced. The extreme tenacity of its particles permits it to fill completely the most minute cavities; and, under the energetic force of a hydraulic press, no other substance with which we are acquainted receives so perfect an impression: rapidly obtaining consistency as it cools upon the model, faithfully preserving the most varied configurations, the mould is removed with facility owing to its elasticity. This mould, covered with an impalpable metallic dust, is plunged into a bath of a solution of sulphate of copper; and, on a galvanic current being brought into play between the solution and the metallic coating, a deposit of pure copper is the result. This is the galvano-plastic process, which has been applied with success to the decorations of the pontifical carriage. Fifteen days in the bath gives a thickness of about 2½ millimètres; the metal deposited being very solid, and remaining malleable; on quitting the mould the impress is so perfect that no retouching or chiselling, tedious as well as costly, which are indispensable to the best castings, are required. The lightness is extreme, since castings require from 3 to 10 millimètres in thickness. Up to the present time this process was only em-

ployed for the reproduction of small models; but the application of it that Mr. Christofle has just made to this carriage opens for the art an extensive field, without prejudice to the perfection of the work. In gold or silver the facility is equally remarkable with which these castings are now produced.

Mr. Trelat, the engineer, to whom the construction of this carriage was entrusted, in concert with Mr. Christofle, conceived the idea of applying this process to the decorations of this vast structure, and carried it out with complete success. We now describe the carriage. On the exterior, throughout, it is sheeted with copper plating, the sheets of which measure in many places 2m. 50c. in length, by 1 mètre wide. These panels are adorned with symbolical ornaments, in bold relief, and of exquisite workmanship. At the four corners stand griffins, with eagles' wings and lions' feet. The thickness of metal is throughout 2½ millimètres, and the details reflect credit upon the talent and precision of the artist. Had the works been cast in panels, there would have been required a nicety of adjustment, in the carrying out of which the original design might have suffered, and much time and money thrown away. Besides this, the weight would have been such as would render a similar carriage almost impracticable on a railway. This would have been, as it is calculated by the engineer, 5 tons more than the present weight. If wood had been used, the number of hands through which the various pieces would have to pass would have prevented the artist from carrying out his idea with that unity and harmony that the work presents. The "envelope" of copper, which is in its natural colour, gives to the structure a very noble appearance. Sufficiently varied by gilding, which indicates the principal details, this reigning tone is free from being monotonous.

The carriage is in three compartments. In front, an antechamber; in the middle, a saloon or throne-room for the Pontiff, surmounted by the tiara; at the rear, the sleeping apartment—not so high as the saloon, but richer than the antechamber in decoration. The saloon is adorned on the outside with three gilt heads, representing Faith, Martyrdom, and Truth. On the centre panel, which marks the place of the throne in the interior, are painted the arms of the Pontiff, with extreme richness. Beside the armorial bearings, there is a large window giving light to the saloon. Its lower part is ornamented with a copper standard of the cross; bunches of grapes, wheat-ears, emblems of the Eucharist, forming a rich group surrounded with scroll-work, &c. The tiara surmounting the carriage is bronze gilt, and encircled with gold and set with precious stones. Four heavy wreaths of laurel lie in graceful curves round the cushion on which the tiara rests. In front of the carriage is a terrace with a double set of steps.

The interior of the carriage, which in its kind has no precedent, is much more rich than the exterior. The colours of the silks, the velvets, and the paintings, vie with each other for pre-eminence. The paintings are by M. Gerome, with the exception of the figure of the Virgin, which was painted by M. Millet from the features of a peasant girl. The crucifix, in wood, is the work of M. Toussaint. The furniture of the saloon is carved wood gilt: that of the sleeping apartment is ebony incrusted with ivory. The Pio-Latina Railway Company (Rome to the Neapolitan frontier) presented the carriage to the Pope.

The galvano-plastic art has been suggested as available for the coppering of ships by the means of an enormous basin of solution of sulphate of copper;—thus, without nails or rivets, sheathing a whole vessel at once!

PROFESSOR WILLIS ON ST. EDWARD'S CHURCH, CAMBRIDGE.

CAMBRIDGE ARCHITECTURAL SOCIETY.

AT a meeting on the 25th ult., Professor Willis delivered a lecture on the "Architectural History of St. Edward's, Cambridge," now in progress of restoration, and showed in the course of his sketch that its history was intimately connected with that of some of the colleges. The workmanship of the decorated work was exceedingly good, and evidently executed by a first-rate architect. In style it assimilated itself to the buildings at Ely, and the original Chapel of St. Peter's College, now St. Mary the Less. The latter was dedicated in 1349, and was manifestly of Ely workmanship, as might be easily conceived from the connection between the college and the cathedral at that time. Professor Willis explained, by means of profile illustrations, the similarity between the capitals and pier arches of the churches of St. Mary the Less and St. Edward's, with those of Ely, and alluded to the establishment of schools of masons in the fourteenth century, at the period when Ely Cathedral was in course of erection under Prior Craudon and Alan de Walsingham. In this way he accounted for the superiority of St. Edward's to the generality of the parish churches of Cambridge: it was evidently not the work of a parish mason, but of first-rate architects, such as rich people, like the monks of Barnwell Abbey, would naturally employ. The professor then proceeded to avow his disbelief in the use of "mystic numbers in Mediæval architecture." It was, however, curious, he observed, that the system of erecting upon the plan of whole numbers had been observed in St. Edward's Church. He accounted for this by the conjecture that it was easier for a master to tell the workmen to make an arch so many feet high or so many feet broad—to make a thing twice the length of its breadth, and so on. Thus, for example, he found the piers of the nave 9 feet apart, all along, and the width of the church from wall to wall, just twice that distance; but, he believed, as he said before, that was merely a matter of convenience, and arose not from any mystic or symbolical notions. He then at some length disputed the theory of Mr. Kerrich that the whole system of the Gothic architecture was founded upon the *vesica piscis*. Mr. Kerrich, among other examples in proof of his theory, mentioned the arches of St. Edward's Church; but the lecturer, having measured these arches, found Mr. K.'s diagram entirely wrong. The result of his own investigations had led him to the conclusion that the real method of proportioning pointed arches consisted in fixing the centres from which the sides of the arches were struck at points which were determined by dividing the span line into three, four, or more equal parts. This view he confirmed by quotations and diagram from various authors and from a manuscript of the thirteenth century. There were of course arches not erected upon this principle, but he had found a great number that were, as for instance those of Jesus Chapel, Cherryhinton and Botolph Churches, as well as the arcade in St. Edward's; and it was an easy way of telling workmen the proportions of an arch. They did not, however, adopt the method like a mystic charm. The professor, alluding to the windows, observed that they were of two different kinds; and he described that the east window of the south aisle, looking into Peas Hill, was discovered by the removal of a house by the Improvement Commissioners a few years ago. It was a two-light, flowing decorated window of ordinary pattern. Until a few days since its lights were walled up. When the houses above referred to were removed, the window was smartened up by Roman cement by the parish plasterer. He of course knew nothing of tracery or Gothic details, and therefore restored the window according to his notion of making it a nondescript, or solecism, in architecture. But now that the two aisle walls have just been rebuilt, it was thought undesirable to refix the old sash windows in them: new windows were wanted. What was to be done? The parish, in their wisdom, thought it improper to be guided by an educated and properly-qualified architect, so the mason could devise nothing better than to copy the cement window; thus the *plasterer's blunder has been perpetuated in stone*. A drawing was exhibited, showing the ancient work and modern blunder, side by side. In the professor's opinion, amateur architects are only theoretical: they remind him of a young surgeon with his first patient in an hospital: in the one case, the building suffers irretrievably: in the other, the patient dies. Although he was glad to see this noble church being restored, he wished that the superintendence of its restoration had fallen into better hands.

THE FLOATING DERRICKS.—A brig called the *Lightning*, which was sunk about four months since off Erith, through collision, with nearly 300 tons of granite in her hold, has been raised by a small derrick, possessing a hoisting power of only 100 tons, and placed close in shore for unloading and repair. A platform and bulkhead fore and aft were placed within the wreck, by which considerable additional displacement was obtained with the aid of a pair of pumps. The steam hoisting gear was then set in motion, when the power of the derrick, increased by the rise of tide, succeeded in weighing the brig, and placed her in shore within four hours of starting. The wreck lay just off Erith Reach. Had not this serious obstruction to the navigation of the river been thus removed, it could only have been effected by the breaking up of the vessel.

THE DRINKING-FOUNTAIN MOVEMENT.

THE now rapid progress of this useful movement affords an excellent exemplification of the innate hopefulness of many a cause which may long have seemed a fitter subject for despair. For years did sanitary reformers urge the stubborn inertia of public opinion in favour of drainage and other important cognate subjects, and were almost in despair with the apparent callousness and indifference with which all their exhortations were received; yet all the time, the sluggish inertia was being gradually though imperceptibly absorbed by, and infused with, the force of the movement; and at last "it moves," was all of a sudden the surprised exclamation, as it were, of even the most sanguine. Such, too, has been the history and the fate of the minor movement on behalf of street or drinking fountains. Few years probably have passed since the *Builder* first appeared (and it is now at the end nearly of its sixteenth yearly volume), that this question has not been urged and re-urged in our columns, and apparently without avail; but the inertia was in gradual course of absorption into the visible movement; and now, almost suddenly, we have it not only pervading the whole country, but in more than one case, that of Manchester especially, we have an actual competition to supply the whole of a large city with street fountains. Such, from a letter in the *Manchester Guardian*, appears to be really the fact. In the City of London itself, also, some of the Sewers Commission are now for competing with Mr. Gurney in his offer made to the commission, which have already favourably discussed the subject.

The corporation of Salford (adjoining Manchester), have resolved to erect six public fountains in that borough. The mayor, Mr. Harvey, offered to bear the expense, but the corporation thought the public should pay for its own convenience, as there is power given for the erection of fountains by the Water-works Act of 1850. The fountains will be erected in the most public places, and will be more useful than those hitherto put up in Manchester and Liverpool; as, in addition to the usual supply of water for drinking purposes, the waste will run into a lower trough, out of which dogs (and we presume cattle, sheep, &c.) will be able to quench their thirst.

Meantime, as already stated, the movement is in fair progress in the metropolis itself. We hear that even the St. Pancras authorities are anxious, by a reconsideration of the subject, to remove the obloquy to which they have subjected themselves by their unaccountable rejection of Mr. Gurney's offer. The Paddington vestry have appointed a special committee to inquire and report, with a view to the erection of public drinking fountains in that district. Mr. Robert Richardson, C.E. we may here add, has collected 8*l*. 8s. towards the erection of a public drinking-fountain at Westminster, in the immediate locality of the "One Tun" Ragged School, at Perkin's-rents there, once a drinking resort of hosts of thieves, but recently put to a better purpose. Mr. B. Burleigh, C.E. too, has offered a filter, which he will fix for the use of this school itself. So the master, Mr. Wood informs us.

Brighton is about to be supplied with public drinking-fountains by the Rev. Mr. Drummond and the chairman and vice-chairman of the Brighton Water Company (Messrs. W. Blaber and G. Cheesman, jun.). The fountains would have been erected some weeks since but for the desire of Mr. Lockwood, the town-surveyor, who was consulted on the subject of the design, that they should be somewhat of a different character from that proposed by the donors. The water company have agreed in each case gratuitously to furnish the water, which is not to be obtained only by turning a valve or tap, but is to be constantly flowing.

At Bolton, Mr. Arthur Greg, of Eagley, cousin of Mr. Melly, of Liverpool, has promised to bear the cost of the erection of "two handsome granite fountains," providing the corporation will supply them with water free. Mr. Barlow, a local manufacturer, has offered a subscription towards the same object, and the mayor has also taken the matter up with spirit.

The Water Commission of Glasgow has agreed to erect thirty drinking-fountains in that city, at a charge of 3*l*. 3s. each. In a city such as Glasgow, which for years past has been so notorious for drunkenness amongst the lower classes, who flock there from Ireland and elsewhere, in thousands, this cannot but be a highly beneficial movement.

To those who may doubt whether such a movement as this will tend to diminish drunkenness, we would only say,—consider for a moment the fact that literally thousands quench their thirst in the

course of a single day at one only of the Liverpool fountains: can any sceptic be so credulous as to believe that all these thousands, were there no such fountain, would carry their avowed thirst past the pot-houses, and go home to tea or dinner as it might be with blood as cool and free of alcohol as by the quenching of their thirst at the fountain? We should like to see such a sceptic: he must be a curiosity in his way.

THE MATERIALS OF A MAN.

LECTURES AT SOUTH KENSINGTON MUSEUM.

In the course of the second of the series of lectures in course of delivery at the South Kensington Museum, on the 22nd ult. by Dr. Lankester, called, "Plants as the ultimate Source of Food to Man," the elementary composition of the human body was demonstrated, and the absolute quantities of the elements contained in it were exhibited on the table, with the exception of four,—oxygen, hydrogen, nitrogen, and *fluorine*. The three first could not be exhibited on account of their bulk; the last on account of its rarity.

A human body weighing 154 lbs. was stated to contain 111 lbs. of oxygen gas, which would occupy about 750 cubic feet; and 14 lbs. of hydrogen gas, which would occupy nearly 3,000 cubic feet of space: the nitrogen gas would occupy about 20 cubic feet. Amongst the other elements there were 21 lbs. of carbon, 1¾ lb. of phosphorus, 2 lbs. of the metal calcium, 1 oz. of sodium, 100 grains of iron, 150 grains of potassium, 10 grains of magnesium, and 1 grain of silicon.

These elements, when mixed together as they were in the human body, were represented by 111 lbs. of water, 15 lbs. of gelatine, 12 lbs. of fat, 8 lbs. of fibrine and albumen, 7 lbs. of phosphate of lime, and a variety of other salts. It was shown that these substances are supplied to man through the agency of plants, and that it is in the tissues of plants that the great chemical changes go on which convert the inorganic elements into organic substances, fitted for the food of man and animals.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The third ordinary general meeting of the present session was held on Monday evening last, at 16, Grosvenor-street, Mr. Ashton, V.P. in the chair.

The minutes of the last meeting having been read and confirmed, Mr. C. C. Nelson (honorary secretary) said that among the donations announced on the last evening of meeting he had omitted to mention a copy of the Album of Villard de Honecourt, presented by Mr. H. B. Darling.

The thanks of the meeting were voted to the donors.

Mr. N. E. Stevens, of 173, Fenchurch-street, and Tunbridge Wells, was balloted for as a Fellow of the Institute; and Mr. Lewis H. Issac, of 2, Verulam-buildings, Gray's Inn, as an Associate.

Mr. Joseph Bonomi then proceeded to read a paper "On the Greek Canon of the Proportion of the Human Figure," quoted by Vitruvius. The paper was illustrated by some full length diagrams of the human figure, and also a diagram with the additional divisions given by Leonardo da Vinci.

At the conclusion, the Chairman said the meeting was much indebted to Mr. Bonomi, and announced the willingness of that gentleman to answer any questions which the paper might suggest.

Mr. Digby Wyatt inquired how far the principle laid down by Vitruvius, as illustrated by the diagrams exhibited by Mr. Bonomi, corresponded with the proportion of the Egyptian figures?

Mr. Bonomi replied that there was a certain correspondence, and added that the Egyptians had arrived at a general degree of proportion, but not to perfection. Mr. Bonomi then exhibited two small Egyptian figures, which he said were at least two thousand years old. In one of these figures there was a representation of the growth which maintained the proportions of the infant in afterlife. All dwarfs, he stated, belonged to that quality of growth, and all giants. One of the figures represented the god Thor; and, although there was no inscription upon it, there could be no reasonable doubt but that it was of the antiquity he had mentioned.

Mr. John Bell observed that a good deal of difference was found among the Greek statues, not only in the width, but the length of the limbs. One of the thighs of the Theseus was 1½ inch or 2 inches smaller than the other. This might have been done to make the statue not appear to project too much. We knew, however, that in practice, when we stood upon one leg, the joints became pressed together, and the limb became shorter than when in a pendant position. He thought this would be found to be the case even in the Apollo, and that the leg on which the figure stood was shorter than the other. It would also be found, he believed, that Lysippus made his figures taller, which was a proof of the decadence of art at that time; or, possibly the circumstance might have arisen from his having made so many statues of Alexander the Great, who was very short, and whose limbs he had to lengthen, in order that the figures might appear effective in their positions. Mr. Bonomi had referred to the difference of length produced in the arm by bending; but he (Mr. Bell) had been under the impression that when the limb was bent it did not lengthen both divisions of the arm.

Mr. Westmacott expressed his acknowledgements to Mr. Bonomi for sending him a copy of his pamphlet on the proportions of the human figure—a production which he esteemed very highly, and which he had recommended to many artists. With regard to the paper just read, which bore upon that pamphlet, he (Mr. Westmacott) was bound to say that, in his opinion, the theorizing of proportions might render sculpture too mechanical. The proportions as exhibited in the diagrams, and explained by Mr. Bonomi, were right, and they were the proportions of the bones more or less. The beauty of the antique statue arose from variety; but the bones were never seen in the antique. With regard to increased lengths, Mr. Bell was quite right. He (Mr. Westmacott) was not prepared to depend altogether upon the Apollo, as it was evidently a specimen from a bronze, which might have been bent. The extended leg being longer than the other was according to the laws of Nature; for, when the cartilages were loosened, the limb was drawn to a greater length than if the weight of the body rested upon it. They were all, no doubt, sufficiently acquainted with antique statues to know that they did not correspond with the true canon of the bones. In the British Museum specimens would be found of the Phidean period, the Praxiteletan period, and the Lysippus period. The latter might be distinguished by the smallness of the heads. Although Mr. Bonomi's remarks were extremely good, and although the figures modelled according to the plan illustrated in the diagrams must be correct, he never would believe that statues could be made perfect by merely following the canons of proportion. It was remarkable that although Polycletus had established a canon in art the expression was used that another was more harmonious (expressed by *numerus*) than Polycletus. Statues produced upon a geometrical principle only would never be beautiful works of art, although they might be correct. In his opinion, the genius of the artist was best exhibited by following Nature as his guide. A proof of the remarkable elegance to be derived from extended proportions could be seen by comparing the relievos found at Halicarnasus with the Athenian marbles. These were all the observations he had to offer, as, until he entered the room, he was not aware of the nature of the paper to be read.

Mr. E. O. Edwards inquired whether the canon of Vitruvius, and that laid down by Mr. Gibson (of which a diagram was exhibited) would apply to all nations, as Sir Charles Bell, in describing the works of art (portraits) which he saw at Rome, said he could easily distinguish those who were Roman, and that they were known by their square-built figures, or by what we should call "Dutch build." With regard to the difference between the length of limbs, he believed that when the figure (especially that of a young person) rested upon one leg only, that leg became shorter than the other.

Mr. Bonomi said, that in his diagrams he had not applied any scale of measurement to the leg upon which the body did not rest.

Mr. Leverton was of opinion that if sculptors attempted to imitate Greek statues in a slavish manner, they would not produce the effect they desired. There could be no doubt but that the Greeks were better formed men than the English, and that the Roman form, as compared with the Greek, was deteriorated. The reason the Greeks were better formed, and more beautiful, arose, in all probability, from the circumstance that they were engaged in occupations which tended to develope the whole figure. It was a matter of some difficulty to obtain at the present time that full and graceful development of the limbs which was so desirable in statues; but the Greeks had the advantage of studying the whole figure, and that as near perfection as could be. Leonardo da Vinci appeared to have studied the human form on sound principles. He looked not so much for beauty in the human face and form as for defects, so that he might avoid them. If we did the same we might arrive at perfection. Although it might be very desirable to have a canon to convey a correct idea of proportion, the great point was, to study the human figure independently of all canons. It seemed to him that the great object of the architect and the sculptor should be, not to copy anything by line and rule, but to arrive at correct principles by careful observation.

Mr. Digby Wyatt said it was a singular and interesting circumstance that it should be to an artist that they, as architects, were indebted for what was believed to be the sound canon on this subject. It is evident from the writings of Leonardo da Vinci that he looked upon the human structure as an edifice, and it would be to the advantage of architects to look to the human figure as a copy for their edification. It was also interesting to find that in all well-developed figures this general scale of proportion obtained universally, except in cases of degeneracy of race, or unhealthy occupations. It was most interesting to them as architects, in studying proportions, to observe the way in which, at different heights and distances, the sculptor was obliged to modify his figures in his treatment of proportions. A curious illustration of this was exhibited in the case of the mediæval sculptures at Wells. When he went to Wells to obtain casts for the Crystal Palace, the figures appeared to be all right; but when he got them down he found he could not use them as they then appeared. They were sixteen or seventeen heads high, and the casts had to be reduced by a head or two before they could be fixed in their position in the Mediæval Court. The sitting figures also, which appeared to hold their due proportions as placed in their original positions, had to be reduced. With regard to the canons of form, they were most valuable for study, and had been very clearly expressed by Mr. Bonomi. It did not appear to him (Mr. Wyatt) that because they should not follow canons exclusively, the study of those canons was of no value. It might not, perhaps, be desirable that every sculptor should have the same canon of proportions, but it was most essential that they should have a good canon. The great object to attain in the correct statue of a man, was to represent the largest, the strongest, the most athletic form within certain rules. The statue which embraced these would be the most correct. Then with respect to the canon of proportions in the human race, it should be borne in mind that there was great variety in human nature. In the African or negro for instance, the measurement from the elbow to the lower arm was longer than in the white man, and other differences might be observed in other races. The Greeks, however, founded their canons of proportion upon a very fine race, but it was probable that the best proportions in every history of the world would not be found to deviate much from one another. He did not think that the finer specimens of the English deviated much from the models which had been left us from the Greeks.

Mr. Smith reminded the meeting of what that great master of his art, Sir Joshua Reynolds, said, in his first discourses upon painting. Sir Joshua said,—"Nothing is a greater mistake than for an artist to suppose that rules are the fetters of genius: they are fetters only to the man of no genius."

Mr. Kerr remarked that Vitruvius appeared at length to be regarded by artists in his proper light. There could be no doubt that the Greek sculptors of that age started into a remarkable degree of intellectual development, and that it was impossible to dispute their claim for elegance of form and philosophical beauty. There could be no doubt that there were certain proportions fixed by nature, and that, if we looked at the figures of Vitruvius, especially in Plate No. 2, perfect symmetry would be found. But on looking at Plate No. 5, the same figure would be seen out of symmetry, but in a form more pleasing, by reason of its variety, yet having that "balance," without which there could be no real beauty. This was a principle which appeared to be forgotten by architects in the present day. They forgot that balance which was so essential to the production of a pleasing work of art. It was to be remarked that the human figure, however pleasing in variety, was not pleasing in contortion. Some of the figures produced by sculptors now-a-days were too like contortions. Where the eye preferred the human figure in variety, it beheld that beautiful balance which imparted so much grace to the whole, but which was so frequently

disregarded by artists. Mr. Gibson, in his diagram and canon, raised the question of "geometrical elevation," as co-incident with arithmetical proportion; but he (Mr. Kerr) confessed he could not see how a geometrical standard could be reduced into arithmetical proportions. For his own part, he considered Mr. Gibson's canon wrong and that of Vitruvius right; but if it were possible to reconcile the two canons, it would be found that Gibson's, if right, was right by its correspondence with that of Vitruvius.

Mr. Bonomi submitted that Vitruvius and Gibson coincided, as shown in diagram No. 2.

Mr. Digby Wyatt cautioned the meeting against being misled, and reminded them that all rules constituting geometrical figures were capable of arithmetical expression. Any figure conforming to geometrical law must agree with the expression of arithmetical annotation.

Mr. Baker said that the present lecture and discussion came very opportunely after the observations which had fallen from Mr. Scott at the last meeting with regard to the necessity of architects drawing figures according to geometrical proportions.

Mr. Kerr confessed that he could not understand the position laid down by Mr. Digby Wyatt, because all geometrical proportions were absolutely irreducible to arithmetical proportions.

Mr. Digby Wyatt, in explanation, repeated that all geometrical lines could be expressed by arithmetical figures.

Mr. Parris observed upon a fact apparently not generally known, that there were thirty-two bones, and neither more nor less, in all the divisions of the human body. Thus, there were thirty-two teeth, thirty-two spinal junctions, and so on. This, he submitted, proved the analogy that ought to exist in the construction of buildings, and that there was a standard of excellence to which the architect could always appeal. He had drawn from hundreds of lifeguards-men, but they were selected men, and so he believed it was with the Greek and Roman artists. He did not believe that all the Greeks and all the Romans were such handsome fellows as they were accounted. Take for instance the finest specimens of the human form in Lancashire and Cheshire, and he believed they would be found to agree with the finest models of the Greek sculptor. It struck him as curious that we appeared to lose sight of that which the Greeks regarded as of the utmost importance in their studies of the human figure, namely, the adaptation of the circumstances to the immediate object to be produced. If a Greek sculptor designed a warrior he would not for instance give him the legs of a boatman, nor would he give him the muscles of a gladiator or prize-fighter. And so on, in drawing athletes or other subjects, it would be seen that the ancient sculptors designed the component parts of the figure in perfect harmony with the idea to be realized. Every artist, according to his ability, should endeavour to represent the figure in the form most suited to its purpose when in life; and so in architecture, unless the building told its own story, it must be wrong in principle: whatever the proportions might be, the soul and poetry of the structure should be manifest to all beholders.

Mr. Charles Barry, in moving a vote of thanks to Mr. Bonomi for his excellent paper, expressed his satisfaction at the interesting discourse which it had elicited. In the practical application of it to themselves, as architects, he believed that most architects would agree that attention to sculpture in the abstract was not so prominent in their studies as it ought to be. They must also admit that there was some sort of analogy between the train of thought which should actuate the sculptor and the architect. In both professions there were canons which could not be disregarded without danger, but which, if always observed, would produce that which was beautiful and pleasing to the eye. To go the length of saying that the canons of sculptors and of architects should be exclusively the same, might perhaps be carrying the principle too far. But if they were to agree that there was a universal law of harmony that would be sufficient.

Mr. Hakewell seconded the motion, and in doing so observed that Vitruvius was indeed a great man, and that the discussion of that evening showed how worthy he was to fill the position he held in the estimation of the architects of the present day.

The motion having been carried by acclamation, Mr. Wyatt then announced that on the next night of meeting (the 13th inst.), a paper would be read by Mr. J. Bell, and would have reference to a kindred subject—the geometrical treatment of sculpture.

MR. S. C. HALL'S "AUTHORS OF THE AGE."

ON Wednesday evening Mr. Carter Hall read, to a circle of his friends, a selection from the two lectures descriptive of literary men and women of the epoch, to which we have already briefly alluded. By a few graphic and forcible touches, an anecdote, and a reflection, he brought before his audience a galaxy of stars, and held his listeners for two hours without any desire to move, smiling at the quaintnesses of Hogg, glowing and excited by an account and defence of L. E. L., and almost weeping by the death-bed of him who sang the "Song of the Shirt"—Thomas Moore (for whom Mr. Hall's admiration is intense), Miss Opie, Miss Edgeworth, Southey, Allan Cunningham, Hook, Ebenezer Elliott, Professor Wilson, Hannah Moore, and Wordsworth, were made visible to the mind's eye; and though opinions of course will differ in some cases as to his verdict, all will admire the clearness with which the facts are stated, and the eloquence of the summing up. The audience, though small and friendly, was a critical one, and Mr. Hall must have felt, in more than satisfying them, as it was evident he did, perfectly assured as to the reception his lectures will find out of doors. We hope, therefore, soon to hear that arrangements have been made to enable the public to enjoy these memories of departed great ones, who have bequeathed to us the rich fruitage of their lives.

THE EXETER DIOCESAN ARCHITECTURAL SOCIETY.

THIS society held its Quarterly Meeting in the College Hall in that city, on Thursday, November 25th. The Venerable Archdeacon Bartholomew having taken the chair, the report of the Society was read by Lieut.-Colonel Harding, describing several works of church restoration recently carried out in the diocese; and alluding to the resolution adopted some months since of illustrating good examples of ancient domestic architecture, one of which subjects, the Manor House, near Gifford, with its remarkable hall roof, was in progress for the annual volume of transactions.

The Rev. J. B. Hughes then read a paper on Huntsham Church, restored under the direction of the late Mr. A. H. D. Troyte, which was followed by an account of the Manor House, Holcombe Court, and Church of Holcombe Rogus, Devon, by Mr. E. Ashworth, architect. This Elizabethan mansion was in great part built by Sir R. Bluett, in Henry VII.'s time. It contains a hall 23 feet by 44 feet 6 inches, with a "long gallery" over, and a fine porch tower. The paper was illustrated with drawings of many of the Tudor and Elizabethan features of the building.

INSTITUTION OF CIVIL ENGINEERS.

ON November 23, Mr Joseph Locke, M.P. president, in the chair, the paper read was "On the Successful Working, by Locomotive Power, over Gradients of 1 in 17, and Curves of 300 feet radius, on Inclines in America," by Mr. T. S. Isaac.

It was stated, that the road which had decidedly taken the lead in the United States, in the application of locomotive power to steep gradients, and had been generally the pioneer of improvements, was that extending from Baltimore, on the Chesapeake Bay, to Wheeling on the Ohio River, a distance of 380 miles, through a region of considerable difficulties, especially in the various ranges of the Alleghany Mountains. This company was incorporated in 1827, and a portion of the road was opened in May, 1830, but it was not until 1851, or three years previous to the opening of the Semmering incline, that the great incline over the main range of the Alleghanies was completed, and worked by locomotives. This latter had an inclination of 1 in 27, for eleven continuous miles; and, after winding amongst the summits of the mountains for twenty miles, it descended, on the western side, with an inclination of 1 in 45, for nine continuous miles. The passage of this mountain-chain involved altogether sixty miles of railway, twenty miles of which had a gradient of 1 in 45, and nine miles of 1 in 50, both worked by locomotive power, at a speed of from fifteen to twenty miles per hour for passenger trains, and from ten to fifteen miles per hour for goods trains.

Steep gradients and sharp curves had since been adopted on the Virginia Central Railroad, on a more extended scale, and had been in successful operation for upwards of five years. The Mountain Top Incline on this road crossed the Blue Ridge Mountains, at Rock Fish Gap, in Virginia. It was four miles and one-third long, with a ruling gradient of 1 in 18·87.

FLEET VALLEY RAILWAY.

THE proposed great station in the City has been entitled, "The Central City *Terminus*." May the word "terminus" be dropped for ever! I thought the whole scheme was meant to remedy the evil of termini, with the consequent breaks in communication. To be of real worth—to meet with favour and success, this Fleet Valley line must, from the *outset*, be made the medium of uniting all the railways: no piecemeal work here. To bring it down as the Great Trunk from King's-cross to Farringdon-market, is to "break the neck" of the difficulty: between Farringdon-market and Waterloo Station comes the only gap to be filled up to render the union complete.

To explain this definitely, I must detain you awhile "over the water:" owing to the construction of the more distant suburban lines, "the Waterloo Extension" can now absorb much more traffic than it did; but it lacketh one thing to really deserve the title of "trunk:" this is, connection with the North Kent system *viâ* Newington and Lock's-fields to the Bricklayers' Arms branch,—a plan of the South-Eastern Company which has existed too long on paper.

Only view some of its advantages. The crossing of multitudinous lines in order to their progress in common westward is already provided for near the Rotherhithe New-road, and that with a degree of safety which could not be near London-bridge. Lock's-fields will be found comparatively cheap property, and still more the open grounds at Newington-butts, a station at which would be a great boon, if only to keep clear the over-crowded Borough. I may add, this (partly-made) line abolishes all pretext for ruinous expense in traversing Southwark with railways.

The whole of the southern lines being thus united at Waterloo Station, might thence proceed (the distance is short, and through "back-slum" neighbourhoods), to the Thames, crossing direct (leaving Bennett-street on the east), to the Middlesex shore, and on through the centre of Salisbury-square to Farringdon Station.

We should thus leave untouched Blackfriars-road, Bridge-street, Farringdon-street, with their frontage property; Christ Church, the City Gas Works, Bridewell, and St. Bride's. As to crossing Fleet-street, might not that be effected as well *under* as over, and then rise gradually from Salisbury-square to the Thames?

If more station accommodation be requisite, how easily and inexpensively might it be won from the river (very convenient for goods and merchandise), taking the space between the projected bridge and Blackfriars-bridge, and making the successor to that ruin subserve and harmonise with the whole.

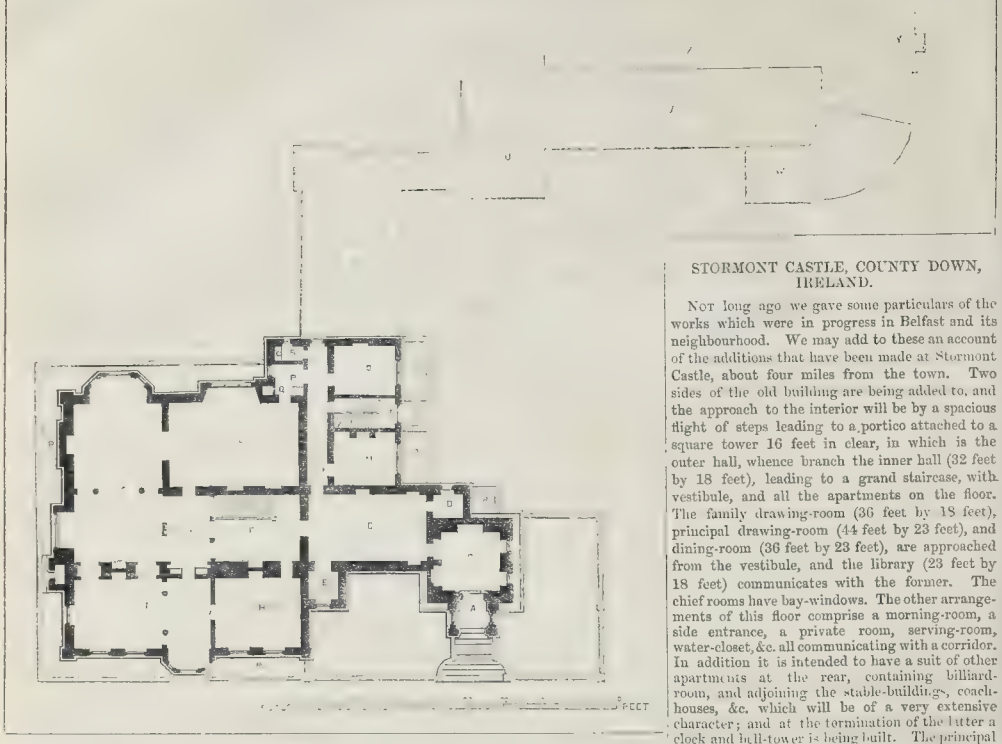
To this great work, which I would style "The London Main Junction," all other metropolitan railway projects, and bridge and street ones too, should be made to bow: for it there can be no substitute: it is of national importance. I, for one, would not mind being taxed towards it.

As closely allied with my principal subject, I cannot but point attention to the North London Railway. On this omnibus line, what with passengers and what with luggage (for which latter it was originally meant), the limits of safety have been reached; even as in the Lilliputian Station at Fenchurch-street. I am the more bold to propose a remedy, as the commencement of it already exists in the South Hampstead Junction Railway, which relieves the North Western from Willesden to Camden-town, and which might equally relieve the North London by a direct extension from Kentish-town to the North-Eastern, near Upper Clapton, so reaching Stratford, the docks, &c. Several districts, signing for railway accommodation, would at once have it: all the northern lines would be efficiently united; and, in particular, the course of the North Eastern, *viâ* the Great Northern, would be pretty direct to the Central City Station.

SPEEDWELL.

THE NEW WHITTINGTON CLUB, STRAND.—The opening of the new Whittington Club and Metropolitan Athenæum, as it is styled, was celebrated on Tuesday night by a ball, which went off with great spirit. The new building, which is on the site of the old Crown and Anchor Tavern, was erected by Messrs. Holland and Harmer, under the superintendence of Mr. Charles Freeman, architect. On the ground floor of the institution are offices, a spacious reading-room, dining and smoking-rooms. The first floor is occupied by the "sitting and writing" rooms, and on the second floor are other class-rooms, a drawing-room, and the great hall. We shall take an opportunity to speak of it.

PLAN OF STORMONT CASTLE, COUNTY DOWN, IRELAND.



STORMONT CASTLE, COUNTY DOWN, IRELAND.

Not long ago we gave some particulars of the works which were in progress in Belfast and its neighbourhood. We may add to these an account of the additions that have been made at Stormont Castle, about four miles from the town. Two sides of the old building are being added to, and the approach to the interior will be by a spacious flight of steps leading to a portico attached to a square tower 16 feet in clear, in which is the outer hall, whence branch the inner hall (32 feet by 18 feet), leading to a grand staircase, with vestibule, and all the apartments on the floor. The family drawing-room (36 feet by 18 feet), principal drawing-room (44 feet by 23 feet), and dining-room (36 feet by 23 feet), are approached from the vestibule, and the library (23 feet by 18 feet) communicates with the former. The chief rooms have bay-windows. The other arrangements of this floor comprise a morning-room, a side entrance, a private room, serving-room, water-closet, &c. all communicating with a corridor. In addition it is intended to have a suit of other apartments at the rear, containing billiard-room, and adjoining the stable-buildings, coach-houses, &c. which will be of a very extensive character; and at the termination of the latter a clock and bell-tower is being built. The principal front of the main building has a central gabled projection with an oriel window carried up two stories; and cut stone piers are introduced at the quoins, from which rise corbelled projecting turrets terminating with high-pitched roofs of conical outline, and finished by vanes. Receding from the south-east angle some 10 feet is a square turret carried up higher than the battlemented parapet of houses and roofed in ogee form, with a vane; and parallel with the same but at a distance of some 20 feet is the principal tower, with battered basement, turreted angles, and crenellated parapet, and connected to main building by the inner hall, which is only carried up one story in height. This tower is ascended by a flight of steps formed in an external turret carried up to a greater altitude than the tower itself. The vestibule of the grand staircase is lighted from above, and on the upper floor are open arches with balustrades, through which light is admitted into the passages which communicate with the bed-rooms, boudoirs, &c. on the floor. The floors of the principal rooms will be laid in Swiss parquèterie. The whole building is of free-stone of yellowish grey colour, built in random ashlar, scappled on face, but with horizontal beds and vertical joints. The dressings are chiselled. Quoins, window-jambs, &c. are flush, not raised.

The old portion of the building has been cased with free-stone, with dressings to correspond with the rest.

Mr. Thomas Turner, of Belfast, is the architect, and Mr. John Lavery the contractor. The expenditure by present contractor will be about 10,000*l*.

REFERENCES.

A. Porch.
B. Outer hall.
C. Inner hall.
D. Stairs.
E. Hats and coats.
F. Staircase.
G. Vestibule.
H. Library.
I. Family drawing-room.
K. Principal drawing-room.
L. Dining-room.
M. Morning-room.
N. Side entrance.
O. Own room.
P. Servants' room.
Q. Lifts.
R. Areas.
S. Water-closet.
T. Portion to be built.
U. Billiard-room.
V. Coach houses already built.
W. Clock and bell-tower being built.
X. Stable-yard.
Y. Gate.

PAYMENT OF MEDIÆVAL ARCHITECTS.

Will "E. L. G." be so good as to inform me of the authority for the statement made by him, on p. 804, "That the architect of Villard's time was paid a per-centage on what he brought in, not what he laid out?" Being interested in the early history of English architecture and architects, the reply will no doubt be of much service in my future researches, not having myself met with the slightest hint of a per-centage at so early a period. In fact, I think "E. L. G." must be wrong somewhere, for here he is praising up the per-centage system, when just above he is condemning it tooth and nail. Hitherto I have only learnt that the king's surveyor, or "surveyor of the royal works," or, as sometimes called, "clerk of the king's works," was paid by the *day*, generally about two shillings of the money of the time (equal to about 70*l*. a year in present money), with allowances for a clerk and carriage expenses. What he did for "his wages" I do not know; the MSS. of the *Cottonian Libreree* being silent on that point. I should be glad, too, if he will give his authority for stating that the architect of Villard's time was "commonly a monk or an ecclesiastic." We know very little of the English architects of the Mediæval period, considering the immense number of buildings erected, — who they were, and how they were educated. Much has at various times been conjectured respecting them, and most of these conjectures are now accepted as facts. "E. L. G.'s" replies will, therefore, be gladly received, and I shall feel myself greatly obliged. I do not say anything about the mode of payment described in the succeeding paragraph of his postscript, as I presume it is simply a joke.

We must not, I consider, be in too great a hurry to accept Villard as an architect. There is nothing to prove it on the vellum pages, and it seems to me that the badly-drawn architecture would go far to prove the contrary; whilst the better-drawn figures, &c. would tend to prove him to have been only a man of good education, making notes on his travels of what interested himself at the moment, and altering it at the time if it did not please. Perhaps the architectural suggestions were for his friend Corbie, whom he names. We must wait and see what the English translators will make of his interesting volume. Had he been an architect, I think he would have been likely to have given some of those mysteries of design which, we are so often told, enabled the Mediæval architects to produce their wonderful structures. Something of the kind is adopted in his figures: the architecture, however, is perfectly free from it. Is the geometrical system at fault? or could he have been afraid of committing himself,—telling the secrets of the craft?

Wyatt Papworth.

THE NEW FOREIGN OFFICE.

Our readers, who are acquainted with the proceedings and report of the late Parliamentary Committee on Public Offices, will not be surprised to hear that the erection of the New Foreign Office has been entrusted by the Board of Works to Mr. G. G. Scott, and that the Lords of the Treasury have concurred in that appointment, subject, of course, to future confirmation by Parliament. Mr. Scott will accordingly proceed, after communication with the authorities at the Foreign Office, to remodel his design according to the official information thus afforded, and agreeably to the suggestion of the Committee of the House of Commons that the New Foreign Office might be so placed as to range symmetrically with any other public offices, in accordance with the block plan of M. Crepinet, which might be required from time to time. It has also been determined, we understand, so to arrange the works as to leave the present Foreign Office standing till such portion of the new building as is absolutely necessary for the immediate occupation of the department is ready to receive it.

On the score of expense it has been resolved to relinquish the erection of an official residence with an extensive suite of reception-rooms originally proposed.

A view of one part of Mr. Scott's design, as originally submitted, will be found in our last volume (xv.), p. 295, with some statements by the architect; and, on an earlier page (382) in the same volume, some descriptive particulars. Several letters on the subject of the appointment are before us, but we prefer allowing their writers time for consideration.

STORMONT CASTLE, COUNTY DOWN, IRELAND.—MR. THOMAS TURNLY, ARCHITECT.

THE LIVERPOOL ARCHITECTURAL SOCIETY.

At a meeting of this society, held on Wednesday, the 17th ult. Mr. Chantrell, in the chair, Mr. James K. Colling read a paper on "The Application of Natural Foliage to Architecture." Mr. Colling, who illustrated his suggestions by ninety diagrams and sketches, beautifully executed, commenced his paper by expressing his regret that at the present time there should be such strong party feeling raging in respect to the different styles in architecture; persons now ranged themselves either upon the side of the Goths or the Greeks—Classic against Gothic; but without going into the merits of either side, he merely premised that, in the observations he was about to make, he wished to view foliated ornament and architectural enrichment in the broadest and most comprehensive light,—to avoid as much as possible the clashing of any styles, or the advocating of one more than another. It was true that ornament received a certain colouring or conventional treatment, according to the style in which it might be used; but the principles and leading lines should be the same in all. The anatomy of the leaves should be alike in every style, although the leaves themselves might be tinged by its peculiarities. All that they could see most to admire in the foliage of the Classic or Gothic eras could be clearly traced to natural forms and natural arrangements; and, by studying nature, the fountain head of all true design, had been hitherto followed, they were enabled to improve or vary their ideas, and to take advantage of the other beauties which were sure to spring up before the mind of the diligent student. His remarks were intended to apply to Classic foliage quite as much as to Gothic, and he considered there was far greater room for improvement in modern Classic foliage than in modern Gothic. They went on year after year, copying and recopying the old conventional forms of Classic foliage, without attempting or seeming to wish for any change or improvement. They were too much in the habit of looking upon Greek foliage as perfection, and had been contented in merely copying, or at most in re-combining and re-arranging. If nature were more studied and more adapted to classical architecture, a vast field of varied and elegant foliated decoration would be soon opened up. They should also at all times take such foliage as was characteristic and belonging to our climate, as the oak, the ivy, the thorn, the maple, and all the beautiful and lowly weeds and plants of our hedges and gardens. In our indigenous flora there was a vast variety and wonderful beauty—beauty of form, beauty of light and shade, and beauty of colour. The forms of leaves alone was in itself a complete and delightful study; yet this was but one portion of the vast page which was opened to us: there was the study of flowers — some of the most lovely works of our Creator, their form and arrangement, their structure and colour; the light and shade upon leaves, the mouldings as it were of their upper and lower sides, the ramification of their veins, which was very different in different leaves; the manner of leaves in growing, their colour and ever varying hues, and their harmony with the flowers which grow among them: all these formed subjects the study and contemplation of which would be of infinite value to the architect or decorator. His mind would be expanded, his taste refined, and the beauty of nature would be infused into his works. Nothing, however, was further from his (Mr. Colling's) intention than to advocate a literal translation of natural leaves and flowers for the purposes of architecture. Natural foliage, however well rendered or cunningly carved, if merely copied from nature, without being translated by the mind of the artist, would fail entirely in its purpose, and would be less effective than the literal copyism of the foliage from any of our architectural precedents. This could not be too strongly insisted upon, because, if they told their artists that they should not copy from old examples, but simply say, as it often has been said, that they should "go to nature," they would soon be so deluged with literal representations of natural foliage that this system of copyism would become worse than the present. In the rendering of natural into architectural foliage there must be study and thought, life and beauty. It must be the creation of the artist's mind, working upon nature's principles and nature's laws. Flowers and leaves, although so wonderfully various, are, to a remarkable degree, geometrical and regular in their forms and structure. Yet there exists such an extraordinary freedom, that the hard forms of geometry are concealed with an art which alone marks the hand of the Divine Creator and Designer. It is this apparent irregularity and seeming negligence, combined with harmonious colouring and strictly geometrical formation, which gives the natural vegetation that charm which so delights us. It is this missing, in modern carving, of the geometrical and regular as a groundwork or skeleton, neglecting nature's first principles and only aiming at its irregularity, that causes the failure of our otherwise beautiful carving. If we do not commence upon a proper foundation, it is of no use arriving at perfection in the art of carving. We are aiming at the shadow and neglecting the substance, producing leaves and flowers before we have arranged the branches. Every flower and every leaf is arranged with such precision and regularity, blended with such marvellous irregularity, that no two flowers or leaves can be found precisely alike; yet all are formed in the most simple and regular manner.

ANTWERP BOURSE COMPETITION.

THE administration of the town of Antwerp have advertised for designs for a new Exchange, to be built in the place of that recently destroyed by fire, and on the same spot, avoiding, however, any encroachments on the neighbouring properties. The question, if the court of this building be kept open or be covered in, is left to the discretion of the competing architects. There is to be only one story, above the ground-floor, in which different apartments can be distributed. For the electric telegraph, on the upper story, two rooms are to be provided, one of which is to have 100 mètres superficially. The whole building must be fireproof. Though the site has been resolved upon at present, nothing is to prevent the examination of plans for any other site that might offer extraordinary advantages.

All plans are to be sent in, post-free, to the civic administration of Antwerp, before the 31st of January, 1859. 6,500 francs are to be divided among the first six successful candidates; 4,000 for the first, and 500 foreach of the other five. The plans sent in are all to be the property of the town council.

FOREIGN INTELLIGENCE.

THE inauguration of the new bridges of Bougival and Croissy, on the Seine, took place on the 7th ult. These bridges establish a direct communication between St. Cloud and Le Vésinet. The superstructure and parapets are of cast iron, and the piers are mill-grit, with dressed ashlar facings. The road is macadamised.

The Museum of the Louvre has just been enriched with many important paintings of the Spanish schools, from the collection of Marshal Soult. One represents the "Birth of the Virgin," and is considered superior to the "Assumption," by the same master, which cost 600,000f. These two new works were bought for 300,000f. Teniers's works at the Louvre are to be cleaned up. The process of removing the old varnish from Rubens's pictures has so well succeeded, that it will be carried out on all the works of the ancient masters. (?)

The House that Jacques built.—In Paris, in the commune of Plaisance, between Vaugirard and Montrouge, a remarkable house, six stories high, is to be seen. It has been built by one man alone, of extraordinary talent and perseverance, since it is asserted that he possessed no architectural prowess, nor had he ever worked at a building. The structure is described as elegant and well built throughout, and the work bears the closest inspection of the most practised eye. The proprietor and constructor is a Mons. Pernot, endowed with a most tenacious *volonté*, and a patience unexampled in the annals of construction. For twelve years did he labour, three hours a day, at the raising of his dwelling, stone by stone, block by block, window by window, finishing off his work room by room, carpentry work, joinery, smith's work—all by the same hand A curious example of patience and handicraft is this most interesting work.

The shaft of the engine, which serves for the extraction of the ore and the pumping out of the water of the St. Martin shafts at the Pranal mines, was broken on the 29th September. During the necessary repairs, the pit was completely full of water, which was speedily removed by the machine as soon as it could be got to work.

At Havre, on the 11th ultimo, an enormous mahogany log was landed by the *Alliance* steamer from Southampton. At the thicker end it was 1m. 80c. by 1m. 05c. and 85 centimètres square at the smaller end (8 mètres in length). Two smaller ones were with it, and the three left for Paris by train.

All "old Paris" having been, or having to be, cleared away, any spots that yet remain untouched by the improving hand of the present Government cannot fail to interest all who visit that capital. To Frenchmen in general old houses and old prisons are of very little interest at present: they are tired of gazing at the remains of structures whose memory is anything but pleasant, and which they "cheerfully forget" while contemplating the modern wonders of their city. An old house, remarkable for its quaint style of architecture, stands, amid the storm of pickaxes, in the Rue Vieille du Temple. It is called the Hôtel des Etats ou Ambassadeurs de Holland, and has a sculptured façade in the courtyard, bearing the date 1660. This was the scene of a tragic event—the assassination of the Duke of Orleans.

We hear from Warsaw that the fire which broke out in the Lazienski palace has done considerable damage to that edifice. The valuable frescoes are utterly destroyed, and many fine paintings injured. The loss materially is only 100,000 roubles; but artistically it is irreparable.

Discovery of an Ancient Roman Villa.—The Belgian journals contain an account of an interesting discovery, at Saint Gerard, of a Roman villa. The first researches having been only shortly commenced, no idea can yet be formed as to the actual extent of the ruins; but, from the immense quantity of fragments, it is presumed to be considerable. The principal dwelling appears to have communicated with minor dependencies by means of pavement, which are being brought to light, as have also been the foundations to several chambers, and a hypocaust a mètre and a half deep. Other chambers, of which the use is not apparent, are of a less depth. All are lined with Roman pavement of a thickness varying from 15 to 35 centimètres, and in three coatings; the first, pebbles and small broken stones (*statuminatio*); the second, broken stones and lime (*ruderatio*); the third, pounded tiles steeped in quicklime (*nucleus*). The foundation walls, which in some places are on a level with the ground, are of a uniform structure (*isodomum*), viz. small fitted and squared rubble in courses of 8 centimètres: in some cases these alternate with bricks on the flat. A coat of cement 5 centimètres thick appears to have been laid on all the walls.

SANITARY CONDITION OF WINDSOR.

THERE is a rumour of something being wrong with the sewerage and drainage at Windsor, as there is an outbreak of typhus fever in that town. The officers of the Government Board, Messrs. Simon and Austin, have been down to Windsor to investigate matters. Whether any report they write will be made public or not we cannot say. Under the new fit of official economy, "the Treasury" may consider the cost of paper and ink too great. Public sewerage works were partially carried out in Windsor and in Eton some years ago; devised, if we remember rightly, by Mr. John Roe. That these works have never been completed, and that such portion as was executed has been sadly neglected, we have, from time to time, received evidence. The Board quarrelled with one local surveyor; and, as we are informed, no competent man has ever been appointed. This is, indeed, the rock upon which most local boards are wrecked: even those which (as at Windsor) have had good works planned, have had them executed only to be ruinously managed, at from 20*l.* to 80*l.* a year salary, to some person who is, perhaps, road surveyor as well, and inspector of nuisances (the local Board and himself, under such vile arrangements, becoming the greatest nuisance). We must give a list some day of the towns in which sanitary works have been commenced and carried out, with the present salaries of the "resident engineers." Whatever mischief there may be at Windsor, we shall scarcely look to find the cause in Mr. John Roe's plans, but in the local neglect to complete and properly manage the sewers and drains. We beg most earnestly to warn all towns, by telling them that sewage remaining in sewers to corrupt and ferment is far more dangerous than the same amount of filth on the surfaces of the streets, courts, and yards. And if there are steep gradients, and inadequate ventilation, the steep gradients, which ought to facilitate drainage, only add to the danger; as gases, warmer and lighter than common air, flow up, just as water flows down. Houses and towns on the tops or sides of hills, with sewers or drains down to the valleys, if the sewers and drains have not ample means of ventilation at the higher points, external to the houses, may conduct streams of deadly gases, rapidly too, within the houses, and so place the unfortunate inhabitants in a far worse position than if they had neither sewers nor drains. We shall not be

surprised if something of this sort exists at Windsor. The main sewers have never been completed: there is no adequate local water-supply: the sewers are full of *old deposit*; and there are no adequate means of ventilation. We know nothing of the local surveyor, and will not therefore bring any charge against him: we wait for evidence. We trust "the Castle" is safe. Mr. John Turnbull, the clerk of works at Windsor Castle, is reputed able and careful, and is not likely to have neglected ventilation. We would, however, say to all parties, see that all sewers and drains have abundant external means of ventilation. There may be too little: there cannot be too much. There should not be a chance for gases of decomposition to enter any house or inhabited room.

"ATLANTIC TELEGRAPH CABLE."

In the experiments that have been made public on electric telegraph cables, submerged at great depths, I have not seen one that must be of primary importance to their success.

The Atlantic cable, having been submerged in a depth of water exceeding 2,000 fathoms, is thereby subjected to a pressure of nearly 2½ tons on the square inch. At a pressure not much greater than this, I have seen water forced through both iron and gun-metal many inches in thickness, having every appearance of being sound, and which were previously considered impermeable.

Will the gutta-percha coating of the cable resist the passage of water at this pressure? If not, the insulation must be broken.

If this experiment has not been tried, it would be of great importance to the future success of these cables that it should be made, not merely by subjecting the materials to this extreme pressure for a short time, but by allowing them to remain under it for a very lengthened period.

Even if water at these pressures does *not* actually pass through the material, may not the extreme condensation of the gutta-percha destroy, to a certain extent, the insulation of the wire?

The effect that "earth currents" appear to have produced seem to me to strengthen the probability that the insulation of the wire has been injured by one or other of these causes.

Wm. Jeakes.

ARCHITECTURAL ASSOCIATION.

THE CONSTRUCTION OF BUILDINGS IN REFERENCE TO SOUND.

The third meeting of the present session was held on Friday, the 26th, at Lyons-inn Hall, Strand, Mr. J. Norton, president, in the chair.

The following gentlemen having been proposed, were elected members of the Association: Mr. Hirst, of Bristol; Mr. New, of Dorchester-place; and Mr. Edward Hide.

The President read a letter from Mr. Edmeston, Secretary to the Architectural Union Company, in which that gentleman proposed, on behalf of the Company, to let to the Association the west gallery in the new building in Conduit-street at a rent of 30*l.* per annum for the Friday evenings throughout the year, and for class-rooms, two rooms in the front at 25*l.* or two middle rooms at 15*l.* per annum for the sole occupation of the Association. He (the President) had to inform the meeting that the Committee met on the previous Friday, and having considered the proposition, agreed to the following resolution:—"That in the absence of a definite statement of the advantages to be derived by the Architectural Association sufficient to countervail the increased payment, the less central position of Conduit-street, and the loss of individuality which the proximity to other kindred societies would entail, the Committee are not prepared to entertain the proposition of the Architectural Union." With regard to this resolution he confessed it had not his entire approbation, and he hoped that eventually any difficulties which might now exist with respect to the proposed removal to Conduit-street would be overcome. For his own part, he inclined to the opinion that the public expected them to remove into better quarters, and that if they could not come to terms with the Union, it might lead to disappointment. He hoped that some gentleman on the Committee would state the grounds upon which they had arrived at the resolution.

Mr. Rickman said that he had drawn up the resolution, in order to give expression to what appeared to be the views of the Committee. They had discussed the subject fully, and had entered into details: but when a list of queries had been prepared to put to the Company, they found that they were unprovided with any definite statement of what the advantages were which were to accrue to the Association by joining the Union. They had ascertained, not officially from the Union, but incidentally through a private source, that the gallery would not be so large as the room which they now had, and they were also of opinion, regard being had to the situation of Lyons'-inn, that it would be more convenient to a large proportion of the members than Conduit-street. The rent of the Union gallery would also be 6*l.* per annum more than the Association now paid, although the accommodation would be less. Another important question considered by the Committee was, that if they moved to Conduit-street, they would not have the use of the Hall during the exhibitions. He also understood they were to have some advantages in connection with the library of the Royal Institute of Architects. This advantage might accrue to them at some period or other, and it might be set off against the disadvantages he had mentioned. Under these circumstances, the general idea of the Committee was, that it would be better to wait until there was some more definite understanding with the Union, especially as the gallery was not even built yet.

Mr. Hayward expressed his opinion that, after the explanation given by Mr. Rickman, the resolution might be regarded as less strong than the wording would seem to indicate. As a member of the Association, and also as the holder of a share in the Union Company, he should be sorry to see anything like a damper put upon the prospect of the Associations uniting under one roof. It seemed to him there was an objection in some quarters to unite with any body for the good of the profession; but, after Mr. Rickman's observation, he could not regard the resolution of the committee as final. The Association had, no doubt, advantages in being alone; and, if he had any reason to believe it was about to be absorbed in any other, he would be opposed to going to Conduit-street; but, as he could not see any prospect of losing their individuality by joining their elder brother, he was in favour of uniting under the same roof.

The President said, with respect to the use of the library, referred to by Mr. Rickman, he (the president) did not suppose that the secretary to the Union Company could have referred to the subject except in the way of suggestion, or as an advantage which might possibly accrue hereafter by joining the Union. For his own part, as a member of the three bodies, he would always vote for throwing open the library to the Association; a step, however, which it must be remembered, could not be taken until the Association and the Institute were under one roof.

Mr. Capes expressed his apprehension that the resolution might be regarded by the profession at large as an indication that the Association wished to keep aloof from the other architectural associations, and that it was not open to reason. He would be sorry to see so strong a resolution adopted, and therefore suggested whether it might not be referred back to the meeting for reconsideration.

After some conversation with reference to the adoption of the resolution, a motion was ultimately passed requesting the president to confer with Mr. Edmeston on the subject.

The President announced that the same committee had agreed to the following resolution: "That the committee request the general body of members to empower the committee of the Architectural Association to renew their meetings on the subject of competitions, with power to add to their number."

The resolution was put to the vote, and approved.

The adjourned discussion on Mr. T. R. Smith's paper, on the Construction of Buildings in reference to Sound, was then resumed.

The President having given a brief *résumé* of the previous discussion,

Mr. Smith read a short communication from Mr. Charles B. Arding, in which the writer having referred to Mr. Scott Russell's paper, published in the *Builder*, of May 23, 1846, and subsequently discussed in the pages of this journal, expressed his opinion that the theory of Mr. Smith, with regard to placing the speaker close to the ceiling of a building, would not hold good if the angle were less than thirty degrees. In many churches built during the last two centuries, the pulpit and reading-desk were placed in the centre line of the church, at a considerable height from the floor, and frequently with a sounding-board above the pulpit. In most churches, however, this arrangement was departed from, the pulpit and reading-desk being placed right and left of the chancel, at a much less height, and without the sounding-board. He asked whether there were "sound" reasons for these alterations. The writer also suggested whether it might not be well to place the pulpit of a church in the chancel, the ceiling of which was usually lower than that of the church, and might be made lower still. The polygonal roofs, now much in vogue for the chancels of Gothic churches, were probably favourable for sound, and might be used for the nave roof also; or if open-timbered roofs were simply boarded or ceiled at the level of the collar, the character of the open roof might be preserved, and its acoustic qualities improved. The fact that many buildings were better for hearing when full of people, might arise partly from the increase of temperature. The resonance in large buildings might arise from the great quantity of air enclosed in them, which, when once set in motion, continues so for a considerable time, like the vibration of a large bell. The writer, in conclusion, instanced St. Martin's-hall and the large lecture-room at the Polytechnic Institution, as being good for sound, and the following as defective:—The Temple Church, Regent's-square (Scotch) Church, South Hackney Church, New Assize Courts, Taunton; the General Meeting-room, Euston Railway Station; Myddleton-hall, Islington; and the main building of the Polytechnic.

The President said he had received a note from Mr. Edward Barry on the subject under discussion, and which also contained an announcement which he was sure would be received with pleasure. Mr. Barry wrote, "I fear I cannot help you. The present form of ceiling of the House of Commons was the result of experiment, the former square ceiling being pronounced a failure, but the latter was only tried a few days, and not thoroughly tested. The present ceiling is lower than the old one, and with shelving sides, which no doubt act favourably as reflectors of sound, and I believe the room is now pronounced a success by members. I had a delightful holiday in Italy, and my father has, I am glad to say, returned from Malvern quite restored."

Mr. Hayward said he could mention a rather curious fact as an illustration of the power of water as a conductor of sound. While at Grasmere last summer he ascended a hill which rose up abruptly from the edge of the water, and while sitting there with a friend, they perceived a boat with a man and a boy fishing in it a long way off on the lake. Although the distance was very considerable, they could distinctly hear almost every word said by those in the boat. This went to show that noise ascended instead of descended, for while he heard words from the boat, he could not hear his friend's voice at a little distance on the same level with himself. He had also ascertained, by experiments in church-building, that if a "hip" were constructed at the east end, the effect was to throw the voice of the speaker very much forward. The pulpit in that case was placed low, and the experiment was found to answer expectation. He was aware, of course, that the "hip" was open to objection on the score of appearance, but in a chapel where it was essential that the voice of the speaker should reach every part of the building, its introduction was found extremely useful. He hoped that Mr. Smith's paper would lead to the introduction of some fixed principle on this subject.

Mr. T. W. Horn observed that Mr. Smith had referred to the opinion of Saunders, who held that sound had a tendency to descend, but that from all he (Mr. Horn) could collect, his opinion was, that it had a tendency to ascend. He had made an experiment himself when at the bottom of a well 150 feet deep. He there found that when there was nothing behind him but the wall or side of the well, he could not hear the persons at the top unless they shouted as loud as they could, while his own voice from the bottom of the well was heard with great distinctness by those above. He also found that, during the concerts at the Crystal Palace, the higher you went up in the gallery the more distinctly could the music be heard. It was likewise pretty well established that organs better heard when placed on the ground than in a gallery. If sound descended instead of ascended, the organ would be heard, of course, with better effect in the gallery. When conversing on this subject with Mr. Hill, the well-known organ-builder, that gentleman had told him that in his opinion the Birmingham Town-hall, which had a gallery all round, was the best room for music within his knowledge. He (Mr. Horn) had built a music-hall, and by "hipping" off the end, found the experiment to answer admirably well. Mr. Smith recommended placing the organ in a music-

hall in an alcove, but this had been tried at St. James's Hall, where it had failed.

Mr. Smith said it did not follow as a necessary consequence that, because the alcove had failed in St. James's Hall, it would fail elsewhere. He believed that the failure at St. James's Hall was to be traced to the ceiling, which resembled a great tunnel. The experiment made by Saunders was made on a scaffold in the open air, and his impression was, that distinct sounds were lost at a given height, while the same sound could be heard distinctly below. With regard to organ pipes, they were always thrown upwards, and the natural result was, that the sound would spread more upwards than downwards.

Mr. Capes referred to a correspondence in the *Builder* in 1847, in which it was stated that, in proportion as the air in a building filled with persons became foul, the more indistinct became the sound.

A member observed that, with regard to the alcove, it had been tried with success in the new Town Hall at Leeds, where a fine instrument had been fixed. There were no galleries in that building, with the exception of one (very small) facing the orchestra.

The discussion having been brought to a conclusion,

The president stated that Mr. Ash had been good enough to promise them a paper on the mode of making brass and iron ornamental castings, but as the hour was so advanced, he would suggest that the discussion be taken on the next evening of meeting.

This suggestion having been approved,

Mr. Ash said he had not prepared any paper, as he considered he could make himself more intelligible by an oral explanation. He then proceeded to explain in detail the manufacturing castings.

At the conclusion, the discussion was adjourned until the next evening of meeting, and the proceedings terminated, thanks having been awarded to Mr. Ash.

THE ARCHITECTURAL UNION COMPANY.

THE first annual general meeting of this company was held on Wednesday last, at the rooms of the Royal Institute of British Architects.

The chair was occupied by Mr. E. B. Lamb.

Mr. Edmeston, the hon. secretary, read the balance-sheet and statement of accounts, from which it appeared that 5,676*l.* had been received from shareholders in respect of 999 shares; on which shares 7*l.* 10s. per share had been paid; 330*l.* from shareholders in advance of calls; 4,000*l.* borrowed on mortgage of the company's premises in Conduit-street; 37*l.* 10s. 10d. received from other sources; making a total on the debit side of 10,044*l.* 0s. 10d. The estimate of debts and liabilities included the following estimated balance of expenses connected with the alterations of and additions to the property, 4,650*l.*; bill for printing and stationary, 65*l.* 9s. 11d.; balance of solicitor's charges, 149*l.* 19s. 8d. The property and assets of the company at the credit side of the account were thus set forth:—Cash paid for purchase of leasehold property in Conduit-street, 8,000*l.*; fixtures therein, 183*l.* 5s. 6d.; rates, taxes, and interest to the day of possession, 45*l.* 14s. 8d.; Messrs. Hack and Son, on account of alterations and additions to the property, 500*l.*; fire-insurance and seal of company, 70*l.* 13s. 4d.; miscellaneous expenses, 290*l.* 7s. 1d.; debts due to the company, viz. the premium to be paid by the Institute of British Artists, 500*l.*; calls due from shareholders considered good, 1,521*l.* 10s.; ditto, doubtful, 82*l.* 10s.; ditto, from directors and officers, considered good, 212*l.* 10s.; calls which may yet be made on the shares subscribed for, 2,167*l.* 10s.; total of debts due to the company, 4,484*l.*; cash at the London and Westminster Bank, St. James's-square, 947*l.* 9s. 10d.; ditto, in hands of secretary, 6*l.* 10s. 5d.; total, 10,044*l.* 0s. 10d.

The Chairman then called upon the hon. secretary to read the report of the directors, which was as follows:—

"The directors having so recently as last May summoned an extraordinary general meeting of shareholders for explaining all the different steps taken in establishing the company, have at this time but little to add. They have steadily persevered in carrying out the different operations which were on that occasion approved by the shareholders. They have completed the purchase of the premises, and have contracted for the alterations and improvements, and as quickly as possible they will give possession to the different tenants. The alterations being of a complicated character, and interfering very much with the original structure of the large house, required to be proceeded with in a very careful way. Messrs. Hack and Son, the contractors, have, however, paid every attention, and have adopted every precaution, so that the difficulties which presented themselves may now be considered as surmounted, and much more rapid steps may be taken towards completion. The terms of the leases or agreements for letting the ground-floor, that portion of the premises let to the Royal Institute of British Architects, and for letting the galleries to the Architectural Exhibition, and for the accommodation of the Architectural Association, are all in the course of arrangement. The directors will steadily continue to use every effort to turn the remainder of the premises to the best advantage. Meantime it is satisfactory to know that the rentals of the above will alone amount to 680*l.* per annum. On reference to the balance-sheet, which is already in the hands of the shareholders, it will be seen that debts due to the company, and cash in hand, amount together to 5,439*l.* while debts owing and liabilities amount to 4,865*l.* leaving a balance of more than 500*l.* to meet any contingent outlay which may arise. The unallotted shares amounting to about 5,000*l.* will be more than sufficient, if taken up, to clear off the mortgage of 4,000*l.* which is not repayable for four years. With reference to the arrears of calls, it should be noticed that Messrs. Hack and Son are only called upon to pay theirs, as payments on account of their contract are made to them, by which 900*l.* of the apparently large arrear is accounted for; and beyond all doubt the greater part of the remainder will be cleared off before the 15th of the present month, the day upon which a list of defaulters must be registered; indeed, since the issue of the balance-sheet this has already been done in several instances. The directors take the opportunity of making known that there will be two good sets of chambers to let on the second floor, and four rooms on the third floor; also a meeting-room on the ground floor, for societies, well warmed and lighted, upon any evening in the week permanently or occasionally, except upon the Friday and Tuesday evenings. The shareholders will hear with much advantage that Mr. Tite, M.P. the deputy-chairman of the company, having ceased to be a member of the company by the donation of his shares to the Institute, immediately subscribed for ten more shares, not included in those enumerated in the balance-sheet, and is still, therefore, the deputy-chairman of the company, having been unanimously re-elected to that office by the directors. One-third of the directors have retired by ballot, in accordance with the articles of association; but being eligible, offer themselves for re-election. In like manner the auditors retire, but being eligible, offer themselves for re-election. The auditors have carefully examined the balance-sheet laid before you. In conclusion, the directors again call upon the shareholders, and upon all those interested in the prosperity and advance of the architectural profession to assist in completing the establishment of the company on the soundest basis, that thus the means may be efficiently provided for consolidating and improving in public estimation all the leading societies connected with the art, and so that from this time forth architecture and its professors may, with the help of the Architectural Union Company, take a higher and more influential position than has ever been before."

Mr. Mayhew (one of the directors) moved that the report be read and adopted, and observed that he had little to add except the expression of the hope that the building would be completed within the given time, and that they would be able to give satisfactory accommodation to their new tenants. In calculating the return which the capital was likely to yield, he believed he might say that it would realize five and three quarters per cent. The total amount was 15,000*l.*, and he believed they would not require debentures, loans, or anything of that sort. He hoped that, when the building was completed, it would be a means of bringing all the architectural bodies together in harmony under one roof.

Mr. Mair said it appeared to him that the balance-sheet had been made out in a somewhat confused and unsatisfactory manner. As the auditors had been over it, he had no doubt as to its correctness; at the same time, if it could have been put in a more commercial and less legal manner, it might have been clearer to the great body of shareholders. He wished to ask one or two questions as to the rents to be received. The Royal Institute of Architects was, he believed, to pay a fixed rent, and the ground-floor was also to be let upon lease.

The Chairman.—That is so, but the lease is not yet signed. The rents to be received will, it is estimated, amount to 680*l.* per annum.

Mr. Edmeston said that the contractors were bound to complete by the 25th of March next, under a penalty. They were using every possible effort to keep faith: the roofs were up, though not slated: the galleries were made, and there was no reason why all possible speed should not be used in getting the work completed.

Mr. Mayhew observed, that so much was necessary to be done to the premises, that, in point of fact, it amounted to a rebuilding.

The Solicitor to the Company explained, that the balance-sheet had been put into its present form to meet requirements of the articles of association.

Mr. W. Papworth said the account was not in his opinion sufficiently clear to men of business. If there had been a few lines at foot of the account, showing that, although there was a debt of 4,000*l.* there were 500 shares to be taken up, and that a large sum remained to be received, the company would appear to be better off by the sum of 1,500*l.* than it now seemed at first sight to be.

Mr. Graham thought the statement was very clear, but asked whether any estimate had been made what the portion of the building unlet would produce.

Mr. Mayhew.—The total rental is estimated at 1,040*l.* and the disbursements at 270*l.* leaving a balance of 770*l.* which, upon a capital of 13,500*l.* would give 5¾ per cent.

The Chairman then put the motion for the adoption of the report, which was carried unanimously.

On the motion of the Chairman, seconded by Mr. Mair, the following gentlemen were re-elected directors—Messrs. Pennethorne, Ashpitel, P. Anson, P. C. Hardwick, J. Wylson, and George Morgan.

The retiring auditors, Messrs. J. Lockyer and J. P. Cockerell, were also unanimously re-elected.

Mr. Nash proposed a vote of thanks to the gentlemen who had taken charge of their affairs during the past year. They had all acted gratuitously, and, therefore, they were doubly entitled to the thanks of the meeting. He proposed that the cordial thanks of the meeting be given to the honorary directors, honorary secretary, and auditors, for their gratuitous services in establishing and conducting the business of the company.

Mr. Mair seconded the motion, and said the shareholders had only to go to Conduit-street to see what had been done by direction of the Board. In his opinion, the works now in course of construction were extremely satisfactory.

Mr. Mayhew acknowledged the compliment on behalf of the Board of Directors, and said that until the ship was fairly afloat, they had no intention of deserting her, but would do their best to carry out the undertaking. He was bound to say that the directors never could have met with so much success, had it not been for the assistance afforded to them by the zealous and efficient honorary secretary, Mr. Edmeston.

Mr. Edmeston said that as Mr. Mayhew had been kind enough to refer to him in such complimentary terms, he would venture to say a few words, and express his hope that in a few months the company would be able to congratulate themselves upon having surmounted all their difficulties. If a proper spirit of liberality and good feeling animated all the societies, they would not only mutually assist each other, but possibly confer benefits upon the architects' profession, which might prove larger than anything they could now anticipate.

The motion having been carried, the best thanks of the meeting were given to the chairman for presiding; and to the Royal Institute of Architects, for the use of their rooms for the meeting.

The Chairman, and Mr. C. C. Nelson, honorary secretary of the Institute of Architects, having returned thanks, the meeting separated.

THE SCHOOL OF ART FOR GLOUCESTER.

THE Annual Meeting of the Diocesan Schoolmasters' Association was held on Friday, the 26th, in the Corn Exchange, when Mr. James P. Knight, of the Cheltenham School of Art, read a paper "On the Advantages of introducing Drawing as a Part of National Education," showing the necessity of educating the eyes and hands of that class from whence must come our future workmen and workwomen, insisting also upon the necessity of educating the tastes of all classes, as being the consumers of manufactured articles, and the practical arbitrators who, creating the demand, rule the supply. Attention was also drawn to the inducements and rewards offered by the Department of Science and Art, and an announcement was made that classes in connection with the Cheltenham School of Art were about to be immediately established in Gloucester.

At the close of the paper the Archdeacon of Bristol, who occupied the chair, was requested by the schoolmasters present to beg Mr. Knight to start a special Saturday class, for the benefit of themselves and their pupil teachers, and an inquiry was made as to what was the minimum number of members which would ensure compliance with the request: thirty was the number named, and it was thought that a list at least to that extent could be made up before the members left the room.

An interesting lecture by the Rev. Dr. Booth on "The Schoolmaster as affected by Competitive Examinations" followed, after which the members and friends dined at the King's Head Hotel, and the day's proceedings terminated with a discussion of the question of "Rational Amusement and Occupation for Young Men on Winter Evenings," in which several of the members of the Association, as well as clergymen and gentlemen of the city and neighbourhood, took part.

The Mayor of Gloucester has since issued invitations to a meeting for the purpose of devising means for the immediate establishment of a branch school in the city of Gloucester.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

EAVES OR CORNICES OF ROOFS.

At Marlborough-street Police-office, on the 23rd ult. Mr. Richard Mason, of Union-street, Berkeley-square, was summoned for that he "did make a new wooden roof to a building in Farm-street livery stables (belonging to Mr. Bonnett), in St. George's, Hanover-square, which projected beyond the face of the external wall, such projection not being of fireproof material, as required by the Act."

Mr. Edward Hakewell, district surveyor, in support of the information, said,—The Metropolitan Building Act enacts, in the 26th section, that all projections from external walls shall be of incombustible materials, and that permission shall be obtained from the Metropolitan Board to erect the same.

Mr. Beadon, on reference to the Act, observed that there were considerable exceptions.

Mr. Hakewell said very few. In the prosecution of his duties as surveyor, he had found occasion to survey, from the 10th of September last to the present time, the work in question. The roof of the building was of wood or timber, and projected 8 feet beyond the external wall: it was not made of fireproof material, and was therefore directly contrary to the regulation provided for by the Act under which the summons was obtained.

The defendant contended that it was not such a projection as came within the meaning of the Building Act. The projection in question was over private property, and not over the public highway.

Mr. Beadon observed that the clause expressly alluded to overhanging roofs, and required that the eaves or cornices of such should be formed of non-combustible materials, but not the roof itself. The clause alluded unquestionably to a particular portion of a thing, and not the thing itself. There was in the clause no such improvement as the roof itself: that was excluded and it provided that the eaves and cornices of no overhanging roof only should be non-combustible: that was, formed of copper or some other metal, and by these were meant of course the extreme parts or points of the roof. He was clearly of opinion that the summons could not be supported, and it must consequently be dismissed.

Books Received.

Transactions of the Institution of Engineers in Scotland. Vol. I. First Session, 1857-8. Glasgow.

THE Institution of Engineers in Scotland owes its origin chiefly to the very successful meeting held in Glasgow in 1856 by the Birmingham Institution of Mechanical Engineers, of which meeting, as well as of the Scottish Institution itself, and its meetings and papers, we have already given some account. At the termination of the session in April last, the latter Institution numbered 118 members and 8 graduates, and numerous additions are expected early in the second session. Eight meetings were held during the session, and at these as many as twenty-one papers on various subjects were read; each being followed by a discussion. On decimal measures also there were discussions, though no paper. The present volume contains these papers and discussions, so completing the record of the first session of the Institution. It includes papers on gas, heating of steam boilers, blowing-fans, steam pumping-engines and valves, speed-governors, screwing-machines, canal navigation by screw steamers, steam used expansively, hoists, boiler explosions, American and other locomotives, &c. &c.

The Handbook of Autographs. Executed by FREDERICK GEORGE NETHERCLIFT, Author of "The Autograph Miscellany." London: F. G. Netherclift, Mill-street, Conduit-street.

THE idea of this handbook is a good one. It is intended as a ready guide to the handwriting of distinguished men and women, of every nation, and is designed for the use of literary men, autograph collectors, and others. The fac-similes are said to be taken principally from the British Museum, by permission of the trustees, and from other authentic sources. It is to appear in a series of alphabetical lists, without reference to country, rank, profession, or age. Each part is to contain six to eight specimens in each letter of the alphabet, and that is the case with the part now issued, which begins with Ariosto and ends with Horace Walpole. There is generally some fragment of writing to which the signature is attached, and in the same hand. There is something peculiarly interesting in the contemplation of the handwriting of the illustrious dead.

Skyring's Builders', Contractors', and Manufacturers' Diary and Daily Journal for 1859. 1s. Copthall-buildings, Throgmorton-street.

THIS diary will be found useful by those to whom it is addressed. It contains ruled pages for appointments, cash paid and received, and a weekly time account, having room for the names of the workpeople employed, and six columns for the time worked in each day. It contains likewise the Metropolitan Building Act, and a number of tables and memoranda connected with building operations, concerning which latter we would remark, with a view to improvement in future issues, that builders and contractors nowadays look for good English and a clear style.

The Triumphs of Steam: or, Stories from the Lives of Watt, Arkwright, and Stephenson. By the Author of "Our Eastern Empire," &c. With Illustrations by John Gilbert. London: Griffith and Farran, St. Paul's-churchyard.

THIS little volume is well adapted to attract the young, and to excite their interest in the triumphs of steam. It is written in a simple and easy colloquial style, suitable to the readers for whom it is intended. The book is dedicated to Mr. Robert Stephenson by the author, who says she owes much to his early influence.

VARIORUM.

OUR popular writers are becoming exceedingly skilful in administering digestible doses of useful information, diluted in palatable vehicles, adapted to the popular taste. Here is a good deal of information on rather an obscure subject the Chinese,—in the form of a dainty little volume, under the title of "The War-Tiger; or, Adventures and Wonderful Fortunes of the Young Sea Chief and his Lad, Chow: a Tale of the Conquest of India;" by William Dalton, author of "The Wolf Boy of China," &c.; with illustrations by H. S. Melville (Griffith and Farran, St. Paul's-churchyard). How our recent partial insight into the manners and customs of the Chinese may tally with or bear upon Mr. Dalton's ideas of that quaint people, of whose "manners, laws, legends, superstitions, history, and character," he professes to give here some idea, we confess we have not time to consider; but the tale appears to be well adapted to draw the popular attention to the subject.

Miscellanea.

THE LIONS FOR THE NELSON COLUMN.—It is currently stated, we cannot answer for the correctness of the report, that though Sir Edwin Landseer will furnish the models for the lions, they will be executed in granite by the Baron Marochetti.

METAL MARKET.—The price of copper has been advanced one half-penny per lb., making tough cake and tough tile ingots 102*l.* 10s.; best selected, 105*l.* 10s. per ton, in quantities of three tons. Smaller quantities, 20s. per ton extra.

THE ROYAL SOCIETY.—The anniversary meeting of the Royal Society was held on Tuesday, at Burlington House, on which occasion Lord Wrottesley delivered his annual address, reviewing the progress of science during the past year. The medals were then awarded as follows:—The Copley Medal, to Sir Charles Lyell for his various researches and writings, by which he has contributed to the advance of geology; a Royal Medal to Mr. Albany Hancock for his various researches on the anatomy of the mollusca, the Second Royal Medal to Mr. William Lassell for his various astronomical discoveries and researches; and the Rumford Medal to Professor Jamin of Paris, for his various experimental researches on light. Sir Benjamin Brodie, bart., was president. The new meeting-room, a fine apartment so far as regards size, is somewhat bare in aspect, notwithstanding the pictures on the walls. A little colour and gilding in the cornice would be a great improvement. The sitting accommodation was excellent.

SOMERSETSHIRE ARCHÆOLOGICAL SOCIETY. The first *conversazione* was held on Monday, 22nd, at the Society's Museum, Taunton. The chief additional object of interest which the museum presented was the new oaken case for the reception of the Pigott collection of drawings, &c. It is a handsome massive piece of furniture, of mediæval design, executed by Mr. H. Davis, ecclesiastical carver, of this town. Dr. Metford read a narrative of the natural history and geographical features of Teneriffe, one of the Canary Islands. Mr. W. F. Elliott next read an essay on "Gothic Mouldings," which was listened to with great attention; and the Rev. W. R. Clark followed with a paper on the poet laureate—Tennyson.

GLASGOW ARCHITECTURAL SOCIETY.—On Tuesday, the 23rd, a meeting of this society was held, in the Scottish Exhibition Rooms. Mr. James Graham, in the absence of Sir Andrew Orr, occupied the chair. Mr. Wm. Maclean, the secretary, read the minute of last meeting of the society. Several gentlemen were admitted as members. Mr. James Salmon, architect, then read a paper on the subject of domestic sanitary arrangements and drainage.

CHELSEA VESTRY-HALL COMPETITION.—We have received several letters confirming the statements made in the letter from "the Authors of No. 12" in our last, and shall return to the subject shortly. One writer makes some strange revelations.

NEW INFIRMARY WOOLWICH.—The edifice intended as the Royal Marine Infirmary, under construction on the site of the Old Kent Waterworks, at Woolwich, now the property of Government, is progressing with rapidity, under the superintendence of Colonel Green, director of engineering and architectural works to the Admiralty. The total length of the new infirmary is 418 feet, breadth of wings, 191 feet, and height of each story 16 feet 6 inches. In addition to the wings there will be eight wards, extending beyond the principal walls, *on the pavilion principle*: each ward will contain space for the accommodation of fourteen patients, at the rate of 600 cubic feet to each patient. There will be three stories above the basement story, which latter will be appropriated as offices. The floors and walls, we are told, are being constructed of hard bricks, capable of being cleaned by washing, and not retaining any moisture. The windows will be double glazed, in order to check the severity of winter, and prevent an undue loss of heat. The windows of the convalescent wards, opening to the floors, will be furnished with verandah seats outside. It is satisfactory to us to find, here and elsewhere, that our teaching has not been thrown away.

OPENING OF THE MECHANICS' HALL, FROME.—A successful meeting in connection with the educational movement took place on the 25th ult., at Frome, in the new hall just erected for the mechanics. The Marquis of Bath presided, and the Hon. and Rev. S. G. Osborne delivered an able inaugural address. Amongst those present were the lord bishop of the diocese, Sir Henry A. Hoare, Bart. Mr. D. Nicoll, M.P. Lord Edward Thynne, and others. The Marquis made a few observations commendatory of the undertaking. Mr. Fisher laid before the meeting a statement of the financial position of the institution, from which it appeared that the cost was 1,536*l.* of which subscriptions to the amount of 798*l.* had been received, leaving a debt due of 738*l.*

HUGH MILLER'S MONUMENT AT CROMARTY.—The foundation stone of the monument to be erected at Cromarty, in memory of Hugh Miller, was laid on Wednesday, 23rd. The monument will consist of a pillar about 50 feet high, surmounted by a statue of Hugh Miller, to be sculptured by Mr. Handyside Ritchie. The base is of old red sandstone, taken from the shore quarry, the first scene of Mr. Miller's labours, and of his geological researches. The rest of the work will be completed in a stone of a yellowish colour, obtained from the quarry at Davidston. The following inscription is to be engraved upon the base:—"In commemoration of the genius and the literary and scientific eminence of Hugh Miller, this monument is erected by his countrymen. He was born at Cromarty, 10th October, 1802, and died 24th December, 1856."

THE WORCESTER SCHOOL OF ART.—The seventh annual meeting of this institution was held on Monday in last week; Lord Ward, the president, in the chair. The annual exhibition of the works of the pupils took place in the previous week. It contained more advanced work than its predecessors, according to the local *Chronicle*. The annual meeting was crowded. The report stated that during the past year 283 students had received instruction in the school, being less by thirteen than enrolled in the previous year. This decrease had taken place in the morning classes, and not in the artisan classes attending in the evening, a greater number of whom now attend the school than at any former period. During the first year of the operation of the school, in 1852, the average monthly attendance in the evening was about 71; in 1853, 95; in 1854, 111; in 1855, 106; in 1856, 124; in 1857, 126; and in 1858, the last year, 142; thus showing the average monthly attendance in the evening to have increased from 71 in the first year of the school to 142 in the past year. In addition to the instruction given in the school, elementary drawing is taught by a master from this school in four of the public schools in the city. The railway school, in which drawing is now taught by its master, is also in connection with the central school. About 560 children, pupils of these five schools, have now instruction in drawing, being an increase of 150 over the number for last year. Some appropriate resolutions were spoken to, and passed, and the prizes then distributed.

YORK CATHEDRAL.—The Dean and Chapter of York have issued a code of regulations for visitors inspecting York Cathedral. The vergers are not in future to take any gratuity, but are to be paid by salary. Each visitor is to make a specific payment (sixpence).

THE SURBITON DRAINAGE PLANS.—Some correspondents want to know what has become of the Surbiton Drainage Plans sent in on the 1st of July: "the system of keeping competitions undecided month after month, is very objectionable."

"WANTED A CONTRACTOR, to cut open the Isthmus of Suez.—Apply to Messrs. Lesseps and Co., Paris." Such is the advertisement put forth in a recent issue of the—*Chariwari!* No,—of the *Presse*, according to the *Morning Herald's* Paris correspondent. The laconicism is somewhat Frenchified and affected, and is designed, doubtless, to induce the world to believe that French engineers think nothing of the doing of a work which a Stephenson advisedly declares, after personal and local study, to be little else than impracticable.

MONUMENT TO ALLAN RAMSAY AT EDINBURGH.—Lord Murray designs to embellish his native city by a monument to his distinguished ancestor, the poet Allan Ramsay. It is to be executed in marble, of quality similar to that of Sir Walter Scott's statue in the Monument at Edinburgh—a kind of marble calculated to endure exposure to the effects of time and weather.

NEW MOTIVE POWER.—An inhabitant of Chatteris, says a correspondent of the *Cambridge Chronicle*, has discovered a method by which a wheel of thirty or forty tons weight, and from thirty to sixty feet in diameter, may be set in motion by a child of ten or twelve years of age. It can be applied to all sorts of stationary engines at fifty per cent. less than steam, and the first expense would be a saving of seventy-five per cent.

A TELEGRAPH PROBLEM.—Whoever originated the following deserves to have his name handed down to posterity:—If a despatch from England to America gains on the sun so as to reach America four and a half hours by the clock before it left England, at what time would it arrive at the point of departure, were a cable carried round the world? Would it not arrive the day before it left, less only by the time exhausted in making the circuit? If so, then, with a continuous telegraph line round the world, why not send a despatch round and round until it reached back and back to Adam, to let him know what his children are about in these days?

THE WYKEHAMIST MEMORIAL.—The memorial to the Wykehamists who fell in the Crimean campaign, executed after the designs of Mr. Butterfield, has been erected in the porch of the chapel of Winchester College. It occupies the west wall, and consists of five cinquefoiled arches, with mosaic borders and patterns, divided by shafts of reddish marble. It is 16 feet in height, and in length 29 feet. The materials employed are Caen stone, Derbyshire fossil, and Devonshire marble. The stonework was executed by Field, of Parliament-street. The oak roof of the porch was renewed by Norris, of Marylebone-lane; and iron gates, wrought by Potter, of South Molton-street, are placed at the entrance from the middle court and in the door to the cloisters. The floor is laid with Minton's tiles. The panels within the arches, 8 feet by 4 feet 6 inches, bear the names of the fallen officers, and above the capitals of the shafts are angels bearing shields inscribed Faith, Virtue, Knowledge, Temperance, Patience, Charity. Beneath, on a broad band of gray marble, and above a bench table, is the verse; "He is not a God of the dead, but of the living, for all live unto Him."

THE HOSPITAL FOR SICK CHILDREN IN GREAT ORMOND-STREET.—There is only one institution in London which is appointed for the relief of the diseases of children, and we are glad to hear it is rapidly increasing in usefulness. At this place the children of the poor can have the best advice, and, as far as the funds which are contributed will admit of, young patients are received into the wards of the hospital. Besides giving the benefits which arise from the hospital, the committee have determined to open an infant nursery close by, on the plan of that commenced by Mr. Olivar. Here it is proposed to afford the means of education to nurses, and the same plan is proposed to be carried out in the hospital. The advantages which must be derived by the attendance of well-conducted young women, who intend to take the management of children, at these institutions, must be great; and no doubt those who can get a proper certificate from such a place as this will readily meet with remunerative employment.

TENDERS.

Aldershott Villa Company. For four pairs of semi-detached villa residences, to be erected on this company's land at Aldershott, Hants. Mr. J. H. Rowley, architect:—

Myers, London	£4,875	0	0
Reynolds, Brighton	3,200	0	0
Dowsett, Farnham	3,150	0	0
Heather, Moulsey	3,000	0	0
Gunning, London	2,824	15	0
Copp, London	2,760	0	0
Powell, London	2,740	0	0
Terry, Aldershott	2,598	0	0
Lee, Aldershott	2,400	0	0
Williams, London	2,337	12	0

For two villas, Fitzroy-road, Regent's Park-gardens, for the executors of the late Mr. C. Oldfield. Mr. R. C. Greatorex, architect:—

Batterbury	£2,191	0	0
Rowe	2,140	0	0
McLennan and Bird (accepted)	2,111	0	0

The following tenders for alterations at the "Comus Tavern," Bemerton-street, Caledonian-road, for Mr. Mapp. Mr. Bird, architect:—

Ashby and Son	£568	0	0
Lawrence and Son	542	0	0
Ambroke	490	0	0
W. Buck	449	0	0
Green	425	0	0

For the drainage, laying out, and planting Camberwell-green. Mr. W. Berriman, surveyor.

Maynot	£365	0	0
Walker and Neaves	310	0	0
Walsh, Brixton	299	10	0
Rogers	295	0	0
Goddard	294	0	0
Kent	289	0	0
Wright and Co.	288	0	0
Constable, Peckham	285	0	0
Hare, Clapham	285	0	0
Burbey	284	0	0
Cook	283	8	0
Garner	279	9	7
Rumbold, Tunbridge Wells	278	10	0
Cannon	275	0	0
S. Cook	275	0	0
Strickson, Wood Green	268	0	0
Marshall	265	0	0
Lowden, Brixton	255	0	0
Powell	247	0	0
Neal, Wandsworth (accepted)	227	0	0

For alterations and repairs at Gurque House, Woodford-bridge, for Charles Davey, Esq. Mr. D. A. Cobbett, architect—

Rivett	£343	0	0
Hedges	323	0	0
Newman and Mann	315	0	0
Savill	763	0	0

For setting a twenty-horse cylindrical boiler, under the direction of Mr. George Eves, 20 feet long and 5 feet 6 inches in diameter. The boiler was made by Horton, Son, and Kendrick, for the Uxbridge Local Board of Health, for their engines at water-works, in order to economize fuel if possible:—

Wakefield	£120	0	0
Galsworthy (accepted)	100	0	0
Hardy	95	0	0
Rose	93	0	0
D. Morten	80	0	0

TO CORRESPONDENTS.

We cannot Return Rejected Plans.—A correspondent, "H. P." inculcates [illegible] "Which Architecture?" Reply: [illegible] and B. Jun.

V. W.—A. D. G.—B. G.—J. H.—J. H. (place the matter in proper hands and throw it into [illegible]).—N. W.—E. S.—W. T. P. was designed by M. Horeau.—P. D. L. [illegible] special stamp is sufficient.—E. W. [illegible] not certain what premium more than five per cent. can be charged on [illegible] entitled to [illegible] Undertaker.—C. G.—T. B. S.—J. H. R.—A. C.—R. G.—J. B.—E. M.—J. H.—B.—D. R. thanks.—D. G.—F. B.—Messrs. H. [illegible] G. W. A.—W. C.—We do not [illegible] P.—

ADVERTISEMENTS.

Just published, Price Sixpence,

THE STEPHENSON MONUMENT: WHAT SHOULD IT BE? A Question and Answer. Addressed to the Subscribers.

By THOMAS OLIVER, Architect.

"The very [illegible] to Mr. Oliver's well [illegible] between [illegible] We [illegible] with [illegible] Weekly [illegible]

"A [illegible] Stephenson [illegible] Weekly News well, Mr. Oliver, whether he [illegible] to [illegible] Newcastle Chronicle.

Newcastle: M. and M. W. LAMBERT; and all Booksellers.

TO INVENTORS and PATENTEES. All the [illegible] and Patents [illegible] PATENTS and [illegible] RE ISSUED [illegible] Inventors [illegible] Patent [illegible] Law [illegible] Patentees [illegible] WILKINSON & [illegible] 7, CLIFFORD'S [illegible]

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THE PRACTICAL MECHANICS' JOURNAL, is monthly: containing twenty eight quarto pages of letterpress [illegible] two plates of engravings and fifty woodcuts.

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TO ARCHITECTS, ENGINEERS, COUNTY, BOROUGH, and DISTRICT SURVEYORS.—MR. L. FLOWER, C.E. and Architect transacts TOWN AGENCIES, selects Assistants, and renders PROFESSIONAL AID generally. Specifications, Sections, & Maps, Plans, Drawings and Tracings, Perspectives drawn or copied, &c., by the first artists only. 28, Charles street, St. James square, London, S.W.

TEMPORARY ASSISTANCE.—An Architect, who is accustomed to prepare perspective, finished working, and detail drawings, specifications, take out quantities, measure artists' work, &c., is desirous of procuring TEMPORARY ASSISTANCE to ARCHITECTS, either at their own Offices, or his Chambers.—Address, R. B. 15, Southampton row, Russell square, W.C.

THE ASSOCIATION for the PREVENTION of STEAM BOILER EXPLOSIONS, and for EFFECTING ECONOMY in the RAISING and USE of STEAM.—President, WILLIAM FAIRBAIRN, Esq. C.E. F.R.S. &c.

The ENGINEERS WANTED, by this Association, an active, intelligent, and well-educated ENGINEER, theoretically and practically acquainted with the properties of steam, and thoroughly conversant with the details of steam-engines and boilers, to act as Chief Inspector under the Managing Committee. Salary, £200 per annum, with railway expenses allowed.—Applications to be made to the undersigned, specifying age and [illegible] accompanied with [illegible] or references, on or before the 31st day of DECEMBER next. By order, HENRY WHITWORTH, Secretary.

Manchester, 15, Corporation-street, 16th November, 1858.

SCINDE RAILWAY COMPANY (Public Railway).—To CIVIL ENGINEERS.—WANTED, immediately, under the Bombay Government, ENGINEERS, to act as Assistants in construction of the line. They must have a thorough practical knowledge of surveying, levelling, construction, setting out, and measuring up works, and be active, and accustomed to travelling and field-work. Candidates must be prepared to undergo a medical examination.—Apply, by letter only, inclosing testimonials, to J. A. YARROW, Esq. 17, Great St. Helen's, or 1, Bishopsgate-street, London. THOMAS BURNELL, Secretary.

Great India House, Old Broad street, 27th November, 1858.

TO FOREMEN OF MASONS.

WANTED, a first-class Man, who thoroughly understands public work in all its branches, and who is fully acquainted with the coloring trade, especially of marble and alabaster. Character must bear the strictest scrutiny.—Address, with references and terms, F. G. Post-office, Leicester.

WANTED, a short distance from Town, an energetic person as CLERK of WORKS, who is well acquainted with construction, competent to measure up work, and take out quantities. One who has been [illegible] in the office would be preferred.—Apply, stating age, terms, and references, to G. S. Office of "The Builder."

WANTED, a respectable YOUNG MAN. He must write a good hand, and be quick at accounts. If accustomed to a builder's office he will be preferred. Salary 1l. 1s. per week.—Apply, by letter, to A. B. at Mr. Wood's, 42, Coleman-street, and attend at no other premises.

TO VENEER SAWYERS.

WANTED, a steady, respectable MAN, to WORK a 30-feet SAW. A good workman will meet with [illegible] employment. Apply, by letter only, stating name and address, and where last employed, to X. Y. 1, Bedford place, Oakley-road.

TO CLERKS OF WORKS.

WANTED, for FIVE MONTHS from the present time, an experienced CLERK of WORKS, who understands the details of church work. Apply, by letter only, giving references, and stating salary required. An answer will be returned to those only who are prepared to accept the terms.

37, Wimpole-street, W. WILLIAM WHITE.

WANTED, by the Advertiser, a constant SITUATION as thoroughly good PAINTER and GLAZIER. Is also a good fret-lead glazier. Wages, 25s. per week.—Address, R. L. Wadeson's store, Reading, Berks.

WANTED, by a Young Man, a SITUATION as CLERK of WORKS, GENERAL FOREMAN, TIME-KEEPER, &c., or to take charge of Estate Work. Is well versed in all branches of building [illegible] Can be highly recommended. Terms moderate.—Address, PADD, No. 3, Church Terrace, Kingston, Surrey.

TO PLUMBERS AND BUILDERS.

WANTED, by a steady and respectable young Man, a SITUATION as PLUMBER and PAINTER. Good reference if required.—Address, H. S. 12, Shepperton-street, New North-road, Islington.

TO RAILWAY CONTRACTORS AND OTHERS

WANTED, by an experienced Man, a SITUATION as TIMEKEEPER, &c. Can produce ten years' good character from one of the largest [illegible] London. Address, P. D. 6, York-street, Lower Ford, Lambeth.

TO BUILDERS, PLUMBERS, &c.

WANTED, by an experienced Person, a permanent SITUATION as PLUMBER, or THREE BRANCH HAND. Unexceptionable references given.—Address, C. G. No. 127, Great Titchfield-street, Marylebone.

TO BUILDERS.

WANTED, by the Advertiser, a young Man, aged 20, who has had eight years' experience in the Building line, a SITUATION as JUNIOR CLERK, in a Builder's Office, where he will be able to gain a thorough knowledge of office routine. Can take out the working drawings, and write a good business hand. A moderate salary required.—Apply, by letter, D. J. C. No 3, College-street, Islington, N.

TO ARCHITECTS AND BUILDERS.

WANTED, by the SON of a BUILDER, aged 21, a SITUATION as CLERK. Understands book-keeping, and [illegible] to perform the business. Terms moderate. Address, R. W. 17, George-street, Portman-square, W.

TO PLUMBERS, GAS FITTERS, &c.

WANTED, by a Young Man, aged 23, a good PLUMBER, and has a knowledge of Gas-fitting, &c. [illegible] where he has been [illegible] in the latter. Good reference if required.—Address, J. S. No. 9, Vincent-street, Stepney.

TO BUILDERS, PLUMBERS, PAINTERS, &c.

WANTED, a SITUATION as PLUMBER, or THREE-BRANCH HAND. Address, A. D. Wigmore [illegible] Wigmore-street, Cavendish-square.

TO SMITHS, BELLHANGERS, AND GAS FITTERS.

WANTED, by an experienced Man, aged 24, a CONSTANT SITUATION as [illegible] Can [illegible] Address, A. Y. York-[illegible] Road, Battersea-park, Pimlico.

WANTED, by a respectable Man, aged 31, of sober, steady, and active habits, a SITUATION as WORKING FOREMAN or [illegible] Well acquainted with all its branches, and having a thorough knowledge in laying all kinds of pavements. Unexceptionable testimonials can be given. Address, B. [illegible] Middlesex.

WANTED, a SITUATION, by a Youth, as JUNIOR CLERK. Has been engaged in surveyors' and builders' offices about four years. Can take drawings, measure work, and write a good hand.—Address, J. D. 23, Clarence-road North, Kentish-town.

WANTED, a permanent SITUATION in the Country, by an Assistant, who understands every description of perspective and projection, working drawings, specifications, practical details of every trade, superintendence of works and general management of an office, surveying and levelling, and has a fair knowledge of design and has superintended Gothic and other works. Satisfactory references.—Address, J. W. D. Post-office, 65, King William-street, City.

TO DECORATORS, PLUMBERS, PAINTERS, &c.

WANTED, by the Advertiser, a SITUATION as FOREMAN, which he is competent to undertake, in the above business. Has a thorough knowledge of writing, grain[illegible] Good reference. Address, R. G. 14, Pitt-street, St. George's road, Southwark

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THE Advertiser, 27 years of age, seeks an ENGAGEMENT, either at home or abroad. Has been extensively engaged as a builder under the first architects, and has a thorough practical knowledge of [illegible] and [illegible] grounds. First-rate references. Address N. R. Office of "The Builder."

TO ARCHITECTS.

THE Advertiser, a first-rate Draughtsman and fair Colourist, with a thorough knowledge of the practical part. Plans, sections, perspective, &c. A desire of obtaining a SITUATION in an Architect's Office.—Address, O. S. Office of "The Builder."

TIMBER TRADE. — The Advertiser, of middle age, active, business habits, and considerable practical experience in [illegible] trade, ENGAGEMENT as SALESMAN, FOREMAN, or [illegible] Has been [illegible] A. B. Z. Messrs. Isaac and Lucas, Great Northern Wharves, Pentonville, N.

TO BUILDERS, &c.

THE Advertiser, who has had many years' connection with the above business, as assistant, ENGAGEMENT. Is well acquainted with the measurement of [illegible] drawing, working plans, &c. Is [illegible] Satisfactory references given.—Address, Q. E. D. care of Mr. R. [illegible] Office, Fleet-street, E.C.

TO CARPENTERS AND BUILDERS.

THE Advertiser, aged 22, is desirous of EMPLOYMENT at OUT-DOOR CARPENTER'S WORK: and is qualified to assist in the [illegible] of a rising builder, and expects a fair remuneration for his services. Address, Z. Y. at 15, Southampton-row, Russell-square, W.C.

TO FREEHOLDERS, CAPITALISTS, LONG LEASEHOLDERS, AND OTHERS INVESTING, OR WISHING TO INVEST, IN BUILDING.

THE Advertiser, many years principal Clerk and Rent Collector to an eminent and successful builder, at present holding a responsible position connected with the first clients in every branch of the building trade, OFFERS his SERVICES direct to BALTIC, Office of "The Builder."

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THE Advertiser, having had much experience in getting up estimates, and being thoroughly qualified to undertake all matters connected with the [illegible] ENGAGEMENT, either by the hour or otherwise. Terms moderate. References, if required.—Apply, by letter, to A. B. Z. [illegible] Road, Wandsworth

TO ARCHITECTS AND BUILDERS.

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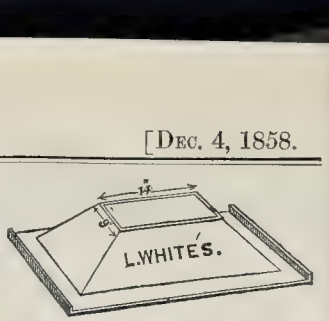

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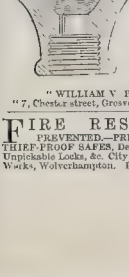

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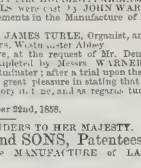

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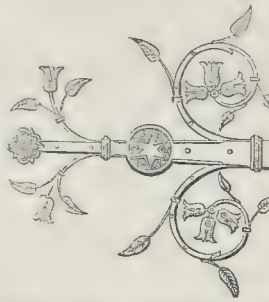

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FIRE CEMENT, made (only) at the KINSON COAL WORKS, POOLE, DORSET. It is used as a lining to blast or other furnaces will trebly increase their durability 40s per ton, at NINE ELMS STATION.

TO CIVIL ENGINEERS, CONTRACTORS, BUILDERS, and OTHERS engaged in HYDRAULIC WORKS. A few Tons of SOLID TARPAN FOR SALE, superior in its qualities to any other Pitch or Tarpan for the use of the season now. Address, Mr. JOSH. KAY, 72, Adam-street, New North-road, Hoxton.

ARTIFICIAL HYDRAULIC or PORTLAND CEMENT combines the valuable qualities of the natural stone with the additional advantage that it greatly excels them in the accumulative properties; that it is not affected by frost, and does not vegetate in damp situations. Account of COMPARATIVE EXPERIMENTS on the strength of this and other Cements (read at the Institution of Civil Engineers), to be obtained from the Makers, JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster, who can supply one quantity only of Portland Cement.

SCOTT'S PATENT CEMENT, Manufactured only by WILLIAM LEE, SON, and SMITH, EARL STREET, BLACKFRIARS. The Cement is also to be had on sale for External or External Plastering, Brickwork, &c.

JAMES R. BLASHFIELD (Late Wyatt, Parker, and Co.), ROMAN, PORTLAND, PARIAN, and KEENE'S CEMENTS Plaster of Paris, Bricks, Lime, Mats, Laths, Sand, Tiles, Chimney Pots, Trusses, Copings, &c.; Stone-ware Drain Pipes and Closet Pans No. 1, SOUTH WHARF, PRAED-STREET, PADDINGTON

CEMENT.—ROMAN and PORTLAND CEMENTS, and PLASTER of PARIS, manufactured by C. J. CLINTON, can be had in any quantity, wholesale and retail, at his wharf, 6, Upper Thames-street, London; and also at the Manufactory, Faversham, Kent. N.B. These Cements supplied for shipment, on advantageous terms.

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater, Hydraulic, Portland, Parian, and Roman Cements, Blue and White Lias Lime, Dampcourse Material.—MALLMARK and CO. Dunball, Bridgwater, and 9, North Wharf road, Paddington.

THE PORTLAND CEMENT WORKS, NORTHFLEET, KENT. Messrs ROBINS and CO. TO WHOM THE PRIZE MEDAL WAS AWARDED in 1851, are prepared to SUPPLY ANY QUANTITY OF THE VERY BEST PORTLAND CEMENT Manufactured by them for all the purposes to which Cement is applicable. Orders received at Great Scotland-yard, and at the Works.

MESSRS. ROSHER and CO. LIME, CEMENT, and BRICK MERCHANTS. LONDON WHARFS — ALBION WHARF, HOLLAND-ST. BLACKFRIARS, S.E. MILLBANK-STREET, WESTMINSTER, S.W. KINGSLAND BASIN, KINGSLAND ROAD, N.E. LIMEKILN-HILL, LIMEHOUSE, E. Wherever is best suited for the best quality:— GREY STONE, CHALK, and BLUE LIME ROMAN, PORTLAND, KEENE'S, ATKINSON'S, MARTIN'S, and PARIAN CEMENTS COWLEY and KENT BRICKS WHITE and RED SUFFOLK FACING BRICKS, YELLOW and PALE MALM CUTTERS, PICKINGS, PAVIORS and SECONDS STAFFORDSHIRE ORNAMENTAL PAVEMENTS, in RED, BLUE, and BUFF; also GARDEN EDGINGS. TERRO METALLIC GROOVED STABLE BRICKS, CHANNEL BRICKS and CLINKERS PLAIN and ORNAMENTAL ROOFING and RIDGE TILES. WELSH, NEW ASTLE, and STOURBRIDGE FIRE BRICKS, LUMPS, and TILES, of every description, and clay RED and GLAZED STONEWARE DRAIN PIPES, &c. TERRA COTTA CEMENT, and RED CHIMNEY POTS. HAIR, PLASTER, LATHS, SAND, BALLAST, and other BUILDING MATERIALS Goods forwarded by Railway with despatch. LIME WORKS, CHALK FLINT, and BALLAST WHARFS, NORTHFLEET, KENT.

WHITE and RED SUFFOLK FACING BRICKS, by Messrs. Allen and Co. Ballingdon, near Sudbury. The YELLOW and PALE MALM CUTTERS and FACING BRICKS, by Messrs. Caleb Hitch and Co. Ware, Herts. The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT COLOURED STOCKS, from the Kiln at South Shoebury, Rochford, Essex. The EWELL deep BLACK RUBBING and BUILDING BRICKS, And the EWELL and CHALCOT dark and bright RED RUBBERS COWLEY, KENT, AND ESSEX BRICKS, IN ANY QUANTITY (of good quality), BY BARGE ALONGSIDE. JOHN and WM. EASTWOOD, WELLINGTON WHARF, Belvidere-road, Lambeth, and Kent-road Bridge, } SOLE CONSIGNEES. The usual commission allowed to merchants of the trade from the monthly price-lists. N.B. Every description of the Building Goods of the Trade always in Stock.

STAFFORDSHIRE PAVEMENTS and RIDGING Blue, Red, and Buff Terro Metallic Paving Tiles of various designs Blue and Red Plain and Ornamental Roofing Tiles in great variety Plain Rolled, Capped, and Pinnacle Ridge Tiles of different pitch, and Grooved Ridging, with Crest Ornaments, in Green, Blue, and Red, for the different periods. Vitrified Stable Pavings, Grooved, of various sizes. Blue Facing Bricks, &c. J. and W. EASTWOOD, Belvidere-road, Lambeth; and Kent-road Bridge.

PALE MALM FACING BRICKS. IMPORTANT TO BUILDERS! In consequence of ARCHITECTS having of late years specified the YELLOW FACING Bricks for their works, there are a profusion of PALE SECONDS, MALM PICKINGS, &c. has become very large, that Messrs EASTWOOD are now selling these Bricks, from different makers, at greatly reduced prices. Messrs. EASTWOOD are prepared to engage them on large quantities, at the present price of Bright Stocks. Belvidere Road, Lambeth, 30th October, 1858.

COLES, SHADBOLT, and CO. CEMENT and PLASTER MANUFACTURERS, LIME BURNERS, Brick, Tile, Drain Pipe, Hair, Lath, and Fire Goods Merchants, ST. JAMES'S and THORNHILL WHARFS, Pentonville-road, London. ROMAN CEMENT, made at the above works, may be had fresh from the kiln, thereby giving great advantage to dealers and sewer contractors, which is of importance PORTLAND CEMENT, of the best quality, strength, and colour, manufactured in Kent This cement will carry more sand than any other Cement, by reason of its fineness, and is now brought into the market and sold as Portland. PLASTER of PARIS, direct from the quarries, both coarse and fine, wholesale and retail. LIME, Grey Stone, Chalk, and Blue Lias Lime, fresh and well burnt, a constant and regular supply of which may be had by the barge or land A large assortment of Glazed Stoneware Drain pipes, of the best Lambeth make; Yorkshire Plain, Pan, and Paving Tiles; Welsh Fire Bricks, Lumps, and Tiles; Hair and Laths always kept in stock These goods are of the best quality, and sold at the lowest possible prices N.B. Shipping orders promptly executed

PORTLAND CEMENT WORKS, NORTHFLEET, KENT. KNIGHT, BEVAN, and STURGE, Manufacturers only of first-class quality, for the home and foreign trade. Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, told work, or otherwise LONDON WHARF, BELVIDERE ROAD, LAMBETH.

STRINGFIELD and BLYTH, Sole Consignees of NELSON'S BLUE LIAS LIME. Orders addressed to Messrs. S. and B. Bangor Wharf, CAMDEN TOWN, N.W. will receive prompt attention

STRINGFIELD and BLYTH, BANGOR WHARF, CAMDEN-TOWN, N.W. LIME, CEMENT, SLATE and BRICK MERCHANTS, PLASTER of PARIS MANUFACTURERS; Thames Sand and Ballast by the yard or barge, and Building Materials generally. Country orders forwarded with despatch

PATENT HYDROBORON, for CONVERTING PLASTER INTO PARIAN CEMENT, and INDURATING PLASTER or OTHER POROUS MATERIALS AFTER IT IS WORKED, is sold by the Patentees, with full directions for use, in bottles, PRICE 6s. 6d A saving of 25 PER CENT. is effected by its use. It does not efflorescence, and may be worked with any colour It dries quickly, and can be readily painted or papered SUPERIOR PLASTER sold, and delivered to any part of London, at the most reasonable terms The largest assortment of MODELS for DECORATIONS may be seen at the Gallery. SCAGLIOLA, &c. contracted for. SPECIMENS of HYDROBORONATED PLASTER may be seen at Messrs. CASENTINI and BARNARDS (Patentees') Offices, 24, HERCULES BUILDINGS; and at the SOUTH-WESTERN PLASTER DEPOT, HOMER-STREET, LAMBETH. N.B. Gentlemen wanted, upon with an Album of Plaster graphs from their stock.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement for fine stuccoing. Delivered only by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster, and 15, Bedford street, Liverpool.

KEENE'S and PARIAN CEMENTS for internal uses. These well-known Lime Stuccoes dry quickly, and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

CHARLES RICHARDSON, BRITANNICK WHARF, VAUXHALL And 6, SOUTH WHARF, PADDINGTON BASIN COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from Wharfs SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door-jambs, Coping Bricks, Stable Cuttings, &c. DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c. BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality Mean and Pale Malm Seconds, Pickings, Paviors, &c. BLACK HEADERS, Glazed and Unglazed. BEART'S PERFORATED BRICKS. STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro-Metallic Paving Tiles Plain, Flanged, Rolled top, and Ornamental Grooved Ridging, &c. Brown Tiles WHITE GLAZED BRICKS. FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Flue Linings, any Pattern Brick, &c. made to order. TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Border Edging, &c. SLATES, best quality from the Bangor Quarries. YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c. Sawn Slabs for Hearths, Jambs, &c. TILES. Pan, Plain, Ornamental Roofing, Paving, Oven, Mathematical, &c. A great variety of Red and White Goods always kept in Stock. GLAZED VITRIFIED SEWAGE PIPES, Closet Pans, Syphons, Stench Traps, &c. GREY STONE and CHALK LIME. BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw. CEMENTS. Roman, Portland, Parian, Lias, Bath, Keene's, &c. PLASTER of PARIS, fine and coarse, of best quality, at reduced prices HAIR, Laths, Sand, Ballast, &c. IMPORTER OF DUTCH CLINKERS. All kinds of Building Materials sent by Rail the same day as ordered. ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Kentish Rag Stone, broken and unbroken. Tenders given for any quantity N.B. Landing Wharf and Drawing Dock at Vauxhall.

ABERTHAW BLUE LIAS LIMESTONE, FREE on BOARD at CARDIFF, at the LOWEST PRICE. ABERTHAW BLUE LIAS GROUND LIME, to any Railway Station in the Kingdom; also at my Wharfs, at a price to ensure its use in preference to any other Lime, its cementitious qualities being superior to any of the Lias Limes. CHARLES RICHARDSON, 6, SOUTH WHARF, PADDINGTON, and BRUNSWICK WHARF, VAUXHALL, LONDON *.* This superior Hydraulic Lime weighs 80 lbs to the imperial bushel.

GREAVES'S BLUE LIAS LIME. Messrs GREAVES and KIRSHAW can supply any quantity of the above STRONGLY HYDRAULIC LIME direct from their works at WARWICKSHIRE, by CANAL or RAIL, in London, or any part of the Kingdom, and can give such trade arrangements that will enable them to deliver at any prices, either LIME or GROUND, as will ensure its being used. For civil engineers' works where great recommended, and for ordinary building purposes, these lime will be found very advantageous in building all BASEMENT FLOORS, being better adapted for such purposes than any other lime or cement. It is now TWENTY YEARS since Mr GREAVES introduced his BLUE LIAS LIME into London, and from its very superior quality, it has been used during that period in most of the LARGE WORKS that have been constructed in and near the METROPOLIS and THROUGHOUT THE COUNTRY, especially for RIVER, SEA, and DOCK WALLS, TUNNELS, SEWERS, AND RAILWAY WORKS, AND VERY GENERALLY FOR CONCRETE, in all which works it has given great satisfaction, and has been found the BEST BLUE LIAS LIME that can be brought into the LONDON MARKET. Messrs. GREAVES and KIRSHAW can deliver it to ANY PART OF LONDON by RAILWAY OR WATER CONVEYANCE, and it may also be had GENUINE (NO OTHER BEING KEPT) at their DEPOT—14, SOUTH WHARF, PADDINGTON, W. L. M. TATHAM, Agent. WORKS—HARBURY, near Southam. STOCKTON, near Rugby. WILMCOTE, near Stratford-on-Avon. OFFICE—WARWICK

GREAVES'S PORTLAND, BATH, and LIAS CEMENTS The CEMENTS are manufactured by Messrs. GREAVES and KIRSHAW, from the natural CEMENT STONE OF THE LIAS FORMATION, are EMINENTLY HYDRAULIC, and possess very CEMENTITIOUS property; they have been LARGELY SUPPLIED IN LONDON for SEVERAL YEARS past, and there is a constantly increasing demand for them The LIAS CEMENT resembles BATH STONE in colour, is very superior in quality, and can be sold at the SAME PRICE AS ROMAN CEMENT. L. M. TATHAM, Agent. No. 14, SOUTH WHARF, PADDINGTON, W.

TO SEWER CONTRACTORS, and the TRADE generally. STROUD and CO. OF BLUE LIAS LIME WHARF, HERTFORD ROAD, Kingsland.

PARIAN CEMENT for INSIDE WORK. With this material houses may be finished and occupied in one-fourth of the usual time. A finer quality produces a beautiful and hard Scagliola imitation of marble —Manufacturers, FRANCIS, BROTHERS, and POTT, Nine Elms, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT.—CLARK and BENGOUGH, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road.—Office, 4, George-yard, Lombard-street.

GEO. and THOMAS EARLE, CEMENT MANUFACTURERS, HULL — Light, Dark, and Portland Cements, equal to any made. Manufacturers also, and dealers in Plaster, Parian, White, Mastic, Hair, Lias Lime, Laths, Slates, and Slate Slabs, Fire-bricks, Grindstones, Cement Chimney-tops, ditto Vases, Ridging, &c. Paints, Stucco, &c. Marble Merchants and Importers of Portzolano.

CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,
FOR SHOP FRONTS AND PRIVATE HOUSES, AT 2s. 6d. PER FOOT,

MESSRS. CLARK and CO. of 15, Gate-street, Lincoln's-inn Fields, have recently introduced a New Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and, consequently, less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow-windows may be obviated by their use, without extra cost.—*From the "Builder," June 26th*, 1858.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

CLARK AND CO. ENGINEERS, 15, GATE-STREET, LINCOLN'S-INN-FIELDS, LONDON.

IMPROVED REVOLVING SHUTTERS.
FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, at 2s. per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, at 3s. per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

THE PATENT REVOLVING IRON AND WOOD SHUTTERS,
MANUFACTURED BY BUNNETT & CO. THE ORIGINAL INVENTORS,

And holders of Four successive Patents, combining every improvement suggested by the practical experience of twenty years' most extensive use.

ARE BEYOND COMPARISON CHEAPER, MORE SECURE, AND DURABLE, THAN THOSE OF ANY OTHER MAKER,

AND ARE SUITED IN VARIOUS MODIFICATIONS AND PRICES, FOR ALL PURPOSES.

Works: DEPTFORD, KENT.

London Office: 17, QUEEN-STREET, CITY; and at 435, PARLIAMENT-STREET, GLASGOW.

SNOXELL'S
PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,
WITHOUT MACHINERY, AT 4s. PER FOOT; IF WITH MACHINE CUT-SCREW GEARING, 2s. 6D. PER FOOT,
AT HIS STEAM WORKS, 135, OLD-STREET.

Testimonials from Architects, Bankers, &c. of their security and durability forwarded.

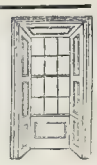
MANUFACTURER OF METALLIC DRAWN SASH-BARS, STALL-BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

WILLIAM SANDS,
CURSITOR-STREET, CHANCERY-LANE.

MANUFACTURED JOINERS' WORK, AND MOULDINGS OF EVERY DESCRIPTION, ON THE SHORTEST NOTICE, AND AT THE LOWEST PRICES, PACKED AND FORWARDED TO ALL PARTS OF THE COUNTRY.

Lists of Prices and Estimates forwarded on application.



SMITH AND McGAW,
(FROM THE GENERAL WOOD-CUTTING COMPANY)
MOULDING WORKS,
NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

WATERLOW, DRAPER, AND WEBB,
TREDEGAR MOULDING MILLS, BOW, E.

BEG TO CALL THE ATTENTION OF BUILDERS AND CARPENTERS TO THEIR SUPERIOR
STEAM-STRUCK MOULDINGS,

Which are fit for the immediate use of the Joiner. A large Stock always on hand, at the Warehouse for House and Cottage Joinery, 121, Bunhill-row, Finsbury.

A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

FLOORING.

	Spruce.	Yellow.	White.	
¾ inch	11s. 6d.	13s. 6d.	12s. 6d.	per square
1 "	13s. 0d.	14s. 6d.	13s. 6d.	"
1 "	15s. 0d.	16s. 6d.	15s. 6d.	"
1¼ "		19s. 6d.	18s. 0d.	"

DELIVERED FREE WITHIN THREE MILES.

ROBERT VIGERS, English and Foreign Timber Merchant, Kennington, Surrey (*Near the Church*).

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mahogany.

¾-inch Prepared Flooring, 11s 6d. per square.
1-inch ditto, 15s. per square.
Yellow Battens, 1¼ by 3 per 120, 12 by 2½.
Yellow Deals, from 3s 3d each.
Spruce Deals, from 2s 3d. each.
Fine Planks (dry), 12 ft. 3 in by 11 in. from 7s 6d each.
Honduras Mahogany, Plank and Board, from 6d. per foot
Borough road, Southwark, and Elm-street, Gray's inn lane.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 2s. 3d.; Spruce, 2s. 5d.; Fine Plank, 2s. 6d.; Mahogany and F. Walnut, 3s6.; 2½-inch White Battens, 5d. 10s; Yellow, 11f. 10s.; 1-inch White Flooring, 15s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 15s. 6d.; ¾ ditto, 13s. Bird's-eye Maple Veneer, 2d. Cartage free to any part of town.
T. FORMAN, 1, Walnut-tree-walk, Walcot-place, Lambeth.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced Prices for quite useful sorts:—

¾-inch Prepared Flooring	£0 11 6	per square.
¾-inch Prepared Flooring	0 13 0	per square.
1-inch Prepared Flooring	0 15 0	per square.
Good Yellow Deals	0 3 3	each.
Spruce Deals	0 3 0	each.
Fine Planks, Dry, 12 ft 3 by 11	0 3 6	each.
Yellow Battens	11 10	0 per 120.

Mahogany, planks and boards, from 6d. per foot.
All sawn goods delivered within three miles free of cartage.
ALFRED CARTER, Old Bethnal-green-road, N.E.

ALFRED ROSLING and SONS beg to inform their Customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices.
Southwark-bridge Wharf, Bankside, S.E.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash —

	¾	1	1¼	
Spruce	12s.	13s.	15s.	per square
White	12s. 9d.	13s. 6d	15s. 6d	18s. "
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s. 6d. "

Delivered within three miles free of charge
STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.
BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above-mentioned Premises, where, in connection with his other established Yards in Great Peter-street, Westminster, and Endell-street, Long-acre, he is always ready to supply from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Pine, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised House in London.

Mahogany, in log	from	1s. 6d.
" " cut and	"	0 6
Spruce Deals	"	2 9
3-in Plank	"	3 3
Yellow Deals	"	3 3
Yellow and White Battens	"	1 11
Prepared Flooring—		
White.—¾ in. 12s.; 1 in. 15s. 6d. Yellow.—1½ in. 19s.		

ACORN TIMBER WHARF and SAW MILLS
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES
Books of Designs of Mouldings forwarded on application.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLSTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 206, TOOLEY-STREET, of the South Eastern Railway Company, adjoining their Terminus, London-bridge, where, in connection with his well-established Premises in Kingsland, Boston-grove, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Prepared Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

P.S. Country orders executed with prompt attention, and all sawn goods (Bulk Timbers excepted), delivered free of cartage within three miles.

OLD OAK.—To ANTIQUARIANS.—FOR SALE, the OAK PANELLING of a ROOM, said to be three hundred years old. Apply, by letter, to G. BUCKTON, 8, Boar-lane, Leeds. Also a small quantity of CHINA, about one hundred years old.

TO BUILDERS, JOINERS, or PACKING-CASE MAKERS.—FOR SALE, about 400 3-inch dry, sound, good quality, YELLOW PINE BATTENS, at 1s 10d per 12 feet. They will be delivered free to any part of London, if cut at the mills where they now lie. Apply to S. C. 14, Hanover-street, Walworth, S.

ACCIDENTS of EVERY DESCRIPTION.
£1,000 IN CASE OF DEATH; OR
A FIXED ALLOWANCE OF 6l. PER WEEK
IN THE EVENT OF INJURY

May be secured by an Annual Payment of 3l. for a Policy in the RAILWAY PASSENGERS' ASSURANCE COMPANY

A special Act provides that persons receiving compensation from the Company are not barred thereby from recovering full damages from the party causing the injury; an advantage NO OTHER COMPANY CAN OFFER.

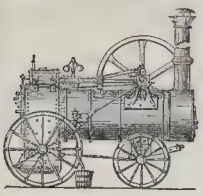
It is found that ONE PERSON in every FIFTEEN is more or less injured by Accident yearly. This Company has already paid as compensation for Accidents £7,989.

Forms of Proposal and Prospectuses may be had at the Company's Offices, and at all the principal Railway Stations, where, also, Railway Accidents alone may be insured against by the Journey or Year.

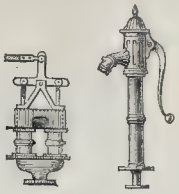
NO CHARGE FOR STAMP DUTY.
WILLIAM J. VIAN, Secretary.
Railway Passengers' Assurance Company,
Offices, 3, Old Broad-street, London, E.C.

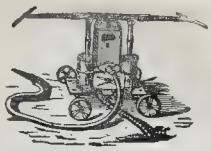
TO BRASS-FOUNDERS, ENGINEERS, REFINERS, &c.—The PATENT PLUMBAGO CRUCIBLE COMPANY having completed the enlargement of their premises, beg to call the attention of all users and shippers of MELTING POTS to the great superiority of the PATENT CRUCIBLES, which have been used during the last three years by some of the largest makers in England and abroad. In addition to their regular trade melting an average of from 25 to 40 per pot, they are undisturbed by change of temperature; never crack, but can be used till worn out; require only one annealing for several days' work; and become heated much more rapidly than ordinary pots; effecting thereby a saving of more than 50 per cent. in time, labour, fuel, and waste. The Patent Plumbago Crucible Company also manufacture and import Clay Crucibles, Muffles, Furnace Bottoms, Slate Cisterns, and Covers, Glass Pots, all descriptions of Fire-standing Goods, and every requisite for the Assayer and Dentist.—For lists, testimonials, &c. apply at BATTERSEA WORKS, London, S.W.

AN ORGAN (suitable for a small church or chapel), with seven stops, in mahogany case, with gilt pipes, three CC pedals, stop diapason, open diapason, principal, fifteenth, flute, sesquialtra, and clarionet. Manual down to G G, with a swell and pedals.—For permission to view, apply by letter to J. H. G. 19, Carlton-road, Maida-vale.



ENGINES,
SINGLE & DOUBLE
PUMPS,
OF ALL SIZES, TO ANY DEPTH,
FOR
HIRE OR SALE.

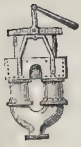


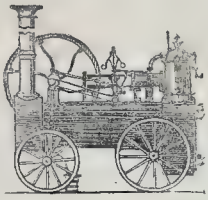


HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER AND CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.
TUDOR-STREET, NEW BRIDGE-STREET, and GRAND JUNCTION WHARF, WHITEFRIARS (*not BLACKFRIARS*).

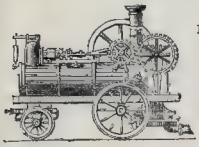
PORTABLE
STEAM
ENGINES,
FOR
HIRE OR SALE,
At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.





PUMPS
OF EVERY DESCRIPTION, IN
IRON OR BRASS,
Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well-sinking, &c. adapted for any depth.
HYDRAULIC PUMPS FOR DEEP WELLS.
PUMPS ON HIRE.
Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.
MORTAR MILLS, BUILDERS' CRABS,
TRAVELLING CRABS,
PORTABLE CRANES, WHARF CRANES,
WELL-BORING TOOLS,
STONE-SAWS, IRON PAILS,
RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.



PORTABLE STEAM PUMPING-ENGINES,
From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month
CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.
JAMES BURTON, SONS, & WALLER,
ENGINEERS AND CONTRACTORS,
Manufacturers of Ironwork for Drainage Purposes,
JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.
N.B. Steam-power, with Workshops, to Let.

CHEAP AND DURABLE ROOFING.
By Her Majesty's Royal Letters Patent.

F. McNEILL and CO. of LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON, Manufacturers and sole Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronised by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CIVIL MS
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK,
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover square. Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c. is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully informed to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their use. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and CO.'S Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW. Roofs covered with the Felt to be seen at the Factories, also the new Vice Chancellor's Courts, the passages and offices leading to Westminster-Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

The only White Zinc Works in the United Kingdom.
HUBBUCK'S PATENT WHITE ZINC PAINT.
MANY Painters and Decorators have never had really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no comparison with the genuine article.
But still greater prejudice is excited by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere of towns lighted by gas. It first loses the gloss, and ultimately mixes up with the water and washes off.
Hubbuck's Patent Process completely resists London atmosphere, bilge water, and gas under every form.
EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."
THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.
N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

STAINED-GLASS WINDOWS for the MILLION.—Instead of staining the glass, we stain a transparent material, easily applied by any person. By this method, with equal permanency, we obtain superior finish, richness, and brilliancy, at a fifth of the cost. For heraldic, Gothic, Arabesque, and Pretty Designs, for church, hall or conservatory windows, hall lamps, window-pictures, &c. Descriptive books, 6d. free. — GEORGE ROWNEY and CO. Manufacturing Artists' Colourmen, 51 and 52, Rathbone-place.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of glass, of the best manufacture, at the lowest terms.
Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford-street, W.

SOHO PLATE-GLASS WAREHOUSE,
No. 26, SOHO-SQUARE, LONDON, W.
PLATE-GLASS,
Of a superior Quality and Colour,
SUPPLIED AT THE LOWEST CURRENT RATES.
Contracts given upon application.

PATENT and BRITISH PLATE GLASS.
JAMES HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of Prices for the above will be sent on application; they will also on receipt of particulars furnish estimates for any description of Glass now manufactured.—Patent Plate, Sheet, Crown, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

WINDOW GLASS.
THOMAS MILLINGTON'S NEW LIST of REDUCED PRICES are now ready, and may be had on application
SHEET GLASS, fourths, in 200 feet cases, at 20s. 6d. per case
" thirds, " 24s. 6d. "
" seconds, " 30s. "
" best, " 36s. "
Boxes of 100 feet each, at 12s. 15s. 24s. or 36s. according to size.
21oz. 26oz. 32oz. and 42oz. in various qualities.
Also, CRYSTAL SHEET GLASS.
16oz and 21oz Greek, Matted Glass of various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ¼ to 1 inch thick.
COLOURS, VARNISHES, &c.
Genuine White Lead, 32s. 6d.; seconds ditto, 30s. 6d. per cwt. Linseed Oil, Boiled ditto, Turpentine. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours, Brushes, &c.
The above prices subject to the fluctuations of the markets.
PLUMBERS' BRASS WORK.
LIFT PUMPS AND PUMPS FOR DEEP WELLS; PLAIN AND SUNK HANDLE WATER-CLOSETS.
Cocks and Valves of every description.
Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in Exchange.
T. MILLINGTON, 87, Bishopsgate-street Without, London.
Established upwards of One Hundred Years.

GLAZIERS' DIAMONDS!
TO BE HAD OF THE WHOLESALE MANUFACTURERS,
JOHN EDWARDS, 20, SHARP'S ALLEY, WEST SMITHFIELD, London, E.C.

CRYSTAL WHITE SHEET GLASS.—
WHOLESALE BRITISH and FOREIGN WINDOW-GLASS WAREHOUSE.
British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.
Estimates and Price Lists forwarded free on receipt of business card addressed to
R. MEITAM and CO.
30, PRINCES-STREET, SOHO, LONDON, W.

GLASS PAINTING and MURAL DECORATION.—LAVERS and BARRAUD, 30, Southampton street, Strand, beg to inform the clergy, architects, and others, that they will be happy to submit DESIGNS for such WINDOWS as may be entrusted to them, as also for ecclesiastical decorations. They beg still to call attention to their grisaille and quarry glass, of an inexpensive but very effective character.—Prices, &c forwarded on application.

ARTISTIC TABLE GLASS,
in any style, plain, cut, or engraved.
GOODWIN, No. 33, Princes-street, Soho, London.

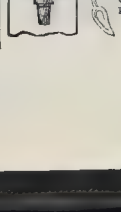
VENTILATION—PURE AIR.
Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL.
With single pulley, from 6s. each; with leading pulley, from
These Ventilators are arranged that the requisite quantity of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 196, Blackfriars-road, and 117, Union-street, Borough; and of all respectable ironmongers, Builders, &c.

TO ARCHITECTS and BUILDERS.—
T. TRELOAR, 42, LUDGATE-HILL,
Manufacturer,
SUPPLIES COCOA-NUT FIBRE MATTING, DOOR-MATS, HASSOCKS, &c.
of the best quality on the most reasonable terms.
Warehouse, 42, Ludgate-hill, E.C.

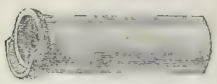
PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 32, Blackfriars-road, London.

TO BUILDERS AND PLUMBERS.
The attention of the Trade is called to
JOHN WARNER & SONS'
PATENT VIBRATING STANDARD PUMP,
which is recommended for the simplicity of its construction, and the ease with which it works.
By the introduction of the vibrating standard, the cumbrous carriage and expensive rings and guides are unnecessary, rendering the price considerably less than Pumps made on the old plan.
Beer and Water Engines for raising fluids, from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.
JOHN WARNER & SONS,
8, Crescent, Jewin-street, London,
Manufacturers and Patentees.



GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S
IMPERIAL POTTERIES, LAMBETH.



S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

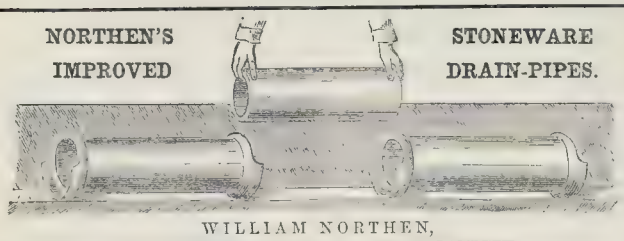
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.

Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

NORTHEN'S IMPROVED STONEWARE DRAIN-PIPES.



WILLIAM NORTHEN,
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to the REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which can now, with the additional convenience of a pipe in case of stoppage, or to examine the drain, every alternate pipe can be taken up without disturbing either the front or back pipe of the one to be removed, far surpassing anything yet manufactured, for utility and simplicity of easy access to drain.

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that made Stoneware Socket Pipes for House Drainage, has always made it his study to work the best article for the public, he trusts he has attained.

Having made very extensive alterations in his premises, and having machinery of the most improved description, he is prepared to execute orders to any extent.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT-GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

SALT-GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

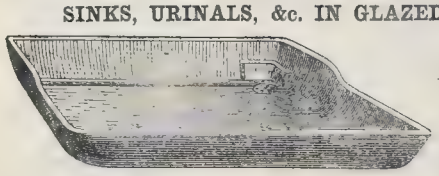
In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained on application at the Works; or at the Depôt, 8, Belmont-place.

SINKS, URINALS, &c. IN GLAZED STONEWARE.



DOULTON AND WATTS,
LAMBETH POTTERY,
LONDON.

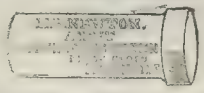
KAMPTULICON.

The NEW ELASTIC FLOOR-CLOTH, [illegible]
WATERALL, [illegible]
7 TRELAWNY, [illegible]
12, London [illegible]

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.



CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

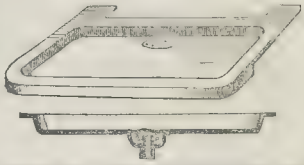
and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Station-four, Wortley Pipe-brick Works, near Leeds. No Expense for hauling, accessories.

30-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	8s. 3d.	8s. 6d.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter
Cement—every barrel warranted [illegible]
And the Pipes guaranteed to stand better than any Brickwork

PATENT CAST-IRON SANITARY

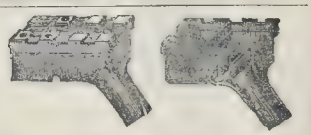
KITCHEN SINK, WITH TRAP.



Manufactured by the Patentees, NEWTON, CHAMBERS, and CO. Thorncliffe Iron Works, near Sheffield. Sizes made—

24 in. long by 18 in. wide by 11 in. deep, [illegible] each.
30 in. long by 18 in. wide by 14 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 14 in. deep, [illegible] each.
42 in. long by 20 in. wide by 15 in. deep, [illegible] each.
48 in. long by 20 in. wide by 15 in. deep, 15s. each.

To be had in London only, of Mr. JOHN JONES, 6, BANKSIDE.



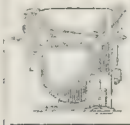
BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Yards, &c. Price 7s. each. To be had of the Sole Agents and Manufacturers, GLOVER BROTHERS, Founders, Engineers, and Smiths, 168, Drury-lane, and 191, Broad, Bermondsey.

UNDERHAY'S PATENT

REGULATOR CLOSETS for constant [illegible] supply, [illegible] with [illegible], Basin Bowls, Valves, Levers, Traps, &c. &c.; and by it is [illegible] and better flush of water obtained [illegible]

Pan, Valve Self-closing, and Separate Closets, on the same principle, may be seen at the Works. They are very large, their efficiency is guaranteed. Some of them have been sold, and to many others [illegible] has recommended.



These Stool valves are cheaper, simpler, and more economical, than any other. They [illegible] are in use, and generally approved of

Manufactured by
CHARLES IOTTEN and SON,
Brass Founders, Crawford-passage, Chancery-lane, London.

LAMBERT'S SELF-CLOSING

LAVATORY AND CLOSET VALVE.
No. 7.

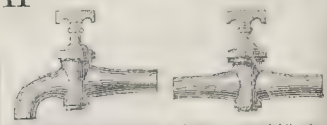
[illegible] for high or low pressure, and of many kinds of BASIN. Many hundreds are at this time in constant use at the [illegible] of the Queen, and are found to be remarkably durable, and are cheaper than common cocks. Manufactured only by the Patentees,

THOMAS LAMBERT and SON,
BRASS FOUNDERS AND ENGINEERS,
Corner of Short-street, New-cut, Lambeth, S.

N.B.—No. 7, combined with a DOULTON'S PAN and TRAP, is the CHEAPEST COTTAGE CLOSET yet produced.
Free, complete, 14s. each.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.



The Health of Towns Commissioners having recommended the adoption of High-pressure Hydrants in Sewers, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all high pressures and situations. Patent Closet and Basins with simple waste for attaching direct to main pipes without a Cock or Valve, or Wire.

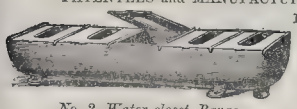
LEAD, IRON, and TIN PIPE.

JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

WALTER MACFARLANE & Co

IRON FOUNDERS AND SANITARY ENGINEERS, SARACEN FOUNDRY, GLASGOW,

PATENTEES and MANUFACTURERS of PUBLIC SANITARY APPLIANCES,



No. 2, Water-closet Range.

For DWELLINGS, SCHOOLS, ASYLUMS, BARRACKS, RAILWAYS, STREETS, &c.
URINALS, Single, Double, and in Ranges.
WATER-CLOSETS, Single and in Ranges.
WASH-HAND BASINS, Single and in Ranges.
WASH-FOOT BASINS, Single and in Ranges.

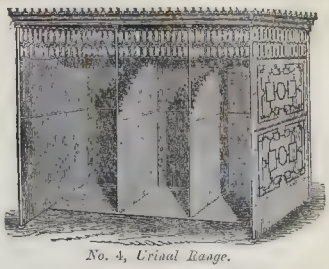
Composed wholly of CAST IRON; now in use in every large Town in the Kingdom, as well as the Colonies, and on the Continent.

LONDON HOUSE,

Mr. THOS. BEGGS, 37, Southampton-street, Strand, General Depôt for Sanitary Articles, and Plumbers' Brass Work.

Agents for the Counties of Northumberland and Durham.

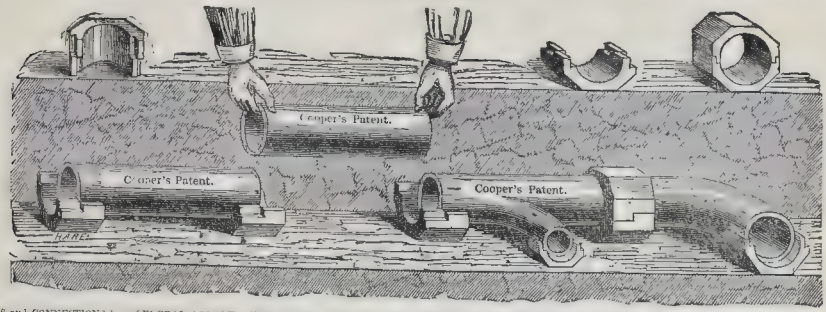
HENRY WALKER AND CO. NEVILLE IRON WAREHOUSE, NEWCASTLE-ON-TYNE.



No. 4, Urinal Range.

COOPER'S PATENT STONEWARE DRAIN-PIPES,

PERMITTING EXAMINATION AND CLEANSING, AND THE DRAIN TO BE REPLACED PRECISELY IN ITS ORIGINAL STATE.



These PIPES and CONNECTIONS have SEVERAL ADVANTAGES over every other plan hitherto offered for connecting CYLINDRICAL PIPES. They are very SIMPLE in their construction, and are respectfully submitted by the Patentee to the notice of Public and Men, as especially adapted to meet their requirements. The following are some of the advantages secured by their use:—

I. They provide READY ACCESS TO ANY PART OF THE DRAIN, FOR EXAMINATION, with it disturbing any other part, or joint of the invert of the Drain.

II. The Pipe, being laid ON THE UNDER CONNECTION, lows to adjoining Pipes at the MIDDLE of the connection, the Pipes are therefore kept PERFECTLY STRAIGHT in the Drain.

III. Should any Pipes be not quite exact in size, arising from the inaccuracy the shrink in burning (which often the case), their being joined on an EVEN SURFACE AT THE MIDDLE OF THE UNDER CONNECTION, will necessarily the way IRREGULARITY TO THE TOP OF THE DRAIN, thereby preventing the necessity of the use of the hand, and making the invert PERFECTLY FAIR AND EVEN. Having but ONE JOINT to each pipe, and supported on the connection, they are not liable to be obstructed or injured by running sand, sinking of the earth, or the action of external water.

IV. By the USE of the under connection SINGLY, THE FULL ADVANTAGE of all sockets, single or double, is SECURED TO EVERY PIPE.

Orders received by Mr. J. H. RIDDELL, Superintendent of the Court of Inventions, Crystal Palace, and 5, Scotland-yard, Bankside, Charles-street, London, E.C.; by Mr. THOMAS G. COOPER, 12, Albert-square, Commercial-road, E.C., and by the Patentee, Mr. THOMAS COOPER, Brick and Pottery Factory, Weeton, Isle of Wight. COMMON STONEWARE SOCKET-PIPES, SPLAY and PLINTH BRICK MADE TO ORDER.

MANUFACTORY: POOLE, DORSET. —— LONDON DEPOT: 66, WAPPING WALL.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.

HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz:—

Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS, Dowgate Wharf, Canal-road, Hoxton.
Messrs. COLWILL (BROTHERS), 39, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Pinsel-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN EMERY,
No. 14, GRAY'S-INN-LANE, W.C.

SASHES AND FRAMES, DOORS, MOULDINGS, SHOP-FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERS' WORK, ON THE SHORTEST NOTICE AND AT THE LOWEST PRICES.

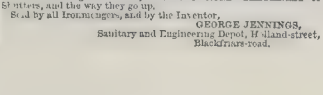
Lists of Prices and Estimates on application.

JOINERY of EVERY DESCRIPTION.
STAIRCASES,
SHOP-FRONTS, SASHES AND FRAMES, DOORS, &c.
Of well-seasoned Materials and Superior Workmanship, supplied at the lowest possible prices, by
J. MILLS,
110, Broadwall, and 7, Princes-street, Stamford-street, Lambeth;
Late Shop foreman to Messrs. Lawrance and Sons.
By enclosing a postage-stamp, a full list of prices will be returned.

JOINERS' WORK in all its branches,
EXECUTED with despatch, and cheaper than any house in London.
JEFFS, BROTHERS,
48 and 49, Cornwall-road, and 72, Stamford-street, Lambeth, S.
N.B Price-list on application.

WHITE and MITCHELL,
JOINERS
AND SASH-MAKERS TO THE TRADE,
No. 11, Commercial-road, Lambeth
Staircases, Shop-fronts, Fittings, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp.—Workshops, 2, Commercial-road, Lambeth.

NO SHUTTER BARS.



JENNINGS'S SHOP-SHUTTER SHOE.
SHOP SHUTTERS are SHOD and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER-BAR. Shops referred to in every public street in London.
When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.
Sold by all Ironmongers, and by the Inventor,
GEORGE JENNINGS,
Sanitary and Engineering Depot, Holland-street, Blackfriars-road.

SALES BY AUCTION.

TO BUILDERS, STONE AND MARBLE MERCHANTS, ENGINEERS, AND OTHERS

MESSRS. FULLER and HORSEY are instructed by the Executors of the late Thomas Cubitt, esq. to SELL by AUCTION, on MONDAY, DECEMBER 13, and following days, at ELEVEN for TWELVE precisely, at the WORKS, Gloucester road, Pimlico, in Lots (a portion of the premises being let), a portion of the valuable fixed MACHINERY and TOOLS: including eight very superior circular saw benches, with planed iron frames (with fronts or falling spindle); two ditto, with wood tops; one timber sawing-frame, one adzing machine, powerful rack bench, one radial drilling-machine for wood, fifteen capital benches, three cabinet-makers' benches, a very superior 15-inch self-acting screw cutting lathe, by Whitworth, with 26-feet bed; self-acting planing-machine, by Whitworth, to take in a feet 3 by 2 feet inches; two vertical drilling-machines, by Whitworth; a wall-drilling machine, a very powerful self-acting slotting machine, nine engine turning lathes, two mahogany-framed, and with side rests; powerful iron-punching press, eccentric cutting and punching press, flying press, planed iron bed and frame, for plates, with stands; steel tool-benches, all the vices, bolt and wrought iron shafting, 2½ to 5 inches, principally turned, with bearings, couplings, pulleys, &c.; cones, hydraulic self-acting punch, the following ten smiths' forges, tuyeres, troughs, bellows, anvils, swages, top and bottom tools, capital forge vice, shoeing slate and cast grindstones in iron frames, marble mould bed, two powerful sawing machines, the larger to take in a block 10 feet by 4 feet 6 inches; saws, sawsharpening machine, two 33-inch paint-mills, pug-mill, pair of turned paint-crushing rolls, with sieve; drain tile press, two tile-machines, twenty gravel-and sand screens, three metal grinding stones, grinding and polishing spindles with lathe, new 1-inch fit saw tools, two hydraulic presses, set of 6-inch three-throw pumps, 18-ton over-head traveling crane, 45 feet span; powerful blocks, lifting jacks, 16 plummer-blocks with bracket bases, twenty steam-valves, fitted; 100 loose spur-rigger and line wheels, several tons of useful machinery, twelve iron fluted columns, ten tons crane and sling chain, large quantity of second-hand building materials, and numerous other effects.—To be viewed on Friday and Saturday previous to the Sale, when catalogues may be had, at 6s each, without which no person will be admitted to the premises, and previously of Messrs. FULLER and HORSEY, Billiter-street, E.C.—Terms: Approved Bills, at three months' date, will be taken from purchasers to the extent of 50l and upwards.

STEAM-ENGINES, BOILERS, &c.

MESSRS. FULLER and HORSEY are instructed by the Executors of T. Cubitt, esq. deceased, to SELL by AUCTION, with the other Effects, at the WORKS, Grosvenor-road, Pimlico, a pair of marine condensing STEAM BEAM-ENGINES, of 90-horse collective power (nominal), now fixed and at work, with metallic pistons, expansive gear, lemming-geared spur-fly-wheel, 17 feet diameter, cold-water pumps, &c.; a horizontal high pressure steam-engine, with 19½-inch cylinder, 30-inch stroke, 10-feet band fly wheel and shaft; a Cornish boiler, by Hodge, 30 feet long, 6 feet diameter, with 3-feet tube and mountings; two small cylindrical steam-boilers; one small portable multitubular boiler; a second-hand marine boiler, five steam-chests, &c.—To be viewed with the other effects, and catalogues had.—See preceding advertisement

Stoves, Ranges, Hot-plates, general Stores, Iron-concert, &c.

MESSRS. FULLER and HORSEY are instructed by the executors of the late T. Cubitt, esq. to SELL by AUCTION, with the other Effects at the WORKS, Grosvenor-road, a new 5 feet 4 inch KITCHEN RANGE, with wrought-iron backboiler, and double-action smoke-jack, one large hot-plate and oven, adapted for an hotel, two hot-plates, with charcoal stoves in the middle, adapted for a large kitchen, two small hot-plates, with gas stoves, two wright-iron ovens and hot closets, steam-dresser, with plate-rack, and hot closet under, two Arnott's stoves, Rainford's stoves, three dozen roasting-jacks, thirty tons cast-iron in stove material, sundry grates and frames, mangers, balusters, railing bars and standards, hollow panels, furnace bars, trifler shoes, gate-post cats, 200 barrows, 30 brick tons, 150 rainwater heads, three tons round sink-traps, 5 to 9 inches; ten tons rod and bar iron, one ton sheet copper table, 10 thousand nails, coach screws, washing and brewing coppers, set of blacksmith's steel, fittings, elbow heads, &c.; 1½ ton new cast-iron wheels, and miscellaneous stores.—To be viewed with the other effects and catalogues had.—See preceding advertisement

IN BANKRUPTCY.—CLEARANCE SALE.
TO TIMBER MERCHANTS, CABINET MAKERS, COACH-MAKERS, PIANOFORTE MAKERS, BUILDERS, AND OTHERS.

MR. MARSH has been favoured with instructions from the Assignees of Alfred Rolfe, TO SELL by AUCTION (with out reserve), on MONDAY, DECEMBER 13, at EIGHT for HALF-PAST, on the PREMISES, Dorrington-street, Mount-pleasant, Clerkenwell, the STOCK of Timber Merchant, comprising 10,000 feet American birch, in boards and planks of very superior quality; 10,000 feet American ash boards, of ditto; 10,000 feet Spanish and Honduras boards; 5,000 feet mahogany, 3,000 feet cedar, veneers, 1,200 pine spruce, white and yellow, in deals, battens, and planks; 200 dozen panel floor boards, 2,000 lineal pollard, 20 frame scantlings, together with the usual sundries, and the Counting-house fittings, and other goods.—Particulars in catalogues. Viewed and issued Friday preceding sale; and had of J. NICHOLSON, Esq. Official Assignee, Basinghall-street; Messrs. PEAKE and QUICK, Solicitors, 27, Ely-place, Holborn; Messrs. W. and A. COOPER, 11 George street, Mansion House; Garraway's Coffee house, Change-alley, Cornhill; Place of Sale; and of the Auctioneer, 5, Williamstreet, North Stepney, E.

15, HIGH HOLBORN.—Extensive unreserved Sale of Building Ironmongery, and Builders' Effects generally; also Two Tons of Cattle Food

MR. W. HOLLINGSWORTH will SELL by AUCTION, as above, on TUESDAY, DECEMBER 7, at TWELVE, MODERN REGISTER STOVE, kitchen ranges, furnace irons, 6,000 feet of O G and half round guttering, locks, door furniture, bell work, latches, bolts, screws, tacks, nails, 100 dozen files, and general ironmongery, marble chimney-pieces, and other building materials

WHITECHAPEL WORKHOUSE.—The Capital Building Materials

JOHN HIND is instructed by the Guardians of the Whitechapel Union to SELL by AUCTION, on the PREMISES, in the Whitechapel-road, on THURSDAY, DECEMBER 16, at TEN for HALF-PAST, the excellent MATERIALS of the OLD WORKHOUSE: comprising, about 70 sound bricks, quantity of valuable timber in girders, joists, rafters, floors, partitions, shutters, and doors, slating, ironmongery, about 1,000 feet of York paving and large landings, Portland coping, steps, and cills, about 20 tons of capital lead in gutters, ridges, pipe, flashings, dormer heads, and various painted tanks, about 2,000 feet of 4-inch cast pipes, 40 feet upright 10-inch ditto, numerous 20 and 16 light chapel sashes, and general assortment of good materials. May be viewed every day preceding, and DECEMBER, mornings excepted, between HALF-PAST TEN and THREE when catalogues may be had of GEORGE ADAMFARE, Esq. Clerk to the said Guardians, at his Office, in the new workhouse, Charles-street, Mile-end New-town, E.; H. S. MITCHELL, Esq. Vestry Clerk to the parish of Whitechapel, at his Office, 5, Great Prescott-street, Goodman's-fields; of JOHN HUDSON, Esq. Architect and Surveyor, 4, Basinghall-street, Whitechapel; of JOHN HIND, Auctioneer and House, 1, Change-alley, City; and of JOHN HIND, Auctioneer and Estate Agent, 37, Cannon-street road, Commercial-road east

No. 42, UNION STREET, SOMERS TOWN. On MONDAY, DECEMBER 13, at TWELVE for ONE,

MR. LEREW will SELL by AUCTION, on the above PREMISES, about 1,600 yellow, white, pine, and spruce deals, battens, and planks, 200 squares 1½, 1¼, and ¾ inch prepared flooring, 8,000 feet quartering, 10,000 feet wide pine board, moulding stuff, 500 oak staves, 2 doors, 12 hundred slates, lead, iron, glass, and ironmongery, about 1,000 feet of York paving and large landings, about 20 tons of capital lead in gutters, ridges, pipe, flashings, dormer heads, and various painted tanks, about 2,000 feet of 4-inch cast pipes, 40 feet upright 10-inch ditto, numerous 20 and 16 light chapel sashes, and general assortment of good materials. May be viewed every day preceding, and DECEMBER, mornings excepted, between HALF-PAST TEN and THREE when catalogues may be had of GEORGE ADAMFARE, Esq. Clerk to the said Guardians, at his Office, in the new workhouse, Charles-street, Mile-end New-town, E.; H. S. MITCHELL, Esq. Vestry Clerk to the parish of Whitechapel, at his Office, 5, Great Prescott-street, Goodman's-fields; of JOHN HUDSON, Esq. Architect and Surveyor, 4, Basinghall-street, Whitechapel; of JOHN HIND, Auctioneer and House, 1, Change-alley, City; and of JOHN HIND, Auctioneer and Estate Agent, 37, Cannon-street road, Commercial-road east

IMPORTANT TO BUILDERS, HOUSE DECORATORS, AND OTHERS.

MR. EDWIN WHITE will SELL by AUCTION, with at reserve, at his ROOMS, 13, Hoskerstreet, opposite Pentonville-inn, on WEDNESDAY, DECEMBER 8th, at ONE for TWO precisely, in numerous lots, a STOCK of about 7,000 rolls of excellent PAPER HANGINGS in suitable styles, suitable for halls, bedrooms, borders, &c.; also a few pieces of flock and tapestry, Scotch, and velvet MARBLE CHIMNEY PIECES, and a quantity of good STONE CHIMNEY PIECES, with and without Views and catalogues to be had on the premises

SALES BY AUCTION.

Surplus Plant and Materials, Houses of Parliament

MESSRS. EVERSFIELD and HORNE have received instructions from the Commissioners of Her Majesty's Works and Public Buildings TO SELL by AUCTION, on the Premises, adjoining the Clock Tower, New Palace Yard, Westminster, on WEDNESDAY, DECEMBER 22, at TEN for ELEVEN, A LARGE QUANTITY of SURPLUS MATERIALS: comprising about forty loads of sound square timber, recently used in the scaffolding, numerous boards and quartering; York, Portland, Caen, Maltese, and other stone, thirty tons of wrought and cast iron, consisting of posts, standards, stair-water, gas, and area railing, railing, long 2-inch bolts, plates, &c.; also a treble action, crab engine of great power, with 1,500 feet of chain fall; five other powerful crab engines, four screw hoisting jacks, eight superior double-headed ditto, with 6-inch screws; a Gough's steam boiler, and numerous other effects. May be viewed two days previous, and catalogues had at the Office of Works, &c. 12, Whitehall-place; on the Premises; and of the Auctioneers, 40, Parliament-street, Westminster, and Change Alley.

TEDDINGTON LOCKS.—T. Builders, Timber and Iron Dealers, &c.

PULLEN and SON will SELL by AUCTION, on the PREMISES, on TUESDAY, DECEMBER 7, at TWELVE, in lots (unless an acceptable offer be previously made to purchase the same in one lot), about SEVENTY LOADS of capital FIR TIMBER, in whole and half timbers, planed and framed, decking, flooring boards, wheeling planks, and scantling; also a quantity of useful rod, scrap, and hoop iron, &c. Lots 1 to 5 may be taken by the purchaser at the former sale.—May be viewed the day prior and morning of sale; and catalogues had of PULLEN and SON, 81, Lower-street, Copthegate

TO BUILDERS, PACKING-CASE MAKERS, CABINET MAKERS, and OTHERS. 20, Gresham-place, Camberwell-road

MR. PEAKE is ordered to DISPOSE OF, by PUBLIC AUCTION, the STOCK and IMPLEMENTS in TRADE of the late Mr. THOMAS HUMPHREYS, on the PREMISES, on WEDNESDAY, DECEMBER 8, 1858, at TWELVE precisely, 700 square tongued FLOORING BOARDS and BATTENS, 500 dry pine plank, 1,000 dry pine yellow and white deals, 500 dry pine plank, deals and battens, 1,000 feet dry mahogany, 2,000 feet white pine, 1,500 feet dye-square timber; also a large assortment of sawn deals, prepared joiners' work, ten carpenters' benches, scaffolding, planks and full-grown pine; 3 carts, trucks, &c. May be viewed the day previous and morning of sale; and catalogues obtained on the Premises; and at Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

TO PUBLIC COMPANIES, CARRIAGE BUILDERS, PIANOFORTE MAKERS, CONTRACTORS, AND OTHERS.

MR. LEREW is directed to LET or SELL, with immediate possession, those extensive manufacturing premises, near the Great Station of the London and North Western Railway, known as the CAMDEN WORKS, slightly to the N. of Hawley-crescent, Camden-town, on the banks of the Regent's Canal, with good layby and excellent wharf; consisting of a spacious and fire-proof mill, 120 feet long by 60 feet wide, two engine-houses and stacks, very extensive workshops and stores, both admirably arranged, and spacious warehouses and offices. These most substantial and eligible works will be found worthy of the inspection of any manufacturer in search of a first-rate situation, and other particulars apply to Mr. LEREW, Auctioneer, Cullington-street, Hampstead-road, near the Euston Station, N.W.

TO MARKET GARDENERS and OTHERS.

TO BE LET on LEASE, 100 ACRES, or part, of fertile LAND, for growing potatoes, &c. for the London market, being close to a railway station, and convenient for supplying other towns as well. Tolerable convenient cottages and farm buildings are also to be had, if required. Apply to the owners on liberal terms. Apply by letter, post-paid, to Messrs. MANSELL and ELLIOTT, 10, Cornhill, London.

TO ARCHITECTS and BUILDERS.—TO BE LET, and entered on at Lady-day next, the compact and desirable FREEHOLD RESIDENCE, called Quatford Hall, Bridgnorth, and known as "The Quatford Building Works," comprising a neat and substantial dwelling-house, with building-yard, workshops, stores, sawpits, coachhouses, stabling, &c. Let for a term of Eighty Years from Midsummer, 1858, at the low rent of £40 per annum. The premises have been recently rebuilt and put into thorough repair, and have always been successfully conducted. They are situated on the Shifnal Road, about seven miles from Bridgnorth, seven from Kidderminster, twelve from Stourbridge, and fifteen from Wolverhampton. The Severn Valley Railway passes near the premises, which are also within a few minutes' walk of the Oxford, Worcester, and Wolverhampton Railway on the other.—Apply to the Rev. EDW. GRIFFITH, Quatford Castle, Bridgnorth, Salop.

BRICKFIELD.—TO BE SOLD or LET, with good dwelling-house and every convenience for carrying on business, a FIELD containing BRICK EARTH of the best quality. Apply to Mr. T. CLARK, 3, Dean's-court, St. Paul's Churchyard.

TO BUILDERS. — FREEHOLD LAND, TO BE LET, at Holloway, for the erection of Six-Roomed Houses. Roads and sewers made. The owner will purchase an improved ground-rent of £50 per annum, and will make advances to any of the respectable parties, upon moderate terms.—Apply, by letter, to WALTER JUSTICE, Esq. Solicitor, 6, Bernard-street, Russell square, W.C.

TO MANUFACTURING JOINERS and OTHERS.—PREMISES, suitable to the above business, TO BE LET, with 10 feet Steam-engine, Two Boilers, and Sawing Apparatus, &c. in No. 1 of TWO NEW WORKSHOPS, in the Old-road, Deptford. With immediate possession.—Address, X. Z. care of Mr Robinson, Post-office, Clifton-street, Finsbury

TO BE LET or SOLD, the original STEAM-ENGINE FACTORY, in KING'S LYNN, NORFOLK.—The Premises are very complete, have been carefully arranged for a small engine factory; they are situate in the centre of the town, and attached to them is a comfortable dwelling-house. The plant upon the premises can be had for less than 300l., including a seven horse high-pressure steam-engine, ready for work, with shafting, &c. complete. There is an excellent smiths' shop, and a fitters' shop, with two capital benches, tool-box, and vice. The tool chests, iron and wood patterns, and other effects, if required.—The premises may be viewed, and further information obtained, on application to Mr. CHARLES WILLETT, King's Lynn, Norfolk.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on the north side of the Uxbridge-road, Shepherd's-bush. For plans apply to JAMES CROWDY, Esq. 17, Serjeants'-inn, Fleet-street, E.C.

GROUND-RENTS WANTED, on Freehold First-class Property, will be secured, in any parts of London and its suburbs, to the amount of £1,000. Full particulars of Mr. PILCHER, 14, Great Tower-street, London.

LAND TO BE LET, on BUILDING LEASES, in HACKNEY, KINGSLAND, and CLAPTON.—For particulars apply at the MANOR OFFICES, Church-street, Hackney.

RIVER SIDE.—LAND TO BE LET, on LEASE, adjoining the river Lea, at Clapton, within FIVE miles of BLACKWALL.—For particulars apply at the MANOR OFFICES, Church-street, Hackney

TO BE LET, on Building Leases for Ninety-nine Years, some most eligible BUILDING SITES at Neyland Road, and at the south side of Wood's Terrace, at Finsbury Midland Road. Term from 25 to 28 subject to the choice. Also, some land on the north side of Wood's Terrace, and Wood's Road, near Hornsey Road, at Tenby-place, Seven Sisters'-road, Holloway, Middlesex. For plans and particulars apply to Mr. W. H. LINDSEY, Architect, or to Messrs. GOODE and OWEN, Haverfordwest.

FREEHOLD GROUND-RENTS and BUILDING LAND, HOLLOWAY.—TO BE SOLD, well secured, FREEHOLD GROUND RENTS; and to be Sold or Let, BUILDING LAND, containing brick-earth.—Apply to Mr. PEACHEY, 17, Salisbury-square, Fleet-street

FREEHOLD LAND AT STOKE NEWINGTON

TO BE SOLD, a PIECE of FREEHOLD LAND, adjoining "THE LITTLE COTTAGE," in the Howard-road, near Stoke Newington-green:—

17 feet FRONTAGE,
122 DEEP.

Any person wishing to build a Cottage or Shop, will find it most advantageously situated. After building a house, there will be a great depth of ground left for a large garden.—Apply (personally) to Mr. STEDDY, Builder, Howard-road, Stoke Newington-green, near London.

No written communication will be attended to, and to save unnecessary trouble, it is requested that only those who really want to purchase such a piece of ground will apply.

SMALL BUSINESS PREMISES, suitable for a CARPENTER and BUILDER, WANTED. The neighbourhood of Pimlico preferred.—Address, with full particulars, H. H. Post-office, Lyall-place, Belgravia, S.W.

BUILDING LAND in the CITY.—TO BE LET on LEASE for 78 years, the remaining portion of the BELLE SAUVAGE YARD, Ludgate-hill, the property of the CUTLERS' COMPANY, consisting of 28 feet by 47 feet (with double frontages, and 86 feet by an average of 9 feet, shortly to be let for warehouses, &c.—Apply to Messrs. BEAUMONT and THOMPSON, Solicitors, 15, Lincoln's-inn-fields; or to Messrs. TRESS and CHAMBERS, Architects, 27, Queen-street, City.

RICHMOND, SURREY.—TEN ACRES of eligible FREEHOLD LAND, at Richmond, Surrey, land-tax redeemed, near the railway station, and on the line of the intended direct road from the station to Richmond-hill, TO BE LET on BUILDING LEASE, by Tender, in one lot or in several lots. Particulars, with plans, may be had of Messrs. SMITH and SON, Solicitors, Richmond; of Mr. JOSEPH HOLMES, Surveyor, Twickenham; and of Mr. JAMES LONG, Richmond.

CHISLEHURST, Kent.—TO BE LET, on LEASE, or the FREEHOLD TO BE SOLD, healthful and picturesque SITES for BUILDING, in large or small plots, elevated from an area of 300 acres, close to the Southeastern Railway Station, Mid-Kent Railway, ten miles from London, with ten trains daily.—For particulars, apply to Mr. R. F. BROWNE, Royal-place, Greenwich, and 13, Birchin-lane, London; or to Messrs. HARRISON and FINCH, 2, Gray's Inn-square, London.

CHANCERY-LANE.—TO BE SOLD, a valuable PLOT of FREEHOLD LAND, at the corner of Carey-street, with an extensive frontage, both on Chancery-lane and Carey-street, and an entrance from Star-yard. The property presents unusual advantages both as to Land and Assessed Taxes, and is particularly eligible as a site for a public building, for offices, or for the erection of extensive business premises.—For particulars, apply to Mr. WILLAMY, 8, Charlotte-street, Bedford-square; or to Mr. POWNALL, 66, Lincoln's-inn-fields.

CLAPHAM PARK.—LAND TO BE LET, in Building Leases, most desirably situate in the best parts of the Park. Rent moderate. Direct from the freeholder.—Apply to Mr. WILLIAM HILL, Builder, &c. Buxton-hall

TO BRICKMAKERS, BUILDERS, AND CONTRACTORS

TO BE LET, at a low Royalty, a BRICKFIELD, in the parish of Dovercourt, near Harwich, close to the flourishing new town of Dovercourt, where there is a great local demand for Bricks of all descriptions, containing from five to twenty acres of first-rate earth, situated close to a spacious free quay, where goods can be shipped for the London market at a small cost, and chalk, sand, and ashes landed close to the field; and within a quarter of a mile of the new town now building, eight to ten millions of Bricks may be made annually.—Applications to be made to the Proprietor, JOHN PATTRICK, Portland-villa, West Row, Roman-road, Mile-end, or to Mr. HOWARD, Harwich. The Tender will be given to the highest price possible, by large shipping agents in the River Thames, or any other port

GUILDHALL, 29th November, 1858.—The Committee for Letting the City's Lands will MEET at GUILDHALL, on WEDNESDAY, the 8th DECEMBER next, at ONE o'clock precisely, to receive PROPOSALS for LEASES, as follows:—Nos. 1 to 5, Tabernacle-row; No. 194, Tabernacle-row; and No. 1, Union-court; No. 7, Church-street; Queen-street; Nos. 2 to 7, Willow walk; Nos. 13 to 26, Willow-street; Nos. 1 to 10, Willow-court; and Nos. 1 to 8, Union-court, Willow-street; and No. 8, Great Paul-street, Finsbury. Plans of the Property may be seen, and Form of Tender obtained upon application at the Architect's Office, Guildhall. FERDINAND BRAND, Comptroller.

WAREHOUSE BUILDING GROUND TO BE LET.—CITY of LONDON.—PARISH of ST. MARY, ALDERMANBURY.—The Vestry hereby give Notice, that they are prepared to receive PROPOSALS for taking, on a building lease for ninety years, a most eligible and extensive PLOT of FREEHOLD GROUND, at present occupied by warehouses, situated Nos. 18 and 19, Aldermanbury, at the corner of Three Nun-court. Plans can be seen and particular ascertained, on application to Mr EDMUND WOODTHORPE, Architect, 28A, Basinghall-street; or to Mr CHARLES WILSON, 65, Basinghall-street, Vestry Clerk of the Parish, to whom Tenders, addressed to the Churchwardens, should be sent, before ELEVEN o'clock in the morning of MONDAY, the 20th of DECEMBER instant.

BANK of DEPOSIT, Established A.D. 1844.
3, PALL MALL EAST, LONDON

Parties desirous of INVESTING MONEY are requested to examine the Plan of the BANK of DEPOSIT, by which a high rate of interest may be obtained with absolute security.

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PETER MORRISON, Managing Director.

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CHARLES SPARNON, Cashier.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 148, Fleet-street, London.

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H H H for drawing on wood.	F Light and shading.
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H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
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	B B B B ditto ditto.

May be had of all the principal stationers in town or country.

LONDON:—Printed by CHARLES WYMAN, Printer, at the Printing Office of COX & WYMAN, Nos. 74 and 75, Great Queen-street, Lincoln's-inn-fields, in the Parish of St. Giles in-the-Fields; and published by the said CHARLES WYMAN, at the office of "THE BUILDER," No. 1, York-street, in the Parish of St. Paul, Covent-garden, both in the County of Middlesex.—Saturday, December 4, 1858.

The Builder.

A JOURNAL FOR ALL

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 827. DECEMBER 11, 1858. PRICE FOURPENCE. Stamped, 6d.

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THE BUILDERS' BALL, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, is fixed to take place at WILLIS'S ROOMS, St. James's, FEBRUARY 10, 1859.

JOSH. BIRD, Hon. Secretary.

10, Hanover Cottages, Regent's-park.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.—The EXHIBITION of PHOTOGRAPHS will OPEN at the GALLERY, No. 5a, Pall-mall East, on SATURDAY, the 18th instant. PRIVATE VIEW, 1; which those subscribers will be admitted who have paid their subscriptions on FRIDAY, the 17th instant. Admission, 1s.; catalogue, 6d. Illustrated catalogues, to subscribers, 5s.; non-subscribers, 7s. 6d.

ROBERT HESKETH, Hon. Secretary.

95, Wimpole-street, W.

THE FOURTH BIENNIAL EXHIBITION of ARCHITECTURAL, MECHANICAL, ORNAMENTAL, and PERSPECTIVE DRAWINGS, executed by the Students of the Architects, Builders, Civil Engineers, and Mechanists' Drawing Classes, together with a collection of DRAWINGS from Mr. Hill's pupils at the City Companies' Schools and Institutions, will be exhibited to the, in the CLASS-ROOMS of the Establishment, 15, Old-street, City-road, on MONDAY, 27th DECEMBER instant, and the four following days, from TWELVE at noon till NINE p.m. each day.

THOMAS J. HILL,

Architect, and Principal of the Drawing Classes.

COMPETITIONS.

MANCHESTER ASSIZE COURTS.—To ARCHITECTS.—The Justices of the Peace for the County of Lancaster are desirous of receiving DESIGNS for the proposed MANCHESTER ASSIZE COURTS, LODGINGS for Her Majesty's Judges, Offices, Lockups, and all other accommodation which may be necessary or convenient for carrying on the civil and criminal business usually transacted at courts of assize. A premium of £50 will be given for the best design; £30 for the second best; and £20 for the third best. The various buildings are to be erected on a plot of land, part of which was recently the site of Strangeways Hall, situate in Bury New-road, or Great Ducie-street, Manchester.—A plan and section of the site, and full printed particulars may be obtained on application by post or otherwise, to the undersigned, with whom the designs must be left on or before the 1st day of MARCH, 1859, at his Office, 37, New Bailey street, Salford.—By order,

FREDERICK G. HULTON,

Clerk to the Manchester Assize Courts' Committee.

Salford, November 20, 1858.

TO ARCHITECTS and OTHERS.—The Corporation of the Borough of Folkestone are desirous of obtaining DESIGNS for a BUILDING adapted for the purposes of a TOWN-HALL, COUNCIL HOUSE, POLICE OFFICE, and MARKET HOUSES. The plans to be drawn to a scale of 8 feet to 1 inch. Each set of designs to comprise elevations, plans, and perspective view, with specification and estimate, and to be forwarded to the Town-clerk, free of expense (under motto only), accompanied by a sealed letter, containing the name and address of the person furnishing the designs, on or before the 5th day of JANUARY, 1859. A premium of £30 will be given to the person whose design shall be approved of, and considered by the majority of the members of the corporation as the best; and £20 to the next best; and such designs shall be the property of the corporation, who shall not be bound to employ the successful person as architect. The building is to be of white brick, with Portland cement facings, and is not to exceed 1 foot 6 inches in depth of foundation within the levy. The estimate is not to exceed £5000. The unsuccessful designs will be returned to the owners by the usual modes of conveyance, but the corporation will not be responsible for their safe delivery, or for any payment to the owners in respect of such designs. Instructions to the intruments of the Competition will be forwarded by the Town-clerk on receipt of a stamped addressed envelope.—By order of the Corporation,

RALPH THOS. BROCKMAN, Town-clerk.

CONTRACTS.

GOVERNMENT CONTRACT.—WAR DEPARTMENT.—The Director of Contracts will receive TENDERS for the CONSTRUCTION of a SCHOOL HOUSE in Woolwich common, and the CONVERSION of the COTTAGES HOSPITAL into SCHOOLMASTERS' QUARTERS. The drawings may be seen, and copies of the specification, terms of contract, and forms of tender, may be obtained at the Royal Engineer Office, Royal Artillery Barracks, Woolwich, on and after MONDAY, the 6th, up to THURSDAY, the 16th DECEMBER, 1858, between the hours of TEN a.m. and FOUR p.m. The Tenders are to be delivered, in the usual prepaid, at the Board of Contracts, War Office, Pall-mall, London, SW. at NOON on TUESDAY, the 21st DECEMBER, 1858, marked "Tender for Erecting School House, &c., Woolwich." The War Department reserves the right of rejecting all or any of the Tenders.

Royal Engineer Office, Grand Depôt, Woolwich,

1st December, 1858.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War Office, Pall-mall, London, on or before THURSDAY, the 23rd day of DECEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT-OFFICES, at Dover Castle. Drawings and a specification of the work to be executed may be seen by persons fully competent to undertake the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from TUESDAY, the 7th of DECEMBER, to TUESDAY, the 21st DECEMBER, 1858, inclusive, Sundays excepted. The particular Tender being signed by two Parties, this will be required to enter into a Bond, with two, the sureties jointly and severally to be bound under a penalty of £600, for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War office, Pall-mall, London, S.W. and endorsed, "Tender for Married Soldiers' Quarters at Dover Castle."

N.B. The War Department reserves to itself the right of rejecting the whole or any of the Tenders.

Royal Engineer Office, Dover, November 24, 1858.

PRESTON COURT ESTATE.—To BUILDERS.—TENDERS are requested for the new BUILDINGS and WORKS at the several FARMS on the PRESTON COURT ESTATE, in the County of Gloucester, the property of the Ecclesiastical Commissioners for England. The works to be commenced early in the spring of 1859. The Commissioners do not bind themselves to accept the lowest or any Tender. Two sureties will be required for the due performance of the works in the amount of three-fourths of the contract. Tenders to be sent in, under cover, addressed to Messrs. T. and H. CLUTTON, 3, Whitehall-place, Westminster, on or before SATURDAY, the 1st JANUARY, 1859. The drawings and specification may be inspected at Messrs CLUTTON'S Office, on and after MONDAY, the 29th NOVEMBER instant.

WEST HAM LOCAL BOARD of HEALTH.—SEWERAGE.—CONTRACT, No. 5.—To CONTRACTORS and OTHERS. The Local Board of Health for the District of West Ham, in the County of Essex, hereby give Notice, that they are prepared to receive TENDERS from parties willing to undertake the following named Contract:—

CONTRACT, No. 5.—For the supply of Materials, and for the execution of the River Wall, certain Main Culverts, Brick Sewers, Manholes, Penstock, Pipe Station, and other Works, in Canal.—Also at 100 Lineal Yards of River Wall, complete, and about 520 Lineal Yards of Brick Sewer, from 3 feet 3 inches and 3 feet 6 inches, to 3 feet, and 2 inches thick; also about Seventy-three Lots of Cottages, in Plaistow.

The specification may be examined, on Terms of Tender, including Forms of Tender attached, on and after MONDAY, the 22nd day of NOVEMBER instant, at the Board Room, in Broadway, Stratford, at the Office of WILLIAM JAMES BARSHAM, Solicitor and Clerk to the Local Board, Stratford-green, E.; or at the Office of ROBERT RAWLINSON, Civil Engineer, No. 36, Parliament-street, Westminster, where plans of the proposed works may be seen, and any further information relative to the contract may be obtained. The Tenders to be delivered at the Clerk's Office, Stratford-green, aforesaid, on or before MONDAY, the 13th day of DECEMBER next, endorsed "Tender for Sewers and River-Wall, Contract, No. 5."

(Signed) W. J. BARSHAM, Clerk to the Local Board.

Stratford-green, November 16, 1858.

TO MASONS, CONTRACTORS, and OTHERS.—BARNSTAPLE WATER SUPPLY.—CONTRACT No. 7. The Directors of the Barnstaple Water Company are prepared to receive TENDERS for the ERECTION of a RESERVOIR and FILTER BEDS in Rawleigh Park. The drawings and specifications may be seen at the Company's Office, on and after the 7th day of DECEMBER next, and any further information obtained of Mr. A. ROWES, 6, High street, Barnstaple, from whom printed specifications, schedules of the quantities, and form of Tender can be obtained on the payment of 5s. Tenders, sealed and endorsed "Tenders for Erecting Reservoir and Filter Beds," to be sent on or before the 22nd day of DECEMBER next, addressed to the Chairman of the Barnstaple Water Company, in future Tenders not delivered as herein specified will not be received.

The Directors do not bind themselves to accept the lowest or any Tender.

By order,

I. HEARD, Secretary.

Dated November 22nd, 1858.

TO BUILDERS. — NEWMARKET CEMETERY. — Persons desirous of CONTRACTING for the ERECTION of CHAPELS and LODGE, from the designs of Messrs. Brandon and Sons, Architects, Newmarket. Tenders to be delivered at the Office of Mr. J. F. CLARK, Architect, Newmarket. Tenders to be delivered on or before the 21st day of DECEMBER, at NINE o'clock in the morning.—The Board will not be bound to accept the lowest Tender, but security being given.

WILLIAM PEPPER, Clerk to the Board.

Dec. 4, 1858.

CONTRACT for SLEEPERS. The Directors of the South-Eastern Railway are prepared to receive TENDERS for the SUPPLY of 60,000 SLEEPERS. Particulars may be had on application at the Secretary's Office, London-bridge Terminus. Sealed Tenders to be delivered at the Office, on MONDAY, the 13th DECEMBER next, at 2 o'clock.

S. SMILES, Secretary.

London Terminus, December 2nd, 1858.

CONTRACTS.

TO MANUFACTURERS, WAREHOUSEMEN, BREWERS, CARMEN, and Others.—WHITECHAPEL WORKHOUSE, WHITECHAPEL ROAD. The Guardians of the Poor for the Whitechapel Union will meet at the Board Room of the New Workhouse, Charles-street, Mile-end New Town, on TUESDAY, the 21st day of DECEMBER, 1858, at TWO o'clock in the afternoon precisely, to receive TENDERS from persons proposing to PURCHASE the Old Materials of the BUILDINGS and ERECTIONS forming the rear of the Whitechapel Workhouse premises, comprising that portion lying to the north of a line drawn at right angles with the Whitechapel-road, from the Workhouse wall, more particularly shown on the plan hereinafter mentioned, having a frontage and full depth of 99 feet, or thereabouts, to Mary-street, of about 97 feet, and bounded on the north by the Whitechapel Cemetery, of about 97 feet, and bounded on the east by the Old Workhouse premises, 97 feet, and on the west by the Lying-in Hospital and Infirmary, the property of the Parish, which Lying-in premises, 272 feet, containing a superficial area of about 146 superficial feet. On part of the site there are the ranges of well-constructed Four-story Workhouse Buildings, being two thereof in length, about 150 feet in each length of 61 feet, having for the most part windows on both fronts. There are also some One and Two-story Buildings, and Sheds, large and convenient Yards. The plan can be seen until further notice. Tender and conditions of sale obtained of Mr. H. S. MITCHELL, Vestry Clerk's Offices, 6, Great Prescot-street, Whitechapel; of Mr. JOHN HUTSON, Architect, at Mary-street, off Mile-end-street, Whitechapel; and at the Workhouse, as above. The Guardians do not bind themselves to accept the highest or any Tender. As some small alterations have been made in the premises advertised, persons having obtained forms of Tender previously to this day, and desirous of tendering, will be supplied with fresh ones.—By order,

December 7th, 1858. G. ADAMS FARR, Clerk.

BUILDERS and CONTRACTORS who may be desirous of TENDERING for the Works required to be done on the ERECTION of the UNION CHAPEL, proposed to be built in Market-street, King's Lynn, Norfolk, are hereby informed that they can view the plans and specifications at the Auction Mart, King's Lynn, on and after MONDAY, the 6th of DECEMBER inst. Tenders sealed and endorsed "Tender for the Chapel," to be sent, under cover, addressed to Mr. JOSEPH KERKHAM, 59, High-street, Kings Lynn, on or before the 23rd day of DECEMBER inst. The Committee do not bind themselves to accept the lowest or any particular Tender. Quantities may be had upon remitting the shillings in postage stamps to R. MOFFAT SMITH, Architect, 42, Lloyd-street, Cooper-street, Manchester.

ARNOLD NATIONAL SCHOOLS.—Builders and others desirous of TENDERING for the ERECTION of these SCHOOLS, may inspect the plans, drawings, and specification to thereof, on and after MONDAY, the 13th day of DECEMBER, 1858, at my Office, 81, Peter's Gate, Nottingham, where all Tenders, addressed to the "Trustees of the Arnold National Schools, Vicarage, Arnold," may be left not later than the 3rd day of JANUARY, 1859.—By order of the Trustees,

FREDK. ROBINSON, Secretary.

N.B.—The lowest Tender not necessarily accepted.

BOROUGH of BLACKBURN.—To MANUFACTURERS of EARTHENWARE DRAIN-PIPES, &c. The Corporation of the Borough of Blackburn are prepared to receive TENDERS for VITRIFIED CLAY PIPES, LEVEL JUNCTIONS, SYPHONS, TRAPS, &c. The specified drawings, and further information obtained, on application to Mr. BRIERLEY, Borough Surveyor, at his Office, Town hall. Sealed Tenders, endorsed "Tender for Drain pipes, &c." may be left at the Town Clerk's Office, Town hall, not later than SATURDAY, the 18th inst. The Corporation do not bind themselves to accept the lowest or any Tender.

Blackburn, 6th Dec. 1858. THOS. AINSWORTH, Town Clerk.

TO BUILDERS, &c. — RAMSEY CEMETERY, HUNTS.—Persons desirous of TENDERING for the ERECTION of TWO CHAPELS, BOUNDARY WALL, &c. for HAVING OUT the DRAINAGE of the GROUND, may inspect the plans and specifications at the Office of Mr. ROBERT HUTCHINSON, Architect, Peterborough, on and after MONDAY, the 6th day of DECEMBER, 1858. Sealed Tenders to be left at the Vestry Office, at Ramsey, on or before TUESDAY, the 21st day of DECEMBER, 1858. The lowest or any Tender will not necessarily be accepted.

JOHN NEISEANT, Clerk to the Burial Board.

Ramsey, December 2nd, 1858.

TO TIMBER MERCHANTS and NURSERYMEN.—The Executive Committee of the PEOPLE'S FREEHOLD LAND SOCIETY (Limited) are prepared to receive TENDERS to supply and plant 2,000 feet of RAILWAY FENCING, also a quantity of LIME-TREES, for planting and fencing the Society's estate at Bitcher-green, Lewisham, Kent. Full particulars may be obtained of SAMUEL NOBLE, Esq. Surveyor, London-street, Greenwich; at the Slotted Cow Inn, near the Estate, Bitcher-green; of Mr. HINDER, Builder, Lewisham; and at the Society's Offices, No. 29, Parliament-street, Westminster.

W. GURLEY SMITH, Secretary.

WESLEYAN NEW CHAPEL, WALSALL.—To BUILDERS and OTHERS.—Persons desirous of submitting TENDERS for the above ERECTION, are informed that the plans, specifications, &c. (for which no quantities are supplied) may be seen at the Office of Messrs. W. and J. HORTON, Spring Head, Wednesbury. Tenders to be addressed, and delivered, on or before the 21st DECEMBER, 1858, to Mr. W. GRIFFIN, Bookseller, Digbeth, Walsall.

TO ORGAN BUILDERS and OTHERS.—A SMALL FINGER ORGAN, of the best construction, is REQUIRED for the Parish of Witham Friary, near Frome. Any party desirous of SUPPLYING the SAME, are hereby requested to apply to the Incumbent and Churchwardens for specifications as to compass, &c. without delay, as all Tenders must be delivered to the Vicar on or before the 20th DECEMBER, 1858. The lowest or any Tender will not necessarily be accepted.

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The YELLOW and PALE MALM CUTTERS and FACING BRICKS, and the MALM and BRIGHT COLOURED STOCKS, from the Works at South Shoebury, Rochford, Essex.

The EWELL deep BLACK RUBBING and BUILDING BRICKS, and the EWELL and CHALFONT pale and bright RED RUBBERS

COWLEY, KENT, AND ESSEX BRICKS,
IN ANY QUANTITY, delivered direct by BARGE ALONGSIDE.
JOHN and WM. EASTWOOD, } SOLE
WELLINGTON WHARF, [illegible] Road, } CONSIGNEES
Lambeth, and Kent road Bridge,
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PALE MALM FACING BRICKS.
IMPORTANT TO BUILDERS!
The [illegible] of ARCHITECTS and [illegible] specify the YELLOW FACING BRICKS for their works, the accumulation of
PALE SECONDS, MALM PICKINGS, &c.
[illegible] so very large, that Messrs. EASTWOOD are now selling these Bricks to [illegible] Masons, at greatly reduced prices.
Messrs. EASTWOOD have now prepared to execute them in large quantities, at the present price of Bright Stocks.
Belvidere Road, Lambeth, [illegible] October, 1858.

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BRUNSWICK WHARF, VAUXHALL
AND SOUTH WHARF, PADDINGTON BASIN.
COWLEY and KENT BRICKS, per barge, alongside, or delivered in any quantities, direct from Wharfs.
SUPERIOR WHITE SUFFOLK FACINGS, Splays, Door-Jambs, Coping Bricks, Stable Clinkers, &c.
DARK RED FACINGS, Rubbers, Splays, Paving Bricks, &c.
BRIGHT YELLOW MALM FACINGS, and Cutters, of the best quality. Also Pale Malm Seconds, Pickings, Paviors, &c.
BLACK HEADERS, Glazed and Unglazed.
BEART'S PERFORATED BRICKS.
STAFFORDSHIRE BLUE VITRIFIED BRICKS, and Channelled Stable Bricks. Red, Blue, and Buff Terro Metallic Paving Tiles. Plain, Glazed, Rolled top, and Ornamental Garden Ridging, &c. Dressed Tiles.
WHITE GLAZED BRICKS.
FIRE GOODS. Newcastle, Stourbridge, and Welsh Fire Bricks. Tiles, Lumps, Fire Clay and Fire Lumps, any Pattern, Brick, &c. made to order.
TERRA-COTTA CHIMNEY-POTS, Vases, Trusses, Garden Pots, Edging, &c.
SLATES, best quality from the Bangor Quarries.
YORKSHIRE STONE. Tooled Paving, Sills, Steps, Sinks, Coping, &c. Sawn Slab for Hearths, Jambs, &c.
TILES. Pan, Plain, Ornamental Roofing, Paving, Tesselated, &c. A great variety of Red and White Garden Edging Tiles.
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GREY STONE and CHALK LIME.
BLUE LIAS LIME, Ground, or in Lump, from Stockton, Wilmcote, Leicester, or Aberthaw.
CEMENTS. Roman, Portland, Parian, Lias, Dutch, Keene's, &c.
PLASTER of PARIS, fine and coarse, of best quality, at reduced prices
HAIR, Laths, Sand, Ballast, &c.
IMPORTER OF DUTCH CLINKERS.
All kinds of Building Materials supplied by Rail the same day as ordered.
ROAD MATERIALS. Guernsey Granite, Kentish Flints, and Red and Blue Stone, broken and unbroken.
Testimonials of every quality.
N.B. Landing Wharf and Drawing Dock at Vauxhall

ABERTHAW BLUE LIAS LIMESTONE, FREE on BOARD at CARDIFF, at the LOWEST PRICE
ABERTHAW BLUE LIAS GROUND LIME, to any Railway Station in the Kingdom; also at my Wharfs, at a less distance than is [illegible] any other Lime, its remarkable [illegible] properties being [illegible]
CHARLES RICHARDSON,
6, SOUTH WHARF, PADDINGTON and BRUNSWICK WHARF, VAUXHALL, LONDON
*** This superior Hydraulic Lime weighs 85 lbs. to the imperial Bushel

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NORTHFLEET, KENT.
KNIGHT, BEVAN, and PASTRUGE,
Manufacturers only of [illegible] quality, for the home and foreign trade.
Portland Cement manufactured at these Works with especial reference to its application where [illegible] for outside work, brickwork, tanks for [illegible] &c.
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, [illegible] Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster; and Seel-street, Liverpool.

KEENE'S and PARIAN CEMENTS for internal work, [illegible] Wharf, Battersea, [illegible] and [illegible] supplied in any quantity, by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth of the usual time. A finer quality produces a beautiful [illegible] Sold by JOHN BAZLEY WHITE and BROTHERS, 31, Poultry, Cheapside, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT, PARIS and DERBYSHIRE PLASTERINGS, for the Surrey Canal Bridge, Old Kent Road.—Offices, 1, George yard, Lombard street.

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Messrs. GREAVES and KIRSHAW can supply any quantity of the above STRONGLY HYDRAULIC LIME direct from their works at WILMCOTE, near STRATFORD-upon-AVON, in Lots, or as part of the Cargoes, and they have made such arrangements that will enable them to deliver at such prices, either LUMP or GROUND, as will cause it to be [illegible] to the Trade. Its quality is considered, but for ordinary building purposes, and its use will be found very advantageous in building all BASEMENT FLOORS, being better adapted for such purposes than [illegible] or cement.
It is now TWENTY YEARS since Mr. GREAVES first introduced BLUE LIAS LIME into London, and it is [illegible] to the Public that he has been [illegible] the [illegible] of the LARGE WORKS that have been constructed in the METROPOLIS and THROUGHOUT THE COUNTRY, especially for RIVER, SEA, and DOCK WALLS for TUNNELS, SEWERS, AND RAILWAY WORKS, AND VERY GENERALLY FOR CONCRETE, in all which works it has given [illegible] satisfaction, and has been, for the [illegible] BLUE LIAS LIME that can be brought into the LONDON MARKET.
Messrs. GREAVES and KIRSHAW can [illegible] any PART OF LONDON by RAILWAY OR WATER CONVEYANCE at a low rate, and GENUINE (NO OTHER LIME BEING KEPT at their
DEPOT—11, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
WORKS—HARBURY, near Southam.
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The CEMENTS [illegible] by Messrs. GREAVES and KIRSHAW, and [illegible] COMPANY, ONE OF THE LIAS FORMATION, as EMINENTLY HYDRAULIC, and possess every CEMENTITIOUS property; they have been LARGELY SUPPLIED IN LONDON for [illegible] YEARS past, and there is constantly increasing [illegible]
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FOR CONVERTING PLASTER INTO PARIAN CEMENT, AND INCRUSTATING PLASTER OR OTHER POROUS MATERIAL AFTER IT IS WORKED, is sold by the Patentee, with full directions for use, in bottles, PRICE 2s. 6d.
A saving of 25 PER CENT. is effected by its use. It does not [illegible] and looks well when worked with any colour. It dries quickly, and can be easily [illegible]
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N.B. Gentlemen waited upon with an Album of [illegible] from their stock.

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BLUE LIAS LIME WHARF,
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ASPHALTE—TRINIDAD—
rendered fit for [illegible] by Steam Power.
PREPARED { for every description of Building, Railway, and Agricultural Work.
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The Trade supplied on advantageous terms, and estimates given for works of any magnitude; also for LAYING TAR PAVEMENT.
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They possess great power, extreme durability, easy to fix and regulate, and are cheaper than any other in the market.—May be had of all respectable Ironmongers in town and country.
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BOILERS, ENGINES, and GEARING FOR SALE, and MADE to ORDER.—The patent upright Conical-firebox Boiler is efficient, simple, durable, easily understood [illegible] and [illegible] by any [illegible] Upwards of [illegible] of this boiler, made of the best materials and workmanship, proved to a high [illegible] and [illegible] of steam, [illegible] to have [illegible] to be seen in use here as a sample. A 6-horse power High-pressure [illegible] to be seen in use here as a sample. Bright wrought-iron shafting, with [illegible] shaft, turned fly-wheel, governor and feed pump complete: may be seen in use here as a sample. Bright wrought-iron shafting, with [illegible] Small [illegible] A quantity as above may be seen in use here as a sample.—Address, or apply to JOHN TODD and CO. Kent Iron Works, Bridge-street, Greenwich.

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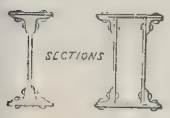

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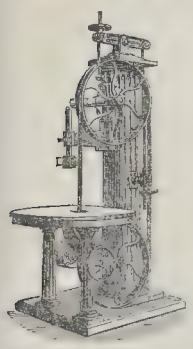

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ENDLESS BAND SAWING-MACHINES (NEW PATENT).

NO MORE BREAKAGE OF SAWS.

POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT (dated August 24, 1858), being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. One of these MACHINES, UPON A LARGE SCALE, IN FULL WORK, at her Majesty's Dockyard, Deptford.

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Also, CIRCULAR SAW-BENCHES, with RISING TABLES,

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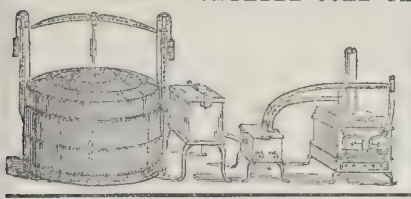
PATENT PORTABLE COAL GAS APPARATUS

(FREE FROM NUISANCE).



The Patentees have now [illegible] manufactured the above for several years, and a great number being at work in different parts of this country, and [illegible] abroad, they can [illegible] confidently recommend them as [illegible] tion), and which are giving entire satisfaction, they are in a position to confidently recommend the same for lighting the mansions of the Nobility and Gentry, also for small Private Residences, Farm Buildings, Churches, Chapels, Railway Stations, Workshops, Sewell Villages, and other places where Coal lights will [illegible]. It is constructed [illegible], and can be had in various sizes, from 7 to 200 lights.

Full Particulars, Testimonials, &c., upon application to the Patentees, at their Works, 9, LOWER KENNINGTON LANE, NEWINGTON BUTTS, S., where all Apparatus is [illegible] and they [illegible] their own Premises, may [illegible] in full operation.

SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

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THIS PATENT FURNITURE is Applicable to all locks and latches, both Rim and Mortise. It effects a most simple fastening without any screw in the centre of the knob. Perfect action guaranteed in both Locks and Furniture, if the Locks are of our own manufacture. It has been used extensively in large public and private works, and Her Majesty's Camp at Aldershott, &c. &c., and is universally approved.

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. to any design.

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A most complete and extensive stock of every description of locks, latches, brass foundry, and fancy property, required for building, of the best quality in manufactured, at the lowest wholesale prices.

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The attention of Architects and Builders is respectfully invited to

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Which are now [illegible] by the PATENT STEAM MACHINERY, and, while superior [illegible] which defies competition. The plates are made of Number "Twelve Gauge" Iron, and being so thick, the pins cannot be loosened by the constant jarring of the door. The security against forcing, levers, and picklocks are the most [illegible] and [illegible] wear of the parts.

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Is the simplest [illegible] of the Locks and [illegible] and [illegible] the knob.

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AND

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Are also recommended; [illegible] every description of lock required to [illegible] and catch [illegible] Lists of prices will be forwarded, on [illegible] post free.

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EFFECTED BY MEANS OF

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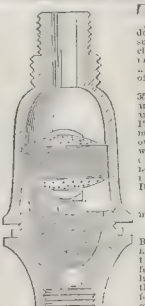
Price 2s. each; sent on receipt of Thirty Postage Stamps.

No consumer of any kind requested [illegible] will now [illegible] One Hundred per cent. [illegible] the ordinary mode of consumption.



THIS very simple and [illegible] produces at the great desideratum of [illegible] gas consumed [illegible] in [illegible] to any gas closet, stool, [illegible] a few minutes by the [illegible] Patentee, and [illegible] repair.

The saving effected [illegible] from 25 to 35 per cent. [illegible] the same time increasing in illuminating power [illegible] to say, first burner, varying from 100 to 150 per cent. [illegible] the consumption with [illegible] burning its own [illegible] burner. [illegible] Gasalier, will [illegible] Patentee to [illegible] and can be [illegible] at the Patentee's Depôt,

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The Trade [illegible] Gasfitters and Ironmongers in the country [illegible].

"I have Mr. Hart's [illegible] Burner, fitted to every [illegible] in my house, which [illegible] the highest [illegible] of illuminating [illegible] per foot, and [illegible] the flame, and by [illegible] burner, [illegible] the same [illegible] and [illegible] of using blackness, and the [illegible] ance, furniture [illegible] by [illegible] be employed [illegible] warmly [illegible] their adoption.

"WILLIAM V. PETTIGREW, M.D. F.R.C.S. of England.

"7, Chester street, Grosvenor-place, Pimlico, Nov. 3, 185[illegible]

CHUBB'S LOCKS, with all the recent Improvements. Strong Fire-proof Safes, Cash and Deed Boxes. Complete Lists of Sizes and Prices may be had on Application from CHUBB and SON, 57, St. Paul's-churchyard, London; 23, Lord-street, Liverpool; 16, Market-street, Manchester; and Horsley Fields, Wolverhampton.

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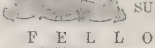
IMPORTANT TO ALL.  THE TRADE SUPPLIED.

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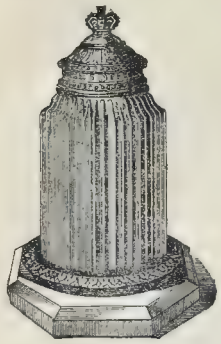
Ten doors from Holborn.

ESTIMATES SUBMITTED FREE OF CHARGE.



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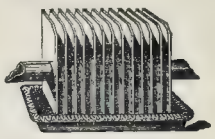
The cost is less and the effect greater than that of any other known means.



The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in ST. PAUL'S CATHEDRAL, the various offices of the "Department of Science and Art," and in many churches and other buildings.

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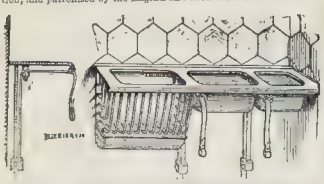

COTTAM and COMPANY, of Winsley street, are the original Inventors of the PATENT ENAMELLED MANGER, Water Trough, and Wrought Iron Rack, united to an Iron Top-plate, and forming one complete and useful Fixture, having Cottam's Patent Noiseless Halter-guide and Cleat-ring attached, the end of which is taken to the back of the Manger, and works with ease and freedom up or down the side of it.

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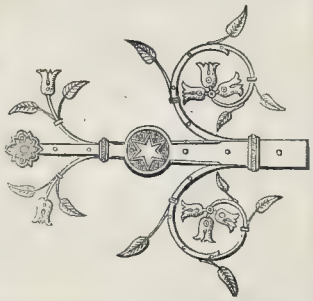

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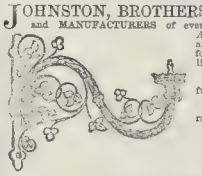

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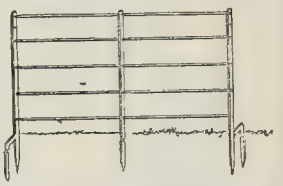

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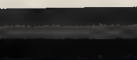
HEATING BY  HOT WATER.

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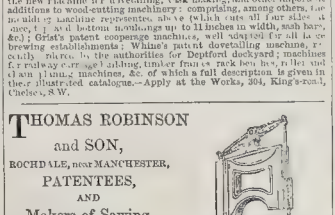
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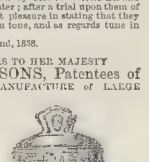
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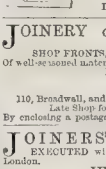
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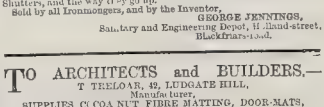
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The Builder.

VOL. XVI.—No. 827.

The Decorative Art Collections in the Brompton Museum.

THE collections in the Museum of the Department of Science and Art grow apace, and have already an extent and value which could scarcely be expected considering the shortness of the time in which they have been formed. In some branches (we are speaking now especially of that part of the Museum which is appropriated to works of decorative art), the collection is a more complete one than can be elsewhere found; and steps, prompted by great intelligence, are being taken to make them as instructive as possible, by means of tablets, which give general particulars, and labels on each object, describing it specially. Photographs and drawings of unattainable specimens are added, in juxtaposition. If this course be continued in, the place will become a vast cyclopædia, most copiously illustrated, and easy of study. There has been a great deal of shifting about, perhaps unavoidably, as room has to be made by redisposition whenever fresh objects are obtained; and this, perhaps, may explain why the publication of a catalogue of the objects in this part of the Museum has been delayed.

The collections are occasionally increased by loans. Thus, the Marquis of Salisbury has recently deposited here a number of crystal vases, cups, and spoons, mounted in enamelled gold and jewels. They were contained in a silver-mounted case, which was found at Hatfield some years ago, in a chest under a bed. Judging from the case, which is, however, of later workmanship, they may have come from Spain; not improbably were a trophy of war in Queen Elizabeth's reign. Together with these is a pair of stockings, the first made in England, and presented to Queen Elizabeth: these likewise came from Hatfield. For exhibition a very beautiful bas-relief of Italian art of the fourteenth century, a Virgin and Child, slightly coloured and gilt, supposed to be the work of Giotto. All these are placed in the apartment in the main building next the Educational Department, where (it ought to be unnecessary now to say) are arranged a number of interesting specimens of what the Germans call a *kunst-schrank*, or art-cabinet, involving the work of many artists; full-sized copies of some of Raffaelle's well-known decorations in the Vatican; specimens of wrought iron, in the shape of grilles and gates; some sculpture of the Leonardo da Vinci school; two elaborately-carved altar-pieces, one of stone, of the sixteenth century, painted and gilt, brought from Troyes in Champagne, and the other of oak, from the cathedral of St. Bavon, at Ghent; besides sconces, marriage-chests, and wrought caskets. Of some of the ironwork we shall hereafter give illustrations. There was a seventeenth-century bedstead here inlaid with marqueterie (1626), together with an old inlaid harpsichord case (made in 1623), but these have been removed to just outside this apartment, where, too, will be found the bulk of the objects of furniture forming the Soulages Collection. There is a want of specimens, by the way, of pure Gothic furniture; but the difficulty of obtaining it is probably considerable. Some of the Italian furniture might very well be dispensed with.

Those who are interested in the study of painted glass will find much to aid them here, but merely in the shape of specimens, scattered (too much) about the building, and illustrating various epochs in the history of the art (some valuable in point of colour, others in point of composition or drawing), but in a collection of outlines of the Basle school, made for the glass-painter. These will be found in the two large rooms under the Sheepshanks gallery, which are only now getting into shape. Here, in cases, are disposed the collections of majolica ware (now the finest, we are inclined to say, in the world, of porcelain, of glass, Venetian and German), of metal work, and carvings. Specimens of ancient bindings, too, are not wanting; many of them full of beauty, though the mere scanner may scoff at—

> "That weight of wood, with leathern coat o'erlaid,
> Those ample clasps, of soun metal made,
> The close-press'd leaves unpaged for many an age,
> The dull red edging of the well-thumb'd page,
> On the broad back the stubborn ridges roll'd,
> Where yet the title stands in tarnish'd gold."

Some designs by Holbein and others for book decorations form an excellent supplement.

The case of Venetian glass is very interesting, though the specimens are all too nearly of the same date. In respect of form, material, and decoration, they will repay study.

The glass manufacture of Venice was celebrated in very early times. In the thirteenth century the Venetian republic participated in the taking of Constantinople by the Latins, and did not omit the opportunity it afforded of improving her manufacture. Labarte, who gives a very interesting account of Venetian glass, and the various processes employed in its production, shows that, at the period just named, the glass houses of the Eastern empire were inspected by agents of the republic, and Greek workmen were allured to Venice. From that time the greatest interest was manifested by the state in the art, which, to use the expression of a Venetian writer, it guarded "*qual pupilla degli, occhi suoi*," and for centuries Venice drew from the four quarters of the world immense sums for the productions of her glass works. The island of Murano was the especial seat of glass manufacture, and those who pursued it were vested with privileges and social position. At the beginning of the sixteenth century the Venetians commenced the production of vessels adorned with *filagrees* of glass, both white and coloured, which were twisted in varied patterns in the middle of the colourless glass; and they sought by the most stringent measures to prevent the secret of their new manufacture from being discovered or carried to other nations. Many fine specimens of filagree work will be found in the collection we are speaking of. Without attempting here to describe the process, now well known to those who are interested in it, it may be mentioned that the utensils in which it appears are produced by the assemblage of a certain number of small canes of glass, made either of opaque white glass, of coloured glass, or glass itself inclosing filagree patterns. These canes, being placed in the order desired, are welded together by fusion and blowing, and are finally moulded into vases of every form.

To show how the value of works of decorative art is being increased by the progress of events, it may suffice to mention that for one of the goblets in this collection which was purchased by the able curator for 30*l.* the sum of 200*l.* has since been offered.

The collection of pottery and porcelain is, as we have already said, very interesting, including Luca della Robbia ware, some of the vagaries as well as the triumphs of Palissy, the delicacies of Sevres, and the cold elegancies of our own Wedgwood. Poor land-surveyor Palissy! striving amidst the most adverse circumstances; paying his assistant, whom he was obliged to dismiss, with part of his own clothes; branded, groundlessly, as a maker of false money, breaking up the very floors of his house to supply the furnace, and sneered at and abused by his wife! Now almost cast down by despair, yet resolutely persisting in his efforts; until, after fifteen years of anxiety and suffering, his efforts were crowned with success. When reviewed by some of his first discoveries, he notes in his journal that, being full of regrets that no one seemed to have pity on him, "I said to my soul;—What is it that saddens thee, since thou hast found what thou hast sought? Work, now, and thou wilt bring shame on thy detractors:" and so he did.

> "Go breathe it in the ear
> Of all who doubt and fear,
> And say to them, "Be of good cheer.'"

Palissy gained honour, position, and money, though, having embraced the Reformed religion, he ultimately died in prison.

Of the enamelled terra cotta, known as Luca della Robbia ware, there are several excellent specimens, particularly an altar-piece of large size: it is described as being made in the second half of the fifteenth century, by either Luca, or his brother, Andrea della Robbia. This represents the adoration of the Magi, and is full of character: the heads of the figures—all probably portraits—include one of Pietro Perugino, the painter. The draperies are admirably arranged. Below the figures is a festoon of fruit (quinces and medlars), with lilies. This remarkably interesting specimen of Robbia ware, the date of which, by the way, we should be disposed to consider quite the end of the century, was picked up in Paris not long ago.

A large medallion of the same ware, affixed near the altar-piece representing the Virgin and Child, and dated 1500, has around it a wreath of pine-cones, grapes, and quinces, in green leaves.

Close by, a Lavello, or fountain for domestic use, in Istrian marble, ornamented in niello, may give a hint to those interested in the drinking fount in movement. It was brought from a house in Venice, and is dated about 1500.

Although the Italian element predominates greatly, there are some interesting specimens of Gothic work; for example, a fine collection of coffers and caskets of metal-work. In the farther room, a large amount of metal-work will reward careful study, comprising locks, handles elaborately wrought, knockers and keys, of the fifteenth, sixteenth, and seventeenth centuries.

The Nuremberg deed-chest is a remarkable piece of metal-work.

> "Nuremberg's hand
> Goes through every land,"

was anciently the popular proverb of the city, and is true now to a considerable extent, whatever it was then. In every museum is found some of the handiwork of the art-workers of Nuremberg, and who that has visited the city will ever forget it:—

> "Quaint old town of toil and traffic, quaint old town of art and song,
> Memories haunt thy pointed gables, like the rooks that round them throng."
> * * * *
> "Not thy councils, nor thy kaisers, win for thee the world's regard
> But thy painter, Albrecht Durer, and Hans Sachs, thy cobbler bard."

Her architects have had something to do with it, too, Mr. Longfellow;—the architects who produced the "pointed gables" on which the "memories" are hung.

At the end of this, the second room, is a large chimney-piece of carved stone, attributed to about the year 1520, which has been brought from a building near Como now occupied as an inn, but which was formerly the residence of the Rusconi family, lords of Como. This we have engraved.* It may be usefully compared with the chimney-piece in the Soulages Collection, of which also we published an engraving.† The male figures which support the mantel-piece display some clever modelling. The "Maestri Comaschi," or Freemasons of Como, were early celebrated for their works. The fire-dogs represented are probably of the seventeenth century. Others of earlier date and finer class have been substituted since our drawing was made. The female figure shown in the foreground is intended to be that of a girl. The total height of the chimney-piece from the hearth is 7 feet 3 inches.

* See p. 835. † See vol. xiv. p. 675

The pendent branch chandelier, shown in the engraving, a Flemish work of the seventeenth century, is of brass, or latten, which is but a finer kind of brass,—from *laiton*, the French for that metal. It was much used for sepulchral "brasses" in the Mediæval times, and in the shape of candlesticks and other utensils employed in churches. When Shakspeare stood godfather to one of Ben Jonson's children, if he did so, he is said to have joked when asked by Rare Ben for his offering, by saying,—"I will give a dozen of latten spoons, and you may translate them." Look where we will, we find what takes us to the every-day life of the men and women of earlier times,—the chairs they sat in, the caskets in which their valuables were preserved, the locks and knockers from their doors, the plates and dishes from which they ate. What a history, what a poem might be weaved from them! We may not, however, now pursue the subject further. Like a modest member in the House of Commons, instead of making a speech we will ask a question, and with that have done. We will say to Messieurs the Architects of this United Kingdom, and to those who are hoping to become architects, to our designers generally, to our manufacturers in glass, our workers in metal, carvers and chasers, our ceramic artists, —do you make the use you might and should of these valuable collections? Just think about it, remembering, too, that the Architectural Museum in the same building, of which we speak elsewhere, was never so complete and well displayed as it is now; and, if the answer be in the negative, make your arrangements for a course of study there at once:—

"The planets shoot good fortune in fair junctions,
And tell thee, 'now's the time'!"

THE ARCHITECTURAL MUSEUM.

We give below a report of the inaugural lecture delivered by Mr. Hope, and we may mention that, since the general meeting, fifty or sixty new subscribers have joined the Institution.

For the prize of five guineas offered for the competitor who shall show himself most successful in colouring a cast from the panel of Andrea Pisano's gates at Florence, six specimens have been received, from Messrs. A. Spencer, A. P. Harrison, E. E. Kirby, J. J. Laing, W. Lightly, and W. Griffiths; the last being the most harmonious, though, perhaps, not the cleverest.

Carvings and models in plaster have been received from Messrs. J. Gould (a finial), R. Goldstone (a boss in clay burnt), W. Doil (a running ornament in plaster), J. Chapman (a panel in wood), and Josh. Wills (an unfinished bracket).

For the prize of five guineas for the best series of not less than four full-sized studies, drawn from specimens in the Architectural Museum, there are, strange to say, but two competitors, Messrs. John Dalglish and E. E. Kirby. The response made to the offers of the committee cannot be considered very satisfactory.

ON THE COMMON SENSE OF ART.

THE ARCHITECTURAL MUSEUM.

On Wednesday evening the series of lectures on architecture at the Museum for the present season were inaugurated by an address from Mr. A. J. B. Hope, M.P. The theatre of the museum was crowded in every part, and the honourable gentleman, on making his appearance, was warmly applauded.

Mr. Hope commenced by observing that having, by the kindness of the council, been allowed to choose his own subject, he had looked over the various phases in which art presented itself to men's minds, and had found what might be called the "prose" of art, handled with great ability in various technical and scientific treatises. He had also found what might be termed the "poetry" of art treated in a more or less poetic or imaginative manner. But there was one phase of art which had not been treated specifically. It was something superior to poetry; it was that which the French proverb said was by no means common—he meant common sense. By common sense he did not mean to lay down any canon of sense, or to enforce any peculiar views of his own, but merely to play round the subject, and give some general idea of what, in his opinion, constituted the common sense of art. If he were to define it, he would say that it was found on the ascending ratio,—something beyond prose and above poetry. Prose was the best language in which to describe; poetry was the best language, in the best places; common sense was the best words in the best places, used for the best purpose. With this preface, or definition of common sense, he would plunge at once into the subject which they were met to consider. And first of all he might be asked how it was that, this being an architectural museum, he called upon them to consider, not the common sense of architecture, but the common sense of art. His answer was, that architecture, whether it be an art or not, or whether it included all other arts, was that which busied itself and was concerned with all others. Painting stood by itself; it required nothing from sculpture, and sculpture required nothing from it. Architecture, on the other hand, although it had an existence of its own, was intimately blended with all other arts. If, therefore, they considered architecture in its common sense, they must consider it mixed up with all the arts. In laying down a canon of architectural common sense, what, then, was the first principle with which they should start? He believed they should start upon the broadest grounds, and take in all the varieties of style, and all the merits and demerits of different lands, in order to arrive at the means of attaining true principles. And what, he asked, was architecture? It was the struggle of the human intellect to find a remedy for the great physical want of man—the want which man felt for covering,—covering for his daily life, covering for his public duties, covering for his religious observances. This was the great archetypal want of man. This was the first object of architecture; this was architecture, pure and simple—the architecture of construction. Hard treading on its heels came ornamentation of construction. This ornamentation no longer referred itself to the archetypal idea: it dealt with the glorified reproduction of the visible things of human nature—the reproduction of crystallized organization—the reproduction of vegetable life and animal existence—the reproduction of that first production of beauty vouchsafed to us—the noble and god like image of the human form. Having laid down these premises, and having realized to themselves that architecture was the study of the archetype, where, he asked, could they, as pilgrims in this land of England, in the year one thousand eight hundred and fifty-eight, commence their journey in search for the ideal,—where, to make use of a beautiful Mediæval myth, could they look for the temple of Sangraal, which was imagined to be the pattern of the most beautiful and hallowed building in creation? Where could they find a clue to lead them up the thorny mountain pass which would bring them to the green valley where dwelt, reflected in the waves, the image of the temple built above?

Wondrous and crystalline pool,
Where ever dwells in unceasing waves
The image of the temple built above,
Distinct with column, arch, and architrave,
And calm-like capital all over the sight,
And populous most with living imagery,
Praxiteleau shapes with marble smiles,
Fill the hush'd air with everlasting love.
It is deserted now; but once it bore
Thy name, Prometheus

Prometheus in learned tongue meant the man of forethought—the man of common sense. So taking common sense as their guide they should be asked, where should they in this waning age find the clue to lead them to this temple? He thought, that being English, being Teutons, being Europeans, being members of the great fraternity of civilized nations, they should found their starting point on something that was English, Teutonic, European, civilized, and Christian. Whether their search would be successful or not was not for them to say. Their mission was to labour upwards, and to trust to others for results. It might be that art was waning in the land, or it might be that it was rising to a noble future, but in either case our mission was the same. If art was in the ascendant, let them look forward with pleasure to the noontide of day: if, on the contrary, it was dying, then let them anticipate a glorious sundown. Where then should they take their stand, and what would probably be the nature of the architecture of the future—would it be progressive or stationary? Upon this point of the subject he would offer two observations: first, a positive one, that it ought to be progressive; and secondly, a negative one that it cannot be stationary. With regard to the first, the experience of the past and the great advance in science and literature all pointed to progress; with regard to the second he would narrow the question by appealing to their own consideration as Englishmen, and to their own phase of art. He assumed as a certainty that our art for the future would be founded upon the Gothic. Granting this, could our Gothic be stationary? If so, it could not be stationary without standing somewhere. Where, then, should it stand? They knew that there was Gothic in England, France, the Low Countries, Italy, and Spain, and that there was an early, a middle, and a late period. Gothic having been the architecture of many centuries was placed at the bar of an unjust tribunal. Many thought that it was dead, but it came to life again, and it must come like the statue queen Hermione, with years of sorrow and captivity engraved upon her brow. Architecture might have grown worse in its exile, but it would seem by logic irrefragible, that it could only have been stationary, and Gothic must be the late corrupted Tudor of Henry VIII. in England, and in France the Flamboyant of the House of Valois. The only theory of architecture for the future of England, founded on common sense, was the Gothic cultivated progressively, founded on eclectisism. But here they only began to get into their difficulties; for if they were to become eclectic, what were they to choose? Where should be their starting-point? Some fifteen or twenty years ago a brisk controversy took place as to where should be the starting point for the development of English Gothic. There was a strong party in favour of the Pointed or Early English style; there was another in favour of the Decorated or Middle, while a few outsiders were in favour of the Norman or Perpendicular. After some time, the victory declared itself in favour of the Middle, or Decorated, as the golden medium. In coming to this conclusion, he thought they were right, for it was the highest ground from which they could survey the landscape around. They were then in a state of serene insular pride, and they imagined that there was no style so good as theirs. This state of things did not, however, long endure. There were knocks at the door from many quarters, and they found out that there was foreign Gothic which had many claims on their admiration. First of all there was the Gothic of France—of free France, with its unrivalled churches, and its enthusiastic band of young art writers, headed by the intrepid and noble-hearted Montalembert. These buildings and these writers won respect and converted many from the middle to the earlier and sterner Gothic. There came a voice from Germany in the completion of the cathedral of Cologne, the rebuilding of St. Nicholas at Hamburg, and the art movement at Munich. English architects and tourists crossing the Alps then found that they had long been blind, as many Gothic buildings, full of grace, lay before them in the Campagna of Rome. Here then was the attitude of the Gothic party in England. There was a strong feeling in favour of the various phases of the middle style, while some supported the early style,—and others were in favour of French and Italian specimens. How, then, was the difficulty to be met? Was the English style sufficient for their needs? Did they require the French or the Italian, or were the three together sufficient? He thought not. They must have something more broad and comprehensive for their starting-point; they must also have plan, and this could only be attained by having comprehensiveness. If they had eclecticism, they must eclect out of everything that was collected. They must bring together for themselves some middle school, from all and every age. The eclecticism to which he referred was that of the past, although there might be an eclecticism of the future. The advance of the arts, the gradual fulfilment of the prophecy that, for stones there should be iron, might in time revolutionize all architecture; but he believed that, whenever it came, it would be a pacific and not a destructive revolution, and that all changes would not supplant, but supplement the good traditions of the past. For himself, he would only endeavour to grapple with the eclecticism of the past, and contribute one stone to the structure of the eclecticism of the future. They had to progress through eclecticism, and all must agree that they must make their selections from France, Italy, and the early and middle days of England. But were they to stop there? Was there nothing else to select from? There was, he thought, much they could select from the later Gothic of England and the Continent. It was easy to talk of the germs of corruption in the later phases of the middle period, and also easy to talk of the corruption of the later Gothic, but it was an easiness that shut its eyes to the real state of the case. Corrupted as the Gothic of that age no doubt was, it yet contained symptoms which might develop themselves under happier auspices. If there was one axiom more undeniable than another, it was, that Classical architecture was the architecture of the horizontal, and Gothic of the vertical. The

Classic was the architecture of superposition; the Gothic, of germination and of continuity. Let them for a moment look at the Early English and Early French building. They would see the pillar surrounded by a capital with a very bad abacus, which, in the French, was actually square. They would see mouldings very different in their sections from the shafts under them: they would see square lintels, low-browed pediments, strings of windows arranged in horizontal strips, spires growing out of towers with pyramidal turrets at the corners, all strongly flavoured with the horizontal principle. He did not wish to infer any blame in such cases, for there was no doubt great massiveness and beauty in the horizontal style. So, too, in the second style of Gothic. There, too, they would find, in the manner in which the roses were put in, and in the geometrical forms, something more resembling superposition than continuity. Then, coming to the Late Gothic—take a Flamboyant cathedral in the Low Countries, and there would be found a great deal of scrambling for effect and a certain vulgarity of sentiment, although under that vulgarity would be found the germs of the differential character of Gothic, namely, continuity. Having referred to instances of continuity as represented at the cathedral at Antwerp and in the Cryrtal Palace, the honourable gentleman proceeded to say that when he saw the Flamboyant style, it reminded him of the German tale of the giant who was so weak that a child might throw him down, but whose shadow was so strong as to knock down trees and men. He was aware it might be said, that the Early Gothic of England and France were pre-eminently masculine. He admitted this, and he confessed he did not envy the soul of the man who could step for the first time under the choir of Shoreham or Canterbury, without feeling moved. That style was masculine, no doubt; but in making that admission, did they give it all the praise of which it was susceptible? Were there not graces which were given to the other half of creation? Norman and Early Pointed architecture, which was the mirror, as it were, shadow out only the half of that creation. To have done so might have been a great thing for our forefathers to accomplish; but we who were the disciples of common sense, scorned to be contented with half measures. He recommended them in avoiding luxuriance of ornamentation, not to fall into the opposite defect of stiffness and angularity. They might admire the purity and grace of the semicircle and the lancet; but they were rare in the creations of nature, while the ogee would be found to abound in numberless instances. Honour, then, to the man who first enlisted the ogee in the troop of the servitors of architectural glory. Their successors, it was true, had toyed and dallied with it until they had weakened it and deprived it of much of its beauty; but as it remained in the archway at Bury St. Edmund's, it might be regarded as a splendid contribution to the science of architecture. Having given some reason why they should take up the early and late styles of English and of other Teutonic phases in Gothic architecture, he would endeavour to meet the objection that we had nothing to do with the Italian. He thought we had derived much from it we had derived colour and ornamentation, rather than from the Gothic. In street architecture too, we had taken a lesson from the Italian; therefore he should say that Italian and Gothic should yield their share to the architecture of the future. If they held fast to these principles, and gave the character of each style, what a boundless field of imagination would open itself before them. For instance, they might design a lower story in early style, and make the upper story continuous. Again, the windows, instead of being ranged in horizontal arcades, might form a vertical strip with columns instead of the flimsy mullions of a later style. He was aware it might be said, "But where will you stop—what is there that you will not absorb?" To this he would reply, that he would stop wherever common sense ordered him, and that he would absorb nothing of which common sense did not approve. He would refer to the treasure-house of Greece, and make himself possessor of the Renaissance; and he did not see why the stout-hearted men of the future might not make those treasures their own, as also the treasures of Rome and Florence. So much, then, for architecture; but as he had promised to say something of the common sense of art he would refer to painting and sculpture. They must acknowledge that the broad distinction between Classical and Gothic in architecture did not exist in painting. Common sense would, therefore, tell them that there were less surface difficulties in painting than in the sister, or rather the mother, art of architecture. And here he might say that he honoured the men who rebelled against the trite conventionalities of the Academy, and who relied upon tradition and nature for the canons of his art; but he confessed he did not like rudeness for rudeness' sake. He was prepared to go with them in repudiating the vulgar commonplaceness of the academical models, because their beauty was of the vulgar and inferior sort; but he was of opinion that the best protest was not to represent with startling accuracy vulgar ugliness, but to raise the standard of ideal beauty. No doubt in some pictures atmospheric effects were juggled in a manner wholly at variance with the designs of the Great Architect of the Universe, who never intended that His works should be concealed from the light of day. In painting Nature in her various aspects artists should take care not to be deluded by a longing for "effects" which were irreconcilable with common sense. For this reason, he confessed, he did not wish to see leaves and flowers appear in pictures with the literal dry distinctness which some people admired, and which could only be seen by persons who, unlike himself, were not "short-sighted." He would, therefore, say to artists, "If you want to represent real life be real." The artists who were most literal were not always the most pleasing. Among the most literal of the Dutch school might be named Vanderwerf; or, in the English school, the clever caricaturist our over-praised Hogarth, whose works, however, he should not recommend as models. These were not the methods by which Phydias worked, or the men who sculptured the figures at Wells or Chartres, or which were recognized by the ever-honoured Flaxman. There was, however, in our painting and sculpture of later years a spirit of reality which was never known before, and which testified to the onward march of improvement. And so, too, in architecture; although how long it might continue to advance it was impossible to predict. In the observations he had made on the subject of architecture and art, he had spoken as if perfection were certain in this nether world, whereas they knew that perfection was most uncertain. They knew that the brightest flowers were the first to fade; that the noblest aspirations were often nipped by despair or soured into cynicism. Let them, however, toil on, and labour on in search of the truth, and progress, and common sense, as if success depended for its realization on the exertion of each individual. Whatever the result might be, they could not fail to derive satisfaction, for it was certain that to toil, labour, and even, if need be, to die for the truth, was the common sense not only of art, but of all human life. The hon. gentleman resumed his seat amid general acclamation.

The Right Hon. Mr. Adderly, M.P. in proposing a vote of thanks to Mr. Hope for his interesting lecture, referred to the exertions which that gentleman had made whenever any member of the House of Commons of a corrupted Gothic form of mind attacked those institutions which he considered it was for the benefit of the country to conserve.

Mr. Hope having acknowledged the compliment, and congratulated the meeting upon the success which had attended the South Kensington Museum,

It was announced that the lecture on Wednesday, the 22nd, would be delivered by Mr. Wm. Burges; the subject — "Conventional Ornament of the Thirteenth Century."

THE COLNEY-HATCH LUNATIC ASYLUM.

Skaife v. *Daukes, in Court of Queen's Bench.*—This was an action brought by Mr. Skaife, as representative of the Middlesex magistrates, to recover damages against Mr. Daukes for assigned breaches of his duty, as an architect, in not constructing or seeing Colney Hatch Lunatic Asylum constructed in conformity to his plan and specification for the erection of the building.

The defendant, in his pleas, pleaded that any deviations that had taken place from his plan and specification were the result of conferences with, and were known to, and sanctioned, and in some instances suggested by, the committee.

Mr. Atherton, Mr. Browne, and Mr. Maude conducted the case of the visiting justices of Middlesex, whose clerk the plaintiff is; and the Attorney-General, Mr. Bovill, and Mr. Hawkins that of the architect and surveyor to the Colney Hatch Asylum, who is the defendant.

The trial commenced on the 1st instant, and occupied that and the two following days. Our readers are already in possession of reports and statements on each side, explanatory of the grounds of the action. The proceedings originated, if we remember rightly, in an architect who was amusing himself by walking through the building, observing what he considered defects in the construction, and addressing a report to the magistrates in consequence; a step not to be imitated without full consideration.

Mr. Atherton, in his opening statement, said the design was obtained in competition. Advertisements were put forth to builders to send in tenders for the contract, and Mr. Myers's tender, being the lowest by several thousand pounds, was accepted by the committee. On the 10th of January, 1849, a written contract was entered into by Myers to complete the whole of the works in accordance with the defendant's plan and specification, for a sum of 138,000*l*. The works were proceeded with, and declared finished on the 1st of November, 1850, on which day Myers delivered up the key to the committee. The defendant, on the 11th of the same month, formally certified that everything necessary had been properly done, and Myers received his money. The Asylum was formally opened in May, 1850, and, on the 21st of April, 1851, the defendant received payment of the balance then due to him for his services in superintending the works. Afterwards various cracks and settlements were pointed out to the justices, and in 1856 they requested Mr. Harris, the permanent clerk of the works at Hanwell, to look at the Asylum, and he at once came to the conclusion that the roofs of the wards, of which there were sixteen, were defectively designed and still more defectively constructed. Mr. Trimen and Mr. Lewis Cubitt reported separately to the same effect as Mr. Harris. The concrete foundations of the walls, instead of being four feet, according to Myers's contract, were only half that thickness. The footings of the walls were not nearly as wide as required by the specification, and instead of having three offsets had only one. The roofs, instead of being formed of planks under the slates, were battened, and wrought iron twisted stirrups at the ends of the beams and four-fifths of the trusses were omitted. These were the principal deviations complained of, and the result had already been an expenditure of several thousand pounds in putting on new roofs, besides a contemplated large expenditure in consequence of the want of foundations for the walls, from their not having a proper amount of concrete and footing.

The following witnesses were examined on the part of the plaintiff:—Mr. Allen, solicitor; Mr. Skaife, clerk of visitors; Mr. Johns, clerk of works*; Mr. Harris, of Hanwell; Mr. Trimen; Mr. Lewis Cubitt; Mr. George Pownall; Mr. Hoskins, and Mr. Street. Mr. Bellamy was subpœnaed, but not called.

Mr. Bovill addressed the jury for the defendant, contending that the building, which had now stood eight years, was perfectly substantial; that all the alterations were either directed or sanctioned by the justices; that the depth of concrete was 2 feet in the drawings, although 4 feet was, by mistake, inserted in the builder's contract; that it was the duty of the clerk of the works to prevent small omissions in minor details, and that the principal subsidence was owing to a ventilating furnace having dried the clay at the foundation of the walls.

Mr. Daukes, the defendant, in the course of a long examination and cross-examination, said the words which appeared on the drawings, that the concrete was to be 2 feet in thickness, were there when the builder's contract was signed. The late Mr. Rotch, the chairman of the visiting justices, took a great interest in the new asylum, and many improvements were suggested by him as well as by the defendant, the alterations being sanctioned by other members of the committee. A stone cornice lined with lead, was substituted for the wood coping, and as an equivalent battens were substituted for boarding in the roofing, and some shutters were dispensed with. The shutters were unnecessary, and witness deemed battens preferable to boards, having invariably adapted them in between seventy and eighty buildings, the exception of which he had superintended. It was preferable for the advantage of the justices that those substitutions were made, as Mr. Myers, the builder, was with difficulty induced to give his assent. The excavation, rendered necessary for the reception of the furnace and boilers, extended to a depth of 16 feet below the level of the ground, and that, no doubt, caused the settlement, but the settlement was not perceptible at the lowest line lay. The ceilings were upwards of two miles in length, and at no point was there any sign of their giving way. There was not the slightest necessity to take down the ceilings. The footings were constructed according to the drawing, and the variation arose from witness at first erroneously supposing the building was under the Building Act. The roofs were strictly according to the specifications, but not quite according to the plan. Instead of trusses walls had been carried up in some places to take the purlins. Witness thought it would be better to add wrought iron ties and braces, and to take up the walls to the purlins. That accounted for the variation; but it was known to Mr. Rotch. It was not a bulge of the wall, as supposed by the plaintiff's witnesses, because the wall was not out of the perpendicular outside. Bolts were substituted for stirrups, and they were just as good in a roof of that span. If the clerk of the works had done his duty the roofs ought to have been good and permanent.

The defendant was cross-examined at considerable length on the following day.

Mr. Atherton, after hearing some further testimony in support of the defendant's case, and in particular that of Mr. Myers, the builder, by whom the asylum was erected, in corroboration of the defendant's evidence, rose and said he was authorised by the justices, for whom he appeared, to state that they thought the case had been satisfactorily answered by the defendant, and that it was their desire not to proceed further with the trial, and to consent to a verdict being entered for the defendant.

Lord Campbell was glad to hear that the justices had adopted that course. As a body charged to look after the interests of the ratepayers, they were perfectly justified in bringing the action, but he thought they had been misled by rival architects entertaining unfriendly feelings towards the defendant. He was, however, glad to say that the defendant had entirely exonerated himself from the charges made against him, and that he left the court without the slightest prejudice to his professional reputation.

The verdict was accordingly entered for the defendant.

The witnesses subpœnaed by the defendant, and not examined, were Mr. Josiah Wilson, Mr. Henry Warner,

* What *could* this gentleman mean in saying 50,000 yards of concrete were saved by the alteration?

Mr. Henry Pownall, and Mr. H. Cottrell, county magistrates, who were of the committee upon the asylum when built; Mr. Thomas Hawksley, engineer; Mr. W. Tite, M.P., Mr. Anthony Salvin, Mr. T. Henry Wyatt, and Mr. A. Ashpitel, architects; Mr. Stephen Barton Wilson, surveyor; Mr. George Smith, of Pimlico, Mr. Joseph W[illegible] of Worcester, and Mr. Alders Langton, of Bo[illegible], builders.

We have received copies of letters addressed by Mr. Trimen to the justices, protesting, if we rightly understand their drift, against the payment to him of 150 guineas for his previous reports on the Asylum in lieu of 250 guineas charged by him (with the imputation that his charge was made for a *volunteered* report), suggesting that the report of another architect (Mr. Lewis Cubitt's we are to infer) was such "as to stamp with absurdity any attempt to base upon it a claim against any one originally engaged upon the building," and expressing his disappointment that the work necessary at the Asylum had been confided to another architect! Some of our correspondents express themselves strongly on the circumstance that by the condemnation of Mr. Daukes, Mr. Lewis Cubitt secured to himself the superintendence of a large amount of work for the magistrates. Whatever may be the real merits of the case, and a jury having settled it, we do not feel called upon to express an opinion; it is impossible to blink the fact, that some of the witnesses for the plaintiff were in a wrong position to be of any service to him.

THE HAVELOCK MEMORIAL COMPETITION.

There are thirty-four statuettes of the lamented Havelock now on view in the Gallery of the Society of British Artists, Suffolk-street, sent by sculptors and others in reply to the invitation of the committee appointed to erect a memorial to the hero in Trafalgar-square, to correspond with that of Napier. An anonymous competition, open to all, was, under such circumstances a mischievous absurdity. Twenty or thirty artists have been led to waste their time in producing what will not advance the committee in their purpose one step. The men who ought to do such a work would, for the most part, refuse to enter such a competition; and if the committee attempt to select a sculptor simply from the small sketches here exhibited, and without knowing the competitor's name, the result will certainly be a failure. The statuettes serve to represent a military officer with and without a cloak, with sword drawn or sheathed, standing on one foot or the other, tall or short, stout or thin, handsome or ugly, old or young. In a few, as in 11, *Vola*; and 12, *Indus*; 22, *Forward*; 33, *En avant*; and one or two others, a little picturesque variety is obtained by a characteristic feature or so; while two or three others display some better modelling in the shape of a simple standing soldier. We fear, however, that the committee are on the horns of a dilemma: they must either behave unjustly to those whom they have seduced into competition, or they must make a selection with insufficient materials for arriving at a right judgment, and so, probably, add another to the list of our failures in statue-making.

ABANDONED GRAVEYARDS AND DITTO AUTHORITIES.

We have more than once stated, when directing attention to desecrations of the metropolitan graveyards, our belief that fresh powers will be required from the Legislature for the purpose of preserving the sanctity of the various deposits of the dead, which have been allowed to grow up in the midst of the living. Grave-stones and tombs have been removed without ceremony, and disposed of without considering that common honesty should have led those who were placed as custodians of these memorials to prevent the removal of matters for the retention of which money had been paid. It would be more wrong and unjust for the Dean and Chapter of Westminster or of St. Paul's Cathedral, the church wardens of Stratford-upon-Avon (where "sweet Will Shakspeare" rests), or those in charge of similar places, to dispose of the monuments in their churches, than it is for those who have care of ordinary burial-grounds to remove a single grave-stone while a fragment of the inscription remains visible. So with the dead.

The recent transaction at the Pratt-street cemetery is one of several instances which have occurred of the conduct of those in care of graveyards giving occasion for a burst of general indignation and feeling of disgust.

Some years ago, when exposing the condition of the metropolitan burial-grounds, we received abuse and indecent [illegible] from the authorities of St. Martin's parish, to which this cemetery belongs. It was said that the ground was salubrious, and the very spot which has been opened to the light, and "is filled," as Mr. Bodkin says, "with bodies which lie about like the bars of a gridiron," was pointed out as "virgin" soil, in which no dead body had been placed. It is said that the remains found there were removed from the old church at Charing-cross: there is, however, clear evidence that bodies have been interred there recently. A clergyman, at a public meeting on this subject in the vestry-hall, St. Pancras, stated that he had himself, in the pursuit of his calling, attended to funerals where the excavations have been made. Having examined the places complained of, and knowing something of the manner of managing the cheaper parts of the burial-grounds pursued a few years ago, it does not seem altogether improbable that, in addition to the interments spoken of as having been lately made, remains may have been shifted there for the purpose of making room in the common but most profitable division.

COMPOSITION IN ARCHITECTURE.

LIVERPOOL ARCHITECTURAL SOCIETY.

At the fifth meeting of the session, held on Wednesday evening, Mr. H. P. Horner, the president, in the chair,

Mr. Huggins read a paper "On Architectural Composition." Composition in architecture, he said, might be defined in the same words as composition in painting: invention was the true conception of its subject: composition was the right mode of representing it. There was a difference between composition and grouping, which a man might have ability for without being able to compose, which was to give the form exactly suited to the subject or purpose, the expression of which should not be lost in beauty of composition, that being but a medium or vehicle of higher things. An architectural composition might be likened to the body of an animal which was always made of the form best suited to the place it had to fill, and to contain all the needful parts and organs. Infinite were the shapes in which composition might embody its subject and present it to the view. Natural productions—birds, beasts, plants, flowers, minerals, rocks, mountains, statical, and dynamical science, laws of the resolution of forces, geometrical forms, properties of building materials—were all sources of suggestions, analogies, and principles, of form, proportion, or arrangement in architectural composition. The reader entered at some length into the subject of the construction and application of domes. Modern architecture had lost much of grandeur in composition from the supposed difficulty and expense of constructing permanent domes on a scale of any magnitude. The difficulties that had attended the erection of the greatest modern domes had chiefly arisen from elevating them on lofty cylindrical towers and loading them with stone lanterns of enormous weight, neither of which, he contended, contributed to their beauty. He suggested many modes of treatment and material of construction, as iron, wood, and concrete, stone formed into ribs and panels, in the manner of the Gothic vaults; but, he believed, there was nothing better for domes than bricks or tiles, which, well grouted, would grow together into a mass so rigid that coincidence with the curve of equilibrium would be of small consequence. From the facts stated respecting the nature and quality of the mortar used in India, and the vaults and domes constructed there in concrete alone, the strength of the mortar was evidently the reason of the holding together of the Burra Gumbooz, or great dome of Mahommed Shah's tomb at Beejapore, which, though of beautiful contour, was very unscientific in its form. He defended the principle of having outer and inner domes. In making the outer one, such moderate additional elevation ought to be given to it as its due external development above the rest of the roof might require. He spoke in praise of the octagonal form of domes placed over a square building, an excellent example of which he said existed in this town, at St. Paul's Church, which, if relieved of its odious lantern, would be as fine an application of a dome as he knew in England or elsewhere. He referred to various forms of roofs, and remarked that the roof in this climate should generally show itself, and play its part in the composition. He condemned the French roof, which he regretted to find was growing into favour with English artists, observing that a frustrum of a pyramid was not only devoid of all grace, but was positively the most hideous conceivable form that could be applied to the summit of a building. Referring to the subject of porticos and their mode of junction with the body of the building, he said a portico should always be more or less recessed. Unless it were let in it could only appear as borrowed finery, without which the building would look more complete. He considered the subject of the optical corrections, discovered to have been made in Greek buildings, was one connected with composition, and deserving of the serious attention of designers. He liked the idea of the upward convergence of the axes of the columns, and considered that the principle might be very safely applied in modern works, not only to correct any appearance of overhanging, but to give a little of the look of pyramidising.

OXFORD ARCHITECTURAL SOCIETY.

The third meeting of this term was held on Wednesday, December 1st, when Mr. J. H. Parker, F.S.A. was unanimously elected President.

On taking the chair, the newly-elected President, in thanking the society for the honour done to him, pointed out in a few words the importance of retaining such a society in Oxford, whence so many young men go forth, who eventually, either as clergymen or landed proprietors, have great influence, if not personal responsibility, in the preservation, restoration, and rebuilding of churches. The architects to a great extent are governed by the taste of their employers, and therefore a knowledge of the correct principles of Gothic architecture imbibed at Oxford would stand by them in need in after years, and go far to prevent those errors of judgment which so constantly occur in dealing with our ancient edifices. The study of architecture, too, he considered would materially assist many men in the study of history, because almost each reign was as much marked by its buildings as by its events, and the former, appealing to the eye, must assist the memory in recalling the latter. He concluded by mentioning his having held, in conjunction with the present Radcliffe Observer, the office of secretary during the first days of the existence of the society.

Mr. Lowder, the secretary, in the name of the committee, congratulated the society and the country on the decision of the Government to adopt a Gothic design for the new public offices at Westminster.

Mr. Jeffcock then read a paper on "The Abbeys of Yorkshire." At the close he said, "In art, creation and criticism are rarely found together. Homer could not point out the principles on which he wrote; nor Longinus create an Iliad. This concerns the hopes of architecture at the present time. The present age is decidedly critical: we are confessedly a restoring age: our imitations are wonderful—they are models to the life; but can we create the living form, or is it but the lifeless statue after all? Before the Reformation there was creation but no criticism: last century Gothic had neither creation nor criticism in it: we certainly have the latter—have we the former? Our fathers had neither: have we both?"

THE AMATEUR MUSICAL SOCIETY.

If we are to accept recent criticism, this Society would seem to be upon its last legs, as the orchestra is described as being so fallen from its once high estate, in this its thirteenth season, as to be incapable of playing the pieces which, eight or ten years ago, it executed with ability and credit. Like the invalid whose diet has degenerated from roast beef and porter to toast and barley-water,—Beethoven, Mendelssohn, and Spohr are forbidden fare, and Haydn and Mozart recommended as alone digestible in its present attenuated condition, and even the latter author but sparingly!

However, we have our own notions upon the point, *et voilà*.

If the Society persist in giving such meagre bills of fare as it did at its first concert on the 20th ult. it must expect to be thought little of, a sufficient length being necessary to arrest attention—too little being as bad as too much. Again, the choice of Haydn for its symphony was injudicious, and the tragic silence with which his work—though the best of the twelve—was received, was sufficiently significant of the opinion of the audience. If the Society wish to show its capacity for executing the works of the forbidden masters, let it adhere to them principally; nay, for this season, throw Haydn overboard altogether. He balances charmingly with the grander works of the proscribed *three*, but has not stuff enough in himself alone to constitute the *pièce de résistance* of an orchestral concert.

Mademoiselle Angelina's performance of Sterndale Bennett's *Caprice* (in E major) was worthy of herself and the author of her choice; but we would not wound her generous feelings by exalting her at the expense of the Society that has so long and so well served her. No, let her stand upon her own excellence alone: her merits are known and appreciated. *Sham* jewels may require a foil to make them sparkle, but *real* diamonds never glitter so much as when free from superfluous setting. Suffice it to say she played with brilliancy and refinement, and was accompanied with the zeal and ability ever displayed by the orchestra towards their favourite pianist. The *Ruy Blas* of Mendelssohn is so extremely difficult for the violins, that no amateur orchestra can do it justice. The main attractions of the vocal music were the *Notturno* of Schira, charmingly sung by Miss Kemble and Mr. Santley, and the Serenade from "Don Giovanni," by the latter, which was redemanded. Mr. Leslie is as zealous as ever for the Society of his adoption, and it will be hard indeed if his efforts to procure excellence are not ultimately successful. We rejoice to see the names of Beethoven, Cherubini, and Weber in the next programme.

NOTICE TO THE BUILDERS OF THE METROPOLIS.

THE superintending architect of the Metropolitan Board of Works has addressed a communication to the District Surveyors, wherein he says:—

"I am directed by the Metropolitan Board of Works to apprise you that their attention has been called to the circumstance that fires are of frequent occurrence in the metropolis, in consequence of the illegal manner in which hearths and flues are often laid and constructed, and that having directed an inquiry into the circumstances, they have ascertained, that in numerous instances, especially in the case of alterations, *the proper notices have been omitted to be served upon the district surveyors.* With a view to the repression of this evil, the Board deem it their duty to call your particular attention to the terms of the 38th section of the Metropolitan Building Act, 1855, as more fully explained by the 5th section of the same Act.* * *

"The Board desire me to request that you will, in future, take stringent measures for compelling compliance with the Act in these respects, and that in any case in which a builder shall have failed to give the notice required by law, you will *forthwith take proceedings before a magistrate for enforcing the penalties prescribed by the Act.*"

It is to be hoped that builders will take warning, and not compel the surveyors to take them before a magistrate for non-compliance with the Act; the more so as it may be expected the magistrates will now inflict the full penalty. Up to this time magistrates have inflicted merely nominal penalties, and have thus brought upon the district surveyors an immense amount of annoyance (many jobbing builders in the case of alterations and additions, invariably omitting to give notice), and to the public real danger.

THE NEW THEATRE-ROYAL, ADELPHI.

THE new Adelphi Theatre is to be opened on Boxing-night; and we are now able to give some particulars of the arrangement and construction of the building. We append a plan showing the "auditory" at the level of the grand tier, as well as the difference between the old house and the new one. The boundary of the site eastward in the old house, and the form of the auditory, are marked by dotted lines. First mentioning to allow of comparison with theatres lately described, that the ground (exclusive of the Strand entrance and the saloons, and of the dressing-rooms for which old premises in Maiden-lane will be retained temporarily) now averages a length of about 107 feet by a breadth of about 69 feet, and that greater space in height has been gained by placing the pit floor at a lower level, instead of at the height of an ordinary story above the Strand as in the old house,—we may go on to remark that the main alterations interesting in the question of theatre-planning, will be found to be those as to the width of the proscenium-opening in proportion to the "auditory;" the projection of the *balcon*, or stalls of the dress-circle; and the generally increased space—as appropriated mainly with reference to the comfort of the audience; to greater number of staircases of communication between the tiers; and to a gallery-staircase, with entrance from Bull-inn-court, in lieu of that which was reached from the entrance in the Strand. Width of proscenium-opening, and advancing the front of the lower-tier boxes, have been noted by us as comprising what might be a desirable approach to the principle of the ancient theatre, in regard to the object of a good view of the stage.

Looking at some of the London theatres which best admit of comparison, the relative proportions of the proscenium-opening to the "auditory," may be gathered from the statement as under:—

	Adelphi.		Lyceum.		Olympic.		Princess's.	
	Feet	in.	Feet	in.	Feet	in.	Feet	in.
Width of proscenium	35	0	32	0	27	2	26	0
Height of ditto..	18	0	35	0	29	0	30	0

Whilst the width across the house, or between the boxes,—44 feet in the case of the upper tiers of the Adelphi Theatre, that is to say, 5 feet 7 inches more than the Lyceum, and 11 feet 3 inches than the Olympic,—as regards the grand tier, is considerably *less* in the Adelphi than the other buildings,—a difference of the greatest importance if our ideas have been correct. At the same time, whilst the pit is not sacrificed,—since it would appear from the plan engraved, not only that the whole area is greater than that in the old house, but that even a less proportion of the seats opposite the stage, are beneath boxes,—the height of the grand tier above the stage is less than in the other case. For, taking the level which is that of the floor of the Queen's box (or the same as the lowest part of the *balcon* in the Adelphi Theatre), the dimensions are:—In the Adelphi, 7 feet 9 inches; in the Olympic Theatre, 9 feet 1 inch; and in the Princess's, 8 feet 8 inches,—the Lyceum, having the dimension 6 feet 11 inches. To afford means of comparison in another particular affecting principle of plan, we may mention that the stage at the centre advances into the auditory, from the curtain line, at the Adelphi Theatre, 4 feet, whilst at the Olympic, 9 feet. In the Lyceum Theatre the dimension originally was three, or four, feet; but it is now 1 foot 9 inches. The alteration there is viewed as disadvantageous for operatic performances: whilst the 9 feet of the Olympic Theatre, bring the "float" lights into an inconvenient position as regards the private-boxes.

The arrangement of the auditory of the Adelphi Theatre, it will have been understood, is not explained by the single plan given herewith. There are three tiers (two, boxes; and one, gallery) above the pit level; in other words, there are four floors, as in the boxes of the proscenium, which boxes will form very important features in the effect. The upper boxes and gallery are quite different from the lower boxes, both by the omission of the *balcon*, and by the form, on plan, of the box fronts at the sides of the house. In place of a convexity next the private boxes where a shaft is marked on our plan, there is a concavity formed by producing the segment from the semi-circle of the different line of fronts up to the same point on plan, or a little beyond, whence the curve continues in contrary flexure, forming to the private boxes segments, rather than the curves shown in the case of those boxes—marked F and G G. Considerable variety of effect results from this peculiarity, added to the gracefulness of the lines themselves.

The depth of the stage from the back of the proscenium-wall is 55 feet, and the full width at the proscenium is 67 feet 6 inches, or inclusive of the property-rooms. The space in the front of the curtain measures 58 feet on the longitudinal axis of the plan, by a width of 68 feet 9 inches on the transverse axis of the "auditory." The proscenium wall is of 9-inch brickwork, with piers of 1 foot 10 inches, and a similar wall divides the private boxes from the main part of the auditory. The external walls are 1 foot 6 inches, all the way up—the roof being carried by iron stancheons from the ground, as mentioned in a former notice.

The box-fronts of the upper tiers, with which the circle of the ceiling corresponds, are 11 feet 9 inches from the back of the proscenium-wall, measuring on the longitudinal axis of the plan; and between the box-fronts across the house is 44 feet: whilst on a parallel line, measuring from front to front of the private boxes, the width across is 35 feet 9 inches. The box-corridors, which are all floored with stone, and reached by staircases of stone or slate, are 4 feet 9 inches, or 5 feet in width, in the narrowest part in each case. The *balcon* projects 6 feet in advance of the iron columns supporting the tiers of boxes and the gallery. The gallery has no columns; the ceiling (hung from the roof) being from its design, supposed not to require the idea of support provided for in the case of the boxes. There are two rows of seats in the *balcon*; and the remainder of the space is divided into fourteen boxes, which, from the arrangement of the divisions, may be treated as at once public and private boxes. The edges of the divisions ramp back to the ceiling from the line of fronts of those boxes, with a profile in curves of contrary flexure, or giving somewhat the form of an inverted bracket. This arrangement will contribute very greatly to the effect of the boxes viewed from one another, and generally from the house; whilst the back seats are the same as those of private boxes in other theatres. Another innovation deserving of praise is that intended in the front of the *balcon*, which is to be of open-work of some kind, so that the ladies' dresses may show through, though whether it will be popular may be a question. The seats or stalls in the *balcon* are 1 foot 10 inches each between the centres of the divisions (two inches more than in the dress circles of the Lyceum and the Olympic) the space of each sitting in the other direction, or 3 feet, is greater by 9 inches than that at the Lyceum, and by 6 inches than that at the Olympic; and the seats themselves are 1 foot 3 inches in depth as contrasted with the 11 inches of each of the other theatres. The backs slope 1½ inches instead of 2½ inches and 3 inches. The grand tier is calculated to hold (exclusive of the proscenium boxes) 128 persons—68 in the *balcon* and 60 in the boxes.

The upper circle of boxes is reached from the corridor of the lower circle. There are four staircases available for this communication, two of the number next the proscenium boxes, serving also for those boxes and the orchestra-stalls. The way *down* to the stalls, after an ascent from the Strand, was unavoidable, unless there had been an entrance contrived from Bull Inn-court. There are three rows of seats in the upper boxes—little different from the stalls below. They will seat 135 persons. In the gallery tier there are two rows of stalls—for 92 persons (without separate access), and three rows of seats besides the short benches in the angles and the recess over the principal staircase and saloon. The ordinary seats on this tier are designed for 331 persons. The slight depth of the gallery allows of a flat ceiling, so that the defect of apparent suspension, if it do exist, cannot be said to be at all equal to what we noticed in a theatre at the east end of the town. The circular part, or ceiling over the pit, rises from a rim of ornamented mouldings, in slightly domical form, and is divided into semicircular and other compartments, which will be decorated by Mr. Sang; and the lighting will be by a sun-burner in the centre, coming down, however, low enough to avoid disagreeable shadow.* The plasterers' work is in Parian cement; the decorations (of which we shall be better able to speak when the theatre opens), being on paper, to be pasted on. There will be the one saloon attached to the upper boxes, and a reading-room opening from the corridor of the dress boxes. The private boxes, it should have been mentioned, measure, in the clear, 14 feet; or that may be called the frontage to the auditory; and in depth, with their saloons and passages, they occupy about 16 feet. They will accommodate in all, 80 persons. The character of these proscenium boxes is given by fluted shafts or columns, as shown in the plan, which occupy the height of the two chief tiers, and are carried on piers or pedestals, and by the light metal shafts which mark the divisions between the two boxes on plan, in the case of those of the upper box and gallery levels (the shaft in the latter instance bearing arches, the spandrils enriched with trellis-work), as well as by the ornament—which appears to be, generally in the house, of the Louis Quatorze or French Italian character, sometimes called French Renaissance in opposition to the Louis Quinze and the degenerate Rococo, more commonly, but erroneously, "Louis Quatorze." To these matters, however, we must return. One of the main shafts at each side carries the elliptical arch of the proscenium, and the other may support a statue.

The pit area will be divided into seats of three classes,—orchestra-stalls, pit stalls, and ordinary seats. The orchestra-stalls, of which there are four rows, 3 feet from back to back of seats, are as under, in comparison with other theatres:

	Adelphi.	Lyceum.	Olympic.
From centre to centre of divisions	21 inches.	20 inches.	21 inches.
Depth of seat	16 inches.	16 inches.	15 inches.

They will accommodate 74 persons.

The other seats in the pit-floor are, we believe, 1 foot 8 inches from centre to centre of divisions. In the Olympic they are 1 foot 6½ inches. The width of seat only, is 11 inches as compared with 9½ inches in the Olympic and 8½ inches in the Lyceum: the distance of the seats from back to

* Could not a reflector be so arranged as to give the light mainly to the stage or the house as might become necessary?

back is 2 feet 1 inch, the same as in the Olympic. They will hold 565 persons.

The whole house will accommodate 1,408 persons seated. There is a 5-feet exit-way from the pit into Bull-inn-court, with doors opening outwards. Above are similar fire-escape openings—as marked L on our plan. As to details of plan affecting some questions which have been taken up in our pages, we confine ourselves on the present occasion to simple description.

The entrances to the pit and boxes lead from the Strand corridor, the former below the loggia marked by B, the latter in a long flight, as shown at A. Judging from the drawings, the piers panelled with enamelled slate, the archivolts carried on trusses composed with figures of children, and the balustraded loggia, which will be occupied by ladies waiting for carriages, will form a very effective combination.

The dimensions of height necessary to complete our present account may be given from the datum level of the Strand pavement. The stage at the front is 5 inches above that level, and the orchestra floor 3 feet 9 inches below it. The floor of the orchestra stalls may be taken at 3 feet below. The entrance corridor to the pit rises to 12 inches above the *datum*, or from the Strand, whence the floor descends by a slope of 1 foot 9 inches in 36 feet, to 2 feet 9 inches below the level, at the division from the stalls, which is about 19 feet from the front of the stage, the orchestra being 6 feet 6 inches of that distance. The stage rises to 1 foot 9 inches at the back, by a slope of $\frac{3}{4}$ inch in 1 foot. The heights of the tiers of boxes, measuring to the floor line, which corresponds with the top of the lower series of mouldings of the box-fronts, are respectively 7 feet 9 inches to the grand tier, 11 feet 6 inches thence to the floor of the upper boxes, and 9 feet 6 inches to the gallery floor: whilst the private boxes on the gallery tier are 9 feet 6 inches in the clear height. The height to the rim of the ceiling over the pit is 44 feet 9 inches, and that to the highest part 53 feet 9 inches. The Queen has a distinct entrance from Maiden-lane, passing above the stage, as shown by the letters N and M. Maiden-lane is considerably above the Strand level. Over M are the chief property rooms, in two floors, carried with the "fly" which projects from them, by a strong truss, formed with head and sill, struts and braces (12 by 9), and suspension-bolts, arranged as queen-post trussing along with diagonal bracing and inter-tie of similar scantling. The painting-room is opposite, and is an ordinary "fly," with queen-post trussing. There is a stage entrance from Maiden-lane.

The building is remarkable, as we have before observed, for the application of iron in modes which are altering the structural character of this class of buildings: whilst decoratively, besides the right treatment of the material in the shafts, the use of riveted iron has readily allowed of that sinuosity of character, so to speak, which we have described in the plan, and which in section is equally shown in the girders bent to the forms of the boxes, sometimes in the reverse direction to that of strength, as it would have appeared on some *data* not of this age. The roof is of wrought iron, riveted in parts, and is carried by the stancheons, as already mentioned. There is a difference between the trusses over the auditory and the stage,—the rise of the dome of the ceiling in the former case being provided for. There are in all, eight principals about 13 feet apart.

Mr. T. H. Wyatt is the architect; Mr. J. Willson is the builder; and Mr. Pasfield is the architect's clerk of the works.

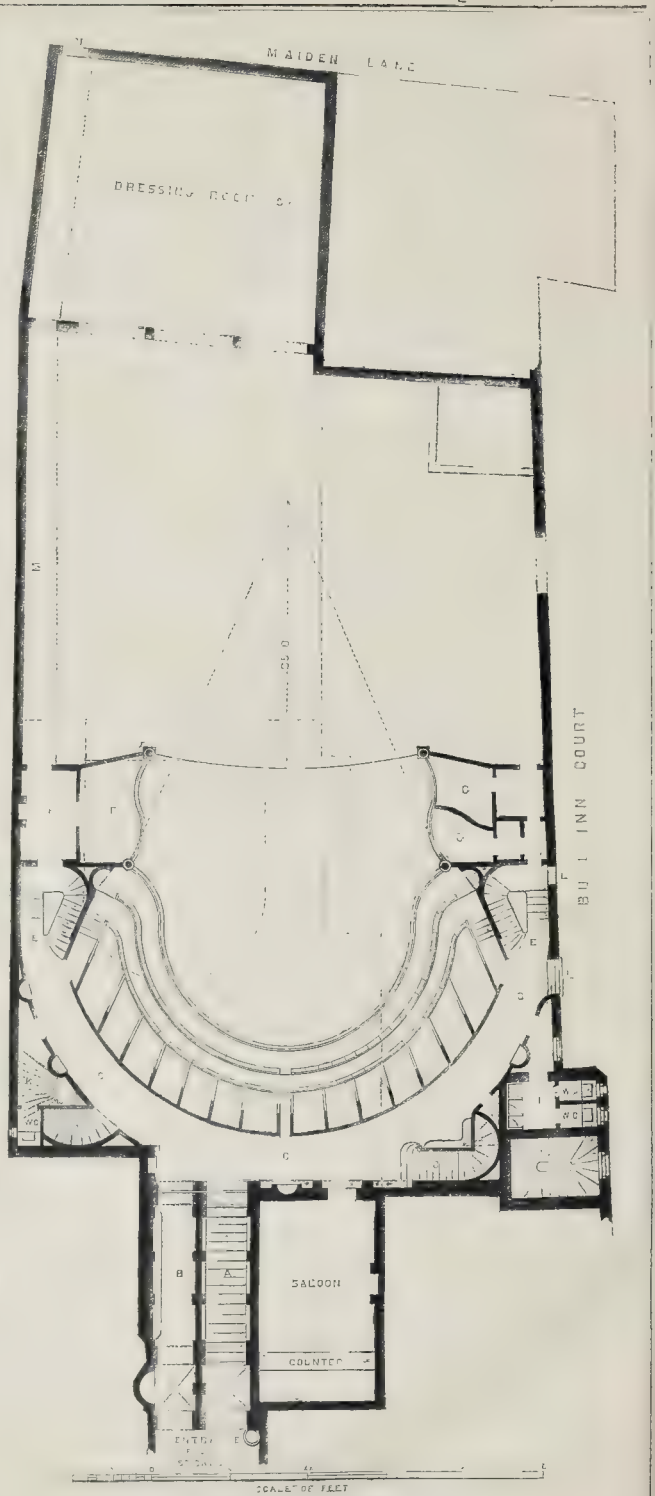
We shall have another opportunity, when illustrating the appearance of the theatre, to say that we heartily wish Mr. Webster success in his new house.

References to Plan.

DRESS CIRCLE LEVEL.

- A. Box staircase.
- B. Loggia (over pit entrance).
- CCC. Corridor behind boxes.
- DD. Stairs to upper boxes.
- EE. Stairs to stalls and proscenium boxes.
- FF. Queen's box and saloon.
- GG. Private boxes.
- H. Gallery staircase.
- I. Urinals and closets.
- K. Ladies' cloak-room.
- LL. Fire-escapes.
- M. Corridor to Queen's box.
- N. Queen's entrance in Maiden-lane.

Water-Glass, or Oil of Flints.—"Flint varnish," says Sir H. Rawlinson, "was known to Darius Hystaspes, and has been used to preserve ancient Assyrian inscriptions on limestone, though the stone has itself crumbled away."



THEATRE ROYAL, ADELPHI, LONDON.

Plan: Dress-circle Level: shewing Addition made to old Site.

CARVED STONE CHIMNEY-PIECE, FROM COMO.—*Date, circa 1520; now in the Museum at Brompton.**

[* See p. 839.

THE STEPHENSON MONUMENT: WHAT SHOULD IT BE?

THE longer we reflect on this question, the more anxious we become that the monument should be something more than a statue. Mr. Thomas Oliver, architect, holding this same view already expressed forcibly by the *Gateshead Observer*, has published a pamphlet with the title at the head of this observation, wherein he criticises "the respective merits of the sculptural and architectural modes of treatment, as adapted to the circumstances of the case in point, the character of the town in which the monument is proposed to be erected, and the moral influences which they exert." The architect must work with the sculptor, if the subscribers desire to have a monument in the open air that will satisfy beholders, and be a striking adornment to the town. We should suggest a limited competition, paying a small sum, for expenses out of pocket, to each competitor.

MR. C. PEARSON'S CENTRAL RAILWAY AND SUBURBAN DWELLING SYSTEM.

PURSUANT to requisition, very numerously signed by the leading mercantile houses in the City, the Lord Mayor convened a meeting for the 1st inst. in the London Tavern, to take into consideration the objects set forth in the words of the requisition, namely,—"to receive a report from Mr. Charles Pearson as to his recent proceedings to obtain improved railway accommodation for the City, and to consider the propriety of appointing a committee to inquire and report whether any, and, if any, what measures can be adopted to diminish the overcrowding of our principal thoroughfares, and to obtain for the working classes better habitations than they are now able to procure in the close and over-crowded courts and alleys of the City and suburbs."

The large room was crowded to excess. Lord John Russell, Baron Rothschild, and other metropolitan members were present, and the Lord Mayor presided.

Mr. Pearson, in his report, submitted four several points to notice,—firstly, overcrowding of the streets; secondly, the overcrowding of the courts and alleys by the poor, to the great detriment of life, health, and public morals; thirdly, the establishment of subway railways; and, fourthly, the support of the Paddington and City subway scheme, some time since set agoing, but about to be wound up, from deficiency of shareholders.

The first resolution, to the effect that the overcrowding of the streets of the City was highly injurious to trade, was moved by Mr. Deputy Dakin, seconded by Mr. Lawrence, and carried.

The second resolution was moved by Lord John Russell:—

"That the crowded state of the dwellings of the poor is one of the most serious of our social evils—an evil which in this City is aggravated by the fact that respectable working men, able and willing to pay for decent dwellings, but who have not money to ride, or time to walk to where decent dwellings could be obtained at a price within their means, are compelled to live near their work, with their families, in the same crowded courts and alleys, and often in the same houses, with the most unfortunate and degraded classes, in the midst of every variety of disease, misery, and vice."

This resolution was unanimously carried.

The third resolution, proposed by Mr. C. Wright, and also carried, was to the effect that,—

"It appears to this meeting, by calculations deduced from the official railway returns for the last six years, that the working classes are the most profitable customers to railroads; and this meeting is strongly impressed with the opinion advanced by Mr. Pearson, the City solicitor—that if a subway railway could be made, intersecting the metropolis, so as to carry merchandise, cattle, and market-goods by night, and passengers and parcels by day, from railroad to railroad, and subway to subway, and to and through the City, by frequent, regular, and convenient trains, carrying large numbers, at a very low charge, that such a railroad would relieve the streets of many of their obstructions, and provide cheap trains for the working classes at seasonable hours, at the same time that it would facilitate the operations of commerce in the City, and render the great metropolitan railways more useful and profitable, by bringing their city passengers within an easy walking distance of all its principal streets."

The fourth resolution, also passed, was recommendatory of the objects of "the Metropolitan Railway Company," and its subway between Paddington and the City.

Mr. Pearson then moved "That the Committee of Requisitionists be re-appointed, with power to add to their number, to take such measures as they may think necessary to carry out the foregoing resolutions." This motion, also, was passed unanimously, and a vote of thanks to the Lord Mayor concluded the proceedings.

It is but fair to Mr. Pearson here to add that although he made no reference at this meeting to either tramways or super-ways, such as have been occasionally urged, both in our own columns, long ago, and in those of some of our daily contemporaries, he has since said, in a letter to the *Times*:—

"Allow me to suggest that the introduction of tramways in some of the wider streets and roads of the metropolis by no means precludes their use as acting auxiliary railroads to supplement the main system.

A railroad in a subway, connecting railroad with railroad, and subway with subway, and uniting the two great objects of the metropolitan railway system, is, I believe, as the machinery for distributing the produce of the day, and bringing weekly goods back and forwards and carrying them on railways, as it is the horse vehicles which traverse our ordinary streets and roads, may be considered as the veins and lesser vessels by which the circulation of our moving multitudes may be kept in healthy action; and this may be maintained even although the area and population of the metropolis should still go on increasing 170 per cent. each successive forty-seven years, as it has done since 1811."

IRELAND.

THE Dublin and Wicklow Railway Company propose to construct a line to Gorey, thirty miles in length, passing through the vale of Avoca, and thus bringing the mining district into direct communication with Arklow and Wicklow. Estimated cost, 6,000*l.* per mile. Mr. Le Fann, engineer. Only a single line of rails will be laid down in the first instance.

On Saturday, the 20th ult. the vase subscribed for by the working classes of Belfast was to have been presented to Lord and Lady Massarene.

A fine antique urn, 13 inches in height, 5 inches in breadth at bottom, in good preservation, and containing human remains, has been found at the bottom of a cut-out bog near Cumber, county Derry. About twelve months ago, two smaller urns were found near the same place, also a mallet of gigantic dimensions, since destroyed.

We understand, that in addition to the intended extension of the Midland and Great Western Railway at Dublin from the Broadstone terminus to the shipping at the North Wall, it is also proposed at the Galway end to construct a branch from the terminus at Eyre-square to the harbour, by which means Trans-Atlantic passengers and goods will be conveyed direct by rail from ship to ship. There is also a rumour, though we do not give it on authority, of the same company projecting a swivel bridge across the Liffey, and continuing the line across Sir John Rogerson's Quay and Brunswick-street to the Dublin and Kingstown branch of the Dublin and Wicklow Railway, so as to secure a direct conveyance by rail to Galway from Kingstown harbour. This project seems to be replete with difficulty of accomplishment and inconvenience to the shipping and general interest, and we merely give it as a rumour.

Messrs. Martin and Son, the extensive shipowners and timber merchants, are constructing important works at their premises, North Wall. Mr. Alexander Rosborough, builder. We may mention, as a general remark, that the north side of Dublin is very much improving, and that dwelling-houses are now rising where swamps were but visible a few years since.

The Athlone and Castlerea railway-works are progressing rapidly. Messrs. Smith and Knight, contractors.

A conventual chapel, 70 feet in length by 20 feet in breadth, has been added to the Presentation Convent at Enniscorthy.

Mr. Dargan has contracted for the construction of the Athenry and Tuam Railway, at 67,000*l.*

A new building for the Passionist Fathers is to be erected at Mount Argus, near Rimmage, Dublin. It will ultimately occupy three sides of a quadrangle, but the present contract only comprises the front and west flank, the former of which extends 170 feet, including a wing of 38 feet, and the latter 184 feet, including two wings of 45 feet each. Externally the building is of very unpretending though massive character: a continuous double plinth course, with pedestal 6 feet 6 inches high, three tiers of windows, the lower semi-circular headed, the others square, with dressings, and a main cornice and blocking being the chief features. The total height will be 45 feet. The entrance-hall when east wing shall have been completed will be central on front elevation, the dimensions being 27 feet by 14 feet 6 inches, and approached by a pedimented doorway with Roman Doric columns. With this apartment communicates a corridor leading to the several day and reception rooms, &c. At the extremity of this corridor and the junction of the west wing is a principal staircase, leading to the floors above, on which are situated thirty cells on the first, and thirty-four on the second, respectively. The refectory is a great apartment, 66 feet by 32 feet 6 inches, with two ranges of Doric columns, and communicating with it are a passage and staircase, also the kitchen and scullery beyond it. Over the kitchen is the infirmary, on the first floor (not isolated rooms, but actually part of main buildings), and on the second floor, in same space, is the chapel. The materials for walling will be black scone, faced and studded with brick; Ballynockin granite being used for the dressings and cornices. Mr. Patrick Byrne, architect, is intrusted with the carrying out of the work, but is not (as we understand) the designer.

A branch bank and manager's residence are to be erected at Coothill, by the Provincial Bank of Ireland. Mr. William Murray, architect.

A new town-hall is to be erected at Dungarvan, under the auspices of the Duke of Devonshire and some other noblemen.

The long talked of practising schools, in connection with the model schools at Dublin, have been commenced at the rear of that establishment, and will face Lower Gardiner street. Although several modifications of the drawings prepared for these buildings by the architect to the Board of Education, prior to the transfer of his department to the Board of Works, were made, the design is, we understand, substantially that originally suggested.

PROVINCIAL NEWS.

Grantham.—The new national school buildings are partly completed. The boys' school-room is about 87 feet long, and 20 feet wide, and calculated to accommodate about 350 scholars.

Stratford and West Ham.—Contracts about to be entered into by the West Ham Local Board of Health, for sewerage and other works, will be more extensive than any hitherto entered into by this board: they will amount in the aggregate to 20,000*l.* As the board has already borrowed the money, little delay will occur. The drainage of West Ham parish will be carried into Plaistow marshes, where the necessary land for the purpose has been secured.

Aldershott.—The foundation-stone of a general market at Aldershott was laid on the 26th ult. under favourable auspices. The establishment of a market has resulted from the wish of a number of the tradesmen and others holding property at Aldershott, for the purpose, chiefly, of advancing the prosperity of the town, and providing for the growing wants of the troops stationed at the camp. The market, which is situated directly in front of head-quarters, is from a design by Mr. T. Goodchild, of Guildford. It will have a shop on each side of the principal entrance, fronting High-street. The works are being executed by Mr. E. Martin, of Aldershott.

Skipton.—An effort is being made to promote the erection of a new town-hall here. At a public meeting held in the present town-hall, it has been resolved that a hall be forthwith erected, the capital to be raised in 10*l.* shares, and the proposed cost of building to be 3,000*l.* 240 shares have already been taken up by ninety persons. A committee has been appointed to purchase the vicarage, now on sale, as being the most suitable position for the site.

Worcester.—At the Worcester Diocesan Training College, Saltley, separate lecture-halls have been provided for the principal, vice-principal, and masters, that for the first-named being 30 feet by 23 feet, with a gallery running round it. The dining-hall, 40 feet by 23 feet, has been completed. Sixty-seven additional dormitories, with fire-proof partitions, and also private apartments for the various heads of departments have been added. The out-buildings have been considerably extended, and the kitchen and other culinary requirements rendered complete. These alterations have been carried out at a cost of nearly 1,000*l.* The works were commenced in July, and completed in time for occupation on the 1st of September. The funds, according to the *Worcester Chronicle*, from which we quote, do not as yet allow of the erection of a suitable chapel.

Bristol.—Mr. Walker, C.E. to the Admiralty, has been at Bristol, to make the necessary surveys for the improvement of the port, &c.

Tunstall.—The new covered market at Tunstall has been opened. The hall is rectangular in form, and stands upon upwards of half an acre of ground. The roof is divided into five spans, the central one of which is upwards of 50 feet in width, and its apex rises to an altitude of 50 feet, while the side roofs spring at an elevation of 25 feet from the ground. The central portion of each of these spans is composed of two rows of large plates of glass, beneath which is a perforated iron girder, affording ventilation, while the central span has beneath its spring on each side a row of glass louvres, which likewise contribute both light and ventilation. The roof is supported by cast-iron columns and ornamental pierced girders, having

beneath them decorated brackets, whilst the principals of the roof are of light wrought iron. The whole is picked out in light blue and red. The external walls are composed of a stone arcade, having between the arches rusticated brickwork. Access is obtained by three entrances. The principal consists of a projecting mass of rusticated masonry, having a double coved and rusticated arch pierced in its centre, surmounted by a corbelled cornice, and terminating with a panelled attic, on which it is intended ultimately to place a group of sculpture, emblematic of the arts of the district. The floor is covered with Yorkshire flags. The entire cost of the building, exclusive of the site, will be about 9,000*l*. It has been erected, from designs furnished by Mr. G. T. Robinson, of Leamington, architect, by Mr. R. Chapman, of Newcastle. Mr. Hales, surveyor to the local board, officiated as general inspector, and Mr. J. Trubshaw as clerk of the works. Mr. W. Beech, of Tunstall, was the contractor for the general fittings, and Mr. Spence, of Burslem, for the gas fittings.

Bosley.—The new school recently erected in connection with Bosley Church has been opened, according to the *Macclesfield Courier*. The school has been erected on a slightly-elevated plot of ground opposite the church. It is built of brick, with stone quoins. There is a principal school-room, with smaller ones; and accommodation for a resident master and mistress. The work has been completed at a cost of 700*l*. under the direction of Mr. John Evans, builder, of Macclesfield. The Earl of Harrington contributed the site and 200*l*. besides materials.

Bacup.—St. Saviour's schools, Stubbylee, Bacup, have just been completed from the designs of Mr. Tarn, of London, architect. They are erected on the estate and at the sole expense of J. M. Holt, esq. J.P. and are arranged in two stories. The upper story, which is entered by a porch from the high road to Rochdale, is a room 80 feet by 30 feet, and 18 feet high to the plate of the roof, which is open-timbered, and plastered between the timbers, which are stained. A class-room is attached to this room. The lower story is entered from the playground, which is about 20 feet below the road: it is partly an infants' school, 45 feet by 30 feet, and partly a covered play-shed. The schools are Early English in style, and have been built with a hard sandstone, from neighbouring quarries. The porch is surmounted by a bell-gable, and the buttresses at the angles of the main building are carried up into octagonal pinnacles. The upper school will be used on Sundays as a temporary church, until the completion of St. Saviour's, for which the plans have been prepared by the same architect. Accommodation is provided for 500 children. The cost has been about 1,1,600*l*. Messrs. Haworth were the masons, and Messrs. Barlow and Pott the joiners. The gas brackets and ironwork have been supplied by Messrs. Hart and Son, of London.

Bebington.—The contractors, Messrs. Kilpin, Montgomery, Davis, and Holt, employed in erecting a mansion for Mr. C. Hill, recently had a "rearing" dinner, in company with that gentleman and Mr. Hay, of Liverpool, the architect. There were also fifty of the workmen present. The house is in the Italian style of architecture.

Liverpool.—We understand that the Finance Committee of the Liverpool Town-council have appointed a sub-committee for the purpose of taking the necessary steps preparatory to laying out the Newsham House Estate as a park for the benefit of the inhabitants.

Alnwick Castle.—On Thursday in week before last, the fifth anniversary dinner was given by the Duke of Northumberland to the artificers and smart-workmen employed on the building and decorative works at Alnwick Castle, in commemoration of the laying of the first stone of the Prudhoe Tower by the Duchess. Mr. Wilson, the resident architect, says the *Gateshead Observer* in reporting the proceedings, occupied the chair; and Mr. Charles King, foreman of Mr. George Smith, the builder, occupied the vice-chair. The dinner was set out in a tent erected behind the Nag's Head Inn. There were about 400 persons, it would appear, present, from the "clatter of about 400 pairs of knives and forks," alluded to by the *Observer*.

Dunbar.—Negotiations as to a loan of 20,000*l*. and a grant of 10,000*l*. for Dunbar harbour having been completed, there have been great rejoicings there. The contracts, &c. are to be gone into immediately. When the harbour is finished, it is considered there will be accommodation for about 700 or 800 boats at Dunbar, and that they will be able to come and go at all states of the tide.

CHURCH-BUILDING NEWS.

Peterborough.—A memorial window, executed by Messrs. Clayton and Bell, of London, has been put up in Peterborough Cathedral, on the east side of the morning prayer chapel, by Mr. H. P. Gates, chapter clerk, in commemoration of his father, who was many years chapter clerk of the cathedral. The tracery of the window near the top comprises six narrow lights, which are now filled up in colours. Under six figures representing the four Evangelists, with St. Peter and St. Paul, in four compartments, are seen Jairus's daughter raised to life by the Saviour; second, the Saviour restoring sight to the man born blind; third, The Saviour healing a man sick of the palsy; and, fourth, Raising to life Lazarus, the brother of Martha and Mary, after he had been dead four days.

St. Michael's Coslany.—The church of St. Michael's, Coslany, says the *Norfolk Chronicle*, has been renovated—re-floored, re-pewed, the windows re-glazed, the pillars and walls scraped and cleaned, the old oak-roof extensively repaired, and an exterior roof of slate put on. The old square high-backed pews, the wood-work of which was decayed and useless, have been replaced by sittings in the modern style, made of deal, stained. Mr. Devereux contracted for the painting, glazing, &c. Accommodation is afforded for a congregation of 470, and a portion of the church at the west end has been parted off by an ornamental glazed screen, and is to be appropriated for the purpose of a girls' school. Messrs. Goodwin and Butcher were the architects, and the wood-work was executed by Mr. Bocking, of Norwich. The expense of the whole work has been between 600*l*. and 700*l*. of which only 580*l*. have as yet been subscribed.

Finedon.—The old parish church of Finedon has been repewed and reopened, according to the *Northampton Herald*. The seats have been re-arranged. By the new plan, as now carried into effect, under the superintendence of Mr. Slater, the architect, the church contains about 900 sittings, 350 additional seats having been provided exclusively for the poor. The seats in the chancel are placed stallwise, and return against the stone screen at the west end.

Ware.—The chief stone of a new Congregational Church, now in course of erection upon the site of the old one, in High-street, Ware, has been laid by the Lord Mayor of London. The new church, to be built by voluntary subscription, at a cost of 1,500*l*. or 1,600*l*. is to be in the Norman style of architecture. Mr. Joseph Chuck, a member of the congregation, has undertaken to defray one-half of the cost of erection, and to build a Sunday-school on ground adjoining the chapel, at his own expense. Only 300*l*. are wanting to make the total sum required.

North Moreton.—The church of North Moreton, near the Didcot Station, has been re-opened by the Bishop of Oxford. The *Oxford Herald*, in announcing this, says:—"The church is of the Early English style of architecture, of that extremely beautiful type when the grave and somewhat bare lancets are grouped under hoodings, and accept exquisite decorations of foliage and other chiselled shapes. It possesses, moreover, that most rare of treasures, a perfect window of old rich stained glass, elaborated with a great variety of religious subjects. Like all other churches, it had been stuffed with pews and galleries, and was dreary and desolate to the last degree. A thorough restoration has been effected under the guidance of Mr. G. E. Street, and with the very heartiest co-operation of the parishioners, not one of whom is above the rank of a tenant farmer. They have voted rate after rate, and subscribed from their own private resources. The sum raised in all has been nearly 1,100*l*. which is really astounding to those who know the poverty and absolute resourcelessness of the place."

Ebony.—The parish church of Ebony, Kent, commonly called "Ebony Chapel," has lately been removed from an inaccessible position on the summit of a grassy hill, nearly a mile from any dwelling, to a new site. The building, commenced last August, is now completed, the old chapel having been taken down, all the good stone and wood re-used, the Tudor windows put in again, with the arch of the south door, the oak pulpit, and whatever was worth preserving. The whole cost of taking down the old chapel, removing the materials a mile, and erecting a suitable ecclesiastical building, with 120 sittings, open and free, including architect's and consecration expenses, is less than 400*l*. Mr. Teulon was the architect employed, and Messrs. Bourne and Chambers, of Woodchurch, the builders. The chapel was consecrated on the 18th ult. by the Archbishop of Canterbury.

Maidstone.—All Saints' Church, Maidstone, has had a reredos, or altar-piece, placed in it, the gift of Miss Sweetlove. It is composed of Caen stone, carved, and carried out to correspond with the style of architecture surrounding it. Messrs. Sutton, Walter, and Goodwin were the parties entrusted with the execution of the work, the architect being Mr. Bulmer.

Ore.—The foundation-stone of a new church, on Fairlight-down, in the parish of Ore, near Hastings, was laid on Tuesday, the 23rd of November, by the Right Hon. Sarah Countess Waldegrave. The Decorated style of the fourteenth century, with flowing tracery, has been adopted for this church. Its arrangement consists of nave and chancel, north aisle and transept, and chancel aisles, with a south porch entrance, and an octangular bell turret at the south-west angle of the nave. The accommodation provided will be for 500 adults and 100 children, all seated on the ground-floor. The exterior will be of Kentish rag stone, and Bath stone dressings. Mr. A. D. Gough, of Lancaster-place, is the architect, and Messrs. Dove, Brothers, of Islington, are the contracting builders.

Winnal.—St. Martin's Church, Winnal, which has been built by Mr. Fielder for the sum of 412*l*. (including old materials re-used), from a design furnished by Mr. W. Coles, the Winchester city surveyor and architect, is now completed, and was to be re-opened by the Lord Bishop of Winchester on the 7th. The style is Early English. The wood-work of roof and pews is stained in oak. The pavement is of tiles of red, blue, and white colours, laid in a geometrical design. Over the western gable a bell-cot has been erected. The amount of accommodation is 100 sittings, being an increase of twenty as compared with the old arrangement. In order to obviate the extreme dampness which prevailed in the demolished fabric, its successor has been built on arches, so as to raise it 3 feet 2 inches above the former pavement, and in addition to this precaution, a course of hollow brick-work, as well as a layer of thick slates, have been placed over the arches. The stained glass in the windows is from the manufactory of Mr. C. Gibbs, of London. There are seven windows in the church, the principal being that over the altar—subject, the birth and entombment of our Lord. The subjects are surrounded with tracery, each being surmounted with foliated work. In a smaller window are depicted, the lamb, dove, and pelican, within a border, corresponding with the architecture. The windows in the nave contain stained glass of geometrical patterns intersected with coloured bosses. The western window contains the same kind of glass as those of the nave, the colouring and arrangement being, however, different.

Bromsgrove.—The restoration of Bromsgrove church by Mr. Scott is in an advanced state, the re-opening being fixed for 26th proximo. The walls have been scraped and painted, and the defective masonry made good, new wooden ceilings erected in the chancel and aisles, and the fine old nave roof re-opened and partially decorated. Notwithstanding the removal of the galleries, by the arrangement of the new open carved seats the accommodation has been very slightly reduced, as there will still be sittings for nearly 1,100 persons. The seats in the north aisle are to be free. At the west end, a lofty pointed arch has been disencumbered of the masses of rubbish by which it was choked up, and a fine old window of five lancet lights restored. The great doorway underneath this window will in future be a principal entrance. Two stained windows for the chancel (designed by Messrs. Bell and Clayton), have been promised by Mr. and the Misses Maund, as memorials of members of their family. The new reredos is from a design by Mr. Scott, the centre part being of alabaster, diapered, with the cross and monogram, surrounded with medallions of the Evangelists and our Lord, and on either side stone arcade work, with Derbyshire marble shafts. Various other improvements have been made, and all monuments which darkened the windows, or were otherwise unsightly, have been removed, and will be ranged in the north aisle. Upwards of thirty of the windows have been restored or re-opened. The flooring of the church throughout will be of ornamental tiles; and Skidmore, of Coventry, will supply brass gas-fittings. The new organ, now ready for erection, is from the manufactory of Mr. Nicholson, of Worcester. It will stand at the end of the north aisle. Warm air is supplied to the building by an underground apparatus furnished by Harper, of Birmingham. With regard to the exterior of the church, but little

reparation was required. The expense of the restorations, it is thought, will amount to 5,000*l.* but a sum of about 500*l.* is still wanted to complete all that is necessary. The contractor for the work is Mr. W. H. Cooper, Derby; clerk of the works, Mr. W. Prosser; stone carver, Mr. Irving, of Leicester.

LONDON GUILDS AND COMPANIES.

Sir,—A recent writer in the *Builder* draws attention to the necessity for the re-organization of the City Companies, which are now for the most part in a state of decadence, and greatly behind the requirements of the age. The great bulk of workers belonging to the various denominations of labour over which the London guilds affect to rule, repudiate and refuse to be connected with them—a few of the number, as the Goldsmiths' and Stationers' Companies, &c. are richly endowed, and maintain their ancient importance: the Goldsmiths' and Stationers' Companies, however, owe their affluent position to certain powers and privileges, yielding a large revenue, which the other companies do not possess. Remodelled, their advantages increased, and absurd laws and rules abrogated, they would attain again, probably, as great an importance as in the olden time. The cities of London and Westminster were formerly at a considerable distance from each other, but during the last two centuries or more, they have so extended themselves as to become connected and form but one city—though they are still absurdly called two, and have their separate rights, titles, and estates. The time is ripe for our Legislature to unite them, and to fix the boundaries of London at a greater distance. The City Guilds might then usefully extend their government over the enlarged space, and be productive of highly beneficial results if it were judiciously used. The march of time has probably added many entirely new branches of labour to the community, while others, in vogue in ancient days, if not altogether obsolete, have, at least, altered in their characteristics considerably. Have the guilds of London taken due consideration of these circumstances? The majority of the working classes, are in utter ignorance of the provisions and organization of these companies, which are but rarely topics of conversation. If there is any goodness in them, now is surely the time for them to make their principles of action fully known, and published to the world of hard labour. One or two of them show symptoms of renewed life, but the majority are in a state of decay. The Hall of the Carpenters' Guild, for example, is partly let to Messrs. Waterloo, the printers: yet, the carpenters are a numerous body. Were these guilds constituted aright, masters and servants might meet together, and in unity of interest co-operate for their mutual advantage. This is a consummation most devoutly to be wished. In these days each party seems to have a separate interest. Nothing can be more mischievous than this, or more immoral and *irreligious*. Were the City guilds efficiently organised, so as to exert a universal influence over industry, we should hear no more of strikes so injurious alike to employers and employed. Workers, of whatever denomination, would have meted out to them a juster proportion of the profits of labour, and unnecessary and ruinous competition might be prevented.

Probe.

METROPOLITAN BOARD OF WORKS.

MATERIALS FOR SEWERS.

At the usual weekly meeting of the Board, held in the Guildhall on Friday in last week, a memorial was presented from the vestry of St. Giles, Camberwell, which stated that a lease had been assigned to the memorialists of Camberwell-green, to ensure the discontinuance of a fair there, and the enclosure of the Green for the public; and that a sum of 776*l.* had been paid, but they found that the cost of enclosing, levelling, and planting the space would exceed 1,700*l.* The memorialists, therefore, now prayed for some pecuniary assistance from the Metropolitan Board of Works to enable them to carry out the proposed plan. After some discussion, the memorial was referred to the works committee.

Mr. Tite, M.P. took his seat as a member of the Board.

A report from the Main Drainage Committee was brought up, stating that Dr. Richardson, of Newcastle, chemist, had attended before them, and they had had a lengthened conference with him on the matters referred to them as to the materials proper for the construction of the projected sewers. The Board then had some discussion on the subject, Mr. Tite expressing an opinion that they should not go into recondite chemical questions concerning the use of bricks, but adopt the best that experience and practice suggested to them; Mr. Eckett being of opinion that a good hard-burnt stock brick was the desideratum; and Mr. D'Iffanger observing that the bricks recommended for use by the chemical authorities would amount to 6*l.* per thousand, while those recommended by their engineer would cost only 1*l.* 10s. per thousand. The report was adopted and ordered to be printed.

Mr. Bazalgette, the engineer, read a letter from Mr. Guillaume, of Southampton, regarding the use of his hydraulic lever for raising the metropolitan sewage, and the consideration of which was deferred until the various plans for that purpose are brought before the Board.

TUNSTALL TOWN-HALL ARBITRATION.

This inquiry has at last come to an end, after forty-three days' sitting on the part of the arbitrator and counsel.

In the spring of the year 1856 the Local Board of Health for the district of Tunstall, having determined on improving the assembly-room of the Town-hall and the approach to it, and converting the space underneath into offices and rooms for the transaction of the business of the board, consulted on the subject Mr. G. T. Robinson, architect, of Leamington, who prepared the necessary plans and specifications. Tenders were advertised for, and in the month of April, in the year named, three were sent in. One, submitted by Mr. Robert Chapman, of Newcastle, amounted to 1,100*l.*; another, by a person with whose name we are unacquainted, to 900*l.* or thereabouts; and the third, by Mr. George Wilkinson, of Macclesfield, to 661*l.* 3s. 11d. The board, conceiving themselves bound to get the work done at the cheapest rate possible, accepted the latter; and on the 1st of May a contract was executed by Mr. Wilkinson to complete the works for the sum specified, in accordance with the plans and specifications, by the 13th August following. The contract contained clauses stipulating that if the work was not done by the time specified, to the entire satisfaction of the architect, and in exact accordance with the plans and specifications, the contractor should forfeit to the Board the sum of 20*l.* which should be recoverable in the shape of liquidated damages. It was also provided that the orders for "extras" should be given in writing, signed by the architect, before the execution of the work; and that for any work done without such order in writing, given prior to its performance, the Board should not be held responsible.

The work did not proceed satisfactorily: differences arose, and the Board took the contract out of his hands. The extras were measured, and Mr. Robinson reported that 53*l.* were due to Mr. Wilkinson. The works left incomplete by him were let, in competition, for 216*l.* The value of the works the plaintiff claimed as extras was put by him in his evidence as 402*l.*; by his witnesses, as 224*l.*; and by the defendant's witnesses, as 134*l.* It was argued on the part of the defendant that he was already overpaid. The arbitrator has not yet made his award.

The counsel for the Board gave notice of sixteen points of law he would require to be raised for the opinion of the Court of Exchequer in the event of the arbitrator deciding against the Board on any one of the issues involved in the case.

The *Staffordshire Advertiser* says,—"A good deal has been said respecting the length of time this inquiry has occupied, and it has been frequently asserted that a business man conversant with such matters would have concluded it within a week. However this might have been, we believe that, without intending the slightest disrespect to the learned gentleman to whom the inquiry was delegated, there can be no doubt that if the court had appointed some competent architect or builder instead of a gentleman learned in the law, a great deal of valuable time and much expense and trouble would have been saved. The great length of time the inquiry has occupied and the expense it has involved will—especially considering the small amount in dispute—undoubtedly cause the case to take a high place in the list of local *causes célèbres*; and we trust it will also have the effect of convincing public bodies and those for whom they act, as well as private individuals, that in arranging for the execution of building and other work, it is not always the cheapest plan to take the lowest tender."

Correspondence.

CHELSEA VESTRY-HALL COMPETITION.

Sir,—You say, in the last number, one of your correspondents has sent some "startling revelations" touching this piece of jobbery. I, too, could make some revelations. I could depose, and will, if it be necessary, that a member of the committee of selection was canvassing in favour of one of the fortunate two designs even before the designs were sent in; that the whole affair was "managed," and that some of the six selected designs were placed in that position simply to keep out others likely to lessen their chance of carrying their point. The authors of No. 12 are not the only competitors who have a right to complain, although they were supereminently ill-treated. Could you not engrave their design? It would not be the first time you have given competitors who have been ill-treated the advantage of your circulation in lieu of the justice they did not receive,—perhaps the more valuable result to them of the two. If I were certain it would not endanger the insertion of my letter, I would make a few remarks concerning Mr. Tite's share in the matter. If that gentleman, an architect, saw the whole of the designs, and concurred in the selection of the six made, he has compromised either his honesty or his judgment. He may take his choice. If he did not see them, he had no right to let the public be deceived to the extent of whatever weight they may attach to his name, by the prominent part he played, without protest or explanation, at the public meeting, widely reported, held to make the selection. If this be the way the profession protects the profession, "the Lord deliver me from my friends!" If you will let me, I will say more.

A Chelsea Ratepayer of long standing.

*** At the moment of going to press last week we received a long letter from the authors of the design marked "West Middlesex," one of the selected six, protesting against the proceedings, and supporting the statements made by the authors of No. 12. This has since been printed in the local paper, the *West Middlesex Advertiser*, so that we need not return to it

SCARBORO' INFIRMARY COMPETITION.

Sir,—I am given to understand that the design intended to be presented to the governors of this institution for approval has been selected because it possesses the advantages and facilities of a lodging-house, in preference to the conditions and requirements of an hospital. It is the smallest building in the lot. The wards are 25 feet by 16½ feet, and 11 feet high, for five beds! The beds are *not* placed between windows, but in front of them, and some of them lengthwise. Windows are not facing each other on opposite sides of the principal wards: the principal windows do not face the sea, nor are the wards placed towards it, but down narrow lanes at each end. The light from these lanes is dependent on a Bath Company towards the south, and a high house towards the north, lately purchased by the infirmary committee, which is bounded at the farther end by a very narrow alley with steep steps up. The best plans were rejected because the committee say *all* would cost too much money; and it is found that a lodging-house and not an hospital is really what is wanted. Why then call the building an infirmary?

The plan referred to forms the letter H. The ground is 80 feet square, bounded by public baths on the north, 30 feet high, and on the south as before described. The ground rises 10 feet from back to front. Between the baths and the infirmary building a passage-way is cut off the site, from which light to the consulting-room and house-surgeon's bed-room is derived, with a blank wall nearly 20 feet high, in front! The wards will be ventilated with the smoke of the baths on one side, and the hundreds of chimneys on a line with the windows on the other side. The points to be secured on this difficult site were clearly wards facing the sea, open through to the back and without corridors. A professional opinion should be taken immediately, in justice to those who designed an infirmary.

One Interested.

Books Received.

The British Almanac of the Society for the Diffusion of Useful Knowledge, for the Year of our Lord 1859.

Companion to the Almanac; or, Year-book of general Information for 1859. London: Knight and Co.

The number of the "Companion to the Almanac" just published, contains an unusual supply of articles on subjects in which we are immediately interested, besides a "History of Comets," from the year 11 B.C. to the end of the fifth century, by Mr. J. R. Hind; and particulars of the "Mutiny of the Native Army in British India," and of the "Dispute between Great Britain and China." "The Museum of Practical Geology: its Educational Objects," is the title of a useful article, which we may rightly attribute to Mr. Robert Hunt. Our readers will be interested in knowing that a list of the quarries of the United Kingdom, with prices of stone, and other particulars, is in preparation. In another article, the "National Collections of Pictures" are noticed; and the erection of a new National Gallery, in the present state of taste, is discountenanced, the addition of the portion of the building occupied by the Academy, or the alternative extension advised by Sir Charles Eastlake, being supposed sufficient for present purposes, especially if a building were provided in the neighbourhood of the metropolis for recently-painted pictures susceptible of injury.

The most important articles, however, are one on "Sanitary Legislation in England," and another on "The Thames and the London Drainage." Both are excellent and succinct summaries of the matters on which they treat; and the first-named—evidently the production of one intimately acquainted with the subject,—if extensively read, cannot but greatly serve the sanitary question. The results of the measures, and the proportion of lives saved are pointed out, and reasons of the temporary failures are pretty clearly indicated. The view of the benefits of the Common Lodging-Houses Act, however, is overstrained, and this is shown by the statement that the contemporary Act, intended to supply shelter for those who would be ejected by the operation of the Lodging-Houses Act, has not been administered, except at Huddersfield; and by the admission—namely, that closing common lodging-houses may be but to turn the poor into the streets—which in effect is made. In connection with this article may be mentioned, as amongst the "Abstracts of Important Public Acts," the Local Government Act, 1858, given at some length. The statistical documents, relative to subjects of analogous character, for which the last session of Parliament was remarkable, also are carefully abstracted.

Touching the article on "Architecture and

Public Improvements," and passing over two or three literal or verbal inaccuracies, repeated year by year, we may say that Dean's Yard is not opposite the western end of Westminster Abbey; that the plans internally of Covent Garden Theatre, and the Pavilion Theatre, neither of them, should be described as "very nearly," or only, the semicircle; and that the style of the Wellington College can by no sort of reason be called the "Tudor collegiate style 'Italianized.'" Moreover, two or three of the illustrations this year are so faulty in their perspective, and so inaccurate in regard to details, that they must be considered publicly injurious. We are glad, however, to notice in the article the expression of many sound opinions on questions which, from time to time, we have taken up, and sometimes in similar words. We are quite satisfied with the acknowledgment of our exertions in one of these matters—the question of egress from places of public resort—and of the general assistance derived from our pages. A tribute of praise is given to Sir Charles Barry, as well as a proper intimation of the unfairness of holding him blameable for the cost of works undertaken even against his protest.

As a whole, this year's "Companion to the Almanac" must be regarded as containing more matter of interest and value than any number of the work that has appeared for some time.

Cambridge School of Art: Mr. Ruskin's Inaugural Address. Bell and Daldy. London. 1858.

THE eloquent address read by Mr. Ruskin at the opening of the Cambridge School of Art on the 29th of October, has been published in an available form. Its main purpose was to show that the principles of art education adopted in a school such as was then about to be opened, should be very different from those adopted in a school meant for the special instruction of the artizan in his own business; that specific art-teaching must be given in schools established by each trade for itself, and that guilds of trades should be established in an active and practical form, for the purpose of ascertaining the principles of art proper to their business, and instructing their apprentices in them, as well as making experiments on materials and methods; that good art will only be produced by nations that enjoy and rejoice in it; but that art pursued for pleasure only, has always destroyed the power and life of its pursuers:—

"Now, therefore, the sum of all is, that you who wish to encourage art in England, have to do two things with it: you must delight in it, in the first place; and you must get it to serve some serious work, in the second place. I don't mean by serious, necessarily moral: all that I mean by serious is in some way or other useful, not merely selfish, careless, or indolent. I had, indeed, intended, before closing my address, to have traced out a few of the directions in which, as it seems to me, art may be seriously and practically serviceable to us in the career of civilization. I had hoped to show you how many of the great phenomena of nature still remained unrecorded by it, for *us* to record; how many of the historical monuments of Europe were perishing without memorial, for the want of but a little honest, simple, laborious, loving draughtsmanship: how many of the most impressive historical events of the day failed of teaching us half of what they were meant to teach, for want of painters to represent them faithfully, instead of fancifully, and with historical truth for their aim, instead of national self glorification. I had hoped to show you how many of the best impulses of the heart were lost in frivolity or sensuality, for want of purer beauty to contemplate, and of noble thoughts to associate with the fervour of hallowed human passions; how, finally, a great part of the vital power of our religious faith was lost in us, for want of such art as would realise, in some rational, probable, believable way, those events of sacred history which, as they visibly and intelligibly occurred, may also be visibly and intelligibly represented."

The Life of James Watt; with Selections from his Correspondence. By J. P. MUIRHEAD, M.A. With Portraits and Woodcuts. London: Murray, Albemarle-street. 1858.

THE expensive and extended nature of the first edition of Mr. Muirhead's "Biography of Watt," to which, it may be recollected, we devoted a leading article, about the time of its publication, has induced the author now to remodel and reproduce it in a form at once more comprehensive, more convenient, and less costly. A few unimportant pages, chiefly relative to details of patents, have been omitted; many interesting passages from Watt's correspondence incorporated; and other large additions, from various sources, have been made relative to Watt's family and private history; so that the costly copper-plates of engines, &c. and specifications of patents, in the first biography, are not only nearly all that is wanting in the present handsome volume, but are pretty well compensated for by new matter of another and more popular kind. Having on the former occasion entered pretty fully into the subject of the great engineer's progress through life, all we need now do is to draw the attention of our readers to the very interesting and popular volume just issued.

VARIORUM.

A PAMPHLET, titled, "The Royal Academy and the National Gallery; What is the State of those Institutions? What are the Reforms contemplated by Ministers?" by J. P. Davis, has been published by Ward and Lock, Fleet-street. The first paragraph is as follows:—"The Royal Academy I consider to be the greatest evil which has ever been inflicted on the arts of this country: it is in spirit and character an anomaly amongst English institutions: it is a despotism, an inquisition, and a monopoly." An exaggerated style such as this is not likely to be of service to the cause which the author urges: it is too violent to be persuasive. ——In "Observations in favour of the Concentration of the Courts of Justice and all the requisite Offices in the Vicinity of the Inns of Court; and on the Means of defraying the Expense," the author points out three sources or funds, all under the control of the Court of Chancery, from which the cost of concentrating the law courts and offices, according to Sir Charles Barry's estimate, might be defrayed. The ultimate cost is considered as between 500,000*l.* and 750,000*l.* the latter sum representing, at 3 per cent. an income of only 22,500*l.* per annum; and the author here points out abundant means for the realization of the desirable object in view, without cost to the country in any other shape.——A reprint has been issued of the very interesting and elaborate paper read at the Institution of Civil Engineers, "On the Arrangement and Construction of Railway Stations;" by Robert Jacomb Hood, M.I.C.E.; with an abstract of the discussion upon the paper.

ALMANACS.

"THE Boudoir Almanac for 1859," issued by Messrs. Waterlow and Sons, has an exceedingly pretty piece of colour-printing, in the shape of Uwins's "Vintage," lithographed by V. D. Hout. It is the most successful thing of the kind that this firm has yet issued.——Hall's "Indicator and Almanac for 1859" (3, Bruton-street, Bond-street), is a registered invention of great utility to every one who requires the day of the week and the date of the month at a moment's notice. The indicator consists of three rollers, which are turned by pegs placed at the side, and give the month, the day, and date. The price, moreover, is moderate, and it ought to have an extensive sale.——Dietrichsen and Hannay's "Royal Almanac for 1859" (63, Oxford-street), contains as usual an immense amount of information, including a court calendar and army and navy list, for 6d. ——The waistcoat pocket Art-Union of London Almanac is issued as usual, and may be obtained by all subscribers.——We may add commending mention of "Deane's Illustrated Almanac."

Miscellanea.

A NEW KIND OF DECORATION.—At the meeting of the Society of Arts mentioned recently, Mr. E. Agneni, painter, who lately decorated the Queen's private room in the Italian Opera-house, Covent-garden, exhibited a new kind of decoration, consisting of aërial figures and groups painted on the backs of mirrors, so that the mirror itself represents the air or the sky. This kind of decoration cannot well be spoiled, and may be applied advantageously in public places, where the constant use of gas and the ordinary smoke of London after a short time destroy every picture and ornamentation.

HOSPITAL FOR CHILDREN. Dear Sir: You have fallen into a slight error in your last number, in which you state that the Hospital for Sick Children, in Great Ormond-street, is "the only institution in London which is appointed for the relief of the diseases of children." Permit me to inform you, and through you, your readers, that the hospital in question, however useful and beneficial to the children of the poor, in which I rejoice equally with yourself, is comparatively of recent origin. It arose out of the parent institution in the Waterloo road, which was established in the year 1816, and has since that period been instrumental in conferring immense benefit on the children of the poor, and especially on those resident in the densely populated parishes of Lambeth and Southwark. It has lately extended its aid to mothers as well as children, who may be suffering from ailment incidental to child-bearing, and is, indeed, an institution highly deserving and much needing the support and interest of the benevolent public.

Norbury Park. T. GEISSELL.

METROPOLITAN IMPROVEMENTS.—Mr. Pullen has been elected, by the Metropolitan Board of Works, to dispose of the materials of the property purchased for the formation of the new streets in Southwark and Covent-garden. There were thirteen candidates. The settlement of the claims of the various owners and occupiers is being proceeded with.

INSTITUTION OF CIVIL ENGINEERS. — On November 30th the whole of the evening was occupied by the discussion of Mr. Isaac's paper "On Steep Inclines in America." It was stated, that the adhesion of driving-wheels had been shown, from experience in the United States, to be beyond the limits usually assigned. The great feature in the paper under discussion was thought to consist in the statement, that two-fifths of the weight of the engine had been obtained as adhesive capability; whereas, in this country, one-fourth had been considered as much as could be relied on, in all states of the rails.

A TESTIMONIAL TO A DECORATIVE ARTIST.—The members of the Hope Friendly Society of Painters, and their friends, met on Wednesday evening, Dec. 1, at the White Horse, Castle-street, Oxford-market, Mr. Macintosh, grainer, in the chair, to present a testimonial to Mr. Coulton, decorative artist, for the assistance he had given to the society. The recipient spoke of the advantage that benefit societies were to working men and their families, the great check they were to pauperism, and the security to the Government and the country.

ELECTRO-TELEGRAPHIC PROGRESS. There is a sad silence now as to the state and prospects of the Atlantic line, significantly explained by a paragraph which has appeared in some of the papers, to the effect that the directors intend to apply to Government for a guarantee on the capital required for the laying down of a new cable. A memorial to Government, in support of this proposed application, is said to be receiving influential signatures.——A project of connecting Boston (U.S.) and Halifax (N.S.) by telegraph, is making progress at Boston, where meetings have been held on the subject, and a committee appointed to forward it. The cable is to be submerged between Cape Ann and Yarmouth, Nova Scotia, a length of 200 miles. From Yarmouth to Halifax it is already laid down. The cost of the new portion of the line is estimated at 150,000 dollars. The depth of water is very moderate. "The cable," remarks the *Boston Transcript*, "it is intended, shall be similar to that now laid from Cape Breton to Newfoundland, and is to have heavy shore ends. There will be only one conducting wire, to be composed of seven copper strands, covered with iron wires. A metallic covering answers for a short cable, though producing a retardation of the electric current through a great length of wire. The cable can be deposited by a steamer in a single day. It could be manufactured in England in a fortnight." The immediate object in view is not so much the hope of telegraphic news, *viâ* the Atlantic cable, but by steam, *viâ* the Lever line from Galway, which, Lord Bury lately stated to the Canadians, sometimes conveys passengers and goods between Ireland and America in six days.——The semaphores between Liverpool and Holyhead are proposed to be replaced by wire, crossing the Mersey. ——Dr. Bonelli, director of the Piedmontese telegraphs, proposes a great scheme to unite Genoa with Buenos Ayres by an electric cable: the greatest length of the wires between any two points would be 900 miles.

COLLOCATION OF BUILDINGS.—Permit me, who, though no architect, am yet a deep admirer of symmetry, boldness, and dignity, in public buildings, and who has wandered through many lands for that pleasure's sake, to address a few lines to you. I wish to ask you, as an expounder of the principles of architectural taste, why, with regard to works of national utility, and intended to stand as worthy monuments for the greatest and wealthiest of the cities in existence, the learned assemblies summoned to discuss thereon, which are presumed to represent the sum total of English artistic intelligence, should ever select from the designs laid before them that which presents the greatest novelty in style, and the greatest dissimilarity to structures already erected;—why these new edifices are systematically raised in localities widely distant, and as is the case with the British Museum and Covent-garden Theatre, "they are left alone in their glory," too often in ignoble positions. I am in hopes of extracting an essay from you, or from some one to whom the *grandest* of the arts has shown herself more benign and admirable.

EUTOLIS.

OPENING OF WORCESTER CATHEDRAL.—In future this cathedral is to be thrown open to the public from ten o'clock a.m. to six p.m.

THE GEOLOGISTS' ASSOCIATION.—A number of gentlemen have organized themselves into a Geologists' Association, having for its special purpose the providing means of intercommunication and mutual help. It is proposed to hold regular meetings; to form a museum of typical specimens; and to communicate information.

ROYAL SCOTTISH ACADEMY.—The thirty-first annual report of this society shows that, although the exhibition of 1858 opened under somewhat unfavourable auspices, when the country was suffering from a great commercial depression, and although this cause had the effect of slightly diminishing the number of visitors to the gallery, the number of works of art disposed of have not diminished, but increased. On the first day of the exhibition, pictures to the amount of nearly 5,000*l.* were disposed of.

THE SESSIONS HOUSE CLERKENWELL.—At the last meeting of Middlesex magistrates the committee to whom the plans for altering the Sessions House were referred, reported that the offices could be re-arranged, a permanent second court and better accommodation for the public and the magistrates provided, at a cost of 7,500*l.* in addition to about 1,000*l.* for the decoration of the exterior of the building. The report was agreed to, and a notice of motion for the grant of the money given for the next county day. A motion for authority to the visiting justices of the House of Correction to expend 46,000*l.* as voted by the court in December last, for alterations and extensions in that prison, was withdrawn.

METROPOLIS GAS.—Under this title a "Report of the Managers appointed by the Delegates from the various Metropolitan Vestries and District Boards," has been printed, in which there are contained various points of interest to the public. Thus, from returns by numerous vestries and district boards, it appears that "the prices paid for lamps burning from sunset to sunrise throughout the year, and consuming 5 feet an hour, vary from 3*l.* 1s. 6d. to 6*l.* 16s. per lamp; and there appear to be equal inconsistencies in the prices charged by the gas companies for smaller descriptions of burners." The reporters find that, so far from the capital invested in the metropolitan gas-works paying a very low rate of interest (only 2 per cent. it had been said), on an elaborate investigation it appeared that 7 per cent. on all share capital, and 6 per cent. and upwards of actual dividends, was about the mark; so that waterworks, railways, and other similar undertakings, had much smaller profits than gas-works. Moreover, the same investigation showed an extravagant expenditure of capital on works, and demonstrated the unfairness of taxing the public with prices yielding such interest on a swollen and exaggerated capital. The assertions of the gas companies, as to the extent of the influence of the varying prices of coal, iron, &c. on the cost of gas, are said to have been discovered on investigation, to be unfounded, as shown by the accounts of the gas companies themselves, and a comparison with gas at numbers of provincial towns. In this and other points the results of the present report completely justify what was long since maintained in the *Builder*. The public lighting of the metropolis, says the report on another point, does not cost less than 240,000*l.* a year; and, speaking within bounds (it continues), it appeared clear that an overcharge is now made by the gas companies of not less than 60,000*l.* a year on the public lighting alone,—that is, at their own prices and according to the quantities they profess to supply at these prices. Instead of 20,000 feet a year, as pretended, the startling fact was elicited, that in certain parishes the lamps consume no more than 10,000 feet a year. In the Battersea lamps alone, supplied by the Phœnix Company, was there found to be 20,000 feet consumed, but at an enormously high price. The unfairness of meters towards the public is dwelt upon.

THE WOODWORK AT WELLS CATHEDRAL.—SIR,—Through your valuable paper may I ask what can Mr. Salvin be about in allowing the choir seating and oak fittings of Wells Cathedral, consisting of stall and bench ends of solid and sound oak of the *fourteenth century*, to be taken away as lumber and given to the carpenters and men employed on the work? I have just seen in the hands of a friend a beautiful carved stall-end, which was taken out of the cathedral in as sound and sharp a state as it was on the day on which it was placed, and which was rescued from one of the workmen employed on the *restoration*.(?)

A HORROR-STRICKEN SPECTATOR.

STATUES FOR THE LOUVRE, PARIS.—Fourteen statues are about to be placed in the niches of the four fronts of the court of the Louvre. The subjects are The Inspiration, by Chambord; Sappho, by Travaux; The Renaissance, by Taleret; Glory, by Harrivel; Abundance, by Maillet; Circé, by Grumery; Mercury, by the same: Bacchus, by Denechau; Livie en Muse, from the antique, by Lequiem; Christian Art, by Emil Chartrousse; Calcography, by Demesmay; and Betzabeus, by Ondine.

MONUMENT IN HONOUR OF THE INVENTION OF PRINTING.—The committee for the execution of the Frankfort monument has published its final report, by which we learn that with 31,650 florins Frankfort has gained one of the finest sculptural works of its kind. The three principal colossal figures are Guttenberg, Faust, and Schoffert, executed in copper by the galvanoplastic process. The other figures are of zinc, with a galvanoplastic copper covering. There are four allegorical figures, representing Theology, Natural Science, Poetry, and Industry; then four figures representing Mayence, Strasburg, Venice, and Frankfort. Besides these the monument shows fourteen historical portraits, and on its four corners emblems of the four principal continents, in a bull's, a lion's, an elephant's, and a lama's head.

THE SCUDAMORE OR BARON ORGANS FOR VILLAGE OR OTHER CHURCHES.—An interesting and indeed an important *conversazione* was held in the room of the Oxford Architectural Society on the 22nd ult. (St. Cecilia's Day), of which we have already given some particulars. Our readers have heard of the small church organs originally contrived by the Rev. Mr. Baron, the rector of Upton Scudamore, and under his direction, and from designs by Mr. Street, the architect, manufactured by a village organ-builder. These instruments are now beginning to assume a more important position, and Mr. Willis, the well-known organ-builder, has taken them up, with a view to their more efficient and perfect construction, as well as their more scientific arrangement. The principle of these organs is that of arranging in a small compass, and at a very moderate cost, such an instrument as shall be capable of affording a good accompaniment to a village choir. The rev. originator of this style of organs, it may be remembered, gave an account of them in a publication entitled "Scudamore Organs," noticed by us at the time. The author was present at the Oxford *conversazione*, where examples of different designs of the Scudamore organs were exhibited, and he made some useful remarks on the subject to a numerous audience. Two tracts, containing further particulars, have been printed, containing a copy of a letter from the Rev. Mr. Baron to the editor of the *Ecclesiologist*, and also descriptions of several forms of the instrument, accompanied with designs furnished by Mr. Street.

SANITARY PROGRESS AT MACCLESFIELD.—In the sixth yearly report of the Local Board of Health Improvement Committee, at Macclesfield, to the Town Council, it is stated that forty-three streets, 245 courts, and 602 houses have been drained and sewered, paved, and otherwise repaired or improved, at a cost of 15,944*l.* "Before the operations of the Board," it is said, "the rate of mortality in the borough was thirty-three in a thousand, while for the last five years it has been twenty-six in a thousand, so that 1,015 lives have been saved. In funeral expenses alone, calculated from the returns of 232 burial clubs, 8,729*l.* are saved. But a larger item would accrue under the head of diminished sickness, there having been 28,420 less cases of sickness, and the cost of these cases being estimated, according to the data furnished by benefit societies, at one shilling a day for twenty days, 28,420*l.* would be thus saved. . . . . Here nothing is assumed. . . . . Again, an actual instead of an assumed contrast can be presented with no less agreeable result in the average length of life. The average age of all who died in the first period was twenty-four years (in the adjoining rural district it was thirty-four years): in the last five years it has been twenty-seven years. Each year gains an accession, the last year's average being twenty-eight years and a half. Length of days by three years has thus been added to each inhabitant. A few years ago, statements such as these received but little favour: indeed many people affected to ridicule them: now, however, such vital statistics have assumed an authority which prevents even the ignorant from questioning their real value and tendency. All the facts are alike conclusive, and point to the same result, and one more will be as intelligible as the rest: the deaths of children under one year have decreased 16·3 per cent.; and those under five years, 4·6 per cent."

THE PARIS CIRCULATION OF "THE BUILDER."—Our metropolitan contemporaries do us but justice in reference to the recent stoppage of the *Builder* on its way to subscribers in Paris, when, in allusion to the circumstance, they describe both the *Builder* and the *Athenæum* as "inoffensive" at any rate, inoffensive to well-doers. We should have been far out of our proper reckoning, indeed, had we ever dreamt of occupying space in the columns of the *Builder*, either in reporting M. de Montalembert's trial, or anything like comment on it. Nevertheless, we must cry *peccavimus* to the fact that in last week's leader we did incidentally speak of "looking to the state of liberty in France, and the circumstances which have led to the prosecution of M. de Montalembert." The Parisian censors of the press must surely look very sharply indeed into even the most unlikely quarters for dangerous or offensive material, if they ferreted out this small morsel in our totally unpolitical and rather numerous pages. It is well that they cannot excite a neutral and inoffensive journal such as ours into positive antagonism by their ill-doing and censoriousness. As it is, we suppose, the *Builder* must "consider itself" to have received a "first warning" from alarmed officials, afraid that the *Builder* may aid in overturning the French empire by merely "looking to the state of liberty in France,"—and a pretty "state" that is.

THE ARCHITECTURAL INSTITUTE OF SCOTLAND.—The Architectural Institute of Scotland has secured a valuable collection of casts of architectural decorations which belonged to the late Mr. Alexander Black, architect. These casts are principally from the Cathedral of Chartres. A meeting was to be held to exhibit them for the first time on the 6th, when the Rev. Dr. Lindsay Alexander was to deliver an address.

ENGINEER OF THE TYNE.—A vacancy having occurred in the office of engineer of the River Tyne, the commissioners put themselves in communication with Mr. Ure, engineer of the River Clyde, and Mr. Meik, engineer of the River Wear; but previous to the election last week, the latter gentleman withdrew, upon which Mr. Ure was appointed. The salary was formerly 500*l.* per annum, but from the importance now attached to the office, the salary of the newly-appointed engineer has been fixed at the sum of 1,000*l.*

DESTRUCTION OF THE NEW STATE ARSENAL AT NEW YORK.—The roof of the New State Arsenal at New York has fallen, carrying with it the upper story of the northern, eastern, and southern walls. The building was nearly completed, and would have been occupied by the State authorities in a few days but for this casualty. Workmen to the number of twenty had been employed the previous day in plastering the ceiling of the upper floor. The plan of Messrs. Cleveland and Backus had been accepted, and to that firm was awarded the superintendence of the erection of the building. The contract for construction was awarded to Mr. R. Calrow, jun. for 63,700 dollars. The building was 82 feet by 184 feet in the clear. A turret was erected on each corner, the highest of which was 120 feet in height. The walls to the second story were constructed of Hastings stone: above they were of brick, and double, each being 8 inches in thickness, with a space of 4 inches between the two. The rafters were of wood, and were designed to sustain the roof without any support in the centre of the building. The span being 82 feet, to make it sufficiently strong became a problem, and the plan adopted by the architects, though it was pronounced, it is said, by many practical men, and among them by Mr. Calrow, the contractor, to be imperfect, was believed to be secure. The rafters were of framework, braced and girded at frequent intervals, and the whole held together by iron bolts. Eight of these rested on the northern and southern walls. Resting in iron sockets at the apex of the principal rafter on either end were rafters which extended to the eastern and western walls, built on the same plan. It is believed that a joint of one of the rafters, extending to the eastern wall, was not sufficiently strong; that it gave way, letting the roof fall upon the lower girders which rested upon the walls; and that the weight was so great as to force the walls out. One rafter having thus given way, the others followed in quick successsion. In the original plan of the rafters the architects proposed to have an iron tie to extend across from the foot of each, but this was abandoned by them, under the belief that the frame was sufficiently strong without. The damage to the building will probably reach 25,000 dollars. Adjoining property has also been injured, but no one was killed. The fall took place through the night.

STEAM-ENGINE BOILERS AND SMOKE PREVENTION.—A mechanic named Thomas, of Chacewater, is said by a contemporary to have invented and patented the following contrivances:—A self-regulating and self-supplying boiler for steam-engines, by which explosion is rendered next to impossible from inattentive feeding by the engineman in charge. By a simple contrivance the condensed steam is returned to the boiler in a hot state, thus causing a considerable saving in fuel. Another invention is a smoke-condensing apparatus. A fire is made in a closed stove, with coal smudge, to create as much smoke as possible. This passes through a horizontal chimney, and, half a minute after the contrivance is applied, not a particle of smoke can be discerned. The inventor states he can thus manufacture gas of a very superior description, or can utilise the matter as a manure of extraordinary value. He says that, by the aid of four 24-inch cylinder engines, he can free all London from smoke, and render the product of immense value! The contrivance improves draught and circulation, and so must promote the oxidation of the fuel; but how such oxidated matter can be manufactured into illuminative gas, is a mystery like that of the valuable manure. The self-regulating and self-supplying boiler needed scarcely to have been patented, we suspect, as such an invention was used years since at Messrs. Cox and Wyman's steam printing establishment, in Great Queen-street, Lincoln's-inn Fields.

PROGRESS OF NEW WORKS AT SWANSEA.—"The catalogue of our public works," says the *Cambrian*, "is a most elaborate one just now. On the one hand, we have in active progress those magnificent Western Docks, which, for their size, will be surpassed by but few in the country in point of facility and convenience. These comprise works of very considerable extent, embracing a capacious trumpet-mouth entrance, a half-tide basin, a gigantic lock, an iron bridge, and an inner dock, of sufficient area to allow of some hundreds of ships to—

'Repose majestically on their shadows.'

On the other hand, we have in course of construction a broad guage railway, extending from the South Wales Drops to the western extremity of the new docks. In connection with the town float, again, there is now being made a fine half-tide basin, to say nothing of the erection of quay walls, excavations for deepening the harbour, &c. all of which works are going on apace. Nor is this all. In the town proper, the elongated openings in various parts thereof, attest the large expenditure which is being made to improve its drainage, and thus promote the sanitary condition of the inhabitants. A vast outlay is also being made in erecting a large prison, laying out new streets, and in building handsome villas and substantial dwellings, to meet the growing wants of the community. Such are the works now in operation in this town, and when we state that they involve a monthly outlay of several thousand pounds, some idea may be formed of their present magnitude, and future bearing on the trade and commerce of this town and port." The dock contractors, Messrs. Tredwell, are said to be making rapid progress. The large dock is the most unfinished portion, but the excavations are about three fourth parts done. There are 500 men in all, and 50 horses employed at the docks, and August next is named for the inauguration.

CANADIAN TIMBER.—It is being urged that, as there are many gentlemen from our North American colonies at present in London on public business with the Colonial Office, the opportunity should not be lost of pressing on that office and the Admiralty the advantages to this country and the provinces of giving their woods a fair trial, as for certain purposes in ship-building they are as good as foreign, besides being much cheaper. We have pressed this point on more occasions than one. We may estimate the Admiralty contracts at about 1,000,000*l*. Now, this amount spent in Canada and New Brunswick would give enormous employment to our lumberers, who take so much of our manufactures, instead of sending it to Prussia, Russia, or other foreign countries which take so little from us. Our shipping would be also benefited. Some idea of the vastness of the timber trade on the Ottawa and Trent may be had from the quantity made for shipment last spring: Ottawa, 1,500,000 cubic feet of white pine; Trent, 1,855,000 cubic feet of ditto; Ottawa, 895,000 cubic feet of red pine, 555,000 cubic feet of elm, and 100,000 cubic feet of tamarac; besides large quantities of these woods from other districts of Canada, west and east, with black walnut, birch, &c.

PLANKS FROM SAWDUST.—Paris is the Laputa of Swift. One of his Laputa philosophers proposed to reconvert sawdust into timber "equal to new;" but a Parisian cabinet maker has discovered "a new process, combining the hydraulic press and the application of intense heat," by means of which "these wooden particles are made to reform themselves into a solid mass capable of being moulded into any shape, and presenting a brilliant surface, a durability, and a beauty of appearance, not found in ebony, rosewood, or mahagony;" so says a letter from Rue de Grand Chantier. Sawdust with glue moulds very hard.

TENDERS.

For assize courts and central police-station for the county of Berks, to be erected at Reading; Mr. J. B. Clacy, architect

Young, Oxford	£15,000	0	0
Orton and Child, Reading	12,750	0	0
Shepherd, ditto	12,700	0	0
Matthews, ditto	12,299	0	0
Myers, London (accepted)	12,229	0	0
Woodroffe, Reading	11,974	0	0

For a new warehouse, goods sheds, and other works for the Great Western Railway Company, at Wolverhampton; Mr. Bertram, engineer:—

J. Millington	£4,479	15	8
J. Treasure, Newport	4,404	18	8
Branson and Gwyther, Birmingham	4,340	8	7
J. Hitchin	4,278	0	0
Elliott and Lovatt, Wolverhampton	4,192	0	0
Geo. Meakin, Birkenhead	3,987	14	9

For the erection of shop and offices, &c. at the corner of High-street and Quay-street, Cardiff; Mr. H. J. Paull, architect:—

Mitchelmore	£1,980	0	0
J. and J. Foster	1,958	0	0
B. Farmer	1,903	0	0
Dancut	1,893	0	0
Brown	1,747	0	0
J. Farmer	1,711	0	0
Webb and Sons	1,640	0	0

For farmhouse and buildings, to be erected at Laindon, Essex, for the trustees of "Bayley's Charity," Mr. A. Earl, architect, Billericay:—

Curtis, Billericay	£910	0	0
Cross, Hutton	876	0	0
Carter, Wickford	839	13	6
Wood, Rayleigh (accepted)	835	0	0

For finishing hall and vestries, &c to Congregational Church, Buckingham-square, New kent-road; Mr Pouget, architect:—

Rider	£920	0	0
Weston	890	0	0
Higgs	879	0	0
Downs	830	0	0
Ring and Stanger	825	0	0

For alterations to the Ship Tavern, Little Tower street, for Mr. G. Reeves; Mr. T. Burton, architect:—

Elston	£760	0	0
Ashby	744	0	0
Laurence	720	0	0
Sargent	650	0	0
Love	648	0	0
Downs	636	0	0
King	618	5	0

For the construction of two houses on the north-west side of Bramwell-street, for Mr. J. B. Johnson; Mr. Martin Greener, architect:—

Willmott and Sons, Sunderland	£861	14	0
John Lowes, Durham	857	1	3
Taylor and Thornton, Sunderland	843	1	0
Alex. Thomson, ditto	811	13	6
Maxfield and Son, ditto	807	17	6
Turnbull and Herring, ditto	759	9	0
Watson and Place, do. (accepted)	620	0	0
Snaith and Johnson, ditto	600	0	0

For the construction of two houses on the south-west side of Addison-street, for Mr. J. B. Johnson; Mr. Martin Greener, architect:—

Taylor and Thornton, Sunderland	£832	1	0
John Lowes, Durham	819	8	7
Alex. Thomson, Sunderland	798	3	7
Willmott and Sons, ditto	797	12	1
B. Maxfield and Son, ditto	759	9	6
Turnbull and Herring, ditto	758	8	0
Allison and Ross, ditto	737	7	0
Snaith and Johnson, ditto	580	0	0
Watson and Place (accepted)	600	0	0

For alterations and additions to the Ivy House, Ivy-place, Hoxton, Messrs. Finch-Hill and Pararre, architects:—

Turner and Sons	£786	0	0
Elston and Son	735	0	0
Parluck and Son	723	0	0
Green	658	0	0
Smith	649	0	0
Langmead	598	0	0

For fitting up the house, No. 4, Mansell street, Whitechapel, as a refuge for the East London Ragged School Shoe-black Society; Mr. John Hudson, architect.—

J. Norris, Lime-street	£495	0	0
Ring and Stanger, Mile-end	391	0	0
G. Westacott, St. Mary Axe	386	0	0
W. Hill, Whitechapel-road	372	14	0
F. F. Dudley, Wapping	299	10	0
G. Thorpe, Cambridge-road	275	15	0

TO CORRESPONDENTS.

R. L.—Creosote is one of the *Builder*'s readers suggest a thoroughly good preventive of rats burrowing under the foundations of a house, and coming up through the floors [illegible] C. D.

In type:—"Style in Architecture," "Payment of the Real Architect," "Frescoes in Westminster Hall."

F. H. G. (If all the buildings be covered in, the requirements of the agreement would probably be met).—S. W.—A Machinist (go to a [illegible] foreign).—J. P. P. Myers.—H. J. G.—Oxoniensis.—Old Reader.—Robert-street (it would not be kind of us to answered such questions without the full [illegible] and W. H. E. Ben.—Mr. Mason.—M. W.—A. T.—W. R. I. S.—D. T. A.—F. C.—O. C. (it is out of our power to give addresses. A page would not contain them if we did so).—J. H. E.—W.

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A PUPIL WANTED by an Architect, who [illegible] Member of the Royal Institute of British Architects, one of the Council, and Hon. Secretary of the Institute of Civil Engineers, and Surveyors, at Thirsk, East Riding of Yorkshire, and Land Agent to the Earl of Feversham, who [illegible] Apply by letter, to ALPHA, care of Mr. Batford, Bookseller, &c., High Holborn.

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WANTED, by an ASSISTANT, 25 years of age, possessing a good general knowledge of the profession, SITUATION [illegible] Has been accustomed to prepare working drawings, and perspective elevations, and write specifications, [illegible] Address, A. B., 11, Old Cavendish-street, Cavendish-square, W.

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WANTED, by a thoroughly practical Man, a RE-ENGAGEMENT as CLERK of WORKS or General Foreman or Superintendent on a Gentleman's Estate. Is well versed in construction, in all its branches. By trade, a joiner. Age, 32. Can [illegible] Address, W. W., 52, Guilford-street, Russell-square.

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WANTED, at the commencement of the year, an ASSISTANT, competent to make perspective and working drawings. One with a taste for and knowledge of Mediæval Architecture preferred.—Application by letter, to state age, experience, and salary expected, to be addressed by [illegible] of Messrs. PEARTREE and SONS, Darlington.

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WANTED, a respectable YOUTH, in an Architect's and Surveyor's Office, in town. He must be able to write a good hand, and have a taste for drawing. No premium required.—Address, F. Office of "The Builder."

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WANTED, by a Young Man, a constant JOB, as PLUMBER, PAINTER, GLAZIER, GAS-FITTER, and ZINC WORKER. [illegible] Wages Moderate.—Direct F. MORRIS, care of Mrs. Liddy, No. 1, Marches-place, Putney.

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WANTED, by a Powerful Young Man, aged 25 years, EMPLOYMENT either as PAY-CLERK, BOOK-KEEPER, TIME-KEEPER, or FOREMAN of a TIMBER-YARD, or large [illegible] district, where firm use and [illegible] temper are required. Security, if [illegible] per week. Good references and security if required. Apply ALPHA, 19, Millbank-street, Westminster.

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WANTED, a SITUATION as GENERAL FOREMAN, by a Joiner who has ten years' testimonial from last employer. Age 34.—Address, J. C. E. 19, Westbourne-street, Pimlico, S.W.

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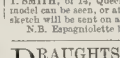

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A small Floating Derrick, built for the requirements of the Thames, and employed for lifting and transporting heavy weights, such as steam-engines, boilers, machinery, blocks of stone, &c. recently raised the brig *Lightning*, sunk in Erith-reach. A large Floating Derrick, specially designed and constructed for raising sunken vessels and for general salvage purposes, is fitting for operation about the coasts of Great Britain and off foreign shores.

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Being a considerable reduction from the pamphlet and last advertised quotations.

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Panels differently prepared for Carriage, Coach, and Van Makers, Artists, Sign-board Makers, &c. :—

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Surfaced only	3d.	3½d.	4d.
Prepared in oil, before painting	5d.	6d.	7d.
Painted and rubbed down for decorations	7d	8d.	9d.

Slabs sent to any form to order, as may be agreed upon.

15, Wellington-street North, Strand, Dec. 4, 1858.

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The Assured are protected by an ample subscribed capital—an assurance fund of 47,000*l.* invested on mortgage, and in the Government Stocks—and an income of 83,000*l.* a-year.

Premiums to Assure £100.			Whole Term.	
Age	One Year	Seven Years	With Profits	Without Profits
20	£0 17 8	£0 19 9	£1 15 10	£1 11 10
30	1 1 3	1 2 7	2 5 5	2 0 7
40	1 5 0	1 6 9	3 0 7	2 14 10
50	1 14 1	1 16 10	4 6 8	4 0 11
60	3 2 4	3 17 0	6 12 9	6 0 10

MUTUAL BRANCH.

Assurers on the Bonus system are entitled, at the end of five years, to participate in nine-tenths, or 90 per cent. of the profits.

The profit assigned to each policy can be added to the sum assured, applied in reduction of the annual premium, or be received in cash.

At the first division a return of 20 per cent. in cash on the premiums paid was declared; this will allow a reversionary increase, varying according to age, from 66 to 28 per cent. on the premiums, or from 5 to 15 per cent. on the sum assured.

One-half of the "Whole Term" Premium may remain on credit for seven years, or one-third of the premium may remain for life as a debt upon the policy at 5 per cent. or may be paid off at any time without notice.

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THE WHOLE PROFITS DIVIDED AMONGST THE ASSURED

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Instituted 1831. Incorporated by Special Act of Parliament

The NEXT INVESTIGATION into the AFFAIRS of the SOCIETY, in order to the Declaration of a Bonus, will be made at 1st MARCH, 1859, when all Policies then of FIVE Years' endurance will receive additions.

These additions may, in the option of the assured, be applied thus:—

1. They may be added to the sum payable at death;
2. They may be commuted into a present payment; or,
3. They may be applied in reduction of the future premiums.

The following was the position of the Society at 1st MARCH, 1858:—

Amount of Existing Assurances	£4,827,144
Annual Premiums	182,717
Accumulated Fund	1,099,400

Copies of the last Reports may be had at the Head Office, or from any of the Society's Agents

Head Office, 26, St Andrew-square, Edinburgh.
ROBT CHRISTIE, Manager.
WM FINLAY, Secretary

London Office, 26, Poultry
ARCH. T. RITCHIE, Agent

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Octavius Edward Coope, esq.	Wm. Jas. Lancaster, esq.
John Davis, esq.	Benjamin Shaw, esq.
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This Company offers

COMPLETE SECURITY.—Moderate Rates of Premium with participation in four-fifths or eighty per cent. of the profits. Low Rates without participation in profits.

Loans in connection with Life Assurance, on approved security, in sums of not less than 200*l.*

ANNUAL PREMIUM required for the Assurance of 100*l.* for the whole term of life.

Age	Without Profits.	With Profits.	Age.	Without Profits.	With Profits.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
15	1 11 0	1 15 0	40	2 18 10	3 6 5
20	1 14 10	1 19 3	50	4 0 9	4 11 7
30	2 4 0	2 10 4	60	6 1 0	6 7 4

ROBERT TUCKER, Secretary.

NORWICH UNION LIFE INSURANCE SOCIETY.

Instituted 1808.—Invested Capital exceeding 2,000*l.* sterling.

This Society is one of the very few purely Mutual Insurance Offices, the whole of the profits being divided among the Policy holders.

The rates are considerably below those usually charged. Thus, at the age of forty, the sum of 1*l.* 2*s.* 2*d.* will, at the ordinary premium, will insure 100*l.* with the NORWICH UNION WILL INSURE 1,000*l.* by giving an immediate Bonus, in addition to subsequent accumulations.

Annuities and Special Risks undertaken on favourable terms.

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Diving Dresses of superior make, and improved Vulcanized Rubber Supply-pipes for ditto.

Wear in Sheets from three to four feet wide, and of any thickness. Air-beds, Pillows and Cushions, Inflating Portable Baths, Invalid Cushions, and articles of this kind made to any pattern, to order.

N.B All communications and orders punctually attended to, addressed to the Manufactory, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

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MESSRS. CLARK and CO. of 15, Gate-street, Lincoln's-inn Fields, have recently introduced a New Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and, consequently, less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

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MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

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Priced List, with every information, forwarded on receipt of One Stamp.

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DESCRIPTION AND PRICES ON APPLICATION.

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MANUFACTURERS OF HOUSE AND COTTAGE JOINERY, TREDEGAR WORKS, BOW, E.

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DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

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A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

FLOORING.

	Spruce.	Yellow.	White.
¾ inch	11s. 6d.	13s. 6d.	12s. 6d. per square
¾ "	13s. 0d.	14s. 6d.	13s. 6d. "
1 "	15s. 0d.	16s. 6d.	15s. 6d. "
1¼ "	19s. 6d.	19s. 6d.	18s. 0d. "

DELIVERED FREE WITHIN THREE MILES.

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CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor.—2nd. It is portable, being packed in rolls, and not liable to damage in carriage.—3rd. It effects a saving of half the timber usually required.—4th. It can be easily applied by any unpractised person.—5th. From its lightness, weight only about 56 lbs. to the square of 100 feet, the cost of carriage is small.—6th. Under slate, metal, or tiles, it is a most effective non-conductor.

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CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

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GLAZIERS' DIAMONDS!

TO BE HAD OF THE WHOLESALE MANUFACTURER, JOHN EDWARDS, 20, SHARP'S ALLEY, WEST SMITHFIELD, London, E.C.

NOTICE.—WARD and CO. GLASS STAINERS, of 67, Faith-street, Soho-square, W. in contradiction of current reports, beg to say there has been NO REMOVAL of their business, but that it is still carried on at the above address, with improved Artistic Arrangements.

STAINED-GLASS WINDOWS for the MILLION.—Instead of staining the glass, we stain a transparent material, easily applied by any person. By the method, with equal permanency, we obtain superior finish, richness, and brilliancy, at a tithe of the cost. Ecclesiastical, Gothic, Armorial, and French Designs, for church, hall, or conservatory windows, hall lamps, window-pictures, &c. Descriptive books, 6d. free. — GEORGE ROWNEY and CO. Manufacturing Artists' Colourmen, 51 and 52, Rathbone-place.

GLASS.—W. H. JACKSON supplies BRITISH PLATE, PATENT PLATE, ROLLED PLATE, CROWN, SHEET, HORTICULTURAL, ORNAMENTAL, COLOURED, PHOTOGRAPHIC, and every description of glass, of the best manufacture, at the lowest terms

Lists of prices and estimates forwarded, on application at the Warehouse, 315, Oxford street, W.

SOHO PLATE-GLASS WAREHOUSE, No. 26, SOHO-SQUARE, LONDON, W.

PLATE GLASS,

Of a superior Quality and Colour,

SUPPLIED AT THE LOWEST CURRENT RATES.

Contracts given upon application.

WINDOW GLASS.

THOMAS MILLINGTON'S NEW LIST of REDUCED PRICES are now ready, and may be had on application

SHEET GLASS, fourths, in 200 feet cases, at 26s 6d per case.

"	thirds,	"	34s. 6d. "
"	seconds,	"	60s. "
"	best,	"	80s. "

Boxes of 100 feet each, at 10s 12s. 14s. or 16s according to size.

21oz. 26oz. 32oz. and 42oz. in various qualities.

Also, CRYSTAL SHEET GLASS.

16oz. and 21oz. Ground, Matted and Figured Various Patterns, and Coloured Glass, British Plate Glass, Patent Plate, Cast and Rolled Rough Plate, from ⅛ to 1 inch thick.

COLOURS, VARNISHES, &c.

Genuine White Lead, 32s. 6d.; seconds ditto, 30s. 6d. per cwt. Linseed Oil, Boiled ditto, Turpentine. Pale Oak Varnish, 7s. 6d.; Carriage ditto, 10s.; Copal ditto, 14s. per gallon. Dry and Ground Colours Brushes, &c.

The above prices subject to the fluctuation of the markets.

PLUMBERS' BRASS WORK.

LIFT PUMPS AND PUMPS FOR DEEP WELLS, PLAIN AND SUNK HANDLE WATER-CLOSETS.

Cocks and Valves of every description.

Milled Sheet Lead and Pipe of all sizes. Old Lead bought or taken in Exchange

T. MILLINGTON, 87, Bunhill-row, Finsbury-pavement, London.

Established upwards of One Hundred Years.

CRYSTAL WHITE SHEET GLASS.—WHOLESALE BRITISH and FOREIGN WINDOW-GLASS WAREHOUSE

British and Patent Plate, Crown, Sheet, Horticultural, Stained, Coloured, Ornamental, Ground, Fluted, Rough Plate, Photographic, and every description of Glass.

Estimates and Price Lists forwarded free on receipt of business card addressed to

R. METTAM and CO.

31, PRINCES-STREET, SOHO, LONDON, W.

GLASS PAINTING and MURAL DECORATION.—LAVERS and BARRAUD, 20, Southampton-street, Strand, beg to inform the clergy, architects, and others, that they will be happy to submit DESIGNS for STAINED WINDOWS as may be required, to follow, as also for every other kind of decoration. They beg to call attention to their grisaille and quarry glass, as an inexpensive but very effective character.—Prices &c. forwarded on application.

PIMLICO IMPROVEMENTS.—NOTICE of REMOVAL of STEVENS'S GLASS MOSAIC.—G. H. STEVENS'S PREMISES, No. 14, Stafford Row, Pimlico, having been purchased for the Pimlico Improvements, architects, builders, and the public, are respectfully informed that the MOSAIC WORKS are REMOVED to 26, GREAT QUEEN STREET, Lincoln's-inn-fields. Estimates given for the inlaying of Pulpits, Reredos, Fonts, &c. &c. Tesselated Pavements, with Patent Tesserae. The New Transparent Glass Mosaic. Descriptive Catalogues on application

N.B. 26, GREAT QUEEN STREET, LINCOLN'S INN.

PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE,

At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS,

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.

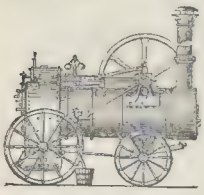
HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices.

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.



ENGINES,

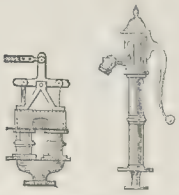
SINGLE & DOUBLE

PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.



HOLMAN'S Patent CESSPOOL PUMPS.
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER AND CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

TUDOR STREET, NEW BRIDGE STREET, and GRAND JUNCTION WHARF, WHITEFRIARS (*not BLACKFRIARS*).

The only White Zinc Works in the United Kingdom.

HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Paints and Preservers have never had really good Zinc Paint. The adulterated mass generally sold to them as Zinc Paint bear no comparison with the genuine article.

But all genuine profit is forestalled by their having been supplied with the paint manufactured in France and in America. Both are made by the Free Impression, which does not resist the atmosphere. It dries in the glass, and ultimately forms, with the water and washes off.

Hubbuck's Patent Paint is completely resists London atmosphere, boiled water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

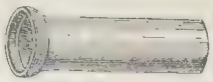
THOMAS HUBBUCK and SON, PAINT and VARNISH WORKS, 157, FENCHURCH-STREET.

N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S

IMPERIAL POTTERIES, LAMBETH.

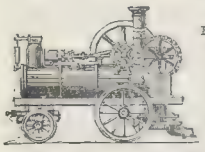


S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, TO LET ON HIRE, by the Week or Month

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

N.B. Steam-power, with Workshops, to Let.

WANTED, to PURCHASE, a good second-hand STEAM-ENGINE, with or without boiler, 14 to 16 horse power.—Address A. B. 10, Basinghall-street, E.C.

STEAM POWER TO LET, or LIGHT SAWING WANTED.—Apply to C. WARNER, 6, High-street, Notting-hill.

PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars-road, London.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL PUTNEY and Co. call the attention of Builders and others to their extensive Stock of Prepared Flooring, Deals, and Mouldings.

2 in. Prepared Flooring, 11s. 6d. per square.
2½ ditto, 14s. per square.
Yellow Battens, 11l. 10s. per 120, 12 by 2½.
Yellow Deals, from 3s. 3d. each.
Spruce Deals, from 2s. 9d. each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 3s. 6d. each.
Honduras Mahogany, Plank and Board, from 6d. per foot.
Delivered free, Southwark, and Blackfriars Bridge, Surrey side. Late Nos. 1 and 2, Paul's Chain, Doctors' Commons.

ALFRED ROSLING and SONS beg to call the attention of Builders and the Trade generally to the fact that they are enabled to allow a discount of 15 per cent. upon their list prices for Mouldings. A large Stock of Dry Flooring at low prices. Southwark-bridge Wharf, Bankside, S.E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 3s. 3d.; Spruce, 2s. 9d.; Pine Planks, 3s. 6d.; Mahogany and F. Walnut, 5½d.; 2½-inch White Battens, 9l. 10s.; Yellow, 11l. 10s.; 1-inch White Flooring, 13s. 6d.; ¾ ditto, 11s. 6d.; 1-inch Yellow, 10s. 6d.; ¾ ditto, 12s. Bird's-eye Maple Veneer, 2s. Carriage free to any part of town.
T. FORMAN, 1, Walnut tree walk, Walnut place, Lambeth.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced prices for really useful sorts:—

2 inch Prepared Flooring	£0 11 6 per square.
2 inch Prepared Flooring	0 13 0 per square.
Inch Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 3 3 each.
Spruce Deals	0 2 9 each.
Pine Planks, Dry, 12 ft. 3 by 11	0 3 6 each.
Yellow Battens	11 10 0 per 120.

Mahogany, planks and boards, from 6d. per foot.
All sawn goods delivered within three miles free of carriage.
ALFRED CARTER, Old Belmont green road, S.E.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	½	1	1	1½	
Spruce	13s.	13s.	15s.	—	per square
White	12s. 6d.	12s. 6d.	13s. 6d.	18s.	,,
Yellow	13s. 6d.	14s. 6d.	16s. 6d.	19s.	,,

Delivered within three miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace road, Lambeth, S.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.
BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above premises, Palace-yard, Westminster, and Edward-street, Lambeth, where he intends to supply from a large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Elm, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised house in London.

Mahogany, inch	from	6d.
,, board	,,	0 6
Spruce Deals	,,	2 9
Pine Plank	,,	3 3
Yellow Deals	,,	3 3
Yellow and White Battens	,,	1 11

Prepared Flooring:—
White.—1 in. 12s.; 1 in. 15s. 6d. Yellow.—1 in. 13s.
Timber and Deal Landed, Lambeth, and Carted.

ACORN TIMBER WHARF and SAW MILLS,
CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-street, Old St. Pancras-road, invite the attention of Builders and the Trade generally to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST REMUNERATIVE PRICES.
Books of Designs of Mouldings forwarded on application.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLISON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES 536, TOOLEY-STREET, [illegible] Eastern Railway Company's Goods Depôt, London-bridge, where, at considerable outlay, he has established [illegible] Kings-street, Borough, he is prepared to supply, from a large and well-assorted stock, Timber, Deals, Selected Flooring Boards, Moulded Linings, Mouldings, &c. at the lowest possible prices, for cash.
P.S. Country orders executed with prompt attention, and all sawn goods (Teak Timber excepted), delivered free of carriage within three miles.

SOLID PARQUET FLOORS.
ARROWSMITH'S PATENTED.

[illegible] from 4s. per foot. The [illegible] Wood Mosaic, 1 mm. thick, [illegible] cut (not veneered), for Halls [illegible] dancing or otherwise. A beautiful [illegible] Turkey and other carpets, staircases, [illegible] Churches (being much warmer [illegible] York; St. Gregory's, Cheltenham, &c.

9, NEW BOND STREET.

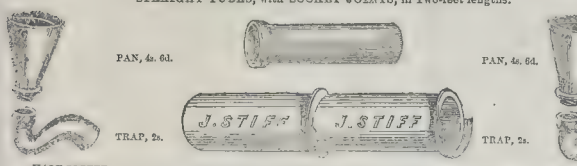
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—

Messrs. GLADDISH'S, Pedlar's-acre, Westminster-bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs. COLES, SHADBOLT, and CO.'S, St. James's and Thornhill Wharfs, Caledonian-road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr LAVERS'S, Dorset Wharf, Church-road, Hoxton.
Messrs COLWILL, (BROTHERS), 32, Bridges-street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed-street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF

DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

BOURNE VALLEY POTTERY,

NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.

BEST SALT-GLAZED STONEWARE PIPES,
Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.
CREEKE'S PATENT CAPPED SEWER PIPE,
The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.
SALT-GLAZED AND TERRA COTTA FLUE-PIPES,
By the use of which the Draught of Chimneys is much improved.
TERRA COTTA CHIMNEY-POTS,
In great variety, commencing at 2s. each.
TERRA COTTA VASES, ROYAL ARMS, &c. &c.
The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.
List of Prices, and any information, may be obtained on application at the Works; or at the Depôt, 8, Belmont-place.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.
A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.
Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

DOULTON & WATTS,

LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED
AND
LAMBERT'S HIGH-PRESSURE VALVE-COCK.
WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.
Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

PATENT CAST-IRON SANITARY

KITCHEN SINK, WITH TRAP.

Manufactured by the Patentees, NEWTON, CHAMBERS, and CO. Thorncliffe Iron Works, near Sheffield.
24 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
30 in. long by 18 in. wide by 4 in. deep, 10s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
42 in. long by 20 in. wide by 14 in. deep, 14s. 6d. each.
48 in. long by 20 in. wide by 14 in. deep, 16s. each.
To be had in London only, of Mr JOHN JONES, 6, BANKSIDE.

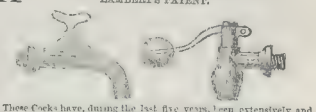
BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Wards, &c. Prices 7s. each. To be had of the Sole Agents and Manufacturers, GLOVER, BROTHERS, Founders, Engineers, and Smiths, 138, Drury-lane, and Spa-road, Bermondsey.

PRIZE MEDAL, CLASS 2.

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many localities of excessive high pressure, varying from 100 to 350 feet; their efficiency and durability is by experience established.
The Equilibrium Ball valve is simple and certain in its action and is cheaper than the common Cocks now in use.
Enamelled Iron, Self-acting, and other Closets, upon economic arrangements, suitable for public buildings, cottages, asylums, &c.
THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes, domestic or manufacturing. Closets, Baths, with supply valve for attaching direct to main pipes without a cistern, cocks, or wire.
LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

WARNER'S PATENT

VIBRATING STANDARD PUMPS—PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Bucket and Sucker, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in.	short	1 ft. 7 in.	Fitted for lead, 1 18 0
2½ „	long	3 3	gutta percha 1 14 0
3 „	ditto	3 6	or cast iron 2 8 0
3½ „	ditto	3 6	flanged pipe, 2 12 0
4 „	ditto	3 6	as required. 3 3 0
2½ „	short, with 15 feet of rod and pipe attached, ready for fixing		2 14 0
2½ in.	long ditto	ditto	2 18 0

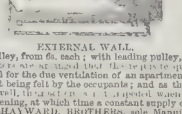
The short barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage. May be obtained of any Ironmonger or Pumper in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c.—Engravings sent on application.

KAMPTULICON.

The NEW ELASTIC FLOOR-CLOTH, durable, noiseless, warm, and ornamental.
T. TRELOAR, Manufacturer, Cocoanut-fibre Warehouse, 42 Ludgate-hill.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an



EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from
These Ventilators are designed that there is no draught of air may be admitted for the due ventilation of an apartment without the slightest draught being felt by the occupants; and as they are placed in the external wall, the outside of which is exposed when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 196, Blackfriars road, and 117, Union street, Borough; and of all respectable Ironmongers, Builders, &c.

SALES BY AUCTION.

IN BANKRUPTCY.—CLEARANCE SALE
TO TIMBER MERCHANTS, CABINET-MAKERS, COACH MAKERS, PIANOFORTE MAKERS, BUILDERS, AND OTHERS.

MR. MARSH has been favoured with instructions from the Assignees of Alfred Rolfe, TO SELL by AUCTION (without reserve) on MONDAY, DECEMBER 13, at ELTON'S premises in the PREMISES, Bevington street, Mount Pleasant, Lerkenwell, the STOCK of a Timber Merchant, comprising 10,000 feet American birch, in boards and planks of very superior quality; 10,000 feet American ash boards; 6,000 feet Spanish and Honduras boards, some of very large widths; 7,000 feet ditto, veneers; 1,200 pine spruce, white and yellow, in deals, battens, and planks; 3,000 quarres planed floor boards; 2,000 4 feet paling; 50 three-sawn cart, trucks, stems, in trade, together with erection of sheds, counting-house fittings, and other goods. Particulars in catalogues viewed and issued Friday preceding sale; and had of J. NICHOLSON, Esq., Official Assignee, 24, Bucklersbury street; Messrs. DYER and QUICK, Solicitors, 27, Elv place, Holborn; Messrs. WARD and COOPER, 33, George street, Mansion House; Garraway's Coffee-house, Castleman's, Cornhill; Place of Sale; and of the Auctioneer, 5, Williamstreet, North, Stepney, E.

WHITECHAPEL WORKHOUSE.—The Capital Building Materials, JOHN HIND is instructed by the Guardians of the Whitechapel Union to SELL by AUCTION, on the PREMISES, in the Whitechapel road, on THURSDAY, DECEMBER 16, at TEN for ELEVEN precisely, the excellent MATERIALS of the OLD WORKHOUSE, comprising about 250,000 sound bricks, quantities of valuable timber in girders, joists, rafters, floors, partitions, shutters, and panelling, staircases, stud panelled entrance and room doors, York paving and large landings, Portland coping, slates, and rails, about 20 tons of capital lead in gutters, ridges, hips, flashings, dormer heads, and heavy rain-water pipes, massive ironwork, including 300 feet of upright railing, numerous 20 by 11 12 light glazed sashes, and a general assortment of good materials. May be viewed every day after the 9th of DECEMBER, Sundays excepted, between the hours of TEN and THREE, when catalogues may be had of GEORGE ADAMS FARR, Esq., Clerk to the said Guardians, at his Office, in the new workhouse, Charles street, Mile-end New town. Hugh MITCHELL, Esq., Vestry Clerk to the parish of Whitechapel, at his Office, 5, Great Prescott street, Goodman's fields; of JOHN HUDSON, Esq., Architect and Surveyor, 40, Lemon street, Whitechapel, or Garraway's Coffee-house, 1, Change-alley, City; and of JOHN HIND, Auctioneer and Estate Agent, 32, Cannon-street-road, Commercial road east.

No. 42, UNION STREET, SOMERS TOWN.—On MONDAY, DECEMBER 13, at TWELVE for ONE,

MR. LEREW will SELL by AUCTION, on the above PREMISES, about 1,500 Sells of white, pine, and spruce planks, deals, and battens, 2nd quality 1, 1 in. 1, and 4 in. prepared flooring, 8,000 feet quartering, 10,000 feet wide pine board, dry cut stuff, 500 oak staves, 24 doors, 100 new scaffold-poles, ladder, steps, forms, old materials, &c. May be viewed on Saturday prior and morning of Sale, and Catalogues had on the Premises; and of the Auctioneer, Carlington street, Hampstead road.

TO ENGINEERS, CONTRACTORS, BUILDERS, AND OTHERS—Surplus Plant and Materials of Houses of Parliament

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the PREMISES, adjoining the Clock Tower, New Palace Yard, Westminster, on WEDNESDAY, the 22nd of DECEMBER, at TEN for ELEVEN, by order of the Commissioners of Her Majesty's Works and Public Buildings, a LARGE QUANTITY of MATERIALS, comprising about forty loads of sound timber taken from the scaffoldings, numerous sounds and portery, glazed sashes, doors, and frames; Portland, York, Caen, and Maltese stone; about thirty tons of wrought and cast iron, including gas, steam, and water pipes, joists, stanchions, railing, Long 2 inch bolts, shafting, trammel, &c., also a tubular cast iron crane, on its casters, tons, with 2 inch chain fall, 1,500 feet long and blocks, four powerful double purchase crab engines, eight super double headed hoisting jacks, with 6-feet screws; a tough safeamble der, and other effects. May be viewed, and Catalogues had, at the Office of Works, Ac 12, Whitehall place, and of the Auctioneers, 40, Parliament-street, Westminster, or Coal Exchange

TO BUILDERS, PACKING CASE MAKERS, CABINET-MAKERS, and OTHERS.—To Grocers or pickle Curers, Oilmen and others.

MR. PEAKE is ordered to DISPOSE OF, by PUBLIC AUCTION, the STOCK and IMPLEMENTS in TRADE of the late Mr. THOMAS HUMPHREYS, on the PREMISES, on WEDNESDAY, the 15th of DECEMBER, 1858, at TWELVE o'clock precisely, on account of the number of lots comprising 7 sets of new prepared FLOORING BOARDS and BATTENS, 800 lin. pine plank, 1,000 pine yellow and white deals, 500 dry spruce plank, deals and battens, 3,000 feet dry inch seasoned, 2,000 feet wide pine, 1,500 feet pine square timber, 500 oak staves, 4,000 pieces red wood, also a large assortment of sawn deals, and other timbers, workmen carpenters' benches, scaffolding, blocks and fall, drum pipes, barrows, trucks, &c.—May be viewed the day previous and morning of sale, and catalogues obtained on the Premises, and of Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S.E.

N.B. At TWO o'clock will be offered, the YARD and PREMISES, at a low rental, including the goodwill.

A FACTORY TO BE LET or SOLD, adapted for Millwrights or Engineers. Will accommodate fifty workmen. Without steam power. And a number of ENGINEER'S TOOLS. Apply by letter in the first instance to J. T. G. Deacon's News room, Leadenhall street, E.C.

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THE OSBORN ESTATE, SPITALFIELDS.

Some LOTS and SINGLE HOUSES, situate on this estate, are TO BE LET, from Lady day, 1859, on leases for twenty one years, or on building leases where necessary. Parties desirous of treating may purchase are requested to send in TENDERS in or before the 24th of DECEMBER, to M. J. SUTTLY, Esq., 21, Old Bethlem, E., Dunckly street, W.C. at whose office a plan and form of lease may be inspected, together with terms proposed. Sir George Robert Osborn does not bind himself to accept the highest or any Tender.

GEORGE LEWIS PARKIN,
Receiver for Sir George Robert Osborn, Bart.
5, Newsquare, Lincoln's inn.

TO PUBLIC COMPANIES, CARRIAGE BUILDERS, PIANOFORTE MAKERS, CONTRACTORS, AND OTHERS.

MR. LEREW is directed to LET or SELL, with immediate possession, those extensive manufacturing premises, near the Goods Station of the London and North Western Railway, known as the CAMDEN WORKS, chiefly situate at Hawley crescent, Camden town, the whole of the Rooms and Yard, with good light and excellent wharf consisting of a spacious and lofty new proof hall, iron feet long by 40 feet wide, two engine-houses and stacks, very extensive workshops and store-rooms, admirably arranged, and spacious yard. These most substantial and eligible works will be found worthy of the inspection of any manufacturer, &c. Attend—For further particulars, and orders to view, apply to Mr. LEREW, Auctioneer, Carlington-street, Hampstead road, near the Euston Station, N.W.

TO MARKET-GARDENERS and OTHERS.

TO BE LET a LEASE, 3 and ACRES or part, of LAND for growing purposes, &c. for the Lordship Estate, being close to a railway station, near Hastings, part, and about about is cheap. The said Estate requires a tenant of respectability and market gardening views, who will be treated with by the owners on liberal terms. Apply by letter, post paid, to Messrs. MANSELL and ELLIOTT, 16, Cornhill, London.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for building purposes, situate on Clapham common, on the high road from Clapham to Wandsworth.—For particulars apply to JAMES CROWDY, Esq., 17, Serjeants'-inn, Fleet street, E.C.

TO BRICKMAKERS, BUILDERS, AND CONTRACTORS.

TO BE LET, at a low Royalty, a BRICKFIELD in the parish of Dovercourt, near Harwich, close to the Railway, now being opened, where there is a great local demand for Bricks of all descriptions, containing from five to twenty acres of first rate earth, situated close to a spacious free quay, where Bricks can be shipped for the London market. A small part, and chalk, sand, and a thousand loads of clay, in a quarter of a mile of the new town, now building, eight to ten minutes of the kiln may be made annually.—Applied for to be made to the Proprietor, JOHN PATTRICK, Portland and West-Rock Roman Cement Manufacturer, Dovercourt, near Harwich. The Trade is supplied with a genuine article, at the lowest price possible, by large Abridges in the River Thames, or to any other port

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TO SCULPTORS, MASONS, BUILDERS, &c. FABBRICOTTI, BROTHERS, of Carrara (Italy), Importers of all sorts of Marble, keep a constant well-supplied Stock of Marble, in Blocks, at the marble wharf, Chelsea, comprising STATUARY, VEINED, VEINED PANNAZZO, SICILIAN, DOVE,—all the produce of their own Quarries at Carrara.—Bardilla, Black and Gold, Serena, Brecche, St. Anna's, Vert des Alpes, Breccia, &c. Views, designs, and Gallery Statues, manufactured in Italy, and take Contracts for all the above sorts of Marble to any extent connected with the Trade
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MANSFIELD STONE, White or Red, in Blocks up to Ten Tons, and the beds from 1 to 7 feet thick supplied also in Slabs, for floors or grave stones, and in Sawing, for steps and sills.—Mr. ROBERT LINDLEY, Quarry owner, Mansfield, Nottinghamshire.

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This Granite is selected for the New Westminster Bridge.

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CAEN and AUBIGNY QUARRYMEN, and
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RANSOME'S PATENTED PROCESS for INDURATING STONE, CEMENT, BRICKS, &c. to prevent and arrest decay and stop porosity. It can be worked by any mason, painter, or labourer as readily as paint, &c. Does not alter the colour or the natural appearance of the material, and is permanent.
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The Valentia Slab Company invite attention to their slabs, now supplied of very large dimensions and of superior quality. They have been used at the British Museum, Natmina, Colney, Bethlehem Hospital, various Lunatic Asylums, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Marking Floors in Bedfordshire and Hertfordshire, Breweries, the Race Stands at Brighton, Portsmouth Barracks, and are kept in stock by the principal Slate Merchants in London.—For wholesale terms, apply to the Company's Manager, at Valentia, Kerry.
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TO BUILDERS, CONTRACTORS, &c.

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Do. 22 by 12	8	17	6 "
Do. 24 by 10	7	2	6 "
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Do. 16 by 10	4	8	0 "
Do. 16 by 8	4	8	6 "
Do. 14 by 8	2	11	6 "
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Apply to T. and I. B. NICHOLSON, Merchants, &c. Gloucester.

SLATES for SALE.—T. and I. B. NICHOLSON beg to inform Slate Merchants and Others that they are prepared to supply SLATES and SLABS from their stock at Gloucester and Southam by the next steamer, on the advancing railways at greatly reduced prices.—Address, T. and I. B. NICHOLSON, Merchants, Gloucester
Offices, Gloucester.

INDURATION of SOFT BUILDING STONES.—To parties requiring SILICATE OF SODA for this or other purposes, the WIDNES SOAP COMPANY are extensively engaged in the Manufacture of Soluble Glass, at a very favourable rate of purity, either as glass, in lumps, or in powder or as concentrated solution.—Address, Widnes Dock, near Warrington.

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ROYAL POLYTECHNIC INSTITUTION Patron—H. R. Highness the Prince Consort. The Stereoscope and the Art—Monkey Photographic Light—The Royal Diving Bell, and the Apparatus, &c. Experimentally Demonstrated by Professor. Mr. Bennet Hoare will give his Drawing Lessons on the Evening Polar Tools, with regard to Italian and French Shading, every Evening. Lecture on the Mechanical Properties of the Atmosphere, by Mr. J. L. King. Dissolving Views. Diver, Diving-Bell, &c. &c. Great Variety and Novelty in the Programme of Entertainments.
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The Builder.

AN ILLUSTRATED WEEKLY JOURNAL FOR THE Architect, Engineer, Operatives & Artist.

VOL. XVI.—No. 828. DECEMBER 18, 1858. PRICE FOURPENCE. Stamped, 5d.

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ROYAL INSTITUTE of BRITISH ARCHITECTS.—As Mr. FRANK HARGER will undertake the duties of LIBRARIAN and SECRETARY during his absence, it is requested that all MONEY ORDERS after that date may be made payable to him. C. C. NELSON, Hon. M. D. WYATT, } Secs.

9, 16, Grosvenor-street, W. December 13, 1858.

THE ARCHITECTURAL MUSEUM, SOUTH KENSINGTON MUSEUM, W.—On WEDNESDAY next, at EIGHT P.M. precisely, Mr. W. BURGES will LECTURE on "The Conventional Ornament of the Thirteenth Century." Architectural Students may obtain cards, gratis, at the Attendant at the Gallery of the Architectural Museum; at the Office of "The Builder;" or by letter to the Hon. Secretary, at 15, Stratford-place, W.

GEORGE GILBERT SCOTT, A.R.A. Treasurer.
JOSEPH CLARKE, F.S.A. Hon. Sec.

THE FOURTH BIENNIAL EXHIBITION of ARCHITECTURAL, MECHANICAL, ORNAMENTAL, and PERSPECTIVE DRAWINGS, executed by the Students of the Architects, Builders, Civil Engineers, and Machinists' Drawing Classes, together with a collection of DRAWINGS from Mr. Silly's pupils at the City Companies' Schools and Institutions, will be exhibited Free, in the CLASS-ROOMS of the Establishment, 15, Old-street, City-road, on MONDAY, 27th DECEMBER instant, and the four following days, from TWELVE at noon till NINE p.m. each day.

THOMAS J. HILL,
Architect, and Principal of the Drawing Classes.

COMPETITIONS.

TO ARCHITECTS and OTHERS.—The Corporation of the Borough of Folkestone are desirous of obtaining DESIGNS for a BUILDING adapted for the purposes of a TOWN-HALL, COUNCIL-HOUSE, POLICE-OFFICE, and MARKET-HOUSES. The plans to be drawn to a scale of 8 feet to 1 inch. Each set of designs to comprise elevations, plans, and perspective view, with specification and estimate, and to be forwarded to the Town-Clerk, free of expense (under motto only), accompanied by a sealed letter, containing the name and address of the person furnishing the designs, on or before the 6th day of JANUARY, 1859. A premium of £50 will be given to the person whose designs shall be approved of, and considered by the majority of the members of the corporation as the best; and £20 as the next best; and such designs shall be the property of the corporation, who shall not be bound to employ the successful person as architect. The building is to be of white brick, with Portland cement facings, and is not to exceed 100 feet in depth by 90 feet in width in the clear. The estimate is not to exceed £5000. The unsuccessful designs will be returned to the owners by the usual modes of conveyance, but the corporation will not be responsible for their safe delivery, nor for any payment to the owners in respect of such designs. Instructions as to the requirements of the Corporation will be forwarded by the Town-clerk on receipt of 2s. 6d. in postage-stamps.—By order of the Corporation,

RALPH THOS. BROCKMAN, Town-clerk.

TO ARCHITECTS.—WANTED, by the Trustees of the Tabernacle Chapel, Aberystwith, a PLAN, with Elevations and Sections, for a NEW CHAPEL. A prize of Five Pounds will be paid by the one approved of by them. The size of the building to be about 450 superficial yards, and convenient for adding a gallery hereafter if required. The cost of the erection not to exceed £500. The plans to be sent per book post to JOHN MATTHEWS, and Surveyor, Aberystwith, Cardiganshire, by the 22nd JANUARY next. Those not approved to be returned, if required, by the same conveyance.

COMPETITIONS.

MANCHESTER ASSIZE COURTS.—To ARCHITECTS.—The Justices of the Peace for the County of Lancaster are desirous of receiving DESIGNS for the proposed MANCHESTER ASSIZE COURTS, LODGINGS for Her Majesty's Judges, Offices, Lockups, and all other accommodation which may be necessary or convenient for carrying on the civil and criminal business usually transacted at courts of assize. A premium of 250l. will be given for the best design; 150l. for the second best; and 100l. for the third best. The various buildings are to be erected on a plot of land, part of which was recently the site of Strangeways Hall, situate in Bury New-road, or Great Ducie-street, Manchester.—A plan and sections of the site, and full printed particulars may be obtained on application, by post or otherwise, to the undersigned, with whom the designs must be left on or before the 1st day of MARCH, 1859, at his Office, 37, New Bailey-street, Salford.—By order,

FREDERICK C. HULTON,
Clerk to the Manchester Assize Courts' Committee.

Salford, November 20, 1858.

CONTRACTS.

NOTICE to BUILDERS.—ORDNANCE WORKS.—The Commanding Royal Engineer of the Dover District hereby gives Notice, that sealed TENDERS will be received at the Office of the Director of Contracts, War-office, Pall-mall, London, on or before THURSDAY, the 23rd day of DECEMBER, 1858, from Persons desirous of CONTRACTING for BUILDING QUARTERS for MARRIED SOLDIERS, with LAUNDRY and OUT-OFFICES, at Dover Castle. Drawings and a specification of the work to be executed may be seen by persons fully competent to undertake the work, and printed specifications with forms of Tender, obtained at the Royal Engineer Office, Dover, between the hours of TEN and FOUR o'clock, from TUESDAY, the 7th of DECEMBER, to TUESDAY, the 21st DECEMBER, 1858, inclusive, Sundays excepted. The party whose Tender may be accepted for the works will be required to enter into a bond, with two eligible securities, jointly and separately in the penal sum of 400l. for the due performance of the contract. Tenders for the above works to be addressed to the Director of Contracts, War-office, Pall-mall, London, S.W. and endorsed, "Tender for Married Soldiers' Quarters at Dover Castle."

N.B. The War Department reserves to themselves the right of rejecting the whole or any of the Tenders

Royal Engineer Office, Dover, November 29, 1858

TO BUILDERS. — NEWMARKET CEMETERY. — Persons desirous of CONTRACTING for the ERECTION of CHAPELS and ENTRANCE-LODGE, upon the new BURIAL GROUND, can inspect the plans and specifications, on the Office of Mr. J. F. CLARK, Architect, Newmarket. Tenders to be delivered on or before the 20th day of DECEMBER, by NINE o'clock in the morning.—The Board will accept the Lowest Tender upon approved security being given.

Dec. 4, 1858. WILLIAM PURKES, Clerk to the Board

TO MANUFACTURERS, WAREHOUSEMEN, BREWERS, CARRIERS, and Others.—WHITECHAPEL WORKHOUSE, WHITECHAPEL-ROAD. The Guardians of the Poor for the Whitechapel Union will meet at their Board Room in the New Workhouse, Charles-street, Mile-end New Town, on TUESDAY, the 21st day of DECEMBER, 1858, at TWO o'clock in the afternoon precisely, to receive TENDERS from persons proposing to PURCHASE that portion of the GROUNDS and BUILDINGS forming the rear of the Whitechapel Workhouse premises, commencing at a line drawn at 63 feet, or thereabouts, distant from the Whitechapel-road, more particularly shown on the plan hereinafter mentioned, having a frontage and right of way west on St. Mary-street of about 57 feet, and bounded on the north by the Whitechapel Society's school grounds and by the burial ground, 278 feet, and 78 feet, and south by the grounds and buildings forming the front portion of the said Workhouse premises, 272 feet, containing an area of about 1,400 superficial feet. On part of the site there are two ranges of well constructed Four-story Warehouse Buildings, being together in length about 150 feet by a depth of 21 feet, having for the most part windows on both fronts; there are also some One and Two-story Buildings, and also large and convenient Yards. The plans can be seen, and forms of Tender and conditions of sale obtained of Mr. H. S. MITCHELL, Vestry Clerk's Offices, 5, Great Prescot-street, Whitechapel; of Mr. JOHN HUDSON, Architect and Surveyor, 19, Lemon-street Whitechapel; and at the Workhouse, as above. The Guardians do not bind themselves to accept the highest or any Tender As some small alterations have been made in the present advertisement, persons having obtained forms of Tender previously to this day, and desirous of tendering, will be pleased to get fresh ones.—By order.

December 7th, 1858. G. ADAMS FARR, Clerk

BOROUGH of BLACKBURN.—To MANUFACTURERS of EARTHENWARE DRAIN-PIPES, &c. The Corporation of the Borough of Blackburn are prepared to receive TENDERS for the supply of DRAIN PIPES, JUNCTIONS, SYPHONS, TRAPS, &c. The specifications may be seen, and further information obtained, on application to Mr. BRIERLEY, Borough Surveyor, at his Office, Town Hall. Sealed Tenders, endorsed "Tenders for Drain pipes, &c." may be sent to the Town Clerk's Office, Townhall, not later than SATURDAY, the 18th inst. The Corporation do not bind themselves to accept the lowest or any Tender

Blackburn, 6th Dec. 1858. THOS. AINSWORTH, Town Clerk.

TO IRONFOUNDERS and OTHERS.—IRON RAILING, with 9-inch Iron Curb, wanted for Eighteen Houses, each house having two gates and two flights of steps. Tenders to be sent to Mr. W. WHITE, Morpeth Castle, Hackney-walk, from whom further particulars may be had, and to whom estimates must be sent, not later than the 31st instant Not bound to accept the lowest Tender.

TO BUILDERS and OTHERS.—TENDERS are required for a NEW CHAPEL, to be erected on the site of the present Independent Chapel, Lion-walk, Colchester. Drawings and specifications at the Colchester Office of Mr. CHARLES FOSTER HAYWARD, Architect, from DECEMBER 28th, 1858, to JANUARY 15th, 1859, to whom the Tenders are to be delivered on or before the latter date. The lowest Tender not necessarily accepted.

CONTRACTS.

TO TIMBER DEALERS and OTHERS.—The Guardians of the Poor of the Parish of St. George the Martyr, Southwark, will at their Meeting to be held on WEDNESDAY, the 29th day of DECEMBER instant, be prepared to receive PROPOSALS for the PURCHASE of a quantity of FELLED TIMBER, now on the ground adjoining Eagle House, Mitcham, in the county of Surrey, consisting of elm and willow trees. Separate sealed Tenders for each description of timber, must be sent to me at my Office, No. 17, Union-street, Southwark, before the said 29th day of December instant. The purchaser will be required to remove the said timber, forthwith, and to pay for the same before removal. The Guardians do not bind themselves to accept the highest or any other Tender Further particulars may be obtained of the superintendent at Eagle House.—By order,

JOHN H. FITCH, Clerk.

17, Union-street, Southwark, 16th December, 1858.

TO BUILDERS, &c.—RAMSEY CEMETERY, HUNTS. Persons desirous of TENDERING for the ERECTION of TWO CHAPELS, LODGE, and BOUNDARY WALL, also for LAYING OUT and DRAINAGE of the GROUND, may inspect the plans and specifications at the Office of Mr. ROBERT HUTCHINSON, Architect, Huntingdon, on and after MONDAY, the 6th day of DECEMBER, 1858. Sealed Tenders to be sent to my Office, at Ramsey, on or before TUESDAY, the 21st day of DECEMBER, 1858. The lowest or any Tender will not necessarily be accepted.

JOHN SERJEANT, Clerk to the Burial Board.

Ramsey, December 2nd, 1858.

BUILDERS desirous of TENDERING for the ERECTION of a PUBLIC-HOUSE at Blackwall, may inspect the drawings and specification after TUESDAY next, the 21st instant, at the Residence of Mr. RICHARD STRONG, 7, Stratford-place, Upper Grange-road, Old Kent-road; or at the Offices of Mr. WILLIAM KLLISON, Architect, 19, Stainsby-road, Limehouse. Advance 30 per cent as the works progress. Tenders will be opened on SATURDAY, the 1st of JANUARY next.

CHRIST CHURCH, BLACKFRIARS-ROAD.—Builders willing to enter into a CONTRACT for TAKING DOWN the remains of PREMISES, Nos. 13 and 14, Gravel-lane, Charlotte-street, Blackfriars-road, and for BUILDING there FOUR LARGE ROOMS and EIGHT LIVING ROOMS, &c. can see the drawings, prepared by Mr. T. W. PAPWORTH, the draft contract, and the site, between the hours of ELEVEN and FOUR, daily, on application at the Rectory, 86, Blackfriars-road, where the Tenders will be opened at THREE p.m. on FRIDAY, the 24th DECEMBER. The lowest Tender will not necessarily be accepted.

PATENT DERRICK COMPANY (Limited).
OFFICES—27, CORNHILL, LONDON.
CAPITAL, £100,000 In Ten Thousand Shares of £10 each

This Company's Floating Derricks are eminently adapted to raising sunken and recovering stranded vessels The annual number of Wrecks upon our coasts exceeds One Thousand, and the estimated value of this loss amounts to 2½ millions sterling.

A large proportion of these vessels may be recovered by the Patent Floating Derricks, and an agreement has been entered into with the Marine Insurance Companies, and Underwriters at London and Liverpool, which after deducting working expenses &c. gives to the company 75 per cent of the net salvage proceeds so recovered, from all vessels and cargoes, sunk prior to the date of the agreement.

Two of these Derricks, belonging to the New York company have raised and saved over 500 vessels This Company commenced by paying its shareholders half-yearly dividends of 10 per cent.; but, since July, 1857, has regularly paid quarterly dividends of 5 per cent.

A limited number of Shares of £50 each in the Capital Stock of the Patent Derrick Company remain for allotment These Shares are required to be paid as follows:—

£10 per Share on Application, and the remainder by Calls of £10 each, at intervals of one month between each Call.

Forms of Application for Shares and Prospectuses may be obtained at the Offices of the Company.

27, Cornhill, London, E.C. G. J. SHARP, Sec.

TO BRASS-FOUNDERS, ENGINEERS, REFINERS, &c.—The PATENT PLUMBAGO CRUCIBLE COMPANY having completed the enlargement of their premises, beg to call the attention of all users and shippers of MELTING POTS to the great superiority of the PATENT CRUCIBLES, which have been used during the last three years by some of the largest dealers in England and abroad. In addition to their capabilities of melting an average of from 40 to 45 pourings, they are manufactured by change of temperature; never crack, but can be used till worn out; require only one annealing for several days' work; and become heated much more rapidly than ordinary pots; effecting thereby a saving of more than 5 per cent. in Coke, Blast, fuel, and waste The Patent Plumbago Crucible Company also manufacture and supply Clay Crucibles, Muffles, Portable Furnaces, Sulphuate Pans and Covers, Glass Pots, all descriptions of Fire-standing Goods, and every requisite for the Assayer and Dentist—For lists, testimonials, &c. apply at BATTERSEA WORKS, London, S.W.

PATENT WOOD, or FIBROUS SLAB COMPANY (Limited).—NEW TARIFF of NET PRICES for SLABS, 14 feet 2 by 6 feet 4, and under.

NOT FLAMMABLE.

¼ per foot superficial	2d.
⅜ " "	2½d.
½ " "	3d.
⅝ " "	4½d.
¾ " "	5d.
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Being a considerable reduction from the pamphlet and last advertised quotations.

If surfaced, 1d. per foot extra per side.
If cut to sizes, 4d. do. do.

Patent Fibrous Recently prepared for Carriage, Coach, and Van Makers, Artists, Sign-board Makers, &c.

	¼	⅜	½
Surfaced only	3d.	3½d.	4½d.
Prepared in oil, before painting	5d.	6d.	7d.
Painted and rubbed down for decorations	7d.	8d.	9d.

Slabs bent to any form to order, as may be agreed upon.

15, Wellington-street North, Strand, Dec. 4, 1858

TO ARCHITECTS AND BUILDERS.

THE BEST DOOR-SPRINGS yet introduced for Single and Double-action Doors are DILKE and TURNER'S "PATENT CLIMAX."

They possess great power, extreme durability, easy to fix and regulate, and are cheaper than any other in the market. May be had of all respectable Ironmongers in town and country.

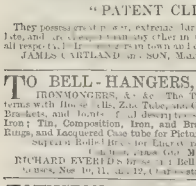
JAMES CARTLAND and SON, Manufacturers, Birmingham.

TO BELL-HANGERS, GAS-FITTERS, IRONMONGERS, &c. &c. The Trade supplied on the best terms with Hooks and Bells, Zinc Tube, and Copper Wire. Gas Pendants, Brackets, and Incandescent Burners. Every description of Gas-fitting, in Brass and Iron; Tin, Composition, Iron, and Brass Tubing; Cornice Poles, Rings, and Lacquered Case tube for Picture-rods, Desk-rails, &c. &c.

Superior Bells, Hand or Machine Engraving, Castings in Fine Metal, Brass Cocks, Gilt Medal, and all

RICHARD EVERED'S Brass and Bell Foundry and Metal Warehouses, Nos. 10, 11, and 12, Charles-street, Long-acre, London.

JOHNSTON, BROTHERS, GASFITTERS, and MANUFACTURERS of every description of MEDIEVAL BRASS WORK, and General Gas Fittings for Churches, Chapels, Public Buildings, &c.



Drawings and estimates furnished.

Architects' designs accurately executed.

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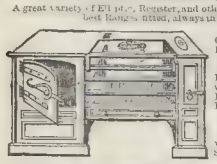
CLARK and HUNTS IRONMONGERY, STOVE, and METAL WAREHOUSE, 139, Shoreditch.

A great variety of Bell-pulls, Register, and other Stoves, Cottage and best Ranges fitted, always in Stock.



Improved Self-acting Cottage Ranges, with Large Oven and Boiler, 20 in. 2 feet 3 inch. 20s. 28s. 33s. 42s. Best self-acting Ranges, with Oven and Back Boiler, Bright Wrought Bars— 24 in. 26 28 32 in. 24s. 26s. 30s. 40s. Strong Elliptic Stoves, with Extra Back and Solid Bars, per inch, 2d.

Improved Self-acting Kitchen Ranges, with strong Bright Wrought Bars, per inch, 3d.

Best Solar Lights, with Frosted Bars, per inch, 3d.

Bright Stoves, with Two Fires, 4s. to 10s. each.

BRIGHT Chequered Rose Nails.

1½ inch 1 inch 2 inch. 2½ inch. 3 inch.
1s. 1s. 6d. 1s. 8d. 1s. 4d. 1s. 6d. per cwt.

Best Sash Cut Floor Brads, 12s. 6d. per cwt.

Best Cut Lath Nails, 1s. per cwt.

Cast Rain-water Pipe, 2 in. 2½ in. 3 inch.
10d. 1s. 1s. 2d. per yard.

Cast Gutters, 4 inch, 3d. per yard

O G Gutters . . . 4 inch. 5 inch. 6 inch.
2 3 4 per yard.
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Patent Line . . . 3s. 6d. 4s. 5s. 7s. 9s. per gross
6 inch. Rd Ward Mortise, with best Furniture and Patent Bullies, 2s. 9d. each. Light Elliptic and Register Metal, 12s. 6d. per cwt.

Brick Moulds kept in stock. Any size made to order.
BLACK ANNEALED FENCING WIRE, 12s. PER CWT.

HANDSOME BRASS and IRON BEDSTEADS.—HEAL and SON'S Show-rooms contain a large assortment of brass bedsteads, suitable both for home use and for tropical climates; handsome iron bedsteads with brass mountings and elegantly japanned; plain iron bedsteads for servants; every description of wood bedstead that is manufactured, in mahogany, birch, walnut-tree wood, polished deal, and painted. All fitted with bedding and furniture complete, as well as every description of bedroom furniture.

HEAL and SON'S EIDER-DOWN QUILTS, from One Guinea to Ten Guineas. Also, GOOSE-DOWN QUILTS, manufactured to all sizes and prices, and sent free by post. HEAL and SONS new Illustrated Catalogue of Bedsteads, and Priced List of Bedding, also sent post-free.—196, Tottenham-court Road, W.

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PFEIL and STEDALL, THE LARGEST STOCK AT THE LOWEST PRICE.

IMPROVED PATENT STABLE FITTINGS of every description.

5 AND 6, BROAD-STREET, BLOOMSBURY.

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LONDON OFFICE, 1, RICHES-COURT, LIME-STREET

SKAIFE and CO. late Skaife and Pollock, Manufacturers of PATENT GALVANIZED IRON Sheets, Corrugated and Plain; Fencing and Telegraph Wire, Bars, Rods, Hoops, Nails, Screws, and Miscellaneous Articles, supplied to the Trade. Galvanized Tin Sheets and Tiles for export. IRONWORK GALVANIZED Roofing-plates, Gutters, and other Castings. Offices and Warerooms, Temperance Chambers, London Wall-street, Leeds. Works, Lancaster Wharf, Leeds.

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Estimates for Roofs and every description of Galvanized Buildings, at the OFFICES and WAREHOUSE, DOWGATE DOCK, LONDON.

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Wrought Grooved Poplar Boards.

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Models and Drawings and Estimates furnished.

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W. TEMPLE and CO. beg to call the public and the trade that they are prepared to supply CORRUGATED SHEET IRON, Galvanized, Painted or Black, of the best quality, at the most reasonable terms. By their new arrangements they can Galvanize in any lengths that have hitherto never been attempted. Ship and Wire Work of every description. Estimates given for Houses, Roofs, Stores, &c.

IRONWORK.—BRIDGES, GIRDERS, ROOFS, TANKS, RAILINGS, and every description of ORNAMENTAL CONSTRUCTIVE IRONWORK, in WROUGHT and CAST IRON, designed and manufactured

Dealer in L, T, and Bar Iron, Plates, Sheets, Tubes, Rivets, Bolts, Screws, Nails, &c.

Builders' Merchants and Contractors supplied on the most favourable terms.

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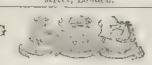
A LARGE CHURCH-STOVE, with two fires and descending flues TO BE SOLD very cheap; also two others, smaller, adapted for churches or chapels, or any other large premises.—Inspection invited. EVANS, SON, and CO., 56, Great Queen-street, Lincoln's-inn-fields, W.C. Workmanship, London.

BATHS and HOT-WATER APPARATUS. J. TYLOR and SONS' ILLUSTRATED CATALOGUE of BATH WORK, &c. may be had on application. Estimates and Plans for Fixing given. J. TYLOR and SONS, Manufacturers, Warwick-lane, Newgate-street, London.

HEATING BY  HOT WATER.

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NO CHIMNEY WANTED for RICKETT'S PATENT CALORIFERE GAS STOVES in CHURCHES, HALLS, or SHOPS;

And for Counting-houses, or any other Apartment, a Pipe can be attached to carry away the burnt air.

RICKETT'S CHEAP GAS STOVE, Price £1 15s.

Made of Sheet Iron, suitable for Heating small Counting-houses, Bed-rooms, &c.

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Liberal Discount to Builders.

THE AMERICAN STOVE, "EXCELSIOR," Also for Shops or Offices. Decidedly the best ever offered in London. Now being supplied at ANDREW M'LAREN and CO.'S, Ironfounders, 174, Upper Thames-street.

P.S. A large Stock of other Stoves, Ranges, and all kinds of Castings at the Lowest prices, combined with the best design and workmanship.

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BAKER and CO'S is the best Manufactory for SUPERIOR STOVE GRATES, equal to SHEFFIELD MAKE at HALF the COST, bright or black. Mitre Foundry, Bishop-street, Birmingham.

THE PATENT AMERICAN KITCHENER. The cheapest and most perfect COOKING RANGE ever invented, which will cook for a large family at a cost for fuel of one shilling per week. May be seen in operation daily at the AMERICAN STOVE WAREHOUSE, 94, Cannon-street, E.C.

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RAIN-PIPES, &c.—F. A. TIDDEMAN and CO. St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge keep a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., Half-round and O G Gutters, Socket Pipes for Water or Gas, Flange Pipes, Hot Water Pipes and Connections, and Wrought and other Castings. Iron work for bakers' ovens of every description, fitted complete to be had on shore or in Paris. Prices and full competition. Contracts taken to any extent. Goods landed. A powerful Crane.

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FIRE-PROOF CONSTRUCTION.—FOX AND BARRETT'S PATENT.

This improved system of fire-proof construction has been extensively adopted for Public Buildings, and is recommended for nearly EVERY DESCRIPTION OF BUILDING, whether private or public.

The system combines ECONOMY with great simplicity of construction, perfect security from fire, increased durability, and in every important advantage.

The floors and roofs are formed by a combination of joists of wrought or rolled iron with concrete, so constructed that each floor becomes in effect a beam of artificial stone with ribs of iron; the structure possessing great strength and rigidity, and forming a fire proof foundation adapted to receive a finished surface, either of the ordinary flooring-boards, or of mosaic, asphalte, tile, slate, or other material.

Some of the largest and most important buildings in the kingdom are now in course of erection upon this principle, which is recommended to the notice of all who are interested in building, both as superseding the necessity for cast iron girders and brick arches, and as bringing the great desideratum of fire-proof construction within the ordinary dwelling-houses and domestic buildings, within the means of every one.

Further information may be obtained of the Proprietor of the Patent,

Mr. BARRETT, 16, YORK-BUILDINGS, ADELPHI

SAWING MACHINERY. VERTICAL SAW-FRAMES, all sizes, for cutting bank timber and logs. IMPROVED BACK CIRCULAR SAW TABLES, WOOD PLANING, TONGUING, and GROOVING MACHINES, and all kinds of WOOD-CUTTING MACHINERY, by SMITH BROTHERS, & CO. Engineers and Millwrights, Glasgow

LOSH, WILSON, and BELL, NEWCASTLE-ON-TYNE, Manufacturers of Bar Iron, Railway Bars, Forge and Engine Work, Cast-iron Goods, and STEWART'S PATENT CAST IRON GAS and WATER PIPES. Offices, N. 7, Size-lane, London

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IS NOW OPEN, YOUNG'S IRONMONGERY WAREHOUSE, 24, Dean-street, three Doors from Oxford-street (for the supply of Builders, Ironmongers, Plumbers, Bell-hangers, and the Trade in general at wholesale prices. In connection with the old establishment, No. 18, Blandford-street, Manchester-square, removed out of Baker-street, Portman-square, London, W.

FIRE RESISTED.—ROBBERIES PREVENTED.—PRICE'S PATENT FIRE-RESISTING and THIEF-PROOF SAFES, Iron Doors, Iron-safe Fronts, Cupboards, Locks, &c. Price-list, 324, Strand (near Exeter Hall), London, W.C. Works, Wolverhampton. Illustrated Price Lists, gratis.

The GREAT SANCTUS BELL for the HOUSES of PARLIAMENT and the FOUR QUARTER BELLS were cast by JOHN WARNER and SONS. Prize Medal for Bells exhibited by the Manufacturers to the Bells.

"Copy of Certificate from Mr. JAMES TURLE, Organist, and Master of the Choristers, Westminster Abbey.

"This is to certify that I have, at the request of Mr. Denison, heard the Quarter Bells just erected by Messrs. WARNER and SONS, for the Clock Tower of Westminster; after a trial upon them of a variety of combinations, I have great pleasure in stating that they are, in my judgment, very satisfactory in tone, and as regards time in perfect accordance with another."

Dated Westminster, September 22nd, 1858.

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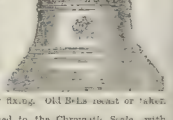
JOHN WARNER and SONS, Patentees of IMPROVEMENTS in the MANUFACTURE of LARGE BELLS.

J. W. and SONS have of late years devoted much time and study to the long-neglected art of Bell Casting, have recently invented and patented a new process connected therewith, by which they are enabled to manufacture Bells of any size, note, or weight, of superior tone, truer in form, and more durable than as hitherto known and adopted.

Bells for Churches, Chapels, Colleges, Halls, Peals, Chimes, Clocks, &c. cast for any size, note, or weight, single or in peals.



TUNED BY MACHINERY.

Stocked and wheeled ready for fixing. Old Bells recast or taken in exchange.

MUSICAL HAND BELLS tuned to the Chromatic Scale, with improved Clappers, arranged on a new system, which gives superior tone and facility for ringing.

8, CRESCENT, Jewin street, London, E.C.

TO RAILWAY CONTRACTORS and OTHERS. A large sum of MONEY is ready to be advanced upon good securities.—Apply to W. and A. COOPER, 11 George-street, Mansion house, E.C.

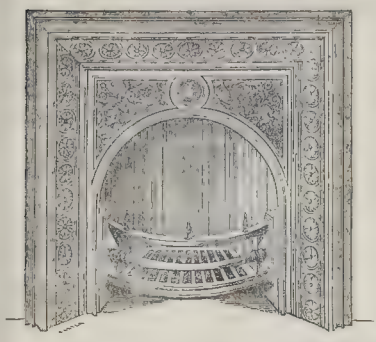
BANK of DEPOSIT, Established A.D. 1844. 3, PALL-MALL EAST, LONDON. Parties desirous of INVESTING MONEY are requested to examine the Plan of the BANK of DEPOSIT, by which a high rate of interest may be obtained with ample security. Deposits made by special agreement, may be withdrawn without notice The interest is payable on January and July PETER MORRISON, Managing Director. Forms for opening Accounts sent free on application.

LOANS, from 10l. 10s. to 100l. ADVANCED within 20 miles of London, repayable weekly, monthly, or quarterly, as agreed upon. No fee for inquiry, unless the money is returned if the loan is not approved. Forms, price 2d., if required by post. Offices, 3, Crescent, Jewin-street, City. MONEY ADVANCED on REAL PROPERTY, METROPOLITAN and COUNTY, 7, Great Queen-street, Strand. Offices open from 10 to 4. Fee 10s. 6d. CHARLES STAUNTON, Clerk.

EVENING CLASSES.—ROYAL POLYTECHNIC.—The Classes in Arithmetic, Algebra, Mensuration, Bookkeeping, Land Surveying, Levelling, Geometrical Drawing, Perspective, Architectural Drawing, Modelling, Chemistry, Mechanics, Natural Philosophy, Languages, &c. will RE-OPEN on MONDAY, JANUARY 17th. Arrangements have been made for a Ladies' Branch. Prospectus, further information and tickets apply to Mr. COTTERILL, at the Institution.

ROYAL POLYTECHNIC INSTITUTION. Patron—H. R. Highness the Prince Consort.—Open as usual this week. The Christmas Holiday Programme is replete with amusements of a most attractive kind. P. T. LONGBOTTOM, Esq., Managing Director

IMPROVED GRATES WITH PORCELAIN SIDES,



of elegant designs, and variegated colours, from the each complete. The sides of porcelain from a stout steel arise from the cleanliness, saving of iron by colouring, and from the security not being injured by ignorant

IMPROVED GRATES WITH STOURBRIDGE FIRE-BRICK BACKS,

from 2l. each complete. Anyone who has experienced the superiority of fire-brick for retaining heat and radiating it into the room, would never consent to have grates with cast backs, which consume the heat away

IMPROVED SMOKELESS GRATES

now made, from 2l. each. These grates burn bituminous coal, will burn for hours without attention, and are moderate in first cost, that chimney sweeping is almost superseded.

STOVES FOR ENTRANCE-HALLS, SCHOOL-ROOMS, CHURCHES, &c.

of the most simple construction made with or without an open fire, and to burn night and day, if required.

EDWARDS'S SMOKELESS KITCHEN RANGE.

A perfect cooking apparatus, ensuring the operations of cooking being conducted with cleanliness, economy, and despatch, and is the only one for which the first-class medal was awarded at the Paris Exhibition of 1855. The saving effected in the consumption of coal, it effectually cures any smoky chimney, and obviates the necessity of chimney sweeping.

PROSPECTUSES WITH FULL PARTICULARS FORWARDED ON APPLICATION.

Public Buildings and Mansions fitted up with Stoves, Cooking-ranges, Steam Cooking-apparatus, Washing-apparatus, Drying-closets, Baths, Bells, &c.

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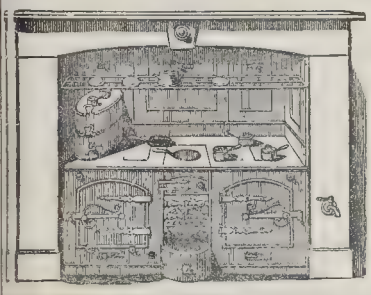


BENHAM AND SONS, WIGMORE-STREET, LONDON,

Invite attention to their extensive suite of SHOW-ROOMS.

STOVES, FENDERS, AND FIRE-IRONS,

THE LARGEST AND BEST SELECTION IN LONDON.

KITCHEN RANGES and COOKING APPARATUS, GAS-FITTINGS, BATHS, &c. for Large or Small Establishments.

CUTLERY, ELECTRO-PLATE, IRON and BRASS BEDSTEADS and BEDDING, and every Description of General Furnishing Ironmongery,

HOT-WATER APPARATUS, CONSERVATORIES, &c.

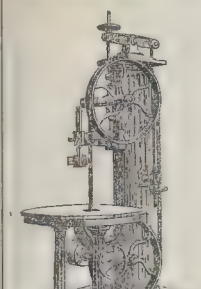
FLAVEL'S PRIZE KITCHENER,

The only Kitchen Range which obtained a Prize Medal and Special Approbation at the Great Exhibition, 1851.

FLAVEL'S PRIZE KITCHENER is strongly recommended for its simplicity of construction, and its economy and cleanliness in use. It is made from 3 feet to 18 feet in width, suitable for large or small establishments, and may be arranged to supply a Bath, Steam Kettles, Steam Closet, &c. It is an effectual cure for Smoky Chimneys.

BENHAM and SONS, 19, Wigmore street, Cavendish-square, London, W.;

ALSO IN THE HARDWARE COURT OF THE CRYSTAL PALACE, SYDENHAM, S.E.



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Engineers, Patentees, and Manufacturers of all kinds of Machinery for Working in Wood,

VICTORIA WORKS, BLACKFRIARS, LONDON.

ENDLESS BAND SAWING-MACHINES (NEW PATENT).

NO MORE BREAKAGE OF SAWS.

POWIS, JAMES, and CO. beg to call the attention of all who use SAWING MACHINERY, to their NEW PATENT dated August 24, 1858, being an ELASTIC COMPOUND ADJUSTING LEVER-MOTION ENDLESS BAND SAWING-MACHINE, by which the STRAIN upon the SAW USED is so REGULATED, that BREAKAGE of SAWS is ENTIRELY DONE AWAY WITH. One of these MACHINES, UPON A LARGE SCALE, IN FULL WORK, at her Majesty's Dockyard, Deptford.

A STOCK of MACHINERY for WOOD, ALWAYS KEPT READY, including their PATENT MACHINE for MORTISING, TENON CUTTING, and BORING, of which upwards of a THOUSAND have been SOLD in ENGLAND ALONE; and is the ONLY MACHINE which is SELF-FEEDING, and doing the THREE kinds of WORK by ONE MACHINE.

Also, CIRCULAR SAW-BENCHES, with RISING TABLES,

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Letters and Applications for MACHINERY to be addressed to COUNTING-HOUSE, 26, WATLING-STREET, London, E.C.

ZINC ROOFING, INCLUDING TIMBER OR IRON FRAMEWORK,

IS AS

CHEAP AS SLATES OR GALVANIZED IRON, LIGHTER, AND MORE DURABLE.

CERTIFICATES AND MODELS OF VARIOUS DESCRIPTIONS MAY BE SEEN, AND ESTIMATES OBTAINED ON APPLICATION TO

THE SURVEYOR OF THE VIEILLE MONTAGNE ZINC MINING COMPANY, 12, MANCHESTER BUILDINGS, WESTMINSTER.

ROOFS CONSTRUCTED UNDER HIS SUPERINTENDENCE GUARANTEED TO REQUIRE NO REPAIRS FOR AT LEAST TEN YEARS.

THE OLD METAL BEING ALWAYS RETAKEN AT HALF-PRICE, RENDERS IT ADVANTAGEOUS FOR ALL TEMPORARY BUILDINGS.

MANY ROOFS COVERED WITH ZINC THIRTY-FIVE YEARS AGO, HAVE NEVER REQUIRED REPAIRS.

WROUGHT-IRON GIRDERS

For BRIDGES and BUILDINGS,

MANUFACTURED AND GUARANTEED AS TO STRENGTH;

CAST-IRON GIRDERS FOR BRIDGES.

Wrought-iron Doors, Boiler, and General Smiths' Work.

BUILDERS' CASTINGS OF EVERY DESCRIPTION.

ROLLED WROUGHT-IRON FLITCHES FOR TRUSSING BETWEEN TIMBER.

SPIKES, RIVETS, CUT NAILS, WROUGHT DITTO, SCREWS, BOLTS AND NUTS, BOND HOOPS, CHAINS, &c.

CONTRACTORS' PLANT, RAILS, EARTH WAGGONS, and IRON-WORK for WOOD WAGGONS, &c.

MATTHEW T. SHAW, 64, CANNON-STREET.

Such arrangements are made for Despatch and Punctuality, that Orders can be executed in a few days.

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WARMING AND VENTILATING COMPANY,
LIMITED,
36, GREAT GEORGE-STREET, Westminster, S.W.
MANAGER, MR. WOODCOCK.

Churches, Greenhouses, Offices, and Buildings of every description warmed by means of a modification of the plans successfully used during the last five years by Mr. Goldsworthy Gurney in both Houses of Parliament.

Steam, Hot Water, Gas, and in open or enclosed fire-places, Coal and Coke, are equally available for the process.

The cost is less and the effect greater than that of any other known means.

The Horticulturalist will find herein an instrument of new and important powers.

The Apparatus may be seen in ST. PAUL'S CATHEDRAL the various offices of the "Department of Science and Art," and in many churches and other buildings.

Particulars and testimonials forwarded on application.

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PHŒNIX FOUNDRY AND ENGINEERING WORKS,
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MANUFACTURER OF EVERY DESCRIPTION OF CASTINGS,
WROUGHT AND CAST IRON BRIDGES AND ROOFS,
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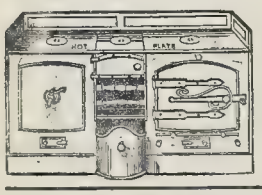
TYERMAN'S PATENT HOOP-IRON BOND FOR BUILDING PURPOSES.
ADOPTED BY THE GOVERNMENT.
EXPERIMENTS HAVE PROVED THE PATENT BOND TO BE FAR CHEAPER AND BETTER THAN THE PLAIN HOOP, AND IT IS NOW IN GENERAL USE.
THOMAS PERRY and SONS, Highfields, Bilston; and Earl-street, Blackfriars, E.C.



THE LEAMINGTON PRIZE KITCHENER.

These Ranges are strongly recommended for Economy, Cleanliness, and a Cure for Smoky Chimneys.

The Top forms an entire and efficient Hot Plate, and having an Open Fire, removes all the objections of a Close Fire-range.

A large STOCK of SELF-ACTING and other RANGES, REGISTER STOVES, and every description of BUILDERS' IRONMONGERY, at Wholesale Prices.

All Goods delivered free within five miles.

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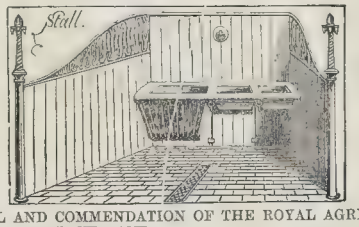
Opposite the Old St. Pancras Church, OLD ST. PANCRAS-ROAD, LONDON.
ADDRESS: THE MANAGERS.

VARNELL'S ENAMELLED STABLE FITTINGS.



VARNELL'S PATENT MANGERS AND STABLE ARRANGEMENTS.

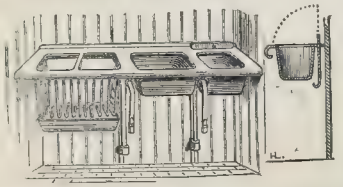
PRIZE MEDAL AND COMMENDATION OF THE ROYAL AGRICULTURAL SOCIETY OF IRELAND; AND
THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND; AND ADOPTED BY THE ROYAL VETERINARY COLLEGE.

"These Inventions, I am of opinion, have only to be seen to be adopted by the Proprietors of all Racing, Hunting, and other Stables.

(Signed) "CHARLES SPOONER, Principal Professor of the Royal Veterinary College."

Full-size Stalls and Loose Boxes, and every description of Stable Furniture on view.

PATENT IMPROVEMENTS IN STABLE FITTINGS.
COTTAM'S PATENT COMPONIZED MANGERS, WATER OR GRUEL TROUGHS.



The application of the NEW PATENT METHOD of LINING IRON MANGERS being inexpensive, will greatly increase their adaptation. They possess all the advantages of Cottam's celebrated Enamelled Mangers, are equal in appearance, cleanliness, and durability; the Lining is warranted to stand any amount of fair wear, and will neither chip nor crack at any heat by use.

COTTAM'S PATENT PERMANENT ATTACHED DROP COVER for the above, is a most essential addition to their fittings: it is never in the way; can be placed and replaced in an instant; while its cheapness, simplicity, and utility in keeping the contents of the troughs clean, and regulating the quantity to be taken, is quite sufficient to insure its use.

The NEW CROSS-BAR TOP PLATE, to prevent the horse wasting the hay by tossing it out of the rack, and the IMPROVED CURVED FRONT PLATE, by which means all sharp projections are obviated; likewise COTTAM'S PATENT NOISELESS HALTER GUIDE and COLLAR REIN, with the NEWLY INVENTED SWIVEL RING, for allowing the strap free work in any position, are most important inventions for the horse's safety and comfort.

COTTAM'S PATENT PORTABLE SEED-BOX is also of great utility in these Fittings. The above, as well as the Patent Loose Box and Harness Fittings, Improved Stable Drains, and every description of Stable Furniture, can be seen at the Manufactory and Show Rooms of

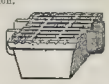
COTTAM and CO. 2, WINSLEY-STREET, OXFORD-STREET, LONDON, W.

ILLUSTRATED CATALOGUES ON APPLICATION.

HOOD and SONS' REGISTERED
RETAINING STABLE FITTINGS,

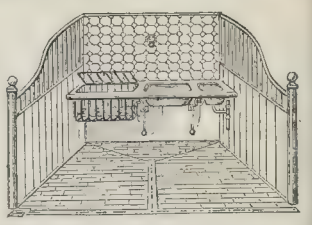
Enamelled or plain, effectually prevent the waste of hay or corn; are fitted with guard-rollers and seed box, and combine the most perfect safety with the greatest economy, both in cost and use.

ANGLE LOOSE-BOX FITTINGS, with guard-rollers, and every variety of furniture for stables. Engravings and prices forwarded on application.



HOOD and SONS' STABLE GUTTERS, cast in one piece, and free from the danger caused by the frequent derangement of loose top plates; are easily cleaned; and with their REQUIRED DOUBLE TRAPS, form the safest and most complete surface drain for stables in use.—West London Iron Works, Notting-hill; and Castings Warehouse, 68, Upper Thames-street, London.

BARTON'S PATENT SAFETY STABLE
FITTINGS and ENAMELLED MANGERS, with NEW SELF-ACTING HAY-RACK.



These Fittings are now made with the newly-invented Self-acting Hay Rack, which prevents waste of Hay and Seeds, and is constructed so as to bring a surface of Hay at the top of the Rack, however small the quantity thereon, pressing an effective action in connection with these Fittings hitherto unaccomplished, with Patent Halter and Collar Rein Guides attached, which are totally noiseless in action, thus forming the most complete and perfect Fittings ever offered to the public. Loose Box Fittings and all kinds of Stable Furniture in stock. The New Illustrated Catalogue for 1858, with numerous Engravings, forwarded on receipt of Four postage stamps.—JAMES BARTON, Iron-founder, &c. 370, Oxford-street, London, W.

FENDERS, STOVES, and FIRE-IRONS.—Buyers of the above are requested, before finally deciding, to visit WILLIAM S. BURTON'S SHOW ROOMS. They contain such an assortment of Fenders, Stoves, Ranges, Fire-irons, and General Ironmongery as cannot be approached elsewhere, either for variety, novelty, beauty of design, or exquisitness of workmanship. Bright stoves, with ormolu ornaments and two sets of bars, 3*l.* 18*s.* 6*d.* to 10*l.* 10*s.*; bronzed fenders, with standards, 7*s.* to 2*l.* 12*s.*; steel fenders, 2*l.* 15*s.* to 11*l.*; ditto, with rich ormolu ornaments, from 2*l.* 15*s.* to 18*l.*; fire-irons, from 3*s.* the set to 4*l.* 4*s.*

The BURTON and all other PATENT STOVES, with radiating hearth plates.

WILLIAM S. BURTON'S GENERAL FURNISHING IRONMONGERY CATALOGUE may be had gratis, and free by post. It contains upwards of 400 Illustrations of his illustrated Stock of Electro-plate, Sheffield Plate, Nickel Silver and Britannia Metal Goods, Dish-covers and Hot-water Dishes, Stoves, Fenders, Marble Chimney-pieces, Kitchen Ranges, Lamps, Gaseliers, Tea Trays and Kettles, Iron Bedsteads, Clocks, Table Cutlery, Baths and Toilet Ware, Turnery, Iron and Brass Bedsteads, Bedding, Bed Hangings, &c. &c. with Lists of Prices and Plans of the Sixteen large Show Rooms at 39, Oxford-street, W.; 1, 1a, 2, and 3, Newman-street; and 4, 5, and 6, Perry's-place, London.—Established 1820.

CANNON IRON FOUNDRY, 80, Goswell-street, St. Luke's.—JONES and BLANTON, having made great additions to their STOCK of PATTERNS, beg to inform the Trade that they can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Casting, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

CAST-IRON PIPES, IRON-WORK FOR OVENS, &c.

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"ALLEN'S" PATENT SMOKE-CONSUMING APPARATUS and REGULATING VALVE. This Valve is the simplest and cheapest of all the inventions introduced, for the purpose of effecting more perfect combustion of coal in all kinds of furnaces. Testimonials, of the highest possible character, are gladly given by parties who have them in operation.—Fig. 6, No. 1, 3*l.* 3*s.*; No. 2, 3*l.* 15*s.* for furnace complete, with the Patent Valve.

H. ROGERS'S REGISTERED SEWER, STABLE, and DRAIN TRAP.—The cheapest and most effective Trap yet introduced. A great number of these traps are fixed in various Government and private establishments, and having had a fair trial, have met with unqualified approval. The articles may be had of all Ironmongers, and of the General Iron Foundry Company (Limited), 44, Upper Thames-street, Makers of Cast and Water Pipes, Hot water Pipes and Connections, Channel and Heap bars, Furnace-bars, and all other kinds of Castings, for manufacturing and building purposes.

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R. S. NEWALL and CO. Patentees of the COPPER ROPE LIGHTNING CONDUCTOR, supply the same, with the point and all staples complete for fixing, at the following prices:—

Three-eighths-inch diameter	1*s.* 0*d.* per foot.
Half-inch diameter	1*s.* 6*d.* "
Five-eighths inch diameter	2*s.* 0*d.* "

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Offices—Gateshead on Tyne.
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" Exchange-buildings, Dundee.
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SIMPLICITY, UTILITY, ECONOMY, AND DURABILITY.

THOMAS PUGH AND CO.'S NEW PATENT ECONOMIC SELF-ADJUSTING MORTISE AND RIM LOCK FURNITURE,

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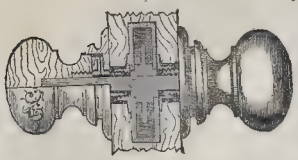

THIS PATENT FURNITURE is applicable to all locks and latches, both Rim and Mortise. It effects a most secure fastening without any screw in the neck of the Knob. Perfect action is ensured in both Locks and Furniture, if the locks are of our own manufacture. It has been used extensively in large public and private works, in Her Majesty's Camp at Aldershott, &c. &c. and is universally approved

New rich designs in glass, China, brass, bronzed, gilt, carved woods, inlaid, &c. &c. or to any design.

Hobbs and Company's Patent Locks.

A most complete and extensive stock of every description of locks, latches, brass-founary, and furniture always required for buildings, of the best quality manufactures, at the lowest wholesale prices.

ILLUSTRATIONS AND PARTICULARS SENT UPON APPLICATION.

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WROUGHT IRON FIRE-PROOF DOORS AND FRAMES,

Of various sizes, for Strong Rooms, and all secured by CHUBB'S GUNPOWDER-PROOF LOCKS, may be seen at

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TO ARCHITECTS, BUILDERS, AND OTHERS.

W. HARMER AND SON

Would respectfully call the attention of the above to their Stock of fitted Stoves and Kitchen Ranges, which, for strength, pattern, and price combined, cannot be surpassed by any maker in London

REGISTER STOVES, from 5d. per inch to the best descriptions in Berlin, Black, and Bright, with Ormolu Ornaments, &c.; ELLIPTIC STOVES, from 9d. per inch; KITCHEN RANGES, from 24s. each to the BEST LEAMINGTON KITCHENER, with the latest improvements, and to which W. H. and S. solicit the inspection of every person requiring a thoroughly efficient and economical close, and open fire Range.

Estimates furnished for all kinds of Smith's Work, Heating by Hot-Water or Steam, Gasfitting, &c.

PRICE LISTS FREE BY POST, OR UPON APPLICATION.

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ESTABLISHED 1817.

HOBBS'S LOCKS

The attention of Architects and Builders is respectfully invited to

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Which are now manufactured by PATENT STEAM MACHINERY, and, while superior to any other locks in the market, are sold at a price which defies competition. The plates are made of Number "Twelve Gauge" Iron, and being so thick, the pins cannot be loosened by the constant jarring of the door. The security consists in four double-acting levers, while to secure unusual freedom of motion, and prevent the wear of the parts

HOBBS'S PATENT FRICTIONLESS FOLLOWER

Is also applied. The retail price of these Locks is 10s. from which a liberal discount is allowed to the trade.

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HOBBS'S NIGHT LATCHES, RIM OR FLUSH, PRICE 10s.

Are also recommended, together with every description of lock required for house and cabinet work. Lists of prices will be forwarded, on application, post free.

N.B.—A complete assortment of FIRE and BURGLAR-PROOF SAFES (Milner's Patent), fitted with HOBBS'S PATENT PROTECTOR LOCK, POWDER-PROOF.

ALSO, STRONG-ROOM DOORS, CASH AND DEED BOXES, &c.

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PATENT SASH and BLIND LINE

can be obtained of all

ROPEMAKERS, IRONMONGERS, MERCHANTS, FACTORS, and WHOLESALE HOUSES, in TOWN or COUNTRY.

Established 1774.

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SMART'S-BUILDINGS, DRURY LANE.

Castings of every description at reduced prices.

No charge for the use of Patterns.

VULCAN FORGE, Crown-street, Soho.

WROUGHT GIRDERS AND FLITCHES,

And all kinds of Smiths' Work.

STOVE and RANGE MANUFACTORY.

The only Maker of Town-cast Self-acting Kitchen Ranges,

247, Tottenham Court-road.

G. BARRETT, Proprietor.

MIRAMS, COWELL, and CO.

WHOLESALE AND RETAIL

IRONMONGERS,

RANGE AND STOVE MAKERS,

20, CHISWELL-STREET, FINSBURY,

Beg to call the attention of the Building Trade to their extensive and varied Stock of

IRONMONGERY AND BELL-HANGING MATERIALS,

PIPES, GUTTERS, &c. &c.

At wholesale Prices,

A full List of which can be had on application by enclosing a card.

N.B. A LIBERAL DISCOUNT TO THE TRADE.

TO IRONMONGERS, BUILDERS, &c.

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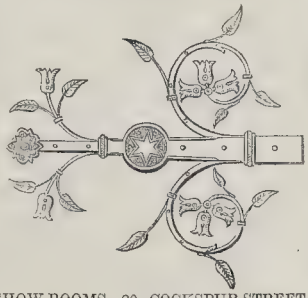
TUBE for GAS; Galvanized ditto, for Water; High-pressure Cocks, &c. Manufacturers of Dr Arnott's Improved Ventilators.

HULETT and CO 55, High Holborn.

HART AND SON,

MANUFACTURING IRONMONGERS AND MEDIÆVAL METAL WORKERS,

53 to 58, WYCH-STREET, Strand, W.C.



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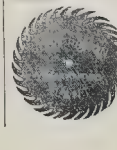

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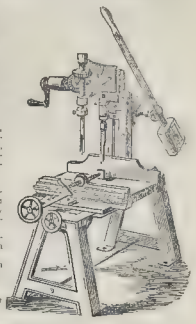

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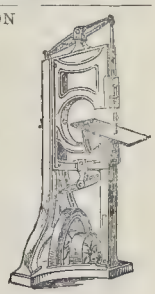

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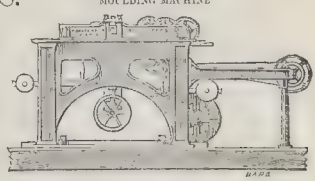

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VOL. XVI.—No. 828.

London Streets, Bridges, and Railways.

THE overcrowded state of the City streets and bridges again excites public attention, and there seems to be a growing disposition on the part of the metropolitan authorities to provide a remedy for the admitted evil. For years past the subject has been discussed at intervals, by the Common Council, by Parliament, and at public meetings; but whilst many judicious recommendations have been made, next to nothing has been done. Every succeeding inquiry serves to prove the steady increase of the pressure, and it is daily becoming more obvious that the traffic of this vast metropolis is fast outgrowing the means provided for its accommodation. The "blocks" of thoroughfares—at Temple-bar, in the Poultry and Cheapside, and especially on London-bridge—are daily cause of inconvenience, accident, and loss; nor does the pressure seem in any degree to be abated by the occasional new streets that are opened out, and old ones that are improved and widened,—these measures falling far short of the actual necessities of the case.

Every one familiar with the traffic over London-bridge is aware of the gorged appearance which that great thoroughfare presents at certain hours of the day. Though the police arrangements for the separation of the fast and slow traffic into lines of continuous vehicles are almost admirable, it is found impossible to prevent occasional "blocks,"—the number of vehicles which concentrate upon that point of crossing between the two sides of the Thames being so enormous. Arithmetical figures can give only a faint idea of the magnitude of this traffic; but it may be mentioned that upwards of 60,000 foot passengers and 18,000 vehicles cross the bridge daily between eight a.m. and eight p.m.

The aspect which the bridge presents between ten and eleven in the morning, and four and five in the afternoon, is especially remarkable. During each of these two hours there pass before the eyes of a spectator stationed on the bridge, about 7,000 persons on foot, and 1,800 vehicles of all sorts,—a traffic unequalled in any other thoroughfare in the world.

The pressure at the Exchange, in Cheapside, Ludgate-hill, Newgate-street, and at Temple-bar is, at certain hours, as severe as on London-bridge, though the number of vehicles passing is not nearly so great; the police regulations, which so much facilitate the movement of traffic across the bridge not being so available in the narrow thoroughfares of the City, where the frequent stoppages of omnibuses to take up and set down passengers, and of cabs and vans at shops and warehouses, often occasion protracted "blocks" of the streets. And if we take the thoroughfares running north and south, we there find the pressure comparatively moderate. The great bulk of London lying chiefly along the valley of the Thames, the principal traffic is east and west, in lines nearly parallel with the river, rather than north and south. Mr. Haywood, the engineer to the City Sewer Commission, appended to his last Report an instructive statement of the number of vehicles passing through certain thoroughfares of the City, between eight a.m. and eight p.m. on certain days in 1857. They were as follow:—

	Total.	Highest number in any hour.
London-bridge	18,179	1,841
Cheapside	13,512	1,361
Ludgate-hill	10,626	1,104
Holborn-hill	10,078	1,024
Temple-bar	9,883	1,103
Newgate-street	8,341	890
Aldgate High-street	6,503	626
Bishopsgate-street Within	6,283	684
Fenchurch-street	5,973	528
Gracechurch-street	5,267	558
Cornhill	5,256	539
Finsbury-pavement	5,052	500
Smithfield-bars	3,246	335
Aldersgate-street	2,719	284

It will be observed, from these figures, that by far the heaviest traffic is over London-bridge, and that the relief of that great thoroughfare is therefore the most pressing object. From a recent discussion which took place in the Common Council, it appears that the construction of a footway for passengers, overhanging the eastern and western sides of the bridge, long under consideration, at an estimated cost of about 25,000*l.* has been abandoned. The arrangement proposed would enable the entire centre of the bridge to be appropriated for the purposes of the carriage traffic. But it is doubtful whether, if adopted, this measure would effectually meet the difficulty, while it might injure the appearance, if not the stability of the bridge. How the relief can best be accomplished, will be obvious on a consideration of the causes which have led to the concentration of so much traffic at that point. The first is, that London-bridge forms the only passage for vehicles between the two sides of the Thames for sixteen square miles to the eastward of its site. Another is, that much of the Southwark traffic now passes over London-bridge, which would naturally pass over Southwark-bridge if the tolls there were removed. But the third, and by far the most important, cause of this pressure of traffic is to be found in *the railways* which have their termini at the south end of the bridge.

This will be at once understood on a statement of the fact, that in ten years the number of persons passing through London-bridge Station has increased from 624,000 to thirteen millions and a half! Here we have the increased pressure at this point at once accounted for. The great bulk of these railway passengers are proceeding to and from the City and the western parts of London, and must, therefore, cross the Thames by one or other of the bridges. At least nine-tenths of the whole cross the nearest, which is London-bridge,—nearly thirty thousand on foot, ten thousand in cabs, and the remainder in omnibuses. It has further been ascertained, by careful inquiry, that a large proportion of those railway travellers who cross the bridge are destined for parts west of Holborn and Temple-bar; and hence, to reach their destinations, they have to pass through the City thoroughfares in cabs, carriages, and omnibuses,—the humbler classes mostly proceeding westward by the river boats plying to and from Hungerford-pier. The extent to which the thoroughfares are crowded by this flow of traffic westward may be inferred from the fact, that 2,010 omnibus journeys are daily performed between London-bridge Station and places west of Temple-bar, the whole of which pass through the City by the Poultry and Cheapside.

While we are most anxious that the various main lines of railway debouching in London should be connected, the present break being a preposterous absurdity, the true mode of dealing with the evil, so far as pressure and overcrowding occasioned by railways are concerned, would seem to be, to *distribute* the traffic, and *not to concentrate it*; to provide more stations at which passengers can be landed at various points, and not to converge the passengers of many railways into one central focus. To revert to the most crowded thoroughfare of all—that of London-bridge—it is obvious that, if the railways now terminating at the south end of that thoroughfare were carried forward towards the western parts of London, and more especially if they could be extended across the river to a station on the north bank, so that the West End passengers might avoid the necessity of crossing any of the bridges, a great relief of the present overcrowded City thoroughfares would at once be effected.

A measure of this sort, we may state, is in actual contemplation, carrying out the recommendations of the select committee of the House of Commons in 1855; and it is proposed to extend the London-bridge railways westward through Southwark to a station on the north bank of the Thames at Charing-cross. Stations, provided at the crossings of the great thoroughfares leading to and from the Southwark, Blackfriars, and Waterloo bridges, will enable the traffic to be distributed at many convenient points; and by this great improvement, combined with the removal of the tolls from Southwark-bridge, London-bridge and the City thoroughfares would immediately experience a decided and effectual relief.

We may add, too, that by means of the proposed extension of the West London Railway across the Thames at Battersea (which would connect the railways on the north with those on the south), the proposed station at Charing-cross would be available for the Great Western and North-Western lines.

For the accommodation of the vast street traffic between the West End and the City, the plan of omnibus railways, under proper arrangement, advocated by us long ago, seems to be by far the most suitable. By this means omnibuses running upon sunk rails, occupying the centre of a broad thoroughfare, leading to and from the West End, would provide an immense amount of accommodation, and effectually relieve Fleet-street, Newgate-street, and the other narrow gorges leading into the City. The construction of such new thoroughfare would no doubt be costly, but the pressure of the street traffic is now so great that further expenditure to provide new streets, or widen existing ones, cannot longer be avoided; and, when the work is entered upon, it ought to be conducted upon a plan that will at all events possess the merit of completeness and efficiency.

THE POSITION OF ARCHITECTS AND CONTRACTORS.

Myers v. *Sarl.*—This arbitration is dragging its slow length along. If its present course be persisted in no one can say how many months it may not last. There sit the defendant and his advisers, and demand, item by item, proof of the appropriation of every hod of mortar and foot of deal in the accounts made out by his own surveyor, and admitted to be correct by his own architect. We care nothing for either side in this case: we know nothing of special circumstances, if they exist; but, looking at the broad facts as laid before the arbitrator, it is our duty to say, in the interest of the profession, that if the law permit such a course, it is time architects thoroughly understood it, and took steps to ensure their safety. Upon whom are the expenses of this ruinous affair to fall? It has been calculated that the cost of each meeting is at the rate of *six shillings and sixpence per minute!* So that when the defendant's counsel demands to be informed where certain items of a weekly account (admitted to be correct by his client's own architect, and made into a bill by his own surveyor), were used, and is at last answered or not according as documents or witnesses may serve, twenty times the value of the items in question have been expended in the inquiry! Admit for an instant that defendant succeed in convincing the arbitrator that he is not bound to pay for work (in some cases ordered in his own presence by his own agents), for which a written order is not produced. What is then the position of architect and contractor? It is not impossible that at common law, if the latter prove the work was done by the order of the architect, the architect might be declared liable; and that, too, in a case where not merely the employer has the benefit of the work done, but where a deduction has actually been made from the amount of the contract for work rendered unnecessary by the new order given by the architect! For example, it is urged that if an architect put down, say 20*l.* for concrete, and then direct the contractor to execute concrete to the amount of 25*l.* the 20*l.* must be deducted; but, that unless there be a written order, the employer would not be liable for the concrete supplied!

In the recent case, *Skaife* v. *Daukes*, reference was made to the necessity for a written order even in the case of a substitution. The committee, however, if we are correctly informed, had passed a resolution to the effect, that for works which were intended by the architect to be in lieu of some provided for in the contract, a written order need not be given; and Lord Campbell accepted this resolution in lieu of written orders so far as it applied. The arbitrator in the present and other cases should not overlook this decision of Lord Campbell.

Architects need to be most careful in their proceedings. Their position is serious, and the sooner a committee be appointed to inquire into it, and to take steps to improve it, the better—not merely for them, but for the public.

ARCHITECTURE OF OUR DAY.

STYLE AND CHARACTER.—THE CITY OF LONDON.

It is obvious that in the present state of taste, much importance as regards the future belongs to right estimation of the work in building and architecture, produced so largely in quantity of late years; therefore we need to offer little explanation of the reasons inducing us to return to the subject of that portion of the work which has contributed to the decoration, or to the extension of the metropolis. Progress in our art, we believe, is impeded as much through the too frequent and unjust depreciation of productions such as would be advancing in their tendency—are, perhaps, excellent in any view,—as it suffers from the perpetration of work absolutely bad. The public, hardly yet sensitive to the real art, know not what guidance to take, or how to respect expressions of opinion from professors and lecturers who only contradict one another just where they should be moving to one end. It cannot but be concluded by us, that "authorities" of the kind referred to, have come to their views from no true appreciation of *art*, but from their prejudices in favour of style,—forgetting what is perfectly demonstrable, that good art is compatible with modern building under any designation of architectural style as used; and that there is really no produce of architect's labour possible, but that which is nineteenth-century work, combining art, or otherwise what is only imitative work, however clever as such, having of its very nature no art.

In such controversies as we are now witnessing on the subject of appropriate style, it is unworthy of a body of artists to have any participation: they serve only to distract the attention from the real object of pursuit—the art. It is a condition of all good architecture, whatever the style, that the primary wants and the associations of the time, with any which may be peculiar to the country, should be fully provided for and harmonized with. No laboured inquiry in Commitee of Parliament was needed to show that any style as a first basis, if used with full regard to the conditions just named, could at last be made to culminate in works of the highest order of architectural merit. But, the question really important is—as we urged some time back,—which style, having regard to its present use and the public appreciation, and to the extent of the alterations needed in it, will soonest bring us to that general perception of the *art*, which once excited, will secure the further and continual progression of architects and architecture.

It was not, however, the purpose of our article to pursue this subject in all its bearings, tempting though the effort for us might just now be. We wished merely, in the interests of art, to claim that due attention be given to the fact that London, like several of the chief towns in the country, has now achieved a considerable number of works, having great merits, and having only those defects which are irrespective of style, or would have arisen under like circumstances in any style,—to the fact that these works are not Gothic, and that they are equally not exotic and foreign, whatever their style may have been called through reason of the difficulties of nomenclature; but that they are the true produce of the country as of the time,—as much "native indigenous art" as the plays of Shakspeare, or as the works that any nation ever claimed as its own, having originally imported certain features; whilst that they show that all the elements of good architecture—those pertaining to convenience, to real and apparent strength, to grace and ornament, and to living character of art—can be attained in the style which has been called "Italian," and which was naturalized throughout the length and breadth of the land with the growth of the best part of our national poetry, our philosophy, our liberties, and our reformed religion. It is to be hoped that through an act of the Government authorities, we may not again enter upon one of those periods of experiment, perhaps ending right, if only followed to the legitimate issue, but which, heretofore, have had the effect of retarding the course to the general popular appreciation and practice of art,—distracting and taking us round about instead of forward, or, in opposition to every law of progress, trying to recommence from a point back, and having always a tendency somewhere before the right course be regained, to veer off on to the line of some other whimsy.

For the present, we leave this question and proceed to offer further information as to works which, we believe, may be fairly taken as evidence of that good position, on the whole, of British architecture, which we would not endanger. In our last articles, after speaking of some of the features of the buildings of the City, in which good art was shown, we adverted to the use of coloured materials and difficulties attending it; and also to the use of stone, now so common—as obviously inducing or allowing much of that study of detail whereof results were to be observed.

From the generalization as to defects of predominant employment of colour, we ought perhaps now to except the premises of Messrs. Shaw and Sons, in Fetter-lane, some distance, indeed, from the part of the City we have been chiefly looking into, and also not a work of last year's date, but which it may be well to instance as remarkable both for variety of colour in the details of brickwork and tile-work, and for the general breadth and unity which are retained. Here, also, large windows and narrow piers are shown to be quite compatible with effect of strength as with other architectural requisites. The warehouse-uses of the building are well provided for, as in the case of the basement,—the cost of the whole being 2,600*l*. Professor Donaldson was the architect. A design of plainer character, so far as use of colour is concerned, is that forming the sides of a court at No. 11, Aldersgate-street (the premises of Mr. Maw, surgical-instrument maker), where, besides the general merit in outline and grouping, and the manner in which the red and white bricks in simple courses are used, there are features of detail, such as the porch, and the window-frames with staff-beaded mullions and mouldings at the head (on the chord of the segmental arch of opening), which, in the result, indicate to how great an extent freshness of invention in such matters, thereby made attractive in themselves, will contribute to, and be well repaid in effect of a whole. Mr. H. B. Garling was the architect.——The shop and house-front of Messrs. Lloyd, Brothers, the printsellers, in Gracechurch-street, is certainly one of the best examples of polychromy, as predominant, and as attaining a generally successful result, that the City affords. What may be managed even in an old front, and where the usual shop-window surface is asked for, is very well shown. The iron story-posts are cast with a peculiar corbelling beneath the brestsummer-ends to afford the requisite idea of support, the window itself being recessed; whilst through the treatment of the cove between the window and brestsummer, decorated with figures painted and emblematic of Drawing, Painting, and Sculpture, and the large window-opening of the floor above, the eye is not attracted to appearance of what, in common cases, is glaringly unstructural, and therefore fatal to any attempt at architecture which there may be in a general front. The metal shafts in the upper window are of Renaissance character, with light bracket-like additions at the top; and they may be mentioned as indicating the treatment that would be applicable to iron columns and shafts in preference to any imitation of forms which the eye has got accustomed to see in masonry. Much of the design is expressed in encaustic tile-work, filling in panels; and the frieze is in Minton's porcelain, from a well-known design by Mr. M. Digby Wyatt, who was the architect of the building here noticed. The decoration of the upper story takes the arrangement of a frontispiece of pilasters with curved pediment—applied as a sort of surface-work on the face of what seems to be the old brickwork, lead-coloured as a background.

The best exemplification of artist-like application of colour, however, is the Crown Life Insurance Office, in Bridge-street, Blackfriars, by Messrs. Deane and Woodward, which building is noticeable, indeed, for other excellent qualities. The colour here, in the bands and voussoirs, is just so far prominent in tone and lustre as to produce some variety, without interfering with the effect intended by the leading structural and ornamental lines and forms; and in the shafts and small medallions of the windows, where are materials of darker tone, the quantity of such colour is small, and, as used, even aids by emphasis the structural element of effect. The materials in the front are Portland stone, red and grey granite, Sicilian marble, and perhaps others, and in some cases polished. The design is commonly described as Venetian-Gothic; and doubtless many of its ornamental details bear resemblance in character to the Gothic; but the Byzantine and Saracenic features are so prominent, that the whole effect is very different from that of Gothic, to an English eye. Arches, with the voussoirs pointed on the *extrados*, here used, and the circular-headed window with sub-arches and a central shaft, were common in the palaces of Florence, and have been in similar manner adopted lately in many of our buildings of the Anglo-Italian school. Indeed, there can be no limit to the use which one style may make of the details of another, provided only that the leading character of the style be not exchanged for a whole having no character at all, and provided any radical change from one popular fieldwork of style to the other be made in due progression, as contrasted with that merely experimental and revolutionary system of change which prevailed in the first half of this century. The features we have mentioned give the chief character to the design now under notice. The result of some of them, we apprehend, is that rooms are not lighted so well as might be desired. Besides these features, however, should be named the horizontal cornice, in lieu of the gable common in the English Gothic,—though scarcely so in the continental styles,—and which cornice is a mere square member cut along the angle into dog-tooth ornament, and carried on blocks. The cornice and strings give a general horizontality harmonizing with the similar character of the neighbouring buildings. This harmony is required in such cases, speaking without reference to merit or otherwise of the buildings as last named. The wooden dormers are more English in appearance. Much of the effect, however, is derived from the ornament to the capitals and strings. This, in itself, though somewhat imitative or naturalistic in character, has not the less, considerable beauty and character of invention. The best point in it is relative to effect attained either without much projection, or by placing the ornament in a hollow with a sufficient covering in the way of fillet. The combination of foliage with animal forms is in many respects excellent as architectural ornament: there is incident and life in it, though there be no clear allusion to the purpose of the building. The windows have double reveals: the piers of the two principal stories have regular capitals and bases; and the piers above, impost mouldings to carry arches and labels. The gable-canopy or label to the entrance-doorway, has in the hollow a representation of a chace of animals—clever, though rough in execution. The enclosure to the area is a dwarf wall of granite. The rain-water pipe is spirally painted—red on bronze colour.

But, good effect results from the use of polished granite, and sometimes where the architecture otherwise would be unworthy of notice. This is to be observed in pilasters, friezes, and voussoirs to buildings or shop-fronts in or about Cornhill—where the dimensions of the slabs or pieces allow the beauty of the material and the idea of strength to impress themselves upon the observer. The material, nevertheless, demands great care in design. Messrs. Sarl and Sons' premises, as to the large pilasters and the shafts of small columns; the Colonial Life Office, as to the general masonry (partly unpolished) of the basement, and the English, Scottish, and Australian Chartered Bank, in regard to the piers and voussoirs of the wide arch in the lower story; the porch of St. Michael's Church, Cornhill, and lower stories to buildings in Tower-street, the Poultry, and other localities, as to shafts for openings and arcades, afford examples of the effect in designs which each have general merit; whilst Messrs. Waterlow and Sons' premises, in Birchin-lane, and Messrs. Barker and Smith's, at the corner of the same street, supply illustrations of the value of the materials—although in general work less open to commendation. In the shop-front to the premises last mentioned, the granite is used for plinth, frieze, and cornice, the framework for the glass being formed with iron shafts, except the angle, where there is no apparent support, and with arches in iron-work, having open-work spandrils: yet despite the want of principle in one respect, there is a certain result from the treatment,—showing the value that there is æsthetically in mere material, though at the same time the force—destructive, so to speak,—which so excellent a material as the polished red granite

may exert over the other parts of a design—those in ordinary stonework. Colour, like fire, is "a good servant;" but it may equally become a master, and produce a general effect very different to that which the designer intended. It may be not easy to give the reasons for the difference in treatment between exteriors and interiors, which now universally is recognised as satisfactory to the eye. There are, it is true, the precedents of external polychromy amongst the Egyptians and the Greeks; but admittedly, great caution ought to be exercised in adopting them. The Greek precedents, like the Saracenic, still indicate the recognition of a distinction between the circumstances we have named,—especially so, if we consider the Pompeian examples as Greek, from their locality, or in their origin, and if we regard the chief remains of colour discovered by Mr. Penrose, on ceilings, as belonging to quasi-internal portions of the building; and the arguments recently advanced by amateur critics may be resolved into arguments for glazed surfaces rather than for colour, and as not showing what would be preferred by the same persons were the smoke nuisance abated, as there is reason to hope it will be. Even under existing circumstances, the surface of stonework might be kept in its pristine beauty continuously, were the method practised which has been so often spoken of as adopted at the Bank of England, namely, simple washing, as with a fire-engine. Now, however, the decadence in architectural beauty of the London buildings is certain and rapid; and it is necessary to refer to it as one of the reasons (others having been already mentioned by us) why architecture is not appreciated, and why works of the class we are speaking of, do not at once present themselves to the recollection when the merits and future prospects of our art are in debate.

The object, then, in use of colour externally, should be only the production of a moderate amount of variety, akin to the object in varying the dressing of the surface of masonry, where the slightest change in the tooling or picking is of wonderful value in this respect. We apprehend that the headers in patterns, in the Mediæval brickwork, were introduced according to a similar principle, or that they consisted of such bricks as chanced to have been burnt dark in shade, rather than bricks artificially coloured and profusely used, as in the modern imitations of Mediævalism. On the same principle, whilst we should deprecate introduction of black and white chequers, such as are to be seen in some Italian edifices, and whilst we are offended with the use of bands of colour in marked contrast, as we are with the brickwork of some of the midland counties, where every "header" shows a white end, we regard a variation of tint and surface such as will not draw the eye from the structural forms, as very greatly serviceable to the architectural effect. The desire for this is the real reason for the prevalence of the imitations of woods and marbles—questionable in some respects though such work may be. Otherwise, on exteriors, colour, as we have said above, should be used, if at all, only with extreme care for emphasising features in the structure, or in the manner of jewellery, as in the medallions of a frieze.

We shall pursue the general subject of architecture in the City of London, in another article.

THE GEOMETRIC TREATMENT OF SCULPTURE.*

THOSE who at the last meeting in this room heard the very interesting paper contributed by Mr. Bonomi, "On the Proportions of the Human Figure," as laid down by Vitruvius, Leonardo da Vinci, and others, will deem me fortunate in having been preceded by a theme which so aptly introduces that of this evening. I feel this the more, inasmuch as the theory of the proportions of the human figure, quite a sculptor's subject, was then received and discussed in a spirit which showed how much interest was taken in it by the architect, and how ready he is to welcome it as connected with his own department. It is natural that this should encourage me in presenting the following remarks to you on a subject of a somewhat kindred nature.

The following little paper on the Geometric Treatment of Sculpture has arisen from the suggestion of one of your honorary secretaries, Mr. Digby Wyatt. Its title will be accepted, I think, as grouping together conveniently some considerations of much importance in the association of my art with yours, and on which I venture to offer a few remarks. These may afford, at least, a sculptor's view of the subject, which has here the best chance of being checked and guided by that of the architect. If anywhere I perchance use a tone of assertion, pray do me the justice to consider that it is only for shortness, and not from confidence.

What, then, may the title "Geometric Treatment of Sculpture" be held to imply? Using the word geometry in its accepted sense, I would submit, that selection of forms and masses founded on lines of geometric contour, as straight, square, circular, elliptical, pyramidal, or wave-like, &c. which especially suit sculpture for the purposes of harmonious decoration.

Now, although no doubt a work of sculpture, as a unit, and isolated, is the better for being of a symmetric outline, and well balanced and adjusted in itself as an ornamental form, yet still more is this the case when it is regarded in reference to those situations in which sculpture is usually placed, which also, I conceive, may nearly all, more or less, be considered architectural. In a garden, for instance. Those gardens which are suitable for such decorations as vases, statues, or fountains, are more or less on a symmetric plan, and may all in degree be considered as extensions of the house itself to which they are attached,—as its outer works, as it were, and as affording apartments with walls indeed, but with no roof but the sky. Under this aspect, none of such decorations of art as are introduced in these situations are altogether beyond and without the bounds of architecture, but their effect will be influenced in a large degree by the same laws under which they appear within the immediate courts, halls, and apartments of the edifice itself. When, therefore, a work of sculpture on its pedestal is placed in a garden, the two together, as a mass, will have the best effect if they justly subserve some theory of decorative arrangement which requires in that spot an architectural feature of that quality. I say this in order to acknowledge that, even when not directly associated with architecture, it may be very well for sculpture to hold itself bound by the same ties of geometric harmony as if in nearer relation.

Of course, when more closely connected with the sister art, as in statues to fill niches, relievi to occupy panels, figures to become the finials of columns, or extended and diversified compositions to adorn and enhance the tympanum of a façade or the summit of a triumphal arch, the geometric treatment of the sculpture becomes more intimately an architectonic question. So vital a one indeed does this appear in these cases, as regards the eventual effect of both the building that is to be adorned and the sculpture that should adorn it, that there seems but a remote chance of a happy result, unless a geometric laying out of contours and masses, and light and shade, has formed the ground-work of the design. In such cases the most delicate and artistic detail will fail to make up for deficiencies in geometric plot, which latter consideration, however, having been regarded, no doubt the more beauty of finish in details the better, as the Athenian has so well illustrated in the exquisite workmanship of those figures which remain to us from the tympana of the Parthenon, which were viewed at an elevation of more than 50 feet.

It appears, therefore, that sculpture should never lose sight of those family ties which bind it to architecture, and by which so much mutual benefit is to be attained. The freedom of sculptural lines which she draws from the contours and movements of vital forms may well give flow to the stricter types and masses of architecture, while, on the other hand, the latter, spreading out and aspiring more under the steadfast laws that inform the mineral kingdom, may lend in turn to sculpture the most valuable hints of geometric construction. And this holds even in cases where the sculpture is not in direct association with architecture, but is a principle also affecting the art by itself, insomuch that a work of sculpture is ever the more perfect in itself when its general contour possesses that quality and character of geometric symmetry which fits it for an architectural decoration.

In illustration of these remarks I have selected a few works of ancient and modern sculpture, which you see before you. I have necessarily been limited in my selection, and I have also thought it best to obtain small copies of these works instead of the large originals; and the more so, inasmuch as my present theme only relates to the general treatment of mass and line, which these reductions will serve to illustrate pretty nearly as well as the larger originals, some of which also would have been out of the question to bring here. In these examples, familiar because they are good, like the good tunes in the streets, the eye acknowledges, I fancy, at once the advantages of geometric treatment and balance which they possess, and in which they advance the valuable precedents of the best masters.

It may be, however, as well to make here, *in limine*, an acknowledgment that there are exceptions to these precedents. In such cases, however, we cannot tell how far such examples as do not possess this even adjustment were intended to act as one of a pair; in which case, although when considered as units they do not balance, yet as parts of a twin decoration, they might do so most agreeably, as is the case with the ears of a sarcophagus, or the handles of a vase, which as units are irregular, yet as a pair regular, and though singly uneven, yet when justly disposed, are mutually responsive, as is seen in the two side figures of the Medici tomb before you. Had either of these two figures been found separately and alone, in an ancient ruin, its form would have been deemed irregular; but as they exist now according to the artist's original plan, they are an apt example of geometric and responsive arrangement. I may as well acknowledge, however, that the more I see of works of art the more vain it appears to me to attempt to erect *perfect* canons of taste or treatment. A perfect canon in such matters appears as impossible an existence as that of a perfect specific in medicine. Thus in this case, although geometric treatment is undoubtedly an element of fine sculpture, and although certain cases of apparent divergence from this rule may be argued away, yet without pedantry or special pleading, it cannot but be allowed that there are some noble works which appear to play truant to these rules. This remark, however, chiefly applies to figures in the round, in which in any decided action it will be recognised at once that a form of geometric symmetry could scarcely be obtained in all views. In these cases it will be admitted that that arrangement is the most happy which gives the front and principal view, with the best balanced decorative form.

The noble statue of the Belvidere Apollo, and the Borghese Diana, are in some views of an irregular contour, and yet in others they present one sufficiently geometric to render them suitable for central forms without a pendant, especially in the centre of an ample space, and comparatively aloof from such lines of architecture as would emphasize their departure from the balanced character of an architectural finial. Although, however, some views of these and other figures may be irregular, yet I conceive that even in these cases, the desire is perceptible to obtain, as much as the subject and action admitted of, a well balanced and geometric form. Also with respect to the abovementioned two statues, we do not know how they were originally placed. The colossal cruseo-elephantine works of Pheidias, the Jupiter at Elis, and the Minerva of the Parthenon, are recorded as having been evenly balanced works, while we are also informed that they were symmetrically placed within the temples that contained them.

Without further introduction, I would now advert to two forms of geometric character, to which various of the best works in the round of ancient and modern sculpture appear to incline. It is on this account, and on that of their simplicity, that I speak of them especially, and not, of course, with any idea of excluding other geometric resemblances or types. I allude to the forms of the Pyramid and of the Vase. These are types which not only mould the masses and contours of compositions in the round, agreeably as sculpture *per se*, but by the same influence suit them for the purposes of architectural enhancement. In regarding examples of these treatments, however, we must not, of course, expect perfect pyramids or perfect vase forms. The conditions of vital forms are not such as to be confined within limits so rigid, and we can only expect such coincidence as may evidence the plan of their geometric conception. In some works, also, we shall perceive the pyramid tall, like an isosceles triangle, in others flat, and spread out as in the Dying Gladiator, or the exquisite figure of Eve by Baily, which is before you in small (a joy for ever as long as sculpture lasts). In one statue or group we may recognise the contours of a tall vase; in another, that of a broad wide one, as in a seated figure. The grand and expressive group of the Laocoon aims evidently at a pyramidal form, though this is somewhat blown aside by the gust of passion and of pain. The great group of Dirce and the Bull, of which there is a full-sized cast at the Crystal Palace at Sydenham, is on a similar principle, as it is, at some sacrifice, made more or less pyramidal on all four sides. The group of Niobe and her youngest Daughter, among other works, evinces an intention towards this form, and in most of these there is a near coincidence with that of a flame of fire, which has ever a tendency

* Read at the Institute of British Architects, as elsewhere mentioned, by Mr. John Bell.

towards the pyramid. Milton speaks of Satan, when touched by Ithuriel's spear, assuming up "like a pyramid of fire," and even the word pyramid is derived from this source. This form is also finely present in the general composition of the tombs of the Medici, as illustrated by the engravings before you; in which, although the parts are individually cast about, and so centrally diverted, yet this is effected without disturbing the general geometric arrangement which is here so finely preserved.

As I can only touch lightly on the details of my subject, I will now pass on to the second form I have indicated as frequent in fine statues and groups, that of the Vase, and to cite some examples which partake of the general form of a vase-like finial, of which a few familiar examples are before you. The outline and general contour of the far-famed Venus de Medici affords, especially in the front view, the general balance of a vase-like finial. The Fnedes of Glycon, commonly called the Farnese Hercules, although a figure as far removed as possible from this in character, has a similarity of arrangement, only it is wider at the foot. Both these statues possess, to a great degree, in their principal view, an evenly-balanced vase-like contour. And this quality, no doubt, has had a very large part, along with their other merits, in obtaining for them that great popularity which they have ever enjoyed. They were more repeated in ancient art than any other statues; one great cause of this being, no doubt, that, in consequence of their geometric arrangement, they were found so very convenient as architectural decorations, and we sculptors may well keep this point in mind when we desire a wide-spread public for our efforts, and try to work for posterity. The cloaked figure of the Phocion, also before you, presents a similar character of contour, illustrating the application of a vase-like outline to a portrait statue.

There is, however, another well-known treasure of ancient art that still more presents perfection as a vase-like finial, viz. the well-known classic group of Cupid and Psyche embracing, of which a little copy is before you. Turn it which way you will, in each view it preserves the just balance, elegant proportions, and general mass of a tall taper vase. In this exquisite and graceful group we possess a charming example of geometric balance and contour applied to the human form, and of the perfect coincidence of the architectural, decorative, and sculptural elements. Again, accordingly, has ancient and modern repute followed this combination of merits, and in later times this group has been more frequently introduced into paintings than any other work of sculpture.

I have before alluded to my disinclination to the pedantry of positive canons, and thus I would now again remark that although symmetry of form of this character endows a work of sculpture with a great charm, insomuch that its high value may be received as an axiom, yet occasionally divergence from this may be not only allowable, but even of great service in emphasising the action and expression of a statue, and that without injuring the effect of its architectural associations. Even in a niche which would seem, at first sight especially, to look for a symmetric treatment in the work occupying it, yet, premising that a general symmetric mass is obtained to occupy the general space of the niche, a hand and arm boldly coming forth straight out from the shoulder forwards, sideways, or upwards, and even cutting across the lines of the architecture, may have a fine, vigorous, and picturesque effect, and one still conducive to the general impression, although at first sight appearing to violate the compact of the arts. But these divergences and contrasts are only, I think, to be looked on as exceptions, and are in all cases to be guided by artistic taste alone, which is more subtle than rules.

Having used the tomb of Lorenzo de Medici in its whole composition, as an instance of the pyramid, we will now apply to the central seated figure which forms the apex of the composition, for an example of the vase form, drawn together towards the vase, swelling out on either side in the centre, and contracting again at the top, as is exemplified in the engraving and the small bronze copy of the Lorenzo on the table. Michelangelo being a proficient in all the four arts, was the more open to their combination. In regarding this remarkable tomb, if the spectator will in his mind's eye substitute for the figure of Lorenzo a vase form of similar proportions, and architectural festoons or some features of like character for the recumbent figures on either side, he will perceive how happy is the mere decorative combination as such, even apart from the nobleness of the figures; and indeed there are extant previous sketches by Michelangelo of trials of the arrangement of these figures, in which is evidenced that their architectural arrangement in a geometric manner was his first thought.

The "Premier Berceau," by Le Bay, of which there is a small copy on the table, that beautiful, wild, melancholy group of Eve and her Children, of which conception even the great Florentine himself might have been proud, affords another charming instance, especially in the first view, of a symmetrical vase-form.

In the two last instances, this vase outline is not tall and taper, like that presented by the Cupid and Psyche, but is wider and more luxuriant, which is in both cases gained by a seated attitude. It cannot be denied that the general contours of both these works are in a high degree just and pleasing; and it appears to me a great pity, that in this country there seems to be a disinclination to public seated statues in picturesque attitudes. I conceive this to be a misfortune to our art at the present time. And this point may be best illustrated by viewing such works in the first place in the light of geometric decorative forms. In many situations it will be acknowledged that rather broad, full, and luxuriantly-shaped vases afford richer and more satisfactory decorations than high taper ones. In the Crystal Palace-gardens, for instance, at Sydenham, I think it will be allowed that the broad vases look better than the tall ones; and I conceive that along the upper terrace, seated figures in bold attitudes, affording picturesque light and shade, but still subserving the general decorative proportions of wide vases, would have been preferable to the standing figures adopted, especially as they would have contrasted better with the numerous upright slender lines of the crystal edifice itself which forms their background. Seated attitudes were much adopted by the Greeks and Romans, and in later times by the Italians and French; and they have a most satisfactory effect on pedestals in the front of buildings, as would be the case in front of the Royal Exchange and the British Museum. If the authorities, especially concerned in the erection of our public statues, would first take an architectonic view of the subject, and consider what class of geometric decorative form would be most harmonious in a special site, before they determined for a standing or seated figure, I think that seated figures would be more frequently executed than they are now as decorations of this city.

The well-known group of the Rape of the Sabines, by John of Bologna, affords another instance of a vase-like form, round which spiral festoons of flowers may be imagined to be twisted, much as they are in those alabaster vases and flowers which we use as drawing-room decorations.

I will now pass on to busts. The ancients frequently made use of the terminal bust, and perhaps this is the most dignified way in which a work of this class can be based; but it does not so well subserve the purposes of decoration in our dwellings, and thus in modern practice has been replaced by the bust with the round pedestal. Nollekens introduced, and Chantrey continued this mode of fitting for these works, by which means, especially when placed on the frustra of columns, they become finials of a vase-like form. Chantrey was very careful in so adjusting his busts that they should preserve a general symmetric form even at the back, fitting them well for decorations and finials, as may be well, for instance, remarked in the bust of William IV. by him, in the centre of the dais at the farther end of the hall in Greenwich Hospital.

I will now proceed to offer a few remarks as to the treatment of sculpture in a tympanum. In this feature of art the general pyramidal form enforced by the space to be filled appears to be by no means the only consideration. It is unfortunate that we have no absolute record of the precise arrangement of any whole composition of Pheidias filling these spaces in the Parthenon; although in such data as remain a sort of circular form in the centre, treated in a full manner, and lessening off in waving lines towards the extreme ends, may be imagined as the general geometric treatment entertained. It has been conjectured that the figures of Niobe and her children occupied a tympanum of a temple of Apollo and Diana; but this is not certain, nor would it be safe to deduce from this series which has been thus arbitrarily arranged, the mode of the Greeks in this feature of decoration. We have the arrangement of the Æginetan tympanum, but that is of a crude and archaic character. In illustration of my views of a fine geometric treatment for the sculpture of a tympanum, I am happy to be able to allude to an English design, which, however, I only know through the medium of the engraving before you. I allude to this beautiful design by Professor Cockerell, which you see on the walls. Now I have had no conversation with him on the subject, and I hope he will take in good part the venturesome character of my reference to his charming work; but it appears to me that this design lords a most just geometric treatment of a rich circular composition in the centre of the space occupied, tangent to the base line and to the two lines of the roof. That it thus, as it were, supports the apex of the roof, and thence runs off agreeably in diversified lines towards either end. Fancifully this treatment may be likened to the appearance of a vast mask in the centre of the tympanum, the hair of which flows off on either side to either end, like that of the Medusa; or, enravesked by more common ornament, is like that of a coat of arms in the centre, and foliage branching or curling off to the extreme points of the space to be occupied.

Another exceedingly picturesque example of the effective filling of a tympanum, and one very familiar, for you can hardly go up Ludgate-hill without seeing it, is on the tympanum of the west front of St. Paul's, in the relievo of the conversion of St. Paul, sculptured by Francis Bird. This appears also to have been arranged on the same principle of a circular form, opening out on all sides from the holy radiance in the centre. It is charming in effect, and one is glad to be able to say for once something favourable for London smoke, for the mode in which this has darkened certain parts of this relievo, and left others white, has subserved the scheme of the composition, and most vigorously enhanced its chiaro-scuro.

As regards the arrangement of sculpture in a tympanum, there is one mode which I think one may safely say should never be adopted, viz. that which would repeat the upright lines of the columns beneath. The masonry and structure of the pediment connects and ties together the substructure; and its sculptural decoration should surely not err from this character. It appears pointed out, therefore, that the lines of the sculpture with which it is endowed should not be loose, vertical, or disconnected; but, on the other hand, should possess an agreeably interlaced character, as one composition, spreading over and combining the space from end to end, and as it were protecting all beneath like a great bird with extended wings. And following in this track, I conceive no geometric treatment arising out of this consideration to be superior to that of a richly-devised circular supporting form in the centre, carried out towards either end in waving lines.

As regards the decoration of square spaces, the well-known metopes of the Parthenon evince a well-balanced covering of the surface, so as to obtain that amount of quality of light and shade that was just for the situations they occupied. But, further than this, any precise adoption of any common geometric line in them is not apparent to me.

In the frieze of the same building, especially in the equestrian part of it, which will be allowed to be the finest example of the kind in existence, a horizontal ribbon-like character of geometric decoration has been adopted; the mass of the relievo, consisting of the bodies of horses and the lower portions of the riders, forms the centre of this band of decoration, which is shaded off above and below with smaller forms,—above by the heads and upper portions of the riders, and below by their feet and the horses' legs. Although all these details are charmingly varied, their continuity as ornament is not broken; nor, although probably the background was made slightly blue, do I believe that anything was done in the way of colouring that was calculated to break up this continuity. The guiding line of this frieze may be said, therefore, to be horizontal, affording an arrangement of men and horses in harmony with the principal architectural lines on the cella immediately connected with it.

We will now pass to the sculptural treatment of circular forms in relievo, and regard the geometric arrangement afforded by good examples. As illustrations of these, a very few specimens are on the walls. I have not been successful in obtaining for this purpose any shields or coins, which I should have also liked to place before you. I trust, however, to your recollection to supply the absence of these. In most of the fine examples of the occupation of circular spaces, as regards shields and metal work of that description, it will occur to you that a geometric treatment is prevalent in which a bright light of vigorous design and workmanship is evident in the centre, raying off and shading away in intensity towards the edges. The shield of Francis I. said to be by Cellini, that of

Achilles by Flaxman, and of Wellington by Stodhart, also illustrate, more or less, this scheme of treatment, combined with a sort of circular movement round the outer portion, suggestive of an orrery. There appears, indeed, in art as well as in accordance with nature astronomically, an idea of movement ever connected with the occupation of circular areas of any extent. In such works as coins and gems the spaces are often too small for this feeling to arise, and, therefore, in these a single head frequently fills the centre without any lines of an undulating character around, as may be well seen in consulting the fine collection of works of this class in the British Museum.

In larger works of this form of area, no finer examples are to be found than that charming pair of relievi, equally exquisite in thought and execution, —the Morning and Night of Thorwaldsen; and, in consequence, they have become standard features of architectural decoration. The same qualities, also, as fit these charming works for panels also adapt them for gems and cameos (in which they have been worked in great numbers); that is, their decorative character, which in a large degree results from their geometric treatment. Much more might be said on this subject as regards relievi, but my space will not allow me; and I will now, before concluding, return for a short time to works in the round, directing my remarks, however, to some features of art which I have not yet touched.

The very graceful little bronze of Sappho before you, by Pradier, that Anacreon of French sculpture, is a fine example of pyramidal form attained in a single figure, fitting it, among other art-uses, for the crowning decoration for a clock; and this quality, in addition to its other excellencies, has rendered it the figure most extensively adopted for those ornamental pendules which form so large a trade in France. The copyright of this figure was purchased from the artist by one house in Paris, of which I am told it has made the fortune. And it is, doubtless, in great degree its general decorative arrangement that has made for it so great a reputation and so large a public.

In other works of far larger scale, which, from their public situation, are more constantly before the eye, and which form part of the skyline of a city, and which, moreover, are liable to be regarded from a distance, whence their general outline is more recognized than their details, a geometric and well-balanced treatment is evidently still more essential.

In Paris, on the column in the Place Vendôme, stands a statue of the first Napoleon, dressed in his well known grey surtout, which, although it is not remarkable for its art, subserves its architectural purpose in a satisfactory manner as a finial of a somewhat Vase-like form. This cannot be said of the statues which form the finials of two of our columns in London, which are far from being geometric or well balanced in their general contours, and evidence, in an unfortunate degree, how very much the effect of a column may be injured by an inadequate or lopsided finial; and this may be allowed to suggest another and an additional reason to those generally advanced against the placing of portrait statues on the top of columns, inasmuch as portrait statues, especially in accordance with the prosaic taste of the present day, may be held not to allow, so well as emblematic statues do, of that quality of adjustment as would fit them best for finials. So that even on this score, if on the top of a column there must be a statue, it would appear preferable that it should be a Victory, or a Peace, or some other emblematic figure well fitted for a finial, and of which there need be no desire to see the features near, and that the portrait statue of the individual honoured should be below in front of the base. And I would here further take the opportunity of repeating a remark that I have often made, that it would be a very beneficial rule, that no public work of sculpture of any importance should be erected in bronze or marble in this city until the full-sized plaster model had been previously set up on the pedestal, on the intended site, in order to try its effect architecturally as well as in other respects. I am convinced that, almost without exception, some advantage would accrue to the final effect of the work from this preliminary step having been taken. In the case of either bronze or marble works it is the practice always to make full sized models in the first instance, so that but little time or delay would arise from this plan being followed. The plaster model having thus, *in situ*, received such modifications as the seeing it in its place would suggest, it would then be removed to be translated into either marble or bronze.

We will now proceed to the character of form suitable to crown a triumphal arch, for which it will be allowed, probably that a flattened pyramid of decoration would be suitable, such as is supposed to have been obtained on the Arch of Constantine by a group in bronze by that emperor in a car drawn by four horses abreast. Other elements of subject than these are, of course, open to be chosen; but as regards mass and outline, as a sculptural finial, perhaps none could be devised better to enhance an architectural structure of this class than those of a flattened pyramid composed of features on not too large a scale. At Hyde-park-corner for some years has existed a remarkable instance of non-attention to these considerations, and, as I believe, is universally acknowledged, with anything but a satisfactory effect. In this case, however, it is well known that the group was not designed by the sculptor for the place it occupies.

I am unwilling to close these few remarks without availing myself of the support of some of the highest works of painting, as well as sculpture, in the evidence they afford of the dignified and satisfactory results of geometric arrangement in a sister art. As these, however, are not strictly within my province, I will merely run over the names of a few which readily occur, which will call up at once the recollection of their geometric treatment. By Raffaelle: the School of Athens; the Death of Ananias; the Madonna di San Sisto; and the Transfiguration. By Michelangelo: the Last Judgment, and the ceiling of the Sistine Chapel. By Titian: the Assumption of the Virgin; and various works of Fra Bartolomeo and others. And there are also on the walls a few copies of fine examples which may be regarded as illustrations of this principle.

Many other works will occur to you, evincing in like manner with these the views of the greatest professors of the sister art, that just geometric treatment goes hand in hand with the loftiest and grandest flights of fancy; and also which show the care taken by these masters towards the adjusting this in each case to the architectonic requirements of the situation.

In conclusion, as regards my own art, it will be evident to you that I have only touched on a *portion* of the subject of the geometric treatment of sculpture by reference chiefly to Classic examples and Classic architecture, and not to Gothic and other styles. Nevertheless, I fear I have already too much trespassed on the light my theme is calculated to receive from the remarks of others. Perhaps, however, I may add that, apparently there is no subject that more illustrates the connection and union of the four arts, architecture, painting, sculpture, and decoration, than that to which the above remarks apply, insomuch that it may not be inappropriate to conclude them with the well-known observation of Michelangelo, when questioned on a collateral subject, who replied, "I know but of one art."

FROM ITALY.

IT is very seldom that any complete information reaches England of the progress of architecture in Italy. It is true that, for the most part, that progress may be hyperbolically described as retrograde; but, nevertheless, of late years there has been a very considerable amount of money expended in the north of Italy, in the way of repairs and restorations, which, have been, for the most part, very judiciously executed.

At Florence, for example, the exterior of the Duomo has undergone a complete restoration, as well as the Campanile: the façade of Santa Croce, left unfinished for so many years, is being completed, according to the original design; and though the work proceeds but slowly (the facing not having reached more than 12 feet from the ground), there is now every expectation that the façade will shortly be finished in a manner worthy of Florence. I do not know if you have heard anything of the subscription recently set on foot for the completion of the western front of the Duomo. It is conceived in a very ingenious manner, the subscribers being divided into three classes, the highest paying, if I remember rightly, about ninepence a week, and the lowest something like a penny. The subscription will extend over three years; and, on the completion of the work, the subscribers who have interested themselves in procuring subscriptions to a certain number, as well as the collectors, will be presented with medals and certificates, in acknowledgment of their services. It is also stated in the programme that special masses will be instituted for the benefit of the souls of deceased members. This subscription is under the patronage of the Grand Duke, his prime minister, and several members of the Court; and when I left Florence it was proceeding very satisfactorily, more than the requisite number of names having been already enrolled. It is to be hoped that this praiseworthy undertaking will be carried out in a proper manner, as the west end of the cathedral has long been an eyesore, and is rendered yet more unsightly by the clumsy expedient, resorted to some time in the last century, to conceal its bareness by painted pilasters and festoons in the worst possible taste. It is to be hoped, if there are any superfluous funds, that they may be employed in completing the cornice round the base of the dome, which will render the exterior of the cathedral at Florence one of the most complete monuments in Italy. This work, if ever it is finished, must be so by the contributions of the people alone, as the Government has already contracted so heavy a debt in the improvement of the city, the construction of public latrines, the formation of new piazzas, &c. that it really has no money to spare. The people are heavily taxed already, and various means have been resorted to to pay the present debt: the tax paid by foreigners for their Carta di Soggiorno is nearly trebled; and the price of tobacco has been raised, which latter has caused much discontent.

The design of the new façade has not been decided on. It is said that there will be a competition (limited to Italians) for the work, but of this I know nothing certain. There are several designs by various architects preserved in the Library, near the Duomo, in a room with the original models of Brunelleschi for the dome of the cathedral. That which appears to have obtained the almost general suffrage of the Florentines is a design by Niccolo Matas, which is little more than a repetition of the composition of the flanks, with a lofty gable in the centre, and the wings carried up on each side to conceal the roof of the aisles. The ornament consists principally of diapers harmonizing with the ancient Basilic, and a few statues in the doorways and on the summits of the piers. Another design of a similar character, but, however, not so artistic, is by Gio. Silvestri and Felice Francolini. In this design the Campanile is also shown, with the addition of a lofty spire, as originally intended by Giotto; but universal opinion has confirmed Taddeo Gaddi's judgment, that the Campanile is much better without the spire, and there is very little chance of its ever being added. The design of Giotto for the façade must necessarily be discarded, as from the preponderance of sculpture it would be almost impracticable in the present day.

The statues on the exterior of Or St. Michele having become dilapidated, have been restored, together with the niches, the lunettes of Lucca della Robbia ware, &c. One of the last that has been uncovered is the St. George, by Donatello, on the south side. There has been some talk of restoring this building to its original intention, by opening the arcades, but as yet nothing has been done in the matter. The Government are erecting a new post-office on the Lung' Arno, beyond the Uffizzi, which has long been wanted, the existing building, in the Piazza del Grand Duca, a very ancient structure, built by the Pisans (taken prisoners in the wars between them and the Florentines, in the fourteenth century), having been for some time inadequate for its purpose.

A few days ago the committee appointed to adorn the empty niches of the cortile of the Uffizzi with statues of illustrious Florentines, presented a report to the Government to the effect that the work had been completed, and praying the Government to take the statues under its charge. The whole of the niches are now filled, and contain statues of various degrees of merit of Orcagna, Michelangelo, Arnolfo, Brunelleschi, Dante, Galileo, Boccaccio, Andrea del Sarto, Redi, Amerigo Vespucius, Machiavelli, Guicciardini, and many more Florentine celebrities. It somewhat lessens one's regret at the items in gambling practised in Italy, to know that these statues have been erected from the proceeds of the lottery of the state.

There seems a great mania just now for erecting statues in Tuscany; for the Florentines, not content with the monstrous monument in the church of Santa Croce, and perhaps desirous of atoning for their ancestors' neglect of their great poet, are about to erect a statue to Dante. There was a letter the other day in the *Fanfulla di Pietro* (the Milanese *Punch*, which, by the way, received a "warning" from the Government for persisting in a course contrary to morality and the public good), calling upon the Veronese who sheltered the unfortunate poet in his exile, not to be behind-

hand in honouring the memory of the bard of the "Divine Comedy;" but this invitation does not seem to have been responded to.

At Padua, very extensive repairs are in progress in the exterior of the church of St. Antonio, of which you gave a view a few weeks back, from a drawing by Mr. Norman Shaw. At Venice, the churchof St. Giovanni and Paulo, is undergoing repairs, both internally and externally. Considerable works are also going on in the interior of St. Mark's. The works at the church of the Madonna dell' Orto have been suspended for some time, an accident having occurred to one of the workmen; and a suit is still pending between the Government and the contractor. The church, however, remains encumbered with scaffolding. The pictures have been removed, and are rolled up in the Academy; nobody knows exactly where. The Campanile in the Piazza St. Marco has been for some time finished; and at present the Torre dell' Orologio, at the entrance to the Merceria, is under repair. The Procurazii Nuovi, at the south-east angle of the Piazza, are also being repaired, although the repairs are of only a trivial character. Some works are yet in progress in the interior of the cortile of the Doge's Palace, which were begun some time ago. These are about all the building news at Venice, as there is very little going on in the shape of new erections, the present building, in many cases, more than sufficing for the wants of the community. There is at present very great activity in the Arsenal, as in Dante's time,—

"—Nell' arzanà de' Viniziani
Bolle l'inverno la tenace pece"

New ships are being constructed; old ones refitted by the special command of the emperor, who it is said is very desirous of re-establishing the ancient *prestige* of Venice in naval matters. The Government has, however, created a very unfavourable impression in its Venetian subjects, by the introduction of the new coinage of soldi and fiorini, which creates endless loss and trouble. In consequence of the difficulty of substituting the new coinage, the period for the recall of the old money has been extended from the 1st of November to the 31st of December, which still further complicates matters, as now we have two currencies which have scarcely any relative affinity to each other, and it is necessary continually to make calculations, which are perplexing in the extreme, as none of the existing money passes for its nominal value.

To return, however, to Architecture. Even in this quiet city (Vicenza), where there has been scarcely any building since the time of Scammozzi and Calderone, the work of restoration has been in progress. The Palazzo Chieracate, now the Museo Civico, perhaps one of the finest works of Palladio, has been very judiciously restored under the superintendence of Signor Miglioranza, and it now contains a very respectable collection of pictures, coins, medals, prints, &c. The original drawings of Palladio and Scammozzi have been framed, and hung up; and some autograph bills and receipts of the former, together with a MS. copy of his treatise on the orders, have been placed in a glass case, together with other interesting MSS. for public inspection. The whole of these improvements, the arrangement of the Museum, &c. are due to the zeal of Signor Miglioranza, who has accomplished the work in spite of many difficulties and considerable personal opposition.

This gentleman, who resided some time in England, and is a member of the Institute of Architects, has been lately exploring the remains of a Roman theatre situate in the Piazza St. Giuseppe. The existence of a theatre on this spot had been long known; and it is said that Palladio made some researches with the intention of illustrating it, but the difficulty of excavation (it being entirely covered with houses) seems to have deterred others from the attempt, until Signor Miglioranza undertook the enterprise; and to that gentleman is due the merit of having, in spite of considerable difficulties, produced a complete series of illustrations of this interesting monument. As I told you, the site is entirely covered with houses, and the theatre having been destroyed on the establishment of Christianity, there is not a single vestige left above ground, the plan only being indicated, the present houses being for the most part constructed on the ancient foundations of the theatre. To add to the difficulties of exploration, the Bacchiglione, which runs near, constantly overflows, so that the vaults of the houses are frequently under water, as they are at the present time. Signor Miglioranza, however, by dint of most careful research, has succeeded in tracing the whole of the plan of the theatre, and has made a most complete restoration, which agrees most minutely in its proportions with the rules given by Vitruvius for the construction of theatres. He also has discovered a portion of the ancient roadway at a distance of 15 feet below the present ground-level, together with statues, termini, fragments of bronze, terra-cotta, capitals of columns, and other architectural remains. The most interesting discovery, however, consists of two statues of Parian marble, of the Emperor Trajan and the Empress Sabina, the size of life. The two torsi have been calcined by fire, and the head of the emperor had been removed, and another head substituted. The original head was, however, discovered a short distance off, and is, as well as that of the empress, of the most finished execution. The head of the emperor bears a most striking resemblance to his effigy on the coins, although it is somewhat damaged, having been split in two from ear to ear: that of the empress has been better preserved, having been found in a stratum of clayey earth. Another very interesting object is an unfinished Ionic capital, upon which are traced the lines for the formation of the volute, agreeing precisely with Palladio's deduction of the rules used by the Romans. In fact, as Signor Miglioranza observed, the great value of his discovery consists in its utility, as a means of elucidating Vitruvius and other authors on the subject of the antique theatre.

There have also been discovered several very fine fragments of columns of porphyry, Egyptian and African marble, and a great number of capitals of diversity of design. All these have been measured and drawn by Signor Miglioranza, with the greatest care and precision, and his drawings form altogether about thirty folio sheets. He has the intention of publishing these, together with a Memoir on the theatre; but, of course, such a work is a dangerous undertaking, particularly in such a small city as Vicenza.

These antiquities have been deposited in the Museo Civico, and form a very interesting addition to that collection. There are, however, probably many more things undiscovered, Signor Miglioranza having only been able to lay open a portion of the ground: he has also been careful not to remove any part that formed a portion of the construction, preferring to leave it for the sake of the identification of the site, and the verification of his deductions.

I may mention, that the celebrated picture of Paulo Veronese, the Supper of Pope Gregory the Great, which was cut in pieces in 1848, by the populace, has been removed from the Museum where it formerly stood, and has been replaced in its original position in the refectory of the church of Monte Berico, by order of the emperor.

Vicenza. J. H.

SUGGESTIONS FOR A SYSTEM OF TEACHING DRAWING IN FIRST-CLASS SCHOOLS.

Now that it must be merely a matter of time before drawing is introduced as an element of education into all schools for liberal education, and believing that if we are to obtain the full value of it, we must subject the practice to the same laws as regulate other branches of knowledge, I have thought that the following suggestions may lead to some new consideration of the matter, and help to point out the true position that drawing should take when it is generally adopted into ourscholastic system. In the highest schools it should be something more than the mere practice of drawing, and rather lay claim to the name of art-education. For where the time usually given to drawing is properly husbanded, it may not only be satisfactorily acquired, but be used also in the acquisition of other knowledge.

It appears to me that all true systems of teaching drawing consist in inculcating a correct knowledge of the elements of it; and that when sufficient knowledge in the rudiments has been obtained, to direct an application of the power to such subjects and in such a channel as we have learnt from experience, will produce the result we aim at. It is impossible, however, that the details of a system of teaching drawing can be explained in general terms, as to be effective a system must be varied materially in detail in teaching different kinds of drawing, and with reference to the end proposed, and bearing in mind what use is to be made of the power of drawing when it has been acquired. This also must necessarily influence the character of the teaching; for the style of drawing required, and the use it will be put to, will determine not only the *kind* of drawing taught, but the *degree* also. To give an instance,—Suppose two boys to be studying perspective: one learns to draw as an accomplishment, and to draw in perspective to enable him to make correct sketches from nature. The other learns to draw as a most important part of his education for his future profession (perhaps he is preparing for a Woolwich examination), and both the theory and practice of perspective are necessary as a qualification before he can be admitted to the examination, and his passing in them is a *sine quâ non* to his success. Here would evidently be a case where two boys would learn the same *kind* of drawing, but from the very different use they intended to apply their knowledge to, it would not be necessary to teach them to the same *degree*. The first would be taught the elements of perspective, and practically shown how to apply them in drawing. Methods of obtaining certain results would be pointed out, and correctness of line would be ensured by testing the work produced by simple principles easily remembered. But the second would be required to know more than this. He must be intimately taught the connection between form and effect, reality and appearance under different circumstances. This would necessitate a knowledge of geometry and the principles of optics, for a thorough acquaintance with the laws of perspective includes the knowledge of the appearance of planes at all angles; of lines on such planes; of their real forms, which would be taught by geometry; of their appearance under given conditions, shown by perspective; and of the cause of change of appearance resulting from change in position, which can only be entirely understood by the assistance of the elements of optics. Such a deep insight into perspective would not be necessary for one who required only to sketch correctly, and the acquisition would consume too much time when the result is viewed merely as an accomplishment.

A similar example might be given with reference to the drawing of the human figure. If it were required that a boy should be taught to draw figures to put in foregrounds of sketches, the draped figures with hands and faces would give him enough to do this easily; but if a boy intended to be a surgeon, and had to be taught drawing the human figure for that purpose, it would be advisable to give him some insight into anatomy, the position of the bones and muscles, the mechanism of the joints, and the appearance of the muscles at rest and in action.

These two illustrations will show how impossible it is to state arbitrarily what would be the system adopted, as it is evident that all subjects must have their own peculiarities, and each its own modification of system. There are, however, certain fixed principles and fundamental laws with regard to tuition from which art-education is not exempt.

1. That the most compound result is produced by the use and association of simple means. To be able to produce the result we must be well-acquainted with the means, and able to reduce what appears compound to its elements.

Let this be applied to the drawing of a landscape. We see before us buildings, foliage, water, foreground, distance, sky. Now all effects in nature are to be imitated by means of two different kinds of lines, viz. the straight line and the curved; by the use of these two lines, then, both separately and combined, have we to obtain our result. How are we to use them?

In *buildings*, as a rule, the outlines will be straight lines, and the surfaces seen will be planes, the edges of which form the outlines. All shading lines follow the surface and outlines of the shaded object, which in this case are straight lines, so also will be the shading lines.

Foliage presents to the eye an irregular surface and a broken and varied outline, according to the character of the tree. Depending on the latter feature will be the touch required to give a representation of it. The outline of a tree will in main feature resemble that of one of its leaves, and each touch will therefore partake of the character of the leaf, whether large-grouped and flowing as in the horse-chesnut, or short, small, and in a mass, as in the fir.

Water, if calm, will be a horizontal plane, to be shaded, therefore, by horizontal lines. If troubled, its lines will be broken into short or long curves according to the size of the waves.

Foreground and *distance* should be treated, as to touch, with regard to objects in them, whether of round or flat objects which would be shaded by means of curved and straight lines. As to the comparative depth of foreground and distance, it should be remembered that the part nearest the eye is seen most distinctly, and would therefore be marked with more decision and variety of depth than that in the distance, which, as it retreats, loses both its distinctness of outline and

light and shade, and would in consequence be represented by lighter and more undecided lines.

Sky, if unclouded, cannot be represented by lines; but depends entirely on its colour. If clouded, the same laws apply to it as regulate the drawing of very distant objects; but the shading should be of the faintest possible description, remembering that atmosphere is being dealt with, and not solid form.

Here, then, is an analysis of one kind of drawing. We have reduced it to its elements, and seen each part separately. A similar examination of other kinds of drawing, with a view to discovering their elements and essentials, enables us to lay down as decided laws with regard to them.

Landscape drawing then resolves itself into the drawing of straight lines and curves in their proper place, right form and true proportion; to do which requires the guidance and assistance of the teacher, who is able, from his superior experience, to see these features distinctly. Now comes the question. How is the power of drawing straight and curved lines to be acquired? This brings us to the following principle:—

2. To attain to proficiency in any subject, the elements of it must be first thoroughly acquired, and afterwards applied.

It was long recognised as a principle, and is now believed in by many, that only those who were endowed with taste or genius, would ever be able to draw. In other words, that certain individuals were born who alone were capable of seeing the true forms of objects, and of producing an imitation of them by means of lines. This delusion was believed in, long after it had been demonstrated that every child could be taught to write, or, in other words, could be taught to imitate by the formation of certain lines, words that stood for the names of things and actions. That is to say; human beings could learn to draw certain lines, shapes, and figures, and repeat them in any variety of combination, so long as they stood only for the *ideas* and *names* of things. But when the same human beings had to learn the drawing of exactly similar lines and shapes, and apply them in other varieties of combination, only a very few were capable of doing so, because *this* combination of lines stood for the *form* of objects. Or, to give an instance, I am able to teach my child to draw the figure 0, when it stands for the idea of nothing in arithmetic; but when it, or a similar shape, stands for the form of an egg, he is unable to draw it; and I am unable to teach him, because he has no taste! The utter absurdity of such a deduction need not be pointed out; and yet the argument about taste and no taste for drawing, resolves itself into this, viz.:—Straight lines and curves, being the common elements of writing and drawing, can be learnt by every child for the purpose of writing, but not for drawing.

It is impossible that any rational person, after careful thought upon the matter, can continue to hold so inconsistent a theory.

I, therefore, start with the principle that every person who can be taught to write, may with equal facility be taught to draw.

In commencing a course of lessons in drawing, I should take care that a careful execution of straight lines and curves should precede all other drawing. These would be repeated separately and in combination, until a straight line could be drawn with ease to any length, singly, parallel with others, and at all angles to each other. Then curves would be drawn separately, connected with each other, and simple and compound curves be practised, until the same curve could be drawn twice with some degree of accuracy. This would be followed by the symmetrical drawing of straight lines and curves on opposite sides of a central straight line. The last exercise would teach the balance of objects, and, indeed, is the most valuable practice in drawing, as it shows so powerfully the value of curves and proportion, besides inculcating a correct appreciation of symmetry. When my pupils had become so acquainted with these exercises, that they could be repeated in a fair line without much difficulty, the alphabet of the language of drawing would be acquired.

Up to this point the method of teaching would be that of class lectures, the exercises being drawn on a black board in presence and sight of all the class, so that the instruction hitherto would be general, though the peculiar mistakes of individuals would of course be pointed out to them and corrected, when the master examined each drawing, to see what progress is made, and what difficulties have been encountered.

But from this point, when all have acquired the power of drawing simple forms, instruction should become more individual. The common language of all drawing has been learnt, and the practice each pupil requires, must determine in what branch he is to be specially educated. Thus whilst one would be taught to draw landscapes, entirely, with figures as accessories, another may wish to give his whole attention to figures only, or animals and figures. Both might require to be carried on to the painting and sketching in water-colours, of their several subjects, each of which would have its gradation of exercises, commencing from the careful and diligent drawing of detail to the grouping and finishing of the most elaborate objects.

Into the true rendering of any subject by means of drawing, perspective must enter largely, so that concurrently with all kinds of drawing would be taught the elementary principles of perspective, which in some cases would be continued to the examination of the most difficult problems of the science. In cases where pupils were preparing for their appointment in the engineers or artillery of the Queen's service, or for Indian appointments, practical geometry and orthographic projection would have to be taught in preference to a more ornamental style of drawing, as these would bear more directly upon success and excellence in their future profession.

Drawing, in its practice, is an exercise of two powers,—that of the hand, and that of the memory; the hand that executes, and the memory which remembers and directs. It is, therefore, as important that the latter should be cultivated, as that the former should be exercised. This has not hitherto been sufficiently appreciated by those artists who are mere drawing masters. The result is that a certain executive power is acquired by the pupil, and when objects are presented to the eye they are copied; but the reproductive faculty stops short there. Now one of the advantages, and we may say *comforts* of a real power of drawing, is the being able to reproduce objects that are not immediately presented to the eye. To give a true representation of forms that upon a hurried inspection have made an impression on the mind,—to do this requires only a systematic development of the powers of the memory. We easily remember the text of a sermon. Why should we not as easily remember the exact shape of an east window, and be as able to reproduce the form of the latter as to quote the words of the former? The value of such a power will be understood when we consider what vague and erroneous impressions are made by mere descriptions of forms, and how easy it is to realise the character and shape of objects from even a rough sketch of them. When from careful education the hand and memory have been so exercised, that they work readily together and in concert, and thus produce accurate and detailed representations, what powerful illustrations they are to a description or a conversation, and what a weapon such a power of memory-drawing must at all times be! With these views I have always attached very much importance to drawing from memory, and have had some simple form prepared before each lesson, the proportions of which I have explained to the pupils when they have been working at other subjects, and then it is placed in such a position that it can easily be seen by the whole class. Before the next lesson each pupil is required to produce a drawing which he has made from memory, of the form given at the last. This is very difficult at first, but the difficulty felt at one time ensures a careful observation of the peculiarities of the next figure; and as the memory subjects become more and more difficult, so the observations become more keen and accurate. Then, as it is well to be familiar with more than one medium in drawing, these sketches are made in ink, which requires more care in its use than pencil drawing, besides making the draughtsman more independent of material. As to the subject of such memory sketches, it is well to make them a means of conveying an elementary knowledge of some separate subject which is not otherwise touched upon. Thus, during one half-year, by giving such exercises regularly, the whole class may be made acquainted with the type forms and details of various periods and styles of architecture. Such a practice is not so difficult as it would at first sight appear to be. My experience has proved how simple it may be made. The first lesson I gave in a similar course was to draw the four most characteristic arches of Norman, Early English, Decorated, and Perpendicular architecture. The mouldings were not drawn, only the simple line which showed the character. Thus the Norman was a semicircle; the Early English, a lancet point; the Decorated, one line balanced by its fellow, to show the ogee arch; and for the Perpendicular, a similar line, to show the four-centered arch. As a further exercise of the memory, the dates were attached to the drawings, and had to be remembered in connection with the forms given. The next lesson in memory sketching took for its subject the four types of capitals of the same styles and dates. Afterwards came the patterns of enriched mouldings, and in another lesson the characteristic foliage of the same periods. Other type forms were taken in their turn, and when some knowledge had been gained of the essential types, other and more advanced exercises took for their subjects the varieties of each style. And so we went on to sketches that combined all the type forms, as in a Norman arcade may be seen the circular column, the cushion capital, the zigzag moulding, the semicircular arch, and the base with the twelfth century claw-leaf at the four angles of the plinth.

When one subject was exhausted, another of a totally opposite character might be taken; as the elements of botany, showing by sketches the principles of the growth of plants and the individual features that distinguish one order of plants from another.

So in a similar manner might be given some notion of the mechanism of the human skeleton and muscles, though the drawing of this would be limited to the figure class; and when some knowledge of the human figure had been obtained, comparative anatomy, showing the difference between the skeleton of man and animals, and the adaptation of each to its position and requirements, would afford another series of interesting lecture lessons, and be valuable material in the cultivation of the memory.

The information to be conveyed by such means, though only the seed of knowledge, must be productive of real good, if only as directing the attention to what would not be otherwise observed; and, although the knowledge would be in itself of a very elementary kind, it might lead to deeper knowledge by inculcating habits of observation.

A system which is thus based upon the first principles of tuition derived from experience in like subjects, and is vital in its practice, having clearly-defined means of producing stated results, should, from all analogy of the past, be successful.

In conclusion, allow me to say that my opinions on this subject have been arrived at by observations of experiments made upon large classes, and of deductions from actual results. What has been tried and found true in many cases, with different material to work upon in each case, but with all the same result, may without presumption be believed in as a principle. My experience, therefore, leads me to believe that it is possible, and not only possible but necessary, that drawing should be put on precisely the same footing as other subjects, and treated as to its difficulties with as little or as much consideration. There is no reason why it should not, and every reason why it should be taught universally as an elementary subject of education. It is in practice subject to the same laws and under the same control as other parts of education, and may be learnt as easily and as generally as any other. As an educator of the eye and a developer of the powers of observation, we may expect it to have very beneficial effects upon other branches of education.

But if ever drawing is to become naturalized among us, and productive of satisfactory results, we must first get rid of that misty, ill-defined notion of its difficulties, which so prevails. We must treat it as a language, having alphabet and grammar as other languages have, to be learnt as systematically and as carefully, and therefore taught so. This consummation will *not* be brought about by the mere drawing-master of the present day, who teaches a pretty, picturesque, young-ladies' style of drawing, any more than the English language in all its dignity could be taught by an adept and professor of London slang. To obtain the full value of drawing as a part of education, requires the direction and co-operation of the regularly-trained and qualified teacher, who is familiar with the first principles and common syllables of all styles of drawing.

The artist who has become an adept in one branch of art, and has practised it to the exclusion of all others, is not only not a good teacher, but probably from the very circumstances of his life, is wholly unacquainted with the first principles of tuition. The faculties of acquiring and communicating knowledge are not necessarily associated in one person, so that the presence of one faculty is no guarantee for the possession of the other. The accomplished and distinguished artist, therefore, may not be, and usually is not, the best teacher. He may be powerful in the studio, and powerless in the class-room, without inconsistency; just as Bulwer or Thackeray might make the fortunes of their publishers, but cause a chaotic

state of things if placed at the head of Eton or Rugby.

The profession of the teacher requires natural endowments of a simple kind, but his training and method must be of the severest character. He must have the power of digesting difficult subjects, and simplifying them: of seeing the prime characteristics and essentials of every matter that comes under his hands, and by pointing these out, make them understood to the dullest and most ignorant of pupils. It behoves, therefore, those who have the selection of teachers, not to allow the exhibition of advanced executive power to be the only qualification offered by competitors for high positions as teachers of drawing; but rather to regard extent and thoroughness in the knowledge and practice of the most elementary kinds of drawing, to be the better testimonial. Special preparation as a teacher should also reckon highly, as that will usually have produced careful observation of character, and resulted in the power of adapting education in the development of peculiar minds.

Let us hope that by a rational admission of drawing into the necessities, and not the refinement of our education, and by the careful selection of teachers, the language of Form may be at last understood and spoken, and that through it our eyes may be opened to the wonders and beauties of nature and art.

Bradfield. WALTER SMITH.

FRESCOES AND STATUES IN WESTMINSTER HALL.

THE idea of an avenue of historic statues up Westminster Hall, and of a series of frescoes on the walls, also from historic subjects, being before your readers by your insertion of my two last letters on the subject, I will venture to add a few more remarks.

In my last letter, having pointed out how suitable the sides of this venerable hall are for the reception of historic pictures, as indeed the date of its first erection stretches back past most of the great scenes of our annals, I suggested how appropriate and interesting it would be that at least a portion of the subjects to be represented on these walls should be those of events that actually took place within them. Few of the visitors, I fancy, who enter that ancient apartment, which has for so many long years been the silent witness of so many scenes of energy and of change, think of the associations of the spot they tread; but fewer still would be those who would not feel thankful for being instructed through the eye, that readiest mode of learning, on those remarkable and interesting events of history, which could nowhere be so appropriately presented to the attention as in the very spot in which they occurred.

I have, however, since I wrote last, only had the opportunity of ascertaining a few of the incidents which have occurred here, that have such a degree of interest as would suggest them as national works. I will just simply enumerate them:—

1. Wallace was tried in the "great hall" at Westminster in the year 1305.
2. Strafford's trial took place in the "great hall," March 22, 1641. On this occasion, although concealed by trellis-work, the King and Queen, and Prince of Wales, heard the trial and saw what went on.
3. The trial of Charles I.
4. The trial of Sacheverel, in the reign of Anne, in the year 1710.
5. The trial of the Scotch lords, Derwentwater, Nithsdale, &c. in 1715.
6. The trial of Lords Cromarty, Kilmarnock, and Balmerino, in 1745.
7. The trial of Lovat, in 1746.
8. The trial of Warren Hastings.

It may be that these subjects are not all honourable to England, especially the first; more particularly considering what was the issue of that trial; but if illustrations of history should be as truthful in their impression as history itself, it would be a sin of omission to leave out an appropriate subject on the sole grounds of its not flattering our national vanity. Indeed, the emphasizing the event by a good picture, as a memorial of honour to Wallace, would be one of the few modes now left to us of blessing his memory, and it leaves in our antiquarian mind at any rate, a little the opportunity of expressing our penitence as to it.

The above subjects may appear to be somewhat too similar, being all trials. This, however, would be mitigated, not only by the wide diversity of their periods, but by being confided to different hands. I conceive, however, that a due search in our chronicles would afford various subjects as having taken place in Westminster Hall which are not trials. Many of these would be casual incidents. But also some ceremonials might be justly introduced: as, for instance, the first swearing in of a lord mayor there; which is an important ceremonial, although we are far too inclined to laugh at things of that nature here, which we should regard with historic respect if taking place in another country.

I am quite sure on one point—that you have among your readers those who are far better acquainted with history than myself, and it is possible that you may thus receive some additions to the little list I have sent, *of subjects which have taken place in Westminster Hall, which would be appropriate to be there executed in fresco.* The more of these subjects that could be found that would be worthy of being thus recorded, no doubt the better, as the more special would be the character that they would lend to the series: nevertheless, of course it would not be advisable to introduce any trifling subject, merely because this was the spot on which it occurred. On the contrary, only dignified and important subjects should be introduced, giving the preference to those which had been enacted within the hall itself, and next to those which had occurred at Westminster, or in the City of London.

The building of the hall itself could, perhaps, hardly be left out from this series, and any subjects of a judicial character would appropriately find their place within this apartment; and none would be more just as an introduction to the other trials, than the "First Trial by Jury," by Mr. Cope, of which I have spoken before, and which I am sure the lovers of art, who so much admired it as a cartoon, would highly desire to see in fresco: and where could a more suitable situation be found for it than in the immediate neighbourhood of the Law Courts, that have been so long held within this building?

With respect to the avenue of statues up the hall, the same view as to subjects might well, I should think, be held, viz. to give the preference to such of our worthies as have been more especially connected with the occurrences which have taken place in the hall and in Westminster, but not by any means to the exclusion of those who have not that specialty. Among the contributions to the original sculpture competition in Westminster Hall, in 1845, there was a very characteristic and pleasing figure of Chaucer, by Mr. Marshall, R.A. Why is the public not to have the pleasure of seeing this in marble? I believe they liked it very much in the full-sized model, and it might be appropriate as forming one of the avenue.

EPSILON.

HOW ARE WE TO ADVANCE?

MR. H. B. GARTINA, in his paper on the Album of the Thirteenth Century—Wilars', of whom our readers have already heard something, made the following observations, which deserve consideration:—

Assuming him to be the type of the artists of that age, let us note particularly the wide and unrestricted field over which they spread their studies, how thoroughly eclectic they were in their habits of observation, how they swept off everything that came in their way, sacred and profane, that offered new ideas and new images; with what honesty they set themselves the task of meeting the requirements of their age; how candidly they admitted its conditions, how thoroughly they expressed its spirit; and this liberal, and catholic, and unprejudiced view be sure it matured, as in the case of the fertility of invention, in marvellous perfection of application, and in matchless vigour and originality of expression. For we must remember, where genius, essentially the creative power in man, exists in the greatest degree, we shall find, if we analyse its operations, that it does not create new forms or new images, but simply creates new combinations of images and forms already existing; and that by natural consequence, its powers are disciplined, nourished, and perfected by abundant observation, and its stores increased only by the accumulation of matter, of raw material, so to say, which it renders back again refined, vivified up, transmuted and combined in endless variety, by those processes which genius alone can effect. Can we then, by study, by accumulating matter, by education, that disciplining thing, hope to rival the glories of the great epochs of art? I mean of those periods when it had reached truth and grandeur, when it aimed so high, and so nearly attained its mark, that it became the standard, the starting-point for everything that followed. Most assuredly not; for the true causes of this excellence lay infinitely deeper than any we can touch by the most skilful training. If we examine the history of the time, we shall find that all these great awakenings, so to call them, followed hard upon some mighty political convulsion, some movement of a character so deep that it stirred up from the very bottom that class of feelings and emotions which, when the tumult has subsided, find their natural expression in poetry, and in the most truly poetical phases of art. Convulsions so absorbing in their influence that they forced everything into one channel, so overwhelming that they left no space for rival influences, so powerful that they communicated impulses of which the duration may be reckoned by centuries, and which, like undulations from a common centre, became feebler as they widened in circuit, till crossed by counter influences they exhibited only a surface of troubled water; as in our own day, heaving, indeed, tumultuously, but moving in no definite direction, attesting only the mighty force of the first impulse, and the elastic and impressible element through which it was propagated. Such convulsions were the Persian invasion in classic, and the Crusades in later times; for though the direction of these two great events was different, the feelings and emotions they roused were identically the same, and their effects precisely parallel. The results in each instance were precisely the same. In the Greek, of more ethereal temperament, they were more rapid, more brilliant, and more dazzling. In the Goth, of sterner mould, they were more solid and more enduring. The one gained at a bound the height, which the other reached by slower steps, but sure; the influence of the one expired, for though lofty it was essentially human; the other survives, through the Divine element with which it was interwoven. I say, then, a combination of influences only, such as occur but twice or thrice in the history of the world, at particular stages of advancement in knowledge and civilization, can alone produce what we desire so earnestly to see in this our own day. Shall we, then, do nothing? Certainly not. If we cannot do all we could wish, we can easily achieve some improvement, and I would make a few suggestions in furtherance of this desirable object.

First,—That enlarged study will remove narrow prejudices.

Secondly,—That it is by thorough digestion, and not by the accumulation of matter, that we learn to invent.

Thirdly,—That to copy great works is not to imitate great masters.

Fourthly,—That it is only in the nineteenth century that fine art is considered one thing, and the vernacular, so perhaps truly named, another. In the thirteenth, the vernacular expressed the popular want, the necessity of the case, the conditions of design; while fine art showed how the artist could refine what was coarse and vulgar, ennoble what was mean, and spiritualize what was gross and material; his proper and highest vocation.

Lastly, That the benefit of enlarging our views beyond the limits of one phase of art, of adopting that eclectic method in study which enables us to appropriate some meritorious principle of another style, without confounding its distinctive character, which is chiefly expressed in detail, is singularly exemplified in the case of that particular school of artists who most strongly insist on the opposite principles; for we must admit that, after twenty years of unremitting investigation, after thousands of experiments in the revival of Mediæval art, the only symptom of real advance in meeting actual requirements by some new combination or idea, is the adoption of the mullion, the adoption of the horizontal lintel, and the introduction of the monumental column; all so essentially classic in character that they were but a few years back instanced as a reproach to that style, as evidence of false principle and inappropriate expression. They do exist we know well in Mediæval art, but this simply adds weight to the point I insist on, viz. that it is necessary to enlarge our field of study, and to accumulate facts, before we decide on our principles, and that this point, so essential in practical science, is equally applicable to all the arts of design.

GROWTH OF A WESTERN VILLAGE.—A letter from Fairbury, Illinois, says,—"Last November there was but one house here: now there are over forty dwellings, seven stores, three warehouses, a church, schoolhouse, railway depôt, steam-mill, and other buildings—all erected within eleven months. This is only a slight sample of our progress here in the West."

GUIDEWAY AGRICULTURE.

AT the Society of Arts, on the 8th of December, Thomas Dyke Acland, esq. in the chair, the paper read was "On Guideway Agriculture," by Mr. P. A. Halkett. The author began by speaking generally of the advantages of the use of steam in farming operations, and stated it as his opinion that the commercial advantages of steam cultivation were not so much in the less cost, as in the increase of crops, resulting from these operations. He then passed to describe in detail the system he has invented, which consists in the application of motive power to the cultivation of the land, by attaching the implements of cultivation required for the various operations of ploughing, scarifying, sowing, reaping, hoeing, &c. beneath a travelling carriage, which moves on rails placed in parallel lines across the field to be cultivated. He recommends that the gauge should be as wide as possible, consistent with the practical application of the travelling cultivator. Having described his arrangement for shunting the travelling cultivator from one line of rails to another, Mr. Halkett explained the construction of the rails, which are proposed to be made of hard burned bricks, faced with angles of iron, or of wood. With regard to the comparative expense of this system, he calculated that the cost of machinery and implements was the same as that of horses and horse implements required for the same work; and the laying of rails would amount, according to the wood system, to 10*l.* per acre, and the brick and angle iron system to 20*l.* per acre. Mr. Halkett then gave, in considerable detail, his calculations of the relative expense of working a farm or market-garden upon his system, as compared with the ordinary plan. The construction of the machinery was illustrated by numerous diagrams.

THE ROYAL ACADEMY OF ARTS.

THE following is a list of students to whom medals were presented last week: — William Holyoake, drawing from living draped model; Ebenezer Crawford, drawing from the life; Charles Bell Birch, model from the life; Frank Topham, drawing from antique; Sydney G. Cameron, model from antique; Henry M. Eyton, perspective drawing.

SOUTH SHIELDS MECHANICS' INSTITUTION COMPETITION.

AT the annual meeting of the members of this Institution, held last week, reference was made to what was wrongly termed "the strike of the architects against the *Institution*." Mr. R. Lamb defended the architects with much spirit. We are glad to learn that only two designs have been sent in reply to the committee's unwise invitation. The meeting selected the design marked "*Justitia*."

RE-ARRANGEMENT OF THE NATIONAL GALLERY.

AFTER a visit to the National Gallery, I feel so convinced that a very handsome gallery would be the result of a well-arranged junction with the rooms occupied by the Royal Academy, at a very trifling expense, that I cannot resist troubling you with my plan. The space occupied by the present hall and the two staircases would form a large although perhaps not a very lofty hall, to be lighted by a lanthorn or glass dome, which might be made far more ornamental than the present unsightly dome.

Beyond this hall, opposite to the entrance from the portico, which would then be of course in the centre, I would propose to erect a broad staircase, branching off from the first flight to either suite of apartments;—the site of the room where sculptures are now exhibited forming *part* of the space to be occupied by this staircase.

The apartment which would form the junction above this must have an opening in the centre, to admit light to the hall; but the width is amply sufficient to allow a spacious gallery on each side; and, with a handsome railround the opening, would have a good effect. I will merely add that, as the staircase might be completed before opening it, to the hall or lobbies, a very short interruption to the admission of the public would suffice.

A. B.

*** A plan for a somewhat similar alteration in the National Gallery was published in one of our earlier volumes.

THE WESTMINSTER SCHOOL CRIMEAN MEMORIAL.—The first stone of the memorial, of which we have given a view, was laid last week.

A DESIGN FOR THE CHELSEA VESTRY-HALL.

PUBLIC opinion, expressed as well through other channels as our own, has unmistakably pronounced the authors of the design for a Vestry-hall for Chelsea, No. 12,—marked, "Nothing too Much,"—unjustly treated; and we have been invited by some who were unacquainted with the authors' names, to engrave illustrations of it. Under these circumstances, we may not allow the possibility of misconception of him to operate against the merits of it, and we give in our present number a view of part of the building, the plan of the ground-floor, and a sketch of the interior of the hall. The drawings were so hung, in the inconvenient and ill-lighted room which was appropriated to the exhibition (behind the chimney-breast, which put them into shadow), that they were probably overlooked by many. The authors of the design are Messrs. Henry and Sidney Godwin, architects, and we allow them to give their own description of it.

By referring to the ground plan, it will be seen that the great hall would be perfectly distinct from the rest of the building, so that it might be used without interfering in any way with the business of the offices, having two external entrances, 10 feet wide, with a lobby to each, and entrance on the east side by stairs to the gallery. Besides these there is a main corridor through the centre of the building, 10 feet wide, with a vestibule, open the whole height of the two stories, square at the bottom and octagon above, terminating with a lantern, which, with the aid of three high windows over the principal staircase, affords ample light to the lower and upper corridor. A glazed sash-door is also provided for the main entrance.

The great hall is kept clear of the boundary fence wall at the back, where a retiring-room and lavatories are placed, lighted by means of skylights.

Upon entering, the offices are ranged right and left; the clerks' offices, with the surveyor's and vestry-clerk's private offices, adjoining. Communicating with the latter is a fireproof muniment-room, balanced on the opposite side by a room for the messenger, commanding the corridor, and midway between the offices and committee-room. This committee-room on the ground-floor, we may observe *en passant*, is larger than the principal one in two of the chosen six designs. Staircase to upper floor, 11 feet wide: stairs to basement, waiting and retiring rooms, lavatories, &c. complete the ground-floor.

On the upper floor the large committee-room occupies the whole of the main front, and is 46 feet 6 inches by 22 feet 6 inches. Although one design introduced a room of such an enormous size as 1,380 superficial feet, our plan provides a room much larger than all the remaining five of the selected designs, containing as it does 1,046 superficial feet. The relative proportions of this room in the different designs is fully shown in our letter, which appeared in p. 801 of the *Builder*. The object of this room was not generally known till the drawings were deposited.

A large waiting-room is also placed on the upper floor, which could be used as a third committee-room, should occasion require. There are a retiring-room and lavatories leading from the principal committee-room, accountant's offices, and medical service rooms. The corridor opens to the upper part of vestibule, with an archway at the end, and an iron ornamental railing.

The basement plan provides living accommodation for the hall-keeper, a strong room (fireproof), lavatories, &c. for clerks. The whole of the basement is excavated to give ample space for stores; nevertheless, by keeping the level of the ground-floor high above the ground-line, the amount of excavation would be very trifling.

The great hall has an open timber roof, with two regulating turrets for ventilation; under-draughts being obtained above the heads of the people in the five double windows which light the hall on the south side, and a circular window in each of the gables. Preparation is made for heating the hall by hot water or air. Coloured bricks and stone are introduced in the interior for the windows and round the doors. There is a gallery at one end. The large committee room in front is also made of importance, by having an open timber roof, thus obtaining increase of space, and saving expense by dispensing with the use of lath and plaster, cornices and mouldings, and castings to enrich the ceiling.

The whole of the stairs, landings, and corridors are fireproof. The hall is distinct and unconnected with the offices as to secure almost to a certainty its safety were they to take fire, or *vice versâ*. The whole of the offices and committee-rooms are warmed by means of open fireplaces; and a perfect system of ventilation is provided, all through the building, of the most inexpensive construction.

The windows to the main building would be provided with metal casements; those at the side, wooden hanging sashes of the usual construction. The lower corridor and vestibule would be paved with Minton or Mawe's tiles.

The character of the design, on which the vestry desired to put no restrictions to fetter the architects' fancy, is eclectic Gothic, founded on the Italian Gothic style, adapted to the present age. An admixture of stone and coloured bricks is introduced: the main face would be of Suffolk bricks, the roofs slated, and with ornamental iron ridge: iron eaves gutters, with rain-water pipe inserted in chamfered recesses, connected with the gutter by iron heads, are made to assist the ornamentation.

The use of compo, or of other material involving the necessity for constant expenditure, is studiously excluded, a desideratum strongly urged by the vestry *when choosing from the six previously selected*.

Over the front entrance-porch, which is supported on four stone shafts, with enriched caps, is the clock, easy of access from the large committee-room. Above is an open turret, with a high metal covering, to give importance to the front. The two dormer gables, connected from the ground with stone pilasters, are corbelled out over enriched caps, to give boldness: there is plate tracery to the windows, and these have large sheets of plate-glass in the front and side of the front portion, and sheet-glass to the side windows of offices.

We probably stood alone in not stating that our design could be carried out for the sum stipulated, but we might have done so with as much truth as the authors of the greater number. What we said was, —

"It is believed that the design might be carried out for the sum named in the statement of requirements. If, however, it should be found, when detailed estimates are obtained, that the cost would exceed this sum, alteration could be made to meet the views without lessening the conveniences of the arrangement. Further, although the architects of the design are desirous that the Vestry Hall of Chelsea should, externally, be distinguishable from an ordinary dwelling, and possess architectural features of its own, it would be easy to make it cheaper by a less costly elevation, if that were considered desirable. In short, however, that the design in its integrity, while providing ample accommodation, and marking itself as a public building, will be considered, as they themselves think it, 'Nothing too Much.'"

H. G.
S. G.

References to Ground Plan.

A. Entrance porch.
B. Vestry clerk's clerks, 22 ft. 6 in. by 17 ft. 6 in.
C. Vestry clerk.
D. Surveyor's clerks, 22 ft. 6 in. by 17 ft. 6 in.
E. Surveyor.
F. Muniment-room, fire proof.
G. Messenger's room.
H. Staircase.
I. Committee-room.
K. Waiting-room.
LLL. Water-closets.
M. Vestibule.
N. Officers' lavatory, &c.
O. Stairs to gallery for the hall.
P. Retiring-room.
Q. Lavatory.
R. Lobby.
S. Urinals.

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* The following, from another competitor, is one of several received in a body in response to those already printed:—

Competition Drawings for Chelsea Vestry Hall.—SIR,—Pressure of country business has been the cause of my not addressing you ere this on the above subject. On my arrival in town I looked over the *Builder* and other papers, and was truly surprised to learn which six designs had been chosen by a committee. I should very much like to see a report of that committee, and their reasons for erecting these particular six, which, to my mind, include some in every way inferior to most of the fifteen designs that were on view. I have just referred to my pocket book to see what my opinion was. It runs: I am always willing to give credit to my brother architects' works, if they are superior to my own, —

No. 12, the first prize.
No. 3, the second.
Nos. 15 and 1, next.

The way in which a certain vestryman worked for one of the designs is well known.

* * *

The whole affair, from beginning to end, seems to have been a matter of favour, but really, when we come to consider how committees have acted, I suppose I must not feel surprised.

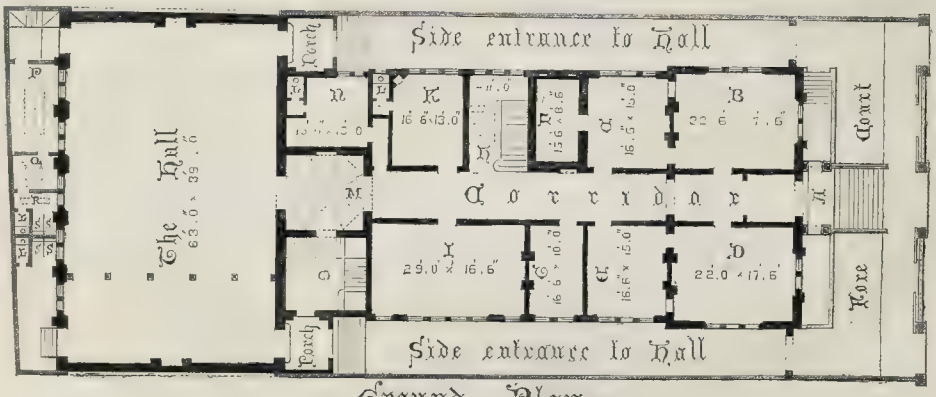
I consider that my design ranked about fifth.

I have been informed that my design was thrown out because the elevation was coloured, which was not according to the written instructions. Now I should like to ask any unbiassed architect, under, or in fact any practical man, if any of the instructions are given to the artist to be "As it is possible to give the particulars, the accommodation required for such a ridiculously low sum."

"VERITAS VINCIT."

A DESIGN FOR THE PROPOSED VESTRY-HALL FOR CHELSEA.

View in the Hall, looking East.



Ground Plan

A DESIGN FOR THE PROPOSED VESTRY-HALL FOR CHELSEA.

Mr. Henry Godwin and Mr. Sidney Godwin, Architects.

RE-BUILDING THE NORTH WING OF THE WORKHOUSE OF ST. JAMES'S, WESTMINSTER.

AN ABORTIVE ATTEMPT TO PROMOTE A METROPOLITAN IMPROVEMENT.

IN the central space, bounded by the square formed of Poland-street, Broad-street, Marshall-street, and Great Marlborough-street, is situate the workhouse of St. James's, Westminster—buildings and yards together occupying an area of somewhat more than one acre; but being entirely hid by the surrounding houses from public view, its existence is comparatively little known, although some 600 persons usually dwell therein. The buildings comprising this institution are of various dates, having been added one after the other, to meet the increasing requirements in this way, of a growing parish. The original portion that now under consideration was coeval with the first formation of the parish, viz. 1684; and having become ruinous and unsafe, was, in the summer of the present year, ordered by the Governors and Directors of the poor to be taken down, with a view to rebuilding. When the matter was brought before the representative vestry of the parish,—a proceeding necessary to the raising the required moneys for meeting the expense,—it was suggested by some of that body that it would be desirable to pause for a moment, and inquire if the circumstance did not present a favourable opportunity of working out, in conjunction with the Metropolitan Board of Works, an important street improvement, at once a great public good, and especially beneficial to the parish of St. James; the plan of which being explained, and favourably received, a committee was then appointed to inquire into and consider the matter; whereupon these gentlemen, having called in the professional assistance of Mr. Charles Lee, architect, set to work.

The principle of the scheme proposed was, to take down a further portion of the workhouse buildings, retaining only the infirmary division of the establishment, together with suitable "reception" and "casual" wards in town, and to build a new house for the general body of the poor on the plot of twenty acres of land, the parish property, a beautiful airy spot, situate near to Tooting, Surrey, seven miles distant, and to appropriate the old site as follows, viz.,—to make a new street through the grounds, a continuation of Portland-street, to form a junction with the line of Tyler-street on the opposite side. There were to be fifteen houses on the north side, and on the south side, first, a workhouse building, to contain wards for fifty persons, to make out, with the present south wing of the house—to remain and be enlarged—sufficient town accommodation for that portion of the poor before alluded to; secondly, an appropriate ornamental entrance to the parish baths and washhouses, with offices for management and residence of superintendent; thirdly, a Vestry Hall—a large building 90 feet by 40—in which to be concentrated offices for carrying on all the parish business, now inconveniently done in three sets of offices, situated in three different parts of the parish.

The part left, to complete the improvement, and which it was thought the Metropolitan Board of Works would, in consideration of the parish doing the foregoing work, have consented to carry out, was that of widening Tyler street and court, and Foubert's-place, into Regent-street, by setting back the seventeen houses on the north side of the line, a matter of comparatively small outlay, it is suggested, seeing that the greater part of the houses are of a poor class, old and dilapidated (indeed, the appearance presented by some of those houses leads to the supposition that they may originally have been "squatters" on the Great Plague Pit, over the middle of which Tyler-street runs).

The "profit and loss" part of the inquiry showed a balance as against the scheme, of 7,420*l.* equal if paid off by annual instalments in twenty-five years, with interest (average), to 460*l.* per annum, or a farthing in the pound on the parish rental of 430,000*l.* To this liability must also have been added that of the cost of an extra staff of officers, and some other charges.

In return for the small entail on the rates, the parish would have possessed a good new line of business street, cut through, and opening out to free circulation a very intricate and inconvenient quarter, and in length extending entirely through the parish, from the boundary line on the east to its boundary on the west.

The proposed scheme, however, failed to become popular in the workhouse executive, seeing which the promoters relinquished the pressing of their views, and a negative report having gone up to vestry, the original design to rebuild the demolished wing of the house on the old site, was allowed to proceed. The necessary preliminaries gone through, and Messrs. Myers and Son having obtained the contract for the shell, at 6,190*l.* the "first stone" was laid on Friday, the 3rd inst. This time-honoured ceremony consisted, in this instance, of fixing in its destined position in the front elevation (the building of the walls having advanced to a few feet above the ground level), a large block of Bath stone, and placing within a cavity in the same, a scroll of vellum (sealed up in a bottle, together with some coins of the day), the record of which was as follows:—

"*St. James, Westminster.*—This first stone of the north wing of the workhouse, comprising the women's wards, general dining-hall, kitchen and offices, was laid on Friday, the 3rd day of December, 1858, by the Rev. John Edward Kempe, M.A. rector of the parish, assisted by the Rev. John Compton, B.A. chaplain to the workhouse, in the presence of the members of the vestry, the board of auditors, and the undermentioned authorities," a list being given. F. C.

BUILDING MANUFACTURES AND MATERIALS AT THE ARCHITECTURAL EXHIBITION.

NOTICE is being circulated that while the committee of the Architectural Exhibition will have as much line of wall in the new premises in Conduit-street as they had in Suffolk-street, they will have less superficial area, and will in consequence be compelled somewhat to reduce this part of the exhibition; and that as they will henceforth have their exhibition open during the height of the London season, they are obliged to incur a rental of more than three times the amount paid in Suffolk-street, and will, therefore, be obliged to increase the rentals paid by exhibitors in the materials department in a corresponding degree. Exhibitors will have the advantage, of course, of a largely increased number of visitors. The exhibition will open in March next.

The honorary secretary says,—"From the advantage gained by all exhibitors of materials in the Architectural Exhibition, and which many of them have repeatedly acknowledged to me, I am inclined to think that, if the new galleries were filled during a part of the year, say for the months of July, August, September, October, and November), wholly with such an exhibition, it would be found of great benefit to all having anything to make known, and that it might be done at a small cost to exhibitors," and steps are accordingly being taken to get opinions on the subject.

PARIS.

THE little colony of "*artistes, peintres, et sculpteurs,*" established for many years in the gardens and buildings of No. 26, Rue de l'Ouest, has had lately to disappear, in order to make room for a chapel. The Society of St. Francis Xavier have, in fact, bought these gardens and lands, with the *ateliers* and picturesque *chalets*, and have caused a school-house and chapel to be erected in their place. The school is only just commenced, but the chapel is far advanced. It is built in cut stone, and rests upon a series of columns, in the Roman style, with a very good effect. The total length of the edifice is 34 mètres, and its width 22 mètres. The architect is M. Douillad, and the works are to be completed before the month of January, when the chapel will be consecrated.

In the Rue de Valois, in Paris, a new pavement is being now laid down throughout its entire length, similar to that established in the Rue Saint Honoré, in front of the Palais Royal. It is to consist of compressed asphalt, which neither the vehicles, nor rains, nor immoderate heats of summer can alter. This bed of asphalt, compressed by a roller, rests upon a layer of concrete having a border, on each side, of blocks 25 centimètres square.

The finishing hand is being laid upon the sculptures which are to ornament the Mairie of the first *arrondissement* building at present in the Place du Louvre. Its principal façade presents a repetition of the porch and main building of St. Germain l'Auxerrois. At the same time the works are being carried on with great activity in raising the steeple which is to stand between these two buildings, and to which it is to be united by railings. It will form a counterbalance to the high buildings situated at the corner of the Quai de l'Ecole and the Rue de Rivoli. Thus will be terminated this *Place*, so magnificently enclosed by the gardens of the Louvre, and where, except the colonnade of Perrault, the eye will search in vain that square which Mercier, with his usual satire, has described in the "Tableau de Paris."

The never-ending work of improving Paris continues. Thus, the Champs Elysées are all to be converted into gardens similar to that between the Palais d'Industrie and the Quay, and planted with flowers, shrubs, &c. with gravel walks winding about, as the French call it, a "Jardin Anglais." The trees in the Boulevards lately transplanted are being supplied with water by drainage-pipes to the roots, and thus kept well moistened in dry weather. The Rue Basse du Rampart is about to disappear, and to be no longer an eyesore to the Boulevart by the creation of a new street. This street, 22 mètres wide, is to be opened between the Boulevart des Capucines and the Rue du Havre, with a branch of 20 mètres wide between the same boulevart and the Chaussée d'Antin. This new thoroughfare, destined to throw open the spaces about the "Chemin de Fer de l'Ouest" station, will be called the Rue de Rouen.

AID FOR BUILDING SCHOOLS OF ART.

THE Government propose to make grants towards the erection of buildings for Schools of Art. The Committee of Council say:—

"Notwithstanding the difficulties that have attended the finding of suitable premises for schools of art, the larger number of schools which have spread themselves throughout the country affords a proof that they are not merely of an ephemeral character, but are taking root and becoming useful and popular institutions; and the time seems to have arrived when it will be sound public policy to place them upon a more permanent basis.

My lords consider that this end will be best attained by extending to schools of art the principle of grants for buildings, which has proved of such great importance in promoting primary education. They therefore propose to apply to Parliament for an annual grant, to be expended in encouraging local efforts to provide suitable schools of art where the instruction may be carried on efficiently, and public taste cultivated. Such buildings should be free from rent, and the fees for instruction be made applicable to the payment of the masters."

THE STAGE.

Haymarket Theatre.—Sir Dormer de Brazenby's grand idea, in the new comedy *The Tide of Time*, of building cities in a circular form, reminded us of some plans for houses sent us last year by the late Robert Owen, which, according to his account, had been produced by an individual acting "under spiritual guidance." All the rooms were circular, and, being arranged around a central circular apartment, the plan suggested a large egg-stand. Sir Dormer, however, when he would substitute for entangled courts and alleys continuous curves offering no obstacle to the circulation of the free air, does not deserve to be laughed at, though as Mr. Compton puts it, it cannot well be avoided. Fault has been found with the piece, on the ground that it is a moral essay rather than a play; but it is certainly very amusing and interesting, and at the same time free from reproach. Mr. Buckstone has a morsel of eccentricity which he makes very effective; and Miss Reynolds and Mr. Howe contribute to the success. The scenes, especially the first and third, the grounds around *Mr. Pendarvis's* grounds, are very well painted.

AMATEUR MUSICAL SOCIETY.

OUR observations last week upon this society have been justified by the result; and a triumphant success at their second concert will doubtless preserve for them the *prestige* which, in fact, they have never lost, though recent criticism bid fair to shake it.

A good programme, comprising Beethoven's symphony in C, three of the best overtures of Mozart, Rosini, and Auber, a capital march by Val Morris, and some charming part-songs by Leslie, Smart, and Macfarren, kept the audience on the *qui vive*, and the orchestra on its mettle; and never did the latter execute its work with greater brilliancy and effect. The fact is, the "amateurs" play as well as ever they did, and perhaps better, but, like their *professional* brethren, are subject to those gradations of excellence and shortcomings of perfection, which by all accounts—that of the *Times* of Tuesday last, for example,—attach to the latter as well as to the former.

We need hardly say that, in recommending the Society to adhere to the great symphonic writers, we would advocate more than an equal share of that author whose works, like Shakspeare's, are "not of a day, but for all time;" the undying freshness and majestic simplicity of whose melodies stamp him the greatest musical genius the world ever produced,—Mozart.

One mistake only in Monday's programme we have to record, and that was Gounod's *Médita-*

tion sur une Prélude de Bach, thoroughly well played, but trifling and ineffective, and not worth the preliminary fuss of changing pianos, tuning, and arranging. In fact, we could not help indulging in another French "meditation upon the prelude" during the performance, and that was,—"*Le jeu ne vaut pas la chandelle.*" Still, as we have already said, the concert was a complete success, and gave pleasure to all present.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE COST OF A STATUE.

The ordinary meeting of the members of the Institute was held on Monday evening last, at 16, Grosvenor-street.

Mr. J. J. Scoles, V.P. occupied the chair. The minutes of the last meeting were read and confirmed. Donations having been announced, Mr. Horace Jones and Mr. Edward J. Payne were balloted for and elected fellows of the institute.

Mr. C. C. Nelson (honorary secretary) said that he had received a paper from Melbourne, containing a marked paragraph referring to the proceedings of the Institute of Architects at Adelaide. The body acknowledged, with thanks, the receipt of the transactions of the Royal Institute, and the president made a statement of great interest with reference to the building of an architectural museum. From that statement it appeared that the colonial government had voted 2,000*l.* in addition to a donation of a quarter of an acre of land, for the purpose of erecting a museum. This was an example which might be followed with advantage in the mother country. The Royal Institute had endeavoured to obtain assistance from headquarters for a similar object, but without success; and at length they were indebted to a limited liability company for a decent place to meet in at their own expense.

Mr. Digby Wyatt called attention to a number of beautiful drawings executed by Senor Eugenio Agneni, and adapted to interior decorations. Some of them were similar to those by which her Majesty's private box at Covent Garden is embellished, and are applicable to mirrors, panels, &c. We have already spoken of M. Agneni's process.

Mr. John Bell then read a paper on the geometric treatment of sculpture, which we give in full. At the conclusion,

Mr. Parris observed that he was sure they must all agree with Mr. Bell in his remarks with reference to the connection of sculpture with architecture. They were all aware of the manner in which architecture had been treated in the Royal Academy, where everything was made to give place to painting. The Royal Institute of British Artists had now taken up the architects, and had become a sort of rival to the Academy; but still the sculptors had no local habitation. He hoped, however, that a good understanding would henceforth be established between architects and sculptors, and that for the future those kindred arts would be more combined. With regard to the subject under discussion on the previous evening, he feared he had not made himself sufficiently clear, as he found that many persons had mistaken him. What he meant to have said, with reference to the number of bones in the human body, was, not that there were 32 bones in the hand, but that there were 32 bones in each subdivision of the body: thus, 32 bones in the arm (including the hand), 32 in each leg (including the foot), 32 in the vertebræ, 32 teeth, &c. He did not wish to lay this down as a dogma in connection with the proportions of classic architecture; but it was interesting to observe how often the number 32 was repeated in ancient classic building. By dividing the skeleton into seven equal parts, 224 bones were found: the length of the Parthenon was 228 feet, or very slightly in excess. The number of bones in the two arms was 64—exactly the height of the Parthenon. The Athenians, it would appear, made their subdivisions in twos, fours, sixes, and so on; while, in Gothic architecture, they were found to be in threes, fives, eights, &c. He had ascertained, in practice, that when his assistants worked by the cubit of 18 inches, instead of by the ordinary rule of 12 inches, they found much less difficulty in getting their proportions right, for every man could measure by his own arm.

Mr. Bonomi said that Mr. Bell had been very happy in his term "the vase form" of sculpture, and that the meeting was indebted to him for the very interesting manner in which the balance of figures had been illustrated by him.

Professor Donaldson said, in England architects were, unfortunately, compelled to consider their designs for buildings without the elegant accessories of sculpture, whereas every perfect building should have sculptural embellishments, in order to impart to it that intensity of feeling which fine architecture should inspire. The ancients always designed their buildings in connection with sculpture. The French also appreciated the presence of sculpture, and embellished their public buildings in a very beautiful and characteristic manner. The sculpture introduced into their buildings was not of a commonplace character, but consisted of the productions of the very best artists. At the Louvre, for instance, the most beautiful sculpture that could be imagined was found in profusion. He did not know whether Mr. Bell was prepared to accept the vase or the oval form of group; but it seemed to him (Professor Donaldson) that the vase came from the oval, and not the oval from the vase. The oval, it should be remembered, might incline, whereas the vase must be essentially vertical. Vases were an important feature in architecture, for architects were frequently compelled to call them to their aid when they would much prefer groups. This, no doubt, was a sad alternative, but architects were, in point of fact, compelled to avail themselves of it. He had been informed by an architect of eminence that on one occasion, where he had introduced sculpture into his design, he was told to strike it all out, because "they could not afford it." Thus it was that architects who, but for these economical considerations, would gladly use sculptural embellishments, were but too often confined to mere architectural outlines. With regard to sculpture within the tympanum, that designed by Professor Cockerell for St. George's Hall, Liverpool, was very fine, as also that of the Madeleine at Paris. He was of opinion that the figures introduced in the pediment should be as large as possible, otherwise they would not convey the idea of a grand and entire whole, but would look as if they were put in merely to fill up a space. Care, however, should be taken that no portion of the pediment, or of its adjuncts, should interfere with the sculptural effects. At the Madeleine, for instance, the modillions came out, and produced points of light, which gave the idea of so many additional heads in the group of sculpture beneath. When he was at Florence he remarked the manner in which groups of sculpture might be defined, as it were, by four lines. This was to be found especially in the subjects of Michelangelo. They gave the appearance more of parallelograms than of vases. Thus, his figures in the ceiling of the Vatican were of this kind. Michael Angelo's knowledge of architecture might account for this, and succeeding architects had reason to be indebted to that great master for some grand and noble features in his designs. His design, for instance, of St. Peter's, where he combined three orders in one, and raised the form of the cupola, was a fine illustration of the versatility of his talents. Among the painters who treated subjects architecturally was Domenichino; and fortunate indeed was the architect on whose behalf his services were enlisted. In conclusion, he moved that the thanks of the Institute be given to Mr. Bell.

Mr. Kerr expressed his desire to second the motion of Professor Donaldson, although he could not entirely agree with Mr. Bell in all his deductions. He feared also that he differed not only with Mr. Bell, but with the majority of the meeting, for when that gentleman announced the doctrine that there was no canon of taste, and that consequently art was an intangible and inappreciable piece of philosophy, the observation appeared to meet with the approval of the meeting. How, he asked, were they, as architects, to discover the scientific laws of nature. Time was, when the whole world seemed to the observer but one mass of confusion; but we now know that it covers one harmonious and regular whole. When he contended in favour of general principles or canons in art, he might be told that his assumptions were unfounded; but he begged to remind them that there was a thing called gravitation, and yet that at one time it was thought that gravitation had no principle, but that it originated in some occult influence which no one could understand. They now knew what the laws of gravitation were; but if, a score years ago, any one had got up at a public meeting and asserted that gravitation had no canon, he would have been applauded. They were dealing that night with architecture, painting, and sculpture; but there were also the arts of poetry and music, and he held that the latter arts might suggest some principles to overcome perplexities with reference to the former. If arithmetical proportions were applied to architecture, a canon would be obtained, to a certain extent. Apply the same to poetry, and a similar result would be found. Gothic ideas and geometrical proportions were prevalent nowadays, but he confessed he was in favour of arithmetical proportions—the good old system which he had studied in his youth.

Mr. Charles Barry said he would gladly have risen to second the vote of thanks to Mr. Bell, especially as he had no fault whatever to find with his address. He had listened with great interest to the manner in which Mr. Bell had brought the subject of harmony of line, proportion, and balance, before the institute, as applicable to his own special art. He had come among them and spoken of his art as applicable to architecture, and had, so to speak, thought out the subject as an architect should do, but perhaps more ably, from the special attention he had given to sculpture, of which many of his great works furnished so convincing a proof. He had shown how simple architectural forms ran through the compositions of the best ancient and modern sculptors. A remarkable illustration of this was to be found in the pediment of the portico of St. George's Hall, Liverpool, the beautiful work of Mr. Cockerell. He (Mr. Barry) had never previously observed the circular forms in the composition of the Liverpool sculpture, to which Mr. Bell had directed their attention, although, now that they were pointed out, they appeared to be clear enough. The notion of the vase form in sculptural groups was new, but was simple, and appreciable when explained. It struck him that Mr. Bell's observations as to statuary in connection with architecture were extremely pertinent, for architecture never could be truly effective without sculpture. Sculptors, however, did not generally treat their subjects with reference to architecture; and architects, in their turn, had obvious difficulties to contend with in regard to sculpture. The high value of such works prevented architects from employing sculpture in many cases where they would otherwise gladly avail themselves of it. There was also another difficulty, which might be traced to the want of cordiality hitherto existing between the professors of the two arts—a non-recognition of the doctrine of Michael Angelo, that there was in fact but one art. He was glad, however, to find that there was now a prospect of a better understanding being established between sculptors and architects, as any movement of the kind must be to the advantage of the two professions, and the furtherance of their common art.

Mr. Kerr said he should like to hear something with regard to the actual cost of statuary. When he was in Edinburgh, he had been assured by Mr. Ritchie, a sculptor of some eminence, that an average full-sized figure, in the stone of that neighbourhood, could be got for 50*l.*

Mr. Barry suggested whether Professor Donaldson might be able to obtain some information with reference to the prices paid to the best French artists.

Mr. C. H. Smith remarked that the value of a statue, as of a portrait, depended upon the quality. They all knew that one constantly found in the streets specimens of portrait-painting marked "This style for five shillings." The price of the stone from which statues were wrought was easily ascertained, but then came the pounds-shillings-and-pence question involved in the production of the group. It was quite plain, from the observations which had fallen from Mr. Kerr, that he had a Scotch mode of dealing with these questions. When he (Mr. Smith) was at Edinburgh some years, with Mr., now Sir Charles Barry, he found statues carved without any model at all, whereas it was absolutely impossible for any one to make a really good statue without a model. He knew from practical experience (for he had carved many statues) what was the cost of production. Allowing a carver 10*s.* a day, the labour on a statue the size of life, in marble, would amount to 50*l.*, allowing nothing for the artist himself, and exclusive of the model. He himself had made a statue, now in the Museum of Geology, of the Hercules of Glycon, after a model from the original, at which he had worked for ten weeks without getting a farthing, and had paid 70*l.* for assistance to an artist now in a high position at the Academy.

Mr. Bell said that as there appeared a desire to know the actual cost-price of statuary, he had no objection whatever to give any information in his power. Taking a marble statue such as those in St. Stephen's Hall at Westminster, the price paid by the government was 1,000*l.* each: they were seven feet high each. He had executed two of them, and the cost to him, including the risk of marble, interest on the capital invested in the studio, house-rent, taxes, gas-light, &c., amounted to about 500*l.* each, without taking into account the time of the artist devoted to its execution.

Under these circumstances he did not think it would be excessive if a sculptor were to expect cent. per cent. on his outlay. He had endeavoured to induce his brother artists to agree to this scale of remuneration, but he regretted to say that there was no harmony on the subject of remuneration. At one time a sculptor had no hesitation in taking all he could get, while at others he would be content with a very small return, so that he could get the commission. He thought it would be desirable to agree to a cent. per cent. price, without taking into consideration their labour, which was all pleasure! Having denied that he had ever expressed an opinion that there was no canon of taste, Mr. Bell reminded the meeting that a sculptor did not do all the "chipping" himself. If so, the best sculptor would be the man who had the strongest arm, and not the finest intellect.

Mr. D. Wyatt observed upon the desirability of having buildings embellished with sculpture; at the same time he appreciated the necessity of remunerating the sculptor in a proper manner. Mr. Parris had declared that sculpture had no home; but the architects could offer it one in their hearts, and he hoped that in future, architects, sculptors, and painters, would be regarded as professors of arts which, to be perfect, should be associated, for it was impossible for architects to carry out their aims in an effective manner without the aid of the painter and the sculptor. The art of the architect was defective in this respect—that although the architect might make a building perfect in all its proportions, he was unable to place upon it an explanation of what was the purpose to which it was to be applied. Here he must have recourse to painting or sculpture. The sculptures at the Parthenon and at St. Stephen's Hall at once revealed the object for which the buildings were designed. Mr. Bell, when referring to the sculpture in the tympanum of the portico of St. George's Hall, as designed by Mr. Cockerell, had referred to the continuous masses, the contour and the light and shade of the grouping, and it was upon the due subordination of these that the effects of sculpture depended. It was also necessary to take care that great masses balanced, so that there might not be a superabundance of light on one side and a mass of black on the other. Mr. Wyatt then explained the prominent features of the pediment of St. George's Hall, and pointed out the felicitous manner in which Mr. Cockerell had so designed the groups that, while the space was entirely filled, there were no vertical lines to correspond with the pillars of the portico, and that the contour was bold, graceful, and flowing, without any approach to over-crowding.

Thanks having been voted and acknowledged, it was announced that the next meeting of the Institute would be held on Monday, the 10th of January, 1859.

PAYMENT OF THE REAL ARCHITECTS.

SIR,—In Mr. Fergusson's most valuable "Handbook of Architecture," vol. ii. p. 666, he observes, respecting the designers of Mediæval works, "The names usually fixed upon by antiquaries, after so much search, are merely those of the master-masons or foremen of the works, who had nothing to do with the main designs of the buildings." In p. 664 he says, "In the time of which we are speaking, which is the great age of Gothic art, there is no instance of a mason of any grade being called upon to furnish the design as well as to execute the work. It may appear strange to us in the nineteenth century, among whom the great majority really do not know what true art means, that six centuries ago eminent men, not specially educated to the profession of architecture, and qualified only by talent and good taste, should have been capable of such vast and excellent designs; but a little reflection will show how easy it is" [to eminent men] "to design when art is in the right path."

This is little more than had been said, I believe, by Allan Cunningham, in commencing his "Lives of British Architects," by that of Wykeham; *not* Wykeham's contractor, foreman, or "Magister Lapicida," as Mr. Papworth, I suppose, would. He takes it for granted, like every one before him, that Inigo Jones was really our *first* professional architect; that never till his time were the functions, now considered the architect's, delegated from the hands whose own the building was. Of course it no longer suits the professional writer's purpose now to admit this, because, now that we have something like true criticism of the art, at least discrimination of what was art from what is quackery and no art, it would follow that architectural art and an architectural profession were never in the country together,—that one walked out precisely as the other walked in; so that this experiment in division of labour is found, after two centuries and a half, a confessed failure; this branch of human work, instead of gaining, like others, by its detachment from the trunk, from being every great man's occasional business to be a trade's peculiar and constant business, having simply perished thereby; the works of the trade being found beneath any possible criticism, not to bear looking in the face, being called "art" only by courtesy; while for the works that earned and alone justify the title, every one is obliged to recur to times or places that had no architectural profession, to the works (as we should now say) of amateurs. Of course professors may well struggle various ways against this conclusion, and Mr. Papworth does so by seeking to disprove the major, and make out that the great ages *had* a class of professed architects. Well, let him prove it who can! The onus lies surely with him who contradicts, not with me, who simply follow what history and tradition have handed down. Whose are the names that have all along been associated with the great works? Whose that long list so lovingly engraved by Pugin on the frontispiece to his "True Principles" and the tail-piece to his "Contrasts?" Were Elias de Derham, Alan de Walsingham, Wykeham, Bolton, Islip, ecclesiastics or not? Who drew the oldest plan in existence, that for the Abbey of St. Gall (given in Lenoir's volume of the "Documens Inédits sur l'Histoire de France"), and calls the great abbot to whom he addresses it "carissime fili?"

Till the contrary be proved, I assume, with all the world, that the great works of Christendom were designed, that is, had all that the modern "architect" is supposed to do done for them, by some one of the foremost men and civilizers of the time, the clergy. Perhaps I was wrong in saying "a *monk* or ecclesiastic." Designers must have been more than simple monks; and on the other hand, for "*usually*," I should have said *always* an ecclesiastic, even in the case of secular buildings, as is well known of our finest castles, from Bishop Gundulph's Rochester and London, to Bishop Wykeham's Windsor; while the architect of our greatest civil edifice (and the first that is stained with affectation and extensive vice), Westminster Hall, is called *Mr.* Henri Zeneley, the *Mr.* being then the peculiar style of a clerk. Now, of course, what the clergy did for themselves was more carefully and better done than what they designed, like Zeneley, for others, in the profits of which they were not shareholders. The *Builder* has said recently that the best recent works are those in which "*the art is part of the investment.*" Of course they are, and so were the best of every age, and *all* the works of every age that ever had or ever will have art worth the ground it occupies!

In *all* the works of Villard's time, the art was "part of the investment," and this is simply what I said, in saying "the architect of Villard's time" (I did not say "Villard," because it was just as little plain to me as to Mr. Papworth that this hero was ever an architect) received "per-centage" on what his building brought in. If he was a member of the body owning it (which in all church work he was), pray what *was* his remuneration but his share (in modern lingo his "per-centage") in the benefits of a good building? And how could a modern architect be placed in the same relation to his work, but by such a mode of pay as that which Mr. Papworth supposes I proposed as a joke?

Surely it must be a joke of his own to assume, because I once for brevity called the Per-centage-on-outlay system the "per-centage" system, that I was attacking the abstract principle of a per-centage *on anything*. I must "be wrong somewhere;" for, after attacking, "tooth and nail," the architect's per-centage-on-the-outlay, I now defend his payment, which equally begins with a P. Such cavils are really too childish, and I must decline entering into them. All non-professional persons understand the question as far as I can see. They understand that, before there were professed architects, the building designer was simply remunerated *by* the value of his work, and that a remunerated real architectural profession must be remunerated like every other, *in some proportion to* the value of their work. What they do not see is the ruinous public waste and disgrace going on, day by day, till such a profession be established; and the responsibility of public men and all who meddle in building for every fruit of this insane state of things.

E. L. G.

FOREIGN ENGINEERING WORKS.

THE Weisbaden Railway appears to have been unfairly treated by the Nassau Government. In March last the State made an engagement with the company to aid the extension of the line which was to be called the Nassau Railway. The Government has now refused any assistance, and in consequence the directors are unable to proceed further. The forfeiture of not only the new concession, but the original line, has been made to the State. So much for English capitalists abroad.

At Kehl the works of the new station of the Bavarian Railway have been partially interrupted by the rigours of winter. Unforeseen difficulties have retarded the progress of the bridge, which ought to have been now completed. In sinking the piles, most of them encountered rock or old masonry, and broke against the bottom. Owing to these difficulties, the rapidity of the current, and the depth of water, it is thought that the permanent bridge cannot be completed before two years hence.

The shareholders of the Lombardo-Venetian and Central Italian have agreed to a fusion with the Southern, Francis Joseph, Croatian, Carinthian, and Tyrolese lines, and have authorised the directors to take the necessary steps for forming one great company. The principal stipulations of the contract with the Austrian Government are the cession by the State of the above lines (except the Francis Joseph, which belongs to an independent company) for a sum of 10,000,000*l.* sterling, of which 7,000,000*l.* are to be paid in instalments during a period extending to 1866. The remaining 3,000,000*l.* are to be paid after 1870, if the railways realize 7 per cent.; but if the company should voluntarily pay 2,000,000*l.* in four instalments from 1871 to 1874, irrespective of their receipts, 1,000,000 sterling will be remitted. A guarantee of 5 per cent. is granted, with one-fifth for the sinking-fund for each separate group. The company is also exempted from paying various taxes, and is allowed to import certain articles at half the duty. At the expiration of ninety years from 1866 the railways revert to the State, but after 1895 the Government has the right to take back the system in exchange for a rente on each group equal to the average revenue of the last seven years, excluding the two least profitable. The rente must in no case be less than 5½ per cent.

BREAKWATERS.

INSTITUTION OF CIVIL ENGINEERS.

ON December 7th, Mr. Locke, M.P. president, in the chair, the paper read was, "A Description of a Breakwater at the Port of Blyth, and of certain Improvements in Breakwaters, applicable to Harbours of Refuge," by Mr. M. Scott.

This communication was divided into four parts, the first referring particularly to the breakwater at the Port of Blyth; the second to the theory of waves; the third to the theory of hydraulic construction, including form and methods of building; and the fourth relating exclusively to the author's designs, including his assumed improvements in the construction of breakwaters, which had been suggested by his experience in connection with the work at Blyth.

At Blyth the work was originally intended to be, and for a length of 1,800 feet was constructed, entirely of stone; but a failure in the supply of material induced a change. Mr. Abernethy proposed to employ timber and stone, after the manner adopted at Boulogne and at Calais. These views had been carried out in a part of the breakwater which had been completed for some time, which consisted of a framework of timber, filled with stone.

In the third part, under the head "Theory of Work," including the theories of form and of construction, the published views of General Sir Harry Jones, Sir William Denison, Professor Airy, Capt. Vetch, &c. were freely made use of; and it was remarked, that when waves could be reflected, they ought not to be broken, and that when, from shallowness of the water, the wave must break, the operation should be spread over the largest surface, and over the longest time possible. It was desirable, if practicable, so to direct the water, that the force of one portion should tend to neutralize the destructive energy of another portion; it being better to effect the object of stilling the water, by changing the direction, than by absorbing the force of the water in motion. The first condition would be fulfilled by a vertical wall, and the second by a slope. The third was more difficult of attainment. Under the term vertical wall might be included steep slopes, say from 60° upwards. It was thought, that as the vertical

face in deep water did reflect waves, the seaward face of breakwaters, especially near the entrance to a harbour, should be built nearly vertical; for should it be a slope, the risk to a vessel approaching the entrance would be increased. With regard to the inner or harbour side of a breakwater, it was obvious that a vertical face was the best; inasmuch as the work then constituted a valuable quay, alongside which ships might lie to load and unload passengers, cargo, or stores, whereas, in the case of a slope, no vessel could approach. With regard to slopes, the author considered the true principle to be, that they should be employed only for the purpose of directing or guiding the waves, to neutralize one another. This he sought to effect, at least to some extent, thus: first, the slope formed of timber was not to join the ground at the foot: there was to be no toe to be injured, but a space through which the water would freely pass. Secondly, the surface of the slope, instead of being continuous, was to have horizontal open spaces, like a gridiron, through which part of the water would fall in its passage upwards, and part on its recession.

The combination of the vertical wall and slope, as carried out at Alderney, at Holyhead, and at Portland, was then alluded to, and it was believed that as, even during a very heavy sea, there was but little agitation at a depth of 15 feet under the surface, this section would present nearly if not all the advantages of a vertical wall, carried up from the bottom of the sea. The quantity of stone used in these works was, however, very great, so that there were many situations where that method of construction would be inapplicable. There were other disadvantages attaching to this form. First, these breakwaters were not available as quays. Secondly, the seaward profile was such that the waves must break upon the wall with all their violence, and hence the weight of material and the nature of the work necessary to resist such a shock were no criterion of that required in a vertical face, from which the waves were reflected, and against which they did not break.

The subject was next investigated under the head "Theory of Construction—Stonework," and it was urged that the faces of works exposed to the sea should either have the joints sealed, to prevent the entrance of air, or the work should be so open as to allow the air to pass out with facility. Continuity of face was most important in breakwaters, particularly with vertical faces, for without this, the strength of the work, as a whole, would be dependent upon, and be measured by, the power of resistance of the weakest part. Hence arose the necessity of exercising great care during the construction, as the displacement of a single stone might lead to the destruction of the whole work.

The fourth section of the paper was occupied with a description of the author's improvements in the construction of breakwaters. He divided these works into two classes: those intended for deep water being wave reflectors, and those for shallow water being wave breakers. Excepting what was called the wave screen, the reflectors and breakwaters were of a similar character, consisting of a timber casing, filled with stone. The stone hearting constituted the power to resist removal as a whole, and the timber facing secured the stone from being disintegrated, or carried away in detail; so that if the work was moved it must be bodily. Further, the work was so connected together, that each part supported its neighbouring portions; and there was no tie between the work and the ground. It simply rested on the surface, and the stability depended wholly upon its weight. Other leading features of this arrangement were then noticed, and it was stated that the lower tie would accommodate itself so perfectly to an uneven surface, that the erection might proceed on sand and clay as well as on rock—on level beds as well as on even ground, almost indifferently.

In reference to the questions of durability and cost, the author was of opinion that properly-prepared timber would last twenty years, and that the section for a depth of ten fathoms would cost, completed, about 70*l.* per lineal foot; whereas, the stone breakwater at Alderney was said to have cost 190*l.* per foot, and that at Portland, 150*l.* per foot. This difference in first cost was so great as to leave, it was considered, an ample margin for the removal of the timber when it decayed.

Accommodation for the Timber Trade at Birkenhead.—The Mersey Dock and Harbour Board have agreed to erect cranes on the quays of the Canada Dock, Birkenhead, for the use of the timber trade.

THE "BUILDER'S" LAW NOTES.

Highway Act.—Building.—Defendant built a cottage upon a piece of land which had formerly been part of the highway, but which had not been used as a highway for many years, and had been, during all that period, in the possession of the defendant. He was convicted by justices of a breach of the Highway Act, but the Court of Queen's Bench set aside the conviction, on the ground that the words in the Act, "within the distance of 15 feet from the centre of the highway," must mean a highway in use as such. *Chapman* v. *Robinson.*

Turnpike.—Exemption.—A clergyman is exempt from turnpike, not only in his own parish, but also when going to another parish to discharge parochial duty on the invitation of the churchwardens.—*Temple* v. *Dickinson.*

Principal and Agent.—A cashier is not authorised by virtue of his employment as cashier to make contracts with workmen.—*Mears* v. *Smith.*

Joint-Stock Company Liability of Directors.—The chairman of a mining company falsely represented to the Stock Exchange that two-thirds of the shares had been taken and paid upon, and thereby procured the stock to be entered on the official list. A stranger, relying on the correctness of the insertion, purchased shares, and he was held to have an action against the chairman for his fraudulent representation.—*Bagshaw* v. *Seymour.*

Bill of Exchange.—Where a bill was accepted "payable at the bank," presentment at the bank on the day it becomes due must be proved, and presentment to the acceptor at his private residence is not sufficient to charge the indorser.—*Saul* v. *Jones.*

Trustees.—Building.—Land was conveyed to trustees upon trust to rebuild a chapel, with funds supplied by the congregation; but these being exhausted, they borrowed the amount necessary to complete it on their own security, with a deposit of the title-deeds of the land. The trustees had no authority to pledge the deeds. They were afterwards compelled to pay the amount, and it was held that though they had a lien on the deeds, they were not entitled to a sale of the property to reimburse them for their loss.—*Darke* v. *Williamson.*

Public Library.—Poor-rate.—A society instituted for the purposes of science, literature, and the fine arts, and where the payment of subscription fees is under an obligation voluntarily incurred, is exempt from poor-rates.—*Re the Bradford Library.*

Right of Way.—A map which had been used by the steward of a lord of a manor to show what lands were copyhold, is not evidence to prove whether the ways marked on it were public or private.—*Pipe* v. *Fulcher.*

CHURCH-BUILDING NEWS.

Peterborough.—It is understood that the dean and chapter of Peterborough Cathedral have offers from four or five persons to increase the stained glass in the cathedral, by the insertion of memorial windows. The window recently erected by Messrs. Clayton and Bell, of London, occupies the central archway (formerly opening into the Lady Chapel) of the north transeptal aisle. The artist has chosen the style of glass-painting consistent with the tracery of the window, viz. that of the fifteenth century. There is an exuberant display of canopy-work in the heads of the lights, with groups of figures strongly thrown out by heavy colouring, while the subordinate details are but lightly tinted, in order that the eye may not be carried away from the main designs.

Belfast.—Estimates, says the local *Times*, have been received by Mr. Usher, surveyor, of Millstreet, for the erection of a small chapel at Pavenham, as follows: Norman, 168*l.* 8s.; Craddock, 167*l.* 10s.; Hilton, 156*l.* 8s.; Cunvin, 155*l.* The last was accepted. The architectural style of the chapel is Norman, and it will be built with Arley bricks, stone dressings, and covered with slate. In the interior of the chapel the floor will be on a considerable incline from the position of the speaker; and instead of the ordinary box pulpit, there will be a platform extending across the chapel, elevated about 18 inches. The roof will be partially open, with tension rods, and all the timber exposed to view will be stained and varnished; the windows glazed with quarry lights, and the outer edges with opaque glass to form a contrasting margin.

Saltash.—Considerable want of church accommodation having been felt in this locality, Mr. T. Alcock, M.P. has had a temporary one built, which is to accommodate 550 persons. It is constructed of hollow bricks, with an open roof. All the pews, gallery, and vestry, are intended to be open. The contract was taken by Mr. Fisher, builder, Reigate, for 900*l.*

Sevenoaks.—The new chapel of ease has been consecrated. The necessary funds were subscribed by the noblemen and gentlemen resident in the parish and neighbourhood. The Marquess Camden offered a piece of ground, about 2,166 square yards, and the Dowager Countess Amherst, besides subscribing to the building fund, also gave the use of the stone quarries on the Knowle estate, from which the greater portion of the stone was dug. The drawing of the requisite plans, &c. was entrusted to Messrs. Morphew and Green, of London, architects; and, after public notice, the tender of Mr. Funnell, of Tunbridge, builder, was accepted. The building, which stands near the high road, is of Kentish rag, with facings of Bath stone, in the Early Decorated style. The open seats are of stained deal. There is accommodation for 350 persons, 250 free.

Brecon.—The erection of the new church of St. David, in this parish, has been entrusted to Messrs. Wm. Williams and Sons, of Llanfaes, who have contracted for its erection for 1,100*l.* The architect is Mr. John Clayton, of London. The church is much wanted.

Oldbury.—The village church of Oldbury, near Bridgnorth, which has been considerably enlarged, and almost entirely rebuilt, is now re-opened for divine service. The nave and chancel have been considerably lengthened, and a north aisle has been added. The whole of the old north wall has therefore been removed, and the new aisle is separated from the nave by three Gothic arches, resting on circular pillars, with moulded capitals. The chancel arch is in a corresponding style. The roof of the chancel is in open timber work, boarded, and corresponding with the roof of the side aisle. The nave retains its original flat ceiling, slightly raised. The floor of the chancel is laid with tiles; and, within the communion rails, with tiles of a selected Mediæval design. The chancel window is plain, with three lights, the centre one being considerably raised above the others. The body of the church is lighted by two-light windows in the aisles, and by two similar windows on the south side of the nave. There are also two small windows at the west end, one in the nave, and one in the aisles. The accommodation has been increased and improved; the whole of the old high pews having been removed, and sittings for 270 persons substituted. The new pews are low, and fitted with doors. The building is warmed by means of flues beneath the floor, into which an ornamental iron trellis-work has been inserted to admit the warm air. The whole of the outside work is in the Early English style, and has been executed in freestone, presented by Sir John Dalberg Acton, of Aldenham, and got from a quarry not far distant from the church. The alterations have been designed by Mr. Charles Ainslie, of London, architect; and the work done by Messrs. Nevett, of Madeley. The contract amounts, according to the *Shrewsbury Chronicle*, from which we quote, to about 900*l.*

Ashley Abbotts (*Salop*).—Ashley Church, which has lately undergone restoration, is a structure of considerable antiquity in a secluded situation, surrounded with beautiful scenery. Previously to recent alterations, it consisted of a nave of the early part of the twelfth century, and a chancel erected in the reign of Charles I. About 1650, the number of the bells was increased to three, and a wooden tower built for them on the inner side of the western wall, the object of which was very bad, both in the church and about the roof. It necessitated, moreover, the introduction of that common pest of village churches—a western gallery. At a subsequent period the exterior was also disfigured by a brick porch (so called), and several wooden windows inserted to supply the deficiency of the light which had been admitted through the small Norman apertures. Two years ago, Mr. Wing, the present incumbent, availing himself of the better feeling which has happily come over the country in reference to ecclesiastical edifices, invited his parishioners to unite with him in promoting improvements, and not without some results. A porch of a correct ecclesiastical character has been constructed at the expense of one gentleman; and the southern side of the nave rebuilt by subscription. These portions were executed in 1856, and have led to further alterations this year. By means of an ample contribution from the incumbent, with additional assistance from the gentlemen above alluded to, and other helps, the wooden tower has been ejected, a bell-turret, with a somewhat lofty spindle, substituted, and the west end of the church restored

the whole result transforming this previously unsightly building into a decent house of God, though still of a humble character for so rich a connection. It was intended to preserve as much as possible of its venerable walls, but the extremely rude and rough description of the windows and walling, made an entire change in the style desirable: the new work is consequently not Norman, but Decorated. A considerable amount of tracery in the new windows renders the south front effective and lively; and the west end, which has bold arches, has also the picturesque feature of a small spire rising above the trees which embosom it: this is a pleasing little acquisition to the scenery, which we trust will provoke further reformation in the spireless churches of the neighbourhood. The alterations have been designed by Mr. Wing, of Melton Mowbray, the brother of the incumbent, acted by Mr. Johnson, of the same place: the latter has had the execution of the work.

Monk Melton.—The incumbent of this parish is about erecting a school, church, and master's residence, for the poor district of Smithers, a site having been given by Lord Wharncliffe, who will shortly lay the foundation-stone. The buildings will be plain, and of local ragstone walling, and sandstone dressings. The church is surmounted by a small bell-turret, and the roofs of both are slated. The designs and working plans have been furnished by Mr. J. G. Stapelton, Jun., of London.

Pontefract.—A corner-stone of new cemetery chapels was laid recently by Richard Moxon, esq. mayor. Mr. William Kerby, of East Retford, Notts, is the architect, whose design was accepted in competition, in July last. The builder is Mr. W. D. Cameron, of Barnsley, Yorkshire.

Chorlton-upon-Medlock. The Lord Bishop of Manchester has consecrated St. Luke's Church, Chorlton-upon-Medlock, which has been recently repaired and improved. The church stands in Bedford-street, Brook-street, and was erected so long ago as 1804. The renovations consist of cleaning, painting, and decoration. A new belfry has been erected at a cost of 400*l*.

Ripon.—The Longley memorial window is to be placed in the south aisle of the nave of Ripon Cathedral. The window is of three lights, which are to be filled with figures of Faith, Hope, and Charity, the last occupying the centre compartment. Below each figure are appropriate groups. Messrs. Hardman, of Birmingham, are the artists engaged to furnish the designs and the materials.

Alfreton.—The foundation-stone of St. Andrew's Church, Swanwick, in the parish of Alfreton, was laid on 10th ult.—St. Andrew's day,—by Mrs. Palmer Morewood, of Alfreton-park. The church is to be erected from the selected design furnished in competition by Mr. Benjamin Wilson, architect, Alfreton, and is in the Decorated style of architecture. It consists of a nave, with a north aisle (provision being made for the erection of a south aisle at a future period), chancel, vestry, and a porch on the north side. The exterior of the building is to be of rubble stone, in regular courses, with quoins and Amber-lane stone dressings. The internal length of nave is 61 feet, and the width, including side aisle, 37 feet 6 inches, and it will seat 350 persons, 300 free. The works are being carried out under the superintendence of the architect, by Mr. Joseph Evans, the contractor.

Morpeth.—The foundation-stone of the new Presbyterian Church at Morpeth has been laid. The design is Decorated Gothic, and the edifice will afford accommodation for 858 persons, 552 on the ground-floor, and 306 in transept and end galleries. In the centre of the principal front is a tower and spire. The body of the church is open, galleries being placed only over the transepts and session-house. The roof will be of one span, and surmounted by an ornamental cresting. The church is to be built of rock-faced blocking, with chiselled freestone dressings. The whole of the woodwork will be stained and varnished, the windows glazed with cathedral glass, and the church heated and ventilated. The whole will be carried out under the superintendence of the architect, Mr. Matthew Thompson, of Newcastle.

Hawick.—The episcopal church of St. Cuthbert, Hawick, has been consecrated. The style is Gothic of the first period of decorated architecture. The church has been built at the sole expense of the Duke of Buccleuch. The architect is Mr. Scott. Messrs. Herbertson, of Galashiels, are the builders; and the erection has been superintended throughout by Mr. R. Cowan, master of works to the Duke of Buccleuch. The extreme length of the church is 100 feet; length of nave, 66 feet; of chancel, 24 feet: breadth of nave, 44 feet; of chancel, 20 feet. The height from floor to pitch of roof, is 47 feet; and the extreme height to top of belfry, 69 feet. It will accommodate about four hundred, inclusive of children. The church consists of a nave with side aisles, separated by lofty arches; a porch on the south side, and a chancel with north aisle appropriated to vestry and organ-chamber. The west end of the chancel is semicircular, and surrounded in the interior by a blank arcade, the pillars of which have foliaged capitals. The chancel arch is surmounted by a belfry with two bells, which were supplied by Messrs. Mears, of Whitechapel. The whole of the windows are of coloured glass, supplied by Messrs. Ward, of London; those in the chancel and at the west end being filled with various scriptural designs. The pavement of the passages and chancel is of tiles. The roof is open and of fir, that of the nave being stained, but the chancel roof is painted in colours by Messrs. Moxon, of London. The seats in the nave are of stained fir, but those in the chancel, together with the Prayer-desks, Bible-desk, and alms-box, are of oak, carved. The pulpit and font are of carved stone, the workmanship of Mr. Kerr, of Edinburgh. The standards for altar railing and choir desks, and the hinges on the screens, have been executed by Messrs. Melrose, of Hawick. The remainder of the metalwork (with the exception of the gas-standards, which were supplied by Messrs. Skidmore, of Coventry) was furnished by Mr. Balmer, of Kelso. The whole from the architect's design.

PROVINCIAL NEWS.

Droylsden.—On the 20th and 22nd ult. the Droylsden Institute was inaugurated. The design for the edifice was furnished by Mr. Alfred Waterhouse, of Manchester, who has also superintended the erection, and the contractors were Messrs. Thomas Bates and Co. of Droylsden. The building is a rectangular structure in the Gothic style, two stories in height, and faced with red bricks, relieved with stone dressings and white brick bands, and standing on a basement of stone. The roof is acute in pitch, covered with alternate slips of blue and green slates, and perforated on the south with five dormer windows, and crowned with an octagonal ventilating turret, in the centre of the apex or ridge. On the ground floor of the south or principal front is the library, to be used as a committee-room as well, and there is also a class-room for female members, lighted by a triplet window. On the opposite side is a news-rooms, 28 feet by 18 feet, fitted up with tables of pitch-pine, and beyond are two class-rooms, provided with desks. The whole of the upper story forms a hall, 60 feet by 28 feet, and 31 feet 6 inches high, suitable for lectures, concerts, and public assemblies, with a permanent graduated platform at one end, to which a staircase from the library affords private access. It has an open-timbered roof of high pitch, sustained by five stained deal principals. The room is lighted by seven three-light windows on the south and east sides, by the dormer windows above, and by a rose window in each of the gables. The total cost of the building, with furniture, will be about 1,200*l*. of which about 620*l*. have been secured.

Sherburn.—Mr. John Bulmer, builder, Darlington, has taken the contract for masons' work in building the new hospital at Sherburn, at 4,000*l*. Mr. Thomas Nicholson, of Gainford, contracts for the joiners' work, at 1,600*l*.

Haltwhistle.—A new school is shortly to be erected here if funds can be realised. Plans and specifications have been obtained from Mr. Joseph Gordon, of London, and the committee invited the Rev. G. R. Moncrieff, Government Inspector of Schools, to deliver a lecture, which he recently did, on the subject of educational principles in connection with the project.

Kirkaldy.—The town council after a good deal of discussion on the Corn Exchange plans sent in by Mr. Smith and Messrs. Hay, have decided by a majority of 12 to 5 in favour of Messrs. Hay's.

An Improved Self-adjusting Vice.—A Sheffield manufacturing firm, Messrs. Eastbrook and Allcard, have registered an adjustable bench-vice (No. 4,126), the chief feature of which is the appliance of a ball and socket joint to the movable jaw, so as to allow of the vice adjusting itself to the sides of any tapering or other irregular object introduced between its two nippers. The legs are made long, so as to enable the jaws to take a firmer hold of the object between them than usual with the old staple vice, so that the new instrument more resembles the parallel vice.

IRELAND.

At a meeting of the Dublin Corporation on the 22nd ult. it was resolved,—"That the request of the Moore Testimonial committee to be permitted to *alter* the pedestal on which the statue rests should be acceded to," although Alderman Reynolds at first dissented, and said that he viewed with a feeling of national indignation and shame the monument that had been erected to Ireland's greatest bard, and that he should wish to see it in the fifteen acres of the Phœnix-park instead of the centre of the City. This was a matter competed for. Forty designs, or thereabouts, varying in merit, were sent in; but they were rejected; and the pedestal, as executed, was the design of an architect *not a competitor*. Referring to this, we may mention that, in the immediate locality, the Provincial Bank have taken new premises, and are about to erect an important building fronting College-street. We trust this will be an additional inducement to the Board of Old Trinity to take down the shabby and unsightly wall of the college boundary in that street, and not be behind in the path of progress, which is evidently manifest as regards the Irish metropolis. At last the Goldsmith testimonial seems to be in a fair way of accomplishment. The centre of the area in front of the college has been decided on, and two gate entrances will be formed in the railing in lieu of the one at present, which is immediately opposite the doorway leading to the square.

The new offices of the Ulster Bank are rapidly progressing. Two of the Doric monolithic pillars, 15 feet in height, of the entrance portico, as also a portion of the entablature, have been fixed in their places. They are of Scotch freestone.

A porcelain factory on an extensive scale has been commenced at Belleek; the first of its kind, we believe, in Ireland.

A new minor model national school is to be erected at Newtownstewart, county Tyrone, by the Board of Public Works.

Extensive works are to be executed at the church of Desertaghlill, county Derry, according to plans prepared by the Ecclesiastical Commissioners' architect; as also at the church of Tomb (Camolin), county Wexford.

The proposed alterations and additions to the County Mayo Court House are now entrusted to Mr. George Wilkinson, architect, who has prepared new plans for the same. A competition recently took place in this matter, and a first premium of 50*l*. was awarded to Mr. E. H. Carson, architect, Dublin.

A new (R.C.) church is in course of erection at Blessington, county Wicklow, Mr. McCarthy, architect; Mr. Robert Farrell, of Dublin, the builder. It consists of sanctuary, chancel, transepts, and nave; length from east to west being 90 feet, and breadth at transepts 60 feet. There is a great east window and a small belfry. The site is picturesque, near the foot of the Wicklow mountains. The expenditure up to present time is, 1,600*l*.; but 1,000*l*. more are required to complete it.

The Irish railway bills to be brought before Parliament next session comprise the Bagenalstown and Wexford (deviation); Belfast and Derry Junction; Charleville and Patrick's-well; County Donegal; Cork and Kinsale; Dublin and Drogheda (widening of Dublin terminus); Dublin and Wicklow (extension to Gorey); Dublin and Meath (extension to Great Southern and Western line); Great Northern and Western (Castlebar extension); Kilrush and Kilkee Rails, and Poulnasherry Embankment; Midland South-Western (Cavan to Clones); ditto (deviation of Sligo extension); ditto (branch to River Liffey); North-Western (Elphin to Castlebar); Newry and Armagh (deviation and branches); New Ross; and Ulster-Monaghan to Clones.

ELECTRO-TELEGRAPHIC PROGRESS.

Should the Government agree to secure the Atlantic Telegraph Company to any extent in the laying down of another cable, surely the Government will insist on a preliminary investigation as to the best possible form and size of the proposed cable. The more the subject is discussed, the more preposterous does the iron casing of the present deep-sea cable appear, and the more doubtful its construction generally. The comparative merits of gutta-purcha and India-rubber for the non-conductor ought carefully to be tested and considered, as we before suggested; as also those of hair lines and of wires of thicker calibre for the conductor; and the question of weight is also highly important.

A pamphlet entitled "A Description of the Patent Elongating Tunnel Telegraph Cable, suit-

able either for Deep or Shallow Water, with Reasons for the Failure of the present Atlantic Cable, and the Means by which such Failures may in future be avoided," has been published by Messrs. Longman and Co. The authors, Captain Drayson, R.A. and Captain Binney, R.E. propose the formation of a cable weighing only 5 cwt. per mile, instead of 20 cwt. as in the present Atlantic cable. The core is a single wire of copper (one-tenth or one-eighth or so of an inch in diameter), first coated or washed over with India-rubber, then carefully warped round with spun silk, and again painted with rubber. It is then enclosed in a tunnel or tube covering of vulcanized rubber, square outside and cylindrical within, with space for air as well as the wire, and with one per cent. of wider spaces for occasional helical coiling in the wire to allow for sudden strain. There is one serious objection, however, to air space in such a tube. The cable, if solid, may be exposed to the pressure of the ocean at great depths, probably, without injury, especially when the uncrushed and tender shells, and light sandy dust, got thence by Lieut. Maury, are considered; but it is well known that where air enclosed space is exposed to such pressure, as in glass bottles even carefully and almost hermetically sealed, the water forces its way in, and occupies the interior. In the case of the proposed tube, perhaps, a mere collapse might be the result; but then the air enclosed would burst out the tube to a certainty, and open a way for the water to enter, even without such capillary percolation as would doubtless otherwise take place. There are good suggestions, nevertheless, in the pamphlet referred to, and indeed otherwise there is a general similarity to our own suggestions, made some time since.

A "Steam Telegraph Company," with a capital of 100,000*l.* in shares of 10*l.* each, is in progress of formation. The object of the company is to work Mr. Isham Baggs's patent for improvements in apparatus for lighting, signalling, and telegraphing by means of electricity. The most important of the inventions, it may be remembered, consists in the application of steam-power to electric telegraphy, by which means not only short messages but lengthened reports may, it is said, be conveyed with increased precision and rapidity to any distance along a single line of wire; so that a despatch composed of 2,000 words may be sent in the same space of time as is now occupied in the transmission of messages of not more than 20 words.

An undertaking is about to be introduced, called the London District Telegraph Company, for the purpose of providing the various localities in the immediate neighbourhood of the metropolis with the means of telegraphic communication. The required capital is 60,000*l.* and it is proposed to divide the city and suburbs into eleven districts, each containing 100 stations, so as to ensure that a despatch may be delivered in any part in the course of a few minutes. Messages of ten words are proposed to be sent for fourpence to any place within four miles of Charing-cross. The construction, so far as practicable, will be on the inexpensive overhouse system adopted in Paris, New York, and Brussels, and lately in London by Messrs. Waterlow and Sons.

RECENT AMERICAN PATENTS.*

Wrought-Iron Girders.—*Thomas G. Gaylord*, Cincinnati, Ohio. Claim—The duplex girder or beam, composed of an upper piece having the form of an inverted Y, and a lower piece having the form of an inverted T, whose stem or "comb" is adapted to fit closely within the apex of the upper piece.

Cut Nail Machines.—*G. C. Grodhaus*, Jamestown, Ohio.—Claim—The arrangement of the sheath, the circular guide, and the fork bar, the said sheath having its upper end pivoted, and its lower end travelling upon a track, the circular guide extending from one set of cutters to the other, and the curve of its arc corresponding to the sweep of the lower end of the sheath, and the fork-bar being attached thereto, and carried by the same bar which actuates the sheath.

Metallic Roofing.—*J. C. Gaston*, Oxford, Ohio. Claim—1st. Connecting the plates for a metallic roof by means of yielding joints, consisting of only two thicknesses of metal, and formed by overlapping the flanches turned in the same direction on opposite edges of each plate, in combination with the boarding of the roof, formed of different thickness of plank, to correspond with the difference in the level of the plates, when connected, and so arranged as to give support to the under sides of the plates, and also to the joints. 2nd. The combination of the lock on the lower corners of the plates (formed by the hook in one plate, and the slot in the other, or their equivalents), with a side joint formed by the overlapping of the plates.

Riveting Machine.—*P. B. Tyler* and *William Jones*, Springfield, Massachusetts; and *B. Lathrop*, Sandusky, Ohio, Assignors to P. B. Tyler, aforesaid.—Claim—The employment of a pean, as described, shaped to the configuration of the head of a rivet, and operated in the manner set forth, by which a rivet-head is formed by a succession of light blows around the circle.

Continuous Metallic Lathing.—*Birdsall Cornell*, City of New York.—Claim—Forming metallic surfaces for the reception of castings of plaster, &c. of sheets of metal, after they have been swaged into alternating elevations and depressions of a retaining shape.

Roofing Cement.—*Wm. P. DeGolyer*, Schenectady, New York.—Claim—Combining an elastic basis, consisting of tar, canvas, and earthy matter, with a super-imposed coat of iron turnings filled in with earthy matter.

Roofing Cement Composition.—*Robert Glennon*, New Orleans, Louisiana.—Claim—The composition made up of the ingredients. *Note.*—The aforesaid ingredients are spirits of turpentine, Vandyke brown, alcohol, gum shellac, linseed oil, oil of amber, Japan varnish, sulphate of zinc, and coal tar.

Cement Composition for Roofing.—*Bradley L. Prime*, Hamilton, Ohio.—The composition is made up of the following:—Coal tar, 1½ gal.; vegetable tar, ½ lb.; brimstone, 12 oz.; asphaltum, 6 oz.; india-rubber, 1½ lb.; gutta-percha, 1 oz.; gum copal, 2 oz.; red oxide of lead, 8 oz.; red lead, 8 oz.; umber, 8 oz.; Spanish whiting, 16 oz.; hydraulic cement, 4 oz.; Japan varnish, ½ pint.—Claim—The combination in the proportions set forth.

Paint Compounds.—*Wm. G. Huyett*, Williamsburgh, Pennsylvania.—Claim—A paint compound composed of ground calcined iron ore, lime, and carbon.

* Selected from the condensed lists published in the *Journal of the Franklin Institute* of Pennsylvania.

POLICE MAGISTRATES AND DISTRICT SURVEYORS.

We are invited, in all cases of want of notice by defaulting builders, forthwith to summon such offenders before a magistrate.

Such a proceeding, if taken before a tribunal who could understand building terms and the matters brought before them, and disposed to aid and assist the surveyor, and carry out the Act, might be a proper and prudent course.

As it is, the *onus* is on the surveyor to make the police magistrates *understand* the case; and the interpretation placed by them on the forms in the Building Act is often most ludicrous, arising from the fact of their being asked to adjudicate points upon which they have no knowledge, and, from their entire ignorance of construction, they are placed often in an unfair and invidious position. The result of appeal to such a tribunal is further to *render doubtful and make difficult the position of the surveyor* by reason of all kinds of conflicting decisions, arising mostly from the bearing and terms of the Act not being perceived and understood,—or, but remotely, and a natural leaning to the *popular side of the question*. The Act makes it discretionary on the surveyor whether to adopt proceedings or not: it is permissive for him to do so. What is wanted is the *re-imposition of treble fees*, omitted from the last Act most unaccountably. These the magistrates used to grant, and they acted to deter builders doing work without notice. At present, the treble fees having been abandoned, good and bad are put on an equal footing, and an actual premium to dishonesty given, as many now run the chance of discovery. It may be said there is still the 20*l.* penalty; but magistrates, in the fulness of their wisdom, award 1*l.* in place of 20*l.* about which, if caught, builders do not care. A District Surveyor.

PUBLIC WAITING-ROOMS AND HALTING PLACES.

At the last meeting of the City Sewers' Commission Deputy Obbard introduced a memorial from Mr. George Jennings, of which the following is the substance, as shown by several designs accompanying his statement of particulars:—He proposes to occupy a space, not more than is at present appropriated to any of the existing halting-places in different parts of the metropolis, for *under-ground* urinals, lavatories, drinking-fountains, and public lamps, the water used to be sufficient for all the purposes, and intended finally to flow into the sewers. He proposes that the wall space should be covered with time-tables of the different railways, lists of cab fares from that particular point to any part of the metropolis, and other useful information, every arrangement being made for perfect ventilation.

With that brave liberality which may partly explain the success which has attended Mr. Jennings, he offered to supply and fix, in any part of the City, a complete station, as shown in his drawings, free of any charge. The proposition was referred to the Improvement Committee, and will doubtless be accepted.

Books Received.

The Forest of Dean: an Historical and Descriptive Account. By H. G. Nicholls, M.A. Perpetual Curate of Holy Trinity, Dean Forest. London: John Murray, Albemarle-street. 1858.

The Forest of Dean has long been celebrated as a peculiar district, with laws of its own, and forming a sort of sanctuary to which those who came to political grief in disturbed and lawless times fled for refuge. Such a district, valuable as it has been for centuries, or rather from time immemorial, on account of its iron mines and its forest-mines—as we may call them—of stout English oak, and latterly for its "sea coal" and its collieries, well deserves a history of its own, and here it has got one worthy of its merits.

The "free miners" of Dean Forest have for ages enjoyed the right of erecting forges, cutting wood, and pasturing their cattle within the precincts of the forest. They have a sort of Magna Charta of their own, granted by Edward I. and confirmed by traditional laws and privileges. Near the centre of the forest, in the inmost ring of the several croppings out of the upper, middle, and lower coal strata,—about which they either knew or cared little or nothing, however, in ancient times, although now these strata constitute the very strength and power of the district, by help of which its associate iron is converted into use,—there stands the "Speech House," the parliament house of the free miners; and they have a legal court, called "The Court of the Wood." In these institutions all questions of district law are settled.

A century ago the "Forest" was a rough district, seldom visited by strangers, and enjoying no very creditable reputation. The making of new roads, however, the development of its mineral treasures, the building of churches and schools, the importation of capital, together with the usual accessories of an improving age, have thrown it open to the sunshine of civilization: it is now not only the resort of the world outside of it, but in itself it has become an emporium of iron *manufacture*, and a large exporter of ores and coals, while the plantations were never before in a condition so promising as a national property.

Mr. Nicholls, in the little volume before us, devotes the larger portion of his work, which is written with much diligence and perspicuity, to tracing, through various phases, and a long course of time, the wonderful progress this Forest has made, from a condition but little removed from barbarism, to its present high state of prosperity. He has given a complete account of its iron trade from the time of the itinerant forges down to the foundation of the large furnaces now at work. From the voluminous documents at hand in the shape of blue books,—commissioners' reports; from the notes of Mr. Machen, who for half a century managed the Forest for Government, he has also been able to furnish us with a full and detailed history of the timber, its growth, destruction, and renewal in successive periods. Forest laws and customs, the ancient miners' courts, and their usages, are collected and explained; nor are the historical legends of a rude race quite forgotten; and certain remarkable antiquarian remains are pointed out, in Druidical relics, churches, &c.

The following summary of the recent extent of the iron and coal trades in the district is from Mr. Nicholls's volume:—

"Eight blast furnaces were at work in the forest in the year 1856, and produced upwards of 24,132 tons of iron of the best quality. Twenty iron mines were awarded by the Mining Commissioners in 1841, and these are since increased to upwards of fifty, several of them comprising very extensive workings, and are furnished with very powerful pumping engines: that at Shakemantle raises 19½ gallons per stroke, and the one at Westbury-brook twenty-four gallons from a depth of 186 yards.

The annual yield of iron mine from the four principal pits is:—

	Tons.
Buckshaft	14,574
Old Sling Pit	13,263
Westbury-brook	11,725
Easter Iron Mine	10,782

The total yield from all the iron mines in the forest for 1856 was 109,268 tons."

"The number of coal works in the forest at the close of 1856 was 221, yielding in that year to the public use upwards of 460,432 tons; the ten largest collieries each producing as follows:—

	Tons.
Park End Colliery	86,973
Light Moor	86,508
Crump Meadow	41,507
Bix Side	26,792
The Nelson	24,539
Hopewell in Whimberry	18,558
Valletts Level	17,918
Bilson	17,395
Arthur and Edward	12,857
New Strip and at it	11,502
	341,849

Probably a twentieth part of the above total should be

added to the amount charged, in consideration of the quantity consumed by the colliery engines, thus making the gross annual produce a third of a million of tons."

The stout English oaks of Dean Forest in times of old formed a subject of respectful consideration and of wholesome dread to the Spanish Government, and the Spanish Armada was said to have had peremptory orders at least to destroy this forest if they failed in doing anything else. The ambassador had previously been instructed to "get it done by private practices and cunning contrivances," in which fire doubtless was meant to play the principal part. So, at least, says Fuller, in his "Worthies" as to the ambassador, and Evelyn, on hearsay, in his "Sylva," as to the Armada. But whether true or not, the anecdotes show the estimation in which England herself held the Forest of Dean in olden times. It remained, however, for a native "armada" of plunderers and others to devastate the ancient forest, and—

"During the earlier half of the last century the devastations were so rapid as to necessitate re-enclosing and replanting various parts, about the year 1760; but the effort to re-stock the whole of the forest as it now appears was reserved to 1810 and the thirty subsequent years. Its present aspect, with very few exceptions, is such as to afford the best hopes that by the close of the present century a large proportion of the woods will be yielding profitable timber, provided the crops be duly protected from injury, which otherwise the rapidly-increasing population of the neighbourhood will too surely occasion. Nine tenths of the present stock are oaks: the rest are Spanish chesnuts, Scotch fir, larch, spruce, beech, and a few elms, sycamores, and horse-chesnuts: birch grows spontaneously in most parts of the forest."

The Boy's Own Toy-Maker. By E. LANDELLS; Author of the "Child's Own Toy-Maker." With numerous engravings. London: Griffith and Farran, St. Paul's Churchyard. 1859.

THIS little volume forms an extension of a really good idea, whereby children and youth may acquire something like a constructive power with their hands; and, while thus learning handy habits, obtain a varied and never-ending source of amusement for themselves and their associates. The present volume, besides the formation of paper and card-board toys, as of rustic cottages, card-racks, kites, &c., gives instructions for the construction of all sorts of miniature shipping, angling and trapping apparatus, archery, and other missiles, and games; practical puzzles, &c.; all illustrated with the pencil and graver, as well as with pen and print. As the author remarks, "the boy engaged in making a toy-house becomes half an architect in the knowledge acquired of the names and uses of forms and materials, which, without a model, he could hardly comprehend;" and we doubt not, that many a young reader to whom Mr. Landells's little volume will be presented as a capital Christmas gift, will remember, with a kindly regard in after times, and among the more serious affairs of life, the instruction thus imparted to him in his youth.

ILLUSTRATED BOOKS.

The White Doe of Rylstone; or, the Fate of the Nortons. By WILLIAM WORDSWORTH. Longman and Co. 1859.

IT would gladden the heart of the poet to see his creation set forth with such printing, paper, and illustrations as we have here. The latter are from the prolific hands of Mr. Birket Foster, with head-and-tail pieces by Mr. H. N. Humphreys, all engraved by Mr. H. N. Woods. Mr. Birket Foster is the most successful landscape artist on wood: in some respects he is not approached by others; but working to such an extent as he does, sameness, at times, is inevitable. Those who are in search of an elegant present-book, which will be an evidence of their taste as well as of their liberality, will find it in this beautiful edition of "The White Doe of Rylstone."

DRAINAGE PAMPHLETS.

THE publications now to be noticed are mostly reprints.

"Will the Thames be purified under the New Act?" (Stanford, Charing Cross) is a report from the *Morning Post* of 23rd November last, of Sir William Worsley's views on this subject, in which Sir William gives it as his opinion that the drainage from the pockets of the rate-payers will be the most material operation effected under the new Act; and he says, he "cannot but stand aghast at the gigantic leap in the dark about to be perpetrated without any commensurate object, unless it be an enormous outlay." His own scheme, we may here just briefly note in passing, in his own words, comprises, in a restricted form,—

"1. A tidal quay dam in Blackwall Reach, of sufficient elevation to keep the up-river full to high-tide level with down Thames water, and to prevent tidal floods over the low-level tidal districts.

"2. An intercepting sewage and rainfall culvert down on each side of the river, communicating at right angles with the present sewers, and built in terrace embankments faced by quay walls, from a suitable distance above the town to Londonbridge, and thence to the final cesspools."

"The Scientific Drainage of Towns," by John Hitchman, esq. Surgeon, Leamington, dedicated to the Metropolitan Board of Works, and to the sanitary boards generally throughout the kingdom, proposes "the complete separation of the sewage from the surface water, in the metropolis, and in cities and towns generally. The scheme comprises the daily removal out of London, &c. of the whole of its sewage, by steam power and iron tubes, commencing on each side of the Thames, and continued under the queen's highway, direct to outfalls into the sea, at least twenty-four miles from London; the sewage being used extensively to irrigate the land, through the counties of Kent and Essex in its progress downwards." The pamphlet mainly consists of a series of letters reprinted from the *Leamington Spa Courier* of the present year.

"The Hydro-dynamics of Blue Books and of the Metropolitan Drainage Reports," by John Neville, Dundalk, is a reprint from the *Civil Engineer* and *Architect's Journal* for the present month. "With reference to the experiments in the report," says the author, "they want, in a scientific sense, that clear, definite character as to the plans and sections of the weirs experimented upon, the forms of the approaches and weir-crests, the means of determining the head and velocity of approach, and how measured—so essential to accuracy, and so carefully given by Francis in his 'Lowell Hydraulic Experiments.' I would not, however, have here drawn attention to this portion of the subject, but for the extraordinary doctrine before mentioned, that $\frac{8}{9}\sqrt{2gh}$, and not $\sqrt{2gh}$, is the greatest velocity gravity is capable of communicating to a jet from a small submerged orifice, and that $\frac{4}{5}\sqrt{2gh}$, and not $\frac{8}{9}\sqrt{2gh}$, is the mean theoretical velocity through an overfall notch, to the credit of which, whatever that shall be, the Messrs. Hawksley, Bidder, and Bazalgette are fully entitled."

Mr. Haywood, the engineer and surveyor of the London City Sewers Commission, in a printed report now before us, "Upon the Application of Charcoal to the Ventilation of Sewers," addressed to the Improvement Committee of the Commission, recommends the committee, *if* they "consider that the result to be gained will be commensurate with the estimated cost," to "select a limited district, adopt the existing ventilators in the first place, add to their number, and perfect the system to such an extent as may be practicable, and watch and record the results before adopting it for the whole city." Mr. Haywood does not appear to be very strongly impressed either with the merits of charcoal as a destroyer of sewer gases, or with the demerits of these gases themselves as they exist in or emanate from the sewers.

Miscellanea.

PRESENTATION OF A TESTIMONIAL AT SUNDERLAND.—The workmen employed in re-constructing Wearmouth Bridge have presented an address and a silver snuff-box to Mr. John Hosking, engineer for Messrs. Hawks, Crawshay, and Sons, Gateshead, who have the contract for the iron-work.

COTTAGE IMPROVEMENT.—The half-yearly report of the Hastings Cottage-improvement Society, for the six months ending October 7th, 1858, tends to show that it is possible by careful management to make a cottage-improvement society remunerative to those concerned. The shareholders have again received a half-yearly dividend at the rate of six per cent. per annum clear of income-tax. Dr. Greenhill acts as secretary.

NORTHERN ARCHITECTURAL ASSOCIATION.—At a meeting of architects of the counties of Northumberland, Durham, and Newcastle-upon-Tyne, held recently, those present unanimously resolved to form themselves into a society, to be called the "Northern Architectural Association," and twenty-six gentlemen have subscribed their names as members. A meeting will be held on Tuesday, the 4th day of January, 1859, to arrange the constitution of the society, and will afterwards dine together. Mr. Oliver is acting as honorary secretary.

THE WOLSEY BELL AT SHERBORNE.—We regret to state, says the *Bath Chronicle*, that the big bell, the gift of Cardinal Wolsey, and the pride and boast of Sherborne, terminated its career on Sunday evening in last week: as the ringers were ringing for service it cracked, so that it is no longer fit for use.

FIFTEENTH CENTURY ALTAR.—"An artistical treasure," says the *Indépendance* of Brussels, "has just been discovered in Hungary. It is an altar, on the double doors of which are paintings by one of the most celebrated German painters of the fifteenth century—Michel Wohlgemuth, the master of Albert Durer. There are in all forty-eight small sketches, twelve of which, representing in an epic series the life of St. Elizabeth of Hungary, are by the master himself."

DURHAM CATHEDRAL.—At length the parapet of the central tower of the cathedral which has for some time had the appearance of being out of repair, has been entirely taken down. It proved to be nothing more than a heterogeneous mass of brickbats, dirt, and cement, held together by pieces of iron. A considerable portion of the tower is yet covered with cement, put in by our forefathers of fifty years ago. Of Atkinson, the architect, at whose instigation this was effected, the Rev. Dr. Raine says,—"He could write of chemistry, of the effect of the weather upon old stones newly faced, of the preservative virtues of moss and lichens, in sensible terms, and he could quote 'Burke on the Sublime and Beautiful,' with propriety, but then he was an advocate for Parker's cement, and with this material he was suffered to encase the upper stage of the tower." It is the intention of the Dean and Chapter to replace the old parapet by a new one of stone, but the tower will remain in its present state during the winter. We hope that, when the work of restoration is commenced, it will extend to all those portions which are of cement.—*Durham Advertiser.*

XYLOPLASTY, OR VENEER-EMBOSSING.—This invention, also termed by its author, M. Amies, "*placage en rélief*," consists in placing thin plates of wood (veneers) between two matrices or dies, one of them bearing, in relief, the figure or ornament to be produced; and the other, the same figure sunk or indented. Both dies are gently heated, and the thin sheet of wood between them is subjected to a high pressure; so that when taken from the mould, it bears on its upper surface a sharp impression, having the appearance of carving in wood. The hollows are filled up with a plastic substance, such as mastic or papier mâché (in pulp), and when dried and polished, the ornament may be fixed on any article of furniture, &c. The veneer when embossed is made moist by means of a layer of paste and paper on the under side.

SEWAGE GASES AND SMOKE CONSUMPTION. A correspondent, Mr. John Malam, suggests that a vacuum should be caused in all sewers to extract the destructive gases, by taking advantage of the present draughts of every available kitchen flue, in connecting the latter to the former by means of 2-inch sanitary tubes. This has been more than once suggested before in our columns; but we should be sorry to see it acted upon, from the dangers inseparable from such an arrangement. Another point in reference to smoke prevention which has also already been urged in our columns, is thus put by Mr. Malam: "The smoke-consuming apparatus converts the harmless carbon into two most fatal invisible gases, viz. carbonic acid, and carbonic oxide, which tend not to purify but to poison the atmosphere most effectually. If the accumulation of the carbonic acid of the expelled breath be the most hurtful of all aërial poisons in crowded, ill-ventilated rooms, and tend to cause deformity, disease, premature death, &c. how can the consumption of smoke, and its change to carbonic acid, carbonic oxide, &c. be considered as a sanitary measure conducive to health?" On the other hand, soot or carbon is a noted deodorizer and disinfectant. These points have been more than once offered for consideration in the *Builder* in reference to the smoke-prevention question. They were also, not long since, urged in a sanitary pamphlet at Manchester. Another correspondent, C. T., proposes, for the deodorization or destruction of the sewage gases within the sewers, that a small gutter for deodorizing solutions be fixed within the vault of the sewers, so as to distribute the chemical solution slowly along their course from tanks at the upper ends of their gradients. This might be an effectual mode of accomplishing the very desirable object in view; but it would be a very costly one. Sewage, we suspect, must either be dealt with at its origin, in the dwellings and house-drains, or at its issue from the sewer outlets.

Glasgow Archæological Society. — The usual monthly meeting of this society was held on the 6th inst. Mr. J. T. Rochead, in the chair. A number of new applications for admission to the society were disposed of, and the secretary laid upon the table several donations. Mr. Hill then read a paper "On the Letter of Guildry, and the origin of the Merchants' and Trades' Houses of Glasgow," and illustrated his views on this subject by several ancient MSS.

Braham's Stencil-plates for Architects.—To save the time swallowed up in properly writing to architectural and engineering drawings, Messrs. Braham and Co. of 5, Taunton-place, Regent's-park, are now manufacturing copper stencil-plates, which answer the purpose better than any we have yet seen, both as to fineness of execution, regularity, and form. By aid of these, what was the labour of a day may readily be knocked off in an hour. They not only provide alphabets in every style, from plain to the most ornamental, but have prepared all the words requisite in architects' and engineers' offices, for plans, sections, elevations, specifications, scales, and cardinal points. We feel quite safe in recommending Messrs. Braham's plates to those who need such aids.

Surbiton Sewerage Competition and Aldershott.—Sir: Having noticed your paragraph relating to the above, I beg to inform you, in *partial justice* to the Board, that the plans were *only* sent in on the 17th of July last, by postponement from the former date, mentioned by you. I should also be glad to learn what has been the fate of the "ten elaborate designs" submitted (*sic* a local paper); and I presume such things can be legally reclaimed. In reference to a kindred matter, the Aldershott Sewerage Competition, for which the plans were sent in on the 1st of April last, and of which the works have been advertised for tenders in your paper, I have never seen any notice of the result thereof, and shall feel obliged if any of your subscribers can supply the particulars.—A Competitor.

Pressure on Marine Telegraphs.—It may be very true what your correspondent, Mr. Jeakes, says about pressure on metals, but with guttapercha or indian-rubber it is different: the pressure being from the outside, has a tendency to close the pores if there should be any; so that in fact it becomes more compact, and sustains a much greater pressure than people at first sight would believe. It is not so much the fault of insulation nor the electrical department as the absurd principle on which the cable is constructed. After they have spent another half million, and laid another worthless rope in the sea, perhaps they will open their eyes to something better.

J. W.

Gratitude and the Fibrous Slab. We have received a communication purporting to come from Captain Claxton, R.N. and signed "A Shareholder," complaining of the omission of mention of the intended use of the patent Fibrous Slab in our article last week descriptive of progress in the new Adelphi Theatre; further stating that its use in the dome of the British Museum Reading-room and in Covent Garden Theatre was also unnoticed, and requesting us, as "the directors advertise" in our columns, that we would inform them "who they ought to have *fee'd* to get common justice done to the patent." If Captain Claxton had been a reader of the *Builder*, he would probably have avoided committing this vulgar impertinence. He is probably not aware that the Fibrous Slab was first made favourably known to the public by a paragraph in this journal, which was reprinted in a hundred quarters (we do not exaggerate), and led us into an immense amount of correspondence in reply to inquiries, without, as usual, the slightest acknowledgment of thanks on the part of the proprietors. In connection with both the buildings named by this person, its use was described, as it will be if we find it in the Adelphi hereafter: most certainly it was not there when our account was written. It is to be hoped that the affairs of the company are in wiser hands than those of Captain Claxton, R.N.

To prevent burrowing of Rats.—Sir: In answer to your correspondent as to a preventive against rats burrowing under the foundations, and coming up through the floors of houses,—Lay over the whole surface beneath the floors a concrete 3 inches thick composed of Portland cement and gravel shingle, washed through a very coarse sieve, in the proportion of 1 cement to 5 of shingle. Care must be taken that all mud or clay is washed from the shingle before mixing. This concrete, with a little extra labour, forms an excellent floor.

J. H. Gates.

Society for the Encouragement of the Fine Arts.—The provisional meeting of the new society is to be held this Friday evening, the 17th, in the Hanover-square Rooms, when music and the exhibition of drawings are to vary the ordinary business of a public meeting.

Conservative Land Society.—At the sixth annual general meeting of this society, held on the 7th inst. the report stated that land purchases this year, after the commercial crisis of the first quarter, had been abandoned, the committee relying mainly on the interest of their 47,000*l.* making a total of 358,950*l.* 15s. 7d. and the withdrawals, about 68,000*l.* for the entire period of six years; whilst the sale of land amounted to about 220,000*l.* By the prudent policy of carrying interest yearly to the Reserve Fund, it still amounted to nearly 8,100*l.* an excess of its original figure. The report then specially dwelt on the greatly extended facilities afforded by the lending of money in large and small sums, under the Building Advances Department, and the opening of a Deposit Account Branch for those persons who did not wish to become members, as affording additional securities for the prosperity of the society, and making it independent of all political influences. The shareholders for the year receive five per cent. interest for their money, after having in previous years received alternately six and seven per cent. In all thirty-four estates had been bought.

The Roman Walls of Dax.—We are pleased to understand that this fine Roman circumvallation which was being pulled down when Mr. Roach Smith inspected it early in October, has, owing solely, as we understand, to his exertions, been respited by a decree of the Emperor; and now, no doubt, is safe. Two years ago and upwards M. Léo Drouyn and M. de Caumont made strenuous efforts to save the walls, but in vain: the story is to be found in the "Bulletin Monumental" of the latter gentleman. It is remarkable, that not one French archæological society ever moved two years ago to aid the efforts of M. de Caumont, not even the Société Française d'Archéologie, else, possibly, the Vandals of Dax would have been prevented destroying so much as they have succeeded in doing. The walls were wonderfully preserved, and the details are such as we do not now possess in those of Colchester, which, however, really deserve more attention than they receive, and should be cleared in the interior.

Prices in the Midland Counties.—I have been induced to purchase a copy of the "Midland Counties Price Book." Would any of your readers in that locality give a little explanation as to the following prices? —

Plain work Mansfield stone, per foot superficial,		6d.
Do.	do. (rubbed)	7d.
Beds and joints		5d.

For a proper understanding of the above, what is the local custom as to measuring beds and joints? Are every bed and both faces of a joint measured? or one face of a joint and half of each bed? Are the items, "circular and moulded work," supposed to be rubbed?—W.

TENDERS.

For New Building in Creed-lane, City, for Messrs. Fisher and Others. Mr. M. Horne, architect. Quantities taken out by Mr James Dudley.

Calderhouse	£1,691	0	0
Field and Son	1,616	10	0
Turner and Sons	1,591	0	0
Pritchard and Co.	1,460	0	0
R. Ashby and Sons	1,420	0	0
Partridge and Crutch	1,397	0	0
Ashby and Horner	1,365	0	0

For Model Cottages, at Beddington. Mr. Joseph Clarke, architect —

Fisher	£1,264	0	0
Arding	1,194	0	0
Foster	1,189	0	0
Punnett	1,143	0	0
King and Co.	1,120	0	0
West	1,115	0	0
Carruthers	1,035	0	0

Assize Courts, Berks.—Mr. Ruddle says he also sent a tender, 12,683*l.*

TO CORRESPONDENTS.

Odd.—A. W. (all right). — W. S. B.—C. A. W. — D. R.—L. E.—J. L. (shall have attention). — J. R.—S. C. C. (no copy reached us). — P. and W. Bros. G. Constant Reader.—H. J. P.—T.—H. W. K.—City Contax (in type).

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c. should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent-garden. All other Communications should be addressed to the "Editor," and* NOT *to the "Publisher."*

ADVERTISEMENTS.

TO ARCHITECTS, ENGINEERS, COUNTY, BOROUGH, and DISTRICT SURVEYORS.—MR. T. HOWER, C.E. and Architectural Draughtsman (late with Messrs. Hesketh and Hayden), PROFESSIONAL AID generally. Surveys, Sections, &c. Maps, Plans, Drawings and Tracings. Perspectives drawn and tinted, &c. In the first artist's style. 2, Charles-street, St. James's-square, London, S.W.

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EXPERIENCED BENCH HANDS (none else need apply) may meet with EMPLOYMENT at J. E. HALL'S, Builder, Carrington-bridge, Nottingham.

JUNIOR CLERK WANTED. An Architect, holding a public appointment, has a VACANCY for a JUNIOR CLERK as an IMPROVER. He must be a neat draughtsman. A moderate salary will be given. Address, A M W, care of J. Johnson, 37, Fleet-street, E.C.

LEAMINGTON LOCAL BOARD of HEALTH.—TO SURVEYORS.—The Local Board of Health are prepared to receive applications from Candidates for the office of SURVEYOR for their District. A scheme for the drainage of the district and recommendations for a River Lea[illegible] have been prepared, at the cost of the district. The Candidate who may be appointed to carry out the same, if required, [illegible] to assist in the preparation of plans, drawings, estimates, and [illegible] of all works connected with the sewerage, paving, making, and repairing of the streets, as well as [illegible] works, and to superintend the execution thereof, and the materials, and see to the fulfilment of the contracts [illegible] entered into for such works. He will be required to report upon all new buildings within the district of the Local Board, and levels, and upon cases of nuisance in repairing the streets, and a certain [illegible] attached thereto as well as generally to possess a thorough knowledge of the duties appertaining to surveying. Personal application [illegible] Board, with references, will be necessary. The Board do not bind themselves to accept any application.—By order, E. H. DAVIES, Clerk.

Town Hall, Leamington, 7th December, 1858.

WANTED, a SURVEYOR, to complete the Survey of a Town and Suburbs in Lancashire. He must be able to use a theodolite, and to make a neat draft plan. Engagement for [illegible] weeks only. Wages, [illegible] terms, and with references, to A. A. Office of "The Builder."

TO ENGINEERS.

WANTED, by the Hastings Local Board of Health, a thoroughly Practical, Mechanical, Working ENGINEER, to attend to a pumping engine of thirty horse power, at the Waterworks. He will be required to devote the whole of his time to the said works. Wages, [illegible] per week with house [illegible] gas provided. Candidates for the [illegible] must send their applications in writing, well testified, on or before the 23rd of DECEMBER instant, addressed to "The Town Clerk, Hastings," where further particulars can be obtained.

ROBERT GROWSE, Town Clerk.

Hastings, 15th December, 1858.

TO SLATE MASONS.

WANTED, for the country, TWO good HANDS, accustomed to prepare work for enamelling, and to [illegible]. Liberal wages and steady employment, [illegible] twelve months' engagement. If [illegible] respectable, [illegible] to be [illegible] Apply by letter, prepaid, to Messrs. [illegible] of Mr. Hannay, Stationer, Gilt-spur-street, Smithfield, London.

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WANTED, for a Gentleman's Estate, a HEAD CARPENTER. He must have a thorough knowledge of his trade in all its branches, the constructing of buildings, &c. One who can keep a few labourers employed preferred. None need apply who cannot produce satisfactory certificates of abilities, sobriety, &c. &c.—Application to be made to Mr. WAPSHN, Lamport, Northampton.

WANTED, by a respectable Man, aged 31, of steady, sober habits, a SITUATION as WORKING FOREMAN of BRICKLAYERS, being well conversant with all its branches, and having a thorough knowledge in laying all kinds of [illegible] work. Can produce satisfactory references as to character and [illegible]. Address, M. B. 8, Brunswick-place, Maida-hill, Paddington, London, country, or abroad, as required.

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WANTED, an ENGAGEMENT, as SHOP FOREMAN. Is well acquainted with stairs, and the prices of joiners' work. Can make out estimates. Good references. Address, J. F. Office of "The Builder."

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WANTED, a SITUATION, by a Young Man, who is a good Architectural and Mechanical DRAUGHTSMAN, competent to get up detail drawings for working. Address, V. W. Deacon's News-rooms, Leadenhall-street, City, E.C.

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	¾	⅞	1	1¼	
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Mahogany, in log	from	0 5 6
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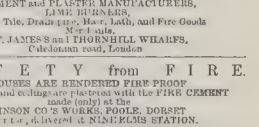

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We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow-windows may be obviated by their use, without extra cost.—*From the "Builder," June 26th, 1858.*

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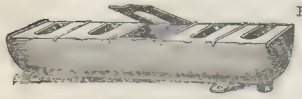

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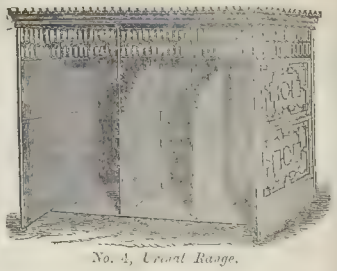

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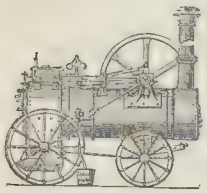

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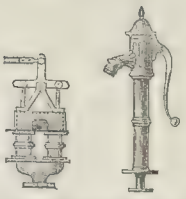

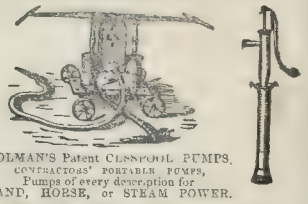

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Pumps of every description for HAND, HORSE, or STEAM POWER.

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STEAM
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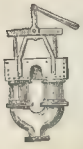

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Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Ships, Barges, Well sinking, &c. adapted for any depth.

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MANY Painters and Decorators have never had really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no comparison with the genuine article.

But this greater imposition is exceeded by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the atmosphere as Common Boiled Oil does. It soon loses the gloss, and ultimately flakes up with the water and washes off.

Hubbuck's Patent Process completely resists London atmosphere, brine water, and gas under every form.

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PATENT COMBINED SMOKE AND AIR FLUES.

BY THIS INVENTION PERFECT DRAUGHT AND COMPLETE VENTILATION CAN BE SECURED.

THE air-flue follows the line of the smoke-flue, the passages being quite distinct. The heat from the smoke-flue causes a current, which carries off the vitiated air admitted by junctions near the ceiling. The pipes or blocks are *all made to bond with ordinary brickwork.*

Where the blocks come together, each air-flue has a lip or projection, which enters the next block and completely shuts off the air-flue from the smoke-flue at the joint. This lip, with dowels at the opposite corners of the blocks, also holds the lengths firmly together.

Curves are made to suit any inclination.

Manufactured in terra cotta for smoke-flues equal to 12 in. 10 in. and 8 in. diameter, with ventilating-flues of proportionate size.

Small models will be forwarded to architects on application to

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SINKS, URINALS, &c. IN GLAZED STONEWARE.

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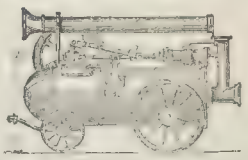

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HANCOCK'S PATENT VULCANIZED INDIA-RUBBER TUBING, HOSE-PIPES, WASHERS, ENGINE PACKING, both round and flat, and SOCKET-RINGS, for H Coupler. Pipes, Vulcanized Rubber Discs, Rings, and Cords, Round & Square and of any length. Buffers, Cushions and Rubber Strips cut to any pattern for Bagatelle Tables.

Diving Dresses of superior make, and improved Vulcanized Rubber Supply pipes for ditto.

Vulcanized Rubber in Sheets from three to four feet wide, and of any thickness. Aprons, Pillows and Cushions, Inflating Portable Bottle Bevel of Chelsea, and Articles of the kind made to any pattern to order.

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DURABILITY of GUTTA PERCHA TUBING.—Many inquiries having been made respecting the Durability of Gutta Percha Tubing, the Gutta Percha Company beg to call attention to the following letter from Sir RAYMOND JARVIS, Bart. VENTNOR, ISLE OF WIGHT, 23rd October, 1857.—"March 10th, 1852.—In reply to your letter of this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, it answers perfectly. Many hundreds and other rooms have the Gutta Percha Tubing and there is not the least appearance of decay since the first fixing, which was seven years ago, and I am informed that it is to be adopted generally in the houses that are being erected here."

N.B. From this testimonial it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

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These pencils are prepared in various degrees of hardness and shades

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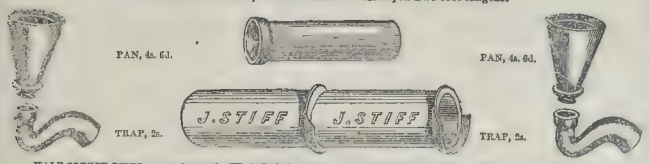
STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF-SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

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DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

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WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected. A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
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Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

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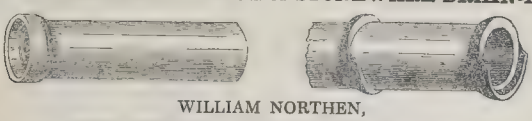

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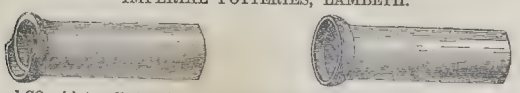
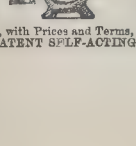


S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 11s. 6d. each, extra.



Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

ENCOURAGE COUNTRY MANUFACTURE.

CLIFF'S SALT-GLAZED DRAIN-PIPES

are the strongest in the London Market.

CLIFF'S STONEWARE SOCKETED PIPES are the best GLAZED in the Trade.

A HANDSOME DISCOUNT IS GIVEN,

and a good article supplied. The largest Pipes in the Kingdom are made by JOSEPH CLIFF, at the Manufactory, Wortley Fire-brick Works, near Leeds. Net price per foot, as under.

36-inch.	3 ft. by 2 feet (oval).	30-inch.	2 ft. 6 in. by 1 ft. 9 in.
11s.	9s. 3d.	9s.	5s. 6d.
24-inch.	2 ft. by 1 ft. 6 inches.	18-inch.	15-inch.
5s.	4s. 3d.	3s.	2s. per foot.

The thickness of each Pipe is commensurate with its diameter. Connection can be made with the sewer at any time. And the Pipes guaranteed to stand well as at any Brickwork.

LAMBERT'S SELF-CLOSING

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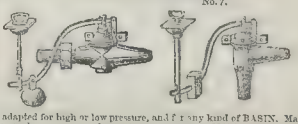

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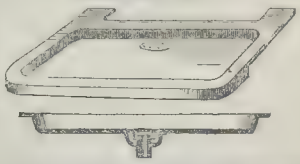

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13, BISHOPSGATE-STREET WITHOUT.—To BUILDERS, HOUSE AGENTS, CONTRACTORS for General Repairs, LANDLORDS, and OTHERS

MR. PEAKE will SELL by AUCTION, on the PREMISES, as above, on TUESDAY, DECEMBER 21st, 1858, at TWELVE o'clock, by order of the Manchester and London Paper Staining Company, whose lease expires at Christmas next, the extensive and valuable STOCK in TRADE: comprising 10,000 pieces of Paper-hangings, in every variety of style and design, suited to suit all classes of purchasers, consisting of elegant drawing room on satin grounds, handsome gold on embossed and other papers, rich flocks on crimson, puffant, maroons, granites, ceilings, &c. and an immense assortment of the best manufacture. May be viewed the day previous and morning of sale, and catalogues obtained on the Premises, and of Mr. PEAKE'S Offices, 44, Tooley-street, Southwark, S. E.

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MR. ALFRED COX, having sold the Estate, will, by order of the Vendors, on JANUARY 4th, at the SUN, HITCHIN, the whole of the TIMBER and Timber-like Trees, Saplings, and Pollards, standing on the Ainsbohoro Estate, situate about a mile from the Great Northern line, in the Great Northern line, consisting of 1,000 most valuable oak trees, with their lop and top and bark; 200 beech, 70 ash, and 60 elm trees, with their lop and top; and 2,000 oak and other saplings.—Auctioneer's Offices, 64, New Bond-street.

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The Builder,

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. XVI.—No. 829. DECEMBER 25, 1858. PRICE FOURPENCE. Stamped, 5d.

THE BUILDERS' BALL, in aid of the Funds of the BUILDERS' BENEVOLENT INSTITUTION, is fixed to take place at WILLIS'S ROOMS, St. James's, FEBRUARY 11, 1859.

JOSIH BIRD, Hon. Secretary.
10, Hanover Cottages, Regent's park

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30, Grosvenor street, W., December 13, 1858.

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95, Wimpole-street, W.

COMPETITIONS.

TO ARCHITECTS and OTHERS. The Corporation of the Borough of Folkestone are desirous of obtaining DESIGNS for a BUILDING adapted for the purposes of a TOWN-HALL, COUNCIL HOUSE, POLICE-OFFICE, and 11 SMALL HOUSES. The plans to be drawn to a scale of 8 feet to 1 inch. Each set of designs to comprise elevations, plans, and perspective view, with specification and estimate, and to be forwarded to the Town-clerk, free of expense (under motto only), accompanied by a sealed letter, containing the name and address of the person furnishing the design, on or before the 5th day of JANUARY, 1859. A premium of £30 will be given to the person whose design shall be approved of, and considered by the majority of the members of the corporation as the best; and £10. as the next best; and such designs shall be the property of the corporation, who shall not be bound to employ the successful person as architect. The building is to be of white brick, with Portland cement facings, and is not to exceed 1 foot 6 inch depth in the clear. The estimate is not to exceed £3,000. If unsuccessful designs will be returned to the owners by the usual modes of conveyance, but the corporation will not be responsible for their safe delivery, nor for any payment to the owners in respect of such designs. Instructions as to the internal arrangements of the Corporation will be forwarded by the Town-clerk on receipt of 2s. 6d. in postage-stamps. By order of the Corporation,

RALPH THOS. BROCKMAN, Town-clerk.

TO ARCHITECTS.—WANTED, by the Trustees of the Tabernacle Chapel, Aberystwith, a PLAN, with Elevations and Sections, for a NEW CHAPEL. A prize of Five Pounds will be paid for the approved design. The area of the building to be about 350 superficial yards, and to have cast-iron gallery round, if required. The cost of the erection not to exceed £2,000. The plans to be sent by book post to JOHN MATTHEWS, Land Surveyor, Aberystwith, Cardiganshire, by the 22nd JANUARY next. Those not approved to be returned, if required, by the same conveyance.

MANCHESTER ASSIZE COURTS.—To ARCHITECTS. The Justices of the Peace for the County of Lancaster are desirous of receiving DESIGNS for the proposed MANCHESTER ASSIZE COURTS, LODGINGS for Her Majesty's Judges, Offices, Lockups, and all other accommodation which may be necessary or convenient for carrying on the civil and criminal business usually transacted at courts of assize. A premium of £60 will be given for the best design; £30. for the second best; and £10. for the third best. The various buildings are to be erected on a plot of land, part of which was recently the site of strangeways Hall, situate in Bury New-road, or Great Dicconstreet, Manchester.—A plan and sections of the site, and full printed particulars may be obtained on application, by post or otherwise, to the undersigned, with whom the designs must be left on or before the 1st day of MARCH, 1859, at his Office, 37, New Bailey-street, Salford.—By order,

FREDERICK C. HULTON,
Clerk to the Manchester Assize Courts' Committee

Salford, November 20, 1858.

CONTRACTS.

TO BUILDERS and OTHERS.—TENDERS are required for a NEW CHAPEL, to be erected on the site of the present Independent Chapel, Lion walk, Colchester. Drawings and specifications at the Colchester Office of Mr. CHARLES FOREYER HAWARD, Architect, from DECEMBER 28th, 1858, to JANUARY 15th, 1859, to whom the Tenders are to be delivered, on or before the latter date. The lowest Tender not necessarily accepted.

CONTRACTS.

TO BUILDERS.—Notice is hereby given, that TENDERS will be required at the Office of the Inspector of Barracks, War Department, Pall-mall, London, on MONDAY, JANUARY 24, 1859, for BUILDING a BARRACKS for married soldiers, together with LAUNDRY, containing washing, drying, and ironing rooms, and for flushing Closets, Boundary Walls, &c. at Winchester, in the county of Hants. Plans and specifications can be seen, and copies obtained, on application at the Office, from TEN till FOUR o'clock, between the 3rd and 24th JANUARY, 1859.

Royal Engineer's Office, Portsmouth, Dec. 21, 1858.

TO GUNMAKERS.—Parties desirous of TENDERING for the CONTRACTS for future SUPPLIES or SETTING UP of SMALL ARMS for surveying Her Majesty's Government are invited to forward their Applications addressed to the Secretary of State for War, Pall Mall, London, in order that, in the event of their being found competent, Forms of Tender may be sent to them.

THOMAS HOWELL.
War Office, Pall Mall, S.W. 21st December, 1858.

TO BRICKMAKERS, SCAVENGERS, and OTHERS.—The Crown Estate Paving Commissioners do hereby give notice, that they are ready to receive TENDERS from persons willing to CONTRACT for the REMOVAL, during one year, from the 17th day of JANUARY, 1859, of DUST, DIRT, CINDERS, and ASHES from the houses, build ings, and premises in the Crown Estate in that year. Forms of Tender and of the Particulars to be obtained on application at the office, when Tenders according to such forms, sealed, addressed to the Crown Estate Paving Commissioners, and endorsed "Tender for Dust," are to be left at or before THREE o'clock on WEDNESDAY, the 5th day of JANUARY, 1859.

FRANCIS ADAMS, Clerk to the Commissioners

1, Whitehall place, December 17, 1858.

TO BUILDERS.—SUTTON ST. JAMES CHARITIES.—Persons desirous of TENDERING for the ERECTION of TWO SCHOOL ROOMS and a MASTER'S HOUSE, at Sutton-street, and Lamb's Buildings, in Spitalfields, according to plans and specifications to be seen at Holbeach, where sealed Tenders are to be sent on or before SATURDAY, the 1st day of JANUARY, 1859. The lowest or any Tender will not necessarily be accepted.

J. P. STURTON, Solicitor.
Holbeach, December 18th, 1858.

TOTTENHAM LOCAL BOARD of HEALTH.—CONTRACT for DIGGING and SIFTING GRAVEL, at per rub. yard run, for delivery to be immediately, and sifted through a half inch sieve, and separated into distinct heaps, in the Gravel Pits, Wood Green. Further information to be had at the Office, High-cross, at THREE o'clock p.m. Tenders to be forwarded to me before THURSDAY, the 30th instant.

Friday, 24th December, 1858.

BUILDERS desirous of TENDERING for the ERECTION of a PUBLIC-HOUSE at Blackwall, may inspect the drawings and specification after TUESDAY next, the 28th instant, at the Residence of Mr. RICHARD STRONG, 7, Stratford-place, Upper Grange-road, Old Kent-road; or at the Offices of Mr. WILLIAM ELLISON, Architect, 19, Stainsby-road, Limehouse. Advances: 80 per cent. as the works progress. Tenders will be opened on SATURDAY, the 1st of JANUARY next.

TO IRONFOUNDERS and OTHERS. IRON RAILING, with Bank Iron Curb, wanted for Paddock Houses, each house having to be erected and fixed complete. Sketches to be sent to Mr. W. WHITE, Meat-market, Bow, Bromley, upon or before which day parties may be heard, and to whom estimates must be sent, not later than the date stated. Not bound to accept the lowest Tender.

COUNTY of WORCESTER.—To BUILDERS and CONTRACTORS.—Persons desirous of TENDERING for the several Works required to be executed in taking down portions of the present Buildings, and erecting others in new Wings, Lodge, with washhouse, Laundry, and other additions to the Worcester County Gaol, may inspect the Drawings and Specification, and obtain any further information at my Offices, 17, Foregate-street, Worcester. Sealed Tenders to be forwarded free of expense to the County Gaol, properly endorsed, on or before FRIDAY, the 28th of JANUARY next. The lowest Tender will not necessarily be accepted, and the contractor will have to provide two eligible sureties for the due performance of the contract.

HENRY ROWE, Jun. County Surveyor.
Worcester, December 17th, 1858.

DOVER LOCAL BOARD of HEALTH.—CONTRACT for IRON PIPES and PIERS. The Local Board invite TENDERS for the supply of the following IRON CASTINGS:—IRON PIPES and COLLARS and GALVANIZED WROUGHT IRON TUBING, the Pipes to be about 600 feet long, and may be seen at my Office, between the hours of TEN a.m. and FOUR p.m. and further particulars may be obtained of the Surveyor to the Local Board. Sealed Tenders, marked "Tender for Pipes," and addressed to the Dover Local Board of Health, are to be delivered at my Office, on or before WEDNESDAY, the 29th December instant.

THOMAS BAKER BASS, Town Clerk
Dover Local Board of Health Office, 15th December, 1858

ROYAL POLYTECHNIC INSTITUTION. Patron: H.R.H. the PRINCE CONSORT.—Instructive Lectures and Elegant Entertainments, by Mr. Pepper and Dr. Bachhoffner, prepared for the Christmas Holidays.—Dissolving Views, illustrating the Marvellous Exploits of Don Quixote.—Wonders of the Microscope.—Lectures on the Philosophy of Magic, on the New Harmonicon, and on the Humorous Melodies of Old England.—Juvenile Amusements Scientifically Demonstrated.—Splendidly Ornamented Christmas Tree.—Gifts for the Juveniles from the Wheel of Fortunatus.—New Phantasmagoria by Dudley Hoy. Performances by Frikel, Osterich, &c.—Adulteration of Food and Beer Explained.

Manager & Director, R. J. LONGBOTTOM, Esq.

EVENING CLASSES.—ROYAL POLYTECHNIC.—The Classes in Arithmetic, Algebra, Mensuration, Bookkeeping, Drawing, English Language, Chemistry, French, and German, will RECOMMENCE on MONDAY, JANUARY 10th. Arrangements for both Juvenile and Ladies' Pupils. Class for further information and tickets apply to Mr. COUSENS, at the Institution.

THE LONDON and GENERAL LANDLORDS' PROTECTION REGISTRY.—For protecting landlords of every description and their tenants from the numerous expenses and losses to which they are subjected in the recovery of goods, extortionate demands, &c., also at law, by stopping the shameful practices of Distress and Replevin, by making known the contents of all coming to market, and ascertaining the intended effect of acceptances to orders. Particulars to be had at the only Office, 9, SHERBORNE LANE, near Walbrook, City.

SURVEYING, LEVELLING, and CIVIL ENGINEERING.—PRACTICAL FIELD INSTRUCTION is given on surveying, Levelling, Civil Engineering, &c., by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Surveyors, &c., of extensive practice, who give Instruction in every branch of the Profession.—Terms for the Course of Three Months, Two Guineas. No extras.—For Prospectuses, &c. apply at the Offices, 24, Guildford-street.

ARCHITECTURAL and ENGINEERING DRAWING CLASSES, for Architects, Builders, and Engineers' Sons, Assistants, Clerks of Works, &c.—Held and Conducted by Messrs. HYDE, SMITH, and LEWIS, Architects, Civil Engineers, &c., for giving and Modelling, Drawing, Perspective, Isometrical, and Mechanical Drawing; Making Finished and Working Drawings; Preparing Specifications; Taking out Quantities, Estimating Builders' Work, &c. Terms: 10s. Pupils, Two Guineas per Quarter; Evening Pupils, One Guinea per Quarter. There are no extras: the Terms include the whole of the above, with the use of Drawing Boards, Instruments, Drawing Models, &c. For Prospectuses, containing Names of Pupils, apply at the Offices, 24, Guildford street, Russell-square, London.

DRAWING, &c.—One Guinea per Quarter, at Mr. EDWARD'S, 6, Well-street, Oxford-street. The Terms include Architectural Engineering and Mechanical Drawing, Colouring, Taking out Quantities, &c. &c. For Particulars of the Drawing Classes apply at the Offices, 24, Guildford-street, Russell-square.

T SQUARES, STANLEY and ROBINSON'S IMPROVED.

Have received the "The Engineer," "Builder," and "Practical Mechanics' Journal." 42-inch, 5s. and 7s. 6d.; 31-inch, 3s. 6d. and 5s. 6d.; 23-inch, 2s. 6d. and 3s.

Improved Squares for Taking and Setting Angles.
Improved Architects' Scales, 12 inch box, 2s. 9d.; Ivory, 8s.
Improved Architects' Drawing Boards.
Improved Mathematical Instruments.

MANUFACTORY,
3, GREAT TURNSTILE, HOLBORN,
LONDON, W.C.

THEODOLITES, LEVELS, CIRCUMFERENTERS, MATHEMATICAL DRAWING INSTRUMENTS SCALES, RULES, TAPES, T-SQUARES, &c.—JOHN ARCHBUTT & SON, Watch-makers, Jewellers, and Opticians, by Appointment, respectfully call attention to their stock of the above articles, manufactured by superior workmen. The prices will be found considerably lower than the charges for articles of similar quality. An illustrated price list forwarded free on application. 8-inch dumpy level, complete, six guineas; 10-inch ditto, eight guineas; 14-inch ditto, ten guineas; with compass, one guinea each extra. Best 5-inch theodolite, divided on silver, eighteen guineas.

SCHAUB and GODFREY, 129, GREAT CHARLES-STREET, BIRMINGHAM.

Beg to announce to manufacturers, that they have now brought into working order their patented processes for MANUFACTURING ALL KINDS OF

LETTERS FOR SIGN BOARDS, DOOR PLATES, &c.

As well as Detached Letters in Ornaments

Those processes extend to all open and ornamental detached work, as mounts for BOOK CORNERS and CENTRES, mounts for PAPIER MACHE, in WOODWORK MAKING PHOTOGRAPHIC PICTURES and DAGUERREOTYPES, BUTTONS, GILT JEWELLERY, &c.

SCHAUB and GODFREY are prepared to grant licences for the manufacture of any of these articles; and parties desirous of learning particulars, and seeing the process itself, may apply as above.

BANK of DEPOSIT, Established A.D. 1844.
3, PALL MALL EAST, LONDON.

Parties desirous of INVESTING MONEY are requested to examine the Plan of the BANK of DEPOSIT, by which a high rate of interest may be obtained with ample security.

Deposits made by special agreement, may be withdrawn without notice.

The interest is payable in January and July.

PETER MORRISON, Managing Director.

Forms for opening Accounts sent free on application.

LOANS, from 10l. 10s. to 100l. ADVANCED, within 30 miles of London, repaid weekly, or monthly. NO OFFICE FEES.—Apply at the Secretary's Office, half of which is returned if the loan is not approved. Forms, price 2d.; if required by post, three stamps must be enclosed. MONEY ADVANCED on REAL PROPERTY.—METROPOLITAN LOAN COMPANY, 1, Craven-street, Strand, W.C.—Established 1849. Office hours, from TEN to FOUR o'clock.

CHARLES STAUNTON, Cashier.

MARBLE TILES.—The ITALIAN MARBLE COMPANY, having removed their Wharf, FOR SALE, at very reasonable rates, a large stock of Square MARBLE TILES, Chimney Slabs, Tiles, Curbs, Risers, Treads, &c. &c.
Bridge Wharf, Millbank. GEORGE BAXTER, Foreman.

THE PADDINGTON MARBLE WORKS, 17, SALISBURY STREET, EDGWARE ROAD, N.W.
C. PARKER most respectfully solicits the attention of Architects, Builders, &c. to his extensive assortment of CHIMNEY PIECES, exhibiting elegance of design, with moderate charges.
Estimates given for every description of MARBLE and STONE WORK.

MARKET WHARF, REGENTS-PARK BASIN.—WE HAVE NOW OPENED DEPÔTS for Yorkshire Paving, Pitland and Derby Stone, Bath and Slate Slabs, Slates, Bricks, Lime, Cement, Plaster, Tiles, Laths, and Fire Goods. STORES and WOOD in any quantities. Builders, Masons, and others, to whom Stock as above would be useful, are requested to call, when they will receive every information, and be supplied at the lowest prices. Hertford-street, Islington, N. Bricks sent to London Docks.
Country orders promptly attended to.

THE WESTMINSTER MARBLE COMPANY (from the premises formerly occupied by Mr. Peppercorn) for the introduction of Marble Work, have again EXTENDED their ESTABLISHMENT for EXECUTING ORDERS with superior skill, to meet the increasing demand for their productions, and have now in view the LARGEST STOCK of CHIMNEY-PIECES in London, at unprecedented Low Prices.
Address: Earl-street, Holywell-street, Westminster.

TO SCULPTORS, MASONS, BUILDERS, &c.—FABRICOTTI, BROTHERS, Correspondents, Importers of all sorts of Marble, keep a constant well supplied Stock of Marble, in Blocks, at the under-mentioned Wharf, comprising STATUARY, VEINED, VEINED PADOUAZZO, SICILIAN, DOVE, &c. all the precious and Quarried Marbles, Portoro, Black and Gold, Sienna, and the St. Anne Vert des Alpes, Breccias, Scagliolas, and Godhey Stone. Sold also in Slabs, Tablets, Tiles, and other forms of all sorts of Marble to any extent connected with the Trade.
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THE BRITISH and FOREIGN MARBLE GALLERIES, 17, Newman-street, Oxford-street.
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Letters process the Quarries &c. Depôts adjacent for transit by any part of the Kingdom. Furnished on application to Bath Stone Office, Corsham, Wilts.

DUNDRY STONE QUARRIES, Dundry, near Bristol.—This valuable stone for Architectural purposes has a rich yellow tint, and from its durability, and the facility with which it can be worked, is now extensively used in the restoration of the Cathedral, Llandaff, and St. Mary Redcliffe Church, Bristol. The price at the Bristol Railway Terminii is 1s. per foot cube, in block. The stone can be worked to any pattern, at prices to be agreed upon if preferred.—All further particulars, testimonials, and reports, may be obtained on application to GEORGE C. ASHMEAD and SON, Surveyors and Agents, 19, Small-street, Bristol.

MANSFIELD STONE, White or Red, in Blocks up to Ten Tons, and the beds from 1 to 5 feet thick. Supplied also in Sawn Slabs, for floors or grave-stones, and in Scantling, for steps and sills. Mr. ROBERT LINDLEY, Quarry owner, Mansfield, Notts, manufacturer.

VINCENT BELLMAN, SCAGLIOLA MARBLE MANUFACTORY, 14, Bucklersbury-street, Bank, prepares to execute, on the most reasonable terms, CHIMNEY PIECES, COLUMNS, PILASTERS, PEDESTALS, ORNAMENTAL TABLES, &c. to any design or pattern, of the most elegant and correct marbles, of which he has for inspection a large assortment, including the ARCHITRAVE SCREEN exhibited in the Great Exhibition of 1851, and for which a Prize Medal was awarded. He also executes Repairs to Marble Work in the very best manner and most reasonable terms. As Manufacturer of superior and improved Portland Cement.

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For the best BATH FREESTONE, apply to ISAAC SLADE, Proprietor of Combe Down and Bath Stone Quarries, Combe Down, near Bath.

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Sawed and Cut Stone delivered from, and Mason's Department at Yard, Caen Stone Steps, and other Stone.

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GRANITE. The Welsh Granite Company, Carnarvon, supplies PITCHING or PAVING SETS of this MATERIAL, of the Thickness which have for several years been extensively used in the Streets of Liverpool, Leeds, and Manchester, and combine in a higher degree than any others, the qualities of roughness in wear and durability.—Address, M. JOHN HUTTON, 6, Town-hall Chambers, Liverpool Manchester.

GRANITE.—The Cheesewring Granite Company, Liskeard, Cornwall.
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Manager—JAMES HEATHAN, Liskeard.
This Granite is selected for the New Westminster bridge.

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Marble in the Block or Cut and Sawn Slab and Slab.
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W. and J. FREEMAN, Merchants in the various descriptions of STONE, GRANITE, and SLATE, for Engineering and Building purposes. Supplies direct from the Quarries, by vessels of their own, of any required dimensions, with despatch. Specimens on INSPECTION. Wharf adjoining, and estimates for special contracts, may be had on application at their Office, 3, Great Winchester-street-buildings, Moorgate-street, London, E.C.

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FRANCIS and CHARLES SIMPSON, STAMFORD; and Sole Agents for the Sale of the Stone at Messrs. FINDER, SIMPSON, and SONS, 2, Savage-gardens, London.

RANSOME'S SILICIOUS STONE. All kinds of ARCHITECTURAL EMBELLISHMENTS executed in this beautiful and indestructible material at prices not exceeding the ordinary cements.
Full particulars furnished on application to
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Every description of Marble Work executed in a superior style

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RANSOME'S PATENTED PROCESS for INDURATING STONE, CEMENT, BRICKS, &c. to prevent and arrest decay, and to preserve. Can be worked by any mason, painter, or labourer as readily as paint, &c. Does not alter the colour or the natural appearance of the material and is permanent.
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VALENTIA SLATE SLABS. The Valentia Slab Company invite attention to their Slabs, now supplied everywhere, as a material of superior quality. They have been used at the British Museum, National Gallery, Bethlehem Hospital, Wards, Lunatic Asylums, the Ordnance Works, Model Prison, Pentonville, and other Penitentiaries; Malting Floors in Bedford, in the Buckinghamshire Breweries, the Race Stand at Brighton, Portsmouth Barracks, and are kept in stock by the principal Slate Merchants in London.—For wholesale terms, apply to the Company's Manager, at Valentia, Kerry
4, Trafalgar-square, Dublin, 16 June, 1858

MAGNUS'S ENAMELLED SLATE obtained the Medal of the Society of Arts, the Prize Medal at the Great Exhibition, 1851, and Two Parisian Medals at the Paris Exhibition.
Tasteful imitations of this beautiful material are being painted upon the inside of Window Shutters, &c. &c. Request to see that the name of "MAGNUS" is upon each article.
Chimney pieces, billiard tables, table tops, baths, wall linings, &c. a new Illustrated Catalogue of which can be had at the Pimlico Slate Works, 29 and 30, Upper Belgrave-place, Pimlico, S.W.

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Best quality, 24 by 12	£10 17	6	per 1,200
Do. 22 by 12	9 17	0	"
Do. 20 by 10	7 2	6	"
Do. 18 by 10	6 8	0	"
Do. 16 by 10	5 7	6	"
Do. 16 by 13	4 8	6	"
Do. 16 by 8	3 8	6	"
Do. 14 by 9	3 11	0	"
Second quality, 24 by 12	9 11	6	"
Do. 20 by 10	6 0	0	"

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Offices, Gloucester

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FROM 2s. 6d. PER SQUARE YARD.
Country Roofs prepared with Asphalte for Footings and Barn Floors, with Instructions for using it.
Apply to JOHN PILKINGTON, Polsloe-road and Limmer Asphalte Office, Monument Chambers, 14, Fish-street-hill, London.
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ASPHALTE—TRINIDAD—
PREPARED { rendered of uniform consistency by Steam Power for every description of Building, Railway, and Agricultural Work.
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The Trade supplied on advantageous terms, and estimates given for works of any magnitude; also for LAYING TAR PAVEMENT
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Sunderland Wharf, Rotherhithe;
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T. TRELOAR,
COCOA NUT FIBRE MANUFACTURER, 42, LUDGATE-HILL, LONDON, E.C.

TO ARCHITECTS and BUILDERS.—T. TRELOAR, 42, LUDGATE-HILL, Manufacturer,
SUPPLIES COCOA-NUT FIBRE MATTING, DOOR MATS, HASSOCKS, &c.
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TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD, and every description of ROPE used on Buildings upon the lowest terms. Marquees and temporary Awnings on sale or hire. Orders per post receive the most prompt attention.
H. PIGGOTT,
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REVERBERATORY FURNACE.—WANTED to RENT a REVERBERATORY FURNACE, or Portion of a Foundry, wherein there is one erected; or a small Foundry with space and convenience to put one up, if the rent is low. Apply by letter only to Mr. H. C. BURT, 4, Mark-lane, E.C.

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PFEIL and STEDALL.
THE LARGEST STOCK AT THE LOWEST PRICE.
IMPROVED PATENT STABLE FITTINGS of every description.
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JOHN HENDERSON PORTER, ENGINEER AND CONTRACTOR, IRON BUILDING AND ROOFING WORKS, GAS STREET, BIRMINGHAM
LONDON OFFICE—1, RICHES-COURT, LIME-STREET.

SKAIFE and CO. (late Skaife and Pollock), Manufacturers of PATENT GALVANIZED IRON
Sheets, Corrugated and Plain; Fencing and Telegraph Wire, Bars, Rods, Hoops, Nails, Screws, and Manufactured Articles, supplied to the Trade. Galvanized Tin Sheets and Tiles for export.
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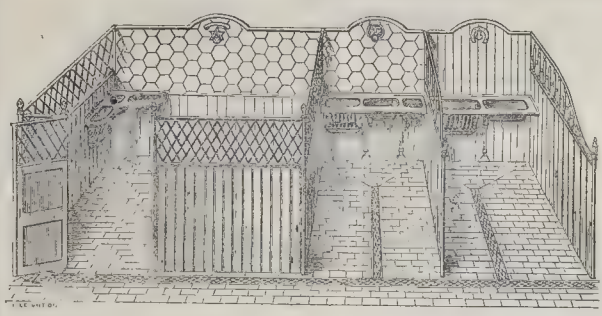

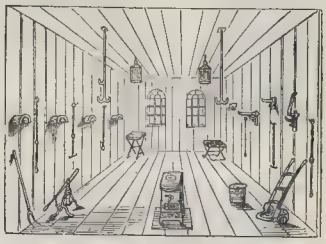

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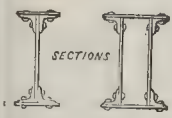

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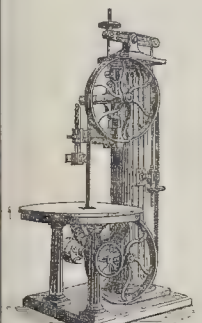

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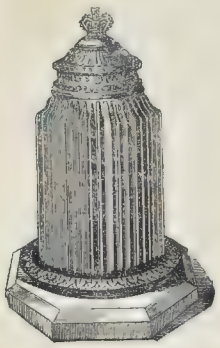

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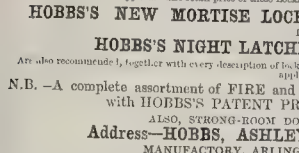

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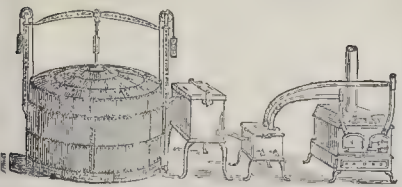

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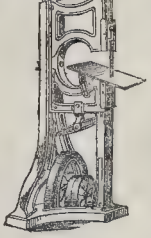

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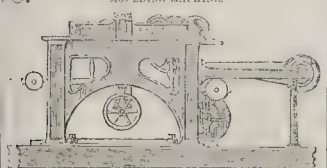

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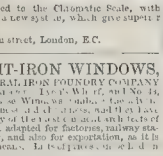

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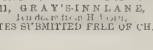
IMPORTANT TO ALL.  THE TRADE SUPPLIED.

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12. Sacristy, San Marco, do, by Spinello Aretino.
13. Detail of ditto.
14. A Chapel in Santa Croce, Florence.
15. Town Hall, Siena, by Martino di Bartolomeo.
16. Baptistery, Siena (fifteenth century).

Wood Inlay.

17. From the Chapel in the Town Hall, Siena.
18. From Pulpit, Cathedral
19. From Pulpit, Cathedral, Orvieto
20. From Assisi (Choir).
21. From Organ Gallery, Cathedral, Orvieto (Drawn by Jacopo Lochetta, 1475)

Marble and Enamel Inlay.

22. From the Town Hall, Pistoia } Twelfth
23. From the Cathedral, Florence } Century Work
24. The Sacristy Door, Cathedral, Florence } and Later
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32. { Siena Library Pavement. / Pisa Baptistery Pavement.
33. Marble Inlay, from Pisa
34. Orsagna's Shrine, Florence.
35. Shrine of St. James, Pistoia. } Early Gothic
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The Builder.

Vol. XVI.—No. 829.

Dark Night Superstitions and Sanitary Truths.

HAIL Christmas! Bringer of pleasant thoughts, and awakener of good feelings,—feelings so buried in some under the dry leaves of the world, that were they not stirred by thee, their existence would be unknown! Apart from thy greatest claim to the attention of man,—the hopes and promises belonging to thee,—how much delight does the world not owe thee,—how many coldnesses has thy genial flame—the flame of charity—dispelled! As a new poet sings:—

> "Mere contact makes not nearness. they who sit
> On the same hearth are often more apart
> Than those who have a bulging hemisphere
> Rising between them;"*

and by the force of memory, the force of example, and the force of association, Christmas brings the separated together, and teaches others that there is happiness within the reach of all, and that "it needs not fortune to be great:"—

> "We know not half we may possess,
> Nor what awaits, nor what attends:
> We're richer far than we may guess,—
> Rich as eternity extends!
>
> The heart it hath its own estate,
> The mind it hath its wealth untold·
> It needs not fortune to be great,
> While there's a coin surpassing gold!"†

The very Wassail bowl says,—"Be in health‡ (though we are not recommending an indulgence in it), and the Mistletoe was called by the Druids "All-heal." Look, on Christmas Eve, into one of the old homesteads scattered about the country: see the pleasant party, old and young, grave and gay, worldly and spiritual, gathered about the wide open fireplace, still to be found, with its blazing logs on the old fire-dogs: care banished, jealousy and ill feelings forgotten, and those to whom aid or sympathy may be useful remembered. Multiply this by millions, and some idea will be gained of the value of Christmas.

"Very true," says Friend Straightlace, "But what has this to do with the *Builder?*"

Did not Terence say, "I am a man; and nothing of interest to humanity can be indifferent to me?" and need we have a stricter rule than the old heathen? However, dispel your fears. We are not without a purpose. The talk of the group here sketched, not an imaginary one, was varied. Some spoke

> ——"About the plan
> And method of the universe; and plunged
> In difficulties on the politics
> And civil laws of Saturn; weaving webs
> Of lofty speculation in their minds,
> To bridge across the gulf-like infinite,
> And suffer them to crawl o'er,—spider-wise."

But some were frightening each other about the "death-watch" and "winding-sheets," and other asserted foretokens of death; and it led us to think on what foundations these superstitious notions might have been built—notions which even now are, to a certain extent, entertained by many persons. For, though the bulk of the population may exclaim with Crabbe,—

> "But lost, for ever lost, to me, those joys
> Which reason scatters, and which time destroys!
> No more the midnight fairy tribe I view,
> All in the merry moonshine tippling dew,
> E'en the last lingering fiction of the brain,—
> The churchyard ghost,—is now at rest again:"—

still hundreds believe that the ticking of the "death-watch," or the appearance of a crow near a dwelling, foretells an approaching dissolution. May it not be that there is a groundwork of truth for the association? Sanitary knowledge supplies some reasons for thinking so. The little beetle has often by its clicking caused terror to many who have defied, unchanged, tangible and great dangers. This creature chiefly carries on its operations in the night time, and is in consequence the more likely to be heard by the watchers of the sick; but, besides this, it is seldom found in thoroughly ventilated rooms, though frequently in damp, mildewed apartments, or in decayed wood-work,—places, in fact, which are generally so conditioned as to be unfavourable to health and life; and it is not impossible, in those days when knowledge of sanitary laws was small, that there were sufficient reasons to connect the "death-watch" with numerous instances of death.

The howling of a dog at night near the home of the sick is considered, like the ticking of the "death-watch," an ominous sign, and this, too, may be accounted for on sanitary grounds; for, in many cases which end in death, the sick room, even if great care be taken, is pervaded with an impure atmosphere which tells of dissolution. Of course those gases are distributed abroad, and no animal is more keen-scented than the dog. The wolf will rush to its food for miles with a precision which seems marvellous, but which is owing to the fineness of its smell; and the domestic dog is but a civilized wolf, obeys the instinct of its species, and is led by the taint of the air.

The winding-sheet (as it is called) in the candle is another token which creates fear in superstitious minds. The melting and hardening of the tallow, in the form which has this name, is caused by draughts of air, which are dangerous to all, especially the delicate. In those old times, when there was more reason than at present to connect death with the winding-sheet in the candle, the practice of swaddling infants in an absurd amount of clothing, the close curtains of bedsteads, and other similar causes, often rendered the draught of air which produced the winding-sheet of the candle as deadly in its effect as powerful poison or revengeful blow.

> "Who gets the wind but through a hole,
> May make his will and mind his soul."

Ventilation does not consist of such currents of air as will produce this effect on the candle.

We have alluded to another superstition, which is still common in many parts of England, namely, that it is a sign of ill-health, at the least, for a carrion-crow or a raven to alight near a dwelling. It is well known that these birds can detect impurity of the atmosphere from a great distance. Vultures and carrion-crows will assemble in hundreds, from different quarters, by the body of a dead horse or other animal; and it is therefore not going far out of the way to connect their visits to a human residence with some impure taint of decaying matter which is there collected.

The ghostly phantoms of marshy districts, the phosphoric lights which appear in various forms rising from the surface of pools in which decomposing bodies are lodged, churchyard lights, and horrible dreams, are all attendants of evil sanitary condition, and may well have come to be regarded as foretelling sickness or death.

The cracking of furniture, too, which is by some regarded as a warning of death, is no doubt often heard before such an event. Watchers listen with nervous ears to all sounds; and, as the cracking of the woodwork in churches and houses is caused by a sudden change in the atmosphere, which may operate badly on the sick, death often rapidly follows such sounds, and so this superstition has grown up.

When it has seemed to *rain blood*, it has been viewed as a portent of evil and death: and with truth. Observation has proved that the spots were those of a red fungus, the concomitant, says Dr. Daubeny, of epidemics and the failure of crops. These evils had occurred where the spots had been, and were, therefore, expected when the red spots again made their appearance.

We might pursue the subject much further, but must stop here, seeking but to awaken attention, through a fresh means, to the importance of attention to sanitary laws and requirements, and to transform hobgoblins and portents into kindly warnings not lightly to be disregarded.

With the present number we close our volume for the year 1858, the sixteenth of the series. It is unnecessary for us, we hope, to make promises for the future: what has been done to increase the efficiency of the *Builder* may be taken as evidence of what will still be done. We shall meet our readers at the commencement of the coming year with renewed vigour, and a determination to omit no endeavour to render our journal more and more worthy of public confidence and favour.

THE PRESERVATION OF STONE IN BUILDINGS.

The attention of the scientific public appears to be greatly needed in reference to the very important subject of the preservation of the stone of which the New Houses of Parliament are built. This stone already shows signs of serious injury, and is decaying rapidly in parts. Various methods have been suggested, and several experiments made to stop the decay, or prevent it where it has not yet commenced.

The stone of the Houses belongs to the class of *limestones*, and consists of a carbonate of lime, combined with carbonate of magnesia, in nearly equal proportions. It is partly crystalline. Similar stone had been found to bear atmospheric exposure exceedingly well in the parts of Derbyshire and Yorkshire where it is quarried, although, when removed to London, it decays irregularly but rapidly. Wherever crystallization is least perfect, rain and damp air, loaded as in London with acid vapours, and constantly expanding and contracting with change of temperature, have produced a kind of rotteness gradually extending into the interior of the stone. In the places thus affected the point of a knife will easily remove a quantity of fine powder, while scales of stone fall away at a touch. There cannot be a doubt that stone thus acted upon must soon become unsightly, and ultimately be altogether destroyed.

The methods that admit of adoption for the preservation of decomposible stones in a building must evidently fulfil certain conditions. First, they must be capable of being applied without much preparation or difficulty to all parts of the stone, whether decayed or not, and on the exposed face, after the building is completed: secondly, they must be either colourless, or at least capable of assuming the natural colour of the stone to which they are applied; and, thirdly, as it is clear that a constant renewal of any wash on the surface of an important building is practically impossible, no mere coating of paint and no wash (however efficacious), that requires occasional repetition, will at all answer the purpose. Paint of the ordinary kind, though admissible in the case of houses, is excluded altogether for large public buildings. The oil with which the white-lead is mixed soon perishes by oxidation, and the paint, always unsightly, becomes totally useless as a preservative, especially in a London atmosphere.

It is not too much to say that every contrivance proposed, for preserving stone, which involves the presence of animal or vegetable oils, or generally of decomposing organic matter (such as blood, &c.), must in its nature perish in the same way that paint does, and for the same reason. In all of these methods, without exception, the preservative process consists in choking the pores of the stone with a substance impervious at the time to water, owing to the presence of some decomposible matter, whether fatty or not. So long as this remains sound, the rain, damp air, and destructive vapours are excluded, and the disintegration of the stone checked.

From the day, however, when such preparations are first put on, they begin to decompose. For a time the progress of decomposition is slow; but it must go on, and that in a rapidly-increasing ratio. It is believed that no preparation of the kind here referred to has delayed the commencement of serious and manifest decay for more than two or three years in the neighbourhood of London. The methods that do not involve the use of organic matter are of two kinds—the one being a simple application of a solution of silicate of potash, the other involving a double decomposition, and the deposit, atom by atom, of an insoluble crust. The former has been frequently tried, especially in France, but without success, as a soluble solution, no matter of what nature, will in-

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* J. E. Jackson. † Charles Swain.

‡ Wæes hæl.—"Health-liquor,"—"Be in health."

NEW CONGREGATIONAL CHURCH, MARGATE.
Interior.

evitably be subject to the subsequent action of water. The latter has been also tried, and the results of experiments have been such as to justify the belief that it is the right method. The object of this latter process is to deposit within the absorbing surface of the stone, whether actually decayed or not, a hard crust of indecomposible mineral substance, which remains behind within the stone after the salt has been washed away, and forms a perfectly continuous crust. The mineral deposited in this process (pure silicate of lime) is not found in nature except in a crystalline form, and then very rarely and in small quantity. The same mineral is, however, well known to practical men (though not by name), as it is the cementing medium in mortars and hydraulic cements. The adhesion of bricks, stones, and concrete, by mortar and cement, is in fact produced by just such a thin crust as is deposited in the process above described; and all who are acquainted with the indestructible nature of this cement, as exhibited in Roman walls and other brick or stone buildings of great antiquity, will appreciate the value and excellence of the invention which has brought a similar substance to form a coating on the most absorbent stone.

It is believed that no material used for constructive purposes is less affected by weathering than this glaze of silicate of lime.

The Pavilion at Brighton, constructed of Caen stone; a church at Bloomsbury, with dressings of Caen stone; and the Custom-house at Greenock, of a local freestone, have recently been subjected to this process. The result in each case hitherto is quite satisfactory.

A non-absorbent solid shield is thus interposed between the external agencies,—damp, destructive vapours, cold,—and the mass of the stone itself. To all appearance the stone, however absorbent, is thus rendered imperishable, nothing decomposible remaining to be acted upon.

I have taken the liberty of addressing this letter to you, in order to bring forward a few facts in reference to the various processes for preserving stone. Notwithstanding their repeated failure, there seems to be a tendency to fall back upon one of the methods according to which animal matter is introduced within the stone, as the whole of one of the small courts of the New Palace of Westminster has lately been experimented on in this way, it is presumed at the public cost. Whatever may be said of other methods, this at least cannot be the right; and no time should be lost in investigating thoroughly the whole subject, in order that the public funds may not be expended on a wrong process. The exact nature of further inquiries should be discussed and decided on, since the whole exterior not only of the Houses of Parliament, but of a great proportion of the lime-stone and sandstone buildings recently erected, is concerned in the result.

Within a few years the New Palace at Westminster, certainly one of the grandest specimens of architecture of modern times, must inevitably follow the fate of many of our public buildings, and be almost entirely defaced, unless some real and practicable defence be given to the magnesian limestone of which it is constructed.

It is quite time that the question should be set at rest as far as possible, so that at least no method involving false principles be adopted on a large scale.

D. T. Anstd, M.A. F.R.S.

Spanish Architecture.—The remarkable book of José Caveda on the history of Spanish architecture, says the *Crayon*, has been translated into German by Paul Heyse: it has been published in Stuttgart by Ebner and Seubert, with illustrations. The learned editor of the work is Franz Kugler. The famous bridge of Alcantara, the Magdalen church of Zamora, a mosque of Cordova, the cathedrals of Granada and of Burgos, the Puerto del Sol of Toledo, the interior of the Escurial church in Madrid, and other celebrated monuments of Spanish architecture, are described in it with great minuteness and skill.

NEW CONGREGATIONAL CHURCH, MARGATE.

This building—of which we give representations—is proposed to be on an eligible site in Union-crescent.

The Decorated style of Gothic architecture has been chosen by the architects. The principal feature is the tower with spire at the angle, which will be about 100 feet high.

In addition to the side and end windows, light will be obtained from the roof, by means of ornamental glazed panels. An apse intended to assist the acoustical properties of the building will be constructed at the end of the chapel, in front of which is a slightly raised platform, on which the pulpit is to be placed. On each side of the apse are the vestries for the use of the minister and deacons.

There will be an inner curved ceiling to the chapel, the timbers of which will be visible, and the principals cusped and supported on carved stone corbels. All internal woodwork is to be stained and varnished. Underneath the chapel are the school-rooms, class-rooms, and good accommodation for the chapel-keeper. A small gallery at the end of the chapel is provided for the children. The total accommodation is for 950 persons.

The materials of construction are to be rag-stone, and Bath stone dressings. The estimate for the work is about 2,500*l*. The architects are Messrs. Poulton and Woodman, of Reading.

ARCHITECTURE IN THE CITY OF LONDON.*

Stone and masonry, whatever may be done with colour, are, as they have been, the chief vehicles for the production of architectural effect. It is scarcely possible to rate too highly the gain to the architecture of London from the use of stone, now general,—from this cause alone. It is not merely that cement is either dirty, or leaden, or slimy in appearance, or even and uniform, instead of varied in tint,—the difference, as regards the appearance of *design*, is in accordance with that which is the fact. But, how much the effect can be prejudiced where stone-work is painted, may be noticed in the case of the basement of the Pelican Fire-office, in Lombard-street,—an excellent work of Sir Robert Taylor,—and in that of the doorway and basement to the buildings at the eastern end of New Cannon-street.

The influences advantageous to good architecture in the City of London,—that is to say, the demand for premises for public companies, and the extended use of stone,—having now been in operation during five or six years, we have in that period been able both to notice and to illustrate several buildings which otherwise would fairly claim place in our present review. The Imperial Insurance Office, by Mr. Gibson; the Australasian Bank, by Mr. P. C. Hardwick; the private business premises hard by, designed by Mr. H. Currey and Mr. John Shaw; the Chambers in Throgmorton-street, by Mr. J. J. Cole; the Queen's Assurance Office, near Guildhall, by Mr. Sancton Wood; and the Colonial Life Office, by Mr. P'Anson; with certain buildings near Temple-bar; all have been given in our pages, and are works of very recent date, which it is well to instance—though, for a due estimate of progress, the list should be greatly extended; and, alluding to the western part of the City, it may be said that Chancery-lane is tending to become as remarkable for good architecture as any part of London, whilst illustrative of the habit of putting superior works in bad places.

In preceding articles we have mentioned other works of the most recent date,—some of them with reference to special points in the architectural character of the City of London, such as that just alluded to. Of the recent works, the building for the National Discount Company's Offices, by Messrs. Francis, is too important to be passed without further notice. The design, as shown in the view in our first number of this year, has been observed nearly in all particulars; but the drawing necessarily fails to show what is most remarkable in the building, namely, the richness of the ornament, and the manner in which every part of the carving is relieved and made to express itself. We have alluded to the treatment of the lower story, with its Roman Doric order,—the narrow piers between the windows as pilasters with three-quarter column and rusticated shaft,—and a doorway with pilasters and segmental pediment at each end of the Cornhill front. There are, in all, four stories above the ground, besides very promi-

* See page 842, *ante*.

NEW CONGREGATIONAL CHURCH, MARGATE. MESSRS. POULTON AND WOODMAN, ARCHITECT.

nent dormers in stone to a high Mansard roof. The *cornicione*, with coupled trusses and pateræ in the frieze, and modillions above, is elaborate and effective. The details of the whole building are remarkable for their variety. Some of them, however, are slightly wanting in the matter of proportion,—we may instance the heavy sills to the windows of the fourth story; and there is not that grouping—by means of main divisions, or features, and subordinated parts, which we have been asking for, many times these late years, though the want is not peculiar to the English school. For, the modern French architects are remarkable, it seems to us, for their insufficient attention to grouping and breadth:—these requisites they neglect for mere prettiness, admirable though their work is in the design and execution of the ornament. The windows in the second story of the building now under consideration, have Ionic columns and pediments, pedestals, and balusters: the windows of the second floor have plain pilasters and horizontal cornices, and blocks below the sill; and the windows in the story already spoken of are arch-headed, with spandrils, the archivolt rising from short clustered pilasters, set on pedestals an enriched panel in the interspace, or podium,—the whole being carried by the heavy sill, which is supported on medallion blocks, and ranges with the fascia or string, and, like it, is ornamented with a guilloche. The dormer windows have frieze, cornice, curved pediment, very prominent ornament as ante-fixæ, and scroll-buttresses at the sides. The roof is crowned with a tall cresting in iron. The interior of this building, like interiors of many other buildings of the same class, is disappointing, being fitted up for offices, with little attempt at decoration. The iron columns in the banking-room should not have been painted to imitate marble. The fittings of some of the City offices, however, are quite remarkable for costliness. In many cases, the substantial part of an extensive pile is limited to the external walls, and internal iron columns and stone staircases; and the separate offices are entirely formed and enclosed by partitions of polished wainscot or mahogany.

Better, in many points of detail, though less elaborate, and having a very narrow frontage, and no advantage of situation like the work last noticed, is the building of the English, Scottish, and Australian Chartered Bank, in Cornhill, already named in reference to its coloured materials. Mr. Henry Baker was the architect. It has been illustrated in "Laxton's Examples of

Building Construction." We speak of it here, because it is an excellent example of good management, as well of the stories with reference to one another, as of separate details in their design and allocation. There are four stories. The feature of the lower story is the segmental arch, in polished granite, rising from corbelled skew-backs and piers of the same material—the arch-stones marked by channelling—and having a square console, which carries a guilloche band, and the balcony to the window of the story above. The ends of the guilloche band, over the piers of the arch, are carried by coupled trusses, effectively combined with a shield and festoon. The second story, or first-floor above the street, has a Venetian window, the centre portion projecting, with columns and the balcony. The shafts are of red granite. They are much too lofty. Above the window, two small circles with beads are introduced, but by the projection of the cornice they can hardly be discovered from below. It is, however, the upper part of the building which has the chief merit, and which it is most difficult to examine from the street. The third story has a Venetian window, but different to the window below. Its sill is slightly curved on plan, where the middle light has increased projection. The top story, also, has a Venetian window, but without cornice, and the whole building is terminated with a block cornice. Much of the effect results from the ornamentation of the bands and strings, and the well placed lions' heads and frets, every one of which, but for the narrow street, would tell with admirable effect. The colour, beyond the polished red granite, is used in the manner of panels—in encaustic tiles, brown and yellow to the piers dividing the lights of the windows.

Mr. I'Anson's work at the entrance to Lombard-street, is marked by the good arrangement, and design individually, of its ornament and mouldings in masonry. Over the doorway has lately been placed a well-executed figure of Atlas, apparently in bronze.

A work of some merit, though in description it would appear not remarkable for novelty, is the Union Fire and Life Office, in Cornhill, at the corner of Finch-lane, designed by Mr. T. H. Lewis. There are four stories, the top story considerably less in height than either of the others, and crowned by a narrow scroll frieze and a cornice of slight projection. Each of the stories has an order of pilasters, and windows occupying nearly the whole interspaces. The windows in the top story are oval, in right-lined frames of architrave dressings: the doorway is marked by a shield and sculptured figures as supporters. The original design for this building, more especially as to the upper part, was altered at the last moment, from fear of giving offence to a neighbour, by the projection intended and the height. It is thought that the original design will before long be carried out, the window-mouldings, also, being cut into ornament as first intended. We like the building as it is.

It has several times fallen to our duty, whilst recognizing the necessity and value of novelty, to comment on indulgence in such quality by itself. A new building has been erected at No. 64, Cornhill, designed by Mr. Herbert Williams, to which some of the observations we refer to would apply. There are four stories in the front: the lower story has arch-headed openings and pilasters of polished red granite: and over the pilasters are consoles breaking the entablature. The windows of the second story are arch-headed, and the archivolt of the centre window supports sedent figures, which, from the slightness of the mouldings, seem to have inadequate support. This story is crowned by a cornice finished at the ends by coupled trusses. The other stories are plain in character. In the lower stories, a considerable amount of carving is introduced—as in festoons, and medallion-heads; but it seems ill-placed; and we think there is want of structural propriety in the details of the architecture generally. The style may be called French-Italian; but the character most resembles that style as applied in interiors; and the naturalistic treatment of the ornament exemplifies a somewhat dangerous tendency which just now prevails, and which those who seek to form a class of artist-workmen would do well to consider and direct.

The same architect, however, has just completed a building on a much larger scale, and of a better class, in Fenchurch-street, at the corner of Billiter-street. The character is in great part derived from window-openings which in place of architraves have the angles chamfered and moulded, and in the case of two of the stories in elevation, have the upper angles rounded. There are consoles to the lintels, enriched bands and cornice mouldings to the different stories, and panels of Renaissance character below the windows of the second story, and to the piers or pilasters which, crowned by an archivolt, are introduced in the third story. There are four stories besides an elevated basement and prominent dormer windows with oval openings and scroll buttresses. The entrance and staircase are at the angle—the latter showing internally a domical covering with circular lights. The doorway is flanked by Persian figures bearing the balcony of the window above. The building is appropriated to offices.

On the opposite side of the street, not far from the building last described, is an extensive pile (No. 35) similarly appropriated. It has another front in Mincing-lane. Mr. Richard Bell was the architect. A very peculiar character is derived from the chamfering to piers and lintels, and the quantity of panelling on the chamfers and all available spaces. The piers, which are very narrow, in the case of the two lower stories run up the height of both, and are finished with impost mouldings as capitals, square on plan, the chamfer being stopped below, whilst the lintel-line is joined to the capital by a quadrant curve. The piers also have a peculiar base,—the mouldings cut within the line of the pier, instead of being made to project. Whether from the material of the buildings, the fact of design evidenced in most parts, or from suggestiveness of the capability of better treatment, based on the leading forms, we feel disposed to rank this structure, and some of similar character, apparently by the same hand, along with the works advancing in their tendency. The lintels in the lower portion of the building have key-stones with pendants: the corresponding feature to the windows of the third story is supported by a metal shaft; and the space between the piers in the fourth story is filled in with a similar central shaft and two arch-headed lights. There is a noticeable defect in the staircases of this building, resulting from the effort after massiveness and substantial appearance (or width of "going"): the balustrades and hand-rail are fixed so much within the well-hole, or so far from the stairs, that somewhat dangerous vacancies occur at the quadrant corners.

The wide openings with metal shafts, and the narrow piers with impost and base-mouldings, are found generally in such works as have pretension to architecture in the lanes of the city. By the omission of anything of the nature of architrave, not only is the full space gained for light, but appearance of weakness or crowding is avoided rather than otherwise, however opposed to some old rules as to the proportion of pier and void the new arrangement might seem. But the change is simply from the accustomed fenestration, to arrangements based on the colonnade or arcade—the interspaces filled in with glass; and if care be taken to limit the weight above, and to give strength to the piers themselves, the new system is, as shown, by no means incapable of breadth and every other requisite of architectural effect. In the Mark-lane Chambers by Mr. Randall the system is well managed. There are three principal stories, terminated by a *cornicione*, the upper members carried by trusses, coupled over the piers, and there descending nearly as low as the springing of the arch-headed windows; and besides, there is an attic, or rather two stories in part,—the centre of the building being carried upon extra story as a leading feature. The piers and lintels of the lower story have projecting panels hammer-dressed; the piers above have coupled pilasters, and carry a Doric entablature; and the piers of the third story, carrying the trusses and cornice, are widened, and admit of a chamfer and mouldings to the window-opening. The stories of the attic have coins and Italian dressings—well-grouped, however. In the trusses, the repetition of the same form gives too much the appearance of two trusses instead of one. The festoons, and the ornament to the trusses of the doorways, are in most respects good. The lantern light, oval on plan, of the principal staircase, is worthy of notice.

Having already extended these observations to an inconvenient length, we fear we must pass over many works which would deserve mention, and would fortify us in the position we have taken up—namely, that the architecture of London, as that of the provincial towns, although not everything that could be desired, is hopeful in its tendency, and that the position it exemplifies should not be lightly thrown aside. We care not what the eventual style may be, so there be the good art which can be made to accrue after the practice of any style. The easiest course, and the shortest, is to modify that which we do possess; and such course is that most likely to be favoured by the absolute requisite of public appreciation and co-operation.

Amongst the works that we should have named are the chambers, No. 1, Angel-court, Throgmorton-street, by Mr. J. Sheppard Scott, which have a peculiar lofty basement in grey granite, chamfers to the window-openings, polished, as also the reveals of the doorway,—and are remarkable for good grouping, chiefly effected by varied manner of recessing the centre and other parts, the strings in certain cases being carried across, with frets carved on the soffits,—and by the plainness in some of the windows. Messrs. Nicholson and Co.'s new warehouse, in Cannon-street West, is not so noticeable for its architectural merit and its details as for its mass. Near to it, at 44, Friday-street, is a narrow front, which is excellent in the lower part. The chambers on the site of Weavers' Hall, in Basinghall-street, by Mr. Corbett, should also be named. The front of the Oriental Bank, and the altered building of the South-Sea House, display some of the best architectural and sculptural ornament that has been produced of recent years. Mr. Thomas's works are always characterised by invention, by fitting allusiveness to purpose of the building, and by that harmony between the human or animal forms, and the architectural ornament, which is essential to the constitution of the architectonic. Messrs. Munt, Brown, and Co.'s warehouse, in Wood-street, however we may have questioned the propriety of its cornice, has certainly many details of very superior character—especially those of its basement and lower windows,—and the doorway is hardly equalled in England. Clothworkers' Hall, already illustrated by us externally, we must take some opportunity of looking at internally. But several buildings are now in progress, which, judging from what we can see, will in no degree lessen our praise of the City architecture. We may mention the new front to the Peninsular and Oriental Company's premises in Leadenhall street, and the building for the Mutual Life Assurance Company in King-street, Cheapside.

There is, however one question raised by a correspondent whose letter we lately printed, as to the advantage of the gable for general use in the ordinary narrow fronts in London streets, which we must dismiss even in a postscript. It must be admitted that gabled fronts might be occasionally introduced in our streets with good result. But that sort of corrective is not all that is required for due effect of *street-architecture*. It might answer well enough, supposing we chose to be limited to the narrow winding streets of the middle ages. But, length of line modified in masses projected and recessed,—vistas, and perspective, in short, in place of the fragmentary and picturesque,—are our objects in modern street-architecture. Of course consistently with these, the gable might be used with a certain advantage; and we are of opinion that the Elizabethan style in this particular might afford some serviceable hints. But we want regularity and symmetry, and dignity and grace, rather than other picturesqueness of form, or prettiness of ornament and colour: and these objects are to be attained by greater care in the disposition of the sites of our buildings, as by continuance of that regard for their masses and their details, which we have said, we believe is gradually tending to a condition of architecture, perhaps, which the world has not yet known, and which condition needs only for its consummation the help at once of an art-loving public, of the talented section of the profession, who at present choose to be simply "mediævalists," and of a body of architects united as were those of whatever period if history has been marked by the excellence and conformity of its general style and works, and yet by unrestrained variety in the works severally.

SANITARY STATE OF WINDSOR.

We learn, as well from correspondents as from the local paper, that, at a recent meeting of the Windsor Board of Health, our statements on this subject, which first made the facts known to the public, were pronounced "exaggerated and absurd," and that the clerk was requested "to contradict the misstatements made." We have yet to learn whether the Board did this in bravado or ignorance. Certain it is that, within a few hours, comparatively, after the appearance of our article, the reports of the officers of the Government Board, with whom, it may be right to say, we have not had the slightest communication, fully confirmed it. It is shown that the disease has been of the character known to be dependent on the poisons gene-

rated by putrescent matter; that the sewers are not ventilated; and that a competent surveyor has not been employed, and is wanted,—precisely and simply all we suggested as probably the case. We wait, therefore, with some curiosity to hear the clerk to the board contradict our statement; but look rather to receive, through him, from the Board, an apology for their unwise denial. We know nothing yet of Mr. Austin's report but through the daily papers, and are not contented to receive as correct, in all particulars, the abstract which has been given. We are in possession of a number of facts concerning the sewers and condition of the town, and may find it necessary to return to the subject.

STYLE IN ARCHITECTURE.

A GLANCE at the history of architecture presents phases as various as a kaleidoscope: like that it has as quickly passed from one state to another. By the revolutions of time, and by the sway of circumstances sometimes favourable to its progress, and sometimes retarding it, architecture has certainly undergone great changes. At some epochs it has by physical and moral causes been brought to a high degree of perfection; at other epochs it has degenerated. At one age it has been distinguished by models of a beautiful and almost faultless style; in another, men, even professing this useful and noble art, have seemed to have done all they could to dishonour and corrupt it. It is generally taken as a standard of the good or bad taste of the nation. When it is remembered that one of its most necessary objects is to act upon the condition of all men; when it is so powerful in fostering the best dispositions of the human heart; when it is such an inexhaustible resource for minds who cherish a love for the productions of genius; when the labours and useful arts which it exercises, turn so much to the profit of the working classes, whose industry conduces not only to their own moral development, but to the general improvement of society,—its great importance to a country's institutions and laws cannot be too often insisted upon. It is to the interests of professors, of academies of art, of all who have the power to influence the works which embellish cities, and are the strength and glory of a country, to seek to employ continually the fine tact and talents that exist in it for architecture; to purify the national taste, to increase labour by prizes offered to it, and to encourage those who put it in the road to perfection. The only way and means to gain this end is by making its works correspond—not to feeble copies of sublime originals, not to counterfeits—but to the best examples, the choicest models which it can show whether of antiquity, the middle ages, or the modern period, including all schools and all styles. Styles and the orders with the careful study and knowledge of their details, the effects they have, and the modifications they are capable of, are as important and indispensable to architects, as the study of words in languages is to linguists. The beauties of the one bear a resemblance to those of the other. As in language there are words that signify every shade of thought, and some words of the same kind which agree in respect of one thing, but differ in other regards, so in architecture generally, each of the orders and styles that compose it is distinguished considerably one from the other, by a different character, or richness of expression, still having something in common. The styles of architecture, too, are not unlike those of literary composition; there is in each the precise, the pure, the simple, the grand, the decorated, or florid. We shall for the most part find an agreement of the details of civil and religious ornament with the architectural style of each epoch; each mutually acting upon each other; and that every country stamps on the monuments of its art, the character that is suited to it: if they speak truly, and echo the mind of the people, they may be consulted as the true pages of history. Large, rich, and thriving cities have buildings in almost every known style, but it is a fact easily ascertained that the species of architecture belonging to the soil of one country is very different from that which is exotic. Like plants, the arts require a climate favourable to their culture. The ancient monuments of Greece and Italy attained the greatest degree of perfection; and the rich countries, the representative governments, and the temperate climates are the most favourable for a flourishing state of architecture. We do not want to acclimatize the productions of great men of other nations to our country so much as we want by wise institutions and well-dispensed encouragements,—to prepare the soil for growing our own products from deep and vigorous roots. The different styles of architecture have each their own peculiar merits: beauty, elegance, and correctness of form are not confined only to the orders; and if the mind be not limited in its embrace of beautiful objects of any particular class, it will find that beauty exists wherever there is harmony of parts, and does not reside only in the Doric, Ionic, and Corinthian. Supposing each style, by whatever name called, to be properly treated, and the essential and necessary parts properly distinguished, if there be nothing false or frivolous, nothing irrelevant or trivial, nothing useless or superfluous, each may have more or less hold on our admiration. What is required is, that each keep its character separate and distinct from the rest by virtue of its own integrity, not in any way invading upon another's rights and appurtenances, or usurping any property claimed by another; so that we not only view it with ease, and without the attention being distracted or the mind thrown off its equilibrium by a variety of objects, but by being true to its architectural character, we can judge on good grounds of the epoch of its foundation, and get a clue into its origin and vicissitudes, and the state of manners and the arts coeval with it, which are matters of some interest. Their contrast arises from the more or less care and labour and materials with which they have been produced; the different processes by which they were executed; and the opposite leading principles on which they were constructed, and is the result of those principles fully formed and developed. Though diametrically opposite, we may draw from each the laws of taste, and gain an insight into the mental peculiarities of those who originated and worked them.

The leading principles of the Grecian and Gothic, the styles of which have been so well discriminated by Rickman, are as opposite as the poles; but that does not prevent us admiring their different beauties. As each has been made for, so it may be used as, a model; let that model be modified as the mind might with propriety, and allowed license direct, not copying it line by line, bit by bit; but making it another guide in the same spirit and motives as the original, which is a production from which hints are to be derived, after the manner in which the masons of the Middle Ages invented or applied, with a slight alteration, many of the mouldings of their priories and abbeys from the dentils, frets, and egg-mouldings of ancient examples; and in the way the Romans, who were very apt to borrow from nations they had conquered to enrich their own edifices, derived the Tuscan and the composite orders from the Doric and the Corinthian. But even faults, from which few buildings are free, and which the acute, lynx-eyes of the critic may quickly discover in good examples, in grand works which absorb slight imperfections, will not hinder us from admiring them for their character in the main. If each edifice which presents a different style or system, an harmonious arrangement of all the parts, so that none can be taken away or displaced without injury to the whole; if it has fulfilled by the fittest means its end, and realised the destination for which it was built; if formed on the principles of geometry, whatever the kind of construction adopted, with the parts necessary to support it, turned into beautiful ornaments, then accomplishing the twofold conditions required, of duration in one instance, and of economy in the other, it may fairly be defensible against any that may be put to oppose it of another character, and executed on contrary principles. An edifice that has been in all respects and in all cases carried on with means adequate to its completion, according to the rules prescribed for it, and determined by manners and usages, by special and local circumstances, to which it was forced to submit, is not to be censured, depreciated, dismissed with a passing glance on account of its materials, its form, and details flittering from another kind of style of building, which is admired more because its structure or its ornaments surpass it in beauty. A preference, certainly, may be felt, and may be supported by very good reasons. Distinctions are naturally drawn between the different talents and experience which may be manifested in them: and it is well it is so, for too blind a facility to admire everything at random and at hazard, without selection, would tend to suppress sensibility, to banish emulation, to put an end to competition, and discourage merit.

The tastes for style are as various and as difficult to be accounted for as the tastes of the palate; but perhaps there is a style for every one, whatever his partialities, his vivacity to perceive, his peculiar likings, or his mode of seeing and feeling may be, the results of which are so opposite from one another that we might be inclined to believe the objects were looked at through glasses of different colours. These results differ according to the justness of mind with which they are compared: some have the faculty to seize in every object the decisive and essential point, and to take off the mask from things; whilst others are deceived or dazzled by foreign or accessory objects. These results are attributable, therefore, generally to the keenness of those persons seeing these styles, and the acuteness with which their senses are exerted upon them. But those who have a purified and refined taste, and penetration of mind enough to discern among a number of specimens where each solicits attention such as possess qualities of a higher kind of beauty which may escape the notice of others, are superior beings; for they are able, in judging of the nature of objects placed before them, to separate or to sift the flour from the bran, to distinguish true glory from that which is only the shadow of it, to reject what is worthless, and to retain only what is valuable. All men are liable, in judging of what is intrinsically excellent in works of art from that which is mere vain-glory, to be the dupes and victims of their own prejudices. Critics are by no means exempt. Precipitation, over-confidence, and pride are the sources of many of their errors, and the only advice to be given to them is, never to pronounce judgment on the beauties and defects of any work without due examination. We cannot hold with that one-sided criticism which, admiring exclusively one style, praises it as if there were no other in existence, rejects every other as bad, or as a perversion of what is right and proper. It is the great number and variety of styles which make up the riches and resources of design in architecture, which supply every possible demand, which prove the fertility of invention; but there would be none of these resources, and the gate would be shut against all improvement or progress, if there were only one dominant and universal style, the idea of which was proposed by Scamozzi. It is out of such plentiful store of variety that the mind learns to think, to choose and form its taste, and draws many advantages; for it is only after having compared a good deal from a multitude of objects that we learn to choose well. Of course different impressions are made by the different compositions of architecture: hence a little or mean style, a style of austere beauty, greatness of style, a masculine and noble style, are epithets naturally given to buildings as these qualities more or less prevail in them. Newgate prison conveys to the mind feelings and sentiments quite otherwise to those which a light and airy Chinese pagoda or kiosque would produce. Westminster cloisters or the abbey are not regarded in a manner as would be Sir Christopher Wren's own monument.

We see the necessity of giving to every building an expression, characteristic of the object for which it is erected, for magnificence is always to be proportioned to the grandeur of the object. This is more especially to be studied in edifices dedicated to worship and prayer, where everything ought to be in harmony with and indicate the holiness of the place, and with the majesty and sovereignity of God who fills it. Beautiful things are for the beautiful. Even the heathens made the pediments of their temples, the bas-reliefs and metopes of the friezes, historical and not merely decorative, representing subjects relative to the dedication of them, and to the legend of the god or hero to whom they were consecrated. To our Templars and Crusaders we owe several round churches; to the most sacred edifices they gave a form the most perfect. Those erected on the plan of the Latin and Greek cross, so admirably adapted to processions and to solemnities of the Christian religion of which they bear the symbol, cannot be surpassed for the effect of

> "Their long-drawn aisles and fretted vaults,
> Where pealing anthem swells the note of praise."

But whatever the building, religious or civil, the style may be varied infinitely by altering a little more or less the height and projections of different members which compose it, and, though the gradations of those details may be thought trifles, yet they make up the effect of a great work; as also does more or less ornament or more relief given to it; or by combining the parts in a different manner without destroying the uniformity and repose which ought to reign through the whole, for you never can find that in the whole which you do not find in its parts. Whatever the style selected for execution, to whatever purpose its application, it can perhaps offer variety enough to gratify all the feelings and sentiments of the beautiful and the love of that which pleases, of which differently constituted minds are susceptible. In some countries each province, each canton, each colony, has its own

particular species of monuments, so infinitely varied are they; these are kept apart from and unalloyed with mixture from others. It is curious to observe what is sometimes owing to convention which has often had the force of law, or some isolated and singular creed. For instance, once hunters and foresters constructed their dwellings in a tent-like fashion, and they had all the appearance of a camp; old soldiers pensioned off in a new country generally have each their shingle cottage and regular allotments on the settlement, after the same pattern; the Mussulmans have proportions prescribed for their buildings according to the sect of those who inhabit them; the plans of some old mansions and villas in England and elsewhere have been formed on the initials of the proprietor's name; the *chalets* of Switzerland look well among the woods and mountains, lakes and pastures in which they are embosomed; and Roman farmhouses and road-side inns add a truly Sabine feature to the *Campagna*. Each has its relative value as an object of art and one identified with its natural landscape; its eligible position, and the little exercise of art, but the great effect arising from it; its beauty varying and modified by the various localities, are things that are not unworthy the eye of the artist. So there is all the difference conceivable found between the costume of human figures and scenes appropriate to them or otherwise: as a woodman, with a blouse on and red cap among the trees, looks picturesque enough; but not so harlequin in a company of divines. Just as men and camelions, mirrors, water, and many other things take their complexion and their hues from the colours and shapes of objects with which they are in contact, so buildings owe the character of their different styles and constructions to the soil on which they are placed, and the circumstances by which they are surrounded. In comparing the different Proteus-like forms which architecture at different times and in different countries has assumed, it we trace the intimate and inevitable connection that subsists between the dogmas cherished, the ceremonies celebrated, the influence of climate lived in, and natural dispositions experienced by different nations, with their monuments which correspond and give expression to them; if each has its own genius; if the parts of each are so bound together, so well concerted and dependant on each other, that it is impossible to derange them without disfiguring the whole; if each has something to approve, something which marks a cardinal point in the history of the people; something to which we can give our praise, on account of an essential character which distinguishes it from every other; something which is stamped with the genuine coin of the true artist; some unique beauty, and indeed the proper costume of the country to which it belongs; if it is in keeping with all these things; to consider the difference as a deficiency in it, to construe it into an inferiority does not seem a sound judgment, an impartial or unprejudiced criticism; it rather seems to be calling in question the capabilities of those who composed it, and of quarrelling with that which sprang from the nature of things. It is not right to find fault with that which is found to be conformable to reason, and speaks the same language as that of nature. But only let the taste be wide, universal, and eclectic, it will welcome beauty and appropriate it wherever it exists, and it will allow and admit the beautiful in architecture in whatever form it may appear, in whatever style it may be moulded, at whatever age it may have been perfected, and in whatever country it may have been produced.

Before works of fine art existed, all the ideas and first attempts of them had their origin and models in the productions of nature. What God had created man imitated in a rude manner, yet such as fully satisfied his wants under the good which prompted him to shelter and protect himself. He hewed down the trunk of a tree—perhaps the pride of the forest—to bear up the roof of his humble hut, but though in point of art humble, it was interesting, because it was useful and necessary. That trunk was the germ of what, in due course of time, became an excellent work—the beautiful column of the ancient Grecian temples; the proportions, diminution, and swell of which were worked out with the most elaborate care and finish. The beauty and elegance of these columns, for which they were proverbial, were far above that of all other previous ones. What was once solely an object of simple utility, was converted, in passing through the fine skill of the Hellenic hands, into an object passionately loved and gazed upon by the refined minds and intellectual eyes of most enlightened poets and philoso[illegible] Athens in particular. [illegible] already [illegible] pediment. Had the Greeks (or the Egyptians, who gave the first models, though they were surpassed by their successors) lost sight of the laws of nature, or the forms that rivet and charm the senses, they might have made the column square; but nature shows nothing square, and so they made it round. Yet from the perfection of faculties they acquired by the constant good use they made of them, they were not likely to adopt any other form to give an air of majesty to their temples, but the circle, symbol of perfection and an essential part of their system. They never abused these columns, and employed them only in sacred edifices; indeed, a law was passed prohibiting private citizens from appropriating them to their dwellings. Nor were they admitted merely for ornament, but they had a character of the greatest utility, and were most necessary as well as most beautiful parts, from the proportions assigned to them contributing alike to the stability and extreme simplicity of their edifices. They varied and altered the character of the temples they required for their paganism, by means of the number and arrangement of these columns, so that there was not wanting unity with variety. Perhaps there were no two temples absolutely alike, but each was homogeneous, and nothing compromised their dignity. They never reproduced the ornaments of decoration, and yet gave them continually almost imperceptible gradations, preserving one same uniform character. Each of the orders differed as to its height and enrichment: as the Tuscan, in order to be more simple and more massive than the others, is less elevated than any other; and the Corinthian, to be light and delicate, is more ornamental than the rest.

The Romans likewise graduated the Corinthian order, as others, by the difference they gave in the profiles as in the number of mouldings and sculptured ornaments. Remark the simplicity of the Parthenon, of the Temple of Antoninus and Faustina, of the Arch of Constantine, &c. compared to the richness of the temples of Jupiter Stator, of Jupiter Tonans, of the Nerva Forum. Most of the great works of architecture in various styles since produced by eminent men of other nations, owe their construction and their decoration to the consideration of the noble member, the column especially; but to all the members which once invested buildings with a beauty and grace which has no parallel. The principles they display, like the works themselves, are lasting; and time, with all its improvements, will not diminish their importance, because they will always be a sure and unerring basis for the study of architecture. The great thing also with these architects, and the point so recommendable in their architecture was unity—unity simple and indivisible. Unity of effect is indispensable to the beauty of every edifice, whatever its description of style; for style, to be well treated, to be efficient, to be confounded with nothing that does not belong to it, where nothing is seen contrary to or tends to break the unity of the whole, contributes to the excellence of a building in a high degree; but there is nothing so bad, so vicious, and the sight of which we try so much to avoid, as the incongruity that is caused by the mixture of two or more different styles in the same edifice. Compare two edifices, the one regular and well appointed, the other loose, the parts not well kept together, and not united with one accord,—irregular: you see at a glance that, in the former edifice, unity, harmony, and mutual fitness of the parts—harmony of sculpture with the architecture,—constitute the form and essence of the beautiful in this, as in every other object of contrivance and design; that it is invariably the form of every kind of beauty,—pleasing the eye, satisfying the reason, because congenial with and conformable to the ideas of every well-regulated mind; because it is like all the works and operations of nature, an evidence of the unity of one mind, of the same great and necessary law of order presiding over the smallest details, as much as over the whole. The Greeks, in that prosperous reign of the arts and eloquence, during the brilliant interval between Phidias and Lysippus, in their love of truth and enthusiasm of beauty of all kinds, ever kept their sight on this unity and simplicity in their temples; and in the composition of their statuary, which, it is well known, they carried to the most sublime perfection, in their gracefully carved furniture, in their storied urns and figured vases, the same law also obtained. In such things, and in everything, they always sacrificed to the graces. Taste dictated whatever they did. The more we study and reflect repeatedly upon these works, the better for us, for they are the criterion and foundation of every beauty. The more, too, we shall see the excellent traces—precise, fixed, and determined—by which they were guided, as well as the reasons of them; for, like true artists, they had a reason for, and could justify everything they did.

Deducing principles for their favourite art from the observation and imitation of nature, always admirable, they considered that in architecture no ornaments were perfect unless they bore a character of utility, none of them to be introduced for mere show; and that in sculpture, such a powerful auxiliary to its effects, everything which was for utility should be made at the same time a picture to the eye, and instruction to the mind. The natural, unobtrusive air of their temples, which seemed to require little aid of ornament to adorn them, but whose commanding simplicity was augmented by the judicious use of it, was like the well-adjusted dress of a lovely woman who does not wear that which would make her appear rich, but that only which really sets off her beauty. A celebrated French historian and poet aptly describes one of that kind of temples, and the causes of its attraction:—

> "Simple en étoit la noble architecture,
> Chaque ornement, à sa place arrêté,
> Y sembloit mis par la nécessité;
> L'art s'y cachoit sous l'air de la nature
> L'œil satisfait embrassoit sa structure,
> Jamais surpris, et toujours enchanté."
>
> *Voltaire. Temple du Goût.*

The ancient Greeks also showed they knew well how to blend and unite the useful and the agreeable as another point of perfection; and they eminently excelled in joining solidity with delicacy. We should never cease to consult them in the science of construction, of which they gave full and positive proofs of their skill; nor forget that in harmonious decoration they had laws which governed them, and they were chiefly these: that nothing could please or make a strong and durable impression but what was proper; that beauty, always subordinate to utility, was yet in all works a brilliant accessory; that nothing could be beautiful that was not true; that what was good and of great public utility should be rendered splendid. Although we are ready to appreciate the inventions and advantages of our own times, we must confess that we can show but a small number of erections in the architectural and monumental art worthy of those which were conceived by, and which have been transmitted to us from those gifted men of old. In the age of Pericles that golden age of taste, when arts and literature verged towards the beautiful and the good as their natural element—one was not allowed to introduce in the decoration of the temple of the Doric order the Parthenon, for instance that paragon of buildings ornaments belonging to the Corinthian order, and still less to use two or three orders in the same edifice; so much did the Greeks follow the principle of unity, and apply it to the arts, but especially to architecture. The Romans, great in all things they undertook, yet contrary to their predecessors, diverged from those principles of order and unity, and extreme simplicity, and were guided by no other rule than grandeur, no other taste than magnificence. They were, however, animated by a noble spirit in adorning their eternal city, similar to that spirit which urged them to fight battles, and to gain conquests: in these they were the masters of the world, yet they were jealous of meriting another kind of glory, and after aspiring to the honours of war, they sought for laurels in the arts of peace. The effects of their famous fabrics were extraordinary, superb, and of an imperial splendour, and excite now even in ruins, as when in their greatest glory, the highest admiration, as will be allowed by all who have trod the Sacred Way, and mused on the banks of the Tiber, or have studied designs of the restorations of classic temples, or pored over the collections of Leroy, of Fontana, and of Piranesi. The proud monuments of the past grandeur of the Acropolis of Athens, and of other cities of Greece, and the world-renowned Forum of Rome, are inexhaustible mines, whence the student may draw abundant riches. It is for him who is ambitious of arriving at perfection of style, to give assiduous and almost exclusive study to the great models of the schools of Athens and of Rome. The moderns must frequently recur to them; they must nourish their minds with the fruits of the genius of antiquity, acquiring strength to bring forth their own in due season; they must seize the same spirit that animated them in order to revive and put into practice the same principles which the ancient masters pursued. But, however invaluable the legacy of the ancients to the moderns is, if they know how to turn it to their own profit and success, by arriving at different results from those which their predecessors obtained; yet in taking the art where they left it, they should carry it

forward, in studying the great works of the past, and in penetrating their minds with the expressive beauty chosen for imitation, and through that they should endeavour to arrive at a new kind of work, perfect and entire, wanting nothing. Ancient architecture adopted certain and unalterable rules, so natural and so necessary, that it has been almost always impossible to violate or neglect them, or to exceed their limits, without detriment to the design or often loss of reputation to the artist, who cannot presume to frame any laws better than those established in nature, and tried by long experience. Very few are those instances of greatness of action achieved without any model to follow. To depart is almost always to err; for it is in the power of so very few "to snatch a grace beyond the rules of art." It is very rare for genius, that disdains to copy and to be fettered by rules; or qualified and practised routine, that works without fear, and with facility and command of forms, to be so safely independent as to prescribe for itself, and to produce from its own unaided resources a work of original invention, natural, graceful, and energetic in style,—a work of ideal beauty, which reveals itself only by inspiration to the soul of a great artist. A fine and strong imagination is required for all great things, for it is that which decomposes, reunites, or divides sensible objects with the view of creating new ones.

Those rules, above referred to, have never been surpassed by the innovations, first of the Romans, and afterwards by other people; their labour has been cast away, the results of it ridiculed and rejected. It was in Italy, especially, of all countries, and there as much, perhaps more than elsewhere, that the transition of the ancient architecture with the new manifested itself in many buildings of renown—buildings on which sometimes the greatest and most celebrated architects of their age were employed; in the churches of St. Antony, at Padua; the Duomo at Pisa; in St. Petronius, that large and interesting, but disfigured church; in Bologna; in Rome; in the cathedrals of Florence and Milan. Byzantium was quite a nursery or seminary for all sorts of styles—Grecian, Egyptian, Italian, European, and Asiatic. Here the confusion and the derangement of the orders and their styles, was carried to its greatest excess, and led to the degradation and decline of architecture, which was the cause, or accompanied the ruin of empires and the fall of states once firmly established. The position of the new metropolis of the Lower Empire on the confines of Europe, and its continual relations with Asia, procured its inhabitants new riches, but far from making the arts prosper, they lost by such vain accessions; they imitated the sons of a race, who, when degenerated from their noble sires, unable any longer to make their architecture and sculpture beautiful, made it rich. When by force of arms Asia Minor was disclosed to the eyes of the Arabs, Turks, and Mussulmans, they abandoned the former simplicity of their dwellings and palaces, and bore away from that rich country the fine and the useless, the ostentatious and the superfluous. From the wise, well-considered, and severe beauty which had formerly characterised their best pieces of art, they had wilfully departed. In statuary and painting, as well as in architecture, the artists of Constantinople often substituted the natural by a barbaric and lawless taste, grace by bulk, elegance by ostentation. It would seem that the principle of their art was its abuse, and the abuse of the best things which constitute art; for there was abuse of energy, of precision, exaggeration of details multiplied without any limit. It was the art of a people varying on their decline; who had an inordinate love of high novelties; who wished to show their strength by excesses; their wealth by their profusions; their force by their caprices.

It is often a matter of regret to see in many buildings how a departure from established precedent in design and good style has been a snare to architects attempting to introduce something novel and excessive,—something foreign from simplicity as from common sense, and only for the sake of some surprising novelty. How much architecture has suffered from an unruly desire of striking a parade of eccentric forms and strange grotesques—dreams of a distempered imagination—while if a more methodical, better directed, and more correct manner of treating it would not have shown a better judgment and guaranteed a more satisfactory effect. Besides, the evil is, that defects and vices of these kinds are engendered by degrees and become common and almost universal, if superior architects do not show them the route they ought to follow, and produce superior examples themselves to counteract their tendency and to prevent the contagion from spreading. It is to be deplored that in many rich and civilized countries from this neglect and absurd practice you might think that architecture had no friends to preserve it from corruption; and that it was ebbing low whilst other things were flourishing around it; for some of the finest churches and some of the most remarkable edifices are spoiled in a great measure by a mixture of styles; a shocking contrast of forms; Jesuit's architecture, for instance in juxta-position with the French Renaissance, and a discordant mixture of the principles of the Classical orders with those of the Middle Ages. They might puzzle a learned antiquary; and one might almost say they were museums of architectural metamorphoses. We are sorry to see such a spirit of rebellion and nonconformity existing among architects, who from time to time have, when employed upon them, utterly destroyed unity of plan, structure, and decoration, owing to their want of unanimity, effacing historical subjects and ornaments that were originally intended to illustrate and were connected with the destination of the edifice; indulging their own individual desires and opinions without any regard to the demand of such a monument, or the embellishment it would be to the city, and the useful purposes it would serve, if properly restored and completed according to the views of the first designer.

We wish that they had all concurred and co-operated with one aim, and been animated with the same thought of art and intention of work, and result throughout as originally devised, instead of their own notions and principles being confounded in a single edifice. It is true that each of the styles may be perfect in its kind, but then it is impossible to view the whole with that distinctness, with that force and clearness which are impressions which one entire and perfect edifice should give; a variety not of that sort which we seek, for it is a variety that confuses and embarrasses the judgment, which does not supply the mind's want of repose, or offer any unity to bring it to a focus. As a contrast to instances of buildings, the effects of which are marred by a mixture of Greek or Roman antiquity with the Gothic, and which resemble ill-assorted marriages, take a building in which there is found such a harmony and such equality in all its parts as bespeaks it to have sprung from the same head and hand combined. Europe can yet be justly proud of certain remarkable edifices rendered perfect with respect to their unity of composition, and the entire and satisfactory impression which they thereby make. Our ideas and our thoughts easily put themselves in unison with them. Examples of some of these are the church of Ste. Génevieve, the church of the Invalides, Sainte Chapelle, the Town-hall, the Granary, the Corn-market at Paris, St. Paul's, Somerset House, the Banqueting Hall, Whitehall, the Houses of Parliament, London; Greenwich Hospital, and Salisbury Cathedral, without mentioning others which may be placed in the same rank. Of the contemplation of these we can never tire; the discovery or greater appreciation of some beauty which before escaped us, will always repay attention, and reward repeated surveys. The lives and characters too of the eminent men corresponded with their works; they had truly great talent; upon them their reputation and their fame rest; and their influence on their own age and on future ages is their best monument.

FREDERICK LUSH.

THE OFFICE AND DUTIES OF ARCHITECTURE.

QUEEN'S COLLEGE, BIRMINGHAM.

THE introductory address of Mr. John Henry Chamberlain, Professor of Architecture to the College, treated of the office and duties of architecture.* After some introductory observations, he proceeded thus:—

We in the present day are still earnest in the pursuit of beauty, for the love of it is a love that nothing can entirely quench, but we are utterly destitute of any leading idea by which to guide and around which to cluster our various efforts; and, as a natural consequence, that on which we calculated as an adornment too frequently serves only to disfigure. At the present moment we have no really national architecture, and no national school either of painting or sculpture; and, therefore, all the minor arts languish and are perverted and debased. If the manufacturer, goaded by the dissatisfaction with which his works are so often regarded, desires to produce something which shall better satisfy his critics, he neither knows to whom to apply, nor where to turn; he steals an idea from this man and a thought from another, but with no other result than a miserable one: he sets boys and men to design before they are either disciplined or educated for such a work, and finds, to his everlasting surprise, that the workman who can make a good chalk drawing from a cast, and has a portfolio well filled with sketches from the antique, cannot design so much as a milk-jug tolerably, or the pattern for a ribband. I have no hesitation in saying that, although vastly improved—and, I hope, every day gradually improving still more—the ordinary works of our manufacturers are devoid of any real merit, in an artistic sense. Their stoves may be good, but they are ugly; their gas-fittings mechanically perfect, but they are, for the most part, hideous: their metallic bedsteads may be clever, but the decorations bestowed upon them are absurd and outrageous, and as specimens of design in metal work they are far behind that of those country blacksmiths who lived and worked hundreds of years ago: in short, the whole range of what I may perhaps term domestic manufactures—things, that is to say, intended to be daily seen, used, and felt, are distinguished by the absurdity of the decoration lavished upon them, and their resultant hideousness. I will ask any one who has had any thing to do with manufacturers, confident that I shall have an answer in the negative, if he has found in the ordinary workman either capacity or desire to improve the character of his every-day work by the importation into it of any feeling of the beautiful? If you want any little thing done at all out of the ordinary way, and calling for just a little thought and just a little knowledge of the way leaves grow in hedge-rows or flowers spring from stalks, you cannot get it: you cannot get the men even to see the difference between the work you want and that which they give you. I ask you to look at simple things to test the truth of what I am saying. Look at the patterns, for instance, on lamp glasses, for they are common enough, and see if they are good: test them by bygone work, and see how far short they fall of the excellence it reached: compare the flowers with natural ones, and think favourably of modern work if you can.

Again, supposing you want some little bit of stone or wood carving done at your house; perhaps a crest over a gate, perhaps a memorial stone: you have to send out for a man to do it, and you find him with difficulty; and when he is found, ten to one, the leaves which he has carved are dead, and the faces hideous. Try him with a tombstone—ask him to design one, and see what he will produce. Do you take much notice of those elegant memorials which fill graveyards and cemeteries? for, if so, you must often have seen how essentially ugly and tiresomely stupid the majority of them are; and yet in each separate stone there are space and means for no little evidence of the beautiful. There has been more than one era in the world's history when every such separate stone would have been a separate work of art, full of variety, yet perfect in unity; the true unity of the will showing out all the more clearly from the independence of individual action. But, leaving the workmen for a time, let us see what appreciation of the beautiful is displayed by his patron or employer. Do you who buy chairs and tables, looking-glasses, or chimney ornaments, study the forms and shapes of that wretched upholstery you buy? Have you ever studied the ordinary ornamentation of a looking-glass, or the back of a sideboard? Do you care much about the beauty of the pattern of that velvet with which your chairs are covered? Or do you know that in your crowded drawing-room you have jumbled together the works of differing and discordant styles, to the loss of any little value which the separate articles may have originally possessed? And is it not the fact that you have bought this, that, and the other costly piece of furniture, on the strength of the interested advice of the shopman, backed by the whispered intimation that some one notorious for a long purse has purchased a similar costly article the day or the week before? And what comes of this state of things, but the daily degradation of the popular taste, and the daily strengthening of that popular error, that there is no such thing as right or wrong in the kingdom of the fine arts; but, as they say, "tastes differ," and so the dictates of individual caprice may be both safely and profitably followed.

Again, let me call your attention for a moment to another branch of art, that great and beneficent art of Painting. Perhaps, of all the arts, this is at the present time the most popular: people seek their pleasure in the picture gallery, and find it there: they ask for prettiness, and they get enough and to spare: they ask to be amused, and the painter tickles their fancy most pleasantly:

* Cornish, Brothers, Birmingham.

they want the sentimental, and they get it; the melo-dramatic, and they find that too: pretty children, pretty fields and trees, pretty sheep and rabbits, returning prodigals prettily conceived; pretty firesides with no skeleton in the closet in the corner, all these they obtain plenty of, and are satisfied. But occasionally, and of late more frequently, before the eyes of these pleasure-seekers a work is placed with some earnestness in it, some truth in it; something in which the first thought is not whether it shall please, but whether the work when done shall be right and good; a work which forces itself upon the notice whether we will or no, and with that terrible earnestness so appalling to those who like all things to be placid, and gentle, and mild—who assent to many things and believe nothing. Then these—and their name is legion—cry out against such a picture; refuse to see any merit in such a picture; ridicule the man who painted it, and the school to which it belongs. This is the appreciation which the good work gets: let those deny it who can. Then, as a rule, painters whose pictures must sell or themselves starve, are forced to paint down to the public appreciation; and the noblest art which any man can follow becomes altogether ignoble and valueless. And yet there was a time, a glorious time, when all painting was valuable, and its every work in measure noble; a time when painters, with a humility which we cannot understand, painted just whatever subject was appointed to them, with a uniformity of success which we are beginning to appreciate: they were sure of their judges, while their judges and employers had equal faith in them; and neither were disappointed. Must not Cimabue's heart have been glad as they carried his picture through the streets rejoicing? And would not such appreciation and such reward make his labour more constant and persevering, and strengthen him in those hours of depression so common to all, when even the strong man doubts his power, and the wise sees in his wisdom but foolishness? The art of the Middle Ages will also show us that the ordinary stone mason and carver turned into the beautiful or the terribly grotesque all that his chisel touched; and in other eras, as well as in that noble one, we may most clearly see that furniture and manufactures, great things as well as small, were at once beautiful and appropriate, and their owners admired and were satisfied with them, as well they might be; and yet we who have in so many ways advantages immeasurably superior, come, as we have seen, so far behind in all these things.

And why? Because architecture has neglected her chief duty, and has abdicated her rightful throne as the governor and ruler of the whole kingdom of art. She, whose duty it is to provide food for that spiritual want of man, which, as we have seen, craves so constantly for the beautiful, has neglected her duty and abdicated her sovereignty altogether. For even where she has not exalted ugliness into high places, as she too frequently has done, she has neglected opportunities that were presented to her; and what with her pride and what with her indifference, she has withdrawn from exercising any influence or rule whatsoever over the greater part of her once flourishing domain. It has been now for a long time very immaterial to her whether her works were beautiful or not; and so, disappointed and neglected, what wonder is it that men have sought out food for themselves, and gathering their wild grapes from any hedge, have not found out till too late that the food so eagerly gathered was poisonous. For out of the unbridled license of individual taste no good can come, law and order being necessities here as elsewhere; and there being no such thing in fact as many "tastes" in art, the real number being only two, the one right and the other wrong; and the duty of architecture is to choose out the right, without stopping to consider whether or not such a course will be the most pleasing to them. And so far is this true, that if Art strives only after the beautiful, and not after the right, she sinks at once into dilettanteism, and ends by losing altogether her care even for the beautiful. Let us but restore or regain a good and national style of architecture, and we shall soon find that those arts without which no architecture is perfect—arts which are, in fact, part and parcel of her substance—will soon become national also, and will advance to a degree of perfection of which we cannot at present form any adequate idea. Painting and sculpture unnaturally divorced from architecture must ever languish, must ever become dissolute; but set the sculptor to fill the pediment or the niche, give the painter the panelled wall space and the breadth of the vaulted ceiling, and then see what new strength and new power both painter and sculptor will assuredly find. They will be working to a definite end, and working in unity; and though it may seem to some that their liberty is thereby checked and their freedom interfered with, let them think that this will be more than compensated by the concentration of their energies and the fixedness of the determination and the will. Then, with these greater arts properly regulated, how surely would the lesser ones be rightly governed also. It would be seen that if sculpture and painting must be in unison with architecture, the lower arts must make part of the same family also; and the designer of manufactures would receive his education in the architect's office or the artist's studio, and would learn that such neglected qualities as fitness and convenience must be studied and secured in the first place, and that ornament must adorn and not encumber. And so in a coming day, which I trust is not far distant, it will be seen that all art is one, and that he can best design small things who can design great ones well; and that a man fitted to build a townhall, or to be entrusted with the erection of a church, ought to be better qualified to make ordinary manufactures decorative, than one whose whole qualification consists in readiness of appropriation and ability in copying acanthus leaves. In that day the architect will be sculptor and painter too; and the painter will have a better place for the display of his works than the exhibition-room; and the sculptor than the bleak street corner, or the dull walls of desolate churches. And in that day, I do most earnestly hope, that all building will be architecture, and thus in its measure beautiful. For building our streets and towns as we now do, we enclose our poor, our artisans, and a great portion of the middle class population, in a brick prison of constant ugliness, from which, month by month, and year by year, there is less possibility of any escape. We doom thousands of our fellow men, who, when children, rejoiced as much as we did to see the primrose and the violet budding in the spring, or the butterfly closing up his burnished wings in the sunshine · these men, I say, who were created with powers of enjoyment similar to our own, and with at least an equal need for that spiritual food for which they ask because they want, we doom to pass their lives in perpetual exile from those beauties of the natural world which they so deeply love. Perhaps not unnecessarily doomed; these, too, being in some sort "our conscripts." Yet what a different prison-house theirs would be, if the rich who build and sustain it, knew but enough of their duty to see that the compensation which I have said is the first duty of architecture, is most imperatively necessary here; and that it is possible by building beautifully and well, to secure even for those tied through a lifetime to the city or town, at least such measure of the beautiful for their daily contemplation, that their natural love of, and desire towards it, shall not be utterly quenched or destroyed as worthless. Such then, I think, is the office, and such are the duties of architecture: it now remains that we briefly investigate the necessity of this office, and these duties being more generally understood.

Let me then divide those to whom a knowledge of architecture would be valuable into three classes:—1st, the public generally; 2nd, the historical student; and 3rd, the architectural student. I need say but little with reference to the first of these divisions, because I think it will be evident, that if I have not in the preceding part of this address arrogated to architecture too important a position, or too high a place, that very importance, and the wideness of the interests involved in it, are in themselves sufficient reasons why the public generally should be enabled to judge better, and more accurately, not only of the real nature of their architectural wants, but also of the ability of the architects they employ rightly to administer to those wants. For I think that there are few architects, even among those who profit by it, who would not be ready to acknowledge that owing to this general ignorance, a vast quantity of work is palmed off upon the world as architectural, which has no manner of right whatsoever to lay claim to any such dignity. And again, all men, as Mr. Ruskin has remarked, having to do with architecture at some time or other of their lives, and having either to build, buy, or rent, houses or shops or offices, or buildings of one kind or another, there does seem good reason for their knowing so much of this science as would serve to prevent their reposing too blindly on the judgment of others, and would enable them in some measure to judge for themselves. Nor need any real architects fear any such growth of knowledge on the part of their clients: it would be a help to them and not a hindrance, and they would reap the advantages continually, of more perfect appreciation, and more firmly placed confidence.

But with regard to the historical student, I must be permitted to say a few words, because it seems not a little extraordinary to those who are at all conversant with the history of architecture, and the revelation opened to us by works of art concerning their originators and builders, that this study is not far more frequently made part of a general education. For the history of architecture is not merely the history of ornamental art—not merely the tracing the way in which one style of ornamentation fell and another arose; but it is in reality a history of the inmost heart and mind of its designers and producers. For instance, I do not think that any one unacquainted with the architecture of the Greeks, can thoroughly appreciate the extraordinary refinement of intellect which that nation displayed; but the truth is impressed upon us, indeed, when we find that in their buildings, such as the Parthenon, every line and angle was calculated with the most extreme nicety, and with such wonderful success, that the optical delusions, so frequent in inferior architecture, were entirely avoided; and yet, the means for their avoidance, conducted with such skill, that it is only by having recourse to most careful measurement that the fact is ascertained that the perfection, that is, the intellectual perfection, of such architecture, is not accomplished by chance or happy accident, but is the result of foresight and contrivance, and of the most pains-taking accuracy. Every dot of stone in a Greek building has its special value: how many tons weight might we not take from some of our modern ones, with no positive loss?

Again, in the great school of Mediæval art, what a revelation do we not find of the inmost thoughts of those earnest workers. Surely there were never men who loved the beautiful more sincerely; or saw what was right to be admired, and worthy of imitation more clearly. Yet, we are apt to think them stern, rugged men—we call the ages in which they lived the "dark ages;" and a few years ago, all thought these early builders were gloomy ascetics, with no love in their hearts, but for a harsh round of religious observances. But what has the study of their architecture revealed to us? Their literature was admired long before their art-works; but it might, perhaps not unreasonably, be thought that Chaucer stood alone in his sympathies, singing such words as these:—

"Wherfore I mervaile greatly of my selfe,
That I so long withouten sleepe lay;
And up I rose, three hours after twelfe,
About the springing of the day;
And on I put my geare and mine array,
And to a pleasant grove I gan passe,
Long er the bright Sunne uprisen was:

In which were okes grete, streight as a line,
Under the which the grasse, so fresh of hewe,
Was newly sprung; and an eight foot or nine
Every tree well fro his fellow grew,
With *bowes broade, laden with leves newe*,
That *sprongen out ayen the sunne sheene*,
Some very redde, and some a glad light grene.
* * * *
And as I stood and cast aside mine eie,
I was 'ware of the fairest medler tree,
That ever yet in all my life I sie
As full of blossomes as it might be:
Wherein a goldfinch, leaping pretile
Fro bough to bough, and, as him list, he eet
Here and there of buddes and floures sweet."

But, indeed, while it was given him and others to embody such thoughts in words, a host of humbler men had put the same poetry into forms cut out of stone, times without number. In every cathedral and abbey, almost in every church, we find the carver's work bearing its testimony to its maker's love of the oak and the ivy, or the fair tendrils of the young vine, and the pleasantness of its leaves; for in their work they placed the likenesses of the flowers of the field and the fruits of the trees, not forgetting the birds singing in the thick branches, nor the wilder plants which trailed themselves about the stems; not forgetting, indeed, any of the natural beauties which then, as now, adorned the pleasant places of the fair country, covering it with delight. Then how well they loved a noble action, or a gracious one: how tenderly they thought of those so dear to them, but gathered to their long rest: how quietly they laid them on the tomb, with the hands uplifted in prayer, the head supported by angels, and the symbols of worldly prosperity or pride banished to the feet: what majesty and sweetness they portrayed in the faces of those recumbent figures, and how they must have loved and reverenced such traits in the faces of those yet alive! Then how satirical they were: how they could ridicule the vices of the monks, and how they could show their hatred of tyranny and oppression! And, again, what a fine love they had for the grotesque and

monstrous! the old nursery tales of giant and monster are better understood when we see in what these men believed, half in earnest and half in jest. I have not time this evening to enlarge upon this subject, but I hope what I have said will at least suffice to indicate to the general student, what he may not unreasonably expect to gain from the prosecution of this study.

And now, by way of conclusion, let me address a few words specially to those architectural students who are looking to this art as a means of earning a livelihood.

There is a state of ignorance which is positively disgraceful; and there are many architects who have never emerged from it. The public has not been a very exacting public with respect to the abilities it required in its architects; because the art has been so little understood, and so little cared for. But we have reason to believe that the evil day is fast passing away, and that awakening to a sense of the true importance of this art, the world will require better service from its architects than has lately been given. There are certain things which you ought to know, and must know, and yet which I am well aware many of you do not know. The history of your art is one of them. It is a study in itself most entertaining, and certainly most necessary; and it is a thing more disgraceful not to know, than praiseworthy to have made an object of study: indeed, to the young architectural student, its mastery should be his first aim. The elements of construction should either follow immediately, or be investigated simultaneously: the simple theories on which the ordinary practices are based are easy of acquirement, and your own observation must assist you in enabling you to judge how far they are calculated to provide for new requirements, and to meet new exigencies. The art of drawing will be your right hand: geometric and perspective drawing you must understand thoroughly; and you will never make an architect worth calling one, if you neglect free hand drawing also. Indeed, you cannot push this art too far, so only that you follow it wisely: it is your principal means of expression, your peculiar language, and the more perfectly and fluently you can discourse in it the better. Especially you must not neglect that branch of this art which you will particularly need in communicating with the workman; and so you must be able readily and unhesitatingly to draw or set out all kinds of carpenters' and joiners' or stonemasons' work, to its full required size, in such manner that the workman may plainly understand your meaning and appreciate your intentions. The builder's workshop is an excellent, and indeed the only place in which to study many working details properly. You have, next, to learn the art of design in all its various branches; and for this you must have a special and natural gift, otherwise you can never acquire it. And in learning the rudiments of design, patient investigation into the causes of the success of old work will be of great benefit to you. If you go to a church, or a cathedral, and see anything which particularly pleases you, try and find out the cause, and, if possible, measure accurately the work you admire, and transfer it to paper. You will drink in the spirit of the old artists unconsciously while doing so. Then, in making or trying to make original designs, begin with small things—with windows and doors—before you try your skill with a house, and with houses before you try how you can succeed with a palace. I believe it is no uncommon thing for a very young architect to select either a palace or a range of Government offices as his first great trial of skill; and certainly it serves this good end, if he is wise—it gives him an excellent opportunity of seeing how great his folly is. But whatever you do, do it with your whole heart. Let us have no inefficient workers amongst us, but men who, working with heart and soul, will at least bring no disgrace upon the cause either by idleness or intemperance. Above all things, reverence those who have gone before, even though you should be wiser or more successful than they: remember that their experience enriches, their light guides, their failures warn you: think what you should have been had you lived in their day. You may easily design better Gothic than Thomas Rickman; and yet Thomas Rickman laid the foundation for the proper understanding of that noble style, and he, a man living in this town, was the first to point out the chronological sequence and the peculiarities of its different phases, and so to render all future research into its merits from thenceforth easier and altogether more feasible. So, if you go to Coventry, check your involuntary smile at his church, by the thought of the good, the noble, and useful work he did so ably and so well. And for the same reasons do not despise past experience: the greatest men have been indebted to it. Take, for example, Sir Christopher Wren: no man was perhaps more largely gifted with some of the highest powers of the architect than that great man; but when you walk into St. Paul's, and admire it, as you ought indeed to admire it, do not forget Wren's childhood spent at Ely, nor that the crowning glory of this his chiefest work is not altogether due to the genius with which he was so incontestably gifted, but is in part owing to the example of that other worker in an earlier day—the architect of the Octagon at Ely, Alan de Walsingham. Once more, be diligent and be upright: think of the fellowship you have joined: think what a glorious fellowship it is, and take heed lest you even unwittingly do anything to bring reproach upon that glorious art, in whose cause so many good and great men have laboured so earnestly.

I will just add a few words with respect to the course of instruction proposed to be adopted for the students attending this department. It is intended to extend over a period of two years, in which architecture will be studied as a fine art and as a science. The first year will, I think, be occupied by the investigation of art history, and a thorough examination of all the leading styles, beginning with the Egyptian and ending with the English Renaissance; only so much of the scientific part of the art being taught as will enable the student to understand an art whose ornamentation is constantly based upon necessities of construction. But in the second year science will have the first place allotted to it, and the different methods of construction will be taught practically, and the student shown the various properties of stone, timber, iron, lime, mortars, cements, and so forth. In the fine art department, comparisons of the styles will be instituted; the sources and treatment of ornament, especially in its relation to construction, will be investigated; hints on designing will be given to the students; and, if possible, a class of design be formed.

For the engineering students who desire to obtain the degree which the College has power to bestow, a two years' course of architecture is, by the rules of the Institution, imperative; and it will differ in extent from that of the regular architectural students, only in its omitting various subjects or branches of subjects, for which instruction is already provided by the Professors of Engineering. Both these classes will have to pay the full fees ordered by the Council.

It is also in contemplation to establish a third class, at a nominal fee, of gentlemen who may be desirous of adding a knowledge of architecture to their general education. For this purpose a course of ten lectures on the History of Architecture will be given, commencing in February, and continued every alternate week: and should this class prove, as we have reason to hope, successful, it will be followed by other courses tending to elucidate the history and principles of this the earliest and greatest of all arts.

PARIS.

It has been stated in several newspapers that the municipal authorities of Paris have decided upon not constructing the New Opera House on the site of the old Hôtel d'Osmond, and that a public promenade was to be constructed with a glass roof. This news is incorrect, for two reasons: first, there never was a project for constructing the Opera House on the site above mentioned: secondly, it is still an open question whether the new building shall not be placed near the Hôtel d'Osmond, between the Maisons Tahan and Montbro. The space upon which the Hotel d'Osmond stood is to be built upon with first-class houses, presenting an ornamental frontage towards the Boulevart, improved by the demolition of the Rue Basse du Rempart. The municipal authorities find it hard to satisfy every one, in spite of all these improvements.

The Parisian press complain loudly of the expense of Macadamising the streets. On the 27th instant the following contracts are to be let for street paving for the years 1859, 1860, 1861, in five lots, viz. 485,000 francs; 200,000 francs; 340,000 francs; 160,000 francs; 180,000 francs; total, 1,365,000 francs. This does not include the expenditure for Macadam repairs—supplies of grit and granite—which are to be advertised for.

Lovers of art visiting Paris may see in the Rue Geoffroy l'Asnier an hotel of the Renaissance in a remarkable state of preservation, in a street, and in a *quartier* where one would little dream of meeting with such a structure. A portion of the façade has been preserved, and some of the interior has been carefully repaired, in order that the remaining parts of this dwelling, interesting both in an archæological and historical point of view, may be reconstructed. This hotel was built and inhabited by the high constable of France, De Montmorency, the veteran of the French monarchy, born at Chantilly, in 1193, and assassinated at the battle of St. Denis, near Paris, by the Scot, Robert Stewart.

After De Montmorency, the Hôtel of the Rue Geoffroy d'Asnier became successively the Hôtel de Chalons, in 1625, the Hôtel de Luxembourg in 1659, as the inscription over the doorway mentions. This hotel is a *monument*, is worthy of a better *voisinage*, and deserves the attention of the *maire* of the ninth *arrondissement*, who has his offices at Nos. 13 and 16, in the above street. Vast improvements are in store for the Quartier Chaillot, in the shape of two Boulevarts, starting from the Barrière de l'Etoile, at the summit of the Avenue des Champs Elysées, one ending at the Quai de Billy, not far from the waterworks which supply Paris, and finishing near the Pont d'Alma; the other running into the plantation, in front of the Pont de Jena. Before the emancipation of the working classes, in the twelfth century, a curious custom prevailed at Chaillot, worthy of note. Contrary to the ordinary usage in feudal times, the wife and children of a serf man followed his lot. Thus, a Chaillot woman, slave of the king by birth, married to a male serf of St. Geneviève, at Auteuil, became a slave of the Abbey of St. Geneviève, as also all the children she bore. Reciprocally, if an Auteuil woman married a Chaillot man, the same was the result as to servitude. In 1659, the village of Chaillot was declared a faubourg of Paris, under the name of the "*Conférence*," and it was enclosed by the octroi wall into the metropolis, under Louis XVI.

SHIPS' BOATS.

THE present principle on which ships' boats are constructed I consider could be greatly improved upon, by building the boats of two thicknesses; the planking to be transverse diagonally, and to rake through from gunwale to gunwale; the ribs or timbers, as well, to be on the oblique, so that the whole would yield on receiving a blow or heavy pressure, and would sustain a tremendous shock before breaking, and still be comparatively water-tight, consequent on the principle of construction: the keel to be laid on, thereby avoiding the vertical joint from stem to stern, which so frequently gives way in the event of collision, and thereby swamping all. C. TATE.

PALACE OF THE PEOPLE, MUSWELL HILL.

THE design made by Mr. Owen Jones, for the building proposed to be erected under this title, set forth in eighteen admirable drawings, has been exhibited in St. James's Hall. The site selected, a short distance from Highgate, would seem to be about as far north from Charing Cross as the Crystal Palace is south. It is situated near the Great Northern Railway, a branch from which is designed to run under the building.

In the centre of the building is a dome 200 feet internal and 216 external diameter, springing 36 feet from the floor of the dome, but 18 feet from the general level of the building; rising between four towers, connected together by galleries. The square block thus formed is 276 feet by 276, and is flanked by two naves, each with a clear area of 336 feet by 120, with side aisles 72 feet wide. The ends of the building are 264 feet by 48; and in continuation are two semicircular colonnades, 120 feet internal and 296 external diameter, which from their position will command beautiful views of the neighbourhood, and have, therefore, been devoted to refreshment courts. The extreme length of the building is 1,296 feet; its greatest width, 492: the total area covered is—

On the ground floor.....	511,038 feet.
On the gallery floor.....	138,816 „
On the upper floor	91,008 „
	740,862 „

Galleries 48 feet wide run round the dome and naves, and across the ends, with upper galleries round the dome and at the two extremities of the building. The fall of the ground enables an additional story, 48 feet wide, to be placed in the basement on the south side, which corresponds with the level of the railway station on the north side. Four other towers assist the general effect.

A lecture-theatre is provided, 216 feet internal diameter, surrounded by corridors 24 feet wide, communicating with three floors of the building; the theatre to contain ten thousand people.

COST OF SCULPTURE.

I have read in your publication of last week what Mr. Smith stated at the Institute; and, without doubting that gentleman's statement as to the execution of a marble statue, life size, for 50*l.* (and I believe he is pretty nearly correct), I know well, from ample and long experience, that the *same figure* could be cut in stone here, by the best carvers, and in the best finish the stone is capable of, for 20*l.* This, however, is not the point upon which I am hurriedly writing, because no architect in the present day need be ignorant at how moderate a rate good sculpture can be applied to our buildings.

My object in writing is simply to explain, from knowledge, that Mr. Smith's informant must have been very ignorant indeed who could have told him that the statues were being executed here *without any model*. This is not the fact in any one instance I know of, and I believe I am acquainted with every statue that has been put up in connection with architecture in Edinburgh for the last thirty years. There is no Scotch mode of dealing with such questions except this, that here we have these things so arranged and settled that every one, from the highest to the lowest, who has to do with the execution of a building, is satisfied with a just and fair profit, and sculptors have a pride in seeing the union of the two arts.

It was the exorbitant demands of sculptors (not now, certainly, what it was, although high enough yet), that gave the architecture of the early part of this century its cold, lifeless, uninteresting monotony; and let us be thankful for the change.

ALPHA.

Edinburgh.

THE NEW THEATRE-ROYAL, ADELPHI.

Our last subject for illustration in 1858 is the interior of the fourth of those theatres in London, the building of which has formed one of the architectural characteristics of the year. Each of these buildings will have been fully described by us; and we have taken opportunities to draw attention to points in the planning of theatres, connected with the purpose of the building, and the comfort as well as the safety of the audiences. In a recent number we gave particulars and a plan of the new Adelphi Theatre,* and we have only to complete our account. The box-fronts in the "auditory" are now fixed, and the ceiling has been decorated; the stage machinery, which is of a very superior character in design and execution, has been completed; and the whole house is nearly ready for the opening on Monday next. The "auditory," however, will appear very different from what is represented in a view published by an excellent contemporary,—the result perhaps of too great a desire to be first.

The decorative character of the "auditory" of the new Adelphi Theatre is greatly derived, as we have before shown, from the peculiar formation on plan of the fronts of the several tiers, and the difference between the lower circle and those above; from the introduction of the "*balcon*," containing the "dress-circle stalls" and compartments, now called "family boxes," and from the prominence of the proscenium-boxes in the effect. The front of the *balcon* or dress circle is formed by an iron railing of elaborate pattern, cast, and decorated in white and gold, on which is a bold capping in wood. The front of the Queen's box, and the corresponding box opposite, on the same tier, will present balusters of cut glass. The railing of each kind surmounts a band ornamented with a *guilloche* gilt. The fronts of the upper boxes and gallery are similar to one another as to form of section, which is the ogee inverted, surmounting a band of acanthus-leaves, or others similarly arranged; and they are carried by iron columns, fluted, and in the upper tier twisted, the fillets gilt, and with rich capitals gilt, the ornament in parts relieved by white. The material of the groundwork of the fronts themselves is the "fibrous slab." This has been used also for casing to the iron stancheons, but with doubtful advantage, since it seems peculiarly susceptible to damp. The ornament on the box-fronts, executed in "composition" by Mr. Pepper, who has done the whole of the plasterer's work, is of light scroll-work pattern, with central panels or medallions. There being nine bays or divisions, the panels will be occupied with representations of the Muses in *chiaroscuro*, as regards the front of the upper-box tier; whilst the medallions in the gallery front will present heads of the principal dramatic writers whose works have been given at the Adelphi. The gallery front, however, has less gilt scroll-work in relief than the front below it, though it has considerable enrichment in colour. The predominant effect of colour is derived from white and gold; but a portion of the pattern is treated in a chrome or buff colour; some kind of red is introduced about the medallions and their gilt ornamental accessories, and a simple pattern in blue is carried round the house, under the gilding below the crimson-covered capping, or arm-rest. Over the columns are terminal figures, as indicated in our view. In the case of the gallery-tier, it will be recollected there are no columns for the support of the ceiling. The shafts at the proscenium boxes, marked in our plan, are carried on pedestals, panelled, with mouldings gilt; they are fluted and banded at half the height,—the flutes and mouldings, and the capitals which are of elaborate design, all gilt. Two of these shafts of course carry the proscenium arch, which is a simple elliptical arch, with plain coffers to the soffit, scroll work and a monogram in the centre, and spandrils having circular medallions with *rilievos*. Above the crown of the arch a plain *guilloche* band and modillions occur, and are continued as cornice to the private boxes on the gallery-tier. The spandril spaces on the horizontal ceiling, left at the angles, or between the cornice and the circle in the centre of the auditory, are filled each with a pentagon and other forms, as coffers, all in white or cream colour and gold. The divisions of the family boxes of the grand tier are covered with a crimson paper (the capping, however, painted a light colour), and the same colour, crimson, is used for the seats in all parts of the house, and the draperies to the private boxes. The Queen's box will be finished with fluted silk, the small ante-room to it having a ceiling with floral subjects in panels, and a cove to the cornice, with Renaissance ornament, in white on a gold ground. The dress-circle ends, or partition walls next the staircases, display niches, shell-headed, which will probably contain figures. The shafts or columns of the proscenium boxes farthest from the stage, carry statues, in one case Night, and in the other, Morning. The proscenium boxes of the upper tiers, show externally a light shaft as a division,—this in the case of the upper tier, carrying arches of support to the *guilloche* band and modillion cornice. The circular portion of the ceiling which is slightly domical, rising from mouldings resembling an entablature, has first a narrow space covered with enrichment in *chiaroscuro*, and otherwise is divided into a circular centre space, eight surrounding compartments somewhat more than semicircles, and spandril panels. The main divisions are joined by bands, edged with gilt mouldings and finished cream-colour; and round the circle are small pendants. The eight spaces appear to be intended to represent arches seen in perspective,—that is to say, a portion of the compartment is painted to represent a soffit covered with ornament, and having a medallion on the centre of such soffit. A similar *motive* finds place in the circular centre, which displays a ring of small balusters. This painted representation of architecture, though not so prominent as in the last case of the kind we had under notice, is, as we then remarked and as often before, much open to question. The main space in each compartment, at least in four of the panels, is filled with allegorical representations of the Seasons; the other four panels contain floral subjects. The spandril spaces are enriched with very elaborate figure and scroll-work decoration on gold grounds. All the raised mouldings of panels are gilt. The circular compartment in the centre is coloured blue; and around the opening for the "sun-burner," are gilt rays. The "sun-burner" (not fixed at the time this notice was written), is by Mr. W. Stride—the glass lustres being supplied by Defries. The "burner" will not, we understand, descend lower than the springing of the domical ceiling. The boxes of the grand tier, therefore, probably will be to some extent in shadow; but this has no doubt been calculated upon, and may conduce to the general effect. Whether the blue of the ceiling is too dark, or whether the gilding be a mistake, we can hardly now decide; but the ceiling seems to us somewhat heavy, contrasting with the lightness of the box-fronts. The gilding throughout the house—executed by Mr. Webster's people—is not of the best quality of gold, but is the alloy—which last requires time as well as care in the application.

The gilding, and perhaps some painting, have been executed on the Parian cement: the figures, flowers, and ornament are on paper pasted on. Mr. Sang and his assistants have painted these subjects, and the decorations of the ceiling and the box-fronts generally. The flat portion of the ceiling over the gallery will be undecorated, but will be finished in a cool tone of colour. The Parian cement is chiefly two-coat work,—on laths, all Parian, whilst the Portland foundation is used on brickwork. It is to be hoped the Parian will stand better than it has stood at the Crystal Palace. Some lines and scroll-work in colour, in the saloon of the upper boxes, possibly, even on ordinary plaster, have not at present altered, but the case there as to drying must have been favourable. Of the principal staircase, and the loggia over the pit entrance, we spoke in our last article: the space is covered with a ceiling, having a deep cove and panels.

We have described the arrangements in the "auditory," specially in regard to the space for the seats, and their comfortableness. We may add that the seats of the orchestra stalls and balcony stalls can be raised for convenience of passing and repassing, and "with arrangements for hats or cloaks, and opera glasses," and that the upper circle and pit stalls will have similar contrivances. We might have stated, that the pit area is divided into seats of *three* classes. In the chief portion of the pit, the seats, 565 in number, are divided into 240 stalls, and 325 ordinary seats. Improved regulations as to securing seats for the whole evening, the disuse of fees to box-keepers and others, the supply of refreshments, and other matters, are announced, or are provided for as shown in the plan. Mr. Webster deserves to reap much benefit from these steps.

Although the entrances, particularly as regards the access to the pit and boxes from the Strand, are not all that we have been contending for, and, though winders in the staircases are not in all cases according with what we have desired, the plan is remarkable for evidence of attention paid to means of escape in case of accident,—whilst the numbers and character of the audience will be very different from those in the instances we have recently had under notice; and we are not sure that efforts will not be made to improve the arrangements further in such particulars. Since we first looked at the plans, the staircases next the proscenium have been extended to the galleries, with a view to two additional *routes* of egress, if required; and, besides the exit-way from the pit into Bull-inn-court, there are two doorways on the same side (in addition to one from the stage), shown in our plan,—one of them from the box-corridor, and the other from the proscenium staircase on that side.

Looking at the form of the auditory, in plan and section, the result, however, justifies us in having sought to direct attention to the question of theatre-planning. The seats in the *balcon* and "family boxes" are excellent for a view of the stage, and so are those generally of the pit, and the majority of those of the upper boxes; but the seats in the gallery do not promise well, even after an expensive alteration and raising of them. The admission to the gallery, it should however be said, is very moderate, being only 1*s.* for what are called the "amphitheatre stalls," which may be secured the whole evening, and 6*d.* for the general gallery. The whole house will accommodate, as we have stated, 1,408 persons, exclusive of those who may be standing. Of these, 426 persons are estimated for the gallery and its stalls.

The new act-drop has been designed and presented to Mr. Webster by Mr. Stanfield, R.A. and was painted by Mr. W. Telbin, who also designed and executed the drapery borders and wings; and the other scenery has been painted by Mr. T. Pitt and Mr. Thompson, assisted for this occasion by Mr. P. Phillips. In the stage and machinery the improvements are so numerous, and so conducive to facility and effect of scenic representation, that they will claim a distinct notice. Mr. Webster's efforts certainly deserve, and, we hope will be rewarded by great commercial success. Mr. T. H. Wyatt may not have overcome all the difficulties which we have seen in the contrivance of such buildings, but he has, we think, effected some improvements, and has certainly produced a work which, in point of taste, is sufficiently attractive, as compared internally with the best theatres of the metropolis.*

* See pp. 833 and 834, *ante*.

* Mr. Wyatt is anxious to acknowledge the assistance he has received during the progress of the works, from his friend and former pupil, Mr. Stephen Salter, jun.

THEATRE ROYAL, ADELPHI, LONDON.—Mr. T. H. Wyatt, Architect.

SOCIETY FOR THE ENCOURAGEMENT OF THE FINE ARTS.

The meeting to inaugurate this society was held at the Hanover square Rooms, on Friday, the 17th. Lord Ranelagh presided. Mr. Ottley, honorary secretary, read an address on the objects of the society, and the Rev. Mr. Bellew made some observations in advocacy. Lord Ranelagh admitted at starting that he knew nothing about art, and proved it very conclusively in his speech; and Mr. Bellew, amongst other statements, in the course of what was nevertheless an interesting speech, said that England had made immense advances in art during the last half-dozen years; for whereas, in the fine art department of the Great Exhibition of 1851 the principal object was *a twelfth-cake*, at the Manchester Exhibition last year the English school exhibited many fine pictures!—apparently forgetting that the Great Exhibition was not a fine arts exhibition (pictures were not admitted), and that the majority of the paintings he saw at Manchester were painted before 1851. The gentlemen who are organizing the institution must excuse us for saying (with the best feeling and strong desire to aid any sound endeavour to spread art knowledge, or afford intellectual pleasure) that the matter has not been wisely commenced, and that the opening meeting, so far as art education is concerned, was a joke: moreover, the distinctive character of the institution requires to be made clearer than it is at present.

ARCHITECTURAL PHOTOGRAPHIC ASSOCIATION.

The photographs gathered together by the association, and now in the Water-colour Gallery, Pall Mall East, are nearly four hundred in number, and include illustrations of buildings and statues in Rome (a fine series, by Macpherson, 120 in all), Venice (Nos. 123, 136, and 143, are amongst the best), Cairo (the views of street architecture, Nos. 213 and 214, will be popular), Spain, Paris, Egypt, North Italy, and England. Of the latter country the series by Bedford are particularly elegant. Amongst these, Nos. 319 and 320—the choir, arcade, and the south aisle, Tintern Abbey, are charming specimens. In the list of those from Italy, No. 399, "St. Antonio," at Pavia, and 373, "The Certosa," at the same place, deserve attention. Frith gives the pyramids, stone for stone, and a panorama of Cairo, 8 feet long.

Going back to the series from Rome, No. 16 conveys a good idea of the "Moses" (in St. Peter's); No. 25, "The Church of San Bernadino Perugia," has that gradation of force which cannot always be obtained; and No. 32, "The Trevi Fountain," has a richness of colour which is very satisfying.

An alteration in the mode of selection by the subscribers meets the objection we raised to affixing a price to the photographs.

ARCHITECTURAL FEELING IN SCOTLAND.

ARCHITECTURAL INSTITUTE OF SCOTLAND.

The Rev. Dr. Alexander, in his address at the annual general meeting of this Institute, after pointing out requirements with regard to utility in the erection of a church, proceeded to say,—

Whatever genius or art can accomplish whatever gold, or ivory, or marble can supply to beautify the House of the Lord, it would seem only becoming that those who erect it should strive to procure, that it may stand to coming generations as a venerable monument of their piety and devotion. But whilst I would plead for the decoration of our places of worship to the full extent to which it is possible to carry it, there are two conditions by which I should seek to limit and regulate the use of this. The one is that the ornaments introduced shall be in keeping with the character and design of the building; the other is that the ornament shall form part and parcel of the edifice or its necessary furniture, and shall not be something put on it or into it for the mere sake of ornament. The former of these conditions is transgressed when a church is decorated after the fashion of a theatre or a music-hall; and the latter is transgressed when the church is made a depôt for monuments or statues, when pictures are hung upon its walls, or when ornaments of any kind are patched upon it, either without or within. I would have all such extrinsic ornaments swept out of our churches, and that on æsthetic grounds as well as grounds of another and higher kind. When, for instance, I see a picture hung up on the wall of a church, I am led to ask—Is the wall for the picture, or the picture for the wall? If the former, then is the church desecrated to the level of a picture-gallery; if the latter, then has the architect failed of his duty, in that he has produced what is either so ugly that it needs to be covered, or so mean that it needs to be relieved by hanging on it what is altogether foreign to itself. In either case the picture is where it ought not to be, and the same is true, though I admit in a less degree, of sculpture. I would have the church itself sufficient for its own glory. I would have its own materials so wrought and arranged that it should be in itself a complete and harmonious work of art, of which we might say in the words of the quaint old poet—

> "Beauty in this takes up her place,
> And dates her letters from thy face
> When she doth write."

I would have "the stone cry out of the wall, and the beam out of the timber answer it," and all conspire, as in one grand anthem of worship,

> "To rouse the heart and lead the will
> By a bright ladder to the world above."

It would be an interesting inquiry, had we time to pursue it, what are the causes which have chiefly operated to lower the style of our ecclesiastical architecture in this country for several generations past. I shall not attempt to enter on such inquiry, for which I not only have no time at present, but feel that I have not the adequate resources even were the time provided; but I will venture so far as to say that it strikes me that the prevailing defect of modern ecclesiastical architecture is that it is too timid, too conventional, too much enslaved to usages and traditions received from our fathers. We are all apt to become the slaves of a creed, and content ourselves with drinking of the streams that have flowed down to us from those who have preceded us, instead of exercising our right of exploring for ourselves the ancient fountains. But, so long as such bondage is submitted to, the efforts of native genius must be swamped, and her fire damped, if not utterly quenched. This is true in every department of pursuit; and it is not less true in reference to architecture than in reference to the other arts. How much, for instance, is sacrificed to what is technically called conformity, or adherence to certain so-called orders of architecture! Is not this, I ask, wholly artificial? Who cares anything about such conformity? Who knows even anything of it but the architect himself, or the architectural amateur? On the mass this scrupulous adherence to artificial distinctions is wholly lost: there is nothing in nature to which they answer: their validity is wholly historical and professional; and hence the natural taste is not bound by them, but prepared to accept any mixture of styles and orders that shall result in a real accession to our stores of architectural beauty or grandeur. Nor am I speaking here merely at a peradventure. Of all the styles of architecture, is there one more generally felt to be picturesque and striking than the Italian Gothic—a style denounced by architects as an incongruous amalgamation of the Classical and Pointed styles? Their objections are, I doubt not, in a technical point of view, very forcible, perhaps wholly unanswerable. I cannot help it. I find myself gazing upon the façade of the cathedral at Sienna, or standing under the dome of the church Della Santa Maria dei Fiori at Florence, and I say, "Gentlemen, this is what you call Italian Gothic, and what you denounce as an architectural heresy. Your objections may be very sound, but they are much too technical for me to appreciate them. All I know is, that I feel myself here in the presence of the beautiful and the majestic, and I must continue to admire and rejoice in spite of all you say, having this at least for my comfort, that if in this I err, I err in the company of ninety-nine out of every hundred of those who behold it."

Dr. Alexander, after some further remarks, proceeded:—I have but one more wish to utter. It is this—that there were in the public mind a more worthy conception of the dignity and worth of good architecture, a more generous appreciation of the position and claims of the architect, and a more liberal expenditure in the erection of buildings, so as to furnish scope and encouragement for the higher efforts of architectural genius. It seems to me a strange thing, and a thing to be deplored, that the architect, as such, has no recognised position in society or among professional men. Why should not architecture constitute one of the learned professions, to which candidates are admitted after due examination and by regular diploma? At present I really do not know how a man becomes an architect; but I presume there is no legal barrier or even conventual impediment to any man taking up the profession who pleases. Such a state of things I feel sure is detrimental to the best interests of the profession. With respect to the conduct of the public in regard to architecture, there are two things against which I feel inclined to reclaim,—the one of a special, the other of a more general kind. Of these the former is the right so extensively exercised by commissioners of improvements and town corporations of dictating to architects the style in which alone they shall be allowed to build, and even the very quarries from which they shall fetch stones for their building. I cannot believe that such right of dictation is either for the interests of art or compatible with the rights of individuals, or the respect due to such a profession as that of the architect. The other evil to which I refer is the general disposition to contract for all sorts of cheap work that can be made to look passable, instead of seeking to secure really good and noble work by a generous expenditure such as shall be sufficient to secure such work. This is a great evil in many ways, and how much it prevails at the present day I need not say.

ITALY.

Rome.—A new theatre is to be built in Rome, and not before it was wanted, since the owners of the existing house will do nothing to cleanse and improve that structure. The present condition is bad in the extreme, and the house is miserably lighted. —— The rain has been increasing in Rome. The Tiber has overflowed its banks, and all the quarters of Ripetta, the Ghetto, and the Place of the Pantheon are covered with water. This latter building presents a most singular appearance. Outside, its pillars rise from the midst of water; and inside, a vast lake presents itself to the eye. The water is about 3 feet deep. Visitors pay for being allowed to view the spectacle.

Milan demolishes, as well as Paris does, ragged buildings which conceal the monuments of their city. The theatre of La Scala will, about January next, find itself in the centre of a magnificent area, in which "place" it is purposed to erect a statue of Leonardo di Vinci. This work is now open to public competition.

CHIPS FROM THE FAR WEST.

The mayor and common council of Milwaukee, S. Wisconsin, have just issued a most elaborate document, regulating the construction of buildings, and with a view of better protection from fire, which is very frequent. Section VI. provides "that all end and party walls shall extend, above the sheeting of the roof, at least 2 feet 6 inches, and in no case shall the planking or sheeting of the roof extend through or across any party or end wall; and in case of any opening in any party or end wall, the same shall be provided with *iron or fire-proof doors*, properly fitted and hung, so as to be easily and quickly closed in case of fire." Several similar precautions are taken, which would be well worthy of adoption in this country.

Extensive new docks, goods depôts, &c. are to be built at Mill Point. The docks will be 1,200 feet in length, and have been contracted for by Mr. Ridley, who has completed similar structures at Detroit. In this latter place, it is said that building operations are most extensive, the railway company being the chief improvers, and they are also about building a new passenger depôt at Ionia. Another extensive depôt is to be erected at New Haven, at a cost of 20,000 dollars.

"IS THE PRACTICE OF ARCHITECTURAL COMPETITION BENEFICIAL TO THE PROFESSION AND THE PUBLIC?"

BIRMINGHAM ARCHITECTURAL SOCIETY.

At the last meeting of this society, the president, Mr. F. Empson, opened the above question in the affirmative. He admitted that many and very serious evils attended the present method of conducting competitions. The first and most important is in the ignorance of the tribunals to whose decisions architectural designs have to be submitted. Men who were entirely ignorant of art, and could not understand what a plan meant, were called upon to judge as to the merits of elaborate designs and complicated arrangements; and they were nearly sure to be led astray by showy and meretricious drawings. Another evil, which springs partly from the former one, is the vagueness and inaccuracy of the instructions furnished, and the consequent certainty that they would not be observed. It was wrong, also, to call upon those who were competing to furnish too many drawings: the object was to see who could produce the best general design; and only so many drawings should be asked for as would be able to serve the required end. To ask for more was to lay an unjust tax upon the labour of competitors. These were evils,

and there were many others; but he thought they were capable of removal, or at least of such considerable mitigation as should leave the good effects of competition predominant. Among the benefits that flow from the practice, the greatest is the encouragement which it gives to unknown men to display their ability. It fosters energy by giving a definite object to those who, being unknown or friendless, would not otherwise have before them the only goal that can incite to exertion, that of positive practical work. These are some of the advantages to the profession. The public gain by having the best men brought forward, and the best designs carried out. He argued that if competent professional men were chosen to select from the designs sent in; if the instructions issued were definite and rigidly adhered to; and if the members of the profession would determine never to compete unless fair and honourable conditions were laid down, then great good would be derived alike by the profession and the public.

Mr. Chamberlain replied, contending that the evils which had been admitted by the president were practically irremediable, and more than counterbalanced any theoretic good that could be claimed for competition. But he denied the good said to be derived from the practice. The chairman said that young men were induced thereby to engage in work which otherwise they would not attempt, and this he (the professor) thought a very great evil. He held that the only legitimate method of rising was by patient and laborious work, not by ambitiously striving to do things beyond the power of any young man. By this bad incitement young men were led to endeavour to show their cleverness before they had acquired real power, and this was the cause of more errors and absurdities in designs than anything else which existed.

The meeting was afterwards addressed by Messrs. Bateman and Bland in favour of competition, and by Mr. Harris against; and Mr. Fiddian produced an example of the evils as exhibited in a recent local competition for a church.

The President, having replied, vacated the chair, in order that his proposition might be submitted to the meeting by another chairman.

Mr. Harris was called upon to preside, and having put the question, declared the votes equal, and gave his casting vote against competition.

THE DRINKING-FOUNTAIN MOVEMENT.

The Brighton Town Council have unanimously resolved to refer the subject of street-fountains to their Works Committee for consideration as to sites and cost. This they do in the face of offers made by several gentlemen to erect fountains at their own personal cost. Three members of the Water Company (the Rev. Mr. Drummond, Mr. G. Cheesman, jun., and Mr. Blaber) have done so, as well as one of the Town Council itself, Mr. Brigden; so that the Brighton supply is in a fair way of being realized. In the discussion on the motion referred to, the many drinking-fountains of Paris were pointed to as a reason for the comparative sobriety of the Parisians.

The Bath Temperance Society are desirous of erecting a handsome drinking-fountain in the centre of that city: this, of course, is over and above the other street-fountains which have already been resolved on.

At Plymouth subscriptions are being raised in aid of the construction of drinking-fountains.

The Cardiff Town Council have instructed their surveyor to report upon eligible sites for fountains, and the number required for the whole town, the cost of water, &c. Two designs were exhibited; one fountain to cost 7*l.* 10*s.* and the other 9*l.* both to consist of Pennant limestone, inserted into street walls.

At Oldham a meeting has been held, and a committee appointed to obtain plans, &c. and report as to the erection of a drinking-fountain at Lower Moor. A local co-operative society, also, has contributed 5*l.* towards the erection of one in the market-place.

At a meeting in Edinburgh, of the subscribers and promoters of a fund for erecting drinking-fountains, at the various cab-stands throughout the city, with troughs for horses, dogs, &c. Lord Murray in the chair, a committee was nominated to carry out the project, commencing with a fountain near the west end of Prince's-street, to be named the Sinclair fountain, in honour of Miss Sinclair, who had originated the local movement.

It is now suggested that the City of London might be supplied with drinking-fountains by means of Sheriff Rawson's bequest, of the fifteenth century, for the erection of water-conduits and other purposes. The object in view, however, seems to be now pretty-well secured, independently of this or any other similar source. Of Mr. Gurney's intended fountains we may have something to say next week.

It is to be hoped the parks will be all well supplied before next summer: this ought to be the self-imposed task of the Home Secretary, Mr. Walpole, or of Lord John Manners.

SOME ASPECTS OF THE LONDON SHOPS.

Wandering in the streets of London, you may find amusement in noticing the peculiarities of the various shops, and the taste and degree of decoration which seem to be connected with each business. This fashion is, however, rapidly changing, and the shops, instead of having the characteristics alluded to, are becoming more generally alike,—a circumstance which is to be regretted, for there is at present a want of variety in the aspect of most London streets.

Amongst the most notable of the shops of this great city, so far as the adherence to old style is concerned, are the oil and colour shops, which are kept gay with the brightest vermilion and other pigments: great Italian jars and pendant rolls, the display of Borealis rays, and the variegated harlequins, give to the oil-shops a peculiarly lively appearance. The fishing-tackle shop also generally catches attention, the long rod with golden fish dangling far into the street; the gilt salmon and other specimens of the finny tribe over the door; the monster pike in the window; and flies of rare device and curious workmanship; landing-nets, floats, the various gins and traps by which to gain the shy dwellers from the brooks and rivers; little pictures of fishing-stores, the sight of which have often made us wish, on a May day, when pent up in London, to be on the green banks, instead of in the crowded streets. The shops of the curiosity dealers, the dealers in second-hand books and prints, are a great temptation when in a sauntering humour in the London streets. In the former, amongst many matters of curious interest, there are others of ancient aspect, which have evidently not been made many weeks. Notwithstanding it is difficult to get past those shops filled with armour and weapons, carved furniture, embroidery, glass, porcelain, pictures in antique frames, and mounted on very old canvas, by Rubens, Vandyke, or Titian, perhaps; coins, and many other knick-nacks: in some of these shops pictures, although they may be copies, are creditable; but in most cases the pictures offered for sale are of such a wretched description, that it is surprising persons can be found to produce them, and that they should ever get purchasers. The chief part of the paintings to which we refer are not like the early efforts of artists who have genius, without having acquired knowledge, or skill in the mechanism of art, but are evidently the production of persons who have not a particle of feeling for art or nature. They are flat daubs, most unpleasant to the tasteful eye; and yet these paintings, in their ugly frames, covered with Dutch metal, are sold in the London streets at the rate of thousands in each year. We are told that many of these paintings are bought up by visitors from the country. Notwithstanding the large number of those shops in all parts of London, it is extraordinary how seldom it happens that a great bargain can be got, and how long a person may travel without being able to buy a fine old picture for a five-pound note. We have heard of valuable works being in the hands of small dealers, who were not aware of their value, but such cases are very rare now-a-days.

The barber's shop in poor neighbourhoods is generally noticeable; and so great is the competition in the shaving business, that it is not unusual to see from the long variegated pole a showy banner or board, on which is mentioned the skill of the artist, and the lowness of his charge: and truly a man need have wonderful skill and quickness of hand to shave well, and make a living, at a halfpenny a face. It is worth while to notice some of these shops, when the owner refuses to reduce his prices, and endeavours to keep up the dignity of the profession. Here may be seen black blocks, now much worm-eaten and dusty, and other materials of the wigmaker craft: there are also curious specimens of working in hair, for the adornment of both the male and female head: the quiet old-world look of these shops contrasts with the appearance of those of the more modern practitioner, gay with placards and other attractions.

The old-established shops of the grocer and tea dealer usually display some artistic matters, both in the shape of sculpture and painting: the figures of Chinese mandarins and men of "Indi," steam-engines in full play, richly painted lanterns, golden canisters, the ornamented fruit-boxes, &c. give to these shops a bright and agreeable look.

Your goldsmiths' shops, brilliant with gold, silver, and precious stones, in all manner of settings, although they look at night time like colossal jewels, are seldom remarkable for exterior architectural features. While, looking at the rare vessels, the massive or graceful ornaments, the diamonds, rubies, &c. exhibited in only one of these shops, it seems difficult to calculate what may be the enormous value of the goods which are every morning exposed in the shop windows of the metropolis.

The fruiterers, in the best neighbourhoods, make a goodly display, with fruits and flowers. Here the productions show that the skill of man has in a measure set the seasons at defiance, and the choice products of this and other lands are placed temptingly before the passenger.

Certain trades endeavour to attract by the exhibition of curiosities: the fishmonger hangs up strange fish; the cutler, monster razors and carving knives: the herbalist shows bottles of strange preparations, to prove the efficacy of his plants; and crocodiles, and serpents, and skulls of animals, look singular in the bright light of the gin-palaces. The places of business of the furniture dealers of different grades should not be passed over without notice. Here may be seen fittings which would not be out of place in a splendid mansion, and there miserable articles, which one would think could scarcely find a purchaser. Great are the contrasts which are offered, and useful the lessons which may be gathered by a thoughtful walk in the London streets. The miscellaneous nature of the stocks of these merchants is remarkable;—the richest silks, satins, velvets, costly broad-cloths, shawls of immense price, ribbons of all hues, plumes of feathers, and flowers which almost rival those of the gardens, carpets of all tints, china and glass, &c. for domestic use, varied in quality from that shown in the shop-windows in Bond-street, to that which is flaringly offered by cheap Jack in Somers-town. Books, prints, food of all descriptions, and other matters too numerous to mention, form the outward daily display, which, however, gives but a faint notion of the vast wealth which stands behind places of extremely shabby appearance; and nothing is more surprising than, after a walk in some of the great throughfares, to look in at a few of the immense establishments in the lanes leading from Cheapside, where business is transacted without outward show, to the extent of several thousand pounds each hour.

INSTITUTION OF CIVIL ENGINEERS.

STRUCTURES IN WASHINGTON, U.S.

The annual general meeting was held on the 14th inst. Mr. Joseph Locke, M.P. president, in the chair.

The report of the council for the past session, which was read, commenced by regretting that there had not been a general resumption of works of public utility and of private enterprise in the United Kingdom; a large proportion of the professional engagements being still in foreign countries, or in the British colonies. In India the suspended works upon the different railways had been resumed, and it was fair to conclude would now be pushed forward with vigour. On the continent but little progress had been made, except in the construction of branch lines.

The various Spanish railways in operation, or in progress of construction, were then noticed; and it was stated, that in Austria, the Lombardo-Venetian Company, under the able direction of M. Paulin Talabot, had united the majority of the principal lines, with a view to the ultimate formation of one comprehensive system, which would be one of the most considerable in Europe, as it would consist of nearly 1,900 miles of railway, connecting Austria, Hungary, and Southern Germany with Trieste and Italy, and extending in an unbroken line from Vienna to Milan, and from the Bavarian frontier to Florence.

At home, an important feature in the railway extensions in the vicinity of the metropolis was the Victoria station, Grosvenor-basin, Pimlico, under Mr. Fowler. This site was said to be peculiarly fitted for a railway, as, from the previous formation of the roads and bridges, the levels of the rails could be so arranged as to avoid interference, by inclined approaches, with the adjoining streets, or properties, whilst affording extensive frontage upon wide streets, at present not encumbered with traffic. The works, including a bridge across the Thames, consisting of four

arched spans of wrought iron of 175 feet each, were then in progress.

Special attention was directed to a very interesting series of photographs, of some important structures in the city of Washington, U.S. America, now in progress, or recently completed, under the direction of Captain Montgomery Meigs, U.S. Engineers, by whom the views were presented to the Institution.

The Washington aqueduct, the most important, though not the most costly of these works, was intended to supply the city of Washington with water from the great falls of the Potomac. The source was 150 feet above the tide. The aqueduct was a circular conduit, generally built of rubble masonry, laid in hydraulic cement. The diameter was 9 feet in the clear; the masonry being 14 inches in thickness. Its fall was 9 inches in 5,000 feet, and its discharge, at 8 feet depth of water, was 67,596,000 American standard gallons in twenty-four hours. The lowest discharge of the river in summer droughts was 63,000 cubic feet per minute: at its highest it was a flood like Niagara. There were eleven tunnels upon the line, of which two only were incomplete. Of the twelve miles of conduit, about half a mile remained to be executed. There were several bridges of masonry, including one elliptical arch of 75 feet span, and one single granite arch, segmental in form, of 224 feet span crossing a ravine 100 feet deep, with rock abutments. A bridge of 200 feet span, of iron, crossed the creeks, between Washington and Georgetown; the iron pipes, 48 inches in diameter, doing duty as arched ribs to support the bridge, and also as mains to convey the water under pressure. They were lined with staves of wood, as a protection against frost. The reservoirs had a collective area of about 90 acres of water, and stored up many days' supply. The work was completed, except the dam, the second reservoir, the larger bridges, and two tunnels, one of which would be finished during this winter, and the other in July next. The bridges would probably be all completed by the 1st of August, 1859. The estimated original cost of the 7-feet conduit was 1,921,000 dols.; of the 9-feet conduit, 2,300,000 dols.; and the probable cost, when finished, was estimated at 2,550,000 dols. The masonry aqueduct was twelve miles long. The pipes to be laid, by the government, to the public buildings, navy yards, &c. would cost about 400,000 dols.

The Capitol of the United States was a building 750 feet in length and 70 feet in height. The centre was looked upon in America as an old building, having been built about thirty years ago. It was of sandstone. The wings, upon which Captain Meigs was now engaged, were faced with blocks of white marble, slightly veined with blue, but not sufficiently coloured to affect the appearance at a short distance. In this building were the Halls of Congress. The Hall of Representatives, in the south wing, was 139 feet long, 93 feet wide, and 36 feet high. In it the voice of any ordinary speaker was said to be audible, without effort, in every part of the room, and this, without regard to the place from which the orator addressed the audience. Its ventilation was satisfactory; and, throughout the variable winter, there were no complaints of too much cold. The north wing would be occupied this winter. The portices yet remained to be erected. The centre building was crowned by a dome, partly of brick and partly of wood, modelled after that of the Pantheon at Rome. The portico of this building was also a copy from the Pantheon, but raised upon a basement, with a noble flight of steps in front. The old dome had been removed, and some progress had been made in erecting the new one, which was of iron, 300 feet in height, the diameter of the Peristyle being 124 feet 6 inches. The cost of the old building of the Capitol was about 3,000,000 dols.: the new wings would cost between 5,000,000 and 6,000,000 dols., and the dome nearly 1,000,000 dols.

The post office building was of white marble. The columns were monolithic, from Carrara. The rest of the marble was similar to that in use at the Capitol.

The Washington aqueduct was entirely under the direction of Captain Meigs; but, in the architecture of the capitol, and the post-office buildings, he had the aid of Mr. Thomas U. Walter, who had been associated with him since he took charge of these two buildings. In the heating and ventilating of this building he had the assistance of Mr. Joseph Nason. These works involved a total expenditure of nearly 10,000,000 dols. They were now drawing towards completion. The buildings were occupied, the portices and the dome remaining unfinished, and some interior decorations were still in progress.

The following gentlemen were elected to fill the several offices on the Council for the ensuing year:—Joseph Locke, M.P., president; G. P. Bidder, I. K. Brunel, J. Hawkshaw, and J. R. McClean, vice-presidents; W. G. Armstrong, J. Cubitt, J. E. Errington, J. Fowler, C. H. Gregory, T. E. Harrison, F. Hawksley, G. W. Hemans, J. S. Russell, and J. Whitworth, members; and J. A. Ransome and A. Slate, associates.

INSTITUTION OF CIVIL ENGINEERS OF IRELAND.

AN ordinary general meeting of this institution was held on the 14th instant at Dublin. Mr. M. B. Mullins, president, in the chair.

The paper read was on "Beams and Girder Bridges," by Mr. William Anderson, Associate, being in continuation of former communications on the same subject. Having in them shown the manner in which the strains in the several parts of uniformly-loaded beams were determined, he now concluded the theoretical part of his subject by considering the effect of passing loads. The analytical investigations were illustrated by numerous coloured diagrams, and many of the propositions were proved by means of an accurately-constructed model of a lattice beam, the property of Trinity College, Dublin, and lent for the occasion by the engineering professor. The several bars composing it being replaceable at will by spring balances, the theoretical deductions received the most direct proof of experiment.

THE MAIN DRAINAGE OF LONDON.

The following is a list of the tenders for the first contract.

Hocken, S. B.	£270,200
Willson, John	266,725
Crook and Son	259,858
Myers, George	238,760
Jay, John	234,130
Webb, William	202,888
Wood, T. and F. T.	195,680
Batterbury, Richard.....	191,000
Bird, J. and E.	189,399
Hill, W.	186,875
Dethick and Son	186,000
Diggle, Joseph	185,000
McLennan and Bird	181,370
Rowe, W. H.	180,433
Webster, William	169,000
Moxon, W. S. (accepted)	152,150

PROPOSED NEW OFFICES FOR THE METROPOLITAN BOARD OF WORKS.

A STRONG objection is entertained, by some members of the Metropolitan Board of Works, to the large expenditure required for the erection of new offices at Spring-Gardens while the Board already possess premises in Greek-street, capable of alteration, so as to meet the requirements of the body. Mr. John Leslie says,—

"The whole freehold area in Greek-street, as shown on the architect's plan, is 10,087 superficial feet: the whole area to be built upon, as shown in the architect's plan, at Berkeley House, is 10,324—a difference in favour of Berkeley House of only 237 superficial feet.

I showed that the Board-room in the freehold Greek-street plan was 50 × 34 = 1,700 feet, while at Berkeley House it is 49 × 28 = 1,372 feet, being 328 feet less in the leasehold than in the freehold plan. The area for offices and eight strong rooms at Berkeley House is 1,685 feet. The area for offices and four strong rooms at Greek-street is 4,365 feet—a difference in favour of the Berkeley House plan of only 320 feet. But the area for light, &c. in the Greek-street plan, is 1,251 feet: the corresponding area at Berkeley House is only 612 feet; making a difference in favour of light, air, and access, in the freehold plan at Greek-street, of 639 feet. The superintending architect reports on his Greek-street plans that

'To carry out the whole of these works in a good, sound, and substantial manner would, I estimate, cost, for the new buildings at the back, 7,000*l.*; and, for the alterations and reparations to the existing house, including handsome architectural elevations, in Soho-square and Greek-street, from 1,200*l.* to 1,500*l.*—say, 1,500*l.*,—in all, 8,500*l.*'

The plan at Greek-street shows three distinct public entrances in different public streets,—one in Soho-square, one in Greek-street, and a third in Rose-street.

The representatives of the ratepayers are drifting into an outlay of about 25,000*l.* in building and fitting up the proposed offices at Berkeley House, and 500*l.* per annum ground-rent, when as much accommodation can be obtained for less than 10,000*l.* outlay on the freehold property of the ratepayers; and I ask your assistance in letting the ratepayers know some of the facts prior to the next public discussion on the question at the Metropolitan Board of Works."

Without knowing all the facts which may require consideration in order to arrive at a just decision, it certainly does appear to us that this is not the moment for the Board, when they are commencing a work which will cost the metropolis millions, to saddle the ratepayers with any expenses that can be avoided; and it is to be hoped that, at the next discussion of the question, the possibility of avoiding it will be fully considered.

THE TOWN HALL, FOLKESTONE, COMPETITION.

THE advertisement issued by the corporation of the borough of Folkestone, inviting designs in competition for a building adapted for the purposes of a town hall, council house, police office, and market houses, demands some attention from architects. It offers a premium of 30*l.* for the design considered by the majority of the council the best, and 10*l.* to "the next best" design.

A correspondent on the subject objects to the intimation that the committee will not be bound to employ the successful competitor; to the notice that the building is to be of white brick *with Portland cement facings*;" and thus continues,—

"The conditions say 'the building is not to exceed 100 feet in depth by 50 feet in width; the estimate not to exceed 3,000*l.*'"

Assuming the average height of this building at 40 feet, it will cost 4,166*l.* 10s., at only fivepence per foot cube; hence the chance of building what the corporation require within their limit, is very remote.

"Instructions as to the requirements of the corporation will be forwarded by the town-clerk on receipt of 2s 6d. in postage stamps."

So, it has now become a privilege to receive instructions; solicitors, and probably the town-clerk of Folkestone among their number, commence their small accounts with the stereotyped item, "taking instructions, six-and-eightpence;" but in this advanced age of steam and electricity, architects must either prepay for that permission, or give credit for the same at the foot of their bills.

If 160 persons apply at 2s. 6d., the corporation will receive 20*l.*, or half their prize-money from the competitors themselves.

The fair remuneration for services required by the advertisement will stand thus:—

Plans, elevations, and specification.			
2½ per cent. on 3,000*l.* ...	£75	0	0
Estimate, 1¼ per cent.	37	10	0
Perspective view...	10	10	0
	£123	0	0

Instead of this, the corporation offer 20*l.* from their own funds, with 10*l.* added as a sort of sweepstakes.

The remaining 10*l.* sweepstakes to be given to the second best. AN ARCHITECT

Who declines to degrade his profession by competing.

CHURCH-BUILDING NEWS.

Norwich.—The interior of St. St phen's Church, Norwich, is undergoing restoration, preparatory to its being reseated. The pews having been removed, several monumental brasses have been discovered. They are—with one exception—all mentioned in Blomfield and the manuscript of Muckarell. The local *Chronicle* describes them. The most interesting is the effigy of a lady, having at her feet two small figures, each holding a rosary or string of beads: one has a crutch, the other a staff. Beneath is an inscription, commemorating Elena Buttry, last prioress of "Campsey," or Campsey, near Woodbridge. In Dugdale's "Monasticon," and Taylor's "Index," she is erroneously stated to have died in 1513, the date of this inscription being 1546. It is evident from the dress and execution of the effigy, says our authority, that it is from 120 to 130 years older than the inscription, it having been engraved about 1410, to commemorate some individual unknown. Similar instances occur at Great Ormesby, Isleham, and other places. The brass above referred to as not mentioned by Blomfield is the mutilated memorial of Robert Burght, mayor of Norwich in 1504. Much else that is interesting to the archæologist has been brought to light. In the north aisle are the remains of a mural paint-

ing, of considerable pretensions. In St. Anne's Chapel is a small opening in the west wall. In the chapel of St. Mary Magdalen, at the east end of the south aisle, a piscina and aumbry were discovered, blocked up. They have been again blocked up, and it is intended to plaster them over. A similar fate has been threatened to a piscina in the north aisle.

Dover.—The report of the committee appointed to consider the best means of carrying out the resolutions for pulling down, rebuilding, and enlarging the parish church of St. James stated that the committee, having consulted Mr. Talbot Bury, of London, architect, now recommended that the existing church should be pulled down, and the new one built on its site, and it has been resolved, at a meeting of the parishioners, that the committee be authorised to adopt such measures for carrying out the proposed works as they should deem advisable. The project of building a steeple to the church was to be postponed. Up to the present time 1,600*l.* have been received, without the issue of any subscription-list or appeal to the public for assistance. The Church-Building Society has increased the amount to 1,900*l.*

Winchester.—Wherwell parish new church has been consecrated. The edifice, which will accommodate 500 persons, is constructed, says the *Hampshire Advertiser*, as nearly as possible upon the same plan as its predecessor, with the addition, however, of a vestry and a chapel for the family-pew of the lords of the manor (Iremonger). These adjoin the northern aisle and the chancel, the vestry being approached from the latter by a corridor separated therefrom by an arcade, formed of grey stone. The vestry is fitted up with a cupboard and water-cistern, in imitation of a piscina and aumbry. The Iremonger pew is lighted by four lancet windows, and communicates with the chancel by an archway, supported on Bristol Pennant stone. At the western end of the nave is an oak shingled broach, in which are hung the peal of five bells. Access is gained to the belfry by a well-staircase built in the thickness of the wall. The tower and spire, which are about 80 feet high, are supported on beams of oak, which rest on two plain columns of grey marble standing in the nave. Between these are placed a carved font in Caen stone, resting on an octagonal base. The seats are all open, and made of deal, varnished. The fittings of the chapel and chancel are of oak, and of stall pattern. The roof is an open stained one, ornamented with Gothic mouldings and spandrils, while the pavement is formed of Staffordshire tiling, in plain patterns, excepting in the chancel, which is laid with encaustic, arranged in brilliant designs. The pillars of the nave and side aisles are surmounted with semi-Norman capitals, which are exact copies of those in the old church. The nave is lighted with a western window and four large dormer-headed side windows, containing plain quarries, and the chancel by an eastern window and a smaller one over the *sedilia*, both of which are filled with stained glass from the manufactories of Messrs. Wailes of Newcastle, and Powell, of London. The east window, the gift of Mrs. Iremonger, contains, in the central light, three subjects, viz. the Crucifixion, the Saviour bearing his Cross, and the taking Him down therefrom. On the right light is depicted Moses raising up the brazen Serpent in the Wilderness; and, on the left, Abraham about to sacrifice his son Isaac. In the flowing tracery is represented Jesus sitting in Glory, and Angels worshipping and ministering to him. The smaller window, the gift of Lady Chatterton, and which is a memorial to her husband, contains figures of St. Peter and the Holy Cross, and St. Andrew, over which are placed the emblems of the Redeemer's sufferings. The triple lancet window in the eastern gable of the nave is filled with glass at the expressed the parishioners, the middle bearing a shield charged with a cross, the left and right with keys, in which are shown the words *sancte cruce*. The church is heated with hot air, on the principle of Mr. Haden of Trowbridge. The whole of the carving in wood has been executed by Mr. Dugey. Mr. Woodyer, of Guildford, was the architect.

Southwold.—The church of St. Edelwin the Martyr having been restored, it has been re-opened for divine service. The fabric is of a very early foundation, and consists of a nave, chancel, north and south aisles, tower, and chapel attached to the east end of the north aisle. The church, so far as the exterior is concerned, has been restored at an expense of about 1,000*l.* The nave and aisles have been newly roofed, both with wood and lead-work; the walls cleaned, and in the plain parts re-plastered; the windows re-glazed with green tinted glass, diapered, with a neutral glass to relieve the plain surface: the seats are new throughout, of deal, with open ends, and are stained and varnished: the aisles are floored with black and red quarries laid in patterns: the pulpit and reading-desk are of oak, carved with various symbolical ornaments. The architects were Messrs. Millican and Smith, of Leicester.

PROVINCIAL NEWS.

Yarmouth.—The Nelson Monument, on the South Denes, is no longer a disgrace to the country from its dilapidated state. The repairs have been completed. The terrace has been almost pulled down and rebuilt: the caryatides and the figure of Britannia have been improved and repaired; and other alterations, additions, and reparations effected. The monument will probably be inclosed by an iron or stone palisading, but the committee have not decided as to which is preferable, and the requisite funds are not yet in hand to accomplish the work.

Gloucester.—The Local Board of Health have received tenders for constructing the culvert under the Sudbrook, and other proposed works to abolish the nuisance at present occasioned by this stream. Mr. Harvey's estimate for the works was 491*l.* 12s. 9d.; and the tenders were, Messrs. Collier and Smart, 450*l.* 19s.; Mr. Joseph Hayes, 488*l.*; Mr. Thomas Parry, 488*l.* 7s; Mr. Charles Niblett, 464*l.* 11s. 10d. The committee recommended that the tender of Messrs. Collier and Smart be accepted, and their sureties approved. An arrangement has been made with the Gloucester and Berkeley Canal Company with regard to the Sudbrook. The sewage to be brought down by the proposed culvert under the Sudbrook will be diverted into the city sewers at the Bristol-road, leaving the storm water to flow into the canal, as at present; but means will be taken for shutting off communication with the city sewers, the object being to prevent the outlying parishes from having any claim to the sewers or outfall into the river, or power of interfering with the rights of the Canal Company.

Shobdon Court.—The *Hereford Times* gives an account of extensive improvements at this old mansion, the seat of Lord Bateman. The building, which dates from the closing period of the seventeenth century, was of red brick of the plainest description, and consisted of a block about 110 feet square, connected, by an underground passage, with the offices, a second similar block, 70 feet by 50 feet. The general arrangement, so far as relates to the main building, has not been disturbed; but extensive additions have been made to the offices, with the latest improvements. The new erections comprise a dairy, larders, wash-house, drying-room, laundry, brew-house, &c. in addition to the Porter's lodge. A steam-boiler is to perform a variety of useful services. Steam pipes, from it, will heat the hot closets and plates in the kitchen, and boil meat, vegetables, &c.: in the scullery, besides heating the drying-room it will also boil 500 gallons of water in the cistern at the top of the ventilation tower, while the heat generated by it will rarefy the atmosphere, so as to cause a strong current of air to pass through the dairy, larders, wash and brew houses, &c.; all which buildings communicate with the tower by means of flue-air flues formed in the roofs. Pipes are laid from the hot-water cistern to serve the wash and brew houses. It is intended to boil the clothes by steam, the tub having a steam-jacket round it for the purpose, dispensing altogether with coppers; and the various washing and rinsing tubs are of cast iron, mantelled on the inside; hot, cold, and waste-water taps being laid to each. The fire under the boiler will also heat the iron-plate, fixed for heating the flat-irons in the laundry. Improvements which first attract the eye of a stranger, give a new character and finish to the edifice. At the new carriage entrance on the north front has been erected a stone porch, having an arcade on either side, consisting of four arches with cornice and open parapet. On the south front, the ground lying very low, a terrace has been built, 20 feet wide, and 200 feet long. The floor of the terrace is of Seyssel asphalte, and it is supported by wrought-iron girders. The front is formed of a number of stone arches with cornice and open balustrades, and flower vases on the pedestals. From the terrace, at either end, is a flight of twenty very wide steps conducting to the flower garden. On the two sides of the house four areas have been made, each 10 feet wide, where formerly the earth lay to the height of 9 feet against the walls of the basement offices. These areas are furnished with an open balustrade, pedestals, and vases, on the same level with the terrace, and made in every respect to correspond. They have also two flights of stone steps, each 35 feet long, to the landings at the east and west doors. The entire cost of the works will be about 20,000*l.* For the steps and paving the stone used was the White Mansfield; and, for building, the Bath stone. The general contractors are Messrs. Puddle and Thompson, of Peterborough. The hot-water pipes are supplied by Messrs. Haden, of Trowbridge. The bells have been hung by Mr. Thomas, of Birmingham, and the gas-pipes and fittings fixed by Mr. Ennson, of Wolverhampton. The iron tanks, skylights, &c. have been made by Mr. Hodgkin, of Birmingham. The whole of the works, building and engineering, have been carried out from the plans and specifications and under the superintendence of the architect, Mr. Alexander Milne, of Northampton.

Wantage.—A new school, built from a design by the Rev. J. Vincent, curate of Wantage, by Messrs. Kent, of Wantage, has been opened here. It consists of a small school-room, with out-offices, and is situate near the church, the site having been presented by Mrs. Elizabeth Barnard, of Charlton, and the cost (about 200*l.*) subscribed towards by that lady and the owners and tenants of the village property.

SCOTLAND.

Peebles.—The plans for a covered corn exchange for the accommodation of the farmers attending the grain-market at Peebles, according to the *Border Advertiser*, will be proceeded with as early as possible. Plans for building and improving the Burgh School have also been agreed to. A large private boarding academy has just been completed at the new buildings, at Springhall; and the Chambers' Institution is arriving at completion. Operations have been commenced in the quadrangle for the reception of the Old Cross at Peebles, which has been safely removed from the grounds of Sir Adam Hay, and is to be erected on a new pedestal.

Selkirk.—So far back as we can recollect, says the paper above named, we have never seen the mason trade half so brisk here as it has been for some years lately, and is still at present. Buildings after buildings have been raised in rapid succession, and decided improvements made on a very extensive scale. The opening of the railway dates a new epoch in the history of Selkirk. Were a native of Selkirk, who had been several years abroad, to return to see the place of his nativity again, we question, it adds, whether he would know it now, so great is the extent of building and improvements of late years in all parts of the town; but more especially on the north side, and in the direction of the mills and the railway station.

Glasgow.—The town-council of Glasgow have approved of a Bill drawn up for the purpose of giving them powers to assess the inhabitants to the extent of 2d. on the 1*l.* of rental, for the maintenance of the two new parks and the Fine-Art Galleries recently purchased. The first of thirty two public fountains, which are required by a clause in the New Water Act to be provided for the benefit of the citizens generally, has been opened at the corner of Glassford-street, immediately adjacent to the site of the old Westport pump, which has been rendered useless by the contamination of carburetted hydrogen from the gas-pipes in the neighbourhood. The fountain, which is from a registered design by Messrs. George Smith and Co. of the Sun Foundry, consists of a cast-iron pillar, with drinking-taps and bell-a suspended by chains. The taps, which are of a solid construction, are so contrived as to close immediately on the removal of pressure, and are thus calculated to prevent any unnecessary waste of water. Around the base of the fountain there is a circular channel 4 inches in depth, and designed to afford a sufficiency of water to dogs. The opening of the fountain seems to have excited quite a sensation in the vicinity. Messrs. Smith and Co. have been engaged, and are now preparing, to set such fountains up in the various districts of the city, and especially near the sites of the old familiar wells. The cabstands are also to be supplied with fountains something similar, but surrounded at the base with a trough for the supply of horses and cattle. It is also provided with taps and ladles.——The Sydney-place United Presbyterian church, Dukes-street, has been opened for divine service. The building has been erected from designs by Messrs. Peddie and Kinnear, of Edinburgh. It is in the Grecian style of architecture. The façade of the edifice is in Duke-street, and is after the example of the Choragic monument of Lysicrates in Athens. Supported

by two Corinthian fluted columns flanked by two pairs of antæ, in an entablature and pediment, under which is a portico *in antis*. The gable forms the apsis or semi-circular termination to the building, with its semidome perforated with thirty-two circular openings for the admission of light to the pulpit. These have been filled in with stained glass. The side windows are of ornamental plate-glass. On the east side of the church, and divided from it by a court-yard, is a hall capable of containing 400, to be used for meetings, as a school-house, &c. The main buildings extend 66½ feet along Duke-street, and 85 feet into Sydney-street. The under part of the church is seated to accommodate 707, and the gallery 510 —in all, 1,217. It is lighted by a central sunlight, and three-branched brackets under the gallery. The heating apparatus is hot water-pipes, and the ventilation has also been attended to, that of the large hall being on Mr. M'Kinnell's patent. The vestibule is paved with Maw and Co.'s tiles. The whole buildings have been about sixteen months in erection, and, it is calculated, at a cost of about 6,000*l*. Messrs. Watson and Bruce were the masons; Denholm and Nisbett the joiners; Forrester and Son the plasterers; Wylie and Lochhead, upholsterers; Ross, plumber; Laidlaw and Son, gas-fitters; M'Onatt, slater; Malloch, glazier. The whole operations were executed under Mr. Cleland, as inspector of works.

Cullen House.—The *Banffshire Journal* gives an account of some rather extensive improvements which, since the middle of July last, have been going on at Cullen House, the principal residence of the Earl and Countess of Seafield. These improvements are not yet completed. Cullen House consists of two wings of irregular masonry, the one running north and south, the other east and west, being thus of course at right angles to each other. It is a comparatively plain building, with only here and there an ornamental window or a corbelled turret. The situation is delightful. For a long distance round, the country is richly wooded, and the western end of the building overhangs the burn of Cullen, here spanned by an arch 81 feet wide, which carries across the carriage drive. The building has been greatly extended at different times, until at present it covers an area of about 20,000 square feet. As mentioned, the building consists of two wings. In the improvements now being effected, operations are confined to the western wing. This wing, from the gable to where it joins the other wing, is 143 feet long, or, taking the full length from end to end, 180 feet. The principal improvements, however, have been effected on a portion of this wing, occupying about 80 feet. This portion is evidently among the latest additions to the house. The style of architecture adopted in making the improvements is what is known as the Old Scottish or Ornamental Old Scottish. The architect is Mr. Bryce, of Edinburgh, whose resident inspector of works is Mr. John Millar. The contractors are, for the masonry, Mr. John Hendrie, Inverness, his resident manager being Mr. Bennett; for the carpenter work, Mr. Hill, Leith; slater, Mr. Desson, Cullen; plumber work, Messrs. Burns and Baillie, Edinburgh; and the plasterer, Mr. Annan, Edinburgh. The stone used for the rubble work is obtained near Cullen, and the freestone for the ornamental work, from Covesea, near Lossiemouth.

Stirling.—A new church, in the Gothic style, is to be built immediately at Stirling, on the site of the structure in Irvine-place, now used by the U.P. congregation. The old building has for some time been in a dilapidated condition. A spire, 130 feet high, is to be attached to the new building. The interior will be seated for 600 persons. A small gallery will be placed over the vestibule facing the pulpit, and arrangements made for additional galleries, should they be required. Messrs. F. and W. Mackieston, Stirling, are the architects; and the cost of the building will be about 2,000*l*.

Perth.—St. Peter's new Episcopal church, according to the local *Journal*, is nearly completed. The edifice is cruciform. The principal elevation fronts the west, in which the main entrance is placed. Immediately over it is a large Gothic window, which, along with those in the east, north, and south gables, is divided into four lights by stone mullions, and filled in with geometric tracery. The angles, formed by the transept, facing the west, contain staircases leading to galleries placed on both sides of the transept and in front of the altar. Over the staircase in the south angle is raised a spire of simple design. The other angles facing the west contain the vestry and robing-room. The four principal gables are each terminated by a cross, of rather diminutive proportions; and the gablets on the angles are finished with *fleurs de lis*. The roof is of lofty pitch, open internally. The pews are open. Mr. Henderson, architect, Edinburgh, furnished the design: Mr. Scott was contractor for the mason-work; and Mr. Herd for the carpenter and joiner work.

THE CITY COAL-TAX AND ARCHITECTURAL IMPROVEMENTS.

SIR,—Practical reforms are not assisted by exaggeration: much of this appears respecting the corporation of London coal duties. The coal duties yielded, in the year 1857, as follows:—8d. per ton, 141,388*l*. and 1d. ditto, 17,673*l*. received by the corporation, and *paid to the Government*; and 4d. per ton, 70,673*l*. received and expended by the corporation.

This larger sum of 159,061*l*. is appropriated to the charge of west-end improvements. The corporation, having already the machinery for collection, were required to collect this 8d. for the Government, while they continued to collect their own 4d. and are no more blameworthy for whatever may be the wrong of such a tax, than is the *collector* responsible for any odium which may attach to the income-tax. The money has been expended already in forming the new Oxford-street.

But the corporation does receive 70,673*l*. and is responsible for the good or ill use of all or part of that sum. There are first expended in collection and management, 994*l*. including 200*l*. for committee dinners. To the Lord Mayor are paid 500*l*. and to certain deputy meters, 5,111*l*. Drawback is allowed, 6,456*l*. making altogether 13,061*l*. or about 20 per cent. out of the net sum of 57,633*l*. The corporation paid 20,000*l*. towards the cost of the new Cannon-street, and a further sum of 11,500*l*. by Act of Parliament, towards metropolitan (*not city*) improvements, not directly out of coal dues; but if that be included, then 31,500*l*. are contributed towards public works of the utmost utility, leaving a balance of 26,133*l*. which is passed into the general purse, and is spent for prisons, police, and such like needful purposes, all on a scale, it is true, of great costliness: some goes also for feasts, swords, and snuff-boxes. The corporation can only be overhauled, therefore, for about one-third of the 4d. duty, or for only one-sixth of the whole duty.

Instructed people ought not to make the coal-tax unpopular, *provided it be honourably and economically held sacred for public improvements*. It is a tax easily levied, and practically pinches no man: it is not 1d. per cwt. on the poor man's fuel. His own wasteful gin and beer bill infinitely exceeds it. For the small portion he contributes, he is repaid twelvefold. If pleasant country walks cannot be reached, the next best thing is broad straight streets, with bright shops and a nice façade of houses. Dingy lanes, gloomy alleys, murky courts, neither invite his stroll (except to the nearest gin-shop at the corner) nor much improve his health, loaded as the damp air of such places is with foulest exhalations. Health and strength are the money—the capital—of the working man, and a small contribution from him is most profitably invested when it so aids him. A straight street shortens his labour in walking from point to point.

A new street opens fine opportunity for improvements in domestic architecture, comfort and health inside houses, better appliances for heat, light, and ventilation. For such purposes money must be had, especially when most unreasonable sums are demanded as compensation for old premises and removals. People had no conscience in their claims for premises on the south side of old Cannon-street; but the owners of property on the opposite side (the north) said nothing about the immensely *raised value of their* property, which remained. The construction of the new street cost 500,000*l*. of public money, and it would not be too much to say that the *old property which remained* untouched was enhanced *half that sum*, a benefit gratuitously bestowed on sundry persons out of the onerous costs of that capital street improvement.

The late valuation of the *whole city* put the property at 1,249,601*l*. being an increase of 133,040*l*. or an addition of 10 per cent. Those wards through which the new street passes, and which have been enriched by the improvement, are Bread street, Candlewick, Castle Baynard, Cordwainer, and Walbrook. Under the old valuation, the houses therein were put down at 144,245*l*.: those now existing, *old* and new, are valued at 167,266*l*. Complaint is made that not only the city and the metropolis contribute, but the whole district twenty miles round the Post-office. The commissioners of 1854 think that funds applied "so exclusively to so small an area as the city proper" (only 70,673*l*.), should not be so obtained. This is an error. The citizens of the *city proper*, relatively, make small use of that district. All the metropolis, all the surrounding districts, the whole kingdom, almost all the world make great use of it. They travel over its paved ways, enjoy its gas-lights, and its wholesome drainage, and make abundant use of its police, &c. They are immensely interested in good streets and convenient highways. When the Londoners go into the country they can stir but a few miles without being constrained heavily to contribute to the tolls which maintain the suburban and country roads. Tens, hundreds, thousands use, *free of all cost*, the city and metropolitan highways, and all that pertains to their security and convenience,—*free of all cost*, except this minute contribution out of their coals, which is inappreciable.

I. H. ELLIOTT.

DISTRICT SURVEYORS AND THE BUILDING ACT.

SIR,—The difficulties pointed out in the correspondence published in your paper of the 17th inst. signed "District Surveyor" must candidly be admitted by every one holding that appointment. Few amongst us are not aware of the disadvantages attending any case, however clear it may appear, by their individual knowledge of the conventional terms and phrases used in the enactments of the Metropolitan Building Act, when before a magistrate sitting in a police-court; and still fewer there are who cannot bear testimony to the patience and long suffering endured by the worthy magistrates in their endeavours to do justice, and also to their merciful dispensations on all occasions to offenders against the statute. But as the Legislature has made certain rules in respect to buildings carried up in this immense metropolis, and therefore the decisions of the magistrates are, in all cases, of importance to the public, it certainly would be more satisfactory to the district surveyors (I presume) if, when they felt themselves bound by any infringement of these rules to take the subject before the tribunal pointed out in the Act, it could be entered into with less anxiety as to the construction of the several terms therein introduced.

Without making the effort to introduce and carry through another Building Act so soon after the one just passed (1855), I would venture to suggest that the Metropolitan Board, with the concurrence of the Government, introduce a bill to divide London, for all the legislative enactments and police proceedings under the Metropolitan Building Act, into four great divisions, and establish police courts for their especial purpose, and that only such gentlemen as from their antecedents had a practical knowledge of buildings should be made police-magistrates in such courts. By this operation the Building Act would retain its integrity; the public would still have the advantages which all proceedings have before a police-magistrate, viz. that of as little loss of time as possible, and oral evidence being admitted without any unnecessary or voluminous documents being previously prepared and submitted. The legal difficulties would easily be corrected by the clerk of the court, and the usual costs would doubtless support the machinery, and if it did not quite do so the public would have no great cause of complaint, being a court for their own individual advantage.

In the measure I suggest, I would further propose that in it should be embraced a clause altering the time at which fees to the district surveyor should be paid, viz. to the time of giving the notice. If this course were adopted, it would be the means of protection, not only to a very numerous body of individuals, but to speculators in building transactions, who are very frequently led on to commence what they never can complete, which ultimately brings destruction upon them, and certainly much inconvenience to all who have been connected with them.

JOHN TURNER.

NORTHERN SEA BATHING INFIRMARY COMPETITION.

THE committee have declared the first premium of 50*l*. as due to the motto "Truth;" and the second, of 25*l*. to "Beccos." On opening the letters bearing these mottoes, the first was found to be from Mr. W. Baldwin Stewart, 15, Baker-street, Portman-square, London; and the second, from Mr. Edward Blatchley, 22, Charles-street, Berners-street, London.

They have also decided on purchasing the objectionable site.

The building is to cost 3,000*l*.

The committee said in their report "Sixty-one plans have been sent in for inspection, and many so good that the task of selection has been a very arduous one.

It became necessary to determine whether the selection should be made on the principle that the contemplated building should be a comfortable lodging and boarding house for the restoration of patients, or more of an hospital for the treatment and cure of disease.

The committee give no opinion, at present, on this matter, but in whichever point of view they considered this question they felt that, not only in deference to the system suggested of those who have had much hospital experience, but also to the strongly expressed opinions by the medical gentlemen on the committee, it was absolutely necessary to consider, as primary requirements, thorough natural ventilation in the wards.

The committee felt bound to reject those plans where the expenditure, according to the statement of the architects, far exceeded the limit prescribed, and to exercise some judgment where the style of the building seemed to render it quite improbable that they could be built for that amount."

SIR,—I observed in a recent number a remark upon the [illegible] Infirmary competition. Since then I have seen in the local paper a report of the proceedings of the committee, and I certainly was astonished, considering the number of influential gentlemen connected with the business, to find, according to their own admission, that, at the time they asked for designs for an *Infirmary*, they actually required "a comfortable lodging and boarding house." I should have thought that gentlemen on that committee would have had some conception, at all events, that there is a vast difference between an infirmary and a lodging-house. I am sorry to say I was a competitor, and my design embraced the principle of natural "*thorough*" ventilation, &c. &c. Of course my labour, like many others, has been thrown away, but there is a point connected with this affair which I should like to see or hear answered. If a committee ask architects for designs for an "*infirmary*," offer a premium for the best, and receive the plans, and then send them back because they are not something they did not ask for, and which it was scarcely possible for architects to dream about, are they not liable to *pay* for the trouble, lost time, and labour, which they put us to? I know not what the *law* says, but I feel very strongly what [illegible] would say if she could speak.

A COMPETITOR.

THE LIVERPOOL SOCIETY OF FINE ARTS.

A NUMEROUS audience, chiefly of ladies, assembled in the Queen's Hall, Liverpool, to hear the first lecture of the season in connection with the Liverpool Society of Fine Arts. The mayor presided. The lecture was by Mr. S. A. Hart, R.A. professor of painting, lecturer to the Royal Academy, "On those Considerations which should influence the Life of a Painter, and be made manifest in his completed Works." Taking a sort of historic glance at the progress of art, the lecturer explained to the audience some of the circumstances attending the curious compositions of some of the early Italian masters, such as those in the Sistine Chapel by the hand of Michelangelo. Angular divisions in the ceilings of ecclesiastical buildings were left by the monks, for the purpose of being filled up by the artist employed to decorate the interior, and the shift which painters were thus put to, had originated the most extraordinary and masterly compositions that we met with in Italian art. Dwelling upon the extensive general knowledge required by an artist, and the anomalies sometimes fallen into through lack of this knowledge, the lecturer related an anecdote of a visit he once paid to an exhibition, in company with Professor Owen. They stopped opposite a landscape picture. "That man knows nothing of geology, it is very clear," remarked the professor, alluding to the artist, "for he has painted trees growing upon sand." But Salvator Rosa went further—he painted trees growing upon nothing at all. The artist could gain nothing worthy of imitation from the stage, owing to the various different conceptions of character which various actors, succeeding each other, gave to the public. Such matters as the furnishing of light from below instead of above; the want of atmospheric colour; the exaggerated attempts at stage effect; and the whole insincerity of the art, were reasons why the stage should never be an authority for the artist. One touch of nature was superior to all meretricious art. Mr. Hart dwelt at length upon the evils of "fastidiousness" in art, as opposed to mere carefulness and avoidance of slovenly execution; and in a polite bit at the doctrines of the pre-Raphaelites, he described the deficiency of imagination which enforced a servile copy of the minutest details, as a quality which would render a picture something like that which might be produced in an instant by the use of a looking-glass.

THE DRAINAGE OF HASTINGS.

AT a recent meeting of the town council of Hastings, acting as a Local Board of Health, a vote of thanks was unanimously given to Mr. John Laing, surveyor to the board, for the satisfactory manner in which the drainage works within the district have been carried out under his supervision, and a similar vote to Messrs. Hughes and Hunter for the way in which they had executed the work.

The drainage works of this borough have occupied about two years. The contracts were let in two sections.

Mr. Munday's contract for division A was	£5,775	0	0
The extra works	142	0	0
Hughes and Hunter's contract divisions B and C	7,787	11	10
The extra works	149	19	0
Total	£13,854	10	10

Amidst much that we hear of that is disagreeable as occurring between local boards and their surveyors, it is pleasant to have to record such an evidence of satisfaction.

The unwise system, in some parts, appears to have been, so soon as the drainage and waterworks were completed, to appoint to the charge of them a person at a low salary, often a broken-down tradesman with friends at the board, manifestly unequal to the proper discharge of an important duty requiring knowledge of a special kind. What the result will be it is unnecessary for us to point out. What it has been, indeed, in several instances, is already well known.

Books Received.

A Memoir of Thomas Uwins, R.A. By Mrs. Uwins. With Correspondence, &c. In two volumes. London: Longman and Co. 1858.

THOMAS UWINS was no mean artist; and the official honours with which his later years were graced show the estimation in which he was held. He was keeper of the Royal Galleries and the National Gallery, librarian of the Royal Academy, curator of the pictures in the Royal Palaces, &c. &c.; and he had many friends amongst the most eminent artists, as well as among the most influential patrons of arts. His modest and affectionate biographer says correctly that his long life of more than three score and ten "never rose to triumphant success, or world-wide reputation;" but he was the author of many works of distinguished excellence and of increasing value, and his influence on the public taste, in popular works wherein his sketches appeared in the form of engravings, must at one time have been considerable.

Mr. Uwins was born at Hermes Hill, Pentonville, in 1782. He was the youngest of four sons of Mr. Thomas Uwins, for many years (as one of his sons was) a clerk in the Bank of England. His experience as an artist was chiefly acquired in Italy and France, as well as in England. His vineyard scenes, and his Italian compositions, such as Neapolitans dancing the Tarantella, and the Dancing Lesson, are well known.

A large proportion of the work under notice consists of letters written by Mr. Uwins and his correspondents while he was in Italy and France. Amongst his correspondents were the late Sir Thomas Lawrence, Sir Charles Eastlake, Mr. Chalon, R.A., Sir William Gell, and others. He was a good letter-writer, and the whole correspondence is interesting. Mr. Uwins must have had estimable qualities, which attracted and attached his correspondents, and gave a genial tinge to his letters: yet he was rather of retiring habits, and his friend and correspondent, Mr. Severn, was perhaps not far wrong when he told him he had too little vanity, and therefore had not a motive strong enough to enable him to use his real genius to its utmost capabilities.

Some of the very earliest sketches done by this artist were for Ackermann, the artists' colourman and printseller. These Ackermann called his "britty vaces." Half-a-crown a-piece, however, was all he paid (or perhaps was asked to pay) for the pretty faces. Before he had reached the age of twenty Mr. Uwins was supporting himself by miniature portraits and by teaching his art to others. In 1833 he was made secretary to the Water-Colour Society; but he did not very long continue to work in water-colours, and never exhibited with the Water-Colour Society after 1818, when he resigned his secretaryship in consequence of having to work hard to make up a sum, at the rate of 100*l.* a quarter, for which he and Mr. Warren, the engraver, had become security, but which he insisted on taking the burden of on his own shoulders, from consideration for Mr. Warren's family, he himself being single, and having remained so indeed till a late period in life. About this time he went to Scotland, and for some years attempted to establish himself, chiefly as a portrait-painter, in Edinburgh. Here George Combe, by his reading of character from the head, made him a phrenologist; and Mr. Severn used afterwards to "confound" the bumps for humbling Uwins in his own estimation in after years.

In 1833 Mr. Uwins was elected an associate of the Royal Academy, and in 1838 an academician, his diploma being the first signed by Queen Victoria. In 1843 he had painted a fresco of the Lady in Comus, in the pavilion at Buckingham Palace; and in the following year he received the appointment of librarian of the Royal Academy; and in 1845 the further and unsolicited and unexpected appointment of surveyor of pictures to the Queen, in the room of Sir Augustus Callcott. Speaking of this latter appointment to a correspondent, he says, "This place had been applied for by many, of standing my equals, and in talent my superiors; men of more interest than myself, and with more means of putting forward that interest in the quarter where it ought to have influence. I asked not for place, directly or indirectly; but to me it is given. Perhaps her Majesty was pleased that I did not attempt to take any advantage of the personal communication with which I was accidentally honoured while painting the fresco in the pavilion; or perhaps—but it is useless to go on conjecturing."

In 1847 the keepership of the National Gallery, was conferred on Mr. Uwins.

Some few years before he died, he resigned all his active pursuits and offices, and retired to Staines with his wife, literally to die. On 26th August, 1857, he there expired.

A Handbook of Chemical Analysis (adapted to the Unitary Notation). By F. T. CONINGTON, F.C.S. London: Longman and Co. 1858.

THIS volume seems to have been a desideratum in chemistry. It is based on the fourth edition of Dr. H. Will's "Anleitung zur Chemischen Analyse," but with considerable additions and rearrangements. It is not intended to supersede any educational works in chemistry, but to constitute an English text-book, comprising the latest and most approved methods of analysis, within a moderate compass, a purpose which it is well adapted to fulfil, as is Will's work in Germany.

VARIORUM.

A "STATEMENT of the Objects and the Rules of the Society for the Extension of Dispensaries, on the Self-supporting Principle, throughout the Kingdom, established at Warwick," has been forwarded to us. Having already more than once given favourable notice of these useful dispensaries for the independent poor, all we need here do is to announce the present publication, which we willingly do. The committee appeal to the public for support in this very commendable undertaking, and there is the more reason for this, that attempts have been made by certain members of the medical faculty to injure the cause which the society has at heart.——In a pamphlet titled "The Social, Political, and Commercial Advantages of Direct Steam Communication, and Rapid Postal Intercourse between Europe and America, *viâ* Galway, Ireland. By Fifty Miles" (Palmer and Co. Paternoster-row), the shortest possible route to Newfoundland, New York, and Quebec, is advocated. It was but recently that we noticed the exceedingly short and rapid passages thus made between Ireland and America; and it is only common sense to conclude that Ireland, which juts out towards the far west, like a long pier, whence the inhabitants of Great Britain, and even the Continentals, north and south, may most properly take their departure for America, and to which they may most speedily reach land on their return, must, in the long run, by the aid of railway transit, become the great American route for Europeans in general. This is precisely the chosen electrical line of communication also.

Miscellanea.

Improvement of Dwellings in Hull.—Lord Shaftesbury has received from a lady, whose name has not been communicated to the public, a donation of 5,000*l.* for the improvement of dwellings of working men in Hull.

Proposed Statue at Blackburn.— At a meeting of the inhabitants of Blackburn, it has been resolved to present a testimonial to the late mayor, Mr. Alderman Pilkington. It was recommended in one of the resolutions "that a statue be erected in front of the Infirmary, or such other testimonial as may hereafter be decided upon by the subscribers, and that a handsome piece of plate be also presented to him."

The unwholesome Omnibus.—Sir: Sanitary matters are treated in the *Builder* as to houses and rooms: perhaps those rooms in which people sit for an hour or more during the day, and which run on wheels—omnibuses—may not be considered beside the object. They are unwholesome things, and people should not spend the one-twelfth or one twenty-fourth part of their time in foul air if avoidable. Many have been the contrivances to purify the omnibus, and yet avoid an evil almost as bad—a draft of cold air. It is easily done, and is done in Paris, and in many of our provincial towns. *Remove the door:* it is not enough to put the window of the door down, the *upper part* of the carriage is filled with hot foul air, and the cold purer air outside gently presses against it, and, by the onward motion of the carriage, it just runs away with its burden from the outside air trying to get in, whose pressure, or force, is only just enough to keep the foul air in its place, almost to cork it up. This is proved by the instant freshness of the air when the carriage stops; for then the cold air rushes in like a square piston, and drives the foul air out, laterally and forwards. Open the whole door and the circulation is complete: the fresh pure air comes in below: the foul air turns round—out—above it at the top. There are not six days out of the 365 that the door is other than a complete nuisance. They do without it in France, and we can do the same. The French omnibus, also, has no straw or matting. The floor is covered with a row of wooden rails about one inch apart, and about half an inch deep; a tidy contrivance which the people of Liverpool have adopted. This acts as a scraper: the dirt from passengers' feet is scraped off, and by the jolting of the carriage it travels backwards to the doorway, where these channels terminate in small holes through which the dirt falls out, and the floor is kept very clean. In London, in wet, dirty weather, the inside of the omnibus, especially where there is straw, smells abominably: it is, indeed, a pest-box, a cholera van.—I. H. E.

St. John's, Newfoundland. — The Roman Catholic Cathedral of St. John's has lately received some additions to its artistic decorations. Five stained glass windows, each 21 feet high and 9 feet wide, have been placed in the apsis over the chair, behind the grand altar. They are executed by Mr. Warrington, of London, and contain the figures of our Saviour, the Virgin, St. John the Baptist, and the twelve Apostles, three figures in each window, surrounded by Arabesque borders surmounted by circular ornaments. The Honourables Judge Little, John Fox, Philip Duggan, and George J. Hogsett, are the chief contributors. The panels under the windows will be ornamented with paintings of the instruments of the Passion. Five large paintings, copies of the *chefs d'œuvre* of Raffaelle, Domenichino, Zurburan, and Mignard, have also been placed in the cathedral.

Drainage of Sunderland.— The sewerage works of this borough, commenced about two years ago, and which comprised eight miles of brick sewers, and fifty-four miles of pipe drains, &c. are now nearly brought to a close. The following works have been completed, viz. eight miles of brick sewers, varying in depth from 8 to 45 feet (including some very heavy drifts); fifty miles of pipe drains, from 5 to 15 feet in depth; 8,008 house drains joined voluntarily, and 576 compulsorily; and about 600 water-closets erected. The quantities of materials used in the works, exclusive of private drains, are as follows:— 2,000,000 bricks; 102 cargoes of stoneware goods, containing 140,000 pipes, junction blocks, and invert blocks; 645 tons of metal and iron-work; 912 gully-grates and traps; 216 sets of flushing pipes; 96 manholes and fittings. The works have been laid out by, and completed under the inspection of, the borough engineer, Mr. William Crozier. The cost, it is said, will be considerably below the engineer's estimate, which was 64,000*l.*

Lancaster Board of Health Surveyor.— At the Board of Health meeting, Mr. Henry Harrison, stonemason, was appointed surveyor and inspector of nuisances for the borough, at the salary of 80*l.* per annum. There were thirteen candidates for the situation.

Havelock Memorial.—I understand that the likeness of Mr. Behnes's "Havelock" (selected) is perfect; but is it not curious that in the chosen model no atom appears of religious sentiment, which, as combined with perfection as a soldier, was Havelock's characteristic?—Spectator.

Electro-Depositing.—Under patented processes, Messrs. Schaub and Godfrey are applying electro-depositing to the production of relief-letters, figures, and ornaments for inscriptions, for plates with inscriptions, and detached and open ornaments for ornamenting book-covers, wood, papier-mâché, and other furniture. Advantage is taken of the truthful copying by engraving fine outlines in the originals to indicate colour ornamenting, and in this way it is made easy, even to children, to shade and decorate the letters and ornaments correctly. In open-work, such as book-corners and centres, panels for broaches, mats, designs, and ornaments are produced at so low a price, that they can compete even in respect to prices with the inferior stamped work that we have been accustomed to see. The patentees have also patented two processes to produce printing type.

The Builders' Ball.—The committee for conducting this ball, we must notify to our readers, have fixed on Thursday, the 10th of February next, for its celebration at Willis's Rooms, St. James's. If any stimulant be now requisite to induce them to aid it, the benefit which these balls have already conferred upon the valuable charity to which they are devoted, we feel assured will be sufficient to induce one and all interested to concur in keeping them up with ever-increasing celebrity. The Relief Fund of the Builders' Benevolent Institution has already been benefited by the builders' balls to the extent of no less than a thousand guineas and upwards.

Enamelling Iron.—A very simple method of coating iron with an enamel of glass is a desideratum. In the following process, the iron articles are first thoroughly scoured with sand and dilute acid, then washed and dried. Their surfaces are then covered with a thin coat of gum-arabic laid on with a brush, and over this the enamel powder is sifted, until all the surface is covered to a certain depth, according to the thickness of glaze desired. The articles are now put into an oven heated to 212 degrees, and completely dried: after this they are put into a furnace and raised to a red heat, which melts the powder, and it forms the glazed surface. They are now removed to a closed chamber, when they are allowed to cool slowly, and are then annealed. The glazing powder for white enamel is composed of 130 parts of powdered flint glass, twenty of carbonate of soda, and twelve of borax. These substances are fused in a crucible and reduced to powder. Some glazes contain oxide of lead: they are dangerous to employ for culinary vessels.

Railway Matters.—The traffic returns of railways in the United Kingdom, for the week ending Dec. 11, amounted to 125,920*l.* and for the corresponding week of 1857, to 391,810*l.* showing an increase of 34,110*l.* The gross receipts of the eight railways having their termini in the metropolis amounted to 172,809*l.*; and in 1857, to 170,325*l.* showing an increase of 2,184*l.* The increase on the Eastern Counties amounted to 356*l.*; on the Great Western to 1,262*l.*; on the North-Western to 3,008*l.*; on the Blackwall to 40*l.*; on the Brighton to 167*l.*; on the South-Western to 65*l.*; and on the South-Eastern to 435*l.*: together, 5,333*l.* But from this must be deducted 2,819*l.* decrease on the Great Northern; leaving the increase as above, 2,484*l.* The receipts on the other lines in the United Kingdom amounted to 253,111*l.* and for last year to 221,185*l.* showing an increase of 31,626*l.* The railway bridge over the Shannon has been tested with a weight of iron rails laid upon it of about 250 tons. Supporting pillars of timber, with cross beams running under the ironwork of the bridge, had been sunk in the bed of the river between every two of the original supports, thus adding six to the number, reducing the span between the former ones to one-half, and imparting the appearance of greater strength and stability to the whole structure. Nevertheless it is stated that the pillars at the Corbally side sank some six inches, and that the carriage way at the other deflected seven. If this be so, of course the bridge must come down and be replaced by a new one of a more stable and permanent kind.

The Effect of Oil in Stilling Waves.— It was thought that this old idea had been completely disproved by experiment; but, according to the *Saturday Review*, the very contrary has been the result of recent experiments, in course of which, at all events, waves on a pond, generated by the wind, were completely stilled to a "glassy smoothness" by means of a film of oil scarcely more than the 7,000,000th part of an inch in thickness, and exhibiting the most brilliant zones of iridescent colours from its extreme thinness. The *modus operandi* is believed to consist simply in the wind ceasing to have a hold upon the water by the intervention of the oil, which slips along the surface *with* the wind, so that the oil must be applied to windward, and it moves to leeward, smoothing the surface as it goes!

Oxy-hydrogen Light.—An improvement in preparing materials employed in obtaining light when oxygen and hydrogen gases are used, has been patented by Mr. James Copcutt, of Kensington. The gypsum or other material used is first raised to, and retained for a time at, a red heat, in a crucible, in which a small quantity of sulphur is introduced: 5 lbs. of sulphur are mixed with the ton of stuff. The mixture is raised to a red heat in a covered crucible or oven, and is kept at this heat for about twenty-four hours: it is afterwards allowed to cool, and cut into pieces of suitable form for use. The light is obtained by throwing an ignited jet of oxygen and hydrogen gases on to the gypsum.

Statue of Goldsmith, Dublin.—We understand that the statue is to be placed 10 feet inside the present old railing in the front of Trinity College; the central gate to be closed—two lateral ones opened. The new railing will range with the statue, which will be well seen from College-green and Westmoreland and Grafton streets. A considerable sum has been subscribed, and efforts are being made to raise the sum to the amount required.

Fall of a Suspension-Bridge in France.— The suspension-bridge over the Seine, at Evry, which had been completed, has fallen. This bridge, which stood opposite the property of Count Walewski, was intended to unite the villages of Soisy-sous-Etiolles and Evry, in the *arrondissement* of Corbeil. Workmen were employed in placing on the bridge the weight necessary to test its strength, and eight of them were still on the bridge when a crash was heard: an iron rod gave way, and the whole bridge fell into the river, carrying with it the eight men. By exertions they all, however, were got out of the water, one having a leg fractured, and the others being much contused.

Divers at Work.—The *Engineer* says,—The workmen employed in fixing the piles for the new Westminster-bridge go down when the tide is at half ebb, and work till it returns to half flow. After that the rush of the water through the half-stopped up arches is too great, and in the bed of the river even the strongest and most experienced diver would be swept away. In spite of the intense coldness of the weather the divers can now remain under water for five hours at one spell. After this the tide is too strong, and the men themselves get numbed and exhausted. The other day one overstayed his time, and the tide swept him along, and jammed him so tight between some piles near the foundation of the old bridge, that two other divers had to go down to release him, which they did with great difficulty. A short time since, also, one of the workmen was down in a diving-bell, when the air-tube parted short off at the top. In an instant the water rushed into the bell, which was so close in the river's bed that, although the man made three or four attempts to force himself under it, he was unsuccessful. Fortunately the accident was perceived above the water, the bell was drawn up, though full of water, and thus at the last moment its unfortunate occupant was enabled to get from under it and reach the surface almost dead from exhaustion. But, notwithstanding these chances, and the perilous nature of the work, no fatal accidents have yet occurred to any of the divers, though, on the contrary, some of the ordinary labourers, who seem to run comparatively very little risk, have been drowned, mostly through their own carelessness.

Cracks in Church Bells.—Bells should be occasionally examined to observe how far the bell is worn away at the two places struck by the clapper. If the indent be considerable, let the bell be rehung and turned a quarter round, thus presenting a fresh surface to the blow of the clapper. Bells sometimes crack without any extra or violent use, being worn only at these two points. The cost of prevention is trifling compared with the value of the bell.

Wilcebe.

Public Works in India.—The extension of public works in India will, it is stated, be carefully considered by Lord Stanley, the head of the Indian Council; and in proof of this he is said to have already sanctioned the organization of the Madras Irrigation and Canal Company, with a first capital of 2,000,000*l.* The early issue will be 1,000,000*l.* in 50,000 shares of 20*l.* each, upon which a perpetual minimum interest of 5 per cent. has been guaranteed. It is contemplated to construct, maintain, and develop a comprehensive system of irrigation works and navigable canals throughout the presidency of Madras and the neighbouring territories of Berar, Cochin, Hyderabad, Mysore, Nagpore, Orissa, the South Mahratta country, and Travancore, and also throughout the lower provinces of Bengal, when the necessary powers are obtained.

Sinking of a New Street.—The street at present in progress of formation, from the base of the Stream-hill to the Fair-green, says the *Downpatrick Recorder*, is giving the unlucky contractor a great deal of trouble. The end next the Fair-green has been gradually sinking for weeks, and notwithstanding that "till" is being almost daily carted upon it, the contractor cannot get it brought to a level with the rest of the line. It is said to have sunk 30 feet already.

Self-possession and Ingenuity while in Peril.—At Pilkington lately two workmen were preparing to descend in a bucket from the top of a newly-erected chimney, 12 yards high, when the rope became detached from the rest of the apparatus, and the bucket containing one of the men was precipitated down the inside of the chimney, carrying along with it different portions of scaffolding which had been fixed at various stages of the erection, and ultimately breaking a tramway which was fixed five yards from the bottom, and which was constructed of three-inch planks, having iron rails laid thereon. He was picked up not very seriously hurt. The young man left at the top of the chimney retained his self-possession luckily, and, after some consideration, took off one of his stockings, unravelled it, tied a piece of brick to one end, and let it down to the bottom. To this a piece of string was attached below, and was then drawn by him to the top, followed by a rope attached to the string; but, unfortunately, it was too heavy for him, and he was obliged to relinquish his grasp, and lost all communication with the persons at the bottom. He then took off his other stocking, proceeded as before, and at last got the end of the rope, when he put the apparatus once more in working condition, attached the rope to his body, and was shortly after safely deposited on *terra firma*, after nearly four hours' peril on a cold winter evening. The circumstance reminds one of the way by which a prisoner is said to have made his escape by help of a spider, which he compelled to descend from a height, spinning his thread all the while, the end of which the prisoner kept hold of, and thereby drew up a very fine thread, woven by that somewhat abler weaver, the silk-worm, supplied by a friend below, who attached thereto a cord, and to that the longed-for rope, wherewith he escaped.

The Great Eastern Steam-ship.—An action for rent while this unfortunate ship was "dragging her slow length along" to the water in her tedious and costly launch, has just been settled while in course of hearing before Mr. Justice Willes and a jury, in the second court of Common Pleas. The action was brought by the plaintiff, Martin, for the recovery of double rent for holding over, or compensation for the use and occupation of premises occupied by the company for the purpose of building the Leviathan. The company had, upon the bankruptcy of Mr. Russell, taken the premises from his mortgagees, the plaintiff, for a year, for 5,000*l.* They had then, the ship being still unfinished, paid 2,500*l.* for six months up to August, 1857; and then 2,500*l.* was demanded and paid for two months to October, 1857. The ship was not finished until the end of January, 1858, and the premises were given up under a judge's order in an action of ejectment in February. The claim in this action related to the period between the 16th of October, 1857, and the 1st of March, 1858; or between the first date and the 20th of November, the date of the writin ejectment. The question turned in a great degree upon the value of the premises; but after evidence had been heard, the judge urged a private settlement, and it was left to his lordship, who thereupon said that there ought, in his opinion, to be a verdict for 2,500*l.* for the four months from October 16th till the 1st of March. Verdict for the plaintiffs, 2,500*l.* This great ship, instead of enhancing the glory of Britain as the mistress of the ocean, has been more a byword of reproach on the tongues of rival nations, through bad management.

Mr. Spurgeon on Gothic Architecture.—It is stated that, at a meeting held last week, Mr. Spurgeon, speaking of his proposed new Tabernacle, said he could never make himself heard in a church built in the *Gothic* style, and was quite satisfied "that the devil invented it."

Flexible Fire-Bars.—Mr. Newton, for a correspondent, has patented the use of chains, metal rope, or linked rods in place of the ordinary rigid fire-bars, the object being to allow them to work against each other in such a manner as to prevent the adhesion of clinkers to them.

Rotatory Pumps.—Mr. John Richards, Moorgate-street, has provisionally specified an invention, which consists of a hollow cylinder, to which is affixed a solid shaft, working through a hollow shaft carrying a cam, or two or more wheels, affixed to a suitable frame, or the sides on the surface of the cylinder are a series of plates or flaps of equal width, but varying in breadth according to the number covering the entire periphery. These plates are all hinged on one side to the face of the cylinder, and about their centre or their sides one or more slots are cut into the cylinder, equal to the width of each flap, through which passes a quadrant, one side of which is secured to the underside of each flap or valve. On rotating the cylinder the enclosed wheels, or cams, remain stationary, and one portion of each quadrant in succession passes over the top surface of the other wheel or cam, thus causing the flaps to rise and fall in succession in two portions of the case enclosing the whole, and this case, or cistern, containing the water to be forced, has two inlet and two exit pipes.

Liverpool Architectural Society.—The usual fortnightly meeting of the Liverpool Architectural Society was held on Wednesday evening, the 15th, in the Royal Institution, Colquitt-street, Mr. H. P. Horner, president, occupying the chair. The paper for the evening was one by Mr. J. A. Picton, upon "Wren and his Church Architecture: a Study;" but in consequence of a misunderstanding his paper had miscarried, and he was consequently unable to read it. Mr. Picton, however, proceeded to give an extemporaneous lecture upon some of the most important points of Wren's architecture, dwelling more especially upon his carpentry as applied to his roofs, and explaining a large number of diagrams illustrative of the subject. A discussion took place on the subject of the ingenuity and durability of Sir C. Wren's roofs, at the conclusion of which a vote of thanks was passed to Mr. Picton.

TENDERS.

For the Aldershott sewage works for the Local Board of Health. Mr. Charles Marshall, C.E. surveyor to the Board:—

Terry	£7,504 0 0
Hamill and Foulkes	6,515 0 0
Ennor	6,494 0 0
Stiff and Richardson	5,995 0 0
Yates	5,725 0 0
Eugene Murray	5,402 0 0
Walker and Neave	5,130 0 0
Houghton and Ley	4,977 0 0
Myers	4,809 0 0
Birch	4,806 0 0
Pawcett and Frost	3,570 0 0

For the proposed New Independent Chapel, Peterborough:—

Glinson, Royston	£2,049 0 0
Ellis and Son, Peterborough	1,972 0 0
Thompson, Peterborough	1,938 0 0
Bursnoll, Peterborough	1,900 0 0
Cogswell & Day, Peterborough	1,875 0 0
Royce, Peterborough	1,850 0 0
Brett and Moore, Spalding	1,850 0 0
Ward and Judd, Boston	1,848 0 0
Young, Lincoln	1,798 0 0
Pooley, Peterborough	1,678 0 0

For tavern at Bow, for Messrs. Taylor, Walker, and Co. Mr. William Keddall, architect. Quantities supplied:—

Lawrence and Sons	£1,740 0 0
Mansfield and Son	1,680 0 0
Scott	1,652 0 0
Pritchard and Co.	1,587 0 0
Ashby and Sons	1,575 0 0
Piper and Son	1,547 0 0
Hedges	1,535 0 0
Blackburn	1,428 0 0

For repewing St. Alban's Church, Wood-street, Cheapside. Messrs. Pougett and Scott, architects:—

Wenworth	£795 10 0
Ashby	794 0 0
Brass	756 0 0
J. Higgs	750 0 0
Lawrence and Sons	742 0 0
Rider	724 0 0
Hill	659 0 0
Piper and Son	625 0 0
Brown and Robinson	625 0 0
Mansfield and Son	596 0 0
Downs (accepted)	595 0 0

For National Schools, Groombridge, Kent. Mr. John Billing, architect. Quantities not supplied:—

Avis and Son, Putney, Surrey	£749 0 0
Billson and Co. Town Malling	740 0 0
E. and A. Barrett, Tunbridge Wells	726 10 0
Wren, Tunbridge Wells	699 0 0
S. Sands, Groombridge	692 0 0
Brown, Ashurst	665 8 0
G. Avis, Southborough	665 0 0
Reerless and Hartridge, Langton-green	630 0 0

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It is necessary to state whether the Advertisements are or are not to be included in the bound volume.

TO CORRESPONDENTS.

Breaking Mahogany.—As the season for preparing the book for another year will shortly be coming round again, I, along with other readers, would be extremely glad if any correspondent would kindly favour us with a few valuable paper on the subject of breaking mahogany, and going on by candle-light, &c. &c. &c. By so doing, they would much oblige—A Leeds Builder.

An Engineer (Bell and Daly, Fleet-street).—M. H.—A Constant Reader (ventilation is what is needed, to prevent steaming).—L. E. (it has already appeared elsewhere).—R. N.—D. B.—Investments.—C. J. R.—A Young Architect (a license is required for valuations; but not for making out builders' accounts).

"Books and Addresses."—We are forced to decline pointing out books or finding addresses.

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Brick, Tile, Drain pipe, Hair, Lath, and Fire Goods
Merchants,
ST. JAMES'S and THORNHILL WHARFS,
Caledonian-road, London.

SAFETY from FIRE.
HOUSES ARE RENDERED FIRE PROOF
If the walls and ceilings are plastered with the FIRE CEMENT made (only) at the
KINSON CO'S WORKS, POOLE, DORSET
As great deterrent to NINE ELMS STATION

FIRE CEMENT,
made only at the
KINSON CO'S WORKS, POOLE, DORSET.
If used as a lining to Hot Air or other Flues will greatly increase their durability
40s. per ton at NINE ELMS STATION

LONDON and WEST of ENGLAND CEMENT WORKS, Dunball, Bridgwater.—Hydraulic, Portland, Roman, and Roseway Cements. Blue and White Lias Lime, Rough and ground. KALLMARK and CO. Dunball, Bridgwater, and 3, North-West-road, Paddington.

PORTLAND CEMENT WORKS,
NORTHFLEET, KENT.
KNIGHT, BEVAN, and SIURGE,
Manufacturers only of first quality, for the home and foreign trade.
Portland Cement is manufactured at these Works with especial reference to its destination, whether for stuccoing, brickwork, blocks for breakwaters, tidal work, or otherwise
LONDON WHARF, BELVIDERE ROAD, LAMBETH.

ATKINSON'S CEMENT, so long known and esteemed in London for plastering purposes, is a quick-setting Cement, that requires no burning. Sold exclusively by JOHN BAZLEY WHITE and BROTHERS, Millbank street, Westminster, and Steel street, Liverpool.

KEENE'S and PARIAN CEMENTS for internal uses. These well known Stuccos dry quickly, and can be painted upon within a few days. Made and sold by JOHN BAZLEY WHITE and BROTHERS, Millbank-street, Westminster.

PARIAN CEMENT for INSIDE WORK.
With this material houses may be finished and occupied in one-fourth of the usual time. A fine quality produces a beautiful hard white surface. Sold by the Manufacturers, GRAND MEDIAL BROTHERS, and POTT, Nine Elms, London.

JOHNS & CO.'S PATENT PERMANENT STUCCO WASH (perfectly non-absorbent), STUCCO, CEMENT, STUCCO PAINT, and BENGUIN, Manufacturers, Grand Surrey Canal Bridge, Old Kent-road; Office, 4, George yard, Lombard street.

GREAVES'S BLUE LIAS LIME.
Messrs. GREAVES and KIRSHAW can supply any quantity of the above STRONGLY HYDRAULIC LIME direct from their works in WARWICKSHIRE, by CANAL or RAIL, to London, or any part of the kingdom, and they have now made arrangements that will enable them to deliver at such prices, either LUMP or GROUND, as will ensure its being used, not only in works where quality alone is desired, but for ordinary building purposes, and there will be found very great advantages in using it BASEMENT FLOORS, being better adapted for such purpose than any other lime cement.
It is now TWENTY YEARS since Mr. GREAVES first introduced the BLUE LIAS LIME into London, from its very superior quality, it has been used largely in open and arched of the LARGE WORKS that have been constructed in and near the METROPOLIS within that time, OUT THE COUNTRY, especially for RIVER, SEA, and DOCK WALLS of TUNNELS, SEWERS, AND RAILWAY WORKS, AND VERY GENERALLY FOR CONCRETE, in all which works it has given great satisfaction, and has been found the BEST BLUE LIAS LIME that has been offered to the LONDON MARKET.
Messrs. GREAVES and KIRSHAW can deliver it to ANY PART OF LONDON by RAILWAY OR WATER CONVEYANCE, and it may also be had GENUINE (NO OTHER LIME BEING KEPT) at their
DEPOT—14, SOUTH WHARF, PADDINGTON, W.
L. M. TATHAM, Agent.
WORKS HARBURY, near Southam
STOCKTON, near Rugby
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GREAVES'S PORTLAND, BATH, and LIAS CEMENTS.
These CEMENTS are manufactured by Messrs. GREAVES and KIRSHAW, from the natural STRATUM of STONE of the LIAS FORMATION, and EMINENTLY HYDRAULIC, and possessing CEMENTITIOUS property; they have been LARGELY SUPPLIED IN LONDON for SEVERAL YEARS past, and there is a constantly increasing demand for them.
The LIAS CEMENT rubbles BATH STONE in colour, of very superior quality, and can be had in the SAME PRICE as ROMAN CEMENT
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TO SEWER CONTRACTORS, and the TRADE generally.
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BLUE LIAS LIME WHARF,
HERTFORD ROAD, Kingsland

PATENT HYDROBORON,
for CONVERTING PLASTER INTO PARIAN CEMENT, and INDURATING PLASTER FOR OTHER FORMS MATERIAL AFTER IT IS WORKED, is sold by the Patentees, with full directions for use, in bottles, PRICE 2s. 6d.
A saving of 25 PER CENT. is effected by its use. It does not effloresce as Parian by working with any other. It dries quickly, and can be speedily painted or glazed.
SUPERIOR PLASTER sold, and delivered to any part of London, on the most reasonable terms.
The largest assortment of MODELS for DECORATIONS may be seen at the Depôt, 57,
SCAGLIOLA, &c. constantly in hand.
SPECIMENS of HYDROBORONATED PLASTER may be seen at Messrs. CASTELLINI and BARNARDS, Agents for the SOUTH WESTERN PLASTER DEPOT, HOMER-STREET, LAMBETH.
N.B. Gentlemen waited upon, with an Album of Photographs from their stock.

IMPROVED REVOLVING SHUTTERS.

FRANCIS & CO.

Having made GREAT IMPROVEMENTS in the MANUFACTURE of WOOD or IRON REVOLVING SHUTTERS, are enabled to supply the Public at the following REDUCED PRICES:—

WOOD REVOLVING SHUTTERS, with all requisite Gearing complete, at **2s.** per Foot. IRON REVOLVING SHUTTERS, with all requisite Gearing complete, at **3s.** per Foot. Suitable for Banking-houses, Public Buildings, Offices, Shop Fronts, and Private Houses.

BRASS DRAWN SASH-BARS, and BRASS STALL-PLATES, at a great Reduction in Price.

ILLUSTRATED PROSPECTUSES AND TESTIMONIALS FREE BY POST ON APPLICATION AT 84, GRAY'S-INN-LANE, HOLBORN, LONDON.

CLARK'S NEW PATENT SELF-COILING REVOLVING SHUTTER,

FOR SHOP FRONTS AND PRIVATE HOUSES, AT **2s. 6d. PER FOOT,**

MESSRS. CLARK and CO. of 15, Gate-street, Lincoln's-inn Fields, have recently introduced a New Self-coiling Revolving Shutter, which, in addition to being one-half the expense, has the advantage of being remarkably simple, and, consequently, less liable to get out of order. All the complicated gearing apparatus is dispensed with: there are neither wheels, shafts, rollers, cords, nor weights, to become deranged.

We are disposed to think they will be largely used, both for shop-fronts and private houses. Much of the difficulty now often found in providing shutters for large bow-windows may be obviated by their use, without extra cost.—*From the "Builder," June 26th,* 1858.

PROSPECTUSES, WITH FULL-SIZED SECTIONS, SENT POST-FREE, WITH NUMEROUS TESTIMONIALS.

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The Original Inventors and Patentees of every recent Improvement,

MANUFACTURE THEIR WELL-KNOWN

SUPERIOR REVOLVING IRON SHUTTERS

OF EVERY KIND AS LOW IN PRICE, AND, QUALITY CONSIDERED, MUCH CHEAPER THAN ANY OTHER MAKERS.

Patent Enamelled Iron, Brass, and other Sashes, Stall-Plates, &c.

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SNOXELL'S

PATENT REVOLVING IRON, WOOD AND IRON, AND WOOD SHUTTERS,

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AT HIS STEAM WORKS, 135, OLD-STREET.

Testimonials from Architects, Builders, &c. of the Locality, on Liberal Duty forwarded.

MANUFACTURER OF METALLIC DRAWN SASH BARS, STALL BOARD PLATES, &c.

Agent for the Crystal Glass Pillars and Sash Bars.

SMITH AND McGAW,

(FROM THE GENERAL WOOD-CUTTING COMPANY)

MOULDING WORKS,

NEAR THE SUSPENSION-BRIDGE, BELVIDERE-ROAD, LAMBETH, S.

Beg to inform their Friends and the Trade generally, that they have erected New Premises and Improved Machinery, for the manufacture of MOULDINGS as above. They continue to make the same Patterns as the General Wood Cutting Company, and orders can be given from their Books.

Priced List, with every information, forwarded on receipt of One Stamp.

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	Spruce.	Yellow.	White.
½ inch	11s. 6d.	13s. 6d.	12s. 6d. per square
¾ ,,	13s. 0d.	14s. 6d.	13s. 6d. ,,
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FOR CHURCHES, CHAPELS, SCHOOLS, &c. &c.

DESCRIPTION AND PRICES ON APPLICATION.

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WATERLOW, DRAPER, AND WEBB,

MANUFACTURERS OF HOUSE AND COTTAGE JOINERY,

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Beg to call the attention of the Building Trade to their extensive Stock of

DOORS, WINDOWS, MOULDINGS, SKIRTINGS, and every other Description of JOINERS' WORK, at the

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A FULL LIST FORWARDED ON RECEIPT OF ONE STAMP.

CHEAP, LIGHT, AND DURABLE ROOFING.

CROGGON'S PATENT ASPHALTE ROOFING FELT has been extensively used and pronounced efficient, and particularly applicable for warm climates.

1st. It is a non-conductor—2nd. It is portable, being packed in rolls, and not liable to damage in carriage—3rd. It effects a saving of half the timber usually required. 4th. It can be applied by any unskilled person—5th. From its lightness, weighing only about 42 lbs. to the square of 100 feet, thereof carriage reduced—6th. Cheapness, being 2d. per foot, and effective in each instance.

INDOROUS FELT, for sweating pipes and for ceiling floors, under carpets and floor cloths. Price ONE PENNY per Square Foot.

CROGGON and CO.'S PATENT FELTED SHEATHING, for Covering Ships' Bottoms, &c. and

DRY HAIR FELT, for Covering Steam Boilers, Pipes, &c. Preventing the radiation of Heat, saving 50 per cent. of Fuel, and deadening Sound.

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SASHES AND FRAMES, DOORS, MOULDINGS, SHOP FRONTS, FITTINGS, AND EVERY DESCRIPTION OF JOINERS' WORK, ON THE SHORTEST NOTICE AND AT THE LOWEST PRICES.

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NO SHUTTER BARS.

JENNINGS'S SHOP-SHUTTER SHOE.

SHOP SHUTTERS are SHIPPED and SECURED by the above, at HALF THE COST of the UNSIGHTLY and DESTRUCTIVE SHUTTER BAR. Shops referred to in every public street in London. When ordering the above, send FINISHED THICKNESS of Shutters, and the way they go up.

Sold by all Ironmongers, and by the Inventor,

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Sanitary and Engineering Depôt, Holland-street, Blackfriars-road.

JOINERY of EVERY DESCRIPTION.

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SHOP-FRONTS, SASHES AND FRAMES, DOORS, &c.

Of well seasoned matter and superior workmanship, supplied at the lowest possible prices, by

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By enclosing a postage-stamp, a full list of prices will be returned.

JOINERS' WORK in all its branches, EXECUTED with despatch, and cheaper than any house in London.

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Staircases, Shop-fronts, Doors, &c. of well-seasoned material and superior workmanship. A List of Prices sent on receipt of a postage-stamp. Work hoped, Commercial-road, Lambeth.

HANCOCK'S PATENT VULCANIZED INDIA RUBBER TUBING, HOSE PIPES, WASHERS, ENGINE PACKING, &c. for Steam and Hot and COLD SPRINGS, for Hot Water Pipes. Vulcanized Rubber Cord and Solid Round Rubber Cord of all sizes of any length. Billiard Cushions and Rubber Strips cut to any pattern for Ingenious Tables.

Dining Dishes of superior make, and improved Vulcanized Rubber Supply pipes for ditto.

Vulcanized Rubber in Sheets from three to four feet wide, and of any thickness. Air Beds, Pillows, and Cushions, including Portable Baths, Invalid Cushions, and articles of this kind made to any pattern to order.

N.B. All communications and orders punctually attended to, addressed to the Factory, JAMES LYNE HANCOCK, Goswell-terrace, Goswell-road, London.

DURABILITY of GUTTA PERCHA TUBING.—Many inquiries have been made as to the Durability of Gutta Percha Tubing, the Gutta Percha Company have pleasure in stating that they have supplied the Tubing for the LONDON RAYMOND PARVIS, Bart. VENTNOR, ISLE of WIGHT, and Testimonials of March 20th, 1852. In reply to a question to-day this morning respecting the Gutta Percha Tubing for Pump Service, I can state with much satisfaction, that since I put it up, Many Builders and others have since put it up, and I have as had the least complaint whatever of the Tubing since, now several years, and I am informed that it is to be adopted generally in the houses that are being erected in [illegible].

N.B. Respecting the Report that it will be seen that the CORROSIVE WATER of the ISLE of WIGHT has no effect on Gutta Percha Tubing.

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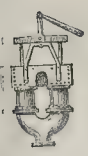
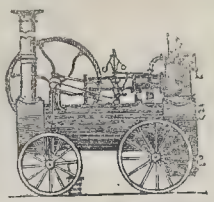
PORTABLE STEAM ENGINES,

FOR

HIRE OR SALE.





At moderate Prices, suitable for Pumping, Sawing, Raising Materials, Pile Driving, &c. &c.

PUMPS

OF EVERY DESCRIPTION, IN

IRON OR BRASS.

Suitable for Excavators, Roads, Brickmakers, Farms, Gardens, Stables, Liquid Manure, Slops, Barges, Well-sinking, &c. adapted for any depth.

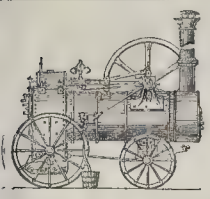
HYDRAULIC PUMPS FOR DEEP WELLS.

PUMPS ON HIRE.

Pumps of any size, Single or Double Barrel, up to Double 12-inch diameter, kept ready for use, at reduced prices

MORTAR MILLS, BUILDERS' CRABS, TRAVELLING CRABS, PORTABLE CRANES, WHARF CRANES, WELL-BORING TOOLS, STONE-SAWS, IRON PAILS, RAILWAY TRUCKS, &c.

R. RICHARDS & CO. UPPER GROUND-STREET, BLACKFRIARS BRIDGE, SURREY SIDE.



ENGINES,

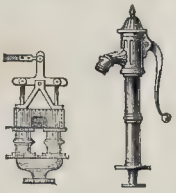
SINGLE & DOUBLE

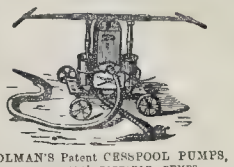
PUMPS,

OF ALL SIZES, TO ANY DEPTH,

FOR

HIRE OR SALE.

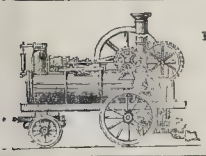




HOLMAN'S Patent CESSPOOL PUMPS,
CONTRACTORS' PORTABLE PUMPS,
Pumps of every description for
HAND, HORSE, or STEAM POWER.

BENJAMIN FOWLER AND CO. WHITEFRIARS-STREET, FLEET-STREET, LONDON, E.C.

TUDOR-STREET, NEW BRIDGE-STREET, and GRAND JUNCTION WHARF, WHITEFRIARS (*not BLACKFRIARS*).



PORTABLE STEAM PUMPING-ENGINES,

From Four to Ten-horse Power, **TO LET ON HIRE**, by the Week or Month

CONTRACTS TAKEN FOR PUMPING ANY QUANTITY OF WATER.

JAMES BURTON, SONS, & WALLER,

ENGINEERS AND CONTRACTORS,

Manufacturers of Ironwork for Drainage Purposes,

JOHN'S-PLACE, HOLLAND-STREET, Southwark, London, S.E.

N.B. Steam-power, with Workshops, to Let.

The only White Zinc Works in the United Kingdom.

HUBBUCK'S PATENT WHITE ZINC PAINT.

MANY Painters and Decorators have never had really good Zinc Paint. The adulterations so generally sold to them as Zinc Paint bear no some season with the genuine article

But still greater prejudice is excited by their having been supplied with the paint manufactured in France and in America. Both are made by the French process, which does not resist the sulphurs of towns lighted by gas. It first loses the gloss, and ultimately takes up with the water and washes off.

Hubbuck's Patent Process completely resists London atmosphere, lake water, and gas under every form.

EACH CASK IS STAMPED "HUBBUCK, LONDON, PATENT."

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N.B. Old Zinc and Zinc Cuttings bought to any extent; Refined Spelter, in Ingots, for Exportation.

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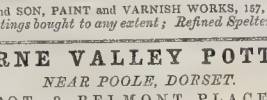
NEAR POOLE, DORSET.

LONDON DEPOT—8, BELMONT-PLACE, NINE ELMS.



BEST SALT-GLAZED STONEWARE PIPES,

Bends, Junctions, Invert Blocks, Closet Pans and Traps, &c. &c. and every Article required for Drainage purposes.

CREEKE'S PATENT CAPPED SEWER PIPE,

The LATEST, SIMPLEST, and most EFFECTIVE Invention by which Drains can be examined, obstructions removed, and Junctions inserted, without breaking a Pipe, or disturbing the Flow of Sewage.

SALT-GLAZED AND TERRA COTTA FLUE-PIPES,

By the use of which the Draught of Chimneys is much improved.

TERRA COTTA CHIMNEY-POTS,

In great variety, commencing at 2s. each.

TERRA COTTA VASES, ROYAL ARMS, &c. &c.

The Clay used in the manufacture of the various Articles is obtained in the immediate neighbourhood of the Pottery, and is the same kind as is used in all the Lambeth Potteries.

List of Prices, and any information, may be obtained on application at the Works; or at the Depôt, 8, Belmont-place.

NORTHEN'S IMPROVED

STONEWARE DRAIN-PIPES.

WILLIAM NORTHEN,

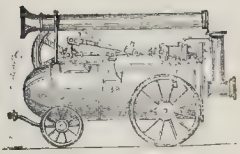
UNION POTTERY, 14, VAUXHALL-WALK, LAMBETH,

Begs to call the attention of Surveyors, Contractors, Builders, and Others, to his REGISTERED IMPROVED STONEWARE DRAIN-PIPE, which does away with the difficulty of removing a pipe in case of stoppage, or to connect another drain, as every alternate pipe can be taken up without interfering with either the front or back pipe of the one to be removed, far surpassing anything yet manufactur 30, for utility and simplicity of easy access to drain

The above improved pipes W. N. intends to charge the SAME PRICE AS THE COMMON SOCKET-PIPES.

W. N. being the first that manufactured Stoneware Socket-Pipes for House Drainage, has always made it his study to make the best article that can be manufactured.

Having made very extensive alterations in his premises, and having machinery of the most improved descriptions, he is prepared to execute orders to any extent.



PORTABLE ENGINES, from 4 to 25-Horse Power, PUMPS and SAW TABLES, to be LET on HIRE, with or without option of purchase, on reasonable terms.—Apply to T. CRESSWELL, Engineer, 92, Blackfriars-road, London.

PATENT DERRICK COMPANY, Limited.

Offices—27, CORNHILL LONDON.

The Company's Derricks which may be employed either as stationary or loaded weights as may appear to be most economically, expeditiously and economically, every description of Float, whether on land or water, from ten to 1,000 tons and upwards. The Directors are prepared to construct, or to erect the construction, in any part of Europe, of Patent Floating Transporting, or Stationary Derricks for Government Arsenals and Navy Yards, Harbour Commissioners, Dock Contractors, Ship Builders, Engineers, Contractors, and others.

A small Floating Derrick, built for the requirements of the Thames, and employed in lifting and transporting heavy weights, such as steam-engines, boilers, machinery, blocks of stone, &c. recently raised the brig *Lightning*, sunk in Erith-reach. A large Floating Derrick, specially designed and constructed for raising sunken vessels and for general salvage purposes, is fitting for operation about the coasts of Great Britain and foreign shores.

Estimates, and other particulars may be obtained by applying to 27, Cornhill, London, E.C. G. J. SHARP, Secretary.

PATENT WOOD, or FIBROUS SLAB

COMPANY (LIMITED) NEW TARIFF of NET PRICES for SLABS, 14 feet 2 by 6 feet 4, and under,

NOT FLAMMABLE.

½ per foot superficial	2d.
¾ " "	2½d.
⅞ " "	3½d.
1 " "	4½d.
1¼ " "	5½d.
1½ " "	6d.
1¾ " "	7d.

Being a considerable reduction from the pamphlet and last advertised quotations

1 surfaced, 1d. per foot extra per side.
If cut to sizes, 6d. do. do.

Panels differently prepared for Carriage, Coach, and Van Makers, Artists, Sign-board Makers, &c. :—

	½	¾	1
Surfaced only	2d.	2½d.	3½d.
Prepared in oil, before painting	6d.	6d.	7d.
Painted and rubbed down for decorations	7d.	8d.	9d.

Slabs sent to any form to order, as may be agreed upon.

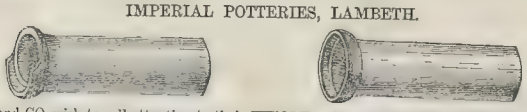
15, Wellington-street North, Strand, Dec. 4, 1858.

TO BRASS-FOUNDERS, ENGINEERS, REFINERS, &c.—The PATENT PLUMBAGO CRUCIBLE COMPANY having completed the enlargement of their premises, beg to call the attention of all users and shippers of MELTING POTS to the great superiority of the PATENT CRUCIBLES, which have been used during the last three years by some of the largest melters in England and abroad. In addition to their capabilities of melting an average of from 15 to 20 foundings, they are unaffected by change of temperature; never crack, but can be used till worn out, require only one annealing for several days' work, and become heated much more rapidly than ordinary pots, effecting thereby a saving of more than 50 per cent. in time, labour, fuel, and waste. The Patent Plumbago Crucible Company also manufacture and import Clay Crucibles, Muffles, Portable Furnaces, Sublimate Pans and Covers, Glass Pots, all descriptions of Fire-standing Goods, and every requisite for the Assayer and Dentist.—For lists, testimonials, &c. apply at BATTERSEA WORKS, London, S.W.

THE PATENT ARCHITECTURAL POTTERY COMPANY, POOLE, Dorset. Manufacturers of BALE'S PATENT INLAID MOSAIC TILES; also superior ENCAUSTIC AND GLAZED TILES, 6 inches and 4 inches, &c.; white, red, buff, black, blue, grey, &c. for churches, entrance halls, corridors, conservatories, lobbies, vestibules, porticos, verandahs, &c.; as also for external decoration, as plinths, friezes, string courses, pilasters, &c. and white glazed tiles, for baths, dairies, &c. Various specimens of the above may be seen, and every information obtained, at the Offices of the Company, No. 9, Buckingham-street, Strand, from Messrs. WILLIAM W. BONNIN, and J. G. H. MAC COLLA, "Sole" Agents for London.

GREAT REDUCTION IN GLAZED STONEWARE PIPES.

STEPHEN GREEN AND CO.'S
IMPERIAL POTTERIES, LAMBETH.



S. G. and CO. wish to call attention to their WHOLE and HALF-SOCKET PIPES, made on the principle of PILBROW'S IMPROVED REBATED SOCKET-END, which fully secures a joint free from obstructions, and meets the demand for removing Pipes at any point.

7s. each; if fitted with PATENT AIR-TIGHT VALVES, 1s. 6d. each, extra.

Also to their IMPROVED REGISTERED CLOSET-PAN, with an impervious White Glaze inside, and formed to insure a Flush of Water over the entire internal Surface. Made with or without STEPHEN GREEN'S and CO.'S PATENT AIR-TIGHT VALVE on the Top of the Trap.

N.B. Prospectuses, with Prices and Terms, forwarded post-free, as also Prospectuses of STEPHEN GREEN and CO.'S PATENT SELF-ACTING FLUSHING CLOSET, complete, with Seat and Riser, &c.

DOULTON'S TERRA-COTTA CHIMNEY-TOPS

WITHSTAND THE ACTION OF FROST AND SEA BREEZES, AND ARE ABSOLUTELY IMPERISHABLE.

MESSRS. D. AND CO. can refer Architects and Builders to Chimney Tops, Statues, &c., manufactured by them 25 and 30 years ago, which are now as sharp and perfect as when first erected.

A large and various Stock will now be kept on hand, of a uniform stone colour. Prices from 2s. and upwards.

DOULTON'S PATENT INVERT BLOCKS for Brick Sewers.
DOULTON'S PATENT JUNCTION BLOCKS for Brick Sewers.
DOULTON'S GLAZED STONEWARE SOCKET, HALF SOCKET, AND OPERCULAR OR LIDDED PIPES.

HENRY DOULTON AND CO., HIGH-STREET, LAMBETH, LONDON.

Manufactories—High-street, Lambeth; Rowley Regis, Staffordshire; and Smethwick, near Birmingham.

JOHN DOULTON, BROTHERS, AND CO.

LIVERPOOL POTTERY,
ST. HELEN'S.

STORES—70, SOHO-STREET, LIVERPOOL.

MANUFACTURERS OF
DOULTON'S STONEWARE PIPES,
DOULTON'S HALF-SOCKET PIPES,
DOULTON'S INVERT BLOCKS FOR SEWER BOTTOMS,
DOULTON'S PATENT JUNCTION BLOCKS,
TERRA-COTTA CHIMNEY-TOPS, FIRE-CLAY FLUE-PIPES, RIDGE AND PAVING-TILES, &c.

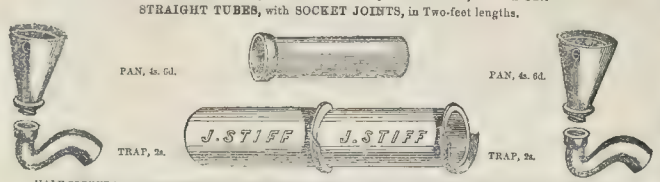
GREAT REDUCTION IN PRICES.

JAMES STIFF,

MANUFACTURER OF GLAZED STONEWARE DRAIN-PIPES, WATER-CLOSET PANS, SINK-TRAPS, INVERT BLOCKS, AND ALL OTHER ARTICLES SUITABLE FOR DRAINAGE AND OTHER PURPOSES.

LONDON POTTERY, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-feet lengths.



HALF SOCKET PIPES same prices as the Whole Sockets, by the use of which Drains may be readily examined, and Junctions INSERTED, IN THE EVENT OF REQUIRING FURTHER CONNECTIONS.

May be had also at the following Wharfs, viz.:—
Messrs GLADDISH'S, Pedlar's-acre, Westminster bridge-road; City-road Wharf, City Basin; Dockhead Wharf, Bermondsey; Danvers Wharf, Chelsea; Pratt Wharf, King's-road, Camden-town.
Messrs COLES, SHADBOLT, and CO.'S St. James's and Thornhill Wharfs, Caledonian road, Pentonville.
Messrs. RITCHIE and SMITH'S, Ravensbourne Wharf, Greenwich.
Mr. LAVERS'S, Downgate Wharf, Canal-road, Horton.
Messrs COLWILL (BROTHERS), 32, Bridges street, Covent-garden.
Mr. HENRY TURNER, 2, South Wharf, Praed street, Paddington.

DRAWINGS, WITH PRICES, WILL BE FORWARDED FREE, ON APPLICATION.

WATER-CLOSET, WITH APPARATUS COMPLETE, for 13s. 6d.

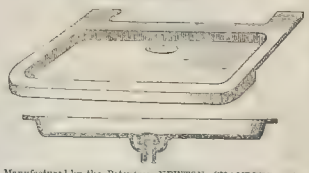
DOULTON & WATTS,
LAMBETH POTTERY, LONDON.

DOULTON'S NEW ENAMELLED CLOSET-PAN, REGISTERED
AND
LAMBERT'S HIGH-PRESSURE VALVE-COCK.
WITH HANDLE, LEVER, AND WEIGHT, READY FOR FIXING.

Making the most COMPLETE, DURABLE, and EFFICIENT APPARATUS, as well as by far the CHEAPEST yet manufactured.

PATENT CAST-IRON SANITARY

KITCHEN SINK, WITH TRAP.



Manufactured by the Patentees, NEWTON, CHAMBERS, and CO. Thorncliffe Iron Works, near Sheffield. Sizes made—
24 in. long by 18 in. wide by 4 in. deep, 5s. 6d. each.
30 in. long by 18 in. wide by 4 in. deep, 7s. 6d. each.
36 in. long by 18 in. wide by 4 in. deep, 8s. 6d. each.
42 in. long by 20 in. wide by 4½ deep, 10s. 6d. each.
48 in. long by 20 in. wide by 4½ in. deep, 12s. 6d.
To be had in London only of Mr. JOHN JONES, 6, BANKSIDE.

BELL'S PATENT TRAPS, for Stables,

Coach-houses, Garden-paths, Wards, &c., Peter 7s. each. To be had of the Sole Agents and Manufacturers, GLOVER, BROTHERS, Founders, Engineers, and Smiths, 168, Drury lane, and Spa-road, Bermondsey.

DRAIN-PIPES and TILES. — 800,000

well made DRAIN-PIPES, from 1½ inch to 8 inches diameter, FOR SALE, at a very moderate price. Also, 1,000 PAVING and SLAY BRICKS, 2,000 TILES, corrugated, and gothic roof Tiles, and 1,000 Flower pots. Apply to Messrs. FULLER and HORSEY, Bull-lane, Bull-street, City, E.C.

TO WATER COMPANIES AND PLUMBERS.

HIGH-PRESSURE COCKS & CLOSETS.

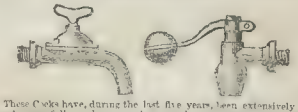
The Health of Towns Commissioners having recommended the adoption of the High-pressure principle in all towns, WARNER'S HIGH-PRESSURE COCK is recommended as a Cock free from leakage, and applicable for all purposes and situations. Patent Closets and Basins, with supply-valve for attaching direct to main pipes without a cistern, cocks, or wire.

LEAD, IRON, and TIN PIPE.
JOHN WARNER and SONS, Manufacturers, 8, Crescent, Jewin-street, London.

PRIZE MEDAL, CLASS 2

HIGH-PRESSURE VALVE COCKS.—

LAMBERT'S PATENT.



These Cocks have, during the last five years, been extensively and most successfully used in many towns under custom-house regulations, serving from 200 to 300 feet, their efficiency and durability having experience established.

The Expansion Ball valve is simple and certain in its action and is cheaper than the common Cocks now in use.

Enamelled Iron, Self-closing, and other Closets, upon economic arrangements, suitable for public inns, shops, cottages, asylums, &c.

THOMAS LAMBERT and SON,
Brass and Iron Founders, Short-street, New-cut, Lambeth.

WARNER'S PATENT

VIBRATING STANDARD PUMPS. PATENT CAST-IRON PUMPS fitted with J. W. and Sons' Patent Buckets and Sucker, which cannot clog in action, for farms, cottages, and wells not exceeding 30 ft.

Diameter of Barrel.	Length of Barrel.		£ s. d.
2½ in. short	1 ft. 7 in.	Fitted for lead,	1 16 0
2½ ,, long	3 3	gutta percha	1 14 0
3 ,, ditto	3 6	or cast iron	2 8 0
3½ ,, ditto	3 6	flanged pipe,	2 12 0
4 ,, ditto	3 6	as required.	3 3 0
2½ ,, short, with 15 feet of lead pipe attached, ready for fixing			2 14 0
2½ in. long ditto ditto			2 18 0

The short-barrel Pump is very convenient for fixing in situations of limited height and space, for the supply of coppers and sinks in washhouses with soft water from underground tanks, or in hot, forcing, and plant houses; they may be fixed, when desired, under the stage.—May be obtained of any Ironmonger or Plumber in town or country, at the above prices, or of the Patentees and Manufacturers, JOHN WARNER and SONS, No. 8, Crescent, Jewin-street, London.—Every description of Machinery for Raising Water, by means of wheels, rams, deep well pumps, &c. Also, Fire and Garden Engines, &c. &c. Engravings sent on application.

VENTILATION—PURE AIR.

Sheringham's Ventilator for the admission of Pure Air through an

EXTERNAL WALL.

With single pulley, from 6s. each; with leading pulley, from

These Ventilators are arranged that the requisite quantity of air may be admitted for the convenient ventilation of an apartment, without the slightest draught being felt by the occupants; and as they are placed in the external wall, their action is not impeded when the house is closed for the evening, at which time a constant supply of fresh air is most required.—HAYWARD, BROTHERS, sole Manufacturers, 196, Blackfriars-road, and 117, Union-street, Borough; and of all respectable Ironmongers, Builders, &c.

AN EXTRACT

FROM

GEORGE JENNINGS'S FORTHCOMING WORK

ON

SANITARY APPLIANCES.

"The best System of Drainage is that which ensures accurate laying, with perfect joints, simply made, and free from obstruction; that in case of alteration or repair, admits of the introduction of Branch Drains, and offers facilities, in cases of stoppage, for examination, without breaking up or in any way disturbing the general drain.

These considerations ought to have great weight with those who direct the employment of any sanitary appliance, particularly one on which so much of COMFORT and HEALTH DEPENDS.

At the INSTITUTE of CIVIL ENGINEERS in 1852, and at the INSTITUTE of ARCHITECTS in 1853, papers were read on drainage matters; the discussion consequent elicited many valuable opinions. The use of ordinary Socket and Half-Socket Pipes was objected to by many practical and thinking men; their objections being founded 'not on pipes as a means of drainage, but on the impossibility of the workman or the superintendent SEEING, during the execution of the work, if they were properly laid and fairly jointed.' Other speakers pointed out 'the manifest disadvantage as regarded the examination of pipe drains in cases of stoppage;' and it was shown 'that in every case of the laying on of new junctions there arose great breakage of pipes, as well as a DISLOCATION OF THE WHOLE SYSTEM.' It was further stated, 'that pipes were often laid in the bottom of the trench, resting on the sockets, and, of course, fracture ensued when weight was brought upon them.' The discussion extended over several meeting nights, the rooms of the Institute were crowded, engineers from all the large PROVINCIAL TOWNS were in attendance, and everything tended to show the importance of, and the interest felt in drainage matters. But the discussion terminated without any practical suggestion for improving the (then) existing state of things. Through the kindness of Charles Manby, Esq. I was privileged to attend the meetings referred to; I took notes of all the objections, and determined (if possible) to remove them.

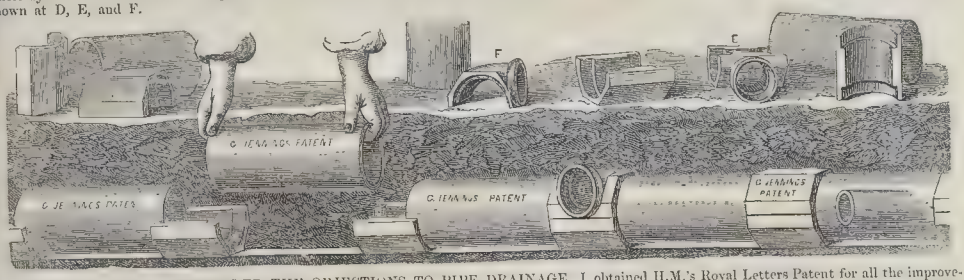
THE FIRST CONSIDERATION WAS—THE BEST FORM OF PIPE. Simple cylinders of uniform thickness, without either socket or half-socket, appeared to be the strongest and best; they would be made with economy, and when made, would require no further handling; they would occupy less space in the kiln; in transit from the works, they would be easy to pack, and occupy less space, in ship or on rail, and be LESS LIABLE TO BREAKAGE THAN IN ANY OTHER FORM.

THE SECOND CONSIDERATION WAS—HOW TO PREVENT PIPES FROM SINKING IN LOOSE OR SPONGY SOILS. The necessity of a railway suggested the use of an earthen chair every 2 feet, with a broad flat base; pipes flat on one side, and a hundred other things, were passed in review, but none would bear mechanical scrutiny, or the test of commercial value. so, for the time, consideration No. 2 remained undecided.

THE THIRD CONSIDERATION WAS—HOW COULD THE PIPES BE EXPEDITIOUSLY LAID, and the Joints soundly made, without the usual trouble and disturbance of the ground under the pipes, and what arrangement would enable the workman 'TO SEE' when his work was properly done, and the clerk of works to afterwards inspect it?

THESE CONSIDERATIONS OCCUPIED MANY A NIGHT. The earthen chair, so necessary to the stability of a line of pipes, I had nearly abandoned, when it occurred to me to rebate the chairs on their outer edges: this would keep the pipes a certain distance apart; and I now seemed to have the key to all my improvements; for the chairs, when laid to a proper fall and right distance apart, would give the "support" I considered necessary. Then if all the rebates were charged with cement or other material, the laying or bedding-down of the pipes and the making of the joints WOULD BECOME ONE OPERATION. Again, 'the distance between each pipe' would allow the workman to remove any excess of pointing material, and to properly strike up the joint. It would allow the clerk of works 'TO SEE IF THE WORK WAS PROPERLY DONE, and to test the fall, if necessary. Again, 'the distance between each pipe would permit examination in cases of stoppage,'—a point on which so much stress was laid during the discussion.

One consideration now only remained—How were Branch-Drains to be introduced without 'breakage of pipes as well as dislocation of the whole system?' This was soon disposed of by simply forming in the saddle-piece (or cover) Junctions suited to every size of Branch-Drain, as shown at D, E, and F.



Considering I had now MASTERED THE OBJECTIONS TO PIPE DRAINAGE, I obtained H.M.'s Royal Letters Patent for all the improvements here mentioned and shown. The result has been most satisfactory to me, and the feeling in favour of these pipes may be said to be universal, excepting only some few gentlemen interested in maintaining the form of pipe introduced to Britain by the Romans NINETEEN CENTURIES BEFORE THE DATE OF MY PATENT.

These gentlemen (with a boldness I remember with gratitude) WEAKLY asserted in the *Builder*, that "Drain pipes do not need examination;" but finding the age in advance of their assertions, and that ENGINEERS AND ARCHITECTS were specifying "JENNINGS'S PATENT DRAIN PIPES" IN EVERY WORK OF IMPORTANCE, shifted their ground, and offered Drain Pipes in almost every conceivable form and name,—thus approving the necessity for some improvement in the pipes which "do not need examination."

The best test of the value of an article is the demand for it. The next best test is the effort made to supersede it. How far the "efforts made" in this case have been successful may be judged of by one of the largest and most respectable manufacturers in Scotland having just purchased, for a large sum, the right to manufacture my Patent Drain Pipes. And I have great pleasure in thus publicly announcing that

MR. ROBERT BROWN,

FERGUSLIE FIRE CLAY WORKS, PAISLEY,

IS LICENSED TO MANUFACTURE AND SELL JENNINGS'S PATENT DRAIN PIPES in any part of Scotland.

The well-known character of the goods supplied by Mr. Brown, is a guarantee that Architects and Engineers specifying these Pipes to be used, may depend on the result being most satisfactory to them.

Architects and Engineers are respectfully informed that GEORGE JENNINGS has recently patented—IMPROVEMENTS IN THE CONSTRUCTION OF SEWERS—IN INVERT BLOCKS—AND IN JUNCTION BLOCKS—IMPROVED BONDING—AND AIR BRICKS.

As also an IMPROVED VALVE WATER-CLOSET AND TRAP IN ONE PIECE OF EARTHENWARE.

A NEW HYDROSTATIC BALL VALVE—A WATER METER—AND A WATER WASTE-PREVENTER, which, together with JENNINGS'S PATENT AIR CHAMBER SMOKE FLUES, and other Sanitary Appliances, can be seen at

JENNINGS'S SANITARY DEPOT,

HOLLAND STREET, BLACKFRIARS ROAD.

Note.—A 12-inch Ball Valve, manufactured under Jennings's recent patent, has just been fixed at Barclay and Perkins's Brewery; its action is so satisfactory, that the Southwark Water-works Company have ordered a 9-inch one, on the same principle.

These Ball Valves are opened and closed by Balls not more than six inches diameter.

SALES BY AUCTION.

SALE OF FIRST-CLASS TIMBER.

MR. W. BROWN has received directions from Captain C. S. A. Thesiger, to offer for SALE by AUCTION, at the ROSE and CROWN INN, Rose's Lane, Langley, on TUESDAY, DECEMBER 28th, 1858, at TWELVE o'clock, upwards of 1,500 trees oak, elm, ash, cherry, and other TIMBER TREES, with their lops, tops and bark, two large Teath weighing about 4 tons, and standing in the woods and hedge-rows adjoining Langley Hall Farm, in the occupation of Mr. John Johnson, between King's Langley and Chippenhall, Herts; in the lots and upon such days as will be duly set forth in the Catalogues to be viewed by application at the woodmen upon the Premises. Catalogues to be had of the Place of Sale; and at the King's Arms, Berkhampstead; Crown, Chesham; Swan, Hemel Hempstead; Green Arms, Watford; and of Messrs. REYROUX and BROMLEHEAD, 53, Old Broad-street, London; of Mr. WHITLEY, Aldenham; Mr. JOHNSON, the tenant; and at the Offices of Mr. W. BROWN, Land Agent, Tring.

TO TIMBER DEALERS, BUILDERS, AND OTHERS.

MR. W. BROWN has received directions to SELL by AUCTION, at the SWAN INN, Rickmansworth, on MONDAY, JANUARY 3, 1859, at TWELVE o'clock, upwards of 700 BEECH, ASH, OAK, and other TREES, of good dimensions, with their lop, top, and bark, standing in the woods of the Right Hon. Lord Ebrington, adjoining Woodwick's Farm, in the occupation of Mr. Proctor; and 450 oak, ash, and other trees standing upon Penfield Farm, belonging to Capt. C. S. A. Thellusson, in the occupation of Mr. Richard Martin, both farms abutting upon the high road from Rickmansworth to Uxbridge, a capital situation both for land and water carriage. The trees are marked with white paint, and may be viewed one week previous to the sale. Catalogues obtained at the Place of Sale: Also at the respective Farms; Essex Arms, Watford; White Horse, Uxbridge; Crown, Chesham; of Mr. EDMUND WHITLEY, at Aldenham; or on application by post of Mr. W. BROWN, Land Agent, Tring.

FOR SALE by PUBLIC AUCTION, in the SALE ROOM, at F. & R. BARNES and SONS' Timber Yard, Cooper's-marsh, Bristol, on WEDNESDAY, the 29th of DECEMBER, 1858, for fourteen weeks, at TWELVE o'clock precisely

For Home and Export use.

16,000 Spruce Deals, Battens, and Boards
1,000 Quebec Pine Deals and Planks.
1,000 St. Petersburgh Red Deals
150 Crown, Archangel, Millsawn, Deals and Battens
5,000 Gothenburg Red Deals
50 Load Quebec Yellow Pine Timber
500 Loads St. John Yellow Pine Timber
80 Loads Dantzic Fir Timber
30 Loads Best Swedish Sleeper Timber.
35 Logs Quebec Birch
30 Logs Prince Edward's Island Oak Timber.
20 Loads Teak Plank
11 Logs Honduras Mahogany.
120 Hundred Ball-staves.
500 Quebec Staves
13 Fathoms Lathwood.
Lyde Prepared Flooring Boards.
With other Goods.

Catalogues may be had on the week of Sale.

F. & R. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, December 14th, 1858.

N.B.—The Brokers remind buyers that, as these goods will be sold in the sale room, it is advisable for them to look over the cargoes the day before the sale.

Builder's Stock, Agricultural Implements, and a large establishment

MESSRS. ELLIS and SON are directed to SELL by AUCTION, on the PREMISES, adjoining Mimms Green, WELHAM, early in DECEMBER (the 28th), at ELEVEN precisely, without reserve, in consequence of the proprietor retiring from business, the excellent STOCK IN-TRADE consisting of good dry yellow, white, and pine deals, planks, and battens, in various thicknesses; useful oak timber and quartering, mahogany and whitewood planks, thirty-eight new sash and casement doors, boring and other lumbers, capital framed partition, a general assortment of ironmongery, nails, bolts, locks, &c.; iron columns, girders and iron shores and fixings, iron side stages, three new coppers, a quantity of piedcake, tiles, chimney-pots, &c.; the implements comprise ten long ladders, 120 scaffold poles, boards, cords, &c.; brass shear blocks, falls, a truck, a powerful screw-jack, tools, carpenter's benches, and various articles too numerous for enumeration. To be viewed two days prior to the sale, when catalogues may be had on the Premises, and of Messrs. ELLIS and SON, Auctioneers and Estate Agents, 49, Pinchin-street.

TO PUBLIC COMPANIES, CARRIAGE BUILDERS, PIANOFORTE MAKERS, CONTRACTORS, AND OTHERS.

MR. LEREW is directed to LET or SELL, with immediate possession, those extensive manufactories, premises, and the Goods Station of the London and North Western Railway, known as the CAMDEN WORKS, eligibly situate at Hawley-street, Camden town, on the banks of the Regent's Canal, with good layby and excellent wharf: consisting of a spacious and lofty fireproof hall, 120 feet long by 40 feet wide, two engine-houses and stacks, extensive workshops, stores, counting-house, and richly arranged and spacious dry offices. These most substantial and eligible works will be found worthy of the inspection of any manufacturer requiring further particulars, and direct view, applies to Mr. LEREW, Auctioneer, Carrington-street, Hampstead road, near the Euston Station, N.W.

TO BRICKMAKERS, CONTRACTORS, &c.—TO BE LET, at a low royalty, from Three to Four Acres of excellent BRICK-EARTH, situate close to a railway station fifteen miles from London, where breeze, &c. may be obtained at a small cost.—Apply for further particulars to Mr. E. BAXENDELL, Architect, 7, Beaufort-buildings, Strand, W.C.

TO BE SOLD, by PRIVATE CONTRACT, a most desirable FREEHOLD ESTATE, well adapted for Building purposes, situate at Clapham-common, on the high road from Clapham to Wandsworth. For particulars apply to JAMES CROWDY, Esq. 17, Serjeants' inn, Fleet-street E.C.

TO BRICKMAKERS, BUILDERS, AND CONTRACTORS.

TO BE LET, at a low Royalty, a BRICK-FIELD, in the parish of Dovercourt, near Harwich, close to the flourishing new town of Dovercourt, where there is a great local demand for Bricks of all descriptions, containing from five to twenty acres of first-rate earth, situated close to a spacious free quay, where Bricks can be shipped for the London market at a small cost, and chalk, sand, and ashes landed close to the field; and within a quarter of a mile of the above from a depth of eighty eight feet is an inexhaustible supply of Bricks may be made annually.—Application to be made to the Proprietor, JOHN PATRICK, Printing and Wood Block Engraving Establishment, Fenchurch-street, Harwich. Timber supplied of a genuine article, at the lowest price possible, by barge alongside in the River Thames, or to any other part.

WANTED, in the Finchley-road, or neighbourhood thereof, as a rental of not exceeding 100l. per year, a DETACHED HOUSE, with garden, two good reception rooms, library, four or five bedrooms, kitchen, &c. Must be in thorough condition for immediate occupation.—Address, J. A. 49, Chalcot Villas, Haverstock-hill, N.W.

TO PLUMBERS, GLAZIERS, AND PAINTERS.

TO BE SOLD, with immediate possession, a very desirable BUSINESS, situated in New-street, Oundle. To any person wishing to enter into a genteel business, a most advantageous offer is now made, the business having been established upwards of eighty years. The present proprietor leaving on account of ill health. The stock, which is of the best description, to be taken at valuation.—For further particulars inquire of Mr. SIDDONS or Mr. PRICE, Oundle.

PHŒNIX FIRE ASSURANCE COMPANY, Lombard street and Charing-cross, London. Established in 1782.

TRUSTEES AND DIRECTORS.

James Burton,	William Lancaster, esq.
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Rt. Hon. D. Pollock, Q.C., M.P.	

AUDITORS—John Hodgson, esq.; Peter Martineau, esq.
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Insurances against Loss by Fire are effected at the Phœnix Company upon every description of Property in every part of the world, on the most favourable terms.

Parties insuring with the Phœnix Company are not liable to any call beyond the premium originally paid, as the case may require.

Insurances with this Company expiring at Christmas should be renewed within fifteen days from that date, or they will become void.

Policies, duly stamped, ready at the Office in Lombard-street and Charing-cross, and with the respective Agents throughout the United Kingdom.

GUARDIAN FIRE and LIFE ASSURANCE COMPANY, No. 11, Lombard-street, London, E.C.

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John Labouchere, esq.	John Remington, esq.
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TREASURER—John Labouchere, esq.
SECRETARY—Samuel Brown, esq.

LIFE DEPARTMENT.—Under the provisions of Act of Parliament, this Company now divides Eighty-four Fifths (or EIGHTY PER CENT.) OF THE PROFITS, WITH QUINQUENNIAL DIVISION, OR A LOW RATE OF NEW PREMIUM without participation of Profits.

The Annual Income of the Company has declared for the Year, whereof Participating Policies will share, is £ and the Accumulated Fund to the same date exceeds £ , whilst the Annual Revenue from Interest alone is more than sufficient to meet all the Claims.

At the Fifth Division of Profits made up to 31st December, the Total Reversionary Bonuses added to the Policies have exceeded £ .

At the last Division of Profits, 1853, the Assurances in force amounted to upwards of £ , and the Income from the Life Branch in 1854 was more than £ , and the Life Assurance Fund thereby increased to £ , the Annual Revenue of which exceeded £ .

FOREIGN RISKS.—The Extra Premiums required for the East and West Indies, the British Colonies, and the southern parts of the United States of America, have been materially reduced.

INVALID LIVES.—Persons who are not in such a state of Health as would enable them to insure their Lives at the Tabular Premiums, may have their Lives assured at Extra Premiums.

LOANS granted on Life Policies, to the extent of their values, provided such Policies shall have been effected a sufficient time to have attained in each case a value in surrender.

ASSIGNMENTS of POLICIES—Written notices of, received and registered.

MEDICAL FEES paid by the Company, and no charge will be made for Policy Stamps.

Notice is hereby given, That the Fire Policies which may fall due on the 31st instant will be renewed on the first day of the ensuing month, if not previously paid, or within fifteen days thereafter, when the Company's Agents throughout the kingdom will be prepared to receive the renewal premiums.

By order of the Board,
WILMER HARRIS, Secretary.

ARGUS LIFE ASSURANCE COMPANY, 33, THROGMORTON-STREET, BANK.

CHAIRMAN—THOMAS J. ARNOLD, Esq., M.P.
DEPUTY CHAIRMAN—WILLIAM LEAF, Esq.

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Fy. Bevan Hill, M.A.	J. Pemberton Heywood, Esq.
John Hunter Kay, Esq., Alderman	Lewis Pocock, Esq.

PHYSICIAN—Dr. Jeaffreson, 6, Finsbury-square.
SURGEON—W. Coulson, Esq., 2, Finch-lane, Old Jewry.
ACTUARY—George Clark, Esq.

ADVANTAGES OF ASSURING IN THIS COMPANY.

The participation on the Low Table of premium with profits.

The Assured are protected by an ample subscribed capital—an extensive fund of £ invested in Government securities, and in the Guaranteed Stocks and Shares of Railways.

Premiums to Assure £100.

Age	One Year.	Seven Years	With Profits	Without Profits.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
20	0 17 8	0 18 9	1 15 11	1 11 10
30	1 1 5	1 2 7	2 3 5	2 0 7
40	1 7 6	1 8 6	3 2 8	2 14 10
50	1 14 1	1 16 10	4 6 8	4 0 11
60	3 2 4	3 17 0	6 12 9	6 0 10

MUTUAL BRANCH.

Assurers on the Participating Scale are entitled, at the end of five years, to participate in nine-tenths, or 90 per cent. of the profits.

The profits are divided every seven years, and declared to the assured, at each period, to the amount of £ per cent.

At the first division a return of 30 per cent. in cash on the premiums paid was declared; this will allow a reversionary increase every subsequent year, from 6 to 28 per cent. on the premiums, or from 3 to 14 per cent. on the sum assured.

One half of the "Whole Term" Premium may remain on credit for seven years, or one third of the premium may remain for life as a debt upon the policy at 5 per cent. or may be paid off at any time with notice.

Claims paid in sixty days after proofs have been approved.

Loans advanced promptly.

No charge for Policy Stamps.

Medical Attendants paid for their reports.

Persons assured, in time of peace, proceeding to or residing in any part of Europe or British North America without extra charge.

The Medical Officers attend every day at a quarter before Two o'clock.

E. BATES, Resident Director.

JOHN NEWTON and CO. HONDURAS WHARF, 74, BANKSIDE, Southwark, S.E. Fire-bricks, Lumps, and Tiles of every description (seventeen years with James Newton, of Falcon Dock, Bankside). Agents for Sadler's Patent Air Conveyors for Companies, Engineers, Builders, &c. &c. Depôt for Ramsay's superior Newcastle Fire Bricks, Clay Retorts, &c. Sanitary Pipes, Chimney Pots, Drain Cylinders, &c. at the lowest prices. Shipping orders executed with despatch.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c.—Notice is hereby most respectfully given, that the LONDON DEPOT for this Ware is REMOVED to No. 21 Wharf, Macclesfield-street North, City-road Basin, N. Sadly, that the term, "TERRO-METALLIC" is the exclusive right of the Proprietor; and lastly, that the "Reports of the Juries," page 561, of the Great Exhibition, note the grant of a First-class Medal, and rank the Manufactories known so long as "The Tileries," Tunstall, Staffordshire, as the first of the kind in the world.

IMPERISHABLE TESSELATED PAVEMENTS, combining a highly decorative and economical substitute for ordinary floor oil-cloth or other perishable coverings. MAWARD and CO'S Pattern Book, designed by M. Digby Wyatt, esq., together with a space of design and estimate of cost adapted to any given dimensions of hall, passage, conservatory, verandah, friezes, &c. will be sent on application to Benthill Works, Broseley, Salop.

London Agent—W. B. SIMPSON, 456, West Strand, who has on view a great variety of specimens of the pavements.

WARRANTED IMPERISHABLE
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GILBERT'S TERRA-COTTA BRACKETS and BUSTS.
GILBERT'S GLAZED VERTICAL SYPHON TILES.
GILBERT'S FIRE-CLAY CHIMNEY FLUES and LININGS.
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GILBERT'S BROWN STONEWARE GLAZED PIPES.
GILBERT'S RED, BUFF, WHITE, and DRAB BUILDING GOODS, constantly in stock.
TIVIDALE CLAY MANUFACTORIES, near Birmingham.
Articles made to design. Cash Prices, Carriage Paid to all parts of the kingdom, daily.

FLOORING and DEALS, at the LOWEST CASH PRICES.—SAMUEL HUTNEY solicits the attention of Builders and others to his extensive Stock of Prepared Flooring, Deals, and Mouldings:—

4 inch Prepared Flooring, Its 6d. per square.
Lyde Deals, 9in. per square.
Yellow Battens, 1½ by 3, from 10s. to 24s.
Yellow Deals, from 8s. to 14s. each.
Spruce Deals, from 8s. to 14s. each.
Pine Plank (dry), 12 ft. 3 in. by 11 in. from 7s. 6d. each.
11 inch Pine Moulding, Pine Board Boards, from 6d. per foot.
Planed, Tongued, and Grooved, and Pine Floor Boards, Architraves, Plinths, and Skirtings, at Prices to suit the Times.
Address, Hutney's Wharf, Rankside, S.E.

ALFRED ROSLING and SONS beg to inform their customers and the Building Trade generally, that they are enabled to allow a discount of 15 per cent upon their present Price List of Mouldings. A large Stock of Dry Flooring always on hand. Address, Rosling's Wharf, Rankside, S.E.

ANOTHER GREAT REDUCTION.—Yellow Deals, from 8s. 9d.; Spruce, 8s. 9d.; Pine Flank, 8s. 6d.; Mahogany and Oak Planks, 2d. per foot; Whole Battens, 9d. per Yellow, 1½ by 3, 1s. per square; Pine Wainscot Flooring, 2s. 6d.; Yellow Deals, 16s. 6d.; 4 inch ditto, 15s. Birch Pine Veneer, 2d. per foot; Cash, 2½ per cent. discount.
T. FORMAN, 1, Wells-street, Walcot place, Lambeth.

TO BUILDERS, CABINETMAKERS, and OTHERS.—ALFRED CARTER submits the following very reduced Prices for Cash, net:—

4 inch Prepared Flooring	0 11 0 per square.
3 inch Prepared Flooring	0 13 0 per square.
Lath Prepared Flooring	0 15 0 per square.
Good Yellow Deals	0 8 3 each.
Spruce Deals	0 8 3 each.
Pine Planks, 12 feet by 11	0 3 6 each.
Yellow Battens	11 13 0 per 120.

Mahogany, planks and boards, from 6d. per foot.
All sawn goods delivered within three miles free of carriage.
ALFRED CARTER, Old Bethnal-green road, N.E.

PREPARED FLOORING!—W. G. WARDLE calls the attention of Builders and the Trade to the following prices for Cash:—

	¼	½	¾	1	1¼	
Spruce	12s.	13s.	13s.	14s.	—	per square
White	10s. 9d.	12s. 6d.	14s. 6d.	16s. 6d.	18s.	"
Yellow	12s. 6d.	14s. 6d.	16s. 6d.	18s. 6d.	"	

Delivered within 10 miles free of charge.
STANGATE SAWING and PLANING MILLS, Palace-road, Lambeth, S.

NEXT HOUSES of PARLIAMENT.—NORWAY TIMBER WHARF.

BENJAMIN JAMES HUDSON begs to inform Builders and the Trade in general that he has taken the above extensive Premises, where, in connection with his other established Yards in Great Peter-street, Westminster, and Endell-street, Long-acre, he is always ready to supply from his large and well-assorted Stock, Mahogany, Wainscot, Birch, Beech, Oak, Elm, Timber, Deals, Seasoned Flooring, Matched Boarding, and Mouldings, as low as any advertised house in London.

Mahogany, in log	from 9s. 6d.
Pine Plank and board	" 0 6
Spruce Deals	" 9 9
Pine Planks	" 3 3
Yellow Deals	" 3 3
Yellow and White Battens	" 1 11
Pine Flooring	" 1 3

White—4 in. 12s.; 5 in. 15s. per square.
Yellow—4 in. 12s.; 5 in. 15s. per square.
Timber and Deals Lightered, Landed, and Carted.

ACORN TIMBER WHARF and SAW-MILLS, CANAL BRIDGE, OLD KENT ROAD, LONDON.
A Monthly Price Current forwarded on application.
RICHARD MAY, Proprietor.

GEORGE NOKES and CO. Cambridge-street, 61, St. Pancras-road, invite the attention of Builders and the Trade generally, to their STOCK of DRY FLOORING MOULDINGS, &c. at the LOWEST Remunerative PRICES.
Books of Designs of Mouldings forwarded on application.

TO CARPENTERS, BUILDERS, &c.—THOMAS W. ELLISTON, Timber Merchant, respectfully informs his friends and the public generally that he has taken PREMISES, 208, TOOLEY STREET, of the South Eastern Railway Company, adjoining Hay Terrace, London Bridge, where, in connection with his well-established premises in Kingsland, Borough, he is prepared to supply, from a large and well assorted stock, Timber, Red, Seasoned Flooring Boards, Matched Linings, Mouldings, &c. at the lowest possible prices, for cash.

The Carting executed with prompt attention, and all sawn goods (Bulk Timber excepted), delivered free of carriage within three miles.

SOLID PARQUET FLOORS. ARROWSMITH'S PATENTED,

from 1s. per foot. The "Wood Mosaic," 1 inch thick throughout (not veneered), for Halls and Rooms in houses, rendering them, if desired, available for dancing or otherwise. A beautiful solid inlaid border for Turkey and other carpets, staircases, panelling, &c.; also for lining the Areas and Port of Entrance (being much warmer than stone), at St. Erick Church, York; St. Gregory's, Cheltenham, &c.

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PAPER-HANGINGS.—The CHEAPEST HOUSE in London for every description of PAPERHANGINGS is JACKSON'S WHOLESALE WAREHOUSE, 22, GREAT PORTLAND STREET, Oxford-street, where you can select from the LARGEST and MOST EXTENSIVE Assortment in the kingdom, THIRTY PER CENT CHEAPER than any other house in the trade. Builders, Decorators, Dealers, and large consumers, will do well to visit this establishment.

TO BRICKMAKING MACHINE MAKERS.—WANTED, a first-rate BRICKMAKING MACHINE, capable of making an excellent brick from the clay as it is dug.—Application to be made stating net price delivered in Leeds, with the horse power required for working ditto, and, if at work, where the same can be seen, to Messrs. THOMAS LONGLEY and SONS, Builders, St. Peter's square and Park street, Leeds.

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